PROJET MANUAL, SPECIFICATIONS, PLANS AND SUPPORTING DOCUMENTATION

South Santa Rosa County Sports Complex
At Pensacola State College

SANTA ROSA COUNTY, FLORIDA

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1.0 PROJECT NARRATIVE

Santa Rosa County (SRC) proposes to construct a new sports complex on the east side of the Pensacola State College (PSC) South Santa Rosa Campus. Specifically, Santa Rosa County has leased two parcels (15-acre and 7.35 acre) on the campus along with an access easement to build a paved access road to connect from the existing campus road to each leased parcel. A copy of the lease agreement is provided in this Project Manual. Our project consists of developing the two leased parcels to include an access road from Gulf Breeze Parkway (US-98), proposed parking lot, concession/restroom facilities, sports fields for both soccer and FUTSAL and a multi-use path connection from US-98 through the proposed sports complex to the Woodlawn Heights Middle School. The proposed access road will consist of an urban typical section consisting of a two (2) lane undivided roadway with curb/gutter with a detached 8-foot wide multi-use path from US-98 that runs along the east side of the access road. The multi-use path transitions to a width of 11 feet leaving the site from the south towards the school.

During an early work construction phase of this project the initial installation of the perimeter erosion control measures were installed, clearing and grubbing operations were performed, and the fill material needed for the site construction was stockpiled on-site.

A single wet detention stormwater pond is being proposed to accommodate runoff from the proposed development, which will meet or exceed SRC, and Northwest Florida Water Management District (NWFWMD) criteria. While portions of the sports complex are expected to be constructed in phases, the wet detention pond is designed to provide the required permanent pool volume for the full buildout condition of the sports complex. Isolated depressional areas are located throughout the proposed development and are interconnected to the water surface in the main wet detention pond. These storage areas will be graded to where they do not extend below the control elevation of the main pond and provide additional storage volume for water quality and attenuation only.

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2.0 SUMMARY OF SCHEDULES AND UNIT PRICES

The quantities and bid item descriptions included in the bid tab are the engineer's ESTIMATE ONLY and are to be used as a guide. All quantities are in-place measures unless otherwise stated. Contractor shall prepare their own quantitites. The contractor shall provide their price for each item, which shall include incidentals, labor, transportation, compaction, etc. The schedule of unit prices must be included in the bid package. If bid items are not included in the bid tab, it will be the contractor's responsibility to identify the items and include the item with a unit price in the bid package. Scrivener errors or other bid tab errors must be brought to the attention of the County during the open question period. No adjustments will be made to the bid tab after the question period closes.

The contractor shall provide a bid price based on the plans and specifications. The unit prices provided by the contractor in the bid tab are for informational purposes only and will be used for change orders and progress payments.

Item No.	Item Description	Quantity	Unit	Unit Cost	Total Cost
Base Bid - Phase 1 Site Work					
101.01	Mobilization	1	LS		
101.02	Maintenance of Traffic	1	LS		
101.03	As-Built Survey	1	LS		
101.04	Clearing & Grubbing	15	AC		
101.05	Erosion Control	1	LS		
101.06	Dewatering (for pond)	1	LS		
101.07	Excavation (On Site)	17,110	CY		
101.08	Embankment (On Site)	8,505	CY		
101.09	6" Sand Cap over Sports Fields	3,890	CY		
101.10	12" Stabilized Subgrade (Sidewalk, Futsal Field, Multiuse Path, Driving Surface, Parking Stalls)	14,780	SY		
101.11	3" Graded Aggregate Base (Futsal Field Ground Prep)	1,250	SY		
101.12	4.5" Graded Aggregate Base (Multiuse Path)	1,170	SY		
101.13	6" Graded Aggregate Base (Parking Stalls)	2,060	SY		
101.14	8" Graded Aggregate Base (Drive Surface)	7,810	SY		
101.15	1.5" Type FDOT SP-9.5 Asphalt (Multiuse Path)	100	TN		
101.16	1.5" Type FDOT SP-12.5 Asphalt (Parking Stalls)	180	TN		
101.17	2.5" Type FDOT SP-12.5 Asphalt (Drive Surface)	1,100	TN		
101.18	Type F Curb & Gutter, Modified	5,160	LF		
101.19	Valley Gutter	120	LF		
101.20	Sidewalk, 4" Thick	2,490	SY		
101.21	4' Chain Link Fence (Black Vinyl Coating)	1,226	LF		
101.22	4'X4' Chain Link Swing Gate	3	EA		
101.23	6'x30' Chain Link Cantilever Gate	1	EA		
101.24	Striping & Pavement Markings	1	LS		
101.25	Single Post Sign	5	EA		
102.01	Curb Inlet Type 3 (48" Dia. P-Bottom)	1	EA		

102.02	Curb Inlet Type 4 (42" Dia. P-Bottom)	11	EA		
102.03	Curb Inlet Type 4 (42"x 42" P Bottom)	2	EA		
102.04	Curb Inlet Type 4 (48" P Bottom)	2	EA		
102.05	Curb Inlet Type 4 (60" Dia. J-Bottom)	1	EA		
102.06	DBI - Type C	6	EA		
102.07	DBI - Type C w/ Dbl Non-Trav Slots	2	EA		
102.08	DBI - Type C (60" Dia. J-Bottom) w/ Dbl Non-Trav Slots	1	EA		
102.09	DBI - Type D	4	EA		
102.10	FDOT Type P8 Manhole (42" x 42" Bottom)	1	EA		
102.11	FDOT Type P8 Manhole (42" Dia. Bottom)	3	EA		
102.12	FDOT Type V Gutter Inlet	1	EA		
102.13	30" Dia. Nyloplast Catch Basins (24" H-10 Grate)	21	EA		
102.14	15" MES with 1:4 Slope	1	EA		
102.15	18" MES with 1:4 Slope	1	EA		
102.16	24" MES with 1:4 Slope	2	EA		
102.17	30" MES with 1:4 Slope	1	EA		
102.18	14" x 23" Single ERCP MES with 1:4 Slope	4	EA		
102.19	Straight Endwall (Quad 19" x 30" ERCP)	2	EA		
102.20	Downspout Connection	8	EA		
102.21	Clean Out	1	EA		
102.22	6" PVC or ADS N-12	133	LF		
102.23	10" PVC	124	LF		
102.24	15" RCP or HPSTORM	1988	LF		
102.25	18" RCP or HPSTORM	1071	LF		
102.26	24" RCP or HPSTORM	2087	LF		
102.27	30" RCP or HPSTORM	175	LF		
102.28	14" x 23" ERCP	120	LF		
102.29	19" x 30" ERCP	300	LF		
102.30	Concrete Spillway (6")	55	SY		
102.31	Riprap w/ Filter Fabric	40	TN		
103.01	Fine Grading Soccer Fields	1	LS		
103.02	Sod, Bermudia 419	46,000	SY		

103.03	Landscape Plantings	1	LS		
103.04	Irrigation System (Complete) w/re-use water tap as source	1	LS		
103.05	Bicycle Rack	1	LS		
103.06	Protective Field Netting	2315	LF		
103.07	Urban Soccer Park Package (2 80'x50' Field Setup)	1	LS		
103.08	Dumpster	1	EA		
103.09	Fountain (Pond)	2	EA		
103.10	Playground (Age 2-5)	1	LS		
103.11	Playground (Age 5-12)	1	LS		
103.12	Benches/Trash Receptacle	2	LS		
104.01	MANHOLES, P-7, <10'	1	EA		
104.02	MANHOLE, ADJUST, UTILITIES	1	EA		
104.03	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 2"	1050	LF		
104.04	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 3"	765	LF		
104.05	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 6"	3015	LF		
104.06	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 8"	713	LF		
104.07	UTILITY PIPE-DUCTILE IRON/CAST IRON, FURNISH&INSTALL, WATER/SEWER, 6"	28	LF		
104.08	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 3"	28	LF		
104.09	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, ELBOW, 3"	15	LF		
104.10	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, ELBOW, 6"	17	EA		
104.11	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, ELBOW, 8"	2	EA		
104.12	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, TEE, 6"	3	EA		
104.13	UTILITY FIXTURE, VALVE/METER BOX, FURNISH & INSTALL, 3"	5	EA		
104.14	UTILITY FIXTURE, VALVE/METER BOX, FURNISH & INSTALL, 6"	9	EA		
104.15	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 3"	2	EA		
104.16	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 6"	1	EA		
104.17	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 6" (DDCV)	2	EA		
104.18	UTILITY FIXTURE- TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 3"	1	EA		
104.19	UTILITY FIXTURE- TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 6"	1	EA		
104.20	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 3"	5	EA		
104.21	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 6"	9	EA		
104.22	UTILITY FIXTURE, MECHANICAL JOINT RESTRAINT, FURNISH & INSTALL, 3"	58	EA		

104.23	UTILITY FIXTURE, MECHANICAL JOINT RESTRAINT, FURNISH & INSTALL, 6"	126	EA		
104.24	FIRE HYDRANT, F&I, STANDARD, 2 HOSE, 1PUMPER, 6"	1	EA		
104.25	LIFT STATION, SANITARY SEWER (Two pump package grinder station)	1	EA		
104.26	CONDUIT, FURNISH AND INSTALL, OPEN TRENCH	7300	LF		
104.27	ELECTRICAL SERVICE WIRE - FURNISH AND INSTALL	3300	LF		
104.28	ELECTRICAL POWER SERVICE-TRANSFORMER FURNISH AND INSTALL	2	EA		
104.29	ITS CABINET - INSTALL	2	EA		
104.30	LIGHTING CONDUCTORS, FURNISH AND INSTALL, INSULATED, NO.8 - 6	30200	LF		
104.31	PULL & SPLICE BOX, F&I, 13" X 24" COVERSIZE	5	EA		
104.32	PULL & SPLICE BOX, F&I, 24" X 36" COVERSIZE	11	EA		
104.33	SPORTS LIGHTING SYSTEM	1	LS		
105.01	Concession / Restroom / Storage Building	1	LS		
				Base Bid - Phase 1 Site Work Total	
Bid Alternate 1 - Phase 2 Earthwork					
201.01	Clearing & Grubbing	6	AC		
201.02	Erosion Control	1	LS		
201.03	Excavation (On Site)	4,960	CY		
201.04	Embankment (On Site)	1,840	CY		
				Bid Alternate 1 - Phase 2 Earthwork Total	
Bid Alternate 2 - Phase 2 Site Work					
201.05	6" Sand Cap over Sports Fields	1,190	CY		
201.06	12" Stabilized Subgrade	4,120	SY		
201.07	3" Graded Aggregate Base	1,250	SY		
201.08	6" Graded Aggregate Base	960	SY		
201.09	8" Graded Aggregate Base	1,120	SY		
201.10	1.5" Type FDOT SP-12.5 Asphalt (Parking Stalls)	90	TN		
201.11	2.5" Type FDOT SP-12.5 Asphalt (Drive Surface)	160	TN		
201.12	Type F Curb & Gutter, Modified	820	LF		
201.13	Sidewalk, 4" Thick	790	SY		
201.14	Striping & Pavement Markings	1	LS		
201.15	Single Post Sign	2	EA		
202.01	DBI - Type C	1	EA		

202.02	30" Dia. Nyloplast Catch Basins (24" H-10 Grate)	6	EA		
202.03	Downspout Connection	4	EA		
202.04	Clean Out	3	EA		
202.05	15" MES with 1:4 Slope	2	EA		
202.06	4" PVC or ADS N-11 w/ Fittings	26	LF		
202.07	6" PVC or ADS N-12 w /Fittings	133	LF		
202.08	10" PVC	18	LF		
202.09	15" RCP or HPSTORM	424	LF		
202.10	24" RCP or HPSTORM	105	LF		
203.01	Fine Grading Soccer Fields	1	LS		
203.02	Sod, Bermudia 419	14,890	SY		
203.03	Landscape Plantings	1	LS		
203.04	Irrigation System (Complete) w/re-use water tap as source	1	LS		
203.05	Urban Soccer Park Package (2 80'x50' Field Setup)	1	LS		
204.01	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 3"	890	EA		
204.02	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 6"	835	LF		
204.03	UTILITY PIPE- POLY VINYL CHLORIDE, FURNISH & INSTALL, WATER/SEWER, 8"	8	LF		
204.04	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 3"	28	LF		
204.05	UTILITY PIPE- DUCTILE IRON/CAST IRON, FURNISH & INSTALL, WATER/SEWER, 6"	29	LF		
204.06	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, ELBOW, 3"	4	LF		
204.07	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, ELBOW, 6"	4	EA		
204.08	UTILITY FITTINGS FOR PVC PIPE, FURNISH AND INSTALL, TEE, 6"	3	EA		
204.09	UTILITY FIXTURE, VALVE/METER BOX, FURNISH & INSTALL, 3"	3	EA		
204.10	UTILITY FIXTURE, VALVE/METER BOX, FURNISH & INSTALL, 6"	3	EA		
204.11	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 3"	1	EA		
204.12	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 6"	1	EA		
204.13	UTILITY FIXTURE- BACKFLOW ASSEMBLY, FURNISH & INSTALL, 6" (DDCV)	1	EA		
204.14	UTILITY FIXTURE- TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 3"	1	EA		
204.15	UTILITY FIXTURE- TAPPING SADDLE/SLEEVE, FURNISH & INSTALL, 6"	1	EA		
204.16	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 3"	6	EA		
204.17	UTILITY FIXTURE, VALVE ASSEMBLY, FURNISH AND INSTALL, 6"	3	EA		
204.18	UTILITY FIXTURE, MECHANICAL JOINT RESTRAINT, FURNISH & INSTALL, 3"	30	EA		

204.19	UTILITY FIXTURE, MECHANICAL JOINT RESTRAINT, FURNISH & INSTALL, 6"	102	EA		
204.20	FIRE HYDRANT, F&I, STANDARD, 2 HOSE, 1PUMPER, 6"	2	EA		
204.21	CONDUIT, FURNISH AND INSTALL, OPEN TRENCH	6120	LF		
204.22	LIGHTING CONDUCTORS, FURNISH AND INSTALL, INSULATED, NO.8 - 6	20800	LF		
204.23	LIGHTING CONDUCTORS, FURNISH AND INSTALL, INSULATED, NO 4 TO NO 2	3700	LF		
204.24	PULL & SPLICE BOX, F&I, 13" X 24" COVERSIZE	4	EA		
204.25	PULL & SPLICE BOX, F&I, 24" X 36" COVERSIZE	7	EA		
204.26	SPORTS LIGHTING SYSTEM	1	LS		
205.01	Restroom Building	890	SF		
				Bid Alternate 2 - Phase 2 Site Work Total	

3.0 TECHINCAL SPECIFICATIONS

3.1 SPECIAL PROVISIONS FOR FDOT SPECIFICATIONS (SECTION 01047)

PART 1 – GENERAL

This Santa Rosa County (Owner) project uses the "Florida Department of Transportation Standard Specifications for Road and Bridge Construction" as the governing specification for site work, roads, and stormwater construction. This special provision contains specific clauses that add to or revise the Florida Department of Transportation Standard Specifications for Road and Bridge Construction or supplement specifications, setting forth conditions varying from or additional to the Standard Specifications and are applicable to this project.

Some aspects of the project are not covered by the FDOT standards, specifically utility construction, hence, other utility work (water, sewer, power, gas, communications, etc.) shall conform to the standards of the utility owner/provider.

FDOT Specifications Division I – General Requirement and Covenants

1. In the event that there is a conflict between the contract agreement, plans and specifications the following is a guide for resolving the conflict.
   General Terms and Conditions
   Bid Form Pay Item Notes
   Plans
   FDOT Design Standards
   Project Specific Specifications
   Special Provisions for the Adaptation and Use of the FDOT Specifications
   FDOT Standard Specifications for Road and Bridge Construction
   The Public Works Director or his designated representative shall make the final determination of the course action.

2. The Florida Department of Transportation (FDOT) Standard Specifications for Road and Bridge Construction, 2022 Edition, Division II shall be the governing specifications for all contract pay items unless the pay items are modified by pay item notes or special provisions. Division I of the FDOT specifications shall be used for prosecution and progress of the contract except where modified by the general conditions or special provisions. Sections 2, 3, 4, 5-1 thru 5-6, 5-8 thru 5-13, 8-1, 9-2.1.1 and 9-2.1.2 of the FDOT specifications are specifically excluded from this project. For purposes of liquidated damages, the contract time shall be calculated in accordance with Section 8-7 of the FDOT specifications with the exception that no work shall be allowed on Saturdays and Sundays without written permission from the County.

3. The hours of work shall be 7:00 A.M. until 30 minutes prior to sundown Monday through Friday. No work is to be done in the period from December 24th through the following January 1st. These days off will be added to the contract time. However, if the contractor is required to work during the Christmas break the days the contractor worked will not be added to the contract time. No work shall be done on the Friday immediately preceding Memorial Day, or Labor Day. Contract time will be charged during holiday and weekend periods regardless of whether or not the Contractor's operations have been suspended. The Contractor is not entitled to any additional compensation for suspension of operations during such holiday periods or weekend periods.

4. Contract Time - The number of calendar days allowed for the substantial completion of the Contract. The contract substantial completion date is computed by adding the number of days authorized by the Form of Agreement to the Notice to Proceed date.

5. Holidays – New Years Day, Martin Luther King's Birthday, Good Friday, Memorial Day, Independence Day (4th of July), Labor Day, Veterans Day, Thanksgiving Day, Friday after Thanksgiving, Christmas Eve, and Christmas Day. Holidays that fall on a Saturday will normally be observed on the preceding Friday and holidays that fall on Sunday will normally be observed on the following Monday.

6. Notice to Proceed – Written communication issued by the County to the Contractor authorizing them to proceed with the work and establishing the date for commencement of the work. For purposes of calculating liquidated damages, the Notice to Proceed date will be considered day zero.

7. Substantial Completion - For a unit price contract a project is substantially complete when all the work, as specified in the plans and list of pay items has been completely installed. For a lump sum contract, a project is substantially complete when all the work specified by the plans and specifications are complete and the Owner can enjoy beneficial use or occupancy and may use, operate and maintain the project in all respects and for its intended purpose as determined by the Owner's Designated Representative. The Contractor will not be charged liquidated damages for any days on or after the substantial completion date, but retainage will be withheld until all punch list items are completed.

8. Whenever unanticipated work not covered by the drawings or specifications is found and is considered essential to satisfactory completion of the work within intended scope, the Contractor shall notify the County's Designated Representative immediately.

9. The County may at any time, as the need arises, order changes within the scope of the work without invalidating the agreement. If such changes increase or decrease the amount due under the Contract Documents, or the time required for performance of the work, an equitable adjustment shall be authorized by Change Order. Rights are reserved to purchase additional quantities at bid price.

10. When the Contractor deems that extra compensation is due him for work not covered in the contract the Contractor shall immediately verbally notify the County's Designated Representative and follow-up with a written claim within twenty (20) calendar days of the date of the event that gave rise to the claim. The County will not consider any claim when the notice given by the Contractor is over 20 calendar days past the date of the event giving rise to the claim and the Contractor shall waive the claim for compensation. The contractor shall not commence any work claim until they have received written approval from the County to do such work.
11. The Contractor must submit in writing to the County any claims for compensation due to delays. The County will not compensate the Contractor for any delays for any reason unless five days (excluding Saturdays, Sundays, and holidays) have elapsed from the start of work stoppage. The first day of any claims shall be on day six of the work stoppage. This shall apply to each work stoppage. In order to submit a valid claim for work stoppage, the Contractor must submit a schedule made using the critical path method which shows the early start, late start, early finish, late finish, and the critical path. The County expects the Contractor to use forces and equipment on any item of work that can be completed during the delay. The Contractor's claim must show the delay is due to the controlling item of work as shown on the critical path method schedule. After five workdays if the County deems the delay claim to be valid, the Contractor's claim shall only be for labor, equipment and materials that are delayed due to the controlling work item. If the County's Designated Representative determines the Contractor forces and equipment can be used on other work items during the delay, no compensation will be given for these forces and equipment.

12. The Contractor fully warrants all workmanship and material, in the performance of his obligation under this contract, for a period of one (1) year after completion of the work described in this Contract. The warranty period begins at the date of final payment for the project. The Contractor shall forthwith repair or remedy any defects in the construction done by him, discovered within one (1) year, without cost or change to the Owner. In the event the Contractor fails, within five days after notice, to begin correction of the defect, or fails within a reasonable time thereafter to complete the correction of the defect, then the Owner may have the work done at the Contractor's expense or may proceed against the surety bond.

13. Unless otherwise stated in the contract documents, the term furnish shall be interpreted as meaning furnish and install, which shall include the full cost of materials, labor, and equipment to furnish and install a complete item to include satisfactory completion of all testing requirements.

14. The County will not make payment on any invoices until the schedule and if applicable, the schedule of values is received and approved by the County.

15. For all projects involving Federal aid funding, the contractor shall notify County staff; and, if applicable the project's Resident Compliance Specialist; of any changes in sub-contractors prior to their use on the project.

16. The contractor shall invoice the County monthly and the invoice shall be submitted by the 10th calendar day of the month.

17. All submittals shall be submitted to the County for staff review no later than 10 workdays prior to the products use on the project.

18. The contractor's project manager shall provide written documentation of elevations of curbing, inlet box inverts and grate elevations, pipe inverts, final surface pavement and base profiles, cross slopes, stormwater pond elevations, underdrain elevations, outlet structure and any other critical elevations and slopes as directed by the County, all prior to covering up the work and done as the work progresses.

19. In order to be compensated for stored materials, the County's Designated Representative must inventory and accept the material when it is delivered to the job storage site and the contractor shall give the county representative an invoice from the material supplier that shows the material cost per unit for each item stored. The County will not pay for stored materials deemed to be defective.

FDOT Specifications Division II –Construction Details

Section 102 – Maintenance of Traffic

1. Contractor at Contractor's expense shall give residents and businesses located on the project right-of-way 48 hours notice of start of construction and have maintenance of traffic signage in place prior to beginning any construction. The County may provide door hanger type notices to the Contractor. Contractor personnel shall distribute notices to each business and resident 24 hours prior to starting any operations that could prevent access to any residence or business. The Contractor should include the cost of these notifications in their maintenance of traffic (MOT) costs.

2. When traffic signs in County right of way are located within the area of construction, the Contractor shall notify the County Inspector for approval to remove, re-set, or relocate any sign. The Contractor shall reinstall any disturbed mailboxes or signs to existing or acceptable condition.

3. If work is required after sunset, all elements of the night requirements for traffic control through work zones as specified in the FDOT Roadway and Traffic Design Standards shall be in place prior to beginning work.

4. At least one lane of road (public right of way) shall be kept open to traffic at all times. Lane closure restrictions are:

   From 6:00 AM to 8:00 AM and 5:00 PM to 7:00 PM no lane closure.
   At the discretion of the County's Designated Representative, if lane closure causes extended congestion, the Contractor shall be directed to reopen the closed lane(s) until such time as the traffic flow has returned to normal.

   All lanes must be reopened to normal traffic within 12 hours during an evacuation notice of a hurricane or other catastrophic event and shall remain open for the duration of the evacuation or event as directed by the County's Designated Representative.

5. Any road closures (public right of way) will require a minimum of 10 working days notice and County's Designated Representative approval prior to closure. The Contractor, at Contractor's expense shall be responsible for designing and implementing a detour plan, to include signage. Two working days in advance of any road closure, the Contractor shall post signage that can be clearly read by the

traveling public notifying the public of the road closure. Portable Changeable (Variable) Message Signs (PCMS) shall be in place 48 hours in advance of any road closure informing motorists of the date and time of the proposed closure. PCMS shall be provided at no additional cost to the County.

6. Removal of existing and/or temporary pavement markings shall be accomplished by the following methods: Milling and/or asphalt overlay, sand or water blasting, or other means approved by the County's Designated Representative. Grinding shall only be permitted in non-traffic areas as designated by the County's Designated Representative. Use of black paint to cover existing and/or temporary pavement markings is prohibited.

7. In the event that law enforcement is required for maintenance of traffic, the Contractor shall pay all costs.

8. When a road (public right of way) is closed to thru-traffic, in addition to installing the applicable closure and detour signage to route the thru-traffic around the closure, the contractor shall comply with all applicable portions of the FDOT Specifications and Design Standards to provide for the control and protection of local traffic thru the closed section of roadway, throughout the duration of the closure, day and night, to include advanced warning signs, protective barriers, and 1-way (single lane) traffic operations with flaggers, as applicable.

Section 104 – Prevention, Control, and Abatement of Erosion and Water Pollution

1. The erosion control plan shown in the drawing package denotes a minimum requirement for the project. It may not meet all the requirements of a stormwater pollution prevention plan required for the NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities. Contractor shall be responsible for providing adequate means of preventing erosion and sediment export whether shown in the plans or not, at no additional cost to the County.

2. Contractor shall be responsible for obtaining coverage under the Florida Department of Environmental Protection NPDES Generic Permit for Stormwater Discharge from Large and Small Construction Activities for all projects disturbing one (1) acre or more. The cost of all items and work required to implement the conditions of the NPDES Generic Permit for Stormwater Discharge shall be included in the Contractor's bid. When the permit is required, the Contractor shall submit their Stormwater Pollution Prevention Plan (SWPPP) within 10 days of the Notice to Proceed. The County will not make payment on any invoices until the SWPPP is received. The contractor shall provide the County with weekly NPDES inspection reports and any other reports required by the NPDES permits, to include post rain event inspections.

3. Unless otherwise directed by the County's Designated Representative, all areas disturbed by construction shall be seeded and mulched or sodded within five (5) days after construction in that area.
4. Contractor, at Contractor's expense, shall maintain all sodded and seeded areas in accordance with the plans. Contractor shall guarantee sodding and seeding for a period of ninety (90) days after issuance of Certificate of Completion. During the guarantee period, the Contractor shall replace at no cost to the County, any sod or grass that dies or is not established 90 days after the date of the certificate of completion, or if the causes for such defects are traced to negligence or poor workmanship by the Contractor. Any sod or grass missing or defective shall be replaced in a manner satisfactory to the County's Designated Representative. In case of any doubt as to the condition and satisfactory establishment of the sod, the County's Designated Representative may allow the sod or grass to remain through another 90 day establishment period. After which time the sod or grass in question, if found to be dead or in an unhealthy or badly impaired condition shall be replaced by the Contractor at no cost to the County. Contractor shall also be responsible for maintenance of grass including mowing to keep grass a maximum of 6 inches in height during the project and through the 90-day warranty period.

5. In general, seed with Pensacola Bahia grass, except in sandy areas, then use unhulled Bermuda. Add temporary grass seeds as appropriate for the season. In urban areas where lawns are maintained in the right of way, the Contractor shall sod or seed to match existing grass or sod at no

additional cost to the County. During the months of October through February overseed all sodded areas with temporary grass seed. Seeding rates are as follow:

Type of Seed	Coastal (Mar.-Nov.)	Coastal (Nov.-Mar.)	Inland (Mar.-Nov.)	Inland (Nov.-Mar.)
	Seeding rate (lb/Ac)	Seeding rate (lb/Ac)	Seeding rate (lb/Ac)	Seeding rate (lb/Ac)
Unhulled Bermuda[2]		90		20
Hulled Bermuda[2]	60		15	
Bahia (Argentine or Pensacola)			180	180
Annual Rye Grass		90		90

Notes:
1. Table from FDOT 2022 Standard Specification for Road and Bridge Construction.
2. Bermuda shall not be used in areas adjacent to existing or proposed landscaping.

6. When hydro-seeding is used, Contractor shall submit hydro-seeding mix to the County's Designated Representative for approval. Mix shall include permanent and temporary seed, fertilizer, mulch, and soil seal. The mix shall give a seeding, mulching and fertilizing rate that is equal to or greater than the seeding rates specified in table above and meeting standards for hydro-seeding technology.

7. Seeding may only be used on slopes less than 4:1 horizontal to vertical (H:V). Sod all slopes between 4:1 and 2:1 H:V slopes. Use lapped and pinned sodding or erosion control blankets for all slopes between 2:1 and 1:1 H:V. Use retaining walls or sand cement riprap for slopes greater than 1:1 (H:V).

8. All stockpiled materials shall employ pollution prevention measures to prevent sediment from leaving the stockpile area.

9. When working in the waters of the state under a state or federal regulatory permit, the Contractor shall take water samples as directed by the conditions of the permit.

Section 105 – Contractor Quality Control General Requirements

1. The Contractor shall have the following Florida Department of Transportation (FDOT) plant and laboratory approvals:

   - An FDOT approved asphaltic concrete production plant.
   - An FDOT approved asphaltic concrete laboratory at the asphalt production plant.

2. The contractor shall provide at or prior to the pre-award meeting personnel certifications meeting the requirements of FDOT Specification Section 105-8.

3. The contractor shall provide a Florida Department of Environmental Protection qualified Stormwater Management Inspector who shall inspect the construction site in accordance with the Pollution Control Inspection Plan and the Stormwater Pollution Prevention Plan for the NPDES Construction Permit.

4. The Contractor or Subcontractor that installs any of the painted or thermoplastic traffic markings and retro-reflective pavement markers (RPMs) for the final pavement surface in public right of way shall possess a current FDOT Certificate of Qualification in Pavement Markings.

Section 110 – Clearing and Grubbing

1. The Contractor shall protect from disturbance or damage all land monuments and property markers. All disturbed land monuments and property markers shall be properly restored to original condition at Contractor's expense.

Section 120 - Earth Work and Related Operations

1. Unless otherwise approved by the project Engineer of Record all Quality Assurance, Verification and Resolution testing shall be done in accordance with the FDOT Specifications. The County does not have a resolution testing lab. If deemed necessary, the Contractor must be willing to use an FDOT certified laboratory that is mutually acceptable to the County and the Contractor for any resolution testing. The Contractor shall retain and store any resolution test samples.
2. The County shall not compensate the Contractor for overhaul of excavated materials. The Contractor shall include the cost of such overhaul in the unit or lump sum price for excavation or embankment, as applicable.

3. The Contractor shall stockpile, if necessary, and use all suitable excavated materials on the jobsite and haul off any excess upon completion of the job. Topsoil shall be stored in a separate stockpile on County property or as directed by the County's Designated Representative.

4. The Contractor shall comply with all federal and state laws, rules and regulations concerning trench excavation safety. The Contractor is solely responsible for any and all claims arising out of the Contractor's earthwork operations, to include, but not limited to, excavation, trenching, embankment, stockpiling, compaction, vibration, erosion, runoff, etc. Contractor shall use shoring as necessary to prevent embankment collapse and any structural undermining to include pavements, driveways, foundations, etc.

Section 160 – Stabilizing

1. In order to be paid for Stabilization under Pay Item 160-4 the contractor shall add stabilizing material as need and mix the stabilizing material full depth as described in Section 160. In areas where the contractor's test samples show the existing subgrade meets the bearing value requirements, the contractor shall still mix and recompact the subgrade per the requirements of Section 160. No payment for stabilization will be made if the mixing is not accomplished.

Section 327 - Milling of Existing Asphalt Pavement

1. Any asphalt concrete millings are to remain property of the County. The Contractor shall haul the asphalt concrete millings to the stockpile designated by the County's Designated Representative.

Section 334 – Superpave Asphalt Concrete

1. The contractor shall only use a current approved FDOT Superpave mix design.

2. Unless otherwise approved by the project Engineer of Record all Quality Assurance, Verification and Resolution testing shall be done in accordance with the FDOT Specifications. All testing shall be accomplished using the testing methods that conform to the requirements of the FDOT Specifications. The County does not have a resolution testing lab. If deemed necessary, the Contractor must be willing to use an FDOT certified laboratory that is mutually acceptable to the County and the Contractor for any resolution testing. For plant and roadway asphaltic concrete acceptance, Contractor is to utilize all methods of construction quality control testing in accordance with the current FDOT Specifications. Unless otherwise required in the contract documents, the FDOT testing frequency(s) shall be followed.

3. For all paving contracts, the asphalt concrete supplier shall allow County personnel or their designated representative(s) to inspect the asphalt production plant and laboratory, and to monitor

the on-site laboratory testing of asphaltic concrete during production runs for County projects. If County personnel or their designated representatives need to take asphalt concrete samples from the trucks at the asphalt plant or at the job site, the Contractor shall be responsible for taking the samples and providing to the County in appropriate containers.

4. The Contractor shall stop production of asphaltic concrete in time for the mix to be placed and finished 30 minutes prior to sundown.

5. The County will not allow asphaltic concrete to be produced or placed until the County's Designated Representative and Contractor have received satisfactory test results and certified the base to be suitable for paving.

6. Segregated aggregate, surface bumps and depressions, bleeding asphalt concrete, clay balls, poor aggregate gradation, asphalt content out-of-tolerance from the job mix formula, poor joint construction, and noncompliance with the rolling procedures may all result in rejection of the asphalt concrete by the County. In such cases the Contractor, at Contractor's expense, shall remove and replace the asphalt concrete, or overlay the existing pavement with suitable material. The choice to remove and replace or overlay the deficient asphalt concrete shall be made by the County's Designated Representative.

7. The County will not accept nor pay for any asphaltic concrete placed without a County's Designated Representative on-site during the entire paving operation. To receive payment for paving materials, the Contractor must give the County's Designated Representative a materials delivery ticket showing the truck number, the tonnage, the date, and the job name. Contractor's failure to give the delivery ticket to the inspector may result in the County not paying for the material. If the paving schedule changes the Contractor must give the County's Designated Representative office 48 hours (2 workdays exclusive of Saturday and Sundays) in advance of the beginning of paving. Failure to give the 48 hours notification will result in shutdown of the paving operation by the County's Designated Representative.

Section 346 – Portland Cement Concrete

1. The Contractor shall stop production of Portland cement concrete in time for the mix to be placed and finished 30 minutes prior to sundown.

2. The County will not allow Portland cement concrete to be produced or placed until the County's Designated Representative and Contractor have received satisfactory test results and certified the base to be suitable for concrete placement. The County will not accept or pay for any Portland cement concrete placed without a County's Designated Representative being on site to observe placement, and the County's Designated Representative requires 48 hours notice (2 workdays, exclusive of weekends and holidays) to schedule its inspectors.

Section 400 – Concrete Structures

1. County's Designated Representative must be present during placement of all concrete. The County will not pay for any concrete placed without a County's Designated Representative present. Contractor shall give 48 hours (2 workdays) advance notice to the County's Designated Representative Inspector prior to pouring.

Section 425 – Inlets, Manholes and Junction Boxes

1. Unless otherwise approved by the County's Designated Representative, or otherwise shown in the plans, inlet basins shall have sump bottoms with drain constructed in accordance with FDOT Index 425-001 Sheet 2.

Section 430 – Pipe Culverts

1. The County defines a cross drain as a pipe culvert that crosses a road. Cross drain criteria also applies to a drain going under an intersecting road. A side drain is a pipe going under a commercial or residential driveway. A storm sewer is any pipe system connecting inlet boxes, or a combination of inlet boxes, headwalls, or other pipe end treatments. Storm sewer criteria shall also apply to a long run of pipe that is clearly not a cross drain or side drain.

2. Unless otherwise approved by the County's Designated Representative, the type of pipe material shown in the project plans will be used for bidding and construction purposes.

3. Unless otherwise approved by the project Engineer of Record all Quality Assurance, Verification and Resolution testing shall be done in accordance with the FDOT Specifications. The County does not have a resolution testing lab. If deemed necessary, the Contractor must be willing to use an FDOT certified laboratory that is mutually acceptable to the County and the Contractor for any resolution testing. The County will retain and store any resolution test samples.

4. Unless otherwise shown on the plans, the cost per linear foot for the installation of any drainage pipe or structure under a roadway that requires a roadway cut shall include the cost of patching the roadway cut in accordance with the contract documents.

5. Only PVC, RCP, ERCP, and HDPE meeting requirements of the FDOT specifications are suitable for County projects. Only concrete pipe will be allowed for cross drains, and concrete or PVC/HDPE will be allowed for side drains. HDPE and PVC pipes are allowed under driveways if they are part of a storm sewer system and have enough burial depth to meet the greater of FDOT or manufacturer's requirements for H20 traffic loading. Unless otherwise approved by the County's Designated Representative the pipe materials shown in the plans shall be used.

6. Unless otherwise approved by the County's Designated Representative, the contractor is to inspect all pipes laid for County projects with video equipment per FDOT Specification Section 430 and the tape provided to the County's Designated Representative.

7. The Contractor shall excavate, construct, and place all pipelines, concrete work, fill, and bedding rock, in the dry. In addition, the Contractor shall not make the final 24 inches of excavation until the water level is a minimum of one foot below proposed bottom of excavation. For purposes of these specifications, "in-the-dry" is defined to be within 2% of the optimum moisture content of the soil. The County reserves the right to ask the Contractor to demonstrate that the water level is a minimum of one foot below proposed bottom of excavation before allowing the construction to proceed.

Section 530 – Riprap

1. Unless otherwise specified in the plans, riprap shall be a durable stone with a minimum unit weight of 165 pounds per cubic foot. Riprap gradation shall consist of reasonably well graded durable rock with a medium stone size of 80 pounds and not over 10 percent larger than 200 pounds. There shall be sufficient small stones and spalls to approximately fill the void between the larger stones.

END OF SECTION 01047

3.2 GATE OPERATIONS

PART 1 – GENERAL

1.1 SUBMITTALS

A. Action Submittals:
   1. Shop Drawings: Illustrate products, installation, and relationship to adjacent construction.
   2. Product Data: Manufacturer's descriptive data and product attributes.

B. Closeout Submittals:
   1. Operation and Maintenance Data.

1.2 QUALITY ASSURANCE

A. Installer Qualifications: Firm specializing in work of this Section, with minimum 10 years experience.

1.3 WARRANTY

A. Manufacturer's 2-year warranty against material and manufacturing defects.

PART 2 – PRODUCTS

2.1 MANUFACTURERS

A. Contract Documents are based on products by LiftMaster

B. Substitutions: Not Permitted

2.2 MANUFACTURERED UNITS

A. Slide Gate Operators:
   1. Model: IHSL24UL
   2. Operation: Gear driven.
   3. Rated duty cycle: Continuous duty.
   4. Meet UL 325, UL 991, ASTM F2200, and CAS C22.2 No. 247.
   5. Power: 120/240 VAC, single phase.
   6. Traveling Speed: 6-12 inches per second.
   7. Motor: 24 VDC, continuous duty cycle, sized to gate conditions.
   8. Battery backup: 7Ah.
   9. Monitoring and controls:
      a) Radio receiver: Security+ 2.0 technology.
      b) Monitored retro-reflective photo eyes.
      c) Monitored small profile wired safety edge.
      d) Inside Safety Induction Loop.
      e) Outside Safety Induction Loop.
   10. Accessories:
      a) Monitored safety devices: Thru-bean photo eyes.
      b) Wired monitored edges: Small profile edge.
      c) Plug-in loop detector.
      d) Wireless commercial keypad.
      e) Maglock.
      f) Riser kit.
      g) 24/7 Timer.

PART 3 – EXECUTION

3.1 INSTALLATION

A. Install in accordance with manufacturer's instructions.

3.2 CLOSEOUT ACTIVITIES

A. Test and adjust operators for proper operation.
B. Demonstration: Demonstrate operation and programming of operators to Owner.

END OF SECTION 32 31 11

3.3 TEMPORARY ACCESS SAFETY PLAN

PART 1 – GENERAL

1.01 – SUMMARY

A. PROVIDE TEMPORARY SERVICES AND UTILITIES:
   1. Water (POTABLE) is available on site for the contractor's use. The contractor is responsible for making all connections to the existing system. Connections are to be made in a manner that will not interfere with school operations. Provide meter and pay for usage is this can not be accomplished.
   2. Sewer sediment. Provide portable toilets as required for workers.
   3. Provide arrangements for temporary power for the duration of the project. The contractor is responsible for making all connections to the existing temporary system. Connections are to be made in a manner that will not interfere with school operations. Provide meter and pay for usage if this can not be accomplished.
   4. Telephone, fax machine, and internet capable computer in the field office.

B. PROVIDE CONSTRUCTION FACILITIES:
   1. Construction equipment.
   2. Temporary fencing and gates.
   3. Heating.
   4. Lighting.
   5. Access.
      a) **PRIMARY ACCESS TO THE SITE WILL BE WOODLAWN WAY AND AS APPROVED BY CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR RETURNING THE ACCESS AREA AND THE SURROUNDING SITE TO THEIR ORIGINAL CONDITION.**
      b) **THE CONTRACTOR SHALL PHOTO DOCUMENT THE EXISTING CONDITIONS AS THEY RELATE TO THE SITES AND PROVIDE THIS DOCUMENTATION TO THE COUNTY'S REPRESENTATIVE.**

C. PROVIDE SECURITY AND PROTECTION REQUIREMENTS:
   1. Fire extinguishers.
   2. Site enclosure fencing, barricades, warning signs, and lights. Fencing shall have knurled edges.
   3. Building enclosure and lock-up.
   4. Environmental protection.
   5. Pest control.
   6. Provide temporary walls and fences as indicated AND as required to control noise, dust, dirt, **AND PREVENT ACCESS TO CONSTRUCTION AREAS BY STUDENTS AND UNAUTHORIZED PERSONS**. Fencing shall be described I the contractor's safety plan. See paragraph "E" below.

D. PROVIDE PERSONNEL SUPPORT FACILITIES:
   1. Contractor's field office.
   2. SMART PHONE capable of receiving and sending emails and photographs.
   3. Sanitary facilities.
   4. Drinking water.
   5. Cleaning and trash removal.

E. **PROVIDE THREE COPIES OF A SITE SPECIFIC SAFETY PLAN FOR APPROVAL. THIS PLAN SHALL SPECIFICALLY ADDRESS MEASURES THAT ARE PROPOSED TO LIMIT ACCESS TO THE CONSTRUCTION AREA BY STUDENTS AND OR OTHER PARTIES. REFER TO SECTION 453.6.1 OF THE FLORIDA BUILDING CODE.**

FBC 453.6.1 Occupancy during construction. School Board and Community College Board Facilities, or portions of facilities, shall not be occupied during construction unless exits, fire detection and early warning systems, fire protection, and safety barriers are continuously maintained and clearly marked at all times. Construction on an occupied School Board Site shall be separated from students and staff by secure barriers. Prior to issuance of the Notice to Proceed, a Safety Plan shall be provided by the

Contractor which clearly delineates area for construction, safety barriers, exits, construction traffic during the various phases of the project and when conditions change. Where heavy machinery, as is used for earth moving or scraping, is required to work on School Board's occupied site, the work shall be separated from occupants by secure DOUBLE BARRIERS with a distance of 10 feet (3048 mm) in between. New construction, remodeling or renovations in existing facilities shall not reduce the means of egress below the requirements for new buildings; safe means of from a student-occupied space may be accomplished as authorized by NFPA 101, Florida Editions as adopted by the FLORIDA FIRE PREVENTION CODE. New construction (additions) shall not block or reduce safe means of egress.

A COPY OF THIS APPROVED SAFETY PLAN SHALL BE KEPT ON SITE AT ALL TIMES DURING THE CONSTRUCTION PERIOD.

PART 2 – PRODUCTS

(NOT APPLICABLE)

PART 3 – EXECUTION

(NOT APPLICABLE)

END OF SECTION

3.4 PHASE I BUILDING SPECIFICATIONS

SECTION 033100 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cast-in-place concrete, including reinforcement, concrete materials, mix design, placement procedures, and finishes.

B. See Division 2 Section "Earthwork" for drainage fill under slabs-on-grade.

1.2 SUBMITTALS

A. Product Data: For each manufactured material and product indicated.

B. Design Mixes: For each concrete mix indicated on drawings.

C. Shop Drawings: Include details of steel reinforcement placement including material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports.

D. Material certificates.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

B. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents.

1. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete.
2. Formwork and form accessories.
3. Steel reinforcement and supports.
4. Concrete mixtures.
5. Handling, placing, and constructing concrete.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Formwork: Furnish formwork and form accessories according to ACI 301.

B. Steel Reinforcement:

1. Reinforcing Bars: ASTM A 615 Grade 60, deformed.

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2. Plain-Steel Wire: ASTM A 82, as drawn.
3. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

C. Concrete Materials:

1. Portland Cement: ASTM C 150, Type I or II or I/II.
2. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-inch nominal size.
3. Water: Complying with ASTM C 94 and potable.
4. Synthetic Fiber: Fibrillated or monofilament polypropylene fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches long.

D. Admixtures:

1. Air-Entraining Admixture: ASTM C 260.
2. Water-Reducing Admixture: ASTM C 494, Type A.
3. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
4. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

E. Vapor Barrier: ASTM E 1745, Class A, Not less than **15 mils thick**.

1. Sheet Vapor Barrier: Permeance of less than 0.04 Perms [grains/(ft^2 · hr · inHg)] as tested in accordance with ASTM E 1745 Section 7. Include manufacturer's recommended polyethylene pressure-sensitive seam tape and vapor-proofing mastic.

F. Joint-Filler Strips: ASTM D 1752, cork or self-expanding cork.

G. Curing Materials:

1. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
2. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf.
3. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
4. Water: Potable.
5. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

2.2 CONCRETE MIXES

A. Comply with ACI 301 requirements for concrete mixtures.

B. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data bases, as follows:

1. Compressive Strength (28 Days): **As** indi**cated on drawings**.
2. Slump: As indicated on approved mix design.

C. Air content of trowel-finished interior concrete floors shall not exceed 3.0 percent.

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2.3 CONCRETE MIXING

A. Ready-Mixed Concrete: Comply with ASTM C 94 and ASTM C 1116.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

B. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Formwork: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301.

B. Vapor Barrier: Install, protect, and repair vapor-barrier sheets according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.

C. Steel Reinforcement: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor barrier. Repair damage and reseal vapor barrier before placing concrete.

D. Joints: Construct joints true to line with faces perpendicular to surface plane of concrete.

1. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Architect.
2. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
    a. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
3. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
    a. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
    b. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into

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concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

E. Tolerances: Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3.2 CONCRETE PLACEMENT

A. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.

B. Consolidate concrete with mechanical vibrating equipment.

3.3 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections.

1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
2. Apply smooth-rubbed finish, defined in ACI 301, to smooth-formed finished concrete.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.4 FINISHING UNFORMED SURFACES

A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on the surface.

1. Do not further disturb surfaces before starting finishing operations.

C. Scratch Finish: Apply scratch finish to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, and other bonded cementitious floor finish, unless otherwise indicated.

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D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing.

E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, paint, or another thin film-finish coating system.

F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic tile is to be installed by thin-set methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

G. Nonslip Broom Finish: Apply a nonslip broom finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.5 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions occur before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Cure formed and unformed concrete for at least seven days as follows:

1. Moisture Curing: Keep surfaces continuously moist with water or continuous water-fog spray or absorptive cover, water saturated and kept continuously wet.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: The Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301.

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1. Testing Frequency: One composite sample for each day's pour of each concrete mix exceeding 5 cu. yd, but less than 25 cu. yd, plus one set for each additional 50 cu. yd. or fraction thereof.
2. Testing Frequency: At least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mix placed each day.
3. Test Cylinders: A minimum of four (4) shall be cast for each composite sample. Test one (1) at seven (7) days, two (2) at twenty-eight (28) days and hold one (1) as a spare.

END OF SECTION 033100

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SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Clay face brick.

1.2 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.

C. Samples for Verification: For each type and color of exposed masonry unit and colored mortar.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of product. For masonry units, include material test reports substantiating compliance with requirements.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement.

1.5 FIELD CONDITIONS

A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost

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or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 UNIT MASONRY, GENERAL

A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.

B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work and will be within 20 feet (6 m) vertically and horizontally of a walking surface.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

B. CMUs: ASTM C90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of **2150 psi (14.8 MPa)**.
2. Density Classification: **Lightweight weight, unless otherwise indicated**.

2.3 CONCRETE LINTELS

A. Concrete Lintels: ASTM C1623, matching CMUs in color, texture, and density classification; and with reinforcing bars indicated. **Provide lintels with net-area compressive strength not less than that of CMUs.**

2.4 BRICK

A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units:

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.

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2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Clay Face Brick: Facing brick complying with ASTM C216 or hollow brick complying with ASTM C652, Class H40V (void areas between 25 and 40 percent of gross cross-sectional area).

1. Cherokee Brick; see drawings for color selections.
2. Grade: MW or SW.
3. Type: FBS or HBS.
4. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 3350 psi (23.10 MPa).
5. Initial Rate of Absorption: Less than 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested according to ASTM C67.
6. Efflorescence: Provide brick that has been tested according to ASTM C67 and is rated "not effloresced."
7. Size (Actual Dimensions): 3-5/8 inches (92 mm) wide by 2-1/4 inches (57 mm) high by 7-5/8 inches (194 mm) long.

2.5 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C91/C91M.

E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in masonry mortar.

1. Jenkins Brick Tile; Coosa Light Buff
2. Any deviation from the mortar listed in this section requires approval of the Architect.

F. Aggregate for Mortar: ASTM C144.

1. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
2. White-Mortar Aggregates: Natural white sand or crushed white stone.
3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

G. Aggregate for Grout: ASTM C404.

H. Epoxy Pointing Mortar: ASTM C395, epoxy-resin-based material formulated for use as pointing mortar for glazed or pre-faced masonry units (and approved for such use by

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manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.

I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

J. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60 (Grade 420).

B. Masonry-Joint Reinforcement, General: ASTM A951/A951M.

1. Interior Walls: **Hot-dip** galvanized carbon steel.
2. Exterior Walls: **Hot-dip galvanized carbon** steel.
3. Wire Size for Side Rods: **0.148-inch (3.77-mm)** diameter.
4. Wire Size for Cross Rods: **0.148-inch (3.77-mm)** diameter.
5. Wire Size for Veneer Ties: **0.148-inch (3.77-mm)** diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches (407 mm) o.c.
7. Provide in lengths of not less than 10 feet (3 m)**, with prefabricated corner and tee units**.

C. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder **or truss** type with single pair of side rods.

2.7 TIES AND ANCHORS

A. General: Ties and anchors shall extend at least 1-1/2 inches (38 mm) into veneer but with at least a 5/8-inch (16-mm) cover on outside face.

B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:

1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
2. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
3. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches (100 mm) wide.

1. Wire: Fabricate from **3/16-inch- (4.76-mm-)** diameter, hot-dip galvanized-steel wire.

D. Adjustable Masonry-Veneer Anchors:

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1. General: Provide anchors that allow vertical adjustment but resist a 100-lbf (445-N) load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch (1.5 mm). **Corrugated ties are not permitted.**

2.8 EMBEDDED FLASHING MATERIALS

A. Flexible Flashing: Use the following unless otherwise indicated:

1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch (1.02 mm).

B. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."

C. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets as compatible to each other and to substrates.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D2000, Designation M2AA-805 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

D. Weep/Cavity Vent Products: Use the following unless otherwise indicated:

1. Mesh Weep/Vent: Free-draining mesh; made from polyethylene strands, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe; in color selected from manufacturer's standard.

E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

1. Configuration: Provide one of the following:

a. Strips, not less than 3/4 inch (19 mm) thick and 10 inches (250 mm) high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.

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2.10 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use **portland cement-lime** mortar unless otherwise indicated.
3. For exterior masonry, use **portland cement-lime** mortar.
4. For reinforced masonry, use **portland cement-lime** mortar.
5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C270, **Proportion** Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use **Type M** or **Type S**.
3. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.

D. Pigmented Mortar: Use colored cement product[**or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products**].

1. Pigments shall not exceed 10 percent of portland cement by weight.
2. Pigments shall not exceed 5 percent of **masonry cement or mortar cement** by weight.
3. Mix to match Architect's sample.
4. Application: Use pigmented mortar for exposed mortar joints with the following units:

    a. Clay face brick.

E. Grout for Unit Masonry: Comply with ASTM C476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.

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2. Proportion grout in accordance with ASTM C476, **paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2500 psi (14 MPa)**].
3. Provide grout with a slump of **8 to 11 inches (200 to 280 mm)** as measured according to ASTM C143/C143M. Contractor's responsibility to provide grout slump necessary for proper consolidation.

F. Epoxy Pointing Mortar: Mix epoxy pointing mortar to comply with mortar manufacturer's written instructions.

1. Application: Use epoxy pointing mortar for exposed mortar joints with the following units:

a. Pre-faced CMUs.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested according to ASTM C67. Allow units to absorb water so they are damp but not wet at time of laying.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.

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3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

E. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay **hollow brick and CMUs** as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.

B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

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C. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 CAVITY WALLS

A. Bond wythes of cavity walls together **as follows**:

1. Individual Metal Ties: Provide ties as shown installed in horizontal joints, but not less than one metal tie for **1.77 sq. ft. (0.16 sq. m)** of wall area spaced not to exceed **16 inches (406 mm)** o.c. horizontally and 16 inches (406 mm) o.c. vertically. Stagger ties in alternate courses. Provide additional ties within 12 inches (305 mm) of openings and space not more than 36 inches (915 mm) apart around perimeter of openings. At intersecting and abutting walls, provide ties at no more than 24 inches (610 mm) o.c. vertically.
2. Masonry-Joint Reinforcement: Installed in horizontal mortar joints.
    a. Where bed joints of both wythes align, use **ladder-type reinforcement extending across both wythes**.
    b. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable-type (two-piece-type) reinforcement **with continuous horizontal wire in facing wythe attached to ties** to allow for differential movement regardless of whether bed joints align.

B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

C. Parge cavity face of backup wythe in a single coat approximately 3/8 inch (10 mm) thick. Trowel face of parge coat smooth.

D. Installing Cavity Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches (300 mm) o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

3.6 ANCHORED MASONRY VENEERS

A. Anchor masonry veneers to **concrete and masonry backup** with masonry-veneer anchors to comply with the following requirements:
1. Embed **connector sections and continuous wire** in masonry joints.
2. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
3. Space anchors as indicated, but not more than 16 inches (458 mm) o.c. vertically and 16 inches (610 mm) o.c. horizontally, with not less than one anchor for each 1.77 sq. ft. (0.16 sq. m) of wall area. Install additional anchors within 12 inches (305 mm) of openings and at intervals, not exceeding 8 inches (203 mm), around perimeter.

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3.7 MASONRY-JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches (406 mm) o.c.
2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 24 inches (610 mm) beyond openings **in addition to continuous reinforcement**.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated. Do not interrupt bond beam or lintel reinforcing at vertical masonry control joints.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.8 FLASHING, WEEP HOLES, AND CAVITY VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches (200 mm), and through inner wythe to within 1/2 inch (13 mm) of the interior face of wall in exposed masonry. Where interior face of wall is to receive furring or framing, carry flashing completely through inner wythe and turn flashing up approximately 2 inches (50 mm) on interior face.
3. At lintels and shelf angles, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.
4. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
5. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.

C. Install weep holes in exterior wythes and veneers in head joints of first course of masonry immediately above embedded flashing.

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1. Use specified weep/cavity vent products to form weep holes.
2. Space weep holes 24 inches (600 mm) o.c. unless otherwise indicated.
3. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.

D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

E. Install cavity vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form cavity vents.

1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.9 REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than **60 inches (1520 mm)**.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

B. Inspections: Special inspections according to Level **B** in TMS 402/ACI 530/ASCE 5.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.

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3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 500 sq. ft. of wall area or portion thereof.

E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C67 for compressive strength.

F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C140 for compressive strength.

G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C780.

H. Mortar Test (Property Specification): For each mix provided, according to ASTM C780. Test mortar for **mortar air content and compressive strength**.

I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C1019.

3.11 REPAIRING, POINTING, AND CLEANING

A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
3. Protect adjacent surfaces from contact with cleaner.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.12 MASONRY WASTE DISPOSAL

A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.

1. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.

B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.

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C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

END OF SECTION 042000

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SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Structural steel.

B. Related Sections include the following:
   1. Division 1 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.

1.03 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

1.05 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.
   1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
   2. Include embedment drawings.
   3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
   4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

C. Welding certificates.

D. Qualification Data: For Installer, fabricator, professional engineer, and testing agency.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.

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1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.08 COORDINATION

B. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.01 STRUCTURAL-STEEL MATERIALS

A. Angles: ASTM A 572/A 572M, Grade .

B. Plate and Bar: ASTM A 36/A 36M.

C. Welding Electrodes: E70XX unless noted otherwise and shall comply with AWS requirements.

2.02 BOLTS, CONNECTORS, AND ANCHORS

A. All bolts shall be Hot Dip Galvanized or Stainless Steel. Refer to drawings for type, size and spacing.

2.03 PRIMER

B. All structural steel shall be hot dipped galvanized.

2.05 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
   1. Camber structural-steel members where indicated.
   2. Identify high-strength structural steel according to ASTM A 6/ A 6M and maintain markings until structural steel has been erected.
   3. Mark and match-mark materials for field assembly.
   4. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
   1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

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C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
   1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
   2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
   3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.07 SHOP PRIMING

A. All brick relief angles and loose lintels shall be hot dipped galvanizes unless noted otherwise on plan.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."

B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

   1. Level and plumb individual members of structure.

D. Do not cut during erection.

E. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

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F. All field welding performed on galvanized steel shall receive approved corrosion inhibiter paint or ‘cold galvanization’ coating after weldment is cooled.

3.04 FIELD CONNECTIONS

A. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.

3.06 REPAIRS AND PROTECTION

A. All weldment on hot dipped galvanized steel shall be coated with 2 ply epoxy coating after weldment is cooled.

END OF SECTION 051200

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking, cants, and nailers.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

1.3 QUALITY ASSURANCE

A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Dimension lumber framing.
2. Laminated-veneer lumber.
3. Miscellaneous lumber.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S, unless otherwise indicated.

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B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA C2.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, rim boards, sleepers, blocking, furring, stripping, and similar concealed members in contact with timber piles or floor girders.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 19 percent.

B. Framing Other Than Non-Load-Bearing Interior Partitions: Grade, species as indicated on drawings. See drawings for modulus of elasticity and extreme fiber stress in bending requirements.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.

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5. Furring.
6. Grounds.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NeLMA.
3. Northern species, No. 2 Common grade; NLGA.
4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.5 PLYWOOD BACKING PANELS

A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M except at exterior decks and stairs provide Type 304 stainless steel.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.7 METAL FRAMING ANCHORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

C. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or comparable products by one of the following:

1. Alpine Engineered Products, Inc.
2. Cleveland Steel Specialty Co.
3. Harlen Metal Products, Inc.

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4. KC Metals Products, Inc.
5. Simpson Strong-Tie Co., Inc.
6. Southeastern Metals Manufacturing Co., Inc.
7. USP Structural Connectors.

D. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

E. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.8 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.

B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than **0.025 inch** (**0.6 mm**).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

E. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

F. Do not splice structural members between supports, unless otherwise indicated.

G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

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H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the more stringent of following and as indicated on the drawings:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

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SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Utility shelving.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

   1. Factory mark each piece of lumber with grade stamp of grading agency.

   2. Dress lumber, S4S, unless otherwise indicated.

B. Maximum Moisture Content of Lumber: 19 percent unless otherwise indicated.

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC2 for interior construction not in contact with ground, Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.

   1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:

   1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
   2. Wood sills, sleepers, blocking, and similar concealed members in contact with masonry or concrete.

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3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than 18 inches (460 mm) above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Other Framing: No. 2 grade of species:

1. Southern pine; SPIB.
2. Southern pine or mixed southern pine; SPIB.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Utility shelving.

B. Utility Shelving: Lumber with 19 percent maximum moisture content of eastern white pine, Idaho white, lodgepole, ponderosa, or sugar pine; Premium or No. 2 Common (Sterling) grade; NeLMA, NLGA, WCLIB, or WWPA.

C. Concealed Boards: 19 percent maximum moisture content of the following species and grades:

1. Mixed southern pine or southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NELMA.

2.5 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners of Type 304 stainless steel.

B. Screws for Fastening to Metal Framing: ASTM C954, length as recommended by screw manufacturer for material being fastened.

C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.

B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate furring, nailers, blocking, and similar supports to comply with requirements for attaching other construction.

C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.

D. Do not splice structural members between supports unless otherwise indicated.

E. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

F. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

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SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Roof sheathing.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer of air-barrier and water-resistant roof sheathing. Testing Agency Qualifications:

B. For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 ROOF SHEATHING

A. Plywood Sheathing: **Structural I** sheathing.
   1. Span Rating and Nominal Thickness as indicated on the Structural Drawings.

2.3 FASTENERS

A. General: See Structural Drawings for Fastener size, type and spacing. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

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1. For **roof** sheathing, provide fasteners **with Type 304 or 316 stainless steel**.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

D. Coordinate **roof** sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

3.2 FIELD QUALITY CONTROL

A. Testing and Inspecting Agency: The Owner may engage a qualified testing agency to perform inspections.

B. Contractor shall repair and/or replace all items not in conformance with this specification or the contract drawings.

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SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood roof trusses.

1.2 ALLOWANCES

A. Provide wood truss bracing under the Metal-Plate-Connected Truss Bracing Allowance as specified in Section 012100 "Allowances."

1.3 ACTION SUBMITTALS

A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners.

B. Shop Drawings: Show fabrication and installation details for trusses.

1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
6. Show splice details and bearing details.

C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss-fabricating firm.

B. Evaluation Reports: For the following, from ICC-ES:

1. Metal-plate connectors.
2. Metal truss accessories.

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1.5 QUALITY ASSURANCE

A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.

1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program, complies with quality-control procedures in TPI 1, and involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in SBCA BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Metal-plate-connected wood trusses shall be capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1.

C. Comply with applicable requirements and recommendations of TPI 1, TPI DSB, and SBCA BCSI.

D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 DIMENSION LUMBER

A. Lumber: DOC PS 20 and applicable rules of any rules-writing agency certified by the American Lumber Standard Committee (ALSC) Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Provide dry lumber with **19** percent maximum moisture content at time of dressing.

B. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Section 061000 "Rough Carpentry" or Section 061053 "Miscellaneous Rough Carpentry."

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2.3 METAL CONNECTOR PLATES

A. Fabricate connector plates to comply with TPI 1. Connector plates shall be Hot-Dip Galvanized.

B. Hot-Dip Galvanized-Steel Sheet: ASTM A653/A653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 (Z180) coating designation; and not less than 0.036 inch (0.9 mm) thick.

2.4 FASTENERS

A. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.
2. Where trusses are exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.

B. Nails, Brads, and Staples: ASTM F1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. Allowable design loads, as published by manufacturer, shall comply with or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, G60 (Z180) coating designation.

2.6 FABRICATION

A. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly, with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.

1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

B. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

F. Securely connect each truss ply required for forming built-up girder trusses.

G. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.

1. Install bracing to comply with **Section 061000 "Rough Carpentry".**
2. Install and fasten strongback bracing vertically against vertical web of parallel-chord floor trusses at centers indicated.

H. Install wood trusses within installation tolerances in TPI 1.

I. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

J. Replace wood trusses that are damaged or do not comply with requirements.

END OF SECTION 061753

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SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board insulation.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Extruded polystyrene foam-plastic board insulation.

1.3 INFORMATIONAL SUBMITTALS

A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.

B. Product test reports.

C. Research reports.

PART 2 - PRODUCTS

2.1 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION

A. Extruded Polystyrene Board Insulation, Type IV: ASTM C578, Type IV, 25-psi (173-kPa) minimum compressive strength; unfaced.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. DuPont de Nemours, Inc.
b. Owens Corning.
c. The Dow Chemical Company.

2. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
3. Smoke-Developed Index: Not more than 450 when tested in accordance with ASTM E84.
4. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
5. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches (305 mm) and wider in width.

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2.2 ACCESSORIES

A. Insulation for Miscellaneous Voids:

1. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.

B. Insulation Anchors, Spindles, and Standoffs: As recommended by manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Install insulation with manufacturer's R-value label exposed after insulation is installed.

D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.2 INSTALLATION OF CAVITY-WALL INSULATION

A. Foam-Plastic Board Insulation: Install pads of adhesive spaced approximately 24 inches (610 mm) o.c. both ways on inside face and as recommended by manufacturer.

1. Fit courses of insulation between wall ties and other obstructions, with edges butted tightly in both directions, and with faces flush.
2. Press units firmly against inside substrates.
3. Supplement adhesive attachment of insulation by securing boards with two-piece wall ties designed for this purpose and specified in Section 042000 "Unit Masonry."

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

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SECTION 072119 - FOAMED-IN-PLACE INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Open-cell spray polyurethane foam.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Research reports.

PART 2 - PRODUCTS

2.1 OPEN-CELL SPRAY POLYURETHANE FOAM

A. Open-Cell Spray Polyurethane Foam: Spray-applied polyurethane foam using water as a blowing agent. Minimum density of **0.4 lb/cu. ft.** and minimum aged R-value at 1-inch (25.4-mm) thickness of 3.4 deg F x h x sq. ft./Btu at 75 deg F (24 K x sq. m/W at 24 deg C).
   1. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
      a. Flame-Spread Index: **25** or less.
      b. Smoke-Developed Index: **450** or less.
   2. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Spray insulation to envelop entire area to be insulated and fill voids.

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C. Apply in multiple passes to not exceed maximum thicknesses recommended by manufacturer. Do not spray into rising foam.

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SECTION 072726 - FLUID-APPLIED MEMBRANE AIR BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vapor-permeable, fluid-applied air barriers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For air-barrier assemblies.

1. Include details for substrate joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Air-Barrier Performance: Air-barrier assembly and seals with adjacent construction shall be capable of performing as a continuous air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air-barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

B. Air-Barrier Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa), when tested according to ASTM E2357.

2.2 HIGH-BUILD AIR BARRIERS, VAPOR PERMEABLE

A. High-Build, Vapor-Permeable Air Barrier: synthetic polymer membrane with an installed dry film thickness, according to manufacturer's written instructions, of 35 mils (0.9 mm) or thicker over smooth, void-free substrates.

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1. Synthetic Polymer Type:

   a. Manufacturers: Subject to compliance with requirements, provide products by the following:

      1) Henry Company.
      2) Prosoco.
      3) WR Meadows.

   b. Basis of Design: Prosoco R Guard Cat5.

2. Physical and Performance Properties:

   a. Air Permeance: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa) pressure difference; ASTM E2178.
   b. Vapor Permeance: Minimum 10 perms (580 ng/Pa x s x sq. m); ASTM E96/E96M, Desiccant Method, Procedure A.
   c. Ultimate Elongation: Minimum 200 percent; ASTM D412, Die C.
   d. Adhesion to Substrate: Minimum 16 lbf/sq. in. (110 kPa) when tested according to ASTM D4541.
   e. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
   f. UV Resistance: Can be exposed to sunlight for 90 days according to manufacturer's written instructions.

2.3 ACCESSORY MATERIALS

A. Requirement: Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by air-barrier manufacturer to produce a complete air-barrier assembly and that are compatible with primary air-barrier material and adjacent construction to which they may seal.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

A. Clean, prepare, treat, fill, and seal substrate and joints and cracks in substrate according to manufacturer's written instructions and details. Provide clean, dust-free, and dry substrate for air-barrier application.

B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.

C. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids in concrete with substrate-patching material.

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D. Remove excess mortar from masonry ties, shelf angles, and other obstructions.

E. At changes in substrate plane, apply sealant or termination mastic beads at sharp corners and edges to form a smooth transition from one plane to another.

F. Bridge isolation joints discontinuous wall-to-wall, deck-to-wall, and deck-to-deck joints with air-barrier accessory material that accommodates joint movement according to manufacturer's written instructions and details.

3.2 INSTALLATION

A. Install materials according to air-barrier manufacturer's written instructions and details to form a seal with adjacent construction and ensure continuity of air and water barrier.

1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
2. Install transition strip on roofing membrane or base flashing so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate.
3. Unless manufacturer recommends in writing against priming, apply primer to substrates at required rate and allow it to dry.
4. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by air-barrier material on same day. Reprime areas exposed for more than 24 hours.

B. Connect and seal exterior wall air-barrier material continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.

C. Wall Openings: Prime concealed, perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply transition strip so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate. Maintain 3 inches (75 mm) of full contact over firm bearing to perimeter frames, with not less than 1 inch (25 mm) of full contact.

D. Repair punctures, voids, and deficient lapped seams in strips and transition strips. Slit and flatten fishmouths and blisters. Patch with transition strips extending 6 inches (150 mm) beyond repaired areas in strip direction.

E. High-Build Air Barriers: Apply continuous unbroken air-barrier material to substrates according to the following thickness. Apply air-barrier material in full contact around protrusions such as masonry ties.

1. Vapor-Permeable, High-Build Air Barrier: Total dry film thickness as recommended in writing by manufacturer to comply with performance requirements, but not less than 35 mils (0.9 mm), applied in one or more equal coats.

F. Do not cover air barrier until it has been tested and inspected by testing agency.

G. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air-barrier components.

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3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests: As determined by testing agency from among the following tests:

1. Air-barrier dry film thickness.
2. Air-Leakage-Location Testing: Air-barrier assemblies will be tested for evidence of air leakage according to ASTM E1186, chamber pressurization or depressurization with smoke tracers.
3. Air-Leakage-Volume Testing: Air-barrier assemblies will be tested for air-leakage rate according to ASTM E2357.
4. Adhesion Testing: Air-barrier assemblies will be tested for required adhesion to substrate according to ASTM D4541 for each 600 sq. ft. (56 sq. m) of installed air barrier or part thereof.

C. Air barriers will be considered defective if they do not pass tests and inspections.

1. Apply additional air-barrier material, according to manufacturer's written instructions, where inspection results indicate insufficient thickness.
2. Remove and replace deficient air-barrier components for retesting as specified above.

D. Repair damage to air barriers caused by testing; follow manufacturer's written instructions.

E. Prepare test and inspection reports.

3.4 CLEANING AND PROTECTION

A. Protect air-barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.

B. Remove masking materials after installation.

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SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standing-seam metal roof panels.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include color chart and Florida product approval documentation and reports.

B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Warranties: Sample of special warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.

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1. Warranty Period: Three years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Energy Performance: Provide roof panels that are listed on the EPA/DOE's ENERGY STAR "Roof Product List" for steep-slope roof products.

B. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: As indicated on Drawings.
3. Deflection Limits: For wind loads, no greater than 1/240 of the span.

C. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E1680 or ASTM E283 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

D. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E1646 or ASTM E331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

E. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E2140.

F. Wind-Uplift Resistance: Provide metal roof panel assemblies that have Florida product approval for wind speeds and pressures indicated on design drawings.

G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

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2.2 STANDING-SEAM METAL ROOF PANELS

A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

1. Aluminum Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1637.

B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. PAC-Clad Tite Loc Plus

2. Aluminum Sheet: Coil-coated sheet, ASTM B209 (ASTM B209M), alloy as standard with manufacturer, with temper as required to suit forming operations and structural Thickness: 0.032 inch (0.81 mm).
   a. Surface: Smooth, flat finish.
   b. Exterior Finish: Two-coat metallic fluoropolymer.
   c. Color: As indicated on Drawings.

3. Clips: Per manufacturer, to accommodate thermal movement.

a. Material: 0.025-inch- (0.64-mm-) thick, stainless-steel sheet.

4. Joint Type: As standard with manufacturer.
5. Panel Coverage: 18 inches (406 mm).
6. Panel Height: 2.0 inches (51 mm).

2.3 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 40 mils (0.76 mm) thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: Stable after testing at 240 deg F (116 deg C); ASTM D1970.
2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D1970.

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2.4 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C645; cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Gutters and Downspouts: Formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels.

E. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch (1.2-mm) nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- (1.52-mm-) nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.

F. Panel Fasteners: Self-tapping screws designed to withstand design loads.

G. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C920; as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.5 FABRICATION

A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements

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demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.

E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

2.6 FINISHES

A. Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat.
2. Concealed Finish: White or light-colored acrylic or polyester backer finish.

PART 3 - EXECUTION

3.1 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.2 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

1. Apply over the entire roof surface.

B. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

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3.3 INSTALLATION OF STANDING SEAM METAL ROOF PANELS

A. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.

1. Install clips to supports with self-tapping fasteners.
2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
5. Watertight Installation:

    a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
    b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
    c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.

B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

3.4 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

END OF SECTION 074113.16

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SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fiber-cement soffit.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include Florida product approval documentation and reports.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SOFFIT

A. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. James Hardie Building Products, Inc.

b. Nichiha

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B. Nominal Thickness: Not less than 5/16 inch (8 mm).

C. Pattern: 24-inch- (600-mm-) wide sheets with smooth texture. See drawings for locations.

D. Factory Priming: Manufacturer's standard acrylic primer.

2.2 ACCESSORIES

A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.

B. Fasteners:

1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
3. For fastening fiber cement, use stainless-steel fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

1. Install fasteners no more than 24 inches (600 mm) o.c.

B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.2 ADJUSTING AND CLEANING

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

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SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof-edge specialties.
2. Roof-edge drainage systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of roof specialty and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For tests performed by a qualified testing agency.

B. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are SPRI ES-1 tested to specified design pressure.

1.6 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 074113.16 "Standing Seam Metal Roof Panels."

B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Delta E units when tested according to ASTM D2244.

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b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:

1. Design Pressure: As indicated on Drawings.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 ROOF-EDGE SPECIALTIES

A. Roof-Edge Fascia: Drip Edges: Fabricate from the following materials:

B.

1. Aluminum: **0.032 inch** thick.

a. Surface: Smooth, flat finish.
b. Finish: Two-coat mica fluoropolymer.
c. Color: To match roofing. See color schedule on Drawings.

2. Corners: Mitered and soldered.
3. Receiver: Aluminum sheet, 0.050 inch (1.27 mm) thick.

2.3 ROOF-EDGE DRAINAGE SYSTEMS

A. Gutters: Manufactured in uniform section lengths not exceeding 12 feet (3.6 m), with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
1. Aluminum Sheet: 0.032 inch (0.81 mm) thick.
2. Gutter Profile: Style I according to SMACNA's "Architectural Sheet Metal Manual."
3. Corners: Factory mitered and soldered.

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4. Gutter Supports: Manufacturer's standard supports as selected by Architect with finish matching the gutters.
5. Gutter Accessories: Continuous hinged leaf guard of solid metal designed to shed leaves.

B. Downspouts: Plain rectangular complete with mitered elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.

1. Formed Aluminum: 0.032 inch (0.81 mm) thick.

C. Aluminum Finish: Two-coat mica fluoropolymer.

2.4 MATERIALS

A. Aluminum Sheet: ASTM B209 (ASTM B209M), alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

2.5 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: Minimum 40 mils (0.76 to 1.0 mm) thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: ASTM D1970/D1970M; stable after testing at 240 deg F (116 deg C).
2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F (29 deg C).

2.6 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
2. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
3. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A153/A153M or ASTM F2329.

B. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

C. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

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2.7 FINISHES

A. Coil-Coated Aluminum Sheet Finishes:

1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.Retain one of or more of four fluoropolymer subparagraphs below if a painted finish is required.
   a. Two-Coat Mica Fluoropolymer: AAMA 2605. Fluoropolymer finish with suspended mica flakes containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat.

PART 3 - EXECUTION

3.1 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

1. Apply continuously under roof-edge specialties.
2. Coordinate application of self-adhering sheet underlayment under roof specialties with requirements for continuity with adjacent air barrier materials.

3.2 INSTALLATION, GENERAL

A. Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of solder and sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.
5. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum and stainless steel roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.

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2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.3 INSTALLATION OF ROOF-EDGE SPECIALITIES

A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.4 INSTALLATION OF ROOF-EDGE DRAINAGE-SYSTEM

A. Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.

B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 36 inches (610 mm) apart. Attach ends with rivets and solder to make watertight. Slope to downspouts.

1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.2 m) apart. Install expansion-joint caps.
2. Install continuous leaf guards on gutters with noncorrosive fasteners, hinged to swing open for cleaning gutters.

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C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 48 inches o.c.

1. Provide elbows at base of downspouts at grade to direct water away from building.
2. Connect downspouts to underground drainage system indicated.

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as roof specialties are installed.

END OF SECTION 077100

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Latex joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples: For each kind and color of joint sealant required.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Field-adhesion-test reports.

C. Sample warranties.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C1021 to conduct the testing indicated.

1.5 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

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1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. BASF.
b. Pecora Corporation.
c. The Dow Chemical Company.
d. Tremco Incorporated.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C920, Type S, Grade P, Class 25, Uses T and NT.

1. Manufacturers:

a. BASF.
b. Dow Corning.
c. Pecora.
d. Tremco.

B. Urethane, M, P, 50, T, NT: Multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C920, Type M, Grade NS, Class 25, Uses T and NT.

1. Manufacturers:

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a. BASF.
b. Dow Corning.
c. Pecora.
d. Temco.

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.

1. Manufacturers:

a. BASF.
b. Dow Corning.
c. Pecora.
d. Tremco.

2.5 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C1330, Type C, Type B, Type O, or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

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1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation and contraction joints in cast-in-place concrete slabs.
b. Joints between different materials listed above.

2. Joint Sealant: Urethane, M, P, 50, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces.

1. Joint Locations:

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a. Control and expansion joints in unit masonry.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation joints in cast-in-place concrete slabs.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces not subject to significant movement.

1. Joint Locations:

a. Control joints on exposed interior surfaces of exterior walls.
b. Perimeter joints between interior wall surfaces and frames of interior doors.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
b. Joints between counters and walls.

2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .

F. Joint-Sealant Application: Concealed mastics.

1. Joint Locations:

a. Aluminum thresholds.
b. Sill plates.

2. Joint Sealant: Butyl-rubber based.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .

END OF SECTION 079200

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SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:

1. Interior standard steel doors and frames.
2. Exterior standard steel doors and frames.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include the following:

1. Elevations of each door type.
2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.

C. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports, including Florida product approval documentation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Basis of Design Steelcraft; Allegion plc H Series.

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2.2 PERFORMANCE REQUIREMENTS

A. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.20 deg Btu/F x h x sq. ft. (2.16 W/K x sq. m) when tested according to ASTM C518.

2.3 INTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 2; ANSI/SDI A250.4, Level B at door 102.

1. Doors:

   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1-3/4 inches (44.5 mm).
   c. Face: Metallic-coated steel sheet, minimum thickness of 0.042 inch (1.0 mm).
   d. Edge Construction: Model 2, Seamless.
   e. Core: Manufacturer's standard.

2. Frames:

   a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm).
   b. Construction: Full profile welded.

2.4 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 3; ANSI/SDI A250.4, Level A. at doors 101, 103, 104, 106.

1. Doors:

   a. Type: As indicated in the Door and Frame Schedule.
   b. Thickness: 1-3/4 inches (44.5 mm).
   c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating.
   d. Edge Construction: Model 2, Seamless.
   e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
   f. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.

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g. Core: Polystyrene.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating.
b. Construction: Full profile welded.

C. Maximum-Duty Doors and Frames: ANSI/SDI A250.8, Level 4; ANSI/SDI A250.4, Level A at doors 105 and 107.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum A60 (ZF180) coating.
d. Edge Construction: Model 2, Seamless.
e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
f. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
g. Core: Polystyrene.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum A60 (ZF180) coating.
b. Construction: Full profile welded.

2.5 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches (610 mm) of frame height above 7 feet (2.1 m).

B. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

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2.6 MATERIALS

A. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

B. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

C. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.7 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

    a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
    b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

B. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.8 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

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B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Hollow-Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

    a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
    b. Install frames with removable stops located on secure side of opening.
2. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
3. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

B. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with ANSI/SDI A250.8 .

3.3 FIELD QUALITY CONTROL

A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

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C. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

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SECTION 083113 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes access doors and frames for walls and ceilings.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of access door and frame and for each finish specified.

C. Product Schedule: For access doors and frames.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND FRAMES

A. Flush Access Doors with Exposed Flanges:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. ACUDOR Products, Inc.
    b. Babcock-Davis.
    c. Nystrom, Inc.
2. Description: Face of door flush with frame, with exposed flange and concealed hinge.
3. Locations: Wall and ceiling.
4. Metallic-Coated Steel Sheet for Door: Nominal 0.064 inch (1.63 mm), 16 gage , factory finished.
5. Frame Material: Same material, thickness, and finish as door.
6. Latch and Lock: Cam latch, key operated.

2.2 MATERIALS

A. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

B. Frame Anchors: Stainless steel.

C. Inserts, Bolts, and Anchor Fasteners: stainless steel.

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2.3 FABRICATION

A. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

B. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.

C. Latch and Lock Hardware:

1. Quantity: Furnish number of latches and locks required to hold doors tightly closed.
2. Keys: Furnish two keys per lock and key all locks alike.
3. Mortise Cylinder Preparation: Where indicated, prepare door panel to accept cylinder specified in Section 087100 "Door Hardware."

2.4 FINISHES

A. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
1. Factory Finished: Apply manufacturer's standard baked-enamel or powder-coat finish immediately after cleaning and pretreating, with minimum dry-film thickness of 1 mil (0.025 mm) for topcoat.

a. Color: As selected by Architect from full range of industry colors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

B. Adjust doors and hardware, after installation, for proper operation.

END OF SECTION 083113

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SECTION 083313 - COILING COUNTER DOORS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Counter door assemblies.

B. Related Requirements:

1. Section 055000 "Metal Fabrications" for door-opening framing and corner guards. Provide documentation of Florida product approval.

1.2 ACTION SUBMITTALS

A. Product Data: For each type and size of coiling counter door and accessory. Provide documentation of Florida product approval.

B. Shop Drawings: For each installation and for special components not dimensioned or detailed in manufacturer's product data.

1. Include points of attachment and their corresponding static and dynamic loads imposed on structure.
2. Show locations of controls, locking devices, detectors or replaceable fusible links, and other accessories.
3. Include diagrams for power, signal, and control wiring.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer for both installation and maintenance of units required for this Project.

PART 2 - PRODUCTS

2.1 COUNTER DOOR ASSEMBLY

A. Counter Door: Coiling counter door formed with curtain of interlocking metal slats.

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1. Manufacturers: Subject to compliance with requirements, provide products by the following:

   a. Basis of Design Product: Cookson; a CornellCookson company ESC-10.

B. Operation Cycles: Door components and operators capable of operating for not less than 20,000.

C. Door Curtain Material: 304 Stainless Steel.

D. Door Curtain Slats: Flat profile slats of center-to-center height.

1. Insulated-Slat Interior Facing: Metal.

E. Bottom Bar: Manufacturer's standard continuous channel or tubular shape, fabricated stainless steel or aluminum extrusion and finished to match door.

F. Curtain Jamb Guides: Aluminum or stainless steel with exposed finish matching curtain slats. Provide continuous integral wear strips to prevent metal-to-metal contact and to minimize operational noise.

G. Hood: Match curtain material and finish.

1. Mounting: As indicated on Drawings.

H. Locking Devices: Equip door with locking device assembly.

1. Locking Device Assembly: Single-jamb side locking bars, operable from inside with thumbturn.

I. Manual Door Operator: Push-up operation.

J. Curtain Accessories: Equip door with astragal push/pull handles pull-down strap.

K. Door Finish: 304 Stainless Steel.

2.2 MATERIALS, GENERAL

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.3 DOOR CURTAIN MATERIALS AND FABRICATION

A. Door Curtains: Fabricate coiling counter door curtain of interlocking metal slats in a continuous length for width of door without splices. Unless otherwise indicated, provide slats of thickness and mechanical properties recommended by door manufacturer for performance, size, and type of door indicated, and as follows:

1. Insulation: Fill slats for insulated doors with manufacturer's standard thermal insulation complying with maximum flame-spread and smoke-developed indexes of 75 and 450,

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respectively, according to ASTM E84 or UL 723. Enclose insulation completely within slat faces.

2. Metal Interior Curtain-Slat Facing: Match metal of exterior curtain-slat face.

B. Curtain Jamb Guides: Manufacturer's standard angles or channels and angles of same material and finish as curtain slats unless otherwise indicated, with sufficient depth and strength to retain curtain, to allow curtain to operate smoothly, and to withstand loading. Slot bolt holes for guide adjustment. Provide removable stops on guides to prevent overtravel of curtain.

1. Removable Posts and Jamb Guides: Manufacturer's standard.

2.4 HOODS

A. General: Form sheet metal hood to entirely enclose coiled curtain and operating mechanism at opening head. Contour to fit end brackets to which hood is attached. Roll and reinforce top and bottom edges for stiffness. Form closed ends for surface-mounted hoods and fascia for any portion of between-jamb mounting that projects beyond wall face. Equip hood with intermediate support brackets as required to prevent sagging.

1. Include automatic drop baffle on fire-rated doors to guard against passage of smoke or flame.

B. Integral Frame, Hood, and Fascia: Welded sheet metal assembly of the following sheet metal(s):

2.5 LOCKING DEVICES

A. Slide Bolt: Fabricate with side-locking bolts to engage through slots in tracks for locking by padlock, located on both left and right jamb sides, operable from coil side.

B. Locking Device Assembly: Fabricate with cylinder lock, spring-loaded dead bolt, operating handle, cam plate, and adjustable locking bars to engage through slots in tracks.

1. Lock Cylinders: As specified in Section 087100 "Door Hardware".

2.6 CURTAIN ACCESSORIES

A. Astragal: Equip each door bottom bar with a replaceable, adjustable, continuous, compressible gasket of flexible vinyl, rubber, or neoprene as a cushion bumper.

B. Pull-Down Strap: Provide pull-down straps for doors more than 84 inches (2130 mm) high.

2.7 COUNTERBALANCE MECHANISM

A. General: Counterbalance doors by means of manufacturer's standard mechanism with an adjustable-tension, steel helical torsion spring mounted around a steel shaft and contained in a spring barrel connected to top of curtain with barrel rings. Use grease-sealed bearings or self-lubricating graphite bearings for rotating members.

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B. Brackets: Manufacturer's standard mounting brackets of either cast iron or cold-rolled steel plate.

2.8 MANUAL DOOR OPERATORS

A. General: Equip door with manual door operator by door manufacturer.

B. Push-up Door Operation: Design counterbalance mechanism so that required lift or pull for door operation does not exceed 25 lbf (111 N).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Install coiling counter doors and operating equipment complete with necessary hardware, anchors, inserts, hangers, and equipment supports; according to manufacturer's written instructions and as specified.

3.2 DEMONSTRATION

A. Engage a factory-authorized service representative to train Owner's maintenance personnel to adjust, operate, and maintain coiling counter doors.

END OF SECTION 083313

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SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mechanical door hardware for the following:

a. Swinging doors.

2. Cylinders for door hardware specified in other Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Door hardware schedule.

C. Keying schedule.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1. Scheduling Responsibility: Preparation of door hardware and keying schedule.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

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1. Warranty Period: Three years from date of Substantial Completion unless otherwise indicated below:

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

B. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the DOJ's "2010 ADA Standards for Accessible Design".

C. All exterior door hardware integral to door attachment to the frame shall have Florida product approval.

2.2 HINGES

A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. McKinney Products Company; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY or approved equal.

2.3 CONTINUOUS HINGES

A. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY or approved equal.

2.4 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Bored Locks: Minimum 1/2-inch (13-mm) latchbolt throw.
2. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.

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3. Deadbolts: Minimum 1.25-inch (32-mm) bolt throw.

C. Lock Backset: 2-3/4 inches (70 mm) unless otherwise indicated.

D. Lock Trim:

1. Description: As selected by Architect from manufacturer's full range.
2. Levers: Cast.
3. Escutcheons (Roses): Cast.

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
4. Rabbet Front and Strike: Provide on locksets for rabbeted meeting stiles.

F. Mortise Locks: BHMA A156.13; Operational Grade 1; stamped steel case with steel or brass parts; Series 1000.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Corbin Russwin, Inc.; an ASSA ABLOY Group company.
c. Hager Companies.
d. SARGENT Manufacturing Company; ASSA ABLOY.

2.5 AUXILIARY LOCKS

A. Mortise Auxiliary Locks: BHMA A156.36; Grade 1; with strike that suits frame.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.6 SURFACE BOLTS

A. Surface Bolts: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.7 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver. Provide cylinder from same manufacturer of locking devices.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

B. Standard Lock Cylinders: BHMA A156.5; Grade 1 permanent cores; face finished to match lockset.

1. Core Type: Interchangeable.

C. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

D. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.8 KEYING

A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, appendix. Provide one extra key blank for each lock. Incorporate decisions made in keying conference.

1. Existing System:

a. Master key or grand master key locks to Owner's existing system.
b. Re-key Owner's existing master key system into new keying system.

2. Keyed Alike: Key all cylinders to same change key.

B. Keys: Nickel silver.

1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

a. Notation: Information to be furnished by Owner.

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2.9 KEY CONTROL SYSTEM

A. Key Control Cabinet: BHMA A156.28; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, two sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks.
   1. Wall-Mounted Cabinet: Grade 1 cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.

2.10 OPERATING TRIM

A. Operating Trim: BHMA A156.6; stainless steel unless otherwise indicated.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Allegion plc.
      b. Hager Companies.
      c. SARGENT Manufacturing Company; ASSA ABLOY.
      d. Yale Security Inc; ASSA ABLOY.

2.11 ACCESSORIES FOR PAIRS OF DOORS

A. Astragals: BHMA A156.22.

2.12 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Allegion plc.
      b. Hager Companies.
      c. SARGENT Manufacturing Company; ASSA ABLOY.
      d. Yale Security Inc; ASSA ABLOY.

2.13 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.14 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Hager Companies.
b. National Guard Products, Inc.
c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
d. Zero International; Allegion plc.

B. Maximum Air Leakage: When tested according to ASTM E283 with tested pressure differential of 0.3-inch wg (75 Pa), as follows:

1. Gasketing on Single Doors: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
2. Gasketing on Double Doors: 0.50 cfm per foot (0.000774 cu. m/s per m) of door opening.

2.15 THRESHOLDS

A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Hager Companies.
b. National Guard Products, Inc.
c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
d. Zero International; Allegion plc.

2.16 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick aluminum; with manufacturer's standard machine or self-tapping screw fasteners.

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Hager Companies.
    b. National Guard Products, Inc.
    c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
    d. Zero International; Allegion plc.

2.17 AUXILIARY DOOR HARDWARE

A. Auxiliary Hardware: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Hager Companies.
    b. National Guard Products, Inc.
    c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
    d. Zero International; Allegion plc.

2.18 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

C. Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

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D. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as directed by Owner.

E. Key Control Cabinet: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

1. Do not notch perimeter gasketing to install other surface-applied hardware.

I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.2 ADJUSTING

A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

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PART 4 -

4.1 DOOR HARDWARE SCHEDULE

HARDWARE SET 1		**EXTERIOR SINGLE HM DOORS**	**RESTROOMS**	**DOORS: 105, 107**
1	EA	Cont. Hinge	PEMKO CFMHD	Clear Anodized
1	EA	Deadbolt	E2161	626
1	EA	Cylinder		
1	EA	Push/Pull Plate Combo	Rockwood 1040L, 1040H, 112CHD	630
1	EA	Floor Stop	Rockwood 467RKW	Black
2	EA	Kickplate (Int and Ext)	J102	630
1	EA	Closer, Parallel Arm	C02021, equal to LCN 4040 XP Series	689
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
1	EA	Door Shoe	PEMKO 222APK	Mill Alum
HARDWARE SET 2		**EXTERIOR DOUBLE HM DOORS**	**STORAGE**	**DOORS: 103, 104**
6	EA	Hinges	A5111	630
1	EA	Lockset	F86	626
1	EA	Cylinder		
2	EA	Closer, Hold Open	C02061, equal to LCN 4040 XP Series	689
2	EA	Kickplate (Int)	J102	630
1	EA	Astragal	PEMKO 356AV	Clear Anodized
1	EA	Surface Bolt (Inactive Leaf)	L04161	626
1	EA	Overhead Rain Drip, Full Width	PEMKO 346C	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
2	EA	Door Shoe	PEMKO 222APK	Mill Alum
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
HARDWARE SET 3		**EXTERIOR SINGLE HM DOOR**	**CONCESSION**	**DOOR: 101**
3	EA	Hinges	A5111	630
1	EA	Lockset	F84	626
1	EA	Cylinder		
1	EA	Closer, Parallel Arm	C02021, equal to LCN 4040 XP Series	689
1	EA	Kickplate (Ext)	J102	630
1	EA	Armorplate (Int)	J101	630
1	EA	Latch Protector	Rockwood 320CL	630
1	EA	Wall Stop	Rockwood 467RKW	Black

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1	EA	Threshold	PEMKO 2705 AT	Mill Alum
1	EA	Door Shoe	PEMKO 222APK	Mill Alum
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
1	EA	Overhead Rain Drip	PEMKO 346C	Clear Anodized
HARDWARE SET 4		**EXTERIOR SINGLE HM DOOR**	**JANITORAL**	**DOOR: 106**
1	EA	Cont. Hinge	PEMKO CFMHD	Clear Anodized
1	EA	Lockset	F86	626
1	EA	Cylinder		
1	EA	Closer, Hold Open	C02061, equal to LCN 4040XP Series	689
1	EA	Kickplate	J102	630
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
1	EA	Door Shoe	PEMKO 222APK	Mill Alum
HARDWARE SET 5		**INTERIOR SINGLE HM DOOR**		**DOOR: 102**
3	EA	Hinges	A5111	630
1	EA	Lockset	F86	626
1	EA	Cylinder		
1	EA	Wall Stop	L02101	630
2	EA	Kickplate	J102	630
1	EA	Set, Silencers	L03011	

END OF SECTION 087100

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SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Mold-resistant gypsum board.
2. Interior trim.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

A. Mold-Resistant Gypsum Board: ASTM C1396/C1396M. With moisture- and mold-resistant core and paper surfaces.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
   a. Georgia-Pacific Gypsum LLC.
   b. USG.
   c. National Gypsum.

2. Core: 5/8 inch (15.9 mm), Type X.
3. Long Edges: Tapered.
4. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C1047.

1. Material: Plastic.

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2. Shapes:

   a. Cornerbead.
   b. Bullnose bead.
   c. LC-Bead: J-shaped; exposed long flange receives joint compound.
   d. L-Bead: L-shaped; exposed long flange receives joint compound.
   e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
   f. Expansion (control) joint.
   g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C475/C475M.

B. Joint Tape:

   1. Interior Gypsum Board: Paper.
   2. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

   1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
   2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

      a. Use setting-type compound for installing paper-faced metal trim accessories.

   3. Fill Coat: For second coat, use drying-type, all-purpose compound.
   4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.

   1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
   2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

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PART 3 - EXECUTION

3.1 INSTALLATION AND FINISHING OF PANELS

A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

B. Comply with ASTM C840.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

E. Prefill open joints and damaged surface areas.

F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:

1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.2 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

END OF SECTION 092900

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DIVISION 9 - FINISHES

SECTION 096723 – RESINOUS FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. High-performance resinous flooring systems.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Installer Certificates for Qualification: Signed by manufacturer stating that installers comply with specified requirements.

C. Material Certificates: For each resinous flooring component, from manufacturer.

D. Maintenance Data: For maintenance manuals.

E. Samples: Submit two 6” X 6” samples of each resinous flooring system applied to a rigid backing. Provide sample which is a true representation of proposed field applied finish. Provide sample color and texture for approval from Owner in writing or approved by General Contractor prior to installation.

F. Product Schedule: For resinous flooring.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of flooring systems required for this Project.

1. Engage an installer who is approved in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
2. Installer Letter of Qualification: Installer to provide letter stating that they have been in business for at least 5 years and listing 5 projects in the last 2 years of similar scope. For each project provide: project name, location, date of installation, contact information, size of project, and manufacturer of materials with system information.

B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

C. Pre-installation Conference: Conduct conference at Project site before work and mockups begin.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.

C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application unless manufacturer recommends a longer period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by:

1. The Sherwin Williams Company, Cleveland, OH. Representative Contact: Michael Starner (484) 624-2360 michael.starner@sherwin.com .
2. Manufacturer is listed for the purpose of indicating a basis of design only and is not intended to limit the selection of equal colors from other manufacturers.

B. Resuflor Deco Flake BC, 20-30 mils nominal thickness.

1. Primer: Resuprime 3579 at 200-300 sq. ft. per gallon.
2. Body Coat: Resuflor 3746 at 200-300 sq. ft. per gallon.
3. Broadcast: Chips Unlimited Decorative Flakes 1/8” BX430 to excess at 100-200 lbs. per 1,000 sq. ft.
4. Grout Coat: Resuflor 3746 at 160-250 sq. ft. per gallon.
5. Seal Coat: Resutile 4686 at 250-400 sq. ft. per gallon.

2.2 MATERIALS

A. VOC Content of Resinous Flooring: Provide resinous flooring systems, for use inside the weatherproofing system, that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Resinous Flooring: 100 g/L.

2.3 HIGH-PERFORMANCE RESINOUS FLOORING

A. Resinous Flooring: Abrasion-, impact- and chemical-resistant, high-performance, resin-based, monolithic floor surfacing designed to produce a seamless floor.

B. System Characteristics:

1. Color and Pattern: As indicated from manufacturer listed above and on drawings.
2. Slip Resistance: Provide slip resistant finish.

PART 3 - EXECUTION

3.1 PREPARATION

A. Inspection: Prior to commencing Work, thoroughly examine all underlying and adjoining work, surfaces and conditions upon which Work is in any way dependent for perfect results. Report all conditions which affect Work. No "waiver of responsibility" for incomplete, inadequate or defective underlaying and adjoining work, surfaces and conditions will be considered, unless notice of such unsatisfactory conditions has been filed and agreed to in writing before Work begins. Commencement of Work constitutes acceptance of surfaces.

B. Surface Preparation: Remove all surface contamination, loose or weakly adherent particles, laitance, grease, oil, curing compounds, paint, dust and debris by blast track method or approved mechanical means (acid etch not allowed). If surface is questionable try a test patch. Create a minimum surface profile for the system specified in accordance with the methods described in ICRI No. 03732 to achieve profile numbers as follows:

1.	**Thin film, to 10 mils**	**CSP-1 to CSP-3**
2.	Thin and medium films, 10 to 40 mils	CSP-3 to CSP-5
3.	Self-leveling mortars, to 3/16”	CSP-4 to CSP-6
4.	Mortars and laminates, to 1/4” or more	CSP-5 to CSP-10

C. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

1. Moisture Testing: Perform tests indicated below.

a. Calcium Chloride Test: Perform anhydrous calcium chloride test per ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours. Perform tests so that each test area does not exceed 1000 sq. ft. and perform 3 tests for the first 1000 sq. ft. and one additional test for every additional 1000 sq ft.
b. In-Situ Probe Test: Perform relative-humidity test using in-situ probes per ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative-humidity-level measurement.

3.2 ENVIRONMENTAL CONDITIONS

A. All applicators and all other personnel in the area of the RF installation shall take all required and necessary safety precautions. All manufacturers’ installation instructions shall be implicitly instructions shall be implicitly followed.

B. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.

C. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.

D. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.

E. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

F. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.

3.3 APPLICATIONS

A. Install resinous floor over properly prepared concrete surface in strict accordance with the manufacturer's directions.

1. Install the primer and/or base coats over thoroughly cleaned and prepared concrete.
2. Install topcoat over flooring after excess aggregate has been removed.
3. Maintain a slab temperature of 60°F to 80°F for 24 hours minimum before applying floor topping, or as instructed by manufacturer.

B. Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
3. At substrate expansion and isolation joints, comply with resinous flooring manufacturer's written instructions.

C. Sealant: Saw cut resinous floor topping at expansion joints in concrete slab. Fill sawcuts with sealant prior to final seal coat application. Follow manufacturer’s written recommendations.

D. Apply primer over prepared substrate at manufacturer's recommended spreading rate.

E. Slip Resistant Finish: Provide grit for slip resistance.

F. Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer.

3.4 COMPLETED WORK

A. Cleaning: Upon completion of the Work, clean up and remove from the premises surplus materials, tools, appliances, empty cans, cartons and rubbish resulting from the Work. Clean off all spattering and drippings, and all resulting stains.

B. Protection: Protect Work in accordance with manufacturer's directions from damage and wear during the remainder of the construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

C. Contractor shall insure that coating is protected from any traffic until it is fully cured to the satisfaction of the coating manufacturer.

END OF SECTION 096723

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following exterior substrates:

1. Fiber-cement board.
2. Galvanized metal.
3. Concrete masonry units.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1.4 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials supplied. Package for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Furnish owner with one gallon of each paint color specified in the project.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Sherwin Williams, Benjamin Moore, PPG.

B. Products: Subject to compliance with requirements, provide one of the products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

B. Colors: As indicated in a color schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Fiber-Cement Board: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.
3. Wood: 15 percent.
4. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

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B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Cement Board Substrates:

1. Latex System:

a. Prime Coat: Latex, exterior, matching topcoat.
b. Prime Coat: Primer, alkali resistant, water based.
c. Intermediate Coat: Latex, exterior, matching topcoat.
d. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4).

B. Galvanized Metal Substrates:

1. Alkyd System:

a. Prime Coat: Primer, galvanized, cementitious.
b. Intermediate Coat: Exterior, alkyd enamel, matching topcoat.
c. Topcoat: Alkyd, exterior, semi-gloss (MPI Gloss Level 5).

C. .CMU Substrates:

1. Latex System:

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a. Prime Coat: Block filler, latex, interior/exterior.

b. Intermediate Coat: Latex, exterior, matching topcoat.

c. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5).

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following interior substrates:

1. Concrete.
2. Concrete masonry units (CMUs).
3. Gypsum board.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

1.4 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials supplied. Package for storage and identify with labels describing contents. Deliver extra materials to Owner.

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1. Furnish owner with one gallon of each paint color specified in the project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. Benjamin Moore & Co.
2. Dulux Canada; a licensed product of PPG Architectural Coatings.
3. Sherwin-Williams Company (The).

B. Products: Subject to compliance with requirements, provide one of the products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Colors: As indicated in a color schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.
3. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

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D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 INTERIOR PAINTING SCHEDULE

A. Cement Board Substrates:

1. High-Performance Architectural Latex System:

a. Prime Coat: Primer, alkali resistant, water based.

b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.

c. Topcoat: Latex, interior, high performance architectural, semi-gloss (MPI Gloss Level 5).

B. CMU Substrates:

1. Water-Based Light Industrial Coating System:

a. Block Filler: Block filler, latex, interior/exterior.

b. Intermediate Coat: Light industrial (epoxy) coating, interior, water based, matching topcoat.

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c. Topcoat: Light industrial coating (epoxy), interior, water based, semi-gloss (MPI Gloss Level 5).

C. Gypsum Board Substrates:

1. High-Performance Architectural Latex System:

a. Prime Coat: Primer sealer, latex, interior.

b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.

c. Topcoat: Latex, interior, high performance architectural (Egg-shell MPI Gloss Level 3).

END OF SECTION 099123

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PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dimensional characters.

a. Fabricated channel dimensional characters.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

2.2 DIMENSIONAL CHARACTERS

A. Fabricated Channel Characters **Metal face and side returns**, formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners; and as follows.

B.

a. Integral Aluminum Finish: **Anodized color as selected by Architect from full range of industry colors.**

2. Mounting: **Manufacturer's standard for size and design of character**

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a. Hold characters at **manufacturer's recommended distance** from wall surface.

2.3 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish **stainless steel** devices unless otherwise indicated.

3. Sign Mounting Fasteners:
   a. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, installed in predrilled holes.

B. Adhesive: As recommended by sign manufacturer.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
5. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
6. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

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1. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish **to match sign-background color** unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION OF DIMENSIONAL CHARACTERS

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
2. Back Bar and Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position, so that signage is correctly located and aligned.
3. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

C. Remove temporary protective coverings and strippable films as signs are installed.

END OF SECTION 101419

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SECTION 101429 - MODULAR SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes modular signage.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For modular signs.

1. Include plans, elevations, sections, and mounting details.
2. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

C. Samples: For each type of modular sign, exposed component, and exposed finish.

D. Product Schedule: For modular signs. Use same designations indicated on Drawings or specified.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design".

2.2 MODULAR SIGNS

A. Modular Signs: Sign system with removable inserts for graphics and copy attached to a receiver frame system using clips, splines, or comparable method. Provide system with modular increments of height and width, permitting assembly of units with multiple inserts of varying size.

1. Sign Size: As indicated.

B. Graphics and Copy:
1. Raised, ADA Compliant: Manufacturer's standard raised characters and Braille.
2. Etched and Filled: Sign face etched or routed to receive enamel-paint infill.
3. Text and Typeface: Helvetica

C. Mounting: Mount modular signs to wall surfaces using manufacturer's standard method.

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2.3 MATERIALS

A. Aluminum Extrusions: ASTM B221 (ASTM B221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Plastic-Laminate Sheet: NEMA LD 3, general-purpose HGS grade, 0.048-inch (1.2-mm) nominal thickness.

C. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form copy indicated on Drawings.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined. Use concealed fasteners and anchors unless indicated to be exposed.

B. Adhesive: As recommended by sign manufacturer.

C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch (1.14 mm) thick, with adhesive on both sides.

2.5 FABRICATION

A. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into indicated sign surface to produce precisely formed copy, incised to uniform depth.

B. Subsurface-Applied Graphics: Apply graphics to back of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

C. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install signs using mounting methods indicated and in accordance with manufacturer's written instructions.

B. Accessible Signage: Install in locations on walls as indicated on Drawings and in accordance with the accessibility standards.

C. Adhesives and Tapes: Clean substrate to remove materials that would adversely affect bond. Use materials and quantities sufficient to support weight of sign after cure without slippage. Keep adhesives and tapes away from edges to prevent visibility at sign edges.

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SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.

B. Related Requirements:

1. Section 102800 "Toilet, Bath, and Laundry Accessories" for accessories mounted on toilet compartments.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Solid-plastic toilet compartments:

B. Shop Drawings: For solid-plastic toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with applicable provisions in the U.S. Department of Justice "2010 ADA Standards for Accessible Design" and ICC A117.1 for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Basis of Design Product: Hidy Hiners. By Scranton Products.

B. Toilet-Enclosure Style: Overhead braced.

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C. Urinal-Screen Style: Wall hung.

D. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.

1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
2. Color and Pattern: One color and pattern in each room.

E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.

F. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe matching that on the pilaster.

G. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

2.3 HARDWARE AND ACCESSORIES

A. Hardware and Accessories, Heavy Duty: Manufacturer's heavy-duty operating hardware and accessories.

1. Hinges: Manufacturer's minimum 0.062-inch- (1.59-mm-) thick stainless steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through bolts.
2. Latch and Keeper: Manufacturer's heavy-duty, surface-mounted, cast-stainless steel latch unit with occupancy indicator, designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through bolts.
3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless steel hook and rubber-tipped bumper, sized to prevent inswinging door from hitting compartment-mounted accessories. Mount with through bolts.
4. Door Bumper: Manufacturer's heavy-duty, rubber-tipped, cast-stainless steel bumper at outswinging doors and entrance-screen doors. Mount with through bolts.
5. Door Pull: Manufacturer's heavy-duty, cast-stainless steel pull at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through bolts.

2.4 MATERIALS

A. Aluminum Castings: ASTM B26/B26M.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M).

C. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.

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D. Stainless Steel Castings: ASTM A743/A743M.

2.5 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

C. Floor Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

D. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of posts. Provide shoes at posts to conceal anchorage.

E. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, inswinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, outswinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 INSTALLATION OF PLASTIC TOILET COMPARTMENTS

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels: 1/2 inch (13 mm).
b. Panels and Walls: 1 inch (25 mm).

2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners, so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches (44 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each

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pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels and adjust, so tops of doors are parallel with overhead brace when doors are in closed position.

C. Floor-and-Ceiling-Anchored Units: Secure pilasters to supporting construction and level, plumb, and tighten. Hang doors and adjust, so doors are level and aligned with panels, when doors are in closed position.

D. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.2 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on inswinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors to return doors to fully closed position.

END OF SECTION 102113.19

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SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Childcare accessories.
3. Underlavatory guards.
4. Custodial accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Grab Bar:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

   a. Basis of Design: Bradley Corporation 800 series.

2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.

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a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area.

4. Outside Diameter: 1-1/2 inches (38 mm).
5. Configuration and Length: As indicated on Drawings.

2.3 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

1. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
2. Material and Finish: Antimicrobial, molded plastic, white.

2.4 CUSTODIAL ACCESSORIES

A. Mop and Broom Holder:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Basis of Design Product: Bradley Corporation 9984.

2. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
3. Length: 36 inches (914 mm).
4. Hooks: Three.
5. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).

a. Shelf: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel.
b. Rod: Approximately 1/4-inch- (6-mm-) diameter stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F446.

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SECTION 104413 - FIRE PROTECTION CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fire-protection cabinets for portable fire extinguishers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 COORDINATION

A. Coordinate size of fire-protection cabinets to ensure that type and capacity of fire extinguishers indicated are accommodated.

B. Coordinate sizes and locations of fire-protection cabinets with wall depths.

PART 2 - PRODUCTS

2.1 FIRE-PROTECTION CABINET

A. Cabinet Type: Suitable for fire extinguisher.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Babcock-Davis.
b. Larsen's Manufacturing Company.
c. Nystrom, Inc.

B. Cabinet Construction: Nonrated.

C. Cabinet Material: Aluminum sheet.

D. Surface-Mounted Cabinet: Cabinet box fully exposed and mounted directly on wall with no trim.

E. Cabinet Trim Material: Aluminum sheet.

F. Door Material: Aluminum sheet.

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G. Door Style: Vertical duo panel with frame.

H. Door Glazing: Tempered break glass.

I. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.

J. Accessories:

1. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Break-Glass Strike: Manufacturer's standard metal strike, complete with chain and mounting clip, secured to cabinet.
3. Break-Glass Door Handle: Manufacturer's standard, integral to glass with the words "PULL TO BREAK GLASS" applied to handle.
4. Lettered Door Handle: One-piece, cast-iron door handle with the word "FIRE" embossed into face.
5. Door Lock: Cam lock that allows door to be opened during emergency by pulling sharply on door handle.
6. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated.

    a. Identify fire extinguisher in fire-protection cabinet with the words "FIRE EXTINGUISHER."

        1) Location: Applied to cabinet door.
        2) Application Process: Decals.
        3) Lettering Color: Red.
        4) Orientation: Vertical.

K. Materials:

1. Aluminum: ASTM B221 (ASTM B221M) for extruded shapes and aluminum sheet, with strength and durability characteristics of not less than Alloy 6063-T5 for aluminum sheet.

    a. Finish: Baked enamel or powder coat.
    b. Color: White.
2. Tempered Break Glass: ASTM C1048, Kind FT, Condition A, Type I, Quality q3, 1.5 mm thick.
3. Wire Glass: ASTM C1036, Type II, Class 1, Form 1, Quality q8, Mesh m1 (diamond), 6 mm thick.

2.2 FABRICATION

A. Fire-Protection Cabinets: Provide manufacturer's standard box (tub) with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Install fire-protection cabinets in locations and at mounting heights indicated or, if not indicated, at heights acceptable to authorities having jurisdiction.

B. Fire-Protection Cabinets: Fasten cabinets to structure, square and plumb.

C. Identification: Apply decals at locations indicated.

D. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.

END OF SECTION 104413

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SECTION 220000 - PLUMBING

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

Section 230050, "Mechanical General Requirements," applies to this section, with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section.

1.2 SUBMITTALS

Submit the following:

1.2.1 Manufacturer's Catalog Data

a. Pipe and fittings

b. Valves

c. Plumbing fixtures

d. Hot water heaters

e. Pipe supports (hangers)

f. Drains

g. Water hammer arresters

h. Access Doors

1.2.3 Certificates of Compliance

a. Pipe and fittings

b. Valves

1.3 QUALITY ASSURANCE

Plumbing systems including fixtures, equipment, materials, installation, and workmanship shall be in accordance with the Florida Plumbing Code except as modified herein. In the Plumbing Code referred to herein, the advisory provisions shall be considered to be mandatory, as though the word "shall" had been substituted for the word "should" wherever it appears. Capacity of equipment shall be not less than that indicated.

PART 2 PRODUCTS

2.1 DRAIN, WASTE, AND VENT (DWV) PIPING

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Fittings shall be long radius fittings, except fittings in vent piping may be short radius fittings. Minimum size piping shall be 2 inches for buried piping and 1.5 inches for aboveground piping.

2.1.1 Buried Piping

Provide piping up to but not more than 6 inches above ground or floor slab on grade.

2.1.1.1 Plastic Pipe, Fittings, and Solvent Cement

A. Polyvinyl Chloride (PVC) System: ASTM D 2665. Underground installation shall be in accordance with ASTM D 2321.

2.1.1.2 Cast-iron Pipe and Fittings

A. Cast-Iron Hub and Spigot Pipe and Fittings, ASTM A74 with ASTM C564 or CISPI HSN rubber compression gasket joints or caulked and leaded joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2 Aboveground Piping

2.1.2.1 Cast-Iron Hubless Pipe and Fittings

CISPI 301 or ASTM A 888 with CISPI 310, ASTM C 1277, and ASTM C 564 coupling joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2.2 Cast-Iron Hub and Spigot Pipe and Fittings

ASTM A 74 with ASTM C 564 rubber compression gasket joints, conforming to ASTM C 1563; or caulked and leaded joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2.3 Plastic Pipe, Fittings, and Solvent Cement Polyvinyl Chloride (PVC) System

ASTM D 2665

2.1.3 Drains

ANSI A112.21.1M; provide cast-iron drains and clamping rings for use with membrane waterproofing. Provide P-traps for each floor drain.

2.1.3.1 Flush Strainer Floor Drains or Hub Drains

Per Hyatt Technical Standards & Guidance requirements - Provide with double drainage flange, perforated or slotted cast bronze or nickel bronze strainer, and adjustable collar. Drains of sizes 2, 3, and 4 inches shall have strainers with minimum free drainage area of 5, 11, and 18 square inches, respectively. Provide trap primer connections on all floor drains and hub drains. Stainless steel floor drains are required in showers, pools, & public toilet areas.

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2.2 DOMESTIC WATER PIPING

2.2.1 Buried Piping and Aboveground Piping

2.2.1.1 Copper Tubing

ASTM B 88, Type K, with ANSI B16.18 or ANSI B16.22 solder joint fittings using silver solder and flux containing not more than 0.2 percent lead; or with ANSI B16.26 flared joint fittings. ASTM B 88, Type L may be provided for aboveground piping.

2.2.1.2 Per Hyatt Technical Standards & Guidance requirements - NSF-61 rated crosslinked polyethylene (PEX) system manufactured by Viega with crimp style brass fittings manufactured by Sioux Chief or approved equal by Uponor.

2.2.1.3 CPVC plastic piping, ASTM D 1784, ASTM D 2846, NSF 14 and 61 with glued socket fittings.

2.2.2 Valves

2.2.2.1 Check Valves

MSS SP-80, Class 125, swing check (all valves shall be American made).

2.2.2.2 Ball Valves

Full port design, copper alloy. Valves shall have two-position lever handles. (All valves shall be American made).

2.2.2.3 Balancing Valves

Balancing valves shall be NSF approved, lead-free manual balancing type. Valves shall have fixed orifice and shall be globe style with locking memory stop and fitted with 2 test points for differential pressure measurement. Valves shall be dezincification resistant.

2.2.3 Dielectric Connections

Provide at connections between copper and ferrous metal piping materials. ASTM F 441, Schedule 80, CPVC threaded pipe nipples, 4-inch minimum length, may be provided for dielectric connections in pipe sizes 2 inches and smaller.

2.2.4 Water Hammer Arresters

PDI WH201, ANSI A112.26.1M, or ASSE 1010

2.3 MISCELLANEOUS PIPING MATERIALS

2.3.1 Pipe Nipples

ASTM A733, copper alloy for use in copper tubing and hot-dip galvanized Schedule 80 steel pipe for use in steel piping.

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2.3.2 Flanges

ANSI B16.1, Class 125, for use in ferrous piping; ANSI B16.22 or ANSI B16.24 for use in copper tubing; with full face flat type synthetic rubber gaskets.

2.3.3 Escutcheon Plates

One piece or split hinge type metal plates for piping passing through floors, walls, and ceilings in exposed spaces, chromium-plated finish on copper alloy plates in finished spaces, paint finish on plates in unfinished spaces, and with set screws or other approved positive means to anchor plates in place securely.

2.3.4 Solder

Use only silver solder for all copper fittings.

2.3.5 Pipe Sleeves

2.3.5.1 Sleeves in Masonry and Concrete Walls, Floors, Roofs

ASTM A 53, Schedule 40 or Standard Weight, hot-dip galvanized steel pipe sleeves. Core drilling of masonry and concrete may be provided in lieu of pipe sleeves when cavities in the core-drilled holes are completely grouted smooth.

2.3.5.2 Sleeves in Non-Masonry or -Concrete Walls, Floors, and Roofs

Hot-dip galvanized steel sheet having a nominal weight of not less than 0.90 pound per square foot. Provide 26 gauge galvanized steel sheet.

2.3.6 Pipe Hangers and Supports

Provide MSS SP-58 and MSS SP-69, Type 1 or 6, of the adjustable type, except as modified herein or indicated otherwise. Attachments to steel W or S beams shall be with Type 21, 28, 29, or 30 clamps. Attachments to steel angles and channels (with web vertical) shall be with Type 20 clamp with a beam clamp channel adaptor. Attachments to steel channel (with web horizontal) shall be with drilled hole on centerline and double nut and washer. Attachments to concrete shall be with Type 18 insert or a drilled hole with expansion anchor. Attachments to wood shall be as indicated. Hanger rods and attachments shall be full size of the hanger threaded diameter. Provide Type 40 insulation protection shields for insulated piping. Provide steel support rods. Provide nonmetallic, hair felt, or plastic piping isolators between copper tubing and the hangers. System suspension assemblies installed within unconditioned spaces, concealed & unconcealed, shall be hot-dipped galvanized and/or stainless steel.

2.3.7 Access Doors

Per Hyatt Technical Standards & Guidance requirements & specification section 083113 - Provide minimum 12- by 12-inch factory prefabricated and finished flush face steel access doors including steel door frame with continuous hinges and latch. Door frame shall be for installation in plaster and masonry walls. Furnish doors under this section to provide proper access to concealed valves; install doors under the appropriate section of this specification.

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2.4 FIXTURES, FITTINGS, ACCESSORIES, AND SUPPLIES

Provide screwdriver operated control-stop valves in each supply to each fixture. The finish of fittings, accessories, and supplies exposed to view shall be chromium-plated per ASME A112.18.1M. Provide special roughing-in for wheelchair fixtures. Plumbing fixtures shall be as indicated on drawings, see Plumbing Fixture Schedule.

2.5 AIR ADMITTANCE VALVES

Air admittance valves shall be approved as a vent termination for any individual vent, common vent, circuit vent, loop vent, island fixture vent, vent stack or stack vent that is provided to prevent siphonage of a fixture trap. Air admittance valves shall be installed in an accessible location. Install valves in accordance with the manufacturer's installation instructions. Valves shall be installed in the vertical, upright position after rough-in and pressure testing of the DWV system. Valves shall have protective screening on the inside and outside to protect the sealing membrane from insects and debris. Air admittance valves shall have a lifetime warranty.

2.6 HOSE BIBBS

A. Hose Bibb (HB): ASSE 1011, Bronze wall faucet with anti-siphon protection and removable handwheel or tee-handle, 0.75 inch external hose thread outlet with automatic draining vacuum breaker. Hose bibbs shall be Woodford Model 24 series or approved equal.

B. Freezeproof Wall Hydrant (FPWH/VB): ASSE 1019, freezeless type wall faucet with anti-siphon protection and removable handwheel or tee-handle, 0.75 inch external hose thread outlet with automatic draining vacuum breaker. Hydrant shall be contained in exterior box with locking cover. Hydrant shall be of sufficient length to extend through walls and place the valve seat inside the building. Bonnet and valve stem shall be removable from outside of the building. Hydrant and box shall have brass finish. Freezeproof wall hydrants shall be Woodford Model B65 series or approved equal.

2.7 DOMESTIC WATER HEATERS AND STORAGE TANKS

Domestic hot water heaters shall have storage and heating capacity as indicated on the plans. Heater shall be constructed and stamped in accordance with Section VIII of the ASME Code for a working pressure of 150 psig and shall have National Board Registration. Form U-1, Manufacturer's Data Report for Unfired Pressure Vessels, shall be provided. Heaters shall be double-wall type and shall be capable of being disassembled and the heat exchanger section removed for inspection and service without breaking water connections. Hot water heaters shall be as specified on the drawings.

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PART 3 EXECUTION

3.1 INSTALLATION

Installation of plumbing systems including fixtures, equipment, materials, and workmanship shall be in accordance with the Florida Plumbing Code, except as modified herein. When fixtures require both hot water and cold water supplies, provide the hot water supply to the left of the cold water supply. Plastic piping shall not penetrate fire walls or fire floors and shall be used on one side of fire walls and fire floors not closer than 6 inches to the penetration. Plastic piping shall not be permitted within return air plenum spaces above suspended ceilings.

3.1.1 Threaded Connections

Jointing compound for pipe threads shall be polytetrafluoroethylene (PTFE) pipe thread tape, pipe cement and oil, or PTFE powder and oil; apply only on male threads. Provide exposed ferrous pipe threads with one coat of primer applied to a minimum dry film thickness of 1.0 mil.

3.1.2 Solder End Valves

Remove stems and washers and other item subject to damage by heat during installation. Reassemble valve after soldering is completed. Valves without heat sensitive arts do not require disassembly but shall be opened at least two turns during soldering.

3.1.3 Pipe Supports (Hangers)

Provide additional supports at the concentrated loads in piping between supports, such as for inline water pumps and flanged valves.

3.1.3.1 Piping to Receive Insulation

Provide temporary wood spacers between the insulation protection shield and the pipe in order to properly slope the piping and to establish final elevations. Temporary wood spacers shall be of the same thickness as the insulation to be provided under Section 23 00 80, "Insulation of Mechanical Systems."

3.1.3.2 Maximum Spacing Between Supports

a. Vertical Piping: Support piping at each floor, but at not more than 10-foot intervals, with pipe riser clamps or offset pipe clamps.

b. Horizontal Piping: Support cast-iron piping at 5-foot intervals, except for pipe exceeding 5-foot length, provide supports at intervals equal to the pipe length but not exceeding 10 feet. Support steel piping and copper tubing as follows:

MAXIMUM SPACING (FEET)

Nominal Pipe Size (inches)	One and under	1.25	1.5	2	2.5	3	3.5	4	5	6
Steel Pipe	7	8	9	10	11	12	13	14	16	17
Copper Tube	6	7	8	8	9	10	11	12	13	14

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3.1.4 Installation of Pipe Sleeves

Provide pipe sleeves where piping passes through walls, floors, roofs, and partitions. Secure sleeves in proper position and location during construction. Provide sleeves of sufficient length to pass through entire thickness of walls, floors, roofs, and partitions. Provide not less than 0.25-inch space between exterior of piping or pipe insulation and interior of sleeve or core-drilled hole. Firmly pack space with mineral wool insulation and caulk at both ends of the sleeve or core-drilled hole with plastic waterproof cement which will dry to a firm but pliable mass, or provide a mechanically adjustable segmented elastomeric seal. Seal both ends of penetrations through fire walls and fire floors to maintain fire resistive integrity with UL listed fill, void, or cavity material. Extend sleeves in floor slabs 3 inches above the finished floor, except sleeves are not required where DWV piping passes through concrete floor slabs located on grade.

3.2 FIELD QUALITY CONTROL

3.2.1 Inspections

Prior to initial operation, inspect piping system for compliance with drawings, specifications, and manufacturer's submittals.

3.2.2 Field Testing

Before final acceptance of the work, test each system as in service to demonstrate compliance with the contract requirements. Perform the following tests in addition to the tests specified in the Florida Plumbing Code and as required by the local authority having jurisdiction, except as modified herein. Correct defects in the work provided by the Contractor, and repeat tests until work is in compliance with contract requirements.

3.2.2.1 Domestic Water Piping

Before applying insulation, hydrostatically test each piping system at not less than 100 psig with no leakage or reduction in gauge pressure for 2 hours.

3.2.2.2 DWV Piping

Before the installation of fixtures, cap ends of each system, fill piping with water to the roof, and allow to stand until a thorough inspection has been made. If the system is tested in sections, each opening shall be plugged and each section tested with not less than a 10-foot head or water. After plumbing fixtures have been set and their traps filled with water, subject the entire sanitary system to a final air pressure test of not more than 1.0 inch of water column. The entire system shall be proven absolutely tight under such test.

3.3 DISINFECTION

Disinfect new water piping in accordance with AWWA C651. Fill piping systems with solution containing minimum of 50 parts per million of available chlorine and allow solution to stand for minimum of 24 hours. Flush solution from the systems with clean water until maximum residual chlorine content is not greater than 0.2 parts per million or residual chlorine content of domestic water supply.

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END OF SECTION 220000

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SECTION 230050 - MECHANICAL GENERAL REQUIREMENTS

PART 1 - GENERAL

1.0 RELATED REQUIREMENTS

This section applies to all sections of Divisions 21, 22 and 23, "Mechanical" of this project specification, unless specified otherwise in the individual section. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section. Any conflicts which may arise between the drawings and the specifications shall be interpreted by the Engineer in the best interest of the Owner.

1.1 CONTRACTORS QUALIFICATIONS

1.1.1 General: Wherever the word "sub-contractor" or "firm" is used in these sub-paragraphs, it shall mean the contractor/sub-contractor of record for the installations used for proficiency qualification.

1.1.2 Location: The firm which performs the installation of the work under this section shall be one who maintains an established, experienced organization with a permanent, manned office.

1.1.3 Plumbing Experience: The firm's proficiency in the installation and adjustment of plumbing systems shall have been demonstrated by the successful performance of work as specified herein on at least three commercial or institutional buildings, each containing a minimum of 10 plumbing fixtures. The firm shall have been in business performing services as specified herein, for at least 3 years.

1.1.4 HVAC Experience: The firm's proficiency in the installation, start-up, adjustment, and maintenance of air conditioning systems shall have been demonstrated by the successful performance of work as specified herein on at least three systems each with ducted air distribution, and hydronic and refrigerant piping of 10 tons capacity or greater. The firm shall have been in business performing services as specified herein, for at least 3 years.

1.1.5 Test and Balance: The firm's proficiency in the test and balance of the air conditioning systems shall have been demonstrated by the successful performance of work as specified herein on at least three systems each with ducted air distribution, and refrigerant piping of 100 tons capacity or greater, incremental units excluded. The firm shall have trained personnel, instruments, tools, and equipment to perform the testing and balancing service specified. The firm shall have been in business performing services as specified herein, for at least 3 years and be independent of the mechanical contractor and shall be an active member of AABC or NEBB.

1.2 DEFINITIONS

1.2.1 Manufacturers Representatives: Wherever MANUFACTURERS REPRESENTATIVE is referred to in this division of these specifications, said representative shall be regularly employed by the manufacturer to perform similar activities to those called for herein, which indicates his competence in that field of work.

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1.2.2 Concealed: Where the word concealed is used in this division, it shall mean items above ceilings, in attics, in crawl spaces, in chases, in tunnels, in cabinet work, and under counters or equipment so as to be not visible from an elevation of 5 feet at a horizontal distance of 10 feet.

1.2.3 Finished Spaces or Areas: Where finished spaces or areas are referred to in this division, it shall mean all spaces except concealed spaces or mechanical rooms unless otherwise noted.

1.2.4 Extended Warranties: Where extended warranties beyond contractor's one (1) year warranty are specified, the additional warranty time shall start at the end of the contractor's one (1) year warranty.

1.2.5 Provide: Furnish and install.

1.2.6 Control & Interlock Wiring: All wiring, both line voltage and low voltage, other than power wiring from electrical distribution panel, through the primary control device, to the item of equipment.

1.2.7 Primary Control Device: That ONE device for any item of equipment which interrupts power flow during normal operation. Where magnetic starters are provided, they are the primary control. For items not switched by starters, the primary control device will be that ONE thermostat, time clock, manual switch, aquastat, P.E. switch, or relay performing the primary switching.

1.2.8 Code Reference: Where reference is made to a code or ASTM without a date indicated, the date shall be the latest date or edition as of the date of the opening of bids.

1.2.9 Diagrammatic: A drawing that shows arrangement and relationship (as of parts), i.e.: A diagrammatic drawing uses symbols rather than pictorial representation of pipes, ducts, conduit and other items shown and are not necessarily to scale. Arrangement, location and sizes shown are firm.

1.2.10 Readily Accessible: Where items are specified to be readily accessible, they shall be available for maintenance or use in space, above a lay-in ceiling or through an access door from floor elevation, or by standing on an 8-foot ladder.

1.2.11 Noted, Indicated or Shown: Where the terms "Noted", "Indicated" or "Shown" are used in these specifications, the words "in the specifications or on the plans" shall be inferred.

1.2.12 Detail: Where reference is made to a Detail, the Detail shall be on the plans unless otherwise noted.

1.2.13 Specifications: Where reference is made to these specifications, it shall be inferred in this section of specifications.

1.2.14 Notification by Contractor, and Instructions to Contractor: Where reference is made in these specifications to notification by the Contractor or instructions given to the Contractor, it shall be inferred that the Architect/Engineer shall be the instructor or shall be notified, as the case exists.

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1.2.15 Division or Section Reference: Where reference is made to another division or section within this division, refer to specifications table of contents for division, section, or page number.

1.2.16 Flow Diagram: A single-line, two-dimension, non-sealed drawing depicting arrangement and sequence of equipment, valves, controls, thermometers, gauges, and other specialty devices in a pipe or duct system.

1.3 CODES AND REGULATIONS

The work shall conform to the following listed codes and regulations:

O.S.H.A., National Electric Code, Florida Building Code, Florida Building Code-Mechanical, Florida Building Code-Plumbing, National Fire Protection Association, ASHRAE Code for Refrigeration Apparatus, ASA Codes for Refrigeration Equipment. Electric motors shall bear NEMA approval. Fans shall bear AMCA label. All electric wiring and electrical devices shall be UL approved. Welding shall be performed by ASME qualified welding mechanics in compliance with ASME Code for pressure piping together with addenda and supplements issued to date. Pressure vessels shall bear ASME label.

1.4 FEES, PERMITS AND TESTING

The Contractor shall obtain and pay for all permits, fees for inspection, and other charges that may be necessary for fully completing the work. The Contractor shall make all necessary tests required by City, County, or State authorities, legal regulations, and/or the Architect, and return to the Architect any certificates of approval issued in this region for plumbing work, etc. signed by the inspector in charge of each particular part of the work. All cost associated with testing shall be paid by the contractor.

1.5 MECHANICAL SHOP DRAWINGS (SUBMITTALS)

1.5.1 Mechanical Room Shop Drawings: The contractor shall provide layout drawings of all piping and ductwork in mechanical rooms and spaces indicating actual equipment submitted. The contractor shall not fabricate nor install any piping, ductwork or equipment in mechanical rooms until these drawings are approved. It is the contractor’s responsibility to include this item in a timely fashion to ensure there are not any construction delays.

1.5.2 General Requirements: Contractor shall check data to ensure compliance with specifications prior to submitting. Submittal shall be assembled in complete sets in hard back three-ring binders, by trade, and bound with numbered index sheets and tabs. Submittal data shall be submitted at one time unless unavailable drawings would delay job progress. Data shall include capacities, complete installation instructions, dimensional data and electrical data, BHP, motor HP, operating weights and load distribution at mounting points.

1.5.3 Identification: All submittal data shall be identified by a cover sheet showing project name, specification sections, drawing or detail number, room number, date, revision date, contractor and subcontractor's organization and project manager with phone number, the model, style and size of item being submitted with manufacturer's representative, salesman (or preparer who can answer questions), and phone number. Manufacturer's standard drawings shall be modified by deletions or additions to show only items applicable to this project.

1.5.4 Review: The Contractor agrees that submittals of equipment and material and shop drawings

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of equipment and material layouts required under provisions of these specifications and processed by the Architect/Engineer are not Change Orders. The purpose of submittals is to demonstrate that the Contractor understands the design concept of the project by indicating the equipment and materials he intends to furnish and install, and by detailing the installation he intends to achieve.

The Contractor shall conform to the requirements of the Contract Documents unless a change order is issued. The Contractor shall identify on each submittal and in letterform to the Architect/Engineer any and all deviations from the contract documents.

Any submittal or shop drawings not conforming to the Contract Documents without this identification and notification shall be assumed to be marked "Revise and Resubmit" (Contractor acknowledges this by the submission), and the Contractor shall promptly re-submit said submittal so as to be in full compliance with the Contract Documents.

NOTE: Failure of the Contractor to provide this information during the shop drawings phase shall make the Contractor responsible for all changes to achieve compliance with the Contract Documents without additional compensation.

1.5.5 Items to be Submitted:

Tabulation of Power Wiring Requirements: Within 20 Days of Notice to Proceed, provide a Tabulation of Power Wiring Requirements of all proposed equipment, including H.P., amps, voltage, phase and KW, tabulated on a separate sheet. A copy of the tabulation shall be transmitted independently to the general contractor, Architect/Engineer, and to all affected trades. (Refer to Electrical Drawings for electrical provisions for equipment.)

Plumbing System Components:

Submit all components required for complete installation of Plumbing system designed and specified herein and as required by the engineer of record.

HVAC System Components:

Submit all components required for complete installation of HVAC system designed and specified herein and as required by the engineer of record.

1.6 QUALITY ASSURANCE

1.6.1 Material and Equipment Qualifications

Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.

1.6.2 Alternative Qualifications

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Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown. In addition, products not meeting the above service requirements but are named in the documents as ‘basis of design’ equipment shall be exempt from such service requirements.

1.6.3 Engineer Approved Equal

Where the phrase “Engineer Approved Equal” appears in the project specifications it shall mean that the product or equipment must be approved by the Engineer for use in this project. This approval must be attained prior to the Contractor receiving pricing for the product or equipment and prior to the Contractor proposing a price in which an “Engineer Approved Equal” product or equipment is proposed to be utilized. In this sense the phrase “Prior-Approved Equal” may be substituted for the phrase “Engineer Approved Equal” wherever it appears in the project specifications. Failure to attain Engineer Approval prior to proposing the use of a product or equipment is at the Contractor’s risk of subsequent review and Engineer Approval.

1.6.4 Service Support

The equipment items shall be supported by service organizations. Submit a certified list of qualified permanent service organizations for support of the equipment, which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.6.5 Manufacturer's Nameplate

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

1.6.6 Modification of References

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears.

1.7 DELIVERY, STORAGE, AND HANDLING

Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's recommendations, and as approved by the Owner and Engineer. Damaged or defective items, in the opinion of the Owner and Engineer, shall be replaced.

1.8 SAFETY REQUIREMENTS:

1.8.1 Equipment Safety

Provide positive means of locking out equipment in accordance with current OSHA standards so that equipment cannot be accidentally started during maintenance procedures. High-

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temperature equipment and piping so located as to endanger personnel or create a fire hazard shall be properly guarded or covered with insulation of the type specified. Provide catwalks, maintenance platforms, and guardrails where required for safe operation and maintenance of equipment. Provide ladders or stairways to reach catwalks and maintenance platforms. Ensure that access openings leading to equipment are large enough to carry through routine maintenance items such as filters and tools. Provide covers or guards for all rotating equipment, which could be hazardous.

1.9 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to ANSI C2, NFPA 70, and requirements specified herein.

1.9.1 New Work

Provide electrical components of mechanical equipment, such as motors, motor starters, control or push-button stations, float or pressure switches, integral disconnects, and other devices functioning to control mechanical equipment, as well as control wiring and conduit for circuits rated 100 volts or less, to conform with the requirements of the section covering the mechanical equipment. Extended voltage range motors shall not be permitted. The interconnecting power wiring and conduit, control wiring rated 120 volts (Nominal) and conduit, and the electrical power circuits shall be provided under Division 26, except internal wiring for components of packaged equipment shall be provided as an integral part of the equipment. When motors and equipment furnished are larger than sizes indicated, provide any required changes to the electrical service as may be necessary and related work as a part of the work for the section specifying that motor or equipment."

1.9.2 Modifications to Existing Systems

Where existing mechanical systems and motor-operated equipment require modification, provide electrical components under Division 26."

1.9.3 High Efficiency Motors

1.9.3.1 High Efficiency Single-Phase Motors

Unless otherwise specified, single-phase fractional-horsepower alternating-current motors shall be high efficiency types corresponding to the applications listed in NEMA MG 11.

1.9.3.2 High Efficiency Polyphase Motors

Unless otherwise specified, polyphase motors shall be selected based on high efficiency characteristics relative to the applications as listed in NEMA MG 10. Additionally, polyphase squirrel-cage medium induction motors with continuous ratings shall meet or exceed energy efficient ratings in accordance with Table 12-6C of NEMA MG 1. Motors shall be NEMA Design Type B with NEMA Class B insulation. Motors specified to be high efficiency shall be minimum 92 percent efficient.

1.10 INSTRUCTION TO MAINTENANCE PERSONNEL

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Instruct operating personnel designated by Owner in operation and maintenance of systems prior to the request for final inspection. A manufacturer's service representative shall provide the instructions for each piece of equipment on system. A manufacturer's sales representative is not acceptable. (Instructor shall not be a sales person, but shall be one with service experience on a continuing basis, knowledgeable about the subject equipment.) The Contractor shall give notice to the Architect/Engineer not less than 10 days of the anticipated date of instruction to allow planning by the Owner. The Contractor shall request the instruction date not less than 5 days of the desired date for coordination with the Owner. Operating manual for the equipment/systems on which instructions are being given shall be in the possession of the operating personnel not less than 5 days prior to the date of instruction. The Contractor shall give an orientation session to operating personnel for achieving familiarity (not instructions) of the systems approximately 3 days prior to the instruction date. The Contractor's representative giving instruction shall be knowledgeable in the equipment/systems.

1.11 O&M MANUALS

A complete set of operations and maintenance manuals (O&M manual) shall be assembled for all mechanical (HVAC & Plumbing) equipment in digital (PDF) format. Digital O&M manual shall be provided on a CD or thumb drive and turned over to the owner at least 5 days prior to any training sessions.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 230050

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SECTION 230080 - INSULATION OF MECHANICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

Section 230050, "Mechanical General Requirements," applies to this section, with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the materials of this section also applies to this section.

1.2 DEFINITIONS

1.2.1 Finished Spaces

Spaces used for habitation or occupancy where rough surfaces are plastered, paneled, or otherwise treated to provide a pleasing appearance.

1.2.2 Unfinished Spaces

Spaces used for storage or work areas where appearance is not a factor, such as unexcavated spaces and crawl space.

1.2.3 Concealed Spaces

Spaces out of sight. For example, above ceilings; below floors; between double walls; furred-in areas; pipe and duct shafts; and similar spaces.

1.2.4 Exposed

Open to view. For example, pipe running through a room and not covered by other construction.

1.2.5 Fugitive Treatments

Treatment subject to deterioration due to aging, moisture, high humidity, oxygen, ozone, and heat. Fugitive materials are entrapped materials that can cause deterioration, such as solvents and water vapor.

1.2.6 Outside

Open to view up to 5 feet beyond the exterior side of walls, above the roof, and unexcavated or crawl spaces.

1.2.7 Conditioned Space

An area, room or space normally occupied and being heated or cooled for human habitation by any equipment.

1.3 SUBMITTALS

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Submit the following:

1.3.1 Manufacturer's Catalog Data

a. Insulation

b. Jackets

c. Casings

d. Vapor-barrier materials

e. Accessory materials

1.3.2 Certificates of Compliance

a. Insulation

b. Jackets

c. Casings

d. Vapor-barrier materials

e. Accessory materials

Submit standards compliance labels on each container or package.

1.4 QUALITY ASSURANCE

Every package or standard container of insulation, jackets, cements, adhesives, and coatings delivered to the project site shall have the manufacturer's stamp or label attached giving name of manufacturer, brand and description of material. Insulation packages and containers shall be asbestos-free.

1.5 FLAME-SPREAD AND SMOKE-DEVELOPED RATINGS

In accordance with NFPA 255, ASTM E84 or UL 723, the materials shall have a flame-spread rating of not more than 25 and a smoke-developed rating of not more than 50.

1.5.1 Materials Tests

Test factory-applied materials as assembled. Field-applied materials may be tested individually. Use no fugitive or corrosive treatments to impart flame resistance. UL label or satisfactory certified test report from a testing laboratory will be required to indicate that fire hazard ratings for materials proposed for use do not exceed those specified. Flameproofing treatments subject to deterioration due to effects of moisture or high humidity are not acceptable.

1.5.2 Materials Exempt From Fire-Resistant Rating Nylon Anchors.

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1.5.3 Special Exempt Materials

Materials exempt from fire-resistant rating when installed in outside locations, buried, or encased in concrete: PVC casing and glass-fiber-reinforced plastic casing.

PART 2 - PRODUCTS

2.1 PIPING INSULATION

Piping systems, except buried pipe requiring insulation, types of insulation required, and insulation thickness shall be as listed in Tables I and II herein. Except for flexible unicellular insulation, insulation thickness as specified in Table II shall be one inch greater for insulated piping systems located outside. Unless otherwise specified, insulate all fittings, flanges, and valves, except valve stems, hand wheels, and operators. Provide factory premolded, precut, or field-fabricated insulation of the same thickness and conductivity as insulation on adjacent piping. Insulation exterior shall be factory cleanable, grease resistant, non-flaking and non-peeling. Pipe insulation shall conform to the referenced publications in Table I.

2.1.1 Flexible Unicellular Insulation

ASTM C534. Provide adhesive as recommended by insulation manufacturer.

2.1.2 Piping Insulation Finishes

2.1.2.1 All-Purpose Jacket

Except unicellular insulation, provide a factory applied all-purpose jacket with or without integral vapor barrier as required by the service. Provide jackets in exposed locations with a white surface suitable for field painting. Allow a maximum water vapor permanence of 0.05 perm in accordance with ASTM E96, a puncture resistance of not less than 50 Beach units, and a minimum tensile strength of 35 pounds-force per inch of width in accordance with ASTM D828. Chilled water piping, fittings, valves and accessories all-purpose jacket shall be provided with integral vapor barrier, and in addition shall be covered with plastic jacket inside of all mechanical rooms and with metal jacket where located outdoors – the plastic jacket shall be applied after the vapor barrier has been completely applied to the pipe insulation and fully cured.

2.1.2.2 Vapor-Barrier Material

Resistant to flame, moisture penetration, and mold growth. Provide vapor-barrier material on pipe insulation as required in Table I.

2.1.2.3 Metal Jackets – apply to all piping, fittings and valves outdoors..

Provide a moisture-barrier lining for metal jackets located outside.

a. Aluminum Jackets: ASTM B209, Alloy 3003 or 3004 Temper H14, 0.016- inch thick, smooth.

2.1.2.4 Vinyl Lacquer

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Vinyl lacquer finish or equivalent recommended for unicellular insulation located outside.

2.2 HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS INSULATION

Provide insulation on ducts, plenums, filter boxes and casings of Heating, Ventilating and Air Conditioning Systems (HVAC).)

2.2.1 Duct Insulation in Concealed Spaces

Blanket flexible mineral fiber insulation conforming to ASTM C553, Type 1, Class B-3, 1.0 pound per cubic foot nominal, 2.0 inches thick. Provide flexible insulation in concealed spaces only.

2.2.2 Duct Insulation Not in Concealed Spaces

Mineral fiber in accordance with ASTM C612, Class 2 (maximum surface temperature 400 degrees F), 6 pcf (pounds per cubic foot) average, 1-1/2 inch thick.

2.2.3 Duct Insulation Finishes

2.2.3.1 All-Purpose Jacket

Provide a factory applied all-purpose jacket with or without integral vapor barrier as required by the service. In exposed locations, provide jackets with a white surface suitable for field painting. All-purpose jacket shall have a maximum water vapor permanence of 0.05 perm per ASTM E96; a puncture resistance of not less than 50 Beach units; and a tensile strength of not less than 35 pounds-force per inch of width in accordance with ASTM D828.

2.2.3.2 Vapor-Barrier Material

Material shall be resistant to flame, moisture penetration, and shall not support mold growth. Provide vapor barrier on HVAC duct insulation.

2.3 EQUIPMENT

Insulate all equipment and accessories as specified in Table III. In outside locations, provide insulation one inch thicker than specified. Increase the specified insulation thickness for equipment only where necessary to equal the thickness of angles or other structural members to make a smooth, exterior surface. Additional insulation is not required for factory-insulated equipment. Factory applied insulation shall meet the flame spread and smoke-developed rating of 25/50.

2.4 ADHESIVES, SEALANTS, AND COATING COMPOUNDS

2.4.1 Insulation and Vapor Barrier Adhesive

Provide ASTM C916, Type I or Type II adhesive for securing insulation to metal surfaces and for vapor barrier lap only in building interior. Provide Type I when an adhesive in which the vehicle is nonflammable in the liquid (wet) state and which will pass the edge-burning test is required.

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Provide Type II when an adhesive in which the vehicle is nonflammable in the liquid (wet) state and which will not pass the edge-burning test is required.

2.4.2 Lagging Adhesive

For bonding fibrous glass cloth to unfaced fibrous glass insulation; for bonding cotton brattice cloth to faced and unfaced fibrous glass insulation board; for sealing edges of and bounding fibrous glass tape to joints of fibrous glass board; or for bonding lagging cloth to thermal insulation, or Class 2, for attaching fibrous glass insulation to metal surfaces.

2.4.3 Mineral Fiber Insulation Cement

ASTM C195, thermal conductivity 0.85 maximum at 200 degrees F mean when tested in accordance with ASTM C177.

2.5 ACCESSORIES

2.5.1 Staples

ASTM A167, Type 304 stainless steel outside-clinch type.

2.5.2 Insulation Bands

½-inch wide; 0.021-inch galvanized steel or 0.018 inch stainless steel.

2.5.3 Anchor Pins

Provide anchor pins and speed washers recommended by insulation manufacturer.

2.5.4 Glass Cloth and Tape

Tape shall be 4-inch wide rolls. In lieu of glass cloth and tape, open weave glass membrane may be provided.

2.5.5 Wire

Soft annealed stainless steel, 0.047-inch nominal diameter.

PART 3 - EXECUTION

3.1 PREPARATION

Do not insulate materials until system tests have been completed and surfaces to be insulated have been cleaned of dirt, rust, and scale and dried. Insulate return ducts, outside air intakes and supply ducts to the room outlets, flexible runouts, plenums, casings, filter boxes, coils, fans, and the portion of air terminals not in the conditioned spaces. Ensure full range of motion of equipment actuators. Modify insulation to avoid obstruction with valve handles, safety relief's, and other such items. Allow adequate space for pipe expansion. Install insulation with jackets drawn tight and cement down on longitudinal and end laps. Do not use scrap pieces where a full-length section will fit. Insulation shall be continuous through sleeves, wall and ceiling openings,

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except at fire dampers in duct systems. Extend surface finishes to protect surfaces, ends, and raw edges of insulation. Apply coatings and adhesives at the manufacturer's recommended coverage per gallon. Individually insulate piping and ductwork. Provide a moisture and vapor seal where insulation terminates against metal hangers, anchors and other projections through the insulation on surfaces for which a vapor seal is specified. Keep insulation dry during application of finish. Bevel and seal the edges of exposed insulation. Unless otherwise indicated, do not insulate the following:

a. Factory pre-insulated flexible ductwork;

b. Factory insulated ductwork, plenums, casings, mixing boxes, filter boxes;

c. Vertical portion of interior roof drain pipelines, (unless otherwise noted), chrome plated pipes, and fire protection pipes;

d. Vibration isolating connections;

e. Adjacent insulation;

f. ASME stamps;

g. Fan name plates; and

h. Access plates in fan housings.

3.2 PIPING INSULATION

3.2.1 Pipe Insulation - Flexible Unicellular Insulation

Bond cuts, butt joints, ends, and longitudinal joints with adhesive conforming to manufacturer's recommendations. Miter 90-degree turns and elbows, tees, and valve insulation. Where pipes penetrate firewalls, provide mineral-fiber insulation inserts and sheet metal sleeves. Insulate flanges, unions, valves, and fittings in accordance with manufacturer's published instructions. Apply two coats of vinyl lacquer finish to flexible unicellular insulation and cover with aluminum jacketing in outside locations.

3.2.23 Hangers and Anchors

Pipe insulation shall be continuous through pipe hangers. Where pipe is supported by the insulation, provide MSS SP-58, Type 40 galvanized steel shields of MSS SP-58, Type 39 protection saddles conforming to MSS SP-69. System suspension assemblies installed within unconditioned spaces, concealed & unconcealed, shall be hot-dipped galvanized and/or stainless steel.

3.2.4 Sleeves and Wall Chases

Where penetrating interior walls, extend a metal jacket 2 inches out on either side of the wall and secure on each end with a band. Where penetrating floors, extend a metal jacket from a point below the back-up material to a point 10 inches above the floor with one band at the floor and one

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not more than one inch from end of metal jacket. Where penetrating exterior walls, extend the metal jackets through the sleeve to a point 2 inches beyond the interior surface of the wall.

3.2.5 Flanges, Unions, Valves and Fittings for Hot Piping

Flanges, Unions, Valves, and Fittings Insulation (Except Flexible Unicellular) for Hot Piping: Factory fabricated removable and reusable insulation covers may be used. For inside domestic hot water, exposed hot water piping and drains in handicap areas, place factory premolded, precut or field-fabricated segmented insulation of the same thickness and conductivity as the adjoining pipe insulation around the flange, union, valve, and fitting abutting the adjoining pipe insulation. If nesting size insulation is used, overlap 2 inches or one pipe diameter, whichever is larger. Use insulating cement to fill voids. Elbows insulated using segments shall have not less than three segments per elbow. Place and joint the segments with manufacturer's recommended water-vapor resistant, fire retardant, and adhesive appropriate for the temperature limit of the service. Upon completion of installation of insulation, apply two coats of lagging adhesive with glass tape embedded between coats. Overlap tape seams one inch. Extend adhesive onto adjoining insulation not less than two inches. The total dry film thickness shall be not less than 1/16 inch. Where unions are indicated not to be insulated, taper the insulation to the union at a 45-degree angle. Coat the insulation and all-purpose jacket with two coats of lagging adhesive and with glass tape embedded between coats. The total dry film thickness shall be not less than 1/16 inch. At the option of the Contractor, factory premolded one-piece PVC fitting covers may be provided in lieu of two coats of adhesive with tape embedded between coats. Factory premolded field-fabricated segment or blanket insert insulation shall be provided under the fitting covers. Install factory premolded one-piece PVC fitting covers over the insulation and secure by stapling, taping with PVC vapor barrier tape, or with metal or plastic tacks made for securing PVC fitting covers. Do not provide PVC fitting covers where exposed to the weather. Provide PVC fitting covers only in ambient temperatures below 150 degrees F. See drawings for jacketing requirements.

3.2.6 Flanges, Unions, Valves, Anchors, Fittings for Cold Piping

Factory-fabricated removable and reusable insulation covers may be provided. For piping insulation inside the building that service domestic cold water above ceilings and roof drain leaders, coat pipe insulation ends with vapor barrier coating not more than 6 inches from each flange, union, valve, anchor or fitting. Place insulation of the same thickness and conductivity as the adjoining pipe insulation, either premolded or segmented, around the item, butting the adjoining pipe insulation. If nesting size insulation is provided overlap the insulation 2 inches or one pipe diameter. Use loose fill mineral wool or insulating cement to fill the voids. Elbows insulated using segments shall not have less than three segments per elbow. Secure insulation by wire or tape until finish coating is applied. Apply two coats of vapor barrier coating with glass tape embedded between coats. Overlap tape seams one inch. Extend the coating out onto the adjoining pipe insulation 2 inches. Where unions are shown not to be insulated, the insulation shall be tapered to the union at a 45-degree angle. Seal the insulation and jacket with two coats of vapor barrier coating with glass tape embedded between coats. Insulate anchors attached directly to the pipe for a sufficient distance to prevent condensation but not less than 6 inches from the insulation surface. At the option of the Contractor, premolded, one-piece polyvinyl chloride (PVC) fitting covers may be provided in lieu of the embedded glass tape. Factory premolded insulation or field-fabricated insulation segments shall be provided under the fitting covers. Do not use fiberglass insulation beneath the covers on chilled water piping. Blanket inserts may be provided. Secure the covers with adhesive and vapor barrier tape with a vapor resistance of maximum 0.05 perm in accordance with ASTM E96, or with tacks made for securing PVC

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covers. Then coat all tape seams and tacks with Type II vapor barrier coating. Do not use premolded PVC fitting covers where exposed to weather. Provide PVC covers only when medium temperature is not less than 35 degrees F and ambient temperature is below 150 degrees F. See drawings for jacketing requirements.

3.3 DUCTS (HVAC) INSULATION

3.3.1 Rigid Insulation

Secure rigid insulation by impaling over pins or anchors located not more than 3 inches from joint edges of boards, spaced not more than 12 inches on centers and secure with washers and clips. Spot weld anchor pins or attach with a waterproof adhesive especially designed for use on metal surfaces. Apply insulation with joints tightly butted. Neatly bevel insulation around nameplates and access plates and doors. Each pin or anchor shall be capable of supporting a 20-pound load. Cut off protruding ends of pins, after clips are sealed with coating compound conforming to manufacturer's recommended vapor barrier coating and reinforced with open weave glass membrane.

3.3.2 Flexible Blanket Insulation

Apply insulation with all joints tightly butted. Secure insulation to ductwork with adhesive in 6-inch wide strips on 12-inch centers. Staple laps of jacket with outward clinching staples and seal with foil scrim kraft (FSK) tape. For ductwork over 24 inches on horizontal duct runs, provide pins, washers and clips. Provide pins on sides of vertical ductwork being insulated. Space pins and clips on 18-inch centers and not more than 18 inches from duct corners. Carry insulation over standing seams and trapeze-type hangers. Install speed washers with pins and pin trimmed to washer. Sagging of flexible duct insulation will not be permitted. Cut off protruding ends of pins after clips are secured and sealed with coating compound conforming to manufacturer's recommended vapor barrier coating. In cold air ducts, vapor seal all joints and staple as specified.

3.3.3 Insulation Finishes and Joint Sealing

Fill all breaks, punctures, and voids with vapor barrier coating compound conforming to manufacturer's recommended vapor barrier coating. Vapor seal all joints by embedding a single layer of 3-inch wide open weave glass membrane, 20 by 20 mesh maximum size between two 1/16-inch wet film thickness coats of vapor barrier coating compound. Draw glass fabric smooth and tight with a 1 2-inch overlap. At jacket penetrations such as hangers, thermometers, and damper operating rods, fill voids in the insulation with vapor barrier coating. Brush a coat of vapor barrier coating where required on HVAC ducts. Provide vapor barrier jacket continuous across seams, reinforcing, and projections. Where height of projections is greater than insulation thickness, carry insulation and jacket over the projection.

3.3.4 Access Plates and Doors

On acoustically lined ducts, plenums, and casings, provide insulation on access plates and doors. On externally insulated ducts, plenums, and casings, provide insulation-filled hollow steel panels and doors for access openings. Bevel insulation around access plates and doors.

3.4 FIELD INSPECTION

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Visually inspect to ensure that materials provided conform to specifications. Inspect installations progressively for compliance with requirements.

TABLE I

Insulation Material For Piping

Service	Material	Spec	Type	Class	Vapor Barrier Required
Domestic Water All hot water and exposed cold water	Mineral Fiber	ASTM C547		1	Yes
A/C Condensate Drains	Flexible Unicellular	ASTM C534	I or II		No
Sewer pipes from floor drains receiving condensate and all Roof Drains including underside of drain body	Mineral Fiber	ASTM C553	I	B-3	Yes

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TABLE II

Piping Insulation Wall Thickness

Tube and Pipe Size (Inches)

Service	Material	¼ to 1-1/4	1-1 /2 to 3	3-1/2 to 5	6 to 12
Domestic Water	Mineral Fiber				
All hot water		1	1.5	1.5	1.5
Exposed cold water		1/2	1.5	1.5	1.5
AC Condensate drains	Flexible Unicellular	¾	¾	¾	¾
Sewer pipes from floor drains receiving condensate and all Roof Drains including underside of drain body	Mineral Fiber	2	2	2	2

**** Note: Insulation on piping installed outdoors shall be increased by one inch above size shown in Table II.**

END OF SECTION 230080

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SECTION 230520 – VRV UNITS

PART 1 – GENERAL

VARIABLE REFRIGERANT VOLUME AIR CONDITIONING SPECIFICATION – Heat Pump

1.1 SYSTEM DESCRIPTION

The variable capacity, heat pump air conditioning system shall be a Variable Refrigerant Volume (heat/cool model) split system as manufactured by LG or approved equal. The system shall consist of multiple evaporators using PID control and outdoor units. The outdoor units shall be direct expansion (DX), air-cooled heat pump air-conditioning system, variable speed driven compressor multi-zone split system, using R-410A refrigerant. The outdoor unit may connect an indoor evaporator capacity up to 130% to that of the outdoor condensing unit capacity. All indoor units are each capable of operating separately with individual temperature control.

The indoor units shall be connected to the outdoor utilizing the manufacturer's recommended piping arrangement, joints and headers. The refrigerant piping system shall be submitted with the shop drawings for engineer review. The piping system drawings shall indicate all pipe sizes and the locations of all branch selectors.

Operation of the system shall permit either cooling or heating of all of the fan coil units. Each fan coil or group of fan coils shall be able to provide set temperature independently via a local remote controller, an Intelligent Controller, and an Intelligent Manager. The controls shall be web-based and shall be accessible from an internet connection.

1.2 VRV FEATURES AND BENEFITS

A. Voltage Platform – Heat pump condensing units shall be available in 208-230V/1/60, 208/3/60, or 460V/3-ph/60Hz configurations per schedule.

B. Independent Control – Each fan coil shall use a dedicated electronic expansion valve for independent control.

C. VFD Inverter Control – Each condensing unit shall use a high efficiency, variable speed "inverter" compressor coupled with inverter fan motors for superior part load performance. Compressor capacity shall be modulated automatically to maintain a constant suction pressure, while varying the refrigerant volume for the needs of the cooling or heating loads. Indoor fan coil units shall use PID control to control superheat to deliver a comfortable room temperature condition.

D. Flexible Design – Systems shall be capable of up to 540ft (620ft equivalent) of linear piping between the condensing unit and furthest located fan coil unit.
Systems shall be capable of up to 3280ft total "one-way" piping in the piping network.
Systems shall have a vertical (height) separation of up to 295ft between the condensing unit and the fan coil units. The outdoor unit shall connect an indoor evaporator capacity up to 130% of the outdoor condensing unit capacity.

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E. Simple Wiring – Systems shall use 2 wire, multi-stranded, non-shielded and non-polarized daisy chain control wiring.

F. Outside Air – Systems shall provide outside air capability.

G. Advanced Diagnostics – Systems shall include a self diagnostic, auto-check function to detect a malfunction and display the type and location.

H. Advanced Controls – Each system shall have at least one remote controller capable of controlling up to 16 fan coil units. Each system shall be capable of integrating with open protocol BACnet building management systems and shall include a BACnet interface to communicate with the building automation system.

I. Low Sound Levels – Each system shall use indoor and outdoor units with quiet operation as low as 25 dB(A).

1.3 QUALITY ASSURANCE

A. The units shall be listed by Electrical Laboratories (ETL) and bear the cETL label.

B. All wiring shall be in accordance with the National Electric Code (NEC).

C. The system will be produced in an ISO 9001 and ISO 14001 facility, which are standards set by the International Standard Organization (ISO). The system shall be factory tested for safety and function.

D. The outdoor unit will be factory charged with R410A.

1.4 DELIVERY, STORAGE AND HANDLING

A. Unit shall be stored and handled according to the manufacturer's recommendations.

1.5 WARRANTY

The units shall have a manufacturer's warranty for a period of one (1) year from date of installation. The units shall have a limited labor warranty for a period of one (1) year from date of installation. During the stated period, should any part fail due to defects in material and workmanship, it shall be repaired or replaced at the discretion of the manufacturer. All warranty service work shall be performed by a factory trained service professional.

1.6 INSTALLATION REQUIREMENTS

The system must be installed by a factory trained contractor/dealer. The bidders shall be required to submit training certification proof with bid documents. The mechanical contractor's installation price shall be based on the systems installation requirements. The mechanical contractor bids with complete knowledge of the HVAC system requirements. Untrained contractors who wish to bid this project may contact the local sales representative to arrange training prior to bid day.

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PART 2 – PRODUCTS

2.1 PERFORMANCE - The outdoor units shall perform as indicated on the drawings.

2.1.1 OPERATING RANGE

The operating range in cooling will be 23°F DB ~ 110°F DB.
The operating range in heating will be 0°F DB – 64°F DB / -5°F WB – 60°F WB.

2.1.2 REFRIGERANT PIPING

The system shall be capable of refrigerant piping up to 540 actual feet or 620 equivalent feet from the outdoor unit to the furthest indoor unit, a total combined liquid line length of 3,280 feet of piping between the condensing and fan coil units with 165 feet maximum vertical difference, without any oil traps.

2.1.3 DESIGN BASIS

The HVAC equipment basis of design is LG. All bidders shall furnish the minimum system standards as defined by the base bid model numbers, model families or as otherwise specified herein. In any event, the contractor shall be responsible for all specified items and intents of this document without further compensation.

2.2 OUTDOOR UNIT

A. General: The outdoor unit is designed specifically for use with VRV series components.

1. The outdoor unit shall be factory assembled and pre-wired with all necessary electronic and refrigerant controls. The refrigeration circuit of the condensing unit shall consist of scroll compressors, motors, fans, condenser coil, electronic expansion valves, solenoid valves, 4-way valve, distribution headers, capillaries, filters, shut off valves, oil separators, service ports and liquid receivers.

2. Refrigerant lines must be individually insulated between the outdoor and indoor units.

3. The outdoor unit can be wired and piped with outdoor unit access from the left, right, rear or bottom.

4. The connection ratio of indoor units to outdoor unit shall be permitted up to 130%.

5. The outdoor system shall be able to support the connection of multiple indoor units as indicated on the drawings.

6. The sound pressure level standard shall be that value as listed in the manufacturer’s engineering manual for the specified models at 3 feet from the front of the unit. The outdoor unit shall be capable of operating automatically at further reduced noise during night time.

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7. The system will automatically restart operation after a power failure and will not cause any settings to be lost, thus eliminating the need for reprogramming.

8. The outdoor unit shall be modular in design and should allow for side-by-side installation with minimum spacing.

9. The following safety devices shall be included on the condensing unit; high pressure switch, control circuit fuses, crankcase heaters, fusible plug, high pressure switch, overload relay, inverter overload protector, thermal protectors for compressor and fan motors, over current protection for the inverter and anti-recycling timers.

10. To ensure the liquid refrigerant does not flash when supplying to the various fan coil units, the circuit shall be provided with a sub-cooling feature.

11. Oil recovery cycle shall be automatic occurring 2 hours after start of operation and then every 8 hours of operation.

12. The outdoor unit shall be capable of heating operation at 0°F dry bulb ambient temperature without additional low ambient controls.

B. Unit Cabinet:

1. The outdoor unit shall be completely weatherproof and corrosion resistant. The unit shall be constructed from rust-proofed mild steel panels coated with a baked enamel finish.

C. Fan:

1. The condensing unit shall consist of one or more propeller type, direct-drive fan motors that have multiple speed operation via a DC (digitally commutating) inverter.

2. The fan shall be a vertical discharge configuration.

3. Nominal sound pressure levels shall be as shown below.

4. The fan motor shall have inherent protection and permanently lubricated bearings and be mounted.

5. The fan motor shall be provided with a fan guard to prevent contact with moving parts.

6. The outdoor unit shall be capable of operating at further reduced sound levels during night time.

D. Condenser Coil:

1. The condenser coil shall be manufactured from copper tubes expanded into aluminum fins to form a mechanical bond.

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2. The heat exchanger coil shall be of a waffle louver fin and rifled bore tube design to ensure high efficiency performance.

3. The heat exchanger on the condensing units shall be manufactured from Hi-X seamless copper tube with N-shape internal grooves mechanically bonded on to aluminum fins to an e-Pass Design.

4. The fins are to be covered with an anti-corrosion acrylic resin and hydrophilic film type E1.

5. The pipe plates shall be treated with powdered polyester resin for corrosion prevention. The thickness of the coating must be between 2.0 to 3.0 microns.

E. Compressor:

1. The scroll compressor shall be variable speed (PAM inverter) controlled which is capable of changing the speed to follow the variations in total cooling and heating load as determined by the suction gas pressure as measured in the condensing unit. In addition, samplings of evaporator and condenser temperatures shall be made so that the high/low pressures detected are read every 20 seconds and calculated. With each reading, the compressor capacity shall be controlled to eliminate deviation from target value.

2. The inverter driven compressor in each condensing unit shall be of highly efficient reluctance DC (digitally commutating), hermetically sealed scroll “F-type” with a maximum speed of 6,480 rpm.

3. Neodymium magnets shall be adopted in the rotor construction to yield a higher torque and efficiency in the compressor instead of the normal ferrite magnet type. At complete stop of the compressor, the neodymium magnets will position the rotor into the optimum position for a low torque start.

4. The capacity control range shall be 24% to 100% 4 ton and less units and 7% to 100% for condensing units over 4 tons.

5. The compressor shall be equipped with a crankcase heater, high pressure safety switch, and internal thermal overload protector.

6. Oil separators shall be standard with the equipment together with an intelligent oil management system.

7. The compressor shall be spring mounted to avoid the transmission of vibration.

F. Electrical:

1. The power supply to the outdoor unit shall be as scheduled on the drawings.

2. The control voltage between the indoor and outdoor unit shall be 16VDC non-shielded, stranded 2 conductor cable.

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3. The control wiring shall be a two-wire multiplex transmission system, making it possible to connect multiple indoor units to one outdoor unit with one 2-cable wire, thus simplifying the wiring operation.

2.3 VERTICAL UNIT

A. General: Indoor vertical unit shall be a fan coil unit, operable with refrigerant R-410A, equipped with an electronic expansion valve. Computerized PID control shall be used to control superheat to deliver a comfortable room temperature condition. A mildew-proof, polystyrene air filter and condensate drain pan shall be included as standard equipment. The indoor units sound pressure shall range from 32 dB(A) to 35 dB(A) at low speed measured at 3.3 feet below and from the unit. Unit shall be designed to mount fully concealed behind the wall, in a closet or above the finished ceiling. The supply air shall be flanged for field installed ductwork that shall not exceed the external static pressure limitation of the unit.

B. Indoor Unit:
1. The unit shall be designed to operate in the vertical (up flow) configuration or horizontal (left) end discharge.
2. Unit shall, in the vertical position, have opening for supply air from top with a dedicated bottom vertical return and in the horizontal position supply air shall be from the left end with the return air from the right end.
3. Unit shall be equipped with factory installed temperature thermistors for:
a) Return air
b) Refrigerant entering coil
c) Refrigerant leaving coil
4. Unit shall have a factory assembled, piped and wired electronic expansion valve (EEV) for refrigerant control.
5. Unit shall have a built-in control panel to communicate with other indoor units and to the outdoor unit.
6. Unit shall have the following functions as standard:
a) Self-diagnostic function
b) Auto addressing
c) Auto restart function
d) Auto changeover function (Heat Recovery system only)
e) Auto operation function
f) Auto clean function
g) Child lock function
h) Forced operation
i) Dual thermistor control
j) Sleep mode
k) External static pressure (ESP) control
l) Dual set point control
m) Aux heater applications
n) Filter life timer
o) External on/off control input
p) Wi-Fi compatible
q) Auto fan operation
r) Refrigerant Refrigerant Leak detection logic

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D. Unit Cabinet:
   1. Unit case shall be manufactured using 22-gauge Pre Coated Metal (PCM).
   2. The external surface shall be finished with a high gloss baked enamel finish.
   3. The finish color shall be morning fog.
   4. The cold surfaces of the unit shall be internally insulated with 1/2 inch foil faced polystyrene fiber insulation.
   5. The inside surface of fan assembly door access panel shall be treated with 1/2 inch polystyrene fiber insulation, encapsulated on both sides.
   6. The access panel shall be sealed along the edges with reinforced foil faced covering to prevent deterioration caused by panel removal.
   7. All the access panels shall be provided with gasket seals to minimize air leakage.
   8. The external insulation shall be plenum rated and conform to ASTM Standard D-1418.

E. Fan:
   1. The unit shall have an integral fan assembly consisting of galvanized steel housing and forward curve fan wheel.
   2. The fan motor is Brushless Digitally commutated (BLDC) with permanently lubricated and sealed ball bearings.
   3. The fan motor shall include thermal, overcurrent and low RPM protection.
   4. The fan/motor assembly shall be mounted on vibration attenuating rubber grommets.
   5. The fan speed shall be controlled using microprocessor based direct digitally controlled algorithm that provides a minimum of three pre-programed fan speeds. Each setting is also adjustable by field setting to compensate for a limited amount of additional resistance to airflow by adjusting the RPM of the fan motor.
   6. In cooling mode, the indoor fan shall have the following settings: Low, Med, High, and Auto.
   7. In heating mode, the indoor fan shall have the following settings: Low, Med, High, and Auto.
   8. Each of the settings can be field adjusted from the factory setting (RPM/ESP).
   9. Unit shall be designed for high speed air volume against an external static pressure of up to 1.0” water gauge model dependent.

F. Filter Assembly:
   1. The unit comes with a filter rack capable of accepting a field supplied 16” x 20” x 1” filter cartridge
   2. The filter rack shall be equipped with guides to keep filter centered in the rack.
   3. The filter access shall be from the front of the unit without removing coil or fan area access panel.
   4. The filter access door shall be fitted with thumb screws that can be removed without the use of any tool.

G. Coil:
   1. Unit shall have a factory built coil comprised of aluminum fins mechanically bonded on copper tubing.
   2. The copper tubing shall have inner grooves to expand the refrigerant contact surface for high efficiency heat exchanger operation.
   3. Unit shall have minimum two to three row coil, 18 fins per inch.
   4. Unit shall have a factory supplied condensate drain pan below the coil constructed of HIPS (high impact polystyrene resin).
   5. Unit shall be designed for gravity drain.
   6. The unit shall have a secondary drain port plug for overflow.
   7. Unit shall have provision of 45° flare refrigerant pipe connections.

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8. The coil shall be factory pressure tested at a minimum of 550 psig.
9. All refrigerant piping from outdoor unit to indoor unit shall be field insulated. Each pipe should be insulated separately. Thickness and heat transfer characteristics shall be determined by the design engineer and shall meet all code requirements.

H. Electrical:
1. A separate power supply will be required of 208/230 volts, 1 phase, 60 hertz. The acceptable voltage range shall be 187 to 253 volts.
2. Transmission (control) wiring between the indoor and outdoor unit shall be a maximum of 3,280 feet (total 6,560 feet).
3. Transmission (control) wiring between the indoor and remote controller shall be a maximum distance of 1,640 feet.

I. Control:
1. The unit shall have a factory installed microprocessor controller capable of performing functions necessary to operate the system with or without the use of a wall mounted controller. The unit shall have a factory mounted return air thermistor for use as a space temperature control device. All operating parameters except scheduling shall be stored in non-volatile memory resident on the microprocessor. The microprocessor shall provide the following functions, self-diagnostics, auto re-start after a power failure and a test run mode
2. The unit shall be able to communicate with other indoor units and the outdoor unit using a field supplied minimum of 18 AWG, two core, stranded, twisted, and shielded communication cable.
3. The unit controls shall operate the indoor unit using one of the five operating modes:
   a) Auto changeover (Heat Recovery System only)
   b) Heating
   c) Cooling
   d) Dry
   e) Fan only
4. The unit shall be able to operate in either cooling or heating mode for testing and/or commissioning.
5. The unit shall be able to operate with the fan turned off during system cooling thermal off.
6. The unit shall be able to operate with a continuous fan setting.
7. The unit shall have adjustable, multi-step cooling and heating mode thermal on/off temperature range settings.
8. The system shall include a product check function to access and display indoor unit type and capacity from a wired programmable zone controller.
9. Unit shall use controls provided by the manufacturer to perform all functions necessary to operate the system effectively and efficiently and communicate with the outdoor unit over an RS-485 daisy chain.

H. Electrical
1. The unit electrical power shall be 208-230/1/60 (V/Ph/Hz).
2. The unit shall be capable of operating within voltage limits of +/- 10% of the rated voltage.

J. Accessories:
1. A condensate pump.

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1.5 CONTROLS

1.5.1 PHYSICAL CHARACTERISTICS

A. General: The control system shall be a neutral color plastic material. Each control shall have a Liquid Crystal Display (LCD)

2.5.2 ELECTRICAL CHARACTERISTICS

A. General: From each circuit board to the controls, the electrical voltage shall be 16 volts DC.

B. Wiring: Control wiring shall be installed in a daisy chain configuration from indoor unit to indoor unit then to the branch selector box and outdoor unit. Control wiring shall run from the indoor unit terminal block to the specific controller for that unit.

C. Wiring Size: The wire shall be a non-shielded, 2-core sheathed vinyl cord or cable, size AWG18-2.

2.5.3 CONTROLLER CHARACTERISTICS

A. Individual Zone Controller – Wired Remote Controller

1. The wired remote controller shall be able to control 1 group (maximum of 16 fan coil units) and shall be able to function as follows:

i. The controller shall have a maximum wiring length of 1,640 feet.
ii. The controller shall have a self diagnosis function that constantly monitors the system for malfunctions (total of 80 components).
iii. The controller shall be able to immediately display fault location and condition.
iv. An LCD digital display will allow the temperature to be set in 1°F units.
v. The controller shall allow the user to select cool / heat / fan operation mode with indoor remote controller of choice without using the cool / heat selector.
vi. The wall mounted controller shall be equipped with a temperature sensor to control operation of the fan coil. Control by unit mounted temperature sensors is not acceptable when untreated outside air is ducted into the fan coil unit.
vii. The controller shall display set point and ambient temperature.

2.6 BASIS OF DESIGN

The Basis of Design is the LG VRV system. Alternate systems are acceptable, but the mechanical contractor shall be responsible for any and/or all changes to the system design as a result of using the alternate product and shall bear all the liability as a result of these changes. This shall include but not be limited to changes in the piping systems, electrical systems, drains, equipment/service requirements and system capacities- An alternate system design, if required, shall be the responsibility of this contractor, and all changes shall be approved by the Architect and Engineer.

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Equipment suppliers shall furnish a complete drawing package to the mechanical contractor 14 days prior to bid day for bidding and installation. The equipment supplier shall prepare the following drawings:

HVAC Refrigerant Piping Plan
HVAC Refrigerant Piping/Controls Details

The equipment supplier shall draft all piping circuits, components, overall building control schematic, detailed control wiring diagrams, system details and schedules for their system. The drawings shall convey all requirements to successfully install the alternate equipment suppliers system.

PART 3 - EXECUTION

3.1 INSTALLATION

Install air distribution equipment as indicated and in accordance with the manufacturer's instructions. Provide clearance for inspection, repair, replacement, and service. Electrical work shall conform to NFPA 70 and Division 26, "Electrical." Provide overload protection in the operating disconnect switches and magnetic starters.

3.2 PROTECTION OF EQUIPMENT

Deliver equipment to site in sealed containers or weatherproof wrap. Mechanical equipment spaces shall be ready to receive units prior to shipment. Follow manufacturer's printed instructions for unloading and moving equipment. Handle and place equipment with care to avoid damage to casing or structural components. Protect equipment during construction with coverings, and build temporary catwalks over units when workmen require overhead access in unit location.

The contractor shall be fully responsible for protection of heat pump units throughout the construction process and until final acceptance by the Engineer. Damaged units shall be removed and replaced by the contractor with new units meeting the requirements of these specifications. The replacement shall be at no additional cost to the Owner and with no increase in the contract time.

3.3 GENERAL

Examine areas and conditions under which heat pump units are to be installed. Do not proceed with work until unsatisfactory conditions have been corrected in manner acceptable to Installer. Install heat pump units where indicated, in accordance with equipment manufacturer's published installation instructions, and with recognized industry practices, to ensure that units comply with requirements and serve intended purposes.

3.4 COORDINATION

Coordinate with other work, including ductwork, floor construction and piping, as necessary to interface installation of air handling units with other work.

3.5 ACCESS

Provide access space around air handling units for service as indicated, but in no case less than that recommended by manufacturer.

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3.6 ELECTRICAL WIRING

Install electrical devices furnished by manufacturer but not specified to be factory mounted. Furnish copy of manufacturer's wiring diagram submittal to electrical Installer. Verify that electrical wiring installation is in accordance with manufacturer's submittal and installation requirements of Division-16 sections. Do not proceed with equipment start-up until wiring installation is acceptable to equipment installer.

3.7 PIPING CONNECTIONS

Provide piping, valves, accessories, gages, and supports as recommended by the manufacturer. Provide trapped, condensate drain piping from each drain connection and extend independently to disposal point as part of this section's work.

3.8 DUCT CONNECTIONS

Refer to Division-23 Air Distribution sections and the drawings. Provide ductwork, accessories, and filter racks as indicated.

3.9 TESTING

Upon completion of installation of heat pump units, start-up and operate equipment to demonstrate capability and compliance with requirements. Field correct malfunctioning units, then retest to demonstrate compliance.

3.10 START-UP PROCEDURES:

3.10.1 Contractor Responsibilities:

1. The contractor shall use nitrogen during all brazing operations to eliminate ash formation inside the refrigerant piping system. Failure to use nitrogen during brazing operations will result in the rejection of the refrigerant piping system and shall require complete replacement.
2. The refrigerant piping system shall be pressure tested a 500 psi for a minimum of 24 hours. Notify the engineer one week prior to pressure testing. Pressure test shall be witnessed by the engineer at both the beginning and end of the 24 hour period.
3. The refrigerant piping system shall be evacuated to 500 microns in 3 separate stages. The piping system shall be purged with nitrogen between each stage to remove moisture. Maintain 500 microns for a minimum of 2 hours.

At a minimum the Contractor shall perform the following start-up checks, coordinate with the manufacturer of the heat pump unit furnished for additional start-up items to be performed:

1. Check that the unit is completely and properly installed with ductwork connected.
2. Check that all construction debris is removed and filters are clean.
3. Check that all electrical work is complete and properly terminated.
4. Check that all electrical connections are tight and that the proper voltage is connected. Phase imbalance must not exceed 2%. (call electrical contractor for correction)
5. Check that the condensate drain is trapped and meets Engineer’s depth requirements.
6. Rotate the shaft by hand to be sure it is free.

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7. Start and run fan. Observe the rotation. If the fan operates backward, have the electrical contractor reverse two legs of the three-phase supply power.

3.11 TESTING AND BALANCING

After specified start-up procedures and preliminary tests are complete the Contractor shall test, adjust, and balance the heat pump unit and air distribution equipment in accordance with Section 23 09 50, "Testing, Adjusting, and Balancing HVAC Systems".

3.12 FACTORY TRAINING

The manufacturer shall provide pre-installation training for the contractor’s installation personnel. Training shall cover all aspects of equipment, piping, and wiring installation and preparation for system commissioning.

Equipment manufacturer shall provide on-site start-up training and assistance for the contractor’s service technicians. Contractors that have attended installation and commissioning training courses at the manufacturers training facilities are exempt from this requirement.

Provide factory training for selected owner personnel in accordance with Section 23 00 50.

3.13 FACTORY PARTS AND SERVICE

Manufacturer must maintain replacement parts inventory and factory trained service availability within 2 hours of this installation.

END OF SECTION 230542

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SECTION 230850 - DUCTWORK AND DUCTWORK ACCESSORIES

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

Section 23 00 50, "Mechanical General Requirements," applies to this section with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section.

1.2 SUBMITTALS

Submit the following.

1.2.1 Manufacturer's Catalog Data

1. Dampers
2. Flexible ducts and connectors
3. Wall Louvers
4. Diffusers, registers and grilles

1.3 QUALITY ASSURANCE

SMACNA Duct Construction Manuals: The SMACNA recommendations shall be considered as mandatory requirements. Substitute the word "shall" for the word "should" in these manuals.

1.4 PRESSURE-VELOCITY CLASSIFICATION

SMACNA HVACDCS, Section 1, and as indicated.

PART 2 - PRODUCTS

2.1 BASIC MATERIALS

2.1.1 Galvanized Steel Sheets

ASTM A527/527M; coating designation G90.

2.1.2 Galvanized Steel Hot Dipped After Fabrication

ASTM A123.

2.1.3 Corrosion Resisting (Stainless) Steel Sheets

ASTM A167.

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2.1.4 Duct-Liner Adhesives

SMACNA HVACDCS, fire-resistant adhesive.

2.2 DUCTS OF PRESSURE CLASSES 3-INCH OR LESS WATER GAUGE

Construction, metal gauge, hangars and supports, and reinforcements shall conform with SMACNA HVACDCS. Ductwork shall be airtight and shall not vibrate or pulsate when system is in operation. Air leakage shall be less than 5 percent of the system capacity. Construct ductwork of galvanized steel. Seal all joints including longitudinal joints.

2.2.1 Curved Elbows

Make a centerline radius not less than 1 ½ times the width or diameter of the duct.

2.2.2 Turning Vanes

All rectangular ductwork elbows shall be provided with double wall turning vanes.

2.2.3 Joints

Make airtight. No dust marks from air leaks shall show at duct joints or connections to grilles, registers, and diffusers. All duct joints and sealing of duct joints shall comply with applicable sections of the current Florida Mechanical Code.

2.2.4 Laps

Make laps at joints in the direction of airflow. Space button-punch or bolt-connection in standing seams at fixed centers not greater than 6 inches. Longitudinal locks or seams, known as "button-punch snap-lock," may be used in lieu of Pittsburg Lock, but will not be permitted on aluminum ducts.

2.2.5 Fittings

Elbows, vaned elbows, take-offs, branch connections, transitions, splitters, volume dampers, fire dampers, flexible connections, and access doors shall conform with SMACNA HVACDCS, Section 2.

2.2.6 Acoustical Attenuation Systems

2.2.6.1 Acoustical Duct Lining

Rigid mineral fiber lining conforming to ASTM C1071. Lining shall not be less than one inch thick and 2 lb/cu.ft. density. Increase duct sizes indicated to compensate for the thickness of lining.

2.3 FLEXIBLE DUCTS AND CONNECTORS

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UL 181, Class I, UL listed, SMACNA HVACDCS, and additional requirements herein specified. Use to connect between rigid ducts and outlets or terminals. Core material shall be an acoustical transparent PE fabric supported by helically wound galvanized steel. The fabric shall be mechanically fastened to the steel helix without the use of adhesive. The core shall maintain its free area and a center line radius of 1.0 or better. Flex duct shall be suitable for operating temperatures of at least 250 degrees F, rated for a velocity of at least 5,500 feet per minute, maximum internal working pressure of at least 10 inches W.G. positive pressure and 5 inches W.G. negative pressure.

2.3.1 Insulation and Vapor Barrier

ASTM C553; minimum one-inch nominal thickness. Sheathe the insulation with a fire retardant reinforced aluminum material vapor barrier having a maximum water vapor permeance of 0.05 perm in accordance with ASTM E96, Procedure A. Coat ends of insulation with cement to prevent erosion and delamination.

2.4 DIFFUSERS, REGISTERS, AND GRILLES

2.4.1 Material and Finishes

Construct diffusers, registers, and grilles of steel. Exterior and exposed edges shall be rolled, or otherwise stiffened and rounded. Steel parts shall be factory zinc phosphate treated prior to priming and painting or have a baked-on enamel finish. Colors shall be selected or approved by Architect. Location of all diffusers, registers and grilles shall be as indicated on reflected ceiling plans. Manufacturers shall be Titus, Nailor, or Price.

2.4.2 Room NC Criteria

All supply / exhaust / return / relief air diffusers, registers and grilles shall not exceed the following room noise criteria (NC) as published in manufacturer’s catalog test data:

Conference Rooms	20
All Other Spaces	25

2.4.3 Return Registers– 35 degree Louvers (RAR)

Louvered face steel return registers shall have 3/4” blade spacing of the sizes and mounting types shown on the plans. The fixed deflection blades shall be parallel to the long dimension of the grille. Construction shall be of steel with a 1-1/4” wide border on all sides. Screw holes shall be countersunk for a near appearance. Corners shall be welded with full penetration resistance welds. For return air grilles shown in lay-in ceilings the manufacturer shall provide a 24”x24” extended panel for lay-in installation.

Deflection blades shall be contoured to a specifically designed and tested cross-section to meet published test performance data. Blades shall be firmly held in place by mullions from behind the grille and fixed to the grille by welding in place. Blade deflection angle shall be 35 degrees.

Provide registers with opposed blade volume damper constructed of heavy gauge steel. Damper

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shall be operable from the face of the grille.

The grille finish shall be # 26 white. The finish shall be an anodic acrylic paint, baked 315 degrees F for 30 minutes. The pencil hardness must be HB to H. The paint must pass a 100 hour ASTM D117 Corrosive Environments Salt Spray Test without creepage, blistering, o deterioration of film. The paint must pass a 250 hour ASTM-870 Water Immersion Test. The paint must also pass the ASTM D-2794 Reverse Impact Cracking Test with a 50 inch pound force applied.

The manufacturer shall provide published performance data for the grille. The grille shall be tested in accordance with ANSI/ASHRAE Standard 70-1991. Steel return grilles shall be Titus model 350RL or approved equal.

2.4.4 Return Grilles– 35 degree Louvers (RAG) or (TG) or (EG)

Construct and finish as specified above for return air registers, except that volume dampers shall be omitted.

2.4.5 Curved Blade Ceiling Register (CR)

Curved blade ceiling registers shall be of the sizes and mounting types shown on the plans. Registers shall have curved deflectors which are individually adjustable from the face of the register to regulate air volume and angle of discharge. Registers shall be built in 1, 2, 3, or 4-way discharge patterns. The registers shall be constructed of 0.051 aluminum with miscellaneous steel components.

The register finish shall be # 26 white. The finish shall be an anodic acrylic paint, baked 315 degrees F for 30 minutes. The pencil hardness must be HB to H. The paint must pass a 100 hour ASTM D117 Corrosive Environments Salt Spray Test without creepage, blistering, o deterioration of film. The paint must pass a 250 hour ASTM-870 Water Immersion Test. The paint must also pass the ASTM D-2794 Reverse Impact Cracking Test with a 50 inch pound force applied.

Opposed blade volume damper shall be constructed of heavy gauge steel and shall be operable from the face of the register.

The manufacturer shall provide published performance data for the diffuser. The diffuser shall be tested in accordance with ANSI/ASHRAE Standard 70-1991. Curved blade ceiling diffusers shall be Titus model 250-AA or approved equal. Provide registers with extended panel designed to install in 2x2 lay-in ceiling.

2.5 DUCT SLEEVES AND PREPARED OPENINGS

2.5.1 Duct Sleeves and Closure Collars

Fabricate from minimum 20-gauge galvanized steel.

2.5.2 Prepared Openings

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Provide one-inch clearance between the duct and the sleeve.

2.6 DEFLECTORS

For round ducts taking off from rectangular ducts, provide factory fabricated, galvanized sheet metal, side take-off fittings. These fittings shall have butterfly dampers and locking quadrant operators and shall have air scoop entry fitting.

2.7 ACCESS DOORS

Weld doorframe in place. Door shall be rigid and airtight with neoprene gaskets and two or more steel hinges and tension fasteners. Provide doors as large as practical. Mount doors, if possible, so that air pressure holds them closed.

2.8 DAMPERS AND LOUVERS

The HVAC Contractor shall furnish all louvers on this project including those louvers not connected to ductwork. Construct dampers and louvers with two gauges heavier than ducts in which installed. Except as modified herein, the construction shall be of aluminum or galvanized steel with interlocking edges and maximum 10-inch blade width. Conform with SMACNA HVACDCS. Dampers shall be opposed-blade type. All louvers, whether or not connected to ductwork, shall be the responsibility of the Mechanical Contractor and shall be provided in accordance with this section.

2.8.1 Back draft Dampers (Gravity Dampers or Shutters)

Factory-fabricated, with statically and dynamically balanced blades that open automatically when the fan starts and close by gravity when the fan stops. Provide the edges of blades with felt or rubber strips to prevent rattling.

2.8.2 Splitter and Manual Volume Dampers

Balancing, factory-fabricated type. Equip dampers with accessible mechanism such as quadrant operators or 3/16-inch rods brought through the side of ducts with locking setscrew and bushing. Where quadrant operators are used they shall be chrome plated or enamel painted with all exposed edges rounded. See drawings for requirements for manual volume dampers.

PART 3 - EXECUTION

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3.1 INSTALLATION

Installation shall conform to NFPA 90A, SMACNA HVACDCS and Florida Building Code, Mechanical. Provide mounting and supporting of ductwork and accessories including, but not limited to, structural supports, hangers, vibration isolators, stands, clamps and brackets, access doors, and dampers. Use electrical isolation between dissimilar metals. Electrical isolation may be fluorinated elastomers or sponge-rubber gaskets. Install ductwork accessories as indicated in accordance with the manufacturer's printed instruction. Allow clearance for inspection, repair, replacement, and service.

3.1.1 Ductwork

When air distribution systems are operated, there shall be no chatter, vibration, or dust marks. After ducts are thermally or acoustically insulated, ensure airflow area equal to duct cross section dimensions indicated.

3.1.1.1 Field Changes to Ductwork

Those required to suit the sizes of factory-fabricated equipment actually furnished, shall be designed to minimize expansion and contraction. Use gradual transitions in field changes as well as modifications to connecting ducts. Provide jumper ducts for discharging air into duct junctions as indicated.

3.1.1.2 Dampers

When installed on ducts to be thermally insulated, equip each damper operator with stand-off mounting brackets, bases, or adapters to provide clearance between the duct and operator not less than the thickness of insulation. Standoff mounting items shall be integral with the operator or standard accessory of damper manufacturer.

3.1.1.3 Deflectors

Provide in square elbows, duct-mounted supply outlets, take-off or extension collars to supply outlets, and tap-in branch-off connections. Adjust supply outlets to provide air volume and distribution as indicated or specified.

3.1.1.4 Access Doors

Provide for automatic dampers, volume dampers, fire dampers, coils, thermostats, temperature controllers, valves, and other concealed apparatus requiring service and inspection in the duct systems. Access doors shall be provided on both the entering and leaving sides of duct mounted hot water or electric heating coils for inspection and cleaning.

3.1.1.5 Duct Sleeves and Prepared Openings

Provide for ductwork penetrations through which metallic ductwork passes.

1. Duct Sleeves: Allow one-inch clearance between duct and sleeve or one-inch clearance between insulation and sleeve for insulated ducts, except at grilles, registers, and diffusers.

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2. Prepared Openings: Allow one-inch clearance between duct and opening or one-inch clearance between insulation and opening for insulated ducts, except at grilles, registers, and diffusers.

3. Closure Collars: Provide minimum 4 inches wide on each side of the ductwork penetrations where sleeves or prepared openings are installed. Fit collars snugly around ducts and insulation. Grind smooth edges of collar to preclude tearing or puncturing insulation covering or vapor barrier. Use nails with maximum 6-inch centers on collars.

4. Fire Partitions: Seal duct penetrations of fire rated partitions (not requiring fire dampers) tight with U.L. classified form type sealant having a flame spread rating of 20 in accordance with ASTM E-84-80. See drawing for fire/smoke wall penetration notes.

3.1.1.6 Packing

Pack with mineral fiber in spaces between sleeve or opening and duct or duct insulation.

3.1.2 Duct Hangers and Supports

SMACNA HVACDCS, Section 4. Unless otherwise indicated, provide not less than two one- by 1/16-inch galvanized strap-iron hangers spaced one on each side of duct. Anchor risers in the center of the vertical run to allow ends of riser free vertical movements. Attach supports only to structural framing members and concrete slabs. Do not anchor supports to metal decking unless a means is provided and approved for preventing the anchors from puncturing the metal decking. Where supports are required between structural framing member, provide suitable intermediate metal framing. Where C clamps are used, use retainer clips.

3.1.2.1 Flexible Ducts

Support ducts by hangers every 3 feet, unless supported by ceiling construction. Use stretch flexible air ducts to smooth out corrugations, and long radius elbows, where possible, using a minimum length to make connections. Flexible duct installation shall comply with general duct installation notes on the project drawings.

3.1.2.2 Flexible Connectors

Provide flexible connectors between fans and ducts or casings and where ducts are of dissimilar metals. For round ducts, securely fasten flexible connectors by zinc-coated steel clinch-type draw-bands. For rectangular ducts, lock flexible connectors to metal collars.

3.1.3 Inspection Plates and Test Holes

Provide, where required, in ductwork or casings for all balance measurements. Test holes shall be factory fabricated, airtight, and non-corrosive with screw cap and gasket. Extend cap through insulation.

3.1.4 Acoustical Duct Lining

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SMACNA HVACDCS, Section 2. Apply the lining in cut-to-size pieces attached to interior of ducts with fire-resistant adhesive. Top and bottom pieces shall lap the sidepieces. Secure pieces together with welded pins or clips. Do not distort the ducts, burn through or mar the finish surface of ducts. Pins and washers shall be flush with the surface of duct liners. Seal breaks and punctures of duct-liner coating with fire-resistant adhesive. Coat exposed edges of the liner at duct ends and other joints where lining will be subject to erosion with a heavy brush coat of fire-resistant adhesive, to prevent de-lamination of glass fibers. Duct liners may also be applied to flat sheet metal with fire-resistant adhesive, at top and bottom surface of ducts; then secure duct liners by welded pins or adhered clips.

3.1.5 Flashings

Provide waterproof flashings where ducts pass through exterior walls and roofs.

3.1.6 Cleaning of Ducts

Remove all debris and dirt from ducts and wipe clean. Before installing air outlets, use air handler to blow dry air through entire system at maximum attainable velocity. Provide temporary air filters for this operation.

3.2 FIELD QUALITY CONTROL

The Contractor is responsible for the administration and direction of tests. Furnish instruments, equipment, connecting devices, and personnel for the tests. Notify Architect 5 days before inspection or testing is scheduled. Correct all defects in work. Repeat tests until the work is in compliance.

3.2.1 Air Duct Leakage Tests

Comply with SMACNA HVACALTM. Test ducts, plenums, and casings for air leakage. Prior to application of insulation, subject new ductwork to static pressure equivalent to that indicated. Before installing outlets, apply temporary caps where outlets will be connected. Connect a test blower temporarily to inlet end of duct and, by throttling its intake, adjust static pressure in duct to required value. Read voltage and current to blower motor and total static pressure across blower wheel. Apply data to AMCA certified performance table for the test blower to derive volumetric flow rate (cfm) of air injected into duct. Remove temporary caps and test blower. Verify the maximum allowable air leakage of the total air that duct is required to deliver. Perform the measurement of leakage using a calibrated orifice tube with its individual calibration curve. Leakage tests should be verified by the Engineer.

3.2.2 Balancing and Testing of Air Systems

Air and water systems shall be tested and adjusted by a certified Test and Balance Contractor. The Mechanical Contractor shall coordinate and provide assistance to test and balance contractor as required.

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END OF SECTION 230850

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SECTION 230950 - TESTING ADJUSTING AND BALANCING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

The work includes testing, adjusting, and balancing (TAB) of heating, ventilating, and cooling (HVAC) air and water distribution systems including equipment, ducts, and piping which are located within, on, under, between, and adjacent to buildings. The test and balance contractor shall be a subcontractor to the mechanical contractor. Testing and balancing shall NOT be required for individual room units (split systems and vertical PTAC units).

1.1.1 Air Distribution Systems - Scope of systems to be TAB’d per contract drawings.

Systems shall be tested, adjusted, and balanced (TAB'd) in compliance with this section.

1.2 DEFINITIONS

A. Field check group: One or more systems of the same basic type; the subgroup of a "field check group" is a "system."

B. Out-of-tolerance data: Pertains only to field checking of certified DALT or TAB report. The term is defined as a measurement taken during field checking which does not fall within the range of plus 10 to minus 10 percent of the original measurement reported on the certified DALT or TAB report for a specific parameter.

1.3 SUBMITTALS

Submit following:

1.3.1 Statements

A. Independent TAB agency personnel qualifications.

B. Design review report.

C. Advanced notice for TAB fieldwork.

D. Final certified TAB report.

1.3.1.1 Independent TAB Agency Personnel Qualifications

Submit following for approval.

A. Independent AABC or NEBB certified TAB agency:

(1) TAB agency: AABC registration number and expiration date of current

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certification; or NEBB certification number and expiration date of current certification.

(2) TAB team supervisor: Name and copy of AABC or NEBB TAB supervisor certificate and expiration date of current certification.

(3) Current certificates: Registrations and certifications shall be current, and valid for the duration of this contract. Certifications, which expire prior to completion of the TAB work, shall be renewed in a timely manner so that there is no lapse in registration or certification. TAB agency or TAB team personnel without a current registration or current certification shall not perform TAB work on this contract.

1.3.1.2 Design Review Report

Submit typed report describing omissions and deficiencies in the HVAC system's design that would preclude the TAB team from accomplishing the duct leakage testing work and the TAB work requirements of this section. Provide a complete explanation including supporting documentation detailing the design deficiency. State that no deficiencies are evident if that is the case.

1.3.1.3 Advanced Notices

A. Submit "Advanced Notice of Commencement of TAB Field Work" in writing.

1.3.2 Field Test Reports

Submit certified reports in the specified format including the following data.

A. Certified TAB report

1.3.2.1 Certified TAB Report

A. Temperatures: On each TAB report form reporting TAB work accomplished on HVAC thermal energy transfer equipment, include the indoor and outdoor dry bulb temperature range and indoor and outdoor wet bulb temperature range within which the TAB data was recorded.

B. Instruments: List the types of instruments actually used to measure the tab data. Include in the listing each instrument's unique identification number, calibration date, and calibration expiration date.

C. Certification: Include the typed name of the TAB supervisor and the dated signature of the TAB supervisor.

1.4 QUALITY ASSURANCE

1.4.1 Modifications of References

Accomplish work in accordance with referenced publications of AABC or NEBB except as modified by this section. In the references referred to herein, consider the advisory or

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recommended provisions to be mandatory, as though the word "shall" had been substituted for the words "should" or "could" or "may" wherever they appear.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 TAB PROCEDURES

3.1.1 TAB Field Work

Test, adjust, and balance the listed HVAC systems to the state of operation indicated on and specified in the contract design documents. Provide instruments and consumables required to accomplish the TAB work. Conduct TAB work, including sound measurement work, on the listed HVAC systems in conformance with the AABC NSTSB, or NEBB PSTABES, and NEBB PSMSV, except as modified by this section:

A. Maintenance and calibration of instruments.

B. Accuracy of measurements.

C. Air distribution systems TAB work:

(1) Air handling unit systems – As required on contract drawings.

D. TAB work within seasonal limitations:

(1) Performance tests: Accomplish proportionate balancing TAB work on the air distribution systems and water distribution systems, in other words, accomplish adjusting and balancing of the air flows and water flows, any time during the duration of this contract, subject to the limitations specified elsewhere in this section. However, accomplish, within the following seasonal limitations, TAB work on HVAC systems, which directly transfer thermal energy.

(2) Season of maximum load: Visit the contract site for at least two TAB work sessions for TAB field measurements. Visit the contract site during the season of maximum heating load and visit the contract site during the season of maximum cooling load, the goal being to TAB the operational performance of the heating systems and cooling systems under their respective maximum outdoor environment-caused loading. During the seasonal limitations, TAB the operational performance of the heating systems and cooling systems.

(1) Ambient temperatures: On each tab report form used for recording data, record the outdoor and indoor ambient dry bulb temperature range and the outdoor and indoor ambient wet bulb temperature range within which the report form's data

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was recorded. That is, record these temperatures at beginning and at the end of data taking.

E. Workmanship: Conduct TAB work on specified HVAC systems until measured parameters are within plus or minus 10 percent of the design values, that is, the values specified or indicated on the contract documents.

F. Deficiencies: Strive to meet the intent of this section to maximize the performance of the equipment as designed and installed. However, if deficiencies in equipment design or installation prevent TAB work from being accomplished within the range of design values provide written notice as soon as possible to the Owner and Engineer describing the deficiency and recommended correction. Responsibility for correction of installation deficiencies is the Mechanical Contractor's. If a deficiency is in equipment design, call the TAB team supervisor for technical assistance. Responsibility for reporting design deficiencies to the Mechanical Contractor is the TAB team supervisor's.

3.2.2 Data From TAB Field Work

After completion of the TAB fieldwork, prepare the TAB field data for TAB supervisor's review and certification. The TAB work and thereby the TAB report shall be considered incomplete until the TAB work is accomplished to within the accuracy range specified in the paragraph titled, "Workmanship".

3.3 MARKING OF SETTINGS

Permanently mark the settings of HVAC adjustment devices including valves, splitters, and dampers so that adjustment can be restored if disturbed at any time. The permanent markings shall indicate the settings on the adjustment devices, which result in the data, reported on the submitted certified TAB report.

3.4 MARKING OF TEST PORTS

The TAB team shall permanently and legibly mark and identify the location points of the duct test ports. If the ducts have exterior insulation, these markings shall be made on the exterior side of the duct insulation.

END OF SECTION 230950

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SECTION 26 00 00 – ELECTRICAL

1. RELATED DOCUMENTS: The Electrical General Requirements are supplementing and applicable to Division 26 Sections and shall apply to all phases of work specified herein, shown on the Drawings, or required to provide a complete installation of electrical systems. Section 26 is sub-divided for convenience only. Associated work specified in other Sections:

    26 01 00 - Electrical Methods and Basic Materials
    26 02 00 - Raceway Systems
    26 03 00 - Wire, Cable and Devices
    26 04 00 - Service and Distribution
    26 05 00 - Lighting
    26 06 80 - Transient Voltage Surge Suppression System

2. JOB CONDITIONS:

    A. SITE INSPECTIONS: Before submitting proposals, each bidder should visit the site and fully familiarize himself with all job conditions and shall be fully informed as to the extent of his work. No consideration will be given after bid opening date for alleged misunderstanding as to the requirements of work involved in connecting to the utilities or as to requirements of materials to be furnished.

    B. EXISTING CONDITIONS: All utilities, existing system and conditions shown on the plans as existing are approximate, and the Contractor shall verify before any work is started.

    C. SCHEDULED INTERRUPTIONS: Planned interruptions of utilities service, to any facility affected by this contract, shall be carefully planned and approved by Engineer at least ten (10) days in advance of the requested interruption. The Contractor shall not interrupt services until the Engineer has granted specific approval. The request shall indicate services to be affected, date and time of interruption and duration of outage. Request for interruption of service will not be approved until all equipment and materials required for the completion of that particular phase of work are on the job site. The work may have to be scheduled after normal working hours.

    D. ACCIDENTAL INTERRUPTIONS: All excavation and/or remodeling work required shall be performed with care so as not to interrupt other existing services (water, gas, electrical, sewer, sprinklers, etc.). If accidental utility interruption resulting from work performed by the Contractor occurs, service shall be immediately restored to its original condition without delay, by and at the expense of the Contractor, using skilled workmen of the trade required.

    E. MAINTAINING SERVICE:

        (1) Any existing service (or operating system) which must be interrupted for any length of time shall be supplied with a temporary service if necessary for continuation of the normal operation of this facility.

        (2) Any existing system or part of an existing system currently in operation shall remain so after all additions or renovations are made and all work is complete.

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3. REGULATORY REQUIREMENTS:

A. CODES, PERMITS AND INSPECTIONS: The installation shall comply with all state and federal laws and ordinances applicable to electrical installation and with the regulations of the latest published edition of the National Electric Code where such regulations do not conflict with those laws and ordinances. The Contractor shall obtain permits, and after completion of the work, shall furnish the Engineer a certificate of final inspection and approval from the applicable local inspection department. Make necessary changes to plans and specifications to meet code standards at no additional cost to the Owner. Any charges by a utility for providing service as shown shall be included in the bid and paid by the Contractor including any additions or revisions in service locations or details.

B. DRAWINGS AND SPECIFICATIONS: The drawings and these specifications are complementary each to the other. What is called for by one shall be as binding as if called for by both. Omissions from the drawings and specifications of details of work which are evidently necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such work. In any case of discrepancy in the figures or catalog numbers, the matter shall be submitted to the Architect, who shall promptly make a determination in writing. Any adjustment by the Contractor shall be at the Contractor's own risk and expense. Electrical drawings are diagrammatic only. Do not scale these drawings. All equipment shall be installed in accordance with manufacturer's recommendations and any conflicting data shall be verified before bidding.

C. LETTERS CERTIFYING COMPLIANCE AND REVIEW: The Contractor's bid shall be accompanied by a letter stating that these Documents will be revised, as required by any legal authority having jurisdiction and by any serving utility, with no additional cost to the Owner. As soon as practical after bidding, and before any work is commenced, the Contractor shall meet with all legal authorities having jurisdiction, review all materials and details of this project and agree on any required revisions. A letter shall be written to the Architect listing the names, dates, places of such review, the revisions required (at no additional cost). A copy of the letter shall also be sent to the reviewing authority. The Contractor shall also meet with each serving utility and repeat the above procedure. A letter certifying each meeting shall be written also with the information as described above. The Contractor shall after completion of the work, furnish the Architect a certificate of final inspection and approval from the applicable local inspection department. Make necessary changes to plans and specifications to meet code standards at no additional cost to the Owner.

4. SYSTEMS COORDINATION AND COOPERATION:

A. INTERFACING WITH OTHER CRAFTS: It shall be the responsibility of the Contractor to cooperate and coordinate with all other crafts working on this project. This Contractor shall do all cutting, trenching, backfill and structural removals to permit entry of the electrical system components. The General Contractor shall do all patching and finishing. The Architect's representative shall render a decision in writing as to space allotment in congested areas. No claims for "extras" due to such decisions shall be allowed, even though the work has already been installed. When the Contractor submits for approval any item or equipment, he shall determine for himself whether or not it will fit the space provided. If, after installation of any equipment, wiring or other items, it is determined that ample

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maintenance or passage space has not been provided, then the Contractor shall rearrange this work and/or furnish other equipment even though the equipment installed has been approved. A 1/2" = 1'0" scaled drawing of all electrical rooms and rooms containing electrical panels shall be submitted 10 calendar days prior to bid for approval by the Engineer of Record and submitted again with the electrical shop drawings showing the proposed location of all equipment in each room. The Contractor shall verify that all electrical panels have clearances required by code and thickness of walls are adequate for all flush mounted panels. SPACE ALLOCATION IN THESE ROOMS IS CRITICAL. ALSO SUBMIT ELEVATIONS OF EACH MAJOR WALL.

B. EQUIPMENT FURNISHED UNDER OTHER SECTIONS: This Contractor shall furnish and install, complete electrical roughing-in and connections to all equipment furnished under other sections and as indicated on drawings. THIS INCLUDES ALL OUTLETS, PULL BOXES, HANDHOLES, CONDUIT, LADDER RACEWAY, SURFACE RACEWAYS, AND PULLSTRING AS SHOWN ON MECHANICAL, ELECTRICAL, FIRE ALARM, INTERCOM, AND TELECOMMUNICATIONS/STRUCTURED CABLING DRAWINGS. All such equipment shall be set in place as work of other sections.

C. HEATING AND AIR CONDITIONING:

(1) The Contractor shall furnish all branch circuit wiring to motors and control panels or centers including disconnects, receptacles, switches, and appurtenances to which the system at the units may be connected, to provide a complete system of wiring for power. Control equipment and control circuit wiring is specified in the Mechanical Section.

(2) Control devices to be included in the branch circuit, except those furnished integral with the equipment, will be delivered by the Heating and Air Conditioning Contractor and installed by the Electrical Contractor.

5. WORKMANSHIP: All work shall be executed in a neat and substantial manner by skilled workman, well qualified, and regularly engaged in the type of work required. Substandard work shall be removed and replaced by the Contractor at no cost to the Owner.

6. APPROVAL OF MATERIALS AND EQUIPMENT:

A. PRIOR-SUBMITTALS: The Contractor shall base his proposal on the materials specified herein and on the drawings. Reference to a particular product by manufacturer, trade name, or catalog number establishes the quality standards of material and equipment required for this installation and is not intended to exclude products equal in quality and similar design. The Engineer of Record reserves the sole right to decide the equality of materials proposed for use in lieu of these specified. It shall be the Contractor's responsibility to furnish the information and data sufficient to establish the quality and utility of the items in question, including furnishing of samples if required. If other equipment manufacturers determine that their equipment will fit in the space and meet the recommended clearances, suit all job conditions, equal or exceed the quality of the specified items, then a request may be made in writing to the Architect at least ten (10) days prior to bid date for permission to be included in the approved equipment list. All data required for evaluation shall accompany the above letter.

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B. SUBMITTALS:

(1) Shop Drawings: The Contractor shall submit a list of items proposed for use. He shall also submit catalog data and shop drawings on proposed systems and their components, panelboards, safety switches, starters and contactors, transformers, lighting fixtures, and wiring devices. Where substitutions alter the design or space requirements, the Contractor shall defray all items of cost for the revised design and construction including costs to all allied trades involved. Data shall be submitted within thirty (30) days after the contract is awarded. Provide six (6) copies of shop drawings as a minimum unless the General Conditions requires a greater number of copies. Each submittal data section shall be covered with an index sheet listing Contractor, supplier, etc., and an index to the enclosed submittals.

(2) As-Built Drawings: Upon completion of the project, the Contractor shall furnish a complete set of the drawings which formed a part of the contract and include all revisions, sketches, etc., which may have been required during the construction.

(3) Operating and Maintenance Manuals: At completion of the work, furnish three (3) copies of written operation instructions which shall include manufacturer's descriptive bulletins, operating and maintenance manuals and parts lists of all equipment installed. Also include in such instructions, the specified size and capacity ratings of all equipment installed. Each set of instructions shall be assembled into a suitable loose-leaf type binder and presented to the Architect for delivery to the Owner.

(4) Each major section of submittals such as power, equipment, lighting equipment, fire alarm, etc., shall be secured in a booklet or stapled with a covering index which lists the following information:

a. General contractor w/phone number and project manager.

b. Sub-contractor w/phone number and project manager.

c. Supplier of equipment w/phone number and person responsible for this project.

d. Index of each item covered in submittal and model number.

e. Any deviation from contract documents shall be specifically noted on submittal cover index and boldly on specific submittal sheet.

(5) ELECTRICAL AND MECHANICAL/PLUMBING EQUIPMENT COORDINATION:

The electrical power equipment submittals shall be accompanied by a letter verifying coordination of electrical services for all mechanical and plumbing equipment requiring power. The letter shall follow the format listed below.

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To: _____
(General Contractor)

Re: _____
(Project name and location)

We the undersigned subcontractors certify that we have coordinated the electrical requirements for mechanical and plumbing equipment as evidenced by the coordination chart listed herein.

Item	Load full load amps	1 phase or 3 phase	number of electrical connections	max overcurr protection	min overcurr protection	breaker proposed	circuit proposed

The above list details all required electrical connections for mechanical equipment.

Signed: _____

For: _____
Mechanical Subcontractor

The above list details all required electrical connections for plumbing equipment.

Signed: _____

For: _____
Plumbing Subcontractor

The above list of equipment has been reviewed and the required connections are being provided. (Any exceptions or request for direction shall be listed here)

Signed: _____

For: _____
Electrical Subcontractor

7. PRODUCT DELIVERY, STORAGE AND HANDLING

A. PROTECTION: Take necessary precautions to protect all material, equipment, apparatus and work from damage. Failure to do so to the satisfaction of the Architect will be sufficient cause for the rejection of the material, equipment or work in question. Contractor is responsible for the safety and good condition of the materials installed until final acceptance by the owner.

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B. CLEANING: Conduit openings shall be capped or plugged during installation. Fixtures and equipment shall be tightly covered and protected against dirt, moisture, chemical and mechanical injury. At the completion of the work the fixtures, material and equipment shall be thoroughly cleaned and delivered in condition satisfactory to the Architect.

8. TESTING AND BALANCING: Make tests that may be required by the Owner or the Architect in connection with the operation of the electrical system in the buildings. Balance all single-phase loads connected to all panelboards in the buildings to insure approximate equal divisions of these loads on the main secondary power supply serving the buildings. All tests shall be made in accordance with the latest standards of the IEEE and the NEC. The installation shall be tested for performance, grounds and insulation resistance. A "megger" type instrument shall be used. Contractor shall perform circuit continuity and operational tests on all equipment furnished or connected by Contractor.

A letter shall be written giving the following:

A. Measured amps on each phase of each panel.

B. Resistance to ground of each grounding electrode.

C. Measured voltage phase to phase and phase to neutral at each panel.

D. Ground continuity and polarity instrument used.

9. OPERATING AND MAINTENANCE INSTRUCTIONS/AS BUILT DRAWINGS:

A. Four (4) complete sets of instructions containing the manufacturer’s operating and maintenance instructions for each piece of equipment shall be furnished to the Owner. Each set shall be permanently bound and shall have a hard cover. One complete set shall be furnished at the time that the test procedure is submitted, and remaining sets shall be furnished before the Contract is completed. Flysheets shall be placed before instructions covering each subject. The instruction sheets shall be approximately 8-1/2” by 11” with large sheets of Drawings folded in. The instructions shall include information for major pieces of equipment and systems.

B. Upon completion of the work and at the time designated, the services of one project engineer shall be provided by the Contractor to instruct the representative of the Owner in the operation and maintenance of the systems.

C. This Contractor shall provide as-built Drawings at the completion of the job. Drawings shall show all significant changes in equipment, wiring, routing, location, etc. All underground conduit routing shall be accurately indicated with locations dimensioned.

10. GUARANTEE AND SERVICE: Upon completion of all tests and acceptance, the Contractor shall furnish the Owner a written guarantee covering the electrical work done for a period of one (1) year from date of acceptance. Guarantee includes equipment capacity and performance ratings specified without excessive noise levels. Upon notice from the Architect or the Owner, the Contractor shall, during the guarantee period, rectify and replace any defective material or workmanship and repair any damage caused thereby without additional cost.

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SECTION 26 01 00 – ELECTRICAL METHODS AND BASIC MATERIALS

I. GENERAL

1. SECTION INCLUDES:

A. SUPPORTS

B. EXCAVATION, TRENCHING, AND BACKFILLING

C. CUTTING AND PATCHING

D. EQUIPMENT CONNECTION

E. IDENTIFICATION OF EQUIPMENT

F. CLEANING AND PAINTING

II. PRODUCTS

1. SUPPORTS:

A. FRAMING STEEL: Galvanized or painted rolled steel of standard shapes and sizes.

B. MANUFACTURED CHANNEL: Hot dipped galvanized with all hardware required for mounting as manufactured by Unistrut, Steel City, or approved equal.

C. MISCELLANEOUS HARDWARE: Standard sizes treated for corrosion resistance.

2. IDENTIFICATION:

A. NAMEPLATES: Laminated black micarta with ¼” high engraved white letters.

B. PANEL DIRECTORIES: Typewritten under plastic cover in metal circuit directory holder permanently welded to door by manufacturer. Stick-on or adhesive metal holders shall not be allowed.

C. WIRE AND CABLE MARKERS: Cloth, split sleeve, or tubing type.

III. EXECUTION

1. INSTALLATION

A. Products shall be installed in accordance with manufacturer’s instructions.

B. Install support systems sized and fastened to accommodate weight of equipment and conduit, including wiring, which they carry.

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(1) Fasten hanger rods, conduit clamps, and outlet junction boxes to building structure using pre-cast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.

(2) Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion and anchors on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.

(3) Do not fasten supports to piping, ceiling support wires, ductwork, mechanical equipment, or conduit.

(4) Do not use powder-actuated anchors.

(5) Do not drill structural steel members without written consent from the Architect.

(6) Fabricate supports from structural steel or steel channel.

(7) Install surface mounted cabinets and panel boards with minimum of four anchors.

(8) Provide steel channel supports to stand cabinets one inch off wall in wet locations.

(9) Bridge studs top and bottom with channels to support flush mounted cabinets and panel boards in stud walls.

C. Excavating, trenching, and backfilling shall be accomplished as indicated on the Drawings or where required to install systems and/or equipment.

(1) Trenches for all underground conduits or equipment shall be excavated to the required depths. Where soft, wet, or unstable soil is encountered, the bottom of the trench shall be filled with 6 inches of compacted gravel and sand fill. All trench bottoms shall be tamped hard. Trenches shall be shored as required to meet OSHA requirements and general safe working conditions.

(2) Material for backfilling shall consist of the excavation, or borrow of sand, gravel, or other materials approved by the Architect and shall be free of trash, lumber or other debris. Backfill shall be placed in horizontal layers, not exceeding 9 inches in depth and properly moistened to approximate optimum requirements. Each layer shall be compacted by hand, or machine tamped to a density equivalent to surrounding soil. Backfill shall be brought to suitable elevation above ground to provide for anticipated settlement and shrinkage. All paving broken up shall be repaired and returned to the original condition.

(3) All underground conduits shall have an underground (metal foil) tape installed 12 inches above conduit identified as ELECTRICAL to aid in future location of conduit.

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(4) All underground conduits shall have an underground red tape installed 12" above conduit.

D. CUTTING AND PATCHING: This Contractor shall provide all cutting, digging, etc., incident to his work and shall make all required repairs thereafter to the satisfaction of the Architect, but in no case shall the Contractor cut into any major structural element, beam, or column without written approval of the Architect.

(1) Pavements, sidewalks, roads, curbs, walls, ceilings, floors, and roofs shall be sawcut, patched, repaired and/or replaced as required to permit the installation of the electrical work. Existing concrete floors and other slabs, which require vertical piercing for installation of conduit raceways shall be neatly core drilled. The Contractor shall carefully lay out his drilling in advance and arrange it to minimize exposed work.

(2) The Contractor shall bear the expense of all cutting, patching, painting, repairing, or replacing of the work of other trades required because of his fault, error, or tardiness or because of any damage done by him.

(3) All patching, and finishing shall be performed by the General Contractor.

E. Make electrical connections to equipment in accordance with equipment manufacturer's instructions.

(1) Verify that wiring and outlet rough-in work is complete and that equipment is ready for electrical connection, wiring, and being energized.

(2) Make wiring connections in control panel or in wiring compartment of pre-wired equipment. Provide interconnecting wiring where indicated.

(3) Install and connect disconnect switches, controllers, control stations, and control devices as indicated.

(4) Make conduit connections to equipment using flexible conduit. Use liquid-tight flexible conduit in damp or wet locations.

(5) Install pre-fabricated cord set where connections with attachment plug is indicated or specified, or use attachment plug with suitable strain-relief clamps.

(6) Provide suitable strain-relief clamps for cord connections to outlet boxes and equipment connection boxes.

F. Identify electrical distribution and control equipment, and loads served, to meet regulatory requirements and as specified herein.

(1) Degrease and clean surface to receive nameplates.

(2) Secure nameplates to equipment fronts using screws or rivets with edges parallel to equipment lines.

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(3) Each new and existing panel shall have an external nameplate. Disconnect switches, starters or similar devices shall have a micarta engraved nameplate mechanically affixed with rivets indicating the load served and the location, such as "A/C 2" or "A/C 3 above ceiling". Letters shall be ¼" white on a black background. Panels shall be designated in this manner:

"Panel A
120/208 Volts
3 Phase 4 Wire
Served from Panel MP"

(4) Panel directories shall accurately indicate load served and location of load.

(5) Engrave plates as indicated on the Drawings.

G. Raceway junction boxes for each system shall be identified by painting the inside of the junction box cover for exposed work and both sides of the covers for concealed work according to the following code:

Receptacle Circuits	Black
120 V. Lighting Circuits	White
277 V. Lighting Circuits	Orange
208 or 240 V. Power & Misc.	Green
480 V. Power & Misc.	Brown
Fire Alarm System	Red
Intercom System	Yellow

If the established color code at this site conflicts with the above or other trades, the contractor shall so state in a letter outlining his proposed colors to maintain conformity

H. Install wire markers on each conductor in panel board gutters, boxes, and at load connections.

(1) Use distribution panel and branch circuit or feeder number to identify power and lighting circuits.

(2) Use control wire number as indicated on schematic and interconnection diagrams or equipment manufacturer's shop drawings to identify control wiring.

I. Cleaning and Painting: The respective Contractors for the various phases of work shall clear away all debris, surplus materials, etc., resulting form their work or operations, leaving the job and equipment furnished in the clean first class condition.

(1) All fixtures and equipment shall be thoroughly cleaned of plaster, stickers, rust, stains and other foreign matter or discoloration, leaving every part in an acceptable condition ready for use.

(2) The Contractor shall refinish and restore to the original condition and appearance, all electrical equipment, which has sustained damage to

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manufacturer's prime and finish coats or enamel or paint. Materials and workmanship shall be equal to the requirements described for other painting.

END OF SECTION

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SECTION 26 02 00 - RACEWAY SYSTEMS

I. GENERAL

1. SECTION INCLUDES:

A. CONDUIT AND CONDUIT FITTINGS

B. ELECTRICAL BOXES AND FITTINGS

C. WIREWAY

D. SERVICE FITTINGS

II. PRODUCTS

1. CONDUIT AND FITTINGS:

A. CONDUIT:

(1) Metal conduit: Galvanized steel.

(2) Metal tubing: Galvanized steel.

(3) Flexible Conduit: Steel.

(4) Liquid-tight Flexible Conduit: Flexible steel conduit with PVC jacket.

(5) Plastic Conduit and Tubing: NEMA TC 2; PVC. Use Schedule 40 conduit.

B. CONDUIT FITTINGS:

(1) Conduit Fittings and Conduit Bodies: NEMA FB 1. Conduit fittings shall be steel threaded type.

(2) Tubing Fittings: NEMA FB 1. Tubing fittings to be steel compression type for conduit up to 2” in diameter and set screw type for conduit 2-1/2” and larger.

(3) Flexible Conduit Fittings: NEMA FB 1. Flexible conduit fittings to be steel set screw or screw-in type.

(4) Liquid-tight Flexible Conduit Fittings: NEMA FB 1. Liquid-tight flexible conduit fittings shall be steel compression type.

(5) Plastic Fittings and Conduit Bodies: NEMA TC 3.

2. ELECTRICAL BOXES:

A. BOXES:

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(1) Sheet Metal: NEMA OS 1; galvanized steel 4" or 4-11/16" square. Provide galvanized plaster/tile ring for recessed outlet boxes.

(2) Cast Metal: Aluminum or cast ferroalloy, deep type, gasketed cover, threaded hubs.

B. FLOOR BOXES for Installation in Cast-in-Place Concrete Floors: See electrical and telcom drawings for requirements.

C. LARGE ENCLOSURES: NEMA 250; Type 4, steel enclosures with manufacturer's standard enamel finish and cover, held closed screws.

D. LARGE CAST METAL BOXES:

(1) Surface-mounted Type: NEMA 250; Type 4 and Type 6, flat-flanged, surface mounted junction box; galvanized cast iron or cast aluminum box and cover with ground flange, neoprene gasket, and stainless steel cover screws.

(2) Underground Type: NEMA 250; Type 4 flanged, recessed cover box for flush mounting; galvanized cast iron box and plain cover with neoprene gasket and stainless steel cover screw.

3. WIREWAY:

A. ENCLOSURE: General purpose or raintight type with knockouts.

B. COVER: Screw type with full gasketing.

C. FITTINGS: Lay-in type with removable cover and drip shield for outdoor installation.

D. FINISH: Rust inhibiting primer coating with enamel finish.

4. SERVICE FITTINGS:

A. FLUSH FLOOR BOX COVERS:

(1) Cover material: Brass.

(2) Duplex Convenience Receptacle: Duplex flap opening hinged with holding screw.

(3) Communications: 2-1/8" X 1" combination threaded opening.

(4) Provide brass finish protective rings and carpet flanges.

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III. EXECUTION

1. EXAMINATION AND PREPARATION:

A. Examine supporting surfaces to determine that surfaces are ready to receive work.

B. Electrical boxes shown on Drawings are approximate locations unless dimensioned. Obtain verification from Architect of floor box locations and locations of outlets prior to rough-in. Outlets may be relocated to a distance of ten feet prior to rough-in with no additional cost to the Owner.

2. INSTALLATION:

A. Use conduit and tubing for raceways in the following locations:

(1) Underground Installations: Rigid steel conduit, painted with two coats of epoxy asphaltic paint or schedule 40 PVC.

(2) Installations in Concrete: Rigid steel conduit or rigid non-metallic conduit (schedule 40).

(3) Exposed Outdoor Locations: Rigid steel conduit or IMC.

(4) Wet Interior Locations: Rigid steel conduit, IMC, or electrical metallic tubing. Use threaded or raintight fittings for conduit.

(5) Concealed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.

(6) Exposed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.

(7) MC type cable is prohibited. The Contractor may offer a “value engineering” savings to the owner as a line item in their respective bid for MC cable to be allowed subject to code restrictions for branch circuits where applicable.

B. Size raceways for conductor type installed.

(1) Minimum Size Conduit: ¾” in underground locations, ½” in all other locations.

(2) Maximum Size Conduit in Slab Above Grade: 1 – inch; do not route conduits larger than ¾” to cross each other.

C. Arrange conduit and tubing to maintain headroom and to present a neat mechanical appearance.

(1) Route exposed raceway parallel and perpendicular to walls and adjacent piping.

(2) Maintain minimum 6 inch clearance to piping and 12 inch clearance to heat surfaces such as flues, steam piping, and heating appliances.

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(3) Maintain required fire, acoustic, and vapor barrier rating when penetrating walls, floors, and ceilings.

(4) Route conduit through roof openings for piping and ductwork where possible; otherwise, route through roof jack with pitch pocket.

(5) Group in parallel runs where practical. Use rack constructed of steel channel. Maintain spacing between raceways or de-rate circuit ampacities to NFPA 70 requirements.

(6) Use conduit hangers and clamps; do not fasten with wire or perforated pipe straps.

(7) Use conduit bodies to make sharp changes in direction.

(8) Terminate all conduits with insulated bushings.

(9) Use suitable caps to protect installed raceway against entrance of moisture and dirt.

(10) Provide a pull cord in all empty raceways.

(11) Install expansion joint fittings where raceway crosses building expansion joints.

(12) Install plastic conduit and tubing in strict accordance with the manufacturer's recommendations. When plastic conduit is installed, use galvanized rigid elbows for 90 degree bends.

D. Install electrical boxes as shown on the Drawings, and as required for splices, taps, wire pulling, equipment connections and regulatory requirements.

(1) Use cast outlet box in exterior locations, wet locations, and exposed interior locations

(2) Use large enclosure for interior pull and junction boxes larger than 12 inches in any dimension.

(3) Locate and install electrical boxes to allow access. Provide access panels if required.

(4) Locate and install electrical boxes to maintain headroom and to present a neat mechanical appearance.

(5) Install pull boxes and junction boxes above accessible ceilings or in unfinished areas.

(6) Provide knockout closure for unused openings.

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(7) Align wall-mounted outlet boxes plumb and level for switches, and similar devices.

(8) Coordinate mounting heights and locations of outlets above counters and backsplashes

(9) Install lighting outlets to locate luminaries as shown on the Drawings.

E. Use recessed outlet boxes in finished areas where indicated.

(1) Secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness, and plaster/tile ring installation.

(2) Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

(3) Locate boxes in masonry walls to require cutting corner only. Coordinate masonry cutting to achieve neat openings for boxes

(4) Do not install boxes back-to-back in walls; provide 6 inch separation, minimum. In acoustic-rated walls provide 24 inch separation minimum.

(5) Do not damage insulation.

F. Install wireway in accordance with manufacturer's instructions.

(1) Bolt wireway to wall using two-piece hangers or steel channels fastened to the wall or on a self-supporting structure. Install level.

(2) Mount raintight gutter in horizontal position only.

G. Install floor boxes in accordance with manufacturer's instructions.

(1) Set boxes level and flush with finish flooring material.

(2) Use adjustable cast floor boxes for all floor box installations.

H. Install service fittings in accordance with manufacturer's instructions.

I. Interface outlet boxes, service fittings, floor boxes, etc. with connection of equipment.

I. See Division 27 specifications for communications conduit and raceway systems requirements. All communications conduits shall be metal, of the type as described in these specifications unless noted otherwise in Division 27 specifications.

J. The Contractor shall be responsible for providing and installing all conduit and raceway systems for all systems including but not limited to lighting, power, fire alarm system, intercom system, communications systems, mechanical systems, and HVAC control systems. Coordinate location, quantities, sizes and requirements with respective contractor for such systems.

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END OF SECTION

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SECTION 26 03 00 - WIRE, CABLE, AND DEVICES

I. GENERAL

1. RELATED DOCUMENTS:

A. Section 26 00 00 – Electrical General Requirements, apply to the work specified in this Section, with additions and modifications specified herein.

2. SECTION INCLUDES:

A. WIRE AND CABLE

B. WIRING DEVICES

II. PRODUCTS

1. WIRE AND CABLE:

A. BUILDING WIRE:

(1) Feeder and Branch Circuits 10 AWG and Smaller: Copper, solid conductor, 600 volt insulation, THHN/THWN.

(2) Feeder and Branch Circuits 8 AWG and 6 AWG: Copper, stranded conductor, 600 volt insulation, THHN/THWN.

(3) Feeder and Branch Circuit larger than 6 AWG: Copper, stranded, conductor, 600 volt insulation, THW.

(4) Control Circuits: Copper, stranded conductor, 600 volt insulation, THHN/THWN.

B. REMOTE CONTROL SIGNAL CABLE:

(1) Control Cable for Class 1 Remote Control and Signal Circuits: Copper conductor, 600 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket.

(2) Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket; UL listed.

C. CORDS: Oil – resistant thermoset insulated multi – conductor flexible cord with identified equipment grounding conductor, suitable for extra hard usage in damp locations.

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2. WIRING DEVICES AND WALLPLATES:

A. MANUFACTURERS:

(1) Hubbell.

(2) Legrand.

B. WALL SWITCHES: AC general use, quiet – operating snap switch rated 20 amperes and 120/277 volts AC, with plastic toggle handle.

(1) Single Pole Switch: Hubbell 1221

(2) Double Pole Switch: Hubbell 1222

(3) Three Way Switch: Hubbell 1223

(4) Four Way Switch : Hubbell 1224

(5) Pilot Light Type: Lighted handle, Model 1221-PL manufactured by Hubbell.

(6) Color: To be selected by Architect from standard colors.

C. RECEPTACLE:

(1) Convenience Receptacle Configuration: Type 5-20R, plastic face. Model 5362 manufactured by Hubbell.

(2) Specific Purpose Receptacle: Configuration indicated on Drawings with black plastic face.

(3) Provide straight-blade receptacles to NEMA WD 1.

(4) Provide locking-blade receptacles to NEMA WD 5.

(5) GFCI Receptacles: Duplex convenience receptacle with integral ground fault current interrupter. Model GF-5362 manufactured by Hubbell.

(6) Color: To be selected by Architect from standard colors.

D. WALL PLATES: All wall plates shall be stainless steel.

E. WEATHERPROOF COVER PLATE: Gasketed cast metal with hinged gasketed device covers rated raintight while in use in accordance with Article 410-57 of the National Electrical Code.

F. ATTACHMENT PLUG CAP: Match receptacle configuration provided for equipment connection.

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III. EXECUTION:

1. EXAMINATION AND PREPERATION:

A. Verify that interior of building has been physically protected from weather.

B. Verify that mechanical work which is likely to injure conductors has been completed.

C. Completely and thoroughly swab raceway system before installing conductors.

2. INSTALLATION:

A. WIRING METHODS:

(1) Concealed Interior Locations: Building wire in raceway.

(2) Exposed Interior Locations: Building wire in raceway.

(3) Above Accessible Ceilings: Building wire in raceway.

(4) Wet or Damp Interior Locations: Building wire in raceway.

(5) Exterior Locations: Building wire in raceway.

(6) Underground Locations: Building wire in raceway.

B. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.

(1) Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet; and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet.

C. Neatly train and secure wiring inside boxes, equipment and panelboards.

D. Use UL listed wire pulling lubricant for pulling conductors in raceways.

E. Protect exposed cables.

F. Support cables above accessible ceilings to keep them from resting on ceiling tiles.

G. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.

H. Terminate spare conductors with electrical tape.

I. Devices shall mount flush or as indicated on the Drawings.

J. Install wiring devices in accordance with manufacturer’s instructions.

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(1) Install wall switches 48 inches above floor, “OFF” position down.

(2) Install wall dimmers 48 inches above floor. De-rate ganged dimmers as instructed by manufacturer. Do not use a common neutral, provide a separate neutral for each dimmed circuit.

(3) Install convenience receptacles 18 inches above floor, 6 inches above counters or splashbacks, with grounding pole on bottom. Verify typical mounting heights with Engineer prior to construction and field coordinate with telcom outlets. Advise the Engineer of any conflicts prior to rough-in.

(4) Install GFCI receptacles at all outdoor locations and all indoor locations as required by NFPA70, and as indicated.

(5) Install specific purpose receptacles at heights shown on Drawings.

K. Install wall plates flush and level.

(1) Install decorative plates on switch, receptacle, telephone, television and blank outlets in finished areas.

(2) Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

(3) Install weatherproof coverplates on all devices/boxes in wet or outdoor locations.

3. FIELD QUALITY CONTROL:

A. Perform field inspection and testing of circuits under provisions of Section 16000.

(1) Inspect wire and cables for physical damage and proper connection.

(2) Torque test conductor connections and terminations to manufacturer’s recommended values.

(3) Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

END OF SECTION

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SECTION 26 04 00 - SERVICE AND DISTRIBUTION

I. GENERAL

1. SECTION INCLUDES:

   A. GROUNDING AND BONDING

   B. SERVICE ENTRANCE

   C. UTILITY REQUIREMENTS

   D. SWITCHBOARDS

   E. PANELBOARDS

   F. ENCLOSED SWITCHES

   G. FUSES

   H. CONTACTORS

2. SERVICE TYPE DESCRIPTION: Electric Service System shall be as indicated on drawings and served from an underground service lateral derived from a pad mounted transformer served by an underground primary service.

3. PROJECT CONDITIONS: Verify field measurements for the equipment to ensure proper fit within the space provided.

4. UTILITY REQUIREMENTS:

   A. The serving utility is Florida Power & Light.

      (1) The Owner will pay for all assessments, service charges, fees, etc. from the utility for service requirements.

5. EQUIPMENT APPLICATION: All equipment and materials shall have ratings established by a recognized independent agency or laboratory. The Contractor shall apply the items used on this project within those ratings and application shall be subject to any stipulations or exceptions established by the independent agency or laboratory. Use of equipment or materials in applications beyond that certified by the agency or beyond that recommended by the manufacturer shall be cause for removal and replacement of such misapplied items.

II. PRODUCTS

1. GROUNDING MATERIALS:

   A. GROUND ROD: 16 feet x ¾" diameter, copper clad steel, sectional driven.

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B. GROUND CONNECTORS: Approved ground clamp manufactured of cast bronze construction with matching bolts, nuts, and washers.

C. EXOTHERMIC WELDS: Materials shall be from the same source. Welding process shall be Cadweld or approved equal.

D. GROUNDING CONDUCTORS: Green colored and coded insulated copper (#12 AWG minimum) or bare soft drawn copper as indicated on Drawings.

2. SWITCHBOARD:

A. SWITCHBOARD: NEMA PB2.

(1) Line and Load Terminations: Accessible from the front only of switchboard, suitable for conductor materials used.

(2) Main Sections Devices: Individually mounted.

(3) Distribution Section Devices: Panel mounted

B. BUSSING:

(1) Bus Material: Tin-plated Copper sized in accordance with NEMA PB2.

(2) Bus Connections: Accessible from front for maintenance.

(3) Ground Bus: Copper.

C. ENCLOSURE: Type 1 General Purpose as shown on the Drawings.

(1) Align sections at rear.

(2) Height: 96 inches.

(3) Finish: Manufacturer’s standard light gray enamel over external surfaces.

D. FUTURE PROVISIONS:

(1) Fully equip spaces for future devices with bussing and bus connection provisions; continuous current rating as indicated on the Drawings.

(2) Do not taper main bus rating.

E. SWITCHING AND OVER-CURRENT PROTECTION DEVICES:

(1) Molded Case Circuit Breakers: NEMA AB 1.

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(2) Solid State Molded Case Circuit Breakers: NEMA AB 1; with electronic sensing, timing and tripping circuits for adjustable trip settings; ground fault trip; instantaneous trip and adjustable short time trip.

F. SWITCHBOARD INSTRUMENTS:

(1) Ammeter and Voltmeter: Mount in face of switchboard with phase selector switch. Customer metering shall be Eaton Cutler-Hammer IQ 250, CTs, with display or approved equal.

(2) Load Monitoring Meters: Provide factory CTs, meters, wiring, etc integral to switchboards for sub-metering of various electrical loads (lighting, mechanical, etc). Meters shall be Eaton Cutler-Hammer IQ 250 or approved equal. Provide all accessories required for a complete and functional installation.

G. PRIOR-APPROVAL SUBMITTALS:

(1) The pre-approved manufacturers listed below shall submit scaled shop drawings including plan views and elevations and data sheets of all switchboards to the Engineer of Record 10 calendar days prior to bid for approval. The submittals shall include but not be limited to all circuit breakers, customer metering, sub-metering, etc.

H. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

3. PANELBOARDS:

A. DISTRIBUTION PANELBOARDS: NEMA PB 1; circuit breaker type.

(1) Bus Material: Tin-plated Copper.

(2) Ground Bus: Tin-plated Copper.

(3) Enclosures: Type 1 or 3R as shown on the Drawings.

(4) Mounting: Surface or flush mount as indicated on the Drawings.

(5) Door: Hinged with lock. Door assembly shall be hinged to enclosure for panels rated 250 amps or larger. All panels shall be door-in-door construction.

(6) Circuit Breakers: Bolt-on, ratings as shown on Drawings. Branch circuit breakers shall not be allowed in sub-feed positions.

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(7) Mains: Main breakers shall be located in main position. Main breakers shall not be allowed in branch or sub-feed positions.

B. LIGHT AND POWER PANELBOARDS: NEMA PB 1; circuit breaker type.

(1) Bus Material: Tin-plated Copper.

(2) Ground Bus: Tin-plated Copper.

(3) Enclosures: Type 1 or 3R as shown on the Drawings.

(4) Mounting: Surface or flush mount as indicated on the Drawings.

(5) Door: Hinged with lock. All panels shall be door-in-door construction.

(6) Circuit Breakers: Bolt-on, ratings as shown on Drawings. Branch circuit breakers shall not be allowed in sub-feed positions.

(7) Mains: Main breakers shall be located in main position. Main breakers shall not be allowed in branch or sub-feed positions.

C. ACCESSORIES: Provide panel and branch device accessories as indicated on the Drawings

D. FUTURE PROVISIONS: Where space provisions are indicated on the Drawings, provide bussing, bus extensions, etc. required to mount future circuit breakers. Where spare provisions are indicated on the Drawings, provide circuit breakers complete and ready for connection.

E. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

4. FUSES:

A. Service Entrance/Feeder Circuits – 600 Amp and smaller.

(1) U.L. Class RK1

(2) Current Limiting

(3) 200,000 amp RMS Interrupt Rating

(4) Voltage Rating: As required for system compatibility

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B. Motor, Motor Controller, Transformer and Inductive Circuits.

(1) U.L. Class RD1, Time Delay

(2) Current Limiting

(3) 200,000 amp RMS Interrupt Rating

(4) Voltage Rating: As required for system compatibility

C. MANUFACTURERS:

(1) Square D Company

(2) Cutler – Hammer

(3) General Electric

5. ENCLOSED CIRCUIT BREAKERS:

A. CIRCUIT BREAKER: NEMA AB 1; Voltage and Accessories as indicated on Drawings.

B. ENCLOSURES: Code gauge steel, NEMA 1 or 3R as required.

C. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

6. CONTACTORS:

A. MECHANICALLY HELD CONTACTORS: NEMA ICS 2; mechanically held, electrically operated.

B. ELECTRICALLY HELD CONTACTORS: NEMA ICS 2; electrically held, electrically operated.

C. COIL OPERATING VOLTAGE: 120 volts, 60 Hz.

D. ENCLOSURES: NEMA ICS 6; Type 1 or 3R as required.

E. MANUFACTURERS

(1) Square D Company

(2) Eaton Cutler – Hammer

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(3) General Electric

III. EXECUTION

1. EXAMINATION AND PREPARATION:

A. Make arrangements with utility company to obtain permanent electrical service to the facility. Provide CT Cabinet and Meter base as required by utility for service connection.

2. INSTALLATION:

A. Install utility services in accordance with utility company standards and requirements.

(1) Underground Service: Install service entrance conduits and conductors from the utility service point to the service equipment as shown on the Drawings. The underground services shall be installed in concrete encased ductbank. The Contractor shall verify and coordinate the location of the power company pad mounted transformer with the local power company and the Engineer of Record prior to bid. The Contractor's bid shall include all cost associated with the underground service from pad mounted transformer location dictated by local power company.

(2) Provide lugs on utility transformer spaces sized to accommodate service entrance conductors.

B. Install equipment in accordance with manufacturer's instructions.

C. Except where specifically indicated otherwise, all exposed non-current-carrying metallic parts of electrical equipment, metallic raceway systems, and service neutral of the electrical system shall be grounded.

(1) Equipment grounding shall be accomplished by installing a separate grounding conductor in each raceway of the system. The Conductor shall be provided with a distinctive green insulation or marker and shall be sized in accordance with Article 250 of the National Electrical Code.

(2) The electrical system grounding electrode connection shall be made at the main service equipment and shall be extended to the point of entrance of the metallic cold water service. A suitable ground clamp shall make connection to the water pipe. If flanged pipes are encountered, connection shall be made on the street side of the flange connection. If the metallic water service is coated with an insulating material or there is no metallic water service to the building, ground connection shall be made to additional ground rods as required by resistance tests, at the exterior of the building driven full length into the earth.

(3) The maximum resistance of the driven ground shall be tested with a ground resistance Megger and shall not exceed 25 ohms under normally dry conditions. If this cannot be obtained with a single rod, additional or parallel rods shall be installed 7'-6" on center until 25 ohms or less is achieved without connection to the building water piping. A typewritten test report shall be written.

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D. Install panelboards to NEMA PB 1.1.

F. Provide permanent phenolic labels fastened with rivets for all panelboards, and distribution equipment.

G. Provide permanent label for each breaker/switch position fastened with rivets by factory in switchboards. Stick-on labeling will not be allowed.

H. Provide permanent circuit numbers fastened with rivets by factory for all panelboards. Stick-on labeling will not be allowed.

I. Provide updated typewritten directory inside panel door for all panelboards.

J. All switchboards and panelboards shall be fully rated for KAIC value as indicated. Series rating is prohibited.

K. All switchboards and dry-type transformers shall be installed on concrete housekeeping pads.

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SECTION 26 05 00 - LIGHTING

I. GENERAL

1. RELATED DOCUMENTS:

A. Section 26 00 00 – Electrical General Requirements, apply to the work specified in this Section, with additions and modifications specified herein.

2. SECTION INCLUDES:

A. LUMINAIRES

B. SHIELDING MEDIA

C. EXIT SIGNS

D. EMERGENCY LIGHTING UNITS

E. PHOTOCELLS

F. TIME SWITCHES

G. LIGHTING CONTACTORS

H. LED BOARDS

I. LED DRIVERS

J. LIGHTING CONTROLS

II. PRODUCTS

1. LUMINAIRES:

A. LUMINAIRE SCHEDULE:

(1) Product requirements for each luminare are specified in luminare schedule on Drawings.

B. ACCESSORIES: Provide required accessories for mounting and operation of each luminare as indicated.

(1) Recessed Luminaires: Provide trim type suitable for ceiling system in which luminare is installed.

(2) Thermal Protection: Provide thermal protection devices to meet NFPA 70 requirements.

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(3) Surface Luminaires: Provide spacers and brackets required for mounting.

C. LAY-IN TROFFERS:

(1) Door Frame: Aluminum .050", extruded with mitered corners. Latches to be fully enclosed, spring loaded, cam type. Door frame shall be fully gasketed.

(2) Housing: Cold rolled steel, 22 gauge minimum with smooth effect mitered corners.

(3) Finish: Painted after fabrication with 90% reflective glossy white thermosetting powder coat.

2. SHIELDING MEDIA:

A. PRISMATIC LENS FOR LED TROFFERS:

(1) Material: Clear virgin acrylic.

(2) Type: Prismatic cones, pattern 12 straight flat prisms.

(3) Thickness: .156" minimum.

B. PRISMATIC LENS FOR LED WRAP AROUND FIXTURES:

(1) Material: Clear virgin acrylic.

(2) Type: Sides-linear prisms, bottom-pyramidal prisms.

(3) Hinging: Either side.

3. EXIT SIGNS:

A. DESCRIPTION: Exit sign LED fixture.

(1) Lamps: LED - Manufacturer's standard.

(2) Voltage: 120/277 volt as scheduled.

B. CONSTRUCTION:

(1) Face: Stencil face with red letters.

(2) Directional Arrows: Universal for field adjustment.

(3) Mounting: Universal for field selection.

(4) Exterior: Shall have a mechanical connection (bolts and screws) between the fixture housing and the canopy base.

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C. EMERGENCY POWER SUPPLY: Integral, listed for emergency lighting use.

(1) Battery: Nickel cadmium type.

(2) Battery Charger: Dual-rate type.

(3) Indicators and Controls: AC ON; test switch. Do not provide self-diagnostics.

D. WARRANTY: 5-year full fixture.

4. L;ED EMERGENCY LIGHTING UNITS:

A. DESCRIPTION: Self-contained emergency lighting unit.

(1) Input Voltage: 120/277 volts as scheduled.

(2) Battery: Nickel cadmium type.

(3) Battery Charger: Dual-rate type.

(4) Lamps: LED type

B. INDICATORS AND CONTROLS: AC ON; recharging, test switch.

C. ELECTRICAL CONNECTION: Conduit connection.

D. WARRANTY: 5-year full fixture.

5. PHOTOCELL SWITCH:

A. MANUFACTURERS:

(1) Precision

(2) Tork

(3) Paragon

B. DESCRIPTION: Photocell switch manufactured to NEMA ICS 2.

C. RATINGS:

(1) Contact Ratings: 1800 VA at 120/277 volts.

(2) Sensitivity: Field adjustable from 3 to 10 foot-candles.

D. ENCLOSURE: Gasketed, cast aluminum or feralloy box with conduit hub.

6. TIME SWITCH:

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A. MANUFACTURERS:

(1) Precision

(2) Tork

(3) Paragon

B. DESCRIPTION: Clock timer manufactured to NEMA ICS 2, with astronomical dial, 12-hour spring wound carry over, and day skipping feature.

C. RATINGS:

(1) Contact Ratings: 20 ampere per pole, number of poles as indicated on Drawings.

(2) Coil Voltage: 120 volts, 60 Hz.

(3) Dial Timer: Seven (7) day.

(4) Enclosure: NEMA 1 or 3R as required.

7. CONTACTORS:

A. MANUFACTUERS:

(1) Square “D” Company

(2) Cutler-Hammer

(3) General Electric Company

B. LIGHTING CONTACTORS: NEMA ICS 2; mechanical held, electrically operated.

(1) Coil Operating Voltage: 120 volts, 60 Hz.

(2) Enclosures: NEMA ICS 6; Type 1, general purpose.

(3) Multi-pole, 20 amp rating, number of poles as indicated on the Drawings.

8. LED LIGHTING FIXTURES:

A. DESCRIPTION: All lighting fixtures shall be LED type. See Lighting Fixture Schedule for specifications and requirements..

(1) Input Voltage: 120/277 volts as scheduled.

(2) LED Lamp Life: Minimum 100,000 hours

(3) Lamps: LED type

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B. ELECTRICAL CONNECTION: Conduit connection.

C. WARRANTY: Minimum 5-year full fixture.

III. EXECUTION

1. EXAMINATION AND PREPARATION: Examine adjacent surfaces to determine that surfaces are ready to receive work.

2. INSTALLATION:

A. Install luminaires and accessories in accordance with manufacturer's instructions.

(1) Provide pendant accessory to mount suspended luminaires at height indicated. Use swivel hangers on sloped ceilings.

(2) Support surface mounted luminaires from ceiling structure; provide auxiliary support across ceiling structure support. Fasten to prohibit movement.

(3) Install recessed luminaires to permit removal from below. Install luminaires so that there is no light leakage around fixture trim. Support fixtures in accordance with Article 410-16 C of the National Electrical Code.

(4) Install lamps in luminaires and lampholders.

3. ADJUSTING AND CLEANING:

A. Align luminaires and clean lenses and diffusers at completion of work.

B. Aim adjustable luminaires and lampholders as indicated or as directed.

C. Adjust directional arrows on exit signs to meet approval of authority having jurisdiction.

D. Clean paint splatters, dirt and debris from installed luminaires.

E. Relamp luminaires which have failed lamps at completion of work.

F. Touch up luminaire and pole finish at completion of work.

G. Adjust relays, timers, photo controls, etc. to achieve specified or directed operation.

END OF SECTION

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SECTION 26 06 80 - TRANSIENT VOLTAGE SURGE SUPPRESSION

I. GENERAL

1. RELATED DOCUMENTS:

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

2. SUMMARY:

A. This Section includes transient voltage surge suppressors for low-voltage power (< 600 Volts) equipment. All surge suppression shall be integral to switchboard or panelboard and shall be of the same manufacturer as the switchboard or panelboard.

B. Related Sections include the following:

(1) Division 26 Section “Wiring Devices” for devices with integral transient voltage surge suppression.

(2) Division 26 Section “Panelboards” for locations which require installation at the panel or sub-panel level.

(3) Division 26 Section “Switchboards” for locations which require installation at the Service Entrance Switchboard.

3. SUBMITTALS:

A. PRODUCT DATA: For each type of product indicated. Include rated capacities, shipping, installed and operating weights, furnished specialties; and options.

B. PRODUCT CERTIFICATIONS: Signed by manufacturers of transient voltage suppression devices, certifying that products furnished comply with the following testing and labeling requirements:

(1) UL 1449 Listing classifications, and clamping voltage rating for each mode of protection.

(2) ANSI/IEEE C62.41 and C62.45 Category C3 clamping voltage.

(3) Sequential surge survivability per ANSI/IEEE C62.45.

(4) Dimensions and weights.

(5) Recommended connection wiring diagram.

C. Submittals shall include a copy of these specifications with each section marked with either “C” for comply or “D” for deviation. A written explanation shall be provided for each deviation.

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D. WARRANTIES: Special warranties specified in this Section.

4. QUALITY ASSURANCE:

A. Product must be made by a company engaged in the manufacture of such devices in the USA for a minimum of five years.

B. SOURCE LIMITATIONS: Obtain suppression devices and accessories through one source from a single manufacturer.

C. PRODUCT OPTIONS: Drawings indicate size, dimensional requirements, and electrical performance of suppressors and are based on the specific system indicated. Other manufacturers' products complying with requirements may be considered by the engineer/architect greater than 14 days prior to bid. Samples may be required for approval. Refer to Division 1 Section "Substitutions".

D. ELECTRICAL COMPONENTS, DEVICES AND ACCESSORIES: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

E. IEEE COMPLIANCE: Comply with ANSI/IEEE C62.41, "IEEE Guide for Surge Voltages in Low Voltage AC Power Circuits" and test devices in accordance with ANSI/IEEE C62.45, "IEEE Guide for Surge Suppressor Testing".

F. NEMA COMPLIANCE: Comply with NEMA LS-1 "Low Voltage Surge Protective Devices".

G. UL COMPLIANCE: Comply with UL 1449 Rev. 2 "Transient Voltage Surge Suppressors".

5. PROJECT CONDITIONS:

A. PLACING INTO SERVICE: Do not energize or connect service entrance equipment or panelboards to their sources until the surge protective devices are installed and connected.

B. EXISTING UTILITIES: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

(1) Notify the Owner not less than two days in advance of proposed utility interruptions.

(2) Do not proceed with utility interruptions without Owner's written permission.

C. SERVICE CONDITIONS: Rate surge protective devices for continuous operation under the following conditions, unless otherwise indicated:

(1) Maximum Continuous Operating Voltage: Not less than 125 % of nominal system operating voltage for 120/240 Single Phase or 120/208 VAC Wye systems, Not less than 115 % for 277/480 VAC Wye or 480 VAC Delta systems.

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(2) Operating Temperature: 30 to 120 deg F. (0 to 50 degrees C)
(3) Humidity: 0 to 95 %, noncondensing.

(4) Altitude: Less than 20,000 feet (6,000 m) above sea level.

6. COORDINATION:

A. Coordinate location of field mounted surge suppressors to allow adequate clearances for maintenance.

B. Coordinate location of field mounted surge suppressors to allow for the shortest ground wire possible.

7. WARRANTY:

A. GENERAL WARRANTY: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. SPECIAL WARRANTY: Written warranty, executed by manufacturer agreeing to repair or replace components of surge suppressors that fail in materials or workmanship within five years from date of Substantial Completion.

8. EXTRA MATERIALS:

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

(1) Replaceable Protection Modules: One of each size and type installed for Service Entrance Units.

II. PRODUCTS

1. MANUFACTURERS:

A. AVAILABLE MANUFACTURERS: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following:

B. MANUFACTURERS: Subject to compliance with requirements, provide products by one of the following:

(1) Eaton

(2) GE

(3) Square D

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2. SERVICE ENTRANCE SUPPRESSORS:

A. Integral LED indicator lights showing proper operation of each module, visible without opening the enclosure door.

B. Utilizing metal oxide varistor technology.

C. Internal cartridge fuses with solidly mounted fuse holders rated at a minimum of 200 KA interrupting capacity.

D. Including thermal protection for each component, which is continuously monitored.

E. Nema 3R style enclosure suitable for indoor or outdoor installation.

F. UL CLAMPING MODES: L-L, L-N, N-G.

G. SURGE CAPACITY PER MODE: 80,000 Amps (160,000 Amps industry rating).

H. SURVIVABILITY OF CATEGORY C SURGES: 1000 sequential occurrences.

I. MAXIMUM UL 1449 RATING, EACH MODE: 400 for 120/240, 120/208, 800 for 277/480 systems.

J. EMI/RFI NOISE REJECTION: 50dB Common Mode, 40 dB Normal Mode.

K. CONNECTION METHOD: Parallel.

L. UL 1449 SUPPRESSED VOLTAGE RATINGS (SVR) AS FOLLOWS:

M. PROVIDE AUDIBLE ALARM WITH EACH SUPPRESSOR

Mode	120/240 Volt Single Phase	120/208 Volt Wye	277/480 Volt Wye	480 Volt Delta
L-N	330 V	330 V	700 V	N/a
L-G	330 V	330 V	700 V	1,500 V
N-G	330 V	330 V	700 V	N/a

3. PANELBOARD SUPPRESSORS :

A. LED indicator lights for power and protective status.

B. Utilizing metal oxide varistor technology.

C. U.L. 1283 Listed. Integral EMI/RFI Filter providing up to 54 dB of attenuation from 20 kHz to 100 MHz.

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D. Internal fuses rated at a minimum of 200 KA interrupting capacity.

E. Including thermal protection for each component, which is continuously monitored.

F. Integral Form C Contacts for remote indication of suppression status via connection to building management system (provided by others).

G. Nema 3R style enclosure suitable for indoor or outdoor installation.

H. UL CLAMPING MODES: L-L, L-N, N-G.

I. SURGE CAPACITY PER MODE : 30,000 Amps (60,000 Amps industry rating).

J. SURVIVABILITY OF CATEGORY C SURGES: 1000 impulses without clamping drift.

K. UL 1449 SUPPRESSED VOLTAGE RATINGS (SVR) AS FOLLOWS:

L. PROVIDE AUDIBLE ALARM WITH EACH SUPPRESSOR.

Mode	120/240 Volt Single Phase	120/208 Volt Wye	277/480 Volt Wye
L-N	330 V	330 V	600 V
L-G	330 V	330 V	600 V
N-G	330 V	330 V	600 V

III. EXECUTION

1. INSTALLATION OF SURGE PROTECTIVE DEVICES:

A. Install devices at service entrance on load side, with ground lead bonded to service entrance ground.

B. Provide multipole, 60 amp breaker as a dedicated disconnect for the suppressor at Service Entrance location, unless otherwise indicated on drawings.

C. Install devices for panelboards with conductors between suppressor and points of attachment as short and as straight as possible. Do not exceed manufacturer's recommended lead length.

D. Provide multipole, 30 Amp breaker as a dedicated disconnect for the suppressor at panelboard locations, unless otherwise indicated on drawings.

E. Mount suppressor as close to switchgear and panelboard point of connection, either surface or flush mount as required. Do not mount internal to switchgear to facilitate future maintenance and/or replacement.

F. Install the TVSS using manufacturer provided leads when provided or with #6 AWG conductors when not manufacturer provided. Conductors are to be as short and straight

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as possible. Conductors are to be twisted. Install in accordance with the TVSS manufacturer's recommended practice and in compliance with applicable codes.

2. CONNECTIONS:

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3. FIELD QUALITY CONTROL:

A. TESTING: Contractor shall perform the following field quality control testing:

(1) After installing the surge protective devices, but before electrical circuitry has been energized, test for compliance with requirements.

(2) Complete start-up checks and voltage verifications according to manufacturer's written instructions.

(3) Perform visual and mechanical inspection on each unit. Certify that units are installed per manufacturer's recommendations.

B. Repair or replace malfunctioning units. Retest after repairs or replacements are made.

4. DEMONSTRATION:

A. Engage a manufacturer's representative to demonstrate proper operation of the system and to train owner's maintenance personnel in proper evaluation of suppressor condition and procedure to repair or replace defective devices.

(1) Review operation and maintenance manuals.

(2) Review performance specifications of devices supplied to show they comply with specifications herein.

(3) Schedule training with Owner, through Architect or General Contractor, with at least seven days advance notice.

(4) Provide letter to owner that states units are installed per manufacturer's recommended installation procedures and system is functioning properly and warranty is initiated.

END OF SECTION

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SURGE SUPPRESSION
SUBMITTAL CHECKLIST

TYPE _____

		SPEC'D	SUB
PEAK SURGE CURRENT		_____	_____
CLAMPING VOLTAGE		_____	_____
	LN	_____	_____
	NG	_____	_____
	LL	_____	_____
OTHER		_____	_____
PULSE LIFE		_____	_____
EMI/RFI		_____	_____
SIZE MOV'S (MM DIAM)		_____	_____
NUMBER OF MOV'S/PHASE		_____	_____
MONITORING		_____	_____
CONNECTION		_____	_____
	BREAKER	_____	_____
	IN-LINE FUSES	_____	_____
	INTEGRAL FUSES	_____	_____
FULL WARRANTY		_____	_____

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SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil treatment.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include the EPA-Registered Label for termiticide products.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Soil Treatment Application Report: Include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

C. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

1.5 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied soil termiticide treatment will prevent infestation of subterranean termites, including Formosan termites (Coptotermes formosanus. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

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1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

1. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated.

3.2 APPLYING SOIL TREATMENT

A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.

1. Slabs-on-Grade: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
2. Foundations: Soil adjacent to and along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing.
3. Masonry: Treat voids.
4. Penetrations: At expansion joints, control joints, and areas where slabs and below-grade walls will be penetrated.

B. Post warning signs in areas of application.

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C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

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3.5 PHASE II BUILDING SPECIFICATIONS

SECTION 033100 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes cast-in-place concrete, including reinforcement, concrete materials, mix design, placement procedures, and finishes.

B. See Division 2 Section "Earthwork" for drainage fill under slabs-on-grade.

1.2 SUBMITTALS

A. Product Data: For each manufactured material and product indicated.

B. Design Mixes: For each concrete mix indicated on drawings.

C. Shop Drawings: Include details of steel reinforcement placement including material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports.

D. Material certificates.

1.3 QUALITY ASSURANCE

A. Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.

B. Comply with ACI 301, "Specification for Structural Concrete," including the following, unless modified by the requirements of the Contract Documents.

1. General requirements, including submittals, quality assurance, acceptance of structure, and protection of in-place concrete.
2. Formwork and form accessories.
3. Steel reinforcement and supports.
4. Concrete mixtures.
5. Handling, placing, and constructing concrete.

PART 2 - PRODUCTS

2.1 MATERIALS

A. Formwork: Furnish formwork and form accessories according to ACI 301.

B. Steel Reinforcement:

1. Reinforcing Bars: ASTM A 615 Grade 60, deformed.

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2. Plain-Steel Wire: ASTM A 82, as drawn.
3. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.

C. Concrete Materials:

1. Portland Cement: ASTM C 150, Type I or II or I/II.
2. Normal-Weight Aggregate: ASTM C 33, uniformly graded, not exceeding 1-inch nominal size.
3. Water: Complying with ASTM C 94 and potable.
4. Synthetic Fiber: Fibrillated or monofilament polypropylene fibers engineered and designed for use in concrete, complying with ASTM C 1116, Type III, 1/2 to 1-1/2 inches long.

D. Admixtures:

1. Air-Entraining Admixture: ASTM C 260.
2. Water-Reducing Admixture: ASTM C 494, Type A.
3. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
4. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

E. Vapor Barrier: ASTM E 1745, Class A, Not less than **15 mils thick**.

1. Sheet Vapor Barrier: Permeance of less than 0.04 Perms [grains/(ft^2 · hr · inHg)] as tested in accordance with ASTM E 1745 Section 7. Include manufacturer's recommended polyethylene pressure-sensitive seam tape and vapor-proofing mastic.

F. Joint-Filler Strips: ASTM D 1752, cork or self-expanding cork.

G. Curing Materials:

1. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
2. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf.
3. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
4. Water: Potable.
5. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B.

2.2 CONCRETE MIXES

A. Comply with ACI 301 requirements for concrete mixtures.

B. Prepare design mixes, proportioned according to ACI 301, for normal-weight concrete determined by either laboratory trial mix or field test data bases, as follows:

1. Compressive Strength (28 Days): **As** indi**cated on drawings**.
2. Slump: As indicated on approved mix design.

C. Air content of trowel-finished interior concrete floors shall not exceed 3.0 percent.

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2.3 CONCRETE MIXING

A. Ready-Mixed Concrete: Comply with ASTM C 94 and ASTM C 1116.

1. When air temperature is between 85 and 90 deg F (30 and 32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

B. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mix type, mix time, quantity, and amount of water added. Record approximate location of final deposit in structure.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Formwork: Design, construct, erect, shore, brace, and maintain formwork according to ACI 301.

B. Vapor Barrier: Install, protect, and repair vapor-barrier sheets according to ASTM E 1643; place sheets in position with longest dimension parallel with direction of pour.

1. Lap joints 6 inches and seal with manufacturer's recommended tape.

C. Steel Reinforcement: Comply with CRSI's "Manual of Standard Practice" for fabricating, placing, and supporting reinforcement.

1. Do not cut or puncture vapor barrier. Repair damage and reseal vapor barrier before placing concrete.

D. Joints: Construct joints true to line with faces perpendicular to surface plane of concrete.

1. Construction Joints: Locate and install so as not to impair strength or appearance of concrete, at locations indicated or as approved by Architect.
2. Isolation Joints: Install joint-filler strips at junctions with slabs-on-grade and vertical surfaces, such as column pedestals, foundation walls, grade beams, and other locations, as indicated.
    a. Extend joint fillers full width and depth of joint, terminating flush with finished concrete surface, unless otherwise indicated.
3. Contraction Joints in Slabs-on-Grade: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows:
    a. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with groover tool to a radius of 1/8 inch. Repeat grooving of contraction joints after applying surface finishes. Eliminate groover marks on concrete surfaces.
    b. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- wide joints into

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concrete when cutting action will not tear, abrade, or otherwise damage surface and before concrete develops random contraction cracks.

E. Tolerances: Comply with ACI 117, "Specifications for Tolerances for Concrete Construction and Materials."

3.2 CONCRETE PLACEMENT

A. Comply with recommendations in ACI 304R for measuring, mixing, transporting, and placing concrete.

B. Consolidate concrete with mechanical vibrating equipment.

3.3 FINISHING FORMED SURFACES

A. Rough-Formed Finish: As-cast concrete texture imparted by form-facing material with tie holes and defective areas repaired and patched, and fins and other projections exceeding 1/4 inch in height rubbed down or chipped off.

1. Apply to concrete surfaces not exposed to public view.

B. Smooth-Formed Finish: As-cast concrete texture imparted by form-facing material, arranged in an orderly and symmetrical manner with a minimum of seams. Repair and patch tie holes and defective areas. Completely remove fins and other projections.

1. Apply to concrete surfaces exposed to public view or to be covered with a coating or covering material applied directly to concrete, such as waterproofing, dampproofing, veneer plaster, or painting.
2. Apply smooth-rubbed finish, defined in ACI 301, to smooth-formed finished concrete.

C. Related Unformed Surfaces: At tops of walls, horizontal offsets, and similar unformed surfaces adjacent to formed surfaces, strike off smooth and finish with a texture matching adjacent formed surfaces. Continue final surface treatment of formed surfaces uniformly across adjacent unformed surfaces, unless otherwise indicated.

3.4 FINISHING UNFORMED SURFACES

A. General: Comply with ACI 302.1R for screeding, restraightening, and finishing operations for concrete surfaces. Do not wet concrete surfaces.

B. Screed surfaces with a straightedge and strike off. Begin initial floating using bull floats or darbies to form a uniform and open-textured surface plane before excess moisture or bleedwater appears on the surface.

1. Do not further disturb surfaces before starting finishing operations.

C. Scratch Finish: Apply scratch finish to surfaces to receive concrete floor topping or mortar setting beds for ceramic or quarry tile, and other bonded cementitious floor finish, unless otherwise indicated.

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D. Float Finish: Apply float finish to surfaces indicated, to surfaces to receive trowel finish, and to floor and slab surfaces to be covered with fluid-applied or sheet waterproofing.

E. Trowel Finish: Apply a hard trowel finish to surfaces indicated and to floor and slab surfaces exposed to view or to be covered with resilient flooring, carpet, paint, or another thin film-finish coating system.

F. Trowel and Fine-Broom Finish: Apply a partial trowel finish, stopping after second troweling, to surfaces indicated and to surfaces where ceramic tile is to be installed by thin-set methods. Immediately after second troweling, and when concrete is still plastic, slightly scarify surface with a fine broom.

G. Nonslip Broom Finish: Apply a nonslip broom finish to surfaces indicated and to exterior concrete platforms, steps, and ramps. Immediately after float finishing, slightly roughen trafficked surface by brooming with fiber-bristle broom perpendicular to main traffic route.

3.5 CONCRETE PROTECTION AND CURING

A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection, and follow recommendations in ACI 305R for hot-weather protection during curing.

B. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions occur before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

C. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

D. Cure formed and unformed concrete for at least seven days as follows:

1. Moisture Curing: Keep surfaces continuously moist with water or continuous water-fog spray or absorptive cover, water saturated and kept continuously wet.
2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches, and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.
3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Recoat areas subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating and repair damage during curing period.

3.6 FIELD QUALITY CONTROL

A. Testing Agency: The Owner will engage a qualified independent testing and inspecting agency to sample materials, perform tests, and submit test reports during concrete placement. Tests will be performed according to ACI 301.

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1. Testing Frequency: One composite sample for each day's pour of each concrete mix exceeding 5 cu. yd, but less than 25 cu. yd, plus one set for each additional 50 cu. yd. or fraction thereof.
2. Testing Frequency: At least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mix placed each day.
3. Test Cylinders: A minimum of four (4) shall be cast for each composite sample. Test one (1) at seven (7) days, two (2) at twenty-eight (28) days and hold one (1) as a spare.

END OF SECTION 033100

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SECTION 042000 - UNIT MASONRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Concrete masonry units.
2. Building (common) brick.

1.2 DEFINITIONS

A. CMU(s): Concrete masonry unit(s).

B. Reinforced Masonry: Masonry containing reinforcing steel in grouted cells.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For reinforcing steel. Detail bending, lap lengths, and placement of unit masonry reinforcing bars. Comply with ACI 315. Show elevations of reinforced walls.

C. Samples for Verification: For each type and color of exposed masonry unit and colored mortar.

1.4 INFORMATIONAL SUBMITTALS

A. Material Certificates: For each type and size of product. For masonry units, include material test reports substantiating compliance with requirements.

B. Mix Designs: For each type of mortar and grout. Include description of type and proportions of ingredients.

1. Include test reports for mortar mixes required to comply with property specification. Test according to ASTM C109/C109M for compressive strength, ASTM C1506 for water retention, and ASTM C91/C91M for air content.
2. Include test reports, according to ASTM C1019, for grout mixes required to comply with compressive strength requirement.

1.5 FIELD CONDITIONS

A. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen substrates. Remove and replace unit masonry damaged by frost

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or by freezing conditions. Comply with cold-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

B. Hot-Weather Requirements: Comply with hot-weather construction requirements contained in TMS 602/ACI 530.1/ASCE 6.

PART 2 - PRODUCTS

2.1 UNIT MASONRY, GENERAL

A. Masonry Standard: Comply with TMS 602/ACI 530.1/ASCE 6, except as modified by requirements in the Contract Documents.

B. Defective Units: Referenced masonry unit standards may allow a certain percentage of units to contain chips, cracks, or other defects exceeding limits stated. Do not use units where such defects are exposed in the completed Work and will be within 20 feet (6 m) vertically and horizontally of a walking surface.

2.2 CONCRETE MASONRY UNITS

A. Shapes: Provide shapes indicated and as follows, with exposed surfaces matching exposed faces of adjacent units unless otherwise indicated.

1. Provide special shapes for lintels, corners, jambs, sashes, movement joints, headers, bonding, and other special conditions.

B. CMUs: ASTM C90.

1. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of **2150 psi (14.8 MPa)**.
2. Density Classification: **Lightweight weight, unless otherwise indicated**.

2.3 CONCRETE LINTELS

A. Concrete Lintels: ASTM C1623, matching CMUs in color, texture, and density classification; and with reinforcing bars indicated. **Provide lintels with net-area compressive strength not less than that of CMUs.**

2.4 BRICK

A. General: Provide shapes indicated and as follows, with exposed surfaces matching finish and color of exposed faces of adjacent units:

1. For ends of sills and caps and for similar applications that would otherwise expose unfinished brick surfaces, provide units without cores or frogs and with exposed surfaces finished.

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2. Provide special shapes for applications where shapes produced by sawing would result in sawed surfaces being exposed to view.

B. Clay Face Brick: Facing brick complying with ASTM C216 or hollow brick complying with ASTM C652, Class H40V (void areas between 25 and 40 percent of gross cross-sectional area).

1. Cherokee Brick; see drawings for color selections.
2. Grade: MW or SW.
3. Type: FBS or HBS.
4. Unit Compressive Strength: Provide units with minimum average net-area compressive strength of 3350 psi (23.10 MPa).
5. Initial Rate of Absorption: Less than 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested according to ASTM C67.
6. Efflorescence: Provide brick that has been tested according to ASTM C67 and is rated "not effloresced."
7. Size (Actual Dimensions): 3-5/8 inches (92 mm) wide by 2-1/4 inches (57 mm) high by 7-5/8 inches (194 mm) long.

2.5 MORTAR AND GROUT MATERIALS

A. Portland Cement: ASTM C150/C150M, Type I or II, except Type III may be used for cold-weather construction. Provide natural color or white cement as required to produce mortar color indicated.

B. Hydrated Lime: ASTM C207, Type S.

C. Portland Cement-Lime Mix: Packaged blend of portland cement and hydrated lime containing no other ingredients.

D. Masonry Cement: ASTM C91/C91M.

E. Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes and complying with ASTM C979/C979M. Use only pigments with a record of satisfactory performance in masonry mortar.

1. Jenkins Brick Tile; Coosa Light Buff
2. Any deviation from the mortar listed in this section requires approval of the Architect.

F. Aggregate for Mortar: ASTM C144.

1. For joints less than 1/4 inch (6 mm) thick, use aggregate graded with 100 percent passing the No. 16 (1.18-mm) sieve.
2. White-Mortar Aggregates: Natural white sand or crushed white stone.
3. Colored-Mortar Aggregates: Natural sand or crushed stone of color necessary to produce required mortar color.

G. Aggregate for Grout: ASTM C404.

H. Epoxy Pointing Mortar: ASTM C395, epoxy-resin-based material formulated for use as pointing mortar for glazed or pre-faced masonry units (and approved for such use by

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manufacturer of units); in color indicated or, if not otherwise indicated, as selected by Architect from manufacturer's colors.

I. Cold-Weather Admixture: Nonchloride, noncorrosive, accelerating admixture complying with ASTM C494/C494M, Type C, and recommended by manufacturer for use in masonry mortar of composition indicated.

J. Water: Potable.

2.6 REINFORCEMENT

A. Uncoated-Steel Reinforcing Bars: ASTM A615/A615M or ASTM A996/A996M, Grade 60 (Grade 420).

B. Masonry-Joint Reinforcement, General: ASTM A951/A951M.

1. Interior Walls: **Hot-dip** galvanized carbon steel.
2. Exterior Walls: **Hot-dip galvanized carbon** steel.
3. Wire Size for Side Rods: **0.148-inch (3.77-mm)** diameter.
4. Wire Size for Cross Rods: **0.148-inch (3.77-mm)** diameter.
5. Wire Size for Veneer Ties: **0.148-inch (3.77-mm)** diameter.
6. Spacing of Cross Rods, Tabs, and Cross Ties: Not more than 16 inches (407 mm) o.c.
7. Provide in lengths of not less than 10 feet (3 m)**, with prefabricated corner and tee units**.

C. Masonry-Joint Reinforcement for Single-Wythe Masonry: Ladder **or truss** type with single pair of side rods.

2.7 TIES AND ANCHORS

A. General: Ties and anchors shall extend at least 1-1/2 inches (38 mm) into veneer but with at least a 5/8-inch (16-mm) cover on outside face.

B. Materials: Provide ties and anchors specified in this article that are made from materials that comply with the following unless otherwise indicated:

1. Hot-Dip Galvanized, Carbon-Steel Wire: ASTM A82/A82M, with ASTM A153/A153M, Class B-2 coating.
2. Steel Sheet, Galvanized after Fabrication: ASTM A1008/A1008M, Commercial Steel, with ASTM A153/A153M, Class B coating.
3. Steel Plates, Shapes, and Bars: ASTM A36/A36M.

C. Individual Wire Ties: Rectangular units with closed ends and not less than 4 inches (100 mm) wide.

1. Wire: Fabricate from **3/16-inch- (4.76-mm-)** diameter, hot-dip galvanized-steel wire.

D. Adjustable Masonry-Veneer Anchors:

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1. General: Provide anchors that allow vertical adjustment but resist a 100-lbf (445-N) load in both tension and compression perpendicular to plane of wall without deforming or developing play in excess of 1/16 inch (1.5 mm). **Corrugated ties are not permitted.**

2.8 EMBEDDED FLASHING MATERIALS

A. Flexible Flashing: Use the following unless otherwise indicated:

1. Rubberized-Asphalt Flashing: Composite flashing product consisting of a pliable, adhesive rubberized-asphalt compound, bonded to a high-density, cross-laminated polyethylene film to produce an overall thickness of not less than 0.040 inch (1.02 mm).

B. Solder and Sealants for Sheet Metal Flashings: As specified in Section 076200 "Sheet Metal Flashing and Trim."

C. Adhesives, Primers, and Seam Tapes for Flashings: Flashing manufacturer's standard products or products recommended by flashing manufacturer for bonding flashing sheets to each other and to substrates.

2.9 MISCELLANEOUS MASONRY ACCESSORIES

A. Compressible Filler: Premolded filler strips complying with ASTM D1056, Grade 2A1; compressible up to 35 percent; of width and thickness indicated; formulated from neoprene.

B. Preformed Control-Joint Gaskets: Made from styrene-butadiene-rubber compound, complying with ASTM D2000, Designation M2AA-805 and designed to fit standard sash block and to maintain lateral stability in masonry wall; size and configuration as indicated.

C. Bond-Breaker Strips: Asphalt-saturated felt complying with ASTM D226/D226M, Type I (No. 15 asphalt felt).

D. Weep/Cavity Vent Products: Use the following unless otherwise indicated:

1. Mesh Weep/Vent: Free-draining mesh; made from polyethylene strands, full height and width of head joint and depth 1/8 inch (3 mm) less than depth of outer wythe; in color selected from manufacturer's standard.

E. Cavity Drainage Material: Free-draining mesh, made from polymer strands that will not degrade within the wall cavity.

1. Configuration: Provide one of the following:

a. Strips, not less than 3/4 inch (19 mm) thick and 10 inches (250 mm) high, with dimpled surface designed to catch mortar droppings and prevent weep holes from clogging with mortar.

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2.10 MASONRY CLEANERS

A. Proprietary Acidic Cleaner: Manufacturer's standard-strength cleaner designed for removing mortar/grout stains, efflorescence, and other new construction stains from new masonry without discoloring or damaging masonry surfaces. Use product expressly approved for intended use by cleaner manufacturer and manufacturer of masonry units being cleaned.

2.11 MORTAR AND GROUT MIXES

A. General: Do not use admixtures, including pigments, air-entraining agents, accelerators, retarders, water-repellent agents, antifreeze compounds, or other admixtures unless otherwise indicated.

1. Do not use calcium chloride in mortar or grout.
2. Use **portland cement-lime** mortar unless otherwise indicated.
3. For exterior masonry, use **portland cement-lime** mortar.
4. For reinforced masonry, use **portland cement-lime** mortar.
5. Add cold-weather admixture (if used) at same rate for all mortar that will be exposed to view, regardless of weather conditions, to ensure that mortar color is consistent.

B. Preblended, Dry Mortar Mix: Furnish dry mortar ingredients in form of a preblended mix. Measure quantities by weight to ensure accurate proportions, and thoroughly blend ingredients before delivering to Project site.

C. Mortar for Unit Masonry: Comply with ASTM C270, **Proportion** Specification. Provide the following types of mortar for applications stated unless another type is indicated.

1. For masonry below grade or in contact with earth, use Type M.
2. For reinforced masonry, use **Type M** or **Type S**.
3. For exterior, above-grade, load-bearing and nonload-bearing walls and parapet walls; for interior load-bearing walls; for interior nonload-bearing partitions; and for other applications where another type is not indicated, use Type N.

D. Pigmented Mortar: Use colored cement product[**or select and proportion pigments with other ingredients to produce color required. Do not add pigments to colored cement products**].

1. Pigments shall not exceed 10 percent of portland cement by weight.
2. Pigments shall not exceed 5 percent of **masonry cement or mortar cement** by weight.
3. Mix to match Architect's sample.
4. Application: Use pigmented mortar for exposed mortar joints with the following units:

    a. Clay face brick.

E. Grout for Unit Masonry: Comply with ASTM C476.

1. Use grout of type indicated or, if not otherwise indicated, of type (fine or coarse) that will comply with TMS 602/ACI 530.1/ASCE 6 for dimensions of grout spaces and pour height.

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2. Proportion grout in accordance with ASTM C476, **paragraph 4.2.2 for specified 28-day compressive strength indicated, but not less than 2500 psi (14 MPa)**].
3. Provide grout with a slump of **8 to 11 inches (200 to 280 mm)** as measured according to ASTM C143/C143M. Contractor's responsibility to provide grout slump necessary for proper consolidation.

F. Epoxy Pointing Mortar: Mix epoxy pointing mortar to comply with mortar manufacturer's written instructions.

1. Application: Use epoxy pointing mortar for exposed mortar joints with the following units:

a. Pre-faced CMUs.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Use full-size units without cutting if possible. If cutting is required to provide a continuous pattern or to fit adjoining construction, cut units with motor-driven saws; provide clean, sharp, unchipped edges. Allow units to dry before laying unless wetting of units is specified. Install cut units with cut surfaces and, where possible, cut edges concealed.

B. Select and arrange units for exposed unit masonry to produce a uniform blend of colors and textures. Mix units from several pallets or cubes as they are placed.

C. Wetting of Brick: Wet brick before laying if initial rate of absorption exceeds 30 g/30 sq. in. (30 g/194 sq. cm) per minute when tested according to ASTM C67. Allow units to absorb water so they are damp but not wet at time of laying.

3.2 TOLERANCES

A. Dimensions and Locations of Elements:

1. For dimensions in cross section or elevation, do not vary by more than plus 1/2 inch (12 mm) or minus 1/4 inch (6 mm).
2. For location of elements in plan, do not vary from that indicated by more than plus or minus 1/2 inch (12 mm).
3. For location of elements in elevation, do not vary from that indicated by more than plus or minus 1/4 inch (6 mm) in a story height or 1/2 inch (12 mm) total.

B. Lines and Levels:

1. For bed joints and top surfaces of bearing walls, do not vary from level by more than 1/4 inch in 10 feet (6 mm in 3 m), or 1/2-inch (12-mm) maximum.
2. For conspicuous horizontal lines, such as lintels, sills, parapets, and reveals, do not vary from level by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.

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3. For vertical lines and surfaces, do not vary from plumb by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.
4. For conspicuous vertical lines, such as external corners, door jambs, reveals, and expansion and control joints, do not vary from plumb by more than 1/8 inch in 10 feet (3 mm in 3 m), 1/4 inch in 20 feet (6 mm in 6 m), or 1/2-inch (12-mm) maximum.
5. For lines and surfaces, do not vary from straight by more than 1/4 inch in 10 feet (6 mm in 3 m), 3/8 inch in 20 feet (9 mm in 6 m), or 1/2-inch (12-mm) maximum.

C. Joints:

1. For bed joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm), with a maximum thickness limited to 1/2 inch (12 mm).
2. For head and collar joints, do not vary from thickness indicated by more than plus 3/8 inch (9 mm) or minus 1/4 inch (6 mm).
3. For exposed head joints, do not vary from thickness indicated by more than plus or minus 1/8 inch (3 mm).

3.3 LAYING MASONRY WALLS

A. Lay out walls in advance for accurate spacing of surface bond patterns with uniform joint thicknesses and for accurate location of openings, movement-type joints, returns, and offsets. Avoid using less-than-half-size units, particularly at corners, jambs, and, where possible, at other locations.

B. Bond Pattern for Exposed Masonry: Unless otherwise indicated, lay exposed masonry in running bond; do not use units with less-than-nominal 4-inch (100-mm) horizontal face dimensions at corners or jambs.

C. Built-in Work: As construction progresses, build in items specified in this and other Sections. Fill in solidly with masonry around built-in items.

D. Fill space between steel frames and masonry solidly with mortar unless otherwise indicated.

E. Fill cores in hollow CMUs with grout 24 inches (600 mm) under bearing plates, beams, lintels, posts, and similar items unless otherwise indicated.

3.4 MORTAR BEDDING AND JOINTING

A. Lay **hollow brick and CMUs** as follows:

1. Bed face shells in mortar and make head joints of depth equal to bed joints.
2. Bed webs in mortar in all courses of piers, columns, and pilasters.
3. Bed webs in mortar in grouted masonry, including starting course on footings.
4. Fully bed entire units, including areas under cells, at starting course on footings where cells are not grouted.

B. Tool exposed joints slightly concave when thumbprint hard, using a jointer larger than joint thickness unless otherwise indicated.

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C. Cut joints flush for masonry walls to receive plaster or other direct-applied finishes (other than paint) unless otherwise indicated.

3.5 CAVITY WALLS

A. Bond wythes of cavity walls together **as follows**:

1. Individual Metal Ties: Provide ties as shown installed in horizontal joints, but not less than one metal tie for **1.77 sq. ft. (0.16 sq. m)** of wall area spaced not to exceed **16 inches (406 mm)** o.c. horizontally and 16 inches (406 mm) o.c. vertically. Stagger ties in alternate courses. Provide additional ties within 12 inches (305 mm) of openings and space not more than 36 inches (915 mm) apart around perimeter of openings. At intersecting and abutting walls, provide ties at no more than 24 inches (610 mm) o.c. vertically.
2. Masonry-Joint Reinforcement: Installed in horizontal mortar joints.
    a. Where bed joints of both wythes align, use **ladder-type reinforcement extending across both wythes**.
    b. Where one wythe is of clay masonry and the other of concrete masonry, use adjustable-type (two-piece-type) reinforcement **with continuous horizontal wire in facing wythe attached to ties** to allow for differential movement regardless of whether bed joints align.

B. Keep cavities clean of mortar droppings and other materials during construction. Bevel beds away from cavity, to minimize mortar protrusions into cavity. Do not attempt to trowel or remove mortar fins protruding into cavity.

C. Parge cavity face of backup wythe in a single coat approximately 3/8 inch (10 mm) thick. Trowel face of parge coat smooth.

D. Installing Cavity Wall Insulation: Place small dabs of adhesive, spaced approximately 12 inches (300 mm) o.c. both ways, on inside face of insulation boards, or attach with plastic fasteners designed for this purpose. Fit courses of insulation between wall ties and other confining obstructions in cavity, with edges butted tightly both ways. Press units firmly against inside wythe of masonry or other construction as shown.

3.6 ANCHORED MASONRY VENEERS

A. Anchor masonry veneers to **concrete and masonry backup** with masonry-veneer anchors to comply with the following requirements:
1. Embed **connector sections and continuous wire** in masonry joints.
2. Locate anchor sections to allow maximum vertical differential movement of ties up and down.
3. Space anchors as indicated, but not more than 16 inches (458 mm) o.c. vertically and 16 inches (610 mm) o.c. horizontally, with not less than one anchor for each 1.77 sq. ft. (0.16 sq. m) of wall area. Install additional anchors within 12 inches (305 mm) of openings and at intervals, not exceeding 8 inches (203 mm), around perimeter.

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3.7 MASONRY-JOINT REINFORCEMENT

A. General: Install entire length of longitudinal side rods in mortar with a minimum cover of 5/8 inch (16 mm) on exterior side of walls, 1/2 inch (13 mm) elsewhere. Lap reinforcement a minimum of 6 inches (150 mm).

1. Space reinforcement not more than 16 inches (406 mm) o.c.
2. Space reinforcement not more than 8 inches (203 mm) o.c. in foundation walls and parapet walls.
3. Provide reinforcement not more than 8 inches (203 mm) above and below wall openings and extending 24 inches (610 mm) beyond openings **in addition to continuous reinforcement**.

B. Interrupt joint reinforcement at control and expansion joints unless otherwise indicated. Do not interrupt bond beam or lintel reinforcing at vertical masonry control joints.

C. Provide continuity at wall intersections by using prefabricated T-shaped units.

D. Provide continuity at corners by using prefabricated L-shaped units.

3.8 FLASHING, WEEP HOLES, AND CAVITY VENTS

A. General: Install embedded flashing and weep holes in masonry at shelf angles, lintels, ledges, other obstructions to downward flow of water in wall, and where indicated.

B. Install flashing as follows unless otherwise indicated:

1. Prepare masonry surfaces so they are smooth and free from projections that could puncture flashing. Where flashing is within mortar joint, place through-wall flashing on sloping bed of mortar and cover with mortar. Before covering with mortar, seal penetrations in flashing with adhesive, sealant, or tape as recommended by flashing manufacturer.
2. At multiwythe masonry walls, including cavity walls, extend flashing through outer wythe, turned up a minimum of 8 inches (200 mm), and through inner wythe to within 1/2 inch (13 mm) of the interior face of wall in exposed masonry. Where interior face of wall is to receive furring or framing, carry flashing completely through inner wythe and turn flashing up approximately 2 inches (50 mm) on interior face.
3. At lintels and shelf angles, extend flashing a minimum of 6 inches (150 mm) into masonry at each end. At heads and sills, extend flashing 6 inches (150 mm) at ends and turn up not less than 2 inches (50 mm) to form end dams.
4. Install metal drip edges beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal drip edge.
5. Install metal flashing termination beneath flexible flashing at exterior face of wall. Stop flexible flashing 1/2 inch (13 mm) back from outside face of wall, and adhere flexible flashing to top of metal flashing termination.

C. Install weep holes in exterior wythes and veneers in head joints of first course of masonry immediately above embedded flashing.

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1. Use specified weep/cavity vent products to form weep holes.
2. Space weep holes 24 inches (600 mm) o.c. unless otherwise indicated.
3. Cover cavity side of weep holes with plastic insect screening at cavities insulated with loose-fill insulation.

D. Place cavity drainage material in cavities to comply with configuration requirements for cavity drainage material in "Miscellaneous Masonry Accessories" Article.

E. Install cavity vents in head joints in exterior wythes at spacing indicated. Use specified weep/cavity vent products to form cavity vents.

1. Close cavities off vertically and horizontally with blocking in manner indicated. Install through-wall flashing and weep holes above horizontal blocking.

3.9 REINFORCED UNIT MASONRY

A. Temporary Formwork and Shores: Construct formwork and shores as needed to support reinforced masonry elements during construction.

1. Construct formwork to provide shape, line, and dimensions of completed masonry as indicated. Make forms sufficiently tight to prevent leakage of mortar and grout. Brace, tie, and support forms to maintain position and shape during construction and curing of reinforced masonry.
2. Do not remove forms and shores until reinforced masonry members have hardened sufficiently to carry their own weight and that of other loads that may be placed on them during construction.

B. Placing Reinforcement: Comply with requirements in TMS 602/ACI 530.1/ASCE 6.

C. Grouting: Do not place grout until entire height of masonry to be grouted has attained enough strength to resist grout pressure.

1. Comply with requirements in TMS 602/ACI 530.1/ASCE 6 for cleanouts and for grout placement, including minimum grout space and maximum pour height.
2. Limit height of vertical grout pours to not more than **60 inches (1520 mm)**.

3.10 FIELD QUALITY CONTROL

A. Testing and Inspecting: Owner will engage special inspectors to perform tests and inspections and prepare reports. Allow inspectors access to scaffolding and work areas as needed to perform tests and inspections. Retesting of materials that fail to comply with specified requirements shall be done at Contractor's expense.

B. Inspections: Special inspections according to Level **B** in TMS 402/ACI 530/ASCE 5.

1. Begin masonry construction only after inspectors have verified proportions of site-prepared mortar.
2. Place grout only after inspectors have verified compliance of grout spaces and of grades, sizes, and locations of reinforcement.

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3. Place grout only after inspectors have verified proportions of site-prepared grout.

C. Testing Prior to Construction: One set of tests.

D. Testing Frequency: One set of tests for each 500 sq. ft. of wall area or portion thereof.

E. Clay Masonry Unit Test: For each type of unit provided, according to ASTM C67 for compressive strength.

F. Concrete Masonry Unit Test: For each type of unit provided, according to ASTM C140 for compressive strength.

G. Mortar Aggregate Ratio Test (Proportion Specification): For each mix provided, according to ASTM C780.

H. Mortar Test (Property Specification): For each mix provided, according to ASTM C780. Test mortar for **mortar air content and compressive strength**.

I. Grout Test (Compressive Strength): For each mix provided, according to ASTM C1019.

3.11 REPAIRING, POINTING, AND CLEANING

A. In-Progress Cleaning: Clean unit masonry as work progresses by dry brushing to remove mortar fins and smears before tooling joints.

B. Final Cleaning: After mortar is thoroughly set and cured, clean exposed masonry as follows:

1. Remove large mortar particles by hand with wooden paddles and nonmetallic scrape hoes or chisels.
2. Test cleaning methods on sample wall panel; leave one-half of panel uncleaned for comparison purposes.
3. Protect adjacent surfaces from contact with cleaner.
4. Wet wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing surfaces thoroughly with clear water.
5. Clean brick by bucket-and-brush hand-cleaning method described in BIA Technical Notes 20.
6. Clean masonry with a proprietary acidic cleaner applied according to manufacturer's written instructions.

3.12 MASONRY WASTE DISPOSAL

A. Waste Disposal as Fill Material: Dispose of clean masonry waste, including excess or soil-contaminated sand, waste mortar, and broken masonry units, by crushing and mixing with fill material as fill is placed.

1. Do not dispose of masonry waste as fill within 18 inches (450 mm) of finished grade.

B. Masonry Waste Recycling: Return broken CMUs not used as fill to manufacturer for recycling.

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C. Excess Masonry Waste: Remove excess clean masonry waste that cannot be used as fill, as described above or recycled, and other masonry waste, and legally dispose of off Owner's property.

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SECTION 051200 - STRUCTURAL STEEL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 SUMMARY

A. This Section includes the following:
   1. Structural steel.

B. Related Sections include the following:
   1. Division 1 Section "Quality Requirements" for independent testing agency procedures and administrative requirements.

1.03 DEFINITIONS

A. Structural Steel: Elements of structural-steel frame, as classified by AISC's "Code of Standard Practice for Steel Buildings and Bridges," that support design loads.

1.05 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Show fabrication of structural-steel components.
   1. Include details of cuts, connections, splices, camber, holes, and other pertinent data.
   2. Include embedment drawings.
   3. Indicate welds by standard AWS symbols, distinguishing between shop and field welds, and show size, length, and type of each weld.
   4. Indicate type, size, and length of bolts, distinguishing between shop and field bolts. Identify pretensioned and slip-critical high-strength bolted connections.

C. Welding certificates.

D. Qualification Data: For Installer, fabricator, professional engineer, and testing agency.

1.07 DELIVERY, STORAGE, AND HANDLING

A. Store materials to permit easy access for inspection and identification. Keep steel members off ground and spaced by using pallets, dunnage, or other supports and spacers. Protect steel members and packaged materials from erosion and deterioration.

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1. Store fasteners in a protected place. Clean and relubricate bolts and nuts that become dry or rusty before use.
2. Do not store materials on structure in a manner that might cause distortion, damage, or overload to members or supporting structures. Repair or replace damaged materials or structures as directed.

1.08 COORDINATION

B. Furnish anchorage items to be embedded in or attached to other construction without delaying the Work. Provide setting diagrams, sheet metal templates, instructions, and directions for installation.

PART 2 - PRODUCTS

2.01 STRUCTURAL-STEEL MATERIALS

A. Angles: ASTM A 572/A 572M, Grade .

B. Plate and Bar: ASTM A 36/A 36M.

C. Welding Electrodes: E70XX unless noted otherwise and shall comply with AWS requirements.

2.02 BOLTS, CONNECTORS, AND ANCHORS

A. All bolts shall be Hot Dip Galvanized or Stainless Steel. Refer to drawings for type, size and spacing.

2.03 PRIMER

B. All structural steel shall be hot dipped galvanized.

2.05 FABRICATION

A. Structural Steel: Fabricate and assemble in shop to greatest extent possible. Fabricate according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and AISC's "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."
   1. Camber structural-steel members where indicated.
   2. Identify high-strength structural steel according to ASTM A 6/ A 6M and maintain markings until structural steel has been erected.
   3. Mark and match-mark materials for field assembly.
   4. Complete structural-steel assemblies, including welding of units, before starting shop-priming operations.

B. Thermal Cutting: Perform thermal cutting by machine to greatest extent possible.
   1. Plane thermally cut edges to be welded to comply with requirements in AWS D1.1.

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C. Bolt Holes: Cut, drill, or punch standard bolt holes perpendicular to metal surfaces.

D. Finishing: Accurately finish ends of columns and other members transmitting bearing loads.

E. Holes: Provide holes required for securing other work to structural steel and for passage of other work through steel framing members.
   1. Cut, drill, or punch holes perpendicular to steel surfaces. Do not thermally cut bolt holes or enlarge holes by burning.
   2. Base-Plate Holes: Cut, drill, mechanically thermal cut, or punch holes perpendicular to steel surfaces.
   3. Weld threaded nuts to framing and other specialty items indicated to receive other work.

2.07 SHOP PRIMING

A. All brick relief angles and loose lintels shall be hot dipped galvanizes unless noted otherwise on plan.

PART 3 - EXECUTION

3.01 EXAMINATION

A. Verify elevations of concrete- and masonry-bearing surfaces and locations of anchor rods, bearing plates, and other embedments, with steel erector present, for compliance with requirements.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.03 ERECTION

A. Set structural steel accurately in locations and to elevations indicated and according to AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design."

B. Maintain erection tolerances of structural steel within AISC's "Code of Standard Practice for Steel Buildings and Bridges."

C. Align and adjust various members forming part of complete frame or structure before permanently fastening. Before assembly, clean bearing surfaces and other surfaces that will be in permanent contact with members. Perform necessary adjustments to compensate for discrepancies in elevations and alignment.

   1. Level and plumb individual members of structure.

D. Do not cut during erection.

E. Do not enlarge unfair holes in members by burning or using drift pins. Ream holes that must be enlarged to admit bolts.

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F. All field welding performed on galvanized steel shall receive approved corrosion inhibiter paint or ‘cold galvanization’ coating after weldment is cooled.

3.04 FIELD CONNECTIONS

A. Weld Connections: Comply with AWS D1.1 for welding procedure specifications, tolerances, appearance, and quality of welds and for methods used in correcting welding work.

1. Comply with AISC's "Code of Standard Practice for Steel Buildings and Bridges" and "Specification for Structural Steel Buildings--Allowable Stress Design and Plastic Design" for bearing, adequacy of temporary connections, alignment, and removal of paint on surfaces adjacent to field welds.

3.06 REPAIRS AND PROTECTION

A. All weldment on hot dipped galvanized steel shall be coated with 2 ply epoxy coating after weldment is cooled.

END OF SECTION 051200

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SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes the following:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Wood blocking, cants, and nailers.

1.2 SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

1.3 QUALITY ASSURANCE

A. Forest Certification: For the following wood products, provide materials produced from wood obtained from forests certified by an FSC-accredited certification body to comply with FSC STD-01-001, "FSC Principles and Criteria for Forest Stewardship":

1. Dimension lumber framing.
2. Laminated-veneer lumber.
3. Miscellaneous lumber.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Factory mark each piece of lumber with grade stamp of grading agency.
2. For exposed lumber indicated to receive a stained or natural finish, omit grade stamp and provide certificates of grade compliance issued by grading agency.
3. Provide dressed lumber, S4S, unless otherwise indicated.

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B. Engineered Wood Products: Provide engineered wood products acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.

1. Allowable Design Stresses: Provide engineered wood products with allowable design stresses, as published by manufacturer, that meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

A. Preservative Treatment by Pressure Process: AWPA C2.

1. Preservative Chemicals: Acceptable to authorities having jurisdiction.

B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent.

C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.

D. Application: Treat items indicated on Drawings, and the following:

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, rim boards, sleepers, blocking, furring, stripping, and similar concealed members in contact with timber piles or floor girders.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Maximum Moisture Content: 19 percent.

B. Framing Other Than Non-Load-Bearing Interior Partitions: Grade, species as indicated on drawings. See drawings for modulus of elasticity and extreme fiber stress in bending requirements.

2.4 MISCELLANEOUS LUMBER

A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:

1. Blocking.
2. Nailers.
3. Rooftop equipment bases and support curbs.
4. Cants.

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5. Furring.
6. Grounds.

B. For items of dimension lumber size, provide Construction or No. 2 grade lumber with 19 percent maximum moisture content of any species.

C. For concealed boards, provide lumber with 19 percent maximum moisture content and any of the following species and grades:

1. Mixed southern pine, No. 2 grade; SPIB.
2. Eastern softwoods, No. 2 Common grade; NeLMA.
3. Northern species, No. 2 Common grade; NLGA.
4. Western woods, Construction or No. 2 Common grade; WCLIB or WWPA.

2.5 PLYWOOD BACKING PANELS

A. Telephone and Electrical Equipment Backing Panels: DOC PS 1, Exterior, AC, fire-retardant treated, in thickness indicated or, if not indicated, not less than 3/4-inch (19-mm) nominal thickness.

2.6 FASTENERS

A. General: Provide fasteners of size and type indicated that comply with requirements specified.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A 153/A 153M except at exterior decks and stairs provide Type 304 stainless steel.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A (ASTM F 568M, Property Class 4.6); with ASTM A 563 (ASTM A 563M) hex nuts and, where indicated, flat washers.

2.7 METAL FRAMING ANCHORS

A. Available Manufacturers: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:

B. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

C. Basis-of-Design Products: Subject to compliance with requirements, provide products indicated on Drawings or comparable products by one of the following:

1. Alpine Engineered Products, Inc.
2. Cleveland Steel Specialty Co.
3. Harlen Metal Products, Inc.

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4. KC Metals Products, Inc.
5. Simpson Strong-Tie Co., Inc.
6. Southeastern Metals Manufacturing Co., Inc.
7. USP Structural Connectors.

D. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

E. Galvanized Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 (Z180) coating designation.

2.8 MISCELLANEOUS MATERIALS

A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.

B. Flexible Flashing: Self-adhesive, rubberized-asphalt compound, bonded to a high-density, polyethylene film to produce an overall thickness of not less than **0.025 inch** (**0.6 mm**).

PART 3 - EXECUTION

3.1 INSTALLATION

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

B. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.

C. Framing Standard: Comply with AF&PA's "Details for Conventional Wood Frame Construction," unless otherwise indicated.

D. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.

E. Metal Framing Anchors: Install metal framing to comply with manufacturer's written instructions.

F. Do not splice structural members between supports, unless otherwise indicated.

G. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.

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H. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the more stringent of following and as indicated on the drawings:

1. NES NER-272 for power-driven fasteners.
2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.

3.2 PROTECTION

A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

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SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Roof sheathing.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer of air-barrier and water-resistant roof sheathing. Testing Agency Qualifications:

B. For testing agency providing classification marking for fire-retardant-treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."

2.2 ROOF SHEATHING

A. Plywood Sheathing: **Structural I** sheathing.
   1. Span Rating and Nominal Thickness as indicated on the Structural Drawings.

2.3 FASTENERS

A. General: See Structural Drawings for Fastener size, type and spacing. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

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1. For **roof** sheathing, provide fasteners **with Type 304 or 316 stainless steel**.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.

B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.

C. Securely attach to substrate by fastening as indicated, complying with the following:

1. Table 2304.9.1, "Fastening Schedule," in the ICC's International Building Code.
2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in the ICC's International Residential Code for One- and Two-Family Dwellings.
3. ICC-ES evaluation report for fastener.

D. Coordinate **roof** sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.

3.2 FIELD QUALITY CONTROL

A. Testing and Inspecting Agency: The Owner may engage a qualified testing agency to perform inspections.

B. Contractor shall repair and/or replace all items not in conformance with this specification or the contract drawings.

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SECTION 061753 - SHOP-FABRICATED WOOD TRUSSES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Wood roof trusses.

1.2 ALLOWANCES

A. Provide wood truss bracing under the Metal-Plate-Connected Truss Bracing Allowance as specified in Section 012100 "Allowances."

1.3 ACTION SUBMITTALS

A. Product Data: For metal-plate connectors, metal truss accessories, and fasteners.

B. Shop Drawings: Show fabrication and installation details for trusses.

1. Show location, pitch, span, camber, configuration, and spacing for each type of truss required.
2. Indicate sizes, stress grades, and species of lumber.
3. Indicate locations of permanent bracing required to prevent buckling of individual truss members due to design loads.
4. Indicate locations, sizes, and materials for permanent bracing required to prevent buckling of individual truss members due to design loads.
5. Indicate type, size, material, finish, design values, orientation, and location of metal connector plates.
6. Show splice details and bearing details.

C. Delegated-Design Submittal: For metal-plate-connected wood trusses indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer responsible for their preparation.

1.4 INFORMATIONAL SUBMITTALS

A. Product Certificates: For metal-plate-connected wood trusses, signed by officer of truss-fabricating firm.

B. Evaluation Reports: For the following, from ICC-ES:

1. Metal-plate connectors.
2. Metal truss accessories.

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1.5 QUALITY ASSURANCE

A. Metal Connector-Plate Manufacturer Qualifications: A manufacturer that is a member of TPI and that complies with quality-control procedures in TPI 1 for manufacture of connector plates.

1. Manufacturer's responsibilities include providing professional engineering services needed to assume engineering responsibility.
2. Engineering Responsibility: Preparation of Shop Drawings and comprehensive engineering analysis by a qualified professional engineer.

B. Fabricator Qualifications: Shop that participates in a recognized quality-assurance program, complies with quality-control procedures in TPI 1, and involves third-party inspection by an independent testing and inspecting agency acceptable to Architect and authorities having jurisdiction.

1.6 DELIVERY, STORAGE, AND HANDLING

A. Handle and store trusses to comply with recommendations in SBCA BCSI, "Building Component Safety Information: Guide to Good Practice for Handling, Installing, Restraining, & Bracing Metal Plate Connected Wood Trusses."

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Delegated Design: Engage a qualified professional engineer, as defined in Section 014000 "Quality Requirements," to design metal-plate-connected wood trusses.

B. Structural Performance: Metal-plate-connected wood trusses shall be capable of withstanding design loads within limits and under conditions indicated. Comply with requirements in TPI 1.

C. Comply with applicable requirements and recommendations of TPI 1, TPI DSB, and SBCA BCSI.

D. Wood Structural Design Standard: Comply with applicable requirements in AF&PA's "National Design Specifications for Wood Construction" and its "Supplement."

2.2 DIMENSION LUMBER

A. Lumber: DOC PS 20 and applicable rules of any rules-writing agency certified by the American Lumber Standard Committee (ALSC) Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.

1. Provide dry lumber with **19** percent maximum moisture content at time of dressing.

B. Permanent Bracing: Provide wood bracing that complies with requirements for miscellaneous lumber in Section 061000 "Rough Carpentry" or Section 061053 "Miscellaneous Rough Carpentry."

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2.3 METAL CONNECTOR PLATES

A. Fabricate connector plates to comply with TPI 1. Connector plates shall be Hot-Dip Galvanized.

B. Hot-Dip Galvanized-Steel Sheet: ASTM A653/A653M; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G60 (Z180) coating designation; and not less than 0.036 inch (0.9 mm) thick.

2.4 FASTENERS

A. Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.

1. Provide fasteners for use with metal framing anchors that comply with written recommendations of metal framing manufacturer.
2. Where trusses are exposed to weather, in ground contact, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153/A153M.

B. Nails, Brads, and Staples: ASTM F1667.

2.5 METAL FRAMING ANCHORS AND ACCESSORIES

A. Allowable design loads, as published by manufacturer, shall comply with or exceed those of basis-of-design products. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, G60 (Z180) coating designation.

2.6 FABRICATION

A. Assemble truss members in design configuration indicated; use jigs or other means to ensure uniformity and accuracy of assembly, with joints closely fitted to comply with tolerances in TPI 1. Position members to produce design camber indicated.

1. Fabricate wood trusses within manufacturing tolerances in TPI 1.

B. Connect truss members by metal connector plates located and securely embedded simultaneously in both sides of wood members by air or hydraulic press.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Install wood trusses only after supporting construction is in place and is braced and secured.

B. If trusses are delivered to Project site in more than one piece, assemble trusses before installing.

C. Hoist trusses in place by lifting equipment suited to sizes and types of trusses required, exercising care not to damage truss members or joints by out-of-plane bending or other causes.

D. Install and brace trusses according to TPI recommendations and as indicated.

E. Anchor trusses securely at bearing points; use metal truss tie-downs or floor truss hangers as applicable. Install fasteners through each fastener hole in metal framing anchors according to manufacturer's fastening schedules and written instructions.

F. Securely connect each truss ply required for forming built-up girder trusses.

G. Install and fasten permanent bracing during truss erection and before construction loads are applied. Anchor ends of permanent bracing where terminating at walls or beams.

1. Install bracing to comply with **Section 061000 "Rough Carpentry".**
2. Install and fasten strongback bracing vertically against vertical web of parallel-chord floor trusses at centers indicated.

H. Install wood trusses within installation tolerances in TPI 1.

I. Do not alter trusses in field. Do not cut, drill, notch, or remove truss members.

J. Replace wood trusses that are damaged or do not comply with requirements.

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SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Extruded polystyrene foam-plastic board insulation.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Extruded polystyrene foam-plastic board insulation.

1.3 INFORMATIONAL SUBMITTALS

A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.

B. Product test reports.

C. Research reports.

PART 2 - PRODUCTS

2.1 EXTRUDED POLYSTYRENE FOAM-PLASTIC BOARD INSULATION

A. Extruded Polystyrene Board Insulation, Type IV: ASTM C578, Type IV, 25-psi (173-kPa) minimum compressive strength; unfaced.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. DuPont de Nemours, Inc.
b. Owens Corning.
c. The Dow Chemical Company.

2. Flame-Spread Index: Not more than 25 when tested in accordance with ASTM E84.
3. Smoke-Developed Index: Not more than 450 when tested in accordance with ASTM E84.
4. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
5. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches (305 mm) and wider in width.

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2.2 ACCESSORIES

A. Insulation for Miscellaneous Voids:

1. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.

B. Insulation Anchors, Spindles, and Standoffs: As recommended by manufacturer.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.

C. Install insulation with manufacturer's R-value label exposed after insulation is installed.

D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.

E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.2 INSTALLATION OF CAVITY-WALL INSULATION

A. Foam-Plastic Board Insulation: Install pads of adhesive spaced approximately 24 inches (610 mm) o.c. both ways on inside face and as recommended by manufacturer.

1. Fit courses of insulation between wall ties and other obstructions, with edges butted tightly in both directions, and with faces flush.
2. Press units firmly against inside substrates.
3. Supplement adhesive attachment of insulation by securing boards with two-piece wall ties designed for this purpose and specified in Section 042000 "Unit Masonry."

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

A. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:

1. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

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SECTION 072119 - FOAMED-IN-PLACE INSULATION

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:
   1. Open-cell spray polyurethane foam.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Research reports.

PART 2 - PRODUCTS

2.1 OPEN-CELL SPRAY POLYURETHANE FOAM

A. Open-Cell Spray Polyurethane Foam: Spray-applied polyurethane foam using water as a blowing agent. Minimum density of **0.4 lb/cu. ft.** and minimum aged R-value at 1-inch (25.4-mm) thickness of 3.4 deg F x h x sq. ft./Btu at 75 deg F (24 K x sq. m/W at 24 deg C).
   1. Surface-Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.
      a. Flame-Spread Index: **25** or less.
      b. Smoke-Developed Index: **450** or less.
   2. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with insulation manufacturer's written instructions applicable to products and applications.

B. Spray insulation to envelop entire area to be insulated and fill voids.

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C. Apply in multiple passes to not exceed maximum thicknesses recommended by manufacturer. Do not spray into rising foam.

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SECTION 072726 - FLUID-APPLIED MEMBRANE AIR BARRIERS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Vapor-permeable, fluid-applied air barriers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For air-barrier assemblies.

1. Include details for substrate joints and cracks, counterflashing strips, penetrations, inside and outside corners, terminations, and tie-ins with adjoining construction.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Air-Barrier Performance: Air-barrier assembly and seals with adjacent construction shall be capable of performing as a continuous air barrier and as a liquid-water drainage plane flashed to discharge to the exterior incidental condensation or water penetration. Air-barrier assemblies shall be capable of accommodating substrate movement and of sealing substrate expansion and control joints, construction material changes, penetrations, and transitions at perimeter conditions without deterioration and air leakage exceeding specified limits.

B. Air-Barrier Assembly Air Leakage: Maximum 0.04 cfm/sq. ft. of surface area at 1.57 lbf/sq. ft. (0.2 L/s x sq. m of surface area at 75 Pa), when tested according to ASTM E2357.

2.2 HIGH-BUILD AIR BARRIERS, VAPOR PERMEABLE

A. High-Build, Vapor-Permeable Air Barrier: synthetic polymer membrane with an installed dry film thickness, according to manufacturer's written instructions, of 35 mils (0.9 mm) or thicker over smooth, void-free substrates.

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1. Synthetic Polymer Type:

   a. Manufacturers: Subject to compliance with requirements, provide products by the following:

      1) Henry Company.
      2) Prosoco.
      3) WR Meadows.

   b. Basis of Design: Prosoco R Guard Cat5.

2. Physical and Performance Properties:

   a. Air Permeance: Maximum 0.004 cfm/sq. ft. of surface area at 1.57-lbf/sq. ft. (0.02 L/s x sq. m of surface area at 75-Pa) pressure difference; ASTM E2178.
   b. Vapor Permeance: Minimum 10 perms (580 ng/Pa x s x sq. m); ASTM E96/E96M, Desiccant Method, Procedure A.
   c. Ultimate Elongation: Minimum 200 percent; ASTM D412, Die C.
   d. Adhesion to Substrate: Minimum 16 lbf/sq. in. (110 kPa) when tested according to ASTM D4541.
   e. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
   f. UV Resistance: Can be exposed to sunlight for 90 days according to manufacturer's written instructions.

2.3 ACCESSORY MATERIALS

A. Requirement: Provide primers, transition strips, termination strips, joint reinforcing fabric and strips, joint sealants, counterflashing strips, flashing sheets and metal termination bars, termination mastic, substrate patching materials, adhesives, tapes, foam sealants, lap sealants, and other accessory materials that are recommended in writing by air-barrier manufacturer to produce a complete air-barrier assembly and that are compatible with primary air-barrier material and adjacent construction to which they may seal.

PART 3 - EXECUTION

3.1 SURFACE PREPARATION

A. Clean, prepare, treat, fill, and seal substrate and joints and cracks in substrate according to manufacturer's written instructions and details. Provide clean, dust-free, and dry substrate for air-barrier application.

B. Mask off adjoining surfaces not covered by air barrier to prevent spillage and overspray affecting other construction.

C. Remove fins, ridges, mortar, and other projections and fill honeycomb, aggregate pockets, holes, and other voids in concrete with substrate-patching material.

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D. Remove excess mortar from masonry ties, shelf angles, and other obstructions.

E. At changes in substrate plane, apply sealant or termination mastic beads at sharp corners and edges to form a smooth transition from one plane to another.

F. Bridge isolation joints discontinuous wall-to-wall, deck-to-wall, and deck-to-deck joints with air-barrier accessory material that accommodates joint movement according to manufacturer's written instructions and details.

3.2 INSTALLATION

A. Install materials according to air-barrier manufacturer's written instructions and details to form a seal with adjacent construction and ensure continuity of air and water barrier.

1. Coordinate the installation of air barrier with installation of roofing membrane and base flashing to ensure continuity of air barrier with roofing membrane.
2. Install transition strip on roofing membrane or base flashing so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate.
3. Unless manufacturer recommends in writing against priming, apply primer to substrates at required rate and allow it to dry.
4. Apply primer to substrates at required rate and allow it to dry. Limit priming to areas that will be covered by air-barrier material on same day. Reprime areas exposed for more than 24 hours.

B. Connect and seal exterior wall air-barrier material continuously to roofing-membrane air barrier, concrete below-grade structures, floor-to-floor construction, exterior glazing and window systems, glazed curtain-wall systems, storefront systems, exterior louvers, exterior door framing, and other construction used in exterior wall openings, using accessory materials.

C. Wall Openings: Prime concealed, perimeter frame surfaces of windows, curtain walls, storefronts, and doors. Apply transition strip so that a minimum of 3 inches (75 mm) of coverage is achieved over each substrate. Maintain 3 inches (75 mm) of full contact over firm bearing to perimeter frames, with not less than 1 inch (25 mm) of full contact.

D. Repair punctures, voids, and deficient lapped seams in strips and transition strips. Slit and flatten fishmouths and blisters. Patch with transition strips extending 6 inches (150 mm) beyond repaired areas in strip direction.

E. High-Build Air Barriers: Apply continuous unbroken air-barrier material to substrates according to the following thickness. Apply air-barrier material in full contact around protrusions such as masonry ties.

1. Vapor-Permeable, High-Build Air Barrier: Total dry film thickness as recommended in writing by manufacturer to comply with performance requirements, but not less than 35 mils (0.9 mm), applied in one or more equal coats.

F. Do not cover air barrier until it has been tested and inspected by testing agency.

G. Correct deficiencies in or remove air barrier that does not comply with requirements; repair substrates and reapply air-barrier components.

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3.3 FIELD QUALITY CONTROL

A. Testing Agency: Owner will engage a qualified testing agency to perform tests and inspections.

B. Tests: As determined by testing agency from among the following tests:

1. Air-barrier dry film thickness.
2. Air-Leakage-Location Testing: Air-barrier assemblies will be tested for evidence of air leakage according to ASTM E1186, chamber pressurization or depressurization with smoke tracers.
3. Air-Leakage-Volume Testing: Air-barrier assemblies will be tested for air-leakage rate according to ASTM E2357.
4. Adhesion Testing: Air-barrier assemblies will be tested for required adhesion to substrate according to ASTM D4541 for each 600 sq. ft. (56 sq. m) of installed air barrier or part thereof.

C. Air barriers will be considered defective if they do not pass tests and inspections.

1. Apply additional air-barrier material, according to manufacturer's written instructions, where inspection results indicate insufficient thickness.
2. Remove and replace deficient air-barrier components for retesting as specified above.

D. Repair damage to air barriers caused by testing; follow manufacturer's written instructions.

E. Prepare test and inspection reports.

3.4 CLEANING AND PROTECTION

A. Protect air-barrier system from damage during application and remainder of construction period, according to manufacturer's written instructions.

B. Remove masking materials after installation.

END OF SECTION 072726

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SECTION 074113.16 - STANDING-SEAM METAL ROOF PANELS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Standing-seam metal roof panels.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include color chart and Florida product approval documentation and reports.

B. Shop Drawings: Include fabrication and installation layouts of metal panels; details of edge conditions, joints, panel profiles, corners, anchorages, attachment system, trim, flashings, closures, and accessories; and special details.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Warranties: Sample of special warranties.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: An entity that employs installers and supervisors who are trained and approved by manufacturer.

B. UL-Certified, Portable Roll-Forming Equipment: UL-certified, portable roll-forming equipment capable of producing metal panels warranted by manufacturer to be the same as factory-formed products. Maintain UL certification of portable roll-forming equipment for duration of work.

1.6 WARRANTY

A. Special Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace components of metal panel systems that fail in materials or workmanship within specified warranty period.

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1. Warranty Period: Three years from date of Substantial Completion.

B. Special Warranty on Panel Finishes: Manufacturer's standard form in which manufacturer agrees to repair finish or replace metal panels that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Finish Warranty Period: 20 years from date of Substantial Completion.

C. Special Weathertightness Warranty: Manufacturer's standard form in which manufacturer agrees to repair or replace standing-seam metal roof panel assemblies that fail to remain weathertight, including leaks, within specified warranty period.

1. Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Energy Performance: Provide roof panels that are listed on the EPA/DOE's ENERGY STAR "Roof Product List" for steep-slope roof products.

B. Structural Performance: Provide metal panel systems capable of withstanding the effects of the following loads, based on testing according to ASTM E1592:

1. Wind Loads: As indicated on Drawings.
2. Other Design Loads: As indicated on Drawings.
3. Deflection Limits: For wind loads, no greater than 1/240 of the span.

C. Air Infiltration: Air leakage of not more than 0.06 cfm/sq. ft. (0.3 L/s per sq. m) when tested according to ASTM E1680 or ASTM E283 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

D. Water Penetration under Static Pressure: No water penetration when tested according to ASTM E1646 or ASTM E331 at the following test-pressure difference:

1. Test-Pressure Difference: 6.24 lbf/sq. ft. (300 Pa).

E. Hydrostatic-Head Resistance: No water penetration when tested according to ASTM E2140.

F. Wind-Uplift Resistance: Provide metal roof panel assemblies that have Florida product approval for wind speeds and pressures indicated on design drawings.

G. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes by preventing buckling, opening of joints, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

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2.2 STANDING-SEAM METAL ROOF PANELS

A. Provide factory-formed metal roof panels designed to be installed by lapping and interconnecting raised side edges of adjacent panels with joint type indicated and mechanically attaching panels to supports using concealed clips in side laps. Include clips, cleats, pressure plates, and accessories required for weathertight installation.

1. Aluminum Panel Systems: Unless more stringent requirements are indicated, comply with ASTM E1637.

B. Vertical-Rib, Seamed-Joint, Standing-Seam Metal Roof Panels: Formed with vertical ribs at panel edges and intermediate stiffening ribs symmetrically spaced between ribs; designed for sequential installation by mechanically attaching panels to supports using concealed clips located under one side of panels, engaging opposite edge of adjacent panels, and mechanically seaming panels together.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. PAC-Clad Tite Loc Plus

2. Aluminum Sheet: Coil-coated sheet, ASTM B209 (ASTM B209M), alloy as standard with manufacturer, with temper as required to suit forming operations and structural Thickness: 0.032 inch (0.81 mm).
   a. Surface: Smooth, flat finish.
   b. Exterior Finish: Two-coat metallic fluoropolymer.
   c. Color: As indicated on Drawings.

3. Clips: Per manufacturer, to accommodate thermal movement.

a. Material: 0.025-inch- (0.64-mm-) thick, stainless-steel sheet.

4. Joint Type: As standard with manufacturer.
5. Panel Coverage: 18 inches (406 mm).
6. Panel Height: 2.0 inches (51 mm).

2.3 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Underlayment: Provide self-adhering, cold-applied, sheet underlayment, a minimum of 40 mils (0.76 mm) thick, consisting of slip-resistant, polyethylene-film top surface laminated to a layer of butyl or SBS-modified asphalt adhesive, with release-paper backing. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: Stable after testing at 240 deg F (116 deg C); ASTM D1970.
2. Low-Temperature Flexibility: Passes after testing at minus 20 deg F (29 deg C); ASTM D1970.

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2.4 MISCELLANEOUS MATERIALS

A. Miscellaneous Metal Subframing and Furring: ASTM C645; cold-formed, metallic-coated steel sheet, ASTM A653/A653M, G90 (Z275 hot-dip galvanized) coating designation or ASTM A792/A792M, Class AZ50 (Class AZM150) coating designation unless otherwise indicated. Provide manufacturer's standard sections as required for support and alignment of metal panel system.

B. Panel Accessories: Provide components required for a complete, weathertight panel system including trim, copings, fasciae, mullions, sills, corner units, clips, flashings, sealants, gaskets, fillers, closure strips, and similar items. Match material and finish of metal panels unless otherwise indicated.

1. Closures: Provide closures at eaves and ridges, fabricated of same metal as metal panels.
2. Backing Plates: Provide metal backing plates at panel end splices, fabricated from material recommended by manufacturer.
3. Closure Strips: Closed-cell, expanded, cellular, rubber or crosslinked, polyolefin-foam or closed-cell laminated polyethylene; minimum 1-inch- (25-mm-) thick, flexible closure strips; cut or premolded to match metal panel profile. Provide closure strips where indicated or necessary to ensure weathertight construction.

C. Flashing and Trim: Provide flashing and trim formed from same material as metal panels as required to seal against weather and to provide finished appearance. Locations include, but are not limited to, eaves, rakes, corners, bases, framed openings, ridges, fasciae, and fillers. Finish flashing and trim with same finish system as adjacent metal panels.

D. Gutters and Downspouts: Formed from same material as roof panels according to SMACNA's "Architectural Sheet Metal Manual." Finish to match metal roof panels.

E. Roof Curbs: Fabricated from same material as roof panels, 0.048-inch (1.2-mm) nominal thickness; with bottom of skirt profiled to match roof panel profiles and with welded top box and integral full-length cricket. Fabricate curb subframing of 0.060-inch- (1.52-mm-) nominal thickness, angle-, C-, or Z-shaped steel sheet. Fabricate curb and subframing to withstand indicated loads of size and height indicated. Finish roof curbs to match metal roof panels.

F. Panel Fasteners: Self-tapping screws designed to withstand design loads.

G. Panel Sealants: Provide sealant type recommended by manufacturer that are compatible with panel materials, are nonstaining, and do not damage panel finish.

1. Sealant Tape: Pressure-sensitive, 100 percent solids, gray polyisobutylene compound sealant tape with release-paper backing; 1/2 inch (13 mm) wide and 1/8 inch (3 mm) thick.
2. Joint Sealant: ASTM C920; as recommended in writing by metal panel manufacturer.
3. Butyl-Rubber-Based, Solvent-Release Sealant: ASTM C1311.

2.5 FABRICATION

A. Fabricate and finish metal panels and accessories at the factory, by manufacturer's standard procedures and processes, as necessary to fulfill indicated performance requirements

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demonstrated by laboratory testing. Comply with indicated profiles and with dimensional and structural requirements.

B. On-Site Fabrication: Subject to compliance with requirements of this Section, metal panels may be fabricated on-site using UL-certified, portable roll-forming equipment if panels are of same profile and warranted by manufacturer to be equal to factory-formed panels. Fabricate according to equipment manufacturer's written instructions and to comply with details shown.

C. Provide panel profile, including major ribs and intermediate stiffening ribs, if any, for full length of panel.

D. Fabricate metal panel joints with factory-installed captive gaskets or separator strips that provide a weathertight seal and prevent metal-to-metal contact, and that minimize noise from movements.

E. Sheet Metal Flashing and Trim: Fabricate flashing and trim to comply with manufacturer's recommendations and recommendations in SMACNA's "Architectural Sheet Metal Manual" that apply to design, dimensions, metal, and other characteristics of item indicated.

2.6 FINISHES

A. Panels and Accessories:

1. Two-Coat Fluoropolymer: AAMA 2605. Fluoropolymer finish containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat.
2. Concealed Finish: White or light-colored acrylic or polyester backer finish.

PART 3 - EXECUTION

3.1 PREPARATION

A. Miscellaneous Supports: Install subframing, furring, and other miscellaneous panel support members and anchorages according to ASTM C754 and metal panel manufacturer's written recommendations.

3.2 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply at locations indicated below, wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

1. Apply over the entire roof surface.

B. Flashings: Install flashings to cover underlayment to comply with requirements specified in Section 076200 "Sheet Metal Flashing and Trim."

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3.3 INSTALLATION OF STANDING SEAM METAL ROOF PANELS

A. Standing-Seam Metal Roof Panel Installation: Fasten metal roof panels to supports with concealed clips at each standing-seam joint at location, spacing, and with fasteners recommended in writing by manufacturer.

1. Install clips to supports with self-tapping fasteners.
2. Install pressure plates at locations indicated in manufacturer's written installation instructions.
3. Snap Joint: Nest standing seams and fasten together by interlocking and completely engaging factory-applied sealant.
4. Seamed Joint: Crimp standing seams with manufacturer-approved, motorized seamer tool so clip, metal roof panel, and factory-applied sealant are completely engaged.
5. Watertight Installation:

    a. Apply a continuous ribbon of sealant or tape to seal joints of metal panels, using sealant or tape as recommend in writing by manufacturer as needed to make panels watertight.
    b. Provide sealant or tape between panels and protruding equipment, vents, and accessories.
    c. At panel splices, nest panels with minimum 6-inch (152-mm) end lap, sealed with sealant and fastened together by interlocking clamping plates.

B. Accessory Installation: Install accessories with positive anchorage to building and weathertight mounting, and provide for thermal expansion. Coordinate installation with flashings and other components.

C. Flashing and Trim: Comply with performance requirements, manufacturer's written installation instructions, and SMACNA's "Architectural Sheet Metal Manual." Provide concealed fasteners where possible, and set units true to line and level as indicated. Install work with laps, joints, and seams that will be permanently watertight and weather resistant.

3.4 CLEANING AND PROTECTION

A. Remove temporary protective coverings and strippable films, if any, as metal panels are installed, unless otherwise indicated in manufacturer's written installation instructions. On completion of metal panel installation, clean finished surfaces as recommended by metal panel manufacturer. Maintain in a clean condition during construction.

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SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes fiber-cement soffit.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include Florida product approval documentation and reports.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace products that fail in materials or workmanship within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 FIBER-CEMENT SOFFIT

A. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. James Hardie Building Products, Inc.

b. Nichiha

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B. Nominal Thickness: Not less than 5/16 inch (8 mm).

C. Pattern: 24-inch- (600-mm-) wide sheets with smooth texture. See drawings for locations.

D. Factory Priming: Manufacturer's standard acrylic primer.

2.2 ACCESSORIES

A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.

B. Fasteners:

1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch (25 mm) into substrate.
2. For fastening to metal, use ribbed bugle-head screws of sufficient length to penetrate a minimum of 1/4 inch (6 mm), or three screw-threads, into substrate.
3. For fastening fiber cement, use stainless-steel fasteners.

PART 3 - EXECUTION

3.1 INSTALLATION

A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.

1. Install fasteners no more than 24 inches (600 mm) o.c.

B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.2 ADJUSTING AND CLEANING

A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

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SECTION 077100 - ROOF SPECIALTIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Roof-edge specialties.
2. Roof-edge drainage systems.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of roof specialty and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

A. Product Test Reports: For tests performed by a qualified testing agency.

B. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance Data: For roofing specialties to include in maintenance manuals.

1.5 QUALITY ASSURANCE

A. Manufacturer Qualifications: A qualified manufacturer offering products meeting requirements that are SPRI ES-1 tested to specified design pressure.

1.6 WARRANTY

A. Roofing-System Warranty: Roof specialties are included in warranty provisions in Section 074113.16 "Standing Seam Metal Roof Panels."

B. Special Warranty on Painted Finishes: Manufacturer agrees to repair finish or replace roof specialties that show evidence of deterioration of factory-applied finishes within specified warranty period.

1. Fluoropolymer Finish: Deterioration includes, but is not limited to, the following:

a. Color fading more than 5 Delta E units when tested according to ASTM D2244.

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b. Chalking in excess of a No. 8 rating when tested according to ASTM D4214.
c. Cracking, checking, peeling, or failure of paint to adhere to bare metal.

2. Finish Warranty Period: 20 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. SPRI Wind Design Standard: Manufacture and install roof-edge specialties tested according to SPRI ES-1 and capable of resisting the following design pressures:

1. Design Pressure: As indicated on Drawings.

B. Thermal Movements: Allow for thermal movements from ambient and surface temperature changes to prevent buckling, opening of joints, hole elongation, overstressing of components, failure of joint sealants, failure of connections, and other detrimental effects. Provide clips that resist rotation and avoid shear stress as a result of thermal movements. Base calculations on surface temperatures of materials due to both solar heat gain and nighttime-sky heat loss.

1. Temperature Change (Range): 120 deg F (67 deg C), ambient; 180 deg F (100 deg C), material surfaces.

2.2 ROOF-EDGE SPECIALTIES

A. Roof-Edge Fascia: Drip Edges: Fabricate from the following materials:

B.

1. Aluminum: **0.032 inch** thick.

a. Surface: Smooth, flat finish.
b. Finish: Two-coat mica fluoropolymer.
c. Color: To match roofing. See color schedule on Drawings.

2. Corners: Mitered and soldered.
3. Receiver: Aluminum sheet, 0.050 inch (1.27 mm) thick.

2.3 ROOF-EDGE DRAINAGE SYSTEMS

A. Gutters: Manufactured in uniform section lengths not exceeding 12 feet (3.6 m), with matching corner units, ends, outlet tubes, and other accessories. Elevate back edge at least 1 inch (25 mm) above front edge. Furnish flat-stock gutter straps, gutter brackets, expansion joints, and expansion-joint covers fabricated from same metal as gutters.
1. Aluminum Sheet: 0.032 inch (0.81 mm) thick.
2. Gutter Profile: Style I according to SMACNA's "Architectural Sheet Metal Manual."
3. Corners: Factory mitered and soldered.

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4. Gutter Supports: Manufacturer's standard supports as selected by Architect with finish matching the gutters.
5. Gutter Accessories: Continuous hinged leaf guard of solid metal designed to shed leaves.

B. Downspouts: Plain rectangular complete with mitered elbows, manufactured from the following exposed metal. Furnish with metal hangers, from same material as downspouts, and anchors.

1. Formed Aluminum: 0.032 inch (0.81 mm) thick.

C. Aluminum Finish: Two-coat mica fluoropolymer.

2.4 MATERIALS

A. Aluminum Sheet: ASTM B209 (ASTM B209M), alloy as standard with manufacturer for finish required, with temper to suit forming operations and performance required.

2.5 UNDERLAYMENT MATERIALS

A. Self-Adhering, High-Temperature Sheet: Minimum 40 mils (0.76 to 1.0 mm) thick, consisting of slip-resisting polyethylene-film top surface laminated to layer of butyl or SBS-modified asphalt adhesive, with release-paper backing; cold applied. Provide primer when recommended by underlayment manufacturer.

1. Thermal Stability: ASTM D1970/D1970M; stable after testing at 240 deg F (116 deg C).
2. Low-Temperature Flexibility: ASTM D1970/D1970M; passes after testing at minus 20 deg F (29 deg C).

2.6 MISCELLANEOUS MATERIALS

A. Fasteners: Manufacturer's recommended fasteners, suitable for application and designed to meet performance requirements. Furnish the following unless otherwise indicated:

1. Exposed Penetrating Fasteners: Gasketed screws with hex washer heads matching color of sheet metal.
2. Fasteners for Aluminum: Aluminum or Series 300 stainless steel.
3. Fasteners for Stainless Steel Sheet: Series 300 stainless steel.
4. Fasteners for Zinc-Coated (Galvanized) Steel Sheet: Series 300 stainless steel or hot-dip zinc-coated steel according to ASTM A153/A153M or ASTM F2329.

B. Elastomeric Sealant: ASTM C920, elastomeric silicone polymer sealant of type, grade, class, and use classifications required by roofing-specialty manufacturer for each application.

C. Butyl Sealant: ASTM C1311, single-component, solvent-release butyl rubber sealant; polyisobutylene plasticized; heavy bodied for hooked-type joints with limited movement.

D. Bituminous Coating: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

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2.7 FINISHES

A. Coil-Coated Aluminum Sheet Finishes:

1. High-Performance Organic Finish: Prepare, pretreat, and apply coating to exposed metal surfaces to comply with coating and resin manufacturers' written instructions.Retain one of or more of four fluoropolymer subparagraphs below if a painted finish is required.
   a. Two-Coat Mica Fluoropolymer: AAMA 2605. Fluoropolymer finish with suspended mica flakes containing not less than 70 percent polyvinylidene fluoride (PVDF) resin by weight in color coat.

PART 3 - EXECUTION

3.1 INSTALLATION OF UNDERLAYMENT

A. Self-Adhering Sheet Underlayment: Apply primer if required by manufacturer. Comply with temperature restrictions of underlayment manufacturer for installation. Apply wrinkle free, in shingle fashion to shed water, and with end laps of not less than 6 inches (152 mm) staggered 24 inches (610 mm) between courses. Overlap side edges not less than 3-1/2 inches (90 mm). Roll laps with roller. Cover underlayment within 14 days.

1. Apply continuously under roof-edge specialties.
2. Coordinate application of self-adhering sheet underlayment under roof specialties with requirements for continuity with adjacent air barrier materials.

3.2 INSTALLATION, GENERAL

A. Install roof specialties according to manufacturer's written instructions. Anchor roof specialties securely in place, with provisions for thermal and structural movement. Use fasteners, solder, protective coatings, separators, underlayments, sealants, and other miscellaneous items as required to complete roof-specialty systems.

1. Install roof specialties level, plumb, true to line and elevation; with limited oil-canning and without warping, jogs in alignment, buckling, or tool marks.
2. Provide uniform, neat seams with minimum exposure of solder and sealant.
3. Install roof specialties to fit substrates and to result in weathertight performance. Verify shapes and dimensions of surfaces to be covered before manufacture.
4. Torch cutting of roof specialties is not permitted.
5. Do not use graphite pencils to mark metal surfaces.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum and stainless steel roof specialties with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.

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2. Bed flanges in thick coat of asphalt roofing cement where required by manufacturers of roof specialties for waterproof performance.

C. Expansion Provisions: Allow for thermal expansion of exposed roof specialties.

1. Space movement joints at a maximum of 12 feet (3.6 m) with no joints within 18 inches (450 mm) of corners or intersections unless otherwise indicated on Drawings.
2. When ambient temperature at time of installation is between 40 and 70 deg F (4 and 21 deg C), set joint members for 50 percent movement each way. Adjust setting proportionately for installation at higher ambient temperatures.

D. Fastener Sizes: Use fasteners of sizes that penetrate wood blocking or sheathing not less than 1-1/4 inches (32 mm) for nails and not less than 3/4 inch (19 mm) for wood screws.

E. Seal concealed joints with butyl sealant as required by roofing-specialty manufacturer.

F. Seal joints as required for weathertight construction. Place sealant to be completely concealed in joint. Do not install sealants at temperatures below 40 deg F (4 deg C).

G. Soldered Joints: Clean surfaces to be soldered, removing oils and foreign matter. Pre-tin edges of sheets to be soldered to a width of 1-1/2 inches (38 mm); however, reduce pre-tinning where pre-tinned surface would show in completed Work. Tin edges of uncoated copper sheets using solder for copper. Do not use torches for soldering. Heat surfaces to receive solder and flow solder into joint. Fill joint completely. Completely remove flux and spatter from exposed surfaces.

3.3 INSTALLATION OF ROOF-EDGE SPECIALITIES

A. Install cleats, cants, and other anchoring and attachment accessories and devices with concealed fasteners.

B. Anchor roof edgings with manufacturer's required devices, fasteners, and fastener spacing to meet performance requirements.

3.4 INSTALLATION OF ROOF-EDGE DRAINAGE-SYSTEM

A. Install components to produce a complete roof-edge drainage system according to manufacturer's written instructions. Coordinate installation of roof perimeter flashing with installation of roof-edge drainage system.

B. Gutters: Join and seal gutter lengths. Allow for thermal expansion. Attach gutters to firmly anchored gutter supports spaced not more than 36 inches (610 mm) apart. Attach ends with rivets and solder to make watertight. Slope to downspouts.

1. Install gutter with expansion joints at locations indicated but not exceeding 50 feet (15.2 m) apart. Install expansion-joint caps.
2. Install continuous leaf guards on gutters with noncorrosive fasteners, hinged to swing open for cleaning gutters.

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C. Downspouts: Join sections with manufacturer's standard telescoping joints. Provide hangers with fasteners designed to hold downspouts securely to walls and 1 inch (25 mm) away from walls; locate fasteners at top and bottom and at approximately 48 inches o.c.

1. Provide elbows at base of downspouts at grade to direct water away from building.
2. Connect downspouts to underground drainage system indicated.

3.5 CLEANING AND PROTECTION

A. Clean exposed metal surfaces of substances that interfere with uniform oxidation and weathering.

B. Clean and neutralize flux materials. Clean off excess solder and sealants.

C. Remove temporary protective coverings and strippable films as roof specialties are installed.

END OF SECTION 077100

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SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Nonstaining silicone joint sealants.
2. Urethane joint sealants.
3. Mildew-resistant joint sealants.
4. Latex joint sealants.

1.2 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product.

B. Samples: For each kind and color of joint sealant required.

C. Joint-Sealant Schedule: Include the following information:

1. Joint-sealant application, joint location, and designation.
2. Joint-sealant manufacturer and product name.
3. Joint-sealant formulation.
4. Joint-sealant color.

1.3 INFORMATIONAL SUBMITTALS

A. Product test reports.

B. Field-adhesion-test reports.

C. Sample warranties.

1.4 QUALITY ASSURANCE

A. Testing Agency Qualifications: Qualified according to ASTM C1021 to conduct the testing indicated.

1.5 WARRANTY

A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

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1. Warranty Period: Two years from date of Substantial Completion.

B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

A. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 NONSTAINING SILICONE JOINT SEALANTS

A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C1248.

B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. BASF.
b. Pecora Corporation.
c. The Dow Chemical Company.
d. Tremco Incorporated.

2.3 URETHANE JOINT SEALANTS

A. Urethane, S, P, 25, T, NT: Single-component, pourable, plus 25 percent and minus 25 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C920, Type S, Grade P, Class 25, Uses T and NT.

1. Manufacturers:

a. BASF.
b. Dow Corning.
c. Pecora.
d. Tremco.

B. Urethane, M, P, 50, T, NT: Multicomponent, nonsag, plus 50 percent and minus 50 percent movement capability, traffic- and nontraffic-use, urethane joint sealant; ASTM C920, Type M, Grade NS, Class 25, Uses T and NT.

1. Manufacturers:

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a. BASF.
b. Dow Corning.
c. Pecora.
d. Temco.

2.4 MILDEW-RESISTANT JOINT SEALANTS

A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.

B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.

1. Manufacturers:

a. BASF.
b. Dow Corning.
c. Pecora.
d. Tremco.

2.5 JOINT-SEALANT BACKING

A. Cylindrical Sealant Backings: ASTM C1330, Type C, Type B, Type O, or any of the preceding types, as approved in writing by joint-sealant manufacturer for joint application indicated, and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.

2.6 MISCELLANEOUS MATERIALS

A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials.

C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 PREPARATION

A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:

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1. Remove laitance and form-release agents from concrete.
2. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion.

B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience.

C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces.

3.2 INSTALLATION OF JOINT SEALANTS

A. General: Comply with ASTM C1193 and joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.

B. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.

C. Install sealants using proven techniques that comply with the following and at the same time backings are installed:

1. Place sealants so they directly contact and fully wet joint substrates.
2. Completely fill recesses in each joint configuration.
3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.

D. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants to form smooth, uniform beads of configuration indicated. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.

1. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.3 JOINT-SEALANT SCHEDULE

A. Joint-Sealant Application: Exterior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation and contraction joints in cast-in-place concrete slabs.
b. Joints between different materials listed above.

2. Joint Sealant: Urethane, M, P, 50, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

B. Joint-Sealant Application: Exterior joints in vertical surfaces.

1. Joint Locations:

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a. Control and expansion joints in unit masonry.

2. Joint Sealant: Silicone, nonstaining, S, NS, 50, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

C. Joint-Sealant Application: Interior joints in horizontal traffic surfaces.

1. Joint Locations:

a. Isolation joints in cast-in-place concrete slabs.

2. Joint Sealant: Urethane, S, P, 25, T, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

D. Joint-Sealant Application: Interior joints in vertical surfaces not subject to significant movement.

1. Joint Locations:

a. Control joints on exposed interior surfaces of exterior walls.
b. Perimeter joints between interior wall surfaces and frames of interior doors.

2. Joint Sealant: Acrylic latex.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors.

E. Joint-Sealant Application: Mildew-resistant interior joints in vertical surfaces and horizontal nontraffic surfaces.

1. Joint Locations:

a. Joints between plumbing fixtures and adjoining walls, floors, and counters.
b. Joints between counters and walls.

2. Joint Sealant: Silicone, mildew resistant, acid curing, S, NS, 25, NT.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .

F. Joint-Sealant Application: Concealed mastics.

1. Joint Locations:

a. Aluminum thresholds.
b. Sill plates.

2. Joint Sealant: Butyl-rubber based.
3. Joint-Sealant Color: As selected by Architect from manufacturer's full range of colors .

END OF SECTION 079200

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SECTION 081113 - HOLLOW METAL DOORS AND FRAMES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

A. Section includes:
   1. Exterior standard steel doors and frames.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: Include the following:

   1. Elevations of each door type.
   2. Details of doors, including vertical- and horizontal-edge details and metal thicknesses.
   3. Frame details for each frame type, including dimensioned profiles and metal thicknesses.

C. Product Schedule: For hollow-metal doors and frames, prepared by or under the supervision of supplier, using same reference numbers for details and openings as those on Drawings. Coordinate with final door hardware schedule.

1.4 INFORMATIONAL SUBMITTALS

A. Product test reports, including Florida product approval documentation.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

   1. Basis of Design Steelcraft; Allegion plc H Series.

2.2 PERFORMANCE REQUIREMENTS

A. Thermally Rated Door Assemblies: Provide door assemblies with U-factor of not more than 0.20 deg Btu/F x h x sq. ft. (2.16 W/K x sq. m) when tested according to ASTM C518.

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2.3 EXTERIOR STANDARD STEEL DOORS AND FRAMES

A. Construct hollow-metal doors and frames to comply with standards indicated for materials, fabrication, hardware locations, hardware reinforcement, tolerances, and clearances, and as specified.

B. Extra-Heavy-Duty Doors and Frames: ANSI/SDI A250.8, Level 3; ANSI/SDI A250.4, Level A. at doors 103, 104.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Face: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating.
d. Edge Construction: Model 2, Seamless.
e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
f. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
g. Core: Polystyrene.

2. Frames:

a. Materials: Metallic-coated steel sheet, minimum thickness of 0.053 inch (1.3 mm), with minimum A60 (ZF180) coating.
b. Construction: Full profile welded.

C. Maximum-Duty Doors and Frames: ANSI/SDI A250.8, Level 4; ANSI/SDI A250.4, Level A at doors 101 and 102.

1. Doors:

a. Type: As indicated in the Door and Frame Schedule.
b. Thickness: 1-3/4 inches (44.5 mm).
c. Face: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum A60 (ZF180) coating.
d. Edge Construction: Model 2, Seamless.
e. Top Edge Closures: Close top edges of doors with flush closures of same material as face sheets. Seal joints against water penetration.
f. Bottom Edges: Close bottom edges of doors where required for attachment of weather stripping with end closures or channels of same material as face sheets. Provide weep-hole openings in bottoms of exterior doors to permit moisture to escape.
g. Core: Polystyrene.

2. Frames:

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a. Materials: Metallic-coated steel sheet, minimum thickness of 0.067 inch (1.7 mm), with minimum A60 (ZF180) coating.
b. Construction: Full profile welded.

2.4 FRAME ANCHORS

A. Jamb Anchors:

1. Type: Anchors of minimum size and type required by applicable door and frame standard, and suitable for performance level indicated.
2. Quantity: Minimum of three anchors per jamb, with one additional anchor for frames with no floor anchor. Provide one additional anchor for each 24 inches (610 mm) of frame height above 7 feet (2.1 m).

B. Material: ASTM A879/A879M, Commercial Steel (CS), 04Z (12G) coating designation; mill phosphatized.

1. For anchors built into exterior walls, steel sheet complying with ASTM A1008/A1008M or ASTM A1011/A1011M; hot-dip galvanized according to ASTM A153/A153M, Class B.

2.5 MATERIALS

A. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B.

B. Inserts, Bolts, and Fasteners: Hot-dip galvanized according to ASTM A153/A153M.

C. Power-Actuated Fasteners in Concrete: Fastener system of type suitable for application indicated, fabricated from corrosion-resistant materials, with clips or other accessory devices for attaching hollow-metal frames of type indicated.

2.6 FABRICATION

A. Hollow-Metal Frames: Fabricate in one piece except where handling and shipping limitations require multiple sections. Where frames are fabricated in sections, provide alignment plates or angles at each joint, fabricated of metal of same or greater thickness as frames.

1. Provide countersunk, flat- or oval-head exposed screws and bolts for exposed fasteners unless otherwise indicated.
2. Door Silencers: Except on weather-stripped frames, drill stops to receive door silencers as follows. Keep holes clear during construction.

a. Single-Door Frames: Drill stop in strike jamb to receive three door silencers.
b. Double-Door Frames: Drill stop in head jamb to receive two door silencers.

B. Hardware Preparation: Factory prepare hollow-metal doors and frames to receive templated mortised hardware, and electrical wiring; include cutouts, reinforcement, mortising, drilling, and tapping according to ANSI/SDI A250.6, the Door Hardware Schedule, and templates.

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1. Reinforce doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.
2. Comply with BHMA A156.115 for preparing hollow-metal doors and frames for hardware.

2.7 STEEL FINISHES

A. Prime Finish: Clean, pretreat, and apply manufacturer's standard primer.

1. Shop Primer: Manufacturer's standard, fast-curing, lead- and chromate-free primer complying with ANSI/SDI A250.10; recommended by primer manufacturer for substrate; compatible with substrate and field-applied coatings despite prolonged exposure.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove welded-in shipping spreaders installed at factory. Restore exposed finish by grinding, filling, and dressing, as required to make repaired area smooth, flush, and invisible on exposed faces. Touch up factory-applied finishes where spreaders are removed.

B. Drill and tap doors and frames to receive nontemplated, mortised, and surface-mounted door hardware.

3.2 INSTALLATION

A. Hollow-Metal Frames: Comply with ANSI/SDI A250.11.

1. Set frames accurately in position; plumbed, aligned, and braced securely until permanent anchors are set. After wall construction is complete, remove temporary braces without damage to completed Work.

    a. Where frames are fabricated in sections, field splice at approved locations by welding face joint continuously; grind, fill, dress, and make splice smooth, flush, and invisible on exposed faces. Touch-up finishes.
    b. Install frames with removable stops located on secure side of opening.
2. Masonry Walls: Coordinate installation of frames to allow for solidly filling space between frames and masonry with grout or mortar.
3. Installation Tolerances: Adjust hollow-metal frames to the following tolerances:

    a. Squareness: Plus or minus 1/16 inch (1.6 mm), measured at door rabbet on a line 90 degrees from jamb perpendicular to frame head.
    b. Alignment: Plus or minus 1/16 inch (1.6 mm), measured at jambs on a horizontal line parallel to plane of wall.
    c. Twist: Plus or minus 1/16 inch (1.6 mm), measured at opposite face corners of jambs on parallel lines, and perpendicular to plane of wall.
    d. Plumbness: Plus or minus 1/16 inch (1.6 mm), measured at jambs at floor.

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B. Hollow-Metal Doors: Fit and adjust hollow-metal doors accurately in frames, within clearances specified below.

1. Non-Fire-Rated Steel Doors: Comply with ANSI/SDI A250.8 .

3.3 FIELD QUALITY CONTROL

A. Repair or remove and replace installations where inspections indicate that they do not comply with specified requirements.

B. Reinspect repaired or replaced installations to determine if replaced or repaired door assembly installations comply with specified requirements.

3.4 REPAIR

A. Prime-Coat Touchup: Immediately after erection, sand smooth rusted or damaged areas of prime coat and apply touchup of compatible air-drying, rust-inhibitive primer.

B. Metallic-Coated Surface Touchup: Clean abraded areas and repair with galvanizing repair paint according to manufacturer's written instructions.

C. Touchup Painting: Cleaning and touchup painting of abraded areas of paint are specified in painting Sections.

END OF SECTION 081113

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SECTION 083113 - ACCESS DOORS AND FRAMES

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes access doors and frames for walls and ceilings.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Samples: For each type of access door and frame and for each finish specified.

C. Product Schedule: For access doors and frames.

PART 2 - PRODUCTS

2.1 ACCESS DOORS AND FRAMES

A. Flush Access Doors with Exposed Flanges:

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
    a. ACUDOR Products, Inc.
    b. Babcock-Davis.
    c. Nystrom, Inc.
2. Description: Face of door flush with frame, with exposed flange and concealed hinge.
3. Locations: Wall and ceiling.
4. Metallic-Coated Steel Sheet for Door: Nominal 0.064 inch (1.63 mm), 16 gage , factory finished.
5. Frame Material: Same material, thickness, and finish as door.
6. Latch and Lock: Cam latch, key operated.

2.2 MATERIALS

A. Metallic-Coated Steel Sheet: ASTM A653/A653M, Commercial Steel (CS), Type B; with minimum G60 (Z180) or A60 (ZF180) metallic coating.

B. Frame Anchors: Stainless steel.

C. Inserts, Bolts, and Anchor Fasteners: stainless steel.

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2.3 FABRICATION

A. Metal Surfaces: For metal surfaces exposed to view in the completed Work, provide materials with smooth, flat surfaces without blemishes. Do not use materials with exposed pitting, seam marks, roller marks, rolled trade names, or roughness.

B. Doors and Frames: Grind exposed welds smooth and flush with adjacent surfaces. Furnish mounting holes, attachment devices and fasteners of type required to secure access doors to types of supports indicated.

C. Latch and Lock Hardware:

1. Quantity: Furnish number of latches and locks required to hold doors tightly closed.
2. Keys: Furnish two keys per lock and key all locks alike.
3. Mortise Cylinder Preparation: Where indicated, prepare door panel to accept cylinder specified in Section 087100 "Door Hardware."

2.4 FINISHES

A. Painted Finishes: Comply with coating manufacturer's written instructions for cleaning, conversion coating, and applying and baking finish.
1. Factory Finished: Apply manufacturer's standard baked-enamel or powder-coat finish immediately after cleaning and pretreating, with minimum dry-film thickness of 1 mil (0.025 mm) for topcoat.

a. Color: As selected by Architect from full range of industry colors.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Comply with manufacturer's written instructions for installing access doors and frames.

B. Adjust doors and hardware, after installation, for proper operation.

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SECTION 087100 - DOOR HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Mechanical door hardware for the following:

a. Swinging doors.

2. Cylinders for door hardware specified in other Sections.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Door hardware schedule.

C. Keying schedule.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: Supplier of products and an employer of workers trained and approved by product manufacturers and of an Architectural Hardware Consultant who is available during the course of the Work to consult Contractor, Architect, and Owner about door hardware and keying.

1. Scheduling Responsibility: Preparation of door hardware and keying schedule.

1.6 WARRANTY

A. Special Warranty: Manufacturer agrees to repair or replace components of door hardware that fail in materials or workmanship within specified warranty period.

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1. Warranty Period: Three years from date of Substantial Completion unless otherwise indicated below:

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Means of Egress Doors: Latches do not require more than 15 lbf (67 N) to release the latch. Locks do not require use of a key, tool, or special knowledge for operation.

B. Accessibility Requirements: For door hardware on doors in an accessible route, comply with the DOJ's "2010 ADA Standards for Accessible Design".

C. All exterior door hardware integral to door attachment to the frame shall have Florida product approval.

2.2 HINGES

A. Hinges: BHMA A156.1. Provide template-produced hinges for hinges installed on hollow-metal doors and hollow-metal frames.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. McKinney Products Company; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY or approved equal.

2.3 CONTINUOUS HINGES

A. Continuous, Gear-Type Hinges: Extruded-aluminum, pinless, geared hinge leaves joined by a continuous extruded-aluminum channel cap; with concealed, self-lubricating thrust bearings.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY or approved equal.

2.4 MECHANICAL LOCKS AND LATCHES

A. Lock Functions: As indicated in door hardware schedule.

B. Lock Throw: Comply with testing requirements for length of bolts required for labeled fire doors, and as follows:

1. Bored Locks: Minimum 1/2-inch (13-mm) latchbolt throw.
2. Mortise Locks: Minimum 3/4-inch (19-mm) latchbolt throw.

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3. Deadbolts: Minimum 1.25-inch (32-mm) bolt throw.

C. Lock Backset: 2-3/4 inches (70 mm) unless otherwise indicated.

D. Lock Trim:

1. Description: As selected by Architect from manufacturer's full range.
2. Levers: Cast.
3. Escutcheons (Roses): Cast.

E. Strikes: Provide manufacturer's standard strike for each lock bolt or latchbolt complying with requirements indicated for applicable lock or latch and with strike box and curved lip extended to protect frame; finished to match lock or latch.

1. Flat-Lip Strikes: For locks with three-piece antifriction latchbolts, as recommended by manufacturer.
2. Extra-Long-Lip Strikes: For locks used on frames with applied wood casing trim.
3. Aluminum-Frame Strike Box: Manufacturer's special strike box fabricated for aluminum framing.
4. Rabbet Front and Strike: Provide on locksets for rabbeted meeting stiles.

F. Mortise Locks: BHMA A156.13; Operational Grade 1; stamped steel case with steel or brass parts; Series 1000.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Corbin Russwin, Inc.; an ASSA ABLOY Group company.
c. Hager Companies.
d. SARGENT Manufacturing Company; ASSA ABLOY.

2.5 AUXILIARY LOCKS

A. Mortise Auxiliary Locks: BHMA A156.36; Grade 1; with strike that suits frame.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.6 SURFACE BOLTS

A. Surface Bolts: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.7 LOCK CYLINDERS

A. Lock Cylinders: Tumbler type, constructed from brass or bronze, stainless steel, or nickel silver. Provide cylinder from same manufacturer of locking devices.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

B. Standard Lock Cylinders: BHMA A156.5; Grade 1 permanent cores; face finished to match lockset.

1. Core Type: Interchangeable.

C. Construction Master Keys: Provide cylinders with feature that permits voiding of construction keys without cylinder removal. Provide 10 construction master keys.

D. Construction Cores: Provide construction cores that are replaceable by permanent cores. Provide 10 construction master keys.

2.8 KEYING

A. Keying System: Factory registered, complying with guidelines in BHMA A156.28, appendix. Provide one extra key blank for each lock. Incorporate decisions made in keying conference.

1. Existing System:

a. Master key or grand master key locks to Owner's existing system.
b. Re-key Owner's existing master key system into new keying system.

2. Keyed Alike: Key all cylinders to same change key.

B. Keys: Nickel silver.

1. Stamping: Permanently inscribe each key with a visual key control number and include the following notation:

a. Notation: Information to be furnished by Owner.

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2.9 KEY CONTROL SYSTEM

A. Key Control Cabinet: BHMA A156.28; metal cabinet with baked-enamel finish; containing key-holding hooks, labels, two sets of key tags with self-locking key holders, key-gathering envelopes, and temporary and permanent markers; with key capacity of 150 percent of the number of locks.
   1. Wall-Mounted Cabinet: Grade 1 cabinet with hinged-panel door equipped with key-holding panels and pin-tumbler cylinder door lock.

2.10 OPERATING TRIM

A. Operating Trim: BHMA A156.6; stainless steel unless otherwise indicated.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Allegion plc.
      b. Hager Companies.
      c. SARGENT Manufacturing Company; ASSA ABLOY.
      d. Yale Security Inc; ASSA ABLOY.

2.11 ACCESSORIES FOR PAIRS OF DOORS

A. Astragals: BHMA A156.22.

2.12 SURFACE CLOSERS

A. Surface Closers: BHMA A156.4; rack-and-pinion hydraulic type with adjustable sweep and latch speeds controlled by key-operated valves and forged-steel main arm. Comply with manufacturer's written instructions for size of door closers depending on size of door, exposure to weather, and anticipated frequency of use. Provide factory-sized closers, adjustable to meet field conditions and requirements for opening force.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

      a. Allegion plc.
      b. Hager Companies.
      c. SARGENT Manufacturing Company; ASSA ABLOY.
      d. Yale Security Inc; ASSA ABLOY.

2.13 MECHANICAL STOPS AND HOLDERS

A. Wall- and Floor-Mounted Stops: BHMA A156.16.

   1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

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a. Allegion plc.
b. Hager Companies.
c. SARGENT Manufacturing Company; ASSA ABLOY.
d. Yale Security Inc; ASSA ABLOY.

2.14 DOOR GASKETING

A. Door Gasketing: BHMA A156.22; with resilient or flexible seal strips that are easily replaceable and readily available from stocks maintained by manufacturer.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Hager Companies.
b. National Guard Products, Inc.
c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
d. Zero International; Allegion plc.

B. Maximum Air Leakage: When tested according to ASTM E283 with tested pressure differential of 0.3-inch wg (75 Pa), as follows:

1. Gasketing on Single Doors: 0.3 cfm/sq. ft. (3 cu. m per minute/sq. m) of door opening.
2. Gasketing on Double Doors: 0.50 cfm per foot (0.000774 cu. m/s per m) of door opening.

2.15 THRESHOLDS

A. Thresholds: BHMA A156.21; fabricated to full width of opening indicated.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

a. Hager Companies.
b. National Guard Products, Inc.
c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
d. Zero International; Allegion plc.

2.16 METAL PROTECTIVE TRIM UNITS

A. Metal Protective Trim Units: BHMA A156.6; fabricated from 0.050-inch- (1.3-mm-) thick aluminum; with manufacturer's standard machine or self-tapping screw fasteners.

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1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Hager Companies.
    b. National Guard Products, Inc.
    c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
    d. Zero International; Allegion plc.

2.17 AUXILIARY DOOR HARDWARE

A. Auxiliary Hardware: BHMA A156.16.

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to the following:

    a. Hager Companies.
    b. National Guard Products, Inc.
    c. Pemko Manufacturing Company Inc.; ASSA ABLOY Accessories and Door Controls Group, Inc.; ASSA ABLOY.
    d. Zero International; Allegion plc.

2.18 FINISHES

A. Provide finishes complying with BHMA A156.18 as indicated in door hardware schedule.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Mounting Heights: Mount door hardware units at heights to comply with the following unless otherwise indicated or required to comply with governing regulations.

1. Standard Steel Doors and Frames: ANSI/SDI A250.8.

B. Install each door hardware item to comply with manufacturer's written instructions. Where cutting and fitting are required to install door hardware onto or into surfaces that are later to be painted or finished in another way, coordinate removal, storage, and reinstallation of surface protective trim units with finishing work. Do not install surface-mounted items until finishes have been completed on substrates involved.

C. Hinges: Install types and in quantities indicated in door hardware schedule, but not fewer than the number recommended by manufacturer for application indicated or one hinge for every 30 inches (750 mm) of door height, whichever is more stringent, unless other equivalent means of support for door, such as spring hinges or pivots, are provided.

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D. Lock Cylinders: Install construction cores to secure building and areas during construction period.

1. Replace construction cores with permanent cores as directed by Owner.

E. Key Control Cabinet: Tag keys and place them on markers and hooks in key control system cabinet, as determined by final keying schedule.

F. Thresholds: Set thresholds for exterior doors and other doors indicated in full bed of sealant complying with requirements specified in Section 079200 "Joint Sealants."

G. Stops: Provide floor stops for doors unless wall or other type stops are indicated in door hardware schedule. Do not mount floor stops where they will impede traffic.

H. Perimeter Gasketing: Apply to head and jamb, forming seal between door and frame.

1. Do not notch perimeter gasketing to install other surface-applied hardware.

I. Meeting Stile Gasketing: Fasten to meeting stiles, forming seal when doors are closed.

J. Door Bottoms: Apply to bottom of door, forming seal with threshold when door is closed.

3.2 ADJUSTING

A. Adjust and check each operating item of door hardware and each door to ensure proper operation or function of every unit. Replace units that cannot be adjusted to operate as intended. Adjust door control devices to compensate for final operation of heating and ventilating equipment and to comply with referenced accessibility requirements.

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PART 4 -

4.1 DOOR HARDWARE SCHEDULE

HARDWARE SET 1		**EXTERIOR SINGLE HM DOORS**	**RESTROOMS**	**DOORS: 101, 102**
1	EA	Cont. Hinge	PEMKO CFMHD	Clear Anodized
1	EA	Deadbolt	E2161	626
1	EA	Cylinder		
1	EA	Push/Pull Plate Combo	Rockwood 1040L, 1040H, 112CHD	630
1	EA	Floor Stop	Rockwood 467RKW	Black
2	EA	Kickplate (Int and Ext)	J102	630
1	EA	Closer, Parallel Arm	C02021, equal to LCN 4040 XP Series	689
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
1	EA	Door Shoe	PEMKO 222APK	Mill Alum
HARDWARE SET 2		**EXTERIOR DOUBLE HM DOORS**	**JANITORIAL**	**DOORS: 103**
6	EA	Hinges	A5111	630
1	EA	Lockset	F86	626
1	EA	Cylinder		
2	EA	Closer, Hold Open	C02061, equal to LCN 4040 XP Series	689
2	EA	Kickplate (Int)	J102	630
1	EA	Astragal	PEMKO 356AV	Clear Anodized
1	EA	Surface Bolt (Inactive Leaf)	L04161	626
1	EA	Overhead Rain Drip, Full Width	PEMKO 346C	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
2	EA	Door Shoe	PEMKO 222APK	Mill Alum
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
HARDWARE SET 3		**EXTERIOR SINGLE HM DOOR**	**ELECTRICAL**	**DOOR: 104**
3	EA	Hinges	A5111	630
1	EA	Lockset	F86	626
1	EA	Cylinder		
1	EA	Closer, Hold Open	C02061, equal to LCN 4040XP Series	689
1	EA	Overhead Rain Drip, Full Width	PEMKO 346C	Clear Anodized
1	EA	Kickplate (Int)	J102	630
1	EA	Weatherstripping	PEMKO 285CPK	Clear Anodized
1	EA	Threshold	PEMKO 2705AT	Mill Alum
1	EA	Door Shoe	PEMKO 222APK	Mill Alum

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END OF SECTION 087100

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SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Interior gypsum board.

1.2 ACTION SUBMITTALS

A. Product Data: For the following:

1. Mold-resistant gypsum board.
2. Interior trim.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

A. Mold-Resistant Gypsum Board: ASTM C1396/C1396M. With moisture- and mold-resistant core and paper surfaces.

1. Manufacturers: Subject to compliance with requirements, provide products by the following:
   a. Georgia-Pacific Gypsum LLC.
   b. USG.
   c. National Gypsum.

2. Core: 5/8 inch (15.9 mm), Type X.
3. Long Edges: Tapered.
4. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.3 TRIM ACCESSORIES

A. Interior Trim: ASTM C1047.

1. Material: Plastic.

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2. Shapes:

a. Cornerbead.
b. Bullnose bead.
c. LC-Bead: J-shaped; exposed long flange receives joint compound.
d. L-Bead: L-shaped; exposed long flange receives joint compound.
e. U-Bead: J-shaped; exposed short flange does not receive joint compound.
f. Expansion (control) joint.
g. Curved-Edge Cornerbead: With notched or flexible flanges.

2.4 JOINT TREATMENT MATERIALS

A. General: Comply with ASTM C475/C475M.

B. Joint Tape:

1. Interior Gypsum Board: Paper.
2. Glass-Mat Gypsum Sheathing Board: 10-by-10 glass mesh.

C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.

1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use drying-type, all-purpose compound.

a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.5 AUXILIARY MATERIALS

A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.

B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.

1. Use screws complying with ASTM C954 for fastening panels to steel members from 0.033 to 0.112 inch (0.84 to 2.84 mm) thick.
2. For fastening cementitious backer units, use screws of type and size recommended by panel manufacturer.

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PART 3 - EXECUTION

3.1 INSTALLATION AND FINISHING OF PANELS

A. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.

B. Comply with ASTM C840.

C. Isolate perimeter of gypsum board applied to non-load-bearing partitions at structural abutments. Provide 1/4- to 1/2-inch- (6.4- to 12.7-mm-) wide spaces at these locations and trim edges with edge trim where edges of panels are exposed. Seal joints between edges and abutting structural surfaces with acoustical sealant.

D. For trim with back flanges intended for fasteners, attach to framing with same fasteners used for panels. Otherwise, attach trim according to manufacturer's written instructions.

E. Prefill open joints and damaged surface areas.

F. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.

G. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:

1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated.

    a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.2 PROTECTION

A. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.

B. Remove and replace panels that are wet, moisture damaged, and mold damaged.

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DIVISION 9 - FINISHES

SECTION 096723 – RESINOUS FLOORING

PART 1 - GENERAL

1.1 SUMMARY

A. This Section includes:

1. High-performance resinous flooring systems.

1.2 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Installer Certificates for Qualification: Signed by manufacturer stating that installers comply with specified requirements.

C. Material Certificates: For each resinous flooring component, from manufacturer.

D. Maintenance Data: For maintenance manuals.

E. Samples: Submit two 6” X 6” samples of each resinous flooring system applied to a rigid backing. Provide sample which is a true representation of proposed field applied finish. Provide sample color and texture for approval from Owner in writing or approved by General Contractor prior to installation.

F. Product Schedule: For resinous flooring.

1.3 QUALITY ASSURANCE

A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of flooring systems required for this Project.

1. Engage an installer who is approved in writing by resinous flooring manufacturer as qualified to apply resinous flooring systems indicated.
2. Installer Letter of Qualification: Installer to provide letter stating that they have been in business for at least 5 years and listing 5 projects in the last 2 years of similar scope. For each project provide: project name, location, date of installation, contact information, size of project, and manufacturer of materials with system information.

B. Source Limitations: Obtain primary resinous flooring materials, including primers, resins, hardening agents, grouting coats, and topcoats, from single source from single manufacturer. Provide secondary materials, including patching and fill material, joint sealant, and repair materials, of type and from source recommended by manufacturer of primary materials.

C. Pre-installation Conference: Conduct conference at Project site before work and mockups begin.

1.4 DELIVERY, STORAGE, AND HANDLING

A. Deliver materials in original packages and containers, with seals unbroken, bearing manufacturer's labels indicating brand name and directions for storage and mixing with other components.

1. Maintain containers in clean condition, free of foreign materials and residue.
2. Remove rags and waste from storage areas daily.

1.5 PROJECT CONDITIONS

A. Environmental Limitations: Comply with resinous flooring manufacturer's written instructions for substrate temperature, ambient temperature, moisture, ventilation, and other conditions affecting resinous flooring application.

B. Lighting: Provide permanent lighting or, if permanent lighting is not in place, simulate permanent lighting conditions during resinous flooring application.

C. Close spaces to traffic during resinous flooring application and for not less than 24 hours after application unless manufacturer recommends a longer period.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers: Subject to compliance with requirements, provide products by:

1. The Sherwin Williams Company, Cleveland, OH. Representative Contact: Michael Starner (484) 624-2360 michael.starner@sherwin.com .
2. Manufacturer is listed for the purpose of indicating a basis of design only and is not intended to limit the selection of equal colors from other manufacturers.

B. Resuflor Deco Flake BC, 20-30 mils nominal thickness.

1. Primer: Resuprime 3579 at 200-300 sq. ft. per gallon.
2. Body Coat: Resuflor 3746 at 200-300 sq. ft. per gallon.
3. Broadcast: Chips Unlimited Decorative Flakes 1/8” BX430 to excess at 100-200 lbs. per 1,000 sq. ft.
4. Grout Coat: Resuflor 3746 at 160-250 sq. ft. per gallon.
5. Seal Coat: Resutile 4686 at 250-400 sq. ft. per gallon.

2.2 MATERIALS

A. VOC Content of Resinous Flooring: Provide resinous flooring systems, for use inside the weatherproofing system, that comply with the following limits for VOC content when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

1. Resinous Flooring: 100 g/L.

2.3 HIGH-PERFORMANCE RESINOUS FLOORING

A. Resinous Flooring: Abrasion-, impact- and chemical-resistant, high-performance, resin-based, monolithic floor surfacing designed to produce a seamless floor.

B. System Characteristics:

1. Color and Pattern: As indicated from manufacturer listed above and on drawings.
2. Slip Resistance: Provide slip resistant finish.

PART 3 - EXECUTION

3.1 PREPARATION

A. Inspection: Prior to commencing Work, thoroughly examine all underlying and adjoining work, surfaces and conditions upon which Work is in any way dependent for perfect results. Report all conditions which affect Work. No "waiver of responsibility" for incomplete, inadequate or defective underlaying and adjoining work, surfaces and conditions will be considered, unless notice of such unsatisfactory conditions has been filed and agreed to in writing before Work begins. Commencement of Work constitutes acceptance of surfaces.

B. Surface Preparation: Remove all surface contamination, loose or weakly adherent particles, laitance, grease, oil, curing compounds, paint, dust and debris by blast track method or approved mechanical means (acid etch not allowed). If surface is questionable try a test patch. Create a minimum surface profile for the system specified in accordance with the methods described in ICRI No. 03732 to achieve profile numbers as follows:

1.	**Thin film, to 10 mils**	**CSP-1 to CSP-3**
2.	Thin and medium films, 10 to 40 mils	CSP-3 to CSP-5
3.	Self-leveling mortars, to 3/16”	CSP-4 to CSP-6
4.	Mortars and laminates, to 1/4” or more	CSP-5 to CSP-10

C. Verify that concrete substrates are dry and moisture-vapor emissions are within acceptable levels according to manufacturer's written instructions.

1. Moisture Testing: Perform tests indicated below.

a. Calcium Chloride Test: Perform anhydrous calcium chloride test per ASTM F 1869. Proceed with installation only after substrates have maximum moisture-vapor-emission rate of 3 lb of water/1000 sq. ft. in 24 hours. Perform tests so that each test area does not exceed 1000 sq. ft. and perform 3 tests for the first 1000 sq. ft. and one additional test for every additional 1000 sq ft.
b. In-Situ Probe Test: Perform relative-humidity test using in-situ probes per ASTM F 2170. Proceed with installation only after substrates have a maximum 75 percent relative-humidity-level measurement.

3.2 ENVIRONMENTAL CONDITIONS

A. All applicators and all other personnel in the area of the RF installation shall take all required and necessary safety precautions. All manufacturers’ installation instructions shall be implicitly instructions shall be implicitly followed.

B. Repair damaged and deteriorated concrete according to resinous flooring manufacturer's written instructions.

C. Alkalinity and Adhesion Testing: Verify that concrete substrates have pH within acceptable range. Perform tests recommended by manufacturer. Proceed with application only after substrates pass testing.

D. Resinous Materials: Mix components and prepare materials according to resinous flooring manufacturer's written instructions.

E. Use patching and fill material to fill holes and depressions in substrates according to manufacturer's written instructions.

F. Treat control joints and other nonmoving substrate cracks to prevent cracks from reflecting through resinous flooring according to manufacturer's written instructions.

3.3 APPLICATIONS

A. Install resinous floor over properly prepared concrete surface in strict accordance with the manufacturer's directions.

1. Install the primer and/or base coats over thoroughly cleaned and prepared concrete.
2. Install topcoat over flooring after excess aggregate has been removed.
3. Maintain a slab temperature of 60°F to 80°F for 24 hours minimum before applying floor topping, or as instructed by manufacturer.

B. Apply components of resinous flooring system according to manufacturer's written instructions to produce a uniform, monolithic wearing surface of thickness indicated.

1. Coordinate application of components to provide optimum adhesion of resinous flooring system to substrate, and optimum intercoat adhesion.
2. Cure resinous flooring components according to manufacturer's written instructions. Prevent contamination during application and curing processes.
3. At substrate expansion and isolation joints, comply with resinous flooring manufacturer's written instructions.

C. Sealant: Saw cut resinous floor topping at expansion joints in concrete slab. Fill sawcuts with sealant prior to final seal coat application. Follow manufacturer’s written recommendations.

D. Apply primer over prepared substrate at manufacturer's recommended spreading rate.

E. Slip Resistant Finish: Provide grit for slip resistance.

F. Apply topcoats in number indicated for flooring system and at spreading rates recommended in writing by manufacturer.

3.4 COMPLETED WORK

A. Cleaning: Upon completion of the Work, clean up and remove from the premises surplus materials, tools, appliances, empty cans, cartons and rubbish resulting from the Work. Clean off all spattering and drippings, and all resulting stains.

B. Protection: Protect Work in accordance with manufacturer's directions from damage and wear during the remainder of the construction period. Use protective methods and materials, including temporary covering, recommended in writing by resinous flooring manufacturer.

C. Contractor shall insure that coating is protected from any traffic until it is fully cured to the satisfaction of the coating manufacturer.

END OF SECTION 096723

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following exterior substrates:

1. Fiber-cement board.
2. Galvanized metal.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1.4 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials supplied. Package for storage and identify with labels describing contents. Deliver extra materials to Owner.

1. Furnish owner with one gallon of each paint color specified in the project.

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PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Sherwin Williams, Benjamin Moore, PPG.

B. Products: Subject to compliance with requirements, provide one of the products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

B. Colors: As indicated in a color schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Fiber-Cement Board: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.
3. Wood: 15 percent.
4. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

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B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

A. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.

B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

A. Cement Board Substrates:

1. Latex System:

a. Prime Coat: Latex, exterior, matching topcoat.
b. Prime Coat: Primer, alkali resistant, water based.
c. Intermediate Coat: Latex, exterior, matching topcoat.
d. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4).

B. Galvanized Metal Substrates:

1. Alkyd System:

a. Prime Coat: Primer, galvanized, cementitious.
b. Intermediate Coat: Exterior, alkyd enamel, matching topcoat.
c. Topcoat: Alkyd, exterior, semi-gloss (MPI Gloss Level 5).

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SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes surface preparation and the application of paint systems on the following interior substrates:

1. Concrete.
2. Concrete masonry units (CMUs).
3. Gypsum board.

1.2 DEFINITIONS

A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.

B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.

D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.

E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.

F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.

G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.3 ACTION SUBMITTALS

A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.

1.4 EXTRA MATERIALS

A. Furnish extra paint materials from the same production run as the materials supplied. Package for storage and identify with labels describing contents. Deliver extra materials to Owner.

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1. Furnish owner with one gallon of each paint color specified in the project.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

A. Manufacturers:

1. Benjamin Moore & Co.
2. Dulux Canada; a licensed product of PPG Architectural Coatings.
3. Sherwin-Williams Company (The).

B. Products: Subject to compliance with requirements, provide one of the products listed in the Interior Painting Schedule for the paint category indicated.

2.2 PAINT, GENERAL

A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

C. Colors: As indicated in a color schedule.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.

B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:

1. Concrete: 12 percent.
2. Masonry (Clay and CMUs): 12 percent.
3. Gypsum Board: 12 percent.

C. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.

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D. Proceed with coating application only after unsatisfactory conditions have been corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

3.3 APPLICATION

A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."

B. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 INTERIOR PAINTING SCHEDULE

A. Cement Board Substrates:

1. High-Performance Architectural Latex System:

a. Prime Coat: Primer, alkali resistant, water based.

b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.

c. Topcoat: Latex, interior, high performance architectural, semi-gloss (MPI Gloss Level 5).

B. CMU Substrates:

1. Water-Based Light Industrial Coating System:

a. Block Filler: Block filler, latex, interior/exterior.

b. Intermediate Coat: Light industrial (epoxy) coating, interior, water based, matching topcoat.

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c. Topcoat: Light industrial coating (epoxy), interior, water based, semi-gloss (MPI Gloss Level 5).

C. Gypsum Board Substrates:

1. High-Performance Architectural Latex System:

a. Prime Coat: Primer sealer, latex, interior.

b. Intermediate Coat: Latex, interior, high performance architectural, matching topcoat.

c. Topcoat: Latex, interior, high performance architectural (Egg-shell MPI Gloss Level 3).

END OF SECTION 099123

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PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Dimensional characters.

a. Fabricated channel dimensional characters.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For signs.

1. Include fabrication and installation details and attachments to other work.
2. Show sign mounting heights, locations of supplementary supports to be provided by other installers, and accessories.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Structural Performance: Signs and supporting elements shall withstand the effects of gravity and other loads within limits and under conditions indicated.

2.2 DIMENSIONAL CHARACTERS

A. Fabricated Channel Characters **Metal face and side returns**, formed free from warp and distortion; with uniform faces, sharp corners, and precisely formed lines and profiles; internally braced for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners; and as follows.

B.

a. Integral Aluminum Finish: **Anodized color as selected by Architect from full range of industry colors.**

2. Mounting: **Manufacturer's standard for size and design of character**

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a. Hold characters at **manufacturer's recommended distance** from wall surface.

2.3 DIMENSIONAL CHARACTER MATERIALS

A. Aluminum.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined, and complying with the following:

1. Use concealed fasteners and anchors unless indicated to be exposed.
2. For exterior exposure, furnish **stainless steel** devices unless otherwise indicated.

3. Sign Mounting Fasteners:
   a. Through Fasteners: Exposed metal fasteners matching sign finish, with type of head indicated, installed in predrilled holes.

B. Adhesive: As recommended by sign manufacturer.

C. Bituminous Paint: Cold-applied asphalt emulsion complying with ASTM D1187/D1187M.

2.5 FABRICATION

A. General: Provide manufacturer's standard sign assemblies according to requirements indicated.

1. Mill joints to a tight, hairline fit. Form assemblies and joints exposed to weather to resist water penetration and retention.
2. Provide welds and brazes behind finished surfaces without distorting or discoloring exposed side. Clean exposed welded and brazed connections of flux, and dress exposed and contact surfaces.
3. Conceal connections if possible; otherwise, locate connections where they are inconspicuous.
4. Internally brace dimensional characters for stability, to meet structural performance loading without oil-canning or other surface deformation, and for securing fasteners.
5. Provide rabbets, lugs, and tabs necessary to assemble components and to attach to existing work. Drill and tap for required fasteners. Use concealed fasteners where possible; use exposed fasteners that match sign finish.
6. Castings: Fabricate castings free of warp, cracks, blowholes, pits, scale, sand holes, and other defects that impair appearance or strength. Grind, wire brush, sandblast, and buff castings to remove seams, gate marks, casting flash, and other casting marks before finishing.

B. Brackets: Fabricate brackets, fittings, and hardware for bracket-mounted signs to suit sign construction and mounting conditions indicated. Modify manufacturer's standard brackets as required.

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1. Aluminum Brackets: Factory finish brackets with baked-enamel or powder-coat finish **to match sign-background color** unless otherwise indicated.

PART 3 - EXECUTION

3.1 INSTALLATION OF DIMENSIONAL CHARACTERS

A. General: Install signs using mounting methods indicated and according to manufacturer's written instructions.

1. Install signs level, plumb, true to line, and at locations and heights indicated, with sign surfaces free of distortion and other defects in appearance.
2. Before installation, verify that sign surfaces are clean and free of materials or debris that would impair installation.
3. Corrosion Protection: Coat concealed surfaces of exterior aluminum in contact with grout, concrete, masonry, wood, or dissimilar metals, with a heavy coat of bituminous paint.

B. Mounting Methods:

1. Through Fasteners: Drill holes in substrate using predrilled holes in sign as template. Countersink holes in sign if required. Place sign in position and flush to surface. Install through fasteners and tighten.
2. Back Bar and Brackets: Remove loose debris from substrate surface and install backbar or bracket supports in position, so that signage is correctly located and aligned.
3. Adhesive: Clean bond-breaking materials from substrate surface and remove loose debris. Apply linear beads or spots of adhesive symmetrically to back of sign and of suitable quantity to support weight of sign after cure without slippage. Keep adhesive away from edges to prevent adhesive extrusion as sign is applied and to prevent visibility of cured adhesive at sign edges. Place sign in position, and push to engage adhesive. Temporarily support sign in position until adhesive fully sets.

C. Remove temporary protective coverings and strippable films as signs are installed.

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SECTION 101429 - MODULAR SIGNAGE

PART 1 - GENERAL

1.1 SUMMARY

A. Section includes modular signage.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

B. Shop Drawings: For modular signs.

1. Include plans, elevations, sections, and mounting details.
2. Show message list, typestyles, graphic elements, including raised characters and Braille, and layout for each sign at least half size.

C. Samples: For each type of modular sign, exposed component, and exposed finish.

D. Product Schedule: For modular signs. Use same designations indicated on Drawings or specified.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Accessibility Standard: Comply with applicable provisions in the USDOJ's "2010 ADA Standards for Accessible Design".

2.2 MODULAR SIGNS

A. Modular Signs: Sign system with removable inserts for graphics and copy attached to a receiver frame system using clips, splines, or comparable method. Provide system with modular increments of height and width, permitting assembly of units with multiple inserts of varying size.

1. Sign Size: As indicated.

B. Graphics and Copy:
1. Raised, ADA Compliant: Manufacturer's standard raised characters and Braille.
2. Etched and Filled: Sign face etched or routed to receive enamel-paint infill.
3. Text and Typeface: Helvetica

C. Mounting: Mount modular signs to wall surfaces using manufacturer's standard method.

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2.3 MATERIALS

A. Aluminum Extrusions: ASTM B221 (ASTM B221M), alloy and temper recommended by aluminum producer and finisher for type of use and finish indicated.

B. Plastic-Laminate Sheet: NEMA LD 3, general-purpose HGS grade, 0.048-inch (1.2-mm) nominal thickness.

C. Vinyl Film: UV-resistant vinyl film of nominal thickness indicated, with pressure-sensitive, permanent adhesive on back; die cut to form copy indicated on Drawings.

2.4 ACCESSORIES

A. Fasteners and Anchors: Manufacturer's standard as required for secure anchorage of signs, noncorrosive and compatible with each material joined. Use concealed fasteners and anchors unless indicated to be exposed.

B. Adhesive: As recommended by sign manufacturer.

C. Two-Face Tape: Manufacturer's standard high-bond, foam-core tape, 0.045 inch (1.14 mm) thick, with adhesive on both sides.

2.5 FABRICATION

A. Surface-Engraved Graphics: Machine engrave characters and other graphic devices into indicated sign surface to produce precisely formed copy, incised to uniform depth.

B. Subsurface-Applied Graphics: Apply graphics to back of clear face-sheet material to produce precisely formed image. Image shall be free of rough edges.

C. Shop- and Subsurface-Applied Vinyl: Align vinyl film in final position and apply to surface. Firmly press film from the middle outward to obtain good bond without blisters or fishmouths.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install signs using mounting methods indicated and in accordance with manufacturer's written instructions.

B. Accessible Signage: Install in locations on walls as indicated on Drawings and in accordance with the accessibility standards.

C. Adhesives and Tapes: Clean substrate to remove materials that would adversely affect bond. Use materials and quantities sufficient to support weight of sign after cure without slippage. Keep adhesives and tapes away from edges to prevent visibility at sign edges.

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SECTION 102113.19 - PLASTIC TOILET COMPARTMENTS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Solid-plastic toilet compartments configured as toilet enclosures and urinal screens.

B. Related Requirements:

1. Section 102800 "Toilet, Bath, and Laundry Accessories" for accessories mounted on toilet compartments.

1.2 ACTION SUBMITTALS

A. Product Data:

1. Solid-plastic toilet compartments:

B. Shop Drawings: For solid-plastic toilet compartments.

1. Include plans, elevations, sections, details, and attachment details.

1.3 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with applicable provisions in the U.S. Department of Justice "2010 ADA Standards for Accessible Design" and ICC A117.1 for toilet compartments designated as accessible.

2.2 SOLID-PLASTIC TOILET COMPARTMENTS

A. Manufacturers: Subject to compliance with requirements, provide products by the following:

1. Basis of Design Product: Hidy Hiners. By Scranton Products.

B. Toilet-Enclosure Style: Overhead braced.

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C. Urinal-Screen Style: Wall hung.

D. Door, Panel, Screen, and Pilaster Construction: Solid, high-density polyethylene (HDPE) panel material, not less than 1 inch (25 mm) thick, seamless, with eased edges, and with homogenous color and pattern throughout thickness of material.

1. Integral Hinges: Configure doors and pilasters to receive integral hinges.
2. Color and Pattern: One color and pattern in each room.

E. Pilaster Shoes and Sleeves (Caps): Manufacturer's standard design; stainless steel.

F. Urinal-Screen Post: Manufacturer's standard post design of material matching the thickness and construction of pilasters; with shoe matching that on the pilaster.

G. Brackets (Fittings):

1. Full-Height (Continuous) Type: Manufacturer's standard design; stainless steel.

2.3 HARDWARE AND ACCESSORIES

A. Hardware and Accessories, Heavy Duty: Manufacturer's heavy-duty operating hardware and accessories.

1. Hinges: Manufacturer's minimum 0.062-inch- (1.59-mm-) thick stainless steel paired, self-closing type that can be adjusted to hold doors open at any angle up to 90 degrees, allowing emergency access by lifting door. Mount with through bolts.
2. Latch and Keeper: Manufacturer's heavy-duty, surface-mounted, cast-stainless steel latch unit with occupancy indicator, designed to resist damage due to slamming, with combination rubber-faced door strike and keeper, and with provision for emergency access. Provide units that comply with regulatory requirements for accessibility at compartments designated as accessible. Mount with through bolts.
3. Coat Hook: Manufacturer's heavy-duty combination cast-stainless steel hook and rubber-tipped bumper, sized to prevent inswinging door from hitting compartment-mounted accessories. Mount with through bolts.
4. Door Bumper: Manufacturer's heavy-duty, rubber-tipped, cast-stainless steel bumper at outswinging doors and entrance-screen doors. Mount with through bolts.
5. Door Pull: Manufacturer's heavy-duty, cast-stainless steel pull at outswinging doors that complies with regulatory requirements for accessibility. Provide units on both sides of doors at compartments designated as accessible. Mount with through bolts.

2.4 MATERIALS

A. Aluminum Castings: ASTM B26/B26M.

B. Aluminum Extrusions: ASTM B221 (ASTM B221M).

C. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, Type 304, stretcher-leveled standard of flatness.

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D. Stainless Steel Castings: ASTM A743/A743M.

2.5 FABRICATION

A. Fabrication, General: Fabricate toilet compartment components to sizes indicated. Coordinate requirements and provide cutouts for through-partition toilet accessories where required for attachment of toilet accessories.

B. Overhead-Braced Units: Provide manufacturer's standard corrosion-resistant supports, leveling mechanism, and anchors at pilasters to suit floor conditions. Provide shoes at pilasters to conceal supports and leveling mechanism.

C. Floor Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of pilasters. Provide shoes and sleeves (caps) at pilasters to conceal anchorage.

D. Urinal-Screen Posts: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at tops and bottoms of posts. Provide shoes at posts to conceal anchorage.

E. Door Size and Swings: Unless otherwise indicated, provide 24-inch- (610-mm-) wide, inswinging doors for standard toilet compartments and 36-inch- (914-mm-) wide, outswinging doors with a minimum 32-inch- (813-mm-) wide, clear opening for compartments designated as accessible.

PART 3 - EXECUTION

3.1 INSTALLATION OF PLASTIC TOILET COMPARTMENTS

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level, and plumb. Secure units in position with manufacturer's recommended anchoring devices.

1. Maximum Clearances:

a. Pilasters and Panels: 1/2 inch (13 mm).
b. Panels and Walls: 1 inch (25 mm).

2. Full-Height (Continuous) Brackets: Secure panels to walls and to pilasters with full-height brackets.

a. Locate bracket fasteners, so holes for wall anchors occur in masonry or tile joints.
b. Align brackets at pilasters with brackets at walls.

B. Overhead-Braced Units: Secure pilasters to floor and level, plumb, and tighten. Set pilasters with anchors penetrating not less than 1-3/4 inches (44 mm) into structural floor unless otherwise indicated in manufacturer's written instructions. Secure continuous head rail to each

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pilaster with no fewer than two fasteners. Hang doors to align tops of doors with tops of panels and adjust, so tops of doors are parallel with overhead brace when doors are in closed position.

C. Floor-and-Ceiling-Anchored Units: Secure pilasters to supporting construction and level, plumb, and tighten. Hang doors and adjust, so doors are level and aligned with panels, when doors are in closed position.

D. Urinal Screens: Attach with anchoring devices to suit supporting structure. Set units level and plumb, rigid, and secured to resist lateral impact.

3.2 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on inswinging doors to hold doors open approximately 30 degrees from closed position when unlatched. Set hinges on outswinging doors to return doors to fully closed position.

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SECTION 102800 - TOILET, BATH, AND LAUNDRY ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Public-use washroom accessories.
2. Childcare accessories.
3. Underlavatory guards.
4. Custodial accessories.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 INFORMATIONAL SUBMITTALS

A. Sample warranty.

1.4 CLOSEOUT SUBMITTALS

A. Maintenance data.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

A. Electrical Components, Devices, and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

2.2 PUBLIC-USE WASHROOM ACCESSORIES

A. Grab Bar:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

   a. Basis of Design: Bradley Corporation 800 series.

2. Mounting: Flanges with concealed fasteners.
3. Material: Stainless steel, 0.05 inch (1.3 mm) thick.

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a. Finish: Smooth, ASTM A480/A480M No. 4 finish (satin) on ends and slip-resistant texture in grip area.

4. Outside Diameter: 1-1/2 inches (38 mm).
5. Configuration and Length: As indicated on Drawings.

2.3 UNDERLAVATORY GUARDS

A. Underlavatory Guard:

1. Description: Insulating pipe covering for supply and drain piping assemblies that prevents direct contact with and burns from piping; allow service access without removing coverings.
2. Material and Finish: Antimicrobial, molded plastic, white.

2.4 CUSTODIAL ACCESSORIES

A. Mop and Broom Holder:

1. Manufacturers: Subject to compliance with requirements, provide products by the following:

a. Basis of Design Product: Bradley Corporation 9984.

2. Description: Unit with shelf, hooks, holders, and rod suspended beneath shelf.
3. Length: 36 inches (914 mm).
4. Hooks: Three.
5. Mop/Broom Holders: Four, spring-loaded, rubber hat, cam type.
6. Material and Finish: Stainless steel, ASTM A480/A480M No. 4 finish (satin).

a. Shelf: Not less than nominal 0.05-inch- (1.3-mm-) thick stainless steel.
b. Rod: Approximately 1/4-inch- (6-mm-) diameter stainless steel.

PART 3 - EXECUTION

3.1 INSTALLATION

A. Install accessories according to manufacturers' written instructions, using fasteners appropriate to substrate indicated and recommended by unit manufacturer. Install units level, plumb, and firmly anchored in locations and at heights indicated.

B. Grab Bars: Install to withstand a downward load of at least 250 lbf (1112 N), when tested according to ASTM F446.

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SECTION 104413 - FIRE PROTECTION CABINETS

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Fire-protection cabinets for portable fire extinguishers.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product.

1.3 COORDINATION

A. Coordinate size of fire-protection cabinets to ensure that type and capacity of fire extinguishers indicated are accommodated.

B. Coordinate sizes and locations of fire-protection cabinets with wall depths.

PART 2 - PRODUCTS

2.1 FIRE-PROTECTION CABINET

A. Cabinet Type: Suitable for fire extinguisher.

1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

a. Babcock-Davis.
b. Larsen's Manufacturing Company.
c. Nystrom, Inc.

B. Cabinet Construction: Nonrated.

C. Cabinet Material: Aluminum sheet.

D. Surface-Mounted Cabinet: Cabinet box fully exposed and mounted directly on wall with no trim.

E. Cabinet Trim Material: Aluminum sheet.

F. Door Material: Aluminum sheet.

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G. Door Style: Vertical duo panel with frame.

H. Door Glazing: Tempered break glass.

I. Door Hardware: Manufacturer's standard door-operating hardware of proper type for cabinet type, trim style, and door material and style indicated.

J. Accessories:

1. Mounting Bracket: Manufacturer's standard steel, designed to secure fire extinguisher to fire-protection cabinet, of sizes required for types and capacities of fire extinguishers indicated, with plated or baked-enamel finish.
2. Break-Glass Strike: Manufacturer's standard metal strike, complete with chain and mounting clip, secured to cabinet.
3. Break-Glass Door Handle: Manufacturer's standard, integral to glass with the words "PULL TO BREAK GLASS" applied to handle.
4. Lettered Door Handle: One-piece, cast-iron door handle with the word "FIRE" embossed into face.
5. Door Lock: Cam lock that allows door to be opened during emergency by pulling sharply on door handle.
6. Identification: Lettering complying with authorities having jurisdiction for letter style, size, spacing, and location. Locate as indicated.

    a. Identify fire extinguisher in fire-protection cabinet with the words "FIRE EXTINGUISHER."

        1) Location: Applied to cabinet door.
        2) Application Process: Decals.
        3) Lettering Color: Red.
        4) Orientation: Vertical.

K. Materials:

1. Aluminum: ASTM B221 (ASTM B221M) for extruded shapes and aluminum sheet, with strength and durability characteristics of not less than Alloy 6063-T5 for aluminum sheet.

    a. Finish: Baked enamel or powder coat.
    b. Color: Black or Dark Bronze.
2. Tempered Break Glass: ASTM C1048, Kind FT, Condition A, Type I, Quality q3, 1.5 mm thick.
3. Wire Glass: ASTM C1036, Type II, Class 1, Form 1, Quality q8, Mesh m1 (diamond), 6 mm thick.

2.2 FABRICATION

A. Fire-Protection Cabinets: Provide manufacturer's standard box (tub) with trim, frame, door, and hardware to suit cabinet type, trim style, and door style indicated.

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PART 3 - EXECUTION

3.1 INSTALLATION

A. Install fire-protection cabinets in locations and at mounting heights indicated or, if not indicated, at heights acceptable to authorities having jurisdiction.

B. Fire-Protection Cabinets: Fasten cabinets to structure, square and plumb.

C. Identification: Apply decals at locations indicated.

D. Adjust fire-protection cabinet doors to operate easily without binding. Verify that integral locking devices operate properly.

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SECTION 220000 - PLUMBING

PART 1 – GENERAL

1.1 RELATED REQUIREMENTS

Section 230050, "Mechanical General Requirements," applies to this section, with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section.

1.2 SUBMITTALS

Submit the following:

1.2.1 Manufacturer's Catalog Data

a. Pipe and fittings

b. Valves

c. Plumbing fixtures

d. Hot water heaters

e. Pipe supports (hangers)

f. Drains

g. Water hammer arresters

h. Access Doors

1.2.3 Certificates of Compliance

a. Pipe and fittings

b. Valves

1.3 QUALITY ASSURANCE

Plumbing systems including fixtures, equipment, materials, installation, and workmanship shall be in accordance with the Florida Plumbing Code except as modified herein. In the Plumbing Code referred to herein, the advisory provisions shall be considered to be mandatory, as though the word "shall" had been substituted for the word "should" wherever it appears. Capacity of equipment shall be not less than that indicated.

PART 2 PRODUCTS

2.1 DRAIN, WASTE, AND VENT (DWV) PIPING

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Fittings shall be long radius fittings, except fittings in vent piping may be short radius fittings. Minimum size piping shall be 2 inches for buried piping and 1.5 inches for aboveground piping.

2.1.1 Buried Piping

Provide piping up to but not more than 6 inches above ground or floor slab on grade.

2.1.1.1 Plastic Pipe, Fittings, and Solvent Cement

A. Polyvinyl Chloride (PVC) System: ASTM D 2665. Underground installation shall be in accordance with ASTM D 2321.

2.1.1.2 Cast-iron Pipe and Fittings

A. Cast-Iron Hub and Spigot Pipe and Fittings, ASTM A74 with ASTM C564 or CISPI HSN rubber compression gasket joints or caulked and leaded joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2 Aboveground Piping

2.1.2.1 Cast-Iron Hubless Pipe and Fittings

CISPI 301 or ASTM A 888 with CISPI 310, ASTM C 1277, and ASTM C 564 coupling joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2.2 Cast-Iron Hub and Spigot Pipe and Fittings

ASTM A 74 with ASTM C 564 rubber compression gasket joints, conforming to ASTM C 1563; or caulked and leaded joints. Cast Iron pipe and fittings shall be marked with the collective trademark of the Cast Iron Soil Pipe Institute.

2.1.2.3 Plastic Pipe, Fittings, and Solvent Cement Polyvinyl Chloride (PVC) System

ASTM D 2665

2.1.3 Drains

ANSI A112.21.1M; provide cast-iron drains and clamping rings for use with membrane waterproofing. Provide P-traps for each floor drain.

2.1.3.1 Flush Strainer Floor Drains or Hub Drains

Per Hyatt Technical Standards & Guidance requirements - Provide with double drainage flange, perforated or slotted cast bronze or nickel bronze strainer, and adjustable collar. Drains of sizes 2, 3, and 4 inches shall have strainers with minimum free drainage area of 5, 11, and 18 square inches, respectively. Provide trap primer connections on all floor drains and hub drains. Stainless steel floor drains are required in showers, pools, & public toilet areas.

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2.2 DOMESTIC WATER PIPING

2.2.1 Buried Piping and Aboveground Piping

2.2.1.1 Copper Tubing

ASTM B 88, Type K, with ANSI B16.18 or ANSI B16.22 solder joint fittings using silver solder and flux containing not more than 0.2 percent lead; or with ANSI B16.26 flared joint fittings. ASTM B 88, Type L may be provided for aboveground piping.

2.2.1.2 Per Hyatt Technical Standards & Guidance requirements - NSF-61 rated crosslinked polyethylene (PEX) system manufactured by Viega with crimp style brass fittings manufactured by Sioux Chief or approved equal by Uponor.

2.2.1.3 CPVC plastic piping, ASTM D 1784, ASTM D 2846, NSF 14 and 61 with glued socket fittings.

2.2.2 Valves

2.2.2.1 Check Valves

MSS SP-80, Class 125, swing check (all valves shall be American made).

2.2.2.2 Ball Valves

Full port design, copper alloy. Valves shall have two-position lever handles. (All valves shall be American made).

2.2.2.3 Balancing Valves

Balancing valves shall be NSF approved, lead-free manual balancing type. Valves shall have fixed orifice and shall be globe style with locking memory stop and fitted with 2 test points for differential pressure measurement. Valves shall be dezincification resistant.

2.2.3 Dielectric Connections

Provide at connections between copper and ferrous metal piping materials. ASTM F 441, Schedule 80, CPVC threaded pipe nipples, 4-inch minimum length, may be provided for dielectric connections in pipe sizes 2 inches and smaller.

2.2.4 Water Hammer Arresters

PDI WH201, ANSI A112.26.1M, or ASSE 1010

2.3 MISCELLANEOUS PIPING MATERIALS

2.3.1 Pipe Nipples

ASTM A733, copper alloy for use in copper tubing and hot-dip galvanized Schedule 80 steel pipe for use in steel piping.

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2.3.2 Flanges

ANSI B16.1, Class 125, for use in ferrous piping; ANSI B16.22 or ANSI B16.24 for use in copper tubing; with full face flat type synthetic rubber gaskets.

2.3.3 Escutcheon Plates

One piece or split hinge type metal plates for piping passing through floors, walls, and ceilings in exposed spaces, chromium-plated finish on copper alloy plates in finished spaces, paint finish on plates in unfinished spaces, and with set screws or other approved positive means to anchor plates in place securely.

2.3.4 Solder

Use only silver solder for all copper fittings.

2.3.5 Pipe Sleeves

2.3.5.1 Sleeves in Masonry and Concrete Walls, Floors, Roofs

ASTM A 53, Schedule 40 or Standard Weight, hot-dip galvanized steel pipe sleeves. Core drilling of masonry and concrete may be provided in lieu of pipe sleeves when cavities in the core-drilled holes are completely grouted smooth.

2.3.5.2 Sleeves in Non-Masonry or -Concrete Walls, Floors, and Roofs

Hot-dip galvanized steel sheet having a nominal weight of not less than 0.90 pound per square foot. Provide 26 gauge galvanized steel sheet.

2.3.6 Pipe Hangers and Supports

Provide MSS SP-58 and MSS SP-69, Type 1 or 6, of the adjustable type, except as modified herein or indicated otherwise. Attachments to steel W or S beams shall be with Type 21, 28, 29, or 30 clamps. Attachments to steel angles and channels (with web vertical) shall be with Type 20 clamp with a beam clamp channel adaptor. Attachments to steel channel (with web horizontal) shall be with drilled hole on centerline and double nut and washer. Attachments to concrete shall be with Type 18 insert or a drilled hole with expansion anchor. Attachments to wood shall be as indicated. Hanger rods and attachments shall be full size of the hanger threaded diameter. Provide Type 40 insulation protection shields for insulated piping. Provide steel support rods. Provide nonmetallic, hair felt, or plastic piping isolators between copper tubing and the hangers. System suspension assemblies installed within unconditioned spaces, concealed & unconcealed, shall be hot-dipped galvanized and/or stainless steel.

2.3.7 Access Doors

Per Hyatt Technical Standards & Guidance requirements & specification section 083113 - Provide minimum 12- by 12-inch factory prefabricated and finished flush face steel access doors including steel door frame with continuous hinges and latch. Door frame shall be for installation in plaster and masonry walls. Furnish doors under this section to provide proper access to concealed valves; install doors under the appropriate section of this specification.

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2.4 FIXTURES, FITTINGS, ACCESSORIES, AND SUPPLIES

Provide screwdriver operated control-stop valves in each supply to each fixture. The finish of fittings, accessories, and supplies exposed to view shall be chromium-plated per ASME A112.18.1M. Provide special roughing-in for wheelchair fixtures. Plumbing fixtures shall be as indicated on drawings, see Plumbing Fixture Schedule.

2.5 AIR ADMITTANCE VALVES

Air admittance valves shall be approved as a vent termination for any individual vent, common vent, circuit vent, loop vent, island fixture vent, vent stack or stack vent that is provided to prevent siphonage of a fixture trap. Air admittance valves shall be installed in an accessible location. Install valves in accordance with the manufacturer's installation instructions. Valves shall be installed in the vertical, upright position after rough-in and pressure testing of the DWV system. Valves shall have protective screening on the inside and outside to protect the sealing membrane from insects and debris. Air admittance valves shall have a lifetime warranty.

2.6 HOSE BIBBS

A. Hose Bibb (HB): ASSE 1011, Bronze wall faucet with anti-siphon protection and removable handwheel or tee-handle, 0.75 inch external hose thread outlet with automatic draining vacuum breaker. Hose bibbs shall be Woodford Model 24 series or approved equal.

B. Freezeproof Wall Hydrant (FPWH/VB): ASSE 1019, freezeless type wall faucet with anti-siphon protection and removable handwheel or tee-handle, 0.75 inch external hose thread outlet with automatic draining vacuum breaker. Hydrant shall be contained in exterior box with locking cover. Hydrant shall be of sufficient length to extend through walls and place the valve seat inside the building. Bonnet and valve stem shall be removable from outside of the building. Hydrant and box shall have brass finish. Freezeproof wall hydrants shall be Woodford Model B65 series or approved equal.

2.7 DOMESTIC WATER HEATERS AND STORAGE TANKS

Domestic hot water heaters shall have storage and heating capacity as indicated on the plans. Heater shall be constructed and stamped in accordance with Section VIII of the ASME Code for a working pressure of 150 psig and shall have National Board Registration. Form U-1, Manufacturer's Data Report for Unfired Pressure Vessels, shall be provided. Heaters shall be double-wall type and shall be capable of being disassembled and the heat exchanger section removed for inspection and service without breaking water connections. Hot water heaters shall be as specified on the drawings.

2.8 PUMPS

Select the pump so that the operating point on the characteristic performance curve for the impeller size to be furnished will be to the left (shut-off side) of and not more than 5 percent below the point of maximum efficiency for the impeller to be furnished.

2.8.1 Inline Water Pumps

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Standard head capacity, service water distribution system. Provide factory assembled and tested pumps constructed of materials suitable for hot domestic water service.

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PART 3 EXECUTION

3.1 INSTALLATION

Installation of plumbing systems including fixtures, equipment, materials, and workmanship shall be in accordance with the Florida Plumbing Code, except as modified herein. When fixtures require both hot water and cold water supplies, provide the hot water supply to the left of the cold water supply. Plastic piping shall not penetrate fire walls or fire floors and shall be used on one side of fire walls and fire floors not closer than 6 inches to the penetration. Plastic piping shall not be permitted within return air plenum spaces above suspended ceilings.

3.1.1 Threaded Connections

Jointing compound for pipe threads shall be polytetrafluoroethylene (PTFE) pipe thread tape, pipe cement and oil, or PTFE powder and oil; apply only on male threads. Provide exposed ferrous pipe threads with one coat of primer applied to a minimum dry film thickness of 1.0 mil.

3.1.2 Solder End Valves

Remove stems and washers and other item subject to damage by heat during installation. Reassemble valve after soldering is completed. Valves without heat sensitive arts do not require disassembly but shall be opened at least two turns during soldering.

3.1.3 Pipe Supports (Hangers)

Provide additional supports at the concentrated loads in piping between supports, such as for inline water pumps and flanged valves.

3.1.3.1 Piping to Receive Insulation

Provide temporary wood spacers between the insulation protection shield and the pipe in order to properly slope the piping and to establish final elevations. Temporary wood spacers shall be of the same thickness as the insulation to be provided under Section 23 00 80, "Insulation of Mechanical Systems."

3.1.3.2 Maximum Spacing Between Supports

a. Vertical Piping: Support piping at each floor, but at not more than 10-foot intervals, with pipe riser clamps or offset pipe clamps.

b. Horizontal Piping: Support cast-iron piping at 5-foot intervals, except for pipe exceeding 5-foot length, provide supports at intervals equal to the pipe length but not exceeding 10 feet. Support steel piping and copper tubing as follows:

MAXIMUM SPACING (FEET)

Nominal Pipe Size (inches)	One and under	1.25	1.5	2	2.5	3	3.5	4	5	6
Steel Pipe	7	8	9	10	11	12	13	14	16	17
Copper Tube	6	7	8	8	9	10	11	12	13	14

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3.1.4 Installation of Pipe Sleeves

Provide pipe sleeves where piping passes through walls, floors, roofs, and partitions. Secure sleeves in proper position and location during construction. Provide sleeves of sufficient length to pass through entire thickness of walls, floors, roofs, and partitions. Provide not less than 0.25-inch space between exterior of piping or pipe insulation and interior of sleeve or core-drilled hole. Firmly pack space with mineral wool insulation and caulk at both ends of the sleeve or core-drilled hole with plastic waterproof cement which will dry to a firm but pliable mass, or provide a mechanically adjustable segmented elastomeric seal. Seal both ends of penetrations through fire walls and fire floors to maintain fire resistive integrity with UL listed fill, void, or cavity material. Extend sleeves in floor slabs 3 inches above the finished floor, except sleeves are not required where DWV piping passes through concrete floor slabs located on grade.

3.2 FIELD QUALITY CONTROL

3.2.1 Inspections

Prior to initial operation, inspect piping system for compliance with drawings, specifications, and manufacturer's submittals.

3.2.2 Field Testing

Before final acceptance of the work, test each system as in service to demonstrate compliance with the contract requirements. Perform the following tests in addition to the tests specified in the Florida Plumbing Code and as required by the local authority having jurisdiction, except as modified herein. Correct defects in the work provided by the Contractor, and repeat tests until work is in compliance with contract requirements.

3.2.2.1 Domestic Water Piping

Before applying insulation, hydrostatically test each piping system at not less than 100 psig with no leakage or reduction in gauge pressure for 2 hours.

3.2.2.2 DWV Piping

Before the installation of fixtures, cap ends of each system, fill piping with water to the roof, and allow to stand until a thorough inspection has been made. If the system is tested in sections, each opening shall be plugged and each section tested with not less than a 10-foot head or water. After plumbing fixtures have been set and their traps filled with water, subject the entire sanitary system to a final air pressure test of not more than 1.0 inch of water column. The entire system shall be proven absolutely tight under such test.

3.3 DISINFECTION

Disinfect new water piping in accordance with AWWA C651. Fill piping systems with solution containing minimum of 50 parts per million of available chlorine and allow solution to stand for minimum of 24 hours. Flush solution from the systems with clean water until maximum residual chlorine content is not greater than 0.2 parts per million or residual chlorine content of domestic water supply.

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END OF SECTION 220000

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SECTION 230050 - MECHANICAL GENERAL REQUIREMENTS

PART 1 - GENERAL

1.0 RELATED REQUIREMENTS

This section applies to all sections of Divisions 21, 22 and 23, "Mechanical" of this project specification, unless specified otherwise in the individual section. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section. Any conflicts which may arise between the drawings and the specifications shall be interpreted by the Engineer in the best interest of the Owner.

1.1 CONTRACTORS QUALIFICATIONS

1.1.1 General: Wherever the word "sub-contractor" or "firm" is used in these sub-paragraphs, it shall mean the contractor/sub-contractor of record for the installations used for proficiency qualification.

1.1.2 Location: The firm which performs the installation of the work under this section shall be one who maintains an established, experienced organization with a permanent, manned office.

1.1.3 Plumbing Experience: The firm's proficiency in the installation and adjustment of plumbing systems shall have been demonstrated by the successful performance of work as specified herein on at least three commercial or institutional buildings, each containing a minimum of 10 plumbing fixtures. The firm shall have been in business performing services as specified herein, for at least 3 years.

1.1.4 HVAC Experience: The firm's proficiency in the installation, start-up, adjustment, and maintenance of air conditioning systems shall have been demonstrated by the successful performance of work as specified herein on at least three systems each with ducted air distribution, and hydronic and refrigerant piping of 10 tons capacity or greater. The firm shall have been in business performing services as specified herein, for at least 3 years.

1.1.5 Test and Balance: The firm's proficiency in the test and balance of the air conditioning systems shall have been demonstrated by the successful performance of work as specified herein on at least three systems each with ducted air distribution, and refrigerant piping of 100 tons capacity or greater, incremental units excluded. The firm shall have trained personnel, instruments, tools, and equipment to perform the testing and balancing service specified. The firm shall have been in business performing services as specified herein, for at least 3 years and be independent of the mechanical contractor and shall be an active member of AABC or NEBB.

1.2 DEFINITIONS

1.2.1 Manufacturers Representatives: Wherever MANUFACTURERS REPRESENTATIVE is referred to in this division of these specifications, said representative shall be regularly employed by the manufacturer to perform similar activities to those called for herein, which indicates his competence in that field of work.

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1.2.2 Concealed: Where the word concealed is used in this division, it shall mean items above ceilings, in attics, in crawl spaces, in chases, in tunnels, in cabinet work, and under counters or equipment so as to be not visible from an elevation of 5 feet at a horizontal distance of 10 feet.

1.2.3 Finished Spaces or Areas: Where finished spaces or areas are referred to in this division, it shall mean all spaces except concealed spaces or mechanical rooms unless otherwise noted.

1.2.4 Extended Warranties: Where extended warranties beyond contractor's one (1) year warranty are specified, the additional warranty time shall start at the end of the contractor's one (1) year warranty.

1.2.5 Provide: Furnish and install.

1.2.6 Control & Interlock Wiring: All wiring, both line voltage and low voltage, other than power wiring from electrical distribution panel, through the primary control device, to the item of equipment.

1.2.7 Primary Control Device: That ONE device for any item of equipment which interrupts power flow during normal operation. Where magnetic starters are provided, they are the primary control. For items not switched by starters, the primary control device will be that ONE thermostat, time clock, manual switch, aquastat, P.E. switch, or relay performing the primary switching.

1.2.8 Code Reference: Where reference is made to a code or ASTM without a date indicated, the date shall be the latest date or edition as of the date of the opening of bids.

1.2.9 Diagrammatic: A drawing that shows arrangement and relationship (as of parts), i.e.: A diagrammatic drawing uses symbols rather than pictorial representation of pipes, ducts, conduit and other items shown and are not necessarily to scale. Arrangement, location and sizes shown are firm.

1.2.10 Readily Accessible: Where items are specified to be readily accessible, they shall be available for maintenance or use in space, above a lay-in ceiling or through an access door from floor elevation, or by standing on an 8-foot ladder.

1.2.11 Noted, Indicated or Shown: Where the terms "Noted", "Indicated" or "Shown" are used in these specifications, the words "in the specifications or on the plans" shall be inferred.

1.2.12 Detail: Where reference is made to a Detail, the Detail shall be on the plans unless otherwise noted.

1.2.13 Specifications: Where reference is made to these specifications, it shall be inferred in this section of specifications.

1.2.14 Notification by Contractor, and Instructions to Contractor: Where reference is made in these specifications to notification by the Contractor or instructions given to the Contractor, it shall be inferred that the Architect/Engineer shall be the instructor or shall be notified, as the case exists.

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1.2.15 Division or Section Reference: Where reference is made to another division or section within this division, refer to specifications table of contents for division, section, or page number.

1.2.16 Flow Diagram: A single-line, two-dimension, non-sealed drawing depicting arrangement and sequence of equipment, valves, controls, thermometers, gauges, and other specialty devices in a pipe or duct system.

1.3 CODES AND REGULATIONS

The work shall conform to the following listed codes and regulations:

O.S.H.A., National Electric Code, Florida Building Code, Florida Building Code-Mechanical, Florida Building Code-Plumbing, National Fire Protection Association, ASHRAE Code for Refrigeration Apparatus, ASA Codes for Refrigeration Equipment. Electric motors shall bear NEMA approval. Fans shall bear AMCA label. All electric wiring and electrical devices shall be UL approved. Welding shall be performed by ASME qualified welding mechanics in compliance with ASME Code for pressure piping together with addenda and supplements issued to date. Pressure vessels shall bear ASME label.

1.4 FEES, PERMITS AND TESTING

The Contractor shall obtain and pay for all permits, fees for inspection, and other charges that may be necessary for fully completing the work. The Contractor shall make all necessary tests required by City, County, or State authorities, legal regulations, and/or the Architect, and return to the Architect any certificates of approval issued in this region for plumbing work, etc. signed by the inspector in charge of each particular part of the work. All cost associated with testing shall be paid by the contractor.

1.5 MECHANICAL SHOP DRAWINGS (SUBMITTALS)

1.5.1 Mechanical Room Shop Drawings: The contractor shall provide layout drawings of all piping and ductwork in mechanical rooms and spaces indicating actual equipment submitted. The contractor shall not fabricate nor install any piping, ductwork or equipment in mechanical rooms until these drawings are approved. It is the contractor’s responsibility to include this item in a timely fashion to ensure there are not any construction delays.

1.5.2 General Requirements: Contractor shall check data to ensure compliance with specifications prior to submitting. Submittal shall be assembled in complete sets in hard back three-ring binders, by trade, and bound with numbered index sheets and tabs. Submittal data shall be submitted at one time unless unavailable drawings would delay job progress. Data shall include capacities, complete installation instructions, dimensional data and electrical data, BHP, motor HP, operating weights and load distribution at mounting points.

1.5.3 Identification: All submittal data shall be identified by a cover sheet showing project name, specification sections, drawing or detail number, room number, date, revision date, contractor and subcontractor's organization and project manager with phone number, the model, style and size of item being submitted with manufacturer's representative, salesman (or preparer who can answer questions), and phone number. Manufacturer's standard drawings shall be modified by deletions or additions to show only items applicable to this project.

1.5.4 Review: The Contractor agrees that submittals of equipment and material and shop drawings

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of equipment and material layouts required under provisions of these specifications and processed by the Architect/Engineer are not Change Orders. The purpose of submittals is to demonstrate that the Contractor understands the design concept of the project by indicating the equipment and materials he intends to furnish and install, and by detailing the installation he intends to achieve.

The Contractor shall conform to the requirements of the Contract Documents unless a change order is issued. The Contractor shall identify on each submittal and in letterform to the Architect/Engineer any and all deviations from the contract documents.

Any submittal or shop drawings not conforming to the Contract Documents without this identification and notification shall be assumed to be marked "Revise and Resubmit" (Contractor acknowledges this by the submission), and the Contractor shall promptly re-submit said submittal so as to be in full compliance with the Contract Documents.

NOTE: Failure of the Contractor to provide this information during the shop drawings phase shall make the Contractor responsible for all changes to achieve compliance with the Contract Documents without additional compensation.

1.5.5 Items to be Submitted:

Tabulation of Power Wiring Requirements: Within 20 Days of Notice to Proceed, provide a Tabulation of Power Wiring Requirements of all proposed equipment, including H.P., amps, voltage, phase and KW, tabulated on a separate sheet. A copy of the tabulation shall be transmitted independently to the general contractor, Architect/Engineer, and to all affected trades. (Refer to Electrical Drawings for electrical provisions for equipment.)

Plumbing System Components:

Submit all components required for complete installation of Plumbing system designed and specified herein and as required by the engineer of record.

HVAC System Components:

Submit all components required for complete installation of HVAC system designed and specified herein and as required by the engineer of record.

1.6 QUALITY ASSURANCE

1.6.1 Material and Equipment Qualifications

Provide materials and equipment that are standard products of manufacturers regularly engaged in the manufacture of such products, which are of a similar material, design and workmanship. Standard products shall have been in satisfactory commercial or industrial use for 2 years prior to bid opening. The 2-year use shall include applications of equipment and materials under similar circumstances and of similar size. The product shall have been for sale on the commercial market through advertisements, manufacturers' catalogs, or brochures during the 2-year period.

1.6.2 Alternative Qualifications

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Products having less than a two-year field service record will be acceptable if a certified record of satisfactory field operation for not less than 6000 hours, exclusive of the manufacturer's factory or laboratory tests, can be shown. In addition, products not meeting the above service requirements but are named in the documents as ‘basis of design’ equipment shall be exempt from such service requirements.

1.6.3 Engineer Approved Equal

Where the phrase “Engineer Approved Equal” appears in the project specifications it shall mean that the product or equipment must be approved by the Engineer for use in this project. This approval must be attained prior to the Contractor receiving pricing for the product or equipment and prior to the Contractor proposing a price in which an “Engineer Approved Equal” product or equipment is proposed to be utilized. In this sense the phrase “Prior-Approved Equal” may be substituted for the phrase “Engineer Approved Equal” wherever it appears in the project specifications. Failure to attain Engineer Approval prior to proposing the use of a product or equipment is at the Contractor’s risk of subsequent review and Engineer Approval.

1.6.4 Service Support

The equipment items shall be supported by service organizations. Submit a certified list of qualified permanent service organizations for support of the equipment, which includes their addresses and qualifications. These service organizations shall be reasonably convenient to the equipment installation and able to render satisfactory service to the equipment on a regular and emergency basis during the warranty period of the contract.

1.6.5 Manufacturer's Nameplate

Each item of equipment shall have a nameplate bearing the manufacturer's name, address, model number, and serial number securely affixed in a conspicuous place; the nameplate of the distributing agent will not be acceptable.

1.6.6 Modification of References

In each of the publications referred to herein, consider the advisory provisions to be mandatory, as though the word, "shall" had been substituted for "should" wherever it appears.

1.7 DELIVERY, STORAGE, AND HANDLING

Handle, store, and protect equipment and materials to prevent damage before and during installation in accordance with the manufacturer's recommendations, and as approved by the Owner and Engineer. Damaged or defective items, in the opinion of the Owner and Engineer, shall be replaced.

1.8 SAFETY REQUIREMENTS:

1.8.1 Equipment Safety

Provide positive means of locking out equipment in accordance with current OSHA standards so that equipment cannot be accidentally started during maintenance procedures. High-

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temperature equipment and piping so located as to endanger personnel or create a fire hazard shall be properly guarded or covered with insulation of the type specified. Provide catwalks, maintenance platforms, and guardrails where required for safe operation and maintenance of equipment. Provide ladders or stairways to reach catwalks and maintenance platforms. Ensure that access openings leading to equipment are large enough to carry through routine maintenance items such as filters and tools. Provide covers or guards for all rotating equipment, which could be hazardous.

1.9 ELECTRICAL REQUIREMENTS

Electrical installations shall conform to ANSI C2, NFPA 70, and requirements specified herein.

1.9.1 New Work

Provide electrical components of mechanical equipment, such as motors, motor starters, control or push-button stations, float or pressure switches, integral disconnects, and other devices functioning to control mechanical equipment, as well as control wiring and conduit for circuits rated 100 volts or less, to conform with the requirements of the section covering the mechanical equipment. Extended voltage range motors shall not be permitted. The interconnecting power wiring and conduit, control wiring rated 120 volts (Nominal) and conduit, and the electrical power circuits shall be provided under Division 26, except internal wiring for components of packaged equipment shall be provided as an integral part of the equipment. When motors and equipment furnished are larger than sizes indicated, provide any required changes to the electrical service as may be necessary and related work as a part of the work for the section specifying that motor or equipment."

1.9.2 Modifications to Existing Systems

Where existing mechanical systems and motor-operated equipment require modification, provide electrical components under Division 26."

1.9.3 High Efficiency Motors

1.9.3.1 High Efficiency Single-Phase Motors

Unless otherwise specified, single-phase fractional-horsepower alternating-current motors shall be high efficiency types corresponding to the applications listed in NEMA MG 11.

1.9.3.2 High Efficiency Polyphase Motors

Unless otherwise specified, polyphase motors shall be selected based on high efficiency characteristics relative to the applications as listed in NEMA MG 10. Additionally, polyphase squirrel-cage medium induction motors with continuous ratings shall meet or exceed energy efficient ratings in accordance with Table 12-6C of NEMA MG 1. Motors shall be NEMA Design Type B with NEMA Class B insulation. Motors specified to be high efficiency shall be minimum 92 percent efficient.

1.10 INSTRUCTION TO MAINTENANCE PERSONNEL

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Instruct operating personnel designated by Owner in operation and maintenance of systems prior to the request for final inspection. A manufacturer's service representative shall provide the instructions for each piece of equipment on system. A manufacturer's sales representative is not acceptable. (Instructor shall not be a sales person, but shall be one with service experience on a continuing basis, knowledgeable about the subject equipment.) The Contractor shall give notice to the Architect/Engineer not less than 10 days of the anticipated date of instruction to allow planning by the Owner. The Contractor shall request the instruction date not less than 5 days of the desired date for coordination with the Owner. Operating manual for the equipment/systems on which instructions are being given shall be in the possession of the operating personnel not less than 5 days prior to the date of instruction. The Contractor shall give an orientation session to operating personnel for achieving familiarity (not instructions) of the systems approximately 3 days prior to the instruction date. The Contractor's representative giving instruction shall be knowledgeable in the equipment/systems.

1.11 O&M MANUALS

A complete set of operations and maintenance manuals (O&M manual) shall be assembled for all mechanical (HVAC & Plumbing) equipment in digital (PDF) format. Digital O&M manual shall be provided on a CD or thumb drive and turned over to the owner at least 5 days prior to any training sessions.

PART 2 - PRODUCTS

Not Used.

PART 3 - EXECUTION

Not Used.

END OF SECTION 230050

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SECTION 230080 - INSULATION OF MECHANICAL SYSTEMS

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

Section 230050, "Mechanical General Requirements," applies to this section, with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the materials of this section also applies to this section.

1.2 DEFINITIONS

1.2.1 Finished Spaces

Spaces used for habitation or occupancy where rough surfaces are plastered, paneled, or otherwise treated to provide a pleasing appearance.

1.2.2 Unfinished Spaces

Spaces used for storage or work areas where appearance is not a factor, such as unexcavated spaces and crawl space.

1.2.3 Concealed Spaces

Spaces out of sight. For example, above ceilings; below floors; between double walls; furred-in areas; pipe and duct shafts; and similar spaces.

1.2.4 Exposed

Open to view. For example, pipe running through a room and not covered by other construction.

1.2.5 Fugitive Treatments

Treatment subject to deterioration due to aging, moisture, high humidity, oxygen, ozone, and heat. Fugitive materials are entrapped materials that can cause deterioration, such as solvents and water vapor.

1.2.6 Outside

Open to view up to 5 feet beyond the exterior side of walls, above the roof, and unexcavated or crawl spaces.

1.2.7 Conditioned Space

An area, room or space normally occupied and being heated or cooled for human habitation by any equipment.

1.3 SUBMITTALS

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Submit the following:

1.3.1 Manufacturer's Catalog Data

a. Insulation

b. Jackets

c. Casings

d. Vapor-barrier materials

e. Accessory materials

1.3.2 Certificates of Compliance

a. Insulation

b. Jackets

c. Casings

d. Vapor-barrier materials

e. Accessory materials

Submit standards compliance labels on each container or package.

1.4 QUALITY ASSURANCE

Every package or standard container of insulation, jackets, cements, adhesives, and coatings delivered to the project site shall have the manufacturer's stamp or label attached giving name of manufacturer, brand and description of material. Insulation packages and containers shall be asbestos-free.

1.5 FLAME-SPREAD AND SMOKE-DEVELOPED RATINGS

In accordance with NFPA 255, ASTM E84 or UL 723, the materials shall have a flame-spread rating of not more than 25 and a smoke-developed rating of not more than 50.

1.5.1 Materials Tests

Test factory-applied materials as assembled. Field-applied materials may be tested individually. Use no fugitive or corrosive treatments to impart flame resistance. UL label or satisfactory certified test report from a testing laboratory will be required to indicate that fire hazard ratings for materials proposed for use do not exceed those specified. Flameproofing treatments subject to deterioration due to effects of moisture or high humidity are not acceptable.

1.5.2 Materials Exempt From Fire-Resistant Rating Nylon Anchors.

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1.5.3 Special Exempt Materials

Materials exempt from fire-resistant rating when installed in outside locations, buried, or encased in concrete: PVC casing and glass-fiber-reinforced plastic casing.

PART 2 - PRODUCTS

2.1 PIPING INSULATION

Piping systems, except buried pipe requiring insulation, types of insulation required, and insulation thickness shall be as listed in Tables I and II herein. Except for flexible unicellular insulation, insulation thickness as specified in Table II shall be one inch greater for insulated piping systems located outside. Unless otherwise specified, insulate all fittings, flanges, and valves, except valve stems, hand wheels, and operators. Provide factory premolded, precut, or field-fabricated insulation of the same thickness and conductivity as insulation on adjacent piping. Insulation exterior shall be factory cleanable, grease resistant, non-flaking and non-peeling. Pipe insulation shall conform to the referenced publications in Table I.

2.1.1 Flexible Unicellular Insulation

ASTM C534. Provide adhesive as recommended by insulation manufacturer.

2.1.2 Piping Insulation Finishes

2.1.2.1 All-Purpose Jacket

Except unicellular insulation, provide a factory applied all-purpose jacket with or without integral vapor barrier as required by the service. Provide jackets in exposed locations with a white surface suitable for field painting. Allow a maximum water vapor permanence of 0.05 perm in accordance with ASTM E96, a puncture resistance of not less than 50 Beach units, and a minimum tensile strength of 35 pounds-force per inch of width in accordance with ASTM D828. Chilled water piping, fittings, valves and accessories all-purpose jacket shall be provided with integral vapor barrier, and in addition shall be covered with plastic jacket inside of all mechanical rooms and with metal jacket where located outdoors – the plastic jacket shall be applied after the vapor barrier has been completely applied to the pipe insulation and fully cured.

2.1.2.2 Vapor-Barrier Material

Resistant to flame, moisture penetration, and mold growth. Provide vapor-barrier material on pipe insulation as required in Table I.

2.1.2.3 Metal Jackets – apply to all piping, fittings and valves outdoors..

Provide a moisture-barrier lining for metal jackets located outside.

a. Aluminum Jackets: ASTM B209, Alloy 3003 or 3004 Temper H14, 0.016- inch thick, smooth.

2.1.2.4 Vinyl Lacquer

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Vinyl lacquer finish or equivalent recommended for unicellular insulation located outside.

2.2 HEATING, VENTILATING, AND AIR CONDITIONING SYSTEMS INSULATION

Provide insulation on ducts, plenums, filter boxes and casings of Heating, Ventilating and Air Conditioning Systems (HVAC).)

2.2.1 Duct Insulation in Concealed Spaces

Blanket flexible mineral fiber insulation conforming to ASTM C553, Type 1, Class B-3, 1.0 pound per cubic foot nominal, 2.0 inches thick. Provide flexible insulation in concealed spaces only.

2.2.2 Duct Insulation Not in Concealed Spaces

Mineral fiber in accordance with ASTM C612, Class 2 (maximum surface temperature 400 degrees F), 6 pcf (pounds per cubic foot) average, 1-1/2 inch thick.

2.2.3 Duct Insulation Finishes

2.2.3.1 All-Purpose Jacket

Provide a factory applied all-purpose jacket with or without integral vapor barrier as required by the service. In exposed locations, provide jackets with a white surface suitable for field painting. All-purpose jacket shall have a maximum water vapor permanence of 0.05 perm per ASTM E96; a puncture resistance of not less than 50 Beach units; and a tensile strength of not less than 35 pounds-force per inch of width in accordance with ASTM D828.

2.2.3.2 Vapor-Barrier Material

Material shall be resistant to flame, moisture penetration, and shall not support mold growth. Provide vapor barrier on HVAC duct insulation.

2.3 EQUIPMENT

Insulate all equipment and accessories as specified in Table III. In outside locations, provide insulation one inch thicker than specified. Increase the specified insulation thickness for equipment only where necessary to equal the thickness of angles or other structural members to make a smooth, exterior surface. Additional insulation is not required for factory-insulated equipment. Factory applied insulation shall meet the flame spread and smoke-developed rating of 25/50.

2.4 ADHESIVES, SEALANTS, AND COATING COMPOUNDS

2.4.1 Insulation and Vapor Barrier Adhesive

Provide ASTM C916, Type I or Type II adhesive for securing insulation to metal surfaces and for vapor barrier lap only in building interior. Provide Type I when an adhesive in which the vehicle is nonflammable in the liquid (wet) state and which will pass the edge-burning test is required.

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Provide Type II when an adhesive in which the vehicle is nonflammable in the liquid (wet) state and which will not pass the edge-burning test is required.

2.4.2 Lagging Adhesive

For bonding fibrous glass cloth to unfaced fibrous glass insulation; for bonding cotton brattice cloth to faced and unfaced fibrous glass insulation board; for sealing edges of and bounding fibrous glass tape to joints of fibrous glass board; or for bonding lagging cloth to thermal insulation, or Class 2, for attaching fibrous glass insulation to metal surfaces.

2.4.3 Mineral Fiber Insulation Cement

ASTM C195, thermal conductivity 0.85 maximum at 200 degrees F mean when tested in accordance with ASTM C177.

2.5 ACCESSORIES

2.5.1 Staples

ASTM A167, Type 304 stainless steel outside-clinch type.

2.5.2 Insulation Bands

½-inch wide; 0.021-inch galvanized steel or 0.018 inch stainless steel.

2.5.3 Anchor Pins

Provide anchor pins and speed washers recommended by insulation manufacturer.

2.5.4 Glass Cloth and Tape

Tape shall be 4-inch wide rolls. In lieu of glass cloth and tape, open weave glass membrane may be provided.

2.5.5 Wire

Soft annealed stainless steel, 0.047-inch nominal diameter.

PART 3 - EXECUTION

3.1 PREPARATION

Do not insulate materials until system tests have been completed and surfaces to be insulated have been cleaned of dirt, rust, and scale and dried. Insulate return ducts, outside air intakes and supply ducts to the room outlets, flexible runouts, plenums, casings, filter boxes, coils, fans, and the portion of air terminals not in the conditioned spaces. Ensure full range of motion of equipment actuators. Modify insulation to avoid obstruction with valve handles, safety relief's, and other such items. Allow adequate space for pipe expansion. Install insulation with jackets drawn tight and cement down on longitudinal and end laps. Do not use scrap pieces where a full-length section will fit. Insulation shall be continuous through sleeves, wall and ceiling openings,

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except at fire dampers in duct systems. Extend surface finishes to protect surfaces, ends, and raw edges of insulation. Apply coatings and adhesives at the manufacturer's recommended coverage per gallon. Individually insulate piping and ductwork. Provide a moisture and vapor seal where insulation terminates against metal hangers, anchors and other projections through the insulation on surfaces for which a vapor seal is specified. Keep insulation dry during application of finish. Bevel and seal the edges of exposed insulation. Unless otherwise indicated, do not insulate the following:

a. Factory pre-insulated flexible ductwork;

b. Factory insulated ductwork, plenums, casings, mixing boxes, filter boxes;

c. Vertical portion of interior roof drain pipelines, (unless otherwise noted), chrome plated pipes, and fire protection pipes;

d. Vibration isolating connections;

e. Adjacent insulation;

f. ASME stamps;

g. Fan name plates; and

h. Access plates in fan housings.

3.2 PIPING INSULATION

3.2.1 Pipe Insulation - Flexible Unicellular Insulation

Bond cuts, butt joints, ends, and longitudinal joints with adhesive conforming to manufacturer's recommendations. Miter 90-degree turns and elbows, tees, and valve insulation. Where pipes penetrate firewalls, provide mineral-fiber insulation inserts and sheet metal sleeves. Insulate flanges, unions, valves, and fittings in accordance with manufacturer's published instructions. Apply two coats of vinyl lacquer finish to flexible unicellular insulation and cover with aluminum jacketing in outside locations.

3.2.23 Hangers and Anchors

Pipe insulation shall be continuous through pipe hangers. Where pipe is supported by the insulation, provide MSS SP-58, Type 40 galvanized steel shields of MSS SP-58, Type 39 protection saddles conforming to MSS SP-69. System suspension assemblies installed within unconditioned spaces, concealed & unconcealed, shall be hot-dipped galvanized and/or stainless steel.

3.2.4 Sleeves and Wall Chases

Where penetrating interior walls, extend a metal jacket 2 inches out on either side of the wall and secure on each end with a band. Where penetrating floors, extend a metal jacket from a point below the back-up material to a point 10 inches above the floor with one band at the floor and one

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not more than one inch from end of metal jacket. Where penetrating exterior walls, extend the metal jackets through the sleeve to a point 2 inches beyond the interior surface of the wall.

3.2.5 Flanges, Unions, Valves and Fittings for Hot Piping

Flanges, Unions, Valves, and Fittings Insulation (Except Flexible Unicellular) for Hot Piping: Factory fabricated removable and reusable insulation covers may be used. For inside domestic hot water, exposed hot water piping and drains in handicap areas, place factory premolded, precut or field-fabricated segmented insulation of the same thickness and conductivity as the adjoining pipe insulation around the flange, union, valve, and fitting abutting the adjoining pipe insulation. If nesting size insulation is used, overlap 2 inches or one pipe diameter, whichever is larger. Use insulating cement to fill voids. Elbows insulated using segments shall have not less than three segments per elbow. Place and joint the segments with manufacturer's recommended water-vapor resistant, fire retardant, and adhesive appropriate for the temperature limit of the service. Upon completion of installation of insulation, apply two coats of lagging adhesive with glass tape embedded between coats. Overlap tape seams one inch. Extend adhesive onto adjoining insulation not less than two inches. The total dry film thickness shall be not less than 1/16 inch. Where unions are indicated not to be insulated, taper the insulation to the union at a 45-degree angle. Coat the insulation and all-purpose jacket with two coats of lagging adhesive and with glass tape embedded between coats. The total dry film thickness shall be not less than 1/16 inch. At the option of the Contractor, factory premolded one-piece PVC fitting covers may be provided in lieu of two coats of adhesive with tape embedded between coats. Factory premolded field-fabricated segment or blanket insert insulation shall be provided under the fitting covers. Install factory premolded one-piece PVC fitting covers over the insulation and secure by stapling, taping with PVC vapor barrier tape, or with metal or plastic tacks made for securing PVC fitting covers. Do not provide PVC fitting covers where exposed to the weather. Provide PVC fitting covers only in ambient temperatures below 150 degrees F. See drawings for jacketing requirements.

3.2.6 Flanges, Unions, Valves, Anchors, Fittings for Cold Piping

Factory-fabricated removable and reusable insulation covers may be provided. For piping insulation inside the building that service domestic cold water above ceilings and roof drain leaders, coat pipe insulation ends with vapor barrier coating not more than 6 inches from each flange, union, valve, anchor or fitting. Place insulation of the same thickness and conductivity as the adjoining pipe insulation, either premolded or segmented, around the item, butting the adjoining pipe insulation. If nesting size insulation is provided overlap the insulation 2 inches or one pipe diameter. Use loose fill mineral wool or insulating cement to fill the voids. Elbows insulated using segments shall not have less than three segments per elbow. Secure insulation by wire or tape until finish coating is applied. Apply two coats of vapor barrier coating with glass tape embedded between coats. Overlap tape seams one inch. Extend the coating out onto the adjoining pipe insulation 2 inches. Where unions are shown not to be insulated, the insulation shall be tapered to the union at a 45-degree angle. Seal the insulation and jacket with two coats of vapor barrier coating with glass tape embedded between coats. Insulate anchors attached directly to the pipe for a sufficient distance to prevent condensation but not less than 6 inches from the insulation surface. At the option of the Contractor, premolded, one-piece polyvinyl chloride (PVC) fitting covers may be provided in lieu of the embedded glass tape. Factory premolded insulation or field-fabricated insulation segments shall be provided under the fitting covers. Do not use fiberglass insulation beneath the covers on chilled water piping. Blanket inserts may be provided. Secure the covers with adhesive and vapor barrier tape with a vapor resistance of maximum 0.05 perm in accordance with ASTM E96, or with tacks made for securing PVC

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covers. Then coat all tape seams and tacks with Type II vapor barrier coating. Do not use premolded PVC fitting covers where exposed to weather. Provide PVC covers only when medium temperature is not less than 35 degrees F and ambient temperature is below 150 degrees F. See drawings for jacketing requirements.

3.3 DUCTS (HVAC) INSULATION

3.3.1 Rigid Insulation

Secure rigid insulation by impaling over pins or anchors located not more than 3 inches from joint edges of boards, spaced not more than 12 inches on centers and secure with washers and clips. Spot weld anchor pins or attach with a waterproof adhesive especially designed for use on metal surfaces. Apply insulation with joints tightly butted. Neatly bevel insulation around nameplates and access plates and doors. Each pin or anchor shall be capable of supporting a 20-pound load. Cut off protruding ends of pins, after clips are sealed with coating compound conforming to manufacturer's recommended vapor barrier coating and reinforced with open weave glass membrane.

3.3.2 Flexible Blanket Insulation

Apply insulation with all joints tightly butted. Secure insulation to ductwork with adhesive in 6-inch wide strips on 12-inch centers. Staple laps of jacket with outward clinching staples and seal with foil scrim kraft (FSK) tape. For ductwork over 24 inches on horizontal duct runs, provide pins, washers and clips. Provide pins on sides of vertical ductwork being insulated. Space pins and clips on 18-inch centers and not more than 18 inches from duct corners. Carry insulation over standing seams and trapeze-type hangers. Install speed washers with pins and pin trimmed to washer. Sagging of flexible duct insulation will not be permitted. Cut off protruding ends of pins after clips are secured and sealed with coating compound conforming to manufacturer's recommended vapor barrier coating. In cold air ducts, vapor seal all joints and staple as specified.

3.3.3 Insulation Finishes and Joint Sealing

Fill all breaks, punctures, and voids with vapor barrier coating compound conforming to manufacturer's recommended vapor barrier coating. Vapor seal all joints by embedding a single layer of 3-inch wide open weave glass membrane, 20 by 20 mesh maximum size between two 1/16-inch wet film thickness coats of vapor barrier coating compound. Draw glass fabric smooth and tight with a 1 2-inch overlap. At jacket penetrations such as hangers, thermometers, and damper operating rods, fill voids in the insulation with vapor barrier coating. Brush a coat of vapor barrier coating where required on HVAC ducts. Provide vapor barrier jacket continuous across seams, reinforcing, and projections. Where height of projections is greater than insulation thickness, carry insulation and jacket over the projection.

3.3.4 Access Plates and Doors

On acoustically lined ducts, plenums, and casings, provide insulation on access plates and doors. On externally insulated ducts, plenums, and casings, provide insulation-filled hollow steel panels and doors for access openings. Bevel insulation around access plates and doors.

3.4 FIELD INSPECTION

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Visually inspect to ensure that materials provided conform to specifications. Inspect installations progressively for compliance with requirements.

TABLE I

Insulation Material For Piping

Service	Material	Spec	Type	Class	Vapor Barrier Required
Domestic Water All hot water and exposed cold water	Mineral Fiber	ASTM C547		1	Yes
A/C Condensate Drains	Flexible Unicellular	ASTM C534	I or II		No
Sewer pipes from floor drains receiving condensate and all Roof Drains including underside of drain body	Mineral Fiber	ASTM C553	I	B-3	Yes

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TABLE II

Piping Insulation Wall Thickness

Tube and Pipe Size (Inches)

Service	Material	¼ to 1-1/4	1-1 /2 to 3	3-1/2 to 5	6 to 12
Domestic Water	Mineral Fiber				
All hot water		1	1.5	1.5	1.5
Exposed cold water		1/2	1.5	1.5	1.5
AC Condensate drains	Flexible Unicellular	¾	¾	¾	¾
Sewer pipes from floor drains receiving condensate and all Roof Drains including underside of drain body	Mineral Fiber	2	2	2	2

**** Note: Insulation on piping installed outdoors shall be increased by one inch above size shown in Table II.**

END OF SECTION 230080

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SECTION 230850 - DUCTWORK AND DUCTWORK ACCESSORIES

PART 1 - GENERAL

1.1 RELATED REQUIREMENTS

Section 23 00 50, "Mechanical General Requirements," applies to this section with the additions and modifications specified herein. Any requirements shown or specified on the project drawings related to the equipment of this section also applies to this section.

1.2 SUBMITTALS

Submit the following.

1.2.1 Manufacturer's Catalog Data

1. Dampers
2. Flexible ducts and connectors
3. Wall Louvers
4. Diffusers, registers and grilles

1.3 QUALITY ASSURANCE

SMACNA Duct Construction Manuals: The SMACNA recommendations shall be considered as mandatory requirements. Substitute the word "shall" for the word "should" in these manuals.

1.4 PRESSURE-VELOCITY CLASSIFICATION

SMACNA HVACDCS, Section 1, and as indicated.

PART 2 - PRODUCTS

2.1 BASIC MATERIALS

2.1.1 Galvanized Steel Sheets

ASTM A527/527M; coating designation G90.

2.1.2 Galvanized Steel Hot Dipped After Fabrication

ASTM A123.

2.1.3 Corrosion Resisting (Stainless) Steel Sheets

ASTM A167.

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2.1.4 Duct-Liner Adhesives

SMACNA HVACDCS, fire-resistant adhesive.

2.2 DUCTS OF PRESSURE CLASSES 3-INCH OR LESS WATER GAUGE

Construction, metal gauge, hangars and supports, and reinforcements shall conform with SMACNA HVACDCS. Ductwork shall be airtight and shall not vibrate or pulsate when system is in operation. Air leakage shall be less than 5 percent of the system capacity. Construct ductwork of galvanized steel. Seal all joints including longitudinal joints.

2.2.1 Curved Elbows

Make a centerline radius not less than 1 ½ times the width or diameter of the duct.

2.2.2 Turning Vanes

All rectangular ductwork elbows shall be provided with double wall turning vanes.

2.2.3 Joints

Make airtight. No dust marks from air leaks shall show at duct joints or connections to grilles, registers, and diffusers. All duct joints and sealing of duct joints shall comply with applicable sections of the current Florida Mechanical Code.

2.2.4 Laps

Make laps at joints in the direction of airflow. Space button-punch or bolt-connection in standing seams at fixed centers not greater than 6 inches. Longitudinal locks or seams, known as "button-punch snap-lock," may be used in lieu of Pittsburg Lock, but will not be permitted on aluminum ducts.

2.2.5 Fittings

Elbows, vaned elbows, take-offs, branch connections, transitions, splitters, volume dampers, fire dampers, flexible connections, and access doors shall conform with SMACNA HVACDCS, Section 2.

2.2.6 Acoustical Attenuation Systems

2.2.6.1 Acoustical Duct Lining

Rigid mineral fiber lining conforming to ASTM C1071. Lining shall not be less than one inch thick and 2 lb/cu.ft. density. Increase duct sizes indicated to compensate for the thickness of lining.

2.3 FLEXIBLE DUCTS AND CONNECTORS

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UL 181, Class I, UL listed, SMACNA HVACDCS, and additional requirements herein specified. Use to connect between rigid ducts and outlets or terminals. Core material shall be an acoustical transparent PE fabric supported by helically wound galvanized steel. The fabric shall be mechanically fastened to the steel helix without the use of adhesive. The core shall maintain its free area and a center line radius of 1.0 or better. Flex duct shall be suitable for operating temperatures of at least 250 degrees F, rated for a velocity of at least 5,500 feet per minute, maximum internal working pressure of at least 10 inches W.G. positive pressure and 5 inches W.G. negative pressure.

2.3.1 Insulation and Vapor Barrier

ASTM C553; minimum one-inch nominal thickness. Sheathe the insulation with a fire retardant reinforced aluminum material vapor barrier having a maximum water vapor permeance of 0.05 perm in accordance with ASTM E96, Procedure A. Coat ends of insulation with cement to prevent erosion and delamination.

2.4 DIFFUSERS, REGISTERS, AND GRILLES

2.4.1 Material and Finishes

Construct diffusers, registers, and grilles of steel. Exterior and exposed edges shall be rolled, or otherwise stiffened and rounded. Steel parts shall be factory zinc phosphate treated prior to priming and painting or have a baked-on enamel finish. Colors shall be selected or approved by Architect. Location of all diffusers, registers and grilles shall be as indicated on reflected ceiling plans. Manufacturers shall be Titus, Nailor, or Price.

2.4.2 Room NC Criteria

All supply / exhaust / return / relief air diffusers, registers and grilles shall not exceed the following room noise criteria (NC) as published in manufacturer’s catalog test data:

Conference Rooms	20
All Other Spaces	25

2.4.3 Return Registers– 35 degree Louvers (RAR)

Louvered face steel return registers shall have 3/4” blade spacing of the sizes and mounting types shown on the plans. The fixed deflection blades shall be parallel to the long dimension of the grille. Construction shall be of steel with a 1-1/4” wide border on all sides. Screw holes shall be countersunk for a near appearance. Corners shall be welded with full penetration resistance welds. For return air grilles shown in lay-in ceilings the manufacturer shall provide a 24”x24” extended panel for lay-in installation.

Deflection blades shall be contoured to a specifically designed and tested cross-section to meet published test performance data. Blades shall be firmly held in place by mullions from behind the grille and fixed to the grille by welding in place. Blade deflection angle shall be 35 degrees.

Provide registers with opposed blade volume damper constructed of heavy gauge steel. Damper

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shall be operable from the face of the grille.

The grille finish shall be # 26 white. The finish shall be an anodic acrylic paint, baked 315 degrees F for 30 minutes. The pencil hardness must be HB to H. The paint must pass a 100 hour ASTM D117 Corrosive Environments Salt Spray Test without creepage, blistering, o deterioration of film. The paint must pass a 250 hour ASTM-870 Water Immersion Test. The paint must also pass the ASTM D-2794 Reverse Impact Cracking Test with a 50 inch pound force applied.

The manufacturer shall provide published performance data for the grille. The grille shall be tested in accordance with ANSI/ASHRAE Standard 70-1991. Steel return grilles shall be Titus model 350RL or approved equal.

2.4.4 Return Grilles– 35 degree Louvers (RAG) or (TG) or (EG)

Construct and finish as specified above for return air registers, except that volume dampers shall be omitted.

2.4.5 Curved Blade Ceiling Register (CR)

Curved blade ceiling registers shall be of the sizes and mounting types shown on the plans. Registers shall have curved deflectors which are individually adjustable from the face of the register to regulate air volume and angle of discharge. Registers shall be built in 1, 2, 3, or 4-way discharge patterns. The registers shall be constructed of 0.051 aluminum with miscellaneous steel components.

The register finish shall be # 26 white. The finish shall be an anodic acrylic paint, baked 315 degrees F for 30 minutes. The pencil hardness must be HB to H. The paint must pass a 100 hour ASTM D117 Corrosive Environments Salt Spray Test without creepage, blistering, o deterioration of film. The paint must pass a 250 hour ASTM-870 Water Immersion Test. The paint must also pass the ASTM D-2794 Reverse Impact Cracking Test with a 50 inch pound force applied.

Opposed blade volume damper shall be constructed of heavy gauge steel and shall be operable from the face of the register.

The manufacturer shall provide published performance data for the diffuser. The diffuser shall be tested in accordance with ANSI/ASHRAE Standard 70-1991. Curved blade ceiling diffusers shall be Titus model 250-AA or approved equal. Provide registers with extended panel designed to install in 2x2 lay-in ceiling.

2.5 DUCT SLEEVES AND PREPARED OPENINGS

2.5.1 Duct Sleeves and Closure Collars

Fabricate from minimum 20-gauge galvanized steel.

2.5.2 Prepared Openings

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Provide one-inch clearance between the duct and the sleeve.

2.6 DEFLECTORS

For round ducts taking off from rectangular ducts, provide factory fabricated, galvanized sheet metal, side take-off fittings. These fittings shall have butterfly dampers and locking quadrant operators and shall have air scoop entry fitting.

2.7 ACCESS DOORS

Weld doorframe in place. Door shall be rigid and airtight with neoprene gaskets and two or more steel hinges and tension fasteners. Provide doors as large as practical. Mount doors, if possible, so that air pressure holds them closed.

2.8 DAMPERS AND LOUVERS

The HVAC Contractor shall furnish all louvers on this project including those louvers not connected to ductwork. Construct dampers and louvers with two gauges heavier than ducts in which installed. Except as modified herein, the construction shall be of aluminum or galvanized steel with interlocking edges and maximum 10-inch blade width. Conform with SMACNA HVACDCS. Dampers shall be opposed-blade type. All louvers, whether or not connected to ductwork, shall be the responsibility of the Mechanical Contractor and shall be provided in accordance with this section.

2.8.1 Back draft Dampers (Gravity Dampers or Shutters)

Factory-fabricated, with statically and dynamically balanced blades that open automatically when the fan starts and close by gravity when the fan stops. Provide the edges of blades with felt or rubber strips to prevent rattling.

2.8.2 Splitter and Manual Volume Dampers

Balancing, factory-fabricated type. Equip dampers with accessible mechanism such as quadrant operators or 3/16-inch rods brought through the side of ducts with locking setscrew and bushing. Where quadrant operators are used they shall be chrome plated or enamel painted with all exposed edges rounded. See drawings for requirements for manual volume dampers.

PART 3 - EXECUTION

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3.1 INSTALLATION

Installation shall conform to NFPA 90A, SMACNA HVACDCS and Florida Building Code, Mechanical. Provide mounting and supporting of ductwork and accessories including, but not limited to, structural supports, hangers, vibration isolators, stands, clamps and brackets, access doors, and dampers. Use electrical isolation between dissimilar metals. Electrical isolation may be fluorinated elastomers or sponge-rubber gaskets. Install ductwork accessories as indicated in accordance with the manufacturer's printed instruction. Allow clearance for inspection, repair, replacement, and service.

3.1.1 Ductwork

When air distribution systems are operated, there shall be no chatter, vibration, or dust marks. After ducts are thermally or acoustically insulated, ensure airflow area equal to duct cross section dimensions indicated.

3.1.1.1 Field Changes to Ductwork

Those required to suit the sizes of factory-fabricated equipment actually furnished, shall be designed to minimize expansion and contraction. Use gradual transitions in field changes as well as modifications to connecting ducts. Provide jumper ducts for discharging air into duct junctions as indicated.

3.1.1.2 Dampers

When installed on ducts to be thermally insulated, equip each damper operator with stand-off mounting brackets, bases, or adapters to provide clearance between the duct and operator not less than the thickness of insulation. Standoff mounting items shall be integral with the operator or standard accessory of damper manufacturer.

3.1.1.3 Deflectors

Provide in square elbows, duct-mounted supply outlets, take-off or extension collars to supply outlets, and tap-in branch-off connections. Adjust supply outlets to provide air volume and distribution as indicated or specified.

3.1.1.4 Access Doors

Provide for automatic dampers, volume dampers, fire dampers, coils, thermostats, temperature controllers, valves, and other concealed apparatus requiring service and inspection in the duct systems. Access doors shall be provided on both the entering and leaving sides of duct mounted hot water or electric heating coils for inspection and cleaning.

3.1.1.5 Duct Sleeves and Prepared Openings

Provide for ductwork penetrations through which metallic ductwork passes.

1. Duct Sleeves: Allow one-inch clearance between duct and sleeve or one-inch clearance between insulation and sleeve for insulated ducts, except at grilles, registers, and diffusers.

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2. Prepared Openings: Allow one-inch clearance between duct and opening or one-inch clearance between insulation and opening for insulated ducts, except at grilles, registers, and diffusers.

3. Closure Collars: Provide minimum 4 inches wide on each side of the ductwork penetrations where sleeves or prepared openings are installed. Fit collars snugly around ducts and insulation. Grind smooth edges of collar to preclude tearing or puncturing insulation covering or vapor barrier. Use nails with maximum 6-inch centers on collars.

4. Fire Partitions: Seal duct penetrations of fire rated partitions (not requiring fire dampers) tight with U.L. classified form type sealant having a flame spread rating of 20 in accordance with ASTM E-84-80. See drawing for fire/smoke wall penetration notes.

3.1.1.6 Packing

Pack with mineral fiber in spaces between sleeve or opening and duct or duct insulation.

3.1.2 Duct Hangers and Supports

SMACNA HVACDCS, Section 4. Unless otherwise indicated, provide not less than two one- by 1/16-inch galvanized strap-iron hangers spaced one on each side of duct. Anchor risers in the center of the vertical run to allow ends of riser free vertical movements. Attach supports only to structural framing members and concrete slabs. Do not anchor supports to metal decking unless a means is provided and approved for preventing the anchors from puncturing the metal decking. Where supports are required between structural framing member, provide suitable intermediate metal framing. Where C clamps are used, use retainer clips.

3.1.2.1 Flexible Ducts

Support ducts by hangers every 3 feet, unless supported by ceiling construction. Use stretch flexible air ducts to smooth out corrugations, and long radius elbows, where possible, using a minimum length to make connections. Flexible duct installation shall comply with general duct installation notes on the project drawings.

3.1.2.2 Flexible Connectors

Provide flexible connectors between fans and ducts or casings and where ducts are of dissimilar metals. For round ducts, securely fasten flexible connectors by zinc-coated steel clinch-type draw-bands. For rectangular ducts, lock flexible connectors to metal collars.

3.1.3 Inspection Plates and Test Holes

Provide, where required, in ductwork or casings for all balance measurements. Test holes shall be factory fabricated, airtight, and non-corrosive with screw cap and gasket. Extend cap through insulation.

3.1.4 Acoustical Duct Lining

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SMACNA HVACDCS, Section 2. Apply the lining in cut-to-size pieces attached to interior of ducts with fire-resistant adhesive. Top and bottom pieces shall lap the sidepieces. Secure pieces together with welded pins or clips. Do not distort the ducts, burn through or mar the finish surface of ducts. Pins and washers shall be flush with the surface of duct liners. Seal breaks and punctures of duct-liner coating with fire-resistant adhesive. Coat exposed edges of the liner at duct ends and other joints where lining will be subject to erosion with a heavy brush coat of fire-resistant adhesive, to prevent de-lamination of glass fibers. Duct liners may also be applied to flat sheet metal with fire-resistant adhesive, at top and bottom surface of ducts; then secure duct liners by welded pins or adhered clips.

3.1.5 Flashings

Provide waterproof flashings where ducts pass through exterior walls and roofs.

3.1.6 Cleaning of Ducts

Remove all debris and dirt from ducts and wipe clean. Before installing air outlets, use air handler to blow dry air through entire system at maximum attainable velocity. Provide temporary air filters for this operation.

3.2 FIELD QUALITY CONTROL

The Contractor is responsible for the administration and direction of tests. Furnish instruments, equipment, connecting devices, and personnel for the tests. Notify Architect 5 days before inspection or testing is scheduled. Correct all defects in work. Repeat tests until the work is in compliance.

3.2.1 Air Duct Leakage Tests

Comply with SMACNA HVACALTM. Test ducts, plenums, and casings for air leakage. Prior to application of insulation, subject new ductwork to static pressure equivalent to that indicated. Before installing outlets, apply temporary caps where outlets will be connected. Connect a test blower temporarily to inlet end of duct and, by throttling its intake, adjust static pressure in duct to required value. Read voltage and current to blower motor and total static pressure across blower wheel. Apply data to AMCA certified performance table for the test blower to derive volumetric flow rate (cfm) of air injected into duct. Remove temporary caps and test blower. Verify the maximum allowable air leakage of the total air that duct is required to deliver. Perform the measurement of leakage using a calibrated orifice tube with its individual calibration curve. Leakage tests should be verified by the Engineer.

3.2.2 Balancing and Testing of Air Systems

Air and water systems shall be tested and adjusted by a certified Test and Balance Contractor. The Mechanical Contractor shall coordinate and provide assistance to test and balance contractor as required.

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END OF SECTION 230850

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SECTION 230950 - TESTING ADJUSTING AND BALANCING

PART 1 - GENERAL

1.1 DESCRIPTION OF WORK

The work includes testing, adjusting, and balancing (TAB) of heating, ventilating, and cooling (HVAC) air and water distribution systems including equipment, ducts, and piping which are located within, on, under, between, and adjacent to buildings. The test and balance contractor shall be a subcontractor to the mechanical contractor. Testing and balancing shall NOT be required for individual room units (split systems and vertical PTAC units).

1.1.1 Air Distribution Systems - Scope of systems to be TAB’d per contract drawings.

Systems shall be tested, adjusted, and balanced (TAB'd) in compliance with this section.

1.2 DEFINITIONS

A. Field check group: One or more systems of the same basic type; the subgroup of a "field check group" is a "system."

B. Out-of-tolerance data: Pertains only to field checking of certified DALT or TAB report. The term is defined as a measurement taken during field checking which does not fall within the range of plus 10 to minus 10 percent of the original measurement reported on the certified DALT or TAB report for a specific parameter.

1.3 SUBMITTALS

Submit following:

1.3.1 Statements

A. Independent TAB agency personnel qualifications.

B. Design review report.

C. Advanced notice for TAB fieldwork.

D. Final certified TAB report.

1.3.1.1 Independent TAB Agency Personnel Qualifications

Submit following for approval.

A. Independent AABC or NEBB certified TAB agency:

(1) TAB agency: AABC registration number and expiration date of current

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certification; or NEBB certification number and expiration date of current certification.

(2) TAB team supervisor: Name and copy of AABC or NEBB TAB supervisor certificate and expiration date of current certification.

(3) Current certificates: Registrations and certifications shall be current, and valid for the duration of this contract. Certifications, which expire prior to completion of the TAB work, shall be renewed in a timely manner so that there is no lapse in registration or certification. TAB agency or TAB team personnel without a current registration or current certification shall not perform TAB work on this contract.

1.3.1.2 Design Review Report

Submit typed report describing omissions and deficiencies in the HVAC system's design that would preclude the TAB team from accomplishing the duct leakage testing work and the TAB work requirements of this section. Provide a complete explanation including supporting documentation detailing the design deficiency. State that no deficiencies are evident if that is the case.

1.3.1.3 Advanced Notices

A. Submit "Advanced Notice of Commencement of TAB Field Work" in writing.

1.3.2 Field Test Reports

Submit certified reports in the specified format including the following data.

A. Certified TAB report

1.3.2.1 Certified TAB Report

A. Temperatures: On each TAB report form reporting TAB work accomplished on HVAC thermal energy transfer equipment, include the indoor and outdoor dry bulb temperature range and indoor and outdoor wet bulb temperature range within which the TAB data was recorded.

B. Instruments: List the types of instruments actually used to measure the tab data. Include in the listing each instrument's unique identification number, calibration date, and calibration expiration date.

C. Certification: Include the typed name of the TAB supervisor and the dated signature of the TAB supervisor.

1.4 QUALITY ASSURANCE

1.4.1 Modifications of References

Accomplish work in accordance with referenced publications of AABC or NEBB except as modified by this section. In the references referred to herein, consider the advisory or

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recommended provisions to be mandatory, as though the word "shall" had been substituted for the words "should" or "could" or "may" wherever they appear.

PART 2 - PRODUCTS

Not used.

PART 3 - EXECUTION

3.1 TAB PROCEDURES

3.1.1 TAB Field Work

Test, adjust, and balance the listed HVAC systems to the state of operation indicated on and specified in the contract design documents. Provide instruments and consumables required to accomplish the TAB work. Conduct TAB work, including sound measurement work, on the listed HVAC systems in conformance with the AABC NSTSB, or NEBB PSTABES, and NEBB PSMSV, except as modified by this section:

A. Maintenance and calibration of instruments.

B. Accuracy of measurements.

C. Air distribution systems TAB work:

(1) Air handling unit systems – As required on contract drawings.

D. TAB work within seasonal limitations:

(1) Performance tests: Accomplish proportionate balancing TAB work on the air distribution systems and water distribution systems, in other words, accomplish adjusting and balancing of the air flows and water flows, any time during the duration of this contract, subject to the limitations specified elsewhere in this section. However, accomplish, within the following seasonal limitations, TAB work on HVAC systems, which directly transfer thermal energy.

(2) Season of maximum load: Visit the contract site for at least two TAB work sessions for TAB field measurements. Visit the contract site during the season of maximum heating load and visit the contract site during the season of maximum cooling load, the goal being to TAB the operational performance of the heating systems and cooling systems under their respective maximum outdoor environment-caused loading. During the seasonal limitations, TAB the operational performance of the heating systems and cooling systems.

(1) Ambient temperatures: On each tab report form used for recording data, record the outdoor and indoor ambient dry bulb temperature range and the outdoor and indoor ambient wet bulb temperature range within which the report form's data

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was recorded. That is, record these temperatures at beginning and at the end of data taking.

E. Workmanship: Conduct TAB work on specified HVAC systems until measured parameters are within plus or minus 10 percent of the design values, that is, the values specified or indicated on the contract documents.

F. Deficiencies: Strive to meet the intent of this section to maximize the performance of the equipment as designed and installed. However, if deficiencies in equipment design or installation prevent TAB work from being accomplished within the range of design values provide written notice as soon as possible to the Owner and Engineer describing the deficiency and recommended correction. Responsibility for correction of installation deficiencies is the Mechanical Contractor's. If a deficiency is in equipment design, call the TAB team supervisor for technical assistance. Responsibility for reporting design deficiencies to the Mechanical Contractor is the TAB team supervisor's.

3.2.2 Data From TAB Field Work

After completion of the TAB fieldwork, prepare the TAB field data for TAB supervisor's review and certification. The TAB work and thereby the TAB report shall be considered incomplete until the TAB work is accomplished to within the accuracy range specified in the paragraph titled, "Workmanship".

3.3 MARKING OF SETTINGS

Permanently mark the settings of HVAC adjustment devices including valves, splitters, and dampers so that adjustment can be restored if disturbed at any time. The permanent markings shall indicate the settings on the adjustment devices, which result in the data, reported on the submitted certified TAB report.

3.4 MARKING OF TEST PORTS

The TAB team shall permanently and legibly mark and identify the location points of the duct test ports. If the ducts have exterior insulation, these markings shall be made on the exterior side of the duct insulation.

END OF SECTION 230950

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SECTION 26 00 00 – ELECTRICAL

1. RELATED DOCUMENTS: The Electrical General Requirements are supplementing and applicable to Division 26 Sections and shall apply to all phases of work specified herein, shown on the Drawings, or required to provide a complete installation of electrical systems. Section 26 is sub-divided for convenience only. Associated work specified in other Sections:

    26 01 00 - Electrical Methods and Basic Materials
    26 02 00 - Raceway Systems
    26 03 00 - Wire, Cable and Devices
    26 04 00 - Service and Distribution
    26 05 00 - Lighting
    26 06 80 - Transient Voltage Surge Suppression System

2. JOB CONDITIONS:

    A. SITE INSPECTIONS: Before submitting proposals, each bidder should visit the site and fully familiarize himself with all job conditions and shall be fully informed as to the extent of his work. No consideration will be given after bid opening date for alleged misunderstanding as to the requirements of work involved in connecting to the utilities or as to requirements of materials to be furnished.

    B. EXISTING CONDITIONS: All utilities, existing system and conditions shown on the plans as existing are approximate, and the Contractor shall verify before any work is started.

    C. SCHEDULED INTERRUPTIONS: Planned interruptions of utilities service, to any facility affected by this contract, shall be carefully planned and approved by Engineer at least ten (10) days in advance of the requested interruption. The Contractor shall not interrupt services until the Engineer has granted specific approval. The request shall indicate services to be affected, date and time of interruption and duration of outage. Request for interruption of service will not be approved until all equipment and materials required for the completion of that particular phase of work are on the job site. The work may have to be scheduled after normal working hours.

    D. ACCIDENTAL INTERRUPTIONS: All excavation and/or remodeling work required shall be performed with care so as not to interrupt other existing services (water, gas, electrical, sewer, sprinklers, etc.). If accidental utility interruption resulting from work performed by the Contractor occurs, service shall be immediately restored to its original condition without delay, by and at the expense of the Contractor, using skilled workmen of the trade required.

    E. MAINTAINING SERVICE:

        (1) Any existing service (or operating system) which must be interrupted for any length of time shall be supplied with a temporary service if necessary for continuation of the normal operation of this facility.

        (2) Any existing system or part of an existing system currently in operation shall remain so after all additions or renovations are made and all work is complete.

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3. REGULATORY REQUIREMENTS:

A. CODES, PERMITS AND INSPECTIONS: The installation shall comply with all state and federal laws and ordinances applicable to electrical installation and with the regulations of the latest published edition of the National Electric Code where such regulations do not conflict with those laws and ordinances. The Contractor shall obtain permits, and after completion of the work, shall furnish the Engineer a certificate of final inspection and approval from the applicable local inspection department. Make necessary changes to plans and specifications to meet code standards at no additional cost to the Owner. Any charges by a utility for providing service as shown shall be included in the bid and paid by the Contractor including any additions or revisions in service locations or details.

B. DRAWINGS AND SPECIFICATIONS: The drawings and these specifications are complementary each to the other. What is called for by one shall be as binding as if called for by both. Omissions from the drawings and specifications of details of work which are evidently necessary to carry out the intent of the drawings and specifications, or which are customarily performed, shall not relieve the Contractor from performing such work. In any case of discrepancy in the figures or catalog numbers, the matter shall be submitted to the Architect, who shall promptly make a determination in writing. Any adjustment by the Contractor shall be at the Contractor's own risk and expense. Electrical drawings are diagrammatic only. Do not scale these drawings. All equipment shall be installed in accordance with manufacturer's recommendations and any conflicting data shall be verified before bidding.

C. LETTERS CERTIFYING COMPLIANCE AND REVIEW: The Contractor's bid shall be accompanied by a letter stating that these Documents will be revised, as required by any legal authority having jurisdiction and by any serving utility, with no additional cost to the Owner. As soon as practical after bidding, and before any work is commenced, the Contractor shall meet with all legal authorities having jurisdiction, review all materials and details of this project and agree on any required revisions. A letter shall be written to the Architect listing the names, dates, places of such review, the revisions required (at no additional cost). A copy of the letter shall also be sent to the reviewing authority. The Contractor shall also meet with each serving utility and repeat the above procedure. A letter certifying each meeting shall be written also with the information as described above. The Contractor shall after completion of the work, furnish the Architect a certificate of final inspection and approval from the applicable local inspection department. Make necessary changes to plans and specifications to meet code standards at no additional cost to the Owner.

4. SYSTEMS COORDINATION AND COOPERATION:

A. INTERFACING WITH OTHER CRAFTS: It shall be the responsibility of the Contractor to cooperate and coordinate with all other crafts working on this project. This Contractor shall do all cutting, trenching, backfill and structural removals to permit entry of the electrical system components. The General Contractor shall do all patching and finishing. The Architect's representative shall render a decision in writing as to space allotment in congested areas. No claims for "extras" due to such decisions shall be allowed, even though the work has already been installed. When the Contractor submits for approval any item or equipment, he shall determine for himself whether or not it will fit the space provided. If, after installation of any equipment, wiring or other items, it is determined that ample

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maintenance or passage space has not been provided, then the Contractor shall rearrange this work and/or furnish other equipment even though the equipment installed has been approved. A 1/2" = 1'0" scaled drawing of all electrical rooms and rooms containing electrical panels shall be submitted 10 calendar days prior to bid for approval by the Engineer of Record and submitted again with the electrical shop drawings showing the proposed location of all equipment in each room. The Contractor shall verify that all electrical panels have clearances required by code and thickness of walls are adequate for all flush mounted panels. SPACE ALLOCATION IN THESE ROOMS IS CRITICAL. ALSO SUBMIT ELEVATIONS OF EACH MAJOR WALL.

B. EQUIPMENT FURNISHED UNDER OTHER SECTIONS: This Contractor shall furnish and install, complete electrical roughing-in and connections to all equipment furnished under other sections and as indicated on drawings. THIS INCLUDES ALL OUTLETS, PULL BOXES, HANDHOLES, CONDUIT, LADDER RACEWAY, SURFACE RACEWAYS, AND PULLSTRING AS SHOWN ON MECHANICAL, ELECTRICAL, FIRE ALARM, INTERCOM, AND TELECOMMUNICATIONS/STRUCTURED CABLING DRAWINGS. All such equipment shall be set in place as work of other sections.

C. HEATING AND AIR CONDITIONING:

(1) The Contractor shall furnish all branch circuit wiring to motors and control panels or centers including disconnects, receptacles, switches, and appurtenances to which the system at the units may be connected, to provide a complete system of wiring for power. Control equipment and control circuit wiring is specified in the Mechanical Section.

(2) Control devices to be included in the branch circuit, except those furnished integral with the equipment, will be delivered by the Heating and Air Conditioning Contractor and installed by the Electrical Contractor.

5. WORKMANSHIP: All work shall be executed in a neat and substantial manner by skilled workman, well qualified, and regularly engaged in the type of work required. Substandard work shall be removed and replaced by the Contractor at no cost to the Owner.

6. APPROVAL OF MATERIALS AND EQUIPMENT:

A. PRIOR-SUBMITTALS: The Contractor shall base his proposal on the materials specified herein and on the drawings. Reference to a particular product by manufacturer, trade name, or catalog number establishes the quality standards of material and equipment required for this installation and is not intended to exclude products equal in quality and similar design. The Engineer of Record reserves the sole right to decide the equality of materials proposed for use in lieu of these specified. It shall be the Contractor's responsibility to furnish the information and data sufficient to establish the quality and utility of the items in question, including furnishing of samples if required. If other equipment manufacturers determine that their equipment will fit in the space and meet the recommended clearances, suit all job conditions, equal or exceed the quality of the specified items, then a request may be made in writing to the Architect at least ten (10) days prior to bid date for permission to be included in the approved equipment list. All data required for evaluation shall accompany the above letter.

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B. SUBMITTALS:

(1) Shop Drawings: The Contractor shall submit a list of items proposed for use. He shall also submit catalog data and shop drawings on proposed systems and their components, panelboards, safety switches, starters and contactors, transformers, lighting fixtures, and wiring devices. Where substitutions alter the design or space requirements, the Contractor shall defray all items of cost for the revised design and construction including costs to all allied trades involved. Data shall be submitted within thirty (30) days after the contract is awarded. Provide six (6) copies of shop drawings as a minimum unless the General Conditions requires a greater number of copies. Each submittal data section shall be covered with an index sheet listing Contractor, supplier, etc., and an index to the enclosed submittals.

(2) As-Built Drawings: Upon completion of the project, the Contractor shall furnish a complete set of the drawings which formed a part of the contract and include all revisions, sketches, etc., which may have been required during the construction.

(3) Operating and Maintenance Manuals: At completion of the work, furnish three (3) copies of written operation instructions which shall include manufacturer's descriptive bulletins, operating and maintenance manuals and parts lists of all equipment installed. Also include in such instructions, the specified size and capacity ratings of all equipment installed. Each set of instructions shall be assembled into a suitable loose-leaf type binder and presented to the Architect for delivery to the Owner.

(4) Each major section of submittals such as power, equipment, lighting equipment, fire alarm, etc., shall be secured in a booklet or stapled with a covering index which lists the following information:

a. General contractor w/phone number and project manager.

b. Sub-contractor w/phone number and project manager.

c. Supplier of equipment w/phone number and person responsible for this project.

d. Index of each item covered in submittal and model number.

e. Any deviation from contract documents shall be specifically noted on submittal cover index and boldly on specific submittal sheet.

(5) ELECTRICAL AND MECHANICAL/PLUMBING EQUIPMENT COORDINATION:

The electrical power equipment submittals shall be accompanied by a letter verifying coordination of electrical services for all mechanical and plumbing equipment requiring power. The letter shall follow the format listed below.

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To: _____
(General Contractor)

Re: _____
(Project name and location)

We the undersigned subcontractors certify that we have coordinated the electrical requirements for mechanical and plumbing equipment as evidenced by the coordination chart listed herein.

Item	Load full load amps	1 phase or 3 phase	number of electrical connections	max overcurr protection	min overcurr protection	breaker proposed	circuit proposed

The above list details all required electrical connections for mechanical equipment.

Signed: _____

For: _____
Mechanical Subcontractor

The above list details all required electrical connections for plumbing equipment.

Signed: _____

For: _____
Plumbing Subcontractor

The above list of equipment has been reviewed and the required connections are being provided. (Any exceptions or request for direction shall be listed here)

Signed: _____

For: _____
Electrical Subcontractor

7. PRODUCT DELIVERY, STORAGE AND HANDLING

A. PROTECTION: Take necessary precautions to protect all material, equipment, apparatus and work from damage. Failure to do so to the satisfaction of the Architect will be sufficient cause for the rejection of the material, equipment or work in question. Contractor is responsible for the safety and good condition of the materials installed until final acceptance by the owner.

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B. CLEANING: Conduit openings shall be capped or plugged during installation. Fixtures and equipment shall be tightly covered and protected against dirt, moisture, chemical and mechanical injury. At the completion of the work the fixtures, material and equipment shall be thoroughly cleaned and delivered in condition satisfactory to the Architect.

8. TESTING AND BALANCING: Make tests that may be required by the Owner or the Architect in connection with the operation of the electrical system in the buildings. Balance all single-phase loads connected to all panelboards in the buildings to insure approximate equal divisions of these loads on the main secondary power supply serving the buildings. All tests shall be made in accordance with the latest standards of the IEEE and the NEC. The installation shall be tested for performance, grounds and insulation resistance. A "megger" type instrument shall be used. Contractor shall perform circuit continuity and operational tests on all equipment furnished or connected by Contractor.

A letter shall be written giving the following:

A. Measured amps on each phase of each panel.

B. Resistance to ground of each grounding electrode.

C. Measured voltage phase to phase and phase to neutral at each panel.

D. Ground continuity and polarity instrument used.

9. OPERATING AND MAINTENANCE INSTRUCTIONS/AS BUILT DRAWINGS:

A. Four (4) complete sets of instructions containing the manufacturer’s operating and maintenance instructions for each piece of equipment shall be furnished to the Owner. Each set shall be permanently bound and shall have a hard cover. One complete set shall be furnished at the time that the test procedure is submitted, and remaining sets shall be furnished before the Contract is completed. Flysheets shall be placed before instructions covering each subject. The instruction sheets shall be approximately 8-1/2” by 11” with large sheets of Drawings folded in. The instructions shall include information for major pieces of equipment and systems.

B. Upon completion of the work and at the time designated, the services of one project engineer shall be provided by the Contractor to instruct the representative of the Owner in the operation and maintenance of the systems.

C. This Contractor shall provide as-built Drawings at the completion of the job. Drawings shall show all significant changes in equipment, wiring, routing, location, etc. All underground conduit routing shall be accurately indicated with locations dimensioned.

10. GUARANTEE AND SERVICE: Upon completion of all tests and acceptance, the Contractor shall furnish the Owner a written guarantee covering the electrical work done for a period of one (1) year from date of acceptance. Guarantee includes equipment capacity and performance ratings specified without excessive noise levels. Upon notice from the Architect or the Owner, the Contractor shall, during the guarantee period, rectify and replace any defective material or workmanship and repair any damage caused thereby without additional cost.

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END OF SECTION

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SECTION 26 01 00 – ELECTRICAL METHODS AND BASIC MATERIALS

I. GENERAL

1. SECTION INCLUDES:

A. SUPPORTS

B. EXCAVATION, TRENCHING, AND BACKFILLING

C. CUTTING AND PATCHING

D. EQUIPMENT CONNECTION

E. IDENTIFICATION OF EQUIPMENT

F. CLEANING AND PAINTING

II. PRODUCTS

1. SUPPORTS:

A. FRAMING STEEL: Galvanized or painted rolled steel of standard shapes and sizes.

B. MANUFACTURED CHANNEL: Hot dipped galvanized with all hardware required for mounting as manufactured by Unistrut, Steel City, or approved equal.

C. MISCELLANEOUS HARDWARE: Standard sizes treated for corrosion resistance.

2. IDENTIFICATION:

A. NAMEPLATES: Laminated black micarta with ¼” high engraved white letters.

B. PANEL DIRECTORIES: Typewritten under plastic cover in metal circuit directory holder permanently welded to door by manufacturer. Stick-on or adhesive metal holders shall not be allowed.

C. WIRE AND CABLE MARKERS: Cloth, split sleeve, or tubing type.

III. EXECUTION

1. INSTALLATION

A. Products shall be installed in accordance with manufacturer’s instructions.

B. Install support systems sized and fastened to accommodate weight of equipment and conduit, including wiring, which they carry.

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(1) Fasten hanger rods, conduit clamps, and outlet junction boxes to building structure using pre-cast insert system, expansion anchors, preset inserts, beam clamps, or spring steel clips.

(2) Use toggle bolts or hollow wall fasteners in hollow masonry, plaster, or gypsum board partitions and walls; expansion anchors or preset inserts in solid masonry walls; self-drilling anchors or expansion and anchors on concrete surfaces; sheet metal screws in sheet metal studs; and wood screws in wood construction.

(3) Do not fasten supports to piping, ceiling support wires, ductwork, mechanical equipment, or conduit.

(4) Do not use powder-actuated anchors.

(5) Do not drill structural steel members without written consent from the Architect.

(6) Fabricate supports from structural steel or steel channel.

(7) Install surface mounted cabinets and panel boards with minimum of four anchors.

(8) Provide steel channel supports to stand cabinets one inch off wall in wet locations.

(9) Bridge studs top and bottom with channels to support flush mounted cabinets and panel boards in stud walls.

C. Excavating, trenching, and backfilling shall be accomplished as indicated on the Drawings or where required to install systems and/or equipment.

(1) Trenches for all underground conduits or equipment shall be excavated to the required depths. Where soft, wet, or unstable soil is encountered, the bottom of the trench shall be filled with 6 inches of compacted gravel and sand fill. All trench bottoms shall be tamped hard. Trenches shall be shored as required to meet OSHA requirements and general safe working conditions.

(2) Material for backfilling shall consist of the excavation, or borrow of sand, gravel, or other materials approved by the Architect and shall be free of trash, lumber or other debris. Backfill shall be placed in horizontal layers, not exceeding 9 inches in depth and properly moistened to approximate optimum requirements. Each layer shall be compacted by hand, or machine tamped to a density equivalent to surrounding soil. Backfill shall be brought to suitable elevation above ground to provide for anticipated settlement and shrinkage. All paving broken up shall be repaired and returned to the original condition.

(3) All underground conduits shall have an underground (metal foil) tape installed 12 inches above conduit identified as ELECTRICAL to aid in future location of conduit.

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(4) All underground conduits shall have an underground red tape installed 12" above conduit.

D. CUTTING AND PATCHING: This Contractor shall provide all cutting, digging, etc., incident to his work and shall make all required repairs thereafter to the satisfaction of the Architect, but in no case shall the Contractor cut into any major structural element, beam, or column without written approval of the Architect.

(1) Pavements, sidewalks, roads, curbs, walls, ceilings, floors, and roofs shall be sawcut, patched, repaired and/or replaced as required to permit the installation of the electrical work. Existing concrete floors and other slabs, which require vertical piercing for installation of conduit raceways shall be neatly core drilled. The Contractor shall carefully lay out his drilling in advance and arrange it to minimize exposed work.

(2) The Contractor shall bear the expense of all cutting, patching, painting, repairing, or replacing of the work of other trades required because of his fault, error, or tardiness or because of any damage done by him.

(3) All patching, and finishing shall be performed by the General Contractor.

E. Make electrical connections to equipment in accordance with equipment manufacturer's instructions.

(1) Verify that wiring and outlet rough-in work is complete and that equipment is ready for electrical connection, wiring, and being energized.

(2) Make wiring connections in control panel or in wiring compartment of pre-wired equipment. Provide interconnecting wiring where indicated.

(3) Install and connect disconnect switches, controllers, control stations, and control devices as indicated.

(4) Make conduit connections to equipment using flexible conduit. Use liquid-tight flexible conduit in damp or wet locations.

(5) Install pre-fabricated cord set where connections with attachment plug is indicated or specified, or use attachment plug with suitable strain-relief clamps.

(6) Provide suitable strain-relief clamps for cord connections to outlet boxes and equipment connection boxes.

F. Identify electrical distribution and control equipment, and loads served, to meet regulatory requirements and as specified herein.

(1) Degrease and clean surface to receive nameplates.

(2) Secure nameplates to equipment fronts using screws or rivets with edges parallel to equipment lines.

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(3) Each new and existing panel shall have an external nameplate. Disconnect switches, starters or similar devices shall have a micarta engraved nameplate mechanically affixed with rivets indicating the load served and the location, such as "A/C 2" or "A/C 3 above ceiling". Letters shall be ¼" white on a black background. Panels shall be designated in this manner:

"Panel A
120/208 Volts
3 Phase 4 Wire
Served from Panel MP"

(4) Panel directories shall accurately indicate load served and location of load.

(5) Engrave plates as indicated on the Drawings.

G. Raceway junction boxes for each system shall be identified by painting the inside of the junction box cover for exposed work and both sides of the covers for concealed work according to the following code:

Receptacle Circuits	Black
120 V. Lighting Circuits	White
277 V. Lighting Circuits	Orange
208 or 240 V. Power & Misc.	Green
480 V. Power & Misc.	Brown
Fire Alarm System	Red
Intercom System	Yellow

If the established color code at this site conflicts with the above or other trades, the contractor shall so state in a letter outlining his proposed colors to maintain conformity

H. Install wire markers on each conductor in panel board gutters, boxes, and at load connections.

(1) Use distribution panel and branch circuit or feeder number to identify power and lighting circuits.

(2) Use control wire number as indicated on schematic and interconnection diagrams or equipment manufacturer's shop drawings to identify control wiring.

I. Cleaning and Painting: The respective Contractors for the various phases of work shall clear away all debris, surplus materials, etc., resulting form their work or operations, leaving the job and equipment furnished in the clean first class condition.

(1) All fixtures and equipment shall be thoroughly cleaned of plaster, stickers, rust, stains and other foreign matter or discoloration, leaving every part in an acceptable condition ready for use.

(2) The Contractor shall refinish and restore to the original condition and appearance, all electrical equipment, which has sustained damage to

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manufacturer's prime and finish coats or enamel or paint. Materials and workmanship shall be equal to the requirements described for other painting.

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SECTION 26 02 00 - RACEWAY SYSTEMS

I. GENERAL

1. SECTION INCLUDES:

A. CONDUIT AND CONDUIT FITTINGS

B. ELECTRICAL BOXES AND FITTINGS

C. WIREWAY

D. SERVICE FITTINGS

II. PRODUCTS

1. CONDUIT AND FITTINGS:

A. CONDUIT:

(1) Metal conduit: Galvanized steel.

(2) Metal tubing: Galvanized steel.

(3) Flexible Conduit: Steel.

(4) Liquid-tight Flexible Conduit: Flexible steel conduit with PVC jacket.

(5) Plastic Conduit and Tubing: NEMA TC 2; PVC. Use Schedule 40 conduit.

B. CONDUIT FITTINGS:

(1) Conduit Fittings and Conduit Bodies: NEMA FB 1. Conduit fittings shall be steel threaded type.

(2) Tubing Fittings: NEMA FB 1. Tubing fittings to be steel compression type for conduit up to 2” in diameter and set screw type for conduit 2-1/2” and larger.

(3) Flexible Conduit Fittings: NEMA FB 1. Flexible conduit fittings to be steel set screw or screw-in type.

(4) Liquid-tight Flexible Conduit Fittings: NEMA FB 1. Liquid-tight flexible conduit fittings shall be steel compression type.

(5) Plastic Fittings and Conduit Bodies: NEMA TC 3.

2. ELECTRICAL BOXES:

A. BOXES:

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(1) Sheet Metal: NEMA OS 1; galvanized steel 4" or 4-11/16" square. Provide galvanized plaster/tile ring for recessed outlet boxes.

(2) Cast Metal: Aluminum or cast ferroalloy, deep type, gasketed cover, threaded hubs.

B. FLOOR BOXES for Installation in Cast-in-Place Concrete Floors: See electrical and telcom drawings for requirements.

C. LARGE ENCLOSURES: NEMA 250; Type 4, steel enclosures with manufacturer's standard enamel finish and cover, held closed screws.

D. LARGE CAST METAL BOXES:

(1) Surface-mounted Type: NEMA 250; Type 4 and Type 6, flat-flanged, surface mounted junction box; galvanized cast iron or cast aluminum box and cover with ground flange, neoprene gasket, and stainless steel cover screws.

(2) Underground Type: NEMA 250; Type 4 flanged, recessed cover box for flush mounting; galvanized cast iron box and plain cover with neoprene gasket and stainless steel cover screw.

3. WIREWAY:

A. ENCLOSURE: General purpose or raintight type with knockouts.

B. COVER: Screw type with full gasketing.

C. FITTINGS: Lay-in type with removable cover and drip shield for outdoor installation.

D. FINISH: Rust inhibiting primer coating with enamel finish.

4. SERVICE FITTINGS:

A. FLUSH FLOOR BOX COVERS:

(1) Cover material: Brass.

(2) Duplex Convenience Receptacle: Duplex flap opening hinged with holding screw.

(3) Communications: 2-1/8" X 1" combination threaded opening.

(4) Provide brass finish protective rings and carpet flanges.

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III. EXECUTION

1. EXAMINATION AND PREPARATION:

A. Examine supporting surfaces to determine that surfaces are ready to receive work.

B. Electrical boxes shown on Drawings are approximate locations unless dimensioned. Obtain verification from Architect of floor box locations and locations of outlets prior to rough-in. Outlets may be relocated to a distance of ten feet prior to rough-in with no additional cost to the Owner.

2. INSTALLATION:

A. Use conduit and tubing for raceways in the following locations:

(1) Underground Installations: Rigid steel conduit, painted with two coats of epoxy asphaltic paint or schedule 40 PVC.

(2) Installations in Concrete: Rigid steel conduit or rigid non-metallic conduit (schedule 40).

(3) Exposed Outdoor Locations: Rigid steel conduit or IMC.

(4) Wet Interior Locations: Rigid steel conduit, IMC, or electrical metallic tubing. Use threaded or raintight fittings for conduit.

(5) Concealed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.

(6) Exposed Dry Interior Locations: Rigid steel conduit or electrical metallic tubing.

(7) MC type cable is prohibited. The Contractor may offer a “value engineering” savings to the owner as a line item in their respective bid for MC cable to be allowed subject to code restrictions for branch circuits where applicable.

B. Size raceways for conductor type installed.

(1) Minimum Size Conduit: ¾” in underground locations, ½” in all other locations.

(2) Maximum Size Conduit in Slab Above Grade: 1 – inch; do not route conduits larger than ¾” to cross each other.

C. Arrange conduit and tubing to maintain headroom and to present a neat mechanical appearance.

(1) Route exposed raceway parallel and perpendicular to walls and adjacent piping.

(2) Maintain minimum 6 inch clearance to piping and 12 inch clearance to heat surfaces such as flues, steam piping, and heating appliances.

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(3) Maintain required fire, acoustic, and vapor barrier rating when penetrating walls, floors, and ceilings.

(4) Route conduit through roof openings for piping and ductwork where possible; otherwise, route through roof jack with pitch pocket.

(5) Group in parallel runs where practical. Use rack constructed of steel channel. Maintain spacing between raceways or de-rate circuit ampacities to NFPA 70 requirements.

(6) Use conduit hangers and clamps; do not fasten with wire or perforated pipe straps.

(7) Use conduit bodies to make sharp changes in direction.

(8) Terminate all conduits with insulated bushings.

(9) Use suitable caps to protect installed raceway against entrance of moisture and dirt.

(10) Provide a pull cord in all empty raceways.

(11) Install expansion joint fittings where raceway crosses building expansion joints.

(12) Install plastic conduit and tubing in strict accordance with the manufacturer's recommendations. When plastic conduit is installed, use galvanized rigid elbows for 90 degree bends.

D. Install electrical boxes as shown on the Drawings, and as required for splices, taps, wire pulling, equipment connections and regulatory requirements.

(1) Use cast outlet box in exterior locations, wet locations, and exposed interior locations

(2) Use large enclosure for interior pull and junction boxes larger than 12 inches in any dimension.

(3) Locate and install electrical boxes to allow access. Provide access panels if required.

(4) Locate and install electrical boxes to maintain headroom and to present a neat mechanical appearance.

(5) Install pull boxes and junction boxes above accessible ceilings or in unfinished areas.

(6) Provide knockout closure for unused openings.

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(7) Align wall-mounted outlet boxes plumb and level for switches, and similar devices.

(8) Coordinate mounting heights and locations of outlets above counters and backsplashes

(9) Install lighting outlets to locate luminaries as shown on the Drawings.

E. Use recessed outlet boxes in finished areas where indicated.

(1) Secure boxes to interior wall and partition studs, accurately positioning to allow for surface finish thickness, and plaster/tile ring installation.

(2) Use stamped steel stud bridges for flush outlets in hollow stud wall, and adjustable steel channel fasteners for flush ceiling outlet boxes.

(3) Locate boxes in masonry walls to require cutting corner only. Coordinate masonry cutting to achieve neat openings for boxes

(4) Do not install boxes back-to-back in walls; provide 6 inch separation, minimum. In acoustic-rated walls provide 24 inch separation minimum.

(5) Do not damage insulation.

F. Install wireway in accordance with manufacturer's instructions.

(1) Bolt wireway to wall using two-piece hangers or steel channels fastened to the wall or on a self-supporting structure. Install level.

(2) Mount raintight gutter in horizontal position only.

G. Install floor boxes in accordance with manufacturer's instructions.

(1) Set boxes level and flush with finish flooring material.

(2) Use adjustable cast floor boxes for all floor box installations.

H. Install service fittings in accordance with manufacturer's instructions.

I. Interface outlet boxes, service fittings, floor boxes, etc. with connection of equipment.

I. See Division 27 specifications for communications conduit and raceway systems requirements. All communications conduits shall be metal, of the type as described in these specifications unless noted otherwise in Division 27 specifications.

J. The Contractor shall be responsible for providing and installing all conduit and raceway systems for all systems including but not limited to lighting, power, fire alarm system, intercom system, communications systems, mechanical systems, and HVAC control systems. Coordinate location, quantities, sizes and requirements with respective contractor for such systems.

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SECTION 26 03 00 - WIRE, CABLE, AND DEVICES

I. GENERAL

1. RELATED DOCUMENTS:

A. Section 26 00 00 – Electrical General Requirements, apply to the work specified in this Section, with additions and modifications specified herein.

2. SECTION INCLUDES:

A. WIRE AND CABLE

B. WIRING DEVICES

II. PRODUCTS

1. WIRE AND CABLE:

A. BUILDING WIRE:

(1) Feeder and Branch Circuits 10 AWG and Smaller: Copper, solid conductor, 600 volt insulation, THHN/THWN.

(2) Feeder and Branch Circuits 8 AWG and 6 AWG: Copper, stranded conductor, 600 volt insulation, THHN/THWN.

(3) Feeder and Branch Circuit larger than 6 AWG: Copper, stranded, conductor, 600 volt insulation, THW.

(4) Control Circuits: Copper, stranded conductor, 600 volt insulation, THHN/THWN.

B. REMOTE CONTROL SIGNAL CABLE:

(1) Control Cable for Class 1 Remote Control and Signal Circuits: Copper conductor, 600 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket.

(2) Control Cable for Class 2 or Class 3 Remote Control and Signal Circuits: Copper conductor, 300 volt insulation, rated 60 degree C, individual conductors twisted together, shielded, and covered with PVC jacket; UL listed.

C. CORDS: Oil – resistant thermoset insulated multi – conductor flexible cord with identified equipment grounding conductor, suitable for extra hard usage in damp locations.

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2. WIRING DEVICES AND WALLPLATES:

A. MANUFACTURERS:

(1) Hubbell.

(2) Legrand.

B. WALL SWITCHES: AC general use, quiet – operating snap switch rated 20 amperes and 120/277 volts AC, with plastic toggle handle.

(1) Single Pole Switch: Hubbell 1221

(2) Double Pole Switch: Hubbell 1222

(3) Three Way Switch: Hubbell 1223

(4) Four Way Switch : Hubbell 1224

(5) Pilot Light Type: Lighted handle, Model 1221-PL manufactured by Hubbell.

(6) Color: To be selected by Architect from standard colors.

C. RECEPTACLE:

(1) Convenience Receptacle Configuration: Type 5-20R, plastic face. Model 5362 manufactured by Hubbell.

(2) Specific Purpose Receptacle: Configuration indicated on Drawings with black plastic face.

(3) Provide straight-blade receptacles to NEMA WD 1.

(4) Provide locking-blade receptacles to NEMA WD 5.

(5) GFCI Receptacles: Duplex convenience receptacle with integral ground fault current interrupter. Model GF-5362 manufactured by Hubbell.

(6) Color: To be selected by Architect from standard colors.

D. WALL PLATES: All wall plates shall be stainless steel.

E. WEATHERPROOF COVER PLATE: Gasketed cast metal with hinged gasketed device covers rated raintight while in use in accordance with Article 410-57 of the National Electrical Code.

F. ATTACHMENT PLUG CAP: Match receptacle configuration provided for equipment connection.

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III. EXECUTION:

1. EXAMINATION AND PREPERATION:

A. Verify that interior of building has been physically protected from weather.

B. Verify that mechanical work which is likely to injure conductors has been completed.

C. Completely and thoroughly swab raceway system before installing conductors.

2. INSTALLATION:

A. WIRING METHODS:

(1) Concealed Interior Locations: Building wire in raceway.

(2) Exposed Interior Locations: Building wire in raceway.

(3) Above Accessible Ceilings: Building wire in raceway.

(4) Wet or Damp Interior Locations: Building wire in raceway.

(5) Exterior Locations: Building wire in raceway.

(6) Underground Locations: Building wire in raceway.

B. Use no wire smaller than 12 AWG for power and lighting circuits, and no smaller than 14 AWG for control wiring.

(1) Use 10 AWG conductor for 20 ampere, 120 volt branch circuit home runs longer than 100 feet; and for 20 ampere, 277 volt branch circuit home runs longer than 200 feet.

C. Neatly train and secure wiring inside boxes, equipment and panelboards.

D. Use UL listed wire pulling lubricant for pulling conductors in raceways.

E. Protect exposed cables.

F. Support cables above accessible ceilings to keep them from resting on ceiling tiles.

G. Make splices, taps, and terminations to carry full ampacity of conductors without perceptible temperature rise.

H. Terminate spare conductors with electrical tape.

I. Devices shall mount flush or as indicated on the Drawings.

J. Install wiring devices in accordance with manufacturer’s instructions.

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(1) Install wall switches 48 inches above floor, “OFF” position down.

(2) Install wall dimmers 48 inches above floor. De-rate ganged dimmers as instructed by manufacturer. Do not use a common neutral, provide a separate neutral for each dimmed circuit.

(3) Install convenience receptacles 18 inches above floor, 6 inches above counters or splashbacks, with grounding pole on bottom. Verify typical mounting heights with Engineer prior to construction and field coordinate with telcom outlets. Advise the Engineer of any conflicts prior to rough-in.

(4) Install GFCI receptacles at all outdoor locations and all indoor locations as required by NFPA70, and as indicated.

(5) Install specific purpose receptacles at heights shown on Drawings.

K. Install wall plates flush and level.

(1) Install decorative plates on switch, receptacle, telephone, television and blank outlets in finished areas.

(2) Install galvanized steel plates on outlet boxes and junction boxes in unfinished areas, above accessible ceilings, and on surface mounted outlets.

(3) Install weatherproof coverplates on all devices/boxes in wet or outdoor locations.

3. FIELD QUALITY CONTROL:

A. Perform field inspection and testing of circuits under provisions of Section 16000.

(1) Inspect wire and cables for physical damage and proper connection.

(2) Torque test conductor connections and terminations to manufacturer’s recommended values.

(3) Perform continuity test on all power and equipment branch circuit conductors. Verify proper phasing connections.

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SECTION 26 04 00 - SERVICE AND DISTRIBUTION

I. GENERAL

1. SECTION INCLUDES:

   A. GROUNDING AND BONDING

   B. SERVICE ENTRANCE

   C. UTILITY REQUIREMENTS

   D. SWITCHBOARDS

   E. PANELBOARDS

   F. ENCLOSED SWITCHES

   G. FUSES

   H. CONTACTORS

2. SERVICE TYPE DESCRIPTION: Electric Service System shall be as indicated on drawings and served from an underground service lateral derived from a pad mounted transformer served by an underground primary service.

3. PROJECT CONDITIONS: Verify field measurements for the equipment to ensure proper fit within the space provided.

4. UTILITY REQUIREMENTS:

   A. The serving utility is Florida Power & Light.

      (1) The Owner will pay for all assessments, service charges, fees, etc. from the utility for service requirements.

5. EQUIPMENT APPLICATION: All equipment and materials shall have ratings established by a recognized independent agency or laboratory. The Contractor shall apply the items used on this project within those ratings and application shall be subject to any stipulations or exceptions established by the independent agency or laboratory. Use of equipment or materials in applications beyond that certified by the agency or beyond that recommended by the manufacturer shall be cause for removal and replacement of such misapplied items.

II. PRODUCTS

1. GROUNDING MATERIALS:

   A. GROUND ROD: 16 feet x ¾" diameter, copper clad steel, sectional driven.

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B. GROUND CONNECTORS: Approved ground clamp manufactured of cast bronze construction with matching bolts, nuts, and washers.

C. EXOTHERMIC WELDS: Materials shall be from the same source. Welding process shall be Cadweld or approved equal.

D. GROUNDING CONDUCTORS: Green colored and coded insulated copper (#12 AWG minimum) or bare soft drawn copper as indicated on Drawings.

2. SWITCHBOARD:

A. SWITCHBOARD: NEMA PB2.

(1) Line and Load Terminations: Accessible from the front only of switchboard, suitable for conductor materials used.

(2) Main Sections Devices: Individually mounted.

(3) Distribution Section Devices: Panel mounted

B. BUSSING:

(1) Bus Material: Tin-plated Copper sized in accordance with NEMA PB2.

(2) Bus Connections: Accessible from front for maintenance.

(3) Ground Bus: Copper.

C. ENCLOSURE: Type 1 General Purpose as shown on the Drawings.

(1) Align sections at rear.

(2) Height: 96 inches.

(3) Finish: Manufacturer’s standard light gray enamel over external surfaces.

D. FUTURE PROVISIONS:

(1) Fully equip spaces for future devices with bussing and bus connection provisions; continuous current rating as indicated on the Drawings.

(2) Do not taper main bus rating.

E. SWITCHING AND OVER-CURRENT PROTECTION DEVICES:

(1) Molded Case Circuit Breakers: NEMA AB 1.

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(2) Solid State Molded Case Circuit Breakers: NEMA AB 1; with electronic sensing, timing and tripping circuits for adjustable trip settings; ground fault trip; instantaneous trip and adjustable short time trip.

F. SWITCHBOARD INSTRUMENTS:

(1) Ammeter and Voltmeter: Mount in face of switchboard with phase selector switch. Customer metering shall be Eaton Cutler-Hammer IQ 250, CTs, with display or approved equal.

(2) Load Monitoring Meters: Provide factory CTs, meters, wiring, etc integral to switchboards for sub-metering of various electrical loads (lighting, mechanical, etc). Meters shall be Eaton Cutler-Hammer IQ 250 or approved equal. Provide all accessories required for a complete and functional installation.

G. PRIOR-APPROVAL SUBMITTALS:

(1) The pre-approved manufacturers listed below shall submit scaled shop drawings including plan views and elevations and data sheets of all switchboards to the Engineer of Record 10 calendar days prior to bid for approval. The submittals shall include but not be limited to all circuit breakers, customer metering, sub-metering, etc.

H. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

3. PANELBOARDS:

A. DISTRIBUTION PANELBOARDS: NEMA PB 1; circuit breaker type.

(1) Bus Material: Tin-plated Copper.

(2) Ground Bus: Tin-plated Copper.

(3) Enclosures: Type 1 or 3R as shown on the Drawings.

(4) Mounting: Surface or flush mount as indicated on the Drawings.

(5) Door: Hinged with lock. Door assembly shall be hinged to enclosure for panels rated 250 amps or larger. All panels shall be door-in-door construction.

(6) Circuit Breakers: Bolt-on, ratings as shown on Drawings. Branch circuit breakers shall not be allowed in sub-feed positions.

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(7) Mains: Main breakers shall be located in main position. Main breakers shall not be allowed in branch or sub-feed positions.

B. LIGHT AND POWER PANELBOARDS: NEMA PB 1; circuit breaker type.

(1) Bus Material: Tin-plated Copper.

(2) Ground Bus: Tin-plated Copper.

(3) Enclosures: Type 1 or 3R as shown on the Drawings.

(4) Mounting: Surface or flush mount as indicated on the Drawings.

(5) Door: Hinged with lock. All panels shall be door-in-door construction.

(6) Circuit Breakers: Bolt-on, ratings as shown on Drawings. Branch circuit breakers shall not be allowed in sub-feed positions.

(7) Mains: Main breakers shall be located in main position. Main breakers shall not be allowed in branch or sub-feed positions.

C. ACCESSORIES: Provide panel and branch device accessories as indicated on the Drawings

D. FUTURE PROVISIONS: Where space provisions are indicated on the Drawings, provide bussing, bus extensions, etc. required to mount future circuit breakers. Where spare provisions are indicated on the Drawings, provide circuit breakers complete and ready for connection.

E. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

4. FUSES:

A. Service Entrance/Feeder Circuits – 600 Amp and smaller.

(1) U.L. Class RK1

(2) Current Limiting

(3) 200,000 amp RMS Interrupt Rating

(4) Voltage Rating: As required for system compatibility

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B. Motor, Motor Controller, Transformer and Inductive Circuits.

(1) U.L. Class RD1, Time Delay

(2) Current Limiting

(3) 200,000 amp RMS Interrupt Rating

(4) Voltage Rating: As required for system compatibility

C. MANUFACTURERS:

(1) Square D Company

(2) Cutler – Hammer

(3) General Electric

5. ENCLOSED CIRCUIT BREAKERS:

A. CIRCUIT BREAKER: NEMA AB 1; Voltage and Accessories as indicated on Drawings.

B. ENCLOSURES: Code gauge steel, NEMA 1 or 3R as required.

C. MANUFACTURERS:

(1) Square D Company

(2) Eaton Cutler – Hammer

(3) General Electric

6. CONTACTORS:

A. MECHANICALLY HELD CONTACTORS: NEMA ICS 2; mechanically held, electrically operated.

B. ELECTRICALLY HELD CONTACTORS: NEMA ICS 2; electrically held, electrically operated.

C. COIL OPERATING VOLTAGE: 120 volts, 60 Hz.

D. ENCLOSURES: NEMA ICS 6; Type 1 or 3R as required.

E. MANUFACTURERS

(1) Square D Company

(2) Eaton Cutler – Hammer

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(3) General Electric

III. EXECUTION

1. EXAMINATION AND PREPARATION:

A. Make arrangements with utility company to obtain permanent electrical service to the facility. Provide CT Cabinet and Meter base as required by utility for service connection.

2. INSTALLATION:

A. Install utility services in accordance with utility company standards and requirements.

(1) Underground Service: Install service entrance conduits and conductors from the utility service point to the service equipment as shown on the Drawings. The underground services shall be installed in concrete encased ductbank. The Contractor shall verify and coordinate the location of the power company pad mounted transformer with the local power company and the Engineer of Record prior to bid. The Contractor's bid shall include all cost associated with the underground service from pad mounted transformer location dictated by local power company.

(2) Provide lugs on utility transformer spaces sized to accommodate service entrance conductors.

B. Install equipment in accordance with manufacturer's instructions.

C. Except where specifically indicated otherwise, all exposed non-current-carrying metallic parts of electrical equipment, metallic raceway systems, and service neutral of the electrical system shall be grounded.

(1) Equipment grounding shall be accomplished by installing a separate grounding conductor in each raceway of the system. The Conductor shall be provided with a distinctive green insulation or marker and shall be sized in accordance with Article 250 of the National Electrical Code.

(2) The electrical system grounding electrode connection shall be made at the main service equipment and shall be extended to the point of entrance of the metallic cold water service. A suitable ground clamp shall make connection to the water pipe. If flanged pipes are encountered, connection shall be made on the street side of the flange connection. If the metallic water service is coated with an insulating material or there is no metallic water service to the building, ground connection shall be made to additional ground rods as required by resistance tests, at the exterior of the building driven full length into the earth.

(3) The maximum resistance of the driven ground shall be tested with a ground resistance Megger and shall not exceed 25 ohms under normally dry conditions. If this cannot be obtained with a single rod, additional or parallel rods shall be installed 7'-6" on center until 25 ohms or less is achieved without connection to the building water piping. A typewritten test report shall be written.

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D. Install panelboards to NEMA PB 1.1.

F. Provide permanent phenolic labels fastened with rivets for all panelboards, and distribution equipment.

G. Provide permanent label for each breaker/switch position fastened with rivets by factory in switchboards. Stick-on labeling will not be allowed.

H. Provide permanent circuit numbers fastened with rivets by factory for all panelboards. Stick-on labeling will not be allowed.

I. Provide updated typewritten directory inside panel door for all panelboards.

J. All switchboards and panelboards shall be fully rated for KAIC value as indicated. Series rating is prohibited.

K. All switchboards and dry-type transformers shall be installed on concrete housekeeping pads.

END OF SECTION

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SECTION 26 05 00 - LIGHTING

I. GENERAL

1. RELATED DOCUMENTS:

A. Section 26 00 00 – Electrical General Requirements, apply to the work specified in this Section, with additions and modifications specified herein.

2. SECTION INCLUDES:

A. LUMINAIRES

B. SHIELDING MEDIA

C. EXIT SIGNS

D. EMERGENCY LIGHTING UNITS

E. PHOTOCELLS

F. TIME SWITCHES

G. LIGHTING CONTACTORS

H. LED BOARDS

I. LED DRIVERS

J. LIGHTING CONTROLS

II. PRODUCTS

1. LUMINAIRES:

A. LUMINAIRE SCHEDULE:

(1) Product requirements for each luminare are specified in luminare schedule on Drawings.

B. ACCESSORIES: Provide required accessories for mounting and operation of each luminare as indicated.

(1) Recessed Luminaires: Provide trim type suitable for ceiling system in which luminare is installed.

(2) Thermal Protection: Provide thermal protection devices to meet NFPA 70 requirements.

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(3) Surface Luminaires: Provide spacers and brackets required for mounting.

C. LAY-IN TROFFERS:

(1) Door Frame: Aluminum .050", extruded with mitered corners. Latches to be fully enclosed, spring loaded, cam type. Door frame shall be fully gasketed.

(2) Housing: Cold rolled steel, 22 gauge minimum with smooth effect mitered corners.

(3) Finish: Painted after fabrication with 90% reflective glossy white thermosetting powder coat.

2. SHIELDING MEDIA:

A. PRISMATIC LENS FOR LED TROFFERS:

(1) Material: Clear virgin acrylic.

(2) Type: Prismatic cones, pattern 12 straight flat prisms.

(3) Thickness: .156" minimum.

B. PRISMATIC LENS FOR LED WRAP AROUND FIXTURES:

(1) Material: Clear virgin acrylic.

(2) Type: Sides-linear prisms, bottom-pyramidal prisms.

(3) Hinging: Either side.

3. EXIT SIGNS:

A. DESCRIPTION: Exit sign LED fixture.

(1) Lamps: LED - Manufacturer's standard.

(2) Voltage: 120/277 volt as scheduled.

B. CONSTRUCTION:

(1) Face: Stencil face with red letters.

(2) Directional Arrows: Universal for field adjustment.

(3) Mounting: Universal for field selection.

(4) Exterior: Shall have a mechanical connection (bolts and screws) between the fixture housing and the canopy base.

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C. EMERGENCY POWER SUPPLY: Integral, listed for emergency lighting use.

(1) Battery: Nickel cadmium type.

(2) Battery Charger: Dual-rate type.

(3) Indicators and Controls: AC ON; test switch. Do not provide self-diagnostics.

D. WARRANTY: 5-year full fixture.

4. L;ED EMERGENCY LIGHTING UNITS:

A. DESCRIPTION: Self-contained emergency lighting unit.

(1) Input Voltage: 120/277 volts as scheduled.

(2) Battery: Nickel cadmium type.

(3) Battery Charger: Dual-rate type.

(4) Lamps: LED type

B. INDICATORS AND CONTROLS: AC ON; recharging, test switch.

C. ELECTRICAL CONNECTION: Conduit connection.

D. WARRANTY: 5-year full fixture.

5. PHOTOCELL SWITCH:

A. MANUFACTURERS:

(1) Precision

(2) Tork

(3) Paragon

B. DESCRIPTION: Photocell switch manufactured to NEMA ICS 2.

C. RATINGS:

(1) Contact Ratings: 1800 VA at 120/277 volts.

(2) Sensitivity: Field adjustable from 3 to 10 foot-candles.

D. ENCLOSURE: Gasketed, cast aluminum or feralloy box with conduit hub.

6. TIME SWITCH:

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A. MANUFACTURERS:

(1) Precision

(2) Tork

(3) Paragon

B. DESCRIPTION: Clock timer manufactured to NEMA ICS 2, with astronomical dial, 12-hour spring wound carry over, and day skipping feature.

C. RATINGS:

(1) Contact Ratings: 20 ampere per pole, number of poles as indicated on Drawings.

(2) Coil Voltage: 120 volts, 60 Hz.

(3) Dial Timer: Seven (7) day.

(4) Enclosure: NEMA 1 or 3R as required.

7. CONTACTORS:

A. MANUFACTUERS:

(1) Square “D” Company

(2) Cutler-Hammer

(3) General Electric Company

B. LIGHTING CONTACTORS: NEMA ICS 2; mechanical held, electrically operated.

(1) Coil Operating Voltage: 120 volts, 60 Hz.

(2) Enclosures: NEMA ICS 6; Type 1, general purpose.

(3) Multi-pole, 20 amp rating, number of poles as indicated on the Drawings.

8. LED LIGHTING FIXTURES:

A. DESCRIPTION: All lighting fixtures shall be LED type. See Lighting Fixture Schedule for specifications and requirements..

(1) Input Voltage: 120/277 volts as scheduled.

(2) LED Lamp Life: Minimum 100,000 hours

(3) Lamps: LED type

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B. ELECTRICAL CONNECTION: Conduit connection.

C. WARRANTY: Minimum 5-year full fixture.

III. EXECUTION

1. EXAMINATION AND PREPARATION: Examine adjacent surfaces to determine that surfaces are ready to receive work.

2. INSTALLATION:

A. Install luminaires and accessories in accordance with manufacturer's instructions.

(1) Provide pendant accessory to mount suspended luminaires at height indicated. Use swivel hangers on sloped ceilings.

(2) Support surface mounted luminaires from ceiling structure; provide auxiliary support across ceiling structure support. Fasten to prohibit movement.

(3) Install recessed luminaires to permit removal from below. Install luminaires so that there is no light leakage around fixture trim. Support fixtures in accordance with Article 410-16 C of the National Electrical Code.

(4) Install lamps in luminaires and lampholders.

3. ADJUSTING AND CLEANING:

A. Align luminaires and clean lenses and diffusers at completion of work.

B. Aim adjustable luminaires and lampholders as indicated or as directed.

C. Adjust directional arrows on exit signs to meet approval of authority having jurisdiction.

D. Clean paint splatters, dirt and debris from installed luminaires.

E. Relamp luminaires which have failed lamps at completion of work.

F. Touch up luminaire and pole finish at completion of work.

G. Adjust relays, timers, photo controls, etc. to achieve specified or directed operation.

END OF SECTION

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SECTION 26 06 80 - TRANSIENT VOLTAGE SURGE SUPPRESSION

I. GENERAL

1. RELATED DOCUMENTS:

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specifications Sections, apply to this Section.

2. SUMMARY:

A. This Section includes transient voltage surge suppressors for low-voltage power (< 600 Volts) equipment. All surge suppression shall be integral to switchboard or panelboard and shall be of the same manufacturer as the switchboard or panelboard.

B. Related Sections include the following:

(1) Division 26 Section “Wiring Devices” for devices with integral transient voltage surge suppression.

(2) Division 26 Section “Panelboards” for locations which require installation at the panel or sub-panel level.

(3) Division 26 Section “Switchboards” for locations which require installation at the Service Entrance Switchboard.

3. SUBMITTALS:

A. PRODUCT DATA: For each type of product indicated. Include rated capacities, shipping, installed and operating weights, furnished specialties; and options.

B. PRODUCT CERTIFICATIONS: Signed by manufacturers of transient voltage suppression devices, certifying that products furnished comply with the following testing and labeling requirements:

(1) UL 1449 Listing classifications, and clamping voltage rating for each mode of protection.

(2) ANSI/IEEE C62.41 and C62.45 Category C3 clamping voltage.

(3) Sequential surge survivability per ANSI/IEEE C62.45.

(4) Dimensions and weights.

(5) Recommended connection wiring diagram.

C. Submittals shall include a copy of these specifications with each section marked with either “C” for comply or “D” for deviation. A written explanation shall be provided for each deviation.

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D. WARRANTIES: Special warranties specified in this Section.

4. QUALITY ASSURANCE:

A. Product must be made by a company engaged in the manufacture of such devices in the USA for a minimum of five years.

B. SOURCE LIMITATIONS: Obtain suppression devices and accessories through one source from a single manufacturer.

C. PRODUCT OPTIONS: Drawings indicate size, dimensional requirements, and electrical performance of suppressors and are based on the specific system indicated. Other manufacturers' products complying with requirements may be considered by the engineer/architect greater than 14 days prior to bid. Samples may be required for approval. Refer to Division 1 Section "Substitutions".

D. ELECTRICAL COMPONENTS, DEVICES AND ACCESSORIES: Listed and labeled as defined in NFPA 70, Article 100, by a testing agency acceptable to authorities having jurisdiction, and marked for intended use.

E. IEEE COMPLIANCE: Comply with ANSI/IEEE C62.41, "IEEE Guide for Surge Voltages in Low Voltage AC Power Circuits" and test devices in accordance with ANSI/IEEE C62.45, "IEEE Guide for Surge Suppressor Testing".

F. NEMA COMPLIANCE: Comply with NEMA LS-1 "Low Voltage Surge Protective Devices".

G. UL COMPLIANCE: Comply with UL 1449 Rev. 2 "Transient Voltage Surge Suppressors".

5. PROJECT CONDITIONS:

A. PLACING INTO SERVICE: Do not energize or connect service entrance equipment or panelboards to their sources until the surge protective devices are installed and connected.

B. EXISTING UTILITIES: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:

(1) Notify the Owner not less than two days in advance of proposed utility interruptions.

(2) Do not proceed with utility interruptions without Owner's written permission.

C. SERVICE CONDITIONS: Rate surge protective devices for continuous operation under the following conditions, unless otherwise indicated:

(1) Maximum Continuous Operating Voltage: Not less than 125 % of nominal system operating voltage for 120/240 Single Phase or 120/208 VAC Wye systems, Not less than 115 % for 277/480 VAC Wye or 480 VAC Delta systems.

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(2) Operating Temperature: 30 to 120 deg F. (0 to 50 degrees C)
(3) Humidity: 0 to 95 %, noncondensing.

(4) Altitude: Less than 20,000 feet (6,000 m) above sea level.

6. COORDINATION:

A. Coordinate location of field mounted surge suppressors to allow adequate clearances for maintenance.

B. Coordinate location of field mounted surge suppressors to allow for the shortest ground wire possible.

7. WARRANTY:

A. GENERAL WARRANTY: Special warranties specified in this Article shall not deprive Owner of other rights Owner may have under other provisions of the Contract Documents and shall be in addition to, and run concurrent with, other warranties made by Contractor under requirements of the Contract Documents.

B. SPECIAL WARRANTY: Written warranty, executed by manufacturer agreeing to repair or replace components of surge suppressors that fail in materials or workmanship within five years from date of Substantial Completion.

8. EXTRA MATERIALS:

A. Furnish extra materials described below that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

(1) Replaceable Protection Modules: One of each size and type installed for Service Entrance Units.

II. PRODUCTS

1. MANUFACTURERS:

A. AVAILABLE MANUFACTURERS: Subject to compliance with requirements, manufacturers offering products that may be incorporated into the Work include the following:

B. MANUFACTURERS: Subject to compliance with requirements, provide products by one of the following:

(1) Eaton

(2) GE

(3) Square D

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2. SERVICE ENTRANCE SUPPRESSORS:

A. Integral LED indicator lights showing proper operation of each module, visible without opening the enclosure door.

B. Utilizing metal oxide varistor technology.

C. Internal cartridge fuses with solidly mounted fuse holders rated at a minimum of 200 KA interrupting capacity.

D. Including thermal protection for each component, which is continuously monitored.

E. Nema 3R style enclosure suitable for indoor or outdoor installation.

F. UL CLAMPING MODES: L-L, L-N, N-G.

G. SURGE CAPACITY PER MODE: 80,000 Amps (160,000 Amps industry rating).

H. SURVIVABILITY OF CATEGORY C SURGES: 1000 sequential occurrences.

I. MAXIMUM UL 1449 RATING, EACH MODE: 400 for 120/240, 120/208, 800 for 277/480 systems.

J. EMI/RFI NOISE REJECTION: 50dB Common Mode, 40 dB Normal Mode.

K. CONNECTION METHOD: Parallel.

L. UL 1449 SUPPRESSED VOLTAGE RATINGS (SVR) AS FOLLOWS:

M. PROVIDE AUDIBLE ALARM WITH EACH SUPPRESSOR

Mode	120/240 Volt Single Phase	120/208 Volt Wye	277/480 Volt Wye	480 Volt Delta
L-N	330 V	330 V	700 V	N/a
L-G	330 V	330 V	700 V	1,500 V
N-G	330 V	330 V	700 V	N/a

3. PANELBOARD SUPPRESSORS :

A. LED indicator lights for power and protective status.

B. Utilizing metal oxide varistor technology.

C. U.L. 1283 Listed. Integral EMI/RFI Filter providing up to 54 dB of attenuation from 20 kHz to 100 MHz.

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D. Internal fuses rated at a minimum of 200 KA interrupting capacity.

E. Including thermal protection for each component, which is continuously monitored.

F. Integral Form C Contacts for remote indication of suppression status via connection to building management system (provided by others).

G. Nema 3R style enclosure suitable for indoor or outdoor installation.

H. UL CLAMPING MODES: L-L, L-N, N-G.

I. SURGE CAPACITY PER MODE : 30,000 Amps (60,000 Amps industry rating).

J. SURVIVABILITY OF CATEGORY C SURGES: 1000 impulses without clamping drift.

K. UL 1449 SUPPRESSED VOLTAGE RATINGS (SVR) AS FOLLOWS:

L. PROVIDE AUDIBLE ALARM WITH EACH SUPPRESSOR.

Mode	120/240 Volt Single Phase	120/208 Volt Wye	277/480 Volt Wye
L-N	330 V	330 V	600 V
L-G	330 V	330 V	600 V
N-G	330 V	330 V	600 V

III. EXECUTION

1. INSTALLATION OF SURGE PROTECTIVE DEVICES:

A. Install devices at service entrance on load side, with ground lead bonded to service entrance ground.

B. Provide multipole, 60 amp breaker as a dedicated disconnect for the suppressor at Service Entrance location, unless otherwise indicated on drawings.

C. Install devices for panelboards with conductors between suppressor and points of attachment as short and as straight as possible. Do not exceed manufacturer's recommended lead length.

D. Provide multipole, 30 Amp breaker as a dedicated disconnect for the suppressor at panelboard locations, unless otherwise indicated on drawings.

E. Mount suppressor as close to switchgear and panelboard point of connection, either surface or flush mount as required. Do not mount internal to switchgear to facilitate future maintenance and/or replacement.

F. Install the TVSS using manufacturer provided leads when provided or with #6 AWG conductors when not manufacturer provided. Conductors are to be as short and straight

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as possible. Conductors are to be twisted. Install in accordance with the TVSS manufacturer's recommended practice and in compliance with applicable codes.

2. CONNECTIONS:

A. Tighten electrical connectors and terminals according to manufacturer's published torque-tightening values. If manufacturer's torque values are not indicated, use those specified in UL 486A and UL 486B.

3. FIELD QUALITY CONTROL:

A. TESTING: Contractor shall perform the following field quality control testing:

(1) After installing the surge protective devices, but before electrical circuitry has been energized, test for compliance with requirements.

(2) Complete start-up checks and voltage verifications according to manufacturer's written instructions.

(3) Perform visual and mechanical inspection on each unit. Certify that units are installed per manufacturer's recommendations.

B. Repair or replace malfunctioning units. Retest after repairs or replacements are made.

4. DEMONSTRATION:

A. Engage a manufacturer's representative to demonstrate proper operation of the system and to train owner's maintenance personnel in proper evaluation of suppressor condition and procedure to repair or replace defective devices.

(1) Review operation and maintenance manuals.

(2) Review performance specifications of devices supplied to show they comply with specifications herein.

(3) Schedule training with Owner, through Architect or General Contractor, with at least seven days advance notice.

(4) Provide letter to owner that states units are installed per manufacturer's recommended installation procedures and system is functioning properly and warranty is initiated.

END OF SECTION

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SURGE SUPPRESSION
SUBMITTAL CHECKLIST

TYPE _____

		SPEC'D	SUB
PEAK SURGE CURRENT		_____	_____
CLAMPING VOLTAGE		_____	_____
	LN	_____	_____
	NG	_____	_____
	LL	_____	_____
OTHER		_____	_____
PULSE LIFE		_____	_____
EMI/RFI		_____	_____
SIZE MOV'S (MM DIAM)		_____	_____
NUMBER OF MOV'S/PHASE		_____	_____
MONITORING		_____	_____
CONNECTION		_____	_____
	BREAKER	_____	_____
	IN-LINE FUSES	_____	_____
	INTEGRAL FUSES	_____	_____
FULL WARRANTY		_____	_____

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SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Soil treatment.

1.2 ACTION SUBMITTALS

A. Product Data: For each type of product. Include the EPA-Registered Label for termiticide products.

1.3 INFORMATIONAL SUBMITTALS

A. Product certificates.

B. Soil Treatment Application Report: Include the following:

1. Date and time of application.
2. Moisture content of soil before application.
3. Termiticide brand name and manufacturer.
4. Quantity of undiluted termiticide used.
5. Dilutions, methods, volumes used, and rates of application.
6. Areas of application.
7. Water source for application.

C. Sample Warranties: For special warranties.

1.4 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

1.5 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied soil termiticide treatment will prevent infestation of subterranean termites, including Formosan termites (Coptotermes formosanus. If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

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1. Warranty Period: Five years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 SOIL TREATMENT

A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

1. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

PART 3 - EXECUTION

3.1 PREPARATION

A. Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and roots, stakes, formwork, and construction waste wood from soil within and around foundations.

B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated.

3.2 APPLYING SOIL TREATMENT

A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.

1. Slabs-on-Grade: Under ground-supported slab construction, including footings, building slabs, and attached slabs as an overall treatment. Treat soil materials before concrete footings and slabs are placed.
2. Foundations: Soil adjacent to and along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing.
3. Masonry: Treat voids.
4. Penetrations: At expansion joints, control joints, and areas where slabs and below-grade walls will be penetrated.

B. Post warning signs in areas of application.

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C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

END OF SECTION 313116

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4.0 PRJECT PERMITS

4.1 NWFWMD INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT PH I

Northwest Florida Water Management District

700 U.S. Highway 331 South, DeFuniak Springs, FL 32435

Brett J. Cyphers
Executive Director

ERP: (850) 951-4660 • Fax: (850) 892-8007
Wells: (850) 951-4661

November 29, 2021

Rebecca Jones
Santa Rosa County
6051 Old Bagdad Highway
Suite 300
Milton, FL 32583

RE: Notice of Final Agency Action - Approval
Individual Environmental Resource Permit
Project Number: IND-113-302157-1
Permit Name: Santa Rosa County Sports Complex - Phase 1 and Phase 2

Dear Sir/Madam:

Enclosed is the approved individual Environmental Resource Permit (ERP) for the above referenced project as authorized on November 29, 2021 by the Northwest Florida Water Management District.

Please be sure to read the enclosed permit and all exhibits in their entirety, paying close attention to the permit conditions in Exhibit A that require you to perform maintenance activities on your stormwater system and to have inspections performed by a Registered Professional at specified times throughout the life of the stormwater system.

Please be advised that you are required to fully execute and submit the following documents:

- "Construction Commencement Notice" [Form 62-330.350(1)] - Submitted to the District no later than 48 hours prior to commencement of any part of the activity authorized by the enclosed permit.

- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)] Submitted to the District no later than 30 days after the activity has been completed.

Copies of these and other ERP forms are available for download on the District website at http://www.nwfwater.com/Permits/Environmental-Resource-Permits/Application-Forms

Please be advised that the District ***has not*** published a notice in the newspaper of local circulation advising the public that a permit has been issued for this activity. Publication, using the District form, notifies the public of their rights to challenge the issuance of this permit. If proper notice is given by publication, third parties have a 21-day time limit to file a petition opposing the issuance of the permit. If you do not publish, a party's right to challenge the issuance of the permit may extend indefinitely. If you wish to have certainty that the period for filing such a challenge is closed, then you may publish, at your expense, such a notice in a

GEORGE ROBERTS
Chair
Panama City

JERRY PATE
Vice Chair
Pensacola

NICK PATRONIS
Secretary
Panama City

JOHN W. ALTER
Malone

GUS ANDREWS
DeFuniak Springs

KELLIE RALSTON
Tallahassee

ANNA UPTON
Tallahassee

newspaper of general circulation. A sample notice form is attached for your information. If you choose to publish such a notice, please submit a copy to the District for our records.

The issuance of an Environmental Resource Permit for this activity does not eliminate the need to obtain all necessary permits or approvals from other agencies.

Should you have any questions regarding your permit or its conditions, please contact your permit reviewer, Dana Palermo, PE, at (850) 951-4660 or by e-mail: Dana.Palermo@nwfwater.com, Erica Roberts, at (850) 951-4660 or by e-mail: Erica.Roberts@nwfwater.com and Ted Reese, CWE, at (850) 951-4660 or by e-mail: Ted.Reese@nwfwater.com

Sincerely,



Terry Wells
Division of Regulatory Services; ERP Bureau Chief

cc:

Consultant:
Jason Ripley
Moffatt & Nichol
101 N. Spring St.
Suite 2
Pensacola, FL 32502

Malies Warren
Volkert, Inc.
14101 Panama City Beach Pkwy.
Suite 190
Panama City, FL 32413

Enc:

Environmental Resource Permit Number: IND-113-302157-1
Notice of Rights
Sample Newspaper Notice

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT

PERMIT NO: IND-113-302157-1 **DATE ISSUED:** November 29, 2021
PROJECT NAME: Santa Rosa County Sports Complex - Phase 1 and Phase 2
CONSTRUCTION PHASE EXPIRATION DATE: November 29, 2026

A PERMIT AUTHORIZING:

The construction of the first phase of a new, approximately 22.00-acre, sports complex located along the southern side of U.S. Highway 98, just north of Woodlawn Way, in southern Santa Rosa County. This permit includes the stormwater design of two phases but only authorizes the construction of the first phase. The first phase of construction consists of an entrance road from U.S. Highway 98, parking area within the center of the property, three grassed sports fields, and ancillary sporting courts (impervious) and playgrounds near the parking area. There are also various sidewalks proposed throughout this phase. The surface water management system designed to serve the first phase will consist of three interconnected wet detention ponds (Pond 1). This interconnected system is designed to serve and receive runoff from approximately 13.32 acres. The wet detention ponds are to be constructed near the northern portion of the proposed parking area, south of the proposed entrance road. Stormwater runoff will be directed toward the ponds by a series of drainage inlets to be constructed throughout this phase before entering one of the ponds. Pond 1 has been designed without vegetated littoral zones and will consist of two discharge/control structures to be constructed near the northwestern and southwestern portions of the westernmost pond. The details and location of the discharge structure equipped with the drawdown device can be found on Plan Sheet C-231 of the approved plans. The location and details of the discharge/rate control structure can be found on Plan Sheet C-502. These structures will both discharge offsite toward the wetlands located on the western side of the development. This permit does not authorize impacts to wetlands. The future phases of this complex will be required to obtain a permit modification and are not authorized for construction under this permit. The surface water management system is in accordance with the approved plans prepared by Moffatt & Nichol.

LOCATION:
Section(s): 24, 25 Township(s): 2S Range(s): 28W
Santa Rosa County

ISSUED TO:
Santa Rosa County
6051 Old Bagdad Highway
Suite 300
Milton, FL 32583

Permittee agrees to hold and save the Northwest Florida Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to any permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit is issued pursuant to Part IV of Chapter 373, Florida Statute (F.S.), and Chapter 62-330, Florida Administrative Code, (F.A.C.), and may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

This permit also constitutes certification compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S. Code 1341.

PERMIT IS CONDITIONED UPON:

See conditions on attached "Exhibit A", dated November 29, 2021

AUTHORIZED BY: Northwest Florida Water Management District
Division of Resource Regulation

By: 

Terry Wells
Division of Regulatory Services; ERP Bureau Chief

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER IND-113-302157-1
Santa Rosa County Sports Complex - Phase 1 and Phase 2
DATED November 29, 2021

1. Wetland buffers shall remain in an undisturbed condition except for approved drainage facility construction and maintenance. The wetland buffer boundaries as shown on the approved construction drawings shall be clearly delineated on the site prior to initial clearing or grading activities and be readily discernible to construction and District personnel.

2. This permit does not authorize the permittee to cause any adverse impact to or "take" of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of "take" and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a "take" permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.

3. Negative impacts to wetlands or other surface waters as a result of construction shall be reported immediately to the Northwest Florida Water Management District, 700 South U.S. Highway 331, DeFuniak Springs, FL 32435, Phone: (850) 951-4660. Corrective action shall be taken as soon as practicable to restore the impacted areas

NOTICE OF RIGHTS

Northwest Florida Water Management District
152 Water Management Drive, Havana, FL 32333-4712
(850) 539-5999 Fax (850) 539-2693
www.nwfwater.com

The following information addresses procedures to be followed if you desire an administrative hearing or other review of agency action.

PETITION FOR FORMAL ADMINISTRATIVE PROCEEDINGS

Any person whose substantial interests are or may be affected by the action described in the enclosed Notice of Agency Action, may petition for an administrative hearing in accordance with the requirements of section 28-106.201, Florida Administrative Code, or may choose to pursue mediation as an alternative remedy under section 120.573, Florida Statutes, before the deadline for filing a petition. Pursuit of mediation will not adversely affect the right to administrative proceedings in the event mediation does not result in a settlement. Petitions for an administrative hearing must be filed with the Agency Clerk of the Northwest Florida Water Management District, 81 Water Management Drive, Havana, Florida 32333-9700 by the deadline specified in the attached cover letter. Failure to file a petition within this time period shall constitute a waiver of any rights such person may have to request an administrative determination (hearing) under section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions are subject to dismissal.

DISTRICT COURT OF APPEAL

A party who is adversely affected by final agency action on the permit application and who has exhausted available administrative remedies is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes. Review under section 120.68, Florida Statutes, is initiated by filing a Notice of Appeal in the appropriate District Court of Appeal in accordance with Florida Rule of Appellate Procedure 9.110.

SECTION 28-106.201, FLORIDA ADMINISTRATIVE CODE, INITIATION OF PROCEEDINGS

(1) Unless otherwise provided by statute, and except for agency enforcement and disciplinary actions that shall be initiated under Rule 28-106.2015, F.A.C., initiation of proceedings shall be made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document that requests an evidentiary proceeding and asserts the existence of a disputed issue of material fact. Each petition shall be legible and on 8 1/2 by 11 inch white paper. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

(3) Upon receipt of a petition involving disputed issues of material fact, the agency shall grant or deny the petition, and if granted shall, unless otherwise provided by law, refer the matter to the Division of Administrative Hearings with a request that an administrative law judge be assigned to conduct the hearing. The request shall be accompanied by a copy of the petition and a copy of the notice of agency action.

Rulemaking Authority 14.202, 120.54(3), (5) FS. Law Implemented 120.54(3) FS. History–New 4-1-97, Amended 9-17-98, 1-15-07, 2-5-13.

NOTICING PUBLICATION INFORMATION

The District's action regarding the issuance or denial of a permit, a petition or qualification for an exemption only becomes closed to future legal challenges from members of the public ("third parties"), if 1) "third parties" have been properly notified of the District's action regarding the permit or exemption, and 2) no "third party" objects to the District's action within a specific period of time following the notification.

Notification of "third parties" is provided through publication of certain information in a newspaper of general circulation in the county where the proposed activities are to occur. Publication of notice informs "third parties" of their right to have a 21-day time limit in which to file a petition opposing the District's action. However, if no notice to "third parties" is published, there is no time limit to a party's right to challenge the District's action. The District has not published a notice to "third parties" that it has taken final action on your application. If you want to ensure that the period of time in which a petition opposing the District's action regarding your application is limited to the time frame state above, you may publish, at your own expense, a notice in a newspaper of general circulation. A copy of the Notice of Agency Action the District uses for publication is attached. You may use this format or create your own, as long as the essential information is included.

If you do decide to publish a Notice of Final Agency Action, please provide the District a copy of the Proof of Publication when you receive it. That will provide us notice that action on this permit application is closed after the 21 days following publication.

Notice of Final Agency Action Taken by the
Northwest Florida Water Management District

Notice is given that Environmental Resource permit number IND-113-302157-1 was issued on November 29, 2021 to Rebecca Jones of Santa Rosa County for the construction of a new surface water management system designed to serve the first phase of a new, approximately 22.00-acre, sports complex located along the southern side of U.S. Highway 98, just north of Woodlawn Way, in southern Santa Rosa County. This permit includes the stormwater design of two phases but only authorizes the construction of the first phase. The first phase of construction consists of an entrance road from U.S. Highway 98, parking area within the center of the property, three grassed sports fields, and ancillary sporting courts (impervious) and playgrounds near the parking area. There are also various sidewalks proposed throughout this phase. This phase is to be served by three interconnected wet detention ponds, designed to discharge through one control structure located within the western pond. There is a cross culvert proposed at the southern end of the entrance road to allow for continued flows between the two onsite wetlands. No wetland impacts are proposed within this phase. The project is located at South of Gulf Breeze Pkwy (US 98) across from Saroco Road and to the west of Woodlawn Way., Santa Rosa County.

The application file is available online and can be accessed through the District's e-Permitting Portal at: https://permitting.sjrwmd.com/nwepermitting/jsp/Search.do?theAction=PermitNumSearch. If you have any questions or are experiencing difficulty viewing the electronic application, please contact us at (850) 951-4660.

A person whose substantial interests are affected by the District permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statutes, or may choose to pursue mediation as an alternative remedy under Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401-404, Florida Administrative Code. Petitions must comply with the requirements of Florida Administrative Code, Chapter 28-106 and be filed with (received by) the District Clerk located at District Headquarters, 81 Water Management Drive, Havana, FL 32333-4712. Petitions for administrative hearing on the above application must be filed within twenty-one (21) days of publication of this notice or within twenty-six (26) days of the District depositing notice of this intent in the mail for those persons to whom the District mails actual notice. Failure to file a petition within this time period shall constitute a waiver of any right(s) such person(s) may have to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., concerning the subject permit. Petitions which are not filed in accordance with the above provisions are subject to dismissal.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the District's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the District on the application have the right to petition to become a party to the proceedings, in accordance with the requirements set forth above.

4.2 NWFWMD INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT PH II

Northwest Florida Water Management District

700 U.S. Highway 331 South, DeFuniak Springs, FL 32435

Lyle Seigler
Executive Director

ERP: (850) 951-4660 • Fax: (850) 892-8007
Wells: (850) 951-4661

November 17, 2022

Jones Rebecca
Santa Rosa County
6051 Old Bagdad Highway
Suite 300
Milton, FL 32583

RE: Notice of Final Agency Action - Approval
Individual Environmental Resource Permit
Permit Number: IND-113-302157-2
Project Name: Santa Rosa County Sports Complex - Phase 1 and Phase 2

Dear Sir/Madam:

Enclosed is the approved modification to the Environmental Resource Permit (ERP) authorized on November 17, 2022 by the Northwest Florida Water Management District for the above referenced application.

Please be sure to read the enclosed permit and all exhibits in their entirety, paying close attention to the permit conditions in Exhibit A that require you to perform maintenance activities on your stormwater system and to have inspections performed by a Registered Professional at specified times throughout the life of the stormwater system.

Please be advised that you are required to fully execute and submit the following documents:

- "Construction Commencement Notice" [Form 62-330.350(1)] - Submitted to the District no later than 48 hours prior to commencement of any part of the activity authorized by the enclosed permit.

- "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)] Submitted to the District no later than 30 days after the activity has been completed.

Copies of these and other ERP forms are available for download on the District website at http://www.nwfwater.com/Permits/Environmental-Resource-Permits/Application-Forms

Please be advised that the District ***has not*** published a notice in the newspaper of local circulation advising the public that a permit has been issued for this activity. Publication, using the District form, notifies the public of their rights to challenge the issuance of this permit. If proper notice is given by publication, third parties have a 21-day time limit to file a petition opposing the issuance of

GEORGE ROBERTS
Chair
Panama City

JERRY PATE
Vice Chair
Pensacola

NICK PATRONIS
Secretary
Panama City

JOHN W. ALTER
Malone

GUS ANDREWS
DeFuniak Springs

TED EVERETT
Chipley

KELLIE RALSTON
Tallahassee

ANNA UPTON
Tallahassee

the permit. If you do not publish, a party's right to challenge the issuance of the permit may extend indefinitely. If you wish to have certainty that the period for filing such a challenge is closed, then you may publish, at your expense, such a notice in a newspaper of general circulation. A sample notice form is attached for your information. If you choose to publish such a notice, please submit a copy to the District for our records.

The issuance of an Environmental Resource Permit for this activity does not eliminate the need to obtain all necessary permits or approvals from other agencies.

Should you have any questions regarding your permit or its conditions, please contact your permit reviewer, Dana Palermo, PE, at (850) 951-4660 or by e-mail: Dana.Palermo@nwfwater.com, Erica Roberts, at (850) 951-4660 or by e-mail: Erica.Roberts@nwfwater.com and Ted Reese, CWE, at (850) 951-4660 or by e-mail: Ted.Reese@nwfwater.com

Sincerely,

Terry E. Wells

_____

Terry Wells
Division of Regulatory Services; ERP Bureau Chief

cc:
Consultant:
Jason Ripley
Moffatt & Nichol
100 N. Spring St., Suite 2
Pensacola, FL 32502

Enc:
Environmental Resource Permit Number: IND-113-302157-2
Sample Newspaper Notice
Notice of Rights

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
INDIVIDUAL ENVIRONMENTAL RESOURCE PERMIT

PERMIT NO: IND-113-302157-2 **DATE ISSUED:** November 17, 2022
PROJECT NAME: Santa Rosa County Sports Complex - Phase 1 and Phase 2
CONSTRUCTION PHASE EXPIRATION DATE: November 29, 2026

A PERMIT AUTHORIZING:

A major modification to IND-113-302157-1 to include the construction of Phase 2 of the previously authorized sports complex located along the southern side of U.S. Highway 98, just north of Woodlawn Way, in southern Santa Rosa County. IND-113-302157-1 authorized the site and stormwater design of two phases but only authorizes the construction of the first phase. This phase consists of the construction of three grassed sports fields, parking area adjacent to the entrance road, (closest to U.S. Highway 98), a walking path around the perimeter of the area, a water feature/pond, restroom facility, and associated stormwater conveyance system. This phase is to be served by three interconnected wet detention ponds, designed to discharge through one control structure located within the western pond. The control structure is to be modified to account for the addition of Phase 2 to the contributing drainage basin boundaries. The modification includes revising the originally authorized orifice size from approximately 2.13 inches to 2.50 inches to accommodate Phase 2. The details and location of the discharge structure equipped with the drawdown device can be found on Plan Sheet C-231 of the approved plans. The location and details of the emergency/rate control structure can be found on Plan Sheet C-511. These structures will both discharge offsite toward the wetlands located on the western side of the development. No direct wetland impacts are authorized. The future phases of this complex will be required to obtain a permit modification and are not authorized for construction under this permit. The surface water management system is in accordance with the approved plans prepared by Moffatt & Nichol.

LOCATION:

Section(s): 24, 25 Township(s): 2S Range(s): 28W

Santa Rosa County

ISSUED TO:
Santa Rosa County
6051 Old Bagdad Highway
Suite 300
Milton, FL 32583

Permittee agrees to hold and save the Northwest Florida Water Management District and its successors harmless from any and all damages, claims, or liabilities which may arise from permit issuance. Said application, including all plans and specifications attached thereto, is by reference made a part hereof.

This permit does not convey to any permittee any property rights nor any rights or privileges other than those specified herein, nor relieve the permittee from complying with any law, regulation or requirement affecting the rights of other bodies or agencies. All structures and works installed by permittee hereunder shall remain the property of the permittee.

This permit is issued pursuant to Part IV of Chapter 373, Florida Statutes (F.S.), and Chapter 62-330, Florida Administrative Code, (F.A.C.), and may be revoked, modified or transferred at any time pursuant to the appropriate provisions of Chapter 373, Florida Statutes.

This permit also constitutes certification compliance with water quality standards under Section 401 of the Clean Water Act, 33 U.S. Code 1341.

PERMIT IS CONDITIONED UPON:

See conditions on attached “Exhibit A”, dated November 17, 2022

AUTHORIZED BY: Northwest Florida Water Management District
Division of Resource Regulation

By: 

Terry Wells
Division of Regulatory Services; ERP Bureau Chief

"EXHIBIT A"
CONDITIONS FOR ISSUANCE OF PERMIT NUMBER IND-113-302157-2
Santa Rosa County Sports Complex - Phase 1 and Phase 2
DATED November 17, 2022

1. All activities shall be implemented following the plans, specifications and performance criteria approved by this permit. Any deviations must be authorized in a permit modification in accordance with Rule 62-330.315, F.A.C. Any deviations that are not so authorized may subject the permittee to enforcement action and revocation of the permit under Chapter 373, F.S.

2. A complete copy of this permit shall be kept at the work site of the permitted activity during the construction phase, and shall be available for review at the work site upon request by the Agency staff. The permittee shall require the contractor to review the complete permit prior to beginning construction.

3. Activities shall be conducted in a manner that does not cause or contribute to violations of state water quality standards. Performance-based erosion and sediment control best management practices shall be installed immediately prior to, and be maintained during and after construction as needed, to prevent adverse impacts to the water resources and adjacent lands. Such practices shall be in accordance with the *State of Florida Erosion and Sediment Control Designer and Reviewer Manual (Florida Department of Environmental Protection and Florida Department of Transportation June 2007)*, and the *Florida Stormwater Erosion and Sedimentation Control Inspector's Manual (Florida Department of Environmental Protection, Nonpoint Source Management Section, Tallahassee, Florida, July 2008)*, which are both incorporated by reference in subparagraph 62-330.050(9)(b)5., F.A.C., unless a project-specific erosion and sediment control plan is approved or other water quality control measures are required as part of the permit.

4. At least 48 hours prior to beginning the authorized activities, the permittee shall submit to the Agency a fully executed Form 62-330.350(1), "Construction Commencement Notice," [October 1, 2013], incorporated by reference herein (http://www.flrules.org/Gateway/reference.asp?No=Ref-02505), indicating the expected start and completion dates. A copy of this form may be obtained from the Agency, as described in subsection 62-330.010(5), F.A.C. If available, an Agency website that fulfills this notification requirement may be used in lieu of the form.

5. Unless the permit is transferred under Rule 62-330.340, F.A.C., or transferred to an operating entity under Rule 62-330.310, F.A.C., the permittee is liable to comply with the plans, terms and conditions of the permit for the life of the project or activity.

6. Within 30 days after completing construction of the entire project, or any independent portion of the project, the permittee shall provide the following to the Agency, as applicable:
    1. For an individual, private single-family residential dwelling unit, duplex, triplex, or quadruplex "Construction Completion and Inspection Certification for Activities Associated With a Private Single-Family Dwelling Unit" [Form 62-330.310(3)]; or
    2. For all other activities "As-Built Certification and Request for Conversion to Operational Phase" [Form 62-330.310(1)].
    3. If available, an Agency website that fulfills this certification requirement may be used in lieu of the form.

7. If the final operation and maintenance entity is a third party:

1. Prior to sales of any lot or unit served by the activity and within one year of permit issuance, or within 30 days of as- built certification, whichever comes first, the permittee shall submit, as applicable, a copy of the operation and maintenance documents (see sections 12.3 thru 12.3.3 of Volume I) as filed with the Department of State, Division of Corporations and a copy of any easement, plat, or deed restriction needed to operate or maintain the project, as recorded with the Clerk of the Court in the County in which the activity is located.
2. Within 30 days of submittal of the as- built certification, the permittee shall submit "Request for Transfer of Environmental Resource Permit to the Perpetual Operation Entity" [Form 62-330.310(2)] to transfer the permit to the operation and maintenance entity, along with the documentation requested in the form. If available, an Agency website that fulfills this transfer requirement may be used in lieu of the form.

8. The permittee shall notify the Agency in writing of changes required by any other regulatory agency that require changes to the permitted activity, and any required modification of this permit must be obtained prior to implementing the changes.

9. This permit does not:
    1. Convey to the permittee any property rights or privileges, or any other rights or privileges other than those specified herein or in Chapter 62-330, F.A.C.;
    2. Convey to the permittee or create in the permittee any interest in real property;
    3. Relieve the permittee from the need to obtain and comply with any other required federal, state, and local authorization, law, rule, or ordinance; or
    4. Authorize any entrance upon or work on property that is not owned, held in easement, or controlled by the permittee

10. Prior to conducting any activities on state-owned submerged lands or other lands of the state, title to which is vested in the Board of Trustees of the Internal Improvement Trust Fund, the permittee must receive all necessary approvals and authorizations under Chapters 253 and 258, F.S. Written authorization that requires formal execution by the Board of Trustees of the Internal Improvement Trust Fund shall not be considered received until it has been fully executed.

11. The permittee shall hold and save the Agency harmless from any and all damages, claims, or liabilities that may arise by reason of the construction, alteration, operation, maintenance, removal, abandonment or use of any project authorized by the permit.

12. The permittee shall notify the Agency in writing:
    1. Immediately if any previously submitted information is discovered to be inaccurate; and
    2. Within 30 days of any conveyance or division of ownership or control of the property or the system, other than conveyance via a long-term lease, and the new owner shall request transfer of the permit in accordance with Rule 62-330.340, F.A.C. This does not apply to the sale of lots or units in residential or commercial subdivisions or condominiums where the stormwater management system has been completed and converted to the operation phase

13. Upon reasonable notice to the permittee, Agency staff with proper identification shall have permission to enter, inspect, sample and test the project or activities to ensure conformity with the plans and specifications authorized in the permit.

14. If any prehistoric or historic artifacts, such as pottery or ceramics, stone tools or metal implements, dugout canoes, or any other physical remains that could be associated with Native American cultures, or early colonial or American settlement are encountered at any time within the project site area, work involving subsurface disturbance in the immediate vicinity of such discoveries shall cease. The permittee or other designee shall contact the

Florida Department of State, Division of Historical Resources, Compliance and Review Section, at (850) 245-6333 or (800) 847-7278, as well as the appropriate permitting agency office. Such subsurface work shall not resume without verbal or written authorization from the Division of Historical Resources. If unmarked human remains are encountered, all work shall stop immediately and notification shall be provided in accordance with Section 872.05, F.S.

15. Any delineation of the extent of a wetland or other surface water submitted as part of the permit application, including plans or other supporting documentation, shall not be considered binding unless a specific condition of this permit or a formal determination under Rule 62-330.201, F.A.C., provides otherwise.

16. The permittee shall provide routine maintenance of all components of the stormwater management system to remove trapped sediments and debris. Removed materials shall be disposed of in a landfill or other uplands in a manner that does not require a permit under Chapter 62-330, F.A.C., or cause violations of state water quality standards.

17. This permit is issued based on the applicant's submitted information that reasonably demonstrates that adverse water resource-related impacts will not be caused by the completed permit activity. If any adverse impacts result, the Agency will require the permittee to eliminate the cause, obtain any necessary permit modification, and take any necessary corrective actions to resolve the adverse impacts.

18. A Recorded Notice of Environmental Resource Permit may be recorded in the county public records in accordance with subsection 62-330.090(7), F.A.C. Such notice is not an encumbrance upon the property.

19. **Record-keeping.** The permittee shall be responsible for keeping records documenting that relevant permit conditions are met. This documentation shall include, at a minimum, the date of each inspection, the name and qualifications of the inspector, any maintenance actions taken, and a determination by the inspector as to whether the system is operating as intended. Inspection documentation must be readily available and shall be submitted annually to the District by the anniversary date of the permit.

20. Once project construction has been deemed complete, including the re-stabilization of all side slopes, embankments, and other disturbed areas, and before the transfer to the Operation and Maintenance phase, all obsolete erosion control materials shall be removed.

21. The wet detention area shall be inspected periodically for debris and trash built up around the discharge structures. Accumulations of debris and trash that negatively affect the function of the system shall be removed upon discovery.

22. **Inspections by a Registered Professional**. The stormwater management system shall be inspected by a registered professional to evaluate whether the system is functioning as designed and permitted. The Registered Professional may record his inspection on Form No 62-330.311(1), Operation and Maintenance Inspection Certification or may provide his evaluation in any other format; however any report must be signed and sealed by the Registered Professional. Submittal of the inspection report to the District shall occur within 30 days of the inspection. Inspections shall be made by the Registered Professional in accordance with this schedule:
    - On the first anniversary of the date of conversion to Operation and Maintenance Phase.
    - Every fifth year on the anniversary of conversion to Operation and Maintenance phase, after the first year of successful operation.

23. **Reporting by a Registered Professional.** Within 30 days of any failure of the stormwater management system or deviation from the permit, a report shall be submitted to the District on Form 62-330.311(1), Operation and Maintenance Inspection Certification, describing the remedial actions taken to resolve the failure or deviation. This report shall be signed and sealed by a Registered Professional.

24. Prior to construction, the limits of construction shall be clearly flagged and/or staked, particularly in areas near remaining natural wetlands. All construction personnel shall be shown the locations of all wetland areas outside of the construction area so as to prevent encroachment form heavy equipment into these areas.

25. Negative impacts to wetland or other surface waters as a result of construction shall be reported immediately to the Northwest Florida Water Management District, 700 South U.S. Highway 331, DeFuniak Springs, FL 32435, Phone: (850) 951-4660. Corrective action shall be taken as soon as practicable to restore the impacted areas

26. This permit does not authorize the permittee to cause any adverse impact to or “take” of state listed species and other regulated species of fish and wildlife. Compliance with state laws regulating the take of fish and wildlife is the responsibility of the owner or applicant associated with this project. Please refer to Chapter 68A-27 of the Florida Administrative Code for definitions of “take” and a list of fish and wildlife species. If listed species are observed onsite, FWC staff are available to provide decision support information or assist in obtaining the appropriate FWC permits. Most marine endangered and threatened species are statutorily protected and a “take” permit cannot be issued. Requests for further information or review can be sent to FWCConservationPlanningServices@MyFWC.com.

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Notice of Final Agency Action Taken by the
Northwest Florida Water Management District

Notice is given that Environmental Resource permit number IND-113-302157-2 was issued on November 17, 2022 to Santa Rosa County for the construction of a new surface water management system designed to serve the first phase of a new, approximately 22.00-acre, sports complex located along the southern side of U.S. Highway 98, just north of Woodlawn Way, in southern Santa Rosa County. This permit includes the stormwater design of two phases but only authorizes the construction of the first phase. The first phase of construction consists of an entrance road from U.S. Highway 98, parking area within the center of the property, three grassed sports fields, and ancillary sporting courts (impervious) and playgrounds near the parking area. There are also various sidewalks proposed throughout this phase. This phase is to be served by three interconnected wet detention ponds, designed to discharge through one control structure located within the western pond. There is a cross culvert proposed at the southern end of the entrance road to allow for continued flows between the two onsite wetlands. No wetland impacts are proposed within this phase. The project is located at South of Gulf Breeze Pkwy (US 98) across from Saroco Road and to the west of Woodlawn Way., Santa Rosa County.

The application file is available online and can be accessed through the District's e-Permitting Portal at:
https://permitting.sjrwmd.com/nwepermitting/jsp/Search.do?theAction=PermitNumSearch. If you have any questions or are experiencing difficulty viewing the electronic application, please contact us at (850) 951-4660.

A person whose substantial interests are affected by the District permitting decision may petition for an administrative hearing in accordance with Sections 120.569 and 120.57, Florida Statutes, or may choose to pursue mediation as an alternative remedy under Section 120.573, Florida Statutes, and Rules 28-106.111 and 28-106.401-404, Florida Administrative Code. Petitions must comply with the requirements of Florida Administrative Code, Chapter 28-106 and be filed with (received by) the District Clerk located at District Headquarters, 81 Water Management Drive, Havana, FL 32333-4712. Petitions for administrative hearing on the above application must be filed within twenty-one (21) days of publication of this notice or within twenty-six (26) days of the District depositing notice of this intent in the mail for those persons to whom the District mails actual notice. Failure to file a petition within this time period shall constitute a waiver of any right(s) such person(s) may have to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., concerning the subject permit. Petitions which are not filed in accordance with the above provisions are subject to dismissal.

Because the administrative hearing process is designed to formulate final agency action, the filing of a petition means that the District's final action may be different from the position taken by it in this notice. Persons whose substantial interests will be affected by any such final decision of the District on the application have the right to petition to become a party to the proceedings, in accordance with the requirements set forth above.

NOTICE OF RIGHTS

Northwest Florida Water Management District
152 Water Management Drive, Havana, FL 32333-4712
(850) 539-5999 Fax (850) 539-2693
www.nwfwater.com

The following information addresses procedures to be followed if you desire an administrative hearing or other review of agency action.

PETITION FOR FORMAL ADMINISTRATIVE PROCEEDINGS

Any person whose substantial interests are or may be affected by the action described in the enclosed Notice of Agency Action, may petition for an administrative hearing in accordance with the requirements of section 28-106.201, Florida Administrative Code, or may choose to pursue mediation as an alternative remedy under section 120.573, Florida Statutes, before the deadline for filing a petition. Pursuit of mediation will not adversely affect the right to administrative proceedings in the event mediation does not result in a settlement. Petitions for an administrative hearing must be filed with the Agency Clerk of the Northwest Florida Water Management District, 81 Water Management Drive, Havana, Florida 32333-9700 by the deadline specified in the attached cover letter. Failure to file a petition within this time period shall constitute a waiver of any rights such person may have to request an administrative determination (hearing) under section 120.57, Florida Statutes, concerning the subject permit application. Petitions which are not filed in accordance with the above provisions are subject to dismissal.

DISTRICT COURT OF APPEAL

A party who is adversely affected by final agency action on the permit application and who has exhausted available administrative remedies is entitled to judicial review in the District Court of Appeal pursuant to section 120.68, Florida Statutes. Review under section 120.68, Florida Statutes, is initiated by filing a Notice of Appeal in the appropriate District Court of Appeal in accordance with Florida Rule of Appellate Procedure 9.110.

SECTION 28-106.201, FLORIDA ADMINISTRATIVE CODE, INITIATION OF PROCEEDINGS

(1) Unless otherwise provided by statute, and except for agency enforcement and disciplinary actions that shall be initiated under Rule 28-106.2015, F.A.C., initiation of proceedings shall be made by written petition to the agency responsible for rendering final agency action. The term "petition" includes any document that requests an evidentiary proceeding and asserts the existence of a disputed issue of material fact. Each petition shall be legible and on 8 1/2 by 11 inch white paper. Unless printed, the impression shall be on one side of the paper only and lines shall be double-spaced.

(2) All petitions filed under these rules shall contain:

(a) The name and address of each agency affected and each agency's file or identification number, if known;

(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;

(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;

(e) A concise statement of the ultimate facts alleged, including the specific facts the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the agency to take with respect to the agency's proposed action.

(3) Upon receipt of a petition involving disputed issues of material fact, the agency shall grant or deny the petition, and if granted shall, unless otherwise provided by law, refer the matter to the Division of Administrative Hearings with a request that an administrative law judge be assigned to conduct the hearing. The request shall be accompanied by a copy of the petition and a copy of the notice of agency action.

Rulemaking Authority 14.202, 120.54(3), (5) FS. Law Implemented 120.54(3) FS. History–New 4-1-97, Amended 9-17-98, 1-15-07, 2-5-13.

CERTIFICATE OF SERVICE

I hereby certify that on the below date, a true and correct copy of the foregoing document and all attachments were sent to the applicant and/or their representative(s), and any party having made a written request for notice of agency action, and that section 120.60(3), Florida Statutes has been satisfied.

Megan Byers

Regulatory Support Specialist I

November 17, 2022

Date

4.3 FDEP POTABLE WATER PERMIT

FLORIDA DEPARTMENT OF
Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, FL 32502

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

June 24, 2022

Notification of Acceptance of Use of a General Permit

Project: Santa Rosa County Sports Complex
Permit No.: 0421816-001-DSGP
Issued: June 24, 2022 **Expires: June 23, 2027**
Water Supplier: Midway Water System
PWS ID: 1570470

Permittee:
Ms. Rebecca Jones, Project Engineer
Santa Rosa County
6051 Old Bagdad Highway Suite 300
Milton, Florida 32583
rebeccaj@santarosa.fl.us

Dear Ms. Jones:

On June 1, 2022, the Florida Department of Environmental Protection received a "*Notice of Intent to Use the General Permit for Construction of Water Main Extensions for PWSs*" [DEP Form No. 62-555.900(7)], under the provisions of Rule 62-4.530 and Chapter 62-555, Florida Administrative Code (F.A.C.), with permit fee received June 23, 2022. The purpose of the project is to provide potable water to Santa Rosa Sports Park, for a total of two connections. The project will be constructed in two phases of the construction for Santa Rosa Sports Park, which will connect Gulf Breeze Parkway to Woodlawn Middle School.
Phase 1 of the project will connect to the 6" existing watermain in the right-of-way of Woodlawn Lane via 10 LF of 3" watermain up to the 3" water meter.
Phase 2 of the project will connect to the 12" existing watermain at the driveway on US 98 via 5 LF of 3" watermain will connect the existing watermain to the 3" water meter.

Based upon the submitted Notice and accompanying documentation, this correspondence is being sent to advise that the Department does not object to the use of such general permit at this time. Please be advised that the permittee is required to abide by Rule 62-555.405, F.A.C., all applicable rules in Chapters 62-4, 62-550, 62-555, F.A.C., and the General Conditions for All General Drinking Water Permits (found in 62-4.540, F.A.C.).

The permittee shall comply with all sampling requirements specific to this project. These requirements are attached for review and implementation.

Pursuant to Rule 62-555.345, F.A.C., the permittee shall submit a certification of construction completion [DEP Form No. 62-555.900(9)] to the Department and obtain approval, or clearance, from the Department before placing any water main extension constructed under this general permit into operation for any purpose other than disinfection or testing for leaks.

Within 30 days after the sale or legal transfer of ownership of the permitted project that has not been cleared for service in total by the Department, both the permittee and the proposed permittee shall sign and submit an application for transfer of the permit using Form 62-555.900(8), F.A.C., with the appropriate fee. The permitted construction is not authorized past the 30-day period unless the permit has been transferred.

This permit will expire five years from the date of issuance. If the project has been started and not completed by that time, a new permit must be obtained before the expiration date in order to continue work on the project, per Rule 62-4.030, F.A.C.

Sincerely,

Katie Ates

Katie Ates
Water and Wastewater Permitting Manager

KLA:ss

c: Arthur Hooks, P.E. (arthur.hooks@volkert.com)
Midway Water System (mbobick@midwaywater.com)

A Civil Penalty May Be Incurred

if this project is placed into operation before obtaining a clearance from this office.

Requirements for clearance upon completion of projects are as follows:

1) **Clearance Form**
Submission of a fully completed Department of Environmental Protection (DEP) Form 62-555.900(9) *Certification of Construction Completion and Request for Clearance to Place Permitted PWS Components into Operation*.

2) **Record Drawings, if deviations were made**
Submission of the portion of record drawings showing deviations from the DEP construction permit, including preliminary design report or drawings and specifications, if there are any deviations from said permit (Note that it is necessary to submit a copy of only the portion of record drawings showing deviations and not a complete set of record drawings.).

3) **Bacteriological Results**
Copies of satisfactory bacteriological analysis (a.k.a. Main Clearance), taken within sixty (60) days of completion of construction, from locations within the distribution system or water main extension to be cleared, in accordance with Rules 62-555.315(6), 62-555.340, and 62-555.330, F.A.C. and American Water Works Association (AWWA) Standard C 651-92, as follows:
   - The end point of the proposed addition
   - Any water lines branching off a main extension
   - Every 1,200 feet on straight runs of pipe

   Each location shall be sampled on two consecutive days, with sample points and total and free chlorine residual readings clearly indicated on the report. A sketch or description of all bacteriological sampling locations must also be provided.

For further clarification contact:
Katie Ates
Florida DEP
(850) 595-0656
Katie.L.Ates@dep.state.fl.us

4.4 FDEP WASTEWATER PERMIT

FLORIDA DEPARTMENT OF Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, FL 32502

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

August 18, 2022

BY ELECTRONIC MAIL
rebeccaj@santarosa.fl.gov

In the Matter of an
Application for Permit by:

PERMITTEE:	**PERMIT NUMBER:**	0421510-001-DWC/CL
Santa Rosa County	**COUNTY:**	Santa Rosa
By: Rebecca Jones, P.E.	**PROJECT NAME:**	Santa Rosa Sports Complex
Santa Rosa Project Engineer	**WASTEWATER**	
6051 Old Bagdad Hwy, Ste 300	**TREATMENT:**	SSRUS Tiger Point WWTP
Milton, FL 32583	**FACILITY ID:**	FLA010212

NOTICE OF PERMIT ISSUANCE

Enclosed is Permit Number 0421510-001-DWC/CL to construct a domestic wastewater collection/transmission system, issued pursuant to 403.087(1), Florida Statutes.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing
A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;

(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the applicant and persons entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of receipt of this written notice. Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a), F.A.C.

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point-of-entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review
Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

EXECUTION AND CLERKING
Executed in Orlando, Florida.

STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Katie Ates, P.E.
Water and Wastewater Permitting Manager

Attachment(s):
1. Permit Number 0421510-001-DWC/CL
2. Notice of Permit Issuance for optional newspaper publication

CERTIFICATE OF SERVICE
The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

Arthur Hooks, Volkert Inc, (arthur.hooks@volkert.com)
Samuel Wilson, Gulf Breeze Regional Water System, (swilson@gulfbreeze.fl.gov)
DeVann Cook, County Administrator, Santa Rosa County (devannc@santarosa.fl.gov)
Herman Davies, R.E.H.S., Environmental Supervisor II, Florida Department of Health in Santa Rosa County (Herman.Davies@flhealth.gov)

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Clerk

August 18, 2022
Date

FLORIDA DEPARTMENT OF Environmental Protection

Northwest District
160 W. Government Street, Suite 308
Pensacola, FL 32502

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Shawn Hamilton
Secretary

STATE OF FLORIDA
DOMESTIC WASTEWATER COLLECTION/TRANSMISSION
INDIVIDUAL PERMIT

PERMITTEE:	**PERMIT NUMBER:**	0421510-001-DWC/CL
Santa Rosa County	**ISSUANCE DATE:**	August 18, 2022
Rebecca Jones, P.E.	**EXPIRATION DATE:**	August 17, 2027
Santa Rosa Project Engineer	**COUNTY:**	Santa Rosa
6051 Old Bagdad Hwy, Ste 300	**PROJECT NAME:**	Santa Rosa Sports Complex
Milton, FL 32583	**WASTEWATER**	
rebeccaj@santarosa.fl.gov	**TREATMENT:**	SSRUS Tiger Point WWTP
	FACILITY ID:	FLA010212

This permit is issued under the provisions of Chapter 403, Florida Statutes (F.S.), and Chapters 62-4 and 62-604, Florida Administrative Code (F.A.C.).

The above-named permittee is hereby authorized to construct the facilities shown on the application and drawings and other documents on file with the Department and made a part hereof and specifically described as follows:

DESCRIPTION OF PROJECT:

This project involves constructing a domestic wastewater collection/ transmission sewer system to provide service for two commercial sports complex buildings. The project will include approximately 686 linear feet of 8-inch gravity sewer, a sanitary sewer manhole, a lift station, and 1,039 linear feet of 2-inch force main. The wastewater from the new sewer system will tie to an existing manhole along Woodlawn Way, which eventually flows to SSRUS Tiger Point WWTP, FLA010212, for treatment.

The construction of the wastewater collection/transmission project shall be in accordance with the Application Construction Plans certified on May 23, 2022, by Arthur Hooks IV, P.E., for the wastewater design of the project.

LOCATION OF PROJECT: The project site is south of Gulf Breeze Parkway between Woodlawn Way and Nantahala Beach Road, in Gulf Breeze, Santa Rosa County, FL.

IN ACCORDANCE WITH: The limitations, requirements and other conditions set forth in pages 1 through 2 of this permit.

PERMIT CONDITIONS:

1. This permit is subject to the general conditions of Rule 62-4.160, F.A.C., as applicable. This rule is available at the Department's Internet site at: http://www.dep.state.fl.us/water/rulesprog.htm#ww [62-4.160]
2. Upon completion of construction of the collection/transmission system project, and before placing the facilities into operation for any purpose other than testing for leaks or testing equipment

operation, the permittee shall submit to the Department's District Office Form 62-604.300(8)(b), Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System. This form is available at the Department's Internet site at: https://floridadep.gov/water/domestic-wastewater/content/domestic-wastewater-forms instructions for submitting forms electronically are available at DEP's wastewater forms webpage or submittal may be made using the DEP Business Portal https://www.fldepportal.com/DepPortal/go/home by selecting "Submit," "Registration/Notification," "Submit Notifications to DEP," then choose submission type "Division of Water Resource Management Domestic/Industrial Wastewater" and "Notification of Completion of Construction for a Domestic Wastewater Collection/Transmission System." [62-604.700(2)]

3. The new or modified collection/transmission facilities shall not be placed into service until the Department clears the project for use. [62-604.700(3)]

4. Permit revisions shall only be made in accordance with Rule 62-4.050(4)(s), F.A.C. Request for revisions shall be made to the Department in writing and shall include the appropriate fee. Revisions not covered under Rule 62-4.050(4)(s), F.A.C., shall require a new permit. [62-604.600(8)]

5. Abnormal events shall be reported to the Department's Northwest District Office in accordance with Rule 62-604.550, F.A.C. For unauthorized spills of wastewater in excess of 1000 gallons per incident, or where information indicates that public health or the environment may be endangered, oral reports shall be provided to the STATE WATCH OFFICE TOLL FREE NUMBER, (800) 320-0519, as soon as practical, but no later than 24 hours from the time the permittee or other designee becomes aware of the circumstances. Unauthorized releases or spills less than 1000 gallons per incident are to be reported orally to the Department's Northwest District Office within 24 hours from the time the permittee, or other designee becomes aware of the circumstances. [62-604.550]

6. In accordance with Section 403.077, F.S., unauthorized releases or spills reportable to the State Watch Office pursuant to paragraph 7 above shall also be reported to the Department within 24 hours from the time the permittee becomes aware of the discharge. The permittee shall provide to the Department information reported to the State Watch Office. Notice of unauthorized releases or spills may be provided to the Department through the Department's Public Notice of Pollution web page at https://floridadep.gov/pollutionnotice or by reporting electronically using the Department's Business Portal at https://www.fldepportal.com/go/ (via "Submit" followed by "Report" or "Registration/Notification").

Executed in Orlando, Florida.
STATE OF FLORIDA DEPARTMENT
OF ENVIRONMENTAL PROTECTION

Katie Ates

Katie Ates, P.E.
Water and Wastewater Permitting Manager

STATE OF FLORIDA
DEPARTMENT OF ENVIRONMENTAL PROTECTION
NOTICE OF PERMIT ISSUANCE

The Department of Environmental Protection gives notice of its issuance of a permit to Santa Rosa County, Rebecca Jones, P.E., Santa Rosa County Project Engineer, 6051 Old Bagdad Highway, Suite 300, Milton, FL 32583 to construct the Santa Rosa Sports Complex Sewer Project, 0421510-001-DWC/CL, Chapter 403, Florida Statutes. The project site is located south of Gulf Breeze Parkway between Woodlawn Way and Nantahala Beach Road, in Gulf Breeze, Santa Rosa County, FL.

The permit and application file are available for public inspection during normal business hours, 8:00 a.m. to 5:00 p.m., Monday through Friday, except legal holidays, at the Department's Northwest District Office Pensacola, 160 W Government Street, Suite 308, Pensacola, Florida 32502 or the files are available electronically from the Department's Electronic Document Search Portal using Document Subject 0421510-001 at http://prodenv.dep.state.fl.us/DepNexus/public/searchPortal.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until further order of the Department. Because the administrative hearing process is designed to formulate final agency action, the hearing process may result in a modification of the agency action or even denial of the application.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;

(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and

(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the applicant at the address indicated above at the time of filing.

Time Period for Filing a Petition

Petitions filed by any persons other than the applicant, and other than those entitled to written notice under Section 120.60(3), F.S., must be filed within 14 days of publication of the notice or within 14 days of receipt of the written notice, whichever occurs first. The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

5.0 PHASE I ENVIRONMENTAL SITE ASSESSMENT

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Santa Rosa County South End Soccer Complex
(Gulf Breeze Parkway US-98)
Gulf Breeze, Santa Rosa County, Florida
Volkert Job Number 1090100.840

Prepared for:

Santa Rosa County
6865 Caroline St.
Milton, Florida 32570
850-987-5554

Prepared:
December 30, 2020

Prepared by:

VOLKERT, INC.
14101 Panama City Beach Pkwy., Ste 190
Panama City Beach, Florida 32413
850-588-1618

PHASE I ENVIRONMENTAL SITE ASSESSMENT

Santa Rosa County South End Soccer Complex
(Gulf Breeze Parkway US-98)
Gulf Breeze, Santa Rosa County, Florida
Volkert Job Number 1090100.840

Performed by:

Ethan Barker

Ethan Barker
Environmental Scientist

Reviewed by:

Brett Gaar, REPA
Environmental Manager

Prepared by:

VOLKERT, INC.
14101 Panama City Beach Pkwy., Ste 190
Panama City Beach, Florida 32413
850-588-1618

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PROFESSIONAL STATEMENT

This Phase I Environmental Site Assessment (ESA) is based solely upon the information made available to and/or gathered by Volkert, Inc. (Volkert). Volkert conducted this assessment with professionalism and a level of care, skill and due diligence normally exercised by members of the profession operating under the same or similar circumstances, in the same area, at the same time. However, Volkert does not assume responsibility for conditions, which did not heretofore come to our actual knowledge or for conditions not recognized as environmentally unacceptable, according to federal, state, and local regulations, at the time this report was prepared.

The undersigned prepared this document and certifies the information contained herein to be a correct representation of the environmental conditions existing at the site, at the time of the assessment. Volkert declares that the undersigned, to the best of Volkert's professional knowledge and belief, meets the definition of an Environmental Professional as defined in 312.10 of 40 CFR 312 and has the specific qualifications based on education, training, and experience to assess a property of the nature, history, and setting of the subject site. Volkert has developed and performed all the appropriate inquiries in conformance with the standards and practices set forth in 40 CFR Part 312.

Brett Gaar, REPA, CEA
Vice President

12/29/2020
Date

EXECUTIVE SUMMARY

Volkert, Inc. (Volkert) has performed a Phase I Environmental Site Assessment (ESA) of approximately 44 acres of property for the proposed Santa Rosa County South End Sports Complex project. The subject site is situated within a larger 100-acre parcel on the south side of Gulf Breeze Parkway (US-98), east of Nantahala Beach Road and west of Woodlawn Way in Gulf Breeze, Santa Rosa County, Florida. The subject site is located in Sections 24 and 25 of Township 2 South, Range 28 West, on the Garcon Point U.S.G.S. Quadrangle 7.5 Minute Series Topographic Map. This assessment consists of one parcel of property as shown in **Appendix A: Figure 7 – Parcel ID Map.** More specifically, the approximate center of the property is located at latitude 30.396479°N and longitude 87.008004°W.

Brett Gaar, Registered Environmental Property Assessor (#2891) and Ethan Barker, Environmental Scientist, of Volkert, Inc. conducted this Phase I ESA. The intent of this Phase I ESA is to identify environmental concerns or existing conditions that could adversely affect the future use of the project site.

The subject site is approximately 44 acres and is bound by Gulf Breeze Parkway (US-98), six vacant properties and five commercial properties to the north, Woodlawn Heights subdivision to the east, Woodlawn Middle School to the south, and Pensacola State College to the west. The subject site also consists of an access road that runs north-south through the western third of the site. Evidence of several unimproved roads that may have been used historically is noticeable from the **Appendix D: Historical Imagery.**

This assessment primarily focused on 1) field reconnaissance conducted on December 8 and 9, 2020; 2) review of environmental records from state and federal agencies; 3) and other historical information provided by Envirosite Corporation (Envirosite) (**Appendix C: Government Records Report**).

This assessment has revealed no evidence of recognized environmental conditions in connection with the property. Based on the findings of this Phase I ESA, Volkert has determined that no further investigation of the subject property is warranted at this time.

1.0 INTRODUCTION

1.1 Purpose and Organization of Report

Volkert was retained to perform a Phase I ESA for Santa Rosa County. The Phase I ESA conforms but is not limited to; the minimum standards defined by ASTM E-1527-13.

The purpose of this assessment is to evaluate and identify any recognized environmental conditions, current and historical, on or adjacent to the subject site location. Volkert, Inc. completed this assessment by reviewing standard environmental record sources through a Government Records Report from Envirosite (**Appendix C: Government Records Report**), a physical site reconnaissance visit, standard historical sources, historical aerial photographs, and review of topographic maps.

1.2 Study Philosophy and Limitations

This assessment is not all-inclusive and may not present all available information. It represents the opinion of environmental professionals trained in performing environmental property assessments.

This Phase I ESA was performed in accordance with generally accepted protocol of the profession. All conclusions are based on available and obtainable data. This study was conducted to identify potential recognized environmental conditions that would be obvious to a professional and is not intended to be an exhaustive search. The following report does not purport to be representative of future site conditions.

1.3 Standard of Care – Third Party Reliance

Third parties may rely on this report only with specific written permission from the consultant. The third-party use of this report will be limited to the same use intended for the client as defined in the signed contract and reflected in this report. Third-party use is defined and restricted by the same restrictions as those imposed on the client, including:

- Contract provisions addressing liability and standard of care.
- The extent of any scope of work including field investigations, lab tests, and resulting opinions and recommendations.

2.0 SITE DESCRIPTION

2.1 Location and Current Use

The subject site is approximately 44 acres and is located on the south side of Gulf Breeze Parkway (US-98), east of Nantahala Beach Road and west of Woodlawn Way in Gulf Breeze, Santa Rosa County, Florida, see (**Appendix A: Figure 2 - Aerial Imagery Map)**. The subject site is located in Sections 24 and 25 of Township 2 South, Range 28 West, on the Garcon Point U.S.G.S. Quadrangle 7.5 Minute Series Topographic Map (**Appendix A: Figure 3 - 7.5 Minute USGS Topographic Map**). The approximate center of the property is located at latitude 30.396479°N and longitude 87.008004°W. The subject site is situated within a larger 100-acre parcel within Santa Rosa County, Florida.

The subject site is bound by Gulf Breeze Parkway (US-98), six vacant properties and five commercial properties to the north, Woodlawn Heights subdivision to the east, Woodlawn Middle School to the south, and Pensacola State College to the west. The subject site also consists of an access road that runs north-south through the western third of the site. Evidence of several unimproved roads that may have been used historically is noticeable from the **Appendix D: Historical Imagery**.

2.2 Site and Area Features

A site visit was conducted on December 8 and 9, 2020, by Ethan Barker and Evan Reid of Volkert, Inc. The features of the area include undeveloped forested lands, one unimproved access road, commercial and residential properties. Water, power, gas, sewer and telecommunication utilities were not observed within the subject site but were found along the existing roadways. The property is, on average, 30 feet above sea level and has a slight gradient to the southwest (**Appendix A: Figure 3 - 7.5 Minute USGS Topographic Map**).

2.3 Abutters and Nearby Properties

To the north of the subject site are unimproved forested areas and commercial developments. Directly to the east of the subject site is residential development, the Woodlawn Heights residential subdivision and an unimproved forested area. Woodlawn Middle School abuts the subject site to the south, followed by the Mandavilla residential development. The Pensacola State College adjoins the

subject site to the west, followed by some commercial development. The subject site also includes an access road that runs north-south through the western third of the site (**Appendix A: Figure 2 - Aerial Imagery Map**).

2.4 Topography, Surface Water Bodies and Drainage

Topographically, the subject site is approximately 30 feet above Mean Sea Level (MSL). The subject site is generally flat, with slight topographic relief in the southwestern portion. (**Appendix A: Figure 3 - 7.5 Minute USGS Topographic Map**). The project does not lie within a flood hazard zone. (**Appendix A: Figure 6 - FEMA Flood Zone Map**). A relic air landing strip is shown on the USGS topographic map near the eastern boundary of the subject site but is no longer present. The U.S. Fish and Wildlife Service's National Wetland Inventory (NWI) mapper shows freshwater forested/shrub wetlands and freshwater emergent wetlands within the subject site (**Appendix A: Figure 5 - National Wetland Inventory (NWI) Map**). A wetland delineation was not part of this Phase I ESA and therefore is not included.

2.5 Utilities

Water, power, gas, sewer and telecommunication utilities were not observed within the subject site but were found along the existing roadways (**Appendix B: Photographic Log**)

3.0 GEOLOGIC/HYDROGEOLOGIC CONDITIONS

3.1 Soil Lithology

The U.S. Department of Agriculture's Natural Resources Conservation Service's Web Soil Survey indicates four (4) soil types exist within the subject site limits. A description of each soil type is found below (**Appendix A: Figure 4 - USDA NRCS Soils Map**).

(24) Leon Sand, 0 to 2 percent slopes

The Leon component makes up 80 percent of the map unit. Slopes are 0 to 2 percent. This component is on flatwoods, marine terraces, coastal plains. The parent material consists of sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is poorly drained. Water movement in the most restrictive layer is

moderately high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 6 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria.

(33) Ortega sand, 0 to 5 percent slopes

The Ortega component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component forms in sandy deposits on marine terraces. The parent material consists of eolian or sandy marine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is very low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 51 inches during January, June, July, August, September, October, November, December. Organic matter content in the surface horizon is about 2 percent. This soil does not meet hydric criteria.

(34) Pactolus loamy sand, 0 to 5 percent slopes

The Pactolus component makes up 85 percent of the map unit. Slopes are 0 to 5 percent. This component rises on marine terraces on coastal plains. The parent material consists of sandy marine and fluvial deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is moderately well drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is not flooded. It is not ponded. A seasonal zone of water saturation is at 23 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 4 percent. This soil does not meet hydric criteria.

(40) Rutlege loamy sand

The Rutlege component makes up 82 percent of the map unit. Slopes are 0 to 2 percent. This component is on depressions on marine terraces on coastal plains. The parent material consists of sandy marine deposits

and/or fluviomarine deposits. Depth to a root restrictive layer is greater than 60 inches. The natural drainage class is very poorly drained. Water movement in the most restrictive layer is high. Available water to a depth of 60 inches (or restricted depth) is low. Shrink-swell potential is low. This soil is frequently flooded. It is frequently ponded. A seasonal zone of water saturation is at 3 inches during January, February, March, April, December. Organic matter content in the surface horizon is about 3 percent. This soil meets hydric criteria.

3.2 Local Geology

According to the Florida Geological Survey of the Escambia and Santa Rosa Counties, Western Florida Panhandle area, the subject site is in the Pleistocene beach dune deposits province and is underlain by sediments of Pleistocene/Holocene age. These sediment deposits are underlain by Citronelle Formation and the area's lithology can change substantially across short distances.

3.3 Local and Regional Hydrogeology

In Gulf Breeze, the average annual temperature is 68 degrees F. Precipitation in this area averages about 60 inches per year. Rainfall is relatively uniform throughout the year except for May and November, which are the driest months. The Sand and Gravel Aquifer is the primary source of potable water in the region.

3.4 Sink Holes

No sink holes were observed in the area during the site visit. The USGS Quad Map of this site does not indicate the presence of sink holes in the area. In addition, the subject site is not located in Karst terrain; therefore, sinkholes are not a concern for the subject site.

4.0 HISTORICAL INFORMATION

4.1 Historical Sources Used

Historical sources reviewed as part of this assessment included historical aerial photography (**Appendix D: Historical Imagery**) and results from Environsite, which reviews various current and past state and federal databases (**Appendix C: Government Records Report**). The EPA and Florida Department of

Environmental Protection (FDEP) websites were also reviewed during the Phase I site assessment process for any existing or historical information regarding the subject site.

4.2 Site and Area Descriptive Chain-of-Use

Historical aerial photography of the site was reviewed in order to determine past land uses of the site and surrounding area. Aerial photographs from 1946, 1949, 1956, 1965, 1969, 1974, 1976, 1978, 1979, 1984, 1983, 1985, 1989, 1994, 1999, 2007, 2010, 2013, 2015, 2017, and 2019 were reviewed (**Appendix D: Historical Imagery**).

The 1946 aerial depicts the site as undeveloped with a simple network of unimproved roads, an access road that runs north-south through the western third of the site, as well some cleared areas along the southwest portion. Gulf Breeze Parkway is present on the 1946 aerial. The 1956 aerial shows additional undeveloped roads within the subject site as well as commercial development to the north of the subject site, near Gulf Breeze Parkway. The 1965 aerial shows some minor improvements to Gulf Breeze Parkway and clearing to the northeast of the subject site. The aerials from 1965 to 1994 show the subject site relatively unchanged, with the north-south access road appearing to remain functional, and some additional unimproved roads and residential development surrounding the subject site. The 1976 aerial first depicts an air landing strip to the east of the subject site. The 1999 aerial first depicts Woodlawn Middle School to the south, connecting with the subject site's north-south access road, and some commercial development to the northeast of the subject site. Additionally, the 1999 aerial shows trails in the southeast portion of the subject site. The adjacent Woodlawn Heights subdivision first appears to the east in the 2007 aerial as well as the Mandavilla residential development to the southwest. The adjacent Pensacola State College to the west first appears in the 2013 aerial with its entrance road beginning at the northwest portion of the subject site, as well as some minor trails in the north-central portion of the subject site. The subject site remains relatively unchanged in the 2019 aerial, with some minor residential development south of the subject site and substantial clearing northwest of the subject site (**Appendix D: Historical Imagery**).

4.2.1 Certified Sanborn Fire Insurance Map Report

Sanborn Fire Insurance Maps were not available for the subject property.

4.2.2 Chain of Title Review

A 50-year Chain-of-Title report was not provided for the subject property.

4.2.3 Environmental Lien Search

An environmental lien search was not conducted for the subject property.

4.4 Interviews

An interview was conducted with a representative of the Midway Fire District's Hazardous Materials Division, Jonathan Kanzigg. Interviews were also conducted with Rebecca Jones, representative of the User, in addition to individual property owners and tenants. Interviews were conducted via phone call and email to gain a better understanding of the subject site and its past uses.

4.4.1 Key Site Personnel/User

An interview was conducted with Rebecca Jones, PE, the Santa Rosa County Assistant County Engineer and representative of the User, on December 17, 2020. Ms. Jones completed the user questionnaire and informed Volkert that the property is not being purchased but part of a land lease from Pensacola State College. Ms. Jones is unaware of any chemical use on the subject property and is also unaware of any hazardous substances, spills, contamination, or environmental liens related to the subject property. She was also unaware of any use limitations with the site. The User Questionnaire can be found in **Appendix E: Other Environmental Documentation**.

4.4.2 Agency Officials

A phone interview was conducted with a representative of the Midway Fire District's Hazardous Materials Division, Jonathan Kanzigg on December 17, 2020. Volkert inquired with the Midway Fire District's Hazardous Materials Division about spills, releases, petroleum products, or hazardous materials incidents that may have occurred within the subject site. The Midway Fire District was unaware of any hazardous materials incidents that had occurred within the subject site but was aware of a car accident that

occurred on Gulf Breeze Parkway near the subject site on October 14, 2019. There was no report of a hazardous leak from the car accident.

4.4.3 Additional Personnel

Property owners within and adjacent to the subject site were interviewed to gain a better understanding of the subject site and its past uses. Interviews were conducted via phone. Attempts were made to contact all property owners within, and adjacent to, the subject site; however, some property owners did not respond to inquiries. Below are the summaries of the interviews conducted:

Mike Bobick – Parcel ID 13 Adjacent Representative

A phone interview was conducted with Mr. Mike Bobick, employee at Midway Water System (**Parcel ID 13 - Appendix A: Figure 7 – Parcel ID Map)** on December 16, 2020. Mr. Bobick stated that in his 54 years of living in the area the subject site has always been forested. Mr. Bobick supervises commercial development at Midway Water System and stated there are no water utilities located on the subject site. Mr. Bobick was also asked about the relic air landing strip to the east of the subject site and stated that it was a non-commercial grass landing strip where small Cessna planes would frequent; however, he stated that at the time of its existence there were no gas utilities on site. He also mentioned a landfill being discovered in the last year located on Ocean Breeze Drive, which is approximately 1.5 miles west of the subject site.

Stevie Aitken – Parcel ID 11 Adjacent Owner

A phone interview was conducted with Mr. Stevie Aitken, owner of Aitken's On Demand Landscaping & Irrigation (**Parcel ID 11 - Appendix A: Figure 7 – Parcel ID Map)** on December 16, 2020. Mr. Aitken stated that no spills, chemicals, or petroleum products are currently stored on site; however, he informed Volkert personnel that the previous use of the property was a tree care service, Eager Beaver Professional Tree Care, and approximately 800 gallons of oil and unidentified liquids were pumped from barrels and removed from the property. Mr. Aitkens stated that the barrels were located at the back of the property adjacent to the subject site. No soil staining or

distressed vegetation was observed within or near the stated barrel location and subject site during the site visit. Mr. Aitkens informed Volkert personnel that the owner of Eager Beaver Tree Care, Mr. Howard Jacques, moved his service location to Pensacola, Florida. Attempts were made to contact Mr. Jacques but were unsuccessful.

5.0 SITE RECONNAISSANCE

5.1 Description of Site

The subject site is approximately 44 acres and is located on the south side of Gulf Breeze Parkway (US-98), east of Nantahala Beach Road and west of Woodlawn Way in Gulf Breeze, Santa Rosa County, Florida, see (**Appendix A: Figure 2 - Aerial Imagery Map)**. The subject site is located in Sections 24 and 25 of Township 2 South, Range 28 West, on the Garcon Point U.S.G.S. Quadrangle 7.5 Minute Series Topographic Map (**Appendix A: Figure 3 - 7.5 Minute USGS Topographic Map**). More specifically, the approximate center of the property is located at latitude 30.396479°N and longitude 87.008004°W. The subject site is situated within a larger 100-acre parcel within Santa Rosa County, Florida. To the north of the subject site are unimproved forested areas and commercial developments, as well as Gulf Breeze Parkway (US-98). Directly to the east of the subject site is residential development, Woodlawn Heights, and unimproved forested area. Woodlawn Middle School abuts the subject site to the south followed by the Mandavilla residential development. Pensacola State College adjoins the subject site the west followed by some commercial development. The subject site also consists of an access road that runs north-south through the western third of the site (**Appendix A: Figure 2 - Aerial Imagery Map**).

Evidence of several unimproved roads that may have been used historically is noticeable from the **Appendix D: Historical Imagery**. The features of the area include undeveloped forested lands, one unimproved access road, commercial and residential properties. Water, power, gas, sewer and telecommunication utilities were not observed within the subject site but were found along the existing roadways.

Subject Site:

The subject site was first accessed from the northwest via the access road that begins at Gulf Breeze Parkway. De minimus debris was noted along the access road within the adjacent forested areas. Next, Volkert personnel traversed the middle portion of the subject site to the east utilizing a small walking trail, then traversed to the south along the southern boundary of the subject site near Woodlawn Middle School, and then traversed the western boundary of the subject site heading south to north. Volkert personnel then traversed the eastern boundary of the subject site alongside the Woodlawn Heights subdivision. De minimis solid waste and debris including PVC pipes, an empty 5-gallon bucket, two empty paint cans, furniture, lumber, a tire, and other de minimis items were noted throughout the subject site.

Adjacent and Nearby Properties:

Lastly, Volkert personnel traversed the northern boundary of the subject site, from the west to the east. All adjacent properties were assessed from the subject site and right-of-way. The northern adjacent properties consisted of vacant and commercial developments along Gulf Breeze Parkway (US-98). Undeveloped and cleared land was identified at Parcel IDs 1, 2, 3, 4, and 5, noting a derelict PCV pipe. Parcel ID 6 appeared to be a storage property for a tree service company containing one tree service truck, one piece of heavy equipment, two trailers containing tree debris, one 5-gallon gas container, one 5-gallon container, and one derelict tire. Parcel ID 7 was comprised of what is assumed to be the storage area for Coastal Hardscapes, which is adjacently occupied on Parcel ID 8. Parcel ID 7 contained one piece of heavy equipment, one large trash container, two empty trailers, two small fuel tanks, and three barrels that were noted on the property near the subject site. Parcel ID 9 was comprised of the Premier Termite & Pest Control office building, a parking lot, three sheds and several containers abutting the subject site. One large container of unidentified liquid, one fuel tank, two barrels, 16 tires, and six medium sized containers were noted at Parcel ID 9. Parcel ID 10 was comprised of the Aitken's On Demand Landscaping & Irrigation office building, a parking lot, and storage area as well as two above ground storage tanks (ASTs) with no visible sign of leaks. The tanks appeared to be in good condition. The Tom Thumb Food Store #140 gas station, which was fully

operational and appeared to be in good working order, was located northwest of the subject site, at the intersection of Gulf Breeze Parkway and Nantahala Beach Road. See section 6.9 for additional information on the Tom Thumb Food Store #140 gas station. Four remnant concrete pads were noted northeast of the subject site from what is assumed to be a former gas station that is now vacant land. No information about this property is provided by Envirosite, the EPA, or Florida Department of Environmental Protection (FDEP) websites. Two gas stations, Quick Food Mart #7 and Texaco Food Store #4425, were noted further northeast of the subject site and were fully operational and appeared to be in good working order. See section 6.2 and 6.10 for additional information on the Quick Food Mart #7 and Texaco Food Store #4425 facilities. A construction company, Frech Construction, was noted a few parcels east of the Texaco Food Store #4425 gas station, which is listed as having one closed underground storage tank (UST), and two ASTs were noted in good condition. Volkert personnel did a drive by observation of the Strip Joint (located north of the subject site), which contains hazardous material related historical records, to further investigate the property. Volkert personnel noted one large shed, one small shed, and a home that appeared to be occupied. Finally, Volkert personnel drove north to south on Nantahala Beach Road noting the Midway Water System facility and then drove through the Pensacola State College parking lot.

5.2 Hazardous Substances Usage/Storage

Potentially hazardous materials were not found within the subject site. Debris and solid waste were found within the subject site, as well as adjacent to the subject site; however, it was determined that the debris and solid waste did not include hazardous substances that could have a deleterious effect to the subject site. (**Appendix B: Photographic Log**).

5.3 Petroleum Products Usage/Storage

ASTs, transfer fuel tanks, 55-gallon drums, 5- gallon buckets, various containers, and two containers of unidentified liquid were found adjacent to the subject site. No soil staining or distressed vegetation was observed within or adjacent to the subject site; therefore, it was determined that petroleum products do not have deleterious effect to the subject site (**Appendix B: Photographic Log**).

5.4 Underground and Aboveground Storage Tanks (USTs and ASTs)

There were no ASTs observed within the subject site. No features or structures indicating the presence of USTs were observed within or adjacent to the subject site. Two ASTs were found adjacent to the subject site on Parcel ID 11. The ASTs were not confined with secondary containment, but no stains were observed in their vicinity. According to the Envirosite government records report, two USTs were identified as active approximately 0.236 miles west-northwest from the subject site at the Tom Thumb Food Store #140. See Section 6.9 for additional information. It was determined that USTs and ASTs do not have a deleterious effect to the subject site. (**Appendix C: Radius Map Report**) (**Appendix B: Photographic Log**).

5.5 Drums and/or Containers

No drums or containers were located on the subject property at the time of the site assessment. One tote, various 55-gallon drums, 5-gallon buckets, paint cans, various containers, and two containers of unidentified liquid were noted adjacent to the subject site. Many of the drums and containers were localized on Parcel IDs 7 and 10 and were noted in an unkept state. A tote with an unidentified liquid was located on Parcel ID 15 at the existing Chevron (Food Mart) gas station at 5358 Gulf Breeze Parkway. It was determined that drums and/or containers do not have a deleterious effect to the subject site. (**Appendix B: Photographic Log**).

5.6 PCBs

No transformers were located on the subject site at the time of the site assessment. Transformers were found adjacent to the subject site along Gulf Breeze Parkway. There was no visible sign of leaks and the transformers appeared to be in good condition. It was determined that PCBs do not have a deleterious effect to the subject site.

5.7 Stains, Corrosion, and Strained Vegetation

There were no areas identified during the site assessment that contained stained or strained vegetation. Corrosion was not identified on the subject site.

5.8 Wells

There were no wells identified on the subject site during the assessment.

5.9 Wetlands

A wetland delineation was not part of this Phase I ESA and therefore is not included.

5.10 Asbestos

An asbestos survey was not conducted as part of this Phase I ESA investigation.

5.11 Lead Based Paint

A lead-based paint survey was not conducted as part of this Phase I ESA investigation.

6.0 REGULATORY INFORMATION

A review of federal and state regulatory agency records was conducted to identify use, generation, storage, treatment, or disposal of hazardous materials and chemicals or release incidents of materials which may impact the subject site. The database search performed by Envirosite included an investigation of Federal and State Database Records. The search was performed December 07, 2020 and included a records review of the following: National Priority List (NPL), National Priority List Delisted, Comprehensive Environmental Response, Compensation, and Liability Information System (CERCLIS), Comprehensive Environmental Response, Compensation, and Liability Information System Archived Sites (NFRAP), Resource Conservation and Recovery Information System Sites (RCRA COR ACT), Resource Conservation and Recovery Information System Treatment, Storage and Disposal Facilities (RCRA TSD), Resource Conservation and Recovery Information System Sites (RCRA GEN), Brownfield Management System and Federal Engineering and Institutional Controls (Federal IC/EC), Emergency Response Notification System (ERNS), Indian Lands of the United States (Tribal Lands), Permitted State and Tribal Solid Waste Facility and Landfill Listing (SWF/LF); State and Tribal known leaking underground storage tanks (LUST), Permitted State and Tribal underground and aboveground storage tanks, State and Tribal Brownfields, Records of Emergency Release Reports, and other sites. The data obtained for review during this assessment is located in **Appendix C: Government Records Report**.

6.1 NPL Sites

This list contains sites which are abandoned or where no responsible parties can be identified. Sites on this list are considered contaminated and require remedial

action. The subject site was not listed and no NPL sites were identified within the one-mile radius search surrounding the site.

6.2 CERCLIS Sites

This is a compilation list of known and suspected uncontrolled or abandoned hazardous waste sites. Sites contained on this list are investigated by the U.S. Environmental Protection Agency (EPA) for the suspected release of hazardous substances. Once on this list, a site is investigated and may be placed on the National Priorities List (NPL). A review of the CERCLIS database, as provided by Envirosite, revealed that there are five (5) sites within approximately 1-mile of the target property. Below is a description of the facilities:

Tom Thumb Food Store #140, 4991 Gulf Breeze Pkwy

This facility is listed as being 0.236 miles west-northwest from the subject site at a higher elevation. This facility is listed as an active cleanup site. Further research on the FDEP website revealed that as of July 3, 2019 the site was reported as a gas discharge. A site assessment was issued July 15, 2019 and a closure assessment was conducted on August 8, 2019 and August 25, 2020. A Site Assessment Report was sent to The Florida Department of Health in Escambia County (FDOH-Escambia) on October 19, 2020 recommending no further action (NFA). However, the FDOH-Escambia, on behalf of the FDEP, did not agree with the recommendation of NFA and recommended additional well installation and semi-annual groundwater sampling to be conducted no sooner than February 24, 2021 to determine the groundwater quality in the area of impact. See **APPENDIX F: FDEP EDMS Information** for additional information.

Quick Food Mart #7, 5342 Gulf Breeze Pkwy

This facility is listed as being 0.390 miles east-northeast from the subject site at a higher elevation. This facility is listed as an active cleanup site. Further research on the FDEP website revealed that a tank discharge was reported in 2019 and a Site Assessment Report in 2020 recommended additional sampling and monitoring wells to better determine the groundwater quality and area of impact. See **APPENDIX F: FDEP EDMS Information** for additional information.

Texaco Food Store #4425, 5400 Gulf Breeze Pkwy

This facility is listed as being 0.410 miles east-northeast from the subject site at a higher elevation. This facility is listed as an active cleanup site. Further research on the FDEP website revealed that as of February 14, 1992 the site was reported as a gas discharge. A Site Assessment Report was received by FDEP September 10, 2013 and NFA was recommended on August 8, 2019, as well as the Monitoring Well Abandonment Report on November 12, 2019. FDEP issued a Site Rehabilitation Completion Order on December 3, 2019 releasing the property owner of further obligation to conduct site rehabilitation, except in the event that contaminations are detected above the Order's stated levels whereby a revaluation will be reinstated. See **APPENDIX F: FDEP EDMS Information** for additional information.

Gulf Power Navarre Substation, 5572 Gulf Breeze Pkwy

This facility is listed as being 0.970 miles east-northeast from the subject site at a higher elevation. This facility is listed as a pending remediation site and is currently listed by Gulf Power as inactive for 2020 but will be considered when developing the Gulf Power Priority List for 2021; therefore, no further investigation is deemed necessary. See **APPENDIX F: FDEP EDMS Information** for additional information.

Florida DEP #159 EPA ID: N/R (The Strip Joint), 1761 KELL RD

This facility is listed as being 0.184 miles north from the subject site at a lower elevation. This facility is listed as a closed cleanup site. Further research on the FDEP website revealed that as of May 2003 the site was issued a consent order for methylene chloride and toluene in the ground water above ground water cleanup target levels. A cleanup was executed in October 2004 and a Site Rehabilitation Completion Report was prepared and dated March 2016. FDEP issued a Site Rehabilitation Completion Order on May 10, 2017; therefore, no further investigation is deemed necessary. See **APPENDIX F: FDEP EDMS Information** for additional information.

6.3 RCRA Non-Gen Sites

The RCRA Non-Gen site database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Non-Generators do not presently generate hazardous waste. A review of the RCRA Non-Gen / NLR list, as provided by Envirosite revealed two (2) Non-Gen sites within or adjacent to the subject site. Below is a description of the facility:

Midway Discount Signs, 5177 Gulf Breeze Pkwy

This facility is listed as being 0.049 miles north-northeast from the subject site at a higher elevation. This facility is listed as a verified non-generator and no violations are listed; therefore, no further investigation is deemed necessary.

Florida DEP #159 EPA ID: N/R (The Strip Joint), 1761 KELL RD

This facility is listed as being 0.184 miles north from the subject site at a lower elevation. This facility is listed as a verified non-generator. Further research on the FDEP website revealed that as of November 2003 the site was operating as a furniture restoration shop using and releasing methylene chloride into the ground. A cleanup was executed in October 2004 and a Site Rehabilitation Completion Report was prepared and dated March 2016. FDEP issued a Site Rehabilitation Completion Order on May 10, 2016; therefore, no further investigation is deemed necessary. See **APPENDIX F: FDEP EDMS Information** for additional information.

6.4 RCRA Generators (SQG & VSQG)

The database includes selective information on sites which generate, transport, store, treat and/or dispose of hazardous waste as defined by the Resource Conservation and Recovery Act (RCRA). Small quantity generators (SQG) produce more than 100 kilograms but less than 1,000 kilograms in any one month (about ½ to 5 -55 gallon drums) of hazardous waste; ship stored waste within 180 days after the waste was first put into the container; and never accumulate more than 6,000 kg (13,200 lb.) of hazardous waste. The Envirosite government records report revealed one (1) SQG site within or adjacent to the subject site. Below is a description of the facility:

Florida DEP #159 EPA ID: N/R (The Strip Joint), 1761 KELL RD

This facility is listed as being 0.184 miles north from the subject site at a lower elevation. This facility is listed as a small quantity generator and very small quantity generator of degreasing solvents. Further research on the FDEP website revealed that as of November 2003 the site was operating as a furniture restoration shop using and releasing methylene chloride into the ground. The official discharge date is stated as February 1992. A cleanup was executed in October 2004, a source removal in July 2011, and a Site Rehabilitation Completion Report was prepared and dated March 2016. FDEP issued a Site Rehabilitation Completion Order on May 10, 2017 releasing any further obligation to conduct site rehabilitation; therefore, no further investigation is deemed necessary. See **APPENDIX F: FDEP EDMS Information** for additional information.

Very small quantity generators (VSQG) generate less than 100 kg of hazardous waste, or less than 1 kg of acutely hazardous waste per month. A review of the RCRA-VSQG list, as provided by Environsite revealed one (1) RCRA-VSQG site within or adjacent to the subject site. Below is a description of the facility:

Woodlawn Beach Middle School, 1500 Woodlawn Way

This facility is listed as being 0.126 miles south from the subject site at a lower elevation. This facility is listed as handling no hazardous chemicals on site. No violations are listed; therefore, no further investigation is deemed necessary.

6.5 RCRA Corrective Action Sites (CORRACTS)

This list identifies hazardous waste handlers with RCRA corrective action activity. The Environsite government records report revealed that the subject site was not listed nor was any other site within the one-mile search radius.

6.6 ERNS List

This list identifies sites with reported releases of oil and hazardous substances. There were no listed sites within or adjacent to the subject site.

6.7 State Hazardous Waste Sites (SHWS)

This list identifies state hazardous waste sites. Priority sites planned for cleanup with state funds are listed along with those sites to be cleaned up with private funds. This list is the state equivalent of the federal CERCLIS list. Sites listed may or may not be on the CERCLIS list. The subject site was not listed on the FDEP website; however, Envirosite revealed one (1) SHWS site within the one-mile search radius:

Florida DEP #159 EPA ID: N/R (The Strip Joint), 1761 KELL RD

This facility is listed as being 0.184 miles north from the subject site at a lower elevation. This facility is listed as a closed cleanup site. Further research on the FDEP website revealed that as of May 2003 the site was issued a consent order for methylene chloride and toluene in the ground water above ground water cleanup target levels. A cleanup was executed in October 2004 and a Site Rehabilitation Completion Report was prepared and dated March 2016. FDEP issued a Site Rehabilitation Completion Order on May 10, 2017 releasing any further obligation to conduct site rehabilitation; therefore, no further investigation is deemed necessary. See **APPENDIX F: FDEP EDMS Information** for additional information.

6.8 State Landfill/Solid Waste Disposal Sites (SWRCY)

The Envirosite government records report revealed one (1) SWRCY site within the half-mile search radius:

Eager Beaver Professional Tree Care, LLC, 5205 Gulf Breeze Pkwy

This facility is listed as being 0.061 miles northeast from the subject site at a higher elevation. This facility is listed as operating a Yard Trash Transfer Station without a valid Department registration or permit and was complicit to the request by FDEP to discontinue the Yard Trash Transfer Station. No violations are listed; therefore, no further investigation is deemed necessary.

6.9 Storage Tank Sites

The UST database and the AST database contains registered USTs & ASTs. Both USTs and ASTs are regulated under Subtitle I of the Resource Conservation and

Recovery Act (RCRA). The data comes from the Federal Emergency Management Agency's (FEMA) UST Data with Owner/Site/Tank Information database. A review of the UST/AST list, as provided by Envirosite, the EPA website, and the FDEP website has revealed that there are four (4) UST sites within the standard 1/4-mile search radius of the subject site. Below is a description of the facilities:

Santa Rosa CNTY EMS, 5080 Gulf Breeze Pkwy

This facility is listed as being 0.029 miles northwest from the subject site at a higher elevation. This facility is listed as previously having one UST. Further research on the FDEP website revealed that a tank had been removed and closed by 1991. Due to no recently documented deficiencies noted and proper closures, no further investigation is deemed necessary. A copy of the Closure Assessment Form can be found in **APPENDIX F: FDEP EDMS Information**.

Texaco-Greens, 5260 Gulf Breeze Pkwy

This facility is listed as being 0.207 miles east-northeast from the subject site at a higher elevation. This facility is listed as previously having four USTs. All tanks were removed from the site in 1990 and no violations are listed; therefore, no further investigation is deemed necessary.

Wrecker Ricks, 5265 Gulf Breeze Pkwy

This facility is listed as being 0.229 miles east-northeast from the subject site at a higher elevation. This facility is listed as previously having four USTs. Two (2) tanks were removed from the site in 1977 and two (2) tanks were removed in 1991. No violations are listed; therefore, no further investigation is deemed necessary.

Tom Thumb Food Store #140, 4991 Gulf Breeze Pkwy

This facility is listed as being 0.236 miles west-northwest from the subject site at a higher elevation. This facility is listed as having two active USTs. Further research on the FDEP website revealed that a tank discharge was reported in 2019 and NFA was recommended but declined by FDEP in 2020, with the FDEP recommending additional well installation and semi-annual groundwater sampling to be conducted no sooner than February 24, 2021 to determine the groundwater quality in the area of impact. A

copy of the Deliverable Review can be found in **APPENDIX F: FDEP EDMS Information**.

6.10 Leaking Underground Storage Tank (LUST) Sites

The Leaking Underground Storage Tank Incident Reports contain an inventory of reported leaking and historical leaking underground storage tank incidents. The data comes from the U.S. EPA's Leaking Underground Storage Tank Listing as well as FDEP's website. A review of the LUST list, as provided by Envirosite, the EPA website, and the FDEP website has revealed that there are five (5) LUST sites within the standard 1/2-mile search radius of the subject site. Below is a description of the facilities:

Santa Rosa CNTY EMS, 5080 Gulf Breeze Pkwy

This facility is listed as being 0.029 miles northwest from the subject site at a higher elevation. This facility is listed as having a LUST and being on the cleanup site list. Further research on the FDEP website revealed that a tank discharge had occurred in 1991 and had been removed and closed by 1991. NFA was achieved in 1992. Due to no recently documented deficiencies noted and proper closures, no further investigation is deemed necessary. A copy of the Closure Assessment Form can be found in **APPENDIX F: FDEP EDMS Information**.

Texaco-Greens, 5260 Gulf Breeze Pkwy

This facility is listed as being 0.207 miles east-northeast from the subject site at a higher elevation. This facility is listed as having a LUST and being on the cleanup site list. Further research on the FDEP website revealed that a tank discharge occurred in 1987 and had been removed and closed by 1990. NFA was achieved in 1991; therefore, no further investigation is deemed necessary.

Tom Thumb Food Store #140, 4991 Gulf Breeze Pkwy

This facility is listed as being 0.236 miles west-northwest from the subject site at a higher elevation. This facility is listed as having a LUST and being on the cleanup site list. Further research on the FDEP website revealed that a tank discharge was reported in 2019 and NFA was recommended but declined by FDEP in 2020, with the FDEP recommending additional

well installation and semi-annual groundwater sampling to be conducted no sooner than February 24, 2021 to determine the groundwater quality in the area of impact. A copy of the Deliverable Review can be found in **APPENDIX F: FDEP EDMS Information**.

Quick Food Mart #7, 5342 Gulf Breeze Pkwy

This facility is listed as being 0.390 miles east-northeast from the subject site at a higher elevation. This facility is listed as having a LUST and being on the cleanup site list. Further research on the FDEP website revealed that a tank discharge was reported in 2019 and a Site Assessment Report in 2020 recommended additional sampling and monitoring wells to better determine the groundwater quality and area of impact. See **APPENDIX F: FDEP EDMS Information** for additional information.

Texaco Food Store #4425, 5400 Gulf Breeze Pkwy

This facility is listed as being 0.410 miles east-northeast from the subject site at a higher elevation. This facility is listed as having a LUST and being on the Limited Closure list. Further research on the FDEP website revealed that a tank discharge was reported in 1992. A Limited Closure of the LUST was conducted in July 2020 and FDEP approved a Limited Closure Report Form in August 2020; therefore, no further investigation is deemed necessary.

6.11 Local Brownfield List

The EPA's list of Brownfield properties from the Cleanups in My Community program, provides information on Brownfield properties for which information is reported back to EPA, as well as areas served by Brownfield grant programs. A review of the STATE AND TRIBAL BROWNFIELD SITES list provided by Envirosite revealed that there are no STATE AND TRIBAL BROWNFIELD sites within the standard 1/2-mile search radius of the subject site.

6.12 Records of Emergency Release Reports

Hazardous material information report systems provide information on spills or releases from local governments and DOT's. A review of the Records of Emergency Release reports list provided by Envirosite revealed that there are no spill or release sites within approximately 1/8-mile of the subject site.

6.13 Other Ascertainable Records

Other Ascertainable Records include records and information from the EPA, FDEP, and other local or state resources. Some records include Biennial Reporting System Library, Enforcement and Compliance History online websites, Facility Registry/Index Systems, Integrated Compliance Information System, Inactive PCS facilities, Florida NPDES permits, and other records. A review of the Other Ascertainable Records list provided by Envirosite revealed six (6) sites on various records lists within varying distances from the subject site. Further research into each facility revealed no potential for risk for hazardous or deleterious effects at the subject site. A copy of the Other Ascertainable Records list can be found in **Appendix C: Government Records Report**.

7.0 FINDINGS AND CONCLUSIONS

The results of this Phase I ESA indicate that there are no recognized environmental conditions in connection with the subject site. These findings and conclusions are based on site visits, historical records reviews, and interviews.

8.0 RECOMMENDATIONS

Based on the findings of this Phase I ESA, Volkert has determined that no further investigation of the subject site is warranted at this time. However, it is recommended that all solid waste and debris be removed from the subject site and disposed of properly.

REFERENCES

Environmental Protection Agency Enviromapper, accessed at:
https://www.arcgis.com/home/item.html?id=f84759531f324963b13e50f38f3695ea

Environmental Protection Agency UST Finder, accessed at:
https://epa.maps.arcgis.com/apps/webappviewer/index.html?id=c220c67462e14763a8e0c4df75550278

Envirosite Corporation, accessed at: https://www.envirositecorp.com/

Florida Department of Environmental Protection, EDMS Systems, accessed at:
https://prodenv.dep.state.fl.us/DepNexus/public/searchPortal
and https://depedms.dep.state.fl.us/Oculus/servlet/login

Florida Geological Survey, Geology of Escambia and Santa Rosa Counties, Western Florida Panhandle – Bulletin No. 46.

SSURGO: Soil Survey Geographic Database
Source: Department of Agriculture, Natural Resources Conservation Services (NRCS).

APPENDIX A

SITE MAPS



VOLKERT

0 3,000 6,000 Feet

1 Inch = 3,000 Feet

Note: This map is not intended for construction.

Figure 1: General Location
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



VOLKERT

0 500 1,000 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 2: Aerial Imagery
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



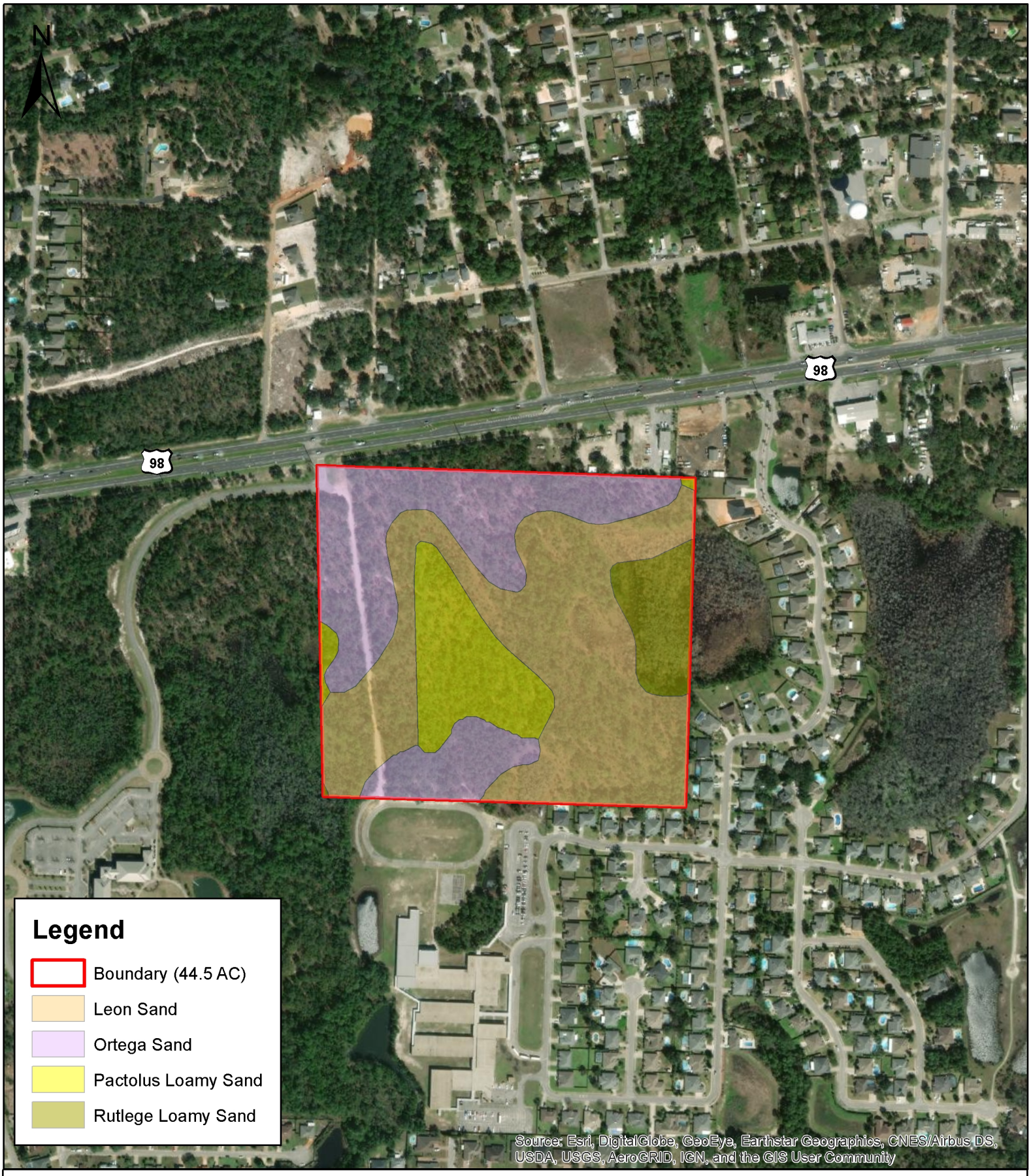
VOLKERT

0 1,250 2,500 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 3: USGS Quadrangle Map
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



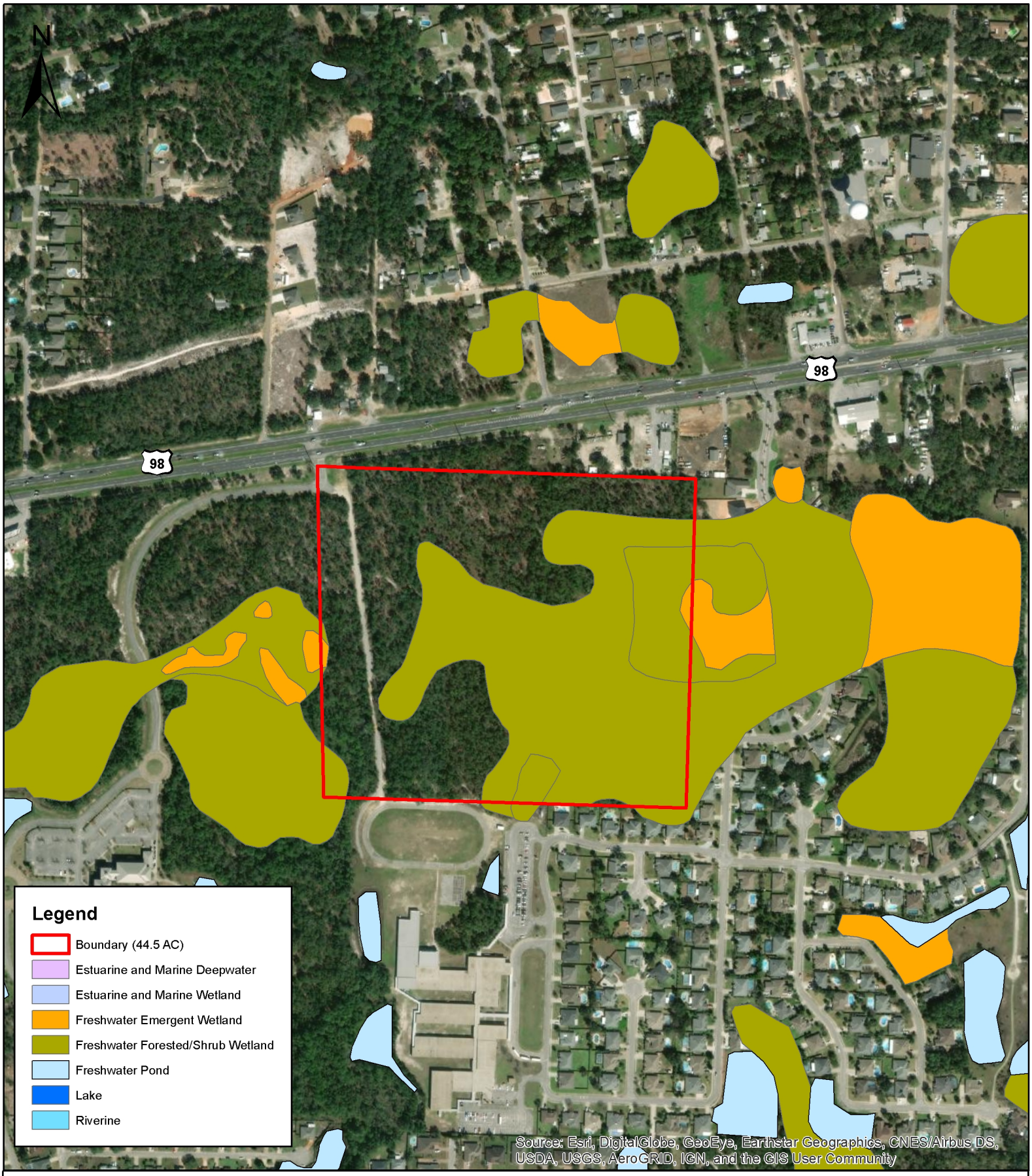
VOLKERT

0 500 1,000 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 4: NRCS Soil Survey
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



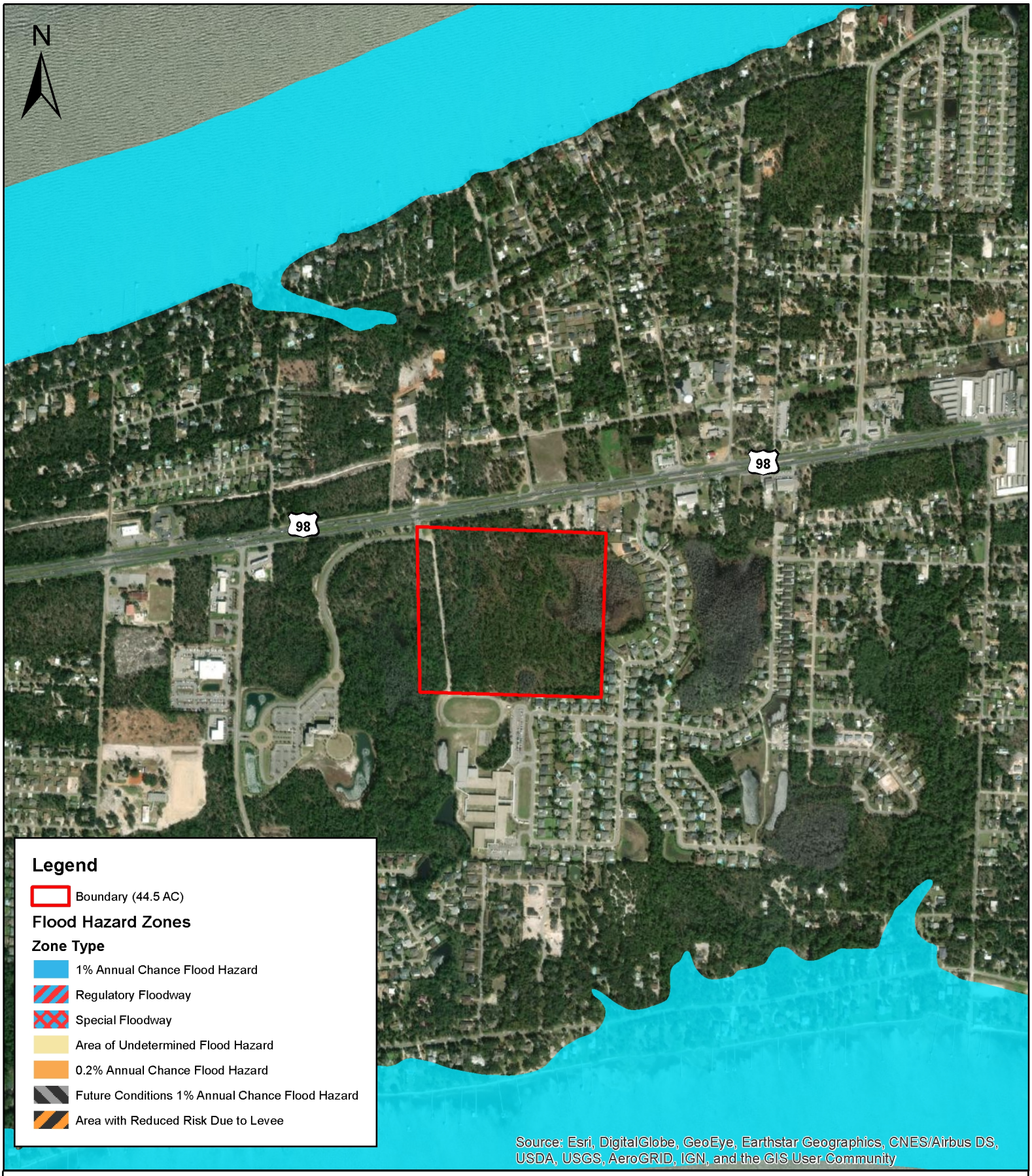
VOLKERT

0 500 1,000 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 5: NWI Wetland Map
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



VOLKERT

0 1,000 2,000 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 6: FEMA Floodplain Map
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida



VOLKERT

0 710 1,420 Feet

1 Inch = 500 Feet

Note: This map is not intended for construction.

Figure 7: Parcel ID Map
Phase I ESA (44.5 Ac)
Santa Rosa County South End Soccer Complex
Proj No. 1090100
Gulf Breeze, Santa Rosa County, Florida

APPENDIX B

PHOTOGRAPHIC LOG



Picture #1: General view looking south at north-south access road.



Picture #2: View of derelict dumping and debris within subject site adjacent to north-south access road.



Picture #3: View of derelict dumping and debris within subject site adjacent to north-south access road.



Picture #4: View of derelict dumping and debris within subject site adjacent to north-south access road.



Picture #5: View of derelict debris within subject site.



Picture #6: View of derelict debris within subject site.



Picture #7: General view looking east at the southern boundary of the subject site.



Picture #8: General view of Woodlawn Beach Middle School and running track at the southern boundary of the subject site.



Picture #9: General view of the southwest corner of the subject site.



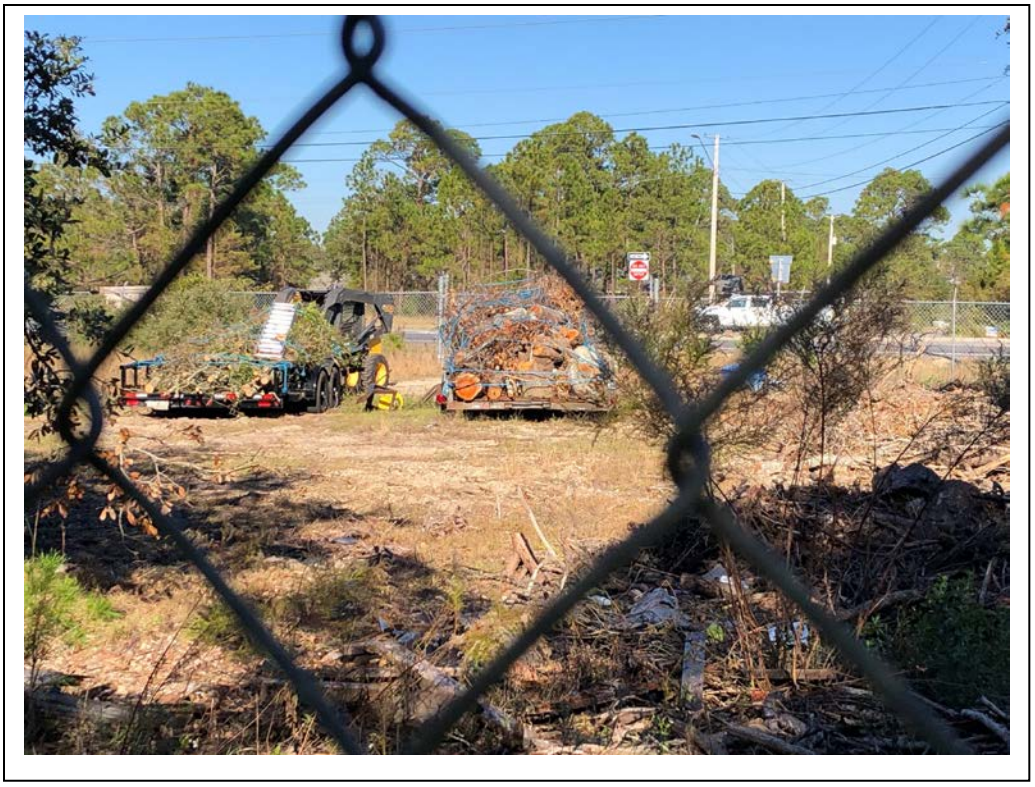
Picture #10: General view looking east at the northern boundary of the subject site.



Picture #11: General view of cleared vacant properties abutting the northern boundary of the subject site.



Picture #12: Derelict PVC pipe found within vacant abutting property to the north of the subject site.



Picture #13: General back view of Parcel ID 6 with one piece of heavy equipment and two trailers containing various tree debris.



Picture #14: General front view of Parcel ID 6 with a tree service truck containing a derelict container.



Picture #15: View of derelict container found at Parcel ID 6.



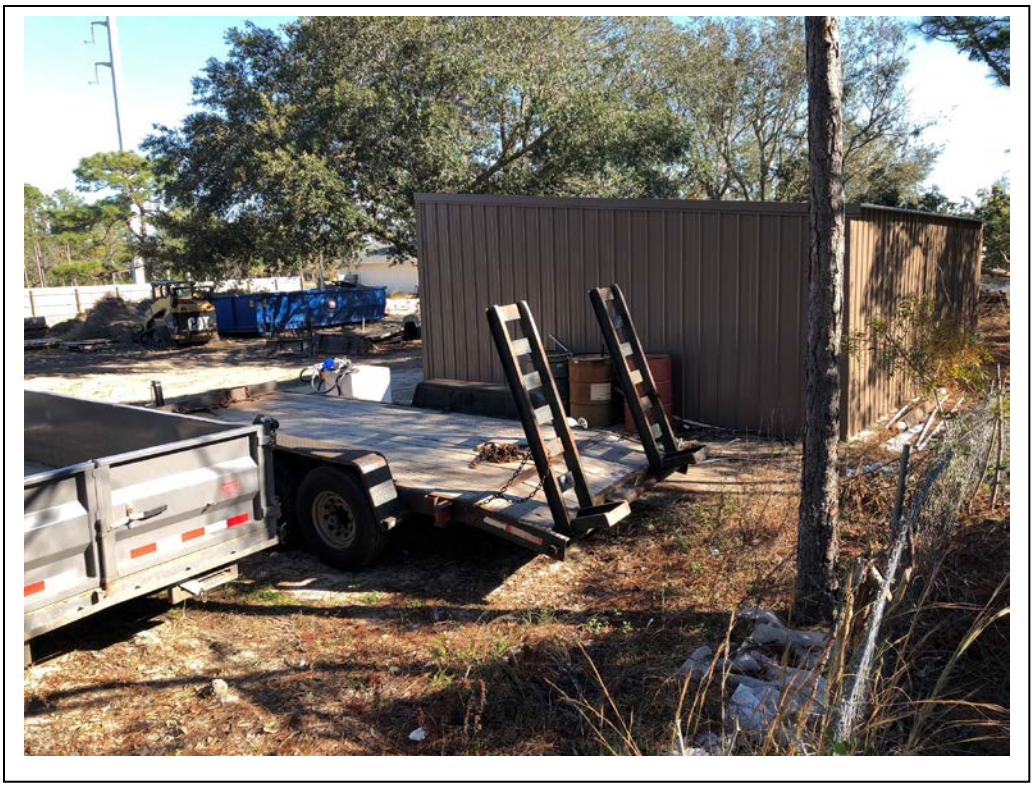
Picture #16: View of derelict container found at Parcel ID 6.



Picture #17: View of derelict container found adjacent to the subject site at Parcel ID 6.



Picture #18: General front view of Coastal Hardscapes (Parcel IDs 7 and 8).



Picture #19: General view of Parcel ID 7 with a shed, two trailers, one piece of heavy equipment, one fuel tank, three barrels, and a large dumpster.



Picture #20: Fuel tank at Parcel ID 7.



Picture #21: De minimis trash adjacent to Parcel ID 9 within subject site.



Picture #22: General front view of Premier Termite & Pest Control (Parcel IDs 9 and 10).



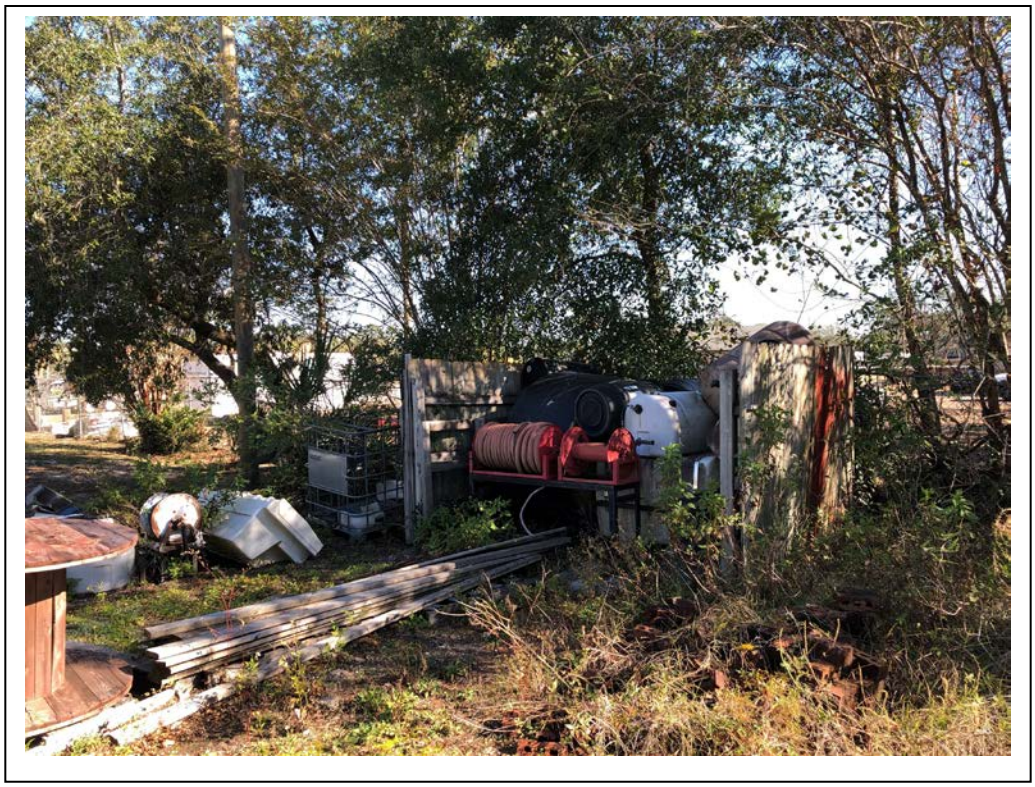
Picture #23: General view of Parcel ID 10.



Picture #24: Container with unidentified liquid at Parcel ID 10.



Picture #25: View of several containers at Parcel ID 10.



Picture #26: View of barrels and tanks at Parcel ID 10.



Picture #27: View of one fuel tank and 16 tires at Parcel ID 10.



Picture #28: Derelict grill adjacent to Parcel ID 10 within subject site.



Picture #29: General front view of Aitken's On Demand Landscaping & Irrigation (Parcel ID 11).



Picture #30: General view of Parcel ID 11 with an office building, trailer, parking lot, and two ASTs.



Picture #31: General view from northeast corner of subject site looking south.



Picture #32: General view from northeast corner of subject site looking west.



Picture #33: General view of entrance to the Woodlawn Heights subdivision.



Picture #34: General view of Woodlawn Beach Middle School.



Picture #35: General view of remnant concrete pads at assumed former gas station (Parcel ID 19).



Picture #36: General view of Quick Food Mart #7 gas station (Parcel ID 14).



Picture #37: Fuel tank fill station at Parcel ID 14 gas station.



Picture #38: General view of Chevron (Food Mart) gas station (Parcel ID 15).



Picture #39: Fuel tank fill station at Parcel ID 15 gas station.



Picture #40: Tote containing unidentified liquid at Parcel ID 15 gas station.



Picture #41: General front view of Tom Thumb gas station (Parcel ID 12).



Picture #42: General side view of Tom Thumb gas station (Parcel ID 12).



Picture #43: General view of the Strip Joint (Parcel ID 18).



Picture #44: General view of Midway Water System (Parcel ID 13).



Picture #45: General front view of Pensacola State College (Parcel ID 17).

APPENDIX C

GOVERNMENT RECORDS REPORT

Government Records Report | 2020

Order Number: 48259

Report Generated: 12/07/2020

Project Name: Santa Rosa County South Santa Rosa Sports Complex

Project Number: 1090100.840

Santa Rosa County South Santa Rosa Sports Complex
Santa Rosa County
Gulf Breeze, FL 32563

2 Corporate Drive
Suite 450
Shelton, CT 06484
Toll Free: 866-211-2028
www.envirositecorp.com

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Envirosite Corporation has conducted a search of all reasonably ascertainable records in accordance with EPA's AAI (40 CFR Part 312) requirements and the ASTM E-1527-13 Environmental Site Assessments standard.

SUBJECT PROPERTY INFORMATION:

ADDRESS:

Santa Rosa County South Santa Rosa Sports Complex
Santa Rosa County
Gulf Breeze, FL 32563

COORDINATES:

Latitude (North):	30.396063 - 30°23'45.8"
Longitude (West):	-87.008617 - -87°0'31"
Universal Transverse Mercator:	Zone 16N
UTM X (Meters):	499172.25
UTM Y (Meters):	3362673.67

ELEVATION:

Elevation:	29.646 ft. above sea level

USGS TOPOGRAPHIC MAP ASSOCIATED WITH SUBJECT PROPERTY:

Subject Property Map: 30087-D1 Garcon Point, FL
Most Recent Revision: 2018

MAP ID	SITE NAME	ADDRESS	DATABASE(S)	RELATIVE ELEVATION	DIRECTION / DISTANCE
A1	S.R. EMS.	5080 HWY. 98	GWIF - FL	Higher	NW / 0.028 mi.
A2	SANTA ROSA CNTY EMS	5080 GULF BREEZE PKY	DWM CONTAM - FL, LUST - FL, UST - FL	Higher	NW / 0.029 mi.
3	MIDWAY DISCOUNT SIGNS	5177 GULF BREEZE PKWY	ECHO, FRS, RCRA_NONGEN	Higher	NNE / 0.049 mi.
4	EAGER BEAVER PROFESSIONAL TREE ...	5205 GULF BREEZE PARKWAY	SWRCY - FL	Higher	NE / 0.061 mi.
5	WOODLAWN BEACH MIDDLE SCHOOL	1500 WOODLAWN WAY	ECHO, FRS, RCRA_VSQG	Lower	S / 0.126 mi.
6	THE STRIP JOINT | FLORIDA DEP #159...	1761 KELL RD	CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN...	Lower	N / 0.184 mi.
B7	TEXACO-GREENS	5260 GULF BREEZE PKWY	DWM CONTAM - FL, LUST - FL, UST - FL	Higher	ENE / 0.207 mi.
B8	GREENS TEXACO	5256 NAVARRE PKWY	GWIF - FL	Higher	NE / 0.209 mi.
B9	WRECKER RICKS	5265 GULF BREEZE PKWY	UST - FL	Higher	ENE / 0.229 mi.
B10	THE MEXICAN CONNECTION	5287 HWY. 98	GWIF - FL	Higher	ENE / 0.234 mi.
11	TOM THUMB FOOD STORE #140	4991 GULF BREEZE PKWY	CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - ...	Higher	WNW / 0.236 mi.
12	MIDWAY WATER-CLEANUP/SRCO	1759 ABERCROMBIE ROAD	RESP PARTY - FL	Higher	NE / 0.292 mi.
13	AAA0338 | AAA5283 | AAF8057	4971 GULF BREEZE PARKWAY	DEDB - FL	Lower	W / 0.301 mi.
14	AAF2062	4957 HICKORY SHOES	DEDB - FL	Lower	NW / 0.356 mi.
C15	QUICK FOOD MART #7	5342 GULF BREEZE PKY	CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - ...	Higher	ENE / 0.390 mi.
C16	TEXACO FOOD STORE #4425	5400 GULF BREEZE PKY	CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - ...	Higher	ENE / 0.410 mi.
17	GP NAVARRE SS | GULF POWER NAVA...	5572 GULF BREEZE PARKWAY	CS - FL, RESP PARTY - FL	Higher	ENE / 0.970 mi.

SUBJECT PROPERTY SEARCH RESULTS:

The subject property was not listed in any of the databases searched by Envirosite Corporation.

SEARCH RESULTS:

FEDERAL RCRA GENERATORS LIST

RCRA_NONGEN: Resource Conservation and Recovery Act listing of licensed non-generators **2 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
3	*MIDWAY DISCOUNT SIGNS*	*5177 GULF BREEZE PKWY*	*NNE / 0.049 mi.*	*24*
	- ID: FLR000127894	Status: No Violation/Inspections	Date: N/A	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*
	- ID: FLR000098186	Status: No Violation/Inspections	Date: N/A	
	- ID: FLR000098186	Status: TSD - Contingency Plan and Emergency Procedures	Date: Violation 04/16/2003 - Achieved Compliance 10/27/2004	
	- ID: FLR000098186	Status: TSD - Preparedness and Prevention	Date: Violation 04/16/2003 - Achieved Compliance 10/27/2004	
	- ID: FLR000098186	Status: TSD - General Facility Standards	Date: Violation 04/16/2003 - Achieved Compliance 10/27/2004	

RCRA_SQG: Resource Conservation and Recovery Act listing of licensed small quantity generators **1 SITE FOUND WITHIN .25 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*
	- ID: FLR000137539	Status: No Violation/Inspections	Date: N/A	

RCRA_VSQG: Resource Conservation and Recovery Act listing of licensed very small quantity generators. **1 SITE FOUND WITHIN .25 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
5	*WOODLAWN BEACH MIDDLE SCHOOL*	*1500 WOODLAWN WAY*	*S / 0.126 mi.*	*28*
	- ID: FLR000156786	Status: No Violation/Inspections	Date: N/A	

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS

UST - FL: Underground storage tank listing **4 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A2	*SANTA ROSA CNTY EMS*	*5080 GULF BREEZE PKY*	*NW / 0.029 mi.*	*21*
	- ID: Facility ID 8521124	Status: CLOSED	Date: N/A	
	- ID: Tank ID 1	Status: Removed from Site	Date: 05/31/1991	

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS *(cont.)*

UST - FL: Underground storage tank listing **4 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION *(cont.)*

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
B7	*TEXACO-GREENS*	*5260 GULF BREEZE PKWY*	*ENE / 0.207 mi.*	*45*
	- ID: Facility ID 8516382	Status: CLOSED	Date: N/A	
	- ID: Tank ID 1	Status: Removed from Site	Date: 06/01/1990	
	- ID: Tank ID 2	Status: Removed from Site	Date: 06/01/1990	
	- ID: Tank ID 3	Status: Removed from Site	Date: 06/01/1990	
	- ID: Tank ID 4	Status: Removed from Site	Date: 06/01/1990	
B9	WRECKER RICKS	5265 GULF BREEZE PKWY	ENE / 0.229 mi.	*49*
	- ID: Facility ID 9102443	Status: CLOSED	Date: N/A	
	- ID: Tank ID 1	Status: Removed from Site	Date: 06/30/1977	
	- ID: Tank ID 2	Status: Removed from Site	Date: 06/30/1977	
	- ID: Tank ID 3	Status: Removed from Site	Date: 05/31/1991	
	- ID: Tank ID 4	Status: Removed from Site	Date: 05/31/1991	
	There is an additional 1 status record, see site details.			
11	*TOM THUMB FOOD STORE #140*	*4991 GULF BREEZE PKWY*	*WNW / 0.236 mi.*	*52*
	- ID: Facility ID 9805882	Status: OPEN	Date: N/A	
	- ID: Tank ID 1	Status: In Service	Date: 05/01/2003	
	- ID: Tank ID 2	Status: In Service	Date: 05/01/2003	

STATE- AND TRIBAL - EQUIVALENT CERCLIS

CS - FL: All cleanup sites in the state of Florida **5 SITES FOUND WITHIN 1 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
11	*TOM THUMB FOOD STORE #140*	*4991 GULF BREEZE PKWY*	*WNW / 0.236 mi.*	*52*
	- ID: 9805882	Status: ACTIVE	Date: 2003-11-19	
C15	*QUICK FOOD MART #7*	*5342 GULF BREEZE PKY*	*ENE / 0.390 mi.*	*69*
	- ID: 9800564	Status: ACTIVE	Date: 2003-10-24	
C16	*TEXACO FOOD STORE #4425*	*5400 GULF BREEZE PKY*	*ENE / 0.410 mi.*	*77*
	- ID: 8521117	Status: ACTIVE	Date: 2015-06-29	
17	*GP NAVARRE SS | GULF POWER NAVARRE SUBSTATION*	*5572 GULF BREEZE PARKWAY*	*ENE / 0.970 mi.*	*86*
	- ID: ERIC_9504	Status: OPEN	Date: 2014-06-20	
	- ID: 327297	Status: PENDING	Date: 2014-06-20	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*
	- ID: ERIC_3929	Status: CLOSED	Date: 2019-02-18	

STATE- AND TRIBAL - EQUIVALENT CERCLIS *(cont.)*

SHWS - FL: State -funded cleanup program sites **1 SITE FOUND WITHIN 1 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*
	- ID: 159	Status: Delisted	Date: N/A	

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

LUST - FL: Leaking underground storage tank sites listing **5 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A2	*SANTA ROSA CNTY EMS*	*5080 GULF BREEZE PKY*	*NW / 0.029 mi.*	*21*
	- ID: Facility ID 8521124	Status: CLOSED	Date: N/A	
	- ID: N/A	Status: NFA COMPLETE	Date: Status Date 10/09/1992	
B7	*TEXACO-GREENS*	*5260 GULF BREEZE PKWY*	*ENE / 0.207 mi.*	*45*
	- ID: Facility ID 8516382	Status: CLOSED	Date: N/A	
	- ID: N/A	Status: NFA COMPLETE	Date: Status Date 07/22/1991	
11	*TOM THUMB FOOD STORE #140*	*4991 GULF BREEZE PKWY*	*WNW / 0.236 mi.*	*52*
	- ID: Facility ID 9805882	Status: OPEN	Date: N/A	
	- ID: N/A	Status: VERIFIED CONTAMINATION, CLEANUP REQUIRED	Date: Status Date 07/15/2019	
C15	*QUICK FOOD MART #7*	*5342 GULF BREEZE PKY*	*ENE / 0.390 mi.*	*69*
	- ID: Facility ID 9800564	Status: OPEN	Date: N/A	
	- ID: N/A	Status: VERIFIED CONTAMINATION, CLEANUP REQUIRED	Date: Status Date 05/29/2019	
C16	*TEXACO FOOD STORE #4425*	*5400 GULF BREEZE PKY*	*ENE / 0.410 mi.*	*77*
	- ID: Facility ID 8521117	Status: OPEN	Date: N/A	
	- ID: N/A	Status: SRCR COMPLETE	Date: Status Date 12/04/2019	

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

DWM CONTAM - FL: Listing of known contaminated sites (primarily petroleum and drycleaning) **5 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A2	*SANTA ROSA CNTY EMS*	*5080 GULF BREEZE PKY*	*NW / 0.029 mi.*	*21*
	- ID: Facility ID 8521124	Status: CLOSED	Date: N/A	
B7	*TEXACO-GREENS*	*5260 GULF BREEZE PKWY*	*ENE / 0.207 mi.*	*45*
	- ID: Facility ID 8516382	Status: CLOSED	Date: N/A	
11	*TOM THUMB FOOD STORE #140*	*4991 GULF BREEZE PKWY*	*WNW / 0.236 mi.*	*52*
	- ID: Facility ID 9805882	Status: OPEN	Date: N/A	

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES *(cont.)*

DWM CONTAM - FL: Listing of known contaminated sites (primarily petroleum and drycleaning) **5 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION *(cont.)*

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
C15	*QUICK FOOD MART #7*	*5342 GULF BREEZE PKY*	*ENE / 0.390 mi.*	*69*
	- ID: Facility ID 9800564	Status: OPEN	Date: N/A	
C16	*TEXACO FOOD STORE #4425*	*5400 GULF BREEZE PKY*	*ENE / 0.410 mi.*	*77*
	- ID: Facility ID 8521117	Status: OPEN	Date: N/A	

RESP PARTY - FL: Responsible party waste cleanups - Open, Closed, Inactive **2 SITES FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
12	MIDWAY WATER-CLEANUP/SRCO	1759 ABERCROMBIE ROAD	NE / 0.292 mi.	*62*
	- ID: Project ID 87387	Status: CLOSED	Date: ISDR Date 1995-09-06	

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*
	- ID: Project ID 267903	Status: OPEN	Date: ISDR Date 2003-05-19	

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES

SWRCY - FL: Permitted recycling centers **1 SITE FOUND WITHIN .5 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
4	EAGER BEAVER PROFESSIONAL TREE CARE, LLC	5205 GULF BREEZE PARKWAY	NE / 0.061 mi.	*28*
	- ID: Facility ID 103127	Status: ACTIVITY NOT PERMITTED/REGISTERED (N)	Date: N/A	

OTHER ASCERTAINABLE RECORDS

DEDB - FL: Drinking water wells contaminated with ethylene dibromide **2 SITES FOUND WITHIN .5 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
13	AAA0338 | AAA5283 | AAF8057	4971 GULF BREEZE PARKWAY	W / 0.301 mi.	*62*
14	AAF2062	4957 HICKORY SHOES	NW / 0.356 mi.	*68*

GWIF - FL: Groundwater Monitoring sites that are inspected and monitored. **4 SITES FOUND WITHIN .25 MILE**

EQUAL/HIGHER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
A1	S.R. EMS.	5080 HWY. 98	NW / 0.028 mi.	*21*
B8	GREENS TEXACO	5256 NAVARRE PKWY	NE / 0.209 mi.	*49*
B10	THE MEXICAN CONNECTION	5287 HWY. 98	ENE / 0.234 mi.	*52*

OTHER ASCERTAINABLE RECORDS *(cont.)*

GWIF - FL: Groundwater Monitoring sites that are inspected and monitored. **4 SITES FOUND WITHIN .25 MILE**

LOWER ELEVATION

MAP ID	SITE NAME	SITE ADDRESS	DIRECTION/DISTANCE	PAGE
6	*THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)*	*1761 KELL RD*	*N / 0.184 mi.*	*32*

Following sites were unable to be mapped.

SITE NAME:	ADDRESS, CITY, ZIP:	DATABASE(S):
320284601	PO BOX 500, MIDWAY	DEDB - FL
AAA5220	USS SARATOGA ST	DEDB - FL
AAA5238	CULFEE	DEDB - FL
AAA5245	14800 HWY 87 NORTH	DEDB - FL
AAD1723	3752 GULF BREEZE PKWY.	DEDB - FL
AAE9330	11117 HWY 90E	DEDB - FL
AAE9801	MUNSON HWY AT HUTCHINS RD	DEDB - FL
AAE9819	10020/10001 MUNSON HIGHWAY	DEDB - FL
AAE9827	6349 FAIRFIELD DR	DEDB - FL
AAE9833	15405 HWY 87	DEDB - FL
AAE9838	N/R	DEDB - FL
AAE9838	5951 AVALON BLVD	DEDB - FL
AAJ2691	3162 HY 87 S	DEDB - FL
AAK7398	6345 HWY 90	DEDB - FL
ALLENTOWN	N/R	HIST CATTLE DIPPING VATS - FL
BAGDAD	N/R	HIST CATTLE DIPPING VATS - FL
BERRYDALE	N/R	HIST CATTLE DIPPING VATS - FL
BLACKWATER STATE FOREST	N/R	HIST CATTLE DIPPING VATS - FL
EPA/RESEARCH LABORATORY	SABIN ISLAND, GULF BREEZE 32561	CERCLIS NFRAP, FEDERAL FACILITY, SEMS_8R_ARCHIVED SITES
GARDNER	N/R	HIST CATTLE DIPPING VATS - FL
GULF BREEZE ELEVATED WATER STORAGE	N/R, GULF BREEZE 32563	LUST - FL
GULF BREEZE NATIONAL SEASHORE	ESCAMBIA COUNTY, PENSACOLA 32561	CERCLIS NFRAP, FEDERAL FACILITY, SEMS_8R_ARCHIVED SITES
GULF BREEZE, CITY OF	SAME, GULF BREEZE 32561	PIPELINES
INDIGO HEAD	N/R	HIST CATTLE DIPPING VATS - FL
JAY	N/R	HIST CATTLE DIPPING VATS - FL
JUNIPER HEAD	N/R	HIST CATTLE DIPPING VATS - FL
LUNSFORD	N/R	HIST CATTLE DIPPING VATS - FL
MCARTHUR	N/R	HIST CATTLE DIPPING VATS - FL
Not Reported	3716 GULF BREEZE PKWY	DEDB - FL
Not Reported	HWY 89	DEDB - FL

DATABASE(S) WITH NO MAPPED SITES:

FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST

ARCHIVED RCRA TSDF	Archived Resource Conservation and Recovery Act: Treatment Storage and Disposal Facilities
RCRA_TSDF	Resource Conservation and Recovery Act: Treatment Storage and Disposal Facilities

FEDERAL CERCLIS LIST

CERCLIS NFRAP	Comprehensive Environmental Response Compensation and Liability Act No Further Remedial Action Planned
CERCLIS-HIST	Comprehensive Environmental Response Compensation and Liability Act
FEDERAL FACILITY	Federal Facility sites
SEMS_8R_ACTIVE SITES	Sites on SEMS Active Site Inventory
SEMS_8R_ARCHIVED SITES	Sites on SEMS Archived Site Inventory

FEDERAL RCRA CORRACTS FACILITIES LIST

CORRACTS	Hazardous Waste Corrective Action
HIST CORRACTS 2	Historical Hazardous Waste Corrective Action

FEDERAL DELISTED NPL SITE LIST

DELISTED NPL	Delisted National Priority List
DELISTED PROPOSED NPL	Delisted proposed National Priority List
SEMS_DELETED NPL	Sites Deleted from National Priorities List

FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

EPA LF MOP	EPA Landfill Methane Outreach Project Database

FEDERAL ERNS LIST

ERNS	Emergency Response Notification System

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

FED E C	Engineering Controls
FED I C	Institutional Controls
RCRA IC_EC	RCRA sites with Institutional and Engineering Controls

FEDERAL RCRA GENERATORS LIST

HIST RCRA_CESQG	Historical Resource Conservation and Recovery Act_Conditionally Exempt Small Quantity Generators
HIST RCRA_LQG	Historical Resource Conservation and Recovery Act_ Large Quantity Generators
HIST RCRA_NONGEN	Historical Resource Conservation and Recovery Act_Non Generators
HIST RCRA_SQG	Historical Resource Conservation and Recovery Act_Small Quantity Generators
RCRA_LQG	Resource Conservation and Recovery Act_ Large Quantity Generators

FEDERAL NPL SITE LIST

NPL	National Priority List
NPL EPA R1 GIS	GIS for EPA Region 1 NPL
NPL EPA R3 GIS	GIS for EPA Region 3 NPL
NPL EPA R6 GIS	GIS for EPA Region 6 NPL
NPL EPA R8 GIS	GIS for EPA Region 8 NPL
NPL EPA R9 GIS	GIS for EPA Region 9 NPL
PART NPL	Part National Priority List
PROPOSED NPL	Proposed National Priority List
SEMS_FINAL NPL	Sites included on the Final National Priorities List
SEMS_PROPOSED NPL	Sites Proposed to be Added to the National Priorities List

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS

FEMA UST	FEMA Underground Storage Tanks
INDIAN UST R1	Underground Storage Tanks on Indian Land in EPA Region 1
INDIAN UST R10	Underground Storage Tanks on Indian Land in EPA Region 10
INDIAN UST R2	Underground Storage Tanks on Indian Land in EPA Region 2
INDIAN UST R4	Underground Storage Tanks on Indian Land in EPA Region 4
INDIAN UST R5	Underground Storage Tanks on Indian Land in EPA Region 5
INDIAN UST R6	Underground Storage Tanks on Indian Land in EPA Region 6
INDIAN UST R7	Underground Storage Tanks on Indian Land in EPA Region 7
INDIAN UST R8	Underground Storage Tanks on Indian Land in EPA Region 8
INDIAN UST R9	Underground Storage Tanks on Indian Land in EPA Region 9

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS *(cont.)*

AST - FL	Aboveground Storage Tanks
AST_BROWARD COUNTY - FL	Broward County Aboveground Storage Tanks
HIST AST - FL	Historical Aboveground Storage Tanks
HIST UST - FL	Historical Underground Storage Tanks
UST_BROWARD COUNTY - FL	Broward County Underground Storage Tanks
UST_MIAMI-DADE COUNTY - FL	Miami-Dade County Underground Storage Tanks

STATE AND TRIBAL BROWNFIELD SITES

TRIBAL BROWNFIELDS	Tribal Brownfields
BROWNFIELDS - FL	Brownfields
BROWNFIELDS_AREAS - FL	Brownfields

STATE- AND TRIBAL - EQUIVALENT CERCLIS

SITES - FL	The Sites List

STATE INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

E C - FL	Engineering Controls
I C - FL	Institutional Controls

STATE RCRA GENERATORS LIST

HIST TSD - FL	Historical State Treatment Storage & Disposal Facility List
LQG - FL	State Large Quantity Generators
SQG - FL	State Small Quantity Generators
TRA - FL	State Hazardous Waste Transporters
TSD - FL	State Treatment Storage & Disposal Facilities

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

INDIAN LUST R1	Leaking Underground Storage Tanks on Indian Land in EPA Region 1
INDIAN LUST R10	Leaking Underground Storage Tanks on Indian Land in EPA Region 10
INDIAN LUST R2	Leaking Underground Storage Tanks on Indian Land in EPA Region 2
INDIAN LUST R4	Leaking Underground Storage Tanks on Indian Land in EPA Region 4
INDIAN LUST R5	Leaking Underground Storage Tanks on Indian Land in EPA Region 5
INDIAN LUST R6	Leaking Underground Storage Tanks on Indian Land in EPA Region 6
INDIAN LUST R7	Leaking Underground Storage Tanks on Indian Land in EPA Region 7
INDIAN LUST R8	Leaking Underground Storage Tanks on Indian Land in EPA Region 8
INDIAN LUST R9	Leaking Underground Storage Tanks on Indian Land in EPA Region 9
LAST - FL	LAST

STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

SWF/LF - FL	Solid Waste Facilities and Landfills

STATE AND TRIBAL VOLUNTARY CLEANUP SITES

VCP - FL	Voluntary Cleanup Program

LOCAL BROWNFIELD LISTS

BROWNFIELDS-ACRES	EPA ACRES Brownfields
FED BROWNFIELDS	Federal Brownfields

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

FED CDL	DOJ Clandestine Drug Labs
US HIST CDL	Historical Clandestine Drug Labs
CS_BROWARD COUNTY - FL	Broward County Contaminated Sites
CS_MIAMI-DADE COUNTY - FL	Miami-Dade County Contaminated Sites
HAZMAT FACILITIES_BROWARD COUNTY - FL	Broward County Hazardous Material Facilities

RECORDS OF EMERGENCY RELEASE REPORTS

HMIRS (DOT)	Hazardous Materials Information Reporting Systems
FUEL SPILL_MIAMI-DADE COUNTY - FL	Miami-Dade County Fuel Spills Cases
SPILLS - FL	Hazardous Material Logbook

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES

HIST INDIAN ODI R8	Historical Open Dump Inventory
INDIAN ODI R8	Open Dump Inventory
ODI	Open Dump Inventory
TRIBAL ODI	Indian Open Dump Inventory Sites
HIST SWRCY - FL	Historical Recycling Centers
SWF_MIAMI-DADE COUNTY - FL	Miami-Dade County Solid waste facilities

LOCAL LAND RECORDS

LIENS 2	CERCLA Lien Information

OTHER ASCERTAINABLE RECORDS

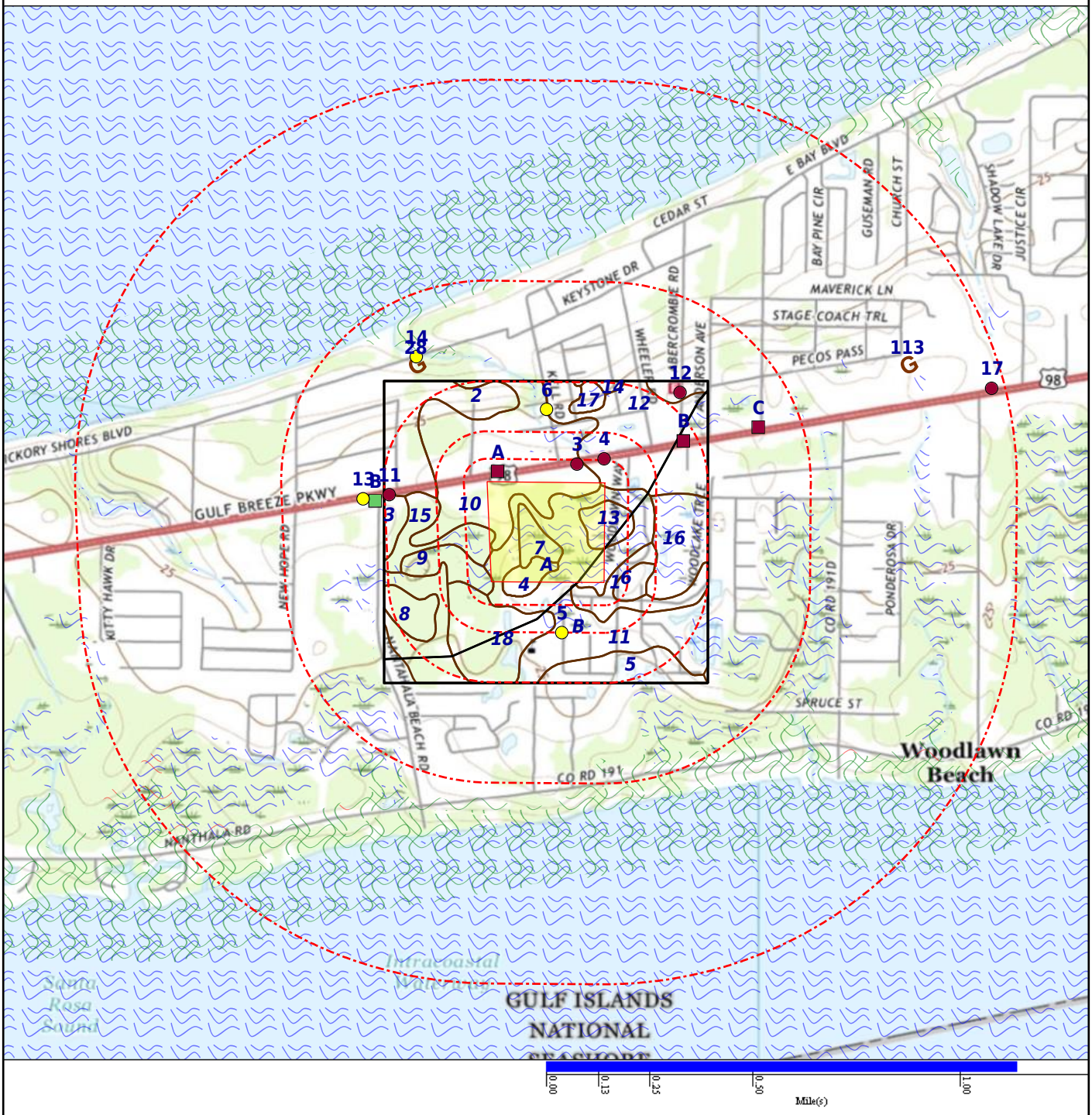
AFS	Air Facility Systems
ALT FUELING	Alternative Fueling Stations
AST PBS	ASTs at Bulk Petroleum Terminals
BRS	Biennial Reporting Systems
CDC HAZDAT	Hazardous Substance Release and Health Effects Information
COAL ASH DOE	Coal Ash: Department of Energy
COAL ASH EPA	Coal Ash: Environmental Protection Agency
COAL GAS	Coal Gas Plants
CONSENT (DECREES)	Superfund Consent Decree
CORRECTIVE ACTIONS_2020	Wastes - Hazardous Waste - Corrective Action
DEBRIS R5 LF	Disaster Debris Landfill Data
DEBRIS R5 SWRCY	Disaster Debris Recovery Data
DOD	Department of Defense
DOT OPS	Department of Transportation Office of Pipeline Safety
ECHO	EPA Enforcement and Compliance History Online
ENOI	Electronic Notice of Intent
EPA FUELS	EPA Fuels Registration, Reporting, and Compliance List
EPA OSC	EPA On-Site Coordinator
EPA WATCH	EPA Watch List
FA HWF	Financial Assurance for Hazardous Waste Facilities
FEDLAND	Federal Lands
FRS	Facility Index Systems
FTTS	FIFRA/TSCA Tracking System
FTTS INSP	FIFRA/TSCA Tracking System: Inspections
FUDS	Formerly Used Defense Sites
HIST AFS	Historical Air Facility Systems
HIST AFS 2	Historical Air Facility Systems
HIST DOD	Department of Defense historical sites
HIST LEAD_SMELTER	Historical Lead Smelter Sites
HIST MLTS	Historical Material Licensing Tracking Systems
HIST PCB TRANS	Historical Polychlorinated Biphenyl (PCB) Facilities
HIST PCS ENF	Historical Enforced Permit Compliance Facilities
HIST PCS FACILITY	Historical Permit Compliance Facilities
HIST SSTS	Historical Section 7 Tracking Systems
HWC DOCKET	Hazardous Waste Compliance Docket
ICIS	Integrated Compliance Information System
INACTIVE PCS	Inactive Permit Compliance Facilities
INDIAN RESERVATION	Indian Reservations
LUCIS	Land Use Control Information Systems
LUCIS 2	Land Use Control Information Systems 2
MINES	Mines
MINES USGS	Mines list from USGS
MLTS	Material Licensing Tracking Systems
NPL AOC	Areas related to NPL remediation sites
NPL LIENS	National Priority List Liens
OSHA	Occupational Safety & Health Administration
PADS	PCB Activity Database Systems

OTHER ASCERTAINABLE RECORDS *(cont.)*

PCB TRANSFORMER	Polychlorinated Biphenyl (PCB) Waste
PCS ENF	Enforced Permit Compliance Facilities
PCS FACILITY	Permit Compliance Facilities
RAATS	RCRA Administrative Action Tracking Systems
RADINFO	Radiation Information Systems
RMP	Risk Management Plans
ROD	Record of Decision
SCRD DRYCLEANERS	SCRD Drycleaners
SEMS_SMELTER	Sites on SEMS Potential Smelter Activity
SSTS	Section 7 Tracking Systems
STORMWATER	Storm Water Permits
TOSCA-PLANT	Toxic Substance Control Act: Plants
TRIS	Toxic Release Inventory Systems
UMTRA	Uranium Mill Tailing Sites
VAPOR	EPA Vapor Intrusion
AIRS - FL	Air Permitted Facilities
AIRS_MIAMI-DADE COUNTY - FL	Miami-Dade County Air permits
CAP_MIAMI-DADE COUNTY - FL	Miami-Dade County Construction air permits
CATTLE DIPPING VATS - FL	Cattle Dipping Vats
COAL ASH - FL	COAL ASH
DAYCARE - FL	Daycares
DRYCLEANERS - FL	Drycleaners
ENF_MIAMI-DADE COUNTY - FL	Miami-Dade County enforcement
FA 1 - FL	Financial Assurance 1
FA 2 - FL	Financial Assurance 2
FA 3 - FL	Financial Assurance - UST
FACILITY LIST_ALACHUA COUNTY - FL	Alachua County Facility List
FF TANKS - FL	Federal Facility Tank Listing
GTO_MIAMI-DADE COUNTY - FL	Miami-Dade County Grease traps
GWCA - FL	Ground water contaminated areas
GWP_MIAMI-DADE COUNTY - FL	Miami-Dade County Water Quality permits
HAZ WASTE_MIAMI-DADE COUNTY - FL	Miami-Dade County Hazardous Waste Sites
HIST CAP_MIAMI-DADE COUNTY - FL	Historical Miami-Dade County Construction air permits
HIST CATTLE DIPPING VATS - FL	Historical Cattle Dipping Vats
HIST DEDB - FL	Historical Ethylene Dibromide
HIST FF TANKS - FL	Historical Federal Facility Tank Listing
HIST MINES - FL	State mine records
IW SQG_MIAMI-DADE COUNTY - FL	Miami-Dade County Industrial waste small quantity generators
IW_MIAMI-DADE COUNTY - FL	Miami-Dade County Industrial waste permits
IWP_MIAMI-DADE COUNTY - FL	Miami-Dade County Industrial waste pretreatment facilities
LWT_MIAMI-DADE COUNTY - FL	Miami-Dade County Liquid Waste Transporters
MINES - FL	State mine records
MOP_MIAMI-DADE COUNTY - FL	Miami-Dade County Marine Facilities Operating Permit
MRE_MIAMI-DADE COUNTY - FL	Miami-Dade County Maimi River Enforcement
NPDES - FL	State Wastewater and NPDES Permits
PRIORITY CLEANERS - FL	Drycleaner Priority Ranking List
SIS - FL	Site investigation section sites
T 2 - FL	Tier II Facilities
UIC - FL	Underground Injection Wells
VIOLATION_BROWARD COUNTY - FL	Broward County Violation Notices
WASTEWATER - FL	Wastewater Facilities

SUBJECT NAME: Santa Rosa County South Santa Rosa Sp...
ADDRESS: Santa Rosa County, Gulf Breeze, FL, 32563
LAT/LONG: 30.396063 / -87.008617

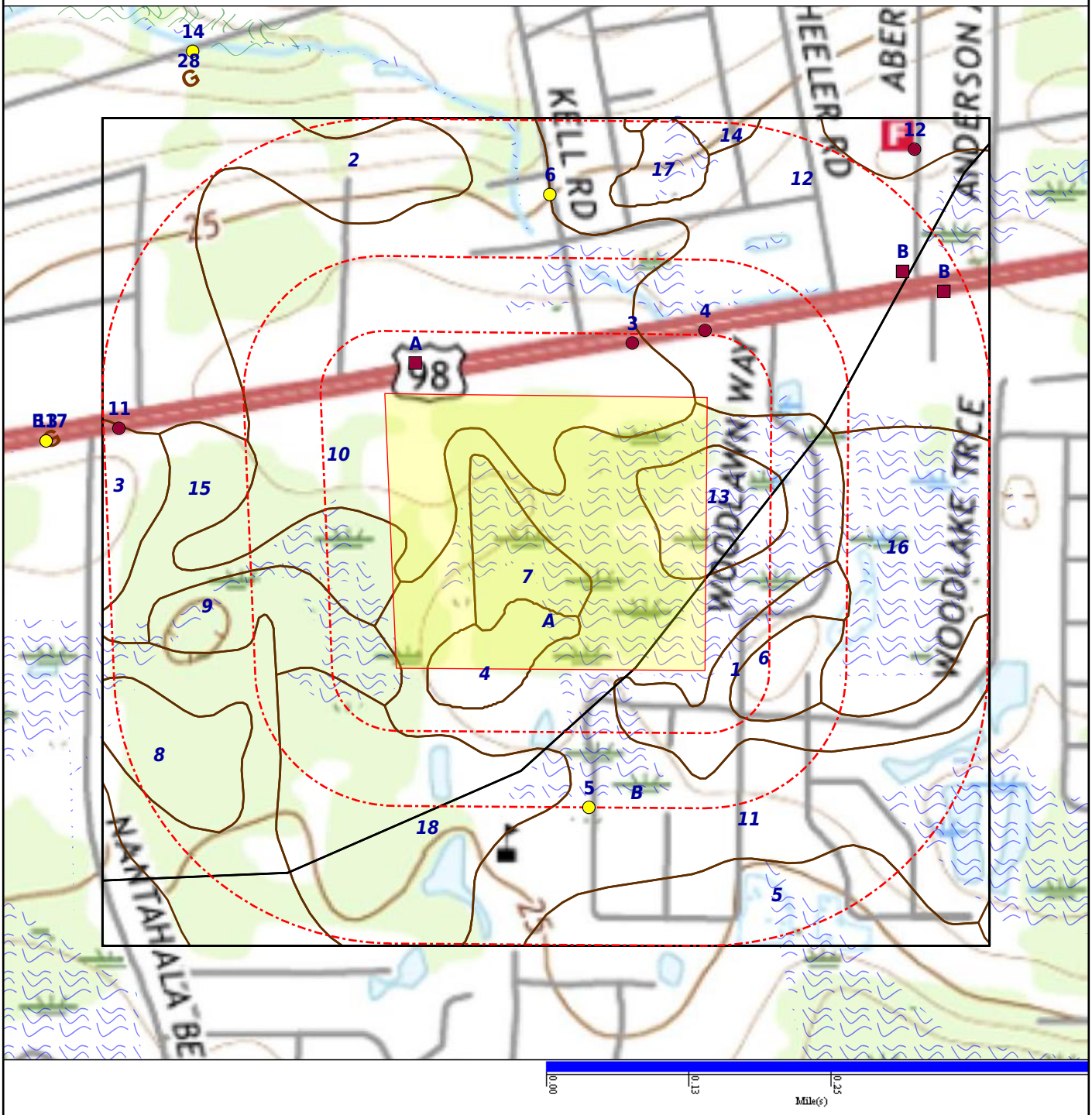
PREPARED FOR: Volkert, Inc
ORDER #: 48259
REPORT DATE: December 07, 2020



- Subject Property
- CDC HAZDAT (No Data)
- Federal Lands (No Data)
- Historical DOD (No Data)
- Equal/Higher Elevation
- Department of Defense (No Data)
- FEMA FloodZone 100
- Indian Reservation (No Data)
- Lower Elevation
- DFIRM Floodzone 100
- FEMA FloodZone 500
- National Priority List (No Data)
- Brownfields Areas (No Data)
- DFIRM Floodzone 500 (No Data)
- Ground Water Contaminants (No Data)
- NWI

SUBJECT NAME: Santa Rosa County South Santa Rosa Sp...
ADDRESS: Santa Rosa County, Gulf Breeze, FL, 32563
LAT/LONG: 30.396063 / -87.008617

PREPARED FOR: Volkert, Inc
ORDER #: 48259
REPORT DATE: December 07, 2020



- Subject Property
- CDC HAZDAT (No Data)
- Federal Lands (No Data)
- Historical DOD (No Data)
- Equal/Higher Elevation
- Department of Defense (No Data)
- FEMA FloodZone 100
- Indian Reservation (No Data)
- Lower Elevation
- DFIRM Floodzone 100
- FEMA FloodZone 500
- National Priority List (No Data)
- Brownfields Areas (No Data)
- DFIRM Floodzone 500 (No Data)
- Ground Water Contaminants (No Data)
- NWI

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST								
ARCHIVED RCRA TSDF		0.500	0	0	0	--	--	0
RCRA_TSDF		0.500	0	0	0	--	--	0
FEDERAL CERCLIS LIST								
CERCLIS NFRAP		0.500	0	0	0	--	--	0
CERCLIS-HIST		0.500	0	0	0	--	--	0
FEDERAL FACILITY		1.000	0	0	0	0	--	0
SEMS_8R_ACTIVE SITES		0.500	0	0	0	--	--	0
SEMS_8R_ARCHIVED SITES		0.500	0	0	0	--	--	0
FEDERAL RCRA CORRACTS FACILITIES LIST								
CORRACTS		1.000	0	0	0	0	--	0
HIST CORRACTS 2		1.000	0	0	0	0	--	0
FEDERAL DELISTED NPL SITE LIST								
DELISTED NPL		1.000	0	0	0	0	--	0
DELISTED PROPOSED NPL		1.000	0	0	0	0	--	0
SEMS_DELETED NPL		1.000	0	0	0	0	--	0
FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS								
EPA LF MOP		0.500	0	0	0	--	--	0
FEDERAL ERNS LIST								
ERNS		SP	0	--	--	--	--	0
FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES								
FED E C		0.500	0	0	0	--	--	0
FED I C		0.500	0	0	0	--	--	0
RCRA IC_EC		0.250	0	0	--	--	--	0
FEDERAL RCRA GENERATORS LIST								
HIST RCRA_CESQG		0.250	0	0	--	--	--	0
HIST RCRA_LQG		0.250	0	0	--	--	--	0
HIST RCRA_NONGEN		0.250	0	0	--	--	--	0
HIST RCRA_SQG		0.250	0	0	--	--	--	0
RCRA_LQG		0.250	0	0	--	--	--	0
RCRA_NONGEN		0.250	1	1	--	--	--	2
RCRA_SQG		0.250	0	1	--	--	--	1
RCRA_VSQG		0.250	0	1	--	--	--	1

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
FEDERAL NPL SITE LIST								
NPL		1.000	0	0	0	0	--	0
NPL EPA R1 GIS		1.000	0	0	0	0	--	0
NPL EPA R3 GIS		1.000	0	0	0	0	--	0
NPL EPA R6 GIS		1.000	0	0	0	0	--	0
NPL EPA R8 GIS		1.000	0	0	0	0	--	0
NPL EPA R9 GIS		1.000	0	0	0	0	--	0
PART NPL		1.000	0	0	0	0	--	0
PROPOSED NPL		1.000	0	0	0	0	--	0
SEMS_FINAL NPL		1.000	0	0	0	0	--	0
SEMS_PROPOSED NPL		1.000	0	0	0	0	--	0
STATE AND TRIBAL REGISTERED STORAGE TANK LISTS								
FEMA UST		0.250	0	0	--	--	--	0
INDIAN UST R1		0.250	0	0	--	--	--	0
INDIAN UST R10		0.250	0	0	--	--	--	0
INDIAN UST R2		0.250	0	0	--	--	--	0
INDIAN UST R4		0.250	0	0	--	--	--	0
INDIAN UST R5		0.250	0	0	--	--	--	0
INDIAN UST R6		0.250	0	0	--	--	--	0
INDIAN UST R7		0.250	0	0	--	--	--	0
INDIAN UST R8		0.250	0	0	--	--	--	0
INDIAN UST R9		0.250	0	0	--	--	--	0
AST - FL		0.250	0	0	--	--	--	0
AST_BROWARD COUNTY - FL		0.250	0	0	--	--	--	0
HIST AST - FL		0.250	0	0	--	--	--	0
HIST UST - FL		0.250	0	0	--	--	--	0
UST - FL		0.250	1	3	--	--	--	4
UST_BROWARD COUNTY - FL		0.250	0	0	--	--	--	0
UST_MIAMI-DADE COUNTY - FL		0.250	0	0	--	--	--	0
STATE AND TRIBAL BROWNFIELD SITES								
TRIBAL BROWNFIELDS		0.500	0	0	0	--	--	0
BROWNFIELDS - FL		0.500	0	0	0	--	--	0
BROWNFIELDS_AREAS - FL		0.500	0	0	0	--	--	0
STATE- AND TRIBAL - EQUIVALENT CERCLIS								
CS - FL		1.000	0	2	2	1	--	5
SHWS - FL		1.000	0	1	0	0	--	1

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
STATE- AND TRIBAL - EQUIVALENT CERCLIS *(cont.)*								
SITES - FL		1.000	0	0	0	0	--	0
STATE INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES								
E C - FL		0.500	0	0	0	--	--	0
I C - FL		0.500	0	0	0	--	--	0
STATE RCRA GENERATORS LIST								
HIST TSD - FL		0.500	0	0	0	--	--	0
LQG - FL		0.250	0	0	--	--	--	0
SQG - FL		0.250	0	0	--	--	--	0
TRA - FL		0.250	0	0	--	--	--	0
TSD - FL		0.500	0	0	0	--	--	0
STATE AND TRIBAL LEAKING STORAGE TANK LISTS								
INDIAN LUST R1		0.500	0	0	0	--	--	0
INDIAN LUST R10		0.500	0	0	0	--	--	0
INDIAN LUST R2		0.500	0	0	0	--	--	0
INDIAN LUST R4		0.500	0	0	0	--	--	0
INDIAN LUST R5		0.500	0	0	0	--	--	0
INDIAN LUST R6		0.500	0	0	0	--	--	0
INDIAN LUST R7		0.500	0	0	0	--	--	0
INDIAN LUST R8		0.500	0	0	0	--	--	0
INDIAN LUST R9		0.500	0	0	0	--	--	0
LAST - FL		0.500	0	0	0	--	--	0
LUST - FL		0.500	1	2	2	--	--	5
STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS								
SWF/LF - FL		0.500	0	0	0	--	--	0
STATE AND TRIBAL VOLUNTARY CLEANUP SITES								
VCP - FL		0.500	0	0	0	--	--	0
LOCAL BROWNFIELD LISTS								
BROWNFIELDS-ACRES		0.500	0	0	0	--	--	0
FED BROWNFIELDS		0.500	0	0	0	--	--	0
LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES								
FED CDL		SP	0	--	--	--	--	0
US HIST CDL		SP	0	--	--	--	--	0
CS_BROWARD COUNTY - FL		1.000	0	0	0	0	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES *(cont.)*								
CS_MIAMI-DADE COUNTY - FL		1.000	0	0	0	0	--	0
DWM CONTAM - FL		0.500	1	2	2	--	--	5
HAZMAT FACILITIES_BROWARD COUNTY - FL		0.250	0	0	--	--	--	0
RESP PARTY - FL		0.500	0	1	1	--	--	2
RECORDS OF EMERGENCY RELEASE REPORTS								
HMIRS (DOT)		SP	0	--	--	--	--	0
FUEL SPILL_MIAMI-DADE COUNTY - FL		0.125	0	--	--	--	--	0
SPILLS - FL		0.125	0	--	--	--	--	0
LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES								
HIST INDIAN ODI R8		0.500	0	0	0	--	--	0
INDIAN ODI R8		0.500	0	0	0	--	--	0
ODI		0.500	0	0	0	--	--	0
TRIBAL ODI		0.500	0	0	0	--	--	0
HIST SWRCY - FL		0.500	0	0	0	--	--	0
SWF_MIAMI-DADE COUNTY - FL		0.500	0	0	0	--	--	0
SWRCY - FL		0.500	1	0	0	--	--	1
LOCAL LAND RECORDS								
LIENS 2		SP	0	--	--	--	--	0
OTHER ASCERTAINABLE RECORDS								
AFS		SP	0	--	--	--	--	0
ALT FUELING		0.250	0	0	--	--	--	0
AST PBS		0.250	0	0	--	--	--	0
BRS		SP	0	--	--	--	--	0
CDC HAZDAT		1.000	0	0	0	0	--	0
COAL ASH DOE		0.500	0	0	0	--	--	0
COAL ASH EPA		0.500	0	0	0	--	--	0
COAL GAS		1.000	0	0	0	0	--	0
CONSENT (DECREES)		1.000	0	0	0	0	--	0
CORRECTIVE ACTIONS_2020		0.500	0	0	0	--	--	0
DEBRIS R5 LF		0.500	0	0	0	--	--	0
DEBRIS R5 SWRCY		0.500	0	0	0	--	--	0
DOD		1.000	0	0	0	0	--	0
DOT OPS		SP	0	--	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
ECHO		SP	0	--	--	--	--	0
ENOI		SP	0	--	--	--	--	0
EPA FUELS		SP	0	--	--	--	--	0
EPA OSC		0.125	0	--	--	--	--	0
EPA WATCH		SP	0	--	--	--	--	0
FA HWF		SP	0	--	--	--	--	0
FEDLAND		1.000	0	0	0	0	--	0
FRS		SP	0	--	--	--	--	0
FTTS		SP	0	--	--	--	--	0
FTTS INSP		SP	0	--	--	--	--	0
FUDS		1.000	0	0	0	0	--	0
HIST AFS		SP	0	--	--	--	--	0
HIST AFS 2		SP	0	--	--	--	--	0
HIST DOD		1.000	0	0	0	0	--	0
HIST LEAD_SMELTER		SP	0	--	--	--	--	0
HIST MLTS		SP	0	--	--	--	--	0
HIST PCB TRANS		SP	0	--	--	--	--	0
HIST PCS ENF		SP	0	--	--	--	--	0
HIST PCS FACILITY		SP	0	--	--	--	--	0
HIST SSTS		SP	0	--	--	--	--	0
HWC DOCKET		SP	0	--	--	--	--	0
ICIS		SP	0	--	--	--	--	0
INACTIVE PCS		SP	0	--	--	--	--	0
INDIAN RESERVATION		1.000	0	0	0	0	--	0
LUCIS		0.500	0	0	0	--	--	0
LUCIS 2		0.500	0	0	0	--	--	0
MINES		0.250	0	0	--	--	--	0
MINES USGS		0.250	0	0	--	--	--	0
MLTS		SP	0	--	--	--	--	0
NPL AOC		1.000	0	0	0	0	--	0
NPL LIENS		SP	0	--	--	--	--	0
OSHA		SP	0	--	--	--	--	0
PADS		SP	0	--	--	--	--	0
PCB TRANSFORMER		SP	0	--	--	--	--	0
PCS ENF		SP	0	--	--	--	--	0
PCS FACILITY		SP	0	--	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
RAATS		SP	0	--	--	--	--	0
RADINFO		SP	0	--	--	--	--	0
RMP		0.500	0	0	0	--	--	0
ROD		1.000	0	0	0	0	--	0
SCRD DRYCLEANERS		0.250	0	0	--	--	--	0
SEMS_SMELTER		SP	0	--	--	--	--	0
SSTS		SP	0	--	--	--	--	0
STORMWATER		SP	0	--	--	--	--	0
TOSCA-PLANT		SP	0	--	--	--	--	0
TRIS		SP	0	--	--	--	--	0
UMTRA		0.500	0	0	0	--	--	0
VAPOR		0.500	0	0	0	--	--	0
AIRS - FL		SP	0	--	--	--	--	0
AIRS_MIAMI-DADE COUNTY - FL		SP	0	--	--	--	--	0
CAP_MIAMI-DADE COUNTY - FL		SP	0	--	--	--	--	0
CATTLE DIPPING VATS - FL		0.500	0	0	0	--	--	0
COAL ASH - FL		0.500	0	0	0	--	--	0
DAYCARE - FL		SP	0	--	--	--	--	0
DEDB - FL		0.500	0	0	2	--	--	2
DRYCLEANERS - FL		0.250	0	0	--	--	--	0
ENF_MIAMI-DADE COUNTY - FL		0.250	0	0	--	--	--	0
FA 1 - FL		SP	0	--	--	--	--	0
FA 2 - FL		SP	0	--	--	--	--	0
FA 3 - FL		SP	0	--	--	--	--	0
FACILITY LIST_ALACHUA COUNTY - FL		0.250	0	0	--	--	--	0
FF TANKS - FL		0.250	0	0	--	--	--	0
GTO_MIAMI-DADE COUNTY - FL		0.125	0	--	--	--	--	0
GWCA - FL		0.500	0	0	0	--	--	0
GWIF - FL		0.250	1	3	--	--	--	4
GWP_MIAMI-DADE COUNTY - FL		SP	0	--	--	--	--	0
HAZ WASTE_MIAMI-DADE COUNTY - FL		0.500	0	0	0	--	--	0
HIST CAP_MIAMI-DADE COUNTY - FL		SP	0	--	--	--	--	0
HIST CATTLE DIPPING VATS - FL		0.500	0	0	0	--	--	0
HIST DEDB - FL		0.500	0	0	0	--	--	0
HIST FF TANKS - FL		0.250	0	0	--	--	--	0

DATABASE	SUBJECT PROPERTY	SEARCH DISTANCE (MILES)	<1/8	1/8 - 1/4	1/4 - 1/2	1/2 - 1	>1	TOTAL MAPPED
OTHER ASCERTAINABLE RECORDS *(cont.)*								
HIST MINES - FL		0.250	0	0	--	--	--	0
IW SQG_MIAMI-DADE COUNTY - FL		0.250	0	0	--	--	--	0
IW_MIAMI-DADE COUNTY - FL		0.500	0	0	0	--	--	0
IWP_MIAMI-DADE COUNTY - FL		0.500	0	0	0	--	--	0
LWT_MIAMI-DADE COUNTY - FL		0.250	0	0	--	--	--	0
MINES - FL		0.250	0	0	--	--	--	0
MOP_MIAMI-DADE COUNTY - FL		0.250	0	0	--	--	--	0
MRE_MIAMI-DADE COUNTY - FL		SP	0	--	--	--	--	0
NPDES - FL		SP	0	--	--	--	--	0
PRIORITY CLEANERS - FL		0.500	0	0	0	--	--	0
SIS - FL		0.500	0	0	0	--	--	0
T 2 - FL		0.250	0	0	--	--	--	0
UIC - FL		SP	0	--	--	--	--	0
VIOLATION_BROWARD COUNTY - FL		0.500	0	0	0	--	--	0
WASTEWATER - FL		SP	0	--	--	--	--	0

Map Id: A1
Direction: NW
Distance: 0.028 mi.
Actual: 147.432 ft.
Elevation: 0.006 mi. / 32.372 ft.
Relative: Higher

Site Name : S.R. EMS.
5080 HWY. 98
NAVARRE, FL 32563

Database(s) : [GWIF - FL]

Envirosite ID: 1730493
EPA ID: N/R

GWIF - FL

Facility Name :	S.R. EMS.
Facility Address :	5080 HWY. 98, NAVARRE, 32563
County :	SANTA ROSA
Facility ID :	8821124
Facility Type :	PETROLEUM
Location ID :	190895
Location Method :	DGPS = Differentially Corrected GPS
GPS ID :	190895
GPS Date :	2001-02-07
HAE (Height Above Ellipsoid) :	12.03
Project ID :	SUPER
Insp Name :	JACK PREWITT
Insp CHD :	SANTA ROSA
Request Number :	N/R
Datum :	WS1984
Software :	N/R
Streetside :	N/R
Agency :	N/R
Comment :	TANK REMOVED
Latitude :	30.398517
Longitude :	-87.011047
Last Date in Agency List :	2020-12-02

Map Id: A2
Direction: NW
Distance: 0.029 mi.
Actual: 155.092 ft.
Elevation: 0.006 mi. / 32.539 ft.
Relative: Higher

Site Name : SANTA ROSA CNTY EMS
5080 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL]

Envirosite ID: 1527718
EPA ID: N/R

DWM CONTAM - FL

Facility Name :	SANTA ROSA CNTY EMS
Facility Address :	5080 GULF BREEZE PKY, GULF BREEZE, FL 32561-9339
County :	SANTA ROSA
Score Effective Date :	N/R
Score :	N/R
Score Ranked :	N/R
Rank :	N/R
Facility ID :	8521124
Facility Status :	CLOSED
Facility Type :	C - Fuel user/Non-retail
County Code :	57
District :	NWD
Operator :	PERSICHINI, DOMINIC
Phone :	(904)994-6564
Name Changed Date :	N/R

Map Id: A2
Direction: NW
Distance: 0.029 mi.
Actual: 155.092 ft.
Elevation: 0.006 mi. / 32.539 ft.
Relative: Higher

Site Name : SANTA ROSA CNTY EMS
5080 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527718
EPA ID: N/R

DWM CONTAM - FL ***(cont.)***

Address Changed Date :	N/R
Latitude Degrees :	30
Latitude Minutes :	23
Latitude Seconds :	54.6659
Longitude Degrees :	87
Longitude Minutes :	0
Longitude Seconds :	39.7563
Feature :	N/R
Method :	DGPS
Datum :	0
Section/Township/Range :	SEC 024, TWP 02S, RNG 28W
Related Party Begin Date :	1994-05-20
Related Party ID :	19117
Primary Related Party Role :	ACCOUNT OWNER
Related Party Name :	SANTA ROSA EMS
Related Party Address 1 :	4930 GLOVER LN, MILTON, FL 32570-4553
Related Party Address 2 :	N/R
Contact :	DOMINIC PERSICHINI
Related Party Phone :	(904)994-6564
Related Party Extension :	N/R
Related Party Bad Address Indicator :	N
Last Date in Agency List :	2020-10-13

LUST - FL

Facility Name :	SANTA ROSA CNTY EMS
Facility Address :	5080 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA
Facility ID :	8521124
Facility Status :	CLOSED
Facility Type :	Fuel user/Non-retail
Phone :	9049946564
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	19117
Owner Name :	SANTA ROSA EMS
Owner Address :	4930 GLOVER LN, MILTON, FL 32570
Owner Address 2 :	N/R
Contact :	DOMINIC PERSICHINI
Owner Phone :	9049946564

Discharge Details

Discharge Date :	05/24/1991
Status Date :	10/09/1992
Status :	NFA COMPLETE

Map Id: A2
Direction: NW
Distance: 0.029 mi.
Actual: 155.092 ft.
Elevation: 0.006 mi. / 32.539 ft.
Relative: Higher

Site Name : SANTA ROSA CNTY EMS
5080 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527718
EPA ID: N/R

LUST - FL ***(cont.)***

DEP Code :	P
Description :	CLEANUP REQUIRED
Score Date :	N/R
Score :	N/R
CU Status :	NFA

UST - FL

Facility Name :	SANTA ROSA CNTY EMS
Facility Address :	5080 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA

Site Details

Facility ID :	8521124
Facility Phone :	9049946564
Facility Status :	CLOSED
Facility Type :	Fuel user/Non-retail
DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	19117
Owner Name :	SANTA ROSA EMS
Owner Address 1 :	4930 GLOVER LN, MILTON, FL 32570
Owner Address 2 :	N/R
Contact :	DOMINIC PERSICHINI
Owner Phone :	9049946564

Tank Information

Tank ID :	1
Gallons :	888
Tank Location :	UNDERGROUND
Substance :	Other Non Regulated
Install Date :	N/R
Status :	Removed from Site
Status Date :	05/31/1991
Construction Items :	-
Monitoring Items :	-
Piping Items :	-

Map Id: 3
Direction: NNE
Distance: 0.049 mi.
Actual: 259.698 ft.
Elevation: 0.006 mi. / 32.178 ft.
Relative: Higher

Site Name : MIDWAY DISCOUNT SIGNS
5177 GULF BREEZE PKWY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_NONGEN]

Envirosite ID: 1747928
EPA ID: N/R

ECHO

Facility Name :	MIDWAY DISCOUNT SIGNS
Facility Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563
County :	SANTA ROSA
Last Inspection Date :	N/R
Registry ID :	110031344490
FIPS Code :	12113
EPA Region :	04
Inspection Count :	0
Last Inspection Days :	N/R
Informal Count :	0
Last Informal Action Date :	N/R
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	No Violation Identified
Three-Year Compliance Status :	_____
Collection Method :	INTERPOLATION-PHOTO
Reference Point :	POINT WHERE SUBSTANCE IS MONITORED
Accuracy Meters :	10
Derived Tribes :	N/R
Derived HUC :	03140105
Derived WBD :	031401050203
Derived STCTY FIPS :	12113
Derived Zip :	32563
Derived CD113 :	01
Derived CB2010 :	121130108152044
MYRTK Universe :	NNN
NPDES IDs :	N/R
CWA Permit Types :	N/R
CWA Compliance Tracking :	N/R
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	N/R
CWA Current Compliance Status :	N/R
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	N/R
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC :	N/R
Facility NAICS :	323113 - Commercial Screen Printing
Facility Last Inspection EPA Date :	N/R

Map Id: 3
Direction: NNE
Distance: 0.049 mi.
Actual: 259.698 ft.
Elevation: 0.006 mi. / 32.178 ft.
Relative: Higher

Site Name : MIDWAY DISCOUNT SIGNS
5177 GULF BREEZE PKWY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_NONGEN] ***(cont.)***

Envirosite ID: 1747928
EPA ID: N/R

ECHO ***(cont.)***

Facility Last Inspection State Date :	N/R
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	N/R
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N/R
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	N
SDWIS Flag :	N
RCRA Flag :	Y
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	N/R
NAA Flag :	N/R
Latitude :	30.398234
Longitude :	-87.007112
Last Date in Agency List :	02/10/2020

FRS

Facility Name :	MIDWAY DISCOUNT SIGNS
Facility Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 325639335
County :	SANTA ROSA
Registry ID :	110031344490
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/31/2020

Source Description :

RCRAInfo is EPA's comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA. RCRAInfo also supports generation of the National Hazardous Waste Biennial Report. All generators and treatment, storage, and disposal facilities who handle hazardous waste are required to report to the EPA Administrator at least once every two years to support creation of the Biennial Report.

Source Description :

The Florida Environmental System Today Application (FIESTA) Data Maintenance (FDM) system maintains entity, environmental interest and affiliation data for the State of Florida.

Map Id: 3
Direction: NNE
Distance: 0.049 mi.
Actual: 259.698 ft.
Elevation: 0.006 mi. / 32.178 ft.
Relative: Higher

Site Name : MIDWAY DISCOUNT SIGNS
5177 GULF BREEZE PKWY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_NONGEN] ***(cont.)***

Envirosite ID: 1747928
EPA ID: N/R

FRS ***(cont.)***

FRS Environmental Interest

Source and System ID :	FLORIDA DEP - 70253 RCRAINFO - FLR000127894

RCRA_NONGEN

Facility Name :	MIDWAY DISCOUNT SIGNS
Facility Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563
County :	SANTA ROSA
Date Form Received by Agency :	03/17/2006
EPA ID :	FLR000127894
Mailing Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563-9335
Contact :	ABE LILLY
Contact Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563-9335
Contact Country :	US
Contact Telephone :	850-916-1564
Contact Email :	YOURSIGNSHOP@AOL.COM
EPA Region :	04
Land Type :	Private
Source Type :	Implementer
Classification :	Not a generator, verified
Description :	Not a generator, verified
Last Date in Agency List :	07/23/2020

Owner/Operator Summary

Owner/Operator Name :	ABE LILLY
Owner/Operator Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563-9335
Owner/Operator Country :	US
Owner/Operator Telephone :	850-916-1564
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Operator
Owner/Operator Start Date :	04/13/2006
Owner/Operator End Date :	N/R
Owner/Operator Name :	LILLY ABE
Owner/Operator Address :	5177 GULF BREEZE PKWY, GULF BREEZE, FL 32563-9335
Owner/Operator Country :	US
Owner/Operator Telephone :	850-916-1564
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Operator
Owner/Operator Start Date :	04/13/2006
Owner/Operator End Date :	N/R
Owner/Operator Name :	ROBERT SHERRILL
Owner/Operator Address :	WOODBURY AGENCY C/O CARLA WATT, GULF BREEZE, FL 32563
Owner/Operator Country :	US
Owner/Operator Telephone :	850-932-2536

Map Id: 3
Direction: NNE
Distance: 0.049 mi.
Actual: 259.698 ft.
Elevation: 0.006 mi. / 32.178 ft.
Relative: Higher

Site Name : MIDWAY DISCOUNT SIGNS
5177 GULF BREEZE PKWY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_NONGEN] ***(cont.)***

Envirosite ID: 1747928
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Owner
Owner/Operator Start Date :	04/13/2006
Owner/Operator End Date :	N/R

Owner/Operator Name :	SHERRILL ROBERT
Owner/Operator Address :	WOODBURY AGENCY C/O CARLA WATT, GULF BREEZE, FL 32563
Owner/Operator Country :	US
Owner/Operator Telephone :	850-932-2536
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Owner
Owner/Operator Start Date :	04/13/2006
Owner/Operator End Date :	N/R

Handler Activities Summary

U.S. Importer of Hazardous Waste :	N
Mixed Waste (Haz. and Radioactive) :	N
Recycler of Hazardous Waste :	N
Transporter of Hazardous Waste :	N
Treater, Storer or Disposer of HW :	N
Underground Injection Activity :	N
On-site Burner Exemption :	N
Furnace Exemption :	N
Used Oil Fuel Burner :	N
Used Oil Processor :	N
Used Oil Refiner :	N
Used Oil Fuel Marketer to Burner :	N
Used Oil Specification Marketer :	N
Used Oil Transfer Facility :	N
Used Oil Transporter :	N

Hazardous Waste Summary

Waste Code / Name :	D001 - IGNITABLE WASTE

Notices of Violations Summary

Regulation Violated :	N

Map Id: 4
Direction: NE
Distance: 0.061 mi.
Actual: 323.655 ft.
Elevation: 0.006 mi. / 32.959 ft.
Relative: Higher

Site Name : EAGER BEAVER PROFESSIONAL TREE CARE, LLC
5205 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [SWRCY - FL]

Envirosite ID: 1621918
EPA ID: N/R

SWRCY - FL

Facility Name :	EAGER BEAVER PROFESSIONAL TREE CARE, LLC
Facility Address :	5205 GULF BREEZE PARKWAY, GULF BREEZE, FL 32563
County :	SANTA ROSA

Site Details

Facility ID :	103127
Class :	SOURCE-SEPARATED ORGANICS PROC. FAC. (SOPF)
Class Type :	330
Class Status :	ACTIVITY NOT PERMITTED/REGISTERED (N)
Test Site Data :	TestSite Inventory Report, TestSite Result Report
Detail :	Facility Activities, Documents in OCULUS
District :	NWD
Section/Township/Range :	SEC N/R, TWP N/R, RNG N/R
Responsible Authority Name :	N/R
Responsible Authority Address :	N/R
Responsible Authority Phone Number :	N/R
Responsible Authority Email Address :	N/R
Land Owner Name :	N/R
Land Owner Address :	N/R
Land Owner Phone Number :	N/R
Site Supervisor Name :	N/R
Site Supervisor Address :	N/R
Site Supervisor Phone Number :	N/R
Site Supervisor Email Address :	N/R
Latitude :	30:23:53.69
Longitude :	87:0:22.11
Last Date in Agency List :	09/25/2020

Map Id: 5
Direction: S
Distance: 0.126 mi.
Actual: 662.893 ft.
Elevation: 0.005 mi. / 26.227 ft.
Relative: Lower

Site Name : WOODLAWN BEACH MIDDLE SCHOOL
1500 WOODLAWN WAY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_VSQG]

Envirosite ID: 1784494
EPA ID: N/R

ECHO

Facility Name :	WOODLAWN BEACH MIDDLE SCHOOL
Facility Address :	1500 WOODLAWN WAY, GULF BREEZE, FL 32563
County :	SANTA ROSA
Last Inspection Date :	N/R
Registry ID :	110036696144
FIPS Code :	12113
EPA Region :	04
Inspection Count :	0
Last Inspection Days :	N/R
Informal Count :	0

Map Id: 5
Direction: S
Distance: 0.126 mi.
Actual: 662.893 ft.
Elevation: 0.005 mi. / 26.227 ft.
Relative: Lower

Site Name : WOODLAWN BEACH MIDDLE SCHOOL
1500 WOODLAWN WAY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_VSQG] ***(cont.)***

Envirosite ID: 1784494
EPA ID: N/R

ECHO ***(cont.)***

Last Informal Action Date :	N/R
Formal Action Count :	0
Last Formal Action Date :	N/R
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	N/R
Last Penalty Amount :	N/R
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	No Violation Identified
Three-Year Compliance Status :	_____
Collection Method :	ADDRESS MATCHING-HOUSE NUMBER
Reference Point :	CENTER OF A FACILITY OR STATION
Accuracy Meters :	30
Derived Tribes :	N/R
Derived HUC :	03140105
Derived WBD :	031401050203
Derived STCTY FIPS :	12113
Derived Zip :	32563
Derived CD113 :	01
Derived CB2010 :	121130108152045
MYRTK Universe :	NNN
NPDES IDs :	N/R
CWA Permit Types :	N/R
CWA Compliance Tracking :	N/R
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	N/R
CWA Current Compliance Status :	N/R
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	N/R
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC :	N/R
Facility NAICS :	61111 - Elementary and Secondary Schools
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	N/R
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	N/R
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	N/R
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N/R

Map Id: 5
Direction: S
Distance: 0.126 mi.
Actual: 662.893 ft.
Elevation: 0.005 mi. / 26.227 ft.
Relative: Lower

Site Name : WOODLAWN BEACH MIDDLE SCHOOL
1500 WOODLAWN WAY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_VSQG] ***(cont.)***

Envirosite ID: 1784494
EPA ID: N/R

ECHO ***(cont.)***

Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	N
SDWIS Flag :	N
RCRA Flag :	Y
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	Y
NAA Flag :	N/R
Latitude :	30.39243
Longitude :	-87.00794
Last Date in Agency List :	02/10/2020

FRS

Facility Name :	WOODLAWN BEACH MIDDLE SCHOOL
Facility Address :	1500 WOODLAWN WAY, GULF BREEZE, FL 32563
County :	SANTA ROSA
Registry ID :	110036696144
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/31/2020

Source Description :

RCRAInfo is EPA's comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA. RCRAInfo also supports generation of the National Hazardous Waste Biennial Report. All generators and treatment, storage, and disposal facilities who handle hazardous waste are required to report to the EPA Administrator at least once every two years to support creation of the Biennial Report.

Source Description :

The Florida Environmental System Today Application (FIESTA) Data Maintenance (FDM) system maintains entity, environmental interest and affiliation data for the State of Florida.

FRS Environmental Interest

Source and System ID :	FLORIDA DEP - 86624 RCRAINFO - FLR000156786

RCRA_VSQG

Facility Name :	WOODLAWN BEACH MIDDLE SCHOOL
Facility Address :	1500 WOODLAWN WAY, GULF BREEZE, FL 32563
County :	SANTA ROSA

Map Id: 5
Direction: S
Distance: 0.126 mi.
Actual: 662.893 ft.
Elevation: 0.005 mi. / 26.227 ft.
Relative: Lower

Site Name : WOODLAWN BEACH MIDDLE SCHOOL
1500 WOODLAWN WAY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_VSQG] ***(cont.)***

Envirosite ID: 1784494
EPA ID: N/R

RCRA_VSQG ***(cont.)***

Date Form Received by Agency :	05/22/2009
EPA ID :	FLR000156786
Mailing Address :	1500 WOODLAWN WAY, GULF BREEZE, FL 32563-9573
Contact :	VICTOR LOWRIMORE
Contact Address :	1500 WOODLAWN WAY, GULF BREEZE, FL 32563-9573
Contact Country :	US
Contact Telephone :	850-934-4010
Contact Email :	LOWRIMOREV@MAIL.SANTAROSA.K12.FL.US
EPA Region :	04
Land Type :	County
Source Type :	Notification
Classification :	Very Small Quantity Generator

Description :

Handlers that generate 100 kilograms or less of hazardous waste per calendar month, and accumulate 1000 kg or less of hazardous waste at any time; or generate one kilogram or less of acutely hazardous waste per calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste;or generate 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste during any calendar month, and accumulate at any time: 1 kg or less of acutely hazardous waste; or 100 kg or less of any residue or contaminated soil, waste or other debris resulting from the cleanup of a spill, into or on any land or water, of acutely hazardous waste.

Last Date in Agency List :	07/23/2020

Owner/Operator Summary

Owner/Operator Name :	SANTA ROSA COUNTY SCHOOL BOARD
Owner/Operator Address :	5086 CANAL ST, MILTON, FL 32570-2257
Owner/Operator Country :	US
Owner/Operator Telephone :	850-983-5000
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	County
Owner/Operator Type :	Operator
Owner/Operator Start Date :	01/01/1999
Owner/Operator End Date :	N/R

Owner/Operator Name :	SANTA ROSA COUNTY SCHOOL BOARD
Owner/Operator Address :	5086 CANAL ST, MILTON, FL 32570-2257
Owner/Operator Country :	US
Owner/Operator Telephone :	850-983-5000
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	County
Owner/Operator Type :	Owner
Owner/Operator Start Date :	01/01/1999
Owner/Operator End Date :	N/R

Map Id: 5
Direction: S
Distance: 0.126 mi.
Actual: 662.893 ft.
Elevation: 0.005 mi. / 26.227 ft.
Relative: Lower

Site Name : WOODLAWN BEACH MIDDLE SCHOOL
1500 WOODLAWN WAY
GULF BREEZE, FL 32563

Database(s) : [ECHO, FRS, RCRA_VSQG] ***(cont.)***

Envirosite ID: 1784494
EPA ID: N/R

RCRA_VSQG ***(cont.)***

Handler Activities Summary

U.S. Importer of Hazardous Waste :	N
Mixed Waste (Haz. and Radioactive) :	N
Recycler of Hazardous Waste :	N
Transporter of Hazardous Waste :	N
Treater, Storer or Disposer of HW :	N
Underground Injection Activity :	N
On-site Burner Exemption :	N
Furnace Exemption :	N
Used Oil Fuel Burner :	N
Used Oil Processor :	N
Used Oil Refiner :	N
Used Oil Fuel Marketer to Burner :	N
Used Oil Specification Marketer :	N
Used Oil Transfer Facility :	N
Used Oil Transporter :	N

Notices of Violations Summary

Regulation Violated :	N

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL]

Envirosite ID: 1711170
EPA ID: N/R

CS - FL

Facility Name :	The Strip Joint
Facility Address :	1761 Kell Rd, Gulf Breeze, 32563
County :	Santa Rosa County
DEP Cleanup Site Key :	64457611
Program Site ID :	ERIC_3929
Program Source Data :	ERIC
Program Area :	OTHCU
Collection Date :	2019-02-18
Verification Date :	2019-02-18
Load Date :	2020-10-01
Verifier :	WILLIAMS_CA
Collector :	WILLIAMS_CA
Verifier Agency :	N/R
Collection Agency :	N/R
Verification Status :	REVIEWED
Remediation Status :	CLOSED

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

CS - FL ***(cont.)***

Office/District :	NWD
Comments :	Alternate ID: 000000159
Last Date in Agency List :	2020-11-03

ECHO

Facility Name :	FLORIDA DEP #159 (THE STRIP JOINT)
Facility Address :	1761 KELL RD, GULF BREEZE, FL 32563
County :	SANTA ROSA
Last Inspection Date :	01/06/2006
Registry ID :	110015671799
FIPS Code :	12113
EPA Region :	04
Inspection Count :	0
Last Inspection Days :	5147
Informal Count :	0
Last Informal Action Date :	05/23/2003
Formal Action Count :	0
Last Formal Action Date :	10/27/2004
Total Penalties :	0
Penalty Count :	N/R
Last Penalty Date :	10/27/2004
Last Penalty Amount :	27779.3
QTRS IN NC :	0
Programs IN SNC :	0
Current Compliance Status :	No Violation Identified
Three-Year Compliance Status :	_____
Collection Method :	GPS CODE (PSEUDO RANGE) DIFFERENTIAL
Reference Point :	POINT WHERE SUBSTANCE IS MONITORED
Accuracy Meters :	3
Derived Tribes :	N/R
Derived HUC :	03140105
Derived WBD :	031401050202
Derived STCTY FIPS :	12113
Derived Zip :	32563
Derived CD113 :	01
Derived CB2010 :	121130108151030
MYRTK Universe :	NNN
NPDES IDs :	N/R
CWA Permit Types :	N/R
CWA Compliance Tracking :	N/R
CWA NAICS :	N/R
CWA SICS :	N/R
CWA Inspection Count :	N/R
CWA Last Inspection Days :	N/R
CWA Informal Count :	N/R
CWA Formal Action Count :	N/R
CWA Last Formal Action Date :	N/R
CWA Penalties :	N/R
CWA Last Penalty Date :	N/R
CWA Last Penalty Amount :	N/R
CWA Quarters IN NC :	N/R

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159 (THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

ECHO ***(cont.)***

CWA Current Compliance Status :	N/R
CWA Current SNC Flag :	N
CWA 13 Quarters Compliance Status :	N/R
CWA 13 Quarters Effluent Exceedances:	N/R
CWA Three-Year QNCR Codes :	N/R
DFR URL :	Click here for hyperlink provided by the agency.
Facility SIC :	N/R
Facility NAICS :	81142 562211 - Reupholstery and Furniture Repair. Hazardous Waste Treatment and Disposal.
Facility Last Inspection EPA Date :	N/R
Facility Last Inspection State Date :	01/06/2006
Facility Last Formal Act EPA Date :	N/R
Facility Last Formal Act State Date :	10/27/2004
Facility Last Informal Act EPA Date :	N/R
Facility Last Informal Act State Date:	05/23/2003
Facility Federal Agency :	N/R
TRI Reporter :	N/R
Facility Imp Water Flag :	N/R
Current SNC Flag :	N
Indian County Flag :	N
Federal Flag :	N/R
US Mexico Border Flag :	N/R
Chesapeak Bay Flag :	N/R
AIR Flag :	N
NPDES Flag :	N
SDWIS Flag :	N
RCRA Flag :	Y
TRI Flag :	N
GHG Flag :	N
Major Flag :	N/R
Active Flag :	Y
NAA Flag :	N/R
Latitude :	30.400381
Longitude :	-87.008626
Last Date in Agency List :	02/10/2020

FRS

Facility Name :	FLORIDA DEP #159 (THE STRIP JOINT)
Facility Address :	1761 KELL RD, GULF BREEZE, FL 325638831
County :	SANTA ROSA
Registry ID :	110015671799
FRS Facility URL :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	08/31/2020

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

FRS ***(cont.)***

Source Description :

RCRAInfo is EPA's comprehensive information system that supports the Resource Conservation and Recovery Act (RCRA) of 1976 and the Hazardous and Solid Waste Amendments (HSWA) of 1984 through the tracking of events and activities related to facilities that generate, transport, and treat, store, or dispose of hazardous waste. RCRAInfo allows RCRA program staff to track the notification, permit, compliance, and corrective action activities required under RCRA. RCRAInfo also supports generation of the National Hazardous Waste Biennial Report. All generators and treatment, storage, and disposal facilities who handle hazardous waste are required to report to the EPA Administrator at least once every two years to support creation of the Biennial Report.

Source Description :

The Florida Environmental System Today Application (FIESTA) Data Maintenance (FDM) system maintains entity, environmental interest and affiliation data for the State of Florida.

FRS Environmental Interest

Source and System ID :	FLORIDA DEP - 35509 FLORIDA DEP - 78713 RCRAINFO - FLR000098186 RCRAINFO - FLR000137539

GWIF - FL

Facility Name :	THE STRIP JOINT
Facility Address :	1761 KELL RD, GULF BREEZE, 32563
County :	SANTA ROSA
Facility ID :	DEP0215
Facility Type :	TOX SURVEY
Location ID :	250609
Location Method :	GPS = Uncorrected GPS
GPS ID :	250609
GPS Date :	2010-10-22
HAE (Height Above Ellipsoid) :	10.89
Project ID :	TOX-REQ
Insp Name :	Herman Davies
Insp CHD :	SANTA ROSA
Request Number :	N/R
Datum :	N/R
Software :	Risk_Solo_v2
Streetside :	N/R
Agency :	DOH
Comment :	N/R
Latitude :	30.400362
Longitude :	-87.00893
Last Date in Agency List :	2020-12-02

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN

Facility Name :	THE STRIP JOINT
Facility Address :	1761 KELL RD, GULF BREEZE, FL 32563
County :	SANTA ROSA
Date Form Received by Agency :	03/20/2007
EPA ID :	FLR000098186
Mailing Address :	2600 BLAIRSTONE RD, TALLAHASSEE, FL 32399-6516
Contact :	HOWARD FORD
Contact Address :	1761 KELL RD, GULF BREEZE, FL 32563
Contact Country :	US
Contact Telephone :	850-932-5222
Contact Email :	N/R
EPA Region :	04
Land Type :	Private
Source Type :	Notification
Classification :	Not a generator, verified
Description :	Not a generator, verified
Last Date in Agency List :	07/23/2020

Owner/Operator Summary

Owner/Operator Name :	HOWARD FORD
Owner/Operator Address :	1761 KELL RD, GULF BREEZE, FL 32563-8831
Owner/Operator Country :	US
Owner/Operator Telephone :	N/R
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Owner
Owner/Operator Start Date :	04/24/2003
Owner/Operator End Date :	N/R

Owner/Operator Name :	THE STRIP JOINT
Owner/Operator Address :	2600 BLAIRSTONE RD, TALLAHASSEE, FL 32399-6516
Owner/Operator Country :	US
Owner/Operator Telephone :	N/R
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	Private
Owner/Operator Type :	Operator
Owner/Operator Start Date :	04/24/2003
Owner/Operator End Date :	N/R

Handler Activities Summary

U.S. Importer of Hazardous Waste :	N
Mixed Waste (Haz. and Radioactive) :	N
Recycler of Hazardous Waste :	N
Transporter of Hazardous Waste :	N
Treater, Storer or Disposer of HW :	N

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Underground Injection Activity :	N
On-site Burner Exemption :	N
Furnace Exemption :	N
Used Oil Fuel Burner :	N
Used Oil Processor :	N
Used Oil Refiner :	N
Used Oil Fuel Marketer to Burner :	N
Used Oil Specification Marketer :	N
Used Oil Transfer Facility :	N
Used Oil Transporter :	N

Historical Generators

Date Form Received by Agency :	01/06/2006
Facility Name :	THE STRIP JOINT
Classification :	Not a generator, verified

Notices of Violations Summary

Details for this site have been truncated due to the large number of available details for this site within this dataset. For the complete details for this site, contact your Envirosite account representative for a complimentary site report containing all of the details available.

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Enforcement Action :	DEP CONSENT ORDER
Enforcement Action Date :	10/27/2004
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	27779.3
Paid Penalty Amount :	27779.3

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Enforcement Action :	DEP MEETING
Enforcement Action Date :	07/09/2003
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Enforcement Action :	DEP RCRA REFERRAL TO DEP CLEANUP
Enforcement Action Date :	11/23/2004
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Enforcement Action :	DEP WARNING LETTER
Enforcement Action Date :	05/23/2003
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Enforcement Action :	N/R
Enforcement Action Date :	N/R
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	N/R
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - General Facility Standards
Enforcement Action :	DEP CONSENT ORDER
Enforcement Action Date :	10/27/2004
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	27779.3
Paid Penalty Amount :	27779.3

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - General Facility Standards
Enforcement Action :	DEP MEETING
Enforcement Action Date :	07/09/2003
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - General Facility Standards
Enforcement Action :	DEP RCRA REFERRAL TO DEP CLEANUP
Enforcement Action Date :	11/23/2004
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y
Area of Violation :	TSD - General Facility Standards
Enforcement Action :	DEP WARNING LETTER
Enforcement Action Date :	05/23/2003
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	State
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Date of Violation :	04/14/2003
Date Achieved Compliance :	10/27/2004
Regulation Violated :	Y

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Area of Violation :	TSD - General Facility Standards
Enforcement Action :	N/R
Enforcement Action Date :	N/R
Enf. Disposition Status :	N/R
Enf. Disp. Status Date :	N/R
Violation Lead Agency :	State
Enforcement Lead Agency :	N/R
Proposed Penalty Amount :	N/R
Final Penalty Amount :	N/R
Paid Penalty Amount :	N/R

Evaluation Action Summary

Evaluation Date :	01/06/2006
Evaluation :	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of Violation :	N/R
Date Achieved Compliance :	N/R
Evaluation Lead Agency :	State

Evaluation Date :	05/03/2005
Evaluation :	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of Violation :	N/R
Date Achieved Compliance :	N/R
Evaluation Lead Agency :	State

Evaluation Date :	10/27/2004
Evaluation :	NOT A SIGNIFICANT NON-COMPLIER
Area of Violation :	N/R
Date Achieved Compliance :	N/R
Evaluation Lead Agency :	State

Evaluation Date :	04/22/2003
Evaluation :	CASE DEVELOPMENT INSPECTION
Area of Violation :	N/R
Date Achieved Compliance :	N/R
Evaluation Lead Agency :	State

Evaluation Date :	04/14/2003
Evaluation :	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of Violation :	TSD - Contingency Plan and Emergency Procedures
Date Achieved Compliance :	10/27/2004
Evaluation Lead Agency :	State

Evaluation Date :	04/14/2003
Evaluation :	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of Violation :	TSD - General Facility Standards
Date Achieved Compliance :	10/27/2004
Evaluation Lead Agency :	State

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_NONGEN ***(cont.)***

Evaluation Date :	04/14/2003
Evaluation :	COMPLIANCE EVALUATION INSPECTION ON-SITE
Area of Violation :	TSD - Preparedness and Prevention
Date Achieved Compliance :	10/27/2004
Evaluation Lead Agency :	State

Evaluation Date :	04/14/2003
Evaluation :	SIGNIFICANT NON-COMPLIER
Area of Violation :	N/R
Date Achieved Compliance :	N/R
Evaluation Lead Agency :	State

RCRA_SQG

Facility Name :	FLORIDA DEP #159 (THE STRIP JOINT)
Facility Address :	1761 KELL RD, GULF BREEZE, FL 32563
County :	SANTA ROSA

Date Form Received by Agency :	03/20/2007
EPA ID :	FLR000137539
Mailing Address :	2600 BLAIRSTONE RD MS 4520, TALLAHASSEE, FL 32399
Contact :	JOHN WINTERS
Contact Address :	2600 BLAIR STONE RD MS 4520, TALLAHASSEE, FL 32399-2400
Contact Country :	US
Contact Telephone :	850-245-8927
Contact Email :	JOHN.WINTERS@DEP.STATE.FL.US
EPA Region :	04
Land Type :	Private
Source Type :	Notification
Classification :	Small Quantity Generator
Description :	Handlers that generate more than 100 and less than 1000 kilograms of hazardous waste during any calendar month and accumulate less than 6000 kg of hazardous waste at any time; or generate 100 kg or less of hazardous waste during any calendar month, and accumulate more than 1000 kg of hazardous waste at any time.
Last Date in Agency List :	07/23/2020

Owner/Operator Summary

Owner/Operator Name :	UNKNOWN
Owner/Operator Address :	FL 32399-2400
Owner/Operator Country :	N/R
Owner/Operator Telephone :	850-245-8748
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	State
Owner/Operator Type :	Operator
Owner/Operator Start Date :	01/01/2004
Owner/Operator End Date :	N/R

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_SQG ***(cont.)***

Owner/Operator Name :	UNKNOWN
Owner/Operator Address :	FL 32399-2400
Owner/Operator Country :	N/R
Owner/Operator Telephone :	850-245-8748
Owner/Operator Email :	N/R
Owner/Operator Fax :	N/R
Legal Status :	State
Owner/Operator Type :	Owner
Owner/Operator Start Date :	01/01/2004
Owner/Operator End Date :	N/R

Handler Activities Summary

U.S. Importer of Hazardous Waste :	N
Mixed Waste (Haz. and Radioactive) :	N
Recycler of Hazardous Waste :	N
Transporter of Hazardous Waste :	N
Treater, Storer or Disposer of HW :	N
Underground Injection Activity :	N
On-site Burner Exemption :	N
Furnace Exemption :	N
Used Oil Fuel Burner :	N
Used Oil Processor :	N
Used Oil Refiner :	N
Used Oil Fuel Marketer to Burner :	N
Used Oil Specification Marketer :	N
Used Oil Transfer Facility :	N
Used Oil Transporter :	N

Hazardous Waste Summary

Waste Code / Name :

F001 - THE FOLLOWING SPENT HALOGENATED SOLVENTS USED IN DEGREASING: TETRACHLOROETHYLENE, TRICHLORETHYLENE, METHYLENE CHLORIDE, 1,1,1-TRICHLOROETHANE, CARBON TETRACHLORIDE AND CHLORINATED FLUOROCARBONS; ALL SPENT SOLVENT MIXTURES/BLENDS USED IN DEGREASING CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F002, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Waste Code / Name :

F002 - THE FOLLOWING SPENT HALOGENATED SOLVENTS: TETRACHLOROETHYLENE, METHYLENE CHLORIDE, TRICHLOROETHYLENE, 1,1,1-TRICHLOROETHANE, CHLOROBENZENE, 1,1,2-TRICHLORO-1,2,2-TRIFLUOROETHANE, ORTHO-DICHLOROBENZENE, TRICHLOROFLUOROMETHANE, AND 1,1,2, TRICHLOROETHANE; ALL SPENT SOLVENT MIXTURES/BLENDS CONTAINING, BEFORE USE, A TOTAL OF TEN PERCENT OR MORE (BY VOLUME) OF ONE OR MORE OF THE ABOVE HALOGENATED SOLVENTS OR THOSE SOLVENTS LISTED IN F001, F004, AND F005; AND STILL BOTTOMS FROM THE RECOVERY OF THESE SPENT SOLVENTS AND SPENT SOLVENT MIXTURES.

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

RCRA_SQG ***(cont.)***

Notices of Violations Summary
Regulation Violated : N

RESP PARTY - FL

Facility Name : THE STRIP JOINT
Facility Address : 1761 KELL RD, GULF BREEZE, 32563

Site ID : 213277
Project ID : 267903
Status : OPEN
District : NWD
ISDR Date : 2003-05-19
Project MGR : KENNEDY_MD
OGC Number : N/R
Contaminants : N/R
Offsite COC : N/R
Priority Score : N/R
County ID : 57
Datum ID : WGS84
Method ID : DGPS
Feature : N/R
Object of Interest : FACILITY
Proximity : APPRX
Collect Username : N/R
Collect Affiliation : N/R
Collect Program ID : CL
Collect Date : 2003-04-14 00:00:00
Map Source : N/R
Map Source Scale : 0
Interpolation Scale : N/R
Coordinate Accuracy ID : 0
Verify Method ID : N/R
Verify Username : N/R
Verify Affiliation : N/R
Verifying Program ID : N/R
Verification Date : N/R
Documents : Click here for hyperlink provided by the agency.
Latitude : 30.400194
Longitude : 87.008528
Last Date in Agency List : 2017-10-09

SHWS - FL

Facility Name : The Strip Joint
Facility Address : 1761 Kell Rd, Gulf Breeze
County : Santa Rosa

Site Number : 159
ERIC Number : ERIC_3929
Status : Delisted
Site Category : Industrial Solvents Manufacturing

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

SHWS - FL ***(cont.)***

DEP District :	Northwest
DEP Contact :	Waste Cleanup Program
Link :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-10-21

SPILLS - FL

Facility Name :	The Strip Joint
Facility Address :	1761 Kell Road, GULF BREEZE
County :	Santa Rosa
Incident Number :	22795
Incident Date :	2003-04-22
Incident Status :	Closed
Incident Type :	Inland
Incident Party Type :	Responsible Party
Pollutant Name :	Methylene chloride
Pollutant Actual Volume :	0
Pollutant - Unit Measure :	gallon
Pollutant Category :	Solvent
Description :	Complaint
On-scene Response :	N/R
State Warning Point Date :	N/R
State Warning Point Code :	N/R
Sector Code :	N/R
Facility Reported :	N/R
Business Type :	N/R
Petroleum Flag :	N/R
Off-site Release Flag :	N/R
Release Source Code :	N/R
Release Description :	N/R
Last Date in Agency List :	2018-04-28

Incident Number :	22795
Incident Date :	2003-04-22
Incident Status :	Closed
Incident Type :	Inland
Incident Party Type :	Responsible Party
Pollutant Name :	Methylene chloride
Pollutant Actual Volume :	0
Pollutant - Unit Measure :	gallon
Pollutant Category :	Solvent
Description :	Dumping
On-scene Response :	N/R
State Warning Point Date :	N/R
State Warning Point Code :	N/R
Sector Code :	N/R
Facility Reported :	N/R
Business Type :	N/R
Petroleum Flag :	N/R
Off-site Release Flag :	N/R
Release Source Code :	N/R

Map Id: 6
Direction: N
Distance: 0.184 mi.
Actual: 970.997 ft.
Elevation: 0.005 mi. / 27.539 ft.
Relative: Lower

Site Name : THE STRIP JOINT | FLORIDA DEP #159
(THE STRIP JOINT)
1761 KELL RD
GULF BREEZE | Gulf Breeze, FL

Database(s) : [CS - FL, ECHO, FRS, GWIF - FL, RCRA_NONGEN, RCRA_SQG, RESP PARTY - FL, SHWS - FL, SPILLS - FL] ***(cont.)***

Envirosite ID: 1711170
EPA ID: N/R

SPILLS - FL ***(cont.)***

Release Description :	N/R
Last Date in Agency List :	2018-04-28

Map Id: B7
Direction: ENE
Distance: 0.207 mi.
Actual: 1094.553 ft.
Elevation: 0.007 mi. / 34.462 ft.
Relative: Higher

Site Name : TEXACO-GREENS
5260 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL]

Envirosite ID: 1527309
EPA ID: N/R

DWM CONTAM - FL

Facility Name :	TEXACO-GREENS
Facility Address :	5260 GULF BREEZE PKWY, GULF BREEZE, FL 32561
County :	SANTA ROSA
Score Effective Date :	1998-01-06
Score :	60
Score Ranked :	N/R
Rank :	N/R
Facility ID :	8516382
Facility Status :	CLOSED
Facility Type :	A - Retail Station
County Code :	57
District :	NWD
Operator :	GREEN, KEITH
Phone :	(904)932-5735
Name Changed Date :	N/R
Address Changed Date :	2002-11-21
Latitude Degrees :	30
Latitude Minutes :	23
Latitude Seconds :	58.6198
Longitude Degrees :	87
Longitude Minutes :	0
Longitude Seconds :	12.295
Feature :	N/R
Method :	DGPS
Datum :	0
Section/Township/Range :	SEC 24, TWP 2S, RNG 28W
Related Party Begin Date :	1985-07-01
Related Party ID :	8855
Primary Related Party Role :	ACCOUNT OWNER
Related Party Name :	GREEN, KEITH
Related Party Address 1 :	3272 WEST AVE, GULF BREEZE, FL 32561-3244
Related Party Address 2 :	N/R
Contact :	KEITH GREEN
Related Party Phone :	(904)932-5735

Map Id: B7
Direction: ENE
Distance: 0.207 mi.
Actual: 1094.553 ft.
Elevation: 0.007 mi. / 34.462 ft.
Relative: Higher

Site Name : TEXACO-GREENS
5260 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527309
EPA ID: N/R

DWM CONTAM - FL ***(cont.)***

Related Party Extension :	N/R
Related Party Bad Address Indicator :	N
Last Date in Agency List :	2020-10-13

LUST - FL

Facility Name :	TEXACO-GREENS
Facility Address :	5260 GULF BREEZE PKWY, GULF BREEZE, 32561
County :	SANTA ROSA
Facility ID :	8516382
Facility Status :	CLOSED
Facility Type :	Retail Station
Phone :	9049325735
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	8855
Owner Name :	GREEN, KEITH
Owner Address :	3272 WEST AVE, GULF BREEZE, FL 32561
Owner Address 2 :	N/R
Contact :	KEITH GREEN
Owner Phone :	9049325735

Discharge Details

Discharge Date :	03/03/1987
Status Date :	07/22/1991
Status :	NFA COMPLETE
DEP Code :	P
Description :	CLEANUP REQUIRED
Score Date :	01/06/1998
Score :	00060
CU Status :	NFA

UST - FL

Facility Name :	TEXACO-GREENS
Facility Address :	5260 GULF BREEZE PKWY, GULF BREEZE, 32561
County :	SANTA ROSA

Site Details

Facility ID :	8516382
Facility Phone :	9049325735
Facility Status :	CLOSED
Facility Type :	Retail Station

Map Id: B7
Direction: ENE
Distance: 0.207 mi.
Actual: 1094.553 ft.
Elevation: 0.007 mi. / 34.462 ft.
Relative: Higher

Site Name : TEXACO-GREENS
5260 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527309
EPA ID: N/R

UST - FL ***(cont.)***

DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	8855
Owner Name :	GREEN, KEITH
Owner Address 1 :	3272 WEST AVE, GULF BREEZE, FL 32561
Owner Address 2 :	N/R
Contact :	KEITH GREEN
Owner Phone :	9049325735

Tank Information

Tank ID :	1
Gallons :	2000
Tank Location :	UNDERGROUND
Substance :	Leaded Gas
Install Date :	07/01/1964
Status :	Removed from Site
Status Date :	06/01/1990
Construction Items :	-
Monitoring Items :	-
Piping Items :	-

Tank Information

Tank ID :	2
Gallons :	2000
Tank Location :	UNDERGROUND
Substance :	Leaded Gas
Install Date :	07/01/1964
Status :	Removed from Site
Status Date :	06/01/1990
Construction Items :	-
Monitoring Items :	-

Map Id: B7
Direction: ENE
Distance: 0.207 mi.
Actual: 1094.553 ft.
Elevation: 0.007 mi. / 34.462 ft.
Relative: Higher

Site Name : TEXACO-GREENS
5260 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [DWM CONTAM - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527309
EPA ID: N/R

UST - FL ***(cont.)***

Piping Items : -

Tank Information
Tank ID : 3
Gallons : 2000
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 07/01/1964
Status : Removed from Site
Status Date : 06/01/1990

Construction Items : -

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 4
Gallons : 2000
Tank Location : UNDERGROUND
Substance : Vehicular Diesel
Install Date : 07/01/1983
Status : Removed from Site
Status Date : 06/01/1990

Construction Items : -

Monitoring Items : -

Piping Items : -

Map Id: B8
Direction: NE
Distance: 0.209 mi.
Actual: 1103.313 ft.
Elevation: 0.006 mi. / 33.783 ft.
Relative: Higher

Site Name : GREENS TEXACO
5256 NAVARRE PKWY
NAVARRE, FL 32563

Database(s) : [GWIF - FL]

Envirosite ID: 1727156
EPA ID: N/R

GWIF - FL

Facility Name :	GREENS TEXACO
Facility Address :	5256 NAVARRE PKWY, NAVARRE, 32563
County :	SANTA ROSA
Facility ID :	8516382
Facility Type :	PETROLEUM
Location ID :	181667
Location Method :	DGPS = Differentially Corrected GPS
GPS ID :	181667
GPS Date :	2000-11-27
HAE (Height Above Ellipsoid) :	15.28
Project ID :	SUPER
Insp Name :	JACK PREWITT
Insp CHD :	SANTA ROSA
Request Number :	N/R
Datum :	WS1984
Software :	N/R
Streetside :	N/R
Agency :	N/R
Comment :	N/R
Latitude :	30.399622
Longitude :	-87.003396
Last Date in Agency List :	2020-12-02

Map Id: B9
Direction: ENE
Distance: 0.229 mi.
Actual: 1210.630 ft.
Elevation: 0.007 mi. / 34.928 ft.
Relative: Higher

Site Name : WRECKER RICKS
5265 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [UST - FL]

Envirosite ID: 1528490
EPA ID: N/R

UST - FL

Facility Name :	WRECKER RICKS
Facility Address :	5265 GULF BREEZE PKWY, GULF BREEZE, 32561
County :	SANTA ROSA

Site Details

Facility ID :	9102443
Facility Phone :	9044327004
Facility Status :	CLOSED
Facility Type :	Retail Station
DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Map Id: B9
Direction: ENE
Distance: 0.229 mi.
Actual: 1210.630 ft.
Elevation: 0.007 mi. / 34.928 ft.
Relative: Higher

Site Name : WRECKER RICKS
5265 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [UST - FL] ***(cont.)***

Envirosite ID: 1528490
EPA ID: N/R

UST - FL ***(cont.)***

Owner Information
- Owner ID : 7798
- Owner Name : FRANKS, CHARLES W & ERNESTINE K
- Owner Address 1 : 3939 MENENDEZ DR, PENSACOLA, FL 32503
- Owner Address 2 : N/R
- Contact : CHARLES W & ERNESTINE K FRANKS
- Owner Phone : 9044327004

Tank Information
- Tank ID : 1
- Gallons : 888
- Tank Location : UNDERGROUND
- Substance : Unknown/Not Reported
- Install Date : N/R
- Status : Removed from Site
- Status Date : 06/30/1977
- Construction Items : -
- Monitoring Items : -
- Piping Items : -

Tank Information
- Tank ID : 2
- Gallons : 888
- Tank Location : UNDERGROUND
- Substance : Unknown/Not Reported
- Install Date : N/R
- Status : Removed from Site
- Status Date : 06/30/1977
- Construction Items : -
- Monitoring Items : -
- Piping Items : -

Tank Information
- Tank ID : 3
- Gallons : 500
- Tank Location : UNDERGROUND
- Substance : Unknown/Not Reported
- Install Date : N/R
- Status : Removed from Site

Map Id: B9
Direction: ENE
Distance: 0.229 mi.
Actual: 1210.630 ft.
Elevation: 0.007 mi. / 34.928 ft.
Relative: Higher

Site Name : WRECKER RICKS
5265 GULF BREEZE PKWY
GULF BREEZE, FL 32561

Database(s) : [UST - FL] ***(cont.)***

Envirosite ID: 1528490
EPA ID: N/R

UST - FL ***(cont.)***

Status Date : 05/31/1991

Construction Items : -

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 4
Gallons : 500
Tank Location : UNDERGROUND
Substance : Unknown/Not Reported
Install Date : N/R
Status : Removed from Site
Status Date : 05/31/1991

Construction Items : -

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 5
Gallons : 500
Tank Location : UNDERGROUND
Substance : Unknown/Not Reported
Install Date : N/R
Status : Removed from Site
Status Date : 05/31/1991

Construction Items : -

Monitoring Items : -

Piping Items : -

Map Id: B10
Direction: ENE
Distance: 0.234 mi.
Actual: 1233.103 ft.
Elevation: 0.007 mi. / 34.862 ft.
Relative: Higher

Site Name : THE MEXICAN CONNECTION
5287 HWY. 98
NAVARRE, FL 32563

Database(s) : [GWIF - FL]

Envirosite ID: 1731410
EPA ID: N/R

GWIF - FL

Facility Name :	THE MEXICAN CONNECTION
Facility Address :	5287 HWY. 98, NAVARRE, 32563
County :	SANTA ROSA
Facility ID :	9102443
Facility Type :	PETROLEUM
Location ID :	195637
Location Method :	DGPS = Differentially Corrected GPS
GPS ID :	195637
GPS Date :	2001-02-07
HAE (Height Above Ellipsoid) :	11.51
Project ID :	SUPER
Insp Name :	JACK PREWITT
Insp CHD :	SANTA ROSA
Request Number :	N/R
Datum :	WS1984
Software :	N/R
Streetside :	N/R
Agency :	N/R
Comment :	FORMERLY WRECKER RICKS
Latitude :	30.399004
Longitude :	-87.002612
Last Date in Agency List :	2020-12-02

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL]

Envirosite ID: 1528990
EPA ID: N/R

CS - FL

Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PKWY, GULF BREEZE, 32563
County :	Santa Rosa County
DEP Cleanup Site Key :	64463175
Program Site ID :	9805882
Program Source Data :	STCM
Program Area :	PETRO
Collection Date :	2003-09-29
Verification Date :	2003-11-19
Load Date :	2020-10-01
Verifier :	MONTGOMERY_M17
Collector :	MONTGOMERY_MC
Verifier Agency :	COUNTY HEALTH DEPARTMENT
Collection Agency :	TKESPH
Verification Status :	REVIEWED

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

CS - FL ***(cont.)***

Remediation Status :	ACTIVE
Office/District :	NWD
Comments :	N/R
Last Date in Agency List :	2020-11-03

DWM CONTAM - FL

Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PKWY, GULF BREEZE, FL 32563-9286
County :	SANTA ROSA
Score Effective Date :	N/R
Score :	N/R
Score Ranked :	N/R
Rank :	N/R
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	A - Retail Station
County Code :	57
District :	NWD
Operator :	MARTIN HILFINGER
Phone :	(800)225-9702
Name Changed Date :	N/R
Address Changed Date :	2020-03-03
Latitude Degrees :	30
Latitude Minutes :	23
Latitude Seconds :	49.7505
Longitude Degrees :	87
Longitude Minutes :	0
Longitude Seconds :	53.8696
Feature :	N/R
Method :	N/R
Datum :	N/R
Section/Township/Range :	N/R
Related Party Begin Date :	2018-11-26
Related Party ID :	77655
Primary Related Party Role :	ACCOUNT OWNER
Related Party Name :	TOM THUMB EG AMERICA
Related Party Address 1 :	165 FLANDERS RD, WESTBOROUGH, MA 1581
Related Party Address 2 :	ATTN: STOR TANK REGIS
Contact :	MARTIN HILFINGER
Related Party Phone :	(800)225-9702
Related Party Extension :	N/R
Related Party Bad Address Indicator :	N
Last Date in Agency List :	2020-10-13

FA 3 - FL

Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PARKWAY, GULF BREEZE, 32563
County :	SANTA ROSA
Effectivity Date :	2019-04-20
Expiration Date :	2020-07-20

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2018-04-20
Expiration Date :	2019-04-20
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2017-05-01
Expiration Date :	2018-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2016-05-01
Expiration Date :	2017-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2014-05-01
Expiration Date :	2015-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2011-05-01
Expiration Date :	2012-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13

Effectivity Date :	2010-05-01
Expiration Date :	2011-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13
Effectivity Date :	2009-05-01
Expiration Date :	2010-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13
Effectivity Date :	2007-05-01
Expiration Date :	2009-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8506825171
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	302 W 3RD ST SU# 300 ATTN: STOR TANK REGIS, CINCINNATI, OH 45202
Contact Name :	DAVE DAIGLE
Phone :	8506825171
Last Date in Agency List :	2020-02-13
Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PKWY, GULF BREEZE, 32563
County :	SANTA ROSA
Effectivity Date :	2019-04-20
Expiration Date :	2020-07-20
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2018-04-20
Expiration Date :	2019-04-20
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2017-05-01
Expiration Date :	2018-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2016-05-01
Expiration Date :	2017-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION INSURANCE COMPANY
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

Effectivity Date :	2014-05-01
Expiration Date :	2015-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2011-05-01
Expiration Date :	2012-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2010-05-01
Expiration Date :	2011-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2009-05-01
Expiration Date :	2010-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

FA 3 - FL ***(cont.)***

DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

Effectivity Date :	2007-05-01
Expiration Date :	2009-05-01
Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ILLINOIS UNION
Facility Phone :	8002259702
Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Address :	165 FLANDERS RD ATTN: STOR TANK REGIS, WESTBOROUGH, MA 1581
Contact Name :	MARTIN HILFINGER
Phone :	8002259702
Last Date in Agency List :	2020-12-04

LUST - FL

Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PKWY, GULF BREEZE, 32563
County :	SANTA ROSA

Facility ID :	9805882
Facility Status :	OPEN
Facility Type :	Retail Station
Phone :	8002259702
Last Date in Agency List :	08/27/2020

Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Owner Address :	165 FLANDERS RD, WESTBOROUGH, MA 1581
Owner Address 2 :	ATTN: STOR TANK REGIS
Contact :	MARTIN HILFINGER
Owner Phone :	8002259702

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

LUST - FL ***(cont.)***

Discharge Details

Discharge Date :	07/03/2019
Status Date :	07/15/2019
Status :	VERIFIED CONTAMINATION, CLEANUP REQUIRED
DEP Code :	P
Description :	CLEANUP REQUIRED
Score Date :	N/R
Score :	N/R
CU Status :	VCCR

UST - FL

Facility Name :	TOM THUMB FOOD STORE #140
Facility Address :	4991 GULF BREEZE PKWY, GULF BREEZE, 32563
County :	SANTA ROSA

Site Details

Facility ID :	9805882
Facility Phone :	8002259702
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	77655
Owner Name :	TOM THUMB EG AMERICA
Owner Address 1 :	165 FLANDERS RD, WESTBOROUGH, MA 1581
Owner Address 2 :	ATTN: STOR TANK REGIS
Contact :	MARTIN HILFINGER
Owner Phone :	8002259702

Tank Information

Tank ID :	1
Gallons :	15000
Tank Location :	UNDERGROUND
Substance :	Unleaded Gas
Install Date :	05/01/2003
Status :	In Service
Status Date :	05/01/2003
Construction Items :	Overfill/Spill - Ball check valve Overfill/Spill - Level gauges/alarms Overfill/Spill - Spill containment bucket Overfill/Spill - Tight fill

Map Id: 11
Direction: WNW
Distance: 0.236 mi.
Actual: 1245.538 ft.
Elevation: 0.006 mi. / 30.988 ft.
Relative: Higher

Site Name : TOM THUMB FOOD STORE #140
4991 GULF BREEZE PKWY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528990
EPA ID: N/R

UST - FL ***(cont.)***

Primary Construction - Fiberglass clad steel
Secondary Containment - Double wall

Monitoring Items :
Internal Tk Monitoring - Automatic tank gauging - USTs
Internal Tk Monitoring - Monitor dbl wall tank space
Miscellaneous - Continuous electronic sensing
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Miscellaneous Attributes - Dispenser liners
Miscellaneous Attributes - Pressurized piping system
Primary Construction - Approved synthetic material
Secondary Containment - Double wall - pipe jacket

Tank Information

Tank ID :	2
Gallons :	12000
Tank Location :	UNDERGROUND
Substance :	Unleaded Gas
Install Date :	05/01/2003
Status :	In Service
Status Date :	05/01/2003

Construction Items :
Overfill/Spill - Ball check valve
Overfill/Spill - Level gauges/alarms
Overfill/Spill - Spill containment bucket
Overfill/Spill - Tight fill
Primary Construction - Fiberglass clad steel
Secondary Containment - Double wall

Monitoring Items :
Internal Tk Monitoring - Automatic tank gauging - USTs
Internal Tk Monitoring - Monitor dbl wall tank space
Miscellaneous - Continuous electronic sensing
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Miscellaneous Attributes - Dispenser liners
Miscellaneous Attributes - Pressurized piping system
Primary Construction - Approved synthetic material
Secondary Containment - Double wall - pipe jacket

Map Id: 12
Direction: NE
Distance: 0.292 mi.
Actual: 1539.140 ft.
Elevation: 0.007 mi. / 34.367 ft.
Relative: Higher

Site Name : MIDWAY WATER-CLEANUP/SRCO
1759 ABERCROMBIE ROAD
GULF BREEZE, FL 32561

Database(s) : [RESP PARTY - FL]

Envirosite ID: 1612352
EPA ID: N/R

RESP PARTY - FL

Facility Name :	MIDWAY WATER-CLEANUP/SRCO
Facility Address :	1759 ABERCROMBIE ROAD, GULF BREEZE, 32561
Site ID :	75517
Project ID :	87387
Status :	CLOSED
District :	NWD
ISDR Date :	1995-09-06
Project MGR :	ISPHORDING_G
OGC Number :	N/R
Contaminants :	N/R
Offsite COC :	N/R
Priority Score :	N/R
County ID :	57
Datum ID :	WGS84
Method ID :	UNVR
Feature :	N/R
Object of Interest :	CAP_RAP SITE
Proximity :	VICIN
Collect Username :	KNUTH_B
Collect Affiliation :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Collect Program ID :	CL
Collect Date :	2005-02-25 10:18:04
Map Source :	4497
Map Source Scale :	1999 doqs
Interpolation Scale :	N/R
Coordinate Accuracy ID :	3
Verify Method ID :	DPHO
Verify Username :	KNUTH_B
Verify Affiliation :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Verifying Program ID :	CL
Verification Date :	2005-02-25 10:18:04
Documents :	Click here for hyperlink provided by the agency.
Latitude :	30.401608
Longitude :	87.003857
Last Date in Agency List :	2020-10-15

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL]

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL

Sample Date :	2005-08-03
Sample ID :	050804-061
Sample Type :	RESAMPLE
FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

Value :	0.25
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-050804-013
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2003-01-22
Sample ID :	030124-014
Sample Type :	COMPLIANCE MONITORING
FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-030124-03
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2001-12-12
Sample ID :	011214-069
Sample Type :	COMPLIANCE
FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-011214-14
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

Sample Date :	2002-04-30
Sample ID :	020502-096
Sample Type :	FIRST SAMPL
FLUW ID :	AAA5283
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-020502-18
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2011-05-17
Sample ID :	110419-071
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUNITY WATER SYSTEM (>100,000 GALLONS/DAY)
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-110419-010
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04

Sample Date :	2011-05-17
Sample ID :	110419-072
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUNITY WATER SYSTEM (>100,000 GALLONS/DAY)
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

Job Name :	SANTAROSA-110419-010
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04
Sample Date :	2011-04-13
Sample ID :	110401-033
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUNITY WATER SYSTEM (>100,000 GALLONS/DAY)
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-110401-012
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04
Sample Date :	2002-04-30
Sample ID :	020502-096
Sample Type :	FIRST SAMPL
FLUW ID :	AAA5283
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUN
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-020502-18
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04
Sample Date :	2011-05-17
Sample ID :	110419-071
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-110419-010
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2011-05-17
Sample ID :	110419-072
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-110419-010
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2011-04-13
Sample ID :	110401-033
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF8057
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.22
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-110401-012
Customer ID :	N/R
Description :	Community Well
Last Date in Agency List :	2015-11-25

Sample Date :	2005-08-03
Sample ID :	050804-061
Sample Type :	RESAMPLE

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.25
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUNITY WATER SYSTEM (>100,000 GALLONS/DAY)
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-050804-013
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04

Sample Date :	2003-01-22
Sample ID :	030124-014
Sample Type :	COMPLIANCE MONITORING
FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUNITY WATER SYSTEM (>100,000 GALLONS/DAY)
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-030124-03
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04

Sample Date :	2001-12-12
Sample ID :	011214-069
Sample Type :	COMPLIANCE
FLUW ID :	AAA0338
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.12
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	MIDWAY WATER SYSTEM, INC.
Well Address :	4971 GULF BREEZE PARKWAY
Well Type :	40 - COMMUN
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-011214-14
Customer ID :	N/R
Description :	N/R

Map Id: 13
Direction: W
Distance: 0.301 mi.
Actual: 1587.171 ft.
Elevation: 0.006 mi. / 29.272 ft.
Relative: Lower

Site Name : AAA0338 | AAA5283 | AAF8057
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1569050
EPA ID: N/R

DEDB - FL ***(cont.)***

Last Date in Agency List :	2020-12-04

Map Id: 14
Direction: NW
Distance: 0.356 mi.
Actual: 1878.247 ft.
Elevation: 0.001 mi. / 7.808 ft.
Relative: Lower

Site Name : AAF2062
4957 HICKORY SHOES
GULF BREEZE, FL

Database(s) : [DEDB - FL]

Envirosite ID: 1588697
EPA ID: N/R

DEDB - FL

Sample Date :	2006-04-03
Sample ID :	060405-029
Sample Type :	RESAMPLE
FLUW ID :	AAF2062
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.25
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	THUM
Well Address :	4957 HICKORY SHOES
Well Type :	43
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-060405-012
Customer ID :	N/R
Description :	Private Well
Last Date in Agency List :	2015-11-25

Sample Date :	2003-12-05
Sample ID :	031209-038
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF2062
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.37
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	THUM
Well Address :	4957 HICKORY SHOES
Well Type :	43
Well Status :	ACTIVE
City :	GULF BREEZE
County :	SANTA ROSA
Job Name :	SANTAROSA-031209-10
Customer ID :	N/R
Description :	Private Well
Last Date in Agency List :	2015-11-25

Map Id: 14
Direction: NW
Distance: 0.356 mi.
Actual: 1878.247 ft.
Elevation: 0.001 mi. / 7.808 ft.
Relative: Lower

Site Name : AAF2062
4957 HICKORY SHOES
GULF BREEZE, FL

Database(s) : [DEDB - FL] ***(cont.)***

Envirosite ID: 1588697
EPA ID: N/R

DEDB - FL ***(cont.)***

Sample Date :	2006-04-03
Sample ID :	060405-029
Sample Type :	RESAMPLE
FLUW ID :	AAF2062
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.25
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	THUM
Well Address :	4957 HICKORY SHOES
Well Type :	43 - PRIVATE WELL
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-060405-012
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04

Sample Date :	2003-12-05
Sample ID :	031209-038
Sample Type :	FIRST SAMPLE
FLUW ID :	AAF2062
Analyte :	ETHYLENE DIBROMIDE (EDB)
Value :	0.37
Units :	ug/L
Qualifier :	U
Resident Last Name :	N/R
Well Business Name :	THUM
Well Address :	4957 HICKORY SHOES
Well Type :	43 - PRIVATE WELL
Well Status :	ACTIVE
City :	N/R
County :	SANTA ROSA
Job Name :	SANTAROSA-031209-10
Customer ID :	N/R
Description :	N/R
Last Date in Agency List :	2020-12-04

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL]

Envirosite ID: 1528853
EPA ID: N/R

CS - FL

Facility Name :	QUICK FOOD MART #7

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

CS - FL ***(cont.)***

Facility Address :	5342 GULF BREEZE PKY, GULF BREEZE, 32561
County :	Santa Rosa County
DEP Cleanup Site Key :	64463450
Program Site ID :	9800564
Program Source Data :	STCM
Program Area :	PETRO
Collection Date :	1970-01-01
Verification Date :	2003-10-24
Load Date :	2020-10-01
Verifier :	MONTGOMERY_M17
Collector :	INITIAL LOAD
Verifier Agency :	COUNTY HEALTH DEPARTMENT
Collection Agency :	N/R
Verification Status :	REVIEWED
Remediation Status :	ACTIVE
Office/District :	NWD
Comments :	N/R
Last Date in Agency List :	2020-11-03

DWM CONTAM - FL

Facility Name :	QUICK FOOD MART #7
Facility Address :	5342 GULF BREEZE PKY, GULF BREEZE, FL 32561
County :	SANTA ROSA
Score Effective Date :	N/R
Score :	N/R
Score Ranked :	N/R
Rank :	N/R
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	A - Retail Station
County Code :	57
District :	NWD
Operator :	SAM PATEL
Phone :	(973)580-6608
Name Changed Date :	2012-03-14
Address Changed Date :	2012-03-14
Latitude Degrees :	30
Latitude Minutes :	24
Latitude Seconds :	0.478
Longitude Degrees :	87
Longitude Minutes :	0
Longitude Seconds :	1.1691
Feature :	N/R
Method :	DGPS
Datum :	N/R
Section/Township/Range :	N/R
Related Party Begin Date :	2018-06-08
Related Party ID :	76953
Primary Related Party Role :	ACCOUNT OWNER
Related Party Name :	SAI KRUPA FOOD STORES LLC
Related Party Address 1 :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

DWM CONTAM - FL ***(cont.)***

Related Party Address 2 :	N/R
Contact :	SAM PATEL
Related Party Phone :	(973)580-6608
Related Party Extension :	N/R
Related Party Bad Address Indicator :	N
Last Date in Agency List :	2020-10-13

FA 3 - FL

Facility Name :	QUICK FOOD MART #7
Facility Address :	5342 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA
Effectivity Date :	2018-06-14
Expiration Date :	2019-06-14
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ACE AMERICAN INSURANCE COMPANY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04
Effectivity Date :	2017-06-14
Expiration Date :	2018-06-14
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ACE AMERICAN INSURANCE COMPANY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04
Effectivity Date :	2016-06-14
Expiration Date :	2017-06-14
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ACE AMERICAN INSURANCE COMPANY

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

FA 3 - FL ***(cont.)***

Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

Effectivity Date :	2015-03-27
Expiration Date :	2016-03-27
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	CRUM & FORSTER INDEMNITY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

Effectivity Date :	2014-03-27
Expiration Date :	2015-03-27
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	CRUM & FORSTER INDEMNITY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

Effectivity Date :	2013-03-27
Expiration Date :	2014-03-27
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	AMERICAN SAFETY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

FA 3 - FL ***(cont.)***

Phone :	9735806608
Last Date in Agency List :	2020-12-04
Effectivity Date :	2012-03-27
Expiration Date :	2013-03-27
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	AMERICAN SAFETY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04
Effectivity Date :	2010-05-23
Expiration Date :	2011-05-23
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	N/R
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04
Effectivity Date :	2009-05-23
Expiration Date :	2010-05-23
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	COMMERCE & INDUSTRY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

FA 3 - FL ***(cont.)***

Effectivity Date :	2008-05-23
Expiration Date :	2009-05-23
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	COMMERCE & INDUSTRY
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

Effectivity Date :	N/R
Expiration Date :	N/R
Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	NONE
Insurance Company :	N/R
Facility Phone :	9735806608
Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Contact Name :	SAM PATEL
Phone :	9735806608
Last Date in Agency List :	2020-12-04

LUST - FL

Facility Name :	QUICK FOOD MART #7
Facility Address :	5342 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA

Facility ID :	9800564
Facility Status :	OPEN
Facility Type :	Retail Station
Phone :	9735806608
Last Date in Agency List :	08/27/2020

Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Owner Address :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

LUST - FL ***(cont.)***

Owner Address 2 :	N/R
Contact :	SAM PATEL
Owner Phone :	9735806608

Discharge Details

Discharge Date :	04/18/2019
Status Date :	05/29/2019
Status :	VERIFIED CONTAMINATION, CLEANUP REQUIRED
DEP Code :	P
Description :	CLEANUP REQUIRED
Score Date :	N/R
Score :	N/R
CU Status :	VCCR

UST - FL

Facility Name :	QUICK FOOD MART #7
Facility Address :	5342 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA

Site Details

Facility ID :	9800564
Facility Phone :	9735806608
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	76953
Owner Name :	SAI KRUPA FOOD STORES LLC
Owner Address 1 :	5342 GULF BREEZE PKWY, GULF BREEZE, FL 32563
Owner Address 2 :	N/R
Contact :	SAM PATEL
Owner Phone :	9735806608

Tank Information

Tank ID :	1
Gallons :	12000
Tank Location :	UNDERGROUND
Substance :	Unleaded Gas
Install Date :	03/01/1998
Status :	In Service
Status Date :	03/01/1998

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

UST - FL ***(cont.)***

Construction Items :
Corrosion Protection - Sacrificial anode CP
Overfill/Spill - Ball check valve
Overfill/Spill - Flow shut-Off
Overfill/Spill - Spill containment bucket
Overfill/Spill - Tight fill
Primary Construction - Steel
Secondary Containment - Double wall

Monitoring Items :
Internal Tk Monitoring - Automatic tank gauging - USTs
Internal Tk Monitoring - Monitor dbl wall tank space
Miscellaneous - Continuous electronic sensing
Miscellaneous - Electronic monitor pipe sumps
Miscellaneous - Visual inspect dispenser liners
Piping Monitoring - Mechanical line leak detector
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Miscellaneous Attributes - Dispenser liners
Miscellaneous Attributes - Pressurized piping system
Primary Construction - Approved synthetic material
Secondary Containment - Double wall

Tank Information

Tank ID :	2
Gallons :	12000
Tank Location :	UNDERGROUND
Substance :	Vehicular Diesel
Install Date :	03/01/1998
Status :	In Service
Status Date :	03/01/1998

Construction Items :
Corrosion Protection - Sacrificial anode CP
Miscellaneous Attributes - Compartmented
Overfill/Spill - Ball check valve
Overfill/Spill - Flow shut-Off
Overfill/Spill - Spill containment bucket
Overfill/Spill - Tight fill
Primary Construction - Steel
Secondary Containment - Double wall

Monitoring Items :
Internal Tk Monitoring - Automatic tank gauging - USTs
Internal Tk Monitoring - Monitor dbl wall tank space
Miscellaneous - Continuous electronic sensing
Miscellaneous - Electronic monitor pipe sumps
Miscellaneous - Visual inspect dispenser liners
Piping Monitoring - Mechanical line leak detector
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Miscellaneous Attributes - Dispenser liners
Miscellaneous Attributes - Pressurized piping system

Map Id: C15
Direction: ENE
Distance: 0.390 mi.
Actual: 2057.184 ft.
Elevation: 0.007 mi. / 35.564 ft.
Relative: Higher

Site Name : QUICK FOOD MART #7
5342 GULF BREEZE PKY
GULF BREEZE, FL 32561

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1528853
EPA ID: N/R

UST - FL ***(cont.)***

Primary Construction - Approved synthetic material
Secondary Containment - Double wall

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL]

Envirosite ID: 1527715
EPA ID: N/R

CS - FL

Facility Name :	TEXACO FOOD STORE #4425
Facility Address :	5400 GULF BREEZE PKY, GULF BREEZE, 32561
County :	Santa Rosa County
DEP Cleanup Site Key :	60780816
Program Site ID :	8521117
Program Source Data :	STCM
Program Area :	PETRO
Collection Date :	2015-06-29
Verification Date :	2015-06-29
Load Date :	2019-11-21
Verifier :	bayevsky_a
Collector :	bayevsky_a
Verifier Agency :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Collection Agency :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Verification Status :	REVIEWED
Remediation Status :	ACTIVE
Office/District :	NWD
Comments :	N/R
Last Date in Agency List :	2019-11-21

DWM CONTAM - FL

Facility Name :	TEXACO FOOD STORE #4425
Facility Address :	5400 GULF BREEZE PKY, GULF BREEZE, FL 32561-9302
County :	SANTA ROSA
Score Effective Date :	2012-09-05
Score :	10
Score Ranked :	10
Rank :	8533
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	A - Retail Station
County Code :	57
District :	NWD

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

DWM CONTAM - FL ***(cont.)***

Operator :	PAUL BAISCH
Phone :	(850)774-5172
Name Changed Date :	2008-07-15
Address Changed Date :	2003-11-24
Latitude Degrees :	30
Latitude Minutes :	24
Latitude Seconds :	0.6741
Longitude Degrees :	86
Longitude Minutes :	59
Longitude Seconds :	57.7817
Feature :	N/R
Method :	DGPS
Datum :	0
Section/Township/Range :	N/R
Related Party Begin Date :	2003-07-25
Related Party ID :	54843
Primary Related Party Role :	ACCOUNT OWNER
Related Party Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Related Party Address 1 :	PO BOX 1565, LAWRENCEVILLE, GA 30046
Related Party Address 2 :	ATTN: STORAGE TANK REGIS
Contact :	SCOTT MOON | PENNY PISTACCHIO
Related Party Phone :	(770)338-2620
Related Party Extension :	N/R
Related Party Bad Address Indicator :	N
Last Date in Agency List :	2020-10-13

FA 3 - FL

Facility Name :	TEXACO FOOD STORE #4425
Facility Address :	5400 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA
Effectivity Date :	2019-12-31
Expiration Date :	2020-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	TOKIO MARINE SPECIALTY INSURANCE COMPANY
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04
Effectivity Date :	2018-12-31
Expiration Date :	2019-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

FA 3 - FL ***(cont.)***

Financial Responsibility :	INSURANCE
Insurance Company :	TOKIO MARINE SPECIALTY INSURANCE COMPANY
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2017-12-31
Expiration Date :	2018-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	TOKIO MARINE SPECIALTY INSURANCE COMPANY
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2016-12-31
Expiration Date :	2017-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	TOKIO MARINE SPECIALTY INSURANCE COMPANY
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2015-12-31
Expiration Date :	2016-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	LIBERTY SURPLUS INSURANCE CORP
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

FA 3 - FL ***(cont.)***

Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2014-12-31
Expiration Date :	2015-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	LIBERTY SURPLUS INSURANCE CORP
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2013-12-31
Expiration Date :	2014-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	LIBERTY SURPLUS INSURANCE CORP
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2012-12-31
Expiration Date :	2013-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	LIBERTY SURPLUS INSURANCE CORP
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

FA 3 - FL ***(cont.)***

Effectivity Date :	2012-04-15
Expiration Date :	2012-12-31
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	LIBERTY SURPLUS INSURANCE CORP
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2010-04-15
Expiration Date :	2011-04-15
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ZURICH-AMERICAN
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	2009-04-15
Expiration Date :	2010-04-15
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	ZURICH-AMERICAN
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	1994-04-23
Expiration Date :	1995-04-23
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

FA 3 - FL ***(cont.)***

DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	PLUS
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

Effectivity Date :	1993-04-23
Expiration Date :	1994-04-23
Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor :	P
Financial Responsibility :	INSURANCE
Insurance Company :	FPLIPA
Facility Phone :	8507745172
Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Address :	PO BOX 1565 ATTN: STORAGE TANK REGIS, LAWRENCEVILLE, GA 30046
Contact Name :	SCOTT MOON | PENNY PISTACCHIO
Phone :	7703382620
Last Date in Agency List :	2020-12-04

LUST - FL

Facility Name :	TEXACO FOOD STORE #4425
Facility Address :	5400 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA

Facility ID :	8521117
Facility Status :	OPEN
Facility Type :	Retail Station
Phone :	8507745172
Last Date in Agency List :	08/27/2020

Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Owner Address :	PO BOX 1565, LAWRENCEVILLE, GA 30046
Owner Address 2 :	ATTN: STORAGE TANK REGIS
Contact :	SCOTT MOON | PENNY PISTACCHIO
Owner Phone :	7703382620

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

LUST - FL ***(cont.)***

Discharge Details

Discharge Date :	02/14/1992
Status Date :	12/04/2019
Status :	SRCR COMPLETE
DEP Code :	P
Description :	CLEANUP REQUIRED
Score Date :	09/05/2012
Score :	00010
CU Status :	SRCR

UST - FL

Facility Name :	TEXACO FOOD STORE #4425
Facility Address :	5400 GULF BREEZE PKY, GULF BREEZE, 32561
County :	SANTA ROSA

Site Details

Facility ID :	8521117
Facility Phone :	8507745172
Facility Status :	OPEN
Facility Type :	Retail Station
DEP Contractor Own :	P
Last Date in Agency List :	08/27/2020
Oculus Note :	Use the Public Oculus Login button to enter the Oculus Website
Oculus Hyperlink :	Click here for hyperlink provided by the agency.

Owner Information

Owner ID :	54843
Owner Name :	PANHANDLE COMMERCIAL PROPERTIES LLC
Owner Address 1 :	PO BOX 1565, LAWRENCEVILLE, GA 30046
Owner Address 2 :	ATTN: STORAGE TANK REGIS
Contact :	SCOTT MOON | PENNY PISTACCHIO
Owner Phone :	7703382620

Tank Information

Tank ID :	1
Gallons :	8021
Tank Location :	UNDERGROUND
Substance :	Unleaded Gas
Install Date :	03/01/1984
Status :	Removed from Site
Status Date :	07/31/2006
Construction Items :	-

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

UST - FL ***(cont.)***

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 2
Gallons : 8021
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 03/01/1984
Status : Removed from Site
Status Date : 07/31/2006

Construction Items : -

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 3
Gallons : 8021
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 03/01/1984
Status : Removed from Site
Status Date : 07/31/2006

Construction Items : -

Monitoring Items : -

Piping Items : -

Tank Information
Tank ID : 4
Gallons : 10000
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 07/01/2006
Status : In Service
Status Date : 07/01/2006

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

UST - FL ***(cont.)***

Construction Items :
Miscellaneous Attributes - Compartmented
Primary Construction - Fiberglass
Secondary Containment - Double wall

Monitoring Items :
Miscellaneous - Electronic monitor dispenser liners
Miscellaneous - Visual inspect dispenser liners
Miscellaneous - Visual inspect pipe sumps
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Primary Construction - Fiberglass
Secondary Containment - Double wall

Tank Information
Tank ID : 5
Gallons : 10000
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 07/01/2006
Status : In Service
Status Date : 07/01/2006

Construction Items :
Primary Construction - Fiberglass
Secondary Containment - Double wall

Monitoring Items :
Miscellaneous - Electronic monitor dispenser liners
Miscellaneous - Visual inspect dispenser liners
Miscellaneous - Visual inspect pipe sumps
Piping Monitoring - Monitor dbl wall pipe space

Piping Items :
Primary Construction - Fiberglass
Secondary Containment - Double wall

Tank Information
Tank ID : 6
Gallons : 15000
Tank Location : UNDERGROUND
Substance : Unleaded Gas
Install Date : 08/01/2006
Status : In Service
Status Date : 08/01/2006

Construction Items :
Miscellaneous Attributes - Compartmented
Overfill/Spill - Ball check valve
Overfill/Spill - Level gauges/alarms
Overfill/Spill - Spill containment bucket
Overfill/Spill - Tight fill

Map Id: C16
Direction: ENE
Distance: 0.410 mi.
Actual: 2166.502 ft.
Elevation: 0.007 mi. / 35.942 ft.
Relative: Higher

Site Name : TEXACO FOOD STORE #4425
5400 GULF BREEZE PKY
GULF BREEZE, FL

Database(s) : [CS - FL, DWM CONTAM - FL, FA 3 - FL, LUST - FL, UST - FL] ***(cont.)***

Envirosite ID: 1527715
EPA ID: N/R

UST - FL ***(cont.)***

Primary Construction - Fiberglass
Secondary Containment - Double wall

Monitoring Items :
Internal Tk Monitoring - Automatic tank gauging - USTs
Internal Tk Monitoring - Monitor dbl wall tank space
Miscellaneous - Continuous electronic sensing
Miscellaneous - Electronic monitor pipe sumps
Miscellaneous - Visual inspect dispenser liners
Miscellaneous - Visual inspect pipe sumps
Piping Monitoring - Mechanical line leak detector

Piping Items :
Miscellaneous Attributes - Dispenser liners
Miscellaneous Attributes - Pressurized piping system
Primary Construction - Fiberglass
Secondary Containment - Double wall

Map Id: 17
Direction: ENE
Distance: 0.970 mi.
Actual: 5121.586 ft.
Elevation: 0.007 mi. / 36.87 ft.
Relative: Higher

Site Name : GP NAVARRE SS | GULF POWER NAVARRE SUBSTATION
5572 GULF BREEZE PARKWAY
GULD BREEZE, FL 32563

Database(s) : [CS - FL, RESP PARTY - FL]

Envirosite ID: 1664761
EPA ID: N/R

CS - FL

Facility Name : GP NAVARRE SS
Facility Address : 5572 GULF BREEZE PARKWAY, GULD BREEZE, 32563
County : Santa Rosa County

DEP Cleanup Site Key : 64456094
Program Site ID : ERIC_9504
Program Source Data : ERIC
Program Area : OTHCU
Collection Date : 1970-01-01
Verification Date : 2014-06-20
Load Date : 2020-10-01
Verifier : SMITH_BD
Collector : SMITH_BD
Verifier Agency : N/R
Collection Agency : N/R
Verification Status : N/R
Remediation Status : OPEN
Office/District : NWD
Comments : Alternate ID:
Last Date in Agency List : 2020-11-03

Map Id: 17
Direction: ENE
Distance: 0.970 mi.
Actual: 5121.586 ft.
Elevation: 0.007 mi. / 36.87 ft.
Relative: Higher

Site Name : GP NAVARRE SS | GULF POWER NAVARRE SUBSTATION
5572 GULF BREEZE PARKWAY
GULD BREEZE, FL 32563

Database(s) : [CS - FL, RESP PARTY - FL] ***(cont.)***

Envirosite ID: 1664761
EPA ID: N/R

CS - FL ***(cont.)***

Facility Name :	GULF POWER NAVARRE SUBSTATION
Facility Address :	5572 GULF BREEZE PARKWAY, GULD BREEZE, 32563
County :	Santa Rosa County
DEP Cleanup Site Key :	63594770
Program Site ID :	327297
Program Source Data :	COMET
Program Area :	OTHCU
Collection Date :	2014-06-20
Verification Date :	2014-06-20
Load Date :	2020-07-20
Verifier :	SMITH_BD
Collector :	SMITH_BD
Verifier Agency :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Collection Agency :	Florida Department of Environmental Protection
Verification Status :	REVIEWED
Remediation Status :	PENDING
Office/District :	NWD
Comments :	N/R
Last Date in Agency List :	2020-07-06

RESP PARTY - FL

Facility Name :	GP NAVARRE SS
Facility Address :	5572 GULF BREEZE PARKWAY, GULD BREEZE, 32563
Site ID :	327297
Project ID :	342400
Status :	INACTIVE
District :	NWD
ISDR Date :	1988-04-04
Project MGR :	HAJCAK_C
OGC Number :	N/R
Contaminants :	N/R
Offsite COC :	N/R
Priority Score :	N/R
County ID :	57
Datum ID :	NAD83
Method ID :	DPHO
Feature :	N/R
Object of Interest :	CAP_RAP SITE
Proximity :	APPRX
Collect Username :	SMITH_BD
Collect Affiliation :	Florida Department of Environmental Protection
Collect Program ID :	CR
Collect Date :	2014-06-20 00:00:00
Map Source :	500
Map Source Scale :	IMAGERY_11_13
Interpolation Scale :	500
Coordinate Accuracy ID :	3
Verify Method ID :	DPHO
Verify Username :	SMITH_BD
Verify Affiliation :	DEPARTMENT OF ENVIRONMENTAL PROTECTION
Verifying Program ID :	CR

Map Id: 17
Direction: ENE
Distance: 0.970 mi.
Actual: 5121.586 ft.
Elevation: 0.007 mi. / 36.87 ft.
Relative: Higher

Site Name : GP NAVARRE SS | GULF POWER NAVARRE SUBSTATION
5572 GULF BREEZE PARKWAY
GULD BREEZE, FL 32563

Database(s) : [CS - FL, RESP PARTY - FL] ***(cont.)***

Envirosite ID: 1664761
EPA ID: N/R

RESP PARTY - FL ***(cont.)***

Verification Date :	2014-06-20 16:26:52
Documents :	Click here for hyperlink provided by the agency.
Latitude :	30.401689
Longitude :	86.99053
Last Date in Agency List :	2020-10-15

ENVIROSITE ID	NAME	ADDRESS	CITY	ZIP	DATABASE(S)
35870365	320284601	PO BOX 500	MIDWAY		DEDB - FL
7884727	AAA5220	USS SARATOGA ST			DEDB - FL
7934587	AAA5238	CULFEE			DEDB - FL
32500524	AAA5245	14800 HWY 87 NORTH			DEDB - FL
32499595	AAD1723	3752 GULF BREEZE PKWY.			DEDB - FL
32499859	AAE9330	11117 HWY 90E			DEDB - FL
32508750	AAE9801	MUNSON HWY AT HUTCHINS RD			DEDB - FL
7922851	AAE9819	10020/10001 MUNSON HIGHWA...			DEDB - FL
32499043	AAE9827	6349 FAIRFIELD DR			DEDB - FL
32546296	AAE9833	15405 HWY 87			DEDB - FL
35870676	AAE9838	N/R			DEDB - FL
7945450	AAE9838	5951 AVALON BLVD			DEDB - FL
32539629	AAJ2691	3162 HY 87 S			DEDB - FL
32540710	AAK7398	6345 HWY 90			DEDB - FL
7985696	ALLENTOWN	N/R			HIST CATTLE DIPPING ...
7985841	BAGDAD	N/R			HIST CATTLE DIPPING ...
7986069	BERRYDALE	N/R			HIST CATTLE DIPPING ...
7986137	BLACKWATER STATE FOREST	N/R			HIST CATTLE DIPPING ...
33307815	EPA/RESEARCH LABORATORY	SABIN ISLAND	GULF BREEZE	32561	CERCLIS NFRAP, FEDE...
7987277	GARDNER	N/R			HIST CATTLE DIPPING ...
9336451	GULF BREEZE ELEVATED WATE...	N/R	GULF BREEZE	32563	LUST - FL
33306651	GULF BREEZE NATIONAL SEAS...	ESCAMBIA COUNTY	PENSACOLA	32561	CERCLIS NFRAP, FEDE...
7532933	GULF BREEZE, CITY OF	SAME	GULF BREEZE	32561	PIPELINES
7987721	INDIGO HEAD	N/R			HIST CATTLE DIPPING ...
7987767	JAY	N/R			HIST CATTLE DIPPING ...
7987854	JUNIPER HEAD	N/R			HIST CATTLE DIPPING ...
7988098	LUNSFORD	N/R			HIST CATTLE DIPPING ...
7988189	MCARTHUR	N/R			HIST CATTLE DIPPING ...
32642967	N/R	3716 GULF BREEZE PKWY			DEDB - FL
35873247	N/R	HWY 89			DEDB - FL

FEDERAL RCRA NON-CORRACTS TSD FACILITIES LIST

ARCHIVED RCRA TSDF: Resource Conservation and Recovery Act hazardous waste transportation storage disposal and treatment facilities

Agency Version Date: 07/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

RCRA_TSDF: Resource Conservation and Recovery Act hazardous waste transportation storage disposal and treatment facilities

Agency Version Date: 07/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

FEDERAL CERCLIS LIST

CERCLIS NFRAP: The CERCLIS sites with No Further Remedial Action Planned from the CERCLIS program database. The Environmental Protection Agency decommissioned the CERCLIS data in 2014. The last update was November 12, 2013.

Agency Version Date: 10/25/2013
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 11/17/2020

CERCLIS-HIST: The CERCLIS program database contains information on the assessment and remediation of federal hazardous waste sites. The Environmental Protection Agency decommissioned the CERCLIS data in 2014. The last update was November 12, 2013.

Agency Version Date: 10/29/2013
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 11/17/2020

FEDERAL FACILITY: Sites where Federal Facilities Restoration and Reuse Office (FFRRO) arranged cleanup for Base Closure and Property Transfer at Federal Facilities

Agency Version Date: 07/27/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8712
Most Recent Contact: 11/17/2020

SEMS_8R_ACTIVE SITES: The Active Site Inventory Report displays site and location information at active SEMS sites. An active site is one at which site assessment, removal, remedial, enforcement, cost recovery, or oversight activities are being planned or conducted. NPL sites include latitude and longitude information. For non-NPL sites, a brief site status is provided.

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

SEMS_8R_ARCHIVED SITES: The Archived Site Inventory displays site and location information at sites archived from SEMS. An archived site is one at which EPA has determined that assessment has been completed and no further remedial action is planned under the Superfund program at this time.

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

FEDERAL RCRA CORRACTS FACILITIES LIST

CORRACTS: List of facilities where Resource Conservation and Recovery Act Corrective Action Program used to investigate and remediate hazardous releases

Agency Version Date: 07/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 10/19/2020

HIST CORRACTS 2: List of facilities where Resource Conservation and Recovery Act Corrective Action Program used to investigate and remediate hazardous releases that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 09/18/2020

FEDERAL DELISTED NPL SITE LIST

DELISTED NPL: National Priority List of sites that were delisted and no longer require action

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

DELISTED PROPOSED NPL: Sites that have been delisted from the proposed National Priority List

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

SEMS_DELETED NPL: All Deleted National Priority List Sties

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

FEDERAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

EPA LF MOP: Sites in the EPA Landfill Methane Outreach Program

Agency Version Date: 10/22/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/11/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 10/14/2020

FEDERAL ERNS LIST

ERNS: Emergency Response Notification System records of reported spills

Agency Version Date: 08/14/2020
Agency Update Frequency: Annually
Planned Next Contact: 02/04/2021
Agency: National Response Center United States Coast Guard
Agency Contact: N/R
Most Recent Contact: 11/10/2020

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

FED E C: Federal listing of remediation sites with engineering controls

Agency Version Date: 09/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/18/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 09/21/2020

FEDERAL INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES (cont.)

FED I C: Federal listing of remediation sites with institutional controls

Agency Version Date: 09/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/18/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 09/21/2020

RCRA IC_EC: Sites with institutional or engineering controls related to Resource Conservation and Recovery Act

Agency Version Date: 08/27/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/19/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 11/23/2020

FEDERAL RCRA GENERATORS LIST

HIST RCRA_CESQG: List of Resource Conservation and Recovery Act licensed conditionally exempt small quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 09/18/2020

HIST RCRA_LQG: List of Resource Conservation and Recovery Act licensed large quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 09/18/2020

HIST RCRA_NONGEN: List of Resource Conservation and Recovery Act licensed non-generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 09/18/2020

HIST RCRA_SQG: List of Resource Conservation and Recovery Act licensed small quantity generators that are no longer in current agency list.

Agency Version Date: 10/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 09/18/2020

RCRA_LQG: Resource Conservation and Recovery Act listing of licensed large quantity generators

Agency Version Date: 07/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

RCRA_NONGEN: Resource Conservation and Recovery Act listing of licensed non-generators

Agency Version Date: 07/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

RCRA_SQG: Resource Conservation and Recovery Act listing of licensed small quantity generators

Agency Version Date: 07/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

FEDERAL RCRA GENERATORS LIST (cont.)

RCRA_VSQG: Resource Conservation and Recovery Act listing of licensed very small quantity generators.

Agency Version Date: 07/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/15/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 215-814-2469
Most Recent Contact: 10/19/2020

FEDERAL NPL SITE LIST

NPL: List of priority contaminated sites among identified releases or threatened releases of hazardous substances pollutants or contaminants nationally

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

NPL EPA R1 GIS: Geospatial data for the Environmental Protection Agency Region 1 National Priority List subject to environmental regulation

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 11/17/2020

NPL EPA R3 GIS: Geospatial data for the Environmental Protection Agency Region 3 National Priority List subject to environmental regulation

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 11/17/2020

NPL EPA R6 GIS: Geospatial data for the Environmental Protection Agency Region 6 National Priority List subject to environmental regulation

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 11/17/2020

NPL EPA R8 GIS: Geospatial data for the Environmental Protection Agency Region 8 National Priority List subject to environmental regulation

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 11/17/2020

NPL EPA R9 GIS: Geospatial data for the Environmental Protection Agency Region 9 National Priority List subject to environmental regulation

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-2132
Most Recent Contact: 11/17/2020

PART NPL: Sites that are a part of an National Priority List site referred to as the parent site

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

FEDERAL NPL SITE LIST (cont.)

PROPOSED NPL: Sites that have been proposed for the National Priority List

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

SEMS_FINAL NPL: All Included National Priority List Sites

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

SEMS_PROPOSED NPL: All Proposed National Priority List Sites

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS

FEMA UST: FEMA underground storage tank listing

Agency Version Date: 06/21/2019
Agency Update Frequency: Varies
Planned Next Contact: 01/19/2021
Agency: FEMA
Agency Contact: 202-212-5283
Most Recent Contact: 10/23/2020

INDIAN UST R1: Underground Storage Tanks on Indian Land in EPA Region 1

Agency Version Date: 08/10/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/03/2021
Agency: U.S. Environmental Protection Agency Region 1
Agency Contact: 855-246-3642
Most Recent Contact: 11/06/2020

INDIAN UST R10: Underground Storage Tanks on Indian Land in EPA Region 10

Agency Version Date: 12/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 03/01/2021
Agency: U.S. Environmental Protection Agency Region 10
Agency Contact: 855-246-3642
Most Recent Contact: 12/02/2020

INDIAN UST R2: Underground Storage Tanks on Indian Land in EPA Region 2

Agency Version Date: 12/07/2016
Agency Update Frequency: Quarterly
Planned Next Contact: 02/05/2021
Agency: U.S. Environmental Protection Agency Region 2
Agency Contact: 855-246-3642
Most Recent Contact: 11/09/2020

INDIAN UST R4: Underground Storage Tanks on Indian Land in EPA Region 4

Agency Version Date: 04/14/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 03/01/2021
Agency: U.S. Environmental Protection Agency Region 4
Agency Contact: 855-246-3642
Most Recent Contact: 12/02/2020

INDIAN UST R5: Underground Storage Tanks on Indian Land in EPA Region 5

Agency Version Date: 04/14/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/15/2021
Agency: U.S. Environmental Protection Agency Region 5
Agency Contact: 855-246-3642
Most Recent Contact: 11/19/2020

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS (cont.)

INDIAN UST R6: Underground Storage Tanks on Indian Land in EPA Region 6

Agency Version Date: 09/21/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 12/18/2020
Agency: U.S. Environmental Protection Agency Region 6
Agency Contact: 855-246-3642
Most Recent Contact: 09/21/2020

INDIAN UST R7: Underground Storage Tanks on Indian Land in EPA Region 7

Agency Version Date: 04/15/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/15/2021
Agency: U.S. Environmental Protection Agency Region 7
Agency Contact: 855-246-3642
Most Recent Contact: 11/19/2020

INDIAN UST R8: Underground Storage Tanks on Indian Land in EPA Region 8

Agency Version Date: 08/07/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/01/2021
Agency: U.S. Environmental Protection Agency Region 8
Agency Contact: 855-246-3642
Most Recent Contact: 11/04/2020

INDIAN UST R9: Underground Storage Tanks on Indian Land in EPA Region 9

Agency Version Date: 08/07/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/01/2021
Agency: U.S. Environmental Protection Agency Region 9
Agency Contact: 855-246-3642
Most Recent Contact: 11/04/2020

AST - FL: Aboveground storage tank listing

Agency Version Date: 08/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/22/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/25/2020

AST_BROWARD COUNTY - FL: Broward county aboveground storage tank list

Agency Version Date: 08/03/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/26/2021
Agency: Broward County Environmental Protection Department
Agency Contact: 954-519-0332
Most Recent Contact: 10/30/2020

HIST AST - FL: List of aboveground storage tank that are no longer in current agency list.

Agency Version Date: 11/19/2018
Agency Update Frequency: Annually
Planned Next Contact: 01/29/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/03/2020

HIST UST - FL: List of underground storage tanks that is no longer in current agency list.

Agency Version Date: 01/28/2019
Agency Update Frequency: Annually
Planned Next Contact: 01/29/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/03/2020

UST - FL: Underground storage tank listing

Agency Version Date: 08/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/22/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/25/2020

UST_BROWARD COUNTY - FL: Broward county underground storage tank listing

Agency Version Date: 08/03/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/26/2021
Agency: Broward County Environmental Protection Department
Agency Contact: 954-519-0332
Most Recent Contact: 10/30/2020

STATE AND TRIBAL REGISTERED STORAGE TANK LISTS (cont.)

UST_MIAMI-DADE COUNTY - FL: Miami-Dade county underground storage tank listing

Agency Version Date: 09/24/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 12/21/2020

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 09/24/2020

STATE AND TRIBAL BROWNFIELD SITES

TRIBAL BROWNFIELDS: Tribal brownfield remediation site listing

Agency Version Date: 02/10/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/05/2021

Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 10/09/2020

BROWNFIELDS - FL: Brownfield site listing

Agency Version Date: 10/14/2020
Agency Update Frequency: Monthly
Planned Next Contact: 01/11/2021

Agency: Department of Environmental Protection
Agency Contact: 407-897-4322
Most Recent Contact: 10/14/2020

BROWNFIELDS_AREAS - FL: Brownfield site listing

Agency Version Date: 10/26/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/21/2021

Agency: Department of Environmental Protection
Agency Contact: 407-897-4322
Most Recent Contact: 10/26/2020

STATE- AND TRIBAL - EQUIVALENT CERCLIS

CS - FL: All cleanup sites in the state of Florida

Agency Version Date: 10/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/29/2020

Agency: Department of Environmental Protection
Agency Contact: 850-245-2006
Most Recent Contact: 10/02/2020

SHWS - FL: State -funded cleanup program sites

Agency Version Date: 10/12/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/08/2021

Agency: Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 10/12/2020

SITES - FL: Summary status report compiled and revised from existing lists and intended to track progress of activities within and outside of the department as they relate to the listed sites

Agency Version Date: 12/24/2012
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/26/2021

Agency: Department of Environmental Protection
Agency Contact: 850-245-2006
Most Recent Contact: 10/30/2020

STATE INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES

E C - FL: Remediation sites with engineering controls

Agency Version Date: 10/02/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 12/29/2020

Agency: Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 10/02/2020

STATE INSTITUTIONAL CONTROLS / ENGINEERING CONTROLS REGISTRIES (cont.)

I C - FL: Remediation sites with institutional controls

Agency Version Date: 10/02/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 12/29/2020
Agency: Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 10/02/2020

STATE RCRA GENERATORS LIST

HIST TSD - FL: List of Treatment Storage and Disposal facility records that are no longer in current agency list.

Agency Version Date: 02/04/2019
Agency Update Frequency: Annually
Planned Next Contact: 02/16/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8707
Most Recent Contact: 11/20/2020

LQG - FL: Listing of permitted large quantity hazardous waste generators

Agency Version Date: 10/20/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/15/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 10/20/2020

SQG - FL: Listing of permitted small quantity hazardous waste generators

Agency Version Date: 08/19/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 11/16/2020

TRA - FL: Listing of permitted hazardous waste transporters

Agency Version Date: 09/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/26/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8707
Most Recent Contact: 11/30/2020

TSD - FL: Treatment storage and disposal facility listing

Agency Version Date: 09/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/26/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8707
Most Recent Contact: 11/30/2020

STATE AND TRIBAL LEAKING STORAGE TANK LISTS

INDIAN LUST R1: Leaking Underground Storage Tanks on Indian Land in EPA Region 1

Agency Version Date: 11/06/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/02/2021
Agency: U.S. Environmental Protection Agency Region 1
Agency Contact: 855-246-3642
Most Recent Contact: 11/06/2020

INDIAN LUST R10: Leaking Underground Storage Tanks on Indian Land in EPA Region 10

Agency Version Date: 04/14/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 03/01/2021
Agency: U.S. Environmental Protection Agency Region 10
Agency Contact: 855-246-3642
Most Recent Contact: 12/02/2020

INDIAN LUST R2: Leaking Underground Storage Tanks on Indian Land in EPA Region 2

Agency Version Date: 12/07/2016
Agency Update Frequency: Quarterly
Planned Next Contact: 02/05/2021
Agency: U.S. Environmental Protection Agency Region 2
Agency Contact: 855-246-3642
Most Recent Contact: 11/09/2020

STATE AND TRIBAL LEAKING STORAGE TANK LISTS (cont.)

INDIAN LUST R4: Leaking Underground Storage Tanks on Indian Land in EPA Region 4

Agency Version Date: 04/14/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 03/01/2021
Agency: U.S. Environmental Protection Agency Region 4
Agency Contact: 855-246-3642
Most Recent Contact: 12/02/2020

INDIAN LUST R5: Leaking Underground Storage Tanks on Indian Land in EPA Region 5

Agency Version Date: 04/14/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/15/2021
Agency: U.S. Environmental Protection Agency Region 5
Agency Contact: 855-246-3642
Most Recent Contact: 11/19/2020

INDIAN LUST R6: Leaking Underground Storage Tanks on Indian Land in EPA Region 6

Agency Version Date: 04/20/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/19/2021
Agency: U.S. Environmental Protection Agency Region 6
Agency Contact: 855-246-3642
Most Recent Contact: 11/23/2020

INDIAN LUST R7: Leaking Underground Storage Tanks on Indian Land in EPA Region 7

Agency Version Date: 04/15/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/15/2021
Agency: U.S. Environmental Protection Agency Region 7
Agency Contact: 855-246-3642
Most Recent Contact: 11/19/2020

INDIAN LUST R8: Leaking Underground Storage Tanks on Indian Land in EPA Region 8

Agency Version Date: 04/14/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/19/2021
Agency: U.S. Environmental Protection Agency Region 8
Agency Contact: 855-246-3642
Most Recent Contact: 11/23/2020

INDIAN LUST R9: Leaking Underground Storage Tanks on Indian Land in EPA Region 9

Agency Version Date: 11/19/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/01/2021
Agency: U.S. Environmental Protection Agency Region 9
Agency Contact: 855-246-3642
Most Recent Contact: 11/04/2020

LAST - FL: Leaking Aboveground Storage Tank Listing

Agency Version Date: 08/27/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/22/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/25/2020

LUST - FL: Leaking underground storage tank sites listing

Agency Version Date: 08/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/22/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/25/2020

STATE AND TRIBAL LANDFILL AND/OR SOLID WASTE DISPOSAL SITE LISTS

SWF/LF - FL: Solid waste facility and landfill listing

Agency Version Date: 09/25/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/22/2020
Agency: Department of Environmental Protection
Agency Contact: 850-245-8707
Most Recent Contact: 09/25/2020

STATE AND TRIBAL VOLUNTARY CLEANUP SITES

VCP - FL: Voluntary cleanup program site list

Agency Version Date: 05/13/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/29/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8961
Most Recent Contact: 11/03/2020

LOCAL BROWNFIELD LISTS

BROWNFIELDS-ACRES: EPA Brownfields Assessment, Cleanup and Redevelopment Exchange System.

Agency Version Date: 07/06/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/28/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 10/01/2020

FED BROWNFIELDS: Federal brownfield remediation sites

Agency Version Date: 08/13/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 02/05/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 11/10/2020

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES

FED CDL: The U.S. Department of Justice listing of clandestine drug lab locations

Agency Version Date: 11/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/28/2021
Agency: U.S. Department of Justice
Agency Contact: 202-307-7610
Most Recent Contact: 11/02/2020

US HIST CDL: The U.S. Department of Justice historical listing of clandestine drug lab locations

Agency Version Date: 08/05/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 03/03/2021
Agency: U.S. Department of Justice
Agency Contact: 202-307-7610
Most Recent Contact: 12/07/2020

CS_BROWARD COUNTY - FL: Broward county contaminated sites listing

Agency Version Date: 09/25/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/22/2020
Agency: Broward County Environmental Protection Department
Agency Contact: 954-519-0332
Most Recent Contact: 09/29/2020

CS_MIAMI-DADE COUNTY - FL: Miami-Dade county contaminated sites listing

Agency Version Date: 10/08/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/04/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/08/2020

DWM CONTAM - FL: Listing of known contaminated sites (primarily petroleum and drycleaning)

Agency Version Date: 10/13/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/29/2020
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 10/02/2020

HAZMAT FACILITIES_BROWARD COUNTY - FL: Broward County hazardous material facility list

Agency Version Date: 08/03/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/26/2021
Agency: Broward County Environmental Protection Department
Agency Contact: 954-519-0332
Most Recent Contact: 10/30/2020

LOCAL LISTS OF HAZARDOUS WASTE / CONTAMINATED SITES (cont.)

RESP PARTY - FL: Responsible party waste cleanups - Open, Closed, Inactive

Agency Version Date: 09/30/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/28/2020
Agency: Department of Environmental Resources Management
Agency Contact: 850-245-2118
Most Recent Contact: 09/30/2020

RECORDS OF EMERGENCY RELEASE REPORTS

HMIRS (DOT): Hazardous Material spills reported by the Department of Transportation

Agency Version Date: 10/09/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/05/2021
Agency: U.S. Department of Transportation
Agency Contact: (202) 366-4996
Most Recent Contact: 10/09/2020

FUEL SPILL_MIAMI-DADE COUNTY - FL: Miami-Dade county fuel spill case listing of sites

Agency Version Date: 10/08/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/04/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/08/2020

SPILLS - FL: Listing of chemical spills and incidents referred to the emergency response unit

Agency Version Date: 10/02/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/29/2020
Agency: Department of Environmental Protection
Agency Contact: 850-245-2006
Most Recent Contact: 10/02/2020

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES

HIST INDIAN ODI R8: List of Region 8 Indian land open dump inventory sites maintained within the STARS program that is no longer in current agency list.

Agency Version Date: 11/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 02/02/2021
Agency: Indian Health Service
Agency Contact: 855-246-3642
Most Recent Contact: 11/06/2020

INDIAN ODI R8: Region 8 Indian land open dump inventory sites maintained within the STARS program

Agency Version Date: 11/13/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: Indian Health Service
Agency Contact: 855-246-3642
Most Recent Contact: 11/13/2020

ODI: Open dump inventory sites

Agency Version Date: 10/03/2017
Agency Update Frequency: No Update
Planned Next Contact: 02/25/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 11/30/2020

TRIBAL ODI: Indian land open dump inventory for all regions

Agency Version Date: 09/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/18/2020
Agency: Indian Health Service
Agency Contact: 301-443-3593
Most Recent Contact: 09/21/2020

HIST SWRCY - FL: List of permitted recycling centers that is no longer in current agency list.

Agency Version Date: 02/23/2018
Agency Update Frequency: Annually
Planned Next Contact: 02/25/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8731
Most Recent Contact: 12/01/2020

LOCAL LISTS OF LANDFILL / SOLID WASTE DISPOSAL SITES (cont.)

SWF_MIAMI-DADE COUNTY - FL: Miami-Dade county solid waste facility listing

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

SWRCY - FL: Permitted recycling centers

Agency Version Date: 09/25/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/22/2020

Agency: Department of Environmental Protection
Agency Contact: 850-245-8731
Most Recent Contact: 09/25/2020

LOCAL LAND RECORDS

LIENS 2: Comprehensive Environmental Response Compensation and Liability Act sites with liens

Agency Version Date: 05/11/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/05/2021

Agency: U.S. Environmental Protection Agency
Agency Contact: 800-424-9346
Most Recent Contact: 10/09/2020

OTHER ASCERTAINABLE RECORDS

AFS: Air Facility Systems Quarterly Extract

Agency Version Date: 03/20/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/16/2021

Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/20/2020

ALT FUELING: Alternative Fueling Stations by fuel type.

Agency Version Date: 10/19/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/14/2021

Agency: U.S. Department of Energy
Agency Contact: N/R
Most Recent Contact: 10/19/2020

AST PBS: Bulk petroleum terminals with a total bulk storage capacity of 50,000 barrels or more.

Agency Version Date: 06/18/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/11/2020

Agency: Department of Homeland Security
Agency Contact: 202-853-5361
Most Recent Contact: 09/14/2020

BRS: Reporting of hazardous waste generation and management from large quantity generators

Agency Version Date: 07/21/2020
Agency Update Frequency: Biennial
Planned Next Contact: 01/15/2021

Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/19/2020

CDC HAZDAT: The Agency for Toxic Substances and Disease Registry's Hazardous Substance Release/Health Effects Database.

Agency Version Date: 08/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021

Agency: Agency for Toxic Substances and Disease Registry
Agency Contact: 770-488-6399
Most Recent Contact: 11/17/2020

COAL ASH DOE: List of existing and planned generators with 1 megawatt or greater of combined capacity that are utilizing coal ash impoundments.

Agency Version Date: 10/12/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/08/2021

Agency: Department of Energy
Agency Contact: (202) 586-8800
Most Recent Contact: 10/12/2020

OTHER ASCERTAINABLE RECORDS (cont.)

COAL ASH EPA: Coal Combustion Residues Surface Impoundments List

Agency Version Date: 07/31/2014
Agency Update Frequency: Varies
Planned Next Contact: 02/18/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/23/2020

COAL GAS: Manufactured Gas Plant locations

Agency Version Date: 02/06/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/22/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 10/26/2020

CONSENT (DECREES): Legal decisions regarding responsibility for Superfund locations

Agency Version Date: 03/16/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/10/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 11/13/2020

CORRECTIVE ACTIONS_2020: In 2009 the EPA created the 2020 Corrective Action Baseline list of contaminated or potentially contaminated sites with a cleanup goal to complete 95% by the year 2020. The names on the list indicate the facility owners who may or may not have caused the contamination.

Agency Version Date: 12/21/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 02/05/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: N/R
Most Recent Contact: 11/10/2020

DEBRIS R5 LF: US EPA Region 5 Disaster Debris Recovery Database is a list of public facilities for disaster construction and demolition materials, electronics, household hazardous waste, metals, tires, and vehicles in EPA Region 5.

Agency Version Date: 02/28/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/26/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 10/30/2020

DEBRIS R5 SWRCY: US EPA Region 5 Disaster Debris Recovery Database is a list of public facilities for disaster construction and demolition materials, electronics, household hazardous waste, metals, tires, and vehicles in EPA Region 5.

Agency Version Date: 02/28/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/26/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 10/30/2020

DOD: Department of Defense sites

Agency Version Date: 08/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 11/17/2020

DOT OPS: Incident Data Report

Agency Version Date: 01/20/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/26/2021
Agency: U.S. Department of Transportation
Agency Contact: (202) 366-4996
Most Recent Contact: 11/30/2020

ECHO: ECHO is EPA Enforcement and Compliance History Online website to search for facilities in your community to assess their compliance with environmental regulations related to CAA, CWA, RCRA, & SDWA.

Agency Version Date: 02/10/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/07/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 202-566-1667
Most Recent Contact: 10/13/2020

OTHER ASCERTAINABLE RECORDS (cont.)

ENOI: The Electronic Notice of Intent (eNOI) database contains construction sites and industrial facilities that submit permit requests to EPA for Construction General Permits (CGP) and Multi-Sector General Permits (MSGP).

Agency Version Date: 11/15/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 12/22/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/25/2020

EPA FUELS: List of companies and facilities registered to participate in EPA Fuel Programs under Title 40 CFR Part 80.

Agency Version Date: 08/26/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/19/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 11/23/2020

EPA OSC: Listing of oil spills and hazardous substance release sites requiring EPA On-Site Coordinators.

Agency Version Date: 02/05/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/05/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 10/09/2020

EPA WATCH: The EPA Watch List was used to facilitate dialogue between EPA, state and local environmental agencies on enforcement matters relating to facilities with alleged violations identified as either significant or high priority. EPA maintained the lists from 2011 - 2013.

Agency Version Date: 02/09/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/05/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 10/09/2020

FA HWF: Hazardous Waste Facilities with Financial Assurance

Agency Version Date: 10/26/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/20/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 10/26/2020

FEDLAND: Federal land locations

Agency Version Date: 01/06/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/09/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 11/13/2020

FRS: Facility Registry Systems

Agency Version Date: 08/31/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/23/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/27/2020

FTTS: Tracking of administrative and enforcement activities related to FIFRA/TSCA

Agency Version Date: 04/16/2013
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/22/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2280
Most Recent Contact: 10/26/2020

FTTS INSP: Tracking of inspections related to FIFRA/TSCA

Agency Version Date: 05/08/2017
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 01/15/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2280
Most Recent Contact: 10/20/2020

OTHER ASCERTAINABLE RECORDS (cont.)

FUDS: Defense sites that require cleanup

Agency Version Date: 08/26/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/19/2021
Agency: US Army Corps of Engineering
Agency Contact: (202) 761-0011
Most Recent Contact: 11/23/2020

HIST AFS: List of Air Facility Systems Quarterly Extract that are no longer in current agency list.

Agency Version Date: 06/14/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 01/05/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/09/2020

HIST AFS 2: List of Air Facility Systems Quarterly Extract that are no longer in current agency list.

Agency Version Date: 11/26/2018
Agency Update Frequency: Quarterly
Planned Next Contact: 02/05/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/10/2020

HIST DOD: Department of Defense historical sites

Agency Version Date: 08/17/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 02/12/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 11/17/2020

HIST LEAD_SMELTER: List of former lead smelter sites that is no longer in current agency list.

Agency Version Date: 12/12/2018
Agency Update Frequency: Annually
Planned Next Contact: 01/21/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/26/2020

HIST MLTS: List of sites in possession/use of radioactive materials regulated by NRC that is no longer in current agency list.

Agency Version Date: 07/13/2016
Agency Update Frequency: Annually
Planned Next Contact: 02/02/2021
Agency: Nuclear Regulatory Commission
Agency Contact: (800) 397-4209
Most Recent Contact: 11/06/2020

HIST PCB TRANS: List of PCB Disposal Facilities that are no longer in current agency list.

Agency Version Date: 01/18/2018
Agency Update Frequency: No Update
Planned Next Contact: 02/18/2021
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 11/24/2020

HIST PCS ENF: List of permitted facilities to discharge wastewater (Federal equivalent to NPDES) that are no longer in current agency list.

Agency Version Date: 12/08/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/11/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 09/14/2020

HIST PCS FACILITY: List of Permitted facilities to discharge wastewater (Federal equivalent to NPDES) that are no longer in current agency list.

Agency Version Date: 12/18/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/15/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 09/18/2020

OTHER ASCERTAINABLE RECORDS (cont.)

HIST SSTS: List of tracking of facilities who produce pesticides and their quantity that are no longer in current agency list.

Agency Version Date: 02/13/2019
Agency Update Frequency: Annually
Planned Next Contact: 02/23/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/27/2020

HWC DOCKET: Listing of Federal facilities which are managing or have managed hazardous waste; or have had a release of hazardous waste.

Agency Version Date: 10/28/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 02/16/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: (202) 564-2307
Most Recent Contact: 11/20/2020

ICIS: Comprised of all Federal Administrative and Judicial enforcement information [intended to replace PCS] by tracking enforcement and compliance information (also contains what used to be known as FFTS)

Agency Version Date: 07/20/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/12/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/16/2020

INACTIVE PCS: Inactive Permitted facilities to discharge wastewater

Agency Version Date: 02/11/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/12/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 10/16/2020

INDIAN RESERVATION: Indian Reservation sites

Agency Version Date: 02/25/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/21/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 10/26/2020

LUCIS: Land Use Control Information Systems

Agency Version Date: 07/24/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/08/2021
Agency: Department of the Navy: BRAC PMO
Agency Contact: (619) 532-0900
Most Recent Contact: 10/12/2020

LUCIS 2: Land Use Control Information Systems

Agency Version Date: 01/17/2018
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 02/19/2021
Agency: Department of the Navy: BRAC PMO
Agency Contact: (619) 532-0900
Most Recent Contact: 11/24/2020

MINES: Mines Master Index Files

Agency Version Date: 02/12/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/11/2021
Agency: Department of Labor
Agency Contact: (202) 693-9400
Most Recent Contact: 10/16/2020

MINES USGS: Listing of all active mines and mineral plants in 2003

Agency Version Date: 10/20/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/15/2021
Agency: USGS Mineral Resources Program
Agency Contact: (703) 648-5953
Most Recent Contact: 10/20/2020

OTHER ASCERTAINABLE RECORDS (cont.)

MLTS: Sites in possession/use of radioactive materials regulated by NRC

Agency Version Date: 05/19/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/05/2021
Agency: Nuclear Regulatory Commission
Agency Contact: (800) 397-4209
Most Recent Contact: 11/10/2020

NPL AOC: Areas of Concern related to NPL remediation sites

Agency Version Date: 08/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: Environmental Protection Agency
Agency Contact: N/R
Most Recent Contact: 11/17/2020

NPL LIENS: National Priority List of sites with Liens

Agency Version Date: 07/27/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

OSHA: OSHA's listing of inspections violations and fatality information

Agency Version Date: 02/11/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/11/2021
Agency: Occupational Safety & Health Administration
Agency Contact: 800-321-6742
Most Recent Contact: 10/16/2020

PADS: Listing of generators transporters commercial store/ brokers and disposers of PCB

Agency Version Date: 03/13/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 11/16/2020

PCB TRANSFORMER: Disposal and Storage of Polychlorinated Biphenyl (PCB) Waste

Agency Version Date: 08/31/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/24/2021
Agency: Environmental Protection Agency
Agency Contact: (703) 308-8404
Most Recent Contact: 11/27/2020

PCS ENF: Permitted facilities to discharge wastewater (Federal equivalent to NPDES)

Agency Version Date: 02/11/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/12/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 10/16/2020

PCS FACILITY: Permitted facilities to discharge wastewater (Federal equivalent to NPDES)

Agency Version Date: 02/11/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/12/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-6582
Most Recent Contact: 10/16/2020

RAATS: Listing of major violators with enforcement actions issued under RCRA. Includes administrative and civil actions filed by the EPA. This dataset is no longer maintained.

Agency Version Date: 09/23/2019
Agency Update Frequency: Varies
Planned Next Contact: 02/05/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 11/10/2020

RADINFO: EPA regulated facilities with radiation and radioactive materials

Agency Version Date: 08/01/2019
Agency Update Frequency: Varies
Planned Next Contact: 01/26/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/30/2020

OTHER ASCERTAINABLE RECORDS (cont.)

RMP: Facilities producing/handling/ process/ distribute/ store specific chemicals report plans required by the Clean Air Act

Agency Version Date: 03/17/2020
Agency Update Frequency: Monthly
Planned Next Contact: 01/19/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 564-2534
Most Recent Contact: 10/23/2020

ROD: Permanent remedy at an NPL site

Agency Version Date: 08/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021
Agency: Environmental Protection Agency
Agency Contact: (800) 424-9346
Most Recent Contact: 11/17/2020

SCRD DRYCLEANERS: State Coalition for Remediation of Drycleaners

Agency Version Date: 09/21/2020
Agency Update Frequency: No Update
Planned Next Contact: 12/18/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/21/2020

SEMS_SMELTER: This report includes sites that have smelting-related, or potentially smelting-related, indicators in the SEMS database. The report includes information on the site location as well as contaminants of concern.

Agency Version Date: 07/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/12/2021
Agency: U.S. Environmental Protection Agency
Agency Contact: 703-603-8867
Most Recent Contact: 11/17/2020

SSTS: Tracking of facilities who produce pesticides and their quantity

Agency Version Date: 09/28/2020
Agency Update Frequency: Annually
Planned Next Contact: 12/25/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 09/28/2020

STORMWATER: Permitted storm water sites

Agency Version Date: 07/20/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/12/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/16/2020

TOSCA-PLANT: Plants controlled by the Toxic Substance Control Act

Agency Version Date: 10/01/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/28/2020
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/01/2020

TRIS: Information regarding toxic chemicals that are being used/manufactured/ treated/ transported/released into the environment

Agency Version Date: 07/17/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/11/2021
Agency: Environmental Protection Agency
Agency Contact: (202) 566-1667
Most Recent Contact: 10/14/2020

UMTRA: Uranium Recovery Sites

Agency Version Date: 07/18/2019
Agency Update Frequency: Varies
Planned Next Contact: 01/14/2021
Agency: United States Nuclear Regulatory Commission
Agency Contact: (301) 415-8200
Most Recent Contact: 10/19/2020

OTHER ASCERTAINABLE RECORDS (cont.)

VAPOR: EPA Vapor Intrusion Database

Agency Version Date: 09/23/2020
Agency Update Frequency: Varies
Planned Next Contact: 12/21/2020
Agency: U.S. Environmental Protection Agency
Agency Contact: 855-246-3642
Most Recent Contact: 09/23/2020

AIRS - FL: Listing of facilities with air permits

Agency Version Date: 03/10/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/23/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-717-9091
Most Recent Contact: 11/27/2020

AIRS_MIAMI-DADE COUNTY - FL: Miami-Dade county facilities with air permits

Agency Version Date: 10/21/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/18/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

CAP_MIAMI-DADE COUNTY - FL: Miami-Dade county facilities with construction air permits

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

CATTLE DIPPING VATS - FL: Cattle Dipping Vats from the Ground Water Inspection Facility listing.

Agency Version Date: 10/29/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/25/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 10/29/2020

COAL ASH - FL: Coal Ash Disposal Site Listing

Agency Version Date: 09/25/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 12/22/2020
Agency: Florida Department of Environmental Protection
Agency Contact: 850.245.8712
Most Recent Contact: 09/25/2020

DAYCARE - FL: Daycare listing

Agency Version Date: 02/27/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/26/2021
Agency: Florida Department of Children & Families
Agency Contact: 866-762-2237
Most Recent Contact: 10/30/2020

DEDB - FL: Drinking water wells contaminated with ethylene dibromide

Agency Version Date: 10/26/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/22/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2006
Most Recent Contact: 10/26/2020

DRYCLEANERS - FL: Drycleaner facility listing

Agency Version Date: 10/12/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/07/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 10/12/2020

OTHER ASCERTAINABLE RECORDS (cont.)

ENF_MIAMI-DADE COUNTY - FL: Miami-Dade County enforcement case listing of sites

Agency Version Date: 10/23/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/19/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/23/2020

FA 1 - FL: Financial Assurance for SWF/LF facilities

Agency Version Date: 10/09/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/05/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 10/09/2020

FA 2 - FL: Financial Assurance for Hazardous Waste Managment facilities

Agency Version Date: 01/16/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/05/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 10/09/2020

FA 3 - FL: Financial Assurance and Insurance Information for Tank Facilities

Agency Version Date: 10/19/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/15/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 10/19/2020

FACILITY LIST_ALACHUA COUNTY - FL: Alachua county hazardous material facility list

Agency Version Date: 02/20/2020
Agency Update Frequency: Annually
Planned Next Contact: 02/05/2021
Agency: Alachua County Environmental Protection Department
Agency Contact: 352-264-6806
Most Recent Contact: 11/10/2020

FF TANKS - FL: listing of Federal facilities with tanks, no longer updated

Agency Version Date: 08/27/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 02/22/2021
Agency: Department of Environmental Protection
Agency Contact: 850-245-8705
Most Recent Contact: 11/25/2020

GTO_MIAMI-DADE COUNTY - FL: Miami-Dade county non-residential facilities that discharge waste to a sanitary sewer

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021
Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

GWCA - FL: Ground water contaminated areas

Agency Version Date: 09/01/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/22/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 11/26/2020

GWIF - FL: Groundwater Monitoring sites that are inspected and monitored.

Agency Version Date: 10/29/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/25/2021
Agency: Florida Bureau of Environmental Health
Agency Contact: 850-245-4240
Most Recent Contact: 10/29/2020

OTHER ASCERTAINABLE RECORDS (cont.)

GWP_MIAMI-DADE COUNTY - FL: Miami-Dade County Class I, II, III, IV, V, VI, Domestic Wastewater permits

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Miami-Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

HAZ WASTE_MIAMI-DADE COUNTY - FL: Miami-Dade county hazardous waste permits

Agency Version Date: 10/08/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/04/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/08/2020

HIST CAP_MIAMI-DADE COUNTY - FL: List of Miami-Dade county facilities with construction air permits that are no longer in current agency list.

Agency Version Date: 12/25/2018
Agency Update Frequency: Annually
Planned Next Contact: 12/18/2020

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 09/21/2020

HIST CATTLE DIPPING VATS - FL: Vats from the 1910's through the 1950's that were filled with an arsenic solution for the control and eradication of the cattle fever tick

Agency Version Date: 08/19/2016
Agency Update Frequency: No Longer Maintained
Planned Next Contact: 02/19/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 11/24/2020

HIST DEDB - FL: List of drinking water wells contaminated with ethylene dibromide that is no longer in current agency list.

Agency Version Date: 02/04/2019
Agency Update Frequency: Annually
Planned Next Contact: 01/21/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2006
Most Recent Contact: 10/26/2020

HIST FF TANKS - FL: List of Federal facilities with tanks that are no longer in current agency list.

Agency Version Date: 01/28/2019
Agency Update Frequency: Quarterly
Planned Next Contact: 01/26/2021

Agency: Department of Environmental Protection
Agency Contact: N/R
Most Recent Contact: 10/30/2020

HIST MINES - FL: Location information of recorded mines

Agency Version Date: 02/08/2019
Agency Update Frequency: Annually
Planned Next Contact: 02/19/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 11/24/2020

IW SQG_MIAMI-DADE COUNTY - FL: Miami-Dade county permitted industrial waste small quantity generator

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

IW_MIAMI-DADE COUNTY - FL: Miami-Dade county industrial waste permits

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

OTHER ASCERTAINABLE RECORDS (cont.)

IWP_MIAMI-DADE COUNTY - FL: Miami-Dade County permitted industrial waste pretreatment facility listing

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

LWT_MIAMI-DADE COUNTY - FL: Miami-Dade county permitted liquid waste transporter listing

Agency Version Date: 10/21/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

MINES - FL: Location information of recorded mines

Agency Version Date: 03/31/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/23/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 11/27/2020

MOP_MIAMI-DADE COUNTY - FL: Miami-Dade county marine facilities operating permit listing

Agency Version Date: 10/21/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/18/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/21/2020

MRE_MIAMI-DADE COUNTY - FL: Miami-Dade county Maimi River Enforcement case listing

Agency Version Date: 10/23/2020
Agency Update Frequency: Quarterly
Planned Next Contact: 01/19/2021

Agency: Dade County Department of Environmental Resources Management
Agency Contact: 305-372-6715
Most Recent Contact: 10/23/2020

NPDES - FL: Listing of facilities with wastewater and NPDES permits

Agency Version Date: 10/09/2020
Agency Update Frequency: Monthly
Planned Next Contact: 01/05/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8325
Most Recent Contact: 10/09/2020

PRIORITY CLEANERS - FL: Listing of sites included in the Drycleaning Solvent Cleanup Program Priority Ranking List

Agency Version Date: 11/16/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/12/2021

Agency: Department of Environmental Protection
Agency Contact: 850-245-8927
Most Recent Contact: 11/16/2020

SIS - FL: Listing of site investigation section sites

Agency Version Date: 08/25/2020
Agency Update Frequency: Varies
Planned Next Contact: 02/15/2021

Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 11/19/2020

T 2 - FL: List of facilities that must submit an Emergency and Hazardous Chemical Inventory Form

Agency Version Date: 10/09/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/05/2021

Agency: Florida Division of Emergency Management
Agency Contact: 850-413-9928
Most Recent Contact: 10/09/2020

OTHER ASCERTAINABLE RECORDS (cont.)

UIC - FL: Underground injection well permits

Agency Version Date: 10/07/2020
Agency Update Frequency: Varies
Planned Next Contact: 01/04/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-2118
Most Recent Contact: 10/07/2020

VIOLATION_BROWARD COUNTY - FL: Broward county listing of environmental notices of violation cases

Agency Version Date: 08/03/2020
Agency Update Frequency: Semi Annually
Planned Next Contact: 01/26/2021
Agency: Broward County Environmental Protection Department
Agency Contact: 954-519-0332
Most Recent Contact: 10/30/2020

WASTEWATER - FL: Listing of permitted wastewater facilities

Agency Version Date: 08/17/2020
Agency Update Frequency: Monthly
Planned Next Contact: 02/08/2021
Agency: Florida Department of Environmental Protection
Agency Contact: 850-245-8325
Most Recent Contact: 11/12/2020

SUBJECT PROPERTY ADDRESS:

Santa Rosa County South Santa Rosa Sports Complex
Santa Rosa County
Gulf Breeze, FL 32563

SUBJECT PROPERTY COORDINATES:

Latitude(North):	30.396063 - 30°23'45.8"
Longitude(West):	-87.008617 - -87°0'31"
Universal Transverse Mercator:	Zone 16N
UTM X (Meters):	499172.25
UTM Y (Meters):	3362673.67

ELEVATION:

Elevation:	29.646 ft. above sea level

USGS TOPOGRAPHIC MAP:

Subject Property Map:	30087-D1 Garcon Point, FL
Most Recent Revision:	2018

GEOHYDROLOGY DATA:

SUBJECT PROPERTY TOPOGRAPHY:

Topographic Gradient: Northwest

DFIRM FLOOD ZONE:

	DFIRM Flood
Subject Property County:	Electronic Data:
SANTA ROSA	Yes - refer to the PROPERTY PROXIMITY MAP and AREA MAP
Flood Plain Panel at Subject Property:	12113C
Additional Panels in search area:	No available data

FEMA FLOOD ZONE:

	FEMA Flood
Subject Property County:	Electronic Data:
SANTA ROSA	Yes - refer to the PROPERTY PROXIMITY MAP and AREA MAP
Flood Plain Panel at Subject Property:	1202740335C
Additional Panels in search area:	1202740355C 1202740345B 1202740365B

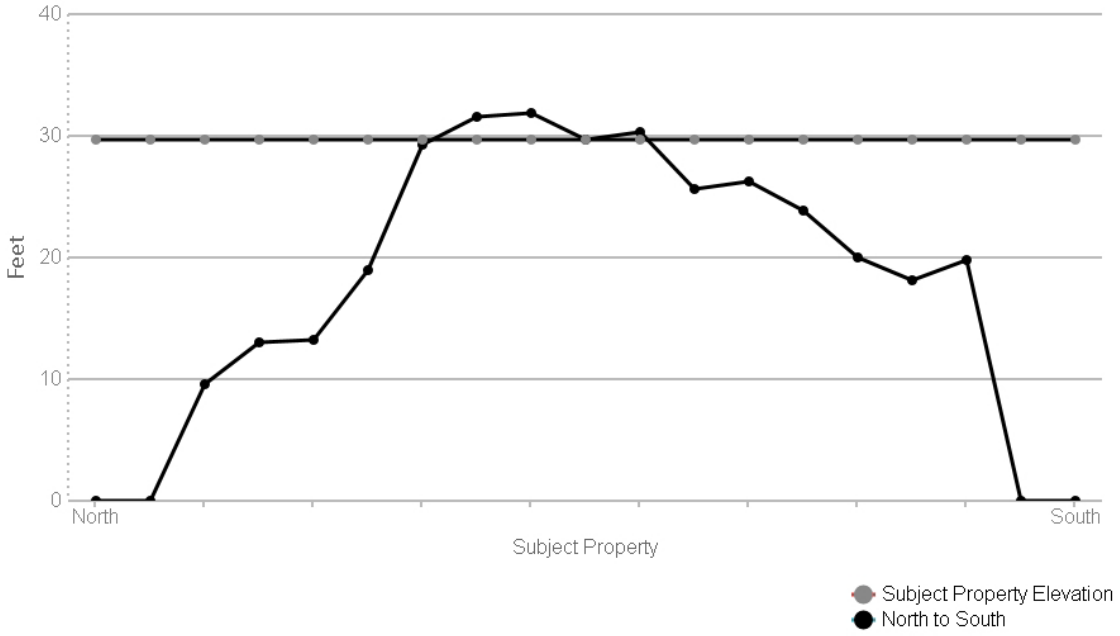
NATIONAL WETLAND INVENTORY:

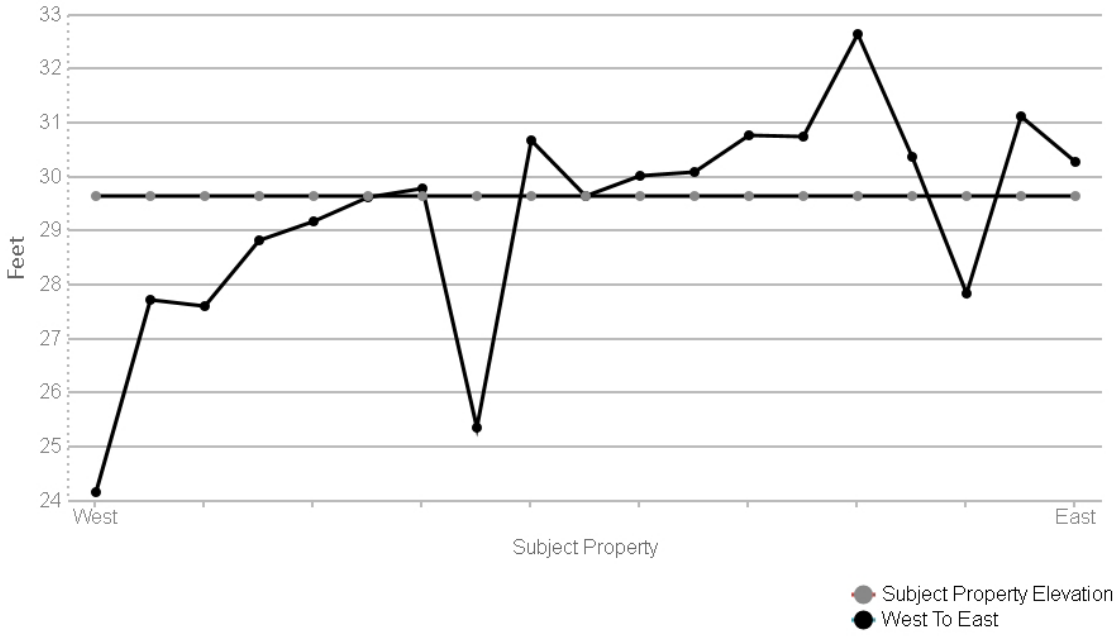
	NWI Electronic
NWI Quad at Subject Property:	Data Coverage:
Garcon Point	Yes - refer to the Geological Findings Map

LITHOSTRATIGRAPHIC INFORMATION:

ROCK STRATIGRAPHIC UNIT:		GEOLOGIC AGE IDENTIFICATION
Era:	N/R	Category: 2 Qh Holocene
System:	N/R	
Series:	Holocene	
Code:	Qh	

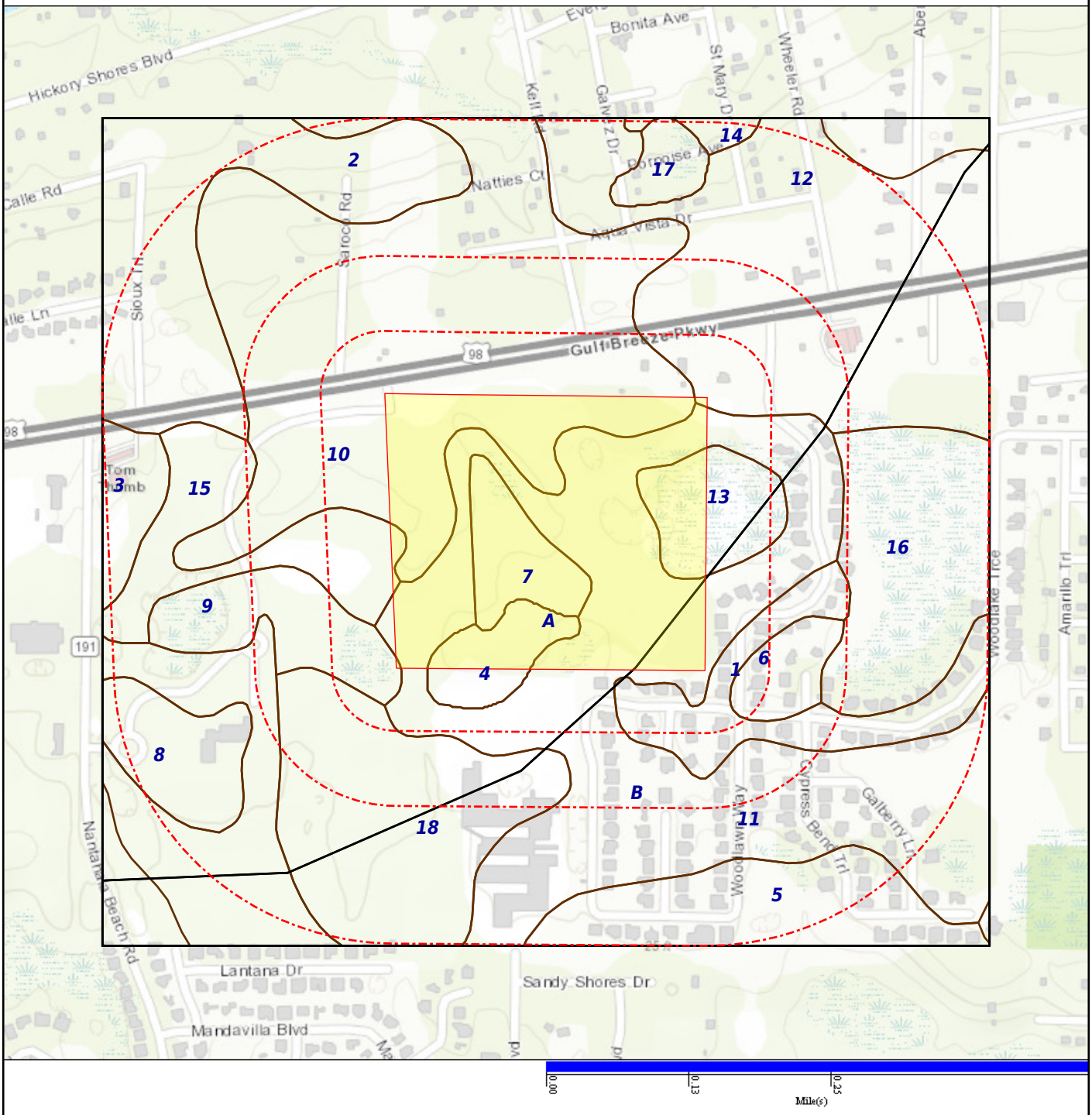
SURROUNDING ELEVATION PROFILES:





SUBJECT NAME: Santa Rosa County South Santa Rosa Sp...
ADDRESS: Santa Rosa County, Gulf Breeze, FL, 32563
LAT/LONG: 30.396063 / -87.008617

PREPARED FOR: Volkert, Inc
ORDER #: 48259
REPORT DATE: December 07, 2020



SOIL COMPOSITION IN GENERAL AREA OF SUBJECT PROPERTY:

Agency source: Soil Conservation Service, US Department of Agriculture

SOIL MAP ID 1

USDA Soil Name	Ortega,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	5
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5

SOIL MAP ID 2

USDA Soil Name	Kureb,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Excessively drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-4	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
2	4-17	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
3	17-68	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
4	68-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil	42-141	4.5-7.3

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
4	68-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3

SOIL MAP ID 3

USDA Soil Name	Ortega,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	5
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials,	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in	42.34-141.14	4.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	3-80	Sand	1984.	organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5

SOIL MAP ID 4

USDA Soil Name	Ortega,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	5
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM,	42.34-141.14	4.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	1984).	42.34-141.14	4.5-6.5

SOIL MAP ID 5

USDA Soil Name	Kureb,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Excessively drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-4	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
2	4-17	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials,	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and	42-141	4.5-7.3

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	4-17	Sand	1984.	the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
3	17-68	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
4	68-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3

SOIL MAP ID 6

USDA Soil Name	Kureb,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Excessively drained
Hydric Classification	0
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-4	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
2	4-17	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
3	17-68	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3
4	68-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil	42-141	4.5-7.3

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
4	68-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-7.3

SOIL MAP ID 7

USDA Soil Name	Pactolus,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Moderately well drained
Hydric Classification	2
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-8	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5
2	8-80	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials,	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil	42-141	4.5-5.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	8-80	Sand	1984.	material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5

SOIL MAP ID 8

USDA Soil Name	Ortega,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	5
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM	42.34-141.14	4.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5

SOIL MAP ID 9

USDA Soil Name	Rutlege,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Very poorly drained
Hydric Classification	95
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-12	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
2	12-21	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in	42-141	3.5-5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	12-21	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
3	21-61	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5

SOIL MAP ID 10

USDA Soil Name	Ortega,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	5
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Clean Sands, Poorly Graded Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and	42.34-141.14	4.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-3	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5
2	3-80	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42.34-141.14	4.5-6.5

SOIL MAP ID 11

USDA Soil Name	Leon,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Poorly drained
Hydric Classification	9
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-5	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	5-18	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-6.5
3	18-26	Sand	Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-42	3.5-6.5
4	26-65	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	14-141	3.5-6.5
5	65-80	Sand	Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	1.4-14	3.5-6.5

SOIL MAP ID 12

USDA Soil Name	Pactolus,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Moderately well drained
Hydric Classification	2
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-8	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5
2	8-80	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5

SOIL MAP ID 13

USDA Soil Name	Rutlege,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Very poorly drained
Hydric Classification	95
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-12	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
2	12-21	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
3	21-61	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5

SOIL MAP ID 14

USDA Soil Name	Leon,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Poorly drained
Hydric Classification	9
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-5	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-6.5
2	5-18	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-6.5
3	18-26	Sand	Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	4-42	3.5-6.5
4	26-65	Sand	Granular materials (35% or less passing No. 200), fine sand. Reference: This is a classification of soil material for highway	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size	14-141	3.5-6.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
4	26-65	Sand	and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	14-141	3.5-6.5
5	65-80	Sand	Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	1.4-14	3.5-6.5

SOIL MAP ID 15

USDA Soil Name	Pactolus,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Moderately well drained
Hydric Classification	2
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-8	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5
2	8-80	Sand	Granular materials (35% or less passing No. 200), silty or clayey	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference:	42-141	4.5-5.5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	8-80	Sand	gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5

SOIL MAP ID 16

USDA Soil Name	Rutlege,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Very poorly drained
Hydric Classification	95
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-12	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
2	12-21	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials,	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil	42-141	3.5-5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
2	12-21	Loamy sand	1984.	material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
3	21-61	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5

SOIL MAP ID 17

USDA Soil Name	Rutlege,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Very poorly drained
Hydric Classification	95
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-12	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in	42-141	3.5-5

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-12	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
2	12-21	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5
3	21-61	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	3.5-5

SOIL MAP ID 18

USDA Soil Name	Pactolus,Series
USDA Soil Texture	Loamy sand
Hydrologic Soil Group	A/D
Soil Drainage Class	Moderately well drained
Hydric Classification	2
Corrosion Potential - Uncoated Steel	High

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-8	Loamy sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5
2	8-80	Sand	Granular materials (35% or less passing No. 200), silty or clayey gravel and sand. Reference: This is a classification of soil material for highway and airfield construction (Procedure M 145-73 in Am. Assoc. of State Highway and Transportation Officials, 1984.	COARSE-GRAINED SOILS, Sands, Sands with fines, Silty Sand. Reference: This is a classification of soil material designed for general construction purposes. It is dependent on the particle size distribution of the <75 mm, the liquid limit, and the plasticity index and on whether the soil material is high in organic matter (ASTM test D 2487, in ASTM, 1984).	42-141	4.5-5.5

SOIL MAP ID A

USDA Soil Name	Ortega,Series
USDA Soil Texture	Fine sand
Hydrologic Soil Group	A
Soil Drainage Class	Moderately well drained
Hydric Classification	22
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-5	Fine sand	No data	No data	42.343-141.1433	3.6-6.5
2	5-82	No data	No data	No data	42.343-141.1433	3.6-6.5

SOIL MAP ID B

USDA Soil Name	Pactolus,Series
USDA Soil Texture	Sand
Hydrologic Soil Group	A
Soil Drainage Class	Very poorly drained
Hydric Classification	59
Corrosion Potential - Uncoated Steel	Low

Layer	Depth (inches)	Soil Texture	AASHTO Group	Unified Soil Description	Saturated Hydraulic Conductivity micro m/sec	Soil Reaction pH
1	0-40	Sand	No data	No data	42.343-141.1433	3.6-5.5
2	40-80	No data	No data	No data	42.343-141.1433	3.6-5.5

WATER AGENCY DATA:

WATER AGENCY SEARCH DISTANCES:

DATABASE:	SEARCH DISTANCE (MILES):
NWIS	1.000
OIL & GAS WELLS - FL	1.000
PWS	1.000
WELLS - FL	1.000
WELLS NW - FL	1.000
WELLS SJ - FL	1.000
WELLS SR - FL	1.000
WELLS SW - FL	1.000

DISTANCE TO NEAREST:	DISTANCE:
NWIS	N/A
OIL & GAS WELLS - FL	N/A
PWS	0.298 mi / 1572 ft
WELLS - FL	0.333 mi / 1760 ft
WELLS NW - FL	0.148 mi / 782 ft
WELLS SJ - FL	N/A
WELLS SR - FL	N/A
WELLS SW - FL	N/A

FEDERAL WATER AGENCY DATA SUMMARY:

MAP ID:	WELL ID:	LOCATION FROM SP:
B17	FL1570470	1/4 - 1/2 Mile W

Note: PWS System location is not always the same as well location.

STATE/LOCAL WATER AGENCY DATA SUMMARY:

MAP ID:	WELL ID:	LOCATION FROM SP:
1	LA-C-230518-1	1/8 - 1/4 Mile N

STATE/LOCAL WATER AGENCY DATA SUMMARY: *(cont.)*

MAP ID:	WELL ID:	LOCATION FROM SP:
2	LA-C-219307-1	1/8 - 1/4 Mile N
A3	LA-C-285435-1	1/8 - 1/4 Mile WNW
A4	LA-C-289938-1	1/8 - 1/4 Mile WNW
5	MO-C-60561-1	1/8 - 1/4 Mile NE
B6	MO-C-294665-1	1/8 - 1/4 Mile W
A7	LA-C-220737-1	1/8 - 1/4 Mile WNW
A8	LA-C-212428-1	1/4 - 1/2 Mile WNW
C9	LA-C-290733-1	1/4 - 1/2 Mile S
C10	LA-C-284524-1	1/4 - 1/2 Mile S
C11	LA-C-287043-1	1/4 - 1/2 Mile S
C12	LA-C-286468-1	1/4 - 1/2 Mile SSE
C13	LA-C-267395-1	1/4 - 1/2 Mile S
14	LA-C-291849-1	1/4 - 1/2 Mile N
C15	LA-C-287869-1	1/4 - 1/2 Mile SSE
C16	LA-C-293756-1	1/4 - 1/2 Mile S
18	LA-C-292229-1	1/4 - 1/2 Mile E
D19	LA-C-291441-1	1/4 - 1/2 Mile E
C20	LA-C-267786-1	1/4 - 1/2 Mile S
C21	LA-C-293755-1	1/4 - 1/2 Mile SSE
E22	LA-C-220163-1	1/4 - 1/2 Mile SSW
F23	LA-C-288663-1	1/4 - 1/2 Mile WNW
24	LA-C-197970-1	1/4 - 1/2 Mile ENE
F25	LA-A-288662-1	1/4 - 1/2 Mile WNW
C26	LA-C-293754-1	1/4 - 1/2 Mile S
D27	LA-C-209445-1	1/4 - 1/2 Mile E
28	AAF2062	1/4 - 1/2 Mile NW
G29	LA-C-282222-1	1/4 - 1/2 Mile S
G30	LA-A-259949-2	1/4 - 1/2 Mile S
E31	LA-C-219996-1	1/4 - 1/2 Mile SSW
E32	LA-C-223431-1	1/4 - 1/2 Mile SSW
E33	LA-A-223244-1	1/4 - 1/2 Mile SSW
34	LA-C-210836-1	1/4 - 1/2 Mile SW
35	LA-C-294060-1	1/4 - 1/2 Mile NNE
H36	LA-C-293425-1	1/4 - 1/2 Mile ESE
H37	LA-C-293426-1	1/4 - 1/2 Mile ESE
I38	MO-C-292679-1	1/4 - 1/2 Mile ENE
I39	MO-C-292679-1	1/4 - 1/2 Mile ENE
I40	MO-C-292679-1	1/4 - 1/2 Mile ENE
H41	LA-C-293427-1	1/4 - 1/2 Mile ESE
42	LA-C-227224-1	1/4 - 1/2 Mile E
H43	LA-C-293428-1	1/4 - 1/2 Mile ESE
44	LA-C-225607-1	1/4 - 1/2 Mile SE
45	LA-C-288352-1	1/4 - 1/2 Mile W
46	LA-C-212121-1	1/4 - 1/2 Mile NW
47	LA-C-291388-1	1/4 - 1/2 Mile WSW
I48	MO-A-289402-1	1/4 - 1/2 Mile ENE
I49	MO-A-289402-1	1/4 - 1/2 Mile ENE
I50	MO-A-289402-1	1/4 - 1/2 Mile ENE
I51	MO-C-285889-1	1/4 - 1/2 Mile ENE
I52	MO-A-289402-1	1/4 - 1/2 Mile ENE
I53	MO-C-286408-1	1/4 - 1/2 Mile ENE
I54	MO-A-289402-1	1/4 - 1/2 Mile ENE
I55	MO-C-286408-1	1/4 - 1/2 Mile ENE
56	LA-C-289188-1	1/4 - 1/2 Mile NE
57	LA-C-215694-1	1/4 - 1/2 Mile SSE
I58	MO-A-289402-1	1/4 - 1/2 Mile ENE
I59	MO-C-285889-1	1/4 - 1/2 Mile ENE
I60	MO-A-289402-1	1/4 - 1/2 Mile ENE
61	LA-C-219538-1	1/4 - 1/2 Mile ESE
I62	MO-A-289402-1	1/4 - 1/2 Mile ENE
I63	MO-A-289403-1	1/4 - 1/2 Mile ENE
J64	LA-C-292815-2	1/4 - 1/2 Mile ESE
65	LA-C-201754-1	1/4 - 1/2 Mile W

STATE/LOCAL WATER AGENCY DATA SUMMARY: *(cont.)*

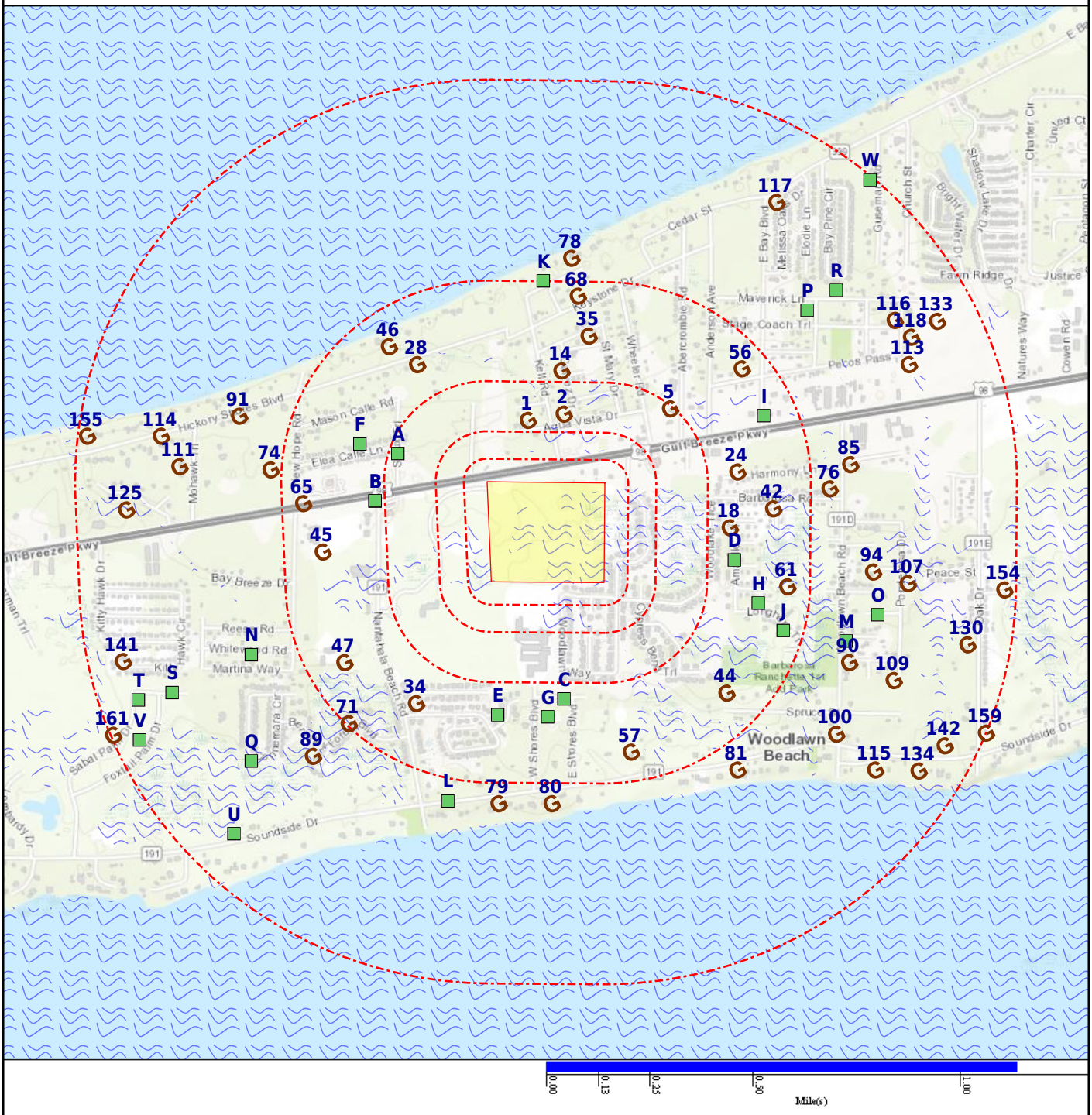
MAP ID:	WELL ID:	LOCATION FROM SP:
J67	LA-C-292732-1	1/4 - 1/2 Mile ESE
68	LA-C-228474-1	1/4 - 1/2 Mile N
K69	LA-C-285101-1	1/4 - 1/2 Mile N
K70	LA-C-285102-1	1/4 - 1/2 Mile N
71	LA-C-225460-1	1/2 - 1 Mile SW
K72	LA-C-285161-1	1/2 - 1 Mile N
K73	LA-C-286168-1	1/2 - 1 Mile N
74	LA-C-214389-1	1/2 - 1 Mile W
L75	LA-C-214004-1	1/2 - 1 Mile SSW
76	LA-C-209725-1	1/2 - 1 Mile E
L77	LA-C-293906-1	1/2 - 1 Mile SSW
78	LA-C-215945-1	1/2 - 1 Mile N
79	LA-C-292162-1	1/2 - 1 Mile S
80	LA-C-225542-1	1/2 - 1 Mile S
81	LA-C-218247-1	1/2 - 1 Mile SE
L82	LA-C-293591-2	1/2 - 1 Mile SSW
L83	LA-C-293344-1	1/2 - 1 Mile SSW
M84	LA-C-202845-1	1/2 - 1 Mile ESE
85	LA-C-221414-1	1/2 - 1 Mile E
N86	LA-A-289314-1	1/2 - 1 Mile WSW
N87	LA-C-289315-1	1/2 - 1 Mile WSW
N88	LA-C-289265-1	1/2 - 1 Mile WSW
89	LA-C-218875-1	1/2 - 1 Mile SW
90	LA-C-223635-1	1/2 - 1 Mile ESE
91	LA-C-289534-1	1/2 - 1 Mile WNW
M92	LA-C-284858-1	1/2 - 1 Mile ESE
O93	LA-C-292510-1	1/2 - 1 Mile ESE
94	DO-C-204880-1	1/2 - 1 Mile E
P95	LA-C-290866-1	1/2 - 1 Mile NE
O96	LA-C-284266-1	1/2 - 1 Mile ESE
P97	LA-C-290867-1	1/2 - 1 Mile NE
O98	LA-C-286637-1	1/2 - 1 Mile ESE
O99	LA-C-284267-1	1/2 - 1 Mile ESE
100	LA-C-186749-1	1/2 - 1 Mile ESE
O101	LA-C-284265-1	1/2 - 1 Mile E
O102	LA-C-290719-1	1/2 - 1 Mile ESE
O103	LA-C-293044-1	1/2 - 1 Mile E
Q104	LA-A-241359-2	1/2 - 1 Mile SW
Q105	LA-C-284793-1	1/2 - 1 Mile SW
R106	LA-C-290481-1	1/2 - 1 Mile NE
107	LA-C-291317-1	1/2 - 1 Mile E
Q108	LA-C-281493-1	1/2 - 1 Mile SW
109	LA-C-289768-1	1/2 - 1 Mile ESE
R110	LA-C-290482-1	1/2 - 1 Mile NE
111	LA-C-223362-1	1/2 - 1 Mile W
S112	LA-C-292452-1	1/2 - 1 Mile WSW
113	AAK7369	1/2 - 1 Mile ENE
114	LA-C-289716-1	1/2 - 1 Mile WNW
115	LA-C-267723-1	1/2 - 1 Mile ESE
116	LA-C-290480-1	1/2 - 1 Mile ENE
117	LA-C-225888-1	1/2 - 1 Mile NE
118	LA-C-292179-1	1/2 - 1 Mile ENE
S119	LA-C-292378-1	1/2 - 1 Mile WSW
S120	LA-C-292728-1	1/2 - 1 Mile WSW
T121	LA-C-286653-1	1/2 - 1 Mile WSW
T122	LA-C-289387-1	1/2 - 1 Mile WSW
U123	LA-C-288929-1	1/2 - 1 Mile SW
T124	LA-C-292379-1	1/2 - 1 Mile WSW
125	LA-C-290270-1	1/2 - 1 Mile W
T126	LA-C-268072-1	1/2 - 1 Mile WSW
T127	LA-C-289284-1	1/2 - 1 Mile WSW
V128	LA-C-286482-1	1/2 - 1 Mile WSW
U129	LA-C-208644-1	1/2 - 1 Mile SW

STATE/LOCAL WATER AGENCY DATA SUMMARY: *(cont.)*

MAP ID:	WELL ID:	LOCATION FROM SP:
130	DO-C-162534-1	1/2 - 1 Mile ESE
V131	LA-C-293080-1	1/2 - 1 Mile WSW
V132	LA-C-291312-1	1/2 - 1 Mile WSW
134	LA-C-220499-1	1/2 - 1 Mile ESE
T135	LA-C-287112-1	1/2 - 1 Mile WSW
T136	LA-C-289887-1	1/2 - 1 Mile WSW
V137	LA-C-292854-1	1/2 - 1 Mile WSW
V138	LA-C-291584-1	1/2 - 1 Mile WSW
T139	LA-C-285645-1	1/2 - 1 Mile WSW
V140	LA-C-289990-1	1/2 - 1 Mile WSW
141	LA-C-190989-1	1/2 - 1 Mile WSW
142	LA-C-286165-1	1/2 - 1 Mile ESE
V143	LA-C-293202-1	1/2 - 1 Mile WSW
T144	LA-C-291108-1	1/2 - 1 Mile WSW
V145	LA-C-291544-1	1/2 - 1 Mile WSW
V146	LA-C-293245-1	1/2 - 1 Mile WSW
V147	LA-C-290873-1	1/2 - 1 Mile WSW
V148	LA-C-292853-1	1/2 - 1 Mile WSW
V149	LA-C-288331-1	1/2 - 1 Mile WSW
T150	LA-C-291105-1	1/2 - 1 Mile WSW
V151	LA-C-291846-1	1/2 - 1 Mile WSW
V152	LA-C-292855-1	1/2 - 1 Mile WSW
V153	LA-C-290845-1	1/2 - 1 Mile WSW
154	LA-C-292340-1	1/2 - 1 Mile E
155	LA-C-226101-1	1/2 - 1 Mile W
V156	LA-C-293595-1	1/2 - 1 Mile WSW
V157	LA-C-292072-1	1/2 - 1 Mile WSW
W158	LA-C-207885-1	1/2 - 1 Mile NE
159	LA-C-287224-1	1/2 - 1 Mile ESE
W160	LA-C-207882-1	1/2 - 1 Mile NE
161	LA-C-288330-1	1/2 - 1 Mile WSW

SUBJECT NAME: Santa Rosa County South Santa Rosa Sp...
ADDRESS: Santa Rosa County, Gulf Breeze, FL, 32563
LAT/LONG: 30.396063 / -87.008617

PREPARED FOR: Volkert, Inc
ORDER #: 48259
REPORT DATE: December 07, 2020



Map Id: 1
Direction: N
Distance: 0.148 mi.
Actual: 782.250 ft.
Elevation: 0.006 mi. / 29.423 ft.
Relative: Lower

Site Name : LA-C-230518-1
30.400013, -87.009385
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24097883
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-230518-1
Issue Date :	2010-09-29
Completion Date :	2010-10-02
Station ID :	242235
Legacy Number :	P201001880
Contractor License :	3170
Owner Name :	Cedric Herron
Contractor Name :	James Horton
Driller Name :	Sam Gonzales
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	35
Total Depth :	45
Diameter :	2
Compliance Number :	271198
Well Street Address :	5124 Aqua Vista Drive
Location Address :	5124 Aqua Vista Drive, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	14
Latitude :	302400.047
Longitude :	870033.785
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 2
Direction: N
Distance: 0.164 mi.
Actual: 867.782 ft.
Elevation: 0.006 mi. / 30.538 ft.
Relative: Higher

Site Name : LA-C-219307-1
30.400235, -87.007973
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24095157
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-219307-1
Issue Date :	2008-04-22
Completion Date :	2008-05-19
Station ID :	237504
Legacy Number :	P200801767
Contractor License :	3015
Owner Name :	Kay Armstrong
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	260611
Well Street Address :	1750 Kell Road
Location Address :	1750 Kell Road, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 2
Direction: N
Distance: 0.164 mi.
Actual: 867.782 ft.
Elevation: 0.006 mi. / 30.538 ft.
Relative: Higher

Site Name : LA-C-219307-1
30.400235, -87.007973
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24095157
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	0
Latitude :	302400.845
Longitude :	870028.703
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: A3
Direction: WNW
Distance: 0.205 mi.
Actual: 1082.578 ft.
Elevation: 0.006 mi. / 29.459 ft.
Relative: Lower

Site Name : LA-C-285435-1
30.399156, -87.014119
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121739
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-285435-1
Issue Date :	2019-01-18
Completion Date :	2019-04-08
Station ID :	282861
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Ardco Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	420130
Well Street Address :	1734 Sioux Trail
Location Address :	1734 Sioux Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302356.9616
Longitude :	870050.8284
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: A4
Direction: WNW
Distance: 0.208 mi.
Actual: 1098.326 ft.
Elevation: 0.006 mi. / 29.997 ft.
Relative: Higher

Site Name : LA-C-289938-1
30.398989, -87.014257
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223511
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289938-1
Issue Date :	2019-11-06
Completion Date :	2020-02-04
Station ID :	288366
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Ardco Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	432382
Well Street Address :	1728 Sioux Trail
Location Address :	1728 Sioux Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302356.3604
Longitude :	870051.3252
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: 5
Direction: NE
Distance: 0.235 mi.
Actual: 1243.175 ft.
Elevation: 0.006 mi. / 33.967 ft.
Relative: Higher

Site Name : MO-C-60561-1
30.400422, -87.003653
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24215709
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-60561-1
Issue Date :	1988-10-31
Completion Date :	1988-11-23
Station ID :	69864
Legacy Number :	T198900499
Contractor License :	2457
Owner Name :	NWFWMD
Contractor Name :	Mark Kelly
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	40
Diameter :	4
Compliance Number :	111002
Well Street Address :	Off Fire Dept. Road
Location Address :	Off Fire Dept. Road, Midway, FL
Type of Work :	New Construction

Map Id: 5
Direction: NE
Distance: 0.235 mi.
Actual: 1243.175 ft.
Elevation: 0.006 mi. / 33.967 ft.
Relative: Higher

Site Name : MO-C-60561-1
30.400422, -87.003653
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24215709
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Other
Static Water Level (ft) :	N/R
Latitude :	302401.52
Longitude :	870013.15
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: B6
Direction: W
Distance: 0.243 mi.
Actual: 1283.464 ft.
Elevation: 0.006 mi. / 33.005 ft.
Relative: Higher

Site Name : MO-C-294665-1
30.397126, -87.015054
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884618
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-294665-1
Issue Date :	2020-08-14
Completion Date :	2020-08-20
Station ID :	296390
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Junior Food Stores Of West Florida Inc
Contractor Name :	Gregory W Campbell
Driller Name :	Christopher Wright
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	8
Total Depth :	18
Diameter :	2
Compliance Number :	439996
Well Street Address :	4991 Gulf Breeze Parkway
Location Address :	4991 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	11
Latitude :	302349.6545
Longitude :	870054.1929
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: A7
Direction: WNW
Distance: 0.243 mi.
Actual: 1284.744 ft.
Elevation: 0.006 mi. / 29.088 ft.
Relative: Lower

Site Name : LA-C-220737-1
30.398726, -87.014974
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24095591
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-220737-1
Issue Date :	2008-07-18
Completion Date :	2008-07-21
Station ID :	238332
Legacy Number :	P200802527
Contractor License :	3203
Owner Name :	Clark Zaleski
Contractor Name :	Jerry Broxson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	0
Total Depth :	40
Diameter :	2
Compliance Number :	261959
Well Street Address :	4997 Elea Calle Lane
Location Address :	4997 Elea Calle Lane, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	12
Latitude :	302355.413
Longitude :	870053.906
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: A8
Direction: WNW
Distance: 0.253 mi.
Actual: 1337.992 ft.
Elevation: 0.005 mi. / 28.914 ft.
Relative: Lower

Site Name : LA-C-212428-1
30.398784, -87.015132
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24093539
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-212428-1
Issue Date :	2007-06-04
Completion Date :	2007-06-06
Station ID :	230483
Legacy Number :	P200702827
Contractor License :	3203
Owner Name :	Judy Rollins
Contractor Name :	Jerry Broxson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	254113
Well Street Address :	4991 Elea Calle Lane
Location Address :	4991 Elea Calle Lane, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: A8
Direction: WNW
Distance: 0.253 mi.
Actual: 1337.992 ft.
Elevation: 0.005 mi. / 28.914 ft.
Relative: Lower

Site Name : LA-C-212428-1
30.398784, -87.015132
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24093539
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	12
Latitude :	302355.621
Longitude :	870054.474
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C9
Direction: S
Distance: 0.264 mi.
Actual: 1395.242 ft.
Elevation: 0.005 mi. / 24.012 ft.
Relative: Lower

Site Name : LA-C-290733-1
30.390426, -87.008299
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223453
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290733-1
Issue Date :	2020-01-06
Completion Date :	2020-01-06
Station ID :	289731
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Terry Smith
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	22
Total Depth :	27
Diameter :	0
Compliance Number :	433655
Well Street Address :	5156 Sandy Shores Drive
Location Address :	5156 Sandy Shores Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302325.532
Longitude :	870029.8764
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: C10
Direction: S
Distance: 0.265 mi.
Actual: 1400.229 ft.
Elevation: 0.004 mi. / 23.615 ft.
Relative: Lower

Site Name : LA-C-284524-1
30.390415, -87.008764
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24111944
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284524-1
Issue Date :	2018-11-07
Completion Date :	2018-11-12
Station ID :	282032
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Samuel Stevens & Associates In
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	418743
Well Street Address :	5140 Sandy Shores Dr
Location Address :	5140 Sandy Shores Dr, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302325.494
Longitude :	870031.5504
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C11
Direction: S
Distance: 0.265 mi.
Actual: 1400.229 ft.
Elevation: 0.004 mi. / 23.691 ft.
Relative: Lower

Site Name : LA-C-287043-1
30.390413, -87.008468
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122160
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-287043-1
Issue Date :	2019-05-07
Completion Date :	2019-05-07
Station ID :	284976
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Samuel Stevens and Assoc. Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	423043
Well Street Address :	5148 Sandy Shores Drive
Location Address :	5148 Sandy Shores Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: C11
Direction: S
Distance: 0.265 mi.
Actual: 1400.229 ft.
Elevation: 0.004 mi. / 23.691 ft.
Relative: Lower

Site Name : LA-C-287043-1
30.390413, -87.008468
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24122160
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302325.4868
Longitude :	870030.4848
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C12
Direction: SSE
Distance: 0.266 mi.
Actual: 1406.758 ft.
Elevation: 0.004 mi. / 23.379 ft.
Relative: Lower

Site Name : LA-C-286468-1
30.390387, -87.007231
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122014
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286468-1
Issue Date :	2019-04-03
Completion Date :	2019-04-06
Station ID :	284332
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Ap Land Title LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	15
Total Depth :	20
Diameter :	0
Compliance Number :	422261
Well Street Address :	5188 Sandy Shores Drive
Location Address :	5188 Sandy Shores Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302325.3932
Longitude :	870026.0316
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C13
Direction: S
Distance: 0.269 mi.
Actual: 1419.750 ft.
Elevation: 0.005 mi. / 23.917 ft.
Relative: Lower

Site Name : LA-C-267395-1
30.390356, -87.00794
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24108993
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-267395-1
Issue Date :	2018-07-24
Completion Date :	2018-10-15
Station ID :	278331
Legacy Number :	W201804120
Contractor License :	3015
Owner Name :	Terry & Sandra Smith (Trustees)
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	305488
Well Street Address :	5164 Sandy Shores Drive
Location Address :	5164 Sandy Shores Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302325.2816
Longitude :	870028.584
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 14
Direction: N
Distance: 0.272 mi.
Actual: 1436.384 ft.
Elevation: 0.003 mi. / 18.428 ft.
Relative: Lower

Site Name : LA-C-291849-1
30.401794, -87.008039
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883031
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291849-1
Issue Date :	2020-03-19
Completion Date :	2020-06-11
Station ID :	291744
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Flynn Building Specialists LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435959
Well Street Address :	1783 Galvez Drive
Location Address :	1783 Galvez Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: 14
Direction: N
Distance: 0.272 mi.
Actual: 1436.384 ft.
Elevation: 0.003 mi. / 18.428 ft.
Relative: Lower

Site Name : LA-C-291849-1
30.401794, -87.008039
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883031
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302406.4593
Longitude :	870028.9421
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: C15
Direction: SSE
Distance: 0.295 mi.
Actual: 1557.808 ft.
Elevation: 0.004 mi. / 23.031 ft.
Relative: Lower

Site Name : LA-C-287869-1
30.389973, -87.007251
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112859
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-287869-1
Issue Date :	2019-07-01
Completion Date :	2019-08-01
Station ID :	285950
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Samuel Stevens and Assocs Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	424185
Well Street Address :	1494 East Shores Boulevard
Location Address :	1494 East Shores Boulevard, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302323.9028
Longitude :	870026.1036
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C16
Direction: S
Distance: 0.298 mi.
Actual: 1571.292 ft.
Elevation: 0.004 mi. / 23.301 ft.
Relative: Lower

Site Name : LA-C-293756-1
30.38994, -87.007844
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883100
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293756-1
Issue Date :	2020-06-29
Completion Date :	2020-07-23
Station ID :	294804
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	AK Land Title LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438682
Well Street Address :	1493 Soundside Shores Boulevard East
Location Address :	1493 Soundside Shores Boulevard East, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302323.784
Longitude :	870028.2394
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF]

Envirosite ID: 1688959
EPA ID: N/R

PWS

Facility Address :	4971 GULF BREEZE PARKWAY, GULF BREEZE, FL 32563
PWS ID :	FL1570470
PWS Type :	Community water system
PWS Name :	MIDWAY WATER SYSTEM, INC.
Activity Status :	Active
Primary Source :	Ground water
Submission Year :	2019
Submission Year Quarter :	2019Q4
Population Served Count :	16,815
Service Connections Count :	6418
Population Category 2 :	10,000+
Population Category 3 :	3,301-50,000
Population Category 4 :	10K-49,999
Population Category 5 :	10,001-100,000
Population Category 11 :	10,001-50,000
Submission Quarter :	4

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ***(cont.)***

Submission Status Code :	Y
First Reported Date :	02/10/1979
Last Reported Date :	12/16/2019
Deactivation Date :	N/R
GW or SW :	Groundwater
Is Grant Eligible :	Y
Is Outstanding Performer :	N/R
Is School or Daycare :	N
Is Source Water Protected :	N/R
Primacy Agency :	Florida
Primacy Type :	State
Org Name :	JODY ANDERSON
EPA Region :	Region 4
Admin Name :	JODY ANDERSON
Owner Type :	Local government
Phone Number :	850-791-1864
Phone Ext Number :	N/R
Alt Phone Number :	N/R
Email Address :	N/R
Fax Number :	N/R
Is Wholesaler :	N
LT2 Schedule Category :	N/R
NPM Candidate :	Y
CDS ID :	N/R
DBPR Schedule Category :	System serving 10K to 49,999 people OR belonging to a CDS in which the largest system serves 10K to
Outstanding Performer Date :	N/R
Season Begin Date :	N/R
Season End Date :	N/R
Source Water Protection Date :	N/R
Seasonal Startup System :	N/R
Reduced Monitoring Begin Date :	N/R
Reduced Monitoring End Date :	N/R
Reduced RTCR Monitoring :	N/R
Last Date in Agency List :	02/20/2020

PWS ENF

Facility Address :	N/R
PWS ID :	FL1570470
PWS Name :	MIDWAY WATER SYSTEM, INC.
EPA Region :	Region 4
Primacy Agency :	Florida
PWS Type :	Community water system
Primacy Type :	State
Primary Source :	Ground water
Activity Status :	Active
Deactivation Date :	N/R
Owner Type :	Local government
Phone Number :	850-791-1864
Last Date in Agency List :	02/20/2020

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ENF ***(cont.)***

Violation Details

RTC Enforcement ID :	#20120001
Violation ID :	20120002128
Submission Year :	2019
Violation First Reported Date :	05/22/2012
Contaminant Name :	Stage 2 Disinfectants and Disinfection Byproducts Rule
Rule Family :	Stage 2 Disinfectants and Disinfection Byproducts Rule
Rule Group :	Disinfectants and Disinfection Byproducts Rule
Rule Name :	Stage 2 Disinfectants and Disinfection Byproducts Rule
Violation Type :	Monitoring, Routine (IDSE)
Is Health Based :	N
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Returned to Compliance
RTC Date :	03/13/2008
Enforcement Action Description :	Federal Compliance achieved
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	20170010208
Submission Year :	2019
Violation First Reported Date :	12/01/2017
Contaminant Name :	Lead and Copper Rule
Rule Family :	Lead and Copper Rule
Rule Group :	Chemicals
Rule Name :	Lead and Copper Rule
Violation Type :	Follow-up Or Routine LCR Tap M/R
Is Health Based :	N
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Open
RTC Date :	N/R
Enforcement Action Description :	-
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	20070006199
Submission Year :	2019
Violation First Reported Date :	08/23/2007
Contaminant Name :	Consumer Confidence Rule
Rule Family :	Consumer Confidence Rule
Rule Group :	Other
Rule Name :	Consumer Confidence Rule
Violation Type :	Consumer Confidence Report Inadequate Reporting
Is Health Based :	N
Is Major Violation :	-
Severity Indicator Count :	-

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ENF ***(cont.)***

Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Open
RTC Date :	N/R
Enforcement Action Description :	State Intentional no-action
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	20060007384
Submission Year :	2019
Violation First Reported Date :	08/30/2006
Contaminant Name :	Coliform (TCR)
Rule Family :	Total Coliform Rules
Rule Group :	Microbials
Rule Name :	Total Coliform Rule
Violation Type :	Maximum Contaminant Level Violation, Monthly (TCR)
Is Health Based :	Y
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	2
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Known
RTC Date :	N/R
Enforcement Action Description :	State Public Notification received
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	20050006227
Submission Year :	2019
Violation First Reported Date :	12/20/2005
Contaminant Name :	Coliform (TCR)
Rule Family :	Total Coliform Rules
Rule Group :	Microbials
Rule Name :	Total Coliform Rule
Violation Type :	Maximum Contaminant Level Violation, Monthly (TCR)
Is Health Based :	Y
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	2
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Known
RTC Date :	N/R
Enforcement Action Description :	State Public Notification requested
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	92V0001
Submission Year :	2019

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ENF ***(cont.)***

Violation First Reported Date :	12/03/1992
Contaminant Name :	Coliform (TCR)
Rule Family :	Total Coliform Rules
Rule Group :	Microbials
Rule Name :	Total Coliform Rule
Violation Type :	Maximum Contaminant Level Violation, Monthly (TCR)
Is Health Based :	Y
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	2
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Known
RTC Date :	N/R
Enforcement Action Description :	State Violation/Reminder Notice
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	-
Violation ID :	91V0001
Submission Year :	2019
Violation First Reported Date :	08/16/1991
Contaminant Name :	Coliform (TCR)
Rule Family :	Total Coliform Rules
Rule Group :	Microbials
Rule Name :	Total Coliform Rule
Violation Type :	Monitoring, Routine Minor (TCR)
Is Health Based :	N
Is Major Violation :	N
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Known
RTC Date :	N/R
Enforcement Action Description :	-
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	329180
Violation ID :	20110003087
Submission Year :	2019
Violation First Reported Date :	08/11/2011
Contaminant Name :	Consumer Confidence Rule
Rule Family :	Consumer Confidence Rule
Rule Group :	Other
Rule Name :	Consumer Confidence Rule
Violation Type :	Consumer Confidence Report Inadequate Reporting
Is Health Based :	N
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Returned to Compliance

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ENF ***(cont.)***

RTC Date :	07/21/2011
Enforcement Action Description :	State Compliance achieved
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	361926
Violation ID :	20060006376
Submission Year :	2019
Violation First Reported Date :	06/03/2011
Contaminant Name :	Lead and Copper Rule
Rule Family :	Lead and Copper Rule
Rule Group :	Chemicals
Rule Name :	Lead and Copper Rule
Violation Type :	OCCT/SOWT Study/Recommendation
Is Health Based :	Y
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	2
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Returned to Compliance
RTC Date :	12/12/2012
Enforcement Action Description :	State Compliance achieved
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	517709
Violation ID :	20160004526
Submission Year :	2019
Violation First Reported Date :	08/29/2016
Contaminant Name :	E. COLI
Rule Family :	Groundwater Rule
Rule Group :	Microbials
Rule Name :	Ground Water Rule
Violation Type :	Failure to Conduct Assessment Monitoring
Is Health Based :	N
Is Major Violation :	N
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Returned to Compliance
RTC Date :	06/13/2016
Enforcement Action Description :	State Compliance achieved
Admin Name :	JODY ANDERSON
Email Address :	-

RTC Enforcement ID :	529984
Violation ID :	20050009369
Submission Year :	2019
Violation First Reported Date :	12/20/2005
Contaminant Name :	Coliform (TCR)
Rule Family :	Total Coliform Rules
Rule Group :	Microbials

Map Id: B17
Direction: W
Distance: 0.298 mi.
Actual: 1571.751 ft.
Elevation: 0.006 mi. / 29.177 ft.
Relative: Lower

Site Name : FL1570470
4971 GULF BREEZE PARKWAY
GULF BREEZE, FL 32563

Database(s) : [PWS, PWS ENF] ***(cont.)***

Envirosite ID: 1688959
EPA ID: N/R

PWS ENF ***(cont.)***

Rule Name :	Total Coliform Rule
Violation Type :	Monitoring, Routine Minor (TCR)
Is Health Based :	N
Is Major Violation :	-
Severity Indicator Count :	-
Public Notification Tier :	3
Address Line 1 :	4971 GULF BREEZE PARKWAY, GULF BREEZE, 32563
Address Line 2 :	-
Compliance Status :	Returned to Compliance
RTC Date :	05/30/2019
Enforcement Action Description :	State Compliance achieved
Admin Name :	JODY ANDERSON
Email Address :	-

Map Id: 18
Direction: E
Distance: 0.300 mi.
Actual: 1584.809 ft.
Elevation: 0.006 mi. / 32.018 ft.
Relative: Higher

Site Name : LA-C-292229-1
30.396132, -87.001205
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883497
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292229-1
Issue Date :	2020-04-13
Completion Date :	2020-04-25
Station ID :	292476
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Ramsey and Walker LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	2
Compliance Number :	436640
Well Street Address :	1655 Amarillo Trail
Location Address :	1655 Amarillo Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	4
Latitude :	302346.0752
Longitude :	870004.3385
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: D19
Direction: E
Distance: 0.301 mi.
Actual: 1590.649 ft.
Elevation: 0.006 mi. / 30.561 ft.
Relative: Higher

Site Name : LA-C-291441-1
30.395027, -87.001197
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223430
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291441-1
Issue Date :	2020-02-24
Completion Date :	2020-02-25
Station ID :	290998
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Spivey Construction, Inc.
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	2
Compliance Number :	435287
Well Street Address :	1625 Amarillo Trail
Location Address :	1625 Amarillo Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302342.0974
Longitude :	870004.3079
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: C20
Direction: S
Distance: 0.302 mi.
Actual: 1593.667 ft.
Elevation: 0.004 mi. / 22.569 ft.
Relative: Lower

Site Name : LA-C-267786-1
30.389883, -87.008495
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24109106
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-267786-1
Issue Date :	2018-08-21
Completion Date :	2018-11-15
Station ID :	281356
Legacy Number :	W201804540
Contractor License :	3015
Owner Name :	Jerri Ahearn
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	305856
Well Street Address :	5147 Sandy Shores Dr
Location Address :	5147 Sandy Shores Dr, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: C20
Direction: S
Distance: 0.302 mi.
Actual: 1593.667 ft.
Elevation: 0.004 mi. / 22.569 ft.
Relative: Lower

Site Name : LA-C-267786-1
30.389883, -87.008495
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24109106
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302323.5788
Longitude :	870030.582
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: C21
Direction: SSE
Distance: 0.308 mi.
Actual: 1628.149 ft.
Elevation: 0.004 mi. / 23.068 ft.
Relative: Lower

Site Name : LA-C-293755-1
30.38978, -87.007224
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883228
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293755-1
Issue Date :	2020-06-29
Completion Date :	2020-07-20
Station ID :	294803
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Samuel Stevens and Associates
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438681
Well Street Address :	1486 Soundside Shores Boulevard East
Location Address :	1486 Soundside Shores Boulevard East, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302323.2065
Longitude :	870026.0076
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: E22
Direction: SSW
Distance: 0.313 mi.
Actual: 1655.118 ft.
Elevation: 0.004 mi. / 21.713 ft.
Relative: Lower

Site Name : LA-C-220163-1
30.389727, -87.010424
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24104649
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-220163-1
Issue Date :	2008-06-11
Completion Date :	2008-09-16
Station ID :	237846
Legacy Number :	P200802221
Contractor License :	3153
Owner Name :	Jim Andrea
Contractor Name :	Gerard Johnson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 2, TWP: 2S, RNG: 28W
Casing Depth :	0
Total Depth :	0
Diameter :	2
Compliance Number :	261419
Well Street Address :	1469 Summer Sweet Court
Location Address :	1469 Summer Sweet Court, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302323.018
Longitude :	870037.527
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: F23
Direction: WNW
Distance: 0.317 mi.
Actual: 1674.179 ft.
Elevation: 0.005 mi. / 27.228 ft.
Relative: Lower

Site Name : LA-C-288663-1
30.399112, -87.016136
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24113071
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-288663-1
Issue Date :	2019-08-22
Completion Date :	2019-08-25
Station ID :	286848
Legacy Number :	N/R
Contractor License :	3025
Owner Name :	Paul & Brandy Hawuwiller
Contractor Name :	Alan Ard
Driller Name :	Alan Ard
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	86
Total Depth :	96
Diameter :	0
Compliance Number :	425352
Well Street Address :	4966 Elea Calle Lane
Location Address :	4966 Elea Calle Lane, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: F23
Direction: WNW
Distance: 0.317 mi.
Actual: 1674.179 ft.
Elevation: 0.005 mi. / 27.228 ft.
Relative: Lower

Site Name : LA-C-288663-1
30.399112, -87.016136
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24113071
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	18
Latitude :	302356.8032
Longitude :	870058.0896
Documents :	N/R
Last Date in Agency List :	2019-12-17

Map Id: 24
Direction: ENE
Distance: 0.319 mi.
Actual: 1684.317 ft.
Elevation: 0.006 mi. / 33.825 ft.
Relative: Higher

Site Name : LA-C-197970-1
30.398166, -87.000887
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24089720
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-197970-1
Issue Date :	2006-01-19
Completion Date :	2006-01-29
Station ID :	214380
Legacy Number :	P200601106
Contractor License :	3015
Owner Name :	K & R Cuts
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	240481
Well Street Address :	5350 Barbarosa Road
Location Address :	5350 Barbarosa Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302353.396
Longitude :	870003.193
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: F25
Direction: WNW
Distance: 0.324 mi.
Actual: 1709.514 ft.
Elevation: 0.005 mi. / 28.058 ft.
Relative: Lower

Site Name : LA-A-288662-1
30.399355, -87.016168
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24068204
EPA ID: N/R

WELLS NW - FL

Permit :	LA-A-288662-1
Issue Date :	2019-08-22
Completion Date :	2019-08-25
Station ID :	286847
Legacy Number :	N/R
Contractor License :	3025
Owner Name :	Paul & Brandy Hauwiller
Contractor Name :	Alan Ard
Driller Name :	Alan Ard
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	22
Total Depth :	27
Diameter :	0
Compliance Number :	425351
Well Street Address :	4966 Elea Calle Lane
Location Address :	4966 Elea Calle Lane, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	18
Latitude :	302357.678
Longitude :	870058.2048
Documents :	N/R
Last Date in Agency List :	2019-12-17

Map Id: C26
Direction: S
Distance: 0.324 mi.
Actual: 1713.254 ft.
Elevation: 0.004 mi. / 23.317 ft.
Relative: Lower

Site Name : LA-C-293754-1
30.389551, -87.007864
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883450
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293754-1
Issue Date :	2020-06-29
Completion Date :	2020-07-25
Station ID :	294802
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Samuel Stevens and Associates
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438680
Well Street Address :	1477 Soundside Shores Boulevard East
Location Address :	1477 Soundside Shores Boulevard East, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: C26
Direction: S
Distance: 0.324 mi.
Actual: 1713.254 ft.
Elevation: 0.004 mi. / 23.317 ft.
Relative: Lower

Site Name : LA-C-293754-1
30.389551, -87.007864
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883450
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302322.3831
Longitude :	870028.311
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: D27
Direction: E
Distance: 0.331 mi.
Actual: 1749.146 ft.
Elevation: 0.006 mi. / 33.484 ft.
Relative: Higher

Site Name : LA-C-209445-1
30.395121, -87.000692
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31389849
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-209445-1
Issue Date :	2007-02-23
Completion Date :	2007-02-26
Station ID :	229324
Legacy Number :	P200701503
Contractor License :	3015
Owner Name :	Phoenix Landscape
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	40
Total Depth :	60
Diameter :	2
Compliance Number :	251299
Well Street Address :	1628 Amarillo Trail
Location Address :	1628 Amarillo Trail, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	0
Latitude :	302342.435
Longitude :	870002.493
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 28
Direction: NW
Distance: 0.333 mi.
Actual: 1760.433 ft.
Elevation: 0.002 mi. / 12.234 ft.
Relative: Lower

Site Name : AAF2062
30.402014, -87.013911
GULF BREEZE, FL

Database(s) : [WELLS - FL]

Envirosite ID: 8321120
EPA ID: N/R

WELLS - FL

Florida Unique Well ID :	AAF2062
Well Type :	Private Well
Well Name :	THUM
Status :	ACTIVE
Well Address :	4957 HICKORY SHOES, GULF BREEZE, 32563
Well County :	SANTA ROSA
Well Owner Name :	N/R
Phone :	N/R
Phone Extension :	N/R
Casing Material :	PVC
Well Depth :	N/R
Length :	N/R
Diameter :	2
Sanitary Seal :	Yes
Permit Number :	N/R
Location ID :	486128
Location Method :	DGPS = Differentially Corrected GPS
Project ID :	SUPER
Insp Name :	JASON CARRIER
Insp CHD :	SANTA ROSA
Request Number :	N/R
Property ID :	N/R
GPS ID :	486128
Water Supply Restoration Program ID :	570012301
Water Supply Restoration Program Action:	UNFILTERED
Potable Status :	POTABLE
Resident Type :	N/R
Other Well ID :	N/R
Software :	Well_Solo_v1
Streetside :	N/R
Agency :	DOH
Parcel ID :	N/R
PWS Design :	N/R
PWS Verify :	0
HAE (Height Above Ellipsoid) :	-28.93
GPS Date :	06/07/2003
Large PWS Well :	0
Datum :	WS1984
Latitude :	30.402014
Longitude :	-87.013911
Comments :	N/R
Last Date in Agency List :	01/23/2020

Map Id: G29
Direction: S
Distance: 0.334 mi.
Actual: 1766.043 ft.
Elevation: 0.004 mi. / 20.443 ft.
Relative: Lower

Site Name : LA-C-282222-1
30.389411, -87.008579
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24111437
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-282222-1
Issue Date :	2018-06-25
Completion Date :	2018-09-10
Station ID :	278096
Legacy Number :	W201803649
Contractor License :	3015
Owner Name :	Mark Vargas
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	320571
Well Street Address :	1444 West Shores Boulevard
Location Address :	1444 West Shores Boulevard, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302321.8796
Longitude :	870030.8844
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: G30
Direction: S
Distance: 0.338 mi.
Actual: 1786.121 ft.
Elevation: 0.004 mi. / 20.443 ft.
Relative: Lower

Site Name : LA-A-259949-2
30.389356, -87.008523
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24067708
EPA ID: N/R

WELLS NW - FL

Permit :	LA-A-259949-2
Issue Date :	2018-06-25
Completion Date :	2018-09-08
Station ID :	279299
Legacy Number :	W201803648
Contractor License :	3015
Owner Name :	Mark Vargas
Contractor Name :	Terry Berry
Driller Name :	Chris Hilton
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	305077
Well Street Address :	1444 West Shores Boulevard
Location Address :	1444 West Shores Boulevard, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: G30
Direction: S
Distance: 0.338 mi.
Actual: 1786.121 ft.
Elevation: 0.004 mi. / 20.443 ft.
Relative: Lower

Site Name : LA-A-259949-2
30.389356, -87.008523
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24067708
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302321.68
Longitude :	870030.6828
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: E31
Direction: SSW
Distance: 0.347 mi.
Actual: 1832.808 ft.
Elevation: 0.004 mi. / 20.135 ft.
Relative: Lower

Site Name : LA-C-219996-1
30.389242, -87.010704
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 34049217
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-219996-1
Issue Date :	2008-06-06
Completion Date :	2008-06-10
Station ID :	239603
Legacy Number :	P200802133
Contractor License :	3153
Owner Name :	Mike West
Contractor Name :	Gerard Johnson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	28
Total Depth :	32
Diameter :	2
Compliance Number :	261260
Well Street Address :	5074 Mandavilla Road
Location Address :	5074 Mandavilla Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302321.273
Longitude :	870038.536
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: E32
Direction: SSW
Distance: 0.349 mi.
Actual: 1843.339 ft.
Elevation: 0.004 mi. / 20.135 ft.
Relative: Lower

Site Name : LA-C-223431-1
30.389213, -87.010649
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24096168
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-223431-1
Issue Date :	2009-02-12
Completion Date :	2009-06-22
Station ID :	26650
Legacy Number :	P200900709
Contractor License :	3153
Owner Name :	Mike West
Contractor Name :	Gerard Johnson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	264502
Well Street Address :	5074 Mandavilla Boulevard
Location Address :	5074 Mandavilla Boulevard, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302321.166
Longitude :	870038.338
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: E33
Direction: SSW
Distance: 0.350 mi.
Actual: 1848.786 ft.
Elevation: 0.004 mi. / 20.105 ft.
Relative: Lower

Site Name : LA-A-223244-1
30.389199, -87.010765
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24067161
EPA ID: N/R

WELLS NW - FL

Permit :	LA-A-223244-1
Issue Date :	2009-01-23
Completion Date :	2009-06-22
Station ID :	26397
Legacy Number :	P200900642
Contractor License :	3153
Owner Name :	Mike West
Contractor Name :	Gerard Johnson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	32
Total Depth :	32
Diameter :	2
Compliance Number :	264326
Well Street Address :	5074 Mandavilla Boulevard
Location Address :	5074 Mandavilla Boulevard, Gulf Breeze, FL
Type of Work :	Abandonment

Map Id: E33
Direction: SSW
Distance: 0.350 mi.
Actual: 1848.786 ft.
Elevation: 0.004 mi. / 20.105 ft.
Relative: Lower

Site Name : LA-A-223244-1
30.389199, -87.010765
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24067161
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302321.115
Longitude :	870038.753
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 34
Direction: SW
Distance: 0.360 mi.
Actual: 1902.001 ft.
Elevation: 0.004 mi. / 22.667 ft.
Relative: Lower

Site Name : LA-C-210836-1
30.389786, -87.013926
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24093017
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-210836-1
Issue Date :	2007-04-02
Completion Date :	2007-04-05
Station ID :	229418
Legacy Number :	P200701997
Contractor License :	2552
Owner Name :	Tom Lucus
Contractor Name :	Vonnie Tolbert
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	0
Total Depth :	50
Diameter :	2
Compliance Number :	252612
Well Street Address :	1541 Silver Lace Court
Location Address :	1541 Silver Lace Court, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	11
Latitude :	302323.229
Longitude :	870050.133
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 35
Direction: NNE
Distance: 0.361 mi.
Actual: 1908.628 ft.
Elevation: 0.003 mi. / 13.419 ft.
Relative: Lower

Site Name : LA-C-294060-1
30.403077, -87.006962
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886107
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-294060-1
Issue Date :	2020-07-13
Completion Date :	2020-07-14
Station ID :	295353
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Flynn Built Specialist, LLC
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	439069
Well Street Address :	5071 Evergreen Drive
Location Address :	5071 Evergreen Drive, Navarre, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	13
Latitude :	302411.0771
Longitude :	870025.0624
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: H36
Direction: ESE
Distance: 0.363 mi.
Actual: 1915.321 ft.
Elevation: 0.005 mi. / 28.52 ft.
Relative: Lower

Site Name : LA-C-293425-1
30.393528, -87.000228
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883090
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293425-1
Issue Date :	2020-06-11
Completion Date :	2020-07-06
Station ID :	294314
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Robert Walkup Construction Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438244
Well Street Address :	5342 Longhorn Trail
Location Address :	5342 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: H36
Direction: ESE
Distance: 0.363 mi.
Actual: 1915.321 ft.
Elevation: 0.005 mi. / 28.52 ft.
Relative: Lower

Site Name : LA-C-293425-1
30.393528, -87.000228
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883090
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302336.7019
Longitude :	870000.8199
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: H37
Direction: ESE
Distance: 0.377 mi.
Actual: 1992.617 ft.
Elevation: 0.005 mi. / 28.596 ft.
Relative: Lower

Site Name : LA-C-293426-1
30.393497, -86.999985
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885859
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293426-1
Issue Date :	2020-06-11
Completion Date :	2020-07-06
Station ID :	294315
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Robert Walkup Construction Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	2
Compliance Number :	438245
Well Street Address :	5348 Longhorn Trail
Location Address :	5348 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302336.59
Longitude :	865959.9453
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: I38
Direction: ENE
Distance: 0.380 mi.
Actual: 2007.480 ft.
Elevation: 0.007 mi. / 35.272 ft.
Relative: Higher

Site Name : MO-C-292679-1
30.40002, -87.00037
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885692
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-292679-1
Issue Date :	2020-05-06
Completion Date :	2020-05-12
Station ID :	293980
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Saikrupa Food Stores LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Christopher Wright
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	2
Compliance Number :	437258
Well Street Address :	5342 Gulf Breeze Parkway
Location Address :	5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	5
Latitude :	302400.0716
Longitude :	870001.3336
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: I39
Direction: ENE
Distance: 0.381 mi.
Actual: 2011.942 ft.
Elevation: 0.007 mi. / 35.098 ft.
Relative: Higher

Site Name : MO-C-292679-1
30.399962, -87.000326
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883124
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-292679-1
Issue Date :	2020-05-06
Completion Date :	2020-05-12
Station ID :	293182
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Saikrupa Food Stores LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Christopher Wright
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	2
Compliance Number :	437258
Well Street Address :	5342 Gulf Breeze Parkway
Location Address :	5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: I39
Direction: ENE
Distance: 0.381 mi.
Actual: 2011.942 ft.
Elevation: 0.007 mi. / 35.098 ft.
Relative: Higher

Site Name : MO-C-292679-1
30.399962, -87.000326
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883124
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	5
Latitude :	302359.8634
Longitude :	870001.1743
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: I40
Direction: ENE
Distance: 0.383 mi.
Actual: 2022.670 ft.
Elevation: 0.007 mi. / 35.272 ft.
Relative: Higher

Site Name : MO-C-292679-1
30.400003, -87.000309
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883003
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-292679-1
Issue Date :	2020-05-06
Completion Date :	2020-05-12
Station ID :	293978
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Saikrupa Food Stores LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Christopher Wright
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	2
Compliance Number :	437258
Well Street Address :	5342 Gulf Breeze Parkway
Location Address :	5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	5
Latitude :	302400.0091
Longitude :	870001.1115
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: H41
Direction: ESE
Distance: 0.393 mi.
Actual: 2072.900 ft.
Elevation: 0.005 mi. / 28.835 ft.
Relative: Lower

Site Name : LA-C-293427-1
30.393481, -86.99973
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886166
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293427-1
Issue Date :	2020-06-11
Completion Date :	2020-07-07
Station ID :	294316
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Robert Walkup Construction Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438246
Well Street Address :	5354 Longhorn Trail
Location Address :	5354 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302336.5303
Longitude :	865959.0288
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 42
Direction: E
Distance: 0.406 mi.
Actual: 2143.733 ft.
Elevation: 0.006 mi. / 34.275 ft.
Relative: Higher

Site Name : LA-C-227224-1
30.396839, -86.999422
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24106503
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-227224-1
Issue Date :	2010-01-29
Completion Date :	2009-06-01
Station ID :	25786
Legacy Number :	T201000352
Contractor License :	0
Owner Name :	Robert Engel /UNPERMITTED
Contractor Name :	N/R
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	31
Total Depth :	35
Diameter :	2
Compliance Number :	268085
Well Street Address :	1677 Tuscon Ct
Location Address :	1677 Tuscon Ct, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 42
Direction: E
Distance: 0.406 mi.
Actual: 2143.733 ft.
Elevation: 0.006 mi. / 34.275 ft.
Relative: Higher

Site Name : LA-C-227224-1
30.396839, -86.999422
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24106503
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302348.62
Longitude :	865957.92
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: H43
Direction: ESE
Distance: 0.408 mi.
Actual: 2152.197 ft.
Elevation: 0.006 mi. / 29.505 ft.
Relative: Lower

Site Name : LA-C-293428-1
30.393487, -86.999475
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883477
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293428-1
Issue Date :	2020-06-11
Completion Date :	2020-07-07
Station ID :	294317
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Robert Walkup Construction Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	438248
Well Street Address :	5360 Longhorn Trail
Location Address :	5360 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302336.5547
Longitude :	865958.1085
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 44
Direction: SE
Distance: 0.408 mi.
Actual: 2153.379 ft.
Elevation: 0.006 mi. / 29.373 ft.
Relative: Lower

Site Name : LA-C-225607-1
30.390165, -87.001305
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24106115
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-225607-1
Issue Date :	2009-07-09
Completion Date :	2009-07-11
Station ID :	22492
Legacy Number :	P200901690
Contractor License :	3198
Owner Name :	Johnnie (Donna) Faulk
Contractor Name :	Larry Brill
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	50
Total Depth :	70
Diameter :	2
Compliance Number :	266558
Well Street Address :	5320 Spruce Street
Location Address :	5320 Spruce Street, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	21
Latitude :	302324.593
Longitude :	870004.698
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 45
Direction: W
Distance: 0.409 mi.
Actual: 2160.859 ft.
Elevation: 0.005 mi. / 28.346 ft.
Relative: Lower

Site Name : LA-C-288352-1
30.395234, -87.017755
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929303
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-288352-1
Issue Date :	2019-08-02
Completion Date :	2019-10-23
Station ID :	286495
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	St Paul United Methodist Church
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	60
Total Depth :	80
Diameter :	0
Compliance Number :	424912
Well Street Address :	4901 Gulf Breeze Parkway
Location Address :	4901 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: 45
Direction: W
Distance: 0.409 mi.
Actual: 2160.859 ft.
Elevation: 0.005 mi. / 28.346 ft.
Relative: Lower

Site Name : LA-C-288352-1
30.395234, -87.017755
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929303
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302342.8424
Longitude :	870103.918
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 46
Direction: NW
Distance: 0.411 mi.
Actual: 2168.864 ft.
Elevation: 0.001 mi. / 7.477 ft.
Relative: Lower

Site Name : LA-C-212121-1
30.402692, -87.01507
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 34049055
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-212121-1
Issue Date :	2007-05-25
Completion Date :	2007-05-29
Station ID :	230467
Legacy Number :	P200702663
Contractor License :	3124
Owner Name :	Steve Hering
Contractor Name :	Charles M Ward
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	80
Total Depth :	100
Diameter :	2
Compliance Number :	253823
Well Street Address :	4944 Hickory Shores Boulevard
Location Address :	4944 Hickory Shores Boulevard, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302409.693
Longitude :	870054.251
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 47
Direction: WSW
Distance: 0.414 mi.
Actual: 2185.137 ft.
Elevation: 0.005 mi. / 26.142 ft.
Relative: Lower

Site Name : LA-C-291388-1
30.391257, -87.01684
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884164
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291388-1
Issue Date :	2020-02-19
Completion Date :	2020-05-11
Station ID :	290935
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Lighthouse Private Christian
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	60
Total Depth :	80
Diameter :	4
Compliance Number :	435228
Well Street Address :	1508 New Hope Road
Location Address :	1508 New Hope Road, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302328.5249
Longitude :	870100.6246
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: I48
Direction: ENE
Distance: 0.418 mi.
Actual: 2209.251 ft.
Elevation: 0.007 mi. / 34.908 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400132, -86.999729
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929080
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288240
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: I48
Direction: ENE
Distance: 0.418 mi.
Actual: 2209.251 ft.
Elevation: 0.007 mi. / 34.908 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400132, -86.999729
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929080
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.4752
Longitude :	865959.0244
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I49
Direction: ENE
Distance: 0.420 mi.
Actual: 2217.946 ft.
Elevation: 0.007 mi. / 35.102 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400043, -86.999658
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22928927
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288242
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.1548
Longitude :	865958.7688
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I50
Direction: ENE
Distance: 0.423 mi.
Actual: 2230.839 ft.
Elevation: 0.007 mi. / 35.102 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400087, -86.999634
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929477
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288241
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.3132
Longitude :	865958.6824
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I51
Direction: ENE
Distance: 0.427 mi.
Actual: 2255.413 ft.
Elevation: 0.007 mi. / 35.217 ft.
Relative: Higher

Site Name : MO-C-285889-1
30.40032, -86.999662
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24205940
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-285889-1
Issue Date :	2019-02-22
Completion Date :	2019-03-29
Station ID :	283520
Legacy Number :	N/R
Contractor License :	3241
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Corey Milton
Driller Name :	JAMES ENIS
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	0
Compliance Number :	421274
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: I51
Direction: ENE
Distance: 0.427 mi.
Actual: 2255.413 ft.
Elevation: 0.007 mi. / 35.217 ft.
Relative: Higher

Site Name : MO-C-285889-1
30.40032, -86.999662
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24205940
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	4
Latitude :	302401.152
Longitude :	865958.7832
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I52
Direction: ENE
Distance: 0.427 mi.
Actual: 2256.299 ft.
Elevation: 0.007 mi. / 35.217 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400324, -86.999661
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929637
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288243
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302401.1664
Longitude :	865958.7796
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I53
Direction: ENE
Distance: 0.427 mi.
Actual: 2256.889 ft.
Elevation: 0.007 mi. / 35.217 ft.
Relative: Higher

Site Name : MO-C-286408-1
30.400326, -86.99966
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24206067
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-286408-1
Issue Date :	2019-03-27
Completion Date :	2019-03-29
Station ID :	284275
Legacy Number :	N/R
Contractor License :	3241
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Corey Milton
Driller Name :	James Enis
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	0
Compliance Number :	421985
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	4
Latitude :	302401.1736
Longitude :	865958.776
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I54
Direction: ENE
Distance: 0.427 mi.
Actual: 2257.086 ft.
Elevation: 0.007 mi. / 35.236 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400075, -86.999539
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929084
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288238
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: I54
Direction: ENE
Distance: 0.427 mi.
Actual: 2257.086 ft.
Elevation: 0.007 mi. / 35.236 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400075, -86.999539
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929084
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.27
Longitude :	865958.3404
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I55
Direction: ENE
Distance: 0.430 mi.
Actual: 2271.489 ft.
Elevation: 0.007 mi. / 35.19 ft.
Relative: Higher

Site Name : MO-C-286408-1
30.400261, -86.999577
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24206065
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-286408-1
Issue Date :	2019-03-27
Completion Date :	2019-03-29
Station ID :	284991
Legacy Number :	N/R
Contractor License :	3241
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Corey Milton
Driller Name :	James Enis
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	0
Compliance Number :	421985
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	4
Latitude :	302400.9396
Longitude :	865958.4772
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 56
Direction: NE
Distance: 0.431 mi.
Actual: 2275.524 ft.
Elevation: 0.007 mi. / 36.243 ft.
Relative: Higher

Site Name : LA-C-289188-1
30.401861, -87.000701
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24113136
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289188-1
Issue Date :	2019-09-23
Completion Date :	2019-10-03
Station ID :	287485
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Hardrock Homes Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	426073
Well Street Address :	5334 Pecos Pass
Location Address :	5334 Pecos Pass, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302406.6996
Longitude :	870002.5236
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 57
Direction: SSE
Distance: 0.432 mi.
Actual: 2282.381 ft.
Elevation: 0.003 mi. / 14.659 ft.
Relative: Lower

Site Name : LA-C-215694-1
30.388044, -87.005231
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24103597
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-215694-1
Issue Date :	2007-11-19
Completion Date :	2008-01-18
Station ID :	232806
Legacy Number :	P200800453
Contractor License :	3162
Owner Name :	Barry Koncan
Contractor Name :	Thomas Glass
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	80
Total Depth :	90
Diameter :	2
Compliance Number :	257196
Well Street Address :	5158 Soundside Drive
Location Address :	5158 Soundside Drive, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 57
Direction: SSE
Distance: 0.432 mi.
Actual: 2282.381 ft.
Elevation: 0.003 mi. / 14.659 ft.
Relative: Lower

Site Name : LA-C-215694-1
30.388044, -87.005231
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24103597
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	0
Latitude :	302316.957
Longitude :	870018.831
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I58
Direction: ENE
Distance: 0.433 mi.
Actual: 2283.792 ft.
Elevation: 0.007 mi. / 35.305 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400084, -86.999452
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929675
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	287764
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	29
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.3024
Longitude :	865958.0272
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I59
Direction: ENE
Distance: 0.437 mi.
Actual: 2306.102 ft.
Elevation: 0.006 mi. / 33.93 ft.
Relative: Higher

Site Name : MO-C-285889-1
30.400142, -86.999402
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24205938
EPA ID: N/R

WELLS NW - FL

Permit :	MO-C-285889-1
Issue Date :	2019-02-22
Completion Date :	2019-03-29
Station ID :	285724
Legacy Number :	N/R
Contractor License :	3241
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Corey Milton
Driller Name :	JAMES ENIS
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	2
Total Depth :	12
Diameter :	0
Compliance Number :	421274
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Monitoring
Static Water Level (ft) :	4
Latitude :	302400.5112
Longitude :	865957.8472
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I60
Direction: ENE
Distance: 0.437 mi.
Actual: 2306.430 ft.
Elevation: 0.006 mi. / 33.93 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400109, -86.999386
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929582
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288237
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: I60
Direction: ENE
Distance: 0.437 mi.
Actual: 2306.430 ft.
Elevation: 0.006 mi. / 33.93 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400109, -86.999386
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929582
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.3924
Longitude :	865957.7896
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 61
Direction: ESE
Distance: 0.440 mi.
Actual: 2323.359 ft.
Elevation: 0.005 mi. / 25.095 ft.
Relative: Lower

Site Name : LA-C-219538-1
30.394016, -86.99888
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24104470
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-219538-1
Issue Date :	2008-05-07
Completion Date :	2008-05-15
Station ID :	238844
Legacy Number :	P200801890
Contractor License :	3198
Owner Name :	Brett Baird
Contractor Name :	Larry Brill
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	260828
Well Street Address :	5356 Boots Byers Court
Location Address :	5356 Boots Byers Court, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302338.456
Longitude :	865955.968
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I62
Direction: ENE
Distance: 0.441 mi.
Actual: 2327.558 ft.
Elevation: 0.007 mi. / 34.711 ft.
Relative: Higher

Site Name : MO-A-289402-1
30.400282, -86.999394
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929252
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289402-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	288239
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Panhandle Commercial Properties LLC
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	12
Diameter :	0
Compliance Number :	426376
Well Street Address :	5400 Gulf Breeze Parkway
Location Address :	5400 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment
Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302401.0152
Longitude :	865957.8184
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I63
Direction: ENE
Distance: 0.444 mi.
Actual: 2346.095 ft.
Elevation: 0.006 mi. / 33.94 ft.
Relative: Higher

Site Name : MO-A-289403-1
30.400127, -86.999259
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929119
EPA ID: N/R

WELLS NW - FL

Permit :	MO-A-289403-1
Issue Date :	2019-10-04
Completion Date :	2019-10-15
Station ID :	287765
Legacy Number :	N/R
Contractor License :	2613
Owner Name :	Kenneth J & Cynthia M Schartel
Contractor Name :	Gregory W Campbell
Driller Name :	Paul Otto
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	0
Total Depth :	13
Diameter :	0
Compliance Number :	426378
Well Street Address :	5366 Gulf Breeze Parkway
Location Address :	5366 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: I63
Direction: ENE
Distance: 0.444 mi.
Actual: 2346.095 ft.
Elevation: 0.006 mi. / 33.94 ft.
Relative: Higher

Site Name : MO-A-289403-1
30.400127, -86.999259
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929119
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Monitoring
Static Water Level (ft) :	3
Latitude :	302400.4572
Longitude :	865957.3324
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: J64
Direction: ESE
Distance: 0.447 mi.
Actual: 2358.792 ft.
Elevation: 0.006 mi. / 31.332 ft.
Relative: Higher

Site Name : LA-C-292815-2
30.392571, -86.999016
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884726
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292815-2
Issue Date :	2020-05-13
Completion Date :	2020-08-08
Station ID :	293366
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Whitewood Construction Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437817
Well Street Address :	5379 Longhorn Trail
Location Address :	5379 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302333.257
Longitude :	865956.4586
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 65
Direction: W
Distance: 0.451 mi.
Actual: 2381.856 ft.
Elevation: 0.006 mi. / 29.459 ft.
Relative: Lower

Site Name : LA-C-201754-1
30.397041, -87.018544
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24090637
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-201754-1
Issue Date :	2006-05-05
Completion Date :	2006-05-12
Station ID :	219671
Legacy Number :	P200602544
Contractor License :	3015
Owner Name :	Riker Irrigation
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	244049
Well Street Address :	4991 Gulf Breeze Parkway
Location Address :	4991 Gulf Breeze Parkway, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302349.347
Longitude :	870106.757
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: I66
Direction: ENE
Distance: 0.453 mi.
Actual: 2394.291 ft.
Elevation: 0.007 mi. / 35.62 ft.
Relative: Higher

Site Name : TOWER
30.40071667, -86.99938889
GULF BREEZE, FL

Database(s) : [DIGITAL OBSTACLE]

Envirosite ID: 1649592
EPA ID: N/R

DIGITAL OBSTACLE

Date of Action :	06/10/2007
Action :	Change
FAA Study Number :	2007ASO01976OE
OBS Number :	12-002489
Obstacle Type :	TOWER
City Name :	GULF BREEZE
State Identifier :	FL
Country Identifier :	US
Type of Lighting :	Medium Intensity White Strobe & Red
Verification Status :	Verified
Quantity :	1
Mark Indicator :	None
Above Ground Level Height (Feet) :	00313
Above Mean Sea Level Height (Feet) :	00349
Horizontal Accuracy :	+-50'
Vertical Accuracy :	+-20'
Latitude :	30 24 02.58N
Longitude :	086 59 57.80W

Map Id: J67
Direction: ESE
Distance: 0.455 mi.
Actual: 2404.527 ft.
Elevation: 0.006 mi. / 32.749 ft.
Relative: Higher

Site Name : LA-C-292732-1
30.392428, -86.998911
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884596
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292732-1
Issue Date :	2020-05-08
Completion Date :	2020-05-16
Station ID :	293276
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Whitewood Construction Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	25
Total Depth :	30
Diameter :	2
Compliance Number :	437357
Well Street Address :	5385 Longhorn Trail
Location Address :	5385 Longhorn Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	8
Latitude :	302332.7403
Longitude :	865956.0798
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 68
Direction: N
Distance: 0.461 mi.
Actual: 2431.495 ft.
Elevation: 0.003 mi. / 14.259 ft.
Relative: Lower

Site Name : LA-C-228474-1
30.404515, -87.007354
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24097411
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-228474-1
Issue Date :	2010-04-12
Completion Date :	2010-04-13
Station ID :	25198
Legacy Number :	P201000795
Contractor License :	3198
Owner Name :	Jim Crongeyer
Contractor Name :	Larry Brill
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	50
Diameter :	2
Compliance Number :	269265
Well Street Address :	5068 Keystone Drive
Location Address :	5068 Keystone Drive, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 68
Direction: N
Distance: 0.461 mi.
Actual: 2431.495 ft.
Elevation: 0.003 mi. / 14.259 ft.
Relative: Lower

Site Name : LA-C-228474-1
30.404515, -87.007354
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24097411
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	12
Latitude :	302416.253
Longitude :	870026.476
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: K69
Direction: N
Distance: 0.463 mi.
Actual: 2442.814 ft.
Elevation: 0.002 mi. / 11.762 ft.
Relative: Lower

Site Name : LA-C-285101-1
30.404559, -87.008706
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121678
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-285101-1
Issue Date :	2018-12-18
Completion Date :	2018-12-18
Station ID :	282491
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Flynn Building Spec
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Zack Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	419641
Well Street Address :	1913 Ladybird Lane
Location Address :	1913 Ladybird Lane, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302416.4124
Longitude :	870031.3416
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: K70
Direction: N
Distance: 0.474 mi.
Actual: 2505.281 ft.
Elevation: 0.002 mi. / 11.578 ft.
Relative: Lower

Site Name : LA-C-285102-1
30.404731, -87.00879
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112063
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-285102-1
Issue Date :	2018-12-18
Completion Date :	2018-12-18
Station ID :	282491
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Flynn Building Spec
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Zack Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	419637
Well Street Address :	1915 Ladybird Lane
Location Address :	1915 Ladybird Lane, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302417.0316
Longitude :	870031.644
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 71
Direction: SW
Distance: 0.500 mi.
Actual: 2640.878 ft.
Elevation: 0.004 mi. / 20.978 ft.
Relative: Lower

Site Name : LA-C-225460-1
30.389083, -87.016694
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24106043
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-225460-1
Issue Date :	2009-07-10
Completion Date :	2009-08-12
Station ID :	22480
Legacy Number :	P200901612
Contractor License :	3015
Owner Name :	c/o Berkeley Forest Homeowners Assoc.
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	65
Total Depth :	75
Diameter :	2
Compliance Number :	266419
Well Street Address :	Berkeley Forest Blvd (4953-4959 BFB)
Location Address :	Berkeley Forest Blvd (4953-4959 BFB), Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 71
Direction: SW
Distance: 0.500 mi.
Actual: 2640.878 ft.
Elevation: 0.004 mi. / 20.978 ft.
Relative: Lower

Site Name : LA-C-225460-1
30.389083, -87.016694
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24106043
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302320.7
Longitude :	870100.1
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: K72
Direction: N
Distance: 0.522 mi.
Actual: 2755.806 ft.
Elevation: 0.002 mi. / 9.97 ft.
Relative: Lower

Site Name : LA-C-285161-1
30.405414, -87.008376
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121686
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-285161-1
Issue Date :	2018-12-21
Completion Date :	2019-01-10
Station ID :	282547
Legacy Number :	N/R
Contractor License :	3124
Owner Name :	Michael S & Teresa K Atwood
Contractor Name :	Charles M Ward
Driller Name :	Johnny Stokes
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	65
Total Depth :	85
Diameter :	0
Compliance Number :	419710
Well Street Address :	5148 Point Shores Ln
Location Address :	5148 Point Shores Ln, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	8
Latitude :	302419.4904
Longitude :	870030.1536
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: K73
Direction: N
Distance: 0.522 mi.
Actual: 2756.134 ft.
Elevation: 0.002 mi. / 9.911 ft.
Relative: Lower

Site Name : LA-C-286168-1
30.40542, -87.008942
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112362
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286168-1
Issue Date :	2019-03-11
Completion Date :	2019-03-26
Station ID :	284003
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Russell Nauman (Trustee)
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	421641
Well Street Address :	5136 Point Shores Lane
Location Address :	5136 Point Shores Lane, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	9
Latitude :	302419.512
Longitude :	870032.1912
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 74
Direction: W
Distance: 0.528 mi.
Actual: 2785.268 ft.
Elevation: 0.004 mi. / 22.598 ft.
Relative: Lower

Site Name : LA-C-214389-1
30.398243, -87.01985
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24094252
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-214389-1
Issue Date :	2007-09-26
Completion Date :	2007-09-29
Station ID :	233194
Legacy Number :	P200704105
Contractor License :	3015
Owner Name :	Shelly Alexander
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 23, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	255964
Well Street Address :	1707 New Hope Road
Location Address :	1707 New Hope Road, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 74
Direction: W
Distance: 0.528 mi.
Actual: 2785.268 ft.
Elevation: 0.004 mi. / 22.598 ft.
Relative: Lower

Site Name : LA-C-214389-1
30.398243, -87.01985
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24094252
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	0
Latitude :	302353.674
Longitude :	870111.46
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: L75
Direction: SSW
Distance: 0.539 mi.
Actual: 2844.290 ft.
Elevation: 0.003 mi. / 14.436 ft.
Relative: Lower

Site Name : LA-C-214004-1
30.386557, -87.012178
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24103199
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-214004-1
Issue Date :	2007-08-13
Completion Date :	2007-08-20
Station ID :	231555
Legacy Number :	P200703696
Contractor License :	2552
Owner Name :	Vincent S. Ardoin
Contractor Name :	Vonnie Tolbert
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	0
Total Depth :	30
Diameter :	2
Compliance Number :	255601
Well Street Address :	5073 Soundside Drive
Location Address :	5073 Soundside Drive, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	15
Latitude :	302311.604
Longitude :	870043.839
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 76
Direction: E
Distance: 0.541 mi.
Actual: 2854.035 ft.
Elevation: 0.006 mi. / 32.198 ft.
Relative: Higher

Site Name : LA-C-209725-1
30.397551, -86.997158
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24101808
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-209725-1
Issue Date :	2007-03-02
Completion Date :	2007-03-19
Station ID :	228700
Legacy Number :	P200701603
Contractor License :	3151
Owner Name :	Sharon Bryant
Contractor Name :	Michael McGuyre
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	35
Total Depth :	45
Diameter :	2
Compliance Number :	251564
Well Street Address :	5416 Barbarosa Road
Location Address :	5416 Barbarosa Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	9
Latitude :	302351.183
Longitude :	865949.77
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: L77
Direction: SSW
Distance: 0.552 mi.
Actual: 2917.027 ft.
Elevation: 0.003 mi. / 14.941 ft.
Relative: Lower

Site Name : LA-C-293906-1
30.386525, -87.013154
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884363
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293906-1
Issue Date :	2020-07-07
Completion Date :	2020-09-27
Station ID :	295082
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Ardco Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	438894
Well Street Address :	5004 Soundside Drive
Location Address :	5004 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: L77
Direction: SSW
Distance: 0.552 mi.
Actual: 2917.027 ft.
Elevation: 0.003 mi. / 14.941 ft.
Relative: Lower

Site Name : LA-C-293906-1
30.386525, -87.013154
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35884363
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302311.4887
Longitude :	870047.3562
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 78
Direction: N
Distance: 0.555 mi.
Actual: 2928.641 ft.
Elevation: 0.002 mi. / 10.666 ft.
Relative: Lower

Site Name : LA-C-215945-1
30.405881, -87.00765
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24094490
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-215945-1
Issue Date :	2007-11-29
Completion Date :	2007-11-30
Station ID :	232703
Legacy Number :	P200800542
Contractor License :	3015
Owner Name :	Leonard Williams
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 24, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	257433
Well Street Address :	5168 Pointshores Lane
Location Address :	5168 Pointshores Lane, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302421.171
Longitude :	870027.539
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 79
Direction: S
Distance: 0.558 mi.
Actual: 2947.703 ft.
Elevation: 0.001 mi. / 7.621 ft.
Relative: Lower

Site Name : LA-C-292162-1
30.386185, -87.01058
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35882981
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292162-1
Issue Date :	2020-04-08
Completion Date :	2020-05-15
Station ID :	292342
Legacy Number :	N/R
Contractor License :	2271
Owner Name :	Robert Allan & Anna A Ruth
Contractor Name :	Vic C Wallace
Driller Name :	stan johnson
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	21
Total Depth :	26
Diameter :	2
Compliance Number :	436545
Well Street Address :	5049 Soundside Drive
Location Address :	5049 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	8
Latitude :	302310.2653
Longitude :	870038.0893
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 80
Direction: S
Distance: 0.559 mi.
Actual: 2949.244 ft.
Elevation: 0.003 mi. / 17.986 ft.
Relative: Lower

Site Name : LA-C-225542-1
30.386167, -87.008444
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24096781
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-225542-1
Issue Date :	2009-07-07
Completion Date :	2009-07-08
Station ID :	22235
Legacy Number :	P200901656
Contractor License :	3124
Owner Name :	Sally Smith
Contractor Name :	Charles M Ward
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	35
Total Depth :	55
Diameter :	4
Compliance Number :	266497
Well Street Address :	5105 Soundside Drive
Location Address :	5105 Soundside Drive, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 80
Direction: S
Distance: 0.559 mi.
Actual: 2949.244 ft.
Elevation: 0.003 mi. / 17.986 ft.
Relative: Lower

Site Name : LA-C-225542-1
30.386167, -87.008444
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24096781
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302310.2
Longitude :	870030.4
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 81
Direction: SE
Distance: 0.569 mi.
Actual: 3005.544 ft.
Elevation: 0.001 mi. / 7.434 ft.
Relative: Lower

Site Name : LA-C-218247-1
30.387412, -87.000909
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24104080
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-218247-1
Issue Date :	2008-03-04
Completion Date :	2008-03-05
Station ID :	236345
Legacy Number :	P200801359
Contractor License :	3108
Owner Name :	John E. King III
Contractor Name :	Wesley Donaldson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	22
Total Depth :	27
Diameter :	2
Compliance Number :	333728
Well Street Address :	5221 Soundside Drive
Location Address :	5221 Soundside Drive, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302314.684
Longitude :	870003.271
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: L82
Direction: SSW
Distance: 0.576 mi.
Actual: 3041.338 ft.
Elevation: 0.002 mi. / 9.856 ft.
Relative: Lower

Site Name : LA-C-293591-2
30.386037, -87.012378
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883482
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293591-2
Issue Date :	2020-06-19
Completion Date :	2020-09-20
Station ID :	294531
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Brian & Deanna Colangelo
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	438901
Well Street Address :	5021 Soundside Drive
Location Address :	5021 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302309.7319
Longitude :	870044.5594
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: L83
Direction: SSW
Distance: 0.582 mi.
Actual: 3071.390 ft.
Elevation: 0.002 mi. / 9.003 ft.
Relative: Lower

Site Name : LA-C-293344-1
30.385984, -87.012584
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884285
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293344-1
Issue Date :	2020-06-09
Completion Date :	2020-09-01
Station ID :	294146
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Cheryl Y Ward
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 25, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	438178
Well Street Address :	5017 Soundside Drive
Location Address :	5017 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: L83
Direction: SSW
Distance: 0.582 mi.
Actual: 3071.390 ft.
Elevation: 0.002 mi. / 9.003 ft.
Relative: Lower

Site Name : LA-C-293344-1
30.385984, -87.012584
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35884285
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302309.5408
Longitude :	870045.3029
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: M84
Direction: ESE
Distance: 0.583 mi.
Actual: 3076.508 ft.
Elevation: 0.003 mi. / 16.883 ft.
Relative: Lower

Site Name : LA-C-202845-1
30.392239, -86.996761
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24090963
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-202845-1
Issue Date :	2006-06-16
Completion Date :	2006-06-16
Station ID :	221567
Legacy Number :	P200603124
Contractor License :	3048
Owner Name :	T. D. A. Irrigation, Inc.
Contractor Name :	Clifton F Myers
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	245077
Well Street Address :	1601 Woodlawn Beach Road
Location Address :	1601 Woodlawn Beach Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	12
Latitude :	302332.06
Longitude :	865948.338
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 85
Direction: E
Distance: 0.593 mi.
Actual: 3129.658 ft.
Elevation: 0.006 mi. / 33.652 ft.
Relative: Higher

Site Name : LA-C-221414-1
30.398431, -86.996304
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24105051
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-221414-1
Issue Date :	2008-09-26
Completion Date :	2008-09-27
Station ID :	21517
Legacy Number :	P200802969
Contractor License :	3048
Owner Name :	Michael Stanley Cons (MSC of NWF, Inc)
Contractor Name :	Clifton F Myers
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	262597
Well Street Address :	5501 Hummingbird Court
Location Address :	5501 Hummingbird Court, Navarre, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302354.353
Longitude :	865946.694
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: N86
Direction: WSW
Distance: 0.606 mi.
Actual: 3202.197 ft.
Elevation: 0.005 mi. / 26.611 ft.
Relative: Lower

Site Name : LA-A-289314-1
30.391659, -87.020553
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223587
EPA ID: N/R

WELLS NW - FL

Permit :	LA-A-289314-1
Issue Date :	2019-09-30
Completion Date :	2019-12-18
Station ID :	287648
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Whitewood Construction Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426258
Well Street Address :	4857 Whitewood Road
Location Address :	4857 Whitewood Road, Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: N86
Direction: WSW
Distance: 0.606 mi.
Actual: 3202.197 ft.
Elevation: 0.005 mi. / 26.611 ft.
Relative: Lower

Site Name : LA-A-289314-1
30.391659, -87.020553
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 31223587
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302329.9724
Longitude :	870113.9908
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: N87
Direction: WSW
Distance: 0.609 mi.
Actual: 3214.303 ft.
Elevation: 0.005 mi. / 26.969 ft.
Relative: Lower

Site Name : LA-C-289315-1
30.391625, -87.020581
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223555
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289315-1
Issue Date :	2019-09-30
Completion Date :	2019-12-26
Station ID :	287649
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Whitewood Construction Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426274
Well Street Address :	4857 Whitewood Road
Location Address :	4857 Whitewood Road, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302329.85
Longitude :	870114.0916
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: N88
Direction: WSW
Distance: 0.609 mi.
Actual: 3217.748 ft.
Elevation: 0.005 mi. / 26.129 ft.
Relative: Lower

Site Name : LA-C-289265-1
30.391682, -87.020613
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223559
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289265-1
Issue Date :	2019-09-27
Completion Date :	2019-12-24
Station ID :	287597
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Whitewood Construction Inc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426217
Well Street Address :	4857 Whitewood Road
Location Address :	4857 Whitewood Road, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302330.0552
Longitude :	870114.2068
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: 89
Direction: SW
Distance: 0.620 mi.
Actual: 3272.637 ft.
Elevation: 0.003 mi. / 17.956 ft.
Relative: Lower

Site Name : LA-C-218875-1
30.387898, -87.01816
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24104230
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-218875-1
Issue Date :	2008-08-27
Completion Date :	2008-08-30
Station ID :	237466
Legacy Number :	M200801581
Contractor License :	2275
Owner Name :	Tracy Jones
Contractor Name :	Mike W Spiva
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	333762
Well Street Address :	1349 Ashford Land
Location Address :	1349 Ashford Land, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 89
Direction: SW
Distance: 0.620 mi.
Actual: 3272.637 ft.
Elevation: 0.003 mi. / 17.956 ft.
Relative: Lower

Site Name : LA-C-218875-1
30.387898, -87.01816
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24104230
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302316.432
Longitude :	870105.376
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 90
Direction: ESE
Distance: 0.625 mi.
Actual: 3300.590 ft.
Elevation: 0.004 mi. / 20.243 ft.
Relative: Lower

Site Name : LA-C-223635-1
30.39125, -86.996358
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24096203
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-223635-1
Issue Date :	2009-02-23
Completion Date :	2009-02-26
Station ID :	19960
Legacy Number :	P200900781
Contractor License :	3198
Owner Name :	Charlotte Hooks
Contractor Name :	Larry Brill
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	264695
Well Street Address :	1516 Woodlawn Beach Road
Location Address :	1516 Woodlawn Beach Road, Navarre, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	8
Latitude :	302328.501
Longitude :	865946.889
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 91
Direction: WNW
Distance: 0.626 mi.
Actual: 3303.050 ft.
Elevation: 0.002 mi. / 12.667 ft.
Relative: Lower

Site Name : LA-C-289534-1
30.400165, -87.021168
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223538
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289534-1
Issue Date :	2019-10-14
Completion Date :	2020-01-05
Station ID :	287935
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Paul William & Nicolle Stepler
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 23, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426576
Well Street Address :	4831 Hickory Shores Boulevard
Location Address :	4831 Hickory Shores Boulevard, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302400.594
Longitude :	870116.2048
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: M92
Direction: ESE
Distance: 0.628 mi.
Actual: 3318.339 ft.
Elevation: 0.004 mi. / 20.115 ft.
Relative: Lower

Site Name : LA-C-284858-1
30.392057, -86.996021
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121619
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284858-1
Issue Date :	2018-12-03
Completion Date :	2018-12-21
Station ID :	282291
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Jon C Wilson
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	419291
Well Street Address :	5447 Abilene Court
Location Address :	5447 Abilene Court, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: M92
Direction: ESE
Distance: 0.628 mi.
Actual: 3318.339 ft.
Elevation: 0.004 mi. / 20.115 ft.
Relative: Lower

Site Name : LA-C-284858-1
30.392057, -86.996021
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24121619
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	6
Latitude :	302331.4052
Longitude :	865945.6756
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: O93
Direction: ESE
Distance: 0.635 mi.
Actual: 3352.197 ft.
Elevation: 0.004 mi. / 22.766 ft.
Relative: Lower

Site Name : LA-C-292510-1
30.392879, -86.995723
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35882635
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292510-1
Issue Date :	2020-04-28
Completion Date :	2020-05-08
Station ID :	292930
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Gulf Coast Cottages Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	2
Compliance Number :	437010
Well Street Address :	5457 Dallas Court
Location Address :	5457 Dallas Court, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302334.3635
Longitude :	865944.6026
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 94
Direction: E
Distance: 0.646 mi.
Actual: 3412.302 ft.
Elevation: 0.005 mi. / 26.358 ft.
Relative: Lower

Site Name : DO-C-204880-1
30.394534, -86.995412
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24025171
EPA ID: N/R

WELLS NW - FL

Permit :	DO-C-204880-1
Issue Date :	2006-09-11
Completion Date :	2006-09-21
Station ID :	224056
Legacy Number :	P200604206
Contractor License :	3025
Owner Name :	Ken & Kara Petersen
Contractor Name :	Alan Ard
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	120
Total Depth :	130
Diameter :	4
Compliance Number :	246994
Well Street Address :	5463 Cimmeron Court
Location Address :	5463 Cimmeron Court, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Domestic
Static Water Level (ft) :	10
Latitude :	302340.322
Longitude :	865943.483
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: P95
Direction: NE
Distance: 0.651 mi.
Actual: 3436.712 ft.
Elevation: 0.005 mi. / 23.842 ft.
Relative: Lower

Site Name : LA-C-290866-1
30.403998, -86.997964
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223447
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290866-1
Issue Date :	2020-01-14
Completion Date :	2020-01-14
Station ID :	289950
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Ramsey and Walker LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	433876
Well Street Address :	1829 Lubbock Road
Location Address :	1829 Lubbock Road, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: P95
Direction: NE
Distance: 0.651 mi.
Actual: 3436.712 ft.
Elevation: 0.005 mi. / 23.842 ft.
Relative: Lower

Site Name : LA-C-290866-1
30.403998, -86.997964
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 31223447
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	15
Latitude :	302414.3933
Longitude :	865952.6711
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: O96
Direction: ESE
Distance: 0.651 mi.
Actual: 3438.943 ft.
Elevation: 0.005 mi. / 24.255 ft.
Relative: Lower

Site Name : LA-C-284266-1
30.393313, -86.995383
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24111879
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284266-1
Issue Date :	2018-10-17
Completion Date :	2018-10-18
Station ID :	281796
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Equity Trust Company
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Zack Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	418321
Well Street Address :	5462 Dallas Court
Location Address :	5462 Dallas Court, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302335.9268
Longitude :	865943.3788
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: P97
Direction: NE
Distance: 0.656 mi.
Actual: 3465.583 ft.
Elevation: 0.004 mi. / 23.507 ft.
Relative: Lower

Site Name : LA-C-290867-1
30.404164, -86.998011
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223446
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290867-1
Issue Date :	2020-01-14
Completion Date :	2020-01-14
Station ID :	289951
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Ramsey and Walker LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	25
Total Depth :	30
Diameter :	0
Compliance Number :	433879
Well Street Address :	1835 Lubbock Road
Location Address :	1835 Lubbock Road, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	15
Latitude :	302414.9898
Longitude :	865952.8389
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: O98
Direction: ESE
Distance: 0.662 mi.
Actual: 3493.306 ft.
Elevation: 0.004 mi. / 21.706 ft.
Relative: Lower

Site Name : LA-C-286637-1
30.392884, -86.995269
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122057
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286637-1
Issue Date :	2019-04-11
Completion Date :	2019-07-03
Station ID :	284529
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Equity Trust Company Custodian FBO Daniel Daivd IRA
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	422446
Well Street Address :	5469 Dallas Court
Location Address :	5469 Dallas Court, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: O98
Direction: ESE
Distance: 0.662 mi.
Actual: 3493.306 ft.
Elevation: 0.004 mi. / 21.706 ft.
Relative: Lower

Site Name : LA-C-286637-1
30.392884, -86.995269
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24122057
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302334.3824
Longitude :	865942.9684
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: O99
Direction: ESE
Distance: 0.666 mi.
Actual: 3516.337 ft.
Elevation: 0.005 mi. / 24.997 ft.
Relative: Lower

Site Name : LA-C-284267-1
30.393303, -86.995137
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121477
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284267-1
Issue Date :	2018-10-17
Completion Date :	2018-10-18
Station ID :	281797
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Gulf Coast Dream Homes
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Zack Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	418320
Well Street Address :	Dallas Court
Location Address :	Dallas Court, Navarre, FL 32566
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302335.8908
Longitude :	865942.4932
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 100
Direction: ESE
Distance: 0.677 mi.
Actual: 3577.197 ft.
Elevation: 0.002 mi. / 11.388 ft.
Relative: Lower

Site Name : LA-C-186749-1
30.388681, -86.996892
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24096163
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-186749-1
Issue Date :	2004-12-09
Completion Date :	2005-03-04
Station ID :	203491
Legacy Number :	P200500383
Contractor License :	3172
Owner Name :	Mike Haile
Contractor Name :	Ronald Platt, Deceased
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	16
Total Depth :	21
Diameter :	2
Compliance Number :	229908
Well Street Address :	1510 Woodlawn Beach Road
Location Address :	1510 Woodlawn Beach Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302319.252
Longitude :	865948.811
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: O101
Direction: E
Distance: 0.678 mi.
Actual: 3579.461 ft.
Elevation: 0.005 mi. / 25.312 ft.
Relative: Lower

Site Name : LA-C-284265-1
30.393354, -86.99493
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24111878
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284265-1
Issue Date :	2018-10-17
Completion Date :	2018-10-21
Station ID :	281795
Legacy Number :	N/R
Contractor License :	3232
Owner Name :	Equity Trust Company Custodian
Contractor Name :	Thomas K Mason
Driller Name :	Thomas Zack Mason
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	30
Diameter :	0
Compliance Number :	418323
Well Street Address :	5474 Dallas Court
Location Address :	5474 Dallas Court, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: O101
Direction: E
Distance: 0.678 mi.
Actual: 3579.461 ft.
Elevation: 0.005 mi. / 25.312 ft.
Relative: Lower

Site Name : LA-C-284265-1
30.393354, -86.99493
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24111878
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302336.0744
Longitude :	865941.748
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: O102
Direction: ESE
Distance: 0.694 mi.
Actual: 3663.024 ft.
Elevation: 0.004 mi. / 21.335 ft.
Relative: Lower

Site Name : LA-C-290719-1
30.392789, -86.99474
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886360
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290719-1
Issue Date :	2020-01-03
Completion Date :	2020-03-29
Station ID :	289717
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Equity Trust Company
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	433643
Well Street Address :	5481 Dallas Court
Location Address :	5481 Dallas Court, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302334.0392
Longitude :	865941.0653
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: O103
Direction: E
Distance: 0.699 mi.
Actual: 3690.419 ft.
Elevation: 0.005 mi. / 25.253 ft.
Relative: Lower

Site Name : LA-C-293044-1
30.393606, -86.994554
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883484
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293044-1
Issue Date :	2020-05-26
Completion Date :	2020-06-17
Station ID :	293672
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Gulf Coast Homes of NW FL LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	437754
Well Street Address :	1619 Ponderosa Drive
Location Address :	1619 Ponderosa Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302336.9826
Longitude :	865940.3935
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: Q104
Direction: SW
Distance: 0.725 mi.
Actual: 3826.114 ft.
Elevation: 0.004 mi. / 20.804 ft.
Relative: Lower

Site Name : LA-A-241359-2
30.38804, -87.02062
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24074134
EPA ID: N/R

WELLS NW - FL

Permit :	LA-A-241359-2
Issue Date :	2018-11-28
Completion Date :	2019-02-15
Station ID :	283715
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Berkeley Forest HOA (Santa Rosa County)
Contractor Name :	Terry Berry
Driller Name :	Chris Hilton
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	0
Compliance Number :	419154
Well Street Address :	Berkeley Forest Boulevard (Connemara Circle)
Location Address :	Berkeley Forest Boulevard (Connemara Circle), Gulf Breeze, FL 32563
Type of Work :	Abandonment

Map Id: Q104
Direction: SW
Distance: 0.725 mi.
Actual: 3826.114 ft.
Elevation: 0.004 mi. / 20.804 ft.
Relative: Lower

Site Name : LA-A-241359-2
30.38804, -87.02062
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24074134
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302316.944
Longitude :	870114.232
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: Q105
Direction: SW
Distance: 0.725 mi.
Actual: 3826.278 ft.
Elevation: 0.004 mi. / 20.804 ft.
Relative: Lower

Site Name : LA-C-284793-1
30.388038, -87.020619
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112005
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-284793-1
Issue Date :	2018-11-30
Completion Date :	2019-02-15
Station ID :	254191
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Santa Rosa County Sr County Finance Dept
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	419259
Well Street Address :	Commemara Circle
Location Address :	Commemara Circle, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302316.9368
Longitude :	870114.2284
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: R106
Direction: NE
Distance: 0.732 mi.
Actual: 3864.205 ft.
Elevation: 0.004 mi. / 22.697 ft.
Relative: Lower

Site Name : LA-C-290481-1
30.404799, -86.996971
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929028
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290481-1
Issue Date :	2019-12-11
Completion Date :	2019-12-18
Station ID :	289369
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Herbst Homes LP
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	30
Total Depth :	35
Diameter :	0
Compliance Number :	433255
Well Street Address :	5422 Maverick Lane
Location Address :	5422 Maverick Lane, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	13
Latitude :	302417.2764
Longitude :	865949.0956
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: 107
Direction: E
Distance: 0.733 mi.
Actual: 3867.814 ft.
Elevation: 0.004 mi. / 22.421 ft.
Relative: Lower

Site Name : LA-C-291317-1
30.394137, -86.993968
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35882668
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291317-1
Issue Date :	2020-02-13
Completion Date :	2020-05-06
Station ID :	290793
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Equity Trust Company Custodian
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435131
Well Street Address :	1624 Ponderosa Drive
Location Address :	1624 Ponderosa Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: 107
Direction: E
Distance: 0.733 mi.
Actual: 3867.814 ft.
Elevation: 0.004 mi. / 22.421 ft.
Relative: Lower

Site Name : LA-C-291317-1
30.394137, -86.993968
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35882668
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302338.8929
Longitude :	865938.2863
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: Q108
Direction: SW
Distance: 0.740 mi.
Actual: 3907.774 ft.
Elevation: 0.002 mi. / 12.657 ft.
Relative: Lower

Site Name : LA-C-281493-1
30.387569, -87.020528
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24111214
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-281493-1
Issue Date :	2008-11-12
Completion Date :	2008-11-18
Station ID :	22986
Legacy Number :	P200900215
Contractor License :	3015
Owner Name :	Playford & Nelsa Ramsey
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	319845
Well Street Address :	4971 Berkeley Forest Boulevard
Location Address :	4971 Berkeley Forest Boulevard, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302315.25
Longitude :	870113.9
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 109
Direction: ESE
Distance: 0.742 mi.
Actual: 3916.239 ft.
Elevation: 0.003 mi. / 15.709 ft.
Relative: Lower

Site Name : LA-C-289768-1
30.390609, -86.994546
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22928965
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289768-1
Issue Date :	2019-10-28
Completion Date :	2019-10-28
Station ID :	288185
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Gulf Coast Homes Of Northwest Fl LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	432046
Well Street Address :	1591 Ponderosa Drive
Location Address :	1591 Ponderosa Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	5
Latitude :	302326.1924
Longitude :	865940.3656
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: R110
Direction: NE
Distance: 0.748 mi.
Actual: 3949.146 ft.
Elevation: 0.004 mi. / 22.838 ft.
Relative: Lower

Site Name : LA-C-290482-1
30.404789, -86.996606
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929157
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290482-1
Issue Date :	2019-12-11
Completion Date :	2019-12-16
Station ID :	289370
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Herbst Homes LP
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	30
Total Depth :	35
Diameter :	0
Compliance Number :	433252
Well Street Address :	5424 Maverick Ln
Location Address :	5424 Maverick Ln, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: R110
Direction: NE
Distance: 0.748 mi.
Actual: 3949.146 ft.
Elevation: 0.004 mi. / 22.838 ft.
Relative: Lower

Site Name : LA-C-290482-1
30.404789, -86.996606
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 22929157
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	13
Latitude :	302417.2404
Longitude :	865947.7816
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 111
Direction: W
Distance: 0.748 mi.
Actual: 3951.114 ft.
Elevation: 0.004 mi. / 21.457 ft.
Relative: Lower

Site Name : LA-C-223362-1
30.398369, -87.023552
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24105445
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-223362-1
Issue Date :	2009-02-04
Completion Date :	2009-02-05
Station ID :	26365
Legacy Number :	P200900685
Contractor License :	3203
Owner Name :	Judy Mann
Contractor Name :	Jerry Broxson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 23, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	264438
Well Street Address :	1707 Mohawk Trail
Location Address :	1707 Mohawk Trail, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	16
Latitude :	302354.128
Longitude :	870124.788
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: S112
Direction: WSW
Distance: 0.782 mi.
Actual: 4129.592 ft.
Elevation: 0.005 mi. / 25.633 ft.
Relative: Lower

Site Name : LA-C-292452-1
30.390555, -87.023234
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885611
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292452-1
Issue Date :	2020-04-24
Completion Date :	2020-07-20
Station ID :	292824
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Rodney & Scarlet Minerd
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	436948
Well Street Address :	1549 Sabal Palm Drive
Location Address :	1549 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302325.9988
Longitude :	870123.642
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 113
Direction: ENE
Distance: 0.787 mi.
Actual: 4155.478 ft.
Elevation: 0.007 mi. / 35.906 ft.
Relative: Higher

Site Name : AAK7369
30.402023, -86.993944
GULF BREEZE, FL

Database(s) : [WELLS - FL]

Envirosite ID: 8358450
EPA ID: N/R

WELLS - FL

Florida Unique Well ID :	AAK7369
Well Type :	Private Well
Well Name :	N/R
Status :	ACTIVE
Well Address :	5487 PECOS PASS, GULF BREEZE, 32563
Well County :	SANTA ROSA
Well Owner Name :	MAXIE FLOYD
Phone :	850-214-6481
Phone Extension :	N/R
Casing Material :	PVC
Well Depth :	0
Length :	0
Diameter :	2
Sanitary Seal :	Yes
Permit Number :	N/R
Location ID :	1007092
Location Method :	DGPS = Differentially Corrected GPS
Project ID :	TOX-HSET

Map Id: 113
Direction: ENE
Distance: 0.787 mi.
Actual: 4155.478 ft.
Elevation: 0.007 mi. / 35.906 ft.
Relative: Higher

Site Name : AAK7369
30.402023, -86.993944
GULF BREEZE, FL

Database(s) : [WELLS - FL] ***(cont.)***

Envirosite ID: 8358450
EPA ID: N/R

WELLS - FL ***(cont.)***

Insp Name :	Herman Davies
Insp CHD :	SANTA ROSA
Request Number :	N/R
Property ID :	N/R
GPS ID :	1007092
Water Supply Restoration Program ID :	570018201
Water Supply Restoration Program Action:	UNFILTERED
Potable Status :	POTABLE
Resident Type :	OWNER
Other Well ID :	N/R
Software :	Well_Solo_v2
Streetside :	No
Agency :	DOH
Parcel ID :	N/R
PWS Design :	N/R
PWS Verify :	N/R
HAE (Height Above Ellipsoid) :	13.98
GPS Date :	11/10/2010
Large PWS Well :	N/R
Datum :	N/R
Latitude :	30.402023
Longitude :	-86.993944
Comments :	N/R
Last Date in Agency List :	01/23/2020

Map Id: 114
Direction: WNW
Distance: 0.801 mi.
Actual: 4228.706 ft.
Elevation: 0.004 mi. / 22.949 ft.
Relative: Lower

Site Name : LA-C-289716-1
30.399427, -87.024328
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223526
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289716-1
Issue Date :	2019-10-23
Completion Date :	2020-01-13
Station ID :	288128
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Anne Doman Hurst
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 23, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426783
Well Street Address :	4751 Hickory Shores Boulevard
Location Address :	4751 Hickory Shores Boulevard, Gulf Breeze, FL 32563

Map Id: 114
Direction: WNW
Distance: 0.801 mi.
Actual: 4228.706 ft.
Elevation: 0.004 mi. / 22.949 ft.
Relative: Lower

Site Name : LA-C-289716-1
30.399427, -87.024328
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 31223526
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302357.9372
Longitude :	870127.5808
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: 115
Direction: ESE
Distance: 0.804 mi.
Actual: 4246.259 ft.
Elevation: 0.001 mi. / 4.964 ft.
Relative: Lower

Site Name : LA-C-267723-1
30.387411, -86.995329
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24118654
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-267723-1
Issue Date :	2018-08-15
Completion Date :	2018-11-09
Station ID :	278397
Legacy Number :	W201804476
Contractor License :	3015
Owner Name :	Robert & Cynthia Hermann
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 27, TWP: 2S, RNG: 30W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	305797
Well Street Address :	5327 Mermaid Way
Location Address :	5327 Mermaid Way, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302314.6796
Longitude :	865943.1844
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 116
Direction: ENE
Distance: 0.807 mi.
Actual: 4259.677 ft.
Elevation: 0.007 mi. / 35.049 ft.
Relative: Higher

Site Name : LA-C-290480-1
30.403646, -86.994483
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929574
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290480-1
Issue Date :	2019-12-11
Completion Date :	2019-12-14
Station ID :	289368
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Ramsey and Walker LLC
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	22
Total Depth :	27
Diameter :	0
Compliance Number :	433254
Well Street Address :	1865 Hondo Trail
Location Address :	1865 Hondo Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	17
Latitude :	302413.1256
Longitude :	865940.1388
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 117
Direction: NE
Distance: 0.808 mi.
Actual: 4267.289 ft.
Elevation: 0.003 mi. / 14.472 ft.
Relative: Lower

Site Name : LA-C-225888-1
30.407906, -86.999324
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24106214
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-225888-1
Issue Date :	2009-08-04
Completion Date :	2009-08-07
Station ID :	20753
Legacy Number :	P200901839
Contractor License :	3203
Owner Name :	Charles Mayfield
Contractor Name :	Jerry Broxson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	37
Total Depth :	47
Diameter :	2
Compliance Number :	266823
Well Street Address :	1959 Melissa Oaks Drive
Location Address :	1959 Melissa Oaks Drive, Navarre, FL
Type of Work :	New Construction

Map Id: 117
Direction: NE
Distance: 0.808 mi.
Actual: 4267.289 ft.
Elevation: 0.003 mi. / 14.472 ft.
Relative: Lower

Site Name : LA-C-225888-1
30.407906, -86.999324
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24106214
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	13
Latitude :	302428.46
Longitude :	865957.566
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 118
Direction: ENE
Distance: 0.820 mi.
Actual: 4328.411 ft.
Elevation: 0.007 mi. / 35.892 ft.
Relative: Higher

Site Name : LA-C-292179-1
30.403023, -86.993854
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884150
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292179-1
Issue Date :	2020-04-09
Completion Date :	2020-04-13
Station ID :	292357
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Herbst Homes LP
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	2
Compliance Number :	436572
Well Street Address :	1846 Hondo Trail
Location Address :	1846 Hondo Trail, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302410.8838
Longitude :	865937.8732
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: S119
Direction: WSW
Distance: 0.834 mi.
Actual: 4403.279 ft.
Elevation: 0.005 mi. / 28.261 ft.
Relative: Lower

Site Name : LA-C-292378-1
30.390584, -87.024162
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885832
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292378-1
Issue Date :	2020-04-21
Completion Date :	2020-07-15
Station ID :	292640
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Nicholas Alan & Mackenzie Lynn Bennetts
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	436874
Well Street Address :	1525 Sabal Palm Drive
Location Address :	1525 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302326.1013
Longitude :	870126.9844
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: S120
Direction: WSW
Distance: 0.848 mi.
Actual: 4477.066 ft.
Elevation: 0.005 mi. / 24.232 ft.
Relative: Lower

Site Name : LA-C-292728-1
30.389785, -87.024081
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886041
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292728-1
Issue Date :	2020-05-08
Completion Date :	2020-08-05
Station ID :	293272
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Linda Sue & Richard Grant Lheureux, Jr
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437363
Well Street Address :	4811 Foxtail Palm Drive
Location Address :	4811 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: S120
Direction: WSW
Distance: 0.848 mi.
Actual: 4477.066 ft.
Elevation: 0.005 mi. / 24.232 ft.
Relative: Lower

Site Name : LA-C-292728-1
30.389785, -87.024081
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35886041
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302323.2264
Longitude :	870126.6899
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: T121
Direction: WSW
Distance: 0.861 mi.
Actual: 4547.243 ft.
Elevation: 0.005 mi. / 28.72 ft.
Relative: Lower

Site Name : LA-C-286653-1
30.390574, -87.024638
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112542
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286653-1
Issue Date :	2019-04-16
Completion Date :	2019-07-03
Station ID :	284545
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Bryan & Tracy Harrell
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	422517
Well Street Address :	1513 Sabal Palm Drive
Location Address :	1513 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302326.0664
Longitude :	870128.6968
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T122
Direction: WSW
Distance: 0.873 mi.
Actual: 4609.349 ft.
Elevation: 0.005 mi. / 27.562 ft.
Relative: Lower

Site Name : LA-C-289387-1
30.390578, -87.024846
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223546
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289387-1
Issue Date :	2019-10-03
Completion Date :	2019-12-29
Station ID :	287751
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Jeffery Michael & Kristine Folds
Contractor Name :	Terry Berry
Driller Name :	Keith Madsion
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426375
Well Street Address :	1507 Sabal Palm Drive
Location Address :	1507 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302326.0808
Longitude :	870129.4456
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: U123
Direction: SW
Distance: 0.875 mi.
Actual: 4621.915 ft.
Elevation: 0.002 mi. / 9.81 ft.
Relative: Lower

Site Name : LA-C-288929-1
30.385299, -87.021211
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122669
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-288929-1
Issue Date :	2019-09-09
Completion Date :	2019-09-14
Station ID :	287191
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Scott A Carstens Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	35
Diameter :	0
Compliance Number :	425696
Well Street Address :	4824 Soundside Drive
Location Address :	4824 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: U123
Direction: SW
Distance: 0.875 mi.
Actual: 4621.915 ft.
Elevation: 0.002 mi. / 9.81 ft.
Relative: Lower

Site Name : LA-C-288929-1
30.385299, -87.021211
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24122669
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302307.0764
Longitude :	870116.3596
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T124
Direction: WSW
Distance: 0.877 mi.
Actual: 4633.168 ft.
Elevation: 0.004 mi. / 23.675 ft.
Relative: Lower

Site Name : LA-C-292379-1
30.389952, -87.024684
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886396
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292379-1
Issue Date :	2020-04-21
Completion Date :	2020-07-16
Station ID :	292641
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Christopher J & Angela K Klug
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	436872
Well Street Address :	4818 Foxtail Palm Drive
Location Address :	4818 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302323.8283
Longitude :	870128.8623
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 125
Direction: W
Distance: 0.881 mi.
Actual: 4653.739 ft.
Elevation: 0.003 mi. / 15.738 ft.
Relative: Lower

Site Name : LA-C-290270-1
30.396818, -87.025759
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223474
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290270-1
Issue Date :	2019-11-26
Completion Date :	2020-02-17
Station ID :	288967
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Eagle Ventures LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	432887
Well Street Address :	4732 Gulf Breeze Parkway
Location Address :	4732 Gulf Breeze Parkway, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302348.5448
Longitude :	870132.7324
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: T126
Direction: WSW
Distance: 0.886 mi.
Actual: 4680.215 ft.
Elevation: 0.005 mi. / 26.24 ft.
Relative: Lower

Site Name : LA-C-268072-1
30.390583, -87.025083
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24109211
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-268072-1
Issue Date :	2018-09-12
Completion Date :	2018-12-05
Station ID :	277243
Legacy Number :	W201804892
Contractor License :	3015
Owner Name :	DSLD Homes Florida LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	306125
Well Street Address :	1501 Sabal Palm Dr
Location Address :	1501 Sabal Palm Dr, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: T126
Direction: WSW
Distance: 0.886 mi.
Actual: 4680.215 ft.
Elevation: 0.005 mi. / 26.24 ft.
Relative: Lower

Site Name : LA-C-268072-1
30.390583, -87.025083
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24109211
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302326.0988
Longitude :	870130.2988
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T127
Direction: WSW
Distance: 0.887 mi.
Actual: 4682.216 ft.
Elevation: 0.004 mi. / 22.142 ft.
Relative: Lower

Site Name : LA-C-289284-1
30.389521, -87.024661
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223557
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289284-1
Issue Date :	2019-09-27
Completion Date :	2019-12-23
Station ID :	287619
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	James Mark & Shelby Gleason Shockley
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	426221
Well Street Address :	4806 Foxtail Palm Drive
Location Address :	4806 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302322.2756
Longitude :	870128.7796
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: V128
Direction: WSW
Distance: 0.887 mi.
Actual: 4684.579 ft.
Elevation: 0.004 mi. / 19.432 ft.
Relative: Lower

Site Name : LA-C-286482-1
30.388777, -87.024294
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122018
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286482-1
Issue Date :	2019-04-01
Completion Date :	2019-06-30
Station ID :	284346
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Raymond & Sandra Todd
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	422206
Well Street Address :	4791 Foxtail Palm Drive
Location Address :	4791 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302319.5972
Longitude :	870127.4584
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: U129
Direction: SW
Distance: 0.892 mi.
Actual: 4707.905 ft.
Elevation: 0.002 mi. / 9.088 ft.
Relative: Lower

Site Name : LA-C-208644-1
30.38509, -87.021354
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24092459
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-208644-1
Issue Date :	2007-05-25
Completion Date :	2007-06-15
Station ID :	226319
Legacy Number :	M200701219
Contractor License :	2275
Owner Name :	Bill Fairbanks
Contractor Name :	Mike W Spiva
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	335165
Well Street Address :	4909 Soundside Dr
Location Address :	4909 Soundside Dr, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: U129
Direction: SW
Distance: 0.892 mi.
Actual: 4707.905 ft.
Elevation: 0.002 mi. / 9.088 ft.
Relative: Lower

Site Name : LA-C-208644-1
30.38509, -87.021354
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24092459
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302306.323
Longitude :	870116.876
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 130
Direction: ESE
Distance: 0.892 mi.
Actual: 4710.661 ft.
Elevation: 0.004 mi. / 18.537 ft.
Relative: Lower

Site Name : DO-C-162534-1
30.391902, -86.991536
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24015832
EPA ID: N/R

WELLS NW - FL

Permit :	DO-C-162534-1
Issue Date :	2002-01-14
Completion Date :	2002-01-25
Station ID :	177393
Legacy Number :	P200201208
Contractor License :	3153
Owner Name :	Susan Broxton
Contractor Name :	Gerard Johnson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	25
Total Depth :	30
Diameter :	2
Compliance Number :	207077
Well Street Address :	407 Oak Street
Location Address :	407 Oak Street, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Domestic
Static Water Level (ft) :	5
Latitude :	302330.848
Longitude :	865929.529
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: V131
Direction: WSW
Distance: 0.895 mi.
Actual: 4724.900 ft.
Elevation: 0.004 mi. / 19.101 ft.
Relative: Lower

Site Name : LA-C-293080-1
30.388629, -87.024354
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883457
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293080-1
Issue Date :	2020-05-26
Completion Date :	2020-08-21
Station ID :	293725
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Marjorie K Millette & Marjoire M Duncombe
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437791
Well Street Address :	4787 Foxtail Palm Drive
Location Address :	4787 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302319.0659
Longitude :	870127.6729
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V132
Direction: WSW
Distance: 0.895 mi.
Actual: 4726.705 ft.
Elevation: 0.004 mi. / 21.375 ft.
Relative: Lower

Site Name : LA-C-291312-1
30.389301, -87.02471
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884543
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291312-1
Issue Date :	2020-02-12
Completion Date :	2020-05-05
Station ID :	290788
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Valerie L & Alexander J Robbins
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435107
Well Street Address :	4800 Foxtail Palm Drive
Location Address :	4800 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: V132
Direction: WSW
Distance: 0.895 mi.
Actual: 4726.705 ft.
Elevation: 0.004 mi. / 21.375 ft.
Relative: Lower

Site Name : LA-C-291312-1
30.389301, -87.02471
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35884543
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302321.483
Longitude :	870128.9547
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 133
Direction: ENE
Distance: 0.895 mi.
Actual: 4726.869 ft.
Elevation: 0.007 mi. / 36.273 ft.
Relative: Higher

Site Name : TOWER
30.40361111, -86.99277778
GULF BREEZE, FL

Database(s) : [DIGITAL OBSTACLE]

Envirosite ID: 1650990
EPA ID: N/R

DIGITAL OBSTACLE

Date of Action :	03/26/2001
Action :	Change
FAA Study Number :	2000ASO02777OE
OBS Number :	12-001957
Obstacle Type :	TOWER
City Name :	GULF BREEZE
State Identifier :	FL
Country Identifier :	US
Type of Lighting :	Red
Verification Status :	Verified
Quantity :	1
Mark Indicator :	Marked
Above Ground Level Height (Feet) :	00713
Above Mean Sea Level Height (Feet) :	00749
Horizontal Accuracy :	+-100'
Vertical Accuracy :	+-20'
Latitude :	30 24 13.00N
Longitude :	086 59 34.00W

Map Id: 134
Direction: ESE
Distance: 0.895 mi.
Actual: 4727.722 ft.
Elevation: 0.001 mi. / 7.884 ft.
Relative: Lower

Site Name : LA-C-220499-1
30.387354, -86.993529
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24104773
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-220499-1
Issue Date :	2008-07-01
Completion Date :	2008-07-03

Map Id: 134
Direction: ESE
Distance: 0.895 mi.
Actual: 4727.722 ft.
Elevation: 0.001 mi. / 7.884 ft.
Relative: Lower

Site Name : LA-C-220499-1
30.387354, -86.993529
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24104773
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Station ID :	238905
Legacy Number :	P200802400
Contractor License :	3015
Owner Name :	Allen & Leslie McDonald
Contractor Name :	Terry Berry
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	261735
Well Street Address :	5361 Soundside Drive
Location Address :	5361 Soundside Drive, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	N/R
Latitude :	302314.475
Longitude :	865936.705
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T135
Direction: WSW
Distance: 0.898 mi.
Actual: 4741.271 ft.
Elevation: 0.004 mi. / 22.838 ft.
Relative: Lower

Site Name : LA-C-287112-1
30.39009, -87.025104
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112668
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-287112-1
Issue Date :	2019-05-14
Completion Date :	2019-08-11
Station ID :	285068
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	John S & Evelyn R Smithies
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	423205
Well Street Address :	Sabal Palm Drive
Location Address :	Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302324.324

Map Id: T135
Direction: WSW
Distance: 0.898 mi.
Actual: 4741.271 ft.
Elevation: 0.004 mi. / 22.838 ft.
Relative: Lower

Site Name : LA-C-287112-1
30.39009, -87.025104
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24112668
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Longitude :	870130.3744
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T136
Direction: WSW
Distance: 0.906 mi.
Actual: 4781.101 ft.
Elevation: 0.004 mi. / 22.257 ft.
Relative: Lower

Site Name : LA-C-289887-1
30.389764, -87.025105
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223516
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289887-1
Issue Date :	2019-11-04
Completion Date :	2020-02-01
Station ID :	288319
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Lance P Johnson & Priscilla Johnson Phan
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	432283
Well Street Address :	1476 Sabal Palm Drive
Location Address :	1476 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302323.1504
Longitude :	870130.378
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: V137
Direction: WSW
Distance: 0.907 mi.
Actual: 4786.350 ft.
Elevation: 0.003 mi. / 17.815 ft.
Relative: Lower

Site Name : LA-C-292854-1
30.388445, -87.024467
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884914
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292854-1
Issue Date :	2020-05-14
Completion Date :	2020-08-08
Station ID :	293434
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	DSLD Homes LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437506
Well Street Address :	4783 Foxtail Palm Drive
Location Address :	4783 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302318.4038
Longitude :	870128.0797
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V138
Direction: WSW
Distance: 0.907 mi.
Actual: 4787.236 ft.
Elevation: 0.004 mi. / 21.148 ft.
Relative: Lower

Site Name : LA-C-291584-1
30.389067, -87.024804
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886383
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291584-1
Issue Date :	2020-03-03
Completion Date :	2020-05-28
Station ID :	291277
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	John Donald & Johanna Lovendale
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435515
Well Street Address :	4794 Foxtail Palm Drive
Location Address :	4794 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: V138
Direction: WSW
Distance: 0.907 mi.
Actual: 4787.236 ft.
Elevation: 0.004 mi. / 21.148 ft.
Relative: Lower

Site Name : LA-C-291584-1
30.389067, -87.024804
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35886383
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302320.6425
Longitude :	870129.2927
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: T139
Direction: WSW
Distance: 0.911 mi.
Actual: 4812.203 ft.
Elevation: 0.005 mi. / 25.453 ft.
Relative: Lower

Site Name : LA-C-285645-1
30.390594, -87.025524
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24112232
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-285645-1
Issue Date :	2019-02-04
Completion Date :	2019-05-01
Station ID :	283221
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Lee Kelly Welch
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	0
Compliance Number :	420890
Well Street Address :	1495 Sabal Palm Drive
Location Address :	1495 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302326.1384
Longitude :	870131.8864
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: V140
Direction: WSW
Distance: 0.915 mi.
Actual: 4833.496 ft.
Elevation: 0.004 mi. / 21.526 ft.
Relative: Lower

Site Name : LA-C-289990-1
30.388856, -87.024857
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 31223497
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-289990-1
Issue Date :	2019-11-08
Completion Date :	2020-02-05
Station ID :	288467
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	DSLD Homes (Florida) LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	432452
Well Street Address :	4788 Foxtail Palm Dr
Location Address :	4788 Foxtail Palm Dr, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302319.8816
Longitude :	870129.4852
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-02-25

Map Id: 141
Direction: WSW
Distance: 0.919 mi.
Actual: 4852.984 ft.
Elevation: 0.005 mi. / 25.226 ft.
Relative: Lower

Site Name : LA-C-190989-1
30.391337, -87.02588
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24088271
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-190989-1
Issue Date :	2005-04-28
Completion Date :	2005-04-28
Station ID :	208276
Legacy Number :	P200501888
Contractor License :	3048
Owner Name :	Mike Auston
Contractor Name :	Clifton F Myers
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	20
Total Depth :	30
Diameter :	2
Compliance Number :	233905
Well Street Address :	4716 Kitty Hawk Circle
Location Address :	4716 Kitty Hawk Circle, Gulf Breeze, FL
Type of Work :	New Construction

Map Id: 141
Direction: WSW
Distance: 0.919 mi.
Actual: 4852.984 ft.
Elevation: 0.005 mi. / 25.226 ft.
Relative: Lower

Site Name : LA-C-190989-1
30.391337, -87.02588
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24088271
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	8
Latitude :	302328.813
Longitude :	870133.167
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 142
Direction: ESE
Distance: 0.921 mi.
Actual: 4862.597 ft.
Elevation: 0.001 mi. / 7.861 ft.
Relative: Lower

Site Name : LA-C-286165-1
30.388238, -86.99246
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24121945
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-286165-1
Issue Date :	2019-03-11
Completion Date :	2019-04-19
Station ID :	284000
Legacy Number :	N/R
Contractor License :	3228
Owner Name :	Scott A Carstens Inc
Contractor Name :	Sam Gonzalez
Driller Name :	Sam Gonzalez
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	20
Total Depth :	25
Diameter :	0
Compliance Number :	421630
Well Street Address :	5378 Soundside Drive
Location Address :	5378 Soundside Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	7
Latitude :	302317.6568
Longitude :	865932.856
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: V143
Direction: WSW
Distance: 0.924 mi.
Actual: 4877.394 ft.
Elevation: 0.004 mi. / 22.113 ft.
Relative: Lower

Site Name : LA-C-293202-1
30.389303, -87.025228
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885646
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293202-1
Issue Date :	2020-06-03
Completion Date :	2020-08-29
Station ID :	293923
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Andrei Disli & Adriana Tartaglia
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	438009
Well Street Address :	1464 Sabal Palm Drive
Location Address :	1464 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302321.4893
Longitude :	870130.8196
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: T144
Direction: WSW
Distance: 0.930 mi.
Actual: 4909.480 ft.
Elevation: 0.004 mi. / 22.011 ft.
Relative: Lower

Site Name : LA-C-291108-1
30.390207, -87.025711
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883392
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291108-1
Issue Date :	2020-02-03
Completion Date :	2020-04-27
Station ID :	290354
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Edmond & Mariann Papazian
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	434843
Well Street Address :	1487 Sabal Palm Drive
Location Address :	1487 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: T144
Direction: WSW
Distance: 0.930 mi.
Actual: 4909.480 ft.
Elevation: 0.004 mi. / 22.011 ft.
Relative: Lower

Site Name : LA-C-291108-1
30.390207, -87.025711
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883392
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302324.7435
Longitude :	870132.5597
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V145
Direction: WSW
Distance: 0.932 mi.
Actual: 4921.324 ft.
Elevation: 0.004 mi. / 21.316 ft.
Relative: Lower

Site Name : LA-C-291544-1
30.389092, -87.025279
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884989
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291544-1
Issue Date :	2020-03-02
Completion Date :	2020-05-21
Station ID :	291221
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Dalton & Mary Lynwood
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435475
Well Street Address :	1458 Sabal Palm Drive
Location Address :	1458 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302320.7314
Longitude :	870131.0039
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V146
Direction: WSW
Distance: 0.937 mi.
Actual: 4949.113 ft.
Elevation: 0.004 mi. / 23.018 ft.
Relative: Lower

Site Name : LA-C-293245-1
30.388491, -87.025067
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35884533
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293245-1
Issue Date :	2020-06-03
Completion Date :	2020-08-27
Station ID :	293996
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Ricky L & Kathleen J Poling Individually & As Trustees Of Poling Revocable Trust
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	438018
Well Street Address :	4776 Foxtail Palm Drive
Location Address :	4776 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302318.5659
Longitude :	870130.2416
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V147
Direction: WSW
Distance: 0.941 mi.
Actual: 4966.862 ft.
Elevation: 0.004 mi. / 21.217 ft.
Relative: Lower

Site Name : LA-C-290873-1
30.388916, -87.02535
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883341
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290873-1
Issue Date :	2020-01-14
Completion Date :	2020-04-12
Station ID :	289957
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	DSLD Homes (Florida) Llc
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	433897

Map Id: V147
Direction: WSW
Distance: 0.941 mi.
Actual: 4966.862 ft.
Elevation: 0.004 mi. / 21.217 ft.
Relative: Lower

Site Name : LA-C-290873-1
30.388916, -87.02535
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883341
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Street Address :	Sabal Palm Drive
Location Address :	Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302320.0987
Longitude :	870131.2613
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V148
Direction: WSW
Distance: 0.944 mi.
Actual: 4986.153 ft.
Elevation: 0.003 mi. / 17.697 ft.
Relative: Lower

Site Name : LA-C-292853-1
30.387931, -87.024876
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886038
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292853-1
Issue Date :	2020-05-14
Completion Date :	2020-08-08
Station ID :	293433
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	DSLD Homes LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437507
Well Street Address :	4769 Foxtail Palm Drive
Location Address :	4769 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302316.5515
Longitude :	870129.554
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V149
Direction: WSW
Distance: 0.949 mi.
Actual: 5012.564 ft.
Elevation: 0.004 mi. / 23.035 ft.
Relative: Lower

Site Name : LA-C-288331-1
30.388318, -87.025195
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929257
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-288331-1
Issue Date :	2019-08-01
Completion Date :	2019-10-23
Station ID :	286476
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	DSLD Homes LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	424886
Well Street Address :	4770 Foxtail Palm Drive
Location Address :	4770 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302317.9448
Longitude :	870130.702
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: T150
Direction: WSW
Distance: 0.952 mi.
Actual: 5028.082 ft.
Elevation: 0.004 mi. / 19.902 ft.
Relative: Lower

Site Name : LA-C-291105-1
30.389347, -87.025762
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883219
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291105-1
Issue Date :	2020-01-31
Completion Date :	2020-04-23
Station ID :	290351
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Robert & Traci Thomas
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	434715
Well Street Address :	1459 Sabal Palm Drive
Location Address :	1459 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: T150
Direction: WSW
Distance: 0.952 mi.
Actual: 5028.082 ft.
Elevation: 0.004 mi. / 19.902 ft.
Relative: Lower

Site Name : LA-C-291105-1
30.389347, -87.025762
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883219
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302321.6504
Longitude :	870132.7423
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V151
Direction: WSW
Distance: 0.958 mi.
Actual: 5058.430 ft.
Elevation: 0.004 mi. / 19.16 ft.
Relative: Lower

Site Name : LA-C-291846-1
30.387729, -87.025012
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35882559
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-291846-1
Issue Date :	2020-03-18
Completion Date :	2020-06-11
Station ID :	291742
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Dsld Homes LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	435926
Well Street Address :	4763 Foxtail Palm Drive
Location Address :	4763 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302315.8231
Longitude :	870130.0448
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V152
Direction: WSW
Distance: 0.966 mi.
Actual: 5098.489 ft.
Elevation: 0.004 mi. / 22.388 ft.
Relative: Lower

Site Name : LA-C-292855-1
30.388164, -87.025412
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885708
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292855-1
Issue Date :	2020-05-14
Completion Date :	2020-08-08
Station ID :	293435
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Christ Pete & Susan Anne Lambert, Jr
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	437505
Well Street Address :	4764 Foxtail Palm Drive
Location Address :	4764 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302317.3904
Longitude :	870131.4816
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V153
Direction: WSW
Distance: 0.966 mi.
Actual: 5102.459 ft.
Elevation: 0.004 mi. / 19.98 ft.
Relative: Lower

Site Name : LA-C-290845-1
30.388601, -87.025661
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35886283
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-290845-1
Issue Date :	2020-01-14
Completion Date :	2020-04-11
Station ID :	289930
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Eric & Laura Vogel
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	433880
Well Street Address :	Sabal Palm Drive
Location Address :	Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: V153
Direction: WSW
Distance: 0.966 mi.
Actual: 5102.459 ft.
Elevation: 0.004 mi. / 19.98 ft.
Relative: Lower

Site Name : LA-C-290845-1
30.388601, -87.025661
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35886283
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302318.9651
Longitude :	870132.3783
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 154
Direction: E
Distance: 0.966 mi.
Actual: 5102.689 ft.
Elevation: 0.005 mi. / 23.921 ft.
Relative: Lower

Site Name : LA-C-292340-1
30.393896, -86.990048
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35885561
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292340-1
Issue Date :	2020-04-20
Completion Date :	2020-07-13
Station ID :	292602
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Roman Oaks LLC
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	436840
Well Street Address :	Del Agua Drive(Common Area)
Location Address :	Del Agua Drive(Common Area), Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302338.0257
Longitude :	865924.1734
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: 155
Direction: W
Distance: 0.977 mi.
Actual: 5160.596 ft.
Elevation: 0.004 mi. / 19.616 ft.
Relative: Lower

Site Name : LA-C-226101-1
30.399421, -87.027312
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24096964
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-226101-1
Issue Date :	2009-08-26
Completion Date :	2009-08-31
Station ID :	20472
Legacy Number :	P200902015
Contractor License :	3203
Owner Name :	Bernard Lucassen
Contractor Name :	Jerry Broxson
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 23, TWP: 2S, RNG: 28W
Casing Depth :	30
Total Depth :	40
Diameter :	2
Compliance Number :	267024
Well Street Address :	4664 Hickory Shores Blvd.
Location Address :	4664 Hickory Shores Blvd., Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	16
Latitude :	302357.916
Longitude :	870138.323
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: V156
Direction: WSW
Distance: 0.978 mi.
Actual: 5164.959 ft.
Elevation: 0.004 mi. / 22.654 ft.
Relative: Lower

Site Name : LA-C-293595-1
30.387986, -87.025546
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35883133
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-293595-1
Issue Date :	2020-06-23
Completion Date :	2020-09-10
Station ID :	294535
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Christopher J & Jennifer West
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	438570
Well Street Address :	4758 Foxtail Palm Drive
Location Address :	4758 Foxtail Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: V156
Direction: WSW
Distance: 0.978 mi.
Actual: 5164.959 ft.
Elevation: 0.004 mi. / 22.654 ft.
Relative: Lower

Site Name : LA-C-293595-1
30.387986, -87.025546
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 35883133
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302316.7487
Longitude :	870131.964
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: V157
Direction: WSW
Distance: 0.980 mi.
Actual: 5175.786 ft.
Elevation: 0.004 mi. / 20.033 ft.
Relative: Lower

Site Name : LA-C-292072-1
30.388372, -87.025797
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 35882513
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-292072-1
Issue Date :	2020-04-01
Completion Date :	2020-06-29
Station ID :	292093
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Walter & Michelle Kane
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	2
Compliance Number :	436385
Well Street Address :	1434 Sabal Palm Drive
Location Address :	1434 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302318.1387
Longitude :	870132.8682
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2020-12-05

Map Id: W158
Direction: NE
Distance: 0.986 mi.
Actual: 5207.708 ft.
Elevation: 0.003 mi. / 13.606 ft.
Relative: Lower

Site Name : LA-C-207885-1
30.408687, -86.995471
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24092308
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-207885-1
Issue Date :	2007-01-08
Completion Date :	2007-01-10
Station ID :	226926
Legacy Number :	P200700950
Contractor License :	2271
Owner Name :	Ellzey Contruction
Contractor Name :	Vic C Wallace
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	249831
Well Street Address :	1983 Guseman Road
Location Address :	1983 Guseman Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302431.273
Longitude :	865943.696
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 159
Direction: ESE
Distance: 0.996 mi.
Actual: 5260.792 ft.
Elevation: 0.003 mi. / 16.68 ft.
Relative: Lower

Site Name : LA-C-287224-1
30.388747, -86.9908
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24122221
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-287224-1
Issue Date :	2019-05-17
Completion Date :	2019-08-14
Station ID :	285199
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Richard Vargas
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 30, TWP: 2S, RNG: 27W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	423328
Well Street Address :	1446 Oak Drive
Location Address :	1446 Oak Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction

Map Id: 159
Direction: ESE
Distance: 0.996 mi.
Actual: 5260.792 ft.
Elevation: 0.003 mi. / 16.68 ft.
Relative: Lower

Site Name : LA-C-287224-1
30.388747, -86.9908
FL

Database(s) : [WELLS NW - FL] ***(cont.)***

Envirosite ID: 24122221
EPA ID: N/R

WELLS NW - FL ***(cont.)***

Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302319.4892
Longitude :	865926.88
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: W160
Direction: NE
Distance: 0.998 mi.
Actual: 5266.895 ft.
Elevation: 0.002 mi. / 12.92 ft.
Relative: Lower

Site Name : LA-C-207882-1
30.408879, -86.995443
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 24101327
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-207882-1
Issue Date :	2007-01-08
Completion Date :	2007-01-10
Station ID :	226765
Legacy Number :	P200700949
Contractor License :	2271
Owner Name :	Ellzey Contruction
Contractor Name :	Vic C Wallace
Driller Name :	N/R
County :	Santa Rosa
Section/Township/Range :	SEC: 19, TWP: 2S, RNG: 27W
Casing Depth :	40
Total Depth :	50
Diameter :	2
Compliance Number :	249828
Well Street Address :	1985 Guseman Road
Location Address :	1985 Guseman Road, Gulf Breeze, FL
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	10
Latitude :	302431.965
Longitude :	865943.595
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

Map Id: 161
Direction: WSW
Distance: 0.999 mi.
Actual: 5272.439 ft.
Elevation: 0.003 mi. / 17.487 ft.
Relative: Lower

Site Name : LA-C-288330-1
30.388654, -87.026276
FL

Database(s) : [WELLS NW - FL]

Envirosite ID: 22929377
EPA ID: N/R

WELLS NW - FL

Permit :	LA-C-288330-1
Issue Date :	2019-08-01
Completion Date :	2019-10-28
Station ID :	286475
Legacy Number :	N/R
Contractor License :	3015
Owner Name :	Steven Mason & Denise Crary
Contractor Name :	Terry Berry
Driller Name :	Keith Madison
County :	Santa Rosa
Section/Township/Range :	SEC: 26, TWP: 2S, RNG: 28W
Casing Depth :	45
Total Depth :	55
Diameter :	0
Compliance Number :	424885
Well Street Address :	1429 Sabal Palm Drive
Location Address :	1429 Sabal Palm Drive, Gulf Breeze, FL 32563
Type of Work :	New Construction
Well Use :	Irrigation - Landscape
Static Water Level (ft) :	3
Latitude :	302319.1544
Longitude :	870134.5936
Documents :	Click here for hyperlink provided by the agency.
Last Date in Agency List :	2019-12-17

RADON DATA:

STATE SOURCE: No Available Data

FEDERAL AREA RADON INFORMATION FOR: No Available Data

NUMBER OF SAMPLE SITES: No Available Data

HIST PWS ENF
Historical Public Water Supply locations with Enforcement Violations
Environmental Protection Agency
(800) 426-4791
List of Safe Drinking Water Information Systems (SDWIS) with enforcement violations that are no longer in current agency list.

NWIS
National Water Information Systems
United States Geological Society
(703) 648-5953
Information on all water resources for the United States. This database contains all current and historical data for the nation.

PWS
Public Water Supply
Environmental Protection Agency
(800) 426-4791
Safe drinking water information Systems

PWS ENF
Public Water Supply locations with Enforcement Violations
Environmental Protection Agency
(800) 426-4791
Safe drinking water information Systems with enforcememnt violations

PWS_MIAMI-DADE COUNTY - FL
Miami-Dade County Potable Water Supply
Miami-Dade County Department of Environmental Resources Management
305-372-6715
Miami-Dade County Potable Water Supply permits

WELLS - FL
Water Well Locations
Florida Department of Health
850-245-4444
Registered Water well locations

WELLS NW - FL
NWWMD Water Wells
Northwest Florida Water Management District
(850) 539-5999
Water well permits for NW Water Management District

WELLS SJ - FL
SJWMD Water Wells
St. Johns River Water Management District
(904) 730-6270
Water well permits for St. Johns River Water Management District

WELLS SR - FL
SRWMD Water Wells
Suwannee River Water Management District
(386) 362-1001
Water well permits for Suwannee River Water Management District

WELLS SW - FL
SWWMD Water Wells
Southwest Florida Water Management District
(352) 796-7211
Water well permits for SW Water Management District

FLOOD Q3
Flood data
Environmental Protection Agency
(202) 566-1667
Q3 Flood Data

HYDROLOGIC UNIT
Hydrologic Unit Maps
USGS
The United States Geological Survey created a hierarchical system of hydrologic units originally called regions, sub-regions, accounting units, and cataloging units. Each unit was assigned a unique Hydrologic Unit Code (HUC). As first implemented the system had 21 regions, 221 subregions, 378 accounting units, and 2,264 cataloging units. Over time the system was changed and expanded. As of 2010 there are six levels in the hierarchy, represented by hydrologic unit codes from 2 to 12 digits long, called regions, subregions, basins, subbasins, watersheds, and subwatersheds. The table below describes the system's hydrologic unit levels and their characteristics, along with example names and codes.

WETLANDS NWI
National Wetland Inventory
U.S. Fish and Wildlife Service
(703) 358-2171
Wetland Inventory for the United States

SSURGO
Detailed Soil Data Map
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
Detailed Soil Data Map

STATSGO & MUI
General Soil Data Map
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
General Soil Data Map

USGS GEOLOGIC AGE
USGS Digital Data Series DDS
Natural Resources Conservation Service: U.S. Department of Agriculture
(202) 690-4985
USGS Digital Data Series DDS: Geologic Age and Rock Stratigraphic Unit

OIL & GAS WELLS - FL
Permitted oil & gas wells
Florida Department of Environmental Protection
850-245-2118
Listing of permitted oil and gas wells

RADON
National Radon Database
USGS
703-605-6008
A study of the EPA/State Residential Radon Survey and the National Residential Radon Survey.

SINKHOLE - FL
Sinkholes
Florida Department of Environmental Protection
850-617-0316
Sinkhole types, development and distribution based on GIS published map

AIRPORT FACILITIES
Airport landing facilities
Federal Aviation Administration
(866) 835-5322
Airport landing facilities

BASINS
Better Assessment Science Integrating point & Non-point Sources
U.S. Environmental Protection Agency
855-246-3642
Integrated geographical information system national watershed data and environmental assessment known as Better Assessment Science Integrating point & Non-point Sources

DIGITAL OBSTACLE
Obstacles of interest to aviation users
Federal Aviation Administration
855-379-6518
The Digital Obstacle File describes all known obstacles of interest to aviation users in the U.S. with limited coverage of the Pacific the Caribbean Canada and Mexico. The obstacles are assigned unique numerical identifiers; accuracy codes and listed in order of ascending latitude within each state or area by FAA Region.

EPICENTERS
National Geographical Data Center
National Geographical Data Center
303-497-6826
List of recent and historic earthquakes and information.

FLOOD DFIRM
National Flood Hazard Layer Database
Federal Emergency Management Agency
The National Flood Hazard Layer Database (NFHL) is a computer database that contains the flood hazard map information from FEMAs Flood Map Modernization program. These map data are from Digital Flood Insurance Rate Map (DFIRM) databases and Letters of Map Revision.

APPENDIX D

HISTORICAL IMAGERY

Historical Aerial Photo Report | 2020

Order Number: 48259
Report Generated: 12/11/2020

Project Name: Santa Rosa County South Santa Rosa Sports Complex
Project Number: 1090100.840

Santa Rosa County South Santa Rosa Sports Complex
Santa Rosa County
Gulf Breeze, FL, 32563

2 Corporate Dr
Suite 450
Shelton, CT 06484
Toll Free: 866-211-2028
www.envirositecorp.com

Historical Aerial Photo Report *2020*

Envirosite's Historical Aerial Photo Report is designed to assist in evaluating a subject property resulting from past activities. Envirosite's Historical Aerial Photo Report includes a search of available historical aerial photographs, dating back to the 1930s, or earliest available photographs.

ENVIROSITE SEARCHED SOURCES

SUBJECT PROPERTY:

Santa Rosa County South Santa Rosa Sports Complex
Santa Rosa County
Gulf Breeze, FL, 32563

YEAR:	***SCALE:***	***SOURCE:***
1946	1" = 500'	U.S.D.A
1949	1" = 500'	U.S.D.A
1956	1" = 500'	U.S.G.S
1965	1" = 500'	U.S.G.S
1969	1" = 500'	U.S.G.S
1974	1" = 500'	U.S.D.A
1976	1" = 1,000'	U.S.G.S
1978	1" = 1,000'	U.S.G.S
1979	1" = 1,000'	U.S.G.S
1981	1" = 1,000'	NHAP
1983	1" = 1,000'	NHAP
1985	1" = 1,000'	NHAP
1989	1" = 1,000'	U.S.G.S
1994	1" = 500'	DOQ
1999	1" = 500'	DOQ
2007	1" = 500'	NAIP
2010	1" = 500'	NAIP
2013	1" = 500'	NAIP
2015	1" = 500'	NAIP
2017	1" = 500'	NAIP
2019	1" = 500'	NAIP

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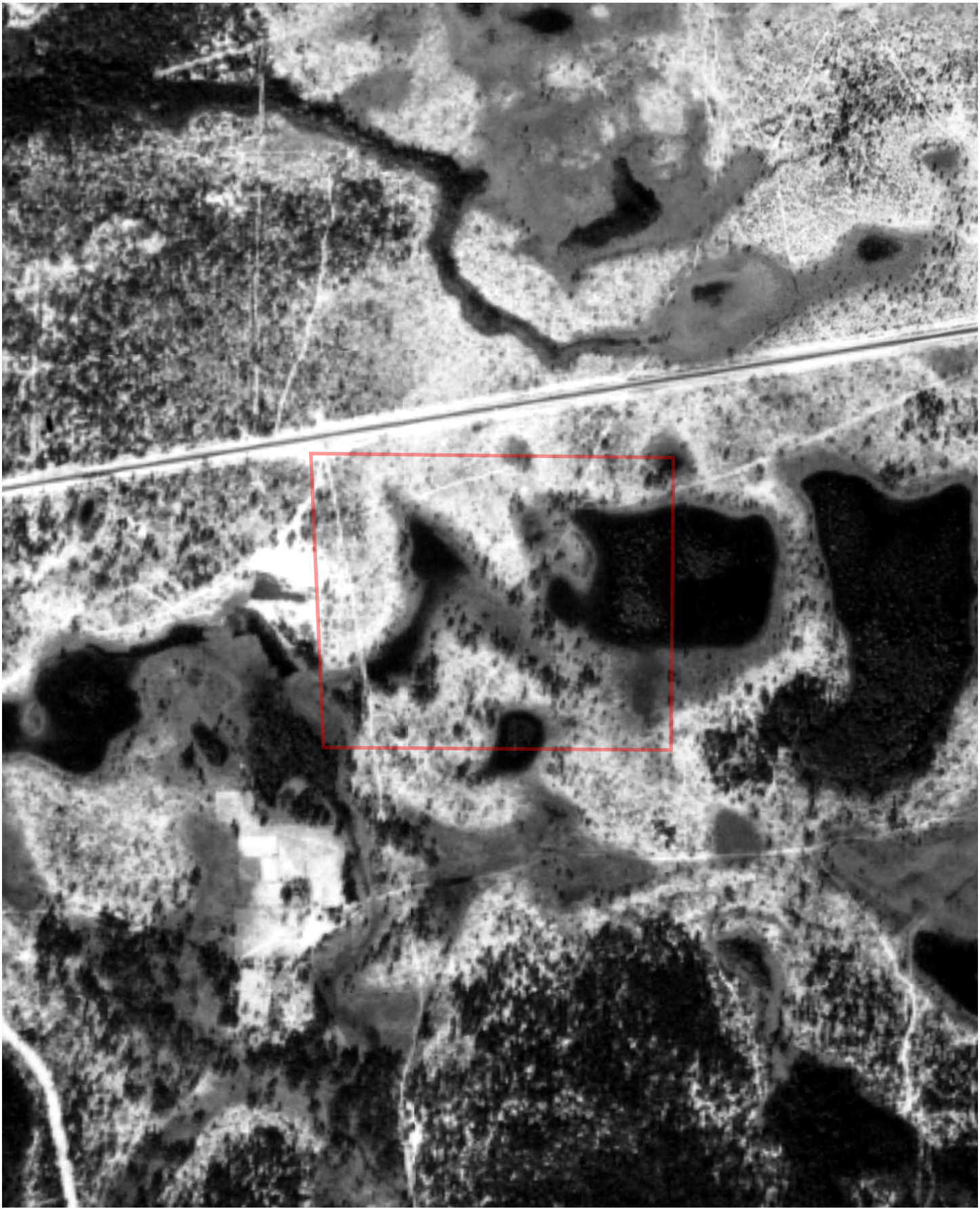
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FLIGHT YEAR:
1946

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1949

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1956

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1965

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1969

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1974

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1976

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1978

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1979

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1981

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1983

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1985

N
W E
S

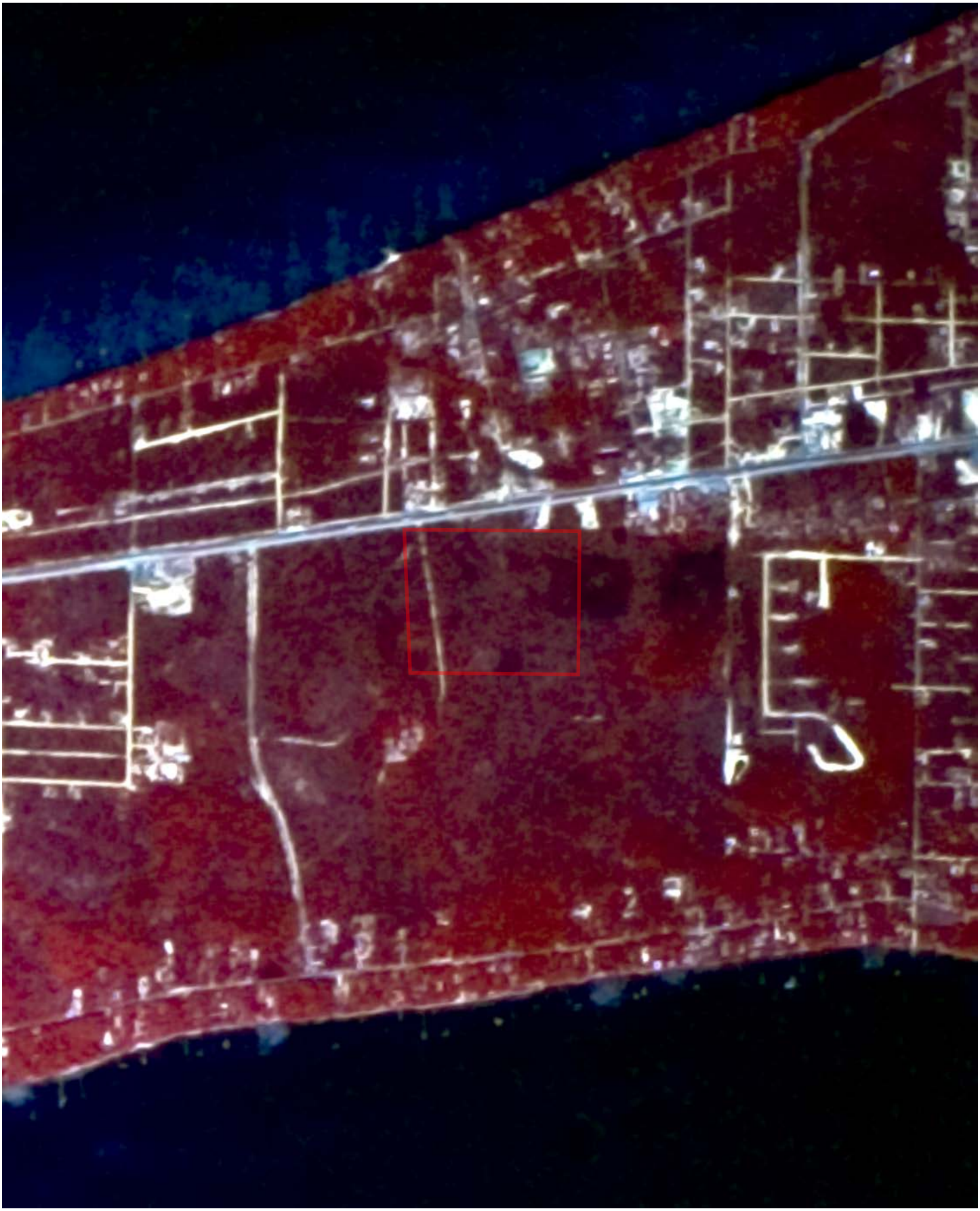
Scale: 1" = 1,000'



FLIGHT YEAR:
1989

N
W E
S

Scale: 1" = 1,000'



FLIGHT YEAR:
1994

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
1999

N
W E
S

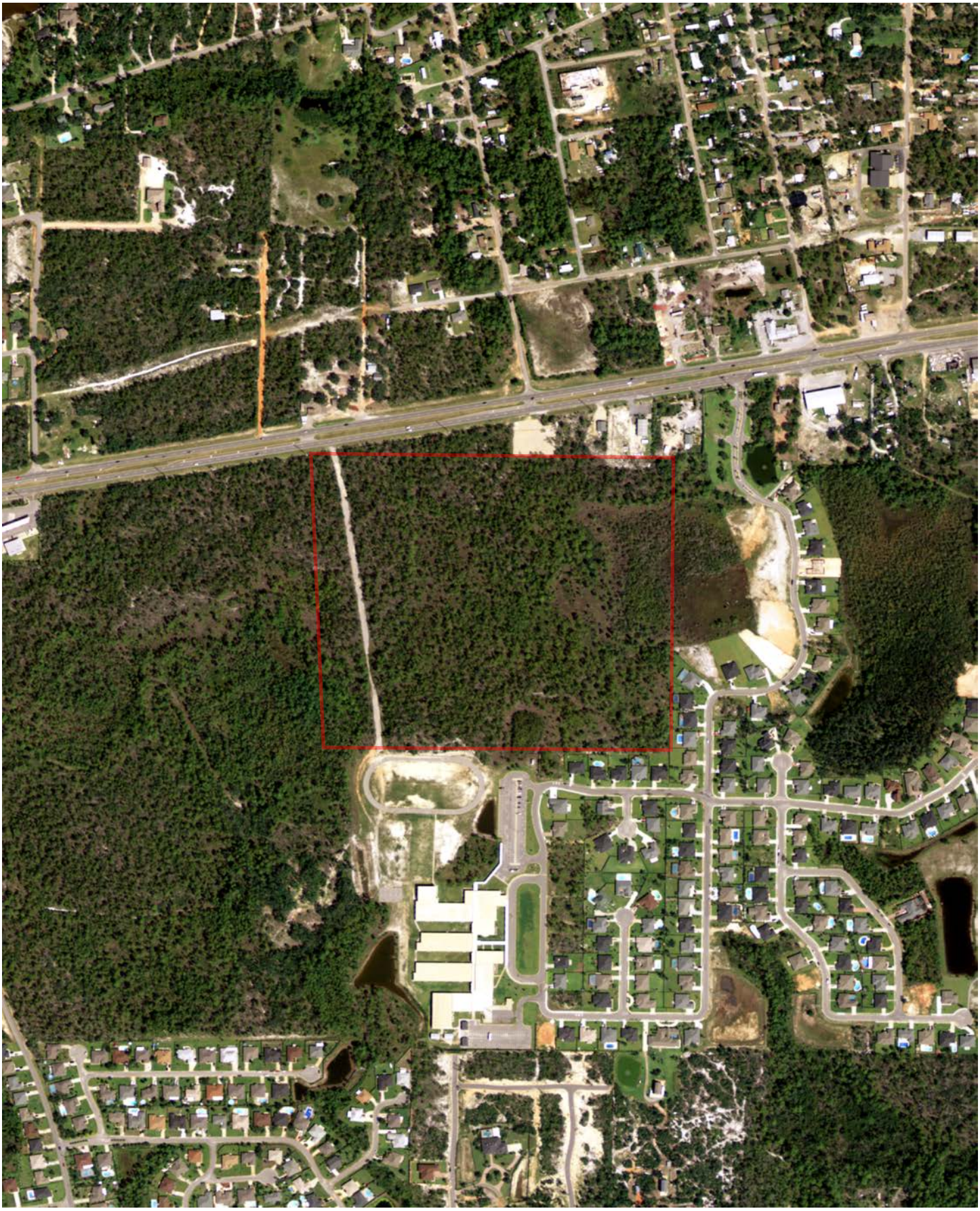
Scale: 1" = 500'



FLIGHT YEAR:
2007

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
2010

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
2013

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
2015

N
W E
S

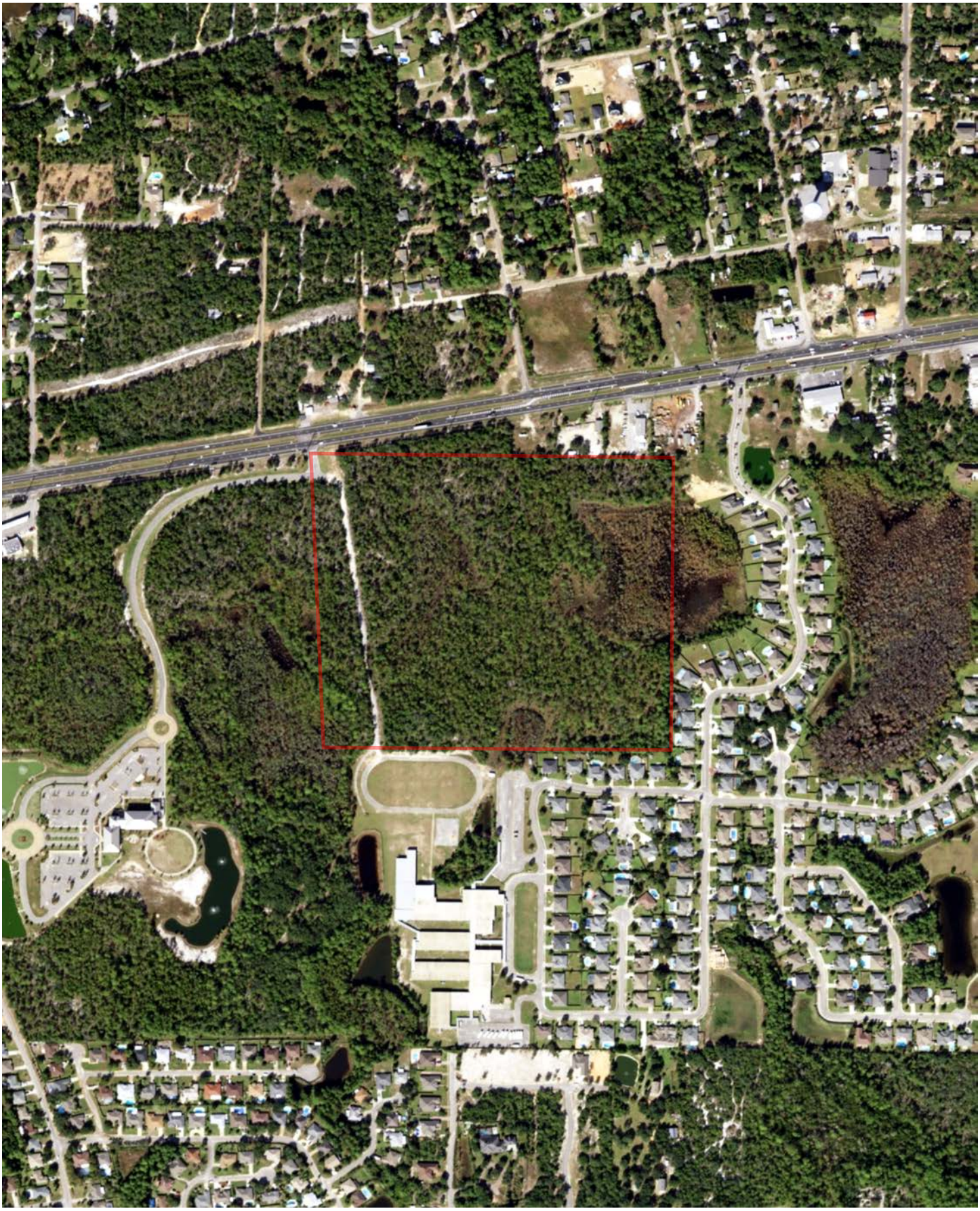
Scale: 1" = 500'



FLIGHT YEAR:
2017

N
W E
S

Scale: 1" = 500'



FLIGHT YEAR:
2019

N
W E
S

Scale: 1" = 500'



APPENDIX E

OTHER ENVIRONMENTAL DOCUMENTS

ASTM E 1527-13 User Questionnaire

In order to qualify for one of the *Landowner Liability Protections (LLPs)*[187] offered by the Small Business Liability Relief and Brownfields Revitalization Act of 2001 (the *"Brownfields Amendments"*),[188] the user must conduct the following inquiries required by 40 CFR 312.25, 312.28, 312.29, 312.30, and 312.31. These inquiries must also be conducted by EPA Brownfield Assessment and Characterization grantees. The *user* should provide the following information to the *environmental professional*. Failure to conduct these inquiries could result in a determination that *"all appropriate inquiries"* is not complete. **Please note that you are not being asked to evaluate the property, but rather to provide your knowledge of information on the property.**

Site Name/Address: South Santa Rosa Sports Complex / 5000 BLK, Gulf Breeze Parkway, Gulf Breeze FL 32563

Person Interviewed/Title: Rebecca Jones, PE; Asst. County Engineer Date: 12/17/2020

If known, when was the property initially developed? Vacant, not developed

If different, when were the current building(s) on the property constructed? Vacant / wooded

1. Environmental liens that are filed or recorded against the *property* (40 CFR 312.25)

Did a search of *recorded land title records* (or judicial records where appropriate) identify any environmental liens filed or recorded against the *property* under federal, tribal, state or local law?

Yes ☐ No ☑ If you answer yes, please include an explanation in the space provided below:

Unknown

2. Activity and use limitations that are in place on the *property* or that have been filed or recorded against the *property* (40 CFR 312.26(a)(1)(v) and vi)).

Did a search of *recorded land title records* (or judicial records where appropriate), identify any AULs, such as *engineering controls*, land use restrictions or *institutional controls* that are in place at the property and/or have been filed or recorded against the *property* under federal, tribal, state or local law?

Engineering Controls are defined as physical modifications to a site or facility to reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property). *Institutional Controls* are defined as a legal or administrative restriction on the use of, or access to, a site or facility to 1) reduce or eliminate the potential for exposure to hazardous substances or petroleum products in the soil or ground water on the property, or 2) to prevent activities that could interfere with the effectiveness of a response action, in order to ensure maintenance of a condition of no significant risk to public health or the environment.

Yes ☐ No ☑ If you answer yes, please include an explanation in the space provided below:

Unknown

3. Specialized knowledge or experience of the person seeking to qualify for the LLP (40 CFR 312.28).

Do you have any specialized knowledge or experience related to the *property* or nearby properties? For example, are you involved in the same line of business as the current or former *occupants* of the *property* or an adjoining property so that you would have specialized knowledge of the chemicals and processes used by this type of business?

Yes☐ No☑ If you answer yes, please include an explanation in the space provided below:

4. Relationship of the purchase price to the fair market value of the *property* if it were not contaminated (40 CFR 312.29).

a) Does the purchase price being paid for this *property* reasonably reflect the fair market value of the *property*?

Yes☐ No☐ If you answer no, please include an explanation in the space provided below, including whether the lower purchase price is because contamination is known or believed to be present at the *property*?

Property Not Purchased, Part of a Land Lease

5. Commonly known or *reasonably ascertainable* information about the *property* (40 CFR 312.30).

Are you aware of commonly known or *reasonably ascertainable* information about the *property* that would help the *environmental professional* to identify conditions indicative of releases or threatened releases? For example, as *User*:

a. Do you know the past uses of the *property*?

Yes☐ No☑

b. Do you know of specific chemicals that are present or once were present at the *property*?

Yes☐ No☑

c. Do you know of spills or other chemical releases that have taken place at the *property*?

Yes☐ No☑

d. Do you know of any environmental cleanups that have taken place at the *property*?

Yes☐ No☑

If you answered yes to any of the questions above, please include an explanation in the space provided below:

6. The degree of obviousness of the presence of likely presence of contamination at the *property*, and the ability to detect the contamination by appropriate investigation (40 CFR 312.31).

As the *User* of this *ESA*, based on your knowledge and experience related to the *property*, are there any *obvious* indicators that point to the presence or likely presence of contamination at the *property*?

Yes ☐ No ☑ If you answer yes, please include an explanation in the space provided below:

_____
_____
_____
_____

Please provide the following property contact information:

Property Owner: Santa Rosa County Phone Number: 850-981-7100

Key Site Personnel: _____ Phone Number: _____

Past Owner: Pensacola State College Phone Number: _____

APPENDIX F

FDEP EDMS INFORMATION

Florida Department of

Environmental Protection

Inspection Checklist

FACILITY INFORMATION:

Facility Name: EAGER BEAVER PROFESSIONAL TREE CARE, LLC

On-Site Inspection Start Date: 05/16/2019

On-Site Inspection End Date: 05/16/2019

WACS No.: 103127

Facility Street Address: 5205 GULF BREEZE PARKWAY

City: GULF BREEZE

County Name: SANTA ROSA

Zip: 32563

INSPECTION PARTICIPANTS:

(Include ALL Landfill and Department Personnel with Corresponding Titles)

Principal Inspector: Chad Nowling, Inspector

Other Participants: Denie Parrish, Office Manager

INSPECTION TYPE:

Routine Operation Inspection for WPF - Source-Separated Organics Proc Fac (SOPF)

ATTACHMENTS TO THE INSPECTION CHECKLIST:

This Cover Page to the Inspection Checklist may include any or all of the following attachments as appropriate.

Note: Checklist items with shaded boxes are for informational purposes only.

10.0 - SECTION 10.0 - REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES

Inspection Date: 05/16/2019

10.0 - SECTION 10.0 - REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES

Requirements:

The requirements listed in this section provide an opportunity for the Department's inspector to indicate the conditions found at the time of the inspection. A "Not Ok" response to a requirement indicates either a potential violation of the corresponding rule or an area of concern that requires more attention. Both potential violations and areas of concern are discussed further at the end of this inspection report.

FACILITY TYPE(S)	MATERIAL(S) PROCESSED	PRODUCES
☒ Yard Trash Transfer Station	☒ Yard Trash	☒ Mulch
	☒ Vegetative waste	☒ Firewood

Item No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ALL REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES	Ok	Not Ok	Unk	N/A
10.1	Unauthorized storage, processing, or disposal of solid waste except as authorized at a permitted or registered solid waste management facility or other exempt facility? 62-701.300(1)(a)	✓			
10.2	Have objectionable odors been caused or allowed in violation of Chapter 62-296, F.A.C.? 62-709.300(7)(a)	✓			
10.3	Unauthorized storage or processing in a way or location that violates air quality or water quality standards? 62-709.300(7)(b), 62-701.300(1)(b)	✓			
10.4	Do geological formations or subsurface features provide support for the facility? 62-709.300(7)(b), 62-701.300(2)(a)	✓			
10.5	Unauthorized disposal or storage prohibited, except yard trash, within 200 feet of any natural or artificial body of water, including wetlands without permanent leachate controls, except impoundments or conveyances which are part of an on-site, permitted stormwater management system or on-site water bodies with no off-site discharge? 62-701.300(2)(e), 62-709.320(3)	✓			
10.6	Unauthorized storage or processing in any natural or artificial water body (e.g. ground water and wetlands within DEP jurisdiction)? 62-709.300(7)(b), 62-701.300(2)(d)	✓			
10.7	Unauthorized storage or processing on the right of way of any public highway, road, or alley? 62-709.300(7)(b), 62-701.300(2)(f)	✓			
10.8	Unauthorized open burning of solid waste except in accordance with Department requirements? 62-709.300(7)(b), 62-701.300(3)	✓			
10.9	Unauthorized incorporation of CCA treated wood into material that will be applied as a ground cover, soil or soil amendment? 62-709.300(7)(b), 62-701.300(14)	✓			
10.10	Unauthorized unconfined emissions of particulate matter in violation of paragraph 62-296.320(4)(c), F.A.C.? 62-709.300(7)(b), 62-701.300(15)	✓			
10.11	Does the facility have the necessary operational features and equipment - unless otherwise specified? Including: 62-709.320(2)(a)				
10.11.1	Effective barrier to prevent unauthorized entry and dumping? 62-709.320(2)(a)1	✓			
10.11.2	Dust and litter control methods? 62-709.320(2)(a)2	✓			
10.12	Does the facility have the necessary fire protection and control provisions to deal with accidental burning of solid waste? Including 62-709.320(2)(a)3				
10.12.1	20-foot all-weather access road all around the perimeter? 62-709.320(2)(a)3.a.	✓			
10.12.2	No material mechanically compacted? 62-709.320(2)(a)3.b.	✓			
10.12.3	No material more than 50 feet from access by motorized firefighting equipment? 62-709.320(2)(a)3.c.	✓			
10.13	Is the facility operated in a manner to control vectors? 62-709.320(2)(b)	✓			
10.14	Is the facility operated in a manner to control objectionable odors per with Rule 62-296.320(2), F.A.C.? 62-709.320(2)(c)	✓			
10.15	Are any installed drains and leachate or condensate conveyances kept cleaned? 62-709.320(2)(d)				✓

Inspection Date: 05/16/2019

Item No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ALL REGISTERED SOURCE-SEPARATED ORGANICS PROCESSING FACILITIES	Ok	Not Ok	Unk	N/A
					✓
10.16	Is the received solid waste processed timely as follows? 62-709.320(2)(e)				
10.16.1	Is yard trash size-reduced or removed within 6 months or time needed to receive 3,000 tons or 12,000 cubic yards, whichever is greater? (Separated logs with 6 inch diameter or greater can be stored for up to 12 months before being size-reduced or removed.) 62-709.320(2)(e)1	✓			
10.16.2	Is putrescible waste (e.g. vegetative wastes, animal byproducts or manure) processed and incorporated into the composting material, or removed from the facility, within 48 hours? 62-709.320(2)(e)2	✓			
10.17	Is any treated or untreated biomedical waste; hazardous waste; or any materials having (PCB) concentration of 50 ppm or greater containerized and removed immediately? 62-709.320(2)(f), 62-701.300(4), 62-701.300(5), 62-701.300(6)				✓
10.18	Have all residuals, solid waste and recyclable materials been removed and recycled or disposed and has any remaining processed material been properly used or disposed upon the facility ceasing operations? 62-709.320(2)(g)	✓			
10.19	If temperature is used to show disinfection or vector attraction achieved, are records kept for at least three years? 62-709.320(4)(b)				✓
10.20	Is the registration for the facility current and on file with the Department? 62-709.320(3)(b)	✓			
10.21	Are renewal applications for annual registration of the facility submitted to the Department by July 1st, if applicable? 62-709.320(3)(c)	✓			
10.22	Are monthly records of incoming and outgoing material kept on-site or at another location as indicated on the registration form for at least three years? 62-709.320(4)(a)	✓			
10.23	Are Annual Reports, based upon the preceding calendar year, summarizing monthly records, submitted to the Department as required? 62-709.320(4)(a)	✓			
Item No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO YARD TRASH ONLY FACILITIES	Ok	Not Ok	Unk	N/A
10.24	Unauthorized storage or processing within 100 feet from off-site potable water well that existed before facility registered? 62-709.300(7)(b) and 62-701.300(12)(a)	✓			
10.25	Unauthorized storage or processing within 50 feet from any body of water, including wetlands? (Does not include parts of permitted stormwater system, or water bodies totally within facility with no discharge to surface waters.) 62-709.300(7)(b), 62-701.300(12)(b)	✓			
10.26	Is processed material removed from facility within 18 months, unless longer storage authorized by permit? 62-709.330(2)	✓			
10.27	Is the facility accepting only yard trash, and bags used to collect yard trash and containerizing any other material? 62-709.330(3)	✓			
Item No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ONLY THOSE FACILITIES THAT BLEND MANURE OR COMPOST VEGETATIVE WASTES, ANIMAL BYPRODUCTS OR MANURE	Ok	Not Ok	Unk	N/A
10.28	Unauthorized storage or processing within 500 feet off-site potable water well that existed before facility registered? 62-709.300(7)(b) and 62-701.300(2)(b)				✓
10.29	Unauthorized storage or processing within 200 feet from any body of water, including wetlands? (Does not include parts of permitted stormwater system, or water bodies totally within facility with no discharge to surface waters.) 62-709.300(7)(b), 62-701.300(2)(e)				✓
10.30	Unauthorized storage or processing within 10,000 feet of any licensed and operating airport runway used by turbine powered aircraft, or within 5,000 feet of any licensed and operating airport runway used only by piston engine aircraft, unless applicant demonstrates that the facility is designed and will be operated so that it does not pose a bird hazard to aircraft? 62-709.300(7)(b), 62-701.320(13)(b)				✓
10.31	Is the carbon:nitrogen ratio of the blended feedstocks greater than 20? 62-709.350(2)				✓
10.32	Do piles exceed 12 feet in height? 62-709.350(3)				✓
10.33	Is all material removed within 18 months, unless longer storage authorized by permit? 62-709.350(5)				✓

Inspection Date: 05/16/2019

Item No.	REQUIREMENTS AND PROHIBITIONS APPLICABLE TO ONLY THOSE FACILITIES THAT BLEND MANURE OR COMPOST VEGETATIVE WASTES, ANIMAL BYPRODUCTS OR MANURE	Ok	Not Ok	Unk	N/A
					✓
10.34	Is there documentation showing that disinfection has been achieved? Note that this is not required if they are composting only pre-consumer vegetative waste with or without yard trash. 62-709.350(6)				✓
10.35	Is there vector attraction reduction controls that include one of the following? 62-709.350(7) ☐ Temperature monitoring records showing the waste was composted for at least 14 days, with temperature no lower than 40 degrees Celsius and average temperature of the material being composted higher than 45 degrees Celsius. or 62-709.350(7)(a) ☐ Results of testing showing the specific oxygen uptake rate (SOUR) for material being composted or blended equal to or less than 1.5 milligrams of oxygen per hour per gram of total solids (dry weight basis) at a temperature of 20 degrees Celsius. 62-709.350(7)(b)				✓

COMMENTS:

A SOPF inspection was performed at the Eager Beaver facility located on the south side of Highway 98 on May 16, 2019. Denie Parrish provide a brief overview on the status of the facility. Ms. Parrish indicated that this site would no longer be in operation by the end of the month. There were was very little processed (chipped) debris on site. Plans are in place to beneficially use this material to fill in low areas across the site. The facility appeared to be in compliance with the Department's Solid Waste Management rules.

Photo attachments:
Photo 1 - SOPF area
Photo 2 - SOPF area

ATTACHMENTS:

Photo 1 - Eager Beaver



Photo 2 - Eager Beaver



Inspection Date: 05/16/2019

Signed:

Chad Nowling	Inspector	
PRINCIPAL INSPECTOR NAME	**PRINCIPAL INSPECTOR TITLE**	
	DEP	05/21/2019
PRINCIPAL INSPECTOR SIGNATURE	**ORGANIZATION**	**DATE**

Denie Parrish	Office Manager
REPRESENTATIVE NAME	**REPRESENTATIVE TITLE**
NO SIGNATURE REQUIRED	Eager Beaver
REPRESENTATIVE SIGNATURE	**ORGANIZATION**

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

Report Approvers:

Approver: Russell G Sullivan **Inspection Approval Date:** 05/23/2019

Florida Department of Environmental Protection

Northwest District
160 West Government Street, Suite 308
Pensacola, Florida 32502-5740

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

October 24, 2016

Mr. Joc Jacques
Eager Beaver Professional Tree Care, LLC
5205 Gulf Breeze Parkway
Gulf Breeze, FL 32563
eagerbeaverprotreecare@gmail.com

Re: Compliance Assistance Offer
Eager Beaver Professional Tree Care, LLC – Source Separated Organic Processing Facility (SOPF)
Facility ID No. 103127
Santa Rosa County

Dear Mr. Jacques:

A routine inspection was conducted at your facility on October 12, 2016, under the authority of Section 403.091, Florida Statutes (F.S.). During this inspection, possible violations of Chapter 403, F.S., Chapter 62-701, 62-709, Florida Administrative Code (F.A.C.), were observed. The purpose of this letter is to offer you compliance assistance as a means of resolving these matters.

Please see the attached inspection report for a full account of Department observations and be advised this Compliance Assistance Offer is part of an agency investigation preliminary to agency action in accordance with Section 120.57(5), F.S. We request you review the items of concern noted in the attached inspection report and respond in writing within **15 days** of receipt of this Compliance Assistance Offer. Your written response should either:

1. Describe what you have done to resolve the issue (see "Recommendations for Corrective Action" section of the report),
2. Provide information that either mitigates the concerns or demonstrates them to be invalid, or
3. Arrange for one of our inspectors to visit your facility to offer suggested actions to return to compliance without enforcement.

It is the Department's desire that you are able to document compliance or corrective actions concerning the possible violations identified in the attached inspection report so that this matter can be closed without enforcement. Your failure to respond promptly in writing (or by e-mail) may result in the initiation of formal enforcement proceedings.

Please address your response and any questions to Chad Nowling of the Pensacola District Office at (850) 595-0627 or via e-mail at chad.nowling@dep.state.fl.us. We look forward to your cooperation with this matter.

Sincerely,

Bradley T. Hartshorn
Environmental Manager
Compliance Assurance Program

BAB/cn/c

Enclosure: Inspection Report

cc: Lauren O'Conner, lauren.oconnor@dep.state.fl.us

Florida Department of

Environmental Protection

Inspection Checklist

FACILITY INFORMATION:

Facility Name: EAGER BEAVER PROFESSIONAL TREE CARE, LLC

On-Site Inspection Start Date: 10/12/2016

On-Site Inspection End Date: 10/12/2016

WACS No.: 103127

Facility Street Address: 5205 GULF BREEZE PARKWAY

City: GULF BREEZE

County Name: SANTA ROSA

Zip: 32563

INSPECTION PARTICIPANTS:

(Include ALL Landfill and Department Personnel with Corresponding Titles)

Principal Inspector: Chad Nowling, Inspector

Other Participants: Carolynn Gambaro, Office Manager

INSPECTION TYPE:

Complaint Investigation Inspection for WPF - Source-Separated Organics Proc Fac (SOPF)

ATTACHMENTS TO THE INSPECTION CHECK LIST:

This Cover Page to the Inspection Checklist may include any or all of the following attachments as appropriate.

13.0 - SECTION 13.0 - COMPLAINT INVESTIGATIONS

Inspection Date: 10/12/2016

13.0 - SECTION 13.0 - COMPLAINT INVESTIGATIONS

Requirements:

The requirements listed in this section provide an opportunity for the Department's inspector to indicate the conditions found at the time of the inspection. A "Not Ok" response to a requirement indicates either a potential violation of the corresponding rule or an area of concern that requires more attention. Both potential violations and areas of concern are discussed further at the end of this inspection report.

Item No.	SOLID WASTE PROHIBITIONS (unless "grandfathered" in, see 62- 701.300(18))	Ok	Not Ok	Unk	N/A
13.1	Unauthorized storing, processing, or disposing of solid waste except as authorized at a permitted solid waste management facility or a facility exempt from permitting under this chapter? 62-701.300(1)(a)		✓		
13.2	Authorized or unauthorized storing, processing, or disposing of solid waste in a manner or location that causes air quality standards to be violated or water quality standards or criteria of receiving waters to be violated? 62-701.300(1)(b)				✓
13.3	Unauthorized disposal or storage prohibited, except yard trash, within 500 feet of a potable water well? 62-701.300(2)(b)				✓
13.4	Unauthorized disposal or storage in a dewatered pit without liner or leachate controls? 62-701.300(2)(c)				✓
13.5	Unauthorized disposal or storage prohibited in any natural or artificial body of water including groundwater and wetlands? (Does not apply to standing water after a storm event.) 62-701.300(2)(d)				✓
13.6	Unauthorized disposal or storage prohibited, except yard trash, within 200 feet of any natural or artificial body of water, including wetlands without permanent leachate controls, except impoundments or conveyances which are part of an on-site, permitted stormwater management system or on-site water bodies with no off-site discharge? 62-701.300(2)(e)				✓
13.7	Unauthorized storage or disposal on the right of way of any public highway, road or alley? 62-701.300(2)(f)				✓
13.8	Unauthorized open burning of solid waste prohibited except in accordance with Department requirements? 62-701.300(3)				✓
13.9.1	CCA treated wood being ground into mulch, compost, or any wood product that is applied to the ground or burned 62-701.300(14)				✓
13.10	Unauthorized storage or disposal of yard trash within 100 feet of potable water wells (except on-site), and/or 50 feet of water bodies? 62-701.300(12)				✓
13.11.1	Maintaining a waste tire site consisting of more than 1500 tires that is not an integral part of a permitted waste tire processing facility. 62-711.400(1)				✓
13.11.2	Disposing of waste tires except as permitted at a permitted solid waste management facility. 62-711.400(2)				✓
13.11.3	Storing waste tires only as a part of a waste tire collection center, permitted waste tire processing facility, permitted solid waste management facility, or other exempt facility. 62-711.400(4)				✓
13.11.4	Contracting with only registered or exempt waste tire collectors for the transportation, disposal, or processing of more than 25 waste tires. 62-711.400(5)				✓
13.12	Are all additional specific conditions (not otherwise addressed above) in the permit, registration, Department order or certification, if any, being followed? 62-701.320(1), 403.161, F.S.				✓

Inspection Date: 10/12/2016

Current Violations:

Rule:	62-701.300(1)(a)
Question Number:	13.1
Explanation:	No person shall store, process, or dispose of solid waste except at a permitted solid waste management facility in accordance with Department rule 62-701, F.A.C.
Corrective Action:	The existing yard trash shall be handled in accordance with Department rules 62-701 and 62-709, F.A.C.

COMMENTS:

An inspection was performed at the Eager Beaver Professional Tree Care, LLC facility (south side of Highway 98) on October 12, 2016. Ms. Carolynn Gambaro provided a brief overview of the operations. The facility is storing yard trash (solid waste) and is operating as a "Yard Trash Transfer Station" without a valid Department registration or permit. Please see the "Current Violations" mentioned above. It should be noted that the owner of the facility has contacted the Department about obtaining the proper registration for this site. The facility should apply for a SOPF registration or solid waste permit from the Department as soon as possible.

Photo attachments:
Photo 1 - Unauthorized storage of yard trash
Photo 2 - Unauthorized storage of yard trash

ATTACHMENTS:

Photo 1 - Eager Beaver



Photo 2 - Eager Beaver



Inspection Date: 10/12/2016

Inspection Date: 10/12/2016

Signed:

Chad Nowling	Inspector	
PRINCIPAL INSPECTOR NAME	**PRINCIPAL INSPECTOR TITLE**	
	DEP	10/24/2016
PRINCIPAL INSPECTOR SIGNATURE	**ORGANIZATION**	**DATE**

Carolynn Gambaro	Office Manager
REPRESENTATIVE NAME	**REPRESENTATIVE TITLE**
NO SIGNATURE REQUIRED	Eager Beaver Professional Tree Care, LLC
REPRESENTATIVE SIGNATURE	**ORGANIZATION**

NOTE: By signing this document, the Site Representative only acknowledges receipt of this Inspection Report and is not admitting to the accuracy of any of the items identified by the Department as "Not Ok" or areas of concern.

Report Approvers:

Approver: Brad T Hartshorn **Inspection Approval Date:** 10/24/2016

Gulf Power

December 23, 2019

Ms. Kim Allen
Environmental Administrator
Florida Department of Environmental Protection
160 Governmental Center
Pensacola, Florida 32501

RE: 2020 Priority List
OGC File No. 88-0471B

Dear Mr. Webster:

On June 3, 2016, the Florida Department of Environmental Protection ("Department") issued a second amended consent order (OGC File No. 88-0471B) for the Gulf Power substation sites. This amended consent order was intended to assist the Department and Gulf Power in developing an annual list of priority sites subject to phased work in furtherance of site closure during each calendar year. This letter contains a list of priority sites subject to phased work in furtherance of the site closure recommendation for each listed site that will be the focus of Gulf Power work for the 2020 calendar year (2020 Priority List).

Completed Assessment and Remediation Work in 2019

Remediation activities at sites outlined in Exhibit C in in the first amended consent order (OGC File No. 88-0471A) continued throughout 2019. These sites are listed below.

- Beach Haven
- Beal
- Ft. Walton
- Long Point
- Lynn Haven
- Miramar Beach
- Ponce de Leon
- St. Andrews
- Tyndall

Assessment work has been completed at the following sites in 2019.

- **Destin**: Draft Declaration of Restrictive Covenant documents were submitted to the Department in March 2019. Gulf has requested a status update
- **Graceville**: During 2019, all monitoring wells were properly abandoned, and additional soil samples were collected to complete delineation.
- **Greenwood**: Gulf Power continued groundwater assessment activities through 2019. To further support the hydrogeological assessment, an additional monitoring well was installed but will need to be abandoned and reinstalled due to installation issues.

- **Highland City**: Gulf Power has continued semi-annual groundwater monitoring and reporting for the site. The next Semi-Annual Groundwater Monitoring Report is requested to be submitted to the Department by January 31, 2020. However, we would like to request an extension until we can sit down with the Department and discuss the site.
- **Holley**: Gulf Power has continued routine groundwater monitoring and reporting for the site. The next Semi-Annual Groundwater Monitoring Report will be submitted to the Department by December 31, 2019.
- **Holmes Creek**: Additional documents to support site closure were submitted during 2019. A final and complete version of the DRC with proof of noticing, an updated checklist, the Access Easement Agreement, and all other supporting documents be submitted by January 11, 2020.
- **Millers Ferry**: Gulf Power submitted a Draft Notice of Conditions to the Department on April 30, 2019 requesting site closure. FDEP reviewed the site documents and requested a revised Notice of Conditions and requested Gulf to proceed with a SRCO with NFA using engineering controls.
- **Pine & M**: An excavation summary report was submitted to the Department on May 13, 2019.
- **Pinecrest**: Groundwater monitoring well MW-4 was replaced in August 2019. Routine groundwater sampling and reporting continued at the site. The next annual groundwater monitoring report will be submitted to the Department by June 30, 2019.
- **Pittman**: During 2019, all site monitoring wells were properly abandoned.
- **Ponce de Leon**: In August 2019, Gulf Power submitted a Poor Quality Aquifer Evaluation report. We request a meeting to discuss the Department's most recent comments.
- **Redwood**: Gulf Power submitted a site activities report in May 2019. A Site Assessment Report Addendum will be submitted to the Department by January 17, 2020.
- **South Crestview**: An excavation summary report addendum was submitted to the Department on May 15, 2019. On November 20, 2019, Gulf submitted soil sampling results and feel that a CSRCO is warranted.
- **St. Andrews**: Semiannual groundwater sampling and annual reporting continued at the Site throughout 2019. On August 26, 2019 Gulf Power submitted a Bench-Scale Study Results and Field-Scale Pilot Test Work Plan. FDEP requested a UIC memorandum and an updated monitoring plan.
- **Wewa Road**: Throughout 2018, Gulf Power conducted semi-annual groundwater monitoring and reporting for the site. The next Semi-Annual Groundwater Monitoring report will be submitted to the Department by January 31, 2020. On September 24, 2019, Gulf Power submitted a Pilot Test Plan for the Site. FDEP approved 12/2/19

Remediation activities have been completed or initiated at the following sites in 2019.

- **Fort Walton Beach**: Per Remedial Action Plan Modification Approval Order dated September 27, 2018, Gulf Power proceeded with upgrading the filtration system and installing five infiltration galleries. Startup of the new system has occurred. As-built drawings were submitted and the Department has requested updated drawings.
- **Lynn Haven**: As recommended by the Department, Gulf Power implemented a site-wide remedy in June 2018. Throughout 2019, Gulf Power continued the required post-injection monitoring and reporting per the February 27, 2018 UIC Approval Order. The final post-injection monitoring report was submitted in October 2019. FDEP has requested an annual monitoring report within 60 days of the July 2020 sampling event.

- **Scholz**: Excavation activities commenced on December 10, 2018. An excavation summary report will be submitted in the near future Maximum source removal has been achieved at this time as substation because it is active and due to the close proximity of the electrical lines to the source removal area.

Priority of 2020 Calendar Year

Remediation activities at sites outlined in Exhibit C in in the first amended consent order (OGC File No. 88-0471A) will continue throughout 2019. These sites are listed below.

- Beach Haven
- Beal
- Ft. Walton
- Long Point
- Lynn Haven
- Miramar Beach
- Ponce de Leon
- St. Andrews
- Tyndall

Gulf intends to conduct remediation activities, as feasible, and further groundwater assessment of the following sites in 2020.

- **4th and Magnolia**: Gulf Power would like to meet to discuss the site.
- **Destin**: Draft Restrictive Covenant documents were submitted to the Department on August 30, 2017. In letter dated December 3, 2017, the Department approved a conditional closure for the site. Gulf Power will resubmit the requested documents by March 31, 2019. We are currently waiting on a response.
- **Devilliers**: Waiting on offsite access to complete the Department's soil sampling request.
- **Goulding**: FDEP letter 5/15/19 changed the corrective action status to inactive until 2020 due to impacts being on the railroad right of way. We will continue to work this site in 2020.
- **Graceville**: Soil impacts outside the substation fence will be excavated to the extent feasible. Excavation activities are anticipated to commence by [insert date]. A source removal report will be submitted within 60 days of completing source removal activities (no later than [insert date]). Following the completion of source removal activities, Gulf Power will request closure for the site.
- **Greenwood**: As stated previously, we need to re-install a monitor well that was requested by the Department and conduct monitoring.
- **Highland City**: Gulf Power would like to meet to discuss actions, prior to any field work.
- **Holley**: New well installation in November 2019. Monitoring will continue for this site.
- **Holmes Creek**: We will continue efforts in getting a restrictive covenant for this site.
- **Humble 1-5**: Access to the site for source removal activities is still pending. Once access is granted, Gulf Power will excavate impacted soil outside the substation fence. An excavation summary report will be submitted to the Department within 60 days of completing source removal activities.

- **Laguna Beach**: Gulf Power continues to work on an access agreement to install recommended monitoring well LA-14 and a monitoring well between LA-7 and LA-8. Gulf Power will mobilize to the field to install, develop, and survey the two new monitoring wells and conduct a round of site-wide sampling within 90 days of an access agreement. Well installation details and analytical results will be submitted to the Department within 60 days of sample receipt.
- **LL&E**: Access to the site for source removal activities is still pending. Once access is granted, Gulf Power will excavate impacted soil. An excavation summary report will be submitted to the Department within 60 days of completing source removal activities.
- **Marianna**: Gulf power to look at plan for additional excavation to remove a portion of impacted soils outside the fenced area.
- **Ocean City**: Gulf will investigate putting in an engineering control for the minor amount of soils outside our property boundary.
- **Pinecrest**: Semi-annual groundwater monitoring and annual reporting will continue throughout 2020. The next Annual Groundwater Monitoring Report will be submitted by June 30, 2020.
- **Pittman**: Soil impacts outside the substation fence will be excavated to the extent feasible. Excavation activities are anticipated to commence by 2nd quarter 2020. A source removal report will be submitted within 60 days of completing source removal activities. Following the completion of source removal activities, Gulf Power will request closure for the site.
- **Ponce de Leon**: Gulf power would like to meet to discuss next steps at this site.
- **Redwood**: Report due 1 /17/2020. FDEP wants 3 wells and 4 soil borings
- **Scenic Hills:** Gulf Power will excavate impacts along the northern fence boundary and submit an excavation summary report when access is granted. Following the excavation, Gulf Power will request site closure. Gulf Power waiting on offsite access.
- **St. Andrews**: Semiannual groundwater sampling and annual reporting will continue for the site. The next Semiannual Groundwater Monitoring Report will be submitted by January 31, 2020. To support the pilot test, a UIC Memo will be submitted by 2nd quarter 2020. Pilot test activities are anticipated to commence within 90 days of receiving the Pilot Test UIC Approval Order.
- **Sunny Hills**: Gulf will prepare an Engineering Control Maintenance Plan Addendum and submit to the Department for review.
- **Wewa Road**: Gulf Power will continue to conduct semi-annual groundwater sampling and annual reporting. The next Semi-Annual Groundwater Monitoring report will be submitted to the Department by January 31, 2020. Gulf Power will implement Pilot Test next year (2020).

Ms. Kim Allen
December 23, 2019

Inactive Sites

The sites listed below are inactive for 2020 and will be considered when developing the Priority List for 2021.

Air Products	Gulf Breeze
American Cyanamid	Jay Road
Bayou Chico	Long Beach
Brentwood	Navarre
East Gate	Pensacola City
East Hill	Valparaiso
Glendale Road	Whiting Field
Shalimar	

Per Consent Order OGC File No. 88-0471B, Gulf hopes to receive approval of the 2020 Priority List above by December 31, 2019. Gulf also requests scheduling a mid-year update meeting in June or July of 2020. Gulf Power believes it is in full compliance with the amended Consent Order referenced previously. If you have any questions or need any additional information, please do not hesitate to call me at 850-444-6573, Kevin Beaty at 850-444-6551 or Barry Evans at 850-444-6427.

Sincerely,

Richard "Mike" Markey
Director of Environmental Services

Cc (electronic): Kevin Beaty – Gulf Power
Barry Evans – Gulf Power
Alex Webster - FDEP

ANNUAL WATER QUALITY REPORT

REPORTING YEAR 2019



Presented By

Midway Water System

PWS ID#: 1570470



Serving Our Community

We are once again excited to present our annual water quality report covering all testing performed between January 1 and December 31, 2019. We are continually working to utilize new technology and methods to provide you the best water possible. We will work together in meeting the goals of source water protection, water conservation, community education, and taking care of our members. We can all make a difference in how our water is used and play a role in conserving this precious resource.

Water Conservation Tips

You can play a role in conserving water and save yourself money in the process by becoming conscious of the amount of water your household is using and looking for ways to use less whenever you can. It is not hard to conserve water. Here are a few tips:

- Automatic dishwashers use 15 gallons for every cycle, regardless of how many dishes are loaded. So get a run for your money and load it to capacity.
- Turn off the tap when brushing your teeth.
- Check every faucet in your home for leaks. Just a slow drip can waste 15 to 20 gallons a day. Fix it and you can save almost 6,000 gallons per year.
- Check your toilets for leaks by putting a few drops of food coloring in the tank. Watch for a few minutes to see if the color shows up in the bowl. It is not uncommon to lose up to 100 gallons a day from an invisible toilet leak. Fix it and you save more than 30,000 gallons a year.
- Use your water meter to detect hidden leaks. Simply turn off all taps and water-using appliances. Then check the meter after 15 minutes. If it moved, you have a leak.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791 or http://water.epa.gov/drink/hotline.

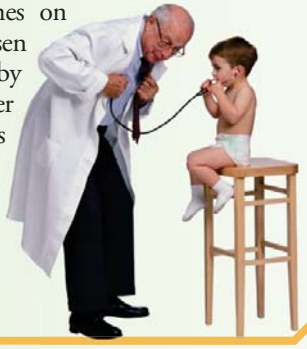


Table Talk

Get the most out of the Testing Results data table with this simple suggestion. In less than a minute, you will know all there is to know about your water:

> For each substance listed, compare the value in the Level Detected column against the value in the MCL (or AL, SMCL) column. If the Level Detected value is smaller, your water meets the health and safety standards set for the substance.

Other Table Information Worth Noting

Verify that there were no violations of the state and/or federal standards in the Violation column. If there was a violation, you will see a detailed description of the event in this report.

Date Sampled will show on which date the substance was detected. If multiple samples are taken over a period of time, the column will show the range of different sample dates.

The Range column displays the lowest and highest sample readings. If there is an NA showing, that means that only a single sample was taken to test for the substance (assuming there is a reported value in the Level Detected column).

If there is sufficient evidence to indicate from where the substance originates, it will be listed under Likely Source.

Where Does My Water Come From?

Midway Water System consists of four wells, two ground storage tanks, and two elevated storage tanks. The storage facilities are continually being replenished from two groundwater sources. Combined, Midway Water System and Fairpoint Regional Utility System treatment facilities provide roughly 562 million gallons of clean drinking water every year.

The high-quality water that is pumped requires only chlorine gas for disinfection, lime for pH control, and zinc orthophosphate and Aqua Mag as corrosion inhibitors. All our water comes from the Floridan and Sand and Gravel aquifers. To learn more about the aquifers that we draw from, visit http://capp.water.usgs.gov/aquiferBasics.



Source Water Assessment

In 2019 the Florida Department of Environmental Protection (FDEP) performed a source water assessment on our system. A search of the data sources indicated two potential sources of contamination near our wells with low susceptibility, and no potential sources of contamination near Fairpoint wells. The assessment results are available on the FDEP Source Water Assessment and Protection Program website at www.dep.state.fl.us/swapp.

What's Your Water Footprint?

You may have some understanding about your carbon footprint, but how much do you know about your water footprint? The water footprint of an individual, community, or business is defined as the total volume of freshwater that is used to produce the goods and services that are consumed by the individual or community or produced by the business. For example, 11 gallons of water is needed to irrigate and wash the fruit in one half-gallon container of orange juice. Thirty-seven gallons of water is used to grow, produce, package, and ship the beans in that morning cup of coffee. Two hundred and sixty-four gallons of water is required to produce one quart of milk, and 4,200 gallons of water is required to produce two pounds of beef.

According to the U.S. EPA, the average American uses over 180 gallons of water daily. In fact, in the developed world, one flush of a toilet uses as much water as the average person in the developing world allocates for an entire day's cooking, washing, cleaning, and drinking. The annual American per capita water footprint is about 8,000 cubic feet; twice the global per capita average. With water use increasing six-fold in the past century, our demands for freshwater are rapidly outstripping what the planet can replenish.

To check out your own water footprint, go to http://goo.gl/QMoIXT.

> "We remain vigilant in delivering the best-quality drinking water"

Substances That Could Be in Water

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material and can pick up substances resulting from the presence of animals or from human activity.

Contaminants that may be present in source water include: Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife. Inorganic Contaminants, such as salts and metals, which can be naturally occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming. Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses. Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production and can also come from gas stations, urban stormwater runoff, and septic systems. Radioactive Contaminants, which can be naturally occurring or the result of oil and gas production and mining activities.

In order to ensure that tap water is safe to drink, the U.S. EPA prescribes regulations that limit the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health.

Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that the water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Lead in Home Plumbing



If present, elevated levels of lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. We are responsible for providing high-quality drinking water, but we cannot control the variety of materials used in plumbing components. When your water has been sitting for several hours, you can minimize the potential for lead exposure by flushing your tap for 30 seconds to two minutes before using water for drinking or cooking. If you are concerned about lead in your water, you may wish to have your water tested. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available from the Safe Drinking Water Hotline at (800) 426-4791 or at www.epa.gov/safewater/lead.

QUESTIONS?

If you have any questions about this report or your water utility, please contact Jody Anderson, Operations Director, or Craig Mattingly, Lead Plant Operator, at (850) 932-5188.

If you want to learn more, please attend any of our regularly scheduled meetings. They are held on the third Monday of each month at 6:00 p.m. at our office, 4971 Gulf Breeze Parkway, Gulf Breeze.

Test Results

Our water is monitored for many different kinds of substances on a very strict sampling schedule, and the water we deliver must meet specific health standards. Here we only show those substances that were detected in our water (a complete list of all our analytical results is available upon request). Remember that detecting a substance does not mean the water is unsafe to drink; our goal is to keep all detects below their respective maximum allowed levels.

The state recommends monitoring for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included, along with the year in which the sample was taken.

RADIOACTIVE CONTAMINANTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)[1]	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Alpha Emitters (pCi/L)	1/13-4/17	No	2.3	ND–2.3	0	15	Erosion of natural deposits
Radium 226 + 228 [Combined Radium] (pCi/L)	1/13-7/17	No	2.3	ND–2.3	0	5	Erosion of natural deposits

PRIMARY REGULATED CONTAMINANTS

Inorganic Contaminants

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)[1]	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG	MCL	LIKELY SOURCE OF CONTAMINATION
Barium (ppm)	4/17-7/17	No	0.082	0.0067–0.082	2	2	Discharge of drilling wastes; discharge from metal refineries; erosion of natural deposits
Cyanide (ppb)	4/17-7/17	No	5.1	ND–5.1	200	200	Discharge from steel/metal factories; discharge from plastic and fertilizer factories
Fluoride (ppm)	4/17-7/17	No	0.9	ND–0.9	4	4.0	Erosion of natural deposits; discharge from fertilizer and aluminum factories; water additive that promotes strong teeth when at optimum levels between 0.7 and 1.3 ppm
Lead [point of entry] (ppb)	4/17-7/17	No	2.20	ND–2.20	NA	15	Residue from man-made pollution such as auto emissions and paint; lead pipe, casing, and solder
Nitrate [as Nitrogen] (ppm)	6/19-8/19	No	0.69	ND–0.69	10	10	Runoff from fertilizer use; leaching from septic tanks, sewage; erosion of natural deposits
Sodium (ppm)	4/17-7/17	No	140	2.2–140	NA	160	Saltwater intrusion; leaching from soil

Volatile Organic Contaminants

Xylenes (ppm)	7/17-8/19	No	0.00065	ND–0.00065	10	10	Discharge from petroleum factories; discharge from chemical factories

STAGE 1 DISINFECTANTS AND DISINFECTION BY-PRODUCTS

CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	MCL VIOLATION (YES/NO)	LEVEL DETECTED	RANGE OF RESULTS	MCLG OR [MRDLG]	MCL OR [MRDL]	LIKELY SOURCE OF CONTAMINATION
Chlorine (ppm)	1/19-12/19	No	0.975	0.8–1.0	[4]	[4.0]	Water additive used to control microbes
Haloacetic Acids (five) [HAA5] (ppb)	8/19	No	16.8	13.7–16.8	NA	60	By-product of drinking water disinfection
TTHM [Total trihalomethanes] (ppb)	8/19	No	18.5	13.1–18.5	NA	80	By-product of drinking water disinfection

Definitions

90th %ile: The levels reported for lead and copper represent the 90th percentile of the total number of sites tested. The 90th percentile is equal to or greater than 90 percent of our lead and copper detections.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

ND (Not detected): Indicates that the substance was not found by laboratory analysis.

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).

Lead and Copper (Tap water samples were collected from sites throughout the community)							
CONTAMINANT AND UNIT OF MEASUREMENT	DATES OF SAMPLING (MO./YR.)	AL EXCEEDANCE (YES/NO)	90TH PERCENTILE RESULT	NO. OF SAMPLING SITES EXCEEDING THE AL	MCLG	AL (ACTION LEVEL)	LIKELY SOURCE OF CONTAMINATION
Copper [tap water] (ppm)	6/17-9/17	No	0.43	0	1.3	1.3	Corrosion of household plumbing systems; erosion of natural deposits; leaching from wood preservatives
Lead [tap water] (ppb)	6/17-9/17	No	14	6	0	15	Corrosion of household plumbing systems; erosion of natural deposits

[1] Combined results of testing from Midway Water & FRUS

From: Deen, Danny L
To: Aubrey Yeagle
Cc: Debbie Hitchcock; Wilson, Monica L
Subject: Re: Quick Food Mart #7 SITE ASSESSMENT REPORT Facility ID #57/9800564
Date: Tuesday, October 20, 2020 12:38:02 PM

The time extension is approved and the due date for the Supplemental Site Assessment Report is now December 18, 2020. Please let me know if you have any questions.

Monica please put this on OCULUS. Thanks.

From: Aubrey Yeagle <ayeagle@aetllc.com>
Sent: Friday, October 16, 2020 3:22 PM
To: Deen, Danny L <Danny.Deen@flhealth.gov>
Cc: Debbie Hitchcock <dhitchcock@aetllc.com>
Subject: RE: Quick Food Mart #7 SITE ASSESSMENT REPORT Facility ID #57/9800564

Good afternoon Danny,

We have submitted the proposal for continued site assessment activities to the client, and are requesting a 60 day time extension for Supplemental Site Assessment.

We are still coordinating with the client on the scope of work and anticipate the first grandwater sampling event to take place in early November.

Best,
Aubrey Yeagle
Staff Engineer
Advanced Environmental Technologies, LLC
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504
Office: 850-208-3205
Cell: 850-748-5148
ayeagle@aetllc.com

From: Deen, Danny L [mailto:Danny.Deen@flhealth.gov]
Sent: Tuesday, August 18, 2020 10:06 AM
To: Aubrey Yeagle <ayeagle@aetllc.com>
Cc: Wilson, Monica L <Monica.Wilson@flhealth.gov>
Subject: Re: Quick Food Mart #7 SITE ASSESSMENT REPORT Facility ID #57/9800564

The Site Assessment has not been completed and the requirements of Chapter 62-780.600 FAC have not been met.

I agree that MW-1 and MW-2 should be resampled. If the wells do not show contamination a third sampling event will be needed to confirm that contamination does not exist in the wells. If the wells show contamination in the second or third sampling events additional wells should be installed west of MW-1 at the property line or on the adjacent property, approximately 30' to 45' North of MW-1, and approximately 30' to 45' east of MW-2. The wells should be sampled for any chemicals of concern that have been detected above cleanup target levels in previous sampling events.

A Supplemental Site Assessment should be submitted by October 19, 2020. Please let me know if you have any questions or concerns.

Monica, please put this email on OCULUS. Thanks.

From: Aubrey Yeagle <ayeagle@aetllc.com>
Sent: Friday, August 14, 2020 2:16 PM
To: Deen, Danny L <Danny.Deen@flhealth.gov>
Subject: RE: Quick Food Mart #7 SITE ASSESSMENT REPORT Facility ID #57/9800564

Danny,

Just wanting to follow up with this report deliverable. Do we need to send a new link? Please feel free to let me know if you need anything regarding this report.

Best,
Aubrey Yeagle
Staff Engineer
Advanced Environmental Technologies, LLC
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504
Cell: 850-748-5148
ayeagle@aetllc.com

From: Sharon Wessel
Sent: Monday, June 15, 2020 3:09 PM
To: danny.deen@flhealth.gov
Cc: Aubrey Yeagle <ayeagle@aetllc.com>; Debbie Hitchcock <dhitchcock@aetllc.com>
Subject: Quick Food Mart #7 SITE ASSESSMENT REPORT Facility ID #57/9800564

Danny,

Please see below. This is the link to the file on our cloud server. It is good until July 15, 2020. Let me know if you are unable to download. The report was to big to send in an e-mail.

https://aetllc.egnyte.com/dl/o3cjguVJva

Thank you,
Sharon Wessel
Office Manager
Advanced Environmental Technologies, LLC
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504
Office: 850-696-0810
Cell: 850-637-3729
swessel@aetllc.com

Batres, Jessica L

From: Batres, Jessica L
Sent: Thursday, November 19, 2020 9:38 AM
To: Aubrey Yeagle
Subject: FW: Quick Food Mart #7 Facility ID 57/9800564

Good morning Aubrey,

I'm the new site manager for Quick Food Mart #7. Danny forwarded me your time extension request. Please consider it approved and feel free to reach out with any questions or concerns.

Best,

Jessica Batres
Environmental Specialist II
Florida Department of Health in Escambia County
Environmental Health Division
1300 West Gregory Street, Pensacola, Florida 32502
Phone (850) 595-6700 x 2009
www.EscambiaHealth.com
Follow us on Twitter: @HealthyEscambia
Mission: To protect, promote and improve the health of all people in Florida through integrated state, county, and community efforts.
Vision: To be the Healthiest State in the Nation.
Values: ICARE (Innovation, Collaboration, Accountability, Responsiveness, Excellence)

From: Aubrey Yeagle <ayeagle@aetllc.com>
Sent: Wednesday, November 18, 2020 1:14 PM
To: Deen, Danny L <Danny.Deen@flhealth.gov>
Cc: Debbie Hitchcock <dhitchcock@aetllc.com>
Subject: Quick Food Mart #7 Facility ID 57/9800564

Hi Danny,

I'm emailing regarding the continued work at the above referenced site. In the last groundwater sampling event on 11/4/2020, increased contamination concentrations were detected in both wells sampled, including a benzene concentration above NADC levels in the source well.

We are proceeding with the scope to install two additional monitoring wells as described in the SSAR Proposal. We are scheduled to be onsite for monitor well installation on Tuesday, 11/24/2020. We will plan to sample the new wells after the holiday. The data from the new wells and the data from 11/4 will help to define the groundwater plume.

With a 30-day time extention from the 12/18/2020 due date, we could provide a more comprehensive assessment report to include the both sets of data.

Please feel free to call me or let me know about any questions, concerns, or suggestions.

Best,
Aubrey Yeagle
Staff Engineer
Advanced Environmental Technologies, LLC
1318 Dunmire Street, Suite 1

Pensacola, Florida 32504
Office: 850-208-3205
Cell: 850-748-5148
ayeagle@aetllc.com

Field Inspection Summary Form

The Field Inspector's primary role is to observe. Inspectors may not authorize changes in scope of work, offer advice, or interfere in contractor work. Field Inspectors must obtain a copy of the Purchase Order, Work Order or Task Assignment (PO, WO or TA) for the scope of work to be observed. The field inspector will review the PO/WO/TA prior to arrival and will have it onsite. If anything is observed that requires immediate attention, the inspector will contact the FDEP Site Manager. This form is a summary of observations made during the site visit. Full details are provided in the inspector's log book. A copy of the inspector's log book pages and any photographs taken for this inspection are attached.

INSPECTOR / TEAM: Danny Deenr/ Escambia / LP17 INSPECTION DATE(S): 6/23/2020 -

OTHERS ON SITE & TITLE/TEAM:

SITE IDENTIFICATION

FAC ID: 579800564
SITE NAME: Quick Food Mart #7
ADDRESS: 5342 Gulf Breeze Parkway
CITY: Gulf Breeze
COUNTY: Santa Rosa
SCORE:

DEP SITE MANAGER/ TEAM: Danny Deen / LP17
CURRENT BUSINESS NAME: same

FACILITY STATUS: (•) Active Fuel Dispensing ( ) Active, Not Fuel Dispensing ( ) Closed

WORK ORDER

PO, WO or TA #: NA EVENT #:

CONSULTANT

COMPANY NAME: NA PROJ. MANAGER:
NUMBER of REPRESENTATIVES: none FIELD LEAD:

SUBCONTRACTOR(S)

COMPANY NAME: N/A NUMBER of REPRESENTATIVES:

SCOPE OF WORK OBSERVED (details on following pages)

- ☐ **Assessment:** ☐ MW Installation ☐ Groundwater Sampling ☐ Soil Boring Installation ☐ Soil Sampling
- ☐ **Remediation:** ☐ Soil Excavation ☐ Remedial Construction ☐ VE Well Install ☐ AS Well Install ☐ Injection Well Install ☐ Recovery Well Install
- ☐ **Pilot Testing:** ☐ In-situ AS ☐ MPE ☐ SVE ☐ Biosparge ☐ GW Recovery ☐ Bio-Remediation ☐ Bio-Venting ☐ Other:
- ☐ **Post Remedial Monitoring:** ☐ Groundwater Sampling ☐ Soil Sampling
- ☐ **Natural Attenuation Monitoring:** ☐ Groundwater Sampling ☐ Soil Sampling
- ☑ **Other:** Annual

GENERAL ISSUES (If "No" or "N/A" is selected, describe issues in Comments section.)

Are digital photos attached to this report?	(•) Yes	( ) No	
Were PRP guidance and procedures followed?	( ) Yes	( ) No	(•) N/A
Did the contractor request that the inspector sign the Health & Safety Plan?	( ) Yes	( ) No	(•) N/A
Did the inspector make contact with the site owner or facility representative?	( ) Yes	( ) No	(•) N/A
Does the site map appear accurate?	( ) Yes	( ) No	(•) N/A
Does the area map appear current (adjacent properties)?	( ) Yes	( ) No	(•) N/A

INSTRUMENTS & EQUIPMENT

CONSULTANT INSTRUMENTS/EQUIPMENT USED:

☐ OVA/PID ☐ Multi-Meter ☐ Oil-Water Probe ☐ Datalogger ☐ Turbidity Meter ☐ Other:

Instrument calibration onsite observed? ( ) Yes ( ) No (•) N/A

SUBCONTRACTOR INSTRUMENTS/EQUIPMENT USED:

Instrument calibration onsite observed? ( ) Yes ( ) No (•) N/A

Field Inspection Summary Form

ACTIVITIES OBSERVED / COMMENTS:

DATE: 06/16/20 WEATHER: Clear, warm,Thunderstorm in area
INSPECTOR ON/OFF SITE: 11:15 / 11:35
CONTRACTOR ON/OFF SITE: N/A / N/A SUBCONTRACTOR ON/OFF SITE: N/A / N/A

Three monitoring wells have been install at south side of tank pit and evidence of DPT work around tank pit.

ACTIVITIES OBSERVED / COMMENTS:

DATE: WEATHER:
INSPECTOR ON/OFF SITE: /
CONTRACTOR ON/OFF SITE: / SUBCONTRACTOR ON/OFF SITE: /

ACTIVITIES OBSERVED/ COMMENTS:

DATE: WEATHER:
INSPECTOR ON/OFF SITE: /
CONTRACTOR ON/OFF SITE: / SUBCONTRACTOR ON/OFF SITE: /

Field Inspection Summary Form

Fac ID: 579800564 Site Name: Quick Food Mart #7









SITE ASSESSMENT REPORT

Quick Food Mart #7
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP Facility ID #57/9800564

SUBMITTED TO:

Mr. Danny Deen
Florida Department of Health in Escambia County
Environmental Health Division
1300 West Gregory Street
Pensacola, Florida 32502

Mr. Brian Patterson
Mountain Express Oil
5333 Bells Ferry Road
Acworth, GA 30102

PREPARED BY:

ADVANCED ENVIRONMENTAL TECHNOLOGIES, LLC
1318 Dunmire Street, Suite 1
Pensacola, FL 32504
(850) 696-0552

June 15, 2020
AET Project # 27739.00

June 15, 2020

Mr. Danny Deen
Florida Department of Health in Escambia County
Environmental Health Division
1300 West Gregory Street
Pensacola, Florida 32502

RE: Site Assessment Report
Quick Food Mart #7
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP Facility ID #57/9800564
AET Project No. 27739.00
Discharge Date: April 18, 2019

Dear Mr. Deen:

Advanced Environmental Technologies, LLC (AET) is pleased to provide the following report detailing site assessment activities for the Quick Food Mart #7 facility. All activities were conducted in accordance with Chapter 62-780, Florida Administrative Code (FAC). The following figures, tables and appendices are provided herein for this report:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Water Supply Well Survey Map
Figure 4A	Cross Section Area
Figure 4B	Lithological Cross Section A-A'
Figure 4C	Lithological Cross Section B-B'
Figure 5A	Highest OVA Readings – Vadose Zone (0-5 feet)
Figure 5B	Highest OVA Readings – Saturated Zone (5-10 feet)
Figure 6	Soil Analytical Summary Map
Figure 7	Groundwater Analytical Summary Map
Figure 8	Groundwater Elevation Map – May 14, 2020
Figure 9	Dissolved Benzene Concentration Map – May 2020

Table 1	Soil Screening Summary
Table 2A	Soil Analytical Summary – BTEX+MTBE, TRPH
Table 2B	Soil Analytical Summary – Non-Carcinogenic PAHs
Table 2C	Soil Analytical Summary – Carcinogenic PAHs
Table 2D	SPLP Analytical Summary
Table 3A	Groundwater Monitor Well Analytical Summary – VOCs & Metals

Table 3B	Groundwater Monitor Well Analytical Summary – PAHs & TRPHs
Table 4	Groundwater Elevation Summary
Appendix A	Field Notes, Soil Boring Logs
Appendix B	Soil Laboratory Analytical Report
Appendix C	Field Notes, Well Construction and Development Logs, Well Completion Reports, Waste Disposal Manifest
Appendix D	Field Notes, Groundwater Sampling and Calibration Logs
Appendix E	Groundwater Laboratory Analytical Report

SITE LOCATION

The subject facility is located at 5342 Gulf Breeze Parkway in Gulf Breeze, Santa Rosa County, Florida, and currently operates as a retail store and fueling facility. The facility occupies the northeast corner of Gulf Breeze Parkway (U.S. Highway 98) and East Bay Boulevard. An aerial site map illustrating the site location and surrounding area is presented as **Figure 1, Site Location Map**.

SITE HISTORY

According to the FDEP storage tank database, the subject facility maintains two 12,000-gallon underground storage tanks (UST) containing unleaded gasoline and vehicular diesel, installed in March 1998.

In February 2019, Panhandle Pump Company conducted tightness testing of the regular unleaded and premium gasoline spill buckets. The spill buckets passed testing; however, due to a defect in liner attachments, both spill buckets were replaced in March 2019.

A closure assessment was conducted by Pensacola Environmental Services, Inc., where soil samples were collected beneath the regular unleaded and premium gasoline spill buckets in April 2019. Laboratory results indicated concentrations above Soil Cleanup Target Levels (SCTL) in the sample collected from beneath the regular unleaded spill bucket. A DRF was submitted on April 18, 2019 noting the cause and amount of the contamination as unknown.

FDOH issued a Request for Site Assessment Activities on May 29, 2019. The following Site Assessment Report (SAR) details the results of site assessment activities performed. A site map illustrating the site features, UST area, and boring and monitoring well locations is presented as **Figure 2.**

CURRENT SITE ASSESSMENT ACTIVITIES

Water-Supply Well Survey

A water-supply well survey was completed utilizing on-line records of water-well data obtained from well completion reports maintained by the Northwest Florida Water Management District (NWFWMD) (http://www.nwfwater.com/Permits/Well-Permits/Data-Setbacks-Fees-Maps/Well-Data-from-Submitted-Completion-Reports). Data for wells permitted for construction, repair, or abandonment since 1976 are compiled in Excel spreadsheets and grouped by county. Data was sorted for water-supply wells within a ½-mile radius of the site.

Locations of any water-supply wells located outside the ½-mile radius of the site are shown on **Figure 3**. No water-supply wells were located within ½-mile radius of the site.

Soil Boring Installation, Soil Sampling, and Laboratory Analyses

AET personnel were onsite with Preferred Drilling Services (PDS) on May 11, 2020 to conduct soil sampling activities using Direct Push Technology (DPT). Seventeen soil borings were advanced around the UST area to depths ranging from 5-feet to 10-feet below land surface (bls) and continuously lithologically logged and screened with an organic vapor analyzer (OVA). Net OVA readings ranged from <1-parts per million (ppm) to 1185.7-ppm. Groundwater was generally encountered between 5- and 6-feet bls. Soil lithology consisted poorly sorted fine to medium grained sand with mostly fine sands and medium sand throughout the vadose and saturated zones. Lithological cross-sections are illustrated in **Figure 4A, 4B,** and **4C**.

Laboratory soil samples representative of low, medium, and high OVA readings in the vadose zone were collected and submitted for analyses from the following locations: SB-3 @ 4' (1185.7-ppm), SB-9 @ 2' (5.2-ppm), and SB-13 @ 2' (348-ppm). Each sample was analyzed for the benzene, toluene, ethylbenzene, total xylenes, and methyl tert-butyl ether (BTEX+MTBE) by EPA Method 8260, polycyclic aromatic hydrocarbons (PAH) by EPA Method 8270, and total recoverable petroleum hydrocarbons (TRPH) by the FL-PRO Method. Laboratory results indicated a benzene concentration above the respective SCTL in the SB-3 @ 4' sample. The sample was then analyzed using the synthetic precipitate leachate procedure (SPLP) to determine the potential for leachability to underlying groundwater. SPLP results were at or below applicable Groundwater Cleanup Target Levels (GCTL) for all contaminants of concern (COC).

Figures 5A and **5B** depict net OVA readings in the vadose and saturated zones. **Figure 6** presents soil analytical results. **Table 1** summarizes soil OVA readings; **Tables 2A** through **2D** summarize soil analytical results. Copies of the field notes and soil boring logs are provided in **Appendix A.** A copy of the soil laboratory analytical report is provided in **Appendix B.**

Monitor Well Installation

AET provided oversight for PDS on May 12, 2020 during the installation of three (3) shallow monitor wells (MW-1, MW-2, and MW-3) at the locations shown on **Figure 2**. Each well was completed to a depth of 12-feet bls with 2-feet of 2-inch solid SCH 40 PVC riser coupled to 10-feet of 0.010-inch factory slotted flush threaded well screens. The wells were properly developed and completed with 8-inch load-bearing manways surrounded by a 2-feet by 2-feet concrete well pad. Soil cuttings were containerized in 55-gallon drums and subsequently disposed off-site. Top of casing (TOC) elevations of the new wells relative to a local reference point were surveyed following installation. Two drums of soil investigation derived waste were disposed at City of Thomasville Landfill, Thomasville, GA on June 10, 2020.

Field notes, well construction logs, well completion reports, and disposal manifests from the May 12, 2020 well installation event is provided in **Appendix C**.

Groundwater Sampling and Laboratory Analyses

On May 14, 2020, AET personnel collected groundwater samples from monitor wells MW-1, MW-2, and MW-3. Samples collected from each well were analyzed for BTEX+MTBE, PAH, and TRPH. In addition, the sample collected from source well MW-1 was analyzed for the Kerosene and Gasoline Analytical Group (GAG/KAG) parameters in accordance with Chapter 62-780, FAC. Evidence of free product and/or product sheen was not observed during this event. Laboratory results indicated benzene concentrations of 18 µg/L and 2.1 µg/L in monitor well samples from MW-1 and MW-2, respectively. All other contaminants of concern (COC) were below the respective GCTLs or below detection limits (bdl) for the remaining laboratory samples.

Groundwater analytical data is illustrated on **Figure 7** and summarized on **Tables 3A** and **3B**. The extent of the groundwater contamination is illustrated on **Figure 8.** Field notes, groundwater sampling and calibration logs, and the laboratory analytical report are provided in **Appendix D** and **E**, respectively.

Occurrence and Movement of Groundwater

AET collected depth-to-water (DTW) measurements from monitor wells MW-1, MW-2, and MW-3 on May 14, 2020 in order to determine groundwater elevation flow direction beneath the site. Groundwater elevations ranged from 95.40-feet above mean sea level (AMSL) in monitor well MW-1 to 95.44-feet AMSL in monitor well MW-2. Groundwater flow direction was observed to flow to the west.

Groundwater elevation and DTW measurements are presented in **Table 4**, and a groundwater elevation map illustrating the flow direction is presented as **Figure 9**.

QUALITY ASSURANCE AND QUALITY CONTROL

Quality assurance and quality control (QA/QC) programs assure the reliability and accuracy of monitoring and measurement data. In preparing this report, AET relied on information provided in the reference documents and assumes that adequate quality control measures were followed with regard to chain-of-custody, laboratory procedures, and data reporting. Validity of the analysis and conclusions drawn for this report are determined by the availability and reliability of referenced information.

Based on the DEP field sampling logs, QA/QC measurements appeared consistent with data normally taken with environmental sampling and analysis. Detailed sample collection and preservation procedures, as well as laboratory QA/QC data for analyses, were included in the report for the collected samples. The laboratory analytical results of method blanks, surrogate recovery results, and acceptable limits were included in the reports. Upon review of the laboratory analytical report, some of the groundwater samples indicated a reported value between the laboratory method detection limit and the laboratory practical quantitation limit (i.e. results flagged with an “I” value). The data appears valid and within SOP protocol. None of the analyzed contaminant parameters were found in the method blank. In the event that the method blank indicated detection (i.e. results flagged with a “V” value), AET would utilize the ten times rule as far as validating the data as being usable or not. The ten

times rule is based on the Environmental Protection Agency (EPA) guidance document for organic data review. If after applying the rules, the results do not meet the GCTL or SCTL limits, then the sample must be re-analyzed and or re-sampled (excluding those low level PAHs whose CTLs cannot be achieved). It should also be noted that no equipment blanks, field blanks, trip blanks, or duplicate samples were included in this project. These types of samples are useful in the QA/QC validation process.

All monitoring well purging, groundwater sampling and/or soil sampling activities were performed in accordance with the FDEP's SOP and Guidance Memos, and Chapter 62-160, Florida Administrative Code (FAC).

SUMMARY

The following is a summary of the Site Assessment activities conducted:

- Seventeen soil borings were advanced to depths ranging from 5-feet to 10-feet bls on May 11, 2020.
    - DTW in the soil borings ranged from 5-feet to 6-feet bls.
    - Net OVA readings in the vadose zone (2-feet to 5-feet bls) ranged from <1-ppm to 1185.7-ppm.
    - Soil samples were collected from SB-3 @ 4' (1185.7-ppm), SB-9 @ 2' (5.2-ppm), and SB-13 @ 2' (348-ppm), and analyzed for BTEX+MTBE, PAH, and TRPH. Laboratory results indicated a benzene concentration above the respective SCTL in the SB-3 @ 4' sample; after SPLP extraction analysis, results were below GCTL.
    - Soil lithology consists of fine to medium, mostly fine sand, medium sand, and traces of silt throughout the vadose and saturated zones.
- Three shallow monitoring wells (MW-1, MW-2, and MW-3) were installed at the site on May 12, 2020.
    - Free product was not encountered in any monitoring well location.
    - DTW ranged from 4.60-feet to 4.86-feet BTOC, and groundwater elevations ranged from 95.40-feet to 95.44-feet AMSL. Groundwater flow direction was observed to flow to the west.
    - Groundwater samples were collected from monitoring wells MW-1, MW-2, and MW-3 on May 14, 2020 and analyzed for BTEX+MTBE, PAH, and TRPH. Monitoring well MW-1 was also analyzed for GAG/KAG parameters. Laboratory results indicated benzene concentrations slightly above the respective GCTL in samples collected from monitoring wells MW-1 and MW-2.

CONCLUSIONS

The following are conclusions based on the field data collected and laboratory analytical results of the current Site Assessment activities:

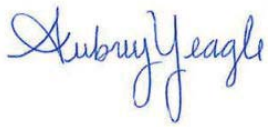
- Free product was not encountered at the subject site during field sampling events.Soil contamination exceeding applicable SCTLs was identified in the vadose zone (0-feet to 5-feet bls). SPLP results were at or below applicable GCTL.

- OVA readings appear to correlate with soil analytical results.
- In the May 14, 2020 sampling event, DTW ranged from 4.60-feet BTOC in MW-1 to 4.78-feet BTOC in MW-3, and groundwater elevations ranged from 95.40-feet AMSL in MW-1 to 95.44-feet AMSL in MW-2. Groundwater flow direction was observed to flow to the west.
- Localized groundwater contamination has been identified in the shallow groundwater zone at concentrations above GCTLs in monitoring wells MW-1 and MW-2. Concentrations of COC above applicable GCTLs were not identified in monitoring well MW-3.

RECOMMENDATIONS

Based on the localized nature of contaminants, AET recommends an additional sampling event to include monitoring wells MW-1 and MW-2. If you should have any questions, comments, or require any additional information, please feel free to contact me at (850) 208-3205 or ayeagle@aetllc.com. AET looks forward to our continued work with you on this project.

Sincerely,
Advanced Environmental Technologies, LLC





Aubrey Yeagle
Staff Engineer

Debra J. Hitchcock, P.E.
Branch Manager

Statement of Professional Review

Site Assessment Report
Quick Food Mart #7
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP Facility ID No.: 57/9800564
AET Project No.: 27739.00

I, Debra Joy Hitchcock, PE # 53473, certify that I currently hold an active license in the state of Florida and am competent through education and experience to provide the engineering service contained in this report. I further certify that, in my professional judgment, the components of this report satisfy the requirements set forth in Chapter 62-780, Florida Administrative Code (FAC) and was prepared by me or under my responsible charge. Moreover, I certify that AET holds an active Certificate of Authorization # 8215 to provide this engineering service. No warranties are implied or intended.

_____ I personally prepared this document

__X__ This document was prepared by _____Aubrey Yeagle_____ working under my direct supervision



This item has been electronically signed and sealed by Debra Joy Hitchcock, P.E. on June 15, 2020 using a SHA-1 authentication code.

Printed copies of this document are not considered signed and sealed and all SHA-1 authentication codes must be verified on any electronic copies.

Debra J. Hitchcock, P.E.
State of Florida License No. 53473
AET Certificate of Authorization No. 8215
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504

FIGURES

TABLES

APPENDIX A

Field Notes, Soil Boring Logs

APPENDIX B

Soil Laboratory Analytical Report

APPENDIX C

Field Notes, Well Construction and Development Logs, Well Completion Reports, Waste Disposal Manifest

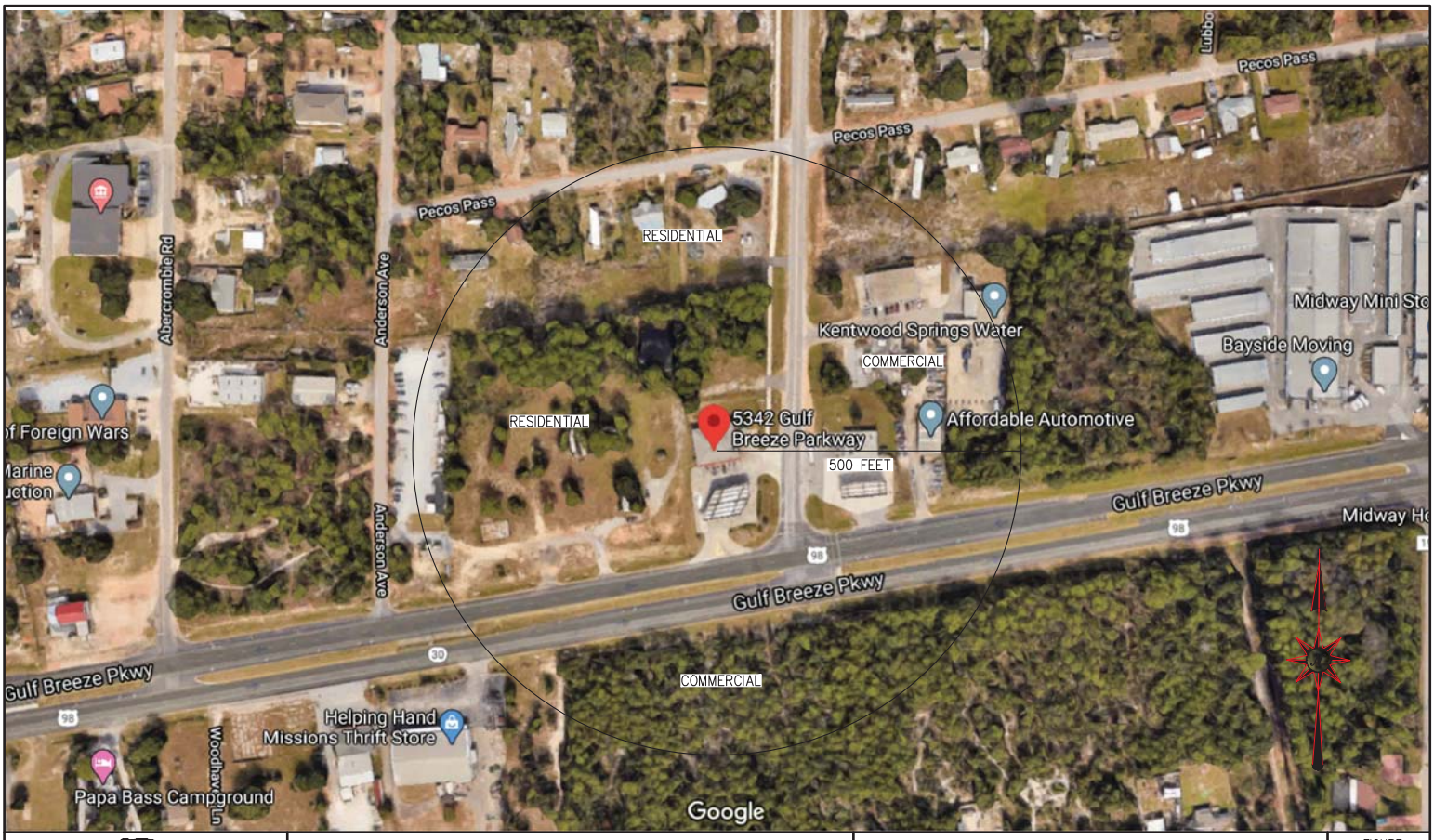
APPENDIX D

Field Notes, Groundwater Sampling and Calibration Logs

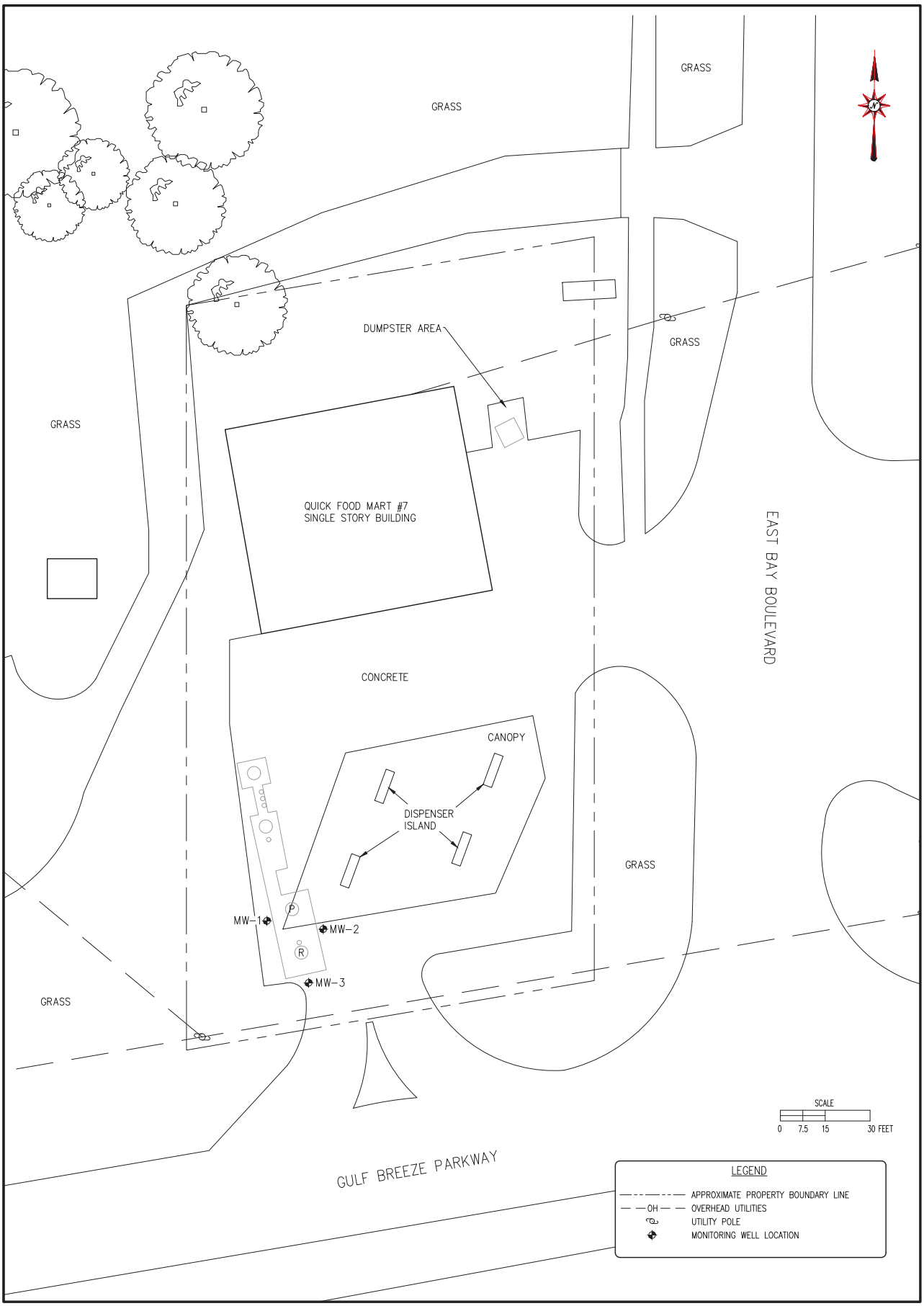
APPENDIX E

Groundwater Laboratory Analytical Report

FIGURES



Advanced Environmental Technologies, LLC	QUICK FOOD MART #7 5342 GULF BREEZE PARKWAY GULF BREEZE, SANTA ROSA COUNTY, FLORIDA FDEP FAC ID NO. 57/9800564	SITE LOCATION MAP	FIGURE 1 PROJECT NO. 27739.00



Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

SITE MAP

FIGURE
2
PROJECT NO.
27739.00

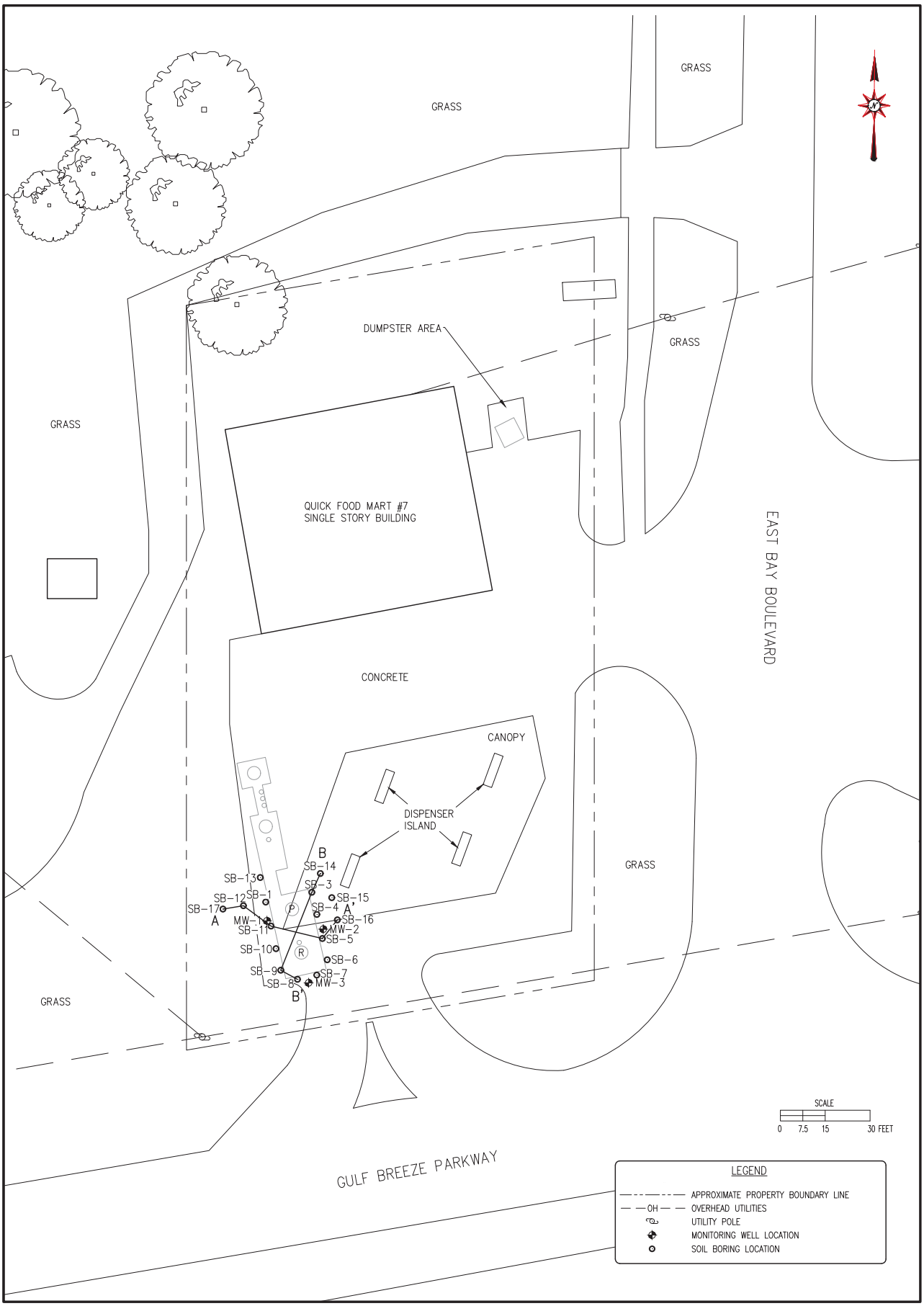


Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC ID NO. 57/9800564

WATER SUPPLY WELL SURVEY MAP

FIGURE
3
PROJECT NO.
27739.00



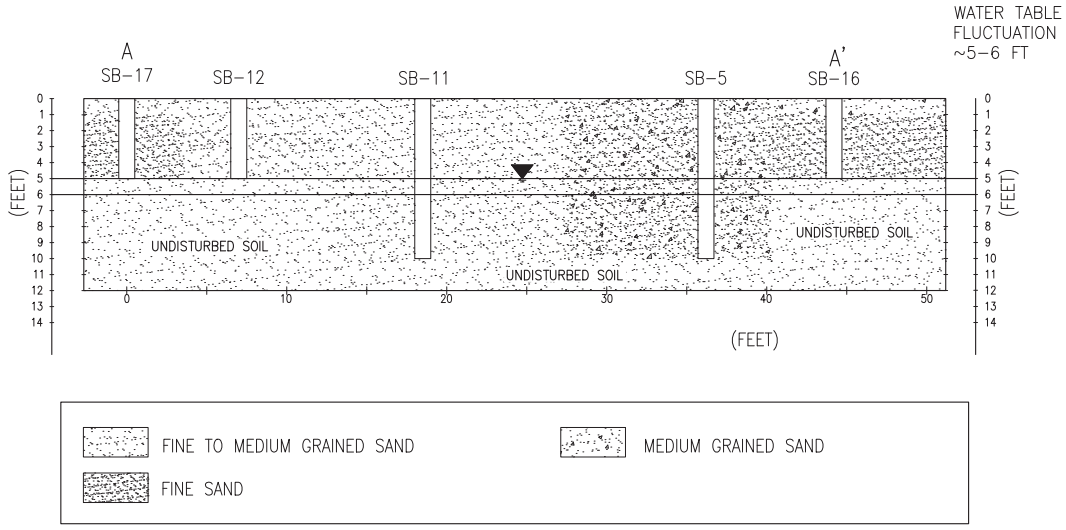
Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

CROSS SECTION AREA

FIGURE
4A
PROJECT NO.
27739.00

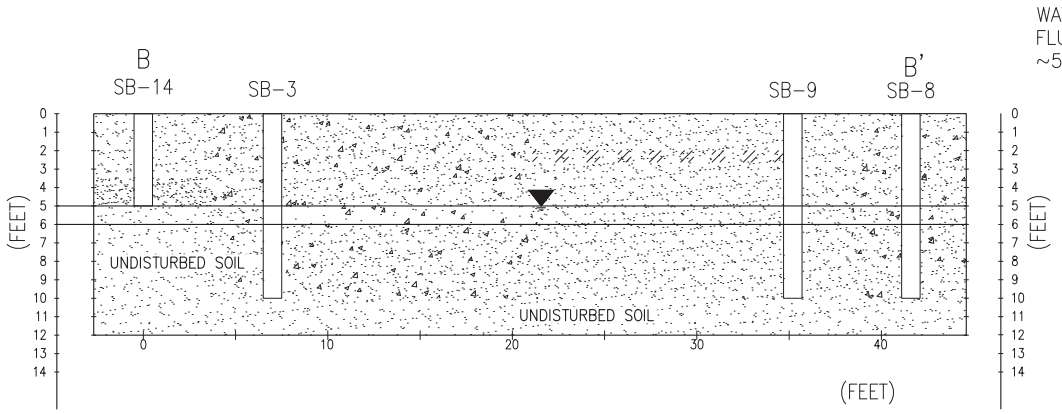
LITHOLOGICAL CROSS SECTION A–A'



NOT TO SCALE

Advanced Environmental Technologies, LLC	QUICK FOOD MART #7 5342 GULF BREEZE PARKWAY GULF BREEZE, SANTA ROSA COUNTY, FLORIDA FDEP FAC ID NO. 57/9800564	LITHOLOGICAL CROSS SECTION A–A'	FIGURE 4B PROJECT NO. 27739.00

LITHOLOGICAL CROSS SECTION B–B'



FINE TO MEDIUM GRAINED SAND

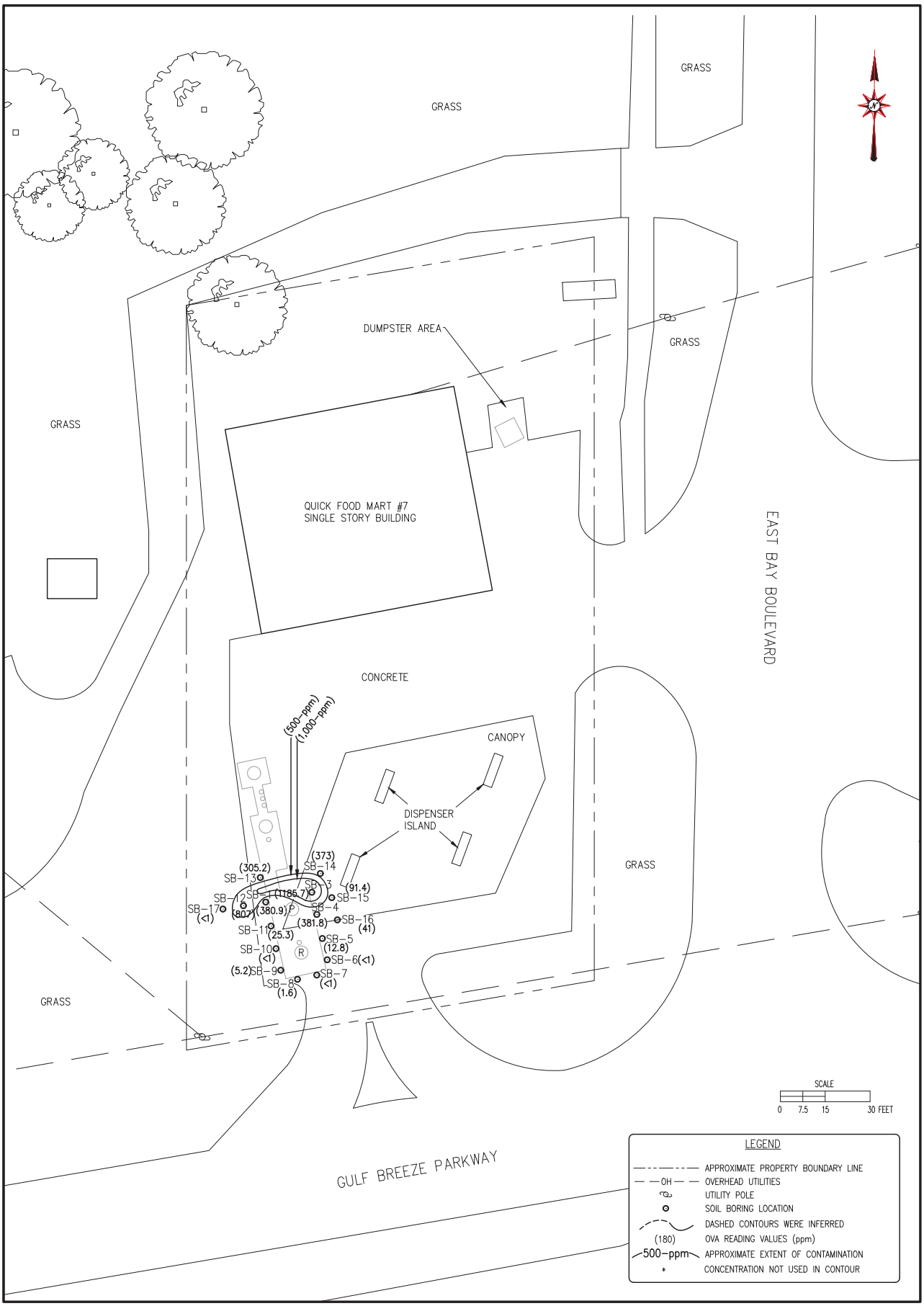
MEDIUM GRAINED SAND

FINE SAND

TRACE SILT

NOT TO SCALE

Advanced Environmental Technologies, LLC	QUICK FOOD MART #7 5342 GULF BREEZE PARKWAY GULF BREEZE, SANTA ROSA COUNTY, FLORIDA FDEP FAC ID NO. 57/9800564	LITHOLOGICAL CROSS SECTION B–B'	FIGURE 4C PROJECT NO. 27739.00

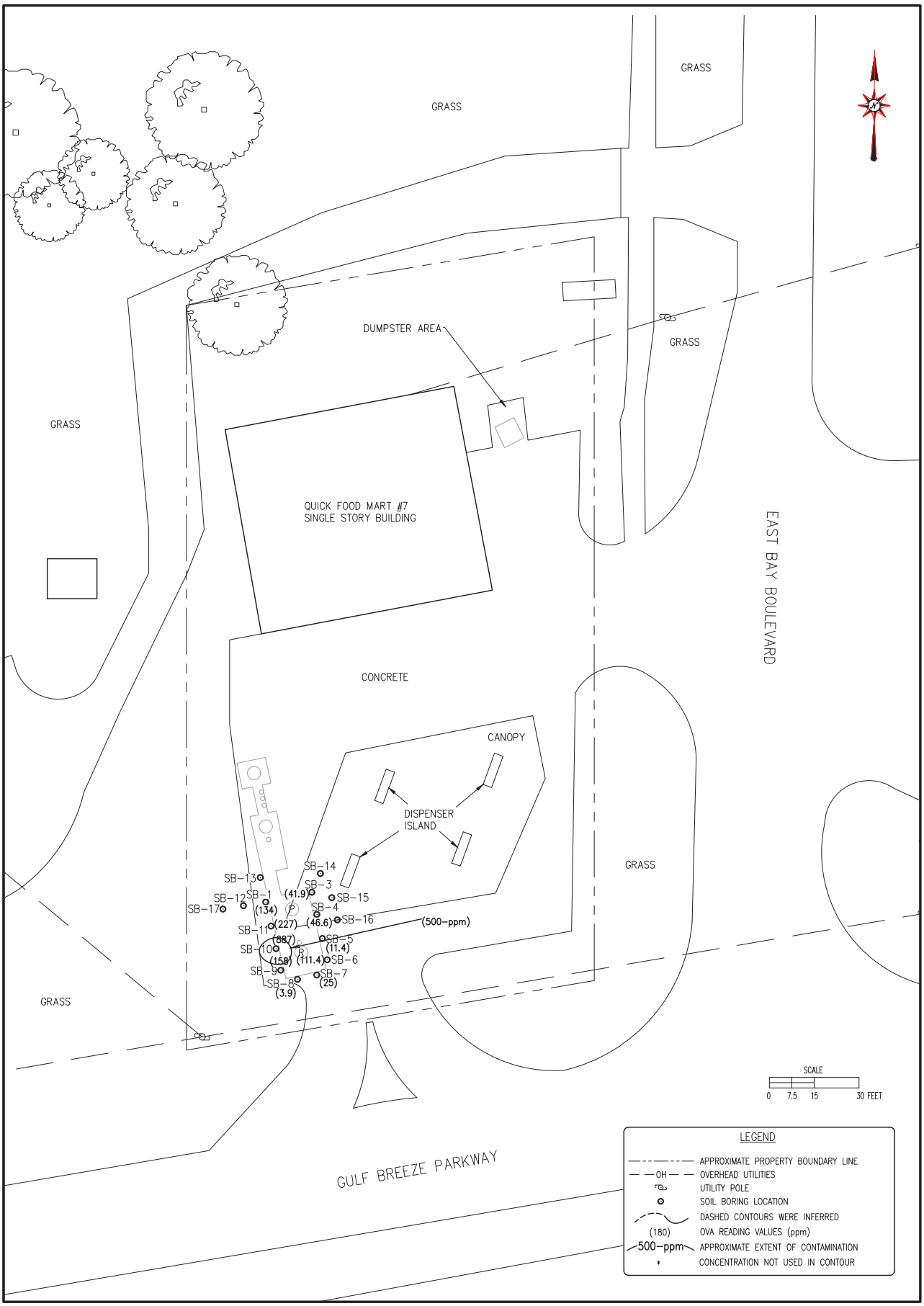


Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

HIGHEST OVA 0-5 FEET – VADOSE ZONE

FIGURE
5A
PROJECT NO.
27739.00

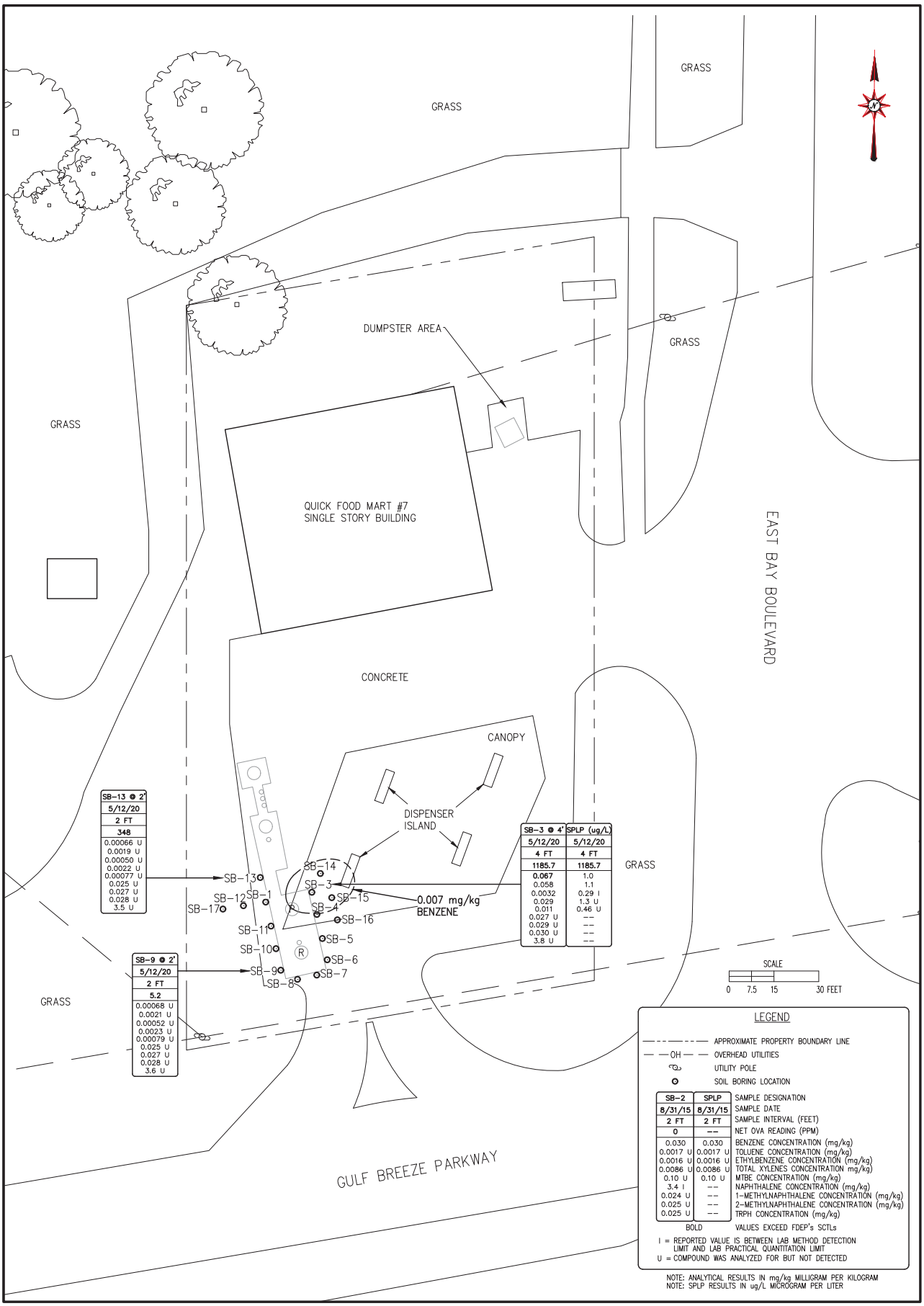


Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

HIGHEST OVA 5-10 FEET – SATURATED ZONE

FIGURE
5B
PROJECT NO.
27739.00

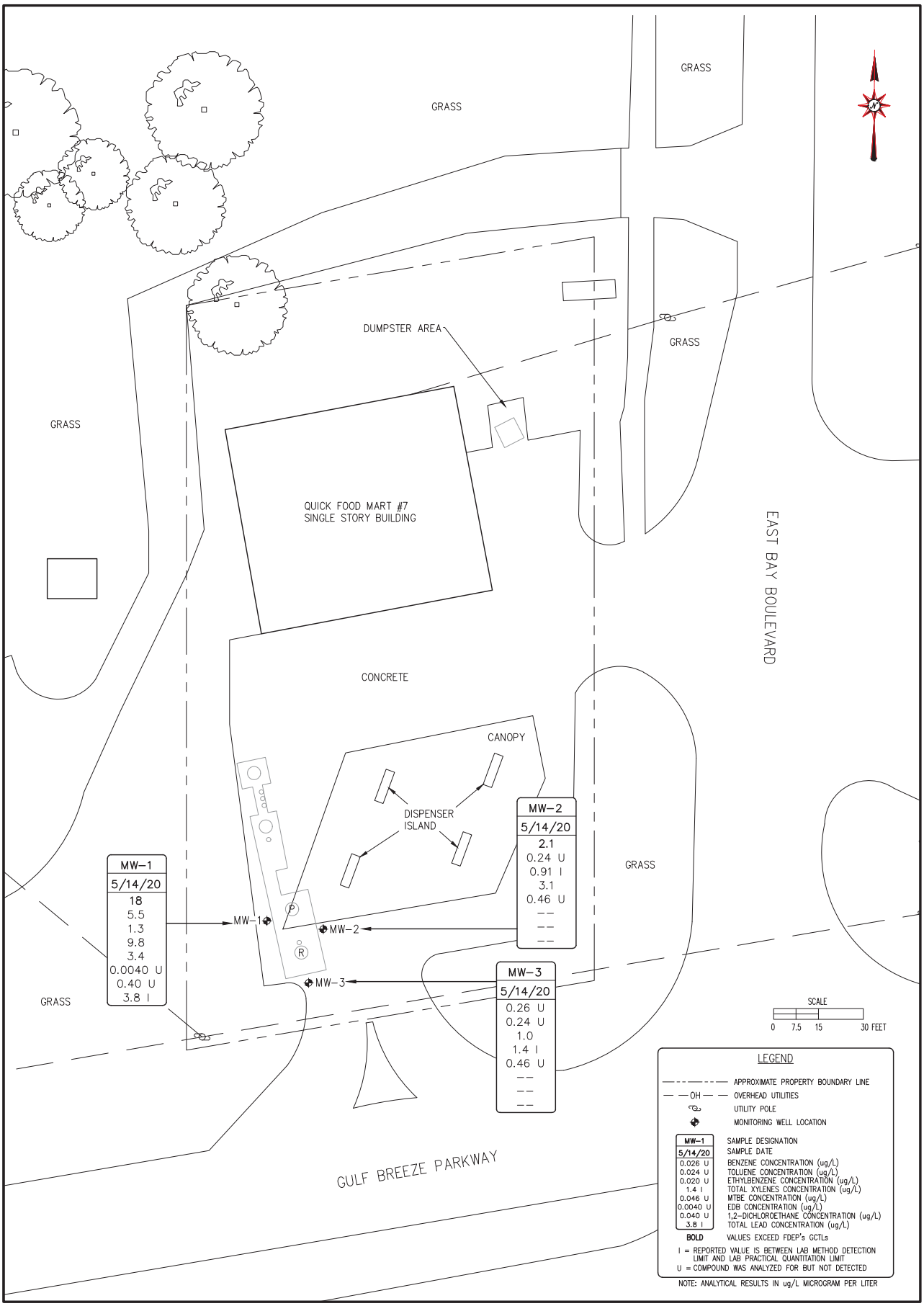


Advanced Environmental TECHNOLOGIES, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

SOIL ANALYTICAL SUMMARY MAP
MAY 2020

FIGURE
6
PROJECT NO.
27739.00

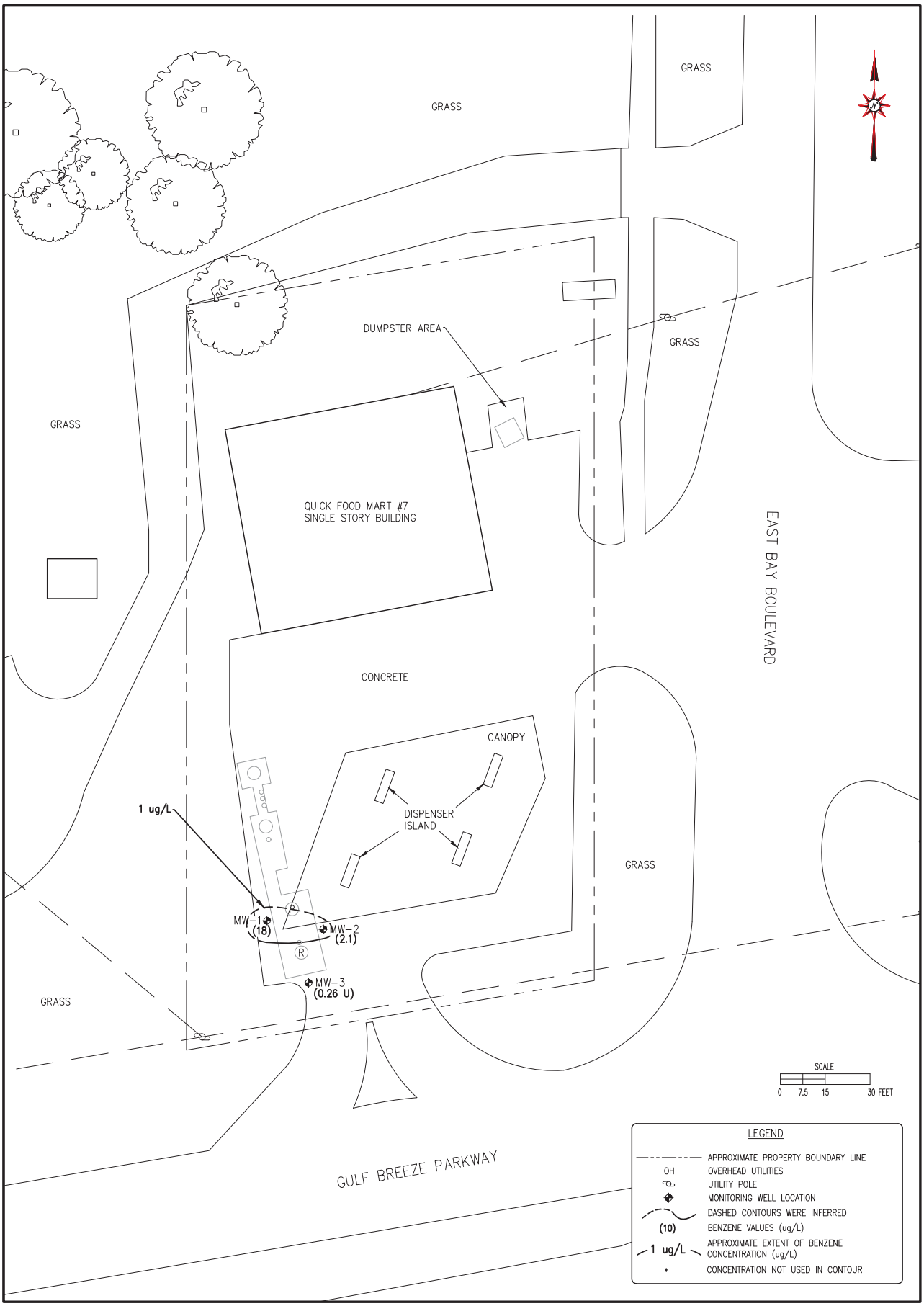


Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

GROUNDWATER ANALYTICAL SUMMARY MAP
MAY 14, 2020

FIGURE
7
PROJECT NO.
27739.00

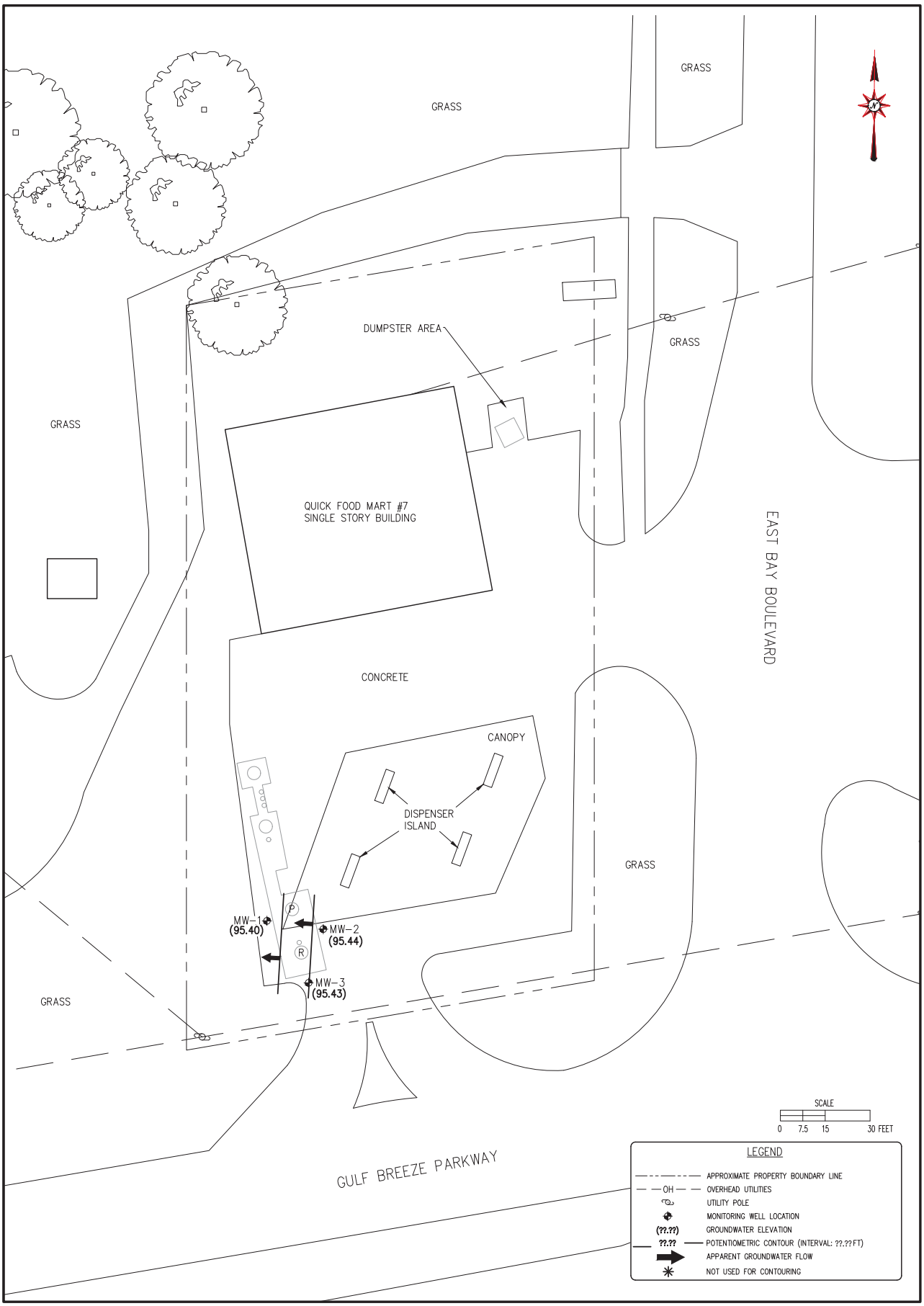


Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

DISSOLVED BENZENE CONCENTRATION MAP
MAY 2020

FIGURE
8
PROJECT NO.
27739.00



Advanced Environmental Technologies, LLC

QUICK FOOD MART #7
5342 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FEDP FAC. ID NO.: 57/9800564

GROUNDWATER ELEVATION MAP
MAY 14, 2020

FIGURE
9
PROJECT NO.
27739.00

TABLES

TABLE 1 - SOIL SCREENING SUMMARY

FACILITY NAME: **Quick Food Mart #7**
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa county, Florida
FAC ID#: **57/9800564**

SAMPLE				OVA SCREENING RESULTS			
Boring Number	Date Collected	Depth to Water (fbls)	Sample Interval (fbls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	Comments
SB-1	5/11/2020	NA	0-1	12.4	<1	12.4	
			1-2	129	2.9	126.1	
			2-3	166	1.8	164.2	
			3-4	417	36.1	380.9	
			4-5	51.8	13.2	38.6	
			6-8	208	202	6	
			8-10	339	205	134	
SB-3	5/11/2020	NA	0-1	71.8	4	67.8	
			1-2	828	14	814	
			2-3	419	12	407	
			3-4	1187	1.3	1185.7	Lab Sample Collected
			4-5	437	83.5	353.5	
			6-8	50.7	8.8	41.9	
			8-10	90.8	105	-14.2	
SB-4	5/11/2020	NA	0-1	10.3	<1	10.3	
			1-2	386	4.2	381.8	
			2-3	243	2.3	240.7	
			3-4	91.9	4.9	87	
			4-5	140	16.2	123.8	
			6-8	39.2	32.3	6.9	
			8-10	72.7	26.1	46.6	
SB-5	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	21.6	8.8	12.8	
			6-8	18.7	7.3	11.4	
			8-10	25	15.5	9.5	
SB-6	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			6-8	1.8	--	1.8	
			8-10	143	31.6	111.4	
SB-7	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			6-8	<1	--	<1	
			8-10	56.1	31.1	25	
SB-8	5/11/2020	NA	0-1	1.6	--	1.6	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			6-8	1.3	--	1.3	
			8-10	3.9	--	3.9	

TABLE 1 - SOIL SCREENING SUMMARY

FACILITY NAME: **Quick Food Mart #7**
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa county, Florida
FAC ID#: **57/9800564**

SAMPLE				OVA SCREENING RESULTS			
Boring Number	Date Collected	Depth to Water (fbls)	Sample Interval (fbls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	Comments
SB-9	5/11/2020	NA	0-1	<1	--	<1	
			1-2	5.2	--	5.2	Lab Sample Collected
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			6-8	55.8	39.8	16	
			8-10	477	319	158	
SB-10	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			6-8	1048	161	887	
			8-10	107	27.8	79.2	
SB-11	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	25.3	<1	25.3	
			6-8	123	38.7	84.3	
			8-10	752	525	227	
SB-12	5/11/2020	NA	0-1	2.5	--	2.5	
			1-2	2.4	--	2.4	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	1035	228	807	
SB-13	5/11/2020	NA	0-1	14.4	<1	14.4	
			1-2	348	<1	348	Lab Sample Collected
			2-3	112	<1	112	
			3-4	340	34.8	305.2	
			4-5	305	32.1	272.9	
SB-14	5/11/2020	NA	0-1	12.5	<1	12.5	
			1-2	25.5	<1	25.5	
			2-3	234	<1	234	
			3-4	373	<1	373	
			4-5	252	9.1	242.9	
SB-15	5/11/2020	NA	0-1	<1	--	<1	
			1-2	4.5	--	4.5	
			2-3	54.2	<1	54.2	
			3-4	91.4	<1	91.4	
			4-5	53.0	6.1	46.9	
SB-16	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	43.4	2.4	41	
SB-17	5/11/2020	NA	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	

Notes:
fbls = feet below land surface
ppm = parts per million

TABLE 2A: SOIL ANALYTICAL SUMMARY - BTEX, MTBE, & TRPH

Facility ID#: 57/9800564 Facility Name: Quick Food Mart #7

Sample				OVA	Laboratory Analyses						
Sample Designation	Date Collected	Depth to Water (ft)	Sample Depth (fbls)	Net OVA Reading (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethyl-benzene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	Comments
SB-3 @ 4'	5/12/2020	NA	4	1185.7	**0.067**	0.058	0.0032	0.029	0.011	3.8 U	
SB-9 @ 2'	5/12/2020	NA	2	5.2	0.00068 U	0.0021 U	0.00052 U	0.0023 U	0.00079 U	3.6 U	
SB-13 @ 2'	5/12/2020	NA	2	348	0.00066 U	0.0019 U	0.00050 U	0.0022 U	0.00077 U	3.5 U	
Leachability Based on Groundwater Criteria (mg/kg)					0.007	0.5	0.6	0.2	0.09	340	
Direct Exposure Residential (mg/kg)					1.2	7,500	1,500	130	4,400	460	

Notes: NA = Not Applicable

U = Compound was analyzed but not detected.

I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

BOLD = value exceeds Leachability SCTL

TABLE 2B: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

Facility ID#: 57/9800564 Facility Name: Quick Food Mart #7

See notes at end of table.

Sample				OVA	Laboratory Analyses											
Sample Designation	Date Collected	Depth to Water (ft)	Sample Depth (fbls)	Net OVA Reading (ppm)	Naph-thalene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)	Acen-aph-thene (mg/kg)	Acen-aph-thylene (mg/kg)	Anthra-cene (mg/kg)	Benzo (g,h,i) pery-lene (mg/kg)	Fluoran-thene (mg/kg)	Fluor-ene (mg/kg)	Phenan-threne (mg/kg)	Pyrene (mg/kg)	Comments
SB-3 @ 4'	5/12/2020	NA	4	1185.7	0.027 U	0.029 U	0.030 U	0.047 U	0.036 U	0.052 U	0.023 U	0.046 U	0.039 U	0.047 U	0.046 U	
SB-9 @ 2'	5/12/2020	NA	2	5.2	0.025 U	0.027 U	0.028 U	0.044 U	0.034 U	0.049 U	0.022 U	0.043 U	0.037 U	0.044 U	0.043 U	
SB-13 @ 2'	5/12/2020	NA	2	348	0.025 U	0.027 U	0.028 U	0.044 U	0.033 U	0.048 U	0.021 U	0.043 U	0.036 U	0.044 U	0.043 U	
Leachability Based on Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880	
Direct Exposure Residential (mg/kg)					55	200	210	2,400	1,800	21,000	2,500	3,200	2,600	2,200	2,400	

Notes: NA = Not Applicable

U = Compound was analyzed but not detected.

I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.

TABLE 2C: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 57/9800564 Facility Name: Quick Food Mart #7

Sample				OVA	Laboratory Analyses								
Sample Designation	Date Collected	Depth to Water (ft)	Sample Depth (fbls)	Net OVA Reading (ppm)	Benzo (a) pyrene (mg/kg)	Benzo (a) anthra-cene (mg/kg)	Benzo (b) fluoran-thene (mg/kg)	Benzo (k) fluoran-thene (mg/kg)	Chry-sene (mg/kg)	Dibenz (a,h) anthra-cene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	Benzo (a) pyrene equivalent (mg/kg)	Comments
SB-3 @ 4'	5/12/2020	NA	4	1185.7	0.040 U	0.036 U	0.044 U	0.039 U	0.032 U	0.027 U	0.032 U	--	
SB-9 @ 2'	5/12/2020	NA	2	5.2	0.038 U	0.034 U	0.041 U	0.037 U	0.030 U	0.025 U	0.030 U	--	
SB-13 @ 2'	5/12/2020	NA	2	348	0.037 U	0.033 U	0.041 U	0.036 U	0.030 U	0.025 U	0.030 U	--	
Leachability Based on Groundwater Criteria (mg/kg)					8	0.8	2.4	24	77	0.7	6.6	**	
Direct Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1	

Notes: NA = Not Applicable

U = Compound was analyzed but not detected.

** = Leachability value not applicable.

= Direct Exposure value not applicable except as part of the Benzo(a)pyrene equivalent.

Florida Depeartment of Environmental Protection -- Bureau of Petroleum Storage Systems

TABLE 2D: SPLP ANALYTICAL SUMMARY

Facility Name: **Quick Food Mart #7** **Facility ID#: 57/9800564**
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida

Sample				OVA	Laboratory Analyses				
ID No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading	Benzene (SPLP) (µg/L)	Toluene (SPLP) (µg/L)	Ethylbenzene (SPLP) (µg/L)	Total Xylene (SPLP) (µg/L)	MTBE (SPLP) (µg/L)
SB-3 @ 4'	5/12/2020	NA	4	1185.7	1.0	1.1	0.29 I	1.3 U	0.46 U
Groundwater Cleanup Target Levels (GCTLs)					**1**	**40**	**30**	**20**	**20**
Natural Attentuation Default Source Concentrations (NADCs)					**100**	**300**	**400**	**200**	**200**

Notes: *GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C., April 2005*
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
Lab Data Qualifiers: *I - reported value is between the laboratory method detection limit and the laboratory practical quant*
U - compound analyzed for but not detected
Bold *= The value exceeds the Cleanup Target Level*

Florida Department of Environmental Protection -- Bureau of Petroleum Storage Systems

TABLE 3A: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs & Metals

Facility ID#: 57/9800564 Facility Name: Quick Food Mart #7

Sample		Benzene	Toluene	Ethyl-benzene	Total Xylenes	Total VOAs	MTBE	EDB	1,2-Di-chloro-ethane	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	5/14/2020	**18**	5.5	1.3	9.8	34.6	3.4	0.0040 U	0.40 U	3.8 I
MW-2	5/14/2020	**2.1**	0.24 U	0.91 I	3.1	6.11	0.46 U	--	--	--
MW-3	5/14/2020	0.26 U	0.24 U	1.0	1.4 I	2.4	0.46 U	--	--	--
GCTLs		1**	40**	30**	20**	NA	20	0.02**	3**	15**
NADCs		100	400	300	200	NA	200	2	300	150

Notes:
NA = Not Available.
NS = Not Sampled.
GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
** = As provided in Chapter 62-550, F.A.C.
U = Compound was analyzed but not detected.

TABLE 3B: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPH

Facility ID#: 57/9800564 **Facility Name: Quick Food Mart #7** **See notes at end of table.**

Sample Location	Date	TRPHs (µg/L)	Naph-thalene (µg/L)	1-Methyl-naph-thalene (µg/L)	2-Methyl-naph-thalene (µg/L)	Acen-aph-thene (µg/L)	Acen-aph-thylene (µg/L)	Anthra-cene (µg/L)	Benzo (g,h,i) pery-lene (µg/L)	Fluoran-thene (µg/L)	Fluor-ene (µg/L)	Phenan-threne (µg/L)	Pyrene (µg/L)	Benzo (a) pyrene (µg/L)	Benzo (a) anthra-cene (µg/L)	Benzo (b) fluoran-thene (µg/L)	Benzo (k) fluoran-thene (µg/L)	Chry-sene (µg/L)	Dibenz (a,h) anthra-cene (µg/L)	Indeno (1,2,3-cd) pyrene (µg/L)
MW-1	5/14/2020	220 I	0.66 U	0.56 U	0.56 U	0.99 U	0.93 U	1.3 U	0.82 U	1.3 U	1.2 U	1.4 U	1.3 U	0.15 U	0.17 U	0.084 U	0.18 U	1.1 U	0.13 U	0.15 U
MW-2	5/14/2020	140 U	0.66 U	0.56 U	0.56 U	0.99 U	0.93 U	1.3 U	0.82 U	1.3 U	1.2 U	1.4 U	1.3 U	0.15 U	0.17 U	0.084 U	0.18 U	1.1 U	0.13 U	0.15 U
MW-3	5/14/2020	140 U	0.66 U	0.56 U	0.56 U	0.99 U	0.93 U	1.3 U	0.82 U	1.3 U	1.2 U	1.4 U	1.3 U	0.15 U	0.17 U	0.084 U	0.18 U	1.1 U	0.13 U	0.15 U
NADCs		50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5

Notes: NA = Not Available.

NS = Not Sampled.

GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.

NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.

** = As provided in Chapter 62-550, F.A.C.

[a] = See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluatie data when the CTL is lower than the PQL.

U = Compound was analyzed but not detected.

Florida Department of Environmental Protection -- Bureau of Petroleum Storage Systems

TABLE 4 - GROUNDWATER ELEVATION SUMMARY

FACILITY NAME: **Quick Food Mart #7**
5342 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FAC ID#: **57/9800564**

All Measurements = Feet
Unless otherwise noted

WELL NO.	MW-1			MW-2			MW-3					
DIAMETER (inches)	2			2			2					
WELL DEPTH (feet)	12			12			12					
SCREEN INTERVAL (feet)	2-12			2-12			2-12					
TOC ELEVATION	100.00			100.30			100.21					
DATE	DTW	Elevation	FP	DTW	Elevation	FP	DTW	Elevation	FP	DTW	Elevation	FP
5/14/2020	4.60	95.40		4.86	95.44		4.78	95.43				

TOC = Top of Casing
ELEV = Elevation above mean sea level
DTW = Depth to Water
FP = Free Product

APPENDIX A

Field Notes, Soil Boring Logs

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Location Gulf Breeze, FL Date 5/11/20

Project / Client QUICK FOOD Mart #7 2773900
5342 Gulf Breeze Pkwy 57/9800564

0730	A Yeagle, A VanBrussel, C Schultz at AET-Pensacola office to load and prep for DPT soil sampling.
0815	Depart office and mobe in light duty vehicles to job site in Gulf Breeze.
0900	Arrive onsite. PDS drill crew already onsite. Check in with store clerk and mark out soil boring locations.
0925	Begin DPT rig, break concrete for post-hole at SB-1 location. Collect OVA soil samples every 1-foot interval of hand clear. Push sleeve to 10-ft bls. water table approx. 5-ft bls.
1010	Encountered PVC pipe in SB-2 location, move boring location slightly NE. Moved location again. Piping encounterd in all three

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Location Gulf Breeze, FL Date 5/11/20

Project / Client QUICK FOOD Mart #7 27739.00
5342 Gulf Breeze Pkwy 57/9800564

	locations approx. 3-ft.
1030	Call J. Marsden to discuss. Decision to eliminate that location — North side of STP sump. Move on to SB-3 location.
1045	Begin posthole at SB-4
1105	Begin posthole at SB-5
1115	Begin posthole at SB-6
1130	Break for lunch (half hour)
1218	Begin posthole at SB-7
1240	Begin posthole at SB-8
1300	Begin posthole at SB-9
1320	Begin posthole at SB-10
1345	Begin posthole at SB-11
1400	Finish initial boring locations. Determine OVA hits — highest at each location & at what depth. Determine step-out locations and confirm w/ J. Marsden, only 0-5 feet
1427	Begin posthole at SB-12 location

Rite in the Rain

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Location Gulf Breeze, FL Date 5/11/20

Project / Client QUICK Food Mart #7 27739.00
5342 Gulf Breeze PKWY 5719804564

1442	Posthole SB-13 location
1450	Posthole SB-14 location
1505	Posthole SB-15 location
1516	Posthole SB-16 location
1525	Confirm w/ J. Marsden for one more step out location at SB-17 location, west of SB-12.
1546	Determine soil lab samples based on OVA readings of low, medium, high representation. Discuss w/ drillers the plan for tomorrow and meeting time.
	*Note: Soils collected were transferred to steel 55-gallon drum
1615	All parties offsite. Mobe back to AET-Pensacola office
1700	Arrive back at office and unload light duty vehicle. End of day.

5/11/20

AJ Google

tg

BORING LOG

Boring/Well Number: SB-1	Permit Number:	FDEP Facility Identification Number: 5719800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 925 ☒ AM ☐ PM End Time: 940 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA 2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ~~☒ Backfill~~ (NA) ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	(0-5)	60	NA	12.4	<1	12.4	1	(0-5) orange, tan, brown, medium with fine, Poorly graded Sand. Faint petroleum odor, Saturated at 5'.	SP	D	
				129	2.9	126.1	2				
				166	1.8	164.2	3				
				417	36.1	380.9	4			M	
DPT	(5-10)	42	NA	51.8	13.2	38.6	5	~~(SAA)~~ (And) No recovery 5-6.5'.	SP	S	
							6				
							7				
				208	202	6	8	(SAA) white, grey	SP	M	
							9				
				339	205	134	10	(SAA) Light Brown	SP	M	
							11	Bottom @ 10'			
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

BORING LOG

Boring/Well Number: SB-3	Permit Number:	FDEP Facility Identification Number: 571980056 64
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 1028 [X] AM [ ] PM End Time: 1043 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10	Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5
Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA2020 [X] FID [ ] PID	

Disposition of Drill Cuttings [check method(s)]: [X] Drum [ ] Spread [ ] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] ~~Backfill~~ (AW) [X] Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	71.8	4.0		1	(0-5) Brown, medium with fine poorly graded sand.			
				828	14.0	814	2				
				419	12.0	407 (AW)	3				
				1187	1.3	1185.7	4				
DPT	5-10	36	NA	437	83.5	353.5	5	5-6 feet no recovery. Saturated	SP	S	
							6				
							7				
				50.7	8.8	41.9	8	SAA. Brown/tan	SP	S	
							9				
				90.8	105	<1	10	Bottom @ 10'			
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

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Boring/Well Number: SB-4	Permit Number: NA	FDEP Facility Identification Number: 57/9800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1045 [X] AM [ ] PM End Time: 1100 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10	Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5.5
Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA2020 [X] FID [ ] PID	

Disposition of Drill Cuttings [check method(s)]: [X] Drum [ ] Spread [ ] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [ ] Backfill [X] Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	0		10.3	<1	10.3	1	varying orange, tans, grays, poorly sorted fine to med sand.	SP	D	
				386	4.2	381.8	2			M	
				243	2.3	240.7	3			M	
				91.9	4.9	87	4			M	
				140	16.2	123.8	5	(5-6) No recovery		W	
DP							6				
							7				
				39.2	32.3	6.9	8			W/S	
							9	gray/tans poorly sorted fine to med sand			
				72.7	26.1	46.6	10			W	
							11	Bottom @ 10'			
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

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Boring/Well Number: SB-5	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: Quick Food Mart #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 1105 AM PM End Time: ~~1105~~ 1115 AM PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10	Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 5.5
Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA 2020 FID PID	

Disposition of Drill Cuttings [check method(s)]: [X] Drum [ ] Spread [ ] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] ~~Backfill~~ [X] Other (describe) 20/30 Sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	(0-5) ~~AVG~~	SP	D	
				<1	-	<1	2	(0-1) Orange, medium with fine poorly graded sand.	SP		
				<1	-	<1	3	(2-10) SAA, Brown		M	
				<1	-	<1	4	5-6 feet no recovery.			
DPT	5-10	36	NA	21.6	8.8	12.8	5			S	
							6				
							7				
				18.7	7.3	11.4	8				
							9				
				25.0	15.5	9.5	10				
							11	Bottom @ 10'			
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-6	Permit Number:	FDEP Facility Identification Number: 5719800564
Site Name: Quick Food Mart #7	Borehole Start Date: 5/11/20 End Date:	Borehole Start Time: 1115 [X] AM [ ] PM End Time: 1130 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 [X] FID [ ] PID		

Disposition of Drill Cuttings [check method(s)]: [X] Drum [ ] Spread [ ] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [ ] Backfill [X] Other (describe) 20/30 Sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	—	<1	1	little orange, tan poorly sorted fine to med sand	SP	D	
				<1	—	<1	2			D	
				<1	—	<1	3	SAA but gray		M	
				<1	—	<1	4			M	
				<1	—	<1	5	SAA		W	
DP							6				
	5-10	~~44~~ 36					7	(5-6) No recovery			
				1.8	—	1.8	8	(6-10) grey & light brown poorly sorted fine to med sand		W	
							9				
				143	31.6	111.4	10	Bottom @ 10'			
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-7	Permit Number:		FDEP Facility Identification Number: 57/9800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 1218 ☐ AM ☒ PM End Time: 1235 ☐ AM ☒ PM	
Environmental Contractor: AET	Geologist's Name:		Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): 4 1/4	Borehole Depth (feet): 10
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5.5	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA 2020 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ~~☒ Backfill~~ (ang) ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	light tan, yellowish orange poorly sorted fine to med sand w/ traces sand w/ few silt	SP	D	
				<1	-	<1	2			M	
				<1	-	<1	3	SAA but gray, light brown mostly fine sand		M	
				<1	-	<1	4	SAA		M	
				<1	-	<1	5	SAA		M	
DPT	5-10	36	NA				6	(5-6) No recovery		S	
							7				
				<1	-	<1	8	light brown, tan, grayish poorly sorted fine sand		W	
							9				
				56.1	31.1	25.0	10			W	
							11	Bottom @ 10'			
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = same As Above

BORING LOG

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Boring/Well Number: SB-8	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 1240 ☐ AM ☒ PM End Time: 1256 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): 4 1/4
Borehole Depth (feet): 10		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 5.5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☒ Backfill (AVB) ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	1.6	-	<1	1	(0-5) Orange, tan, light brown, medium with fine Poorly graded Sand.	SP	D	
				<1	-	<1	2				
				<1	-	<1	3			M	
				<1	-	<1	4				
DPT	5-10	36		<1	-	<1	5	(5-6) (AVB) No Recovery		S	
							6				
							7	(7-10) Brown, medium with fine Poorly graded Sand.	SP	S	
				1.3	-	1.3	8				
							9				
				3.9	-	~~3.9~~ (AVB)	10	Bottom @ 10'			
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-9	Permit Number:	FDEP Facility Identification Number: 5719800564
Site Name: QUICK Food Mart #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1300 ☐ AM ☒ PM End Time: 1317 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A-Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	yellow/orange/tan poor, sorted fine to med sand	SP	D	
				5.2	-	5.2	2	SAA		M	
				<1	-	<1	3	SAA w/ traces silt		M	
				<1	-	<1	4	tan/light brown poorly sorted fine to med		M	
				<1	-	<1	5	sand		S	
DP	5-10		NA				6	SAA			
							7				
		20		55.8	39.8	16.0	8			W	
							9				
		22		477	319	158	10	Bottom @ 10'		W	
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Page 1 of 1

Boring/Well Number: SB-10	Permit Number:		FDEP Facility Identification Number: 5719800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5-11-20 End Date: 5-11-20	Borehole Start Time: 1320 ☐ AM ☒ PM End Time: 1335 ☐ AM ☒ PM	
Environmental Contractor: AET	Geologist's Name:		Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 4 1/4	Borehole Depth (feet): 10
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): 5	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA2020 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ~~☒~~ Backfill (AM) ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	(0-5) Orange, tan, light brown,	SP	D	
				<1	-	<1	2	Medium with fine, poorly			
				<1	-	<1	3	graded Sand.		M	
				<1	-	<1	4				
DPT	5-10		NA	<1	-	<1	5	(5-7) No Recovery		S	
							6				
							7	SAA, Light Brown	SP	S	
				1048	161	887	8				
							9				
				107	27.8	79.2	10	Bottom @ 10'			
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-11	Permit Number:	FDEP Facility Identification Number: 571980056 4
Site Name: Quick Food Mart #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1345 ☐ AM ☒ PM End Time: 1400 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 10		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	red orange poorly sorted fine to med sand	SP	D	
				<1	-	<1	2	SAA but tans		D	
				<1	-	<1	3	SAA		M	
				<1	-	<1	4	SAA w/ light brown and grays		W	
				25.3	<1	25.3	5	SAA		S	
DP	5-10	0	NA				6				
							7				
		12		123	38.7	84.3	8			S	
							9				
		10		752	525	227	10			S	
							11				
							12	Bottom @ 10'			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Page 1 of 1

Boring/Well Number: SB-12	Permit Number:	FDEP Facility Identification Number: 5719800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1427 ☐ AM ☒ PM End Time: 1436 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagie
Drilling Company: PDS	Pavement Thickness (inches): NA ~~0~~ (0)	Borehole Diameter (inches): ~4.75
Borehole Depth (feet): 5		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	2.5	-	2.5	1	orange/tan poorly sorted medium grade sand	SP	D	
				2.4	-	2.4	2	SAA		D	
				<1	-	<1	3	SAA w/ fine sands		M	
				<1	-	<1	4	tan/light brown poorly sorted fine to med sand		W	
				1035	228	807	5			W/S	
							6	Bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-13	Permit Number:	FDEP Facility Identification Number: 5719800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1442 ☐ AM ☒ PM End Time: 1449 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 5		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	144	<1	144	1	red/orange w/ tan poor sorted medium grade, some fine sand	SP	D	
				348	<1	348	2	SAA but orange/tan		M	
				112	<1	112	3	SAA tans mostly fine		M	
				340	31.8	305.2	4	SAA but grays		W	slight odor
				305	32.1	272.9	5	SAA		W/S	
							6	Bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-14	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1450 ☐ AM ☒ PM End Time: 1501 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 5		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5.5	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	12.5	<1	12.5	1	red/orange poor sorted fine to med sand	SP	D/M	
				25.5	<1	25.5	2	SAA w/ offwhite		M	
				234	<1	234	3	brown/grays poorly sorted fine to med		M	
				373	<1	373	4	sand w/ mostly fine sand		M	slight odor
				252	9.1	2429	5			W	
							6	bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-15	Permit Number:		FDEP Facility Identification Number: 571980056 4
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1505 ☐ AM ☒ PM End Time: 1513 ☐ AM ☐ PM	
Environmental Contractor: AET	Geologist's Name:		Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25	Borehole Depth (feet): 5
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5.5	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA2020 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	red orange poorly sorted medium sand traces silty sand	SP	M	
				4.5	-	4.5	2	SAA but tan/light		M	
				54.2	<1	54.2	3	SAA		M	
				91.4	<1	91.4	4	grays, poorly sorted fine to med, mostly fine		M	
				53.0	6.1	46.9	5	sand		W	
							6	Bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-16	Permit Number:		FDEP Facility Identification Number: 57/9800564
Site Name: Quick Food Mart #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1516 ☐ AM ☒ PM End Time: 1525 ☐ AM ☒ PM	
Environmental Contractor: AET	Geologist's Name:		Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): ~4.25	Borehole Depth (feet): 5
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): TVA2020 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	-	<1	1	red orange poorly sorted medium sand	SP	M	
				<1	-	<1	2	light to dark brown/grays poorly sorted fine to med, mostly fine sand			
				<1	-	<1	3	SAA			
				<1	-	<1	4			W	
				43.4	2.4	41.0	5			S	
							6	Bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = Same As Above

BORING LOG

Boring/Well Number: SB-17	Permit Number:	FDEP Facility Identification Number: 571/9800564
Site Name: QUICK FOOD MART #7	Borehole Start Date: 5/11/20 End Date: 5/11/20	Borehole Start Time: 1539 ☐ AM ☒ PM End Time: 1546 ☐ AM ☒ PM
Environmental Contractor: AET	Geologist's Name:	Environmental Technician's Name: A. Yeagle
Drilling Company: PDS	Pavement Thickness (inches): NA	Borehole Diameter (inches): ~4.25
Borehole Depth (feet): 5		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~4.5	Measured Well DTW (in feet after water recharges in well):
OVA (list model and check type): TVA2020 ☒ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☐ Backfill ☒ Other (describe) 20/30 sand

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	60	NA	<1	–	<1	1	light tan, offwhite, poor sorted, fine to med, mostly fine sand	SP	M	
				<1	–	<1	2	SAA		M	
				<1	–	<1	3	SAA w/ blackish tans		W	
				<1	–	<1	4	SAA		W/S	
				<1	–	<1	5	SAA		S	
							6	Bottom @ 5'			
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

SAA = same as above

DEP-SOP-001/01
FT 1000 General Field Testing and Measurement

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) TVA 2020 **Instrument #** _____

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☐pH ☐ORP

☐Turbidity ☐Residual Cl ☐DO ☒OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A Ø ambient air

Standard B 100 ppm CH_4

Standard C 10,000 ppm CH_4

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
5/11/20	930	A	Ø	Ø		Yes	C	MG	QFM#7	✓
		B	100	102		Yes	C	↓	↓	✓
		C	10,000	10,002		Yes	C			✓

APPENDIX B

Soil Laboratory Analytical Report

FINAL
ANALYTICAL REPORT

ETL PROJECT ID: 20-1713 **5/31/2020 - Revision 0**

AUBREY YEAGLE
ADVANCED ENVIRONMENTAL TECHNOLOGIES
1318 DUNMIRE STREET, SUITE 1
PENSACOLA, FL 32504-
TEL: (850) 471-2127
FAX: (850) 471-0750

CLIENT PROJECT NAME: QUICK FOOD MART #7
CLIENT PROJECT ID: 27739.00
FACILITY ID: 57/9800564

Enclosed are the analytical results for sample(s) received by Environmental Testing Laboratories on May 13, 2020. Results reported herein are reported on an as received basis and conform to current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Sample analyses performed by Environmental Testing Laboratories, Inc. (ETL) unless otherwise noted. ETL is accredited through NELAC and the Florida Department of Health, Certification #E87684. Scope of analyses: RCRA/CERCLA Metals, General Chemistry, Extractable Organics, and Volatile Organics. Effective Dates: February 14, 2002 through June 30, 2020.

This report shall not be reproduced, except in full, without the written consent of Environmental Testing Laboratories, Inc. This report has been signed and authorized by the signatory using an electronic signature and is intended to be the legally binding equivalent of a traditionally handwritten signature.

Authorized for release by:

ENVIRONMENTAL TESTING LABORATORIES INC

412 W. Walcott Street | Thomasville, GA 31792 | Phone: (229)-228-2592 | Fax: (229)-228-2594

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Laboratory Qualifiers

!	Data deviate from historically established concentration ranges.
#	Surrogate compound inadvertently omitted.
$	Due to dilution, surrogate compound was not detected.
*****	Not reported due to interference
?	Data are rejected as should not be used.
A	Value reported is the arithmetic mean (average) of two or more determinations.
B	Results based upon colony counts outside the acceptable range.
D	Measurement made in the field.
E	Extra samples were taken at composite stations.
F	When reporting species, F indicates the female sex.
H	Value based on fied kit determination; results may not be accurate.
I	The reported value is between the laboratory method detection limit and the laboratory practical
J	Estimated value.
K	Off-scale low. Actual value is known to be less than the value given.
L	Off-scale high. Actual value is known to be greater than the value given.
M	Presence of material is verified but not quantified; the actual value is less than the value given.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample held beyond the accepted holding time.
R	Significant rain in the past 48 hours.
S1	Surrogate recovery reported is outside of laboratory established QA/QC Limits
S2	Analyte recovery reported is outside of laboratory established QA/QC Limits
S3	Analyte precision reported is outside of laboratory established QA/QC Limits
T	Value reported is less than the laboratory method detection limit.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	Laboratory analysis was from an improperly preserved sample. Data may not be accurate.
Z	Too many colonies were present; numeric value represents the filtration volume.

Project Narrative

#E87684

Environmental Testing Laboratories, Inc. is accredited through NELAC and the Florida Department of Health.

Solid samples are reported on a dry weight basis unless otherwise noted.

Please refer to Section 4.0 of the ETL Quality Assurance Manual for a measure of uncertainty.

All analyses are performed using EPA or FL-DEP methods and certified to meet NELAC requirements, except where noted.

Analysis Samples	Lab# 262251 TCLP extraction date: 05/14/2020, Lab#262248 SPLP Extraction date: 05/25/2020

Analytical Method Summary

E87582 **Analytical Environmental Services Inc.**
3080 Presidential Drive, Atlanta, GA 30340
(770) 457-8177

TCLP for Mercury (EPA 1311/7470)	

E87684 **Environmental Testing Laboratories Inc.**
412 W. Walcott Street, Thomasville, GA 31792
(229) 228-2592

TCLP for ICP (EPA 1311/6010)	SW-846 Final Update III
SPLP for GC/MS (EPA 1312/8260)	SW-846 Final Update III
GC/MS (EPA 8260)	SW-846 Final Update III
Semivolatiles low level for PAH only (EPA 8270/PAH Low Level)	
GC/FID (FDEP FL-PRO)	Florida Department of Environmental Protection

Sample Summary

Laboratory Sample ID	Client Sample ID	Matrix	End Date / Time Sampled		Grab / Composite	Percent Moisture
262248	SB-3 @ 4'	SOILS	5/12/2020	9:15	G	13.4
262249	SB-9 @ 2'	SOILS	5/12/2020	9:25	G	7.52
262250	SB-13 @ 2'	SOILS	5/12/2020	9:00	G	6.37
262251	TCLP	SOILS	5/12/2020	13:07	G	

Executive Summary

Analyte	Analytical Method	Result	Units	Qualifiers	Result Comments
SB-3 @ 4' (262248)					
Benzene	EPA 8260	0.067	mg/Kg		
Ethylbenzene	EPA 8260	0.0032	mg/Kg		
Methyl-t-butyl ether	EPA 8260	0.011	mg/Kg		
Toluene	EPA 8260	0.058	mg/Kg		
Xylenes- Total	EPA 8260	0.029	mg/Kg		
Benzene	EPA 1312/8260	1.0	ug/L		
Ethylbenzene	EPA 1312/8260	0.29	ug/L	I	
Toluene	EPA 1312/8260	1.1	ug/L		
TCLP (262251)					
Barium	EPA 1311/6010	0.19	mg/L		
Chromium	EPA 1311/6010	0.063	mg/L	IV	
Selenium	EPA 1311/6010	0.37	mg/L	I	
Mercury	EPA 1311/7470	0.000060	mg/L	IV	

Analytical Data

Client Sample ID: SB-3 @ 4'
Sample Location:
Date Collected: 05/12/2020 09:15 AM

Laboratory Sample ID: 262248
Matrix: SOILS
Percent Moisture: 13.4

Analytical Method: EPA 1312/8260
SPLP for GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	**1.0**		ug/L	0.26	1.0	6/1/2020 5:19:00 PM
Ethylbenzene	1.0	**0.29**	I	ug/L	0.29	1.0	6/1/2020 5:19:00 PM
Methyl-t-butyl ether	1.0	0.46	U	ug/L	0.46	1.0	6/1/2020 5:19:00 PM
Toluene	1.0	**1.1**		ug/L	0.24	1.0	6/1/2020 5:19:00 PM
Xylenes- Total	1.0	1.3	U	ug/L	1.3	3.0	6/1/2020 5:19:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	93.8			70% - 130%	6/1/2020 5:19:00 PM
4-Bromofluorobenzene	1.0	109			70% - 130%	6/1/2020 5:19:00 PM
Dibromofluoromethane	1.0	97.1			70% - 130%	6/1/2020 5:19:00 PM
Toluene-d8	1.0	101			70% - 130%	6/1/2020 5:19:00 PM

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	**0.067**		mg/Kg	0.00061	0.0032	5/13/2020 11:01:00 PM
Ethylbenzene	1.0	**0.0032**		mg/Kg	0.00046	0.0032	5/13/2020 11:01:00 PM
Methyl-t-butyl ether	1.0	**0.011**		mg/Kg	0.00072	0.0032	5/13/2020 11:01:00 PM
Toluene	1.0	**0.058**		mg/Kg	0.0018	0.0032	5/13/2020 11:01:00 PM
Xylenes- Total	1.0	**0.029**		mg/Kg	0.0021	0.0097	5/13/2020 11:01:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	106			80% - 136%	5/13/2020 11:01:00 PM
4-Bromofluorobenzene	1.0	89.1			51% - 145%	5/13/2020 11:01:00 PM
Dibromofluoromethane	1.0	76.2			70% - 130%	5/13/2020 11:01:00 PM
Toluene-d8	1.0	102			76% - 120%	5/13/2020 11:01:00 PM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.029	U	mg/Kg	0.029	0.077	5/18/2020 11:08:00 PM
2-Methylnaphthalene	1.0	0.030	U	mg/Kg	0.030	0.077	5/18/2020 11:08:00 PM
Acenaphthene	1.0	0.047	U	mg/Kg	0.047	0.077	5/18/2020 11:08:00 PM
Acenaphthylene	1.0	0.036	U	mg/Kg	0.036	0.077	5/18/2020 11:08:00 PM
Anthracene	1.0	0.052	U	mg/Kg	0.052	0.077	5/18/2020 11:08:00 PM
Benzo(a)anthracene	1.0	0.036	U	mg/Kg	0.036	0.077	5/18/2020 11:08:00 PM
Benzo(a)pyrene	1.0	0.040	U	mg/Kg	0.040	0.077	5/18/2020 11:08:00 PM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Benzo(b)fluoranthene	1.0	0.044	U	mg/Kg	0.044	0.077	5/18/2020 11:08:00 PM
Benzo(g,h,i)perylene	1.0	0.023	U	mg/Kg	0.023	0.077	5/18/2020 11:08:00 PM
Benzo(k)fluoranthene	1.0	0.039	U	mg/Kg	0.039	0.077	5/18/2020 11:08:00 PM
Chrysene	1.0	0.032	U	mg/Kg	0.032	0.077	5/18/2020 11:08:00 PM
Dibenzo(a,h)anthracene	1.0	0.027	U	mg/Kg	0.027	0.077	5/18/2020 11:08:00 PM
Fluoranthene	1.0	0.046	U	mg/Kg	0.046	0.077	5/18/2020 11:08:00 PM
Fluorene	1.0	0.039	U	mg/Kg	0.039	0.077	5/18/2020 11:08:00 PM
Indeno(1,2,3-cd)pyrene	1.0	0.032	U	mg/Kg	0.032	0.077	5/18/2020 11:08:00 PM
Naphthalene	1.0	0.027	U	mg/Kg	0.027	0.077	5/18/2020 11:08:00 PM
Phenanthrene	1.0	0.047	U	mg/Kg	0.047	0.077	5/18/2020 11:08:00 PM
Pyrene	1.0	0.046	U	mg/Kg	0.046	0.077	5/18/2020 11:08:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	127	S1		26% - 110%	5/18/2020 11:08:00 PM
Nitrobenzene-d5	1.0	83.2			12% - 104%	5/18/2020 11:08:00 PM
p-Terphenyl-d14	1.0	145	S1		39% - 120%	5/18/2020 11:08:00 PM

Analytical Method: FDEP FL-PRO GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	3.8	U	mg/Kg	3.8	20	5/18/2020 6:20:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	79.9			60% - 118%	5/18/2020 6:20:00 PM
Ortho-terphenyl	1.0	103			62% - 109%	5/18/2020 6:20:00 PM

Analytical Data

Client Sample ID: SB-9 @ 2'
Sample Location:
Date Collected: 05/12/2020 09:25 AM

Laboratory Sample ID: 262249
Matrix: SOILS
Percent Moisture: 7.52

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	0.00068	U	mg/Kg	0.00068	0.0036	5/13/2020 7:43:00 PM
Ethylbenzene	1.0	0.00052	U	mg/Kg	0.00052	0.0036	5/13/2020 7:43:00 PM
Methyl-t-butyl ether	1.0	0.00079	U	mg/Kg	0.00079	0.0036	5/13/2020 7:43:00 PM
Toluene	1.0	0.0021	U	mg/Kg	0.0021	0.0036	5/13/2020 7:43:00 PM
Xylenes- Total	1.0	0.0023	U	mg/Kg	0.0023	0.011	5/13/2020 7:43:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	112			80% - 136%	5/13/2020 7:43:00 PM
4-Bromofluorobenzene	1.0	91.0			51% - 145%	5/13/2020 7:43:00 PM
Dibromofluoromethane	1.0	72.9			70% - 130%	5/13/2020 7:43:00 PM
Toluene-d8	1.0	97.0			76% - 120%	5/13/2020 7:43:00 PM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.027	U	mg/Kg	0.027	0.072	5/18/2020 11:45:00 PM
2-Methylnaphthalene	1.0	0.028	U	mg/Kg	0.028	0.072	5/18/2020 11:45:00 PM
Acenaphthene	1.0	0.044	U	mg/Kg	0.044	0.072	5/18/2020 11:45:00 PM
Acenaphthylene	1.0	0.034	U	mg/Kg	0.034	0.072	5/18/2020 11:45:00 PM
Anthracene	1.0	0.049	U	mg/Kg	0.049	0.072	5/18/2020 11:45:00 PM
Benzo(a)anthracene	1.0	0.034	U	mg/Kg	0.034	0.072	5/18/2020 11:45:00 PM
Benzo(a)pyrene	1.0	0.038	U	mg/Kg	0.038	0.072	5/18/2020 11:45:00 PM
Benzo(b)fluoranthene	1.0	0.041	U	mg/Kg	0.041	0.072	5/18/2020 11:45:00 PM
Benzo(g,h,i)perylene	1.0	0.022	U	mg/Kg	0.022	0.072	5/18/2020 11:45:00 PM
Benzo(k)fluoranthene	1.0	0.037	U	mg/Kg	0.037	0.072	5/18/2020 11:45:00 PM
Chrysene	1.0	0.030	U	mg/Kg	0.030	0.072	5/18/2020 11:45:00 PM
Dibenzo(a,h)anthracene	1.0	0.025	U	mg/Kg	0.025	0.072	5/18/2020 11:45:00 PM
Fluoranthene	1.0	0.043	U	mg/Kg	0.043	0.072	5/18/2020 11:45:00 PM
Fluorene	1.0	0.037	U	mg/Kg	0.037	0.072	5/18/2020 11:45:00 PM
Indeno(1,2,3-cd)pyrene	1.0	0.030	U	mg/Kg	0.030	0.072	5/18/2020 11:45:00 PM
Naphthalene	1.0	0.025	U	mg/Kg	0.025	0.072	5/18/2020 11:45:00 PM
Phenanthrene	1.0	0.044	U	mg/Kg	0.044	0.072	5/18/2020 11:45:00 PM
Pyrene	1.0	0.043	U	mg/Kg	0.043	0.072	5/18/2020 11:45:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	129	S1		26% - 110%	5/18/2020 11:45:00 PM
Nitrobenzene-d5	1.0	86.0			12% - 104%	5/18/2020 11:45:00 PM
p-Terphenyl-d14	1.0	147	S1		39% - 120%	5/18/2020 11:45:00 PM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Analytical Method: FDEP FL-PRO
GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	3.6	U	mg/Kg	3.6	18	5/18/2020 6:59:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	95.7			60% - 118%	5/18/2020 6:59:00 PM
Ortho-terphenyl	1.0	106			62% - 109%	5/18/2020 6:59:00 PM

Analytical Data

Client Sample ID: SB-13 @ 2'
Sample Location:
Date Collected: 05/12/2020 09:00 AM

Laboratory Sample ID: 262250
Matrix: SOILS
Percent Moisture: 6.37

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	0.00066	U	mg/Kg	0.00066	0.0035	5/13/2020 8:07:00 PM
Ethylbenzene	1.0	0.00050	U	mg/Kg	0.00050	0.0035	5/13/2020 8:07:00 PM
Methyl-t-butyl ether	1.0	0.00077	U	mg/Kg	0.00077	0.0035	5/13/2020 8:07:00 PM
Toluene	1.0	0.0019	U	mg/Kg	0.0019	0.0035	5/13/2020 8:07:00 PM
Xylenes- Total	1.0	0.0022	U	mg/Kg	0.0022	0.010	5/13/2020 8:07:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	109			80% - 136%	5/13/2020 8:07:00 PM
4-Bromofluorobenzene	1.0	91.7			51% - 145%	5/13/2020 8:07:00 PM
Dibromofluoromethane	1.0	69.5	S1		70% - 130%	5/13/2020 8:07:00 PM
Toluene-d8	1.0	97.4			76% - 120%	5/13/2020 8:07:00 PM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.027	U	mg/Kg	0.027	0.072	5/19/2020 12:22:00 AM
2-Methylnaphthalene	1.0	0.028	U	mg/Kg	0.028	0.072	5/19/2020 12:22:00 AM
Acenaphthene	1.0	0.044	U	mg/Kg	0.044	0.072	5/19/2020 12:22:00 AM
Acenaphthylene	1.0	0.033	U	mg/Kg	0.033	0.072	5/19/2020 12:22:00 AM
Anthracene	1.0	0.048	U	mg/Kg	0.048	0.072	5/19/2020 12:22:00 AM
Benzo(a)anthracene	1.0	0.033	U	mg/Kg	0.033	0.072	5/19/2020 12:22:00 AM
Benzo(a)pyrene	1.0	0.037	U	mg/Kg	0.037	0.072	5/19/2020 12:22:00 AM
Benzo(b)fluoranthene	1.0	0.041	U	mg/Kg	0.041	0.072	5/19/2020 12:22:00 AM
Benzo(g,h,i)perylene	1.0	0.021	U	mg/Kg	0.021	0.072	5/19/2020 12:22:00 AM
Benzo(k)fluoranthene	1.0	0.036	U	mg/Kg	0.036	0.072	5/19/2020 12:22:00 AM
Chrysene	1.0	0.030	U	mg/Kg	0.030	0.072	5/19/2020 12:22:00 AM
Dibenzo(a,h)anthracene	1.0	0.025	U	mg/Kg	0.025	0.072	5/19/2020 12:22:00 AM
Fluoranthene	1.0	0.043	U	mg/Kg	0.043	0.072	5/19/2020 12:22:00 AM
Fluorene	1.0	0.036	U	mg/Kg	0.036	0.072	5/19/2020 12:22:00 AM
Indeno(1,2,3-cd)pyrene	1.0	0.030	U	mg/Kg	0.030	0.072	5/19/2020 12:22:00 AM
Naphthalene	1.0	0.025	U	mg/Kg	0.025	0.072	5/19/2020 12:22:00 AM
Phenanthrene	1.0	0.044	U	mg/Kg	0.044	0.072	5/19/2020 12:22:00 AM
Pyrene	1.0	0.043	U	mg/Kg	0.043	0.072	5/19/2020 12:22:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	124	S1		26% - 110%	5/19/2020 12:22:00 AM
Nitrobenzene-d5	1.0	81.9			12% - 104%	5/19/2020 12:22:00 AM
p-Terphenyl-d14	1.0	147	S1		39% - 120%	5/19/2020 12:22:00 AM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Analytical Method: FDEP FL-PRO
GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	3.5	U	mg/Kg	3.5	18	5/18/2020 7:38:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	73.7			60% - 118%	5/18/2020 7:38:00 PM
Ortho-terphenyl	1.0	102			62% - 109%	5/18/2020 7:38:00 PM

Analytical Data

Client Sample ID: TCLP
Sample Location:
Date Collected: 05/12/2020 01:07 PM

Laboratory Sample ID: 262251
Matrix: SOILS
Percent Moisture:

Analytical Method: EPA 1311/6010
TCLP for ICP

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Arsenic	10	0.087	U	mg/L	0.087	0.10	5/21/2020 9:36:00 AM
Barium	10	**0.19**		mg/L	0.042	0.10	5/21/2020 9:36:00 AM
Cadmium	10	0.034	U	mg/L	0.034	0.050	5/21/2020 9:36:00 AM
Chromium	10	**0.063**	IV	mg/L	0.037	0.10	5/21/2020 9:36:00 AM
Lead	10	0.031	U	mg/L	0.031	0.050	5/21/2020 9:36:00 AM
Selenium	10	**0.37**	I	mg/L	0.36	0.50	5/21/2020 9:36:00 AM
Silver	10	0.052	U	mg/L	0.052	0.25	5/21/2020 9:36:00 AM

Analytical Method: EPA 1311/7470
TCLP for Mercury

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Mercury	1.0	**0.000060**	IV	mg/L	0.000040	0.00020	5/29/2020 4:09:00 PM

PQL: Practical Quantitation Limit RL: Report Limit MDL: Method Detection Limit DF: Dilution Factor

Data Chronicle

Client Sample ID: SB-3 @ 4' **Laboratory Sample ID:** 262248
Sample Location: **Matrix:** SOILS
Date Collected: 05/12/2020 09:15 AM **Percent Moisture:** 13.4

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
N/A	RES	EPA 1312/8260	1.0	LMSVZ060120	6/1/2020 5:19:00 PM	6/1/2020 5:19:00 PM	BW	E87684
N/A	RES	EPA 8260	1.0	SMSVA051420	5/13/2020 11:01:00 PM	5/13/2020 11:01:00 PM	BW	E87684
N/A	RES	EPA 8270/PAH Low Level	1.0	SPAHA051520	5/15/2020 10:00:00 AM	5/18/2020 11:08:00 PM	BW	E87684
N/A	RES	FDEP FL-PRO	1.0	SPROA051520	5/15/2020 1:30:00 PM	5/18/2020 6:20:00 PM	BW	E87684

Client Sample ID: SB-9 @ 2' **Laboratory Sample ID:** 262249
Sample Location: **Matrix:** SOILS
Date Collected: 05/12/2020 09:25 AM **Percent Moisture:** 7.52

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
N/A	RES	EPA 8260	1.0	SMSVA051420	5/13/2020 7:43:00 PM	5/13/2020 7:43:00 PM	BW	E87684
N/A	RES	EPA 8270/PAH Low Level	1.0	SPAHA051520	5/15/2020 10:00:00 AM	5/18/2020 11:45:00 PM	BW	E87684
N/A	RES	FDEP FL-PRO	1.0	SPROA051520	5/15/2020 1:30:00 PM	5/18/2020 6:59:00 PM	BW	E87684

Client Sample ID: SB-13 @ 2' **Laboratory Sample ID:** 262250
Sample Location: **Matrix:** SOILS
Date Collected: 05/12/2020 09:00 AM **Percent Moisture:** 6.37

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
N/A	RES	EPA 8260	1.0	SMSVA051420	5/13/2020 8:07:00 PM	5/13/2020 8:07:00 PM	BW	E87684
N/A	RES	EPA 8270/PAH Low Level	1.0	SPAHA051520	5/15/2020 10:00:00 AM	5/19/2020 12:22:00 AM	BW	E87684
N/A	RES	FDEP FL-PRO	1.0	SPROA051520	5/15/2020 1:30:00 PM	5/18/2020 7:38:00 PM	BW	E87684

Client Sample ID: TCLP **Laboratory Sample ID:** 262251
Sample Location: **Matrix:** SOILS
Date Collected: 05/12/2020 01:07 PM **Percent Moisture:**

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
N/A	RES	EPA 1311/6010	10	TCMA051920	5/19/2020 9:50:00 AM	5/21/2020 9:36:00 AM	KDM	E87684
TOT	RES	EPA 1311/7470	1.0	297776	5/29/2020 10:36:00 AM	5/29/2020 4:09:00 PM	E87582	E87582

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: 297776 | Analysis Method: EPA 7470 | Preparation Type: 7470

Method Batch ID: 297776 | Preparation Date: 5/29/2020 10:36:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: 297776MB				Client Sample ID: 297776MB						Date Analyzed: 5/29/2020 2:54:00 PM	
Mercury	0.000040	0.00020	0.000060	I	mg/L							
Mercury	0.000040	0.00020	0.000060	I	mg/L							
QA/QC Type: LCS	Lab Sample ID: 297776LCS				Client Sample ID: 297776LCS						Date Analyzed: 5/29/2020 3:06:00 PM	
Mercury	0.000040	0.00020	0.0055	S2	mg/L	0.004	138	85.0	-	115		
Mercury	0.000040	0.00020	0.0055	S2	mg/L	0.004	138	80.0	-	120		

Comments:

Preparation Batch ID: LMSVZ060120 | Analysis Method: EPA 1312/8260 | Preparation Type: 5030

Method Batch ID: MLMSVZ060120 | Preparation Date: 6/1/2020 4:54:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: LMSVZ060120MB				Client Sample ID: LMSVZ060120MB						Date Analyzed: 6/1/2020 4:54:00 PM	
Benzene	0.26	1.0	0.26	U	ug/L							
Ethylbenzene	0.29	1.0	0.29	U	ug/L							
Methyl-t-butyl ether	0.46	1.0	0.46	U	ug/L							
Toluene	0.24	1.0	0.24	U	ug/L							
Xylenes- Total	1.3	3.0	1.3	U	ug/L							
Dibromofluoromethane			47.2		ug/L	50.0	94.4	70.0	-	130		
1,2-Dichloroethane-d4			48.7		ug/L	50.0	97.4	70.0	-	130		
Toluene-d8			51.1		ug/L	50.0	102	70.0	-	130		
4-Bromofluorobenzene			57.2		ug/L	50.0	114	70.0	-	130		
QA/QC Type: LCS	Lab Sample ID: LMSVZ060120LCS				Client Sample ID: LMSVZ060120LCS						Date Analyzed: 6/1/2020 11:41:00 AM	
Benzene	0.26	1.0	54.8		ug/L	50.0	110	70.0	-	130		
Ethylbenzene	0.29	1.0	48.9		ug/L	50.0	97.8	70.0	-	130		
Methyl-t-butyl ether	0.46	1.0	49.1		ug/L	50.0	98.2	70.0	-	130		
Toluene	0.24	1.0	54.2		ug/L	50.0	108	70.0	-	130		
Xylenes- Total	1.3	3.0	161		ug/L	150	107	70.0	-	130		
Dibromofluoromethane			48.6		ug/L	50.0	97.2	70.0	-	130		
1,2-Dichloroethane-d4			52.4		ug/L	50.0	105	70.0	-	130		
Toluene-d8			51.8		ug/L	50.0	104	70.0	-	130		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVZ060120 | Analysis Method: EPA 1312/8260 | Preparation Type: 5030

Method Batch ID: MLMSVZ060120 | Preparation Date: 6/1/2020 4:54:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCS	Lab Sample ID: LMSVZ060120LCS				Client Sample ID: LMSVZ060120LCS			Date Analyzed: 6/1/2020 11:41:00 AM				
4-Bromofluorobenzene			47.0		ug/L	50.0	94.0	70.0	-	130		
QA/QC Type: LCSD	Lab Sample ID: LMSVZ060120LCSD				Client Sample ID: LMSVZ060120LCSD			Date Analyzed: 6/1/2020 12:06:00 PM				
Benzene	0.26	1.0	52.6		ug/L	50.0	105	70.0	-	130	4.1	20.0
Ethylbenzene	0.29	1.0	46.6		ug/L	50.0	93.2	70.0	-	130	4.8	20.0
Methyl-t-butyl ether	0.46	1.0	48.1		ug/L	50.0	96.2	70.0	-	130	2.1	20.0
Toluene	0.24	1.0	51.6		ug/L	50.0	103	70.0	-	130	4.9	20.0
Xylenes- Total	1.3	3.0	154		ug/L	150	103	70.0	-	130	4.4	20.0
Dibromofluoromethane			49.5		ug/L	50.0	99.0	70.0	-	130		
1,2-Dichloroethane-d4			50.2		ug/L	50.0	100	70.0	-	130		
Toluene-d8			50.5		ug/L	50.0	101	70.0	-	130		
4-Bromofluorobenzene			47.2		ug/L	50.0	94.4	70.0	-	130		

Comments:

Preparation Batch ID: SMSVA051420 | Analysis Method: EPA 8260 | Preparation Type: 5035 (Low)

Method Batch ID: MSMSVA051420 | Preparation Date: 5/13/2020 5:39:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: SMSVA051420MB				Client Sample ID: SMSVA051420MB			Date Analyzed: 5/13/2020 5:39:00 PM				
Benzene	0.00095	0.0050	0.00095	U	mg/Kg							
Ethylbenzene	0.00072	0.0050	0.00072	U	mg/Kg							
Methyl-t-butyl ether	0.0011	0.0050	0.0011	U	mg/Kg							
Toluene	0.0028	0.0050	0.0028	U	mg/Kg							
Xylenes- Total	0.0032	0.015	0.0032	U	mg/Kg							
Toluene-d8			48.4		ug/kg	50.0	96.8	76.0	-	120		
4-Bromofluorobenzene			45.0		ug/kg	50.0	90.0	51.0	-	145		
Dibromofluoromethane			40.3		ug/kg	50.0	80.6	70.0	-	130		
1,2-Dichloroethane-d4			49.3		ug/kg	50.0	98.6	80.0	-	136		
QA/QC Type: LCS	Lab Sample ID: SMSVA051420LCS				Client Sample ID: SMSVA051420LCS			Date Analyzed: 5/13/2020 4:24:00 PM				
Benzene	0.00095	0.0050	0.064		mg/Kg	0.060	107	82.0	-	121		
Ethylbenzene	0.00072	0.0050	0.064		mg/Kg	0.060	107	82.0	-	119		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: SMSVA051420 | Analysis Method: EPA 8260 | Preparation Type: 5035 (Low)

Method Batch ID: MSMSVA051420 | Preparation Date: 5/13/2020 5:39:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCS	Lab Sample ID: SMSVA051420LCS				Client Sample ID: SMSVA051420LCS			Date Analyzed: 5/13/2020 4:24:00 PM				
Methyl-t-butyl ether	0.0011	0.0050	0.058		mg/Kg	0.060	96.7	80.0	-	126		
Toluene	0.0028	0.0050	0.064		mg/Kg	0.060	107	83.0	-	118		
Xylenes- Total	0.0032	0.015	0.197		mg/Kg	0.180	109	83.0	-	119		
Toluene-d8			50.8		ug/kg	50.0	102	76.0	-	120		
4-Bromofluorobenzene			50.4		ug/kg	50.0	101	51.0	-	145		
Dibromofluoromethane			51.8		ug/kg	50.0	104	70.0	-	130		
1,2-Dichloroethane-d4			50.2		ug/kg	50.0	100	80.0	-	136		
QA/QC Type: LCSD	Lab Sample ID: SMSVA051420LCSD				Client Sample ID: SMSVA051420LCSD			Date Analyzed: 5/13/2020 4:49:00 PM				
Benzene	0.00095	0.0050	0.059		mg/Kg	0.060	98.3	82.0	-	121	8.1	20.0
Ethylbenzene	0.00072	0.0050	0.059		mg/Kg	0.060	98.3	82.0	-	119	8.1	19.0
Methyl-t-butyl ether	0.0011	0.0050	0.058		mg/Kg	0.060	96.7	80.0	-	126	0	23.0
Toluene	0.0028	0.0050	0.059		mg/Kg	0.060	98.3	83.0	-	118	8.1	18.0
Xylenes- Total	0.0032	0.015	0.182		mg/Kg	0.180	101	83.0	-	119	7.9	18.0
Toluene-d8			50.7		ug/kg	50.0	101	76.0	-	120		
4-Bromofluorobenzene			50.1		ug/kg	50.0	100	51.0	-	145		
Dibromofluoromethane			50.9		ug/kg	50.0	102	70.0	-	130		
1,2-Dichloroethane-d4			49.3		ug/kg	50.0	98.6	80.0	-	136		
QA/QC Type: MS	Lab Sample ID: SMSVA051420MS				Client Sample ID: 262250MS			Date Analyzed: 5/14/2020 12:51:00 PM				
Benzene	0.00064	0.0033	0.032		mg/Kg	0.041	78.0	52.0	-	120		
Ethylbenzene	0.00048	0.0033	0.031		mg/Kg	0.041	75.6	38.0	-	130		
Methyl-t-butyl ether	0.00074	0.0033	0.033		mg/Kg	0.041	80.5	54.0	-	128		
Toluene	0.0019	0.0033	0.031		mg/Kg	0.041	75.6	55.0	-	113		
Xylenes- Total	0.0021	0.010	0.101		mg/Kg	0.121	83.5	46.0	-	121		
Toluene-d8			50.5		ug/kg	50.0	101	76.0	-	120		
4-Bromofluorobenzene			47.6		ug/kg	50.0	95.2	51.0	-	145		
Dibromofluoromethane			47.1		ug/kg	50.0	94.2	70.0	-	130		
1,2-Dichloroethane-d4			49.7		ug/kg	50.0	99.4	80.0	-	136		
QA/QC Type: DUP	Lab Sample ID: SMSVA051420DUP				Client Sample ID: 262249DUP			Date Analyzed: 5/14/2020 12:26:00 PM				
Benzene	0.00064	0.0034	0.00064	U	mg/Kg						0	34.0
Ethylbenzene	0.00049	0.0034	0.00049	U	mg/Kg						0	46.0
Methyl-t-butyl ether	0.00075	0.0034	0.00075	U	mg/Kg						0	37.0
Toluene	0.0018	0.0034	0.0018	U	mg/Kg						0	29.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: SMSVA051420 | Analysis Method: EPA 8260 | Preparation Type: 5035 (Low)

Method Batch ID: MSMSVA051420 | Preparation Date: 5/13/2020 5:39:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: DUP	Lab Sample ID: SMSVA051420DUP				Client Sample ID: 262249DUP					Date Analyzed: 5/14/2020 12:26:00 PM		
Xylenes- Total	0.0022	0.010	0.0022	U	mg/Kg						0	37.0
Toluene-d8			48.0		ug/kg	50.0	96.0	76.0	-	120		
4-Bromofluorobenzene			44.5		ug/kg	50.0	89.0	51.0	-	145		
Dibromofluoromethane			42.1		ug/kg	50.0	84.2	70.0	-	130		
1,2-Dichloroethane-d4			55.1		ug/kg	50.0	110	80.0	-	136		

Comments:

Preparation Batch ID: SPAHA051520 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3550

Method Batch ID: MSPAHA051520 | Preparation Date: 5/15/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: SPAHA051520MB				Client Sample ID: SPAHA051520MB					Date Analyzed: 5/18/2020 6:16:00 PM		
Naphthalene	0.023	0.067	0.023	U	mg/Kg							
Acenaphthylene	0.031	0.067	0.031	U	mg/Kg							
Acenaphthene	0.041	0.067	0.041	U	mg/Kg							
Fluorene	0.034	0.067	0.034	U	mg/Kg							
Phenanthrene	0.041	0.067	0.041	U	mg/Kg							
Anthracene	0.045	0.067	0.045	U	mg/Kg							
Fluoranthene	0.040	0.067	0.040	U	mg/Kg							
1-Methylnaphthalene	0.025	0.067	0.025	U	mg/Kg							
2-Methylnaphthalene	0.026	0.067	0.026	U	mg/Kg							
Pyrene	0.040	0.067	0.040	U	mg/Kg							
Benzo(a)anthracene	0.031	0.067	0.031	U	mg/Kg							
Chrysene	0.028	0.067	0.028	U	mg/Kg							
Benzo(b)fluoranthene	0.038	0.067	0.038	U	mg/Kg							
Benzo(k)fluoranthene	0.034	0.067	0.034	U	mg/Kg							
Benzo(a)pyrene	0.035	0.067	0.035	U	mg/Kg							
Indeno(1,2,3-cd)pyrene	0.028	0.067	0.028	U	mg/Kg							
Dibenzo(a,h)anthracene	0.023	0.067	0.023	U	mg/Kg							
Benzo(g,h,i)perylene	0.020	0.067	0.020	U	mg/Kg							
Nitrobenzene-d5			79.8		%	100	79.8	12.0	-	104		
2-Fluorobiphenyl			120	S1	%	100	120	26.0	-	110		
p-Terphenyl-d14			140	S1	%	100	140	39.0	-	120		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: SPAHA051520 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3550

Method Batch ID: MSPAHA051520 | Preparation Date: 5/15/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: SPAHA051520MB				Client Sample ID: SPAHA051520MB			Date Analyzed: 5/18/2020 6:16:00 PM				
QA/QC Type: LCS	Lab Sample ID: SPAHA051520LCS				Client Sample ID: SPAHA051520LCS			Date Analyzed: 5/18/2020 4:25:00 PM				
Naphthalene	0.023	0.067	1.47		mg/Kg	1.67	88.0	40.0	-	106		
Acenaphthylene	0.031	0.067	1.79		mg/Kg	1.67	107	38.0	-	115		
Acenaphthene	0.041	0.067	1.62		mg/Kg	1.67	97.0	46.0	-	121		
Fluorene	0.034	0.067	1.60		mg/Kg	1.67	95.8	46.0	-	123		
Phenanthrene	0.041	0.067	1.66		mg/Kg	1.67	99.4	52.0	-	129		
Anthracene	0.045	0.067	1.64		mg/Kg	1.67	98.2	47.0	-	124		
Fluoranthene	0.040	0.067	1.64		mg/Kg	1.67	98.2	45.0	-	125		
1-Methylnaphthalene	0.025	0.067	1.52		mg/Kg	1.67	91.0	39.0	-	113		
2-Methylnaphthalene	0.026	0.067	1.49		mg/Kg	1.67	89.2	39.0	-	110		
Pyrene	0.040	0.067	1.77		mg/Kg	1.67	106	47.0	-	129		
Benzo(a)anthracene	0.031	0.067	1.67		mg/Kg	1.67	100	45.0	-	129		
Chrysene	0.028	0.067	1.41		mg/Kg	1.67	84.4	44.0	-	129		
Benzo(b)fluoranthene	0.038	0.067	1.46		mg/Kg	1.67	87.4	45.0	-	122		
Benzo(k)fluoranthene	0.034	0.067	1.49		mg/Kg	1.67	89.2	43.0	-	124		
Benzo(a)pyrene	0.035	0.067	1.54		mg/Kg	1.67	92.2	39.0	-	116		
Indeno(1,2,3-cd)pyrene	0.028	0.067	1.50		mg/Kg	1.67	89.8	41.0	-	125		
Dibenzo(a,h)anthracene	0.023	0.067	1.44		mg/Kg	1.67	86.2	40.0	-	123		
Benzo(g,h,i)perylene	0.020	0.067	1.43		mg/Kg	1.67	85.6	34.0	-	120		
Nitrobenzene-d5			92.0		%	100	92.0	12.0	-	104		
2-Fluorobiphenyl			136	S1	%	100	136	26.0	-	110		
p-Terphenyl-d14			156	S1	%	100	156	39.0	-	120		
QA/QC Type: LCSD	Lab Sample ID: SPAHA051520LCSD				Client Sample ID: SPAHA051520LCSD			Date Analyzed: 5/18/2020 5:02:00 PM				
Naphthalene	0.023	0.067	1.52		mg/Kg	1.67	91.0	40.0	-	106	3.3	33.0
Acenaphthylene	0.031	0.067	1.83		mg/Kg	1.67	110	38.0	-	115	2.2	38.0
Acenaphthene	0.041	0.067	1.66		mg/Kg	1.67	99.4	46.0	-	121	2.4	38.0
Fluorene	0.034	0.067	1.64		mg/Kg	1.67	98.2	46.0	-	123	2.5	38.0
Phenanthrene	0.041	0.067	1.77		mg/Kg	1.67	106	52.0	-	129	6.4	39.0
Anthracene	0.045	0.067	1.71		mg/Kg	1.67	102	47.0	-	124	4.2	38.0
Fluoranthene	0.040	0.067	1.70		mg/Kg	1.67	102	45.0	-	125	3.6	40.0
1-Methylnaphthalene	0.025	0.067	1.57		mg/Kg	1.67	94.0	39.0	-	113	3.2	37.0
2-Methylnaphthalene	0.026	0.067	1.54		mg/Kg	1.67	92.2	39.0	-	110	3.3	36.0
Pyrene	0.040	0.067	1.79		mg/Kg	1.67	107	47.0	-	129	1.1	41.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: SPAHA051520 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3550

Method Batch ID: MSPAHA051520 | Preparation Date: 5/15/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCSD	Lab Sample ID: SPAHA051520LCSD				Client Sample ID: SPAHA051520LCSD			Date Analyzed: 5/18/2020 5:02:00 PM				
Benzo(a)anthracene	0.031	0.067	1.70		mg/Kg	1.67	102	45.0	-	129	1.8	42.0
Chrysene	0.028	0.067	1.49		mg/Kg	1.67	89.2	44.0	-	129	5.5	42.0
Benzo(b)fluoranthene	0.038	0.067	1.45		mg/Kg	1.67	86.8	45.0	-	122	0.69	39.0
Benzo(k)fluoranthene	0.034	0.067	1.46		mg/Kg	1.67	87.4	43.0	-	124	2.0	40.0
Benzo(a)pyrene	0.035	0.067	1.54		mg/Kg	1.67	92.2	39.0	-	116	0	39.0
Indeno(1,2,3-cd)pyrene	0.028	0.067	1.53		mg/Kg	1.67	91.6	41.0	-	125	2.0	42.0
Dibenzo(a,h)anthracene	0.023	0.067	1.34		mg/Kg	1.67	80.2	40.0	-	123	7.2	42.0
Benzo(g,h,i)perylene	0.020	0.067	1.40		mg/Kg	1.67	83.8	34.0	-	120	2.1	43.0
Nitrobenzene-d5			93.6		%	100	93.6	12.0	-	104		
2-Fluorobiphenyl			134	S1	%	100	134	26.0	-	110		
p-Terphenyl-d14			154	S1	%	100	154	39.0	-	120		
QA/QC Type: MS	Lab Sample ID: SPAHA051520MS				Client Sample ID: 262249MS			Date Analyzed: 5/19/2020 5:17:00 AM				
Naphthalene	0.025	0.072	1.63		mg/Kg	1.81	90.1	6.70	-	125		
Acenaphthylene	0.034	0.072	1.96		mg/Kg	1.81	108	28.0	-	111		
Acenaphthene	0.044	0.072	1.78		mg/Kg	1.81	98.3	35.0	-	115		
Fluorene	0.037	0.072	1.74		mg/Kg	1.81	96.1	35.0	-	117		
Phenanthrene	0.044	0.072	1.85		mg/Kg	1.81	102	39.0	-	125		
Anthracene	0.049	0.072	1.79		mg/Kg	1.81	98.9	37.0	-	118		
Fluoranthene	0.043	0.072	1.75		mg/Kg	1.81	96.7	34.0	-	122		
1-Methylnaphthalene	0.027	0.072	1.69		mg/Kg	1.81	93.4	27.0	-	110		
2-Methylnaphthalene	0.028	0.072	1.64		mg/Kg	1.81	90.6	30.0	-	103		
Pyrene	0.043	0.072	1.84		mg/Kg	1.81	102	35.0	-	126		
Benzo(a)anthracene	0.034	0.072	1.73		mg/Kg	1.81	95.6	33.0	-	123		
Chrysene	0.030	0.072	1.54		mg/Kg	1.81	85.1	31.0	-	125		
Benzo(b)fluoranthene	0.041	0.072	1.59		mg/Kg	1.81	87.8	30.0	-	121		
Benzo(k)fluoranthene	0.037	0.072	1.58		mg/Kg	1.81	87.3	30.0	-	121		
Benzo(a)pyrene	0.038	0.072	1.69		mg/Kg	1.81	93.4	27.0	-	109		
Indeno(1,2,3-cd)pyrene	0.030	0.072	1.68		mg/Kg	1.81	92.8	30.0	-	117		
Dibenzo(a,h)anthracene	0.025	0.072	1.58		mg/Kg	1.81	87.3	30.0	-	115		
Benzo(g,h,i)perylene	0.022	0.072	1.60		mg/Kg	1.81	88.4	22.0	-	111		
Nitrobenzene-d5			95.5		%	100	95.5	12.0	-	104		
2-Fluorobiphenyl			137	S1	%	100	137	26.0	-	110		
p-Terphenyl-d14			149	S1	%	100	149	39.0	-	120		

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: SPAHA051520 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3550

Method Batch ID: MSPAHA051520 | Preparation Date: 5/15/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MSD	Lab Sample ID: SPAHA051520MSD				Client Sample ID: 262249MSD					Date Analyzed: 5/19/2020 5:54:00 AM		
Naphthalene	0.025	0.072	1.67		mg/Kg	1.81	92.3	6.70	-	125	2.4	59.0
Acenaphthylene	0.034	0.072	2.01		mg/Kg	1.81	111	28.0	-	111	2.5	41.0
Acenaphthene	0.044	0.072	1.84		mg/Kg	1.81	102	35.0	-	115	3.3	40.0
Fluorene	0.037	0.072	1.79		mg/Kg	1.81	98.9	35.0	-	117	2.8	41.0
Phenanthrene	0.044	0.072	1.88		mg/Kg	1.81	104	39.0	-	125	1.6	43.0
Anthracene	0.049	0.072	1.86		mg/Kg	1.81	103	37.0	-	118	3.8	40.0
Fluoranthene	0.043	0.072	1.79		mg/Kg	1.81	98.9	34.0	-	122	2.3	44.0
1-Methylnaphthalene	0.027	0.072	1.72		mg/Kg	1.81	95.0	27.0	-	110	1.8	42.0
2-Methylnaphthalene	0.028	0.072	1.68		mg/Kg	1.81	92.8	30.0	-	103	2.4	36.0
Pyrene	0.043	0.072	1.88		mg/Kg	1.81	104	35.0	-	126	2.2	46.0
Benzo(a)anthracene	0.034	0.072	1.79		mg/Kg	1.81	98.9	33.0	-	123	3.4	45.0
Chrysene	0.030	0.072	1.58		mg/Kg	1.81	87.3	31.0	-	125	2.6	47.0
Benzo(b)fluoranthene	0.041	0.072	1.64		mg/Kg	1.81	90.6	30.0	-	121	3.1	46.0
Benzo(k)fluoranthene	0.037	0.072	1.67		mg/Kg	1.81	92.3	30.0	-	121	5.5	46.0
Benzo(a)pyrene	0.038	0.072	1.64		mg/Kg	1.81	90.6	27.0	-	109	3.0	41.0
Indeno(1,2,3-cd)pyrene	0.030	0.072	1.59		mg/Kg	1.81	87.8	30.0	-	117	5.5	44.0
Dibenzo(a,h)anthracene	0.025	0.072	1.56		mg/Kg	1.81	86.2	30.0	-	115	1.3	42.0
Benzo(g,h,i)perylene	0.022	0.072	1.60		mg/Kg	1.81	88.4	22.0	-	111	0	44.0
Nitrobenzene-d5			98.9		%	100	98.9	12.0	-	104		
2-Fluorobiphenyl			141	S1	%	100	141	26.0	-	110		
p-Terphenyl-d14			155	S1	%	100	155	39.0	-	120		
QA/QC Type: DUP	Lab Sample ID: SPAHA051520DUP				Client Sample ID: 262080DUP					Date Analyzed: 5/19/2020 4:40:00 AM		
Naphthalene	0.027	0.079	0.027	U	mg/Kg						0	59.0
Acenaphthylene	0.036	0.079	0.036	U	mg/Kg						0	41.0
Acenaphthene	0.048	0.079	0.048	U	mg/Kg						0	40.0
Fluorene	0.040	0.079	0.040	U	mg/Kg						0	41.0
Phenanthrene	0.048	0.079	0.048	U	mg/Kg						0	43.0
Anthracene	0.053	0.079	0.053	U	mg/Kg						0	40.0
Fluoranthene	0.047	0.079	0.047	U	mg/Kg						0	44.0
1-Methylnaphthalene	0.029	0.079	0.038	I	mg/Kg						19	42.0
2-Methylnaphthalene	0.031	0.079	0.071	I	mg/Kg						11	36.0
Pyrene	0.047	0.079	0.047	U	mg/Kg						0	46.0
Benzo(a)anthracene	0.036	0.079	0.036	U	mg/Kg						0	45.0
Chrysene	0.033	0.079	0.033	U	mg/Kg						0	47.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: SPAHA051520 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3550

Method Batch ID: MSPAHA051520 | Preparation Date: 5/15/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: DUP	Lab Sample ID: SPAHA051520DUP				Client Sample ID: 262080DUP					Date Analyzed: 5/19/2020 4:40:00 AM		
Benzo(b)fluoranthene	0.045	0.079	0.045	U	mg/Kg						0	46.0
Benzo(k)fluoranthene	0.040	0.079	0.040	U	mg/Kg						0	46.0
Benzo(a)pyrene	0.041	0.079	0.041	U	mg/Kg						0	41.0
Indeno(1,2,3-cd)pyrene	0.033	0.079	0.033	U	mg/Kg						0	44.0
Dibenzo(a,h)anthracene	0.027	0.079	0.027	U	mg/Kg						0	42.0
Benzo(g,h,i)perylene	0.024	0.079	0.024	U	mg/Kg						0	44.0
Nitrobenzene-d5			78.8		%	100	78.8	12.0	-	104		
2-Fluorobiphenyl			118	S1	%	100	118	26.0	-	110		
p-Terphenyl-d14			142	S1	%	100	142	39.0	-	120		

Comments: **Surrogate recoveries for 2-Fluorobiphenyl and P-Terphenyl-d14 were biased high throughout the entire batch including blanks, samples, and spikes. As they were all biased high an there were no detects of compounds of interest anywhere near the assoicated cleanup levels data is deemed useable.**

Preparation Batch ID: SPROA051520 | Analysis Method: FDEP FL-PRO | Preparation Type: 3550

Method Batch ID: MSPROA051520 | Preparation Date: 5/15/2020 1:30:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: SPROA051520MB				Client Sample ID: SPROA051520MB					Date Analyzed: 5/18/2020 3:38:00 PM		
Total Recoverable Pet. Hydrocarbons	3.3	17	3.3	U	mg/Kg							
Ortho-terphenyl			102		%	100	102	62.0	-	109		
Nonatriacontane(C39)			102		%	100	102	60.0	-	118		
QA/QC Type: LCS	Lab Sample ID: SPROA051520LCS				Client Sample ID: SPROA051520LCS					Date Analyzed: 5/18/2020 2:16:00 PM		
Total Recoverable Pet. Hydrocarbons	3.3	17	20.5		mg/Kg	28.3	72.4	63.0	-	153		
Ortho-terphenyl			101		%	100	101	62.0	-	109		
Nonatriacontane(C39)			70.7		%	100	70.7	60.0	-	118		
QA/QC Type: LCSD	Lab Sample ID: SPROA051520LCSD				Client Sample ID: SPROA051520LCSD					Date Analyzed: 5/18/2020 2:57:00 PM		
Total Recoverable Pet. Hydrocarbons	3.3	17	17.6	S2	mg/Kg	28.3	62.2	63.0	-	153	15	25.0
Ortho-terphenyl			88.3		%	100	88.3	62.0	-	109		
Nonatriacontane(C39)			63.4		%	100	63.4	60.0	-	118		
QA/QC Type: MS	Lab Sample ID: SPROA051520MS				Client Sample ID: 262249MS					Date Analyzed: 5/19/2020 1:26:00 AM		

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: SPROA051520 | Analysis Method: FDEP FL-PRO | Preparation Type: 3550
Method Batch ID: MSPROA051520 | Preparation Date: 5/15/2020 1:30:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MS	Lab Sample ID: SPROA051520MS				Client Sample ID: 262249MS			Date Analyzed: 5/19/2020 1:26:00 AM				
Total Recoverable Pet. Hydrocarbons	3.6	18	21.7		mg/Kg	30.6	70.9	62.0	-	204		
Ortho-terphenyl			99.7		%	100	99.7	62.0	-	109		
Nonatriacontane(C39)			82.1		%	100	82.1	60.0	-	118		
QA/QC Type: MSD	Lab Sample ID: SPROA051520MSD				Client Sample ID: 262249MSD			Date Analyzed: 5/19/2020 2:06:00 AM				
Total Recoverable Pet. Hydrocarbons	3.6	18	20.9		mg/Kg	30.6	68.3	62.0	-	204	3.8	25.0
Ortho-terphenyl			100		%	100	100	62.0	-	109		
Nonatriacontane(C39)			79.3		%	100	79.3	60.0	-	118		
QA/QC Type: DUP	Lab Sample ID: SPROA051520DUP				Client Sample ID: 262080DUP			Date Analyzed: 5/19/2020 12:47:00 AM				
Total Recoverable Pet. Hydrocarbons	3.9	20	250		mg/Kg						17	25.0
Ortho-terphenyl			107		%	100	107	62.0	-	109		
Nonatriacontane(C39)			68.5		%	100	68.5	60.0	-	118		

Comments:

Preparation Batch ID: TCMA051920 | Analysis Method: EPA 1311/6010 | Preparation Type: 1311
Method Batch ID: MTCMA051920 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: TCMA051920MB				Client Sample ID: TCMA051920MB			Date Analyzed: 5/21/2020 9:28:00 AM				
Arsenic	0.087	0.10	0.087	U	mg/L							
Barium	0.042	0.10	0.042	U	mg/L							
Cadmium	0.034	0.050	0.034	U	mg/L							
Chromium	0.037	0.10	0.061	I	mg/L							
Lead	0.031	0.050	0.031	U	mg/L							
Selenium	0.36	0.50	0.36	U	mg/L							
Silver	0.052	0.25	0.052	U	mg/L							
QA/QC Type: LCS	Lab Sample ID: TCMA051920LCS				Client Sample ID: TCMA051920LCS			Date Analyzed: 5/21/2020 9:31:00 AM				
Arsenic	0.087	0.10	4.04		mg/L	4.00	101	85.0	-	115		
Barium	0.042	0.10	3.92		mg/L	4.00	98.0	85.0	-	115		
Cadmium	0.034	0.050	3.81		mg/L	4.00	95.2	85.0	-	115		

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: TCMA051920 | Analysis Method: EPA 1311/6010 | Preparation Type: 1311

Method Batch ID: MTCMA051920 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCS	Lab Sample ID: TCMA051920LCS				Client Sample ID: TCMA051920LCS			Date Analyzed: 5/21/2020 9:31:00 AM				
Chromium	0.037	0.10	3.94		mg/L	4.00	98.5	85.0	-	115		
Lead	0.031	0.050	3.72		mg/L	4.00	93.0	85.0	-	115		
Selenium	0.36	0.50	4.09		mg/L	4.00	102	85.0	-	115		
Silver	0.052	0.25	3.87		mg/L	4.00	96.8	85.0	-	115		
QA/QC Type: LCSD	Lab Sample ID: TCMA051920LCSD				Client Sample ID: TCMA051920LCSD			Date Analyzed: 5/21/2020 9:33:00 AM				
Arsenic	0.087	0.10	4.22		mg/L	4.00	106	85.0	-	115	4.4	20.0
Barium	0.042	0.10	4.11		mg/L	4.00	103	85.0	-	115	4.7	20.0
Cadmium	0.034	0.050	4.00		mg/L	4.00	100	85.0	-	115	4.9	20.0
Chromium	0.037	0.10	4.08		mg/L	4.00	102	85.0	-	115	3.5	20.0
Lead	0.031	0.050	3.82		mg/L	4.00	95.5	85.0	-	115	2.7	20.0
Selenium	0.36	0.50	3.69		mg/L	4.00	92.2	85.0	-	115	10	20.0
Silver	0.052	0.25	4.06		mg/L	4.00	102	85.0	-	115	4.8	20.0
QA/QC Type: MS	Lab Sample ID: TCMA051920MS				Client Sample ID: 262251MS			Date Analyzed: 5/21/2020 9:42:00 AM				
Arsenic	0.087	0.10	4.22		mg/L	4.00	106	85.0	-	115		
Barium	0.042	0.10	4.02		mg/L	4.00	95.8	85.0	-	115		
Cadmium	0.034	0.050	3.93		mg/L	4.00	98.2	85.0	-	115		
Chromium	0.037	0.10	3.84		mg/L	4.00	94.4	85.0	-	115		
Lead	0.031	0.050	3.69		mg/L	4.00	92.2	85.0	-	115		
Selenium	0.36	0.50	4.62		mg/L	4.00	106	85.0	-	115		
Silver	0.052	0.25	3.89		mg/L	4.00	97.2	85.0	-	115		
QA/QC Type: MSD	Lab Sample ID: TCMA051920MSD				Client Sample ID: 262251MSD			Date Analyzed: 5/21/2020 9:44:00 AM				
Arsenic	0.087	0.10	4.62	S2	mg/L	4.00	116	85.0	-	115	9.0	20.0
Barium	0.042	0.10	4.50		mg/L	4.00	108	85.0	-	115	11	20.0
Cadmium	0.034	0.050	4.34		mg/L	4.00	108	85.0	-	115	9.9	20.0
Chromium	0.037	0.10	4.27		mg/L	4.00	105	85.0	-	115	11	20.0
Lead	0.031	0.050	4.01		mg/L	4.00	100	85.0	-	115	8.3	20.0
Selenium	0.36	0.50	4.50		mg/L	4.00	103	85.0	-	115	2.6	20.0
Silver	0.052	0.25	4.17		mg/L	4.00	104	85.0	-	115	6.9	20.0
QA/QC Type: DUP	Lab Sample ID: TCMA051920DUP				Client Sample ID: 262251DUP			Date Analyzed: 5/21/2020 9:39:00 AM				
Arsenic	0.087	0.10	0.087	U	mg/L						0	20.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: TCMA051920 | Analysis Method: EPA 1311/6010 | Preparation Type: 1311

Method Batch ID: MTCMA051920 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: DUP	Lab Sample ID: TCMA051920DUP				Client Sample ID: 262251DUP					Date Analyzed: 5/21/2020 9:39:00 AM		
Barium	0.042	0.10	0.19		mg/L						0	20.0
Cadmium	0.034	0.050	0.034	U	mg/L						0	20.0
Chromium	0.037	0.10	0.065	I	mg/L						3.1	20.0
Lead	0.031	0.050	0.031	U	mg/L						0	20.0
Selenium	0.36	0.50	0.48	IS3	mg/L						26	20.0
Silver	0.052	0.25	0.052	U	mg/L						0	20.0

Comments:

Chain of Custody Record

Company: AET

Address: 1318 Dunmire St. Suite 1

Telephone Number: Telefax Number:

Sampled by [Print Name(s)] / Affiliation: Avery Van Brussel / AET

Sampler(s) Signature(s): Avery Van Brussel

Environmental Testing Laboratories, Inc.
412 W. Walcott Street
Thomasville, GA 31792-4359
229/228-2592 (telephone)
229/228-2594 (telefax)
www.etl-inc.com

Page 1 of 1

Project Name: Quick Food Mart #7

Project Number: 27739.00

Project Manager: A. Yeagle

Facility ID Number: 57/9800564

REQUESTED DUE DATE: Standard

Item No.	Field ID No.	Sample Date	Sample Time	Grab or Composite	Matrix (see Codes)	Number of Containers	BTEXM 8260	PAHs	TRPH	TCLP metals	VPH	MAEPH				Remarks	Lab Number
1	SB-3@4'	5-12-20	915	G	SO	10	X	X	X		X	X					262248
2	SB-9@2'	5-12-20	925	G	SO	10	X	X	X		X	X					249
3	SB-13@2'	5-12-20	900	G	SO	10	X	X	X		X	X					250
4	~~IDW~~ TCLP	5-12-20	1307	G	SO	1				X							251
							Methanol				Methanol						

Shipment Method: Total Number of Containers: 31

Preservatives (see Codes) ICE: ☒ Yes ☐ No

Out: 5/12/20 Via: FedEx

Returned: / / Via:

Additional Comments:

Item No.	Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time
1	Avery Van Brussel	5/12/20	430 pm	FedEx/Shipper	5-12-20	
	FedEx	5-13-20	9:50			

Cooler Number(s) / Temperature(s) (°C): 1/Ice/2.4

Sampling Kit Number:

Received in Lab By: BCR 5-13-20 9:50

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Wastewater O = Other (specify)

PRESERVATIVE CODES: H = Hydrochloric acid S = Sulfuric acid N = Nitric Na = Sodium Hydroxide O = Other (specify)

PRESERVATIVE CODES: SOIL VOCS MS = Methanol / Sodium Bisulfate MD = Methanol / DI Water

ETL PROJECT NO. 20-1713

ENVIRONMENTAL TESTING LABORATORIES INC

Project Receipt Summary

20-1713

Project Details

Client: ADVANCED ENVIRONMENTAL TECHNOLOGIES

Project Name: QUICK FOOD MART #7

Shipping and Receiving

Date/Time Received: 5/13/2020 9:50:00 AM

Sampling Personnel: FAN BRUSSEL

Shipping Method: Federal Express

Shipping Tracking Number: 873189595498

If present, were cooler custody seals intact? ○ Yes ○ No ◉ N/A

If present, were sample bottle custody seals intact ○ Yes ○ No ◉ N/A

Thermal Preservation

Cooler Temp Method: Sample Temperature

Thermometer ID: 16032413

Number of Coolers: 1

Were cooler temperatues in compliance? (0.1-6.0C) ◉ Yes ○ No ○ N/A

Cooler Temperatures: 2.4

Chain of Custody

Was the chain-of-custody received in coolers?	◉ Yes ○ No ○ N/A
Was the chain-of-custody signed and properly relinquished?	◉ Yes ○ No ○ N/A
Does the chain-of-custody agree with samples and analyses?	◉ Yes ○ No ○ N/A

Container Receipt

Were samples received in appropriate bottleware for analyses?	◉ Yes ○ No ○ N/A
Was sufficient volume submitted for analyses requested?	◉ Yes ○ No ○ N/A
Were samples received within method holding times?	◉ Yes ○ No ○ N/A
Were VOA vials received with zero headspace?	○ Yes ○ No ◉ N/A
Were aqeuous samples received at an acceptable pH?	◉ Yes ○ No ○ N/A

pH Test Strip Manufacturer / Lot #: MQUANT-HC989495

Comments

I certify I have answered the questions contained herein to the best of my knowledge and have affixed labels with unique IDs onto each sample container received. I certify any discrepancies regarding the samples as received by the laboratory have been documented completely in the comments section of this form.

Brandon Ray

ENVIRONMENTAL TESTING LABORATORIES INC

Project Receipt Summary

20-1713

Project Sample Detail

Lab Sample ID	Client Sample ID	Matrix	SPLP	TRPH Speciation	MaVPH MaEPH
262248	**SB-3 @ 4'**	**SOILS**	☐	☐	☐
262248-A1 (BTEXM)					
262248-A2 (BTEXM)					
262248-A3 (BTEXM)					
262248-A4 (MaVPH)					
262248-A5 (MaVPH)					
262248-A6 (MaVPH)					
262248-B1 (MaEPH)					
262248-B2 (PAH/TRPH-FL-PR/%M)					
262248-D1 (SPLP VOC)					
262248-D2 (SPLP Bulk)					
262249	**SB-9 @ 2'**	**SOILS**	☐	☐	☐
262249-A1 (MaVPH)					
262249-A2 (MaVPH)					
262249-A3 (MaVPH)					
262249-A4 (BTEXM)					
262249-A5 (BTEXM)					
262249-A6 (BTEXM)					
262249-B1 (MaEPH)					
262249-B2 (PAH/TRPH-FL-PR/%M)					
262249-D1 (SPLP VOC)					
262249-D2 (SPLP Bulk)					
262250	**SB-13 @ 2'**	**SOILS**	☐	☐	☐
262250-A1 (BTEXM)					
262250-A2 (BTEXM)					
262250-A3 (BTEXM)					
262250-A4 (MaVPH)					
262250-A5 (MaVPH)					
262250-A6 (MaVPH)					
262250-B1 (MaEPH)					
262250-B2 (PAH/TRPH-FL-PR/%M)					
262250-D1 (SPLP VOC)					
262250-D2 (SPLP Bulk)					
262251	**TCLP**	**SOILS**	☐	☐	☐
262251-D1 (TCLP Metals)					

ENVIRONMENTAL TESTING LABORATORIES Inc

Project Receipt Summary

20-1713

Project Bottle Count Summary

Container Type	Preservative	Number of Containers
25g Encore Sampler	NONE	3
40mL VOA Vial	MeOH/ICE	12
40mL VOA Vial w/ Stirbar	DiH2O/ICE	6
Glass Jar	NONE	10
	Total	31

APPENDIX C

Field Notes, Well Construction and Development Logs, Well Completion Reports, Waste Disposal Manifest

86

Location Gulf Breeze, FL Date 5-12-20

Project / Client Quick Food Mart #7

27739.00/02 57/9805564

700 - Arrive at office
- Load 2014 Chevy Silverado.
715 - Leave office.
800 - On site
- Meet PDS, Drill Rig: GeoProbe 7822DT
Driller: Chris, Assistants: Brandon, Devon
- Check in with manager.
- Drillers set up equipment.
820 - Mark out Soil Sample locations
900 - Collect Soil Sample SB-13 @ 2'.
915 - Collect Soil Sample SB-3 @ 4'
925 - Collect Soil Sample SB-7 @ 2'
~~920~~ AM3
935 - Call PM A. Yeagle to Confirm MW locations
940 - Mark well locations
945 - Start drilling MW-1
1005 - Finish drilling MW-1
- Set Prepacked 2" Screen.
1020 - Finish setting MW-1
1030 - Start drilling MW-2
1033 - Start developing MW-1
1050 - Finish drilling MW-2
1058 - Start drilling MW-3
1102 - Finish developing MW-1

87

Location Gulf Breeze, FL Date 5-12-20

Project / Client Quick Food Mart #7

27739.00/02 57/9805564

1124 - Start developing MW-2
1125 Finish drilling MW-3.
1130 - Drillers break for lunch.
1145 - Finish developing MW-2
1207 - Start developing MW-3
1225 - Finish developing MW-3
1230 - Drillers return from lunch.
- Begin building pads.
1430 - All pads completed
1445 - All personel off site.

MW

Rite in the Rain

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
MW-1	Quick Food Mart #7	57/9800564	5-12-20

Well Location and Type (check appropriate boxes):
- [X] On-Site
- [ ] Right-of-Way
- [ ] Off-Site Private Property
- [ ] Above Grade (AG)
- [X] Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- [ ] Perched Monitoring
- [X] Shallow (Water-Table) Monitoring
- [ ] Intermediate or Deep Monitoring
- [ ] Remediation or Other (describe)

Well Install Method: DPT

Surface Casing Install Method: –

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
12	12	6 1/4	8	2 feet by 2 feet

Riser Diameter and Material:	Riser/Screen Connections:	Riser Length:
2" PVC	[X] Flush-Threaded [ ] Other (describe)	1.5 feet from 0.5 feet to 2 feet

Screen Diameter and Material:	Screen Slot Size:	Screen Length:
2" PVC	0.01"	10 feet from 2 feet to 12 feet

1st Surface Casing Material:	1st Surface Casing I.D. (inches):	1st Surface Casing Length:
also check: [ ] Permanent [ ] Temporary		feet from feet to feet

2nd Surface Casing Material:	2nd Surface Casing I.D. (inches):	2nd Surface Casing Length:
also check: [ ] Permanent [ ] Temporary		feet from feet to feet

3rd Surface Casing Material:	3rd Surface Casing I.D. (inches):	3rd Surface Casing Length:
also check: [ ] Permanent [ ] Temporary		feet from feet to feet

Filter Pack Material and Size:	Prepacked Filter Around Screen (check one):	Filter Pack Length:
Sand 20/30	[X] Yes [X] No (Avg)	10.5 feet from 1.5 feet to 12 feet

Filter Pack Seal Material and Size:	Filter Pack Seal Length:
Sand 30/65	0.5 feet from 1 feet to 1.5 feet

Surface Seal Material:	Surface Seal Length:
Portland Cement Grout.	0.5 feet from 0.5 feet to 1 feet

WELL DEVELOPMENT DATA

Well Development Date: 5-12-20

Well Development Method (check one): [ ] Surge/Pump [X] Pump [ ] Compressed Air [ ] Other (describe)

Development Pump Type (check): [X] Submersible [ ] Centrifugal [ ] Peristaltic [ ] Other (describe)

Depth to Groundwater (before developing in feet): 4.55

Pumping Rate (gallons per minute): ~1.5

Maximum Drawdown of Groundwater During Development (feet): 1.45

Well Purged Dry (check one): [ ] Yes [X] No

Pumping Condition (check one): [X] Continuous [ ] Intermittent

Total Development Water Removed (gallons): 43.5

Development Duration (minutes): 29

Development Water Drummed (check one): [ ] Yes [X] No

Water Appearance (color and odor) At Start of Development: Brown, Faint odor

Water Appearance (color and odor) At End of Development: Clear, Faint

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number: MW-2	Site Name: Quick Food Mart #7	FDEP Facility I.D. Number: 57/9800564	Well Install Date(s): 5-12-20

Well Location and Type (check appropriate boxes):
- [x] On-Site
- [ ] Right-of-Way
- [ ] Off-Site Private Property
- [ ] Above Grade (AG)
- [x] Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- [ ] Perched Monitoring
- [x] Shallow (Water-Table) Monitoring
- [ ] Intermediate or Deep Monitoring
- [ ] Remediation or Other (describe)

Well Install Method: DPT

Surface Casing Install Method:

Borehole Depth (feet): 12	Well Depth (feet): 12	Borehole Diameter (inches): 6 1/4	Manhole Diameter (inches): 8

Well Pad Size: 2 feet by 2 feet

Riser Diameter and Material: 2" PVC

Riser/Screen Connections:
- [x] Flush-Threaded
- [ ] Other (describe)

Riser Length: 1.5 feet from 0.5 feet to 2 feet

Screen Diameter and Material: 2" PVC

Screen Slot Size: 0.01"

Screen Length: 10 feet from 2 feet to 12 feet

1st Surface Casing Material:
also check: [ ] Permanent [ ] Temporary

1st Surface Casing I.D. (inches):

1st Surface Casing Length: ____ feet from ____ feet to ____ feet

2nd Surface Casing Material:
also check: [ ] Permanent [ ] Temporary

2nd Surface Casing I.D. (inches):

2nd Surface Casing Length: ____ feet from ____ feet to ____ feet

3rd Surface Casing Material:
also check: [ ] Permanent [ ] Temporary

3rd Surface Casing I.D. (inches):

3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size: Sand 20/30

Prepacked Filter Around Screen (check one):
- [x] Yes
- [ ] No

Filter Pack Length: 10.5 feet from 1.5 feet to 12 feet

Filter Pack Seal Material and Size: Sand 30/65

Filter Pack Seal Length: 0.5 feet from 1 feet to 1.5 feet

Surface Seal Material: Portland Cement Grout

Surface Seal Length: 0.5 feet from 0.5 feet to 1 feet

WELL DEVELOPMENT DATA

Well Development Date: 5-12-20

Well Development Method (check one):
- [ ] Surge/Pump
- [x] Pump
- [ ] Compressed Air
- [ ] Other (describe)

Development Pump Type (check):
- [ ] Centrifugal
- [ ] Peristaltic
- [x] Submersible
- [ ] Other (describe)

Depth to Groundwater (before developing in feet): 5.11

Pumping Rate (gallons per minute): 1.5

Maximum Drawdown of Groundwater During Development (feet): 1.01

Well Purged Dry (check one):
- [ ] Yes
- [x] No

Pumping Condition (check one):
- [x] Continuous
- [ ] Intermittent

Total Development Water Removed (gallons): 31.5

Development Duration (minutes): 21

Development Water Drummed (check one):
- [ ] Yes
- [x] No

Water Appearance (color and odor) At Start of Development: Brown, None

Water Appearance (color and odor) At End of Development: Clear, None

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number:	Site Name:	FDEP Facility I.D. Number:	Well Install Date(s):
MW-3	Quick Food Mart #7	578800564	5-12-26

Well Location and Type (check appropriate boxes):
- [X] On-Site
- [ ] Right-of-Way
- [ ] Off-Site Private Property
- [ ] Above Grade (AG)
- [X] Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose:
- [ ] Perched Monitoring
- [X] Shallow (Water-Table) Monitoring
- [ ] Intermediate or Deep Monitoring
- [ ] Remediation or Other (describe)

Well Install Method: DPT

Surface Casing Install Method: —

Borehole Depth (feet):	Well Depth (feet):	Borehole Diameter (inches):	Manhole Diameter (inches):	Well Pad Size:
12	12	6¼	8	2 feet by 2 feet

Riser Diameter and Material: 2" PVC

Riser/Screen Connections:
- [X] Flush-Threaded
- [ ] Other (describe)

Riser Length: 1.5 feet — from 0.5 feet to 2 feet

Screen Diameter and Material: 2" PVC

Screen Slot Size: 0.01"

Screen Length: 10 feet — from 2 feet to 12 feet

1st Surface Casing Material: also check: [ ] Permanent [ ] Temporary

1st Surface Casing I.D. (inches):

1st Surface Casing Length: ____ feet — from ____ feet to ____ feet

2nd Surface Casing Material: also check: [ ] Permanent [ ] Temporary

2nd Surface Casing I.D. (inches):

2nd Surface Casing Length: ____ feet — from ____ feet to ____ feet

3rd Surface Casing Material: also check: [ ] Permanent [ ] Temporary

3rd Surface Casing I.D. (inches):

3rd Surface Casing Length: ____ feet — from ____ feet to ____ feet

Filter Pack Material and Size: Sand 20/30

Prepacked Filter Around Screen (check one):
- [X] Yes
- [ ] No

Filter Pack Length: 10.5 feet — from 1.5 feet to 12 feet

Filter Pack Seal Material and Size: Sand 30/65

Filter Pack Seal Length: 0.5 feet — from 1 feet to 1.5 feet

Surface Seal Material: Portland Cement Grout

Surface Seal Length: 0.5 feet — from 0.5 feet to 1 feet

WELL DEVELOPMENT DATA

Well Development Date: 5-12-26

Well Development Method (check one):
- [ ] Surge/Pump
- [X] Pump
- [ ] Compressed Air
- [ ] Other (describe)

Development Pump Type (check):
- [ ] Centrifugal
- [ ] Peristaltic
- [X] Submersible
- [ ] Other (describe)

Depth to Groundwater (before developing in feet): 4.73

Pumping Rate (gallons per minute): 1.5

Maximum Drawdown of Groundwater During Development (feet): 0.63

Well Purged Dry (check one):
- [ ] Yes
- [X] No

Pumping Condition (check one):
- [X] Continuous
- [ ] Intermittent

Total Development Water Removed (gallons): 27

Development Duration (minutes): 18

Development Water Drummed (check one):
- [ ] Yes
- [X] No

Water Appearance (color and odor) At Start of Development: Brown, none

Water Appearance (color and odor) At End of Development: Clear, none

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

BORING LOG

Boring/Well Number: MW-1	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: Quick Food Mart #7	Borehole Start Date: 5-12-20 End Date: 5-12-20	Borehole Start Time: 945 ☒ AM ☐ PM End Time: 1005 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name: Avery Van Brussel	Environmental Technician's Name: —
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): 6 1/4
Borehole Depth (feet): 12		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): 4.55
OVA (list model and check type): — ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☒ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
							1	No screening.			
							2				
							3				
							4				
							5				
							6				
							7				
							8				
							9				
							10				
							11				
							12	Well installed to 12'			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Page 1 of 1

Boring/Well Number: MW-2	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: Food Mart Quick Stop #7	Borehole Start Date: 5-12-20 End Date: 5-12-20	Borehole Start Time: 1030 ☒ AM ☐ PM End Time: 1050 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name: Avery Van Brussel	Environmental Technician's Name: –
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): 6 1/4
Borehole Depth (feet): 12		
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): 5.11
OVA (list model and check type): – ☐ FID ☐ PID		

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☒ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
							1	No Screening.			
							2				
							3				
							4				
							5				
							6				
							7				
							8				
							9				
							10				
							11				
							12	Well installed to 12'			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Page 1 of 1

Boring/Well Number: MW-3	Permit Number:	FDEP Facility Identification Number: 57/9800564
Site Name: Quick Food Mart #7	Borehole Start Date: 5-12-20 End Date: 5-12-20	Borehole Start Time: 1058 ☒ AM ☐ PM End Time: 1125 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name: Avery Van Brussel	Environmental Technician's Name:
Drilling Company: PDS	Pavement Thickness (inches): ~6	Borehole Diameter (inches): 6 1/4 — Borehole Depth (feet): 12
Drilling Method(s): DPT	Apparent Borehole DTW (in feet from soil moisture content): ~5	Measured Well DTW (in feet after water recharges in well): 4.73 — OVA (list model and check type): — ☐ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☒ Drum ☐ Spread ☐ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☒ Well ☐ Grout ☐ Bentonite ☐ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
							1	No Screening			
							2				
							3				
							4				
							5				
							6				
							7				
							8				
							9				
							10				
							11				
							12	Well installed to 12'			

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [x] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [ ] Delegated Authority (If Applicable)

Date Stamp

Confirmation# 549265

Date:06/03/2020

Official Use Only

1. *Permit Number MO-C-292679-1 *CUP/WUP Number _____ *DID Number 293182 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 7
3. *Owner's Name Saikrupa Food Stores LLC 4. *Completion Date 05/12/2020 5. Florida Unique ID _____
6. 5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Santa Rosa *Section 19 Land Grant _____ *Township 2S *Range 27W
8. Latitude 302359.8634 Longitude 870001.1743
9. Data Obtained From: ___GPS __X__Map ___Survey Datum: ___NAD 27 __X__NAD 83 ___WGS 84

10. *Type of Work: __X__Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
__X__Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling __X__Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 5 ft. Measured Pumping Water Level _____ft. After _____Hours at _____GPM
14. *Measuring Point (Describe) Top of casing Which is _____ft. _____Above _____Below Land Surface *Flowing: ____Yes __X__No
15. *Casing Material: ___Black Steel ___Galvanized __X__PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From _____To _____ft. *Screen: From 2 To 12 ft. Slot Size _____

17. *Abandonment: Other(Explain _____)
    From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
18. *Surface Casing Diameter and Depth:
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
19. *Primary Casing Diameter and Depth:
    Dia 2 in. From 0 ft. To 1 ft. No. of Bags 17 Seal Material (Check One): __X__Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
20. *Liner Casing Diameter and Depth:
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
21. *Telescope Casing Diameter and Depth:
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____
    Dia _____in. From _____ft. To _____ft. No. of Bags _____ Seal Material (Check One): ____Neat Cement ____Bentonite ____Other _____

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower _____ Pump Capacity (GPM) _____
    Pump Depth _____ft. Intake Depth _____ft.
23. Chemical Analysis (When Required):
    Iron _____ppm Sulfate _____ppm Chloride _____ppm
    _____Laboratory Test _____Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Christopher Wright

*Permit No. MO-C-292679-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

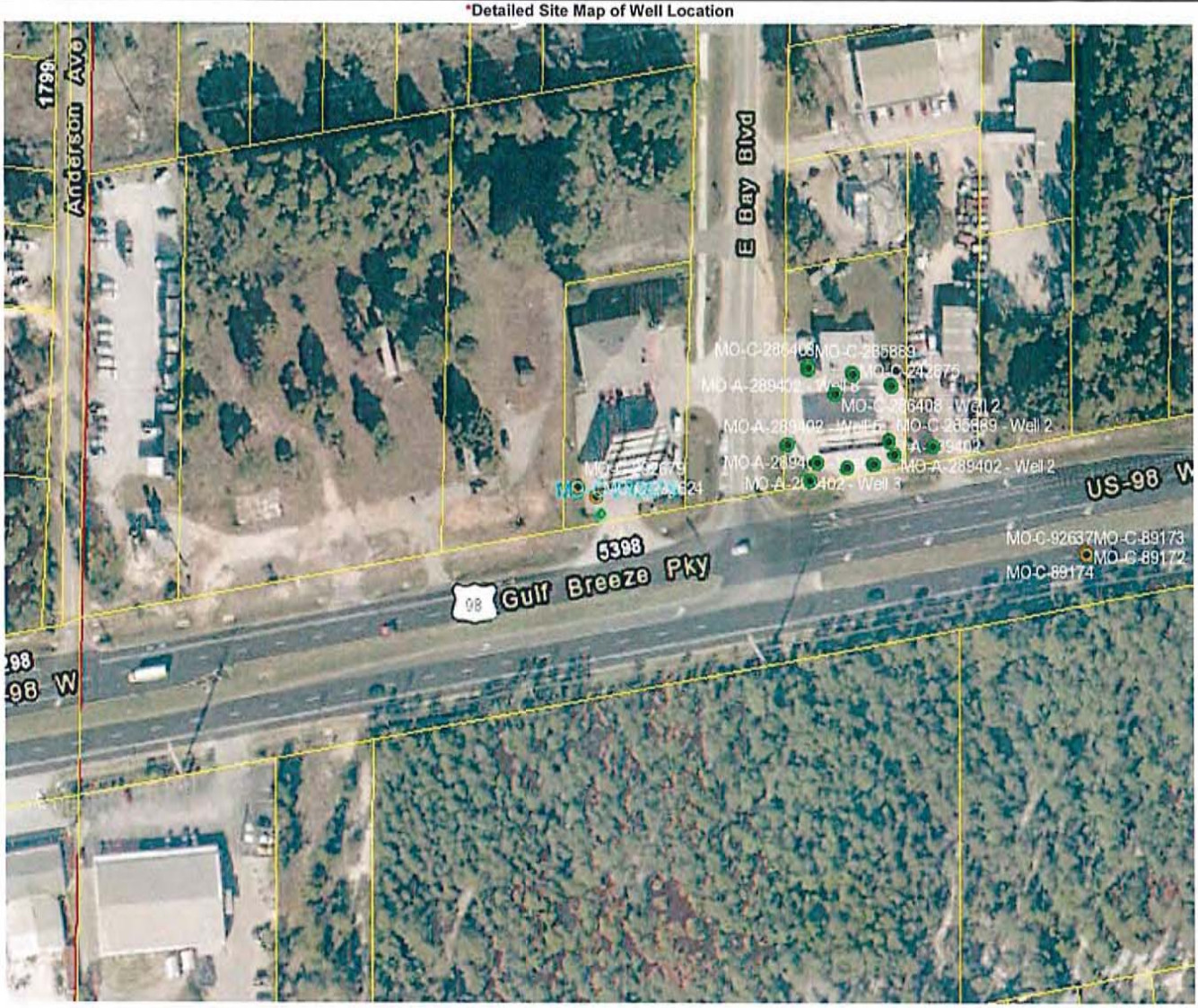
SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	12 ft.	Color	Tan	Grain Size (F, M, C)	Medium	Material	Sand
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	
From		To		Color		Grain Size (F, M, C)		Material	

Comments:

*Detailed Site Map of Well Location



STATE OF FLORIDA WELL COMPLETION REPORT

- [ ] Southwest
- [x] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [ ] Delegated Authority (If Applicable)

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

Date Stamp

Confirmation# 549266

Date:06/03/2020

Official Use Only

1. *Permit Number MO-C-292679-1 *CUP/WUP Number _____ *DID Number 293978 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 7
3. *Owner's Name Saikrupa Food Stores LLC 4.*Completion Date 05/12/2020 5. Florida Unique ID _____
6. 5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Santa Rosa *Section 19 Land Grant _____ *Township 2S *Range 27W
8. Latitude 302400.0091 Longitude 870001.1115
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic	___Landscape Irrigation	___Agricultural Irrigation	___Site Investigation
___Bottled Water Supply	___Recreation Area Irrigation	___Livestock	_X_Monitoring
___Public Water Supply (Limited Use/DOH)		___Nursery Irrigation	___Test
___Public Water Supply (Community or Non-Community/DEP)		___Commercial/Industrial	___Earth-Coupled Geothermal
___Class I Injection		___Golf Course Irrigation	___HVAC Supply
			___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling _X_Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 5 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Top of casing Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To ___ft. *Screen: From 2 To 12 ft. Slot Size _____

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:
    Dia 2 in. From 0 ft. To 1 ft. No. of Bags .17 Seal Material (Check One): _X_Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One): ___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Christopher Wright

*Permit No. MO-C-292679-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
WWW.SWFWMD.STATE.FL.US

ST. JOHNS RIVER WATER MANAGEMENT DISTRICT
4049 REID STREET, PALATKA, FL 32178-1429
PHONE: (386) 329-4500
WWW.SJRWMD.COM

NORTHWEST FLORIDA WATER MANAGEMENT DISTRICT
152 WATER MANAGEMENT DR., HAVANA, FL 32333-4712
(U.S. Highway 90, 10 miles west of Tallahassee)
PHONE: (850) 539-5999
WWW.NWFWMD.STATE.FL.US

SOUTH FLORIDA WATER MANAGEMENT DISTRICT
P.O. BOX 24680
3301 GUN CLUB ROAD
WEST PLAM BEACH, FL 33416-4680
PHONE: (561) 686-8800
WWW.SFWMD.GOV

SUWANNEE RIVER WATER MANAGEMENT DISTRICT
9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	12 ft.	Color	Tan	Grain Size (F, M, C)	Medium	Material	Sand
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

*Detailed Site Map of Well Location



STATE OF FLORIDA WELL COMPLETION REPORT

PLEASE, FILL OUT ALL APPLICABLE FIELDS
(*Denotes Required Fields Where Applicable)

- [ ] Southwest
- [x] Northwest
- [ ] St. Johns River
- [ ] South Florida
- [ ] Suwannee River
- [ ] DEP
- [ ] Delegated Authority (If Applicable)

Date Stamp

Confirmation# 549268

Date:06/03/2020

Official Use Only

1. *Permit Number MO-C-292679-1 *CUP/WUP Number _____ *DID Number 293980 62-524 Delineation No. _____
2. *Number of permitted wells constructed, repaired, or abandoned 3 *Number of permitted wells not constructed, repaired, or abandoned 7
3. *Owner's Name Saikrupa Food Stores LLC 4.*Completion Date 05/12/2020 5. Florida Unique ID _____
6. 5342 Gulf Breeze Parkway, Gulf Breeze, FL 32563
   *Well Location – Address, Road Name or Number, City, ZIP
7. *County Santa Rosa *Section 19 Land Grant _____ *Township 2S *Range 27W
8. Latitude 302400.0716 Longitude 870001.3336
9. Data Obtained From: ___GPS _X_Map ___Survey Datum: ___NAD 27 _X_NAD 83 ___WGS 84

10. *Type of Work: _X_Construction ___Repair ___Modification ___Abandonment Reason: _____
11. *Specify Intended Use(s) of Well(s):

___Domestic
___Bottled Water Supply
___Public Water Supply (Limited Use/DOH)
___Public Water Supply (Community or Non-Community/DEP)
___Class I Injection
___Landscape Irrigation
___Recreation Area Irrigation
___Agricultural Irrigation
___Livestock
___Nursery Irrigation
___Commercial/Industrial
___Golf Course Irrigation
___Site Investigation
_X_Monitoring
___Test
___Earth-Coupled Geothermal
___HVAC Supply
___HVAC Return

Class V Injection: ___Recharge ___Commercial/Industrial Disposal ___Aquifer Storage and Recovery ___Drainage
Remediation: ___Recovery ___Air Sparge ___Other (Describe) _____
___Other (Describe) _____

12. *Drill Method: ___Auger ___Cable Tool ___Rotary ___Combination (Two or More Methods) ___Jetted ___Sonic
    ___Horizontal Drilling _X_Hydraulic Point (Direct Push) ___Other _____
13. *Measured Static Water Level 5 ft. Measured Pumping Water Level ___ft. After ___Hours at ___GPM
14. *Measuring Point (Describe) Top of casing Which is ___ft. ___Above ___Below Land Surface *Flowing: ___Yes _X_No
15. *Casing Material: ___Black Steel ___Galvanized _X_PVC ___Stainless Steel ___Not Cased ___Other _____
16. *Total Well Depth 12 ft. Cased Depth 2 ft. *Open Hole: From ___To___ft. *Screen: From 2 To 12 ft. Slot Size ___

17. *Abandonment: Other(Explain _____)
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
18. *Surface Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
19. *Primary Casing Diameter and Depth:
    Dia 2 in. From 0 ft. To 1 ft. No. of Bags 17 Seal Material (Check One): X Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
20. *Liner Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
21. *Telescope Casing Diameter and Depth:
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___
    Dia ___in. From ___ft. To ___ft. No. of Bags___ Seal Material (Check One):___Neat Cement ___Bentonite ___Other___

22. Pump Type (If known):
    ___Centrifugal ___Jet ___Submersible ___Turbine
    Horsepower ___ Pump Capacity (GPM) ___
    Pump Depth ___ft. Intake Depth ___ft.
23. Chemical Analysis (When Required):
    Iron ___ppm Sulfate ___ppm Chloride ___ppm
    ___Laboratory Test ___Field Test Kit
24. Water Well Contractor:
    *Contractor Name Gregory W Campbell *License Number 2613 E-mail Address shannon@pdsflorida.com
    *Contractor's Signature **Gregory W Campbell** (I certify that the information provided in this report is accurate and true.) *Driller's Name (Print or Type) Christopher Wright

*Permit No. MO-C-292679-1

SOUTHWEST FLORIDA WATER MANAGEMENT DISTRICT
2379 BROAD STREET, BROOKSVILLE, FL 34604-6899
PHONE: (352) 796-7211 or (800) 423-1476
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PHONE: (386) 329-4500
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9225 CR 49
LIVE OAK, FL 32060
PHONE: (386) 362-1001 or (800) 226-1066 (Florida only)
WWW.MYSUWANNEERIVER.COM

***DRILL CUTTINGS LOG** (Examine cuttings every 20 ft. or at formation changes. Note cavities and depth to producing zone. Grain Size: F=Fine, M=Medium, and C=Coarse)

From	0 ft.	To	12 ft.	Color	Tan	Grain Size (F, M, C)	Medium	Material	Sand
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	
From	ft.	To	ft.	Color		Grain Size (F, M, C)		Material	

Comments:

*Detailed Site Map of Well Location



NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number: 57/9800564

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number: AET # 3601

5. Generator's Name and Mailing Address
Quick Food Mart # 7
5342 Gulf Breeze Pkwy. Gulf Breeze, FL
Generator's Phone:

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name
Horizon Environmental Services, LLC
U.S. EPA ID Number: FLR 000227025

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
Evergreen Landfill
3163 Wetherington Ln. Valdosta, GA
Facility's Phone:
U.S. EPA ID Number: GA 1318500108

GENERATOR

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Petroleum Contaminated Soil	2	DM	2	55 GAL	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information
AET Project # 27739.00/T2

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Matthew Lowe
Signature: Matthew Lowe
Month 06 Day 09 Year 20

INTL

International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Matthew Lowe
Signature: Matthew Lowe
Month 06 Day 09 Year 20

Transporter 2 Printed/Typed Name
Signature
Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)
U.S. EPA ID Number
Facility's Phone:

17c. Signature of Alternate Facility (or Generator)
Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: T Jackson
Signature
Month 6 Day 10 Year 20

169-BLS-C 6 10497 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

EVERGREEN LANDFILL
3163 WETHERINGTON LANE
VALDOSTA, GA 31601
2292938157

001090
HORIZON ENVIRONMENTAL SERVICES, LLC.
PO BOX 1271
LEESBURG, GA 31763

INVOICE
INBOUND

SITE	CELL	OPERATOR	TICKET #
Q4		CWEST	370496

TRUCK	CONTAINER	LICENSE
HORIZON1		

REFERENCE	IN	OUT
	6/10/20 1:12 pm	6/10/20 2:00 pm

CONTRACT: 20-28-1090 - BLANKET PROFILE
BOL:

GROSS 43,840.00 LBS Scale In
TARE 21,480.00 LBS Scale Out
NET 22,360.00 LBS

QTY	UNIT	DESCRIPTION			ORIGIN	%	RATE	TAX	TOTAL
11.18	TN	Soil - Contaminated	YD	0.00	L6	100.00			
1.00		COMPLIANCE AND BUSI		0.00		0.00			

Tax Total
Total
Paid
Change
Check#
Recpt #

Georgia State Fee
Lowndes County Fee - Special

I hereby certify that this load does not contain any unauthorized hazardous waste.

SIGNATURE: Matthew Lane

FACILITY COPY

EVERGREEN LANDFILL
3163 WETHERINGTON LANE
VALDOSTA, GA 31601
2292938157

001090
HORIZON ENVIRONMENTAL SERVICES, LLC.
PO BOX 1271
LEESBURG, GA 31763

INVOICE
INBOUND

SITE	CELL	OPERATOR	TICKET #
Q4		CWEST	370496

TRUCK	CONTAINER	LICENSE
HORIZON1		

REFERENCE	IN	OUT
	6/10/20 1:12 pm	6/10/20 2:00 pm

CONTRACT: 20-28-1090 - BLANKET PROFILE
BOL:

GROSS 43,840.00LBS Scale In
TARE 21,480.00LBS Scale Out
NET 22,360.00 LBS

QTY	UNIT	DESCRIPTION			ORIGIN	%	RATE	TAX	TOTAL
11.18	TN	Soil - Contaminated	YD	0.00	L6	100.00			
1.00		COMPLIANCE AND BUSI		0.00		0.00			

Total
Paid
Change
Check#
Recpt #

I hereby certify that this load does not contain any unauthorized hazardous waste.

SIGNATURE: Matthew Lane

CUSTOMER COPY


NON-
HAZARDOUS
WASTE
NON-HAZARDOUS WASTE
NON-
HAZARDOUS
WASTE
NON-HAZARDOUS WASTE


NON-HAZARDOUS WASTE
GENERATOR INFORMATION: (optional)
SHIPPER
ADDRESS
CITY, STATE,
CONTENTS:
5/11/20
Quick Food Mart #7
Breeze, FL
investigation
derived waste
(soil)
NON-HAZARDOUS WASTE


WHY MARCH WHEN YOU CAN FLY?
NON-HAZARDOUS WASTE



APPENDIX D

Field Notes, Groundwater Sampling and Calibration Logs

6

Location Gulf Breeze Fl Date 5-14-20

Project / Client Quick Food Mart #7

27793.00 57/9800564 Sunny 84°

8:30	Loaded 2016 F250 truck for GW sampling in Gulf Breeze
9:30	On site - checked in inside store and purchased ice. Opened wells (3) Cal sample equip.
10:07	Started purging MW1
10:38	Finished sampling MW1
10:46	Started purging MW2
11:03	Finished sampling MW2
11:08	Started purging MW3
12:01	Finished sampling MW3 Checked cal on sample equip Surveyed wells
12:28	Off site - met ETL and gave them samples
1:10	Returned to office unloaded truck

Pat J

Location

Project / Client

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	Quik Food Mart #7	SITE LOCATION:	Gulf Breeze FL
WELL NO:	MW1	SAMPLE ID:	MW1
DATE:	5-14-20		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	1/4	2 feet to 12 feet	4.60	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH − STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (12 feet − 4.60 feet) X .16 gallons/foot = 1.18 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
6.5	6.5	10:07	10:34	4.59

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:14	1.19	1.19	.17	4.65	7.1	25.0	630	1.84	36	clear	none
10:16	.34	1.53	.17	4.65	7.1	25.0	630	1.74	31		
10:18	.34	1.87	.17	4.65	7.1	25.0	610	1.66	29		
10:20	.34	2.21	.17	4.65	7.1	25.0	590	1.55	24		
10:30	1.7	3.91	.17	4.65	7.1	25.0	490	1.18	18		
10:32	.34	4.25	.17	4.65	7.0	25.0	490	1.15	17		
10:34	.34	4.59	.17	4.65	7.0	25.0	480	1.14	17		

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Pat Hitchcock AET	Pat Hitchcock	10:34	10:37

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
6.5	HDPE		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y N (replaced) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW 1	3	CG	40ml	HCl			BTEX-M-VOHs	APP	<200
	2	CG	40ml	ice			EDB		<200
	1	AG	1L	ice			PAH		660
	1	AG	1L	H2SO4			TRPH		660
	1	HDPE	250ml	HNO3			Pb		660

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Quik Food Mart #7	SITE LOCATION: Gulf Breeze FL	
WELL NO: MW2	SAMPLE ID: MW2	DATE: 5-14-20

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): 4.86	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY
(only fill out if applicable)
= (12 feet – 4.86 feet) X .16 gallons/foot = 1.14 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME
(only fill out if applicable)
= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 10:46	PURGING ENDED AT: 10:57	TOTAL VOLUME PURGED (gallons): 1.87

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
10:53	1.19	1.19	.17	4.91	6.7	26.5	260	.78	19	clear	none
10:55	.34	1.53	.17	4.91	6.7	26.4	260	.73	18	↓	↓
10:57	.34	1.87	.17	4.91	6.7	26.5	250	.74	17	↓	↓

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Pat Hitchcock AET	SAMPLER(S) SIGNATURE(S): Pat Hitchcock	SAMPLING INITIATED AT: 10:57	SAMPLING ENDED AT: 11:03
PUMP OR TUBING DEPTH IN WELL (feet): 6	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y (N (replaced))	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW 2	3	CG	40ml	HCl			BTEX+M	APP	<200
	1	1G	1L	ice			PAH	↓	660
	1	1G	1L	H2SO4			TRPH	↓	660

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**
2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME: Quik Food Mart #7	SITE LOCATION: Gulf Breeze FL	
WELL NO: MW3	SAMPLE ID: MW3	DATE: 5-14-20

PURGING DATA

WELL DIAMETER (inches): 2	TUBING DIAMETER (inches): 1/4	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): 4.78	PURGE PUMP TYPE OR BAILER: PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (12 feet – 4.78 feet) X .16 gallons/foot = 1.15 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet): 6	FINAL PUMP OR TUBING DEPTH IN WELL (feet): 6	PURGING INITIATED AT: 11:08	PURGING ENDED AT: 11:55	TOTAL VOLUME PURGED (gallons): 7.99

TIME	VOLUME PURGED (gallons)	CUMUL VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP (°C)	COND (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
11:15	1.19	1.19	.17	4.81	7.6	26.4	210	.56	34	clear	none
11:25	1.7	2.89	.17	4.81	7.6	26.3	210	.54	38		
11:35	1.7	4.59	.17	4.81	7.6	26.4	210	.51	41		
11:45	1.7	6.29	.17	4.81	7.5	26.4	220	.50	42		
11:55	1.7	7.99	.17	4.81	7.5	26.5	220	.52	40		

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88
TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION: Pat Hitchcock AET	SAMPLER(S) SIGNATURE(S): Pat Hitchcock	SAMPLING INITIATED AT: 11:55	SAMPLING ENDED AT: 12:01
PUMP OR TUBING DEPTH IN WELL (feet): 6	TUBING MATERIAL CODE: HDPE	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
FIELD DECONTAMINATION: PUMP Y (N)	TUBING Y N (replaced)	DUPLICATE: Y (N)	

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW 3	3	CG	40ml	HCl			BTEX-M	APP	200
	1	AG	1L	ice			PAH		660
	1	AG	1L	H_2SO_4			TRPH		660

REMARKS: Turbidity reflects increasing trend, purged 5+ well volumes

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

FT 1000 General Field Testing and Measurement

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) Hach 2100 P **Instrument #** 02040002621

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☐pH ☐ORP

☒Turbidity ☐Residual Cl ☐DO ☐OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 0.01

Standard B 20

Standard C 100 / 800

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
5-14-20	9:53	A	0.01	0		Y	I	PJ	Quick Food Mart	
	9:54	B	20	20		Y	I			
	9:55	C	100	100		Y	I			
	9:56	D	800	811		Y	I			
	12:04	A	0.01	0		N	F			Y
	12:04	B	20	20		N	F			Y
	12:04	C	100	102		N	F			Y
	12:04	D	800	810		N	F			Y

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this page

Project/Site: Quik Food Mart #7 Date: 5-14-20 Meter # YSI 550

Temperature (Quarterly)			For Date of Last Temeperature Verification see							in log book		
Dissolved Oxygen			DEP SOP FT 1500	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °c	% DO	Saturation mg/L	Pass or Fail
												Acceptane Criteria: +/-0.3mg/l	
CAL	ICV	CCV		PJZ	5-14-20	9:56			8.24	25.1	100%	8.24	P F
CAL	ICV	CCV		↓	↓	12:05			7.71	28.1	99.0	7.81	P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F

Specific Conductance			DEP SOP FT 1200	Initials	Date	Time	Standard umhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading umhos/cm	Pass or Fail
												Acceptane Criteria: +/-5%	
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F

Ph			DEP SOP FT 1100	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
												Acceptane Criteria: +/-0.2 SU	
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F

Maintenanace: Weekly ph Slope: _____ Specific Conductance Probe Cleaned? **Yes** **No** Dissolved Oxygen Membrane Changed: **Yes** **No**

Notes:

Perform only in Calibrate Mod: CAL - Calibrate
Perform only in Run Mod: ICV - Initial Calibration Verification
Perform only in Run Mode: CCV - Continuing Calibration Verification

Form FD9000-8 CALIBRATION LOG (FDEP SOP FT 1000-FT 1500, FD 1000-FD 4000)

Boldly "X" this box if there is qualified data on this page

Project/Site: Quik Food Mart #7 Date: 5-14-20 Meter # ECO Testers

Temperature (Quarterly) For Date of Last Temeperature Verification see in log book													
Dissolved Oxygen			DEP SOP FT 1500	Initials	Date	Time	Probe Charge	Probe Gain	mg/L	Temp °c	% DO	Saturation mg/L	Pass or Fail
													Acceptane Criteria: +/-0.3mg/l
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F

Specific Conductance			DEP SOP FT 1200	Initials	Date	Time	Standard umhos/cm	Exp. Date	Lot #	Bottle #	Cell Constant	Reading umhos/cm	Pass or Fail
												Acceptane Criteria: +/-5%	
CAL	ICV	CCV		BH	5-14-20	9:50	1409	4-20	H109-24			1410	(P) F
CAL	ICV	CCV				9:51	84	12-20	H348-23			80	P F
CAL	ICV	CCV				12:06	1409	↓	↓			1390	P F
CAL	ICV	CCV		↓	↓	12:06	84	↓	↓			100	P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F
CAL	ICV	CCV											P F

Ph			DEP SOP FT 1100	Initials	Date	Time	Standard SU	Exp. Date	Lot #	Bottle #	Slope	Reading SU	Pass or Fail
												Acceptane Criteria: +/-0.2 SU	
CAL	ICV	CCV		BH	5-14-20	9:52	4.0	2-21	9GB103			4.0	(P) F
CAL	ICV	CCV				9:53	7.0	2-21	9GB719			7.0	(P) F
CAL	ICV	CCV				9:53	10.0	1-21	9GK107			10.0	(P) F
CAL	ICV	CCV				12:07	4.0	↓	↓			4.0	P F
CAL	ICV	CCV				12:07	7.0	↓	↓			7.0	P F
CAL	ICV	CCV		↓	↓	12:07	100	↓	↓			10.1	P F
CAL	ICV	CCV											P F

Maintenanace: Weekly ph Slope: _____ Specific Conductance Probe Cleaned? **Yes** **No** Dissolved Oxygen Membrane Changed: **Yes** **No**

Notes:

Perform only in Calibrate Mod: CAL - Calibrate
Perform only in Run Mod: ICV - Initial Calibration Verification
Perform only in Run Mode: CCV - Continuing Calibration Verification

AET ELEVATION SURVEY WORKSHEET

PROJECT INFORMATION

Project Name: Quick Food Mart # 7 Project #: 27739.00 Date: 5-14-20

INSTRUMENT INFORMATION

Level S/N:

SURVEY DATA

Station	ROD READINGS			AZIMUTH (DEGREES)	DISTANCE (FT)	known TOC	Actual TOC		
	MID READING	HIGH READING	LOW READING						
MW1	5.31	5.39	5.23	57					
MW2	5.01	5.15	4.86	83					
MW3	5.10	5.24	4.96	117					

High reading- low reading= distance from benchmark
Set "North" at "0" degrees

SIGNATURES (Signed Initials)

Levelman & recorded by: Pat W Date: 5-14-20

Rodman: Date:

Reviewed by: Date:

APPENDIX E

Groundwater Laboratory Analytical Report

FINAL
ANALYTICAL REPORT

ETL PROJECT ID: 20-1760 **5/31/2020 - Revision 0**

AUBREY YEAGLE
ADVANCED ENVIRONMENTAL TECHNOLOGIES
1318 DUNMIRE STREET, SUITE 1
PENSACOLA, FL 32504-
TEL: (850) 471-2127
FAX: (850) 471-0750

CLIENT PROJECT NAME: QUICK FOOD MART #7
CLIENT PROJECT ID: 27739.00
FACILITY ID: 57/9800564

Enclosed are the analytical results for sample(s) received by Environmental Testing Laboratories on May 14, 2020. Results reported herein are reported on an as received basis and conform to current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Sample analyses performed by Environmental Testing Laboratories, Inc. (ETL) unless otherwise noted. ETL is accredited through NELAC and the Florida Department of Health, Certification #E87684. Scope of analyses: RCRA/CERCLA Metals, General Chemistry, Extractable Organics, and Volatile Organics. Effective Dates: February 14, 2002 through June 30, 2020.

This report shall not be reproduced, except in full, without the written consent of Environmental Testing Laboratories, Inc. This report has been signed and authorized by the signatory using an electronic signature and is intended to be the legally binding equivalent of a traditionally handwritten signature.

Authorized for release by:

ENVIRONMENTAL TESTING LABORATORIES INC

412 W. Walcott Street | Thomasville, GA 31792 | Phone: (229)-228-2592 | Fax: (229)-228-2594

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Laboratory Qualifiers

!	Data deviate from historically established concentration ranges.
#	Surrogate compound inadvertently omitted.
$	Due to dilution, surrogate compound was not detected.
*****	Not reported due to interference
?	Data are rejected as should not be used.
A	Value reported is the arithmetic mean (average) of two or more determinations.
B	Results based upon colony counts outside the acceptable range.
D	Measurement made in the field.
E	Extra samples were taken at composite stations.
F	When reporting species, F indicates the female sex.
H	Value based on fied kit determination; results may not be accurate.
I	The reported value is between the laboratory method detection limit and the laboratory practical
J	Estimated value.
K	Off-scale low. Actual value is known to be less than the value given.
L	Off-scale high. Actual value is known to be greater than the value given.
M	Presence of material is verified but not quantified; the actual value is less than the value given.
N	Presumptive evidence of presence of material.
O	Sampled, but analysis lost or not performed.
Q	Sample held beyond the accepted holding time.
R	Significant rain in the past 48 hours.
S1	Surrogate recovery reported is outside of laboratory established QA/QC Limits
S2	Analyte recovery reported is outside of laboratory established QA/QC Limits
S3	Analyte precision reported is outside of laboratory established QA/QC Limits
T	Value reported is less than the laboratory method detection limit.
U	Compound was analyzed for but not detected.
V	Indicates that the analyte was detected in both the sample and the associated method blank.
Y	Laboratory analysis was from an improperly preserved sample. Data may not be accurate.
Z	Too many colonies were present; numeric value represents the filtration volume.

Project Narrative

#E87684

Environmental Testing Laboratories, Inc. is accredited through NELAC and the Florida Department of Health.

Solid samples are reported on a dry weight basis unless otherwise noted.

Please refer to Section 4.0 of the ETL Quality Assurance Manual for a measure of uncertainty.

All analyses are performed using EPA or FL-DEP methods and certified to meet NELAC requirements, except where noted.

Analytical Method Summary

E87582 **Analytical Environmental Services Inc.**
3080 Presidential Drive, Atlanta, GA 30340
(770) 457-8177

1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane (EPA 8011)	SW-846 Final Update III

E87684 **Environmental Testing Laboratories Inc.**
412 W. Walcott Street, Thomasville, GA 31792
(229) 228-2592

ICP (EPA 6010)	SW-846 Final Update III
GC/MS (EPA 8260)	SW-846 Final Update III
Semivolatiles low level for PAH only (EPA 8270/PAH Low Level)	
GC/FID (FDEP FL-PRO)	Florida Department of Environmental Protection

Sample Summary

Laboratory Sample ID	Client Sample ID	Matrix	End Date / Time Sampled		Grab / Composite	Percent Moisture
262429	MW-1	AQUEOUS-Groundwater	5/14/2020	10:38	G	
262430	MW-2	AQUEOUS-Groundwater	5/14/2020	11:03	G	
262431	MW-3	AQUEOUS-Groundwater	5/14/2020	12:01	G	

Executive Summary

Analyte	Analytical Method	Result	Units	Qualifiers	Result Comments
MW-1 (262429)					
Lead	EPA 6010	3.8	ug/L	I	
Benzene	EPA 8260	18	ug/L		
Methyl-t-butyl ether	EPA 8260	3.4	ug/L		
Toluene	EPA 8260	5.5	ug/L		
Xylenes- Total	EPA 8260	9.8	ug/L		
Ethylbenzene	EPA 8260	1.3	ug/L		
Total Recoverable Pet. Hydrocarbons	FDEP FL-PRO	220	ug/L	I	
MW-2 (262430)					
Benzene	EPA 8260	2.1	ug/L		
Ethylbenzene	EPA 8260	0.91	ug/L	I	
Xylenes- Total	EPA 8260	3.1	ug/L		
MW-3 (262431)					
Ethylbenzene	EPA 8260	1.0	ug/L		
Xylenes- Total	EPA 8260	1.4	ug/L	I	

Analytical Data

Client Sample ID: MW-1
Sample Location:
Date Collected: 05/14/2020 10:38 AM

Laboratory Sample ID: 262429
Matrix: AQUEOUS-Groundwater
Percent Moisture:

Analytical Method: EPA 6010
Total Metals (ICP)

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Lead	1.0	**3.8**	I	ug/L	3.1	5.0	5/21/2020 10:37:00 AM

Analytical Method: EPA 8011
1,2-Dibromoethane and 1,2-Dibromo-3-chloropropane

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1,2-Dibromoethane	1.0	0.0040	U	ug/L	0.0040	0.020	5/23/2020 8:18:00 AM
Surrogate	**DF**	**% Recovery**	**Qualifier**	**Units**	**Limits**		**Analysis Date**
4-Bromofluorobenzene	1.0	125			70.0% - 137%		5/23/2020 8:18:00 AM

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1,1,1,2-Tetrachloroethane	1.0	0.54	U	ug/L	0.54	1.0	5/16/2020 11:04:00 PM
1,1,1-Trichloroethane	1.0	0.37	U	ug/L	0.37	1.0	5/16/2020 11:04:00 PM
1,1,2,2-Tetrachloroethane	1.0	0.45	U	ug/L	0.45	1.0	5/16/2020 11:04:00 PM
1,1,2-Trichloroethane	1.0	0.24	U	ug/L	0.24	1.0	5/16/2020 11:04:00 PM
1,1-Dichloroethane	1.0	0.29	U	ug/L	0.29	1.0	5/16/2020 11:04:00 PM
1,1-Dichloroethene	1.0	0.50	U	ug/L	0.50	1.0	5/16/2020 11:04:00 PM
1,1-Dichloropropene	1.0	0.48	U	ug/L	0.48	1.0	5/16/2020 11:04:00 PM
1,2,3-Trichlorobenzene	1.0	1.3	U	ug/L	1.3	5.0	5/16/2020 11:04:00 PM
1,2,3-Trichloropropane	1.0	4.4	U	ug/L	4.4	5.0	5/16/2020 11:04:00 PM
1,2,4-Trichlorobenzene	1.0	1.4	U	ug/L	1.4	5.0	5/16/2020 11:04:00 PM
1,2-Dibromo-3-chloropropane	1.0	1.4	U	ug/L	1.4	5.0	5/16/2020 11:04:00 PM
1,2-Dibromoethane	1.0	0.30	U	ug/L	0.30	1.0	5/16/2020 11:04:00 PM
1,2-Dichlorobenzene	1.0	0.38	U	ug/L	0.38	1.0	5/16/2020 11:04:00 PM
1,2-Dichloroethane	1.0	0.40	U	ug/L	0.40	1.0	5/16/2020 11:04:00 PM
1,2-Dichloropropane	1.0	0.29	U	ug/L	0.29	1.0	5/16/2020 11:04:00 PM
1,3-Dichlorobenzene	1.0	0.39	U	ug/L	0.39	1.0	5/16/2020 11:04:00 PM
1,3-Dichloropropane	1.0	0.40	U	ug/L	0.40	1.0	5/16/2020 11:04:00 PM
1,4-Dichlorobenzene	1.0	0.44	U	ug/L	0.44	1.0	5/16/2020 11:04:00 PM
2,2-Dichloropropane	1.0	1.4	U	ug/L	1.4	5.0	5/16/2020 11:04:00 PM
2-Chlorotoluene	1.0	0.36	U	ug/L	0.36	1.0	5/16/2020 11:04:00 PM
4-Chlorotoluene	1.0	0.52	U	ug/L	0.52	1.0	5/16/2020 11:04:00 PM
Benzene	1.0	**18**		ug/L	0.26	1.0	5/16/2020 11:04:00 PM
Bromobenzene	1.0	0.34	U	ug/L	0.34	1.0	5/16/2020 11:04:00 PM
Bromochloromethane	1.0	0.32	U	ug/L	0.32	1.0	5/16/2020 11:04:00 PM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Bromodichloromethane	1.0	0.33	U	ug/L	0.33	1.0	5/16/2020 11:04:00 PM
Bromoform	1.0	1.0	U	ug/L	1.0	5.0	5/16/2020 11:04:00 PM
Bromomethane	1.0	1.7	U	ug/L	1.7	5.0	5/16/2020 11:04:00 PM
Carbon tetrachloride	1.0	2.5	U	ug/L	2.5	5.0	5/16/2020 11:04:00 PM
Chlorobenzene	1.0	0.28	U	ug/L	0.28	1.0	5/16/2020 11:04:00 PM
Chloroethane	1.0	1.7	U	ug/L	1.7	5.0	5/16/2020 11:04:00 PM
Chloroform	1.0	0.36	U	ug/L	0.36	1.0	5/16/2020 11:04:00 PM
Chloromethane	1.0	1.5	U	ug/L	1.5	5.0	5/16/2020 11:04:00 PM
cis-1,2-Dichloroethene	1.0	0.40	U	ug/L	0.40	1.0	5/16/2020 11:04:00 PM
Dibromochloromethane	1.0	1.0	U	ug/L	1.0	5.0	5/16/2020 11:04:00 PM
Dibromomethane	1.0	0.34	U	ug/L	0.34	1.0	5/16/2020 11:04:00 PM
Dichlorodifluoromethane	1.0	2.4	U	ug/L	2.4	5.0	5/16/2020 11:04:00 PM
Ethylbenzene	1.0	**1.3**		ug/L	0.29	1.0	5/16/2020 11:04:00 PM
Hexachlorobutadiene	1.0	2.2	U	ug/L	2.2	5.0	5/16/2020 11:04:00 PM
Methylene chloride	1.0	1.6	U	ug/L	1.6	5.0	5/16/2020 11:04:00 PM
Methyl-t-butyl ether	1.0	**3.4**		ug/L	0.46	1.0	5/16/2020 11:04:00 PM
Tetrachloroethene	1.0	0.67	U	ug/L	0.67	1.0	5/16/2020 11:04:00 PM
Toluene	1.0	**5.5**		ug/L	0.24	1.0	5/16/2020 11:04:00 PM
trans-1,2-Dichloroethene	1.0	0.35	U	ug/L	0.35	1.0	5/16/2020 11:04:00 PM
Trichloroethene	1.0	0.30	U	ug/L	0.30	1.0	5/16/2020 11:04:00 PM
Trichlorofluoromethane	1.0	2.2	U	ug/L	2.2	5.0	5/16/2020 11:04:00 PM
Vinyl chloride	1.0	0.43	U	ug/L	0.43	1.0	5/16/2020 11:04:00 PM
Xylenes- Total	1.0	**9.8**		ug/L	1.3	3.0	5/16/2020 11:04:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	99.2			75% - 117%	5/16/2020 11:04:00 PM
4-Bromofluorobenzene	1.0	97.1			68% - 118%	5/16/2020 11:04:00 PM
Dibromofluoromethane	1.0	87.4			75% - 113%	5/16/2020 11:04:00 PM
Toluene-d8	1.0	96.7			76% - 115%	5/16/2020 11:04:00 PM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 6:49:00 AM
2-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 6:49:00 AM
Acenaphthene	1.0	0.99	U	ug/L	0.99	2.0	5/21/2020 6:49:00 AM
Acenaphthylene	1.0	0.93	U	ug/L	0.93	2.0	5/21/2020 6:49:00 AM
Anthracene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 6:49:00 AM
Benzo(a)anthracene	1.0	0.17	U	ug/L	0.17	0.20	5/21/2020 6:49:00 AM
Benzo(a)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 6:49:00 AM
Benzo(b)fluoranthene	1.0	0.084	U	ug/L	0.084	0.10	5/21/2020 6:49:00 AM
Benzo(g,h,i)perylene	1.0	0.82	U	ug/L	0.82	2.0	5/21/2020 6:49:00 AM
Benzo(k)fluoranthene	1.0	0.18	U	ug/L	0.18	0.20	5/21/2020 6:49:00 AM
Chrysene	1.0	1.1	U	ug/L	1.1	2.0	5/21/2020 6:49:00 AM
Dibenzo(a,h)anthracene	1.0	0.13	U	ug/L	0.13	0.20	5/21/2020 6:49:00 AM
Fluoranthene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 6:49:00 AM
Fluorene	1.0	1.2	U	ug/L	1.2	2.0	5/21/2020 6:49:00 AM
Indeno(1,2,3-cd)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 6:49:00 AM
Naphthalene	1.0	0.66	U	ug/L	0.66	2.0	5/21/2020 6:49:00 AM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Phenanthrene	1.0	1.4	U	ug/L	1.4	2.0	5/21/2020 6:49:00 AM
Pyrene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 6:49:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	83.9			31% - 110%	5/21/2020 6:49:00 AM
Nitrobenzene-d5	1.0	57.6			24% - 100%	5/21/2020 6:49:00 AM
p-Terphenyl-d14	1.0	94.2			45% - 125%	5/21/2020 6:49:00 AM

Analytical Method: FDEP FL-PRO GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	**220**	I	ug/L	140	500	5/19/2020 9:57:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	69.6			42% - 193%	5/19/2020 9:57:00 PM
Ortho-terphenyl	1.0	107			82% - 142%	5/19/2020 9:57:00 PM

Analytical Data

Client Sample ID: MW-2
Sample Location:
Date Collected: 05/14/2020 11:03 AM

Laboratory Sample ID: 262430
Matrix: AQUEOUS-Groundwater
Percent Moisture:

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	**2.1**		ug/L	0.26	1.0	5/21/2020 10:05:00 AM
Ethylbenzene	1.0	**0.91**	I	ug/L	0.29	1.0	5/21/2020 10:05:00 AM
Methyl-t-butyl ether	1.0	0.46	U	ug/L	0.46	1.0	5/21/2020 10:05:00 AM
Toluene	1.0	0.24	U	ug/L	0.24	1.0	5/21/2020 10:05:00 AM
Xylenes- Total	1.0	**3.1**		ug/L	1.3	3.0	5/21/2020 10:05:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	95.3			75% - 117%	5/21/2020 10:05:00 AM
4-Bromofluorobenzene	1.0	111			68% - 118%	5/21/2020 10:05:00 AM
Dibromofluoromethane	1.0	103			75% - 113%	5/21/2020 10:05:00 AM
Toluene-d8	1.0	99.9			76% - 115%	5/21/2020 10:05:00 AM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 7:27:00 AM
2-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 7:27:00 AM
Acenaphthene	1.0	0.99	U	ug/L	0.99	2.0	5/21/2020 7:27:00 AM
Acenaphthylene	1.0	0.93	U	ug/L	0.93	2.0	5/21/2020 7:27:00 AM
Anthracene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 7:27:00 AM
Benzo(a)anthracene	1.0	0.17	U	ug/L	0.17	0.20	5/21/2020 7:27:00 AM
Benzo(a)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 7:27:00 AM
Benzo(b)fluoranthene	1.0	0.084	U	ug/L	0.084	0.10	5/21/2020 7:27:00 AM
Benzo(g,h,i)perylene	1.0	0.82	U	ug/L	0.82	2.0	5/21/2020 7:27:00 AM
Benzo(k)fluoranthene	1.0	0.18	U	ug/L	0.18	0.20	5/21/2020 7:27:00 AM
Chrysene	1.0	1.1	U	ug/L	1.1	2.0	5/21/2020 7:27:00 AM
Dibenzo(a,h)anthracene	1.0	0.13	U	ug/L	0.13	0.20	5/21/2020 7:27:00 AM
Fluoranthene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 7:27:00 AM
Fluorene	1.0	1.2	U	ug/L	1.2	2.0	5/21/2020 7:27:00 AM
Indeno(1,2,3-cd)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 7:27:00 AM
Naphthalene	1.0	0.66	U	ug/L	0.66	2.0	5/21/2020 7:27:00 AM
Phenanthrene	1.0	1.4	U	ug/L	1.4	2.0	5/21/2020 7:27:00 AM
Pyrene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 7:27:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	72.9			31% - 110%	5/21/2020 7:27:00 AM
Nitrobenzene-d5	1.0	50.6			24% - 100%	5/21/2020 7:27:00 AM
p-Terphenyl-d14	1.0	73.8			45% - 125%	5/21/2020 7:27:00 AM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Analytical Method: FDEP FL-PRO
GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	140	U	ug/L	140	500	5/19/2020 10:37:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	119			42% - 193%	5/19/2020 10:37:00 PM
Ortho-terphenyl	1.0	102			82% - 142%	5/19/2020 10:37:00 PM

Analytical Data

Client Sample ID: MW-3
Sample Location:
Date Collected: 05/14/2020 12:01 PM

Laboratory Sample ID: 262431
Matrix: AQUEOUS-Groundwater
Percent Moisture:

Analytical Method: EPA 8260
GC/MS

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Benzene	1.0	0.26	U	ug/L	0.26	1.0	5/21/2020 10:30:00 AM
Ethylbenzene	1.0	**1.0**		ug/L	0.29	1.0	5/21/2020 10:30:00 AM
Methyl-t-butyl ether	1.0	0.46	U	ug/L	0.46	1.0	5/21/2020 10:30:00 AM
Toluene	1.0	0.24	U	ug/L	0.24	1.0	5/21/2020 10:30:00 AM
Xylenes- Total	1.0	**1.4**	I	ug/L	1.3	3.0	5/21/2020 10:30:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
1,2-Dichloroethane-d4	1.0	98.1			75% - 117%	5/21/2020 10:30:00 AM
4-Bromofluorobenzene	1.0	112			68% - 118%	5/21/2020 10:30:00 AM
Dibromofluoromethane	1.0	98.5			75% - 113%	5/21/2020 10:30:00 AM
Toluene-d8	1.0	102			76% - 115%	5/21/2020 10:30:00 AM

Analytical Method: EPA 8270/PAH Low Level
Semivolatiles low level for PAH only

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
1-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 8:03:00 AM
2-Methylnaphthalene	1.0	0.56	U	ug/L	0.56	2.0	5/21/2020 8:03:00 AM
Acenaphthene	1.0	0.99	U	ug/L	0.99	2.0	5/21/2020 8:03:00 AM
Acenaphthylene	1.0	0.93	U	ug/L	0.93	2.0	5/21/2020 8:03:00 AM
Anthracene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 8:03:00 AM
Benzo(a)anthracene	1.0	0.17	U	ug/L	0.17	0.20	5/21/2020 8:03:00 AM
Benzo(a)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 8:03:00 AM
Benzo(b)fluoranthene	1.0	0.084	U	ug/L	0.084	0.10	5/21/2020 8:03:00 AM
Benzo(g,h,i)perylene	1.0	0.82	U	ug/L	0.82	2.0	5/21/2020 8:03:00 AM
Benzo(k)fluoranthene	1.0	0.18	U	ug/L	0.18	0.20	5/21/2020 8:03:00 AM
Chrysene	1.0	1.1	U	ug/L	1.1	2.0	5/21/2020 8:03:00 AM
Dibenzo(a,h)anthracene	1.0	0.13	U	ug/L	0.13	0.20	5/21/2020 8:03:00 AM
Fluoranthene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 8:03:00 AM
Fluorene	1.0	1.2	U	ug/L	1.2	2.0	5/21/2020 8:03:00 AM
Indeno(1,2,3-cd)pyrene	1.0	0.15	U	ug/L	0.15	0.20	5/21/2020 8:03:00 AM
Naphthalene	1.0	0.66	U	ug/L	0.66	2.0	5/21/2020 8:03:00 AM
Phenanthrene	1.0	1.4	U	ug/L	1.4	2.0	5/21/2020 8:03:00 AM
Pyrene	1.0	1.3	U	ug/L	1.3	2.0	5/21/2020 8:03:00 AM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
2-Fluorobiphenyl	1.0	73.6			31% - 110%	5/21/2020 8:03:00 AM
Nitrobenzene-d5	1.0	51.0			24% - 100%	5/21/2020 8:03:00 AM
p-Terphenyl-d14	1.0	80.6			45% - 125%	5/21/2020 8:03:00 AM

PQL: Practical Quantitation Limit **RL: Report Limit** **MDL: Method Detection Limit** **DF: Dilution Factor**

Analytical Data

Analytical Method: FDEP FL-PRO
GC/FID

Analyte	DF	Result	Qualifier	Units	MDL	PQL	Analysis Date
Total Recoverable Pet. Hydrocarbons	1.0	140	U	ug/L	140	500	5/19/2020 11:17:00 PM

Surrogate	DF	% Recovery	Qualifier	Units	Limits	Analysis Date
Nonatriacontane(C39)	1.0	105			42% - 193%	5/19/2020 11:17:00 PM
Ortho-terphenyl	1.0	88.4			82% - 142%	5/19/2020 11:17:00 PM

Data Chronicle

Client Sample ID: MW-1 **Laboratory Sample ID:** 262429
Sample Location: **Matrix:** AQUEOUS-Groundwater
Date Collected: 05/14/2020 10:38 AM **Percent Moisture:**

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
TOT	RES	EPA 6010	1.0	WTMA052020	5/20/2020 3:30:00 PM	5/21/2020 10:37:00 AM	KDM	E87684
TOT	RES	EPA 8011	1.0	297411	5/22/2020 4:28:00 PM	5/23/2020 8:18:00 AM	E87582	E87582
TOT	RES	EPA 8260	1.0	LMSVA051720	5/16/2020 11:04:00 PM	5/16/2020 11:04:00 PM	BW	E87684
TOT	RES	EPA 8270/PAH Low Level	1.0	WPAHA051820	5/18/2020 8:30:00 AM	5/21/2020 6:49:00 AM	BW	E87684
TOT	RES	FDEP FL-PRO	1.0	WPROA051920	5/19/2020 10:00:00 AM	5/19/2020 9:57:00 PM	BW	E87684

Client Sample ID: MW-2 **Laboratory Sample ID:** 262430
Sample Location: **Matrix:** AQUEOUS-Groundwater
Date Collected: 05/14/2020 11:03 AM **Percent Moisture:**

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
TOT	RES	EPA 8260	1.0	LMSVA052220	5/21/2020 10:05:00 AM	5/21/2020 10:05:00 AM	BW	E87684
TOT	RES	EPA 8270/PAH Low Level	1.0	WPAHA051820	5/18/2020 8:30:00 AM	5/21/2020 7:27:00 AM	BW	E87684
TOT	RES	FDEP FL-PRO	1.0	WPROA051920	5/19/2020 10:00:00 AM	5/19/2020 10:37:00 PM	BW	E87684

Client Sample ID: MW-3 **Laboratory Sample ID:** 262431
Sample Location: **Matrix:** AQUEOUS-Groundwater
Date Collected: 05/14/2020 12:01 PM **Percent Moisture:**

Prep	Analysis	Analytical Method	Dilution	Batch	Prepared	Analyzed	Analyst	Lab
TOT	RES	EPA 8260	1.0	LMSVA052220	5/21/2020 10:30:00 AM	5/21/2020 10:30:00 AM	BW	E87684
TOT	RES	EPA 8270/PAH Low Level	1.0	WPAHA051820	5/18/2020 8:30:00 AM	5/21/2020 8:03:00 AM	BW	E87684
TOT	RES	FDEP FL-PRO	1.0	WPROA051920	5/19/2020 10:00:00 AM	5/19/2020 11:17:00 PM	BW	E87684

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: 297411 | Analysis Method: EPA 8011 | Preparation Type: 8011
Method Batch ID: 297411 | Preparation Date: 5/22/2020 4:28:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: 297411MB				Client Sample ID: 297411MB					Date Analyzed: 5/22/2020 11:42:00 PM		
1,2-Dibromoethane	0.0040	0.020	0.0040	U	ug/L							
4-Bromofluorobenzene			5.7		ug/L	5.00	114		-			
QA/QC Type: LCS	Lab Sample ID: 297411LCS				Client Sample ID: 297411LCS					Date Analyzed: 5/23/2020 12:11:00 AM		
1,2-Dibromoethane	0.0040	0.020	0.118		ug/L	0.100	118	30.0	-	170		
4-Bromofluorobenzene			6.18		ug/L	5.00	124	70.0	-	137		
QA/QC Type: LCSD	Lab Sample ID: 297411LCSD				Client Sample ID: 297411LCSD					Date Analyzed: 5/23/2020 12:40:00 AM		
1,2-Dibromoethane	0.0040	0.020	0.120		ug/L	0.100	120	30.0	-	170	1.7	50
4-Bromofluorobenzene			5.59		ug/L	5.00	112	70.0	-	137		
QA/QC Type: MS	Lab Sample ID: 297411MS				Client Sample ID: 262687MS					Date Analyzed: 5/26/2020 10:42:00 PM		
1,2-Dibromoethane	0.41	2.0	15.5	S2	ug/L	0.100	500	60.0	-	140		
4-Bromofluorobenzene			3.79		ug/L	5.02	75.5	70.0	-	137		
QA/QC Type: DUP	Lab Sample ID: 297411DUP				Client Sample ID: 262425DUP					Date Analyzed: 5/23/2020 6:24:00 AM		
1,2-Dibromoethane	0.0040	0.020	0.0040	U	ug/L						0	
1,2-Dibromo-3-chloropropane	0.0020	0.041	0.0020	U	ug/L						0	

Comments:

Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030
Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: LMSVA051720MB				Client Sample ID: LMSVA051720MB					Date Analyzed: 5/16/2020 5:14:00 PM		
Acetone	6.3	25	6.3	U	ug/L							
Benzene	0.26	1.0	0.26	U	ug/L							
Bromobenzene	0.34	1.0	0.34	U	ug/L							
Bromochloromethane	0.32	1.0	0.32	U	ug/L							
Bromodichloromethane	0.33	1.0	0.33	U	ug/L							
Bromoform	1.0	5.0	1.0	U	ug/L							
Bromomethane	1.7	5.0	1.7	U	ug/L							

QUALITY ASSURANCE / QUALITY CONTROL DATA

Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

QA/QC Type: MB | Lab Sample ID: LMSVA051720MB | Client Sample ID: LMSVA051720MB | Date Analyzed: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
2-Butanone	4.6	25	4.6	U	ug/L							
n-Butylbenzene	0.45	1.0	0.45	U	ug/L							
sec-Butylbenzene	0.46	1.0	0.46	U	ug/L							
t-Butylbenzene	0.46	1.0	0.46	U	ug/L							
Carbon tetrachloride	2.5	5.0	2.5	U	ug/L							
Chlorobenzene	0.28	1.0	0.28	U	ug/L							
Chloroethane	1.7	5.0	1.7	U	ug/L							
Chloroform	0.36	1.0	0.36	U	ug/L							
Chloromethane	1.5	5.0	1.5	U	ug/L							
2-Chlorotoluene	0.36	1.0	0.36	U	ug/L							
4-Chlorotoluene	0.52	1.0	0.52	U	ug/L							
1,2-Dibromo-3-chloropropane	1.4	5.0	1.4	U	ug/L							
Dibromochloromethane	1.0	5.0	1.0	U	ug/L							
1,2-Dibromoethane	0.30	1.0	0.30	U	ug/L							
Dibromomethane	0.34	1.0	0.34	U	ug/L							
1,2-Dichlorobenzene	0.38	1.0	0.38	U	ug/L							
1,3-Dichlorobenzene	0.39	1.0	0.39	U	ug/L							
1,4-Dichlorobenzene	0.44	1.0	0.44	U	ug/L							
Dichlorodifluoromethane	2.4	5.0	2.4	U	ug/L							
1,1-Dichloroethane	0.29	1.0	0.29	U	ug/L							
1,2-Dichloroethane	0.40	1.0	0.40	U	ug/L							
1,1-Dichloroethene	0.50	1.0	0.50	U	ug/L							
cis-1,2-Dichloroethene	0.40	1.0	0.40	U	ug/L							
trans-1,2-Dichloroethene	0.35	1.0	0.35	U	ug/L							
1,2-Dichloropropane	0.29	1.0	0.29	U	ug/L							
1,3-Dichloropropane	0.40	1.0	0.40	U	ug/L							
2,2-Dichloropropane	1.4	5.0	1.4	U	ug/L							
1,1-Dichloropropene	0.48	1.0	0.48	U	ug/L							
Isopropylbenzene	0.52	1.0	0.52	U	ug/L							
Ethylbenzene	0.29	1.0	0.29	U	ug/L							
Hexachlorobutadiene	2.2	5.0	2.2	U	ug/L							
Styrene	0.42	1.0	0.42	U	ug/L							
Isopropylether	0.46	1.0	0.46	U	ug/L							
4-Isopropyltoluene	0.53	1.0	0.53	U	ug/L							
Methylene chloride	1.6	5.0	1.8	I	ug/L							

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: LMSVA051720MB				Client Sample ID: LMSVA051720MB			Date Analyzed: 5/16/2020 5:14:00 PM				
Methyl-t-butyl ether	0.46	1.0	0.46	U	ug/L							
Naphthalene	1.8	5.0	1.8	U	ug/L							
n-Propylbenzene	0.37	1.0	0.37	U	ug/L							
1,1,1,2-Tetrachloroethane	0.54	1.0	0.54	U	ug/L							
1,1,2,2-Tetrachloroethane	0.45	1.0	0.45	U	ug/L							
Tetrachloroethene	0.67	1.0	0.67	U	ug/L							
Toluene	0.24	1.0	0.24	U	ug/L							
1,2,3-Trichlorobenzene	1.3	5.0	1.3	U	ug/L							
1,2,4-Trichlorobenzene	1.4	5.0	1.4	U	ug/L							
1,1,1-Trichloroethane	0.37	1.0	0.37	U	ug/L							
1,1,2-Trichloroethane	0.24	1.0	0.24	U	ug/L							
Trichloroethene	0.30	1.0	0.30	U	ug/L							
Trichlorofluoromethane	2.2	5.0	2.2	U	ug/L							
1,2,3-Trichloropropane	4.4	5.0	4.4	U	ug/L							
1,2,4-Trimethylbenzene	0.47	1.0	0.47	U	ug/L							
1,3,5-Trimethylbenzene	0.44	1.0	0.44	U	ug/L							
Vinyl chloride	0.43	1.0	0.43	U	ug/L							
Xylenes- Total	1.3	3.0	1.3	U	ug/L							
Toluene-d8			48.0		ug/L	50.0	96.0	76.0	-	115		
4-Bromofluorobenzene			48.3		ug/L	50.0	96.6	68.0	-	118		
Dibromofluoromethane			43.0		ug/L	50.0	86.0	75.0	-	113		
1,2-Dichloroethane-d4			49.1		ug/L	50.0	98.2	75.0	-	117		
QA/QC Type: LCS	Lab Sample ID: LMSVA051720LCS				Client Sample ID: LMSVA051720LCS			Date Analyzed: 5/16/2020 3:59:00 PM				
Acetone	6.3	25	97.1		ug/L	100	97.1	51.0	-	192		
Benzene	0.26	1.0	51.6		ug/L	50.0	103	86.0	-	121		
Bromobenzene	0.34	1.0	53.2		ug/L	50.0	106	87.0	-	121		
Bromochloromethane	0.32	1.0	56.4		ug/L	50.0	113	85.0	-	129		
Bromodichloromethane	0.33	1.0	48.1		ug/L	50.0	96.2	85.0	-	128		
Bromoform	1.0	5.0	45.7		ug/L	50.0	91.4	82.0	-	130		
Bromomethane	1.7	5.0	51.6		ug/L	50.0	103	34.0	-	144		
2-Butanone	4.6	25	101		ug/L	100	101	71.0	-	148		
n-Butylbenzene	0.45	1.0	55.5		ug/L	50.0	111	71.0	-	120		
sec-Butylbenzene	0.46	1.0	54.8		ug/L	50.0	110	75.0	-	120		
t-Butylbenzene	0.46	1.0	53.0		ug/L	50.0	106	77.0	-	124		

QUALITY ASSURANCE / QUALITY CONTROL DATA

Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

QA/QC Type: LCS | Lab Sample ID: LMSVA051720LCS | Client Sample ID: LMSVA051720LCS | Date Analyzed: 5/16/2020 3:59:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
Carbon tetrachloride	2.5	5.0	59.7		ug/L	50.0	119	74.0	-	137		
Chlorobenzene	0.28	1.0	49.7		ug/L	50.0	99.4	88.0	-	118		
Chloroethane	1.7	5.0	48.3		ug/L	50.0	96.6	62.0	-	133		
Chloroform	0.36	1.0	53.3		ug/L	50.0	107	83.0	-	124		
Chloromethane	1.5	5.0	48.5		ug/L	50.0	97.0	35.0	-	131		
2-Chlorotoluene	0.36	1.0	51.8		ug/L	50.0	104	84.0	-	121		
4-Chlorotoluene	0.52	1.0	51.9		ug/L	50.0	104	82.0	-	120		
1,2-Dibromo-3-chloropropane	1.4	5.0	42.9		ug/L	50.0	85.8	65.0	-	129		
Dibromochloromethane	1.0	5.0	49.0		ug/L	50.0	98.0	87.0	-	125		
1,2-Dibromoethane	0.30	1.0	52.7		ug/L	50.0	105	90.0	-	122		
Dibromomethane	0.34	1.0	56.1		ug/L	50.0	112	85.0	-	120		
1,2-Dichlorobenzene	0.38	1.0	49.0		ug/L	50.0	98.0	85.0	-	119		
1,3-Dichlorobenzene	0.39	1.0	49.6		ug/L	50.0	99.2	84.0	-	120		
1,4-Dichlorobenzene	0.44	1.0	50.2		ug/L	50.0	100	83.0	-	117		
Dichlorodifluoromethane	2.4	5.0	46.7		ug/L	50.0	93.4	29.0	-	128		
1,1-Dichloroethane	0.29	1.0	51.9		ug/L	50.0	104	74.0	-	121		
1,2-Dichloroethane	0.40	1.0	49.7		ug/L	50.0	99.4	82.0	-	126		
1,1-Dichloroethene	0.50	1.0	57.1	S2	ug/L	50.0	114	69.0	-	109		
cis-1,2-Dichloroethene	0.40	1.0	53.9		ug/L	50.0	108	83.0	-	123		
trans-1,2-Dichloroethene	0.35	1.0	52.6		ug/L	50.0	105	79.0	-	119		
1,2-Dichloropropane	0.29	1.0	53.0		ug/L	50.0	106	82.0	-	123		
1,3-Dichloropropane	0.40	1.0	53.7		ug/L	50.0	107	90.0	-	120		
2,2-Dichloropropane	1.4	5.0	46.6		ug/L	50.0	93.2	76.0	-	128		
1,1-Dichloropropene	0.48	1.0	55.2		ug/L	50.0	110	78.0	-	139		
Isopropylbenzene	0.52	1.0	49.5		ug/L	50.0	99.0	78.0	-	122		
Ethylbenzene	0.29	1.0	52.8		ug/L	50.0	106	84.0	-	125		
Hexachlorobutadiene	2.2	5.0	59.6		ug/L	50.0	119	60.0	-	125		
Styrene	0.42	1.0	52.5		ug/L	50.0	105	79.0	-	125		
Isopropylether	0.46	1.0	113		ug/L	100	113	64.0	-	138		
4-Isopropyltoluene	0.53	1.0	55.6		ug/L	50.0	111	74.0	-	118		
Methylene chloride	1.6	5.0	51.2		ug/L	50.0	102	69.0	-	121		
Methyl-t-butyl ether	0.46	1.0	52.2		ug/L	50.0	104	82.0	-	129		
Naphthalene	1.8	5.0	51.1		ug/L	50.0	102	64.0	-	130		
n-Propylbenzene	0.37	1.0	53.9		ug/L	50.0	108	79.0	-	125		
1,1,1,2-Tetrachloroethane	0.54	1.0	51.2		ug/L	50.0	102	83.0	-	137		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCS	Lab Sample ID: LMSVA051720LCS				Client Sample ID: LMSVA051720LCS			Date Analyzed: 5/16/2020 3:59:00 PM				
1,1,2,2-Tetrachloroethane	0.45	1.0	49.2		ug/L	50.0	98.4	79.0	-	128		
Tetrachloroethene	0.67	1.0	46.6		ug/L	50.0	93.2	62.0	-	144		
Toluene	0.24	1.0	50.7		ug/L	50.0	101	87.0	-	119		
1,2,3-Trichlorobenzene	1.3	5.0	50.8		ug/L	50.0	102	43.0	-	151		
1,2,4-Trichlorobenzene	1.4	5.0	48.8		ug/L	50.0	97.6	73.0	-	118		
1,1,1-Trichloroethane	0.37	1.0	54.9		ug/L	50.0	110	81.0	-	131		
1,1,2-Trichloroethane	0.24	1.0	49.5		ug/L	50.0	99.0	87.0	-	121		
Trichloroethene	0.30	1.0	52.3		ug/L	50.0	105	86.0	-	119		
Trichlorofluoromethane	2.2	5.0	56.1		ug/L	50.0	112	68.0	-	134		
1,2,3-Trichloropropane	4.4	5.0	46.7		ug/L	50.0	93.4	68.0	-	137		
1,2,4-Trimethylbenzene	0.47	1.0	53.0		ug/L	50.0	106	83.0	-	117		
1,3,5-Trimethylbenzene	0.44	1.0	53.9		ug/L	50.0	108	82.0	-	118		
Vinyl chloride	0.43	1.0	48.4		ug/L	50.0	96.8	60.0	-	127		
Xylenes- Total	1.3	3.0	158		ug/L	150	105	84.0	-	121		
Toluene-d8			49.7		ug/L	50.0	99.4	76.0	-	115		
4-Bromofluorobenzene			50.5		ug/L	50.0	101	68.0	-	118		
Dibromofluoromethane			50.5		ug/L	50.0	101	75.0	-	113		
1,2-Dichloroethane-d4			49.5		ug/L	50.0	99.0	75.0	-	117		
QA/QC Type: LCSD	Lab Sample ID: LMSVA051720LCSD				Client Sample ID: LMSVA051720LCSD			Date Analyzed: 5/16/2020 4:24:00 PM				
Acetone	6.3	25	111		ug/L	100	111	51.0	-	192	13	70.0
Benzene	0.26	1.0	51.4		ug/L	50.0	103	86.0	-	121	0.39	17.0
Bromobenzene	0.34	1.0	51.5		ug/L	50.0	103	87.0	-	121	3.2	17.0
Bromochloromethane	0.32	1.0	55.2		ug/L	50.0	110	85.0	-	129	2.2	22.0
Bromodichloromethane	0.33	1.0	47.6		ug/L	50.0	95.2	85.0	-	128	1.0	22.0
Bromoform	1.0	5.0	45.1		ug/L	50.0	90.2	82.0	-	130	1.3	24.0
Bromomethane	1.7	5.0	52.1		ug/L	50.0	104	34.0	-	144	0.96	55.0
2-Butanone	4.6	25	108		ug/L	100	108	71.0	-	148	6.7	39.0
n-Butylbenzene	0.45	1.0	54.0		ug/L	50.0	108	71.0	-	120	2.7	25.0
sec-Butylbenzene	0.46	1.0	52.8		ug/L	50.0	106	75.0	-	120	3.7	22.0
t-Butylbenzene	0.46	1.0	51.3		ug/L	50.0	103	77.0	-	124	3.3	24.0
Carbon tetrachloride	2.5	5.0	58.8		ug/L	50.0	118	74.0	-	137	1.5	32.0
Chlorobenzene	0.28	1.0	49.0		ug/L	50.0	98.0	88.0	-	118	1.4	15.0
Chloroethane	1.7	5.0	48.2		ug/L	50.0	96.4	62.0	-	133	0.21	36.0
Chloroform	0.36	1.0	52.3		ug/L	50.0	105	83.0	-	124	1.9	20.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

QA/QC Type: LCSD | Lab Sample ID: LMSVA051720LCSD | Client Sample ID: LMSVA051720LCSD | Date Analyzed: 5/16/2020 4:24:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
Chloromethane	1.5	5.0	46.7		ug/L	50.0	93.4	35.0	-	131	3.8	48.0
2-Chlorotoluene	0.36	1.0	50.1		ug/L	50.0	100	84.0	-	121	3.3	18.0
4-Chlorotoluene	0.52	1.0	50.5		ug/L	50.0	101	82.0	-	120	2.7	19.0
1,2-Dibromo-3-chloropropane	1.4	5.0	44.5		ug/L	50.0	89.0	65.0	-	129	3.7	32.0
Dibromochloromethane	1.0	5.0	48.2		ug/L	50.0	96.4	87.0	-	125	1.6	19.0
1,2-Dibromoethane	0.30	1.0	53.0		ug/L	50.0	106	90.0	-	122	0.57	16.0
Dibromomethane	0.34	1.0	55.1		ug/L	50.0	110	85.0	-	120	1.8	18.0
1,2-Dichlorobenzene	0.38	1.0	47.6		ug/L	50.0	95.2	85.0	-	119	2.9	17.0
1,3-Dichlorobenzene	0.39	1.0	48.3		ug/L	50.0	96.6	84.0	-	120	2.7	18.0
1,4-Dichlorobenzene	0.44	1.0	48.7		ug/L	50.0	97.4	83.0	-	117	3.0	17.0
Dichlorodifluoromethane	2.4	5.0	45.5		ug/L	50.0	91.0	29.0	-	128	2.6	50.0
1,1-Dichloroethane	0.29	1.0	51.8		ug/L	50.0	104	74.0	-	121	0.19	23.0
1,2-Dichloroethane	0.40	1.0	49.2		ug/L	50.0	98.4	82.0	-	126	1.0	22.0
1,1-Dichloroethene	0.50	1.0	56.0	S2	ug/L	50.0	112	69.0	-	109	1.9	20.0
cis-1,2-Dichloroethene	0.40	1.0	53.2		ug/L	50.0	106	83.0	-	123	1.3	20.0
trans-1,2-Dichloroethene	0.35	1.0	52.0		ug/L	50.0	104	79.0	-	119	1.1	20.0
1,2-Dichloropropane	0.29	1.0	52.5		ug/L	50.0	105	82.0	-	123	0.95	21.0
1,3-Dichloropropane	0.40	1.0	53.5		ug/L	50.0	107	90.0	-	120	0.37	15.0
2,2-Dichloropropane	1.4	5.0	46.4		ug/L	50.0	92.8	76.0	-	128	0.43	26.0
1,1-Dichloropropene	0.48	1.0	54.8		ug/L	50.0	110	78.0	-	139	0.73	30.0
Isopropylbenzene	0.52	1.0	47.7		ug/L	50.0	95.4	78.0	-	122	3.7	22.0
Ethylbenzene	0.29	1.0	51.6		ug/L	50.0	103	84.0	-	125	2.3	21.0
Hexachlorobutadiene	2.2	5.0	57.1		ug/L	50.0	114	60.0	-	125	4.3	32.0
Styrene	0.42	1.0	51.1		ug/L	50.0	102	79.0	-	125	2.7	23.0
Isopropylether	0.46	1.0	112		ug/L	100	112	64.0	-	138	0.89	37.0
4-Isopropyltoluene	0.53	1.0	53.9		ug/L	50.0	108	74.0	-	118	3.1	22.0
Methylene chloride	1.6	5.0	50.7		ug/L	50.0	101	69.0	-	121	0.98	26.0
Methyl-t-butyl ether	0.46	1.0	53.1		ug/L	50.0	106	82.0	-	129	1.7	24.0
Naphthalene	1.8	5.0	51.1		ug/L	50.0	102	64.0	-	130	0	33.0
n-Propylbenzene	0.37	1.0	52.4		ug/L	50.0	105	79.0	-	125	2.8	23.0
1,1,1,2-Tetrachloroethane	0.54	1.0	50.2		ug/L	50.0	100	83.0	-	137	2.0	27.0
1,1,2,2-Tetrachloroethane	0.45	1.0	48.2		ug/L	50.0	96.4	79.0	-	128	2.1	24.0
Tetrachloroethene	0.67	1.0	64.8		ug/L	50.0	130	62.0	-	144	33	41.0
Toluene	0.24	1.0	49.8		ug/L	50.0	99.6	87.0	-	119	1.8	16.0
1,2,3-Trichlorobenzene	1.3	5.0	49.2		ug/L	50.0	98.4	43.0	-	151	3.2	54.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCSD	Lab Sample ID: LMSVA051720LCSD				Client Sample ID: LMSVA051720LCSD					Date Analyzed: 5/16/2020 4:24:00 PM		
1,2,4-Trichlorobenzene	1.4	5.0	47.2		ug/L	50.0	94.4	73.0	-	118	3.3	22.0
1,1,1-Trichloroethane	0.37	1.0	54.4		ug/L	50.0	109	81.0	-	131	0.91	25.0
1,1,2-Trichloroethane	0.24	1.0	50.2		ug/L	50.0	100	87.0	-	121	1.4	17.0
Trichloroethene	0.30	1.0	52.2		ug/L	50.0	104	86.0	-	119	0.19	17.0
Trichlorofluoromethane	2.2	5.0	55.5		ug/L	50.0	111	68.0	-	134	1.1	33.0
1,2,3-Trichloropropane	4.4	5.0	46.6		ug/L	50.0	93.2	68.0	-	137	0.21	34.0
1,2,4-Trimethylbenzene	0.47	1.0	50.9		ug/L	50.0	102	83.0	-	117	4.0	17.0
1,3,5-Trimethylbenzene	0.44	1.0	52.1		ug/L	50.0	104	82.0	-	118	3.4	18.0
Vinyl chloride	0.43	1.0	48.5		ug/L	50.0	97.0	60.0	-	127	0.21	33.0
Xylenes- Total	1.3	3.0	154		ug/L	150	103	84.0	-	121	2.6	18.0
Toluene-d8			50.5		ug/L	50.0	101	76.0	-	115		
4-Bromofluorobenzene			50.7		ug/L	50.0	101	68.0	-	118		
Dibromofluoromethane			50.6		ug/L	50.0	101	75.0	-	113		
1,2-Dichloroethane-d4			49.7		ug/L	50.0	99.4	75.0	-	117		
QA/QC Type: DUP	Lab Sample ID: LMSVA051720DUP				Client Sample ID: 262226DUP					Date Analyzed: 5/16/2020 8:09:00 PM		
Acetone	13	50	90		ug/L							47.0
Benzene	0.52	2.0	170		ug/L						0	33.0
Bromobenzene	0.68	2.0	0.68	U	ug/L						0	26.0
Bromochloromethane	0.64	2.0	0.64	U	ug/L						0	26.0
Bromodichloromethane	0.66	2.0	1.3	I	ug/L							28.0
Bromoform	2.0	10	2.0	U	ug/L						0	30.0
Bromomethane	3.4	10	3.4	U	ug/L						0	62.0
2-Butanone	9.2	50	9.2	U	ug/L						0	34.0
n-Butylbenzene	0.90	2.0	16		ug/L							32.0
sec-Butylbenzene	0.92	2.0	9.7		ug/L							29.0
t-Butylbenzene	0.92	2.0	0.92	U	ug/L						0	33.0
Carbon tetrachloride	5.0	10	5.0	U	ug/L						0	35.0
Chlorobenzene	0.56	2.0	0.56	U	ug/L						0	22.0
Chloroethane	3.4	10	3.4	U	ug/L						0	37.0
Chloroform	0.72	2.0	0.72	U	ug/L						0	23.0
Chloromethane	3.0	10	3.0	U	ug/L						0	43.0
2-Chlorotoluene	0.72	2.0	0.72	U	ug/L						0	25.0
4-Chlorotoluene	1.0	2.0	1.0	U	ug/L						0	27.0
1,2-Dibromo-3-chloropropane	2.8	10	2.8	U	ug/L						0	33.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

Preparation Batch ID: LMSVA051720 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA051720 | Preparation Date: 5/16/2020 5:14:00 PM

QA/QC Type: DUP | Lab Sample ID: LMSVA051720DUP | Client Sample ID: 262226DUP | Date Analyzed: 5/16/2020 8:09:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
Dibromochloromethane	2.0	10	2.0	U	ug/L						0	23.0
1,2-Dibromoethane	0.60	2.0	0.60	U	ug/L						0	19.0
Dibromomethane	0.68	2.0	0.68	U	ug/L						0	20.0
1,2-Dichlorobenzene	0.76	2.0	0.76	U	ug/L						0	24.0
1,3-Dichlorobenzene	0.78	2.0	0.78	U	ug/L						0	25.0
1,4-Dichlorobenzene	0.88	2.0	0.88	U	ug/L						0	24.0
Dichlorodifluoromethane	4.8	10	4.8	U	ug/L						0	49.0
1,1-Dichloroethane	0.58	2.0	0.58	U	ug/L						0	26.0
1,2-Dichloroethane	0.80	2.0	1.7	I	ug/L						0	29.0
1,1-Dichloroethene	1.0	2.0	1.0	U	ug/L						0	24.0
cis-1,2-Dichloroethene	0.80	2.0	0.80	U	ug/L						0	22.0
trans-1,2-Dichloroethene	0.70	2.0	0.70	U	ug/L						0	22.0
1,2-Dichloropropane	0.58	2.0	0.58	U	ug/L						0	22.0
1,3-Dichloropropane	0.80	2.0	0.80	U	ug/L						0	20.0
2,2-Dichloropropane	2.8	10	2.8	U	ug/L						0	36.0
1,1-Dichloropropene	0.96	2.0	0.96	U	ug/L						0	31.0
Isopropylbenzene	1.0	2.0	29		ug/L							29.0
Ethylbenzene	0.58	2.0	34		ug/L						3.0	39.0
Hexachlorobutadiene	4.4	10	4.4	U	ug/L						0	36.0
Styrene	0.84	2.0	0.84	U	ug/L						0	30.0
Isopropylether	0.92	2.0	0.92	U	ug/L						0	46.0
4-Isopropyltoluene	1.1	2.0	1.1	U	ug/L						0	30.0
Methylene chloride	3.2	10	4.6	I	ug/L							26.0
Methyl-t-butyl ether	0.92	2.0	0.92	U	ug/L						0	36.0
Naphthalene	3.6	10	27		ug/L							37.0
n-Propylbenzene	0.74	2.0	88		ug/L							31.0
1,1,1,2-Tetrachloroethane	1.1	2.0	1.1	U	ug/L						0	40.0
1,1,2,2-Tetrachloroethane	0.90	2.0	1.7	I	ug/L							29.0
Tetrachloroethene	1.3	2.0	1.3	U	ug/L						0	24.0
Toluene	0.48	2.0	0.62	I	ug/L						0	32.0
1,2,3-Trichlorobenzene	2.6	10	2.6	U	ug/L						0	34.0
1,2,4-Trichlorobenzene	2.8	10	2.8	U	ug/L						0	26.0
1,1,1-Trichloroethane	0.74	2.0	0.74	U	ug/L						0	33.0
1,1,2-Trichloroethane	0.48	2.0	0.48	U	ug/L						0	24.0
Trichloroethene	0.60	2.0	0.60	U	ug/L						0	17.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA051720 Analysis Method: EPA 8260 Preparation Type: 5030

Method Batch ID: MLMSVA051720 Preparation Date: 5/16/2020 5:14:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: DUP	Lab Sample ID: LMSVA051720DUP				Client Sample ID: 262226DUP					Date Analyzed: 5/16/2020 8:09:00 PM		
Trichlorofluoromethane	4.4	10	4.4	U	ug/L						0	48.0
1,2,3-Trichloropropane	8.8	10	8.8	U	ug/L						0	33.0
1,2,4-Trimethylbenzene	0.94	2.0	2.2		ug/L							30.0
1,3,5-Trimethylbenzene	0.88	2.0	0.88	U	ug/L						0	27.0
Vinyl chloride	0.86	2.0	0.86	U	ug/L						0	37.0
Xylenes- Total	2.6	6.0	2.6	U	ug/L						0	33.0
Toluene-d8			49.6		ug/L	50.0	99.2	76.0	-	115		
4-Bromofluorobenzene			49.1		ug/L	50.0	98.2	68.0	-	118		
Dibromofluoromethane			43.4		ug/L	50.0	86.8	75.0	-	113		
1,2-Dichloroethane-d4			50.6		ug/L	50.0	101	75.0	-	117		

Comments:

Preparation Batch ID: LMSVA052220 Analysis Method: EPA 8260 Preparation Type: 5030

Method Batch ID: MLMSVA052220 Preparation Date: 5/21/2020 2:06:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: LMSVA052220MB				Client Sample ID: LMSVA052220MB					Date Analyzed: 5/21/2020 2:06:00 AM		
Benzene	0.26	1.0	0.26	U	ug/L							
Ethylbenzene	0.29	1.0	0.29	U	ug/L							
Methyl-t-butyl ether	0.46	1.0	0.46	U	ug/L							
Toluene	0.24	1.0	0.24	U	ug/L							
Xylenes- Total	1.3	3.0	1.3	U	ug/L							
Dibromofluoromethane			49.8		ug/L	50.0	99.6	75.0	-	113		
1,2-Dichloroethane-d4			49.4		ug/L	50.0	98.8	75.0	-	117		
Toluene-d8			51.7		ug/L	50.0	103	76.0	-	115		
4-Bromofluorobenzene			56.4		ug/L	50.0	113	68.0	-	118		
QA/QC Type: LCS	Lab Sample ID: LMSVA052220LCS				Client Sample ID: LMSVA052220LCS					Date Analyzed: 5/21/2020 12:51:00 AM		
Benzene	0.26	1.0	49.0		ug/L	50.0	98.0	86.0	-	121		
Ethylbenzene	0.29	1.0	48.8		ug/L	50.0	97.6	84.0	-	125		
Methyl-t-butyl ether	0.46	1.0	53.3		ug/L	50.0	107	82.0	-	129		
Toluene	0.24	1.0	47.4		ug/L	50.0	94.8	87.0	-	119		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA052220 | Analysis Method: EPA 8260 | Preparation Type: 5030

Method Batch ID: MLMSVA052220 | Preparation Date: 5/21/2020 2:06:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCS	**Lab Sample ID: LMSVA052220LCS**				**Client Sample ID: LMSVA052220LCS**			**Date Analyzed: 5/21/2020 12:51:00 AM**				
Xylenes- Total	1.3	3.0	143		ug/L	150	95.3	84.0	-	121		
Dibromofluoromethane			51.2		ug/L	50.0	102	75.0	-	113		
1,2-Dichloroethane-d4			51.7		ug/L	50.0	103	75.0	-	117		
Toluene-d8			51.4		ug/L	50.0	103	76.0	-	115		
4-Bromofluorobenzene			49.3		ug/L	50.0	98.6	68.0	-	118		
QA/QC Type: LCSD	**Lab Sample ID: LMSVA052220LCSD**				**Client Sample ID: LMSVA052220LCSD**			**Date Analyzed: 5/21/2020 1:16:00 AM**				
Benzene	0.26	1.0	49.7		ug/L	50.0	99.4	86.0	-	121	1.4	17.0
Ethylbenzene	0.29	1.0	50.8		ug/L	50.0	102	84.0	-	125	4.0	21.0
Methyl-t-butyl ether	0.46	1.0	53.5		ug/L	50.0	107	82.0	-	129	0.37	24.0
Toluene	0.24	1.0	48.0		ug/L	50.0	96.0	87.0	-	119	1.3	16.0
Xylenes- Total	1.3	3.0	148		ug/L	150	98.7	84.0	-	121	3.4	18.0
Dibromofluoromethane			51.6		ug/L	50.0	103	75.0	-	113		
1,2-Dichloroethane-d4			51.3		ug/L	50.0	103	75.0	-	117		
Toluene-d8			49.5		ug/L	50.0	99.0	76.0	-	115		
4-Bromofluorobenzene			48.5		ug/L	50.0	97.0	68.0	-	118		
QA/QC Type: MS	**Lab Sample ID: LMSVA052220MS**				**Client Sample ID: 262470MS**			**Date Analyzed: 5/21/2020 5:32:00 PM**				
Benzene	0.26	1.0	48.2		ug/L	50.0	96.4	69.0	-	135		
Ethylbenzene	0.29	1.0	48.7		ug/L	50.0	97.4	64.0	-	141		
Methyl-t-butyl ether	0.46	1.0	49.4		ug/L	50.0	98.8	64.0	-	135		
Toluene	0.24	1.0	46.0		ug/L	50.0	92.0	69.0	-	132		
Xylenes- Total	1.3	3.0	142		ug/L	150	94.7	68.0	-	133		
Dibromofluoromethane			50.6		ug/L	50.0	101	75.0	-	113		
1,2-Dichloroethane-d4			50.3		ug/L	50.0	101	75.0	-	117		
Toluene-d8			51.6		ug/L	50.0	103	76.0	-	115		
4-Bromofluorobenzene			48.7		ug/L	50.0	97.4	68.0	-	118		
QA/QC Type: MSD	**Lab Sample ID: LMSVA052220MSD**				**Client Sample ID: 262470MSD**			**Date Analyzed: 5/21/2020 5:57:00 PM**				
Benzene	0.26	1.0	47.1		ug/L	50.0	94.2	69.0	-	135	2.3	33.0
Ethylbenzene	0.29	1.0	49.1		ug/L	50.0	98.2	64.0	-	141	0.82	39.0
Methyl-t-butyl ether	0.46	1.0	51.6		ug/L	50.0	103	64.0	-	135	4.4	36.0
Toluene	0.24	1.0	46.5		ug/L	50.0	93.0	69.0	-	132	1.1	32.0
Xylenes- Total	1.3	3.0	143		ug/L	150	95.3	68.0	-	133	0.70	33.0
Dibromofluoromethane			51.1		ug/L	50.0	102	75.0	-	113		

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: LMSVA052220 Analysis Method: EPA 8260 Preparation Type: 5030

Method Batch ID: MLMSVA052220 Preparation Date: 5/21/2020 2:06:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MSD	Lab Sample ID: LMSVA052220MSD				Client Sample ID: 262470MSD						Date Analyzed: 5/21/2020 5:57:00 PM	
1,2-Dichloroethane-d4			50.9		ug/L	50.0	102	75.0	-	117		
Toluene-d8			48.9		ug/L	50.0	97.8	76.0	-	115		
4-Bromofluorobenzene			50.4		ug/L	50.0	101	68.0	-	118		
QA/QC Type: DUP	Lab Sample ID: LMSVA052220DUP				Client Sample ID: 262488DUP						Date Analyzed: 5/21/2020 4:16:00 PM	
Benzene	0.26	1.0	0.26	U	ug/L						0	33.0
Ethylbenzene	0.29	1.0	0.29	U	ug/L						0	39.0
Methyl-t-butyl ether	0.46	1.0	0.46	U	ug/L						0	36.0
Toluene	0.24	1.0	0.24	U	ug/L						0	32.0
Xylenes- Total	1.3	3.0	1.3	U	ug/L						0	33.0
Dibromofluoromethane			49.9		ug/L	50.0	99.8	75.0	-	113		
1,2-Dichloroethane-d4			47.0		ug/L	50.0	94.0	75.0	-	117		
Toluene-d8			49.7		ug/L	50.0	99.4	76.0	-	115		
4-Bromofluorobenzene			56.4		ug/L	50.0	113	68.0	-	118		

Comments:

Preparation Batch ID: WPAHA051820 Analysis Method: EPA 8270/PAH Low Level Preparation Type: 3510

Method Batch ID: MWPAHA051820 Preparation Date: 5/18/2020 8:30:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: WPAHA051820MB				Client Sample ID: WPAHA051820MB						Date Analyzed: 5/20/2020 7:47:00 PM	
Naphthalene	0.66	2.0	0.66	U	ug/L							
Acenaphthylene	0.93	2.0	0.93	U	ug/L							
Acenaphthene	0.99	2.0	0.99	U	ug/L							
Fluorene	1.2	2.0	1.2	U	ug/L							
Phenanthrene	1.4	2.0	1.4	U	ug/L							
Anthracene	1.3	2.0	1.3	U	ug/L							
Fluoranthene	1.3	2.0	1.3	U	ug/L							
1-Methylnaphthalene	0.56	2.0	0.56	U	ug/L							
2-Methylnaphthalene	0.56	2.0	0.56	U	ug/L							
Pyrene	1.3	2.0	1.3	U	ug/L							
Benzo(a)anthracene	0.17	0.20	0.17	U	ug/L							

QUALITY ASSURANCE / QUALITY CONTROL DATA

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Preparation Batch ID: WPAHA051820 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3510

Method Batch ID: MWPAHA051820 | Preparation Date: 5/18/2020 8:30:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: WPAHA051820MB				Client Sample ID: WPAHA051820MB			Date Analyzed: 5/20/2020 7:47:00 PM				
Chrysene	1.1	2.0	1.1	U	ug/L							
Benzo(b)fluoranthene	0.084	0.10	0.084	U	ug/L							
Benzo(k)fluoranthene	0.18	0.20	0.18	U	ug/L							
Benzo(a)pyrene	0.15	0.20	0.15	U	ug/L							
Indeno(1,2,3-cd)pyrene	0.15	0.20	0.15	U	ug/L							
Dibenzo(a,h)anthracene	0.13	0.20	0.13	U	ug/L							
Benzo(g,h,i)perylene	0.82	2.0	0.82	U	ug/L							
Nitrobenzene-d5			73.6		%	100	73.6	24.0	-	100		
2-Fluorobiphenyl			108		%	100	108	31.0	-	110		
p-Terphenyl-d14			117		%	100	117	45.0	-	125		
QA/QC Type: LCS	Lab Sample ID: WPAHA051820LCS				Client Sample ID: WPAHA051820LCS			Date Analyzed: 5/20/2020 6:34:00 PM				
Naphthalene	0.66	2.0	47.4		ug/L	50.0	94.8	40.0	-	105		
Acenaphthylene	0.93	2.0	56.2		ug/L	50.0	112	38.0	-	115		
Acenaphthene	0.99	2.0	52.1		ug/L	50.0	104	46.0	-	121		
Fluorene	1.2	2.0	52.0		ug/L	50.0	104	47.0	-	122		
Phenanthrene	1.4	2.0	53.3		ug/L	50.0	107	51.0	-	130		
Anthracene	1.3	2.0	52.9		ug/L	50.0	106	47.0	-	124		
Fluoranthene	1.3	2.0	51.5		ug/L	50.0	103	45.0	-	126		
1-Methylnaphthalene	0.56	2.0	49.4		ug/L	50.0	98.8	40.0	-	111		
2-Methylnaphthalene	0.56	2.0	48.2		ug/L	50.0	96.4	39.0	-	108		
Pyrene	1.3	2.0	54.1		ug/L	50.0	108	47.0	-	131		
Benzo(a)anthracene	0.17	0.20	52.4		ug/L	50.0	105	45.0	-	131		
Chrysene	1.1	2.0	44.7		ug/L	50.0	89.4	45.0	-	128		
Benzo(b)fluoranthene	0.084	0.10	48.9		ug/L	50.0	97.8	44.0	-	124		
Benzo(k)fluoranthene	0.18	0.20	47.3		ug/L	50.0	94.6	44.0	-	124		
Benzo(a)pyrene	0.15	0.20	48.8		ug/L	50.0	97.6	39.0	-	116		
Indeno(1,2,3-cd)pyrene	0.15	0.20	57.9		ug/L	50.0	116	42.0	-	126		
Dibenzo(a,h)anthracene	0.13	0.20	56.9		ug/L	50.0	114	42.0	-	126		
Benzo(g,h,i)perylene	0.82	2.0	49.8		ug/L	50.0	99.6	35.0	-	123		
Nitrobenzene-d5			72.9		%	100	72.9	24.0	-	100		
2-Fluorobiphenyl			106		%	100	106	31.0	-	110		
p-Terphenyl-d14			115		%	100	115	45.0	-	125		
QA/QC Type: LCSD	Lab Sample ID: WPAHA051820LCSD				Client Sample ID: WPAHA051820LCSD			Date Analyzed: 5/20/2020 7:10:00 PM				

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: WPAHA051820 | Analysis Method: EPA 8270/PAH Low Level | Preparation Type: 3510

Method Batch ID: MWPAHA051820 | Preparation Date: 5/18/2020 8:30:00 AM

QA/QC Type: LCSD | Lab Sample ID: WPAHA051820LCSD | Client Sample ID: WPAHA051820LCSD | Date Analyzed: 5/20/2020 7:10:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
Naphthalene	0.66	2.0	45.1		ug/L	50.0	90.2	40.0	-	105	5.0	32.0
Acenaphthylene	0.93	2.0	54.5		ug/L	50.0	109	38.0	-	115	3.1	38.0
Acenaphthene	0.99	2.0	49.4		ug/L	50.0	98.8	46.0	-	121	5.3	37.0
Fluorene	1.2	2.0	48.9		ug/L	50.0	97.8	47.0	-	122	6.1	38.0
Phenanthrene	1.4	2.0	50.8		ug/L	50.0	102	51.0	-	130	4.8	39.0
Anthracene	1.3	2.0	49.7		ug/L	50.0	99.4	47.0	-	124	6.2	39.0
Fluoranthene	1.3	2.0	48.5		ug/L	50.0	97.0	45.0	-	126	6.0	41.0
1-Methylnaphthalene	0.56	2.0	46.9		ug/L	50.0	93.8	40.0	-	111	5.2	36.0
2-Methylnaphthalene	0.56	2.0	46.6		ug/L	50.0	93.2	39.0	-	108	3.4	35.0
Pyrene	1.3	2.0	51.5		ug/L	50.0	103	47.0	-	131	4.9	42.0
Benzo(a)anthracene	0.17	0.20	50.4		ug/L	50.0	101	45.0	-	131	3.9	43.0
Chrysene	1.1	2.0	41.3		ug/L	50.0	82.6	45.0	-	128	7.9	41.0
Benzo(b)fluoranthene	0.084	0.10	45.2		ug/L	50.0	90.4	44.0	-	124	7.9	40.0
Benzo(k)fluoranthene	0.18	0.20	44.2		ug/L	50.0	88.4	44.0	-	124	6.8	40.0
Benzo(a)pyrene	0.15	0.20	46.1		ug/L	50.0	92.2	39.0	-	116	5.7	39.0
Indeno(1,2,3-cd)pyrene	0.15	0.20	54.0		ug/L	50.0	108	42.0	-	126	7.0	42.0
Dibenzo(a,h)anthracene	0.13	0.20	52.4		ug/L	50.0	105	42.0	-	126	8.2	42.0
Benzo(g,h,i)perylene	0.82	2.0	51.0		ug/L	50.0	102	35.0	-	123	2.4	44.0
Nitrobenzene-d5			67.8		%	100	67.8	24.0	-	100		
2-Fluorobiphenyl			101		%	100	101	31.0	-	110		
p-Terphenyl-d14			110		%	100	110	45.0	-	125		

Comments: **-NELAC MS/MSD requirement was not met due to insufficient sample volume. Batch LCS/LCSD should be evaluated for batch accuracy and precision control.**

-NELAC Sample/Sample Duplicate requirement was not met due to insufficient sample volume. Batch LCS/LCSD should be evaluated for batch accuracy and precision control.

Preparation Batch ID: WPROA051920 | Analysis Method: FDEP FL-PRO | Preparation Type: 3510

Method Batch ID: MWPROA051920 | Preparation Date: 5/19/2020 10:00:00 AM

QA/QC Type: MB | Lab Sample ID: WPROA051920MB | Client Sample ID: WPROA051920MB | Date Analyzed: 5/19/2020 8:37:00 PM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
Total Recoverable Pet. Hydrocarbons	140	500	140	U	ug/L							
Ortho-terphenyl			115		%	100	115	82.0	-	142		
Nonatriacontane(C39)			84.5		%	100	84.5	42.0	-	193		

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: WPROA051920 | Analysis Method: FDEP FL-PRO | Preparation Type: 3510

Method Batch ID: MWPROA051920 | Preparation Date: 5/19/2020 10:00:00 AM

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: WPROA051920MB				Client Sample ID: WPROA051920MB					Date Analyzed: 5/19/2020 8:37:00 PM		
QA/QC Type: LCS	Lab Sample ID: WPROA051920LCS				Client Sample ID: WPROA051920LCS					Date Analyzed: 5/19/2020 7:18:00 PM		
Total Recoverable Pet. Hydrocarbons	140	500	593		ug/L	850	69.8	55.0	-	118		
Ortho-terphenyl			90.8		%	100	90.8	82.0	-	142		
Nonatriacontane(C39)			79.2		%	100	79.2	42.0	-	193		
QA/QC Type: LCSD	Lab Sample ID: WPROA051920LCSD				Client Sample ID: WPROA051920LCSD					Date Analyzed: 5/19/2020 7:57:00 PM		
Total Recoverable Pet. Hydrocarbons	140	500	628		ug/L	850	73.9	55.0	-	118	5.7	20.0
Ortho-terphenyl			109		%	100	109	82.0	-	142		
Nonatriacontane(C39)			75.7		%	100	75.7	42.0	-	193		
QA/QC Type: MS	Lab Sample ID: WPROA051920MS				Client Sample ID: 262491MS					Date Analyzed: 5/19/2020 9:17:00 PM		
Total Recoverable Pet. Hydrocarbons	140	500	639		ug/L	850	75.2	41.0	-	101		
Ortho-terphenyl			109		%	100	109	82.0	-	142		
Nonatriacontane(C39)			86.8		%	100	86.8	42.0	-	193		

Comments:

Preparation Batch ID: WTMA052020 | Analysis Method: EPA 6010 | Preparation Type: Digestion

Method Batch ID: MWTMA052020 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: WTMA052020MB				Client Sample ID: WTMA052020MB					Date Analyzed: 5/21/2020 9:58:00 AM		
Lead	3.1	5.0	3.1	U	ug/L							
Nickel	2.6	10	2.6	U	ug/L							
Silver	5.2	25	5.2	U	ug/L							
Thallium	8.8	25	9.8	I	ug/L							
Antimony	16	25	16	U	ug/L							
Arsenic	8.7	10	8.7	U	ug/L							
Barium	4.2	10	4.2	U	ug/L							
Beryllium	3.9	5.0	3.9	U	ug/L							
Cadmium	3.4	5.0	3.4	U	ug/L							
Chromium	3.7	10	5.0	I	ug/L							

QUALITY ASSURANCE / QUALITY CONTROL DATA

Preparation Batch ID: WTMA052020 | Analysis Method: EPA 6010 | Preparation Type: Digestion

Method Batch ID: MWTMA052020 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: MB	Lab Sample ID: WTMA052020MB				Client Sample ID: WTMA052020MB			Date Analyzed: 5/21/2020 9:58:00 AM				
Cobalt	2.7	5.0	2.7	U	ug/L							
Copper	4.0	5.0	4.0	U	ug/L							
Zinc	9.8	25	9.8	U	ug/L							
Selenium	36	50	36	U	ug/L							
QA/QC Type: LCS	Lab Sample ID: WTMA052020LCS				Client Sample ID: WTMA052020LCS			Date Analyzed: 5/21/2020 10:01:00 AM				
Lead	3.1	5.0	358		ug/L	400	89.5	80.0	-	120		
Nickel	2.6	10	374		ug/L	400	93.5	80.0	-	120		
Silver	5.2	25	376		ug/L	400	94.0	80.0	-	120		
Thallium	8.8	25	398		ug/L	400	99.5	80.0	-	120		
Antimony	16	25	382		ug/L	400	95.5	80.0	-	120		
Arsenic	8.7	10	378		ug/L	400	94.5	80.0	-	120		
Barium	4.2	10	376		ug/L	400	94.0	80.0	-	120		
Beryllium	3.9	5.0	376		ug/L	400	94.0	80.0	-	120		
Cadmium	3.4	5.0	366		ug/L	400	91.5	80.0	-	120		
Chromium	3.7	10	372		ug/L	400	93.0	80.0	-	120		
Cobalt	2.7	5.0	360		ug/L	400	90.0	80.0	-	120		
Copper	4.0	5.0	381		ug/L	400	95.2	80.0	-	120		
Zinc	9.8	25	379		ug/L	400	94.8	80.0	-	120		
Selenium	36	50	384		ug/L	400	96.0	80.0	-	120		
QA/QC Type: LCSD	Lab Sample ID: WTMA052020LCSD				Client Sample ID: WTMA052020LCSD			Date Analyzed: 5/21/2020 10:04:00 AM				
Lead	3.1	5.0	400		ug/L	400	100	80.0	-	120	11	20.0
Nickel	2.6	10	422		ug/L	400	106	80.0	-	120	12	20.0
Silver	5.2	25	422		ug/L	400	106	80.0	-	120	12	20.0
Thallium	8.8	25	446		ug/L	400	112	80.0	-	120	11	20.0
Antimony	16	25	431		ug/L	400	108	80.0	-	120	12	20.0
Arsenic	8.7	10	437		ug/L	400	109	80.0	-	120	14	20.0
Barium	4.2	10	433		ug/L	400	108	80.0	-	120	14	20.0
Beryllium	3.9	5.0	428		ug/L	400	107	80.0	-	120	13	20.0
Cadmium	3.4	5.0	414		ug/L	400	104	80.0	-	120	12	20.0
Chromium	3.7	10	426		ug/L	400	106	80.0	-	120	14	20.0
Cobalt	2.7	5.0	408		ug/L	400	102	80.0	-	120	12	20.0
Copper	4.0	5.0	438		ug/L	400	110	80.0	-	120	14	20.0
Zinc	9.8	25	428		ug/L	400	107	80.0	-	120	12	20.0

QUALITY ASSURANCE / QUALITY CONTROL DATA

J

Preparation Batch ID: WTMA052020 | Analysis Method: EPA 6010 | Preparation Type: Digestion

Method Batch ID: MWTMA052020 | Preparation Date:

Analyte	MDL	PQL	Result	Qual	Units	Spike Amount	% REC	% REC Low Limit	-	% REC High Limit	%RPD	% RPD Limit
QA/QC Type: LCSD	Lab Sample ID: WTMA052020LCSD				Client Sample ID: WTMA052020LCSD						Date Analyzed: 5/21/2020 10:04:00 AM	
Selenium	36	50	413		ug/L	400	103	80.0	-	120	7.3	20.0
QA/QC Type: MS	Lab Sample ID: WTMA052020MS				Client Sample ID: 262222MS						Date Analyzed: 5/21/2020 10:09:00 AM	
Lead	3.1	5.0	377		ug/L	400	93.5	75.0	-	125		
QA/QC Type: MSD	Lab Sample ID: WTMA052020MSD				Client Sample ID: 262222MSD						Date Analyzed: 5/21/2020 10:12:00 AM	
Lead	3.1	5.0	384		ug/L	400	95.2	75.0	-	125	1.8	20.0
QA/QC Type: DUP	Lab Sample ID: WTMA052020DUP				Client Sample ID: 262531DUP						Date Analyzed: 5/21/2020 11:05:00 AM	
Lead	3.1	5.0	14		ug/L							20.0
Nickel	2.6	10	5.6	I	ug/L							20.0
Silver	5.2	25	5.2	U	ug/L						0	20.0
Thallium	8.8	25	16	I	ug/L							20.0
Antimony	16	25	16	U	ug/L						0	20.0
Arsenic	8.7	10	8.7	U	ug/L						0	20.0
Barium	4.2	10	160		ug/L							20.0
Beryllium	3.9	5.0	3.9	U	ug/L						0	20.0
Cadmium	3.4	5.0	3.4	U	ug/L						0	20.0
Chromium	3.7	10	12		ug/L							20.0
Cobalt	2.7	5.0	2.7	U	ug/L						0	20.0
Copper	4.0	5.0	41		ug/L							20.0
Zinc	9.8	25	9.8	U	ug/L						0	20.0
Selenium	36	50	36	U	ug/L						0	20.0

Comments:

Chain of Custody Record

Company:	AET Pensacola
Address:	1318 Dunmire St
Telephone Number:	850696 0810 Telefax Number:
Sampled by [Print Name(s)] / Affiliation	Pat Hitchcock AET
Sampler(s) Signature(s)	Pat Hitchcock

Environmental Testing Laboratories, Inc.
412 W. Walcott Street
Thomasville, GA 31792-4359
229/228-2592 (telephone)
229/228-2594 (telefax)
www.etl-inc.com

Page	1 of 1
Project Name:	Quick Food Mart #7
Project Number:	27739.00
Project Manager:	Aubrey Y
Facility ID Number:	57/9800564
REQUESTED DUE DATE	/ /

Item No.	Field ID No.	Sample Date	Sample Time	Grab or Composite	Matrix (see Codes)	Number of Containers	Analyses Requested: BTEX-M/VOCs	EDB	PAH	TRPH	Pb	BTEX-M				Remarks	Lab Number
1	MW1	5/14/20	10:38	G	GW	8	X	X	X	X	X					KAG	262429
2	MW2	↓	11:03	↓	↓	5			X	X		X					430
3	MW3	↓	12:01	↓	↓	5			X	X		X					431

Shipment Method: Total Number of Containers

← Preservatives (see Codes) ICE: ☒ Yes ☐ No

			Item No.	Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time
Out:	/ /	Via: ETL							
Returned:	/ /	Via:		Pat Hitchcock AET	5-14-20		[signature] ETL	5-14-20	12:46
Additional Comments:									

Cooler Number(s) / Temperature(s) (°C)	Sampling Kit Number	Received in Lab By:		
1/ic/2.3		[signature] ETL	5-14-20	17:30

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water WW = Wastewater O = Other (specify)

PRESERVATIVE CODES: H = Hydrochloric acid S = Sulfuric acid N = Nitric Na = Sodium Hydroxide O = Other (specify)

PRESERVATIVE CODES: SOIL VOCS MS = Methanol / Sodium Bisulfate MD = Methanol / DI Water

ETL PROJECT NO. 20-1760

ENVIRONMENTAL TESTING LABORATORIES

Project Receipt Summary

20-1760

Project Details

Client: ADVANCED ENVIRONMENTAL TECHNOLOGIES

Project Name: QUICK FOOD MART #7

Shipping and Receiving

Date/Time Received: 5/14/2020 5:30:00 PM

Sampling Personnel: HITCHCOCK

Shipping Method: Laboratory Courier

Shipping Tracking Number:

If present, were cooler custody seals intact?

○ Yes ○ No ◉ N/A

If present, were sample bottle custody seals intact

○ Yes ○ No ◉ N/A

Thermal Preservation

Cooler Temp Method: Sample Temperature

Thermometer ID: 16032413

Number of Coolers: 1

Were cooler temperatues in compliance? (0.1-6.0C)

◉ Yes ○ No ○ N/A

Cooler Temperatures: 2.3

Chain of Custody

Was the chain-of-custody received in coolers?	◉ Yes ○ No ○ N/A
Was the chain-of-custody signed and properly relinquished?	◉ Yes ○ No ○ N/A
Does the chain-of-custody agree with samples and analyses?	◉ Yes ○ No ○ N/A

Container Receipt

Were samples received in appropriate bottleware for analyses?	◉ Yes ○ No ○ N/A
Was sufficient volume submitted for analyses requested?	◉ Yes ○ No ○ N/A
Were samples received within method holding times?	◉ Yes ○ No ○ N/A
Were VOA vials received with zero headspace?	◉ Yes ○ No ○ N/A
Were aqeuous samples received at an acceptable pH?	◉ Yes ○ No ○ N/A

pH Test Strip Lot: MQUANT-HC989495

Comments

I certify I have answered the questions contained herein to the best of my knowledge and have affixed labels with unique IDs onto each sample container received. I certify any discrepancies regarding the samples as received by the laboratory have been documented completely in the comments section of this form.

BCR

Brandon Ray

ENVIRONMENTAL TESTING LABORATORIES INC

Project Receipt Summary

20-1760

Project Sample Detail

Lab Sample ID	Client Sample ID	Matrix	SPLP	TRPH Speciation	MaVPH MaEPH
262429	**MW-1**	**AQUEOUS-Groundwater**	☐	☐	☐
262429-A1 (EDB)					
262429-A2 (EDB)					
262429-A3 (Full VOCs)					
262429-A4 (Full VOCs)					
262429-A5 (Full VOCs)					
262429-B1 (PAH)					
262429-B2 (TRPH)					
262429-C1 (Pb)					
262430	**MW-2**	**AQUEOUS-Groundwater**	☐	☐	☐
262430-A1 (BTEXM)					
262430-A2 (BTEXM)					
262430-A3 (BTEXM)					
262430-B1 (PAH)					
262430-B2 (TRPH)					
262431	**MW-3**	**AQUEOUS-Groundwater**	☐	☐	☐
262431-A1 (BTEXM)					
262431-A2 (BTEXM)					
262431-A3 (BTEXM)					
262431-B1 (PAH)					
262431-B2 (TRPH)					

ENVIRONMENTAL TESTING LABORATORIES INC

Project Receipt Summary

20-1760

Project Bottle Count Summary

Container Type	Preservative	Number of Containers
1-L Amber Glass	H2SO4	3
1-L Amber Glass	NONE	3
40mL VOA Vial	HCL	9
40mL VOA Vial	NONE	2
HDPE Plastic	HNO3	1
	Total	18

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(5)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date: 5-14-91
2. DER Facility ID Number: 578521124 3. County: SANTA ROSA
4. Facility Name: SANTA ROSA EMS
5. Facility Owner: SANTA ROSA EMS
6. Facility Address: 5080 GULF BREEZE PARKWAY GULF BREEZE
7. Mailing Address: P.O. Box 798 MILTON, FL 32572
8. Telephone Number: (904) 623-5318 9. Facility Operator: _____
10. Are the Storage Tank(s): **(Circle one or both)** A. Aboveground or (B. Underground)
11. Type of Product(s) Stored: GASOLINE
12. Were the Tank(s): **(Circle one)** A. Replaced (B. Removed) C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: 1 14. Age of Tanks: UNKNOWN

Facility Assessment Information

Yes	No	Not Applicable	
☐	☒		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☒	☐		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: 5-24-91 Where: ESCAMBIA COUNTY HRS
☒	☐		3. Is the depth to ground water less than 20 feet?
☐	☒	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☐ Water monitoring ☐ Vapor monitoring
☐	☒	☐	5. Is there free product present in the monitoring wells or within the excavation?
☐	☒	☐	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☒ Soil sample(s)
☐	☐	☒	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☒	☐	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	☒	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☒	☐	10. Are any potable wells located within ¼ of a mile radius of the facility?
☐	☒	☐	11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: _____

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904 436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904 798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767

Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347

South District
2269 Bay St.
Fort Myers, Florida 33901-2696

Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406

DER Form # 17-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. (Filled in by DER)

12. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
13. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA Method 602 and EPA Method 610 must be performed on the ground water samples obtained.
14. Amount of soils removed and receipt of proper disposal.
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 17-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contract with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

Signature of Owner — Date

Signature of Person Performing Assessment — Date: 5-14-91

FCC 045053
Title of Person Performing Assessment

State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

State ground water target levels are as follows:

1. For gasoline (EPA Method 602):
   a. Benzene — 1 ug/l
   b. Total VOA — 50 ug/l
      - Benzene
      - Toluene
      - Total Xylenes
      - Ethylbenzene
   c. Methyl Test-Butyl Ether (MTBE) — 50 ug/l

2. For kerosene/diesel (EPA Method 610):
   a. Polynuclear Aromatic Hydrocarbons (PAHS) (Best achievable detection limit, 10 ug/l maximum)

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(5)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date: 5-14-91
2. DER Facility ID Number: 578521124 3. County: SANTA ROSA
4. Facility Name: SANTA ROSA EMS
5. Facility Owner: SANTA ROSA EMS
6. Facility Address: 5080 GULF BREEZE PARKWAY GULF BREEZE
7. Mailing Address: P.O. Box 798 MILTON, FL 32572
8. Telephone Number: (904) 623-5318 9. Facility Operator: _____
10. Are the Storage Tank(s): **(Circle one or both)** A. Aboveground or (B. Underground)
11. Type of Product(s) Stored: GASOLINE
12. Were the Tank(s): **(Circle one)** A. Replaced (B. Removed) C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: 1 14. Age of Tanks: UNKNOWN

Facility Assessment Information

Yes	No	Not Applicable	
☐	☒		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☒	☐		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: 5-24-91 Where: ESCAMBIA COUNTY HRS
☒	☐		3. Is the depth to ground water less than 20 feet?
☐	☒	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☐ Water monitoring ☐ Vapor monitoring
☐	☒	☐	5. Is there free product present in the monitoring wells or within the excavation?
☐	☒	☐	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☒ Soil sample(s)
☐	☐	☒	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☒	☐	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	☒	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☒	☐	10. Are any potable wells located within ¼ of a mile radius of the facility?
☐	☒	☐	11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: _____

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904 436-8300

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7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
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FCC 045053
Title of Person Performing Assessment

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      - Toluene
      - Total Xylenes
      - Ethylbenzene
   c. Methyl Test-Butyl Ether (MTBE) — 50 ug/l

2. For kerosene/diesel (EPA Method 610):
   a. Polynuclear Aromatic Hydrocarbons (PAHS) (Best achievable detection limit, 10 ug/l maximum)

ABBREVIATED CONTAMINATION ASSESSMENT REPORT

PREPARED FOR:

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA
FDER FACILITY NO. 578521124

PREPARED BY:

W. GRADY SWANN, INC.
3814 WEST JACKSON ST
PENSACOLA, FLORIDA 32505

PROJECT NO: WGS92-0140

Bureau of Waste Cleanup

SEP 3 1992

Petroleum Cleanup Section

RECEIVED

AUG 2 8 1992

Environmental Health Services

ABBREVIATED CONTAMINATION ASSESSMENT REPORT

PREPARED FOR:

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
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ABBREVIATED CONTAMINATION ASSESSMENT REPORT
SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY 98)
MIDWAY, FLORIDA
FDER FACILITY NO. 578521124

PROJECT NO: WGS92-0140

INTRODUCTION AND BACKGROUND INFORMATION:

During June, 1992, W. Grady Swann, Inc. initiated a contamination assessment at Santa Rosa County EMS, Substation 2, 5080 Gulf Breeze Parkway (Hwy. 98), Midway, Florida. Previously, on May 14, 1991, a Notification of Discharge was filed by Santa Rosa County, EMS, simultaneously with the excavation and removal of one (1) underground gasoline (unleaded) storage tank. The Discharge Report cited as evidence of a release to the environment, that groundwater samples taken during the closure assessment showed contamination. Groundwater sample analyses conducted by Analytical Technologies, Inc. of Pensacola and included with the closure assessment report revealed BETX concentrations of 396 PPB from samples collected at the dispenser location and 587 PPB from samples collected at the tank location. The Closure Assessment was performed by Panhandle Pump Company, Inc. Copies of the Closure Assessment Report and the Discharge Reporting Form are included herein as Appendix A.

PROPERTY LOCATION AND SITE OF INVESTIGATION:

Santa Rosa County EMS, Substation 2 is located approximately ten (10) miles east of Gulf Breeze, Florida, on Hwy 98 in Midway, Florida. The site also locates in the southwest quarter (SW/4) of Section 24, Township 2 South, Range 28 West, Santa Rosa County.

Two structures are located on the property, a mobil home trailer, utilized as an office and an open sided ambulance shed having a metal roof and asphalt floor. The former underground gasoline storage tank was located approximately twenty (20) feet north of the ambulance shed. Groundcover at the site includes concrete and asphalt around and extending south of the ambulance shed to Hwy 98. The remainder of the site to the east, west and north is unpaved, earthen with scattered patches of grass.

Surrounding land use includes vacant, wooded, undeveloped land to the north, west and across Hwy 98 to the south, southeast and southwest. Located adjacent to the site to the east is a vacant building of masonry block construction which was formerly an antique shop and a former fueling installation. The next adjoining property, farther to the east, contains a vacant house and double car garage of masonry block construction. Farther to the east along the north side of Hwy 98 for approximately 3/10 of a mile from the site, is vacant land interspaced with three (3) vacant buildings and houses. Approximately 4/10 of a mile east of the site commercial business establishments are located on both the north and south sides of Hwy 98. The nearest residential property

is located approximately 3/10 of a mile northeast of the site, where single family residences and mobil homes interspaced with vacant lots are located. The nearest significant surface water body is East Bay, located approximately 1/2 mile north of the site. Santa Rosa Sound is located approximately 9/10 of a mile south of the site. Figure 1, Site Plan, illustrates the locations of the on-site structures and former underground fuel tank and dispenser locations. Figure 2, Topographic Map, illustrates the site location relative to the surrounding area.

INITIAL REMEDIAL ACTION:

No initial remedial action has been undertaken at the site. Neither excessively contaminated soils nor free product have been found at the site.

LOCAL TOPOGRAPHY AND DRAINAGE:

Topography across the site is nearly level, having approximately 0.75' of elevation drop from south to north. From the site, relatively gentle sloping at a gradient of 30' per mile occurs southward to Santa Rosa Sound, while somewhat steeper sloping of 60' per mile occurs northward to East Bay. The surrounding area along the Peninsula exhibits similar topography of north and south slopes from the highest elevations at the crest to East Bay and Santa Rosa Sound, respectively. Drainage follows a similar pattern to the north and south from the highest elevations along the Peninsula. The topographic configuration and local drainage features around the site are shown on Figure 2, Topographic Map.

GROUNDWATER FLOW:

The depth to the unconfined surficial aquifer underlying the site is currently approximately 7' below land surface (BLS). Indicated groundwater flow direction, as determined from surveyed elevations and measured water levels taken from two (2) on-site monitor wells on August 4th and 22nd, 1992, is to the south toward Santa Rosa Sound at a gradient of 0.02821 ft./ft. The results of these two surveys are set forth on Table 4 and Figures 5 and 6.

WELL SURVEY:

A review of the Northwest Florida Water Management District well permit listing, issued July 22, 1992, for wells located within a 1/2 mile radius of the site, revealed a total of seventy (70) wells. These include forty nine (49) irrigation wells, two (2) heat pump supply wells, two (2) domestic supply wells and seventeen (17) monitor wells. No public supply wells were listed in the report. Both domestic supply wells are located 1/2 mile or more from the site. All of the remaining wells are low rate capacity irrigation - heat pump supply wells or monitor wells. A "walk around" well survey covering a radius of 1/4 mile from the site revealed no potable drinking water wells. Table 1 sets forth a

listing of the seventy (70) wells, along with pertinent information pertaining thereto.

SITE INVESTIGATION:

Site investigations conducted by W. Grady Swann, Inc., included a soils investigation around the area of excavation of the former underground fuel tank and dispenser and a limited groundwater investigation within the same area.

On June 12th and 15th, 1992, nine (9) four inch (4") hand auger borings, two (2) of which were converted to monitor wells 1 and 2 were installed to the water table, 8' below land surface (BLS). The specific locations of these borings, within the excavation area of the former tank-dispenser, are shown on Figure 1, Site Plan. The purpose of this task was to assess soil conditions and obtain groundwater samples for analyses within the worst case area.

Soil samples were collected from the borings at 1', 3', 6' and 8' depth intervals and analyzed in accordance with the methodology stated in Chapter 17-770, FAC, for determining excess soils contamination. A Foxboro Century 128 GC OVA-FID calibrated to 50 PPM and 500 PPM methane in air mixture was used to measure the soil headspace vapor concentrations.

The total soil vapor concentrations from these analyses ranged from <0.1 parts per million (PPM) to 2.2 PPM for all samples collected. The results of this investigation are set forth on Table 3. Figures 3 and 4 illustrate and interpret the analytical data in Isocon Map form, above and at the water table, respectively, relative to the former tank and dispenser locations. The lithologies of the soils are described as loosely unconsolidated quartz sand, fine to medium grain, poorly sorted with intermixed clay and fines in the uppermost foot, grading downward into predominantly quartz sand, as set forth on Table 3.

Monitor well 1 was installed at the former dispenser location and monitor well 2 was installed near the center of the former tank location, as shown on Figure 1, Site Plan. Well construction materials for both wells consisted of schedule 40 PVC .006" slot well screen of 7' lengths, and approximately 3' lengths of riser casing, all in one piece. The completed well depths were 9.85' BLS for monitor well 1 and 9.86' BLS for monitor well 2, being approximately 3' below the water table at the time of construction.

The monitor wells were constructed with a natural filter pack existing in the annular space between the well screen and the borehole, from the bottom of the borehole to 6 inches (6") above the well screen. The natural filter pack was overlain in the annular space with a one foot (1') thick interval of bentonite pellets for a seal. The remaining annular space above the bentonite seal was filled with Portland Type A cement, neat cement grout. The wells were completed at surface by extending the well

casing to 3" above grade and installing locking, water tight caps. The construction details and installation dates for both wells are shown on Table 2.

Both monitor wells were developed on June 15th and allowed to stabilize until June 18, 1992, at which time both wells were purged and then sampled for the first time, the procedures for which and results are set forth below.

On August 28, 1992, soil borings 8 and 9, located 24' north and 30' south, respectively, from the tank excavation area were installed to the water table (7' BLS) using a hand auger. Soil samples were collected from the borings at 3' BLS and at the water table. The soils were analyzed in accordance with the methodology stated in Chapter 17-770, FAC, for determining excess soils contamination, using the same instrumentation as used for the previous borings. The total soil vapor concentrations from these analyses were <0.1 parts per million (PPM) for all samples collected. The lithologies of the soils are described the same as for previous borings on this site.

GROUNDWATER SAMPLING, ANALYSES, AND QUALITY:

Field techniques and laboratory procedures employed during this investigation were performed in strict accordance with W. Grady Swann, Inc's conditionally approved generic QA/QC Plan, No. 900246-G.

Prior to sampling, on each sampling event listed below, the monitor wells were purged in excess of twenty five well volumes and until the pH, conductivity and temperature stabilized. The samples were then collected with pre-cleaned teflon bailers, transferred into appropriate containers, and delivered on ice to Analytical Technologies, Inc's Pensacola laboratory for analyses. The samples were analyzed using EPA methods set forth below, on Table 5 and Appendix B.

The first sampling event, occurring June 18, 1992, included both monitor wells 1 and 2. Groundwater samples were analyzed for the volatile organic gasoline compounds using EPA method 601 and 602, Ethylene Dibromide (EDB) and Lead. All of the parameters tested in monitor wells 1 and 2 were below the methods' detection limits, with the exception of Lead which tested 0.005 PPM and 0.007 PPM, respectively. The lead concentrations are well below the alalowable State standard level of 0.05 PPM for Class II groundwaters.

The second sampling event, occurring August 4, 1992, also included both monitor wells 1 and 2. Groundwater samples were analyzed for the volatile organic gasoline compounds using EPA method 602 plus Xylene plus MTBE. All of the parameters tested in monitor wells 1 and 2 were below the methods' detection limits.

The analytical results for both sampling events set forth above are included herein as Appendix B and are summarized in Table 5.

CONCLUSIONS AND RECOMMENDATIONS:

Based upon the information derived from the soils and groundwater investigations conducted at the Santa Rosa, EMS site, it is concluded that:

(1) the source of the contamination has been eliminated, and,

(2) There are no excessively contaminated soils on-site, and,

(3) The groundwaters underlying the site tested below the methods' detection limits for all parameters tested, with the exception of Lead which tested well below the allowable State standard, and,

(4) There are no potable water wells existing within a 1/4 mile radius of the site.

W. Grady Swann, Inc. recommends that a "No Further Action" status be approved for this site.

CERTIFICATION:

All hydrogeologic, geologic data and supporting information contained in this report have been prepared and/or reviewed by a Professional Geologist.

W. Grady Swann, Inc.

B. Robert Jefferson DATE: August 28, 1992

By: B. Robert Jefferson
Professional Geologist No. 949

TABLES

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

TABLE 1 WELL INVENTORY, WITHIN 1/2 MILE OF SITE:
(WELLS LISTED LOCATED WITHIN TOWNSHIP 2 SOUTH, RANGE 28 WEST)
(Page 1)

STREET ADDRESS	SECTION QUARTER SECTION	WELL USE	TOTAL DEPTH (FT)	CASING DEPTH (FT)	WELL DIAMETER (IN)	STATIC WATER LEVEL (FT)	PUMP RATE CAP. (gpm)
RT 2, BOX 27F	NE 26	AI	0	0'	4"	0'	0
SOUNDSIDE HWY 191	NE 26	H	63'	63'	4"	4'	0
RT 2 BOX 150 BAY	23	HS	25'	2'	"	13'	10
1615 PARADISE BAY	NW 24	LA	30'	25'	2"	10'	40
2882 WHISPER BAY	" 25	"	"	"	"	4'	"
3814 KASHMIT COVE	26	"	24'	19'	"	7'	30
3819 TIGER PT DR	26	"	145'	130'	"	9'	"
RT 2 BOX 122	26	"	16'	11'	"	0'	25
3462 SYCAMORE LANE	26	"	30'	25'	"	11'	40
4969 SOUNDSIDE DR	26	"	40'	38'	"	0'	40
3842 TIBET DR	26	"	25'	20'	"	16'	"
4163 MADURA RD	NE 26	DO	17'	12'	"	2'	50
5065 SOUNDSIDE DR	25	LA	30'	25'	"	12'	"
971 VESTAVIA WAY	25	"	"	"	"	6'	"
3889 SAILWIND DR	26	"	25'	20'	"	8'	40
1968 CHURCH ST.	NW 24	DO	30'	20'	"	10'	15
HWY 98 & ABERCROM	SE 24	MO	15'	5'	"	3'	0
" "	" "	"	"	"	"	"	"
" "	" "	"	"	"	"	"	"
" "	" "	"	"	"	"	"	"

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

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(PAGE 2)

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HWY 98 & ABERCROM	SE 24	MO	15'	5'	2"	3'	0
" "	" "	"	"	"	"	"	"
4909 SOUNDSIDE DR	26	LA	22'	17'	"	5'	40
1747 OAK ST.	24	"	23'	3'	"	"	30
RT 2 BOX 135F	"	"	26'	16'	"	5'	"
4800 HICKORY SHOR	26	"	25'	20'	"	6'	50
4572 SABINE CT	26	"	32'	22'	"	8'	"
4168 MADURA FOUR	26	"	15'	10'	"	3'	40
4185 MADURA RD	NE 26	"	17'	12'	"	"	30
RT 1 BOX 634	"	"	100'	90'	"	10'	40
5221 SOUNDSIDE DR	24	"	100'	90'	"	5'	50
4143 MADURA RD	NE 26	"	18'	13'	"	"	30
5361 SOUNDSIDE DR	25	"	23'	18'	"	6'	50
1604 SUMATRA LANE	NW 24	"	50'	40'	"	8'	35
4572 SABINE COURT	26	"	85	70'	"	9'	50
2878 WHISPER LAKE	25	"	17'	12'	"	4'	30
3375 GULF BREEZE PK	26	"	35'	30'	4"	14'	50
1274 GREENVIEW LN	26	"	19'	14'	2"	3'	30
3838 MADURA WEST	"	"	25'	20'	"	8'	20
OFF FIRE DEPT RD	SE 24	MO	40'	20'	4"	0'	0
4745 KITTY HAWK CIR	26	LA	21'	16'	2"	10'	50

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

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(WELLS LISTED LOCATED WITHIN TOWNSHIP 2 SOUTH, RANGE 28 WEST)
(PAGE 3)

STREET ADDRESS	SECTION QUARTER	SECTION	WELL USE	TOTAL DEPTH (FT)	CASING DEPTH (FT)	WELL DIAMETER (IN)	STATIC WATER LEVEL (FT)	PUMP RATE CAP. (gpm)
1640 MOHAWK TR		26	LA	21'	21'	2"	12'	30
4724 KITTY HAWK CIR	"	"	"	28'	23'	"	7'	50
2826 WHISPER BAY BLV		25	"	25'	20'	"	10'	40
1144 LIONS GATE LN NE		26	"	22'	17'	"	6'	35
3475 SYCAMORE LN		"	"	"	"	"	7'	25
4549 SABINE DR	NE	26	"	50'	40'	"	5'	40
4715 SOULE PLACE		26	"	47'	37'	"	9'	30
3272 HWY 98	SE	24	MO	13'	3'	4"	4'	0
4559 SOUNDSIDE TER		26	LA	15'	10'	2"	6'	40
4733 KITTY HAWK CIR	"	"	"	25'	20'	"	8'	30
4559 SOUNDSIDE TER	"	"	"	22'	12'	"	7'	"
4729 KITTY HAWK CIR		26	"	24'	14'	"	9'	"
1349 SANIBEL LANE		25	"	20'	15'	"	10'	40
4715 SOULE PLACE		26	"	94'	84'	"	6'	30
HWY 98	SE	24	MO	15'	5'	4"	0'	0
" "	"	"	"	"	"	"	"	"
" "	"	"	"	"	"	"	"	"
" "	"	"	"	"	"	"	"	"
" "	"	"	"	"	"	"	"	"
" "	"	"	"	"	"	"	"	"

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

TABLE 1 WELL INVENTORY, WITHIN 1/2 MILE OF SITE:
(WELLS LISTED LOCATED WITHIN TOWNSHIP 2 SOUTH, RANGE 28 WEST)
(PAGE 4)

STREET ADDRESS	SECTION QUARTER SECTION	WELL USE	TOTAL DEPTH (FT)	CASING DEPTH (FT)	WELL DIAMETER (IN)	STATIC WATER LEVEL (FT)	PUMP RATE CAP. (gpm)
HWY 98	SE 24	MO	15'	5'	4"	0'	0
5084 KEYSTONE DR	NW 24	LA	48'	38'	2"	6'	25
4986 HICKORY SHOR	SE 24	"	27'	22'	"	17'	30
5040 KEYSTONE DR	24	"	38'	28'	"	7'	"
5080 GULF BREEZE	SW 24	MO	9.85'	2.85'	"	8.51'	0
" "	" "	"	9.86'	2.86'	"	8.5'	0
1073 HARBOR LANE	26	LA	0'	0'	"	0'	30
4722 GULF BREEZE PK	26	"	"	"	"	"	"
3762 CEYLON DR	NW 25	"	"	"	"	"	25

LEGEND:

WELL USE		TOTAL NO. WELLS LISTED
AI	= Agricultural, Irrigation well	1
LA	= Irrigation Well, Landscape	48
H or HS	= Heat Pump Supply Well	2
DO	= Domestic Supply Well	2
MO	= Monitor Well	17
gpm	= Pump Rate in gallons per minute	
	TOTAL	70 wells

The source for the above listed well information is the Northwest Florida Water Management District "Permit Listing", issued July 22, 1992.

TABLE 2
MONITOR WELL CONSTRUCTION

SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA

PROJECT NO: WGS92-0140

WELL NO.	DIAMETER (IN)	COMPLETED DEPTH (FT) FROM TOC	SCREENED INTERVAL (FT)	DATE OF WELL INSTALLATION
MW-1	2"	9.85'	7.00'	06/15/92
MW-2	2"	9.86'	7.00'	06/15/92

TABLE 3
SOIL VAPOR CONCENTRATIONS FROM BOREHOLES
SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

BOREHOLE LOCATION MAP NO & DEPTH	----SOIL VAPOR CONCENTRATIONS---- PPMt	ODOR	LITHOLOGY
BH-1 (1')	<0.1	NONE	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.3	"	QUARTZ SAND
(6')	1.4	"	" "
(8')*	0.2	"	" "
BH-2 (1')	0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.2	"	QUARTZ SAND
(6')	<0.1	"	" "
(8')*	<0.1	"	" "
BH-3 (1')	<0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.1	"	QUARTZ SAND
(6')	0.4	"	" "
(8')*	<0.1	"	" "
BH-4 (1')	<0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.1	"	QUARTZ SAND
(6')	0.9	"	" "
(8')*	<0.1	"	" "
BH-5 (1')	<0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	<0.1	"	QUARTZ SAND
(6')	<0.1	"	" "
(8')*	<0.1	"	" "
BH-6 (1')	0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.2	"	QUARTZ SAND
(6')	0.2	"	" "
(8')*	0.1	"	" "
BH-7 (1')	0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	0.1	"	QUARTZ SAND
(6')	<0.1	"	" "
(8')*	<0.1	"	" "
BH-8 (3')	<0.1	"	" "
(WT)*	<0.1	"	" "
BH-9 (3')	<0.1	"	" "
(WT)*	<0.1	"	" "

TABLE 3
SOIL VAPOR CONCENTRATIONS FROM BOREHOLES
SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA
PROJECT NO: WGS92-0140

BOREHOLE LOCATION MAP NO & DEPTH	----SOIL VAPOR CONCENTRATIONS---- PPMt	ODOR	LITHOLOGY
MW-1 (1')	<0.1	NONE	QUARTZ SAND WITH INTERMIXED CLAY
(3')	<0.1	"	QUARTZ SAND
(6')	<0.1	"	" "
(8')*	<0.1	"	" "
MW-2 (1')	<0.1	"	QUARTZ SAND WITH INTERMIXED CLAY
(3')	<0.1	"	QUARTZ SAND
(6')	<0.1	"	" "
(8')*	2.2	"	" "

LEGEND:

PPMt - Vapor Concentration Total in Parts Per Million
* - Denotes soil sample collected at or below water table
WT - Water Table

Soil vapor concentrations measured from a Foxboro Century 128 GC OVA-FID detection instrument.

TABLE 4
SURVEYING AND MONITORING DATA
SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA

PROJECT NO: WGS92-0140

WELL NO.	TOP OF CASING ELEVATION (FT)	DEPTH TO WATER (FT)	RELATIVE GW ELEVATION (FT)
AUGUST 4, 1992			
MW-1	24.59'	8.99'	15.60'
MW-2	25.00'	8.99'	16.01'
AUGUST 22, 1992			
MW-1	24.59'	6.73'	17.86'
MW-2	25.00'	6.76'	18.24'

LEGEND:
BENCHMARK-25.0(ARBITRARY)

GW - GROUNDWATER
MW-MONITOR WELL
DEPTH TO WATER MEASURED FROM TOP OF WELL CASING

TABLE 5

LABORATORY ANALYSIS OF GROUNDWATER
SANTA ROSA COUNTY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA

PROJECT NO: WGS92-0140

WELL NO.	1770 VOL 601-602	VOL 602 +X+MTBE	BENZENE	ETHYL BENZENE	TOLUENE	XYLENE	MTBE	EDB	LEAD
SAMPLE DATE - JUNE 18, 1992									
MW-1	BDL	N/S	BDL	BDL	BDL	BDL	BDL	BDL	0.005
MW-2	BDL	N/S	BDL	BDL	BDL	BDL	BDL	BDL	0.007
SAMPLE DATE - AUGUST 4, 1992									
MW-1	N/S	BDL	BDL	BDL	BDL	BDL	BDL	N/S	N/S
MW-2	N/S	BDL	BDL	BDL	BDL	BDL	BDL	N/S	N/S

LEGEND:
BDL - BELOW DETECTION LIMIT
601-602 - ENVIRONMENTAL PROTECTION AGENCY (LABORATORY METHOD)
N/S - NOT SAMPLED
MTBE - METHYL TERT-BUTYL ETHER
EDB - ETHYLENE DIBROMIDE
ALL RESULTS REPORTED IN PARTS PER BILLION (PPB), EXCEPT LEAD, IN PARTS PER MILLION (PPM)

FIGURES

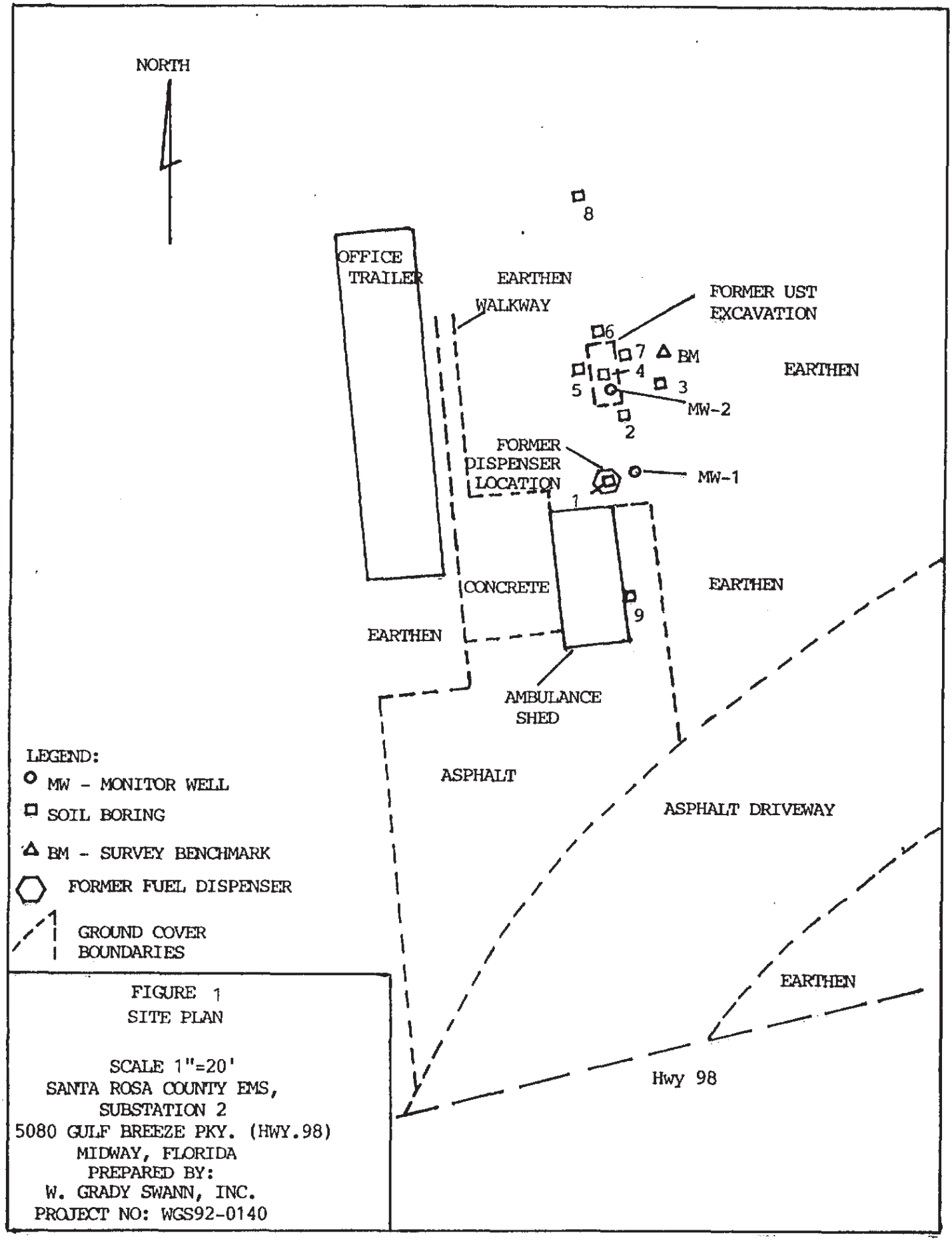


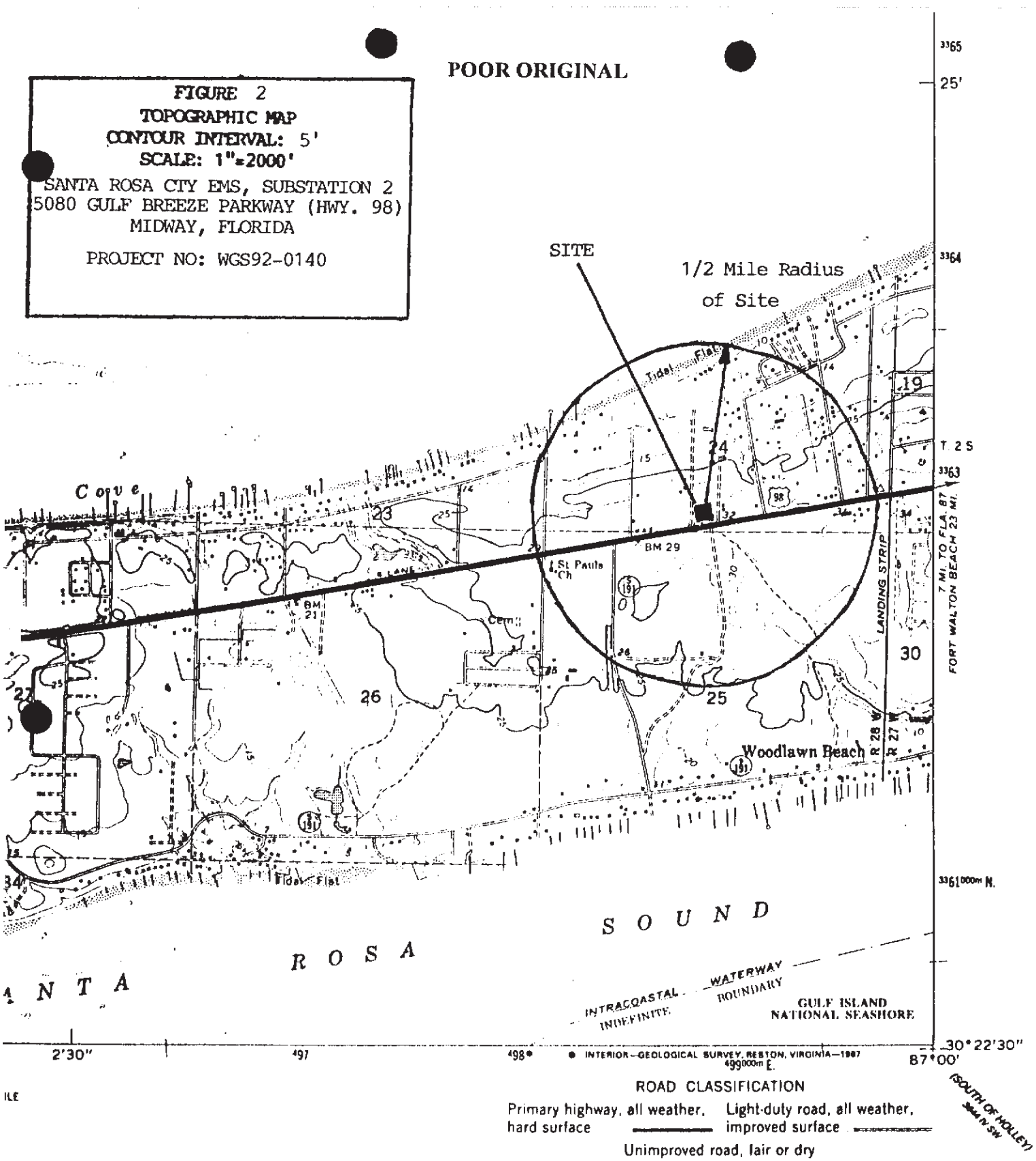
FIGURE 1
SITE PLAN

SCALE 1"=20'
SANTA ROSA COUNTY EMS,
SUBSTATION 2
5080 GULF BREEZE PKY. (HWY.98)
MIDWAY, FLORIDA
PREPARED BY:
W. GRADY SWANN, INC.
PROJECT NO: WGS92-0140

POOR ORIGINAL

FIGURE 2
TOPOGRAPHIC MAP
CONTOUR INTERVAL: 5'
SCALE: 1"=2000'
SANTA ROSA CITY EMS, SUBSTATION 2
5080 GULF BREEZE PARKWAY (HWY. 98)
MIDWAY, FLORIDA

PROJECT NO: WGS92-0140



ROAD CLASSIFICATION

Primary highway, all weather, hard surface

Light-duty road, all weather, improved surface

Unimproved road, fair or dry weather

U. S. Route

State Route



QUADRANGLE LOCATION

Revisions shown in purple and woodland compiled in cooperation with State of Florida agencies from aerial photographs taken 1984 and other sources. This information not field checked. Map edited 1987

GARCON POINT, FLA.
30087-D1-TF-024

1970
PHOTOREVISED 1987
DMA 3544 I NE-SERIES V847

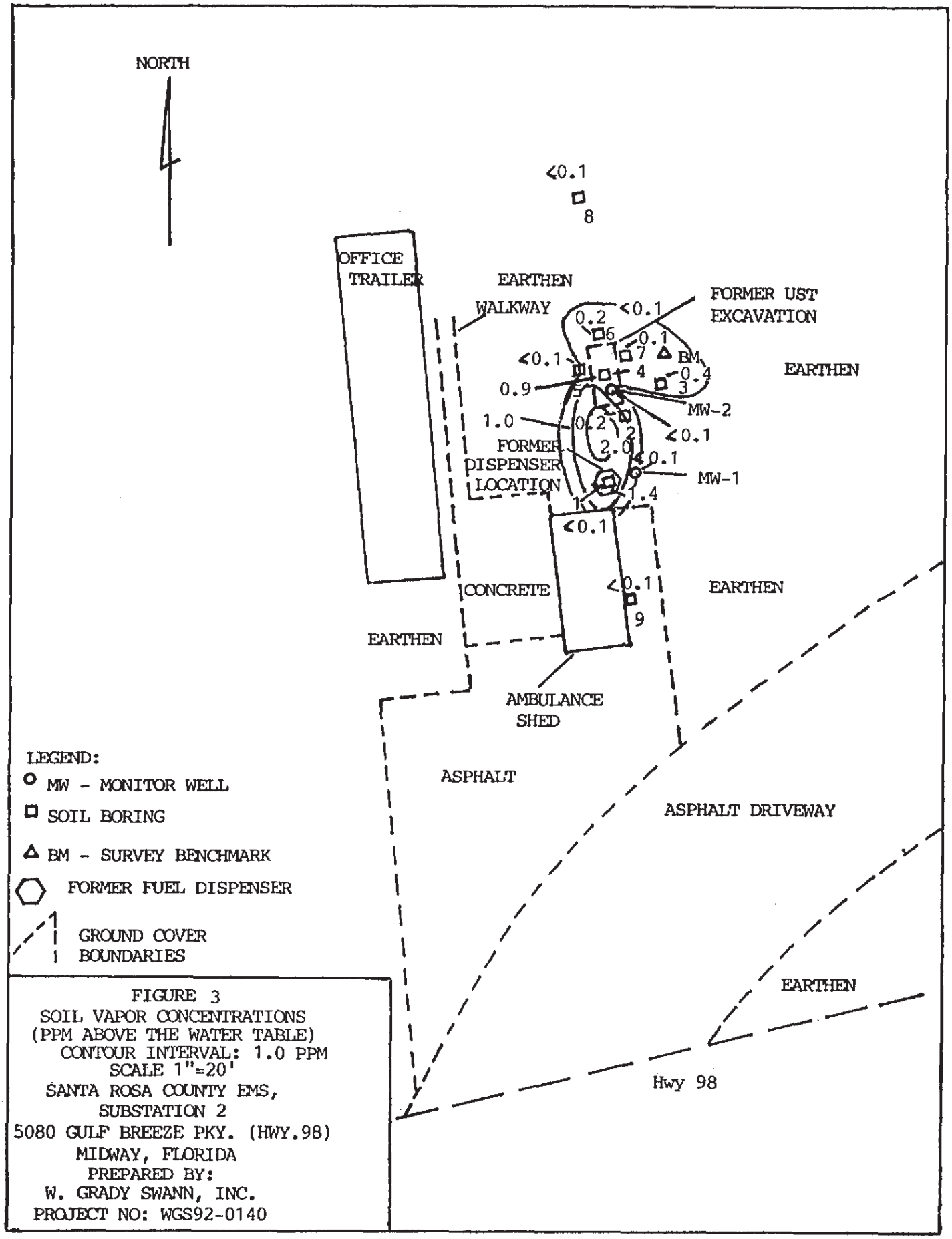


FIGURE 3
SOIL VAPOR CONCENTRATIONS
(PPM ABOVE THE WATER TABLE)
CONTOUR INTERVAL: 1.0 PPM
SCALE 1"=20'
SANTA ROSA COUNTY EMS,
SUBSTATION 2
5080 GULF BREEZE PKY. (HWY.98)
MIDWAY, FLORIDA
PREPARED BY:
W. GRADY SWANN, INC.
PROJECT NO: WGS92-0140

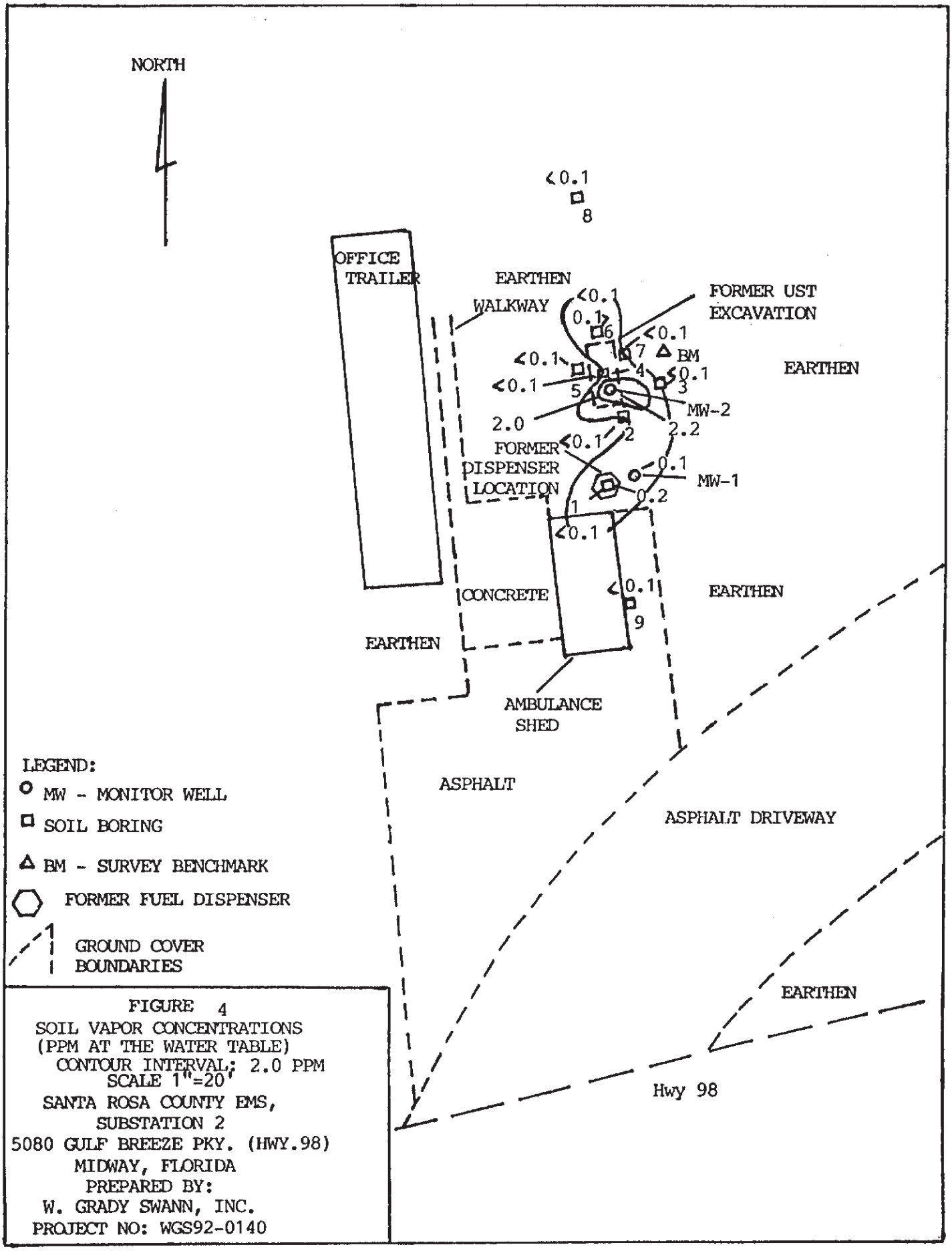


FIGURE 4
SOIL VAPOR CONCENTRATIONS
(PPM AT THE WATER TABLE)
CONTOUR INTERVAL: 2.0 PPM
SCALE 1"=20'
SANTA ROSA COUNTY EMS,
SUBSTATION 2
5080 GULF BREEZE PKY. (HWY.98)
MIDWAY, FLORIDA
PREPARED BY:
W. GRADY SWANN, INC.
PROJECT NO: WGS92-0140

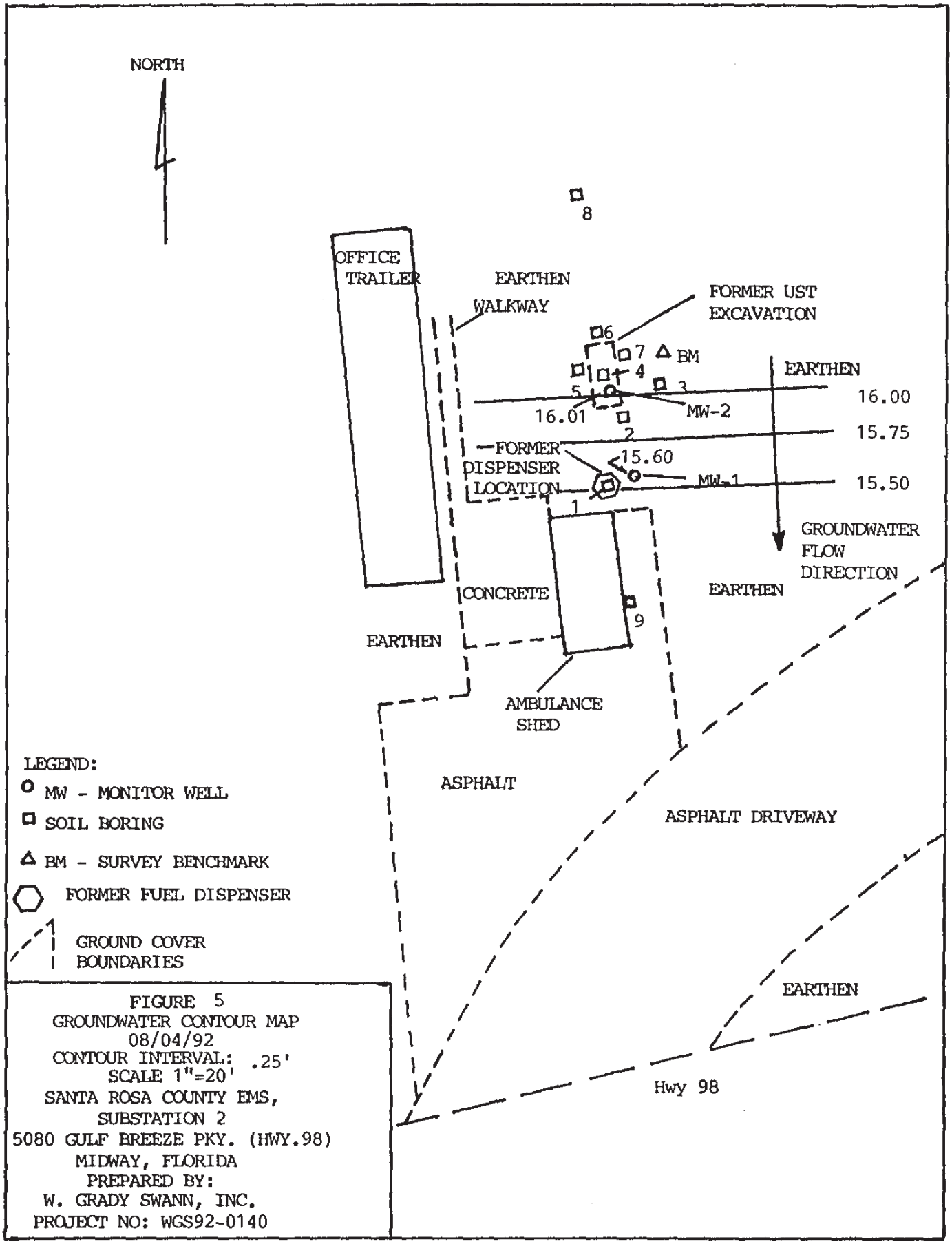


FIGURE 5
GROUNDWATER CONTOUR MAP
08/04/92
CONTOUR INTERVAL: .25'
SCALE 1"=20'
SANTA ROSA COUNTY EMS,
SUBSTATION 2
5080 GULF BREEZE PKY. (HWY.98)
MIDWAY, FLORIDA
PREPARED BY:
W. GRADY SWANN, INC.
PROJECT NO: WGS92-0140

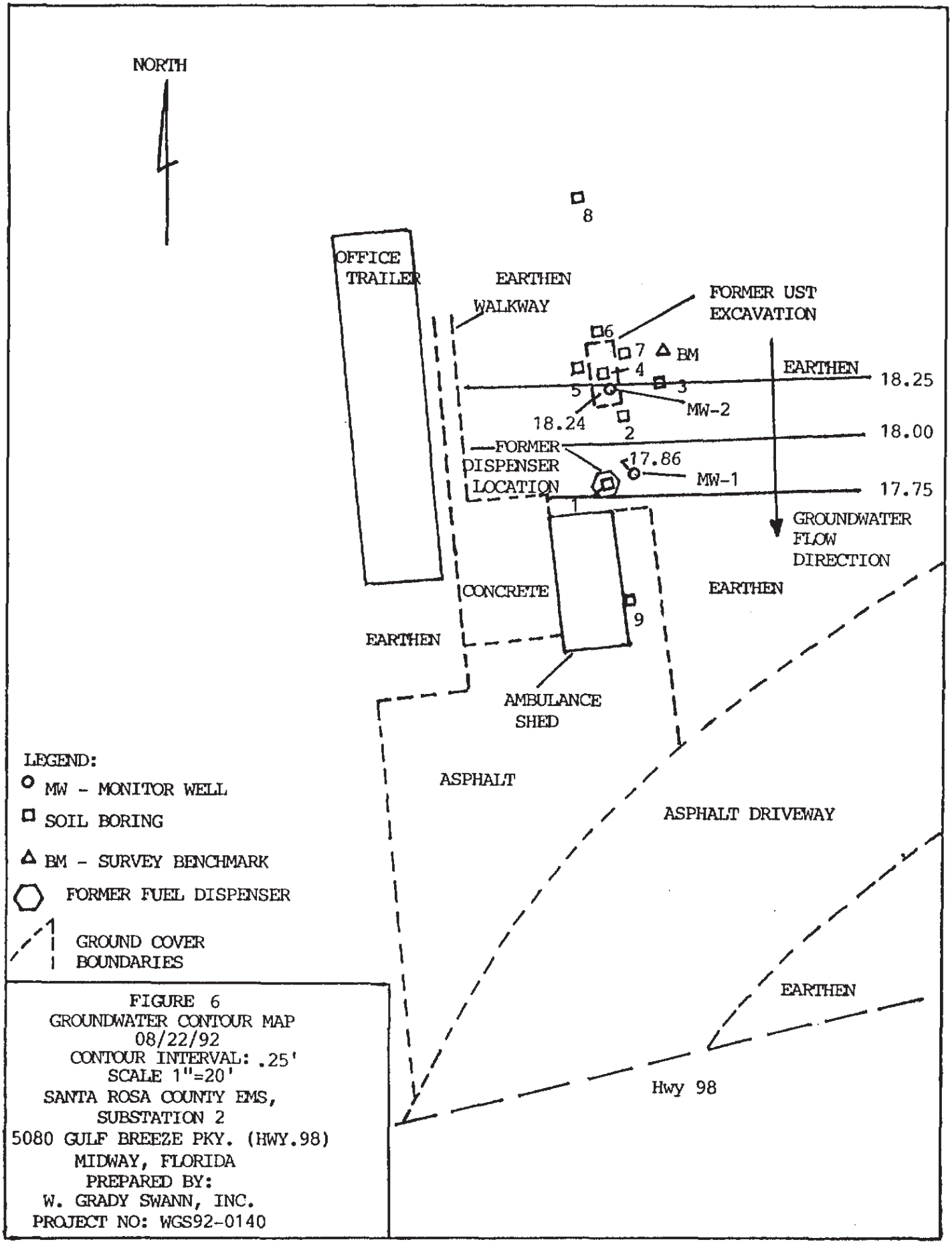


FIGURE 6
GROUNDWATER CONTOUR MAP
08/22/92
CONTOUR INTERVAL: .25'
SCALE 1"=20'
SANTA ROSA COUNTY EMS,
SUBSTATION 2
5080 GULF BREEZE PKY. (HWY.98)
MIDWAY, FLORIDA
PREPARED BY:
W. GRADY SWANN, INC.
PROJECT NO: WGS92-0140

APPENDIX A

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(5)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Closure Assessment Form

Owners of storage tank systems that are replacing, removing or closing in place storage tanks shall use this form to demonstrate that a storage system closure assesment was performed in accordance with Rule 17-761 or 17-762, Florida Administrative Code. Eligible Early Detection Incentive (EDI) and Reimbursement Program sites do not have to perform a closure assessment.

Please Print or Type
Complete All Applicable Blanks

1. Date: 5-14-91
2. DER Facility ID Number: 578521124 3. County: SANTA ROSA
4. Facility Name: SANTA ROSA EMS
5. Facility Owner: SANTA ROSA EMS
6. Facility Address: 5080 GULF BREEZE PARKWAY GULF BREEZE
7. Mailing Address: P.O. Box 798 MILTON, FL 32572
8. Telephone Number: (904) 623-5318 9. Facility Operator: _____
10. Are the Storage Tank(s): **(Circle one or both)** A. Aboveground or (B. Underground)
11. Type of Product(s) Stored: GASOLINE
12. Were the Tank(s): **(Circle one)** A. Replaced (B. Removed) C. Closed in Place D. Upgraded (aboveground tanks only)
13. Number of Tanks Closed: 1 14. Age of Tanks: UNKNOWN

Facility Assessment Information

Yes	No	Not Applicable	
☐	☒		1. Is the facility participating in the Florida Petroleum Liability Insurance and Restoration Program (FPLIRP)?
☒	☐		2. Was a Discharge Reporting Form submitted to the Department? If yes, When: 5-24-91 Where: ESCAMBIA COUNTY HRS
☒	☐		3. Is the depth to ground water less than 20 feet?
☐	☒	☐	4. Are monitoring wells present around the storage system? If yes, specify type: ☐ Water monitoring ☐ Vapor monitoring
☐	☒	☐	5. Is there free product present in the monitoring wells or within the excavation?
☐	☒	☐	6. Were the petroleum hydrocarbon vapor levels in the soils greater than 500 parts per million for gasoline? Specify sample type: ☐ Vapor Monitoring wells ☒ Soil sample(s)
☐	☐	☒	7. Were the petroleum hydrocarbon vapor levels in the soils greater than 50 parts per million for diesel/kerosene? Specify sample type: ☐ Vapor Monitoring wells ☐ Soil sample(s)
☒	☐	☐	8. Were the analytical laboratory results of the ground water sample(s) greater than the allowable state target levels? (See target levels on reverse side of this form and supply laboratory data sheets)
☐	☐	☒	9. If a used oil storage system, did a visual inspection detect any discolored soil indicating a release?
☐	☒	☐	10. Are any potable wells located within ¼ of a mile radius of the facility?
☐	☒	☐	11. Is there a surface water body within ¼ mile radius of the site? If yes, indicate distance: _____

Northwest District
160 Governmental Center
Pensacola, Florida 32501-5794
904 436-8300

Northeast District
7825 Baymeadows Way, Suite B 200
Jacksonville, Florida 32207
904 798-4200

Central District
3319 Maguire Blvd. Suite 232
Orlando, Florida 32803-3767

Southwest District
4520 Oak Fair Blvd.
Tampa, Florida 33610-7347

South District
2269 Bay St.
Fort Myers, Florida 33901-2696

Southeast District
1900 S. Congress Ave., Suite A
West Palm Beach, Florida 33406

DER Form # 17-761.900(6)
Form Title Closure Assessment Form
Effective Date December 10, 1990
DER Application No. (Filled in by DER)

12. A detailed drawing or sketch of the facility that includes the storage system location, monitoring wells, buildings, storm drains, sample locations, and dispenser locations must accompany this form.
13. If a facility has a pollutant storage tank system that has both gasoline and kerosene/diesel stored on site, both EPA Method 602 and EPA Method 610 must be performed on the ground water samples obtained.
14. Amount of soils removed and receipt of proper disposal.
15. If yes is answered to any one of questions 5-9, a Discharge Reporting Form 17-761.900(1) indicating a suspected release shall be submitted to the Department within one working day.
16. A copy of this form and any attachments must be submitted to the Department's district office in your area and to the locally administered program office under contract with the Department within 60 days of completion of tank removal or filling a tank with an inert material.

Signature of Owner — Date

Signature of Person Performing Assessment — Date: 5-14-91

FCC 045053
Title of Person Performing Assessment

State Ground Water Target Levels That Affect A Pollutant Storage Tank System Closure Assessment

State ground water target levels are as follows:

1. For gasoline (EPA Method 602):
   a. Benzene — 1 ug/l
   b. Total VOA — 50 ug/l
      - Benzene
      - Toluene
      - Total Xylenes
      - Ethylbenzene
   c. Methyl Test-Butyl Ether (MTBE) — 50 ug/l

2. For kerosene/diesel (EPA Method 610):
   a. Polynuclear Aromatic Hydrocarbons (PAHS) (Best achievable detection limit, 10 ug/l maximum)

Analytical Technologies, Inc.
EAST OLIVE ROAD PHONE (904) [illegible]-1001
PENSACOLA, FLORIDA 32514

PANHANDLE PUMP CO., INC.
ATTN: LAURITZ SPANN
4650 CHESTNUT RD.
CANTONMENT FL 32533-0000

Lab I.D.#: 91-3337
Order Number: P43166
Order Date: 05/14/91
Client: 16028
Sampled By: N/S
Sample Date: 05/14/91
Sample Time: VARIOUS

N/S = Not Submitted

Project Number: N/S
Project Name: N/S
Sample Site: N/S
Sample Type: GROUNDWATER

R E S U L T S

reported on the following page(s)

Comments: PPB = Parts Per Billion, ug/l. Method Reference: Federal Register 40 CFR Part 136, July 1, 1988.

Approved By : [signature]

Analytical Technologies, Inc.
[redacted] EAST OLIVE ROAD PHONE (904) [redacted]-1001
PENSACOLA, FLORIDA 32514

Client: PANHANDLE PUMP CO., INC.

Lab I.D.#: 91-3337-1
Order Date: 05/14/91
Sampled By: N/S

Project Number: N/S
Project Name: N/S
Sample Site: N/S
Sample Type: GROUNDWATER

Sample ID.: #1 PUMP Sample Date: 05/14/91 Time: VARIOUS

BETX BENZENE, ETHYLBENZENE, TOLUENE, XYLENE

Parameter	Units	Result	Detection Limit
BENZENE	PPB	15	1
ETHYL BENZENE	PPB	29	1
TOLUENE	PPB	140	5
XYLENE	PPB	212	2
TRIF-TOLUENE *SURR* LIMITS (70-130)	% REC	91	

Analytical Technologies, Inc
11 EAST OLIVE ROAD PHONE (904) 474-[illegible]
PENSACOLA, FLORIDA 32514

Client: PANHANDLE PUMP CO., INC.

Project Number: N/S
Project Name: N/S
Sample Site: N/S
Sample Type: GROUNDWATER

Lab I.D.#: 91-3337-2
Order Date: 05/14/91
Sampled By: N/S

Sample ID.: #2 TANK Sample Date: 05/14/91 Time: VARIOUS

›ETX BENZENE, ETHYLBENZENE, TOLUENE, XYLENE

Parameter	Units	Result	Detection Limit
BENZENE	PPB	23	1
ETHYL BENZENE	PPB	44	1
TOLUENE	PPB	210	5
XYLENE	PPB	310	2
TRIF-TOLUENE *SURR* LIMITS (70-130)	% REC	93	

end of report

PANHANDLE PUMP COMPANY, INC.

SERVICE STATION EQUIPMENT REPAIR
4650 CHESTNUT ROAD CANTONMENT, FLORIDA 32533
(904) 587-5735

May 24, 1991

Mr. Danny Dean
1190 W. Leonard Street
Suite 2
Pensacola, Florida 32501

Dear Sir:

The following is a closure assessment for Santa Rosa EMS, Highway 98, Midway, Florida.

Removed one (1) 1,000 gallon underground gasoline storage tank May 14, 1991. All vapor tests performed on soil were done using the approved procedures for head space analysis. Soil vapor tests were performed at points on all sides and above tank. All soil test procedures done at tank showed no meter deflection on testing instrument. A soil vapor analysis was also done below the pump at a depth of two feet This test showed a corrected true hydrocarbon reading of 250 PPM.

Water samples were taken under the tank and pump and were sent to Analytical Technologies, Inc. for analysis. Their test results are included in this report.

If you have any questions regarding either procedures or results, please call our office.

Yours Truly,

Lauritz Spann

PCG 045053

Florida Department of Environmental Regulation
Twin Towers Office Bldg. • 2600 Blair Stone Road • Tallahassee, Florida 32399-2400

DER Form # 17-761.900(1)
Form Title Discharge Reporting Form
Effective Date December 10, 1990
DER Application No. _____ (Filled in by DER)

Discharge Reporting Form

Use this form to notify the Department of Environmental Regulation of:

1. Results of tank tightness testing that exceed allowable tolerances within ten days of receipt of test result.
2. Petroleum discharges exceeding 25 gallons on pervious surfaces as described in Section 17-761.460 F.A.C. within one working day of discovery.
3. Hazardous substance (CERCLA regulated), discharges exceeding applicable reportable quantities established in 17-761.460(2) F.A.C., within one working day of the discovery.
4. Within one working day of discovery of suspected releases confirmed by: (a) released regulated substances or pollutants discovered in the surrounding area, (b) unusual and unexplained storage system operating conditions, (c) monitoring results from a leak detection method or from a tank closure assessment that indicate a release may have occurred, or (d) manual tank gauging results for tanks of 550 gallons or less, exceeding ten gallons per weekly test or five gallons averaged over four consecutive weekly tests.

Mail to the DER District Office in your area listed on the reverse side of this form

PLEASE PRINT OR TYPE
Complete all applicable blanks

1. DER Facility ID Number: 578521124 2. Tank Number: 1 3. Date: 5-14-91
4. Facility Name: SANTA ROSA EMS
   Facility Owner or Operator: SAME
   Facility Address: 5080 GULF BREEZE PARKWAY GULF BREEZE
   Telephone Number: (904) 623-5318 County: SANTA ROSA
   Mailing Address: P.O. BOX 795 MILTON, FL 32572
5. Date of receipt of test results or discovery: 5-24-91 month/day/year
6. Method of initial discovery. (circle one **only**)
   A. Liquid detector (automatic or manual)
   B. Vapor detector (automatic or manual)
   C. Tightness test (underground tanks only).
   D. Emptying and Inspection.
   E. Inventory control.
   F. Vapor or visible signs of a discharge in the vicinity.
   (G.) Closure: WATER SAMPLES TAKEN (explain)
   H. Other: DURING CLOSURE ASSESSMENT
7. Estimated number of gallons discharged: UNKNOWN
8. What part of storage system has leaked? (circle all that apply) (A.) Dispenser B. Pipe C. Fitting (D.) Tank E. Unknown
9. Type of regulated substance discharged. (circle one)
   A. leaded gasoline
   (B.) unleaded gasoline
   C. gasohol
   D. vehicular diesel
   F. aviation gas
   G. jet fuel
   L. used/waste oil
   M. diesel
   O. new/lube oil
   V. hazardous substance includes pesticides, ammonia, chlorine and derivatives (write in name or Chemical Abstract Service CAS number) _____
   Z. other (write in name) _____
10. Cause of leak. (circle all that apply)
    (A.) Unknown
    B. Split
    C. Loose connection
    D. Corrosion
    E. Puncture
    F. Installation failure
    G. Spill _____
    H. Overfill
    I. Other (specify) _____
11. Type of financial responsibility. (circle one)
    A. Third party insurance provided by the state insurance contractor
    B. Self-insurance pursuant to Chapter 17-769.500 F.A.C.
    C. Not applicable
    D. None
12. **To the best of my knowledge and belief all information submitted on this form is true, accurate, and complete.**

LAURITZ SPANN
Printed Name of Owner, Operator or Authorized Representative

Signature of Owner, Operator or Authorized Representative

APPENDIX B

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Received
Date 6/29/92
Initials

W. GRADY SWANN, INC.
3814 WEST JACKSON STREET

PENSACOLA FL 32505-0000

Lab I.D.#: 92-5373
Order Number: P59847
Received Date: 06/18/92
Client: 18099
Sampled By: WEIMER
Sample Date: 06/18/92
Sample Time: AM

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

N/S = Not Submitted

Lab ID	Sample ID	Parameter	Units	Results	Detection Limit
5373-1	MW#1	LEAD	PPM	0.005	0.003
5373-2	MW#2	LEAD	PPM	0.007	0.003
5373-3	EQ. BK	LEAD	PPM	BDL	0.003

Comments: PPM = Parts Per Million, mg/l. PPB = Parts Per Billion, ug/l. Method Refs: EPA 600/4-79-020, 3/83, EPA/600/4-88/039, December 1988 and Fed Reg 40 CFR Part 136, 7/1/90. BDL = Below Detection Limits.

Approved By :

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-1
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#1 Sample Date: 06/18/92 Time: AM

EDB/FUELS ETHYLENE DIBROMIDE

Parameter	Units	Result	Detection Limit
ETHYLENE DIBROMIDE	PPB	BDL	0.02
BFB *SURR* LIMITS (60-120)	% REC	118	

AnalyticalTechnologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-2
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#2 Sample Date: 06/18/92 Time: AM

EDB/FUELS ETHYLENE DIBROMIDE

Parameter	Units	Result	Detection Limit
ETHYLENE DIBROMIDE	PPB	BDL	0.02
BFB *SURR* LIMITS (60-120)	% REC	100	

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-3
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: EQ. BK Sample Date: 06/18/92 Time: AM

EDB/FUELS ETHYLENE DIBROMIDE

Parameter	Units	Result	Detection Limit
ETHYLENE DIBROMIDE	PPB	BDL	0.02
BFB *SURR* LIMITS (60-120)	% REC	98	

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-1
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#1 Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602

Parameter	Units	Result	Detection Limit
BENZENE	PPB	BDL	1
BROMODICHLOROMETHANE	PPB	BDL	1
BROMOFORM	PPB	BDL	2
BROMOMETHANE	PPB	BDL	2
CARBON TETRACHLORIDE	PPB	BDL	1
CHLOROBENZENE	PPB	BDL	1
CHLOROETHANE	PPB	BDL	5
2-CHLOROETHYLVINYL ETHER	PPB	BDL	5
CHLOROFORM	PPB	BDL	2
CHLOROMETHANE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
1,2-DICHLOROBENZENE	PPB	BDL	2
1,3-DICHLOROBENZENE	PPB	BDL	2
1,4-DICHLOROBENZENE	PPB	BDL	2
DICHLORODIFLUOROMETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	1
1,2-DICHLOROETHANE	PPB	BDL	1
1,1-DICHLOROETHENE	PPB	BDL	1
TOTAL 1,2-DICHLOROETHYLENE	PPB	BDL	1
1,2-DICHLOROPROPANE	PPB	BDL	1
CIS-1,3-DICHLOROPROPENE	PPB	BDL	1
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	1
ETHYL BENZENE	PPB	BDL	1
METHYLENE CHLORIDE	PPB	BDL	3
METHYL TERT-BUTYL ETHER	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	1
TETRACHLOROETHENE	PPB	BDL	3
TOLUENE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	1
1,1,2-TRICHLOROETHANE	PPB	BDL	2
TRICHLOROETHENE	PPB	BDL	1
TRICHLOROFLUOROMETHANE	PPB	BDL	1
VINYL CHLORIDE	PPB	BDL	1
XYLENE	PPB	BDL	2
BROMOFLUOROBENZENE *SURR 1*(70-130)	% REC	102	

Sample ID.: MW#1

Test Parameters continued on next page

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-1
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#1 Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602 continued

Parameter	Units	Result	Detection Limit
BROMOFLUOROBENZENE *SURR 2*(70-130)	% REC	95	

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-2
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#2 Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602

Parameter	Units	Result	Detection Limit
BENZENE	PPB	BDL	1
BROMODICHLOROMETHANE	PPB	BDL	1
BROMOFORM	PPB	BDL	2
BROMOMETHANE	PPB	BDL	2
CARBON TETRACHLORIDE	PPB	BDL	1
CHLOROBENZENE	PPB	BDL	1
CHLOROETHANE	PPB	BDL	5
2-CHLOROETHYLVINYL ETHER	PPB	BDL	5
CHLOROFORM	PPB	BDL	2
CHLOROMETHANE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
1,2-DICHLOROBENZENE	PPB	BDL	2
1,3-DICHLOROBENZENE	PPB	BDL	2
1,4-DICHLOROBENZENE	PPB	BDL	2
DICHLORODIFLUOROMETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	1
1,2-DICHLOROETHANE	PPB	BDL	1
1,1-DICHLOROETHENE	PPB	BDL	1
TOTAL 1,2-DICHLOROETHYLENE	PPB	BDL	1
1,2-DICHLOROPROPANE	PPB	BDL	1
CIS-1,3-DICHLOROPROPENE	PPB	BDL	1
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	1
ETHYL BENZENE	PPB	BDL	1
METHYLENE CHLORIDE	PPB	BDL	3
METHYL TERT-BUTYL ETHER	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	1
TETRACHLOROETHENE	PPB	BDL	3
TOLUENE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	1
1,1,2-TRICHLOROETHANE	PPB	BDL	2
TRICHLOROETHENE	PPB	BDL	1
TRICHLOROFLUOROMETHANE	PPB	BDL	1
VINYL CHLORIDE	PPB	BDL	1
XYLENE	PPB	BDL	2
BROMOFLUOROBENZENE *SURR 1*(70-130)	% REC	105	

Sample ID.: MW#2 Test Parameters continued on next page

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-2
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: MW#2 Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602 continued

Parameter	Units	Result	Detection Limit
BROMOFLUOROBENZENE *SURR 2*(70-130)	% REC	111	

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-3
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: EQ. BK Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602

Parameter	Units	Result	Detection Limit
BENZENE	PPB	BDL	1
BROMODICHLOROMETHANE	PPB	BDL	1
BROMOFORM	PPB	BDL	2
BROMOMETHANE	PPB	BDL	2
CARBON TETRACHLORIDE	PPB	BDL	1
CHLOROBENZENE	PPB	BDL	1
CHLOROETHANE	PPB	BDL	5
2-CHLOROETHYLVINYL ETHER	PPB	BDL	5
CHLOROFORM	PPB	BDL	2
CHLOROMETHANE	PPB	BDL	5
DIBROMOCHLOROMETHANE	PPB	BDL	5
1,2-DICHLOROBENZENE	PPB	BDL	2
1,3-DICHLOROBENZENE	PPB	BDL	2
1,4-DICHLOROBENZENE	PPB	BDL	2
DICHLORODIFLUOROMETHANE	PPB	BDL	5
1,1-DICHLOROETHANE	PPB	BDL	1
1,2-DICHLOROETHANE	PPB	BDL	1
1,1-DICHLOROETHENE	PPB	BDL	1
TOTAL 1,2-DICHLOROETHYLENE	PPB	BDL	1
1,2-DICHLOROPROPANE	PPB	BDL	1
CIS-1,3-DICHLOROPROPENE	PPB	BDL	1
TRANS-1,3-DICHLOROPROPENE	PPB	BDL	1
ETHYL BENZENE	PPB	BDL	1
METHYLENE CHLORIDE	PPB	BDL	3
METHYL TERT-BUTYL ETHER	PPB	BDL	5
1,1,2,2-TETRACHLOROETHANE	PPB	BDL	1
TETRACHLOROETHENE	PPB	BDL	3
TOLUENE	PPB	BDL	5
1,1,1-TRICHLOROETHANE	PPB	BDL	1
1,1,2-TRICHLOROETHANE	PPB	BDL	2
TRICHLOROETHENE	PPB	BDL	1
TRICHLOROFLUOROMETHANE	PPB	BDL	1
VINYL CHLORIDE	PPB	BDL	1
XYLENE	PPB	BDL	2
BROMOFLUOROBENZENE *SURR 1*(70-130)	% REC	103	

Sample ID.: EQ. BK

Test Parameters continued on next page

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: WGS92-0140
Project Name: EMS #2
Sample Site: HWY 98
Sample Type: GROUNDWATER

Lab I.D.#: 92-5373-3
Received Date: 06/18/92
Sampled By: WEIMER

Sample ID.: EQ. BK Sample Date: 06/18/92 Time: AM

1770/VOL/601/602+ 1770 VOLATILE 601 & 602 continued

Parameter	Units	Result	Detection Limit
BROMOFLUOROBENZENE *SURR 2*(70-130)	% REC	110	

end of report

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Received
Date 8/10/92
Initials SGP

W. GRADY SWANN, INC.
3814 WEST JACKSON STREET

PENSACOLA FL 32505-0000

Lab I.D.#: 92-6776
Order Number: P61801
Received Date: 08/04/92
Client: 18099
Sampled By: FLYNN/SWANN
Sample Date: 08/04/92
Sample Time: AM

Project Number: N/S
Project Name: SUBSTATION #2
Sample Site: HWY 98- MIDWAY
Sample Type: GROUNDWATER

N/S = Not Submitted

R E S U L T S

reported on the following page(s)

Comments: PPB = Parts Per Billion, ug/l; BDL = Below Detection Limit.
Method Reference: Federal Register 40 CFR Part 136, July 1, 1990.

Approved By :

AnalyticalTechnologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: N/S
Project Name: SUBSTATION #2
Sample Site: HWY 98- MIDWAY
Sample Type: GROUNDWATER

Lab I.D.#: 92-6776-1
Received Date: 08/04/92
Sampled By: FLYNN/SWANN

Sample ID.: MW-1 Sample Date: 08/04/92 Time: AM

VOL/602+X+MTBE VOLATILE METHOD 602 + XYLENE + MTBE

Parameter	Units	Result	Detection Limit
BENZENE	PPB	BDL	1
CHLOROBENZENE	PPB	BDL	1
1,2-DICHLOROBENZENE	PPB	BDL	2
1,3-DICHLOROBENZENE	PPB	BDL	2
1,4-DICHLOROBENZENE	PPB	BDL	2
ETHYL BENZENE	PPB	BDL	1
TOLUENE	PPB	BDL	5
XYLENES	PPB	BDL	2
METHYL TERT-BUTYL ETHER	PPB	BDL	5
TRIF-TOLUENE *SURR* LIMITS (70-130)	% REC	105	

Analytical Technologies, Inc. 11 East Olive Road Pensacola, Florida 32514 (904) 474-1001

Client: W. GRADY SWANN, INC.

Project Number: N/S
Project Name: SUBSTATION #2
Sample Site: HWY 98- MIDWAY
Sample Type: GROUNDWATER

Lab I.D.#: 92-6776-2
Received Date: 08/04/92
Sampled By: FLYNN/SWANN

Sample ID.: MW-2 Sample Date: 08/04/92 Time: AM

VOL/602+X+MTBE VOLATILE METHOD 602 + XYLENE + MTBE

Parameter	Units	Result	Detection Limit
BENZENE	PPB	BDL	1
CHLOROBENZENE	PPB	BDL	1
1,2-DICHLOROBENZENE	PPB	BDL	2
1,3-DICHLOROBENZENE	PPB	BDL	2
1,4-DICHLOROBENZENE	PPB	BDL	2
ETHYL BENZENE	PPB	BDL	1
TOLUENE	PPB	BDL	5
XYLENES	PPB	BDL	2
METHYL TERT-BUTYL ETHER	PPB	BDL	5
TRIF-TOLUENE *SURR* LIMITS (70-130)	% REC	100	

FLORIDA DEPARTMENT OF
Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Ron DeSantis
Governor

Jeanette Nuñez
Lt. Governor

Noah Valenstein
Secretary

December 3, 2019

CERTIFIED MAIL #7016 2070 0000 7408 0949
RETURN RECEIPT REQUESTED

Mr. Scott A. Moon
Panhandle Commercial Properties, LLC
P.O. Box 1565
Lawrenceville, GA 30046

Subject: Site Rehabilitation Completion Order
Texaco Food Store #4425
5400 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County
FDEP Facility ID# 578521117
Discharge Date: February 14, 1992 (PLRIP)

Dear Mr. Moon:

The Petroleum Restoration Program (PRP) has reviewed the Low-Scored Site Initiative (LSSI) Site Assessment Report (SAR) dated August 30, 2013 (received September 10, 2013); the Natural Attenuation Monitoring Report (NAM) and No Further Action Proposal (NFAP) dated and received August 8, 2019; and the Monitoring Well Abandonment Report dated and received November 12, 2019, for the petroleum product discharge referenced above. All the documents submitted to date are adequate to meet the site assessment requirements of Rule 62-780.600, Florida Administrative Code (F.A.C.). In addition, documentation submitted with the LSSI SAR/NAM/NFAP confirms that criteria set forth in Subsection 62-780.680(1), F.A.C., have been met. Please refer to the attached maps of the source property and analytical summary tables, Exhibits A and B respectively and hereby incorporated by reference. The LSSI SAR/NAM/NFAP are hereby incorporated by reference in this Site Rehabilitation Completion Order (Order). Therefore, you are released from any further obligation to conduct site rehabilitation at the facility for petroleum product contamination associated with the discharge referenced above, except as set forth below.

In the event concentrations of contaminants of concern are detected above the levels approved in this Order, the department will reevaluate the contamination and reinitiate State-funded site or discharge rehabilitation to reduce concentrations of contaminants of concern to the levels approved in the Order or otherwise allowed by Chapter 62-780, F.A.C., in accordance with the State-funded eligibility provisions that are applicable for the site or discharge. This includes any confirmed impacts found to be migrating beyond the site's property boundary. If groundwater is being used for potable uses in the area affected by the contamination, the Florida Department of Environmental Protection (Department) will take all necessary steps to protect public health, safety and welfare under Chapter 376, F.S., as necessary. If a new

or subsequent discharge occurs at the facility that is not eligible for state funding, the contamination must be evaluated and addressed as provided in Chapter 62-780, F.A.C.

NOTICE OF RIGHTS

This action is final and effective on the date filed with the Clerk of the Department unless a petition for an administrative hearing is timely filed under Sections 120.569 and 120.57, F.S., before the deadline for filing a petition. On the filing of a timely and sufficient petition, this action will not be final and effective until a subsequent order of the Department. Because the administrative hearing process is designed to formulate final agency action, the subsequent order may modify or take a different position than this action.

Petition for Administrative Hearing

A person whose substantial interests are affected by the Department's action may petition for an administrative proceeding (hearing) under Sections 120.569 and 120.57, F.S. Pursuant to Rules 28-106.201 and 28-106.301, F.A.C., a petition for an administrative hearing must contain the following information:

(a) The name and address of each agency affected and each agency's file or identification number, if known;
(b) The name, address, any e-mail address, any facsimile number, and telephone number of the petitioner, if the petitioner is not represented by an attorney or a qualified representative; the name, address, and telephone number of the petitioner's representative, if any, which shall be the address for service purposes during the course of the proceeding; and an explanation of how the petitioner's substantial interests will be affected by the agency determination;
(c) A statement of when and how the petitioner received notice of the agency decision;
(d) A statement of all disputed issues of material fact. If there are none, the petition must so indicate;
(e) A concise statement of the ultimate facts alleged, including the specific facts that the petitioner contends warrant reversal or modification of the agency's proposed action;
(f) A statement of the specific rules or statutes that the petitioner contends require reversal or modification of the agency's proposed action, including an explanation of how the alleged facts relate to the specific rules or statutes; and
(g) A statement of the relief sought by the petitioner, stating precisely the action that the petitioner wishes the agency to take with respect to the agency's proposed action.

The petition must be filed (received by the Clerk) in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us. Also, a copy of the petition shall be mailed to the addressee at the address indicated above at the time of filing.

Time Period for Filing a Petition

In accordance with Rule 62-110.106(3), F.A.C., petitions for an administrative hearing by the addressee must be filed within 21 days of receipt of this written notice. Petitions filed by any persons other than the addressee must be filed within 21 days of publication of the notice or within 21 days of receipt of the written notice, whichever occurs first. You cannot justifiably rely on the finality of this decision unless notice of this decision and the right of substantially affected persons to challenge this decision has been

duly published or otherwise provided to all persons substantially affected by the decision. While you are not required to publish notice of this action, you may elect to do so pursuant Rule 62-110.106(10)(a).

The failure to file a petition within the appropriate time period shall constitute a waiver of that person's right to request an administrative determination (hearing) under Sections 120.569 and 120.57, F.S., or to intervene in this proceeding and participate as a party to it. Any subsequent intervention (in a proceeding initiated by another party) will be only at the discretion of the presiding officer upon the filing of a motion in compliance with Rule 28-106.205, F.A.C. If you do not publish notice of this action, this waiver may not apply to persons who have not received a clear point of entry.

Extension of Time

Under Rule 62-110.106(4), F.A.C., a person whose substantial interests are affected by the Department's action may also request an extension of time to file a petition for an administrative hearing. The Department may, for good cause shown, grant the request for an extension of time. Requests for extension of time must be filed with the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida 32399-3000, or via electronic correspondence at Agency_Clerk@dep.state.fl.us, before the deadline for filing a petition for an administrative hearing. A timely request for extension of time shall toll the running of the time period for filing a petition until the request is acted upon.

Mediation

Mediation is not available in this proceeding.

Judicial Review

Once this decision becomes final, any party to this action has the right to seek judicial review pursuant to Section 120.68, F.S., by filing a Notice of Appeal pursuant to Florida Rules of Appellate Procedure 9.110 and 9.190 with the Clerk of the Department in the Office of General Counsel (Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000) and by filing a copy of the Notice of Appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice must be filed within 30 days from the date this action is filed with the Clerk of the Department.

Questions

Any questions regarding the PRP's review of the LSSI SAR/NAM/NFAP should be directed to Wes Leon at 850-222-6446 ext. 5017. Questions regarding legal issues should be referred to the Department's Office of General Counsel at 850-245-2242. Contact with any of the above does not constitute a petition for an administrative hearing or a request for an extension of time to file a petition for an administrative hearing.

The FDEP Facility Number for this facility is 578521117. Please use this identification on all future correspondence with the Department.

EXECUTION AND CLERKING

Executed in Tallahassee, Florida.
STATE OF FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

Natasha Lampkin
Program Administrator
Petroleum Restoration Program

Attachments:
A: maps of the source property;
B: updated analytical summary table

CERTIFICATE OF SERVICE

The undersigned duly designated deputy clerk hereby certifies that this document and all attachments were sent on the filing date below to the following listed persons:

cc: Mr. Scott A. Moon, Panhandle Commercial Properties, LLC, P.O. Box 1565, Lawrenceville, GA 30046

ec: Cayla Yerg, FDEP–PRP (PRS5) – cyerg@northstar.com
Kimberly R. Allen, FDEP Northwest District Office – kim.allen@floridadep.gov
Wes Leon, P.G. FDEP–PRP (PRS5) – wleon@northstar.com
Sharon Wessel, Advanced Environmental Technologies, LLC, swessel@aetllc.com
Jordan Gibson, P.G., Advanced Environmental Technologies, LLC, jgibson@aetllc.com
Tom Brown, and Lynn Shiver, Northwest Florida Water Management District – tom.brown@nwfwmd.state.fl.us and lyn.shiver@nwfwmd.state.fl.us
Danny Deen, Escambia County, danny.deen@flhealth.gov
Petroleum Restoration Program – prp.orders@floridadep.gov
File

FILING AND ACKNOWLEDGMENT

FILED, on this date, pursuant to Section 120.52, F. S., with the designated Department Clerk, receipt of which is hereby acknowledged.

Jeanene Sanders 12/4/2019
Clerk **Date**

P.G. CERTIFICATION

Low-Scored Site Initiative Site Assessment Report dated August 30, 2013 (received September 10, 2013) and Natural Attenuation Monitoring Report & No Further Action Proposal dated and received August 8, 2019, for Texaco Food Store #4425, located at 5400 Gulf Breeze Parkway, Gulf Breeze, Santa Rosa County, FDEP Facility ID# 578521117.

I hereby certify that in my professional judgment, the components of this Low-Scored Site Initiative Site Assessment Report and Natural Attenuation Monitoring Report & No Further Action Proposal prepared for the February 14, 1992 petroleum product discharge discovered at the above-referenced facility satisfy the requirements set forth in Chapter 62-780, Florida Administrative Code (F.A.C.), and that the conclusions in this report provide reasonable assurances that the site rehabilitation objectives stated in Chapter 62-780, F.A.C., have been met.

X I personally completed this review.

___ This review was conducted by _____ working under my direct supervision.

Reviewed by:

_____

Wes Leeth, P.G.
State of Florida P.G. No. 2270
NorthStar Contracting Group, Inc. Senior Geologist
Petroleum Restoration Program Section Five
308-A Capital Circle Southeast, Tallahassee, FL 32301
Florida Geology Business # GB755

11/15/19
Date

EXHIBIT A

COPY

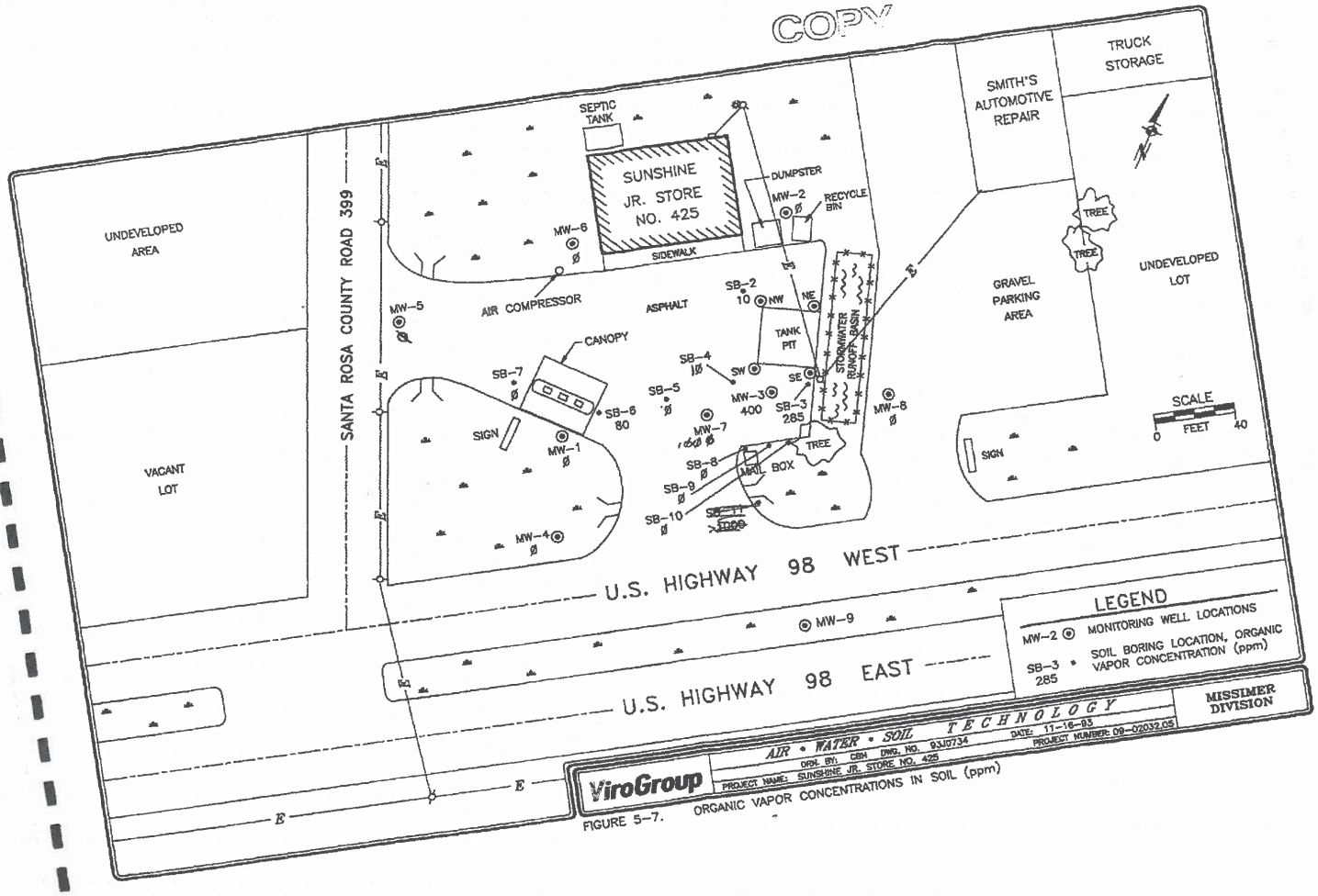
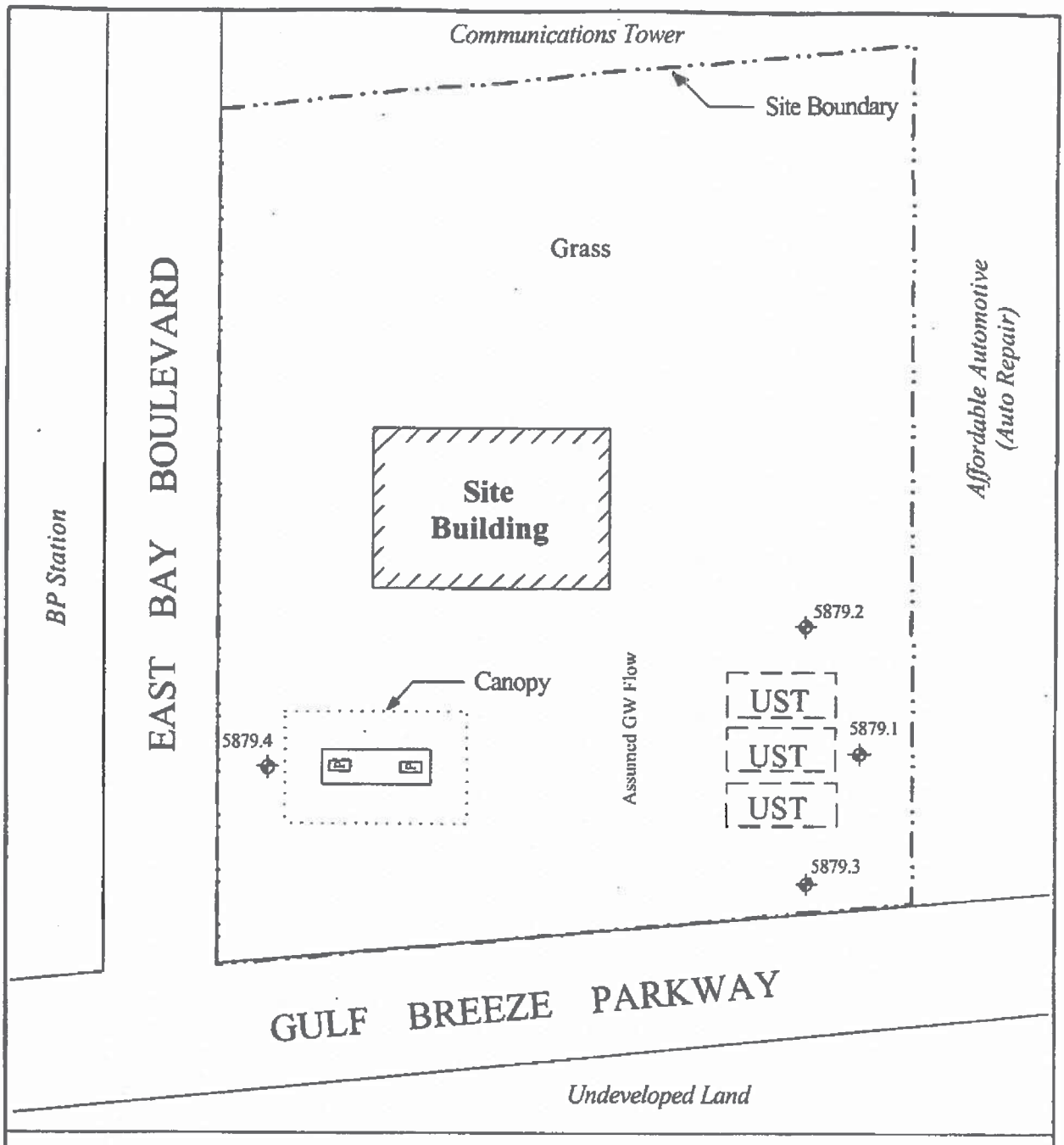


FIGURE 5-7. ORGANIC VAPOR CONCENTRATIONS IN SOIL (ppm)



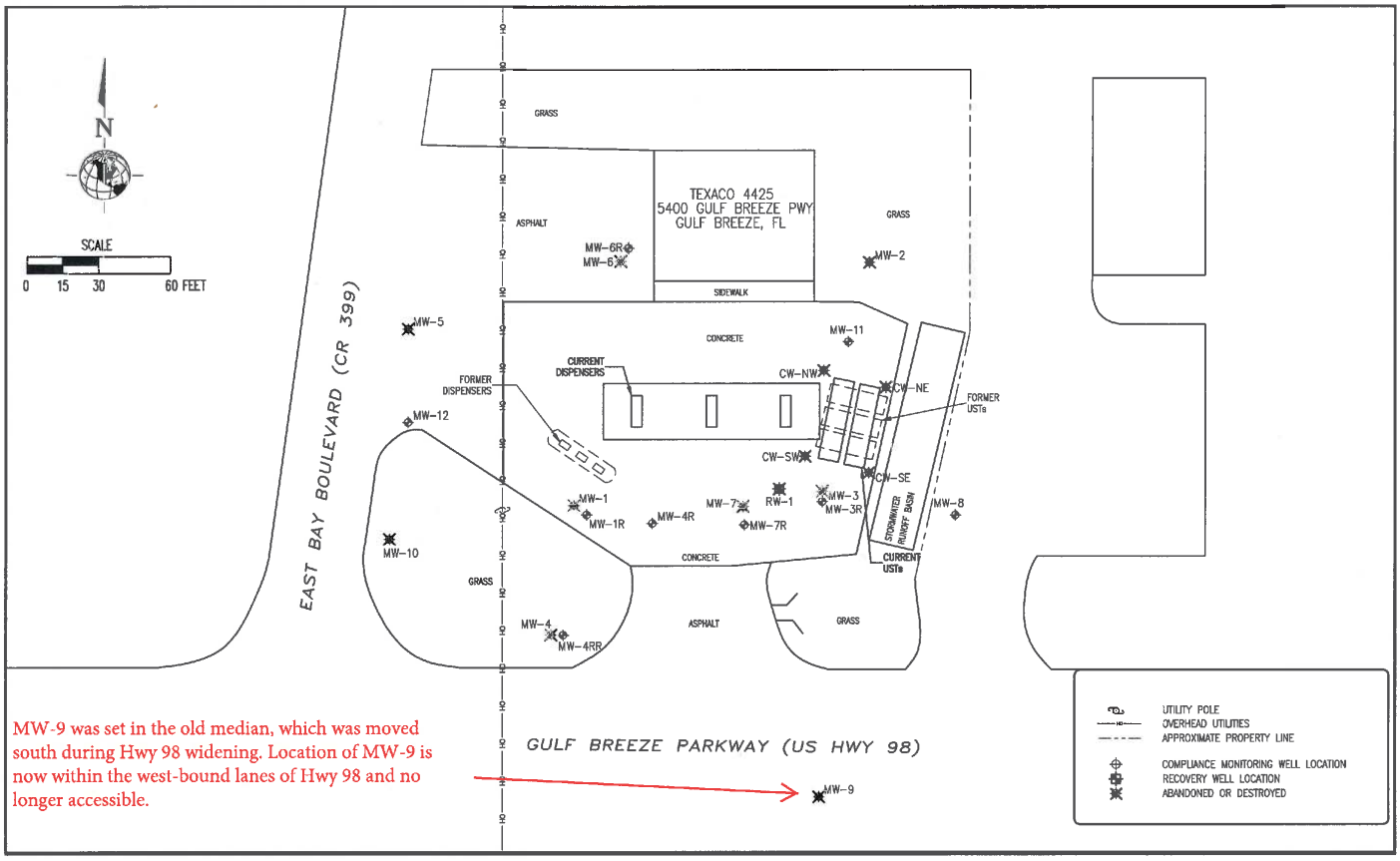
LEGEND

P Gasoline Dispenser

Temporary Monitoring Well Location

N

SITE SCHEMATIC 5400 Gulf Breeze Parkway Gulf Breeze, Florida Property #: 8000-5879	NOT TO SCALE October 25, 2002 VERTEX PROJ. NO. 4495	VERTEX Engineering Services, Inc. **FIGURE NO. 1**



MW-9 was set in the old median, which was moved south during Hwy 98 widening. Location of MW-9 is now within the west-bound lanes of Hwy 98 and no longer accessible.

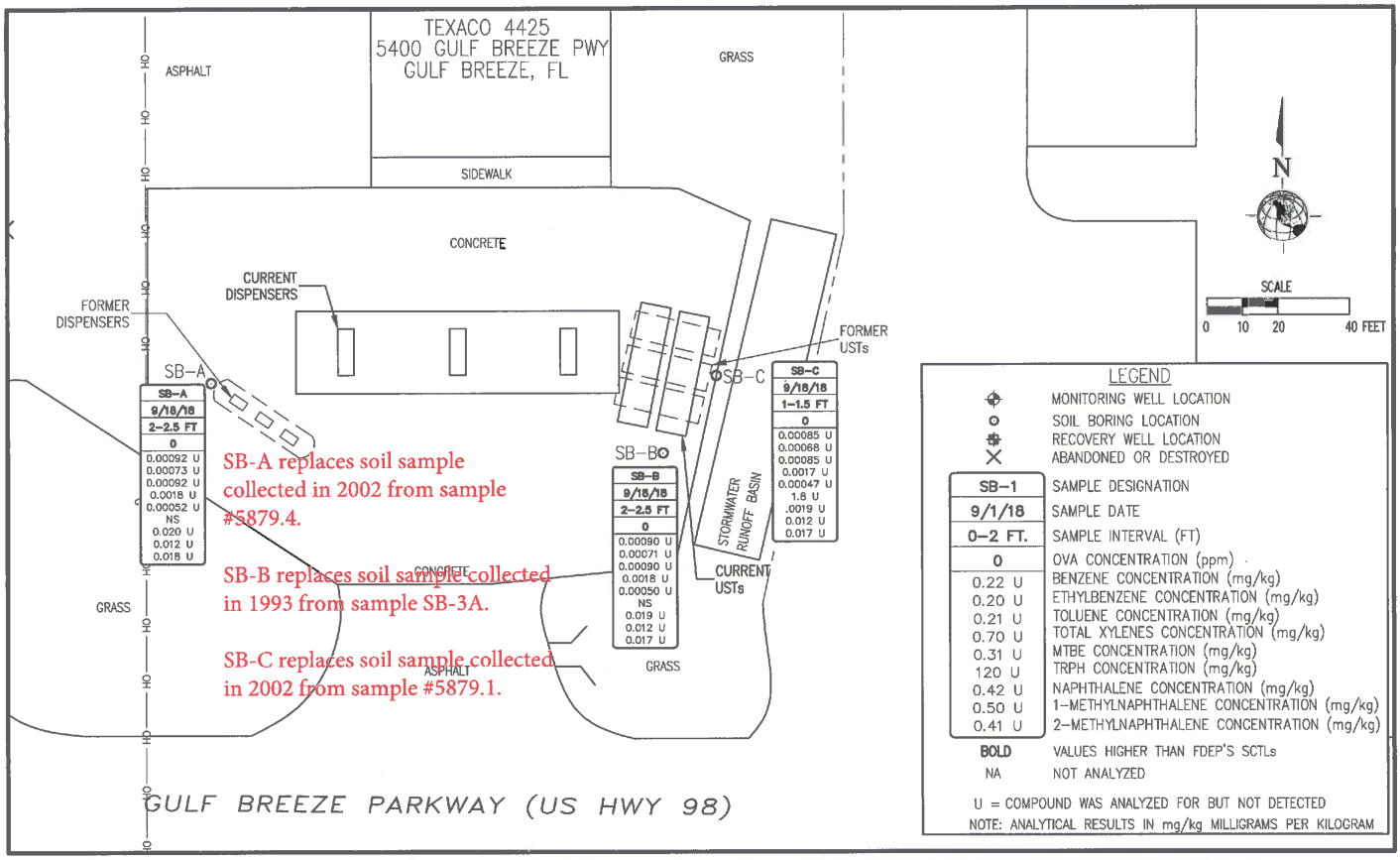
Advanced Environmental TECHNOLOGIES, LLC

TEXACO #4425
5400 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID NO.: 57 8521117

SITE MAP

FIGURE 1

PROJECT NO. 25968.02



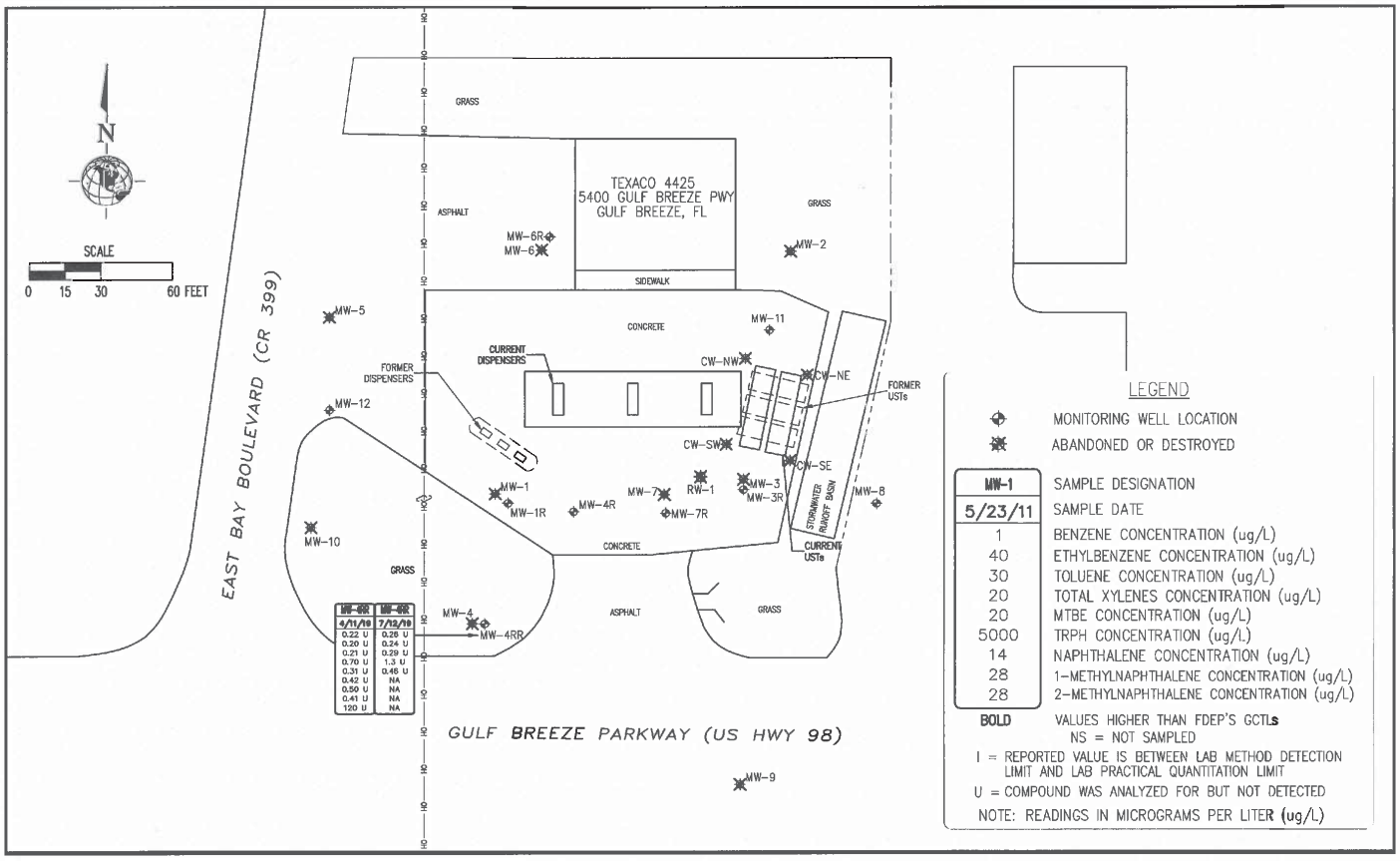
Advanced Environmental TECHNOLOGIES, LLC

TEXACO #4425
5400 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID NO.: 57 8521117

SOIL ANALYTICAL SUMMARY MAP
SEPTEMBER 18, 2018

FIGURE 2

PROJECT NO. 25968.02

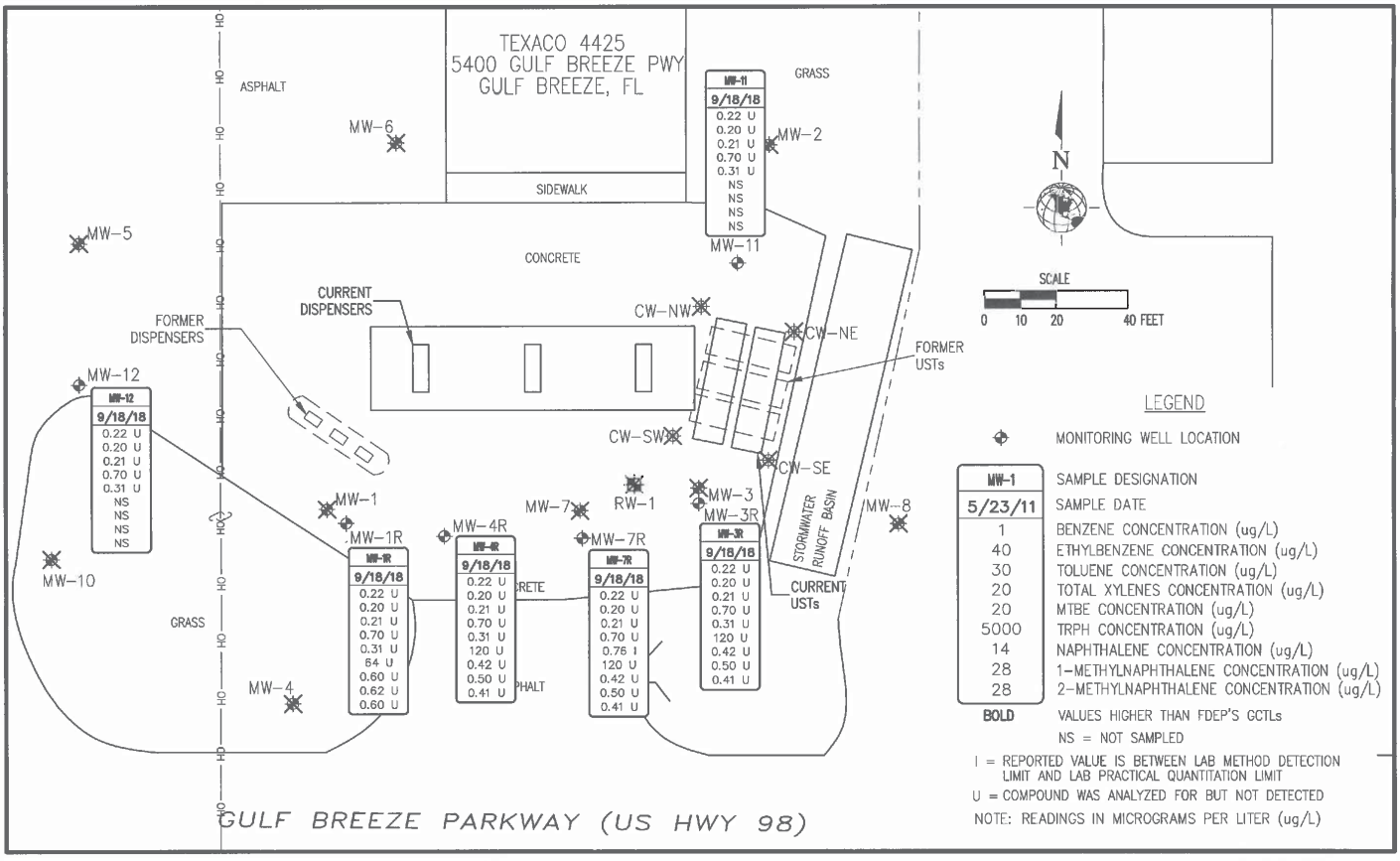


Advanced Environmental TECHNOLOGIES, LLC

TEXACO #4425
5400 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID NO.: 57 8521117

GROUNDWATER ANALYTICAL SUMMARY MAP
APRIL & JULY 2019

FIGURE
3
PROJECT NO.
25968.02



Advanced Environmental TECHNOLOGIES, LLC

TEXACO #4425
5400 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID NO.: 57 8521117

GROUNDWATER ANALYTICAL SUMMARY MAP
SEPTEMBER 18, 2018

FIGURE 4

PROJECT NO. 25968.02

EXHIBIT B

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC#: 57/8521117
AET Project #: 25968.02

FBLS= Feet Below Land Surface.
ppm = Parts Per Million.
NR = No Response.
NA = Not Applicable.
NQ = Not Quantifiable
*** = PID Measurement (ppm)**

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER (FBLS)	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
SB-1	03/11/1993	3	3	0	0	0	black gray organic silty sand
SB-2	03/11/1993	3	3	10	0	10	black/gray organic silty sand
SB-3	03/11/1993	3	3	300	15	285	black/gray organic silty sand
SB-3A	03/11/1993	3	3	0	0	0	black/gray organic silty sand
SB-4	03/11/1993	3	3	10	0	10	black/gray organic silty sand
SB-5	03/11/1993	3	3	0	NS	0	black/gray organic silty sand w/ gray/brown med sand
SB-6	03/11/1993	3	3	200	120	80	brown/white sand w/ gray sand
SB-7	03/11/1993	3	3	0	0	0	brown/white sand w/ gray sand
SB-8	03/11/1993	3	3	0	NS	0	black/brown slightly organic sand w/gray/white sand
SB-9	03/11/1993	3	3	0	NS	0	black/brown slightly organic sand w/gray/white sand
SB-10	03/11/1993	3	3	0	NS	0	black/brown slightly organic sand w/gray/white sand
MW-1	03/11/1993	3	3	NS	NS	NS	orange backfil over gray/black organic sand
			5	0	NS	0	gray sand
			10	0	NS	0	black organic silty sand
			15	0	NS	0	black organic silty sand
MW-2	03/11/1993	3	3	NS	NS	NS	orange backfil over gray/black organic sand
			5	0	NS	0	gray/brown sand
			10	0	NS	0	black organic silty sand
			15	0	NS	0	black organic silty sand
MW-3	03/11/1993	3	3	NS	NS	NS	orange backfil over gray/black organic sand
			5	700	300	400	gray/brown sand
			10	100	40	60	black organic silty sand
			15	50	30	20	black organic silty sand
MW-4	08/10/1993	5	3	NS	NS	NS	tan/white/orange fine/med sand
			5	0	NS	0	tan/white/orange fine/med sand
			10	NS	NS	NS	tan/white/orange fine/med sand
			15	NS	NS	NS	**white/tan fine/med sand**
MW-5	08/10/1993	5	3	NS	NS	NS	tan/brown fine/med sand
			5	0	NS	0	gray/white fine/med sand
			10	NS	NS	NS	gray/white fine/med sand
			15	NS	NS	NS	white/tan fine/med sand
MW-6	08/10/1993	5	3	NS	NS	NS	tan/brown fine/med sand, slightly organic
			5	0	NS	0	black/gray organic sand, tan/gray fine/med sand
			10	NS	NS	NS	tan/white fine/med sand
			15	NS	NS	NS	**white/tan fine/med sand**
MW-7	11/01/1993	5	3	NS	NS	NS	orange backfil
			5	1000	NS	1000	black organic silty sand
			10	NS	NS	NS	brown/tan slightly organic sand
			15	NS	NS	NS	white med sand
MW-8	08/10/1993	5	3	NS	NS	NS	gray organic silty sand
			5	0	NS	0	white/tan fine/med sand
			10	NS	NS	NS	white med sand
			15	NS	NS	NS	white med sand
MW-9	11/01/1993	5	3	NS	NS	NS	tan/yellow/white fine/med sand
			5	0	-	0	tan/yellow/white fine/med sand
			10	NS	NS	NS	white med sand
			15	NS	NS	NS	white med sand

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC#: 57/8521117
AET Project #: 25968.02

FBLS= Feet Below Land Surface.
ppm = Parts Per Million.
NR = No Response.
NA = Not Applicable.
NQ = Not Quantifiable
*** = PID Measurement (ppm)**

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER (FBLS)	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
MW-10	01/19/1993		3	NS	NS	NS	gray brown fine to med silty sand
			5	0	-	0	white tan fine to med sand
			15	0	-	0	white tan brown fine to med sand w/ organics
SB-11	01/19/1993		3	0	-	0	white tan fine to med sand
			5	0	-	0	white tan fine to med sand
SB-13	01/19/1993		3	0	-	0	white tan fine to med sand
			5	0	-	0	white tan fine to med sand
SB-14	01/19/1993		3	0	-	0	white tan fine to med sand
			5	0	-	0	white tan fine to med sand
SB-15	01/19/1993		3	0	-	0	white tan fine to med sand
			5	0	-	0	white tan fine to med sand
SB-16	01/19/1993		3	0	-	0	white tan fine to med sand
			5	0	-	0	white tan fine to med sand
HAB-1	04/13/1994		2	0	-	0	
			3	0	-	0	
			5.5	0	-	0	
HAB-2	04/13/1994		2	0	-	0	
			3	0	-	0	
			5.5	0	-	0	
HAB-3	04/13/1994		2	0	-	0	
			3	0	-	0	
			5.5	0	-	0	
HAB-4	04/13/1994		2	0	-	0	
			3	0	-	0	
			5.5	25	0	25	
5879.1*	10/07/2002		0	NM	-	0	
			2	NM	-	1	
			4	NM	-	NM	
5879.2*	10/07/2002		0	NM	-	0	
			2	NM	-	0	
			4	NM	-	NM	
5879.3*	10/07/2002		0	NM	-	0	
			2	NM	-	0.1	
			4	NM	-	NM	
5879.4*	10/07/2002		0	NM	-	0	
			2	NM	-	0	
			4	NM	-	4	
SB-1	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	9	<1	9	
			10	2	<1	2	
SB-2	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	9	<1	9	

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC#: 57/8521117
AET Project #: 25968.02

FBLS= Feet Below Land Surface.
ppm = Parts Per Million.
NR = No Response.
NA = Not Applicable.
NQ = Not Quantifiable
*** = PID Measurement (ppm)**

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER (FBLS)	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
SB-3	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	5	<1	5	
SB-4	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	SOIL SAMPLE SB-4 @ 3-4'
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
SB-5	05/02/2013	5	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
			12	<1	-	<1	
SB-6	05/02/2013	5	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
			12	<1	-	<1	
SB-7	05/02/2013	5	2	<1	-	<1	
			4	<1	-	<1	SOIL SAMPLE SB-7 @ 3-4'
			6	13	<1	13	
			8	272	93	179	
			10	418	119	299	
SB-8	05/02/2013	5	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
SB-9	05/02/2013	5	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
SB-10A	05/02/2013	5	2	<1	-	<1	
			4	5	-	<1	
			6	VOID	-	VOID	
SB-10B	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	SOIL SAMPLE SB-10 @ 3-4'
			6	850	500	350	
			8	1730	830	900	
			10	910	450	460	

TABLE 1: SOIL SCREENING SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC#: 57/8521117
AET Project #: 25968.02

FBLS= Feet Below Land Surface.
ppm = Parts Per Million.
NR = No Response.
NA = Not Applicable.
NQ = Not Quantifiable
*** = PID Measurement (ppm)**

SAMPLE				OVA SCREENING RESULTS			
BORING NO.	DATE COLLECTED	DEPTH TO WATER (FBLS)	SAMPLE INTERVAL (FBLS)	TOTAL READING (ppm)	CARBON FILTERED (ppm)	NET READING (ppm)	COMMENTS
SB-11	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	2	<1	2	
			8	40	40	0	
			10	70	65	5	
SB-12	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	3	<1	3	
			8	450	450	0	
			10	5	<1	5	
SB-13	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	<1	-	<1	
			8	<1	-	<1	
			10	<1	-	<1	
SB-14	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	
			6	280	280	0	
			8	1100	1050	50	
			10	265	210	55	
SB-15	05/10/2013	4	2	<1	-	<1	
			4	<1	-	<1	SOIL SAMPLE SB-15 @ 3-4'
			6	157	130	27	
			8	900	790	110	
			10	45	35	10	
SB-A @ 2.5'	09/19/2018	2.5	1	0	-	0	
			2	0	-	0	SOIL SAMPLE SB-A @ 2.5'
			3	0	-	0	
SB-B @ 2.5'	09/19/2018	2.5	1	0	-	0	
			2	0	-	0	SOIL SAMPLE SB-B @ 2.5'
			3	0	-	0	
SB-C @ 1.5'	09/19/2018	1.5	1	0	-	0	SOIL SAMPLE SB-C @ 1.5'
			2	0	-	0	

TABLE 2a: SOIL ANALYTICAL SUMMARY - VOAs, TRPH, and Metals

Facility ID#: 57/8521117 **Facility Name: TEXACO #4425**

	Sample				OVA	Laboratory Analyses									
	Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/kg)	Ethyl-benzene (mg/kg)	Toluene (mg/kg)	Total Xylenes (mg/kg)	MTBE (mg/kg)	TRPHs (mg/kg)	Arsenic (mg/kg)	Cadmium (mg/kg)	Chromium (mg/kg)	Lead (mg/kg)
	Leachability Based on Groundwater Criteria (mg/kg)					0.007	0.6	0.5	0.2	0.09	340	*	7.5	38	*
	Direct Exposure Residential (mg/kg)					1.2	1,500	7,500	130	4,400	460	2.1	82	210	400
#	SB-3A-2.5'	3/11/1993				**0.2**	0.125 U	0.125 U	**4.5**	**0.125 U**	2.7				
	MW-3-5'	3/11/1993	sample is considered wet			**0.125 U**	0.125 U	0.125 U	**2.3**	**0.125 U**	15.9				
**	5879.1 (4-6')	10/7/2002	sample is considered wet			**0.3 U**	0.3 U	0.3 U	**0.91 U**	**0.3 U**	6.1 U				
%	5879.4 (6-8')	10/7/2002	sample is considered wet			**0.35 U**	0.262 J	**2.66**	**2.2**	**0.35 U**	12.4				
	SB-4 @ 3'-4'	5/10/2013	4	3-4	<1	0.0011 U	0.00093 U	0.0012 U	0.0026 U	0.0015 U	2.8 U				
	SB-7 @ 3'-4'	5/10/2013	5	3-4	<1	0.0010 U	0.00090 U	0.0011 U	0.0024 U	0.0015 U	2.8 U				
	SB-10 @ 3'-4'	5/10/2013	4	3-4	<1	0.0011 U	0.00095 U	0.0012 U	0.0026 U	0.0016 U	2.8 U				
	SB-15 @ 3'-4'	5/10/2013	4	3-4	<1	0.00097 U	0.00085 U	0.0011 U	0.0024 U	0.0013 U	2.6 U				
	SB-A @ 2.5'	9/19/2018	3	2-2.5	0	0.00092 U	0.00073 U	0.00092 U	0.0018 U	0.00052 U	NS				
	SB-B @ 2.5'	9/19/2018	3	2-2.5	0	0.00090 U	0.00071 U	0.00090 U	0.0018 U	0.00050 U	NS				
	SB-C @ 1.5'	9/19/2018	2	1-1.5	0	0.00085 U	0.00068 U	0.00085 U	0.0017 U	0.00047 U	1.8 U				

Notes: NA = Not Available.

NS = Not Sampled.

* = Leachability value may be determined using TCLP.

SB-B in 2018 is replacement sample for SB-3A
** SB-C in 2018 is replacement sample for 5879.1
% SB-A in 2018 is replacement sample for 5879.4

TABLE 2b: SOIL ANALYTICAL SUMMARY - Non-Carcinogenic PAHs

Facility ID#: 57/8521117 **Facility Name: TEXACO #4425**

Sample				OVA	Laboratory Analyses										
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Naph-thalene (mg/kg)	1-Methyl-naph-thalene (mg/kg)	2-Methyl-naph-thalene (mg/kg)	Acen-aph-thene (mg/kg)	Acen-aph-thylene (mg/kg)	Anthra-cene (mg/kg)	Benzo (g,h,i) pery-lene (mg/kg)	Fluoran-thene (mg/kg)	Fluor-ene (mg/kg)	Phenan-threne (mg/kg)	Pyrene (mg/kg)
Leachability Based on Groundwater Criteria (mg/kg)					1.2	3.1	8.5	2.1	27	2,500	32,000	1,200	160	250	880
Direct Exposure Residential (mg/kg)					55	200	210	2,400	1,800	21,000	2,500	3,200	2,600	2,200	2,400
SB-4 @ 3'-4'	5/10/2013	4	3-4	<1	0.013 U	0.012 U	0.010 U	0.013 U	0.016 U	0.013 U	0.012 U	0.012 U	0.015 U	0.0094 U	0.012 U
SB-7 @ 3'-4'	5/10/2013	5	3-4	<1	0.013 U	0.012 U	0.010 U	0.013 U	0.016 U	0.013 U	0.012 U	0.012 U	0.015 U	0.0094 U	0.012 U
SB-10 @ 3'-4'	5/10/2013	4	3-4	<1	0.013 U	0.012 U	0.010 U	0.013 U	0.016 U	0.013 U	0.012 U	0.012 U	0.015 U	0.0094 U	0.012 U
SB-15 @ 3'-4'	5/10/2013	4	3-4	<1	0.012 U	0.011 U	0.0093 U	0.012 U	0.015 U	0.012 U	0.011 U	0.011 U	0.013 U	0.0087 U	0.011 U
SB-A @ 2.5'	9/19/2018	3	2-2.5	0	0.020 U	0.012 U	0.018 U	0.016 U	0.010 U	0.0090 U	0.0096 U	0.0076 U	0.0085 U	0.013 U	0.0084 U
SB-B @ 2.5'	9/19/2018	3	2-2.5	0	0.019 U	0.012 U	0.017 U	0.015 U	0.0099 U	0.0087 U	0.0092 U	0.0074 U	0.0082 U	0.013 U	0.0081 U
SB-C @ 1.5'	9/19/2018	2	1-1.5	0	0.019 U	0.012 U	0.017 U	0.015 U	0.0098 U	0.0086 U	0.0091 U	0.0073 U	0.0082 U	0.013 U	0.0080 U

TABLE 2c: SOIL ANALYTICAL SUMMARY - Carcinogenic PAHs

Facility ID#: 57/8521117 **Facility Name: TEXACO #4425**

Sample				OVA	Laboratory Analyses							
Boring/ Well No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzo (a) pyrene (mg/kg)	Benzo (a) anthra-cene (mg/kg)	Benzo (b) fluoran-thene (mg/kg)	Benzo (k) fluoran-thene (mg/kg)	Chry-sene (mg/kg)	Dibenz (a,h) anthra-cene (mg/kg)	Indeno (1,2,3-cd) pyrene (mg/kg)	Benzo (a) pyrene equivalent (mg/kg)
Leachability Based on Groundwater Criteria (mg/kg)					8	0.8	2.4	24	77	0.7	6.6	**
Direct Exposure Residential (mg/kg)					0.1	#	#	#	#	#	#	0.1
SB-4 @ 3'-4'	5/10/2013	4	3-4	<1	0.0091 U	0.011 U	0.018 U	0.026 U	0.011 U	0.0098 U	0.0083 U	NA
SB-7 @ 3'-4'	5/10/2013	5	3-4	<1	0.0091 U	0.011 U	0.018 U	0.026 U	0.011 U	0.0098 U	0.0083 U	NA
SB-10 @ 3'-4'	5/10/2013	4	3-4	<1	0.0091 U	0.011 U	0.018 U	0.026 U	0.011 U	0.0098 U	0.0083 U	NA
SB-15 @ 3'-4'	5/10/2013	4	3-4	<1	0.0084 U	0.0099 U	0.017 U	0.024 U	0.010 U	0.0090 U	0.0076 U	NA
SB-A @ 2.5'	9/19/2018	3	2-2.5	0	0.0063 U	0.0079 U	0.0071 U	0.0045 U	0.0089 U	0.0091 U	0.0098 U	NA
SB-B @ 2.5'	9/19/2018	3	2-2.5	0	0.0061 U	0.0076 U	0.0068 U	0.0043 U	0.0086 U	0.0088 U	0.0094 U	NA
SB-C @ 1.5'	9/19/2018	2	1-1.5	0	0.0060 U	0.0075 U	0.0068 U	0.0043 U	0.0085 U	0.0087 U	0.0093 U	NA

Notes: NA = Not Applicable

NS = Not Sampled

** = Leachability value not applicable

= Direct Exposure value not applicable except as part of the Benzo(a)pyrene equivalent

TABLE 1: GROUNDWATER ELEVATION SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC ID#: 57/8521117
AET Project #: 25968.02

WELL NO.	MW-1			MW-2			MW-3			MW-4		
DIAMETER (In)	2			2			2			2		
WELL DEPTH (Ft)	15			15			15			15		
SCREEN INTERVAL (Ft)	2.5-15.0			2.5-15.0			2.5-15.0			5-15		
TOC ELEVATION (Ft)	25.45			24.59			24.91			23.98		
STATUS	Abandoned/Destroyed			Abandoned/Destroyed			Abandoned/Destroyed			Abandoned/Destroyed		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
3/26/1993	21.99	3.46		21.65	2.94		22.30	2.61		NM		
6/24/1993	20.09	5.36		20.10	4.49		20.09	4.82		NM		
11/2/1993	19.19	6.26		19.24	5.35		19.22	5.69		19.19	4.79	
11/12/1993	19.02	6.43		19.06	5.53		19.10	5.81		18.00	5.98	
1/20/1994	19.57	5.88		19.61	4.98		19.58	5.33		19.57	4.41	

WELL NO.	MW-5			MW-6			MW-7			MW-8		
DIAMETER (In)	2			2			2			2		
WELL DEPTH (Ft)	15			15			29			13		
SCREEN INTERVAL (Ft)	5-15			5-15			24-29			3-10		
TOC ELEVATION (Ft)	24.47			23.96			24.73			24.65		
STATUS	Abandoned/Destroyed			Abandoned/Destroyed			Abandoned/Destroyed			Existing		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
11/2/1993	19.17	5.30		18.17	5.79		18.92	5.81		19.26	5.39	
11/12/1993	18.99	5.48		19.02	4.94		18.78	5.95		19.10	5.55	
1/20/1994	19.52	4.95		18.51	5.45		19.28	5.45		19.65	5.00	
4/11/2019										22.27	2.38	

TABLE 1: GROUNDWATER ELEVATION SUMMARY

Facility Name: TEXACO #4425
Address: 5400 GULF BREEZE PARKWAY
City, State: GULF BREEZE, FL
County: SANTA ROSA
FDEP FAC ID#: 57/8521117
AET Project #: 25968.02

WELL NO.	MW-9			MW-10			MW-1R			MW-3R		
DIAMETER (In)	2			2			1			1		
WELL DEPTH (Ft)	13			15			12			12		
SCREEN INTERVAL (Ft)	3-13			2-15			2-12			2-12		
TOC ELEVATION (Ft)	24.47			23.80			25.92			25.73		
STATUS	Abandoned/Destroyed			Abandoned/Destroyed			Existing			Existing		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
11/2/1993	19.19	5.28										
11/12/1993	19.05	5.42										
1/20/1994	19.58	4.89		19.52	4.28							
6/24/2013							22.48	3.44		22.54	3.19	
9/19/2018							23.01	2.91		22.99	2.74	
4/11/2019							23.10	2.82		23.11	2.62	

WELL NO.	MW-4R			MW-7R			MW-11			MW-12		
DIAMETER (In)	1			1			1			1		
WELL DEPTH (Ft)	12			29			12			12		
SCREEN INTERVAL (Ft)	2-12			24-29			2-12			2-12		
TOC ELEVATION (Ft)	25.80			25.95			25.00			26.01		
STATUS	Existing			Existing			Existing			Existing		
DATE	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP	ELEV	DTW	FP
6/24/2013	22.51	3.29		22.21	3.74		22.53	2.47		22.48	3.53	
9/19/2018	23.01	2.79		22.75	3.20		23.00	2.00		23.01	3.00	
4/11/2019	23.11	2.69		22.70	3.25		23.12	1.88		23.10	2.91	

WELL NO.	MW-4RR			MW-6R		
DIAMETER (In)	1			1		
WELL DEPTH (Ft)	12			12		
SCREEN INTERVAL (Ft)	2-12			2-12		
TOC ELEVATION (Ft)	24.55			25.62		
STATUS	Existing			Existing		
DATE	ELEV	DTW	FP	ELEV	DTW	FP
4/11/2019	23.07	1.48		23.12	2.50	
7/12/2019	21.55	3.00				

Florida Department of Environmental Protection -- Bureau of Petroleum Storage Systems

TABLE 2a: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Metals

Facility ID#: 57/8521117 **Facility Name: TEXACO #4425**

Sample		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	1,2-Di-chloro-ethane	Total Arsenic	Total Cad-mium	Total Chro-mium	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		1**	40**	30**	20**	20	0.02**	3**	10**	5**	100**	15**
NADCs		100	400	300	200	200	2	300	100	50	1,000	150
MW-1	3/26/1993	**24**	11	23	**400**	**61**	0.02 U	1 U				**39**
	1/20/1994	**28.4**	2.4	**102**	**135**	**24.7**	0.01 U					5 U
	4/26/1994	1.0 U	1.0 U	1.0 U	1.0 U	12.8						
MW-1R	6/24/2013	0.34 U	0.35 U	0.34 U	1.1 U	0.27 U	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	15	9.1	0.31 U						
MW-2	3/26/1993	1 U	5 U	1 U	2 U	5 U	0.02 U	1 U				**46**
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					7
MW-3	3/26/1993	**640**	50 U	**170**	**2500**	**3100**	**0.05**	10 U				**66**
	1/20/1994	**461**	13.0	**72.0**	**944**	**1280**	0.01 U					6
	4/26/1994	**690**	100.0 U	100.0 U	**910**	**1260**						
MW-3R	6/24/2013	0.44 I	0.35 U	0.34 U	1.1 U	0.27 U	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
MW-4	11/2/1993	1.0 U	1.0 U	1.0 U	1.0 U	1.2	0.01 U	1.0 U				5 U
	1/20/1994	**2.1**	1.0 U	1.0 U	1.0 U	1.6	0.01 U					5 U
MW-4RR	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
	7/12/2019	0.26 U	0.24 U	0.29 U	1.3 U	0.46 U						
MW-4R	6/24/2013	0.34 U	0.35 U	0.34 U	1.1 U	0.27 U	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
MW-5	11/2/1993	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U	1.0 U				5 U
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U
MW-6	11/2/1993	**3.7**	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U	1.0 U				5 U
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U
MW-6R	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						

TABLE 2a: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Metals

Facility ID#: 57/8521117 **Facility Name: TEXACO #4425**

Sample		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	1,2-Di-chloro-ethane	Total Arsenic	Total Cad-mium	Total Chro-mium	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		1**	40**	30**	20**	20	0.02**	3**	10**	5**	100**	15**
NADCs		100	400	300	200	200	2	300	100	50	1,000	150
MW-7	11/2/1993	5.1	1.0 U	1.0 U	7.5	1.0 U	0.01 U	1.0 U				10
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U
MW-7R	6/24/2013	0.34 U	0.35 U	0.34 U	1.1 U	2.4	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.76 I	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
MW-8	11/2/1993	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U	1.0 U				5 U
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U
	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
MW-9 +++	11/2/1993	2.5	1.0 U	1.0 U	1.0 U	14.3	0.01 U	1.0 U				5 U
	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U

TABLE 2a: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - VOCs and Metals

Facility ID#: 57/8521117 Facility Name: TEXACO #4425

Sample		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	1,2-Di-chloro-ethane	Total Arsenic	Total Cad-mium	Total Chro-mium	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		1**	40**	30**	20**	20	0.02**	3**	10**	5**	100**	15**
NADCs		100	400	300	200	200	2	300	100	50	1,000	150
MW-10	1/20/1994	1.0 U	1.0 U	1.0 U	1.0 U	1.0 U	0.01 U					5 U
MW-11	6/24/2013	0.34 U	0.35 U	0.34 U	1.1 U	0.27 U	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U						
MW-12	6/24/2013	0.34 U	0.35 U	0.34 U	1.1 U	0.27 U	0.0050 U					2.8 U
	9/19/2018	0.22 U	0.20 U	0.21 U	0.70 U	0.31 U	NA	NA	NA	NA	NA	NA
	4/11/2019	0.22 U	0.20 U	0.72 I	0.81 I	0.31 U						
5879.1	10/7/2002	1.0 U	1.4 J	2.0 U	6.0 U	2.0 U	0.019 U	2.0 U				
5879.2	10/7/2002	1.0 U	0.91 J	2.0 U	6.0 U	2.0 U	0.018 U	2.0 U				
5879.3	10/7/2002	1.0 U	1.8 J	2.0 U	6.0 U	2.0 U	0.018 U	2.0 U				
5879.4	10/7/2002	1.0 U	2.4	0.80 J	11.2	2.0 U	0.019 U	2.0 U				

Notes:
NA = Not Available.
NS = Not Sampled.
GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
** = As provided in Chapter 62-550, F.A.C.
MW-4R was not installed in the same location as MW-4/MW-4RR.
The former location of MW-9 is now within the US Hwy 98 roadway.
+++ MW-9 was set in the old median, which was moved south during Hwy 98 widening. Location of MW-9 is now within the west-bound lanes of Hwy 98 and is no longer accessible.

TABLE 2b: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPH

Facility ID#: 57-8521117 **Facility Name: TEXACO 4425**

Sample		TRPHs	Naph-thalene	1-Methyl-naph-thalene	2-Methyl-naph-thalene	Acen-aph-thene	Acen-aph-thylene	Anthra-cene	Benzo (g,h,i) pery-lene	Fluoran-thene	Fluor-ene	Phenan-threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra-cene	Benzo (b) fluoran-thene	Benzo (k) fluoran-thene	Chry-sene	Dibenzo (a,h) anthra-cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05[a]	0.05[a]	0.5	4.8	0.005[a]	0.05[a]
NADCs		50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5
MW-1	3/26/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1R	6/24/2013	64 U	0.60 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
MW-2	3/26/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3	3/26/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-3R	6/24/2013	64 U	0.60 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
	9/19/2018	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-4	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-4RR	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-4R	6/24/2013	64 U	4.2 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
	9/19/2018	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-5	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-6R	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-7	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-7R	6/24/2013	64 U	0.60 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
	9/19/2018	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-8	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
	4/11/2019	120 U	0.42 U	0.50 U	0.41 U	0.30 U	0.44 U	0.24 U	0.24 U	0.33 U	0.26 U	0.36 U	0.29 U	0.10 U	0.090 U	0.084 U	0.11 U	0.21 U	0.072 U	0.051 U
MW-9 +++	11/2/1993	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

TABLE 2b: GROUNDWATER MONITORING WELL ANALYTICAL SUMMARY - PAHs and TRPH

Facility ID#: 57-8521117 **Facility Name: TEXACO 4425**

Sample		TRPHs	Naph-thalene	1-Methyl-naph-thalene	2-Methyl-naph-thalene	Acen-aph-thene	Acen-aph-thylene	Anthra-cene	Benzo (g,h,i) pery-lene	Fluoran-thene	Fluor-ene	Phenan-threne	Pyrene	Benzo (a) pyrene	Benzo (a) anthra-cene	Benzo (b) fluoran-thene	Benzo (k) fluoran-thene	Chry-sene	Dibenzo (a,h) anthra-cene	Indeno (1,2,3-cd) pyrene
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
GCTLs		5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05[a]	0.05[a]	0.5	4.8	0.005[a]	0.05[a]
NADCs		50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5
MW-11	6/24/2013	64 U	4.2 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
MW-12	6/24/2013	64 U	0.60 U	0.62 U	0.60 U	0.56 U	0.38 U	0.51 U	0.51 U	0.51 U	0.44 U	0.45 U	0.51 U	0.076 U	0.15 U	0.036 U	0.066 U	0.49 U	0.041 U	0.046 U
5879.1	10/7/2002	100 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5879.2	10/7/2002	100 U	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5879.3	10/7/2002	630	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5879.4	10/7/2002	167	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes: NA = Not Available.
NS = Not Sampled.
GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
** = As provided in Chapter 62-550, F.A.C.
MW-4R was not installed in the same location as MW-4/MW-4RR.
The former location of MW-9 is now within the US Hwy 98 roadway.
+++MW-9 was set in the old median, which was moved south during Hwy 98 widening. Location of MW-9 is now within the west-bound lanes of Hwy 98 and is no longer accessible.



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- ☐ Return Receipt (electronic) $ _____
- ☐ Certified Mail Restricted Delivery $ _____
- ☐ Adult Signature Required $ _____
- ☐ Adult Signature Restricted Delivery $ _____

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Mr. Scott A. Moon 578521117
Panhandle Commercial Properties, LLC
P.O. Box 1565
Lawrenceville, Georgia 30046

PS Form 3800, April 2015 PSN 7530-02-000-9047 See Reverse for Instructions

Certified Mail service provides the following benefits:

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  - Restricted delivery service, which provides delivery to the addressee specified by name, or to the addressee's authorized agent.
  - Adult signature service, which requires the signee to be at least 21 years of age (not available at retail).
  - Adult signature restricted delivery service, which requires the signee to be at least 21 years of age and provides delivery to the addressee specified by name, or to the addressee's authorized agent (not available at retail).
- To ensure that your Certified Mail receipt is accepted as legal proof of mailing, it should bear a USPS postmark. If you would like a postmark on this Certified Mail receipt, please present your Certified Mail item at a Post Office™ for postmarking. If you don't need a postmark on this Certified Mail receipt, detach the barcoded portion of this label, affix it to the mailpiece, apply appropriate postage, and deposit the mailpiece.

IMPORTANT: Save this receipt for your records.

PS Form **3800,** April 2015 *(Reverse)* PSN 7530-02-000-9047

Florida Department of
Environmental Protection
Northwest District
160 Governmental Center
Pensacola, Florida 32502-5794

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

August 14, 2007

HWC FILE COPY
Site # or Name: THE STRIP JOINT #159
Category: LEGAL
File: CONSENT ORDER

Howard Ford
The Strip Joint
116 Fairpoint Drive
Gulf Breeze, Florida 32561

Dear Mr. Ford:

Enclosed is a copy of the report on the compliance inspection that was conducted at your facility on July 30, 2007. We found your facility to be in compliance with the Resource Conservation and Recovery Act. This inspection did not address other areas of Department jurisdiction.

If you have any questions concerning this program or the enclosed report, please contact Melissa Woehle at 850/595-8360, extension 1251 or by E-Mail at Melissa.Woehle@dep.state.fl.us.

Sincerely,

Jim Byer
Hazardous Waste Section
Supervisor

JCB:mwr

Enclosure

Florida Department of Environmental Protection

Northwest District
160 Governmental Center
Pensacola, Florida 32502-5794

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

HAZARDOUS WASTE INSPECTION REPORT

1. **INSPECTION TYPE:** ☐Routine ☐Complaint ☐Follow-Up ☐Permitting ☒Pre-arranged

FACILITY NAME: The Strip Joint **DEP/EPA ID #:** FLR000098186

STREET ADDRESS: 1761 Kell Road, Gulf Breeze, FL 32563

MAILING ADDRESS: 116 Fairpoint Drive, Gulf Breeze, FL 32561

COUNTY: Santa Rosa **PHONE:** (850) 932-5222 **DATE:** July 30, 2007 **TIME:** 9:30 P.M.

HW facility status

- ☐ non-handler
- ☒ CESQG
- ☐ SQG
- ☐ LQG
- ☐ transporter
- ☐ transfer facility
- ☐ TSD
- ☐ SQH
- ☐ LQH

used oil facility status

- ☐ generator
- ☐ transporter
- ☐ transfer facility
- ☐ marketer
- ☐ processor
- ☐ on-spec. burner
- ☐ off-spec. burner
- ☐ filter generator
- ☐ filter transporter
- ☐ filter transfer facility
- ☐ filter processor

Hg facility status

- ☐ exempt
- ☐ generator
- ☐ transporter
- ☐ Hg recovery facility
- ☐ Hg reclamation facility

PCW facility status

- ☐ producer
- ☐ transporter
- ☐ recovery facility

2. **APPLICABLE REGULATIONS:**

☒ 40 CFR 261	☒ 40 CFR 262	☐ 40 CFR 263	☐ 40 CFR 264
☐ 40 CFR 265	☐ 40 CFR 266	☐ 40 CFR 268	☐ 40 CFR 270
☐ 40 CFR 273	☐ 40 CFR 279	☐ 62-710, FAC	☒ 62-730, FAC

3. **RESPONSIBLE OFFICIAL:** Howard Ford, owner

4. **INSPECTION PARTICIPANTS:** John (last name not given), Operator and Melissa Woehle, FDEP

5. **LATITUDE/LONGITUDE:** Lat 30° 24' 1.3716"/Long 087° 00' 31.0547"

6. **TYPE OF OWNERSHIP:** private ~~federal state county municipal~~

7. **PERMIT No.:** N/A **DATE ISSUED:** **EXP. DATE:**

8. Site History and Description:
The Strip Joint (TSJ), located at 1761 Kell Road in Gulf Breeze, Florida is a furniture refinishing shop. The site was first inspected by the Department on April 14, 2003. Potential violations were observed during the inspection. A preliminary site assessment submitted by Enviro-Pro-Tech on behalf of TSJ showed methylene chloride and toluene in the ground water above ground water cleanup target levels in Chapter 62-777, Florida Administrative Code. Indigent consent order, OGC # 03-1412-57-HW, including state funded site assessment and cleanup was executed on Oct 28, 2004.

9. Site Inspections:
I spoke with Mr. Ford by phone and arranged to meet with John, who operates TSJ for Mr. Ford. John explained that TSJ is usually closed and only opens when there is work to be done. On July 30, 2007, I met with John at TSJ for the purpose of conducting an inspection to ensure compliance with Consent Order OGC # HW-03-1412-57.

I asked about the volume of work being done at TSJ and John replied that he had one job about a month and a half ago (three pieces of furniture) and no work since then. He said that he had a job coming in today (one table).

There is one spray booth inside the shop and one spray gun inside the booth. The spray gun is used to apply solvent based lacquer that is purchased in 5-gallon containers and cut with thinner before application. I asked how the spray gun is cleaned. John said that he uses a small amount of thinner and it evaporates in two to three days. There was a pint size container with three dry brushes in it that John identified as the container used to soak brushes and the spray gun nozzle. He said that he has refinished and re-glued furniture in the shop but done no stripping.

The following products were observed in the paint booth:

1) Oil Based Sanding Sealer (~ three gallons left in a five-gallon container)
2) Lacquer Based Finish (~ one gallon left in a five-gallon container)
3) Lacquer Thinner (~ two gallons left in a five-gallon container)
4) Two quart containers of Oil Based Stain (one full and one half full - contains mineral spirits and naptha)
5) One half full quart container marked "Green" (½ full)
6) Two plastic bottles (~ one quart ea. - contains acetone, naptha and isobutyl acetate)
7) Two quarts Kwick Seal (contains toluene, xylene and methyl ethyl ketone)
8) Three quarts Fast Drying Polyurethane (contains toluene & xylene)
9) One 473 ml container(~ ½ full) of Cross Fire automotive finish product (contains chlorobenzotrifluoride)
10) Three aerosol cans (full) of Primer Sealer Bonder (contains xylene & acetone)
11) Three gallons of kerosene used in shop heaters

Additional products observed inside the shop, but outside of the paint booth include 17 quarts of oil based stain, one quart of oil based glaze and six aerosol cans. There were also several containers of water based primer, sealer and polyurethane.

There were nine blue plastic 55-gallon drums (open and full) against and on the outside of the chain link fence behind the shop. They were directly behind the area a caustic soda tank occupied during the last inspection (the tank was not seen during this inspection). The containers were exposed to the weather - not covered. They were not labeled or marked. John said that he thought they contained liquid from the caustic soda tank that had been removed.

Paragraph 8 of the above referenced Consent Order states: "Respondents shall not purchase, use, handle, generate or otherwise control any pollutant, hazardous waste or hazardous substance at the Facility or elsewhere other than household hazardous waste generated at their home for non-commercial purposes. All time periods shall run from the effective date of this Consent Order."

I spoke with Mr. Ford by phone after the inspection and discussed use of oil based stains, lacquer and lacquer thinners with respect to the above paragraph. Mr. Ford said that he thoughT he was complying with the consent order as long as he did not allow any pollutants to go onto the ground.

I faxed Mr. Ford a copy of the Consent Order and asked him to call me when he had received it so that we could discuss the requirements further. I explained that the intent of the above paragraph was to prevent the potential for further contamination at the site. We agreed that the use of rags to apply oil based stains was not likely to cause further contamination at the site. However, the storage and use of solvent based lacquer and thinners does create a potential for further contamination at the site and is not in compliance with paragraph 8 of the Consent Order, quoted above.

10. Summary of Alleged Violations:

None

11. Recommendations:

a) In order to limit the potential of further contamination at the site and comply with paragraph 8 of the Consent Order, TSJ needs to ensure that no solvent based lacquer or lacquer thinners are stored or used for commercial purposes on site. Recommend substitution of water based lacquer.

b) The nine blue plastic 55-gallon drums (open and full) behind the shop need to be profiled and properly disposed of. The profile and disposal method needs to be documented and records maintained for three years and until the Consent Order is closed.

Report prepared by: Melissa Woehle
Melissa Woehle

Date: August 14, 2007

Florida Department of Environmental Protection

Bob Martinez Center
2600 Blair Stone Road
Tallahassee, Florida 32399-2400

Rick Scott
Governor

Carlos Lopez-Cantera
Lt. Governor

Jonathan P. Steverson
Secretary

May 10, 2016

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Mr. Joseph B. Skinner
3500 Burldean Dr.
Paducah, KY 42001

Subject: **Site Rehabilitation Completion Order (SRCO)**
The Strip Joint
1761 Kell Rd.
Gulf Breeze, Santa Rosa
Site Facility ID #000000159

Dear Mr. Skinner:

The Florida Department of Environmental Protection (the "Department") has reviewed the Revised Natural Attenuation Monitoring (NAM) and Site Rehabilitation Completion Report (SRCR), dated March 29, 2016, that was prepared by AECOM for The Strip Joint. Maps showing the location of The Strip Joint and the former location of the "contaminated site" (i.e., contaminant plume) for which this Order is being issued are enclosed as Exhibits 1, 2a, 2b, and 3 are incorporated by reference herein.

The Florida Department of Environmental Protection was requested to include this site in the State Funded Cleanup Program in October 2004. The site was approved for cleanup in November 2004. The contamination discovered at the site were methylene chloride, toluene, and lead. The SRCR is supported by earlier submittals, which can be found in the Department's document repository at: http://depedms.dep.state.fl.us/Oculus/servlet/login, prepared pursuant to the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.).

Based on the documentation submitted in the SRCR and the above-referenced documents, the Department has reasonable assurance that the site has met the criteria in Chapter 62-780, F.A.C. The submittals indicate that soil and groundwater contaminant concentrations are below the site-specific leachability-based Soil Cleanup Target Level (CTL) developed for lead at this site, and Groundwater Cleanup Target Levels as adopted in Chapter 62-777, F.A.C. (Effective date April 17, 2005.) Therefore, there is no further

obligation to conduct site rehabilitation at the contaminated site, except as set forth below. See enclosed Exhibits 4a through 4d, and 5, incorporated by reference herein, which include information regarding the contaminants, affected media, and applicable cleanup target levels for the contaminated site that is the subject of this Order.

Further, in accordance with Section 376.30701(4), Florida Statutes (F.S.), upon completion of site rehabilitation, additional site rehabilitation is not required unless it is demonstrated that:

(a) Fraud was committed in demonstrating site conditions or completion of site rehabilitation;

(b) New information confirms the existence of an area of previously unknown contamination which exceeds the site-specific rehabilitation levels established in accordance with Section 376.30701(2), F.S., or which otherwise poses the threat of real and substantial harm to public health, safety, or the environment;

(d) A new discharge of pollutants or hazardous substances occurs at the site subsequent to the issuance of this Order.

Legal Issues

The Department's Order shall become final unless a timely petition for an administrative hearing is filed under Sections 120.569 and 120.57, F.S., within **21** days of receipt of this Order. The procedures for petitioning for a hearing are set forth below.

Persons affected by this Order have the following options:

A. If you choose to accept the Department's decision regarding this SRCO, you do not have to do anything. This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order.

B. If you choose to challenge the decision, you may do the following:

1. File a request for an extension of time to file a petition for hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order. Such a request should be made if you wish to meet with the Department in an attempt to informally resolve any disputes without first filing a petition for hearing; or

2. File a petition for administrative hearing with the Department's Agency Clerk in the Office of General Counsel within **21** days of receipt of this Order.

Please be advised that mediation of this decision pursuant to Section 120.573, F.S., is not available.

How to Request an Extension of Time to File a Petition for Hearing

For good cause shown, pursuant to Rule 62-110.106(4), F.A.C., the Department may grant a request for an extension of time to file a petition for hearing. Such a request must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, Mail Station 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from Mr. Joseph B. Skinner, shall mail a copy of the request to Mr. Joseph B. Skinner at the time of filing. Timely filing a request for an extension of time tolls the time period within which a petition for administrative hearing must be made.

How to File a Petition for Administrative Hearing

A person whose substantial interests are affected by this Order may petition for an administrative hearing under sections 120.569 and 120.57, F.S. The petition must contain the information set forth below and must be filed (received) by the Agency Clerk in the Office of General Counsel of the Department at 3900 Commonwealth Boulevard, MS 35, Tallahassee, Florida, 32399-3000, within **21** days of receipt of this Order. Petitioner, if different from Mr. Joseph B. Skinner, shall mail a copy of the petition to Mr. Joseph B. Skinner at the time of filing. Failure to file a petition within this time period shall waive the right of anyone who may request an administrative hearing under sections 120.569 and 120.57, F.S.

Pursuant to subsection 120.569(2), F.S., and Rule 28-106.201, F.A.C., a petition for administrative hearing shall contain the following information:

a) The name, address, and telephone number of each petitioner; the name, address, and telephone number of the petitioner's representative, if any; the site owner's name and address, if different from the petitioner; the DEP facility number; and the name and address of the facility;
b) A statement of when and how each petitioner received notice of the Department's action or proposed action;
c) An explanation of how each petitioner's substantial interests are or will be affected by the Department's action or proposed action;
d) A statement of the disputed issues of material fact, or a statement that there are no disputed facts;
e) A statement of the ultimate facts alleged, including a statement of the specific facts the petitioner contends warrant reversal or modification of the Department's action or proposed action;
f) A statement of the specific rules or statutes the petitioner contends require reversal or modification of the Department's action or proposed action; and
g) A statement of the relief sought by the petitioner, stating precisely the action petitioner wishes the Department to take with respect to the Department's action or proposed action.

This Order is final and effective on the date filed with the Clerk of the Department, which is indicated on the last page of this Order. Timely filing a petition for administrative hearing postpones the date this Order takes effect until the Department issues either a final order pursuant to an administrative hearing or an Order Responding to Supplemental Information provided to the Department pursuant to meetings with the Department.

Judicial Review

Any party to this Order has the right to seek judicial review of it under Section 120.68, F.S., by filing a notice of appeal under rule 9.110 of the Florida Rules of Appellate Procedure with the Agency Clerk of the Department in the Office of General Counsel, Mail Station 35, 3900 Commonwealth Boulevard, Tallahassee, Florida 32399-3000, and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate district court of appeal. The notice of appeal must be filed within thirty days after this Order is filed with the clerk of the Department (see below).

Questions

Any questions regarding the Department's review of the Site Closure Completion Report should be directed to Brandie Stringer at 2600 Blair Stone Road, MS 4520, Tallahassee, FL 32399-2400, 850-245-8970, Brandie.Stringer@dep.state.fl.us. Questions regarding legal issues should be referred to the Department's Office of General Counsel at (850)245-2242. Contact with any of the above does not constitute a petition for administrative hearing or request for an extension of time to file a petition for administrative hearing.

The Department Facility ID number for this site is referenced in the subject line of this letter. Please use this identification on all future correspondence with the Department.

Sincerely,



Peter Cornais, Program Administrator
Waste Cleanup Program
Division of Waste Management

PC/BKS

Enclosures: Exhibits 1, 2a, 2b, 3, 4a – 4d, and 5

cc: Andrew Joslyn, Program Administrator NWD, Andrew.Joslyn@dep.state.fl.us
Laura Kennedy, The Strip Joint, 1761 Kell Rd., Gulf Breeze, FL 32563,

laurakennedy@rocketmail.com
Brandie.Stringer@dep.state.fl.us

FILING AND ACKNOWLEDGMENT
FILED, on this date, pursuant to §120.52 Florida Statutes, with the designated Department Clerk, receipt of which is hereby acknowledged.



June 22, 2016

Clerk
(or Deputy Clerk)

Date



AECOM

Scale

60 0 60

Feet

SITE LOCATION MAP

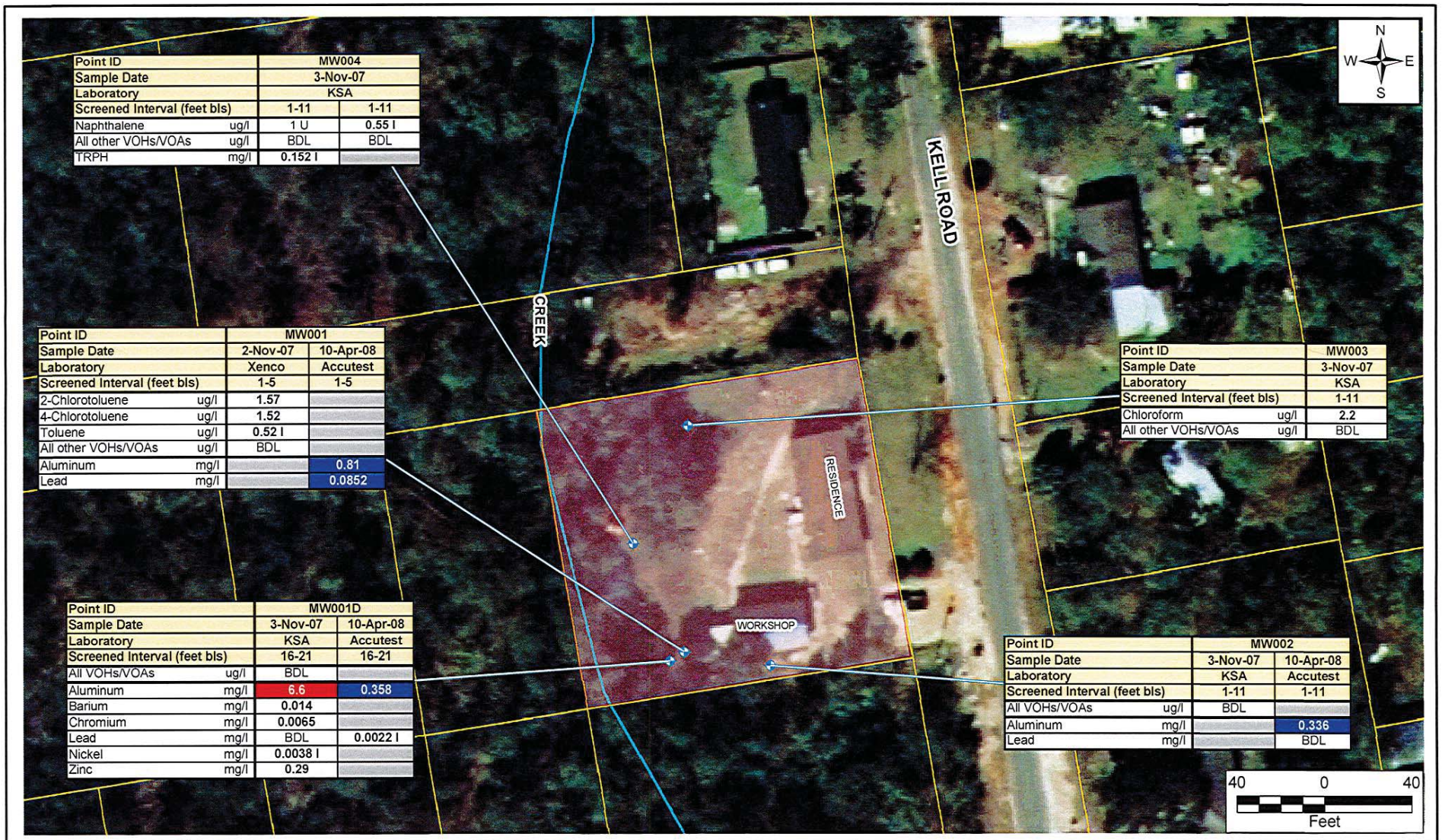
THE STRIP JOINT
1761 KELL ROAD, GULF BREEZE, FL

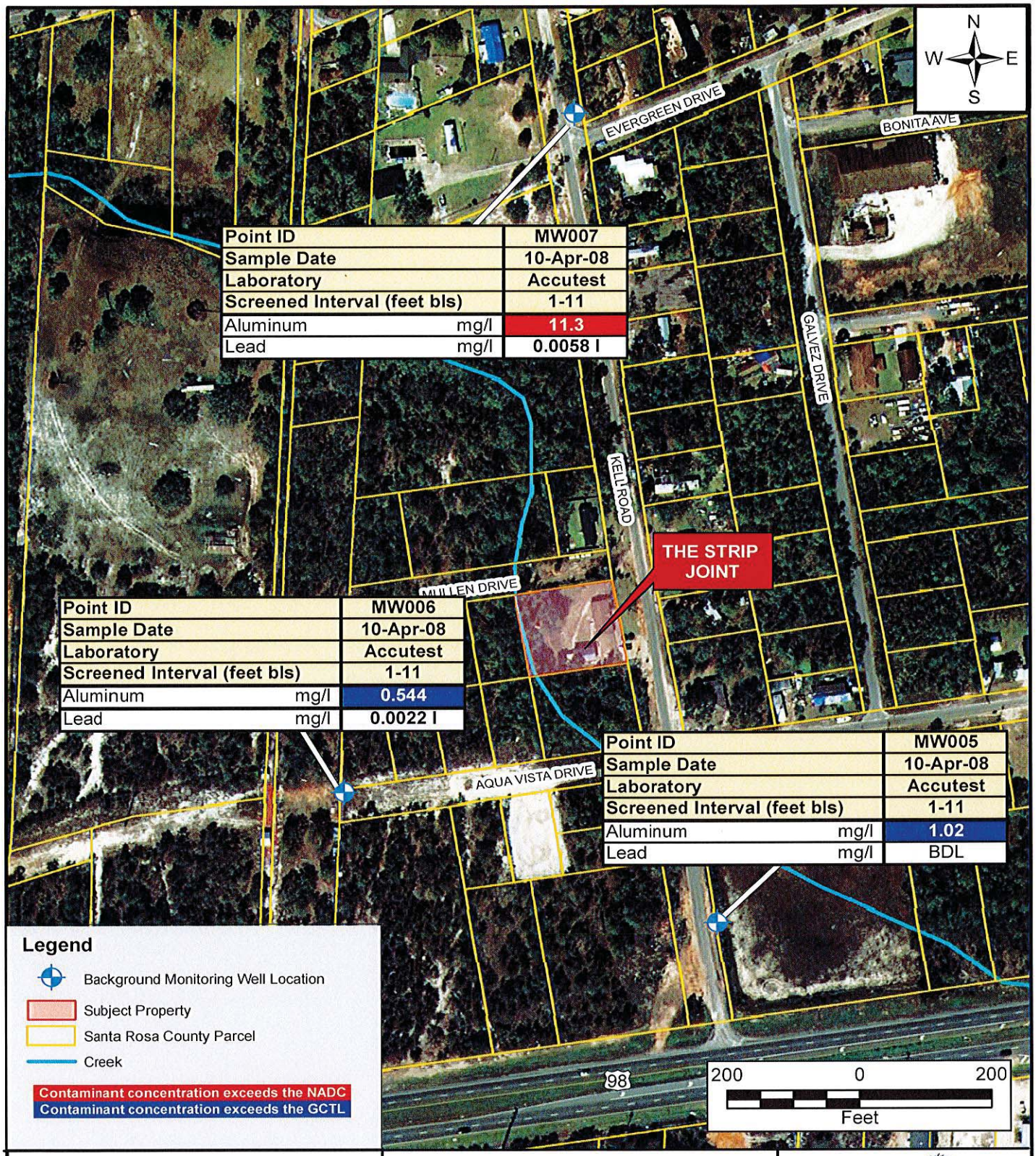
DEPARTMENT OF ENVIRONMENTAL PROTECTION
FLORIDA

FIGURE 1

Exhibit 1: Site location map.

Exhibit 2a:: Map of former contaminated site (previous extent of on-site).





METCALF & EDDY | AECOM

THE STRIP JOINT
1761 KELL ROAD
GULF BREEZE, FL

OFFSITE MONITORING WEL LOCATIONS AND SAMPLING RESULTS

FLORIDA DEPARTMENT OF ENVIRONMENTAL PROTECTION

FIGURE 10

Exhibit 2b:: Map of former contaminated site (previous extent of off-site).

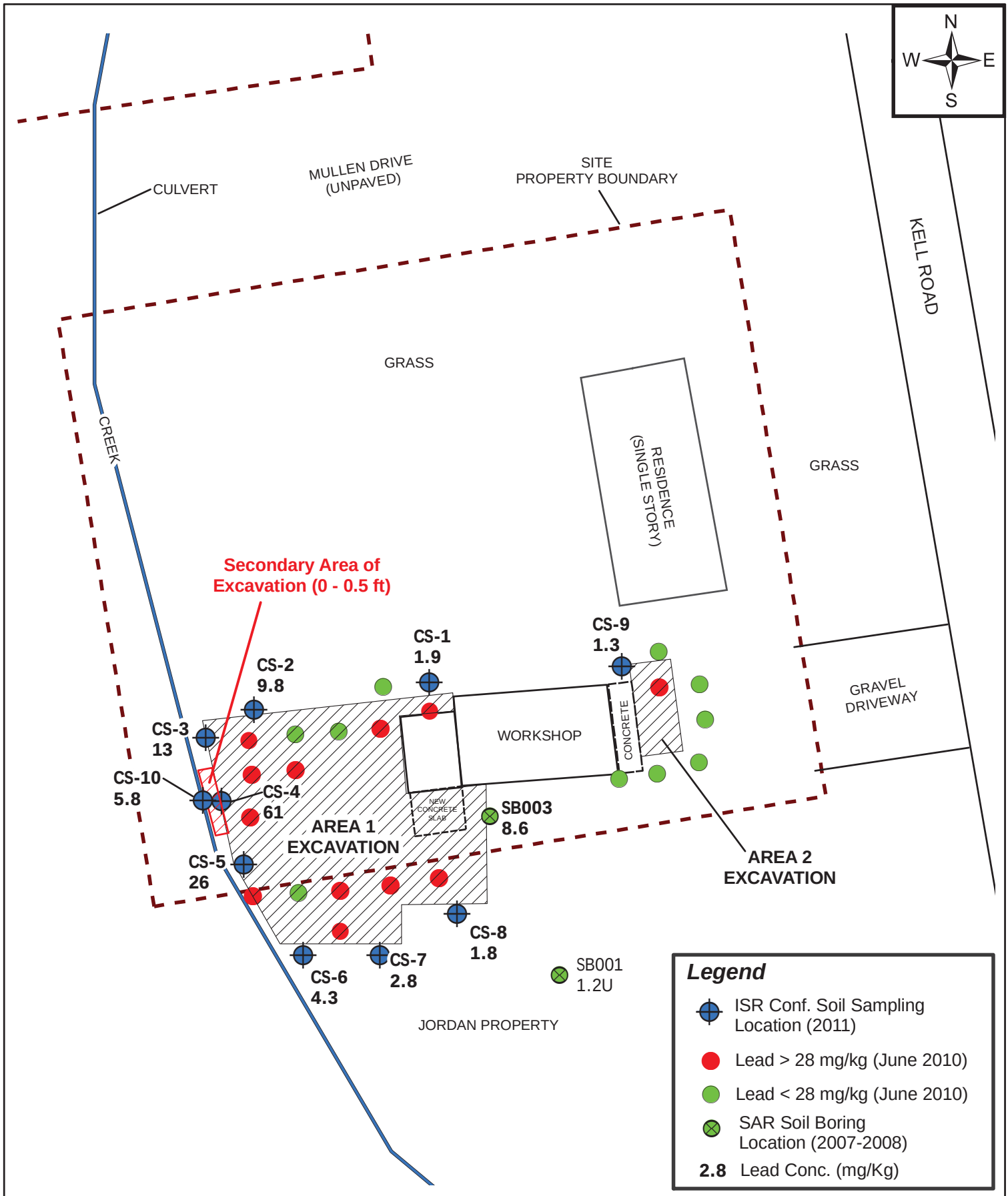


Exhibit 3: Map of former soil excavation area.

Exhibit 4a: Soil sample analytical results.

TABLE 1
SOIL SAMPLE ANALYTICAL RESULTS

THE STRIP JOINT
GULF BREEZE, FLORIDA

Point ID		SB001		SB002	SB003		SB004				SB005			SB006		
Sample Date		30-Oct-07		31-Oct-07	31-Oct-07	9-Apr-08	1-Nov-07			9-Apr-08	1-Nov-07			1-Nov-07		9-Apr-08
Laboratory		Xenco	KSA	Xenco	Xenco	Accutest	Xenco		KSA	Accutest	Xenco		KSA	Xenco	KSA	Accutest
Sample Depth (feet bls)		2		2	2	2	1.5	1.5	1.5	1.5	1	1	1	1	1	2
Methylene Chloride	ug/kg	2 I		5 U	5 U		1.4 I	1.7 I	0.58 U		1.8 I	1.8 I	0.56 U	2.9 I	0.56 U	
Chloroform	ug/kg	5 U		5 U	5 U		5 U	5 U	0.59 J, I, V		5 U	5 U	1.9 V	5 U	1.3 V	
All other VOHs	ug/kg	BDL		BDL	BDL		BDL	BDL	BDL		BDL	BDL	BDL	BDL	BDL	
SPLP Methylene Chloride	ug/l								3.1 I							
All other SPLP Volatiles	ug/l								BDL							
Benzene	ug/kg	5 U		5 U	5 U		5 U	5 U	0.21 U		5 U	5 U	0.21 U	5 U	0.21 U	
Ethylbenzene	ug/kg	5 U		5 U	5 U		5 U	5 U	0.21 U		5 U	5 U	0.20 U	5 U	0.20 U	
Toluene	ug/kg	5 U		5 U	5 U		5 U	5 U	0.13 I		5 U	5 U	0.13 U	0.5 I	0.13 U	
m/p-Xylene	ug/kg	10 U		10 U	10 U		10 U	10 U	0.61 U		10 U	10 U	0.59 U	10 U	0.59 U	
o-Xylene	ug/kg	5 U		5 U	5 U		5 U	5 U	0.61 U		5 U	5 U	0.59 U	5 U	0.59 U	
TRPH	mg/kg		6.7						5.7 I						33	
Aluminum	mg/kg		300 V			400			200 J							100
Antimony	mg/kg		0.89 U						0.99 U							
Barium	mg/kg		1.6 U						69							
Cadmium	mg/kg		0.27 U						0.30 U							
Chromium	mg/kg		0.46 I						2.6							
Lead	mg/kg		1.2 U			8.6			73							17
Nickel	mg/kg		0.87 U						0.96 U							
Zinc	mg/kg		2.7 I						14							
SPLP Aluminum	mg/l					1.2				0.88						0.16 I
SPLP Lead	mg/l					0.006 I				0.023 I						0.0036 I

Point ID		SB007		SB008	SB009	SB010	SB011	LSB-1	LSB-2	LSB-3	LSB-4	LSB-5	LSB-6	LSB-7	LSB-8	LSB-9
Sample Date		31-Oct-07		30-Oct-07	9-Apr-08	9-Apr-08	9-Apr-08	12-Sep-08	12-Sep-08	12-Sep-08	11-Sep-08	12-Sep-08	12-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08
Laboratory		Xenco			Accutest			Test America								
Sample Depth (feet bls)		2	2	2	2	2	2	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5	1.5
Methylene Chloride	ug/kg	2.5 I	2.2 I	1.7 I												
Chloroform	ug/kg	5 U	5 U	5 U												
All other VOHs	ug/kg	BDL	BDL	BDL												
Benzene	ug/kg	5 U	5 U	5 U												
Ethylbenzene	ug/kg	5 U	5 U	5 U												
Toluene	ug/kg	5 U	5 U	5 U												
m/p-Xylene	ug/kg	10 U	10 U	10 U												
o-Xylene	ug/kg	5 U	5 U	5 U												
Aluminum	mg/kg				955	1070	2870									
Lead	mg/kg				1.3 I	0.62 I	1.1 I	1.3 I	0.62 I	1.1 I	1.3 I	0.62 I	1.1 I	1.3 I	0.62 I	1.1 I
SPLP Aluminum	mg/l				4.0	3.5	11.7									
SPLP Lead	mg/l				0.0031 I	0.0021 I	0.0033 I	0.0044 I	0.0036 I	0.0044 I	0.0033 I	0.0025 I	0.15	0.0043 I	0.012	0.0027 I

Point ID		LSB-10	LSB-11	LSB-12	LSB-13	LSB-14	LSB-15	LSB-16	LSB-17	LSB-18	LSB-19	LSB-20	LSB-21	LSB-22	LSB-23	LSB-24
Sample Date		11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08
Laboratory		TestAmerica														
Sample Depth (feet bls)		1.5	1.5	1	1	1	1.5	1.5	1	1	1.5	1.5	1	1	1.5	1.5
SPLP Lead	mg/l	0.0033 I	0.0061	0.0031 I	0.0084	0.021	0.0025 I	0.022	NA	0.002 U	NA	0.0074	NA	NA	NA	0.0031 I

Point ID		LSB-25	LSB-26	LSB-27	LSB-28	LSB-29	LSB-30
Sample Date		11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08	11-Sep-08
Laboratory		TestAmerica					
Sample Depth (feet bls)		1.5	1.5	0.5	0.5	0.5	0.5
SPLP Lead	mg/l	NA	NA	NA	0.0023 I	0.0023 I	NA

		Soil Cleanup Target Levels (SCTLs)		
		Residential Direct Exposure	Industrial Direct Exposure	Leachability to Groundwater Criteria
Methylene Chloride	ug/kg	17,000	26,000	20
Toluene	ug/kg	7,500,000	60,000,000	500
TRPH	mg/kg	460	2700	340
Aluminum	mg/kg	80,000	*	***
Barium	mg/kg	120	130,000	1,600
Chromium	mg/kg	210	470	38
Lead	mg/kg	400	1,400	***
Zinc	mg/kg	26,000	630,000	***

GROUNDWATER STANDARDS		GCTL[1]	NADC[2]
Aluminum	mg/l	0.2	2
Lead	mg/l	0.015	0.15

NOTES:
Xenco analyses performed in a mobile laboratory
KSA and Accutest analyses performed in a fixed laboratory
U - indicates analyte not detected at specified detection limit [laboratory practical quantitation limit (PQL)]
I - indicates analayte was detected at a concentration less than the laboratory practical quantitation limit (PQL)
V - indicates analyte was detected in the sample and in the laboratory's associated method blank
J - estimated value
D - indicates a duplicate sample
SPLP - synthetic precipitate leaching procedure
BDL - below detection limits for all analytes
TRPH - total recoverable petroleum hydrocarbons
bls - below land surface
[1]GCTL - Grounwater cleanup target level - reported for SPLP analyses
[2]NADC - Natural attenuation defualt concentration - reported for SPLP analyses
* - contaminant is not a health concern for this exposure scenario (Ch. 62-777, F.A.C.)
*** - leachability values may be derived using the SPLP test to calculate site-specific SCTLs (Ch. 62-777, F.A.C.)
Bold numbers indicate analytes detected at specified concentration.
Contaminant concentration exceeds the NADC
Contaminant concentration exceeds the GCTL

Exhibit 4a (continued): Soil sample analytical results.

TABLE 1
SOIL MATRIX SAMPLE ANALYTICAL RESULTS FOR LEAD (December 2009)

THE STRIP JOINT
GULF BREEZE, FLORIDA

LEAD ASSESSMENT SAMPLES (DECEMBER 2009)														
Point ID		S1			S2			S3			S4	S5		
Sample Depth (feet bls)		0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0 - 0.5	1 - 2	2 - 3
Total Lead	mg/kg	2.1	1.2	1.2	4.5	1.4	1.4	4.4	1.5	0.87	12	2.3	1.0	0.97

Point ID		S6			S7			S8	S9			S10		
Sample Depth (feet bls)		0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3	0 - 0.5	0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3
Total Lead	mg/kg	2.2	1.1	0.95	3.3	0.83	0.78	2.9	5.4	2.0	1.4	6.6	1.5	2.5

Point ID		S11		S12		S13			S14			S15		
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3	0 - 0.5	1 - 2	2 - 3
Total Lead	mg/kg	2.0	1.4	38	8.2	9.6	2.6	1.3	4.7	1.5	5.1	28	1.8	1.3

Point ID		S16			S17	S18		S19	S20		S21		
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	0.5 - 1	0 - 0.5	1 - 2	0 - 0.5	0 - 0.5	1 - 2	0 - 0.5	1 - 2	2 - 3
Total Lead	mg/kg	9.6	0.91	1.1	29	170	21	1200	34	3.6	110 V	240 V	5.8 V

Point ID		S22			S23			S24		S25			SD-1
Sample Depth (feet bls)		0 - 0.5	1 - 2	2 - 3	0.5 - 1	1 - 2	2 - 3	0 - 0.5	1 - 2	0 - 0.5	1 - 2	2 - 3	0 - 0.5
Total Lead	mg/kg	12	2.3	2.6	4.1	1.3	1.2	16	1.8	7.0	2.1	0.88	9.3

		Soil Cleanup Target Levels (SCTLs)		
Analyte		Residential Direct Exposure	Industrial Direct Exposure	Leachability to Groundwater Criteria
Lead	mg/kg	400	1,400	28 *

NOTES:
S - SOIL SD - SEDIMENT
mg/kg - milligram per kilogram
ft bls - feet below land surface
V - indicates analyte was detected in the sample and in the laboratory's associated method blank
* the site specific leachability value was derived using the SPLP test (Ch. 62-777, F.A.C.)
Bold numbers indicate analytes detected at specified concentration.
Lead concentration greater than or equal to site specific SCTL for leachability
Lead concentration exceeds the residential SCTL

Exhibit 4b: Soil sample analytical results for lead (December 2009).

TABLE 2
SOIL SPLP ANALYTICAL RESULTS FOR LEAD (December 2009)

THE STRIP JOINT
GULF BREEZE, FLORIDA

Point ID		S12	S15	S18	S19	S20	S21		S24
Sample Depth (feet bls)		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	1 - 2	0 - 0.5
Lead (SPLP)	ug/L	**19**	12	**50 V**	**44 V**	**43**	**67**	**470**	6.1

Analyte	GCTL	NADC
Lead	15 ug/L	150 ug/L

NOTES:
ug/L - micrograms per liter
ft bls - feet below land surface
SPLP - Synthetic Precipitate Leaching Procedure
V - indicates analyte was detected in the sample and in the laboratory's associated method blank
GCTL - Groundwater Cleanup Target Level
NADC - Natural Attenuation Default Concentration
Bold numbers indicate analytes detected at specified concentration.
Lead concentration exceeds the GCTL
Lead concentration exceeds the NADC

Exhibit 4b (continued): Soil sample analytical results for lead (December 2009).

TABLE 3
SOIL MATRIX SAMPLE ANALYTICAL RESULTS FOR LEAD (June 2010)

THE STRIP JOINT
GULF BREEZE, FLORIDA

LEAD ASSESSMENT SAMPLES (JUNE 2010)										
Point ID		B2	B3	B4	B6	C2		C3	C6	C7
Sample Depth (feet bls)		0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	0 - 0.5	1 - 1.5	0 - 0.5	0 - 0.5	0 - 0.5
Total Lead	mg/kg	**150**	**84**	**86**	**100**	8.0	NA	**60**	7.2	NA

Point ID		D1		D2		D6		D7	
Sample Depth (feet bls)		0 - 0.5	1 - 1.75	0 - 0.5	1 - 2	0 - 0.5	1 - 1.5	0 - 0.5	1 - 1.5
Total Lead	mg/kg	NA	NA	15	1.5	**430**	**62**	**95**	4.8

Point ID		E1		E2		E6		F2	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	9.6	NA	**99**	3.7	**180**	**85**	**31**	NA

Point ID		F6		G4		G5		H4	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	**72**	15	NA	NA	NA	NA	5.1	0.89

Point ID		H5		I1		I2		I4	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	NA	NA	8.8	NA	**34**	1.1	13	0.76

Point ID		I5		J1		J2		J3	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	NA	NA	NA	NA	8.1	0.8	5.3	0.82

Point ID		J4		J5		K1		K2	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	4.9	1.0	NA	NA	NA	NA	NA	NA

Point ID		K4		K5	
Sample Depth (feet bls)		0 - 0.5	1 - 2	0 - 0.5	1 - 2
Total Lead	mg/kg	NA	NA	NA	NA

		Soil Cleanup Target Levels (SCTLs)		
Analyte		Residential Direct Exposure	Industrial Direct Exposure	Leachability to Groundwater Criteria
Lead	mg/kg	400	1,400	28 *

NOTES:
mg/kg - milligram per kilogram
ft bls - feet below land surface
NA - Not Analyzed
* the site specific leachability value was derived using the SPLP test (Ch. 62-777, F.A.C.)
Bold numbers indicate analytes detected at specified concentration.
Lead concentration greater than site specific SCTL for leachability
Lead concentration exceeds the residential SCTL

Exhibit 4c: Soil sample analytical results for lead (June 2010).

TABLE 2
Confirmatory Soil Sample Results

The Strip Joint

Sample ID	Sample Date	Lead Concentration (mg/kg)
CS-1	5-Feb-11	**1.9**
CS-2	5-Feb-11	**9.8**
CS-3	5-Feb-11	**13**
CS-4	8-Feb-11	**61**
CS-5	8-Feb-11	**26**
CS-6	8-Feb-11	**4.3**
CS-7	8-Feb-11	**2.8**
CS-8	8-Feb-11	**1.8**
CS-9	9-Feb-11	**1.3**
CS-10	11-May-11	**5.8**

Lead Soil Cleanup Target Levels (SCTLs)		
Residential Direct Exposure	Industrial Direct Exposure	Site Leachability to Groundwater Criteria
400	1,400	28

Note:
Pb Concentration Exceeds Leachability SCTL

Exhibit 4d: Confirmatory soil sample results.

TABLE 3
MONITORING WELL ANALYTICAL RESULTS FOR LEAD

THE STRIP JOINT
GULD BREEZE, FLORIDA

Point ID		MW001	MW001R					MW001D			
Sample Date		10-Apr-08	25-Aug-11	6-Aug-13	4-Aug-15	16-Feb-16	16-Feb-16 dup	3-Nov-07	10-Apr-08	25-Aug-11	6-Aug-13
Laboratory		Accutest	TestAmerica	TestAmerica	TestAmerica	TestAmerica	TestAmerica	KSA	Accutest	TestAmerica	TestAmerica
Screened Interval (feet bls)		0.5 - 5	1 - 5.5					16 - 21			
Lead	**mg/L**	0.0852	0.067	0.027	**0.006 I**	0.0035 I	**0.002 I**	0.007 U	**0.0022 I**	0.0023 I	0.002 U
Field Measured Parameters											
Temperature	^{0}C	19.56	30.13	28.95	28.7	14.11	14.11	23.19	20.66	25.22	23.76
pH		5.27	5.30	6.04	5.02	7.39	7.39	5.14	5.55	5.31	5.55
Dissolved Oxygen	mg/L	0.54	0.50	0.90	0.98	0.10	0.10	0.41	0.31	0.25	1.45
Turbidity	NTU	8.25	8	15	16	11.2	11.2	110	4.07	8	9
Specific Conductivity	umohs/cm	78	191	226	183	181	181	158	160	163	156
Redox Potential (Eh)	mV	-91	-60	8.6	-130.4	67	67	-227.7	-169	-154	-16.9

Point ID		MW002			MW003		MW004		MW005	MW006	MW007
Sample Date		10-Apr-08	25-Aug-11	16-Feb-16	3-Nov-07	16-Feb-16	3-Nov-07	16-Feb-16	10-Apr-08	10-Apr-08	10-Apr-08
Laboratory		Accutest	TestAmerica	TestAmerica	KSA	TestAmerica	KSA	TestAmerica	Accutest	Accutest	Accutest
Screened Interval (feet bls)		1 - 11			1 - 11		1 - 11		1 - 11	1 - 11	1 - 11
Lead	**mg/L**	0.0021 U	0.0020 U	0.002 U		0.002 U		0.002 U	0.0021 U	**0.0022 I**	**0.0058 I**
Field Measured Parameters											
Temperature	^{0}C	20.34	27.61	18.63	24.97	18.86	23.84	18.57	21.62	21.18	22.45
pH		5.50	5.35	7.61	5.60	6.71	5.90	7.33	6.11	5.33	5.42
Dissolved Oxygen	mg/L	0.50	0.40	0.09	0.50	0.10	0.38	0.07	0.70	0.51	0.71
Turbidity	NTU	3.89	5	5	86	3	156	7	17.3	16	14.9
Specific Conductivity	umohs/cm	148	155	63	150	122	191	105	309	144	85
Redox Potential (Eh)	mV	-122	-142	-109.2	-123.8	-131.6	-145.8	-133.1	-173	-113	-6

REGULATORY STANDARDS		GCTL	NADC
Lead	mg/L	0.015	**0.150**

NOTES:
U - indicates analyte not detected at specified detection limit [laboratory method detection limit (MDL)]
I - indicates analayte was detected at a concentration less than the laboratory practical quantitation limit (PQL)
GCTL - Groundwater Cleanup Target Level
NADC - Natural Attenuation Default Concentration
Regulatory Standards from Ch. 62-777, F.A.C.
Bold numbers indicate analytes detected at specified concentration.
Contaminant concentration exceeds the GCTL

Exhibit 5:: Groundwater monitoring well analytical results for lead.

Florida Department of

Memorandum **Environmental Protection**

TO: Brandi Stringer, Project Manager
Waste Site Cleanup Section, WCP

FROM: Bill Linn, PG
Waste Site Cleanup Section, WCP

DATE: April 4, 2016

SUBJECT: Natural Attenuation Monitoring/Site Rehabilitation Completion Report
The Strip Joint
1761 Kell Road
Gulf Breeze, Florida
Facility ID No. 159

I have reviewed the subject document and have the following comments.

1. The Strip Joint was a furniture refinishing business that operated from 1989 until sometime in 2008. The site is located in a rural, residential setting. The primary solvent used for paint stripping was reportedly Kwick Kleen #2005 Paint Remover that was composed of 76% methylene chloride, 17% methanol and 1% sodium hydroxide by weight. Rinse water from the stripping operation was treated by filtration in two tanks and then run through an air stripper. The treated water was reportedly discharged to the ground through a drain pipe that exited from the west side of the treatment area.

2. Metcalf & Eddy conducted contamination assessment activities at the site between October 31, 2007 and April 10, 2008. No contaminants were detected in soil samples in concentrations exceeding any Soil Cleanup Target Level. However, lead was detected in a soil sample (SB004) in a concentration of 73 mg/kg, and SPLP leachate derived from *this sample had a lead concentration of 23 ug/l, which exceeds the MCL for lead. Lead was detected in a concentration of 85.2 ug/l in a groundwater sample collected from MW001 (screened 1 – 5 feet BLS).* MW-1 is located approximately 40 feet west of the workshop near the waste treatment area.

3. Additional soil sampling for lead was conducted in September 2008, December 2009 and June of 2010. Two (2) contaminant source areas were identified: one west of the workshop where treated wastewater was discharged and one located due east of the workshop. The highest lead concentration detected in soil was 1,200 mg/kg in a sample collected in the wastewater discharge area. *A site-specific soil cleanup target level for lead was developed (23 mg/kg).*

4. On February 5, 2011, AECOM conducted an interim source removal at the site. Lead contaminated soil was excavated from two areas. Area 1 was located due west of the work shop in the area where treated wastewater was discharged. Contaminated soil was excavated to a depth of three (3) feet blow land surface over an area approximately 60 feet x 45 feet. Area 2 is located due east of the workshop. Soil was excavated to 1 foot below land surface in an area measuring 9 feet by 25 feet. Contaminated soil was shipped off-site for disposal.

5. Confirmatory soil sampling conducted from February 5 – 9, 2011 found lead in a concentration (61 mg/kg) exceeding the site-specific cleanup target level. The sample was collected on the west side of Area 1, adjacent to the creek. A second source removal was conducted on May 11, 2011 in the area adjacent to the creek. The area of the excavation was 15 feet x 3 feet to a depth of one-half foot. Contaminated soil was shipped offsite for disposal. The excavation areas were backfilled with clean fill.

6. The site was placed into post active remediation monitoring. MW001R was installed as a replacement well for MW001 which was located in Area 1 of the excavation. During the last two consecutive groundwater monitoring events, conducted on August 4, 2015 and February 16, 2016, lead was detected in groundwater samples collected form MW001R in concentrations of 0.006 and 0.0035 ug/l, which exceeds the method detection limit for lead but is below the practical quantitation limit and the Maximum Contaminant Limit for lead.

7. AECOM concludes that the site meets the No Further Action, without institutional or engineering controls under Risk Management Option Level I as defined in Chapter 62-780.680(1), F.AC., and recommends that the Department issue a Site Rehabilitation Completion Order (SRCO). I concur with AECOM's conclusion and support their recommendation to issue an SRCO.

Site Rehabilitation Completion Report
The Strip Joint
1761 Kell Road
Gulf Breeze, Florida
Facility ID No. 159

I hereby certify that in my professional judgement, the components of this Site Rehabilitation Completion Report satisfy the requirements set forth in Chapter 62-780, F.A.C., and that the interpretations in this report provide reasonable assurances of achieving the objectives stated in Chapter 62-780, F.A.C.
I personally completed this review.

William J. Linn
Professional Geologist II
Waste Site Cleanup Section
April 4, 2016



Florida Department of
Environmental Protection
Bob Martinez Center
2600 Blairstone Road
Tallahassee, Florida 32399-2400

Charlie Crist
Governor

Jeff Kottkamp
Lt. Governor

Michael W. Sole
Secretary

04/17/2007

John Winters, Proj Mgr
The Strip Joint
2600 Blair Stone Rd Ms 4520
Tallahassee, FL 32399-2400

DEP/EPA ID: **FLR000098186**
LOCATION: **1761 Kell Rd, Gulf Breeze.**

Based on the information supplied by you, we have processed and accepted your request for the following status change under RCRA. The status of the facility identified with the above DEP/EPA identification number has been changed to:

Small Quantity Generator

THIS LETTER IS NOT AN APPROVAL TO TRANSPORT HAZARDOUS WASTE OR TO OPERATE A HAZARDOUS WASTE TREATMENT, STORAGE, OR DISPOSAL (TSD) FACILITY. PLEASE CONTACT THE DEPARTMENT FOR COMPLETE REQUIREMENTS FOR HAZARDOUS WASTE TRANSPORTERS AND TSDs.

Please notify us in writing if there is any change in your operations which would affect your status. For further assistance, please call the Hazardous Waste Notification Coordinator at (850)245-8760 or (850)245-8772.

Sincerely,

Michael X. Redig
Environmental Manager
Hazardous Waste Regulation Section

ME ID: 35509
Email Address: john.winters@dep.state.fl.us

8700-12FL - FLORIDA NOTIFICATION OF REGULATED WASTE ACTIVITY

DEP Waste Management Division–HWRS, MS4560
2600 Blair Stone Rd. Tallahassee, FL 32399-2400
(850) 245-8760

Date Received (for FDEP Official Use Only)
RECEIVED
RCRA
MAR 08 2007
Hazardous Waste Regulation

EPA ID | MTS

1. Reason for Submittal — Check correct box:

- ☐ To provide **initial notification** (to obtain an EPA ID Number for hazardous waste, universal waste, or used oil activities).
- ☐ To provide **subsequent notification** (to update status and facility identification information).

2. Facility or Business Name
FLORIDA DEP - THE STRIP JOINT (#159)

3. Facility Operator (List additional Operators in the comments section).

Name of Operator: | ☐ New Operator Date became Operator: ___/___/___ mm dd yy
Street or P.O. Box: | Phone Number:
City or Town: | State: | Zip Code:
Operator Type: ☐ Private ☐ Federal ☐ Municipal ☐ State ☐ Other_____

4. Facility Physical Location Information

Physical Street Address: 1761 KELL ROAD
City or Town: GULF BREEZE | State: FL | Zip Code: 32563
County: SANTA ROSA | Land Type: ☒ Private ☐ Federal ☐ Municipal ☐ State ☐ Other_____
Latitude: |__|__| |__|__| |__|__.____| (d d m m s s . ssss) Longitude: |__|__| |__|__| |__|__.____| (d d m m s s . ssss) Method: Datum:

5. Facility North American Industry Classification System (NAICS) Code(s)

A. | B.
C. | D.

6. Facility Mailing Address

Street Address or P.O. Box: 2600 BLAIR STONE RD MS 4520
City or Town: TALLAHASSEE | State: FL | Zip Code: 32399-2400

7. Facility Contact Person

First Name: JOHN | Last Name: WINTERS | Title: PROJECT MANAGER
Phone Number: 850/245-8927 | Extension: | E-Mail: JOHN.WINTERS@DEP.STATE.FL.US
Street or P.O. Box: 2600 BLAIR STONE ROAD
City or Town: TALLAHASSEE | State: FL | Zip Code: 32399

8. Real Property Owner of the Facility's Physical Location (List additional real property owners in the comments section.)

Name of Real Property Owner: HOWARD FORD | ☐ New Owner Date became Owner: ___/___/___ mm dd yy
Street or P.O. Box: 1761 KELL ROAD | Phone Number:
City or Town: GULF BREEZE | State: FL | Zip Code: 32563
Owner Type: ☒ Private ☐ Federal ☐ Municipal ☐ State ☐ Other_____

EPA ID No.

9. Type of Regulated Waste Activity (Mark 'X' in the appropriate boxes):

A. Hazardous Waste Activities:

1. Generator of Hazardous Waste
(Choose only one of the following three categories.)

☐ a. Large Quantity Generator (LQG):
Generates in any calendar month 1,000 kilograms or greater per month (kg/mo) (2,200 lbs.) of *non-acute* hazardous waste; **or** Greater than 1 kg (2.2 lbs) of *acute* hazardous waste

☒ b. Small Quantity Generator (SQG):
Generates in any calendar month greater than 100kg/mo but less than 1,000 kg/mo (>220 to <2,200 lbs.) of *non-acute* hazardous waste and/or 1 kg (2.2 lbs) or less of acute hazardous waste

☐ c. Conditionally Exempt SQG (CESQG):
Generates in any calendar month 100 kg/mo or less (220 lbs.) of *non-acute* hazardous waste **and/or** 1 kg (2.2 lbs) or less of *acute* hazardous waste

In addition, indicate other generator activities (that apply).

☐ d. United States Importer of hazardous waste

☐ e. Mixed Waste (hazardous and radioactive) Generator

For Items 2 through 7, check all that apply.

2. ☐ Treater, Storer, or Disposer of Hazardous Waste (at your facility) Note: A hazardous waste permit may be required for this activity.

3. ☐ Recycler of Hazardous Waste (at your facility) Specify: ☐ Commercial; ☐ Non-Commercial. Note: A hazardous waste permit may be required for this activity.

4. ☐ Exempt Boiler and/or Industrial Furnace
☐ a. Small Quantity On-site Burner Exemption
☐ b. Smelting, Melting, and Refining Furnace Exemption

5. ☐ Person Authorized to Manage Conditionally Exempt Waste generated at other facilities - Check this management activity ONLY if you attach EITHER a copy of your application for such authorization OR the authorization you received from FDEP

6. ☐ Underground Injection Control

7. ☐ Transporter of Hazardous Waste Note: A Certificate of Liability Insurance is required along with this registration. Registration must be renewed annually. ☐ a. For own waste only; ☐ b. For Commercial Purposes

c. **Hazardous Waste Transporter Insurance Information:**
Insurance Company _____
Address _____
_____
Contact: _____ Telephone: _____
Policy Number: _____ Expiration date: _____

d. Transportation Mode: ☐ Air; ☐ Rail; ☐ Highway; ☐ Water; ☐ Other - specify _____

e. ☐ **Hazardous Waste Transfer Facility**: Storage Volume _____

B. Universal Waste Activities:

1. Indicate types of universal waste generated and/or accumulated at your facility (includes destination facilities). (check all boxes that apply)

	Generate	Accumulate
a. Batteries	☐	☐
b. Pesticides	☐	☐
c. Mercury Containing Thermostats	☐	☐
d. Mercury Containing Lamps	☐	☐
e. Mercury Containing Devices	☐	☐
f. Other (specify) _____	☐	☐
g. Other (specify) _____	☐	☐

2. Total quantity of universal waste on site at any time.

☐ a. 5,000 kg or more; Large Quantity Handler (LQH)

☐ b. More than 1 kg of acutely hazardous pharmaceutical waste ("P-listed") (LQH)

☐ c. Less than 5,000 kg (11,000 lbs); Small Quantity Handler (SQH)

3. ☐ Destination Facility for Universal Waste
Note: For this activity, a facility must treat, dispose or recycle a universal waste. A facility must either have a hazardous waste permit or recycle the universal waste without storing it.

EPA ID No.

9. Type of Regulated Waste Activity - continued (Mark 'X' in the appropriate boxes):

C. Used Oil Activities:

1. **Used Oil Transporter - Indicate type(s) of activity(ies)**
   - ☐ a. Transporter
   - ☐ b. Transfer Facility
2. **Used Oil Processor and/or Re-refiner - Indicate type(s) of activity(ies)**
   - ☐ a. Processor
   - ☐ b. Re-refiner
3. ☐ **Off-Specification Used Oil Burner**
4. **Used Oil Fuel Marketer - Indicate type(s) of activity(ies)**
   - ☐ a. Marketer who directs shipment of off-specification used oil to off-specification used oil burner
   - ☐ b. Marketer who first claims the used oil meets the specifications
5. ☐ **Used Oil Generator**

D. Other State Regulated Waste Activities: 1. ☐ **Used Oil Filter Handler** 2. ☐ **PCW Handler**
These activities may require additional submissions.

10. Waste Codes for Federally Regulated Hazardous Wastes: List the waste codes of the Federal hazardous wastes handled at your facility. List them in the order they are presented in the regulations (e.g., DOO1, DOO3, FOO7, U112).
Hazardous waste transporters list codes **routinely** or **usually** transported. Use an additional page if more spaces are needed.

1 F001	2 F002	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28

11. Other Status Changes (Mark 'X' in the appropriate boxes):

A. Non-Handler of Regulated Waste at this facility
- ☐ 1. Business no longer generates, transports, treats, stores, or disposes of hazardous waste.
- ☐ 2. Waste generated by business has been delisted.
- ☐ 3. Other (explain) _____.

B. Facility Closed
- ☐ 1. Closed at this location and **moved or moving** to another - submit a new 8700-12FL for the new location if you will be handling regulated waste there.
- ☐ 2. Out of Business - Business closed on _____ (Date). Please provide a contact person, mailing address, and phone number where you can be reached after closing.
  Contact _____ Phone _____
  Address _____
  City, State, Zip _____

☐ **C. Property Tax Default** ☐ **D. Petition for Bankruptcy Protection**

12. Comments:

	EPA ID No.

13. Certification: I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Signature of owner, operator, or an authorized representative	Name and official title (type or print) of owner, operator, or an authorized representative	Date Signed (mm-dd-yyyy)
John Winters	JOHN WINTERS AUTHORIZED AGENT FOR FDEP PM/CM	3/19/07

14. Additional Comments
or optionally, include a map or sketch of the facility boundaries to aid in establishing an accurate Latitude/Longitude for your facility:

Florida Department of

Environmental Protection

Memorandum

TO: Dick for Mary Jean Yon, Director of District Management

FROM: Bill Kellenberger K

DATE: November 17, 2003 Sent 11/21/03 lyk

FILE

SUBJECT: The Strip Joint

1. Attached is ____Draft____Final____CO____NOV____FO

   ↘ ___Case report for the subject facility.

   ____Civil Penalty Authorization Memorandum

2. a. It is to be forwarded to OGC.

3. It has been reviewed by appropriate staff, staff agrees/disagrees, rationale for disagreement.

4. Changes made since last draft:_____

_____

_____

_____

5. Penalty policy requirements satisfied/penalty worksheet attached.

6. **Recommend approval**.

Section Supervisor 11/19/03

Program Administrator 11/19/03

Revised 12/11/92

CASE REPORT
NORTHWEST DISTRICT

Type of Violation: Hazardous Waste
Date Submitted: November 10, 2003

1. Violators:

Howard Ford (Owner and Operator of "The Strip Joint", (TSJ))
116 Fairpoint Drive
Gulf Breeze, FL 32561
Business Phone: (850) 832-5222
Home Phone: (850) 832-0948

Maybelle B. Ford (Property Owner)
(married to Howard Ford)
116 Fairpoint Drive
Gulf Breeze, FL 32561
Home Phone: (850) 832-0948

2. Location Of Violation:

1761 Kell Road
Gulf Breeze, FL 32561
N 30° 24' 1.68" / W 87° 0' 31.25"

3. NATURE OF THE VIOLATION:

This case involves treatment and disposal of hazardous waste without a permit. Howard Ford owns and operates TSJ, a small antique furniture restoration shop, located at 1761 Kell Road, Gulf Breeze, Florida. Howard Ford uses approximately 55-gallons of methylene chloride per month in his furniture stripping operation. TSJ has been operating since 1989 under the same ownership and currently employs two people, including Howard Ford. During the complaint inspection of April 16, 2003, Howard Ford stated that spent methylene chloride is diluted with water and "treated" through an on-site wastewater treatment system. The effluent is then released to the ground. A more detailed description is included in the attached Inspection Report.

The Guidelines for Characterizing RCRA Violations (January 1999), state, "If a responsible party has discharged hazardous waste as part of an ongoing operation that does not have a valid Department permit, the facility should be assessed a penalty for each of the following:

1) Disposal of hazardous waste without a permit — 40 CFR 264,Subpart K – N and 62-730.240 F.A.C.

2) No Closure Plan	40 CRF 264, Subpart G
3) Land Disposal of Hazardous Waste without monitoring groundwater	40 CFR 264 Subpart F
4) Failure to have a contingency plan.	40 CFR 264 Subpart D
5) Disposal of hazardous waste without financial assurances	40 CFR 264 Subpart H
6) Treatment of hazardous waste without notification	40 CFR 264.11
7) Failure to make arrangements with local authorities	40 CFR 264.37
8) Failure to have proper training	40 CFR 264.16"

Spent solvent containing 10 % or more methylene chloride (by volume) before use is listed as hazardous waste F001, F002, and F004 in 40 CFR 261.31.

4. Other Information:

There were 51 55-gallon drums behind the shop. The drums were open and catching rainwater. Howard Ford explained that the drums were empty methylene chloride drums that had been rinsed before being placed behind the shop. The inspector said that the drums should be stored upside down to prevent catching rainwater, and if they contained only rainwater, the water could be emptied onto the ground.

Mark Stricklin called DEP on Nov. 18 to complain that Howard Ford's employee was emptying the drums stored behind his shop onto the ground. He was informed that the drums contained rainwater.

During a case development inspection conducted on April 17, Howard Ford was asked to supply records for all of the business purchases made during the past year. The attached invoices show that about 55-gallons of methylene chloride were purchased per month, but there were no receipts for chemicals associated with the wastewater treatment system.

David Staples, Bureau of Emergency Response and Terry Wells, Hazardous Waste Section took soil and aqueous samples on April 22. The results indicated methylene chloride in the soil above the suggested SCTL of 0.05 ppm in 62-777 FAC. A full report is attached.

Howard Ford said that no inspector had visited his shop before and he believed that the effluent from his treatment system was clean and free of methylene chloride. He said he would invite anyone to do tests because they wouldn't find anything there. He claimed that he spent $15,000 on the wastewater treatment system in 1989 because he believed that it was the proper way to handle the waste.

Mike Buckley conducted a criminal investigation and has a current criminal case (parallel proceedings). During the investigation Howard Ford's employee said that the treatment system had not worked in over a year and he had been instructed to allow the spent solvent to drain onto the ground without treatment since then.

A copy of the owner's manual for the wastewater treatment system and MSDS sheets in Howard Ford's file are attached. The owner's manual says, "Kwick Kleen's Water Purification System meets and exceeds the Federal E.P.A. waste water standards" and "Upon completion of the cycle, the purified water can be put in a sewer system or drained in a septic system."

The Santa Rosa County Environmental Health Department agreed to verify potential potable water wells within ½ mile of The Strip Joint, sample, send for analysis and copy DEP on the results. Not received yet.

5. POTENTIAL WITNESSES:

Mike Buckley, Criminal Investigator NWD / DEP — (parallel proceedings / conducted interviews with Howard Ford and his employee)

Mark Stricklin
1761 Kell Road
Gulf Breeze, Florida
(850) 934-1101
— (rents a mobile home from Howard Ford located about twenty feet from TSJ)

Mr. Weber
1751 Saint Mary St.
Gulf Breeze, Florida
(850) 934-3821
— (TSJ employee)

David Staples & Terry Wells
NWD / BER
— (sampling inspection / David noticed that the treatment system had cobwebs in it)

Brad Hartshorn
Geologist
NWD / DEP
— (assigned to the case - on site with the consultant and reviewed the PCAR)

6. <u>SETTLEMENT NEGOTIATIONS</u>

The penalty amount was set at $105,000 - justification and computation are attached. A warning letter was sent to Howard Ford May 23, 2003. Howard Ford met with the Department July 9, 2003 and agreed to have a preliminary contamination assessment done. Howard Ford was told that any money spent on assessment and/or cleanup could be used to off-set the penalty amount. The warning letter, meeting minuets and all correspondence and memos are attached.

The PCAR was received on October 6, 2003. One groundwater sample was taken and indicated methylene chloride and toluene concentrations above the drinking water standards. A copy is attached.

Consent Order #03-1412-57 HW was prepared that named Howard Ford as the owner and operator of The Strip Joint, but did not include Maybelle Ford, the property owner., as a responsible party.

Howard Ford submitted a financial affidavit on Oct. 29, 2003. Although it appeared to be incomplete (no W2s or tax returns), it indicated that Ford would not have the resources necessary to comply with the attached consent order. It was forwarded to Mike Redig for assignment on Nov.6.

Since the financial affidavit submitted by Howard Ford indicated that he would not be able to comply with the consent order it has been modified to include Maybelle Ford as a responsible party and included as an attachment with the case report.

7. RECOMMENDATION FOR CORRECTIVE ACTION

The District requests that a complaint be filed seeking penalties for improper disposal of hazardous waste and site remediation. The PCAR indicated groundwater contamination. A Remediation Action Plan needs to be completed and site remediation performed accordingly.

8. ATTACHMENTS

Copy of entire enforcement file (with photographs and property deed.)

Copies of the owner's manual and MSDS maintained by Howard Ford (from the criminal investigation file.)

The information in this Case Report is complete and accurate to the best of my knowledge, information and belief.

Melissa Kennedy — 11/19/03

DEP Inspector — Date

I recommend filing an action against the violator(s) described above.

for — 11/20/03

Director of District Management — Date

CR/0797

Field Inspection Summary Form

The Field Inspector's primary role is to observe. Inspectors may not authorize changes in scope of work, offer advice, or interfere in contractor work. Field Inspectors must obtain a copy of the Purchase Order, Work Order or Task Assignment (PO, WO or TA) for the scope of work to be observed. The field inspector will review the PO/WO/TA prior to arrival and will have it onsite. If anything is observed that requires immediate attention, the inspector will contact the FDEP Site Manager. This form is a summary of observations made during the site visit. Full details are provided in the inspector's log book. A copy of the inspector's log book pages and any photographs taken for this inspection are attached.

INSPECTOR / TEAM: Aric Porter / LP17 INSPECTION DATE(S): 2/18/2020 - 1130

OTHERS ON SITE & TITLE/TEAM: Jordan Gibson, PG & Trainee with AET, Preferred Drilling Crew

SITE IDENTIFICATION

FAC ID: 57/9805882
SITE NAME: Tom Thumb Food Store #140
ADDRESS: 4991 Gulf Breeze Parkway
CITY: Gulf Breeze
COUNTY: Santa Rosa
SCORE: Non-Prc

DEP SITE MANAGER/ TEAM: LP: 17/Escambia / LP17
CURRENT BUSINESS NAME: Tom Thumb Food Store #

FACILITY STATUS: (•) Active Fuel Dispensing ( ) Active, Not Fuel Dispensing ( ) Closed

WORK ORDER

PO, WO or TA #: N/A EVENT #: N/A

CONSULTANT

COMPANY NAME: Adbanved Environmental Technologies PROJ. MANAGER: Jordan Gibson, PG
NUMBER of REPRESENTATIVES: 2 FIELD LEAD: Jordan Gibson, PG

SUBCONTRACTOR(S)

COMPANY NAME: Preferred Drilling NUMBER of REPRESENTATIVES: 3

SCOPE OF WORK OBSERVED (details on following pages)

- [x] **Assessment:** [ ] MW Installation [ ] Groundwater Sampling [x] Soil Boring Installation [x] Soil Sampling
- [ ] **Remediation:** [ ] Soil Excavation [ ] Remedial Construction [ ] VE Well Install [ ] AS Well Install [ ] Injection Well Install [ ] Recovery Well Install
- [ ] **Pilot Testing:** [ ] In-situ AS [ ] MPE [ ] SVE [ ] Biosparge [ ] GW Recovery [ ] Bio-Remediation [ ] Bio-Venting [ ] Other:
- [ ] **Post Remedial Monitoring:** [ ] Groundwater Sampling [ ] Soil Sampling
- [ ] **Natural Attenuation Monitoring:** [ ] Groundwater Sampling [ ] Soil Sampling
- [x] **Other:** New assigned site visit and Annual Inspection.

GENERAL ISSUES (If "No" or "N/A" is selected, describe issues in Comments section.)

Are digital photos attached to this report?	(•) Yes	( ) No	
Were PRP guidance and procedures followed?	(•) Yes	( ) No	( ) N/A
Did the contractor request that the inspector sign the Health & Safety Plan?	( ) Yes	(•) No	( ) N/A
Did the inspector make contact with the site owner or facility representative?	( ) Yes	(•) No	( ) N/A
Does the site map appear accurate?	( ) Yes	( ) No	(•) N/A
Does the area map appear current (adjacent properties)?	( ) Yes	( ) No	(•) N/A

INSTRUMENTS & EQUIPMENT

CONSULTANT INSTRUMENTS/EQUIPMENT USED:

[x] OVA/PID [ ] Multi-Meter [ ] Oil-Water Probe [ ] Datalogger [ ] Turbidity Meter [ ] Other:

Instrument calibration onsite observed? ( ) Yes ( ) No (•) N/A

SUBCONTRACTOR INSTRUMENTS/EQUIPMENT USED:

Geoprobe 7822DT DPT Rig

Instrument calibration onsite observed? ( ) Yes ( ) No (•) N/A

Field Inspection Summary Form

ACTIVITIES OBSERVED / COMMENTS:

DATE: 02/18/20 WEATHER: Overcast/70F
INSPECTOR ON/OFF SITE: 11:45 / 12:45
CONTRACTOR ON/OFF SITE: ? / ? SUBCONTRACTOR ON/OFF SITE: ? / ?

Upon arrival, Preferred Drilling staff were usinga hand auger to evacuate the first five (5) feet of one of the last borings. This is the initial site assessment following the Spill Bucket Closure Assessment Report, dated August 8, 2019, that requires a Site Assessment Report. AET employees were taking soil samples at one (1) foot intervals for OVA analysis. The DPT Rig had been positioned to continue the boring to fifteen (15) feet below land surface. Jordan Gibson, PG with AET explained that they have not encountered any elevated OVAs in the borings completed. A soil sample, along the UST, just East of the PSB sample only had a 20.6 ppm OVA. Jordan asked if three (3) soil samples are still required with the OVA data found. After confirming with my office, I explained to Jordan that only one (1) sample will be needed from the most elevated OVA soil sample. I remained onsite for the remainder of this boring.

ACTIVITIES OBSERVED / COMMENTS:

DATE: WEATHER:
INSPECTOR ON/OFF SITE: /
CONTRACTOR ON/OFF SITE: / SUBCONTRACTOR ON/OFF SITE: /

ACTIVITIES OBSERVED/ COMMENTS:

DATE: WEATHER:
INSPECTOR ON/OFF SITE: /
CONTRACTOR ON/OFF SITE: / SUBCONTRACTOR ON/OFF SITE: /

Field Inspection Summary Form

Fac ID: 579805882 Site Name: Tom Thumb Food Store #140
February 18, 2020 Site Inspection

South view of storefront at this facility.



AET employee takes soil samples from the hand auger for OVA analysis.



Field Inspection Summary Form

Fac ID: 579805882 Site Name: Tom Thumb Food Store #140
February 18, 2020 Site Inspection

Northeast view of the tankpit spill buckets where soil contamination was discovered.



Geoprobe 7822DT DPT Rig used to sample soil from five (5) to fifteen (15) below land surface.



Field Inspection Summary Form

Fac ID: 579805882 Site Name: Tom Thumb Food Store #140
February 18, 2020 Site Inspection

Tailgate of AET pickup used for testing soil sample OVAs with a calibrated PID.



South view of the facility and the area being evaluated.



October 26, 2020

(Sent via email only to addressee at CJohnson@cumberlandfarms.com)

Christopher Johnson
EG Retail – Cumberland Farms, Inc.
165 Flanders Rd
Westborough, MA 01581

Subject: Deliverable Review
Tom Thumb Food Store #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County
FDEP FAC ID #579805882
Discharge Date: July 3, 2019 (Non-program)

Dear Mr. Johnson:

The Florida Department of Health in Escambia County (FDOH-Escambia), on behalf of the Florida Department of Environmental Protection (FDEP), has reviewed the Site Assessment Report dated October 19, 2020 (received October 19, 2020), submitted for the above referenced site. We found the documents submitted to date to be adequate to meet the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.), and applicable FDEP guidelines.

We do not agree with your recommendation to issue a No Further Action for this discharge at this time. We recommend that additional monitoring well installation and semi-annual groundwater sampling is necessary to determine the groundwater quality in the area of impact. One (1) shallow monitoring well should be installed 15-20 feet South of MW-1, and one (1) shallow monitoring well should be installed adjacent to SB-1 or SB-2.

The first semi-annual groundwater sampling event should be conducted no sooner than February 24, 2021. All monitoring wells, including MW-1, should be sampled and analyzed for BTEX/MTBE, PAHs, and TRPH. Depth-to-water measurements should be collected from all monitoring wells to obtain groundwater flow direction data, as well.

A Supplemental Site Assessment Report (SSAR) is due to be submitted no later than 150 days from the date of this letter. After submittal of the SSAR, please be advised that additional requirements for cleanup of the contamination may apply.

The FDEP Facility Number for this site is 579805882. Please use this identification on all future correspondence. We request that you keep us informed of petroleum cleanup activities at this site, and when applicable, submit notification as required by Chapter 62-780, F.A.C.

If you have any questions or require additional information, please contact us at (850) 595-6700, ext. 2009, or at the Florida Department of Health in Escambia County – Environmental Health Division, 1300 West Gregory Street, Pensacola, Florida 32502-3724.

Sincerely,

Jessica Batres

Jessica L. Batres
Environmental Specialist II
Florida Department of Health in Escambia County
Jessica.Batres@flhealth.gov

jlb

ec: Jodi Marsden, Advanced Environmental Technologies, LLC – JMarsden@aetllc.com
Debbie Hitchcock, Advanced Environmental Technologies, LLC – DHitchcock@aetllc.com

Site Manager
File

July 15, 2019

BY CERTIFIED MAIL
7005-1820-0005-4566-8656

Carrie Castille
Junior Food Stores of W FL Inc.
619 Eighth Avenue
Crestview, FL 32536

Santa Rosa County – Regulated Storage Tanks
Tom Thumb Food Store #140
4991 Gulf Breeze Parkway
Gulf Breeze, FL 32563
DEP Facility ID#: 57/9805882
Chapter 62-780, FAC, Request for Site Assessment Activities

Dear Ms. Castille:

On July 5, 2019, the Florida Department of Health- Environmental Health Division received the Discharge Report Form, dated July 3, 2019. Based on this information the date of discovery of petroleum product contamination is July 3, 2019. Due to the discovery of petroleum contamination, you are required to initiate a formal site assessment (SA) at this facility in accordance with the requirements of Florida Administrative Code (FAC) Chapter 62-780, within sixty (60) days from the date of discovery.

Please provide written confirmation of the initiation of the SA to Florida Department of Health-Environmental Health Division. The confirmation should be submitted within ten (10) days upon initiation of the SA. In addition, please provide three (3) days notice prior to initiation of field activities. If a SA has already been initiated, please provide written confirmation of this upon receipt of this letter.

Within 270 days of the discovery of the contamination (by March 29, 2020), submit **one electronic and one paper copy** of a Site Assessment Report (SAR), prepared, signed, and sealed in accordance with Chapter 62-780, FAC, shall be submitted to:

Mr. Greg Berrian
Florida Department of Health in Escambia County- Environmental Health Division
1300 West Gregory Street
Pensacola FL 32502

If free product attributable to this discharge is present at your site, you must take steps to obtain cleanup services for product recovery or initiate product recovery within three (3) days of discovery of

free product. Product recovery shall be performed in accordance with Rule 62-780.300, FAC.

After submittal of the Site Assessment Report, please be advised that additional requirements for cleanup of the contamination may apply.

Please be aware that modifications to the timeframes indicated herein may only be obtained by requesting, in writing, the modifications sought. The written request must be submitted 20 days before the actions (the initiation of the SA or the submittal of the SAR) are due, AND must show good cause to allow the modifications. Good cause shall mean unanticipated events outside the control of the responsible party. This office does not consider generic delays by contractors or insurance carriers as good cause. Please provide a copy of this letter to your insurance carrier, if applicable. Failure to meet Department timeframes for cleanup corrective actions may result in the calculation of applicable penalties and investigative costs.

We look forward to your cooperation in completing the investigation and resolution of this matter. If you have any questions please contact me at 850-595-6700 Ext 2010, cell phone 850-554-1112 or Charles.Payne@FLHealth.gov. Or, at the Florida Department of Health in Escambia County-Environmental Health Division, 1300 West Gregory Street, Pensacola FL 32502-3724.

Sincerely,

Charles Payne
Environmental Specialist III

EC: Jodi Marsden, Advanced Environmental Technologies, LLC., jmarsden@aetllc.com
Dave Daigle, Junior Food Stores of W Florida Inc., Dave.Daigle@tomt.com

CC: Gregory Berrian, FDOH – EC, 1300 W Gregory St, Pensacola FL 32502

Porter, Aric J

From: Debbie Hitchcock <dhitchcock@aetllc.com>
Sent: Monday, October 19, 2020 4:44 PM
To: Porter, Aric J
Cc: Christopher Johnson; Jodi Marsden; Sharon Wessel
Subject: Tom Thumb Food Store #140 (FAC ID 57/9805882) - Site Assessment Report
Attachments: TT140_579805882_SAR_10-19-2020.pdf; PE Electronic Signaturet Report TT140 SAR 10-19-2020.pdf

Hi Aric,

Please find attached the Site Assessment Report for Tom Thumb Food Store #140 (FAC ID 57/9805882), recommending No Further Action for the July 3, 2019 reported discharge.

If you have any questions regarding the site, please call or email me.

Thank you,
Debbie Hitchcock, PE
Advanced Environmental Technologies, LLC
1318 Dunmire Street, Suite 1
Pensacola, FL 32504
Direct: (850) 696-0552
Cell: (850) 232-8871
dhitchcock@aetllc.com

October 19, 2020

Mr. Aric Porter
Florida Department of Health in Escambia County
1300 W. Gregory Street
Pensacola, Florida 32502

RE: Site Assessment Report
Tom Thumb Food Store #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP Facility ID No. 57/9805882
Discharge Date: July 3, 2019
AET Project No. 27360.02

Dear Mr. Porter:

On behalf of Tom Thumb – EG America, Advanced Environmental Technologies, LLC (AET) is pleased to provide the following report detailing site assessment activities for Tom Thumb Food Store #140 facility. All activities were conducted in general accordance with Chapter 62-780, Florida Administrative Code (FAC). The following figures, tables and appendices are provided herein:

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3	Well Survey Map
Figure 4	Soil OVA Headspace Summary Map – Vadose Zone
Figure 5	Soil Analytical Summary Map – February 2020
Figure 6	Groundwater Analytical Summary Map – August 2020
Table 1	Soil Screening Summary
Table 2	Soil Analytical Summary
Table 3A	Groundwater Analytical Summary – VOCs and Metals
Table 3B	Groundwater Analytical Summary – PAHs and TRPHs
Appendix A	Field Notes, Soil Boring, and Field Equipment Calibration Logs
Appendix B	Soil Laboratory Analytical Report
Appendix C	Field Notes, Well Construction and Development Logs, and Waste Disposal Documents
Appendix D	Field Notes, Groundwater Sampling, and Field Equipment Calibration Logs
Appendix E	Groundwater Laboratory Analytical Reports, Benzo(a)pyrene Conversion Table

SITE LOCATION AND HISTORY

The subject site is located at 4991 Gulf Breeze Parkway, Gulf Breeze, Santa Rosa County, Florida. The site is an active retail/fueling facility that occupies the southeast corner of Gulf Breeze Parkway and Nantahala Beach Road. The site vicinity is surrounded by residential, undeveloped, and commercial properties, as shown on **Figure 1**. Nearby surface water bodies include a wetland to the south-southeast. The current site layout is provided on **Figure 2**.

In June 2019, AET conducted closure assessment of the spill buckets associated with the vapor recoveries and fill-ports located atop the regular and premium gasoline USTs. Laboratory data indicated concentrations of various contaminants of concern (COC) above Soil Cleanup Target Levels (SCTL) in the sample collected from beneath each spill bucket. A DRF was submitted on July 3, 2019 noting the cause and amount of the contamination as unknown.

FDOH issued a Request for Site Assessment Activities on July 15, 2019. The following Site Assessment Report (SAR) details the results of site assessment activities performed. A site map illustrating the site features, UST area, and boring and monitoring well locations is presented as **Figure 2.**

CURRENT SITE ASSESSMENT ACTIVITIES

Water-Supply Well Survey

A water-supply well survey was completed utilizing geographic information system (GIS) data of wells obtained from the Florida Department of Health (FLDOH) Drinking Water Well Surveillance Database (https://gis.floridahealth.gov/ehwater/#) and from Northwest Florida Water Management District GIS personnel. No potable water-supply wells were detected within a ½-mile radius of the site. The survey indicated the presence of at least 29 landscape irrigation wells within ¼-mile. Approximate well locations are shown on **Figure 3**.

Soil Sampling

On February 18, 2020, AET personnel completed seven soil borings around the UST area. The soil borings were advanced to 15 feet below land surface (ft bls). Soil samples were collected and field screened using an organic vapor analyzer (OVA) every foot to 5 ft bls and at 2.5-ft intervals thereafter to the boring terminus. OVA readings in the approximate vadose zone (0-10 ft bls) ranged from 0 parts per million (ppm) at most intervals to 20.9 ppm at SB-1 (0-1 ft bls). The highest net OVA reading in the smear and unsaturated zone was 2.8 ppm.

Lithology was continuously logged from land surface to the total depth of each boring. Soil lithology consists predominantly of white to brown, fine to medium grained poorly graded sand. Bedded and laminated sands were generally observed from 12-15 ft bls. Sandy humus was observed from 14-15 ft bls in the SB-5 boring.

Based upon the on-site verbal agreement with the FDEP site manager (**Appendix A**) on February 18, 2020, one sample was collected for laboratory analysis from SB-1@ 1 ft bls and was analyzed for benzene, toluene, ethylbenzene, total xylenes, and methyl tert-butyl ether (BTEX+MTBE) by EPA 8260, polycyclic aromatic hydrocarbons (PAH) by EPA 8270, and total recoverable petroleum hydrocarbons (TRPH) by the Fl-PRO method. The soil sample was collected in laboratory provided, labeled sample containers, packed on ice in a cooler and transported under chain of custody protocol to Pace Analytical Services, Inc. in Ormond Beach, Florida, a State of Florida NELAP-approved laboratory. Laboratory analytical results indicated concentrations of all COC below laboratory detection limits or their respective SCTL.

Copies of the field notes and soil boring logs are provided in **Appendix A.** A copy of the laboratory analytical report is provided in **Appendix B. Table 1** includes a tabular summary of OVA data collected; and **Table 2** summarized the soil laboratory analytical data. **Figures 4** and **5** illustrate the soil OVA and analytical data, respectively.

Monitor Well Installation

AET oversaw monitor well installation by Preferred Drilling Solutions on August 20, 2020. Per email correspondence with the FDEP site manager on March 3, 2020, only one monitoring well was installed due to limited OVA readings in the vadose, smear, and, saturated zone. The well was constructed of 8-feet of 2-inch sch 40 PVC riser coupled to 10-feet of 0.010-inch factory slotted well screen. The well was placed within a load bearing manway with a locking cap and surrounded by a 2-feet by 2-feet concrete pad. Following well installation, the well was developed using an electric submersible pump. Development water was discharged to an impervious surface for onsite evaporation. Soil cuttings generated from the well installation were containerized in two 55-gallon drums. Soil investigative derived waste was disposed at Evergreen Landfill, Valdosta, Georgia, on September 10, 2020. The monitoring well location is illustrated on **Figure 2**, and well construction logs, well completion reports, and drum disposal documents are provided in **Appendix C**.

Groundwater Sampling and Analytical Results

On August 25, 2020, AET personnel collected a laboratory groundwater sample from monitor well MW-1. During groundwater sampling, AET field personnel recorded dissolved oxygen, pH, conductivity, temperature, and turbidity measurements in the field. All groundwater sampling activities were conducted in accordance with the guidelines outlined in Section FS 2200 of the DEP/SOP-001/01 (current revision). The groundwater sample was collected in laboratory provided, labeled sample containers. Samples were packed on ice in coolers and transported under chain of custody protocol to Pace Analytical Services, Inc. in Ormond Beach, Florida, a State of Florida approved laboratory. The sample was analyzed for BTEX+MTBE, volatile organic halocarbons, total lead, ethylene dibromide, PAHs, and TRPH in accordance with 62-780 FAC Table C. Evidence of free product and/or product sheen was not observed. Laboratory results indicated concentrations of all COCs below their respective GCTLs or laboratory detection limits.

Groundwater analytical data is illustrated on **Figure 6** and summarized in **Tables 3A** and **3B**. The groundwater sampling and field equipment calibration logs are provided in **Appendix D**, and the groundwater analytical report is provided in **Appendix E**.

QUALITY ASSURANCE & QUALITY CONTROL

Quality assurance and quality control (QA/QC) programs assure the reliability and accuracy of monitoring and measurement data. In preparing this report, AET relied on information provided in the reference documents and assumes that adequate quality control measures were followed with regard to chain-of-custody, laboratory procedures, and data reporting. Validity of the analysis and conclusions drawn for this report are determined by the availability and reliability of referenced information.

Based on the FDEP field sampling logs, QA/QC measurements appeared consistent with data normally taken with environmental sampling and analysis. Detailed sample collection and preservation procedures, as well as laboratory QA/QC data for analyses, were included in the report for the collected samples. The laboratory analytical results of method blanks, surrogate recovery results, and acceptable limits were included in the reports. Upon review of the laboratory analytical report, at least one groundwater sample indicated a reported value between the laboratory method detection limit and the laboratory practical quantitation limit (i.e. results flagged with an "I" value). The data appears valid and within SOP protocol. None of the samples indicated a "V" value. In the event data is flagged with a "V" qualifier, AET utilizes the ten times rule as far as validating the data as being usable or not. The ten times rule is based on the EPA guidance document for organic data review. If after applying the rules, the results do not meet the GCTL or SCTL limits, then the sample must be re-analyzed and/or re-sampled (excluding those low-level PAHs whose CTLs cannot be achieved).

CONCLUSIONS

The following are conclusions based on the field data collected and laboratory analytical results of the current Site Assessment activities:

- No potable wells are present within ½-mile of the site.
- Soil screening and analytical data indicate there is no soil contamination surrounding the tank pit.
- Groundwater was encountered at approximately 10 feet bls.
- Analytical results indicate groundwater contamination is not present in the shallow/water table zone.
- Soil contamination observed during closure assessment appears to have been localized and restricted to the exclusion zone of tank pit.

RECOMMENDATIONS

AET recommends No Further Action for the discharge reported on July 3, 2019, in accordance with 62-780.680(1) FAC.

If you have any questions, comments, or require any additional information please contact Debbie Hitchcock at (850) 696-0552 or dhitchcock@aetllc.com.

Sincerely,
Advanced Environmental Technologies, LLC

Debbie Hitchcock, PE
Branch Manager

Jodi Marsden
Operations Manager

cc: Mr. Chris Johnson, EG Retail – Cumberland Farms, Inc.

Statement of Professional Review

Site Assessment Report
Tom Thumb Food Store #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP Facility ID No.: 57/9805882
AET Project No.: 27360.02

I, Debra Joy Hitchcock, PE # 53473, certify that I currently hold an active license in the state of Florida and am competent through education and experience to provide the engineering service contained in this report. I further certify that, in my professional judgment, the components of this report satisfy the requirements set forth in Chapter 62-780, Florida Administrative Code (FAC) and was prepared by me or under my responsible charge. Moreover, I certify that AET holds an active Certificate of Authorization # 8215 to provide this engineering service. No warranties are implied or intended.

_____ I personally prepared this document

__X__ This document was prepared by Jodi Marsden working under my direct supervision

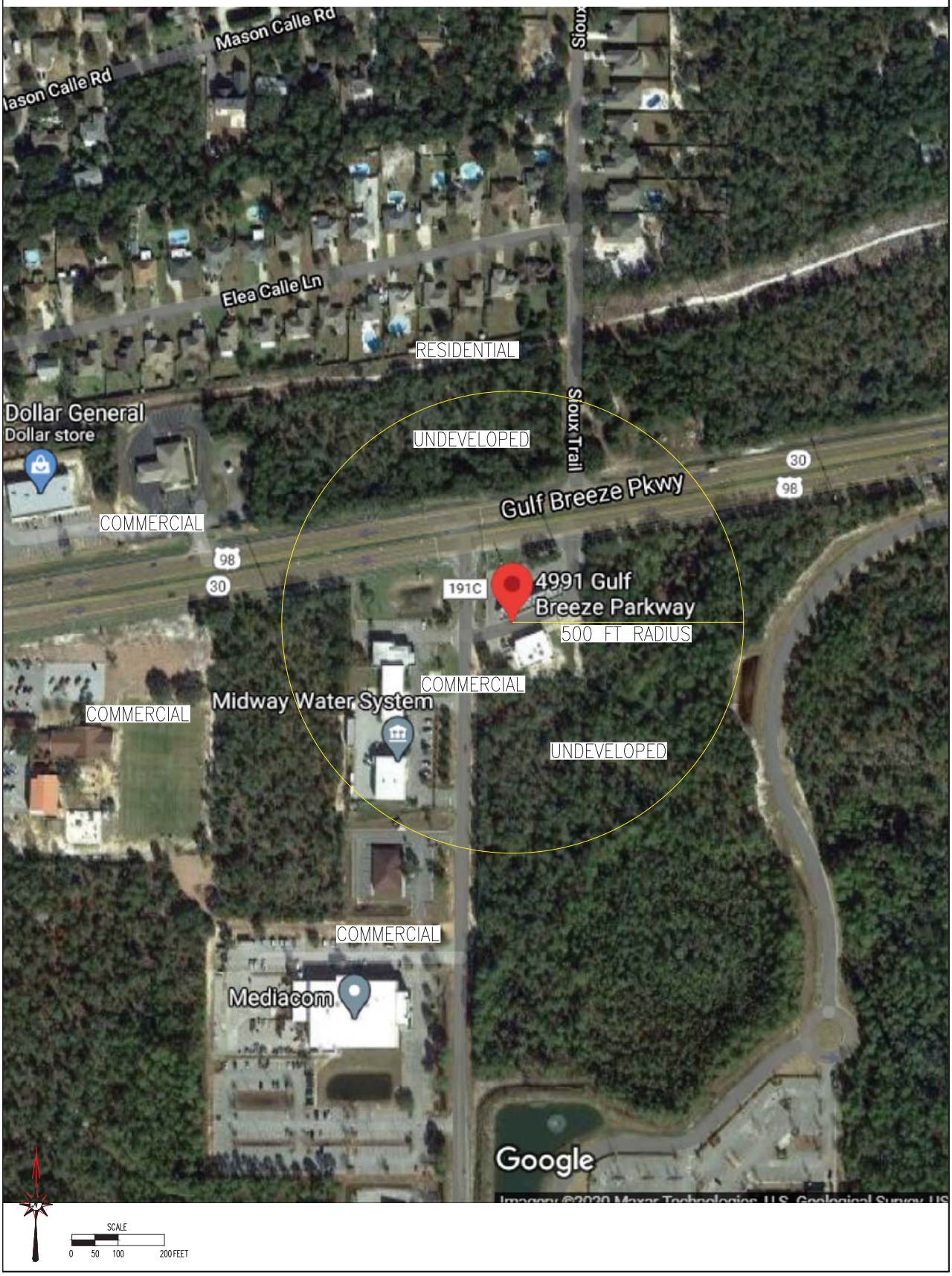


This item has been electronically signed and sealed by Debra Joy Hitchcock, P.E. on October 19, 2020 using a SHA-1 authentication code. Printed copies of this document are not considered signed and sealed and all SHA-1 authentication codes must be verified on any electronic copies.

Printed copies of this document are not considered signed and sealed and all SHA-1 authentication codes must be verified on any electronic copies.

Debra J. Hitchcock, P.E.
State of Florida License No. 53473
AET Certificate of Authorization No. 8215
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504

FIGURES



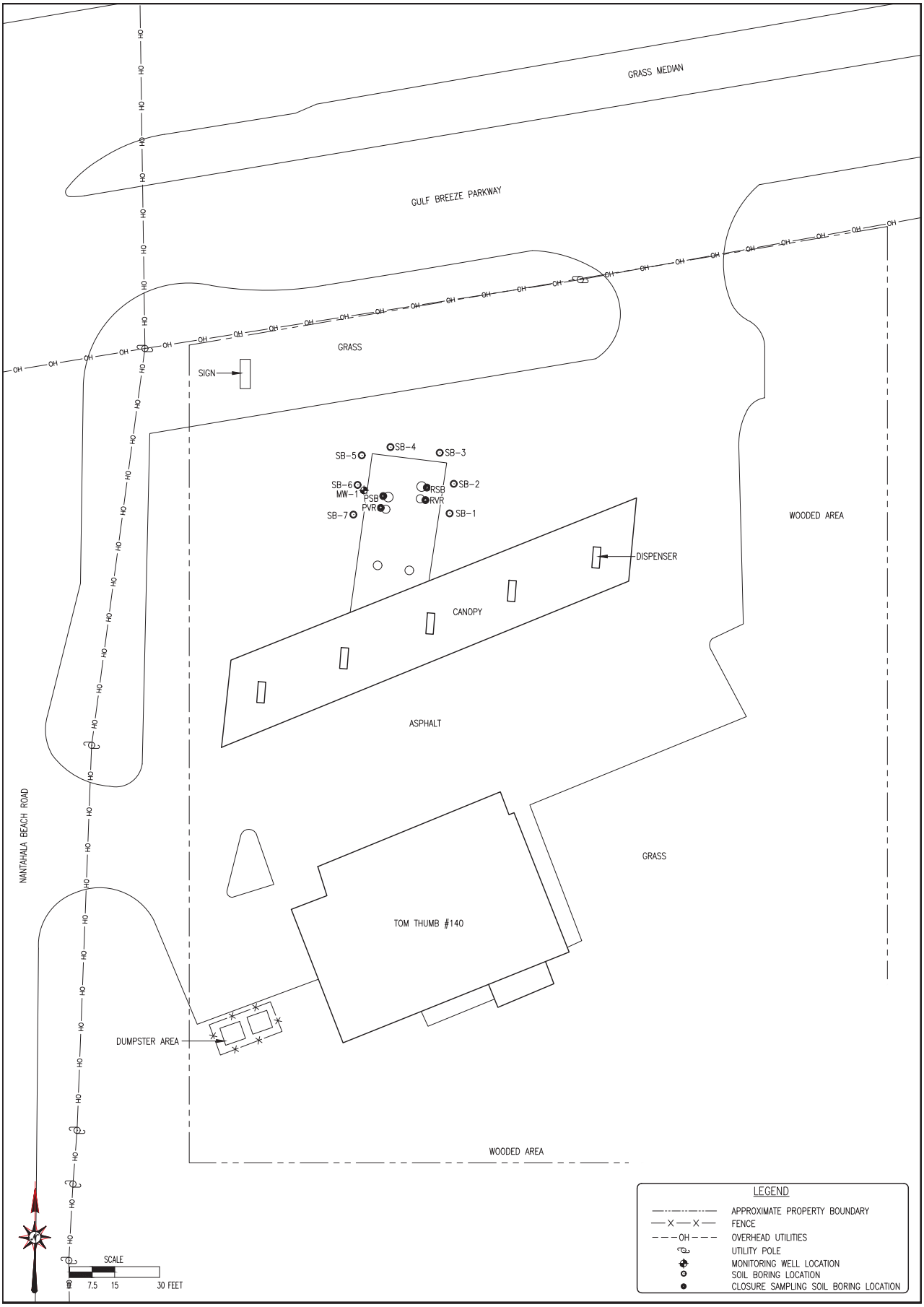
Advanced Environmental Technologies, LLC

TOM THUMB FOOD STORE #140
4991 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID #: 57 9805882

SITE LOCATION MAP

FIGURE 1

PROJECT NO. 27360.02



Advanced Environmental Technologies, LLC

TOM THUMB FOOD STORE #140
4991 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID #: 57 9805882

SITE MAP

FIGURE 2

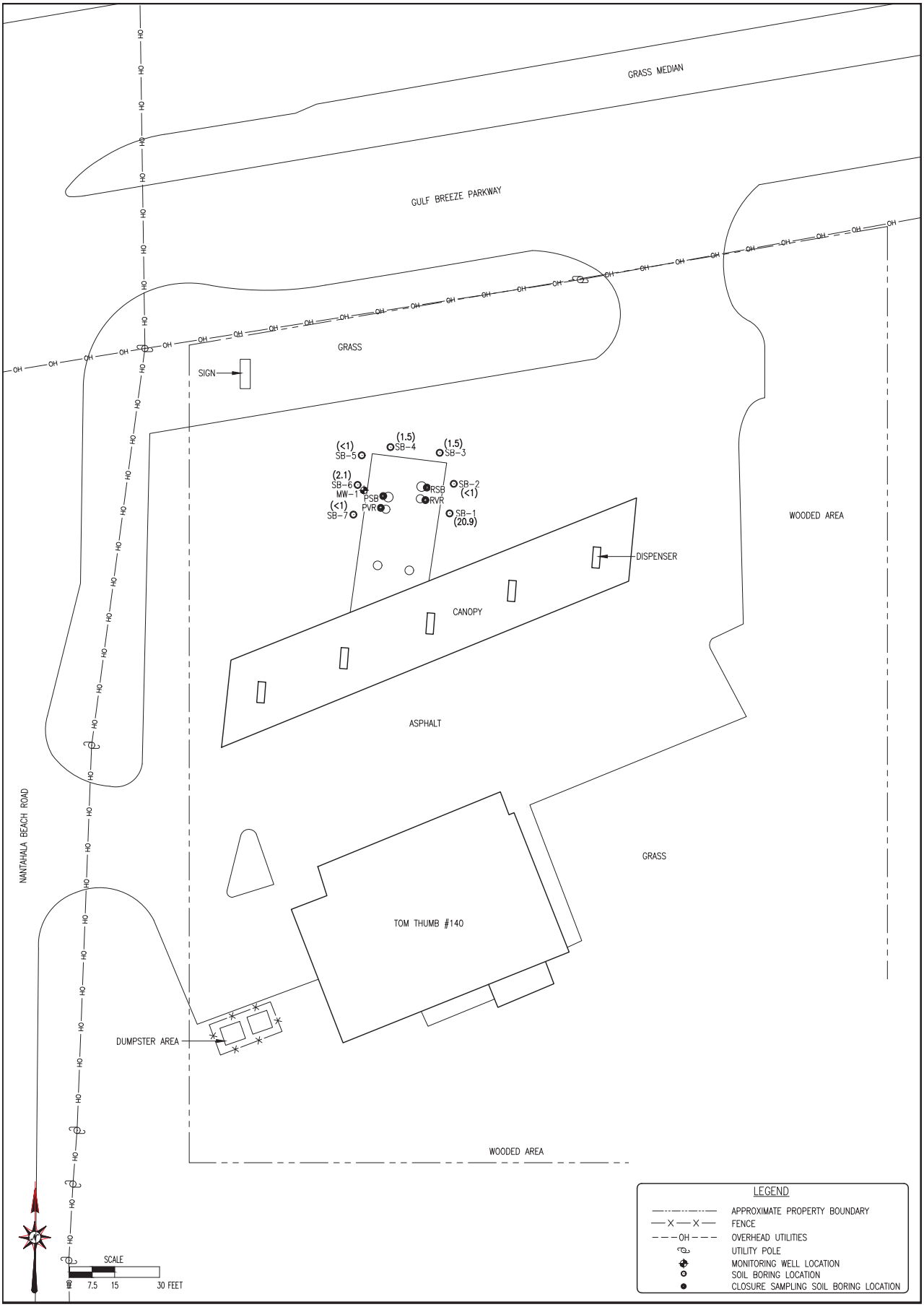
PROJECT NO. 27360.02



World Imagery: State of Florida, Earthstar Geographics
Florida Department of Health Water Well Surveillance GIS Data (10/2020), Northwest Florida Water Management District GIS Data(10/2020)
Note: Well location data is provided as acquired from the referenced agencies.

Advanced Environmental Technologies, LLC

Figure 3
Well Survey Map
Tom Thumb #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County, Florida
FDEP FAC ID: 57 9805882



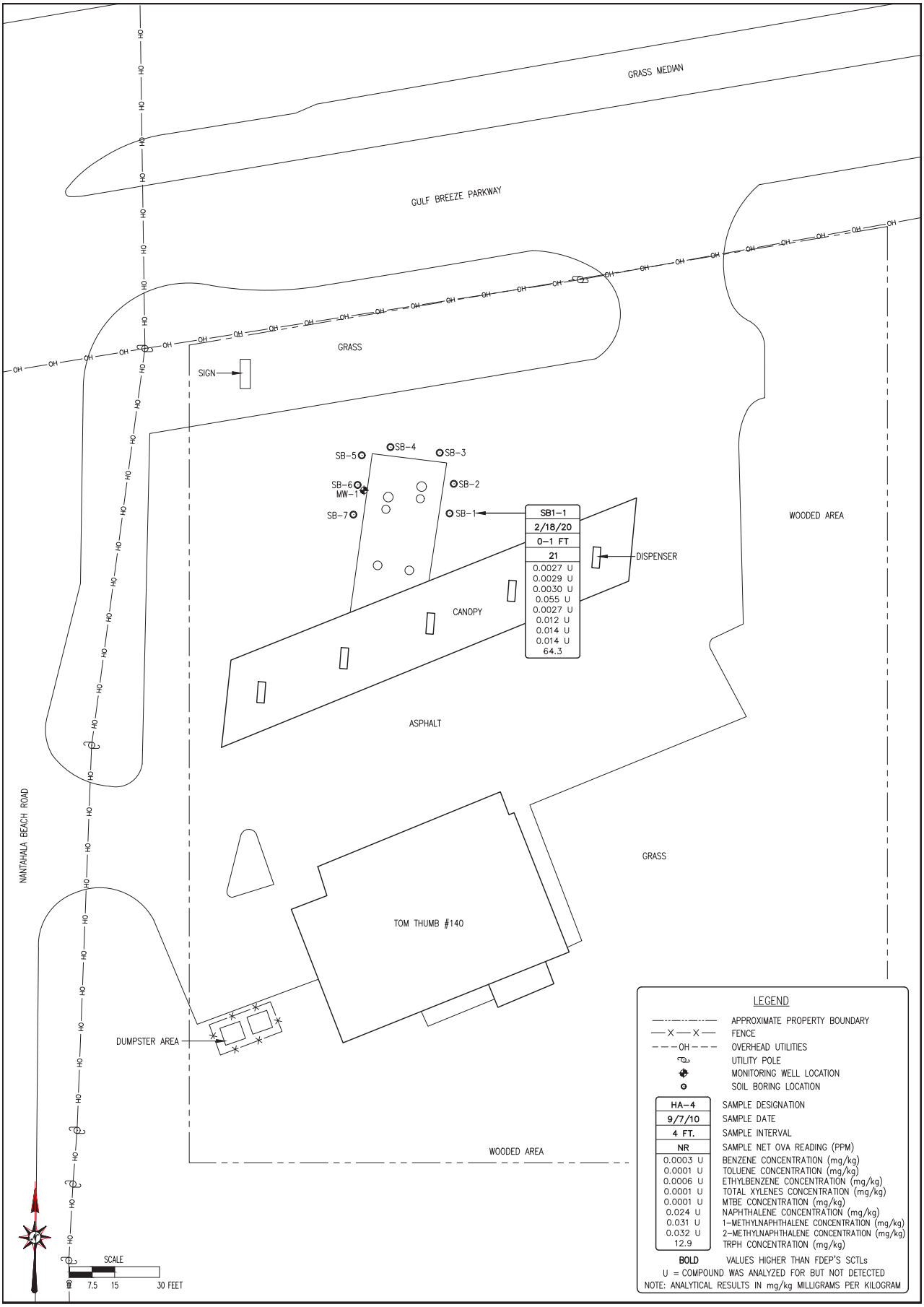
Advanced Environmental Technologies, LLC

TOM THUMB FOOD STORE #140
4991 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID #: 57 9805882

SOIL OVA HEADSPACE SUMMARY MAP – VADOSE ZONE

FIGURE 4

PROJECT NO. 27360.02



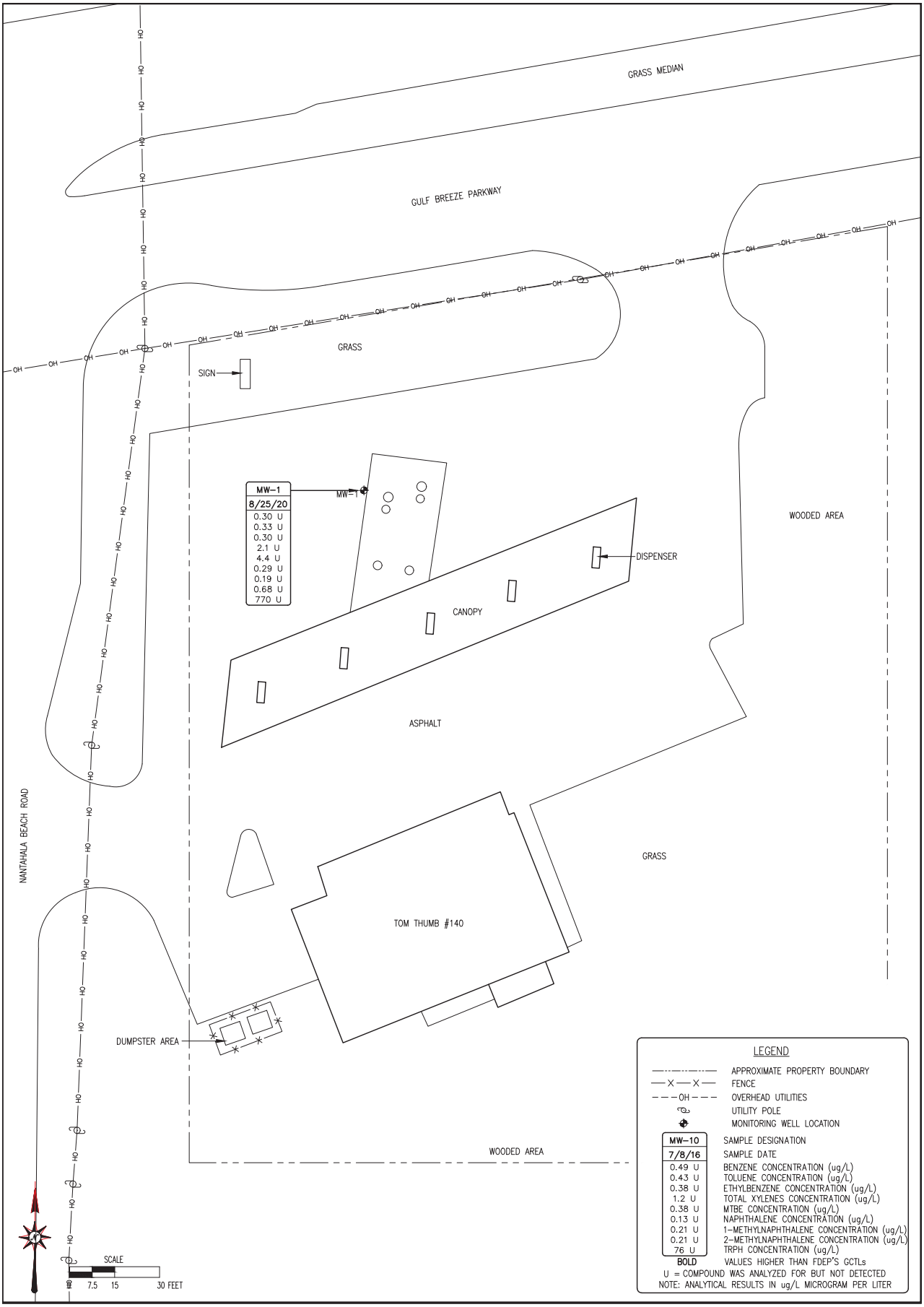
Advanced Environmental TECHNOLOGIES, LLC

TOM THUMB FOOD STORE #140
4991 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID #: 57 9805882

SOIL ANALYTICAL SUMMARY MAP
FEBRUARY 2020

FIGURE 5

PROJECT NO. 27360.02



Advanced Environmental Technologies, LLC

TOM THUMB FOOD STORE #140
4991 GULF BREEZE PARKWAY
GULF BREEZE, SANTA ROSA COUNTY, FLORIDA
FDEP FAC. ID #: 57 9805882

GROUNDWATER ANALYTICAL SUMMARY MAP
AUGUST 2020

FIGURE
6
PROJECT NO.
27360.02

TABLES

TABLE 2 - SOIL ANALYTICAL SUMMARY

Facility Name: **TOM THUMB FOOD STORE #140**
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

All measurements are in mg/Kg (ppm)
NA = Not Analyzed

FDEP facility ID: **57/9805882**

Sample				OVA	Laboratory Analyses								
ID No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)	Naph-thalene (mg/Kg)	1-methyl-naphthalene (mg/Kg)	2-methyl-naphthalene (mg/Kg)	TRPH (mg/Kg)
PSB	6/24/2019	NA	3.5	0	***9.6 I***	**341**	**296**	***1,750***	**6.4 U**	**17.7**	**7.8**	**14.6**	***3,220***
PVR	6/24/2019	NA	3.5	0	**0.090**	0.44	0.074	**4.0**	0.0027 U	0.043	0.015 I	0.013 U	9.9
RSB	6/24/2019	NA	3.5	0	**0.16 U**	0.35	0.18 U	**1.5**	0.16 U	0.015 U	0.017 U	0.016 U	6.5 U
RVR	6/24/2019	NA	2	0	0.0066	0.017	0.0093	**0.27**	0.0024 U	0.012 U	0.014 U	0.013 U	5.2 U
SB1-1	2/18/2020	NA	0-1	21	0.0027 U	0.0029 U	0.0030 U	0.055 U	0.0027 U	0.012 U	0.014 U	0.014 U	64.3
State Soil Cleanup Target Levels (SCTLs)													
Direct Exposure Commercial/Industrial = *Italics*				NA	*1.7*	*60,000*	*9,200*	*700*	*24,000*	*300*	*1,800*	*2,100*	*2,700*
Direct Exposure Residential = Underline				NA	1.2	7,500	1,500	130	4,400	55	200	210	460
Leachability based on Groundwater Criteria				NA	**0.007**	**0.5**	**0.6**	**0.2**	**0.09**	**1.2**	**3.1**	**8.5**	**340**

Sample				OVA	SPLP Analyses				
ID No.	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Net OVA Reading (ppm)	Benzene (mg/Kg)	Toluene (mg/Kg)	Ethyl-benzene (mg/Kg)	Total Xylenes (mg/Kg)	MTBE (mg/Kg)
PSB	6/24/2019	NA	3.5	9,500	**27.5**	**3,290**	**2,910**	**5,020**	0.51 U
State Cleanup Target Levels (CTLs)									
Groundwater Criteria, per Chapter 62-777, FAC					**1**	**40**	**30**	**20**	**20**

U= Indicates that the compound was analyzed for but not detected.
I = The reported value is between the method detection limit and the practical quantitation limit.

TABLE 1 - SOIL SCREENING SUMMARY

Facility Name: **TOM THUMB FOOD STORE #140**
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

All Measurements = Feet
Not Sampled = -

FDEP facility ID: **57/9805882**

Sample				OVA Screening Results			
Boring Number	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	Comments
PSB	6/24/2019	NA	0-2	675	<1	675	
			2-4	9500	<1	9500	Lab sample collected.
PVR	6/24/2019	NA	0-2	150	<1	150	
			2-4	460	5	455	Lab sample collected.
RSB	6/24/2019	NA	0-2	60	<1	60	
			2-4	65	2	63	Lab sample collected.
RVR	6/24/2019	NA	0-2	100	<1	100	Lab sample collected.
			2-4	85	<1	85	
SB-1	2/18/2020	10	0-1	20.9	<1	20.9	Lab sample collected.
			1-2	3.4	--	3.4	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			5-10	<1	--	<1	
			10-12.5	<1	--	<1	
			12.5-15	<1	--	<1	
SB-2	2/18/2020	10	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	
			5-7.5	<1	--	<1	
			7.5-10	<1	--	<1	
			10-12.5	<1	--	<1	
			12.5-15	<1	--	<1	

TABLE 1 - SOIL SCREENING SUMMARY

Facility Name: TOM THUMB FOOD STORE #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

All Measurements = Feet
Not Sampled = -

FDEP facility ID: 57/9805882

Sample				OVA Screening Results			
Boring Number	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	Comments
SB-3	2/18/2020	10	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	`
			5-7.5	<1	--	<1	
			7.5-10	1.5	--	1.5	
			10-12.5	<1	--	<1	
			12.5-15	<1	--	<1	
SB-4	2/18/2020	10	0-1	1.5	--	1.5	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	`
			5-7.5	<1	--	<1	
			7.5-10	<1	--	<1	
			10-12.5	2.1	--	2.1	
			12.5-15	1.4	--	1.4	
SB-5	2/18/2020	10	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	<1	
			4-5	<1	--	<1	`
			5-7.5	<1	--	<1	
			7.5-10	<1	--	<1	
			10-12.5	2.8	--	2.8	
			12.5-15	<1	--	<1	

TABLE 1 - SOIL SCREENING SUMMARY

Facility Name: TOM THUMB FOOD STORE #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

All Measurements = Feet
Not Sampled = -

FDEP facility ID: 57/9805882

Sample				OVA Screening Results			
Boring Number	Date Collected	Depth to Water (ft)	Sample Interval (fbls)	Total Reading (ppm)	Carbon Filtered (ppm)	Net Reading (ppm)	Comments
SB-6	2/18/2020	10	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	2.1	--	2.1	
			3-4	1.0	--	1.0	
			4-5	<1	--	<1	
			5-7.5	<1	--	<1	
			7.5-10	<1	--	<1	
			10-12.5	366	710	<1	
			12.5-15	17.4	32.4	<1	
SB-7	2/18/2020	10	0-1	<1	--	<1	
			1-2	<1	--	<1	
			2-3	<1	--	<1	
			3-4	<1	--	>1	
			4-5	<1	--	<1	
			5-7.5	<1	--	<1	
			7.5-10	<1	--	<1	
			10-12.5	2.6	--	2.6	
			12.5-15	1.3	--	1.3	

TABLE 3A: GROUNDWATER ANALYTICAL SUMMARY - VOCs and Metals

Facility Name: **TOM THUMB FOOD STORE #140**
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

FDEP facility ID: **57/9805882**

See notes at end of table.

Sample		Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	EDB	1,2-Di-chloro-ethane	Total Arsenic	Total Cad-mium	Total Chro-mium	Total Lead
Location	Date	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)	(µg/L)
MW-1	8/25/2020	0.30 U	0.33 U	0.30 U	2.1 U	4.4 U	0.0076 U	0.27 U	NS	NS	NS	4.6 U
GCTLs		1**	40**	30**	20**	20	0.02**	3**	10**	5**	100**	15**
NADCs		100	400	300	200	200	2	300	100	50	1,000	150

Notes: NA = Not Available.
NS = Not Sampled.
GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
** = As provided in Chapter 62-550, F.A.C.

If an analyte is not detected, report the method detection limit [i.e., 0.01 U or ND(0.01); BDL or <0.01 are not acceptable].
Freshwater Surface Water (FSW), Marine Surface Water (MSW) and Groundwater of Low Yield/Poor Quality (LY/PQ) CTLs should be added to the base of the table as applicable.

TABLE 3B: GROUNDWATER ANALYTICAL SUMMARY - PAHs and TRPHs

Facility Name: **TOM THUMB FOOD STORE #140**
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County

FDEP facility ID: **57/9805882**

See notes at end of table.

Sample Location	Sample Date	TRPHs (µg/L)	Naph-thalene (µg/L)	1-Methyl-naph-thalene (µg/L)	2-Methyl-naph-thalene (µg/L)	Acen-aph-thene (µg/L)	Acen-aph-thylene (µg/L)	Anthra-cene (µg/L)	Benzo (g,h,i) pery-lene (µg/L)	Fluoran-thene (µg/L)	Fluor-ene (µg/L)	Phenan-threne (µg/L)	Pyrene (µg/L)	Benzo (a) pyrene (µg/L)	Benzo (a) anthra-cene (µg/L)	Benzo (b) fluoran-thene (µg/L)	Benzo (k) fluoran-thene (µg/L)	Chry-sene (µg/L)	Dibenz (a,h) anthra-cene (µg/L)	Indeno (1,2,3-cd) pyrene (µg/L)
MW-1	8/25/2020	770 U	0.29 U	0.19 U	0.68 U	0.040 U	0.030 U	0.043 U	0.15 U	0.018 U	0.088 U	0.16 U	0.032 U	0.12 U	0.055 U	0.027 U	0.16 U	0.026 U	0.13 U	0.12 U
GCTLs		5,000	14	28	28	20	210	2,100	210	280	280	210	210	0.2**	0.05[a]	0.05[a]	0.5	4.8	0.005[a]	0.05[a]
NADCs		50,000	140	280	280	200	2,100	21,000	2,100	2,800	2,800	2,100	2,100	20	5	5	50	480	0.5	5

Notes: NA = Not Available.
NS = Not Sampled.
GCTLs = Groundwater Cleanup Target Levels specified in Table I of Chapter 62-777, F.A.C.
NADCs = Natural Attenuation Default Source Concentrations specified in Table V of Chapter 62-777, F.A.C.
** = As provided in Chapter 62-550, F.A.C.
[a] = See the October 12, 2004 "Guidance for the Selection of Analytical Methods and for the Evaluation of Practical Quantitation Limits" to determine how to evaluatie data when the CTL is lower than the PQL.

APPENDIX A

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Location 4991 Gulf Breeze Pkwy, Gulf Breeze, FL Date 2/18/2020

Project / Client Tom Thumb 140

FAC ID: 57/9805882, Prj: 27360.01

Weather: Foggy, Overcast, ~ 70°F

0730 Jordan Gibson and Avery Van Brussel depart AET Pensacola office and pick up soil from Dollar General

0805 Preferred Drilling Solutions and AET personnel on site. (Chris Wright, driller; Brandon Vogt, helper)

0810 Hold morning meeting, notify Tom Thumb manager that we are on site to conduct DPT soil borings. Scope out utilities and mark boring locations

0830 Setting up rig and decon.

0850 Begin SB-1. Hand auger each boring to 5' bls. Collect OVA FID headspace readings at 1' intervals to total depth of each boring.

0907 Begin SB-2.

0928 Begin SB-3.

0959 Begin SB-4.

1015 Begin SB-5.

1032 Begin SB-6.

1110 Begin SB-7.

*Note Eric Porter with Escambia County-FL Dept of Health on site from

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Location 4991 Gulf Breeze Pkwy, Gulf Breeze, FC Date 2/18/2020

Project / Client Tom Thumb 140

FAC ID: 57/9805882, Prj: 27360.01

1031 - 1058.

1200 Drillers break for lunch while soil descriptions are completed

1220 Drillers back from lunch. Punch through asphalt at SB-1 for mirror boring and start backfilling all other borings.

1255 Collect one soil sample from SB-1 at 1' bls (ID: SB-1-1) for ~~VOCs~~ BTEXM by EPA 8260C, PAHs by EPA 8270D SIM, TRPH by FL-PRO; and contingent TRPH speciation by TPHCWG Method and BTEXM and PAHs SPLP.

*Per Eric Porter, only collecting 1 soil sample from the highest OVA reading location/depth because the highest reading is 20.9 net ppm.

1340 All personnel off site.

Rite in the Rain.

BORING LOG

Boring/Well Number: SB-1	Permit Number:	FDEP Facility Identification Number: 57/9805882
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 850 ☒ AM ☐ PM End Time: 904 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name: Jordan G.	Environmental Technician's Name: Avery VB
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2 4 4	Borehole Depth (feet): 15
Drilling Method(s): HA/DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): Foxboro 108 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☒ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☒ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	20.9	<1	20.9	1	(0-12) Tan, Fine with medium, Poorely graded Sand.	SP	M	Lab Sample (SB1-1) collected at (0-1) feet.
	1-2	12		3.4	-	3.4	2				
	2-3	12		<1	-	<1	3	(12-15) Tan, medium and fine, poorely graded Sand.			
	3-4	12		<1	-	<1	4				
HA	4-5	12		<1	-	<1	5	*(14-15) Orange/Brown transition.			
DP	5-10	18					6				
							7				
				<1	-	<1	8				
							9				
							10		SP	W	
DP	10-15	48					11				
				<1	-	<1	12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

ring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date:
SB-1	57/980 5882	Tom Thumb #140	2-18-20
			End Date: 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				<1	-	<1	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-2	Permit Number:	Facility Identification Number: 57/98058822
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-26 End Date: 2-18-26	Borehole Start Time: 907 ☒ AM ☐ PM End Time: 925 ☒ AM ☐ PM
Environmental Contractor: AET	Geologist's Name: Jordan Gibson	Environmental Technician's Name: Avery Van Brussel
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2 1/4	Borehole Depth (feet): 15
Drilling Method(s): HA / DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): Foxboro 108 ☒ FID ☐ PID

Disposition of Drill Cuttings [check method(s)]: ☐ Drum ☐ Spread ☒ Backfill ☐ Stockpile ☐ Other

(describe if other or multiple items are checked):

Borehole Completion (check one): ☐ Well ☐ Grout ☐ Bentonite ☒ Backfill ☐ Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	<1	–	<1	1	(0-12) Tan, Fine with medium, Poorly graded sand.	SP	M	
	1-2			<1	–	<1	2				
	2-3			<1	–	<1	3	(12-15) Tan, Medium and fine, Poorly graded sand.			
	3-4			<1	–	<1	4	*(14-15) Orange and brown.			
HA	4-5	12		<1	–	<1	5				
DP	5-10	48					6				
				<1	–	<1	7				
							8				
				<1	–	<1	9				
							10		SP	W	
DP	10-15	48					11				
				<1	–	<1	12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

ring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: 2-18-20
SB-2	57/9805882	Tom Thumb 140	End Date: 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				21	-	21	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-3	Permit Number:	Facility Identification Number: 57/9805882
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 9 28 [X] AM [ ] PM End Time: 9 55 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: Jordan Gibson	Environmental Technician's Name: Avery Van Brussel
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2 1/4	Borehole Depth (feet): 15
Drilling Method(s): HA/DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): Foxboro 108 [X] FID [ ] PID

Disposition of Drill Cuttings [check method(s)]: [ ] Drum [ ] Spread [X] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	<1	–	<1	1	(0-12) Tan, Fine with medium, Poorely graded Sand.	SP	M	
	1-2			<1	–	<1	2				
	2-3			<1	–	<1	3	(12-15) Bedded Tan, white, orange, medium and Fine ~~Sand~~, Poorely graded sand.			
	3-4			<1	–	<1	4				
HA	4-5	12		<1	–	<1	5				
DP	5-10	48					6				
				<1	–	<1	7				
							8				
				1.5	–	1.5	9				
							10		SP	W	
DP	10-15	48					11				
				<1	–	<1	12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

ring/Well Number: SB-3	FDEP Facility Identification Number: 57/9805882	Site Name: Tom Thumb #190	Borehole Start Date: 2-18-20 End Date: 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				21	-	21	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings
Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-4	Permit Number:	Facility Identification Number: 57/9805882
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 959 [X] AM [ ] PM End Time: 1013 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: Jordan G.	Environmental Technician's Name: Avery VB
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2 ~~4~~ 4	Borehole Depth (feet): 15
Drilling Method(s): HA/DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA	OVA (list model and check type): Foxboro 108 [X] FID [ ] PID

Disposition of Drill Cuttings [check method(s)]: [ ] Drum [ ] Spread [X] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	1.5	-	1.5	1	(0-12) Tan, Fine with medium, Poorly graded Sand.	SP	M	
	1-2			<1	-	<1	2				
	2-3			<1	-	<1	3	(12-15) Bedded Tan, Orange, White, Brown, Medium and Fine, Poorly graded Sand.			
	3-4			<1	-	<1	4				
HA	4-5	12		<1	-	<1	5				
DP	5-10	30		<1	-	<1	6				
							7				
							8				
				<1	-	<1	9				
							10		SP	W	
DP	10-15	48					11				
				2.1	-	2.1	12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

ring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: 2-18-20
SB-4	57/9805882	Tom Thumb #14c	End Date: 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				1.4	-	1.4	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-5	Permit Number:	Facility Identification Number: 57/98058822
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 1015 [X] AM [ ] PM End Time: 1029 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: Jordan G.	Environmental Technician's Name: Avery VB
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 24 ¼ — Borehole Depth (feet): 15
Drilling Method(s): HA / DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA — OVA (list model and check type): Foxboro 108 [X] FID [ ] PID

Disposition of Drill Cuttings [check method(s)]: [ ] Drum [ ] Spread [X] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	<1		<1	1	(0-12) Tan, Fine with medium, Poorely graded sand	SP	M	
	1-2			<1	–	<1	2	(12-14) Tan, Medium and Fine, Poorely graded Sand			
	2-3			<1	–	<1	3				
	3-4			<1	–	<1	4	(14-15) Brown, Medium and Fine, Sandy Humus.			
HA	4-5	12		<1	–	<1	5				
DP	5-10	48					6				
				<1	–	<1	7				
							8				
				<1	–	<1	9				
							10		SP	W	
DP	10-15	48					11				
				2.8	–	2.8	12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

ring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: / End Date:
SB-5	57/9805882	Tom Thumb #146	2-18-20 / 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				21	-	21	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-6	Permit Number:	FDEP Facility Identification Number: 5718805882
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 1032 [X] AM [ ] PM End Time: 1102 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: Jordan G.	Environmental Technician's Name: Avery VB
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2 1/4
Drilling Method(s): HA/DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA
Borehole Depth (feet): 15	OVA (list model and check type): Foxboro 108 [X] FID [ ] PID	

Disposition of Drill Cuttings [check method(s)]: [ ] Drum [ ] Spread [X] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	<1	-	<1	1	(0-12) Tan, Fine with medium, Poorely graded Sand	SP	M	
	1-2			<1	-	<1	2				
	2-3			2.1	-	2.1	3	(12-15) Bedded Tan, white, Brown, Medium and Fine, Poorely graded Sand.			
	3-4			1.0	-	1.0	4				
HA	4-5	12		<1	-	<1	5				
DP	5-10	48					6				
				<1	-	<1	7				
							8				
				<1	-	<1	9				
DP	5-10	48					10		SP	W	
				366	71.0		11				
							12		SP	S	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: 2-18-20
SB-6	57/9805882	Tom Thumb #140	End Date: 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				17.4	32.4	<1	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number: SB-7	Permit Number:	FDEP Facility Identification Number: 57/9805882
Site Name: Tom Thumb #140	Borehole Start Date: 2-18-20 End Date: 2-18-20	Borehole Start Time: 1110 [X] AM [ ] PM End Time: 1132 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: Jordan G.	Environmental Technician's Name: Avery VB
Drilling Company: PDS	Pavement Thickness (inches): 6	Borehole Diameter (inches): 2-4-4
Borehole Depth (feet): 15		
Drilling Method(s): HA/DP	Apparent Borehole DTW (in feet from soil moisture content): 10	Measured Well DTW (in feet after water recharges in well): NA
OVA (list model and check type): Foxboro 108 [X] FID [ ] PID		

Disposition of Drill Cuttings [check method(s)]: [ ] Drum [ ] Spread [X] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [ ] Well [ ] Grout [ ] Bentonite [X] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-1	12	NA	<1	–	<1	1	(0-12) Tan, Fine with medium, Poorely Graded Sand.	SP	M	
	1-2			<1	–	<1	2				
	2-3			<1	–	<1	3	(12-15) Bedded Tan, White, Brown, Medium and Fine, Poorely Graded Sand.			
	3-4			<1	–	<1	4				
HA	4-5	12		<1	–	<1	5				
DP	5-10	48					6				
				<1	–	<1	7				
							8				
				<1	–	<1	9				
DP	10-15	48					10		SP	W	
				2.6	–	2.6	11				
							12		SP	W	

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

BORING LOG

Boring/Well Number:	FDEP Facility Identification Number:	Site Name:	Borehole Start Date: / End Date:
SB-7	57/9805882	Tom Thumb 140	2-18-20 / 2-18-20

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
				1.3	–	1.3	13				
							14				
							15				
							16				
							17				
							18				
							19				
							20				
							21				
							22				
							23				
							24				
							25				
							26				
							27				
							28				
							29				
							30				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

DEP-SOP-001/01
FT 1000 General Field Testing and Measurement

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) TVA 2020 **Instrument #** 36189

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☐pH ☐ORP

☐Turbidity ☐Residual Cl ☐DO ☒OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 0 ppm

Standard B 100

Standard C 10,000

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
2-18-20	8:20	A	0	0.2		Y	C	AVB	TT 140	0.8
↓	8:22	B	100	100		Y	C	AVB	↓	96
↓	8:24	C	10,000	10,000		Y	C	AVB	↓	9920

APPENDIX B

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
(954)582-4300

February 24, 2020

Jodi Marsden
AET
1318 Dunmire St
Suite 1
Pensacola, FL 32504

RE: Project: Tom Thumb #140
Pace Project No.: 35532054

Dear Jodi Marsden:
Enclosed are the analytical results for sample(s) received by the laboratory on February 20, 2020. The results relate only to the samples included in this report. Results reported herein conform to the most current, applicable TNI/NELAC standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Sakina Mckenzie
sakina.mckenzie@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Dawn Hudson, Gulf Coast Labnet
Danny Miller, Gulf Coast Labnet
Carl Williams, Gulf Coast Labnet

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Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
(954)582-4300

CERTIFICATIONS

Project: Tom Thumb #140
Pace Project No.: 35532054

Pace Analytical Services Ormond Beach
8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

REPORT OF LABORATORY ANALYSIS

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3610 Park Central Blvd N
Pompano Beach, FL 33064
(954)582-4300

SAMPLE SUMMARY

Project: Tom Thumb #140
Pace Project No.: 35532054

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35532054001	**SB1-1**	Solid	02/18/20 12:55	02/20/20 10:50

REPORT OF LABORATORY ANALYSIS

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Pompano Beach, FL 33064
(954)582-4300

SAMPLE ANALYTE COUNT

Project: Tom Thumb #140
Pace Project No.: 35532054

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35532054001	**SB1-1**	FL-PRO	RJR	3	PASI-O
		EPA 8270	TWB	21	PASI-O
		EPA 8260	MKG	8	PASI-O
		ASTM D2974-87	JM2	1	PASI-O

REPORT OF LABORATORY ANALYSIS

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Pompano Beach, FL 33064
(954)582-4300

SUMMARY OF DETECTION

Project: Tom Thumb #140
Pace Project No.: 35532054

Lab Sample ID / Method	Client Sample ID / Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
35532054001	**SB1-1**					
FL-PRO	Petroleum Range Organics	64.3	mg/kg	6.3	02/24/20 08:20	
EPA 8270	Benzo(a)anthracene	0.011 I	mg/kg	0.036	02/22/20 22:23	
EPA 8270	Benzo(a)pyrene	0.010 I	mg/kg	0.036	02/22/20 22:23	
EPA 8270	Benzo(b)fluoranthene	0.013 I	mg/kg	0.036	02/22/20 22:23	
EPA 8270	Fluoranthene	0.015 I	mg/kg	0.036	02/22/20 22:23	
EPA 8270	Pyrene	0.015 I	mg/kg	0.036	02/22/20 22:23	
ASTM D2974-87	Percent Moisture	5.4	%	0.10	02/21/20 11:41	

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Pompano Beach, FL 33064
(954)582-4300

ANALYTICAL RESULTS

Project: Tom Thumb #140
Pace Project No.: 35532054

Sample: SB1-1 **Lab ID: 35532054001** Collected: 02/18/20 12:55 Received: 02/20/20 10:50 Matrix: Solid

Results reported on a "dry weight" basis and are adjusted for percent moisture, sample size and any dilutions.

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
FL-PRO Soil Microwave	Analytical Method: FL-PRO Preparation Method: EPA 3546								
Petroleum Range Organics	**64.3**	mg/kg	6.3	5.4	1	02/22/20 03:27	02/24/20 08:20		
Surrogates									
o-Terphenyl (S)	102	%	66-136		1	02/22/20 03:27	02/24/20 08:20	84-15-1	
N-Pentatriacontane (S)	119	%	42-159		1	02/22/20 03:27	02/24/20 08:20	630-07-09	
8270 MSSV Short List Microwave	Analytical Method: EPA 8270 Preparation Method: EPA 3546								
Acenaphthene	**0.012 U**	mg/kg	0.038	0.012	1	02/22/20 06:40	02/22/20 22:23	83-32-9	
Acenaphthylene	**0.011 U**	mg/kg	0.036	0.011	1	02/22/20 06:40	02/22/20 22:23	208-96-8	
Anthracene	**0.013 U**	mg/kg	0.038	0.013	1	02/22/20 06:40	02/22/20 22:23	120-12-7	
Benzo(a)anthracene	**0.011 I**	mg/kg	0.036	0.010	1	02/22/20 06:40	02/22/20 22:23	56-55-3	
Benzo(a)pyrene	**0.010 I**	mg/kg	0.036	0.0088	1	02/22/20 06:40	02/22/20 22:23	50-32-8	
Benzo(b)fluoranthene	**0.013 I**	mg/kg	0.036	0.0095	1	02/22/20 06:40	02/22/20 22:23	205-99-2	
Benzo(g,h,i)perylene	**0.0089 U**	mg/kg	0.036	0.0089	1	02/22/20 06:40	02/22/20 22:23	191-24-2	
Benzo(k)fluoranthene	**0.0095 U**	mg/kg	0.036	0.0095	1	02/22/20 06:40	02/22/20 22:23	207-08-9	
Chrysene	**0.011 U**	mg/kg	0.036	0.011	1	02/22/20 06:40	02/22/20 22:23	218-01-9	
Dibenz(a,h)anthracene	**0.0082 U**	mg/kg	0.036	0.0082	1	02/22/20 06:40	02/22/20 22:23	53-70-3	
Fluoranthene	**0.015 I**	mg/kg	0.036	0.012	1	02/22/20 06:40	02/22/20 22:23	206-44-0	
Fluorene	**0.013 U**	mg/kg	0.039	0.013	1	02/22/20 06:40	02/22/20 22:23	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.0081 U**	mg/kg	0.036	0.0081	1	02/22/20 06:40	02/22/20 22:23	193-39-5	
1-Methylnaphthalene	**0.014 U**	mg/kg	0.042	0.014	1	02/22/20 06:40	02/22/20 22:23	90-12-0	
2-Methylnaphthalene	**0.014 U**	mg/kg	0.041	0.014	1	02/22/20 06:40	02/22/20 22:23	91-57-6	
Naphthalene	**0.012 U**	mg/kg	0.037	0.012	1	02/22/20 06:40	02/22/20 22:23	91-20-3	
Phenanthrene	**0.012 U**	mg/kg	0.036	0.012	1	02/22/20 06:40	02/22/20 22:23	85-01-8	
Pyrene	**0.015 I**	mg/kg	0.036	0.011	1	02/22/20 06:40	02/22/20 22:23	129-00-0	
Surrogates									
Nitrobenzene-d5 (S)	63	%	24-98		1	02/22/20 06:40	02/22/20 22:23	4165-60-0	
2-Fluorobiphenyl (S)	68	%	29-101		1	02/22/20 06:40	02/22/20 22:23	321-60-8	
p-Terphenyl-d14 (S)	74	%	29-112		1	02/22/20 06:40	02/22/20 22:23	1718-51-0	
8260 MSV 5035	Analytical Method: EPA 8260 Preparation Method: EPA 5035								
Benzene	**0.0027 U**	mg/kg	0.0054	0.0027	1	02/21/20 09:00	02/23/20 05:11	71-43-2	
Toluene	**0.0029 U**	mg/kg	0.0054	0.0029	1	02/21/20 09:00	02/23/20 05:11	108-88-3	
Ethylbenzene	**0.0030 U**	mg/kg	0.0054	0.0030	1	02/21/20 09:00	02/23/20 05:11	100-41-4	
Xylene (Total)	**0.0055 U**	mg/kg	0.016	0.0055	1	02/21/20 09:00	02/23/20 05:11	1330-20-7	
Methyl-tert-butyl ether	**0.0027 U**	mg/kg	0.0054	0.0027	1	02/21/20 09:00	02/23/20 05:11	1634-04-4	
Surrogates									
4-Bromofluorobenzene (S)	88	%	68-125		1	02/21/20 09:00	02/23/20 05:11	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	71-132		1	02/21/20 09:00	02/23/20 05:11	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1	02/21/20 09:00	02/23/20 05:11	2037-26-5	
Percent Moisture	Analytical Method: ASTM D2974-87								
Percent Moisture	**5.4**	%	0.10	0.10	1		02/21/20 11:41		

REPORT OF LABORATORY ANALYSIS

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(954)582-4300

QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

QC Batch: 612322
QC Batch Method: EPA 5035
Analysis Method: EPA 8260
Analysis Description: 8260 MSV 5035
Associated Lab Samples: 35532054001

METHOD BLANK: 3326914 Matrix: Solid
Associated Lab Samples: 35532054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Benzene	mg/kg	0.0025 U	0.0049	0.0025	02/22/20 21:26	
Ethylbenzene	mg/kg	0.0028 U	0.0049	0.0028	02/22/20 21:26	
Methyl-tert-butyl ether	mg/kg	0.0025 U	0.0049	0.0025	02/22/20 21:26	
Toluene	mg/kg	0.0027 U	0.0049	0.0027	02/22/20 21:26	
Xylene (Total)	mg/kg	0.0051 U	0.015	0.0051	02/22/20 21:26	
1,2-Dichloroethane-d4 (S)	%	107	71-132		02/22/20 21:26	
4-Bromofluorobenzene (S)	%	84	68-125		02/22/20 21:26	
Toluene-d8 (S)	%	105	70-130		02/22/20 21:26	

LABORATORY CONTROL SAMPLE: 3326915

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	0.02	0.022	111	70-130	
Ethylbenzene	mg/kg	0.02	0.021	102	70-130	
Methyl-tert-butyl ether	mg/kg	0.02	0.017	82	65-124	
Toluene	mg/kg	0.02	0.019	96	70-130	
Xylene (Total)	mg/kg	0.061	0.060	99	70-130	
1,2-Dichloroethane-d4 (S)	%			106	71-132	
4-Bromofluorobenzene (S)	%			88	68-125	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE SAMPLE: 3326917

Parameter	Units	35531889005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Benzene	mg/kg	0.0031 U	0.023	0.0083	36	70-130	J(M1)
Ethylbenzene	mg/kg	0.0034 U	0.023	0.0056 I	24	70-130	J(M1)
Methyl-tert-butyl ether	mg/kg	0.0030 U	0.023	0.020	86	65-124	
Toluene	mg/kg	0.0033 U	0.023	0.0068	30	70-130	J(M1)
Xylene (Total)	mg/kg	0.0062 U	0.069	0.018	26	70-130	MS
1,2-Dichloroethane-d4 (S)	%				110	71-132	
4-Bromofluorobenzene (S)	%				83	68-125	
Toluene-d8 (S)	%				103	70-130	

SAMPLE DUPLICATE: 3326916

Parameter	Units	35531889004 Result	Dup Result	RPD	Max RPD	Qualifiers
Benzene	mg/kg	0.0032 U	0.0029 U		40	

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

SAMPLE DUPLICATE: 3326916

Parameter	Units	35531889004 Result	Dup Result	RPD	Max RPD	Qualifiers
Ethylbenzene	mg/kg	0.0035 U	0.0032 U		40	
Methyl-tert-butyl ether	mg/kg	0.0031 U	0.0028 U		40	
Toluene	mg/kg	0.0033 U	0.0031 U		40	
Xylene (Total)	mg/kg	0.0063 U	0.0058 U		40	
1,2-Dichloroethane-d4 (S)	%	139	115		40	
4-Bromofluorobenzene (S)	%	73	73		40	
Toluene-d8 (S)	%	94	101		40	

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

QC Batch: 612417
QC Batch Method: EPA 3546
Analysis Method: EPA 8270
Analysis Description: 8270 Solid MSSV Microwave Short Spike
Associated Lab Samples: 35532054001

METHOD BLANK: 3327644
Matrix: Solid
Associated Lab Samples: 35532054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	mg/kg	0.013 U	0.039	0.013	02/22/20 15:52	
2-Methylnaphthalene	mg/kg	0.013 U	0.038	0.013	02/22/20 15:52	
Acenaphthene	mg/kg	0.012 U	0.036	0.012	02/22/20 15:52	
Acenaphthylene	mg/kg	0.010 U	0.034	0.010	02/22/20 15:52	
Anthracene	mg/kg	0.012 U	0.036	0.012	02/22/20 15:52	
Benzo(a)anthracene	mg/kg	0.0095 U	0.034	0.0095	02/22/20 15:52	
Benzo(a)pyrene	mg/kg	0.0083 U	0.034	0.0083	02/22/20 15:52	
Benzo(b)fluoranthene	mg/kg	0.0089 U	0.034	0.0089	02/22/20 15:52	
Benzo(g,h,i)perylene	mg/kg	0.0084 U	0.034	0.0084	02/22/20 15:52	
Benzo(k)fluoranthene	mg/kg	0.0089 U	0.034	0.0089	02/22/20 15:52	
Chrysene	mg/kg	0.011 U	0.034	0.011	02/22/20 15:52	
Dibenz(a,h)anthracene	mg/kg	0.0077 U	0.034	0.0077	02/22/20 15:52	
Fluoranthene	mg/kg	0.011 U	0.034	0.011	02/22/20 15:52	
Fluorene	mg/kg	0.012 U	0.037	0.012	02/22/20 15:52	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0076 U	0.034	0.0076	02/22/20 15:52	
Naphthalene	mg/kg	0.011 U	0.035	0.011	02/22/20 15:52	
Phenanthrene	mg/kg	0.011 U	0.034	0.011	02/22/20 15:52	
Pyrene	mg/kg	0.011 U	0.034	0.011	02/22/20 15:52	
2-Fluorobiphenyl (S)	%	73	29-101		02/22/20 15:52	
Nitrobenzene-d5 (S)	%	76	24-98		02/22/20 15:52	
p-Terphenyl-d14 (S)	%	84	29-112		02/22/20 15:52	

LABORATORY CONTROL SAMPLE: 3327645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	mg/kg	1.7	1.1	64	38-115	
2-Methylnaphthalene	mg/kg	1.7	1.0	63	37-115	
Acenaphthene	mg/kg	1.7	1.0	62	30-127	
Acenaphthylene	mg/kg	1.7	1.1	67	29-129	
Anthracene	mg/kg	1.7	1.2	70	37-126	
Benzo(a)anthracene	mg/kg	1.7	1.2	72	37-130	
Benzo(a)pyrene	mg/kg	1.7	1.2	72	39-128	
Benzo(b)fluoranthene	mg/kg	1.7	1.2	71	38-128	
Benzo(g,h,i)perylene	mg/kg	1.7	1.2	72	34-136	
Benzo(k)fluoranthene	mg/kg	1.7	1.2	74	39-133	
Chrysene	mg/kg	1.7	1.2	75	39-125	
Dibenz(a,h)anthracene	mg/kg	1.7	1.2	73	37-127	
Fluoranthene	mg/kg	1.7	1.2	72	39-130	
Fluorene	mg/kg	1.7	1.1	69	35-125	
Indeno(1,2,3-cd)pyrene	mg/kg	1.7	1.2	73	35-133	

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

LABORATORY CONTROL SAMPLE: 3327645

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	mg/kg	1.7	1.0	61	36-115	
Phenanthrene	mg/kg	1.7	1.1	69	35-128	
Pyrene	mg/kg	1.7	1.2	73	37-132	
2-Fluorobiphenyl (S)	%			63	29-101	
Nitrobenzene-d5 (S)	%			65	24-98	
p-Terphenyl-d14 (S)	%			74	29-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3327646 3327647

Parameter	Units	35532485002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	mg/kg	2.4	1.7	1.7	3.0	3.7	39	82	38-115	21	40	L
2-Methylnaphthalene	mg/kg	3.3	1.7	1.7	3.8	4.7	28	85	37-115	22	40	J(M1), L
Acenaphthene	mg/kg	0.29	1.7	1.7	1.3	1.4	60	66	30-127	7	40	
Acenaphthylene	mg/kg	0.011 U	1.7	1.7	1.2	1.2	73	75	29-129	3	40	
Anthracene	mg/kg	0.094	1.7	1.7	1.3	1.4	71	76	37-126	6	40	
Benzo(a)anthracene	mg/kg	0.0096 U	1.7	1.7	1.2	1.2	72	72	37-130	0	40	
Benzo(a)pyrene	mg/kg	0.0084 U	1.7	1.7	1.2	1.2	74	72	39-128	4	40	
Benzo(b)fluoranthene	mg/kg	0.0090 U	1.7	1.7	1.2	1.1	75	68	38-128	10	40	
Benzo(g,h,i)perylene	mg/kg	0.0085 U	1.7	1.7	1.2	1.2	73	73	34-136	0	40	
Benzo(k)fluoranthene	mg/kg	0.0090 U	1.7	1.7	1.3	1.3	77	77	39-133	0	40	
Chrysene	mg/kg	0.011 U	1.7	1.7	1.2	1.2	75	73	39-125	2	40	
Dibenz(a,h)anthracene	mg/kg	0.0078 U	1.7	1.7	1.3	1.2	76	75	37-127	1	40	
Fluoranthene	mg/kg	0.037	1.7	1.7	1.3	1.4	77	80	39-130	4	40	
Fluorene	mg/kg	0.57	1.7	1.7	1.6	1.8	63	75	35-125	11	40	
Indeno(1,2,3-cd)pyrene	mg/kg	0.0077 U	1.7	1.7	1.2	1.2	75	74	35-133	1	40	
Naphthalene	mg/kg	0.60	1.7	1.7	1.6	1.7	58	69	36-115	11	40	
Phenanthrene	mg/kg	1.1	1.7	1.7	2.0	2.4	54	80	35-128	19	40	
Pyrene	mg/kg	0.19	1.7	1.7	1.3	1.4	70	71	37-132	1	40	
2-Fluorobiphenyl (S)	%						69	71	29-101			
Nitrobenzene-d5 (S)	%						86	97	24-98			
p-Terphenyl-d14 (S)	%						75	73	29-112			

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

QC Batch: 612422
QC Batch Method: EPA 3546
Analysis Method: FL-PRO
Analysis Description: FL-PRO Soil
Associated Lab Samples: 35532054001

METHOD BLANK: 3327656
Matrix: Solid
Associated Lab Samples: 35532054001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Petroleum Range Organics	mg/kg	5.1 U	5.9	5.1	02/23/20 11:34	
N-Pentatriacontane (S)	%	96	42-159		02/23/20 11:34	
o-Terphenyl (S)	%	94	66-136		02/23/20 11:34	

LABORATORY CONTROL SAMPLE: 3327657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Petroleum Range Organics	mg/kg	199	174	87	65-119	
N-Pentatriacontane (S)	%			103	42-159	
o-Terphenyl (S)	%			94	66-136	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3327658 3327659

Parameter	Units	35532485002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Petroleum Range Organics	mg/kg	1540	197	197	1630	1400	46	-73	39-181	15	25	D4, J(M1)
N-Pentatriacontane (S)	%						90	110	42-159			
o-Terphenyl (S)	%						77	87	66-136			

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

QC Batch: 612288
QC Batch Method: ASTM D2974-87
Associated Lab Samples: 35532054001

Analysis Method: ASTM D2974-87
Analysis Description: Dry Weight/Percent Moisture

SAMPLE DUPLICATE: 3326664

Parameter	Units	35529156041 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	10.9	11.5	6	10	

SAMPLE DUPLICATE: 3326665

Parameter	Units	35531521002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	7.4	8.6	16	10	J(D6)

SAMPLE DUPLICATE: 3326666

Parameter	Units	35531582003 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	3.8	4.2	11	10	J(D6)

SAMPLE DUPLICATE: 3326667

Parameter	Units	35531677002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.8	5.6	4	10	

SAMPLE DUPLICATE: 3326668

Parameter	Units	35531698002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	1.5	0.92	50	10	J(D6)

SAMPLE DUPLICATE: 3326669

Parameter	Units	35531716002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	5.9	6.2	6	10	

SAMPLE DUPLICATE: 3326670

Parameter	Units	35531937002 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	1.7	1.8	4	10	

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QUALITY CONTROL DATA

Project: Tom Thumb #140
Pace Project No.: 35532054

SAMPLE DUPLICATE: 3326671

Parameter	Units	35531937011 Result	Dup Result	RPD	Max RPD	Qualifiers
Percent Moisture	%	11.8	12.2	4	10	

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QUALIFIERS

Project: Tom Thumb #140
Pace Project No.: 35532054

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

LABORATORIES

PASI-O	Pace Analytical Services - Ormond Beach

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
D4	Sample was diluted due to the presence of high levels of target analytes.
J(D6)	Estimated Value. The relative percent difference (RPD) between the sample and sample duplicate exceeded laboratory control limits.
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
L	Off-scale high. Actual value is known to be greater than value given.
MS	Analyte recovery in the matrix spike was outside QC limits for one or more of the constituent analytes used in the calculated result.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Tom Thumb #140
Pace Project No.: 35532054

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35532054001	**SB1-1**	EPA 3546	612422	FL-PRO	612525
35532054001	**SB1-1**	EPA 3546	612417	EPA 8270	612505
35532054001	**SB1-1**	EPA 5035	612322	EPA 8260	612383
35532054001	**SB1-1**	ASTM D2974-87	612288		

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WO# : 35532054

35532054

Lab Report No.:

Company: AET

Address: 1318 Dunmire St., Ste. A
Pensacola, FL 32504

Phone: (251) 625-1331
Fax: (251) 625-1299

ed from DEP Form #: 62-770.900(2) | Page 1 of 1

Facility No.: 57/9805882

Project Name: Tom Thumb #140

Location: Gulf Breeze, FL

Project No.: 273600.01

Attn: ~~Jordan Marsden~~ Jordan Gibson Phone:
Fax:

Sampled by [Print Name]/Affiliation AET Sampler Signature
Avery Von Brussel, Avery Von Brussel

Item No.	Field ID No.	Sampled Date	Sampled Time	Grab or Comp.	Matrix Codes	No. Cont.	SO/H 8260 BTEX/MTBE	H 8270 PAH	H FL-PRO	SO/H * SPLP	H * TPH-DRO	H 6010 RCRA	H FCLP
1	SB1-1	2-18-20	12:55	G	SO	6	X	X	X	X	X		

←Preservative

←Analysis

REQUESTED DUE DATE
Standard Turnaround

Remarks	Lab. No.
*Contingent for PAH and BTEX MTBE	

6 ←Total Number of Containers

Shipment Method

Out: / / Via:

Returned: / / Via:

Additional Comments
jgibson@aetllc.com

5365

Item #	Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time
	Avery Von Brussel/AET	2-19-20	1315	GW	2-19-20	1315
	GW	2-19-20	1700	FedEx	2-19-20	1700
	FedEx			RRB/Pace T337	2.20.20	10:55

Cooler No.(s) / Temperature(s) (°C): RRB/Pace T337 5.0°

Sampling Kit No.: 16778

Equipment ID No.:

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H = Hydrochloric acid + ice I = Ice only N = Nitric acid + ice S = Sulfuric acid + ice O = Other (specify) DI H_2O + CH_3OH

Pace Analytical Florida Laboratory	Document Name: Sample Condition Upon Receipt Form	Document Revised: May 30, 2018
	Document No.: F-FL-C-007 rev. 13	Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

WO# : 35532054

PM: SMM **Due Date: 02/26/20**

CLIENT: 36-GCLN

Project #

Project Manager:

Client:

Date and Initials of person:
Examining contents:
Label: RBS
Deliver:
pH:

Thermometer Used: T337 Date: 2/20/20 Time: 11:00 Initials: BRN

State of Origin: ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C	5.0 (Visual)	+.0 (Correction Factor)	5.0 (Actual)	☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☑ Standard Overnight ☐ Ground ☐ International Priority ☐ Other

Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # 2778 1118 0249

Custody Seal on Cooler/Box Present: ☐ Yes ☑ No **Seals intact:** ☐ Yes ☐ No **Ice:** (Wet) Blue Dry None

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other

Samples shorted to lab (If Yes, complete) Shorted Date: 02/20/20 Shorted Time: 1135 Qty: 3VG9W 1ENCORE

		Comments:
Chain of Custody Present	☑Yes ☐ No ☐N/A	
Chain of Custody Filled Out	☑Yes ☐ No ☐N/A	
Relinquished Signature & Sampler Name COC	☑Yes ☐ No ☐N/A	
Samples Arrived within Hold Time	☑Yes ☐ No ☐N/A	
Rush TAT requested on COC	☐Yes ☑ No ☐N/A	
Sufficient Volume	☑Yes ☐ No ☐N/A	
Correct Containers Used	☑Yes ☐ No ☐N/A	
Containers Intact	☑Yes ☐ No ☐N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑Yes ☐ No ☐N/A	
All containers needing acid/base preservation have been checked.	☐Yes ☐ No ☑N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☐Yes ☐ No ☑N/A	
Headspace in VOA Vials? (>6mm):	☐Yes ☐ No ☑N/A	
Trip Blank Present:	☐Yes ☐ No ☑N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments): Custody Seal Present, not filled out.

Project Manager Review: Date:

APPENDIX C

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number: WAF # 20-28-1090

5. Generator's Name and Mailing Address: Town Thumb #140, 4991 Gulf Breeze Pkwy. Gulf Breeze, FL

Generator's Site Address (if different than mailing address)

Generator's Phone:

6. Transporter 1 Company Name: Horizon Environmental Services, LLC

U.S. EPA ID Number: FLR 000227025

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address: Evergreen Landfill, 3163 Wetherington Ln. Valdosta, GA

U.S. EPA ID Number

Facility's Phone:

	9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.	
1.	Petroleum Contaminated Soil	2	DM	2	55 Gal	
2.						
3.						
4.						

13. Special Handling Instructions and Additional Information

14. GENERATOR'S/OFFEROR'S CERTIFICATION: I hereby declare that the contents of this consignment are fully and accurately described above by the proper shipping name, and are classified, packaged, marked and labeled/placarded, and are in all respects in proper condition for transport according to applicable international and national governmental regulations.

Generator's/Offeror's Printed/Typed Name: Matthew Lowe — Signature: Matthew Lowe — Month: 08 Day: 25 Year: 20

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of Entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Matthew Lowe — Signature: Matthew Lowe — Month: 08 Day: 25 Year: 20

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: D. Jackson — Signature — Month Day Year: 8 10 20

169-BLS-C 6 10497 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

EVERGREEN LANDFILL
3163 WETHERINGTON LANE
VALDOSTA, GA 31601
2292938157

001090
HORIZON ENVIRONMENTAL SERVICES, LLC.
PO BOX 1271
LEESBURG, GA 31763

INVOICE
INBOUND

SITE	CELL	OPERATOR	TICKET #
Q4		46801	382060

TRUCK	CONTAINER	LICENSE
HORIZON1		

REFERENCE	IN	OUT
	9/10/20 11:43 am	9/10/20 12:17 pm

CONTRACT: 20-28-1090 - BLANKET PROFILE
BOL:

GROSS 27,380.00 LBS Scale In
TARE 21,120.00 LBS Scale Out
NET 6,260.00 LBS

QTY	UNIT	DESCRIPTION			ORIGIN	%	RATE	TAX	TOTAL
3.13	TN	Soil - Contaminated	YD	0.00	L6	100.00			
1.00		COMPLIANCE AND BUSI		0.00		0.00			

Tax Total
Total
Georgia State Fee
Lowndes County Fee - Special
Paid
Change
Check#
Recpt #

I hereby certify that this load does not contain any unauthorized hazardous waste.

SIGNATURE: Matthew

FACILITY COPY

EVERGREEN LANDFILL
3163 WETHERINGTON LANE
VALDOSTA, GA 31601
2292938157

001090
HORIZON ENVIRONMENTAL SERVICES, LLC.
PO BOX 1271
LEESBURG, GA 31763

INVOICE
INBOUND

SITE	CELL	OPERATOR	TICKET #
Q4		46801	382060

TRUCK	CONTAINER	LICENSE
HORIZON1		

REFERENCE	IN	OUT
	9/10/20 11:43 am	9/10/20 12:17 pm

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NET 6,260.00LBS

QTY	UNIT	DESCRIPTION			ORIGIN	%	RATE	TAX	TOTAL
3.13	TN	Soil - Contaminated	YD	0.00	L6	100.00			
1.00		COMPLIANCE AND BUSI		0.00		0.00			

Total
Paid
Change
Check#
Recpt #

I hereby certify that this load does not contain any unauthorized hazardous waste.

SIGNATURE:_____

CUSTOMER COPY

134

Location Gulf Breeze, FL Date 8-20-20

Project / Client Tom Thumb # 140

27360.02/01 57/98058B2

700	A. Van Brussel. Arrive at Pensacola office.
	Load 2014 Chevy Silverado for Monitoring Well install.
715	Leave office.
755	On site, PDS on site
800	Check in with Store Manager.
805	Meet with drillers: Chris Wright & Brandon Vogt.
	Drill Rig: GeoProbe 7822 DT
	- Light Rain
	Mark MW-1 location
	Drillers setup and prepare for drilling.
820	Drill through Concrete, HA 5'
	Start MW-1
857	Finish drilling MW-1
	Begin setting well
910	Finish setting well.
	8 x Bags 20-30 Sand
	1 x Bag 30-65 Sand.
914	Lightning within 10 miles.
	Wait 30 mins after last strike within 10 miles.
948	Start developing, Watch from Vehicles due to lightning < 10 miles.

135

Location Gulf Breeze, FL Date 8.20.20

Project / Client Tom Thumb #140

27360.02/01 57/98058B2

1032	Finish developing MW-1
	Wait for weather to pass so pad Can be built.
1115	Begin cutting Pad.
	Quikrete used for pad due to rainy conditions.
1155	Pad compete
	2 Drums Stored in NW Corner of parking lot.
	- Drillers Pack up equipment
1215	- All personnel off site.
1300	- Return to office.
1315	- Unloaded, paperwork completed.



Rite in the Rain

Florida Department of Environmental Protection - Division of Waste Management - Bureau of Petroleum Storage Systems

WELL CONSTRUCTION AND DEVELOPMENT LOG

WELL CONSTRUCTION DATA

Well Number: MW-1	Site Name: Tom Thumb #140	FDEP Facility I.D. Number: 57/9805882	Well Install Date(s): 8-20-20

Well Location and Type (check appropriate boxes): [X] On-Site [ ] Right-of-Way [ ] Off-Site Private Property [ ] Above Grade (AG) [X] Flush-to-Grade

If AG, list feet of riser above land surface:

Well Purpose: [ ] Perched Monitoring [X] Shallow (Water-Table) Monitoring [ ] Intermediate or Deep Monitoring [ ] Remediation or Other (describe)

Well Install Method: HSA

Surface Casing Install Method: —

Borehole Depth (feet): 18	Well Depth (feet): 18	Borehole Diameter (inches): 6 1/4	Manhole Diameter (inches): 8

Well Pad Size: 2 feet by 2 feet

Riser Diameter and Material: 2" PVC

Riser/Screen Connections: [X] Flush-Threaded [ ] Other (describe)

Riser Length: 7.75 feet from 0.25 feet to 8 feet

Screen Diameter and Material: 2" PVC

Screen Slot Size: 0.01"

Screen Length: 10 feet from ~~2~~ 8 feet to 18 feet

1st Surface Casing Material: also check: [ ] Permanent [ ] Temporary

1st Surface Casing I.D. (inches):

1st Surface Casing Length: ____ feet from ____ feet to ____ feet

2nd Surface Casing Material: also check: [ ] Permanent [ ] Temporary

2nd Surface Casing I.D. (inches):

2nd Surface Casing Length: ____ feet from ____ feet to ____ feet

3rd Surface Casing Material: also check: [ ] Permanent [ ] Temporary

3rd Surface Casing I.D. (inches):

3rd Surface Casing Length: ____ feet from ____ feet to ____ feet

Filter Pack Material and Size: Sand 20-30

Prepacked Filter Around Screen (check one): [ ] Yes [X] No

Filter Pack Length: 12 feet from 6 feet to 18 feet

Filter Pack Seal Material and Size: Sand 30-65

Filter Pack Seal Length: 2 feet from 4 feet to 6 feet

Surface Seal Material: Portland Cement Grout

Surface Seal Length: 3.5 feet from 0.5 feet to 4 feet

WELL DEVELOPMENT DATA

Well Development Date: 8-20-20

Well Development Method (check one): [ ] Surge/Pump [X] Pump [ ] Compressed Air [ ] Other (describe)

Development Pump Type (check): [ ] Centrifugal [ ] Peristaltic [X] Submersible [ ] Other (describe)

Depth to Groundwater (before developing in feet): 10.74

Pumping Rate (gallons per minute): ≈ 1.4

Maximum Drawdown of Groundwater During Development (feet): 0.49

Well Purged Dry (check one): [ ] Yes [X] No

Pumping Condition (check one): [X] Continuous [ ] Intermittent

Total Development Water Removed (gallons): 61.6

Development Duration (minutes): 44

Development Water Drummed (check one): [ ] Yes [X] No

Water Appearance (color and odor) At Start of Development: Brown / none

Water Appearance (color and odor) At End of Development: Clear / None

WELL CONSTRUCTION OR DEVELOPMENT REMARKS

BORING LOG

Boring/Well Number: MW-1	Permit Number: –	FDEP Facility Identification Number: 57/9805882
Site Name: Tom Thumb #140	Borehole Start Date: 8.20.20 End Date: 8.20.20	Borehole Start Time: 820 [X] AM [ ] PM End Time: 857 [X] AM [ ] PM
Environmental Contractor: AET	Geologist's Name: A. Van Brussel	Environmental Technician's Name: –
Drilling Company: PDS	Pavement Thickness (inches): ~4	Borehole Diameter (inches): ~6 1/4
Borehole Depth (feet): 18		
Drilling Method(s): HSA	Apparent Borehole DTW (in feet from soil moisture content): –	Measured Well DTW (in feet after water recharges in well): 10.74
OVA (list model and check type): – [ ] FID [ ] PID		

Disposition of Drill Cuttings [check method(s)]: [X] Drum [ ] Spread [ ] Backfill [ ] Stockpile [ ] Other

(describe if other or multiple items are checked):

Borehole Completion (check one): [X] Well [ ] Grout [ ] Bentonite [ ] Backfill [ ] Other (describe)

Sample Type	Sample Depth Interval (feet)	Sample Recovery (inches)	SPT Blows (per six inches)	Unfiltered OVA	Filtered OVA	Net OVA	Depth (feet)	Sample Description (include grain size based on USCS, odors, staining, and other remarks)	USCS Symbol	Moisture Content	Lab Soil and Groundwater Samples (list sample number and depth or temporary screen interval)
HA	0-5	–	–	–	–	–	1	(0-18) Tan, medium with fine, Poorly graded, Sand.	SP	M	
SA (ALS) HSA	5-18						2				
							3	(5-18) No soil samples collected. Well installed HSA w/ wood plug near previous DPT boring.			
							4				
							5				
							6				
							7				
							8				
							9				
							10				
							11				
							12				

Sample Type Codes: **PH** = Post Hole; **HA** = Hand Auger; **SS** = Split Spoon; **ST** = Shelby Tube; **DP** = Direct Push; **SC** = Sonic Core; **DC** = Drill Cuttings

Moisture Content Codes: **D** = Dry; **M** = Moist; **W** = Wet; **S** = Saturated

APPENDIX D

142

Location Gulf Breeze, FL Date 8-25-20

Project / Client Tom Thumb #140

27360.02/01 57/980588 2

1155	Mobe from Paxton, FL to Gulf Breeze, FL TT #140. (113221)
1335	On site (113308) Check in with store clerk. Calibrate equipment.
1400	Finish calibrating. Set up on MW-1
1410	Purging initiated MW-1
1427	Sample MW-1
1455	Purchase Ice Off Site
1536	Return to Pensacola office (113330)
1550	Unloaded.

DEP Form FD 9000-24: GROUNDWATER SAMPLING LOG

SITE NAME:	Tom Thumb #146	SITE LOCATION:	Gulf Breeze, FL
WELL NO:	MW-1	SAMPLE ID:	MW-1
DATE:	8-25-20		

PURGING DATA

WELL DIAMETER (inches):	TUBING DIAMETER (inches):	WELL SCREEN INTERVAL DEPTH:	STATIC DEPTH TO WATER (feet):	PURGE PUMP TYPE OR BAILER:
2	1/4	3 feet to 18 feet	10.33	PP

WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH – STATIC DEPTH TO WATER) X WELL CAPACITY (only fill out if applicable)

= (18 feet – 10.33 feet) X 0.16 gallons/foot = 1.23 gallons

EQUIPMENT VOLUME PURGE: 1 EQUIPMENT VOL. = PUMP VOLUME + (TUBING CAPACITY X TUBING LENGTH) + FLOW CELL VOLUME (only fill out if applicable)

= gallons + (gallons/foot X feet) + gallons = gallons

INITIAL PUMP OR TUBING DEPTH IN WELL (feet):	FINAL PUMP OR TUBING DEPTH IN WELL (feet):	PURGING INITIATED AT:	PURGING ENDED AT:	TOTAL VOLUME PURGED (gallons):
~14.0	~14.0	1410	1427	1.7

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	PURGE RATE (gpm)	DEPTH TO WATER (feet)	pH (standard units)	TEMP. (°C)	COND. (µS/cm)	DISSOLVED OXYGEN (mg/L)	TURBIDITY (NTUs)	COLOR (describe)	ODOR (describe)
1423	1.30	1.30	0.10	10.34	6.5	26.2	90	1.19	9.19	Clear	None
1425	0.2	1.50	0.10	10.34	6.5	26.3	90	1.20	7.76	Clear	None
1427	0.2	1.70	0.10	10.34	6.5	26.3	90	1.21	6.33	Clear	None

WELL CAPACITY (Gallons Per Foot): **0.75"** = 0.02; **1"** = 0.04; **1.25"** = 0.06; **2"** = 0.16; **3"** = 0.37; **4"** = 0.65; **5"** = 1.02; **6"** = 1.47; **12"** = 5.88

TUBING INSIDE DIA. CAPACITY (Gal./Ft.): **1/8"** = 0.0006; **3/16"** = 0.0014; **1/4"** = 0.0026; **5/16"** = 0.004; **3/8"** = 0.006; **1/2"** = 0.010; **5/8"** = 0.016

PURGING EQUIPMENT CODES: **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **PP** = Peristaltic Pump; **O** = Other (Specify)

SAMPLING DATA

SAMPLED BY (PRINT) / AFFILIATION:	SAMPLER(S) SIGNATURE(S):	SAMPLING INITIATED AT:	SAMPLING ENDED AT:
Avery Van Brussel/AECT		1427	1436

PUMP OR TUBING DEPTH IN WELL (feet):	TUBING MATERIAL CODE:	FIELD-FILTERED: Y (N) Filtration Equipment Type:	FILTER SIZE: ____ µm
~14.0	HDPE		

FIELD DECONTAMINATION: PUMP Y (N) TUBING Y (N (replaced)) DUPLICATE: Y (N)

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION (including wet ice)					
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH	INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL per minute)
MW-1	2	CG	40 mL	HCl			8260 BTEXN	APP	<200
	2	CG	40 mL	HCl			EDB		<200
	2	AG	250 mL	–			PAH		~400
	1	AG	100mL	HCl			TRPH		~400
	1	HDPE	250mL	HNO3			Lead		~400

REMARKS:

MATERIAL CODES: **AG** = Amber Glass; **CG** = Clear Glass; **HDPE** = High Density Polyethylene; **LDPE** = Low Density Polyethylene; **PP** = Polypropylene; **S** = Silicone; **T** = Teflon; **O** = Other (Specify)

SAMPLING EQUIPMENT CODES: **APP** = After (Through) Peristaltic Pump; **B** = Bailer; **BP** = Bladder Pump; **ESP** = Electric Submersible Pump; **RFPP** = Reverse Flow Peristaltic Pump; **SM** = Straw Method (Tubing Gravity Drain); **O** = Other (Specify)

NOTES: 1. **The above do not constitute all of the information required by Chapter 62-160, F.A.C.**

2. STABILIZATION CRITERIA FOR RANGE OF VARIATION OF LAST THREE CONSECUTIVE READINGS (SEE FS 2212, SECTION 3)

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** all readings ≤ 20% saturation (see Table FS 2200-2); optionally, ± 0.2 mg/L or ± 10% (whichever is greater) **Turbidity:** all readings ≤ 20 NTU; optionally ± 5 NTU or ± 10% (whichever is greater)

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) Hach 2100Q **Instrument #** 09120C004450

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☐pH ☐ORP

☒Turbidity ☐Residual Cl ☐DO ☐OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 5 NTU

Standard B 50 ~~6~~ AvB

Standard C 600

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
8.19.20	805	A	5	5.79		No	I	AvB	Bonnies Stopping Center River Nigh	5.64
		B	50	59.8		No	I	↓	↓	58.2
		C	600	587		No	I	↓	↓	594
8.25.20	1:50	A	5	5.54		No	I	AVR	TT #140	5.70
		B	50	58.0		No	I	↓	↓	57.5
		C	600	587		No	I	↓	↓	591

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) OAKton Ecotestpr CTS **Instrument #** _____

Parameter: (Check only one)

☐Temperature (°C or °F) ☒Conductivity ☐Salinity ☐pH ☐ORP

☐Turbidity ☐Residual Cl ☐DO ☐OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 84 µs/cm

Standard B 1000 µs/cm

Standard C _____

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
7-28-20	825	A	84	90		Yes	I	AVB	GAC	120
		B	1,000	1,000		Yes	I	↓	↓	1010
7-29-20	805	A	84	90		Yes	C	AVB	GAC	120
		B	1,000	1,000		yes	C	↓	↓	980
7/31/20	905	A	84	80		yes	I	AVB	TT 127	100
		B	1,000	1,000		yes	I	↓	↓	990
8/11/20		A	84	80		yes	I	AVB	Philips	80
		B	1,000	1,000		yes	I	↓	Food store #2031	980
8.19.20	800	A	84	90		yes	I	AVB	Bonnies shopping Center/ River Hills	100
		B	1,000	1,000		yes	I	↓	↓	1010
8.25.20	154	A	84	90		yes	I	AVB	TT #146	90
		B	1,000	1,010		yes	I	↓	↓	1,030

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) Oakton Eoctestr pH2+ **Instrument #** _____

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☒pH ☐ORP

☐Turbidity ☐Residual Cl ☐DO ☐OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 4.0, 9GB303, 02/21

Standard B 7.0, ~~LC~~ AVB H208-02, 8/8/20 / 9GB719, 2/21

Standard C 10.0, 9GA1078, 01/21

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
7/31/20	915	A	4.0	4.0		yes	I	AVB	TT #29	4.0
		B	7.0	7.0		yes	I	↓	↓	6.9
		C	10.0	10.0		yes	I	↓	↓	10.0
8/11/20	754	A	4.0	4.0		yes	I	AVB	Phillips Food Store # 2031	4.0
		B	7.0	7.0		yes	I	↓	↓	7.0
		C	10.0	10.0		yes	I	↓	↓	9.9
8-19-20	750	A	4.0	4.0		yes	I	AVB	Bonnie's shopping Center/ River Knight	4.0
		B	7.0	7.0		yes	I	↓	↓	7.0
		C	10.0	10.0		yes	I	↓	↓	10.0
8-25-20	158	A	4.0	4.0		yes	I	AVB	TT #140	4.0
		B	7.0	7.0		yes	I	↓	↓	7.0
		C	10.0	10.0		yes	I	↓	↓	10.0

FT 1000 General Field Testing and Measurement

Form FD 9000-8: FIELD INSTRUMENT CALIBRATION RECORDS

Instrument (Make/Model #) DO200 Ecosense **Instrument #** JC 06411

Parameter: (Check only one)

☐Temperature (°C or °F) ☐Conductivity ☐Salinity ☐pH ☐ORP

☐Turbidity ☐Residual Cl ☒DO ☐OVA ☐Other _____

Standards: [Specify the type(s) of standards used for calibration, the origin of the standards, the standard values, and the date the standards were prepared or purchased]

Standard A 96 %. Saturation Air

Standard B _____

Standard C _____

Date	Time	STD A, B, C	STD Value	Instrument Response	% DEV	Calibrated Yes, No	Type Initial (I) Continuous (C) Final (F)	Sampler Initials	Site Name	Post Check
6/17/20	912	A	96%.	96 %.		N	I	AVB	Bay Medical	96
6/22/20	907	A	96%.	96%.		N	I	AVB	Ards	96
6-29-20	902	A	96%.	96 %.		N	I	AVB	D&M Quick Stop	96
6-30-20	752	A	96%.	96 %.		N	I	AVB	Beeline #200	96
7-06-20	810	A	96%.	96%.		N	I	AVB	Kountry outlet Mall	96 %.
7-28-20	830	A	96%.	96 %.		N	I	AVB	GAC	96%.
7-29-20	810	A	96%.	96%.		N	C	AVB	GAC	96%.
7-31-20	923	A	96%.	96 %.		N	I	AVB	TT 127	96%.
8-11-20		A	96%.	96 %.		N	I	AVB	Phillips Food Store #2031	96 %.
8-19-20	754	A	96%.	96 %.		N	I	AVB	Bonnie's Shopping Center River Junction	96%.
8-25-20	1:52	A	96%.	96 %.		N	I	AVB	TT #140	96%.

APPENDIX E

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
(954)582-4300

September 09, 2020

Jodi Marsden
AET
1318 Dunmire St
Suite 1
Pensacola, FL 32504

RE: Project: Tom Thumb # 140
Pace Project No.: 35573805

Dear Jodi Marsden:

Enclosed are the analytical results for sample(s) received by the laboratory on August 27, 2020. The results relate only to the samples included in this report. Results reported herein conform to the applicable TNI/NELAC Standards and the laboratory's Quality Manual, where applicable, unless otherwise noted in the body of the report.

The test results provided in this final report were generated by each of the following laboratories within the Pace Network:

- Pace Analytical Services - Ormond Beach

If you have any questions concerning this report, please feel free to contact me.

Sincerely,



Sakina Mckenzie
sakina.mckenzie@pacelabs.com
(386)672-5668
Project Manager

Enclosures

cc: Dawn Hudson, Gulf Coast Labnet
Danny Miller, Gulf Coast Labnet
Carl Williams, Gulf Coast Labnet

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, LLC.

Pace Analytical Services, LLC
3610 Park Central Blvd N
Pompano Beach, FL 33064
(954)582-4300

CERTIFICATIONS

Project: Tom Thumb # 140
Pace Project No.: 35573805

Pace Analytical Services Ormond Beach
8 East Tower Circle, Ormond Beach, FL 32174
Alaska DEC- CS/UST/LUST
Alabama Certification #: 41320
Arizona Certification# AZ0819
Colorado Certification: FL NELAC Reciprocity
Connecticut Certification #: PH-0216
Delaware Certification: FL NELAC Reciprocity
Florida Certification #: E83079
Georgia Certification #: 955
Guam Certification: FL NELAC Reciprocity
Hawaii Certification: FL NELAC Reciprocity
Illinois Certification #: 200068
Indiana Certification: FL NELAC Reciprocity
Kansas Certification #: E-10383
Kentucky Certification #: 90050
Louisiana Certification #: FL NELAC Reciprocity
Louisiana Environmental Certificate #: 05007
Maryland Certification: #346
Michigan Certification #: 9911
Mississippi Certification: FL NELAC Reciprocity
Missouri Certification #: 236
Montana Certification #: Cert 0074
Nebraska Certification: NE-OS-28-14
New Hampshire Certification #: 2958
New Jersey Certification #: FL022
New York Certification #: 11608
North Carolina Environmental Certificate #: 667
North Carolina Certification #: 12710
North Dakota Certification #: R-216
Ohio DEP 87780
Oklahoma Certification #: D9947
Pennsylvania Certification #: 68-00547
Puerto Rico Certification #: FL01264
South Carolina Certification: #96042001
Tennessee Certification #: TN02974
Texas Certification: FL NELAC Reciprocity
US Virgin Islands Certification: FL NELAC Reciprocity
Virginia Environmental Certification #: 460165
West Virginia Certification #: 9962C
Wisconsin Certification #: 399079670
Wyoming (EPA Region 8): FL NELAC Reciprocity

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SAMPLE SUMMARY

Project: Tom Thumb # 140
Pace Project No.: 35573805

Lab ID	Sample ID	Matrix	Date Collected	Date Received
35573805001	**MW-1**	Water	08/25/20 14:27	08/27/20 11:55

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SAMPLE ANALYTE COUNT

Project: Tom Thumb # 140
Pace Project No.: 35573805

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
35573805001	**MW-1**	EPA 8011	TSW	1	PASI-O
		FL-PRO	TCB	3	PASI-O
		EPA 6010	CS2	1	PASI-O
		EPA 8270 by SIM	RJR	20	PASI-O
		EPA 8260	CLT, SK1	40	PASI-O

PASI-O = Pace Analytical Services - Ormond Beach

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ANALYTICAL RESULTS

Project: Tom Thumb # 140
Pace Project No.: 35573805

Sample: MW-1 **Lab ID: 35573805001** Collected: 08/25/20 14:27 Received: 08/27/20 11:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011 Pace Analytical Services - Ormond Beach								
1,2-Dibromoethane (EDB)	**0.0076 U**	ug/L	0.010	0.0076	1	08/28/20 12:46	08/29/20 11:42	106-93-4	
FL-PRO Water, Low Volume	Analytical Method: FL-PRO Preparation Method: EPA 3510 Pace Analytical Services - Ormond Beach								
Petroleum Range Organics	**0.77 U**	mg/L	0.96	0.77	1	08/28/20 16:38	08/29/20 15:12		
Surrogates									
o-Terphenyl (S)	69	%	66-139		1	08/28/20 16:38	08/29/20 15:12	84-15-1	
N-Pentatriacontane (S)	98	%	42-159		1	08/28/20 16:38	08/29/20 15:12	630-07-09	
6010 MET ICP	Analytical Method: EPA 6010 Preparation Method: EPA 3010 Pace Analytical Services - Ormond Beach								
Lead	**4.6 U**	ug/L	10.0	4.6	1	08/29/20 01:36	08/31/20 14:18	7439-92-1	
8270 MSSV PAHLV by SIM	Analytical Method: EPA 8270 by SIM Preparation Method: EPA 3510 Pace Analytical Services - Ormond Beach								
Acenaphthene	**0.040 U**	ug/L	0.50	0.040	1	08/31/20 08:11	08/31/20 12:24	83-32-9	
Acenaphthylene	**0.030 U**	ug/L	0.50	0.030	1	08/31/20 08:11	08/31/20 12:24	208-96-8	
Anthracene	**0.043 U**	ug/L	0.50	0.043	1	08/31/20 08:11	08/31/20 12:24	120-12-7	
Benzo(a)anthracene	**0.055 U**	ug/L	0.10	0.055	1	08/31/20 08:11	08/31/20 12:24	56-55-3	
Benzo(a)pyrene	**0.12 U**	ug/L	0.20	0.12	1	08/31/20 08:11	08/31/20 12:24	50-32-8	
Benzo(b)fluoranthene	**0.027 U**	ug/L	0.10	0.027	1	08/31/20 08:11	08/31/20 12:24	205-99-2	
Benzo(g,h,i)perylene	**0.15 U**	ug/L	0.50	0.15	1	08/31/20 08:11	08/31/20 12:24	191-24-2	
Benzo(k)fluoranthene	**0.16 U**	ug/L	0.50	0.16	1	08/31/20 08:11	08/31/20 12:24	207-08-9	
Chrysene	**0.026 U**	ug/L	0.50	0.026	1	08/31/20 08:11	08/31/20 12:24	218-01-9	
Dibenz(a,h)anthracene	**0.13 U**	ug/L	0.15	0.13	1	08/31/20 08:11	08/31/20 12:24	53-70-3	
Fluoranthene	**0.018 U**	ug/L	0.50	0.018	1	08/31/20 08:11	08/31/20 12:24	206-44-0	
Fluorene	**0.088 U**	ug/L	0.50	0.088	1	08/31/20 08:11	08/31/20 12:24	86-73-7	
Indeno(1,2,3-cd)pyrene	**0.12 U**	ug/L	0.15	0.12	1	08/31/20 08:11	08/31/20 12:24	193-39-5	
1-Methylnaphthalene	**0.19 U**	ug/L	2.0	0.19	1	08/31/20 08:11	08/31/20 12:24	90-12-0	
2-Methylnaphthalene	**0.68 U**	ug/L	2.0	0.68	1	08/31/20 08:11	08/31/20 12:24	91-57-6	
Naphthalene	**0.29 U**	ug/L	2.0	0.29	1	08/31/20 08:11	08/31/20 12:24	91-20-3	
Phenanthrene	**0.16 U**	ug/L	0.50	0.16	1	08/31/20 08:11	08/31/20 12:24	85-01-8	
Pyrene	**0.032 U**	ug/L	0.50	0.032	1	08/31/20 08:11	08/31/20 12:24	129-00-0	
Surrogates									
2-Fluorobiphenyl (S)	63	%	38-92		1	08/31/20 08:11	08/31/20 12:24	321-60-8	
p-Terphenyl-d14 (S)	76	%	54-112		1	08/31/20 08:11	08/31/20 12:24	1718-51-0	
8260 MSV	Analytical Method: EPA 8260 Pace Analytical Services - Ormond Beach								
1,1,1-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		09/05/20 18:35	71-55-6	
1,1,2,2-Tetrachloroethane	**0.59 U**	ug/L	1.0	0.59	1		09/05/20 18:35	79-34-5	
1,1,2-Trichloroethane	**0.30 U**	ug/L	1.0	0.30	1		09/05/20 18:35	79-00-5	
1,1-Dichloroethane	**0.34 U**	ug/L	1.0	0.34	1		09/05/20 18:35	75-34-3	
1,1-Dichloroethene	**0.59 U**	ug/L	1.0	0.59	1		09/05/20 18:35	75-35-4	
1,2-Dichlorobenzene	**0.60 U**	ug/L	1.0	0.60	1		09/05/20 18:35	95-50-1	

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ANALYTICAL RESULTS

Project: Tom Thumb # 140
Pace Project No.: 35573805

Sample: MW-1 **Lab ID: 35573805001** Collected: 08/25/20 14:27 Received: 08/27/20 11:55 Matrix: Water

Parameters	Results	Units	PQL	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
	Pace Analytical Services - Ormond Beach								
1,2-Dichloroethane	**0.27 U**	ug/L	1.0	0.27	1		09/05/20 18:35	107-06-2	
1,2-Dichloropropane	**0.23 U**	ug/L	1.0	0.23	1		09/05/20 18:35	78-87-5	
1,3-Dichlorobenzene	**0.33 U**	ug/L	1.0	0.33	1		09/05/20 18:35	541-73-1	
1,4-Dichlorobenzene	**0.28 U**	ug/L	1.0	0.28	1		09/05/20 18:35	106-46-7	
2-Chloroethylvinyl ether	**13.0 U**	ug/L	40.0	13.0	1		09/05/20 18:35	110-75-8	c2
Benzene	**0.30 U**	ug/L	1.0	0.30	1		09/05/20 18:35	71-43-2	
Bromodichloromethane	**0.19 U**	ug/L	1.0	0.19	1		09/05/20 18:35	75-27-4	
Bromoform	**0.48 U**	ug/L	3.0	0.48	1		09/05/20 18:35	75-25-2	
Bromomethane	**8.1 U**	ug/L	10.0	8.1	1		09/05/20 18:35	74-83-9	
Carbon tetrachloride	**0.44 U**	ug/L	3.0	0.44	1		09/05/20 18:35	56-23-5	
Chlorobenzene	**0.35 U**	ug/L	1.0	0.35	1		09/05/20 18:35	108-90-7	
Chloroethane	**3.7 U**	ug/L	10.0	3.7	1		09/05/20 18:35	75-00-3	
Chloroform	**0.32 U**	ug/L	1.0	0.32	1		09/05/20 18:35	67-66-3	
Chloromethane	**0.43 U**	ug/L	1.0	0.43	1		09/05/20 18:35	74-87-3	
Dibromochloromethane	**0.45 U**	ug/L	2.0	0.45	1		09/05/20 18:35	124-48-1	
Dichlorodifluoromethane	**0.26 U**	ug/L	1.0	0.26	1		09/05/20 18:35	75-71-8	J(v1)
Ethylbenzene	**0.30 U**	ug/L	1.0	0.30	1		09/05/20 18:35	100-41-4	
Methyl-tert-butyl ether	**4.4 U**	ug/L	5.0	4.4	1		09/05/20 18:35	1634-04-4	
Methylene Chloride	**4.4 U**	ug/L	5.0	4.4	1		09/05/20 18:35	75-09-2	J(v1)
Tetrachloroethene	**0.38 U**	ug/L	1.0	0.38	1		09/05/20 18:35	127-18-4	
Toluene	**0.33 U**	ug/L	1.0	0.33	1		09/05/20 18:35	108-88-3	
Trichloroethene	**0.36 U**	ug/L	1.0	0.36	1		09/05/20 18:35	79-01-6	
Trichlorofluoromethane	**0.35 U**	ug/L	1.0	0.35	1		09/05/20 18:35	75-69-4	
Vinyl chloride	**0.39 U**	ug/L	1.0	0.39	1		09/05/20 18:35	75-01-4	
Xylene (Total)	**2.1 U**	ug/L	5.0	2.1	1		08/29/20 20:06	1330-20-7	
cis-1,2-Dichloroethene	**0.27 U**	ug/L	1.0	0.27	1		09/05/20 18:35	156-59-2	
cis-1,3-Dichloropropene	**0.17 U**	ug/L	1.0	0.17	1		09/05/20 18:35	10061-01-5	
m&p-Xylene	**2.1 U**	ug/L	4.0	2.1	1		09/05/20 18:35	179601-23-1	
o-Xylene	**0.57 U**	ug/L	1.0	0.57	1		09/05/20 18:35	95-47-6	
trans-1,2-Dichloroethene	**0.23 U**	ug/L	1.0	0.23	1		09/05/20 18:35	156-60-5	
trans-1,3-Dichloropropene	**0.37 U**	ug/L	1.0	0.37	1		09/05/20 18:35	10061-02-6	
Surrogates									
4-Bromofluorobenzene (S)	96	%	70-130		1		09/05/20 18:35	460-00-4	
Toluene-d8 (S)	105	%	70-130		1		09/05/20 18:35	2037-26-5	
1,2-Dichlorobenzene-d4 (S)	100	%	70-130		1		09/05/20 18:35	2199-69-1	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 661402
QC Batch Method: EPA 3010
Analysis Method: EPA 6010
Analysis Description: 6010 MET
Laboratory: Pace Analytical Services - Ormond Beach
Associated Lab Samples: 35573805001

METHOD BLANK: 3596922 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Lead	ug/L	4.6 U	10.0	4.6	08/31/20 15:34	

LABORATORY CONTROL SAMPLE: 3596923

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Lead	ug/L	250	263	105	80-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3596924 3596925

Parameter	Units	35573745001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Lead	ug/L	4.6 U	250	250	266	263	106	105	75-125	1	20	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 661482
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35573805001

METHOD BLANK: 3597794 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Xylene (Total)	ug/L	2.1 U	5.0	2.1	08/29/20 14:19	
1,2-Dichlorobenzene-d4 (S)	%	101	70-130		08/29/20 14:19	
4-Bromofluorobenzene (S)	%	103	70-130		08/29/20 14:19	
Toluene-d8 (S)	%	98	70-130		08/29/20 14:19	

LABORATORY CONTROL SAMPLE: 3597795

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	60	66.6	111	70-130	
1,2-Dichlorobenzene-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			105	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 3597797

Parameter	Units	35574065002 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	2.1 U	60	74.0	123	70-130	
1,2-Dichlorobenzene-d4 (S)	%				99	70-130	
4-Bromofluorobenzene (S)	%				105	70-130	
Toluene-d8 (S)	%				102	70-130	

SAMPLE DUPLICATE: 3597796

Parameter	Units	35574065001 Result	Dup Result	RPD	Max RPD	Qualifiers
Xylene (Total)	ug/L	2.1 U	2.1 U		40	
1,2-Dichlorobenzene-d4 (S)	%	102	103			
4-Bromofluorobenzene (S)	%	103	103		40	
Toluene-d8 (S)	%	103	99		40	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 663400
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35573805001

METHOD BLANK: 3608199 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	1.0	0.30	09/05/20 16:47	
1,1,2,2-Tetrachloroethane	ug/L	0.59 U	1.0	0.59	09/05/20 16:47	
1,1,2-Trichloroethane	ug/L	0.30 U	1.0	0.30	09/05/20 16:47	
1,1-Dichloroethane	ug/L	0.34 U	1.0	0.34	09/05/20 16:47	
1,1-Dichloroethene	ug/L	0.59 U	1.0	0.59	09/05/20 16:47	
1,2-Dichlorobenzene	ug/L	0.60 U	1.0	0.60	09/05/20 16:47	
1,2-Dichloroethane	ug/L	0.27 U	1.0	0.27	09/05/20 16:47	
1,2-Dichloropropane	ug/L	0.23 U	1.0	0.23	09/05/20 16:47	
1,3-Dichlorobenzene	ug/L	0.33 U	1.0	0.33	09/05/20 16:47	
1,4-Dichlorobenzene	ug/L	0.28 U	1.0	0.28	09/05/20 16:47	
2-Chloroethylvinyl ether	ug/L	13.0 U	40.0	13.0	09/05/20 16:47	
Benzene	ug/L	0.30 U	1.0	0.30	09/05/20 16:47	
Bromodichloromethane	ug/L	0.19 U	1.0	0.19	09/05/20 16:47	
Bromoform	ug/L	0.48 U	3.0	0.48	09/05/20 16:47	
Bromomethane	ug/L	8.1 U	10.0	8.1	09/05/20 16:47	
Carbon tetrachloride	ug/L	0.44 U	3.0	0.44	09/05/20 16:47	
Chlorobenzene	ug/L	0.35 U	1.0	0.35	09/05/20 16:47	
Chloroethane	ug/L	3.7 U	10.0	3.7	09/05/20 16:47	
Chloroform	ug/L	0.32 U	1.0	0.32	09/05/20 16:47	
Chloromethane	ug/L	0.43 U	1.0	0.43	09/05/20 16:47	
cis-1,2-Dichloroethene	ug/L	0.27 U	1.0	0.27	09/05/20 16:47	
cis-1,3-Dichloropropene	ug/L	0.17 U	1.0	0.17	09/05/20 16:47	
Dibromochloromethane	ug/L	0.45 U	2.0	0.45	09/05/20 16:47	
Dichlorodifluoromethane	ug/L	0.26 U	1.0	0.26	09/05/20 16:47	J(v1)
Ethylbenzene	ug/L	0.30 U	1.0	0.30	09/05/20 16:47	
m&p-Xylene	ug/L	2.1 U	4.0	2.1	09/05/20 16:47	
Methyl-tert-butyl ether	ug/L	4.4 U	5.0	4.4	09/05/20 16:47	
Methylene Chloride	ug/L	4.4 U	5.0	4.4	09/05/20 16:47	J(v1)
o-Xylene	ug/L	0.57 U	1.0	0.57	09/05/20 16:47	
Tetrachloroethene	ug/L	0.38 U	1.0	0.38	09/05/20 16:47	
Toluene	ug/L	0.33 U	1.0	0.33	09/05/20 16:47	
trans-1,2-Dichloroethene	ug/L	0.23 U	1.0	0.23	09/05/20 16:47	
trans-1,3-Dichloropropene	ug/L	0.37 U	1.0	0.37	09/05/20 16:47	
Trichloroethene	ug/L	0.36 U	1.0	0.36	09/05/20 16:47	
Trichlorofluoromethane	ug/L	0.35 U	1.0	0.35	09/05/20 16:47	
Vinyl chloride	ug/L	0.39 U	1.0	0.39	09/05/20 16:47	
1,2-Dichlorobenzene-d4 (S)	%	100	70-130		09/05/20 16:47	
4-Bromofluorobenzene (S)	%	93	70-130		09/05/20 16:47	
Toluene-d8 (S)	%	104	70-130		09/05/20 16:47	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

LABORATORY CONTROL SAMPLE: 3608200

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	20	21.5	107	70-130	
1,1,2,2-Tetrachloroethane	ug/L	20	20.4	102	68-125	
1,1,2-Trichloroethane	ug/L	20	19.8	99	70-130	
1,1-Dichloroethane	ug/L	20	22.4	112	70-130	
1,1-Dichloroethene	ug/L	20	22.1	111	66-133	
1,2-Dichlorobenzene	ug/L	20	18.9	95	70-130	
1,2-Dichloroethane	ug/L	20	20.1	101	70-130	
1,2-Dichloropropane	ug/L	20	22.3	111	70-130	
1,3-Dichlorobenzene	ug/L	20	20.0	100	70-130	
1,4-Dichlorobenzene	ug/L	20	19.1	96	70-130	
2-Chloroethylvinyl ether	ug/L	100	107	107	41-140	
Benzene	ug/L	20	22.2	111	70-130	
Bromodichloromethane	ug/L	20	20.3	101	70-130	
Bromoform	ug/L	20	17.3	86	49-126	
Bromomethane	ug/L	20	20.9	104	10-165	
Carbon tetrachloride	ug/L	20	20.3	102	63-126	
Chlorobenzene	ug/L	20	19.2	96	70-130	
Chloroethane	ug/L	20	23.9	120	71-142	
Chloroform	ug/L	20	20.3	101	70-130	
Chloromethane	ug/L	20	21.9	109	40-140	
cis-1,2-Dichloroethene	ug/L	20	21.6	108	70-130	
cis-1,3-Dichloropropene	ug/L	20	20.8	104	70-130	
Dibromochloromethane	ug/L	20	20.0	100	62-118	
Dichlorodifluoromethane	ug/L	20	26.3	131	47-150	J(v1)
Ethylbenzene	ug/L	20	19.8	99	70-130	
m&p-Xylene	ug/L	40	40.2	101	70-130	
Methyl-tert-butyl ether	ug/L	20	22.7	113	64-124	
Methylene Chloride	ug/L	20	24.8	124	65-136	J(v1)
o-Xylene	ug/L	20	19.9	100	70-130	
Tetrachloroethene	ug/L	20	19.4	97	64-134	
Toluene	ug/L	20	19.7	99	70-130	
trans-1,2-Dichloroethene	ug/L	20	22.9	114	68-127	
trans-1,3-Dichloropropene	ug/L	20	20.7	104	65-121	
Trichloroethene	ug/L	20	20.8	104	70-130	
Trichlorofluoromethane	ug/L	20	20.8	104	65-135	
Vinyl chloride	ug/L	20	23.9	119	68-131	
1,2-Dichlorobenzene-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			92	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 3608202

Parameter	Units	35575627003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	20	24.2	121	70-130	
1,1,2,2-Tetrachloroethane	ug/L	0.59 U	20	21.9	110	68-125	

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(954)582-4300

QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

MATRIX SPIKE SAMPLE: 3608202

Parameter	Units	35575627003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,1,2-Trichloroethane	ug/L	0.30 U	20	24.5	123	70-130	
1,1-Dichloroethane	ug/L	0.34 U	20	24.5	123	70-130	
1,1-Dichloroethene	ug/L	0.59 U	20	25.5	127	66-133	
1,2-Dichlorobenzene	ug/L	0.60 U	20	20.4	102	70-130	
1,2-Dichloroethane	ug/L	0.27 U	20	22.3	112	70-130	
1,2-Dichloropropane	ug/L	0.23 U	20	24.9	125	70-130	
1,3-Dichlorobenzene	ug/L	0.33 U	20	21.1	106	70-130	
1,4-Dichlorobenzene	ug/L	0.28 U	20	20.3	101	70-130	
2-Chloroethylvinyl ether	ug/L	13.0 U	100	13.0 U	0	41-140	J(M1)
Benzene	ug/L	4.3	20	28.5	121	70-130	
Bromodichloromethane	ug/L	0.19 U	20	22.3	112	70-130	
Bromoform	ug/L	0.48 U	20	19.7	99	49-126	
Bromomethane	ug/L	8.1 U	20	14.6	73	10-165	
Carbon tetrachloride	ug/L	0.44 U	20	23.5	118	63-126	
Chlorobenzene	ug/L	0.35 U	20	21.1	106	70-130	
Chloroethane	ug/L	3.7 U	20	23.1	115	71-142	
Chloroform	ug/L	0.32 U	20	23.8	119	70-130	
Chloromethane	ug/L	0.43 U	20	23.3	117	40-140	
cis-1,2-Dichloroethene	ug/L	0.27 U	20	23.5	118	70-130	
cis-1,3-Dichloropropene	ug/L	0.17 U	20	22.4	112	70-130	
Dibromochloromethane	ug/L	0.45 U	20	22.3	111	62-118	
Dichlorodifluoromethane	ug/L	0.26 U	20	31.7	159	47-150	J(M1),J(v1)
Ethylbenzene	ug/L	57.4	20	79.2	109	70-130	
m&p-Xylene	ug/L	2.1 I	40	46.7	111	70-130	
Methyl-tert-butyl ether	ug/L	4.4 U	20	23.3	116	64-124	
Methylene Chloride	ug/L	4.4 U	20	22.7	114	65-136	J(v1)
o-Xylene	ug/L	0.57 U	20	22.3	111	70-130	
Tetrachloroethene	ug/L	0.38 U	20	22.1	111	64-134	
Toluene	ug/L	0.33 U	20	22.6	112	70-130	
trans-1,2-Dichloroethene	ug/L	0.23 U	20	23.9	120	68-127	
trans-1,3-Dichloropropene	ug/L	0.37 U	20	22.7	114	65-121	
Trichloroethene	ug/L	0.36 U	20	23.6	118	70-130	
Trichlorofluoromethane	ug/L	0.35 U	20	26.3	131	65-135	
Vinyl chloride	ug/L	0.39 U	20	28.3	141	68-131	J(M1)
1,2-Dichlorobenzene-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				99	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 3608201

Parameter	Units	35575627002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1,1-Trichloroethane	ug/L	0.30 U	0.30 U		40	
1,1,2,2-Tetrachloroethane	ug/L	0.59 U	0.59 U		40	
1,1,2-Trichloroethane	ug/L	0.30 U	0.30 U		40	
1,1-Dichloroethane	ug/L	0.34 U	0.34 U		40	

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(954)582-4300

QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

SAMPLE DUPLICATE: 3608201

Parameter	Units	35575627002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,1-Dichloroethene	ug/L	0.59 U	0.59 U		40	
1,2-Dichlorobenzene	ug/L	0.60 U	0.60 U		40	
1,2-Dichloroethane	ug/L	0.27 U	0.27 U		40	
1,2-Dichloropropane	ug/L	0.23 U	0.23 U		40	
1,3-Dichlorobenzene	ug/L	0.33 U	0.33 U		40	
1,4-Dichlorobenzene	ug/L	0.28 U	0.28 U		40	
2-Chloroethylvinyl ether	ug/L	13.0 U	13.0 U		40	
Benzene	ug/L	0.30 U	0.30 U		40	
Bromodichloromethane	ug/L	0.19 U	0.19 U		40	
Bromoform	ug/L	0.48 U	0.48 U		40	
Bromomethane	ug/L	8.1 U	8.1 U		40	
Carbon tetrachloride	ug/L	0.44 U	0.44 U		40	
Chlorobenzene	ug/L	0.35 U	0.35 U		40	
Chloroethane	ug/L	3.7 U	3.7 U		40	
Chloroform	ug/L	0.32 U	0.32 U		40	
Chloromethane	ug/L	0.43 U	0.43 U		40	
cis-1,2-Dichloroethene	ug/L	0.27 U	0.27 U		40	
cis-1,3-Dichloropropene	ug/L	0.17 U	0.17 U		40	
Dibromochloromethane	ug/L	0.45 U	0.45 U		40	
Dichlorodifluoromethane	ug/L	0.26 U	0.26 U		40	J(v1)
Ethylbenzene	ug/L	0.30 U	0.30 U		40	
m&p-Xylene	ug/L	2.1 U	2.1 U		40	
Methyl-tert-butyl ether	ug/L	4.4 U	4.4 U		40	
Methylene Chloride	ug/L	4.4 U	4.4 U		40	J(v1)
o-Xylene	ug/L	0.57 U	0.57 U		40	
Tetrachloroethene	ug/L	0.38 U	0.38 U		40	
Toluene	ug/L	0.33 U	0.33 U		40	
trans-1,2-Dichloroethene	ug/L	0.23 U	0.23 U		40	
trans-1,3-Dichloropropene	ug/L	0.37 U	0.37 U		40	
Trichloroethene	ug/L	0.36 U	0.36 U		40	
Trichlorofluoromethane	ug/L	0.35 U	0.35 U		40	
Vinyl chloride	ug/L	0.39 U	0.39 U		40	
1,2-Dichlorobenzene-d4 (S)	%	101	99			
4-Bromofluorobenzene (S)	%	96	97		40	
Toluene-d8 (S)	%	105	108		40	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 661156
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: 8011 EDB DBCP
Laboratory: Pace Analytical Services - Ormond Beach
Associated Lab Samples: 35573805001

METHOD BLANK: 3595227 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.0075 U	0.010	0.0075	08/29/20 07:10	

LABORATORY CONTROL SAMPLE: 3595228

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.25	0.22	90	60-140	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3595229 3595230

Parameter	Units	35572939001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.0073 U	0.44	0.44	0.66	0.70	151	159	60-140	5	40	J(M1)

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 661349
QC Batch Method: EPA 3510
Analysis Method: EPA 8270 by SIM
Analysis Description: 8270 Water PAHLV by SIM MSSV
Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35573805001

METHOD BLANK: 3596414 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
1-Methylnaphthalene	ug/L	0.19 U	2.0	0.19	08/31/20 10:40	
2-Methylnaphthalene	ug/L	0.68 U	2.0	0.68	08/31/20 10:40	
Acenaphthene	ug/L	0.040 U	0.50	0.040	08/31/20 10:40	
Acenaphthylene	ug/L	0.030 U	0.50	0.030	08/31/20 10:40	
Anthracene	ug/L	0.043 U	0.50	0.043	08/31/20 10:40	
Benzo(a)anthracene	ug/L	0.055 U	0.10	0.055	08/31/20 10:40	
Benzo(a)pyrene	ug/L	0.12 U	0.20	0.12	08/31/20 10:40	
Benzo(b)fluoranthene	ug/L	0.027 U	0.10	0.027	08/31/20 10:40	
Benzo(g,h,i)perylene	ug/L	0.15 U	0.50	0.15	08/31/20 10:40	
Benzo(k)fluoranthene	ug/L	0.16 U	0.50	0.16	08/31/20 10:40	
Chrysene	ug/L	0.026 U	0.50	0.026	08/31/20 10:40	
Dibenz(a,h)anthracene	ug/L	0.13 U	0.15	0.13	08/31/20 10:40	
Fluoranthene	ug/L	0.018 U	0.50	0.018	08/31/20 10:40	
Fluorene	ug/L	0.088 U	0.50	0.088	08/31/20 10:40	
Indeno(1,2,3-cd)pyrene	ug/L	0.12 U	0.15	0.12	08/31/20 10:40	
Naphthalene	ug/L	0.29 U	2.0	0.29	08/31/20 10:40	
Phenanthrene	ug/L	0.16 U	0.50	0.16	08/31/20 10:40	
Pyrene	ug/L	0.032 U	0.50	0.032	08/31/20 10:40	
2-Fluorobiphenyl (S)	%	59	38-92		08/31/20 10:40	
p-Terphenyl-d14 (S)	%	71	54-112		08/31/20 10:40	

LABORATORY CONTROL SAMPLE: 3596415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1-Methylnaphthalene	ug/L	5	3.0	60	40-96	
2-Methylnaphthalene	ug/L	5	2.9	59	40-94	
Acenaphthene	ug/L	5	3.1	61	42-96	
Acenaphthylene	ug/L	5	3.0	59	39-90	
Anthracene	ug/L	5	3.6	72	46-109	
Benzo(a)anthracene	ug/L	5	4.6	92	50-116	
Benzo(a)pyrene	ug/L	5	4.3	86	48-117	
Benzo(b)fluoranthene	ug/L	5	4.6	92	51-124	
Benzo(g,h,i)perylene	ug/L	5	4.4	89	47-121	
Benzo(k)fluoranthene	ug/L	5	4.5	90	50-125	
Chrysene	ug/L	5	4.8	95	53-122	
Dibenz(a,h)anthracene	ug/L	5	4.3	86	45-123	
Fluoranthene	ug/L	5	4.4	88	52-119	
Fluorene	ug/L	5	3.2	64	44-100	
Indeno(1,2,3-cd)pyrene	ug/L	5	4.4	87	46-121	

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

LABORATORY CONTROL SAMPLE: 3596415

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Naphthalene	ug/L	5	2.9	59	40-91	
Phenanthrene	ug/L	5	3.7	74	47-111	
Pyrene	ug/L	5	4.3	87	51-120	
2-Fluorobiphenyl (S)	%			60	38-92	
p-Terphenyl-d14 (S)	%			78	54-112	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 3598228 3598229

Parameter	Units	35573824003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1-Methylnaphthalene	ug/L	0.19 U	5	5	2.5	3.2	50	64	40-96	23	40	
2-Methylnaphthalene	ug/L	0.68 U	5	5	2.5	3.2	50	63	40-94	23	40	
Acenaphthene	ug/L	0.040 U	5	5	2.7	3.3	53	67	42-96	23	40	
Acenaphthylene	ug/L	0.030 U	5	5	2.6	3.3	51	65	39-90	24	40	
Anthracene	ug/L	0.043 U	5	5	3.4	3.9	68	77	46-109	12	40	
Benzo(a)anthracene	ug/L	0.055 U	5	5	4.5	4.6	89	91	50-116	2	40	
Benzo(a)pyrene	ug/L	0.12 U	5	5	4.1	4.3	82	85	48-117	4	40	
Benzo(b)fluoranthene	ug/L	0.027 U	5	5	4.3	4.5	86	90	51-124	4	40	
Benzo(g,h,i)perylene	ug/L	0.15 U	5	5	4.1	4.3	83	86	47-121	4	40	
Benzo(k)fluoranthene	ug/L	0.16 U	5	5	4.3	4.4	85	87	50-125	3	40	
Chrysene	ug/L	0.026 U	5	5	4.5	4.7	91	94	53-122	4	40	
Dibenz(a,h)anthracene	ug/L	0.13 U	5	5	4.0	4.2	80	84	45-123	4	40	
Fluoranthene	ug/L	0.018 U	5	5	4.3	4.4	86	89	52-119	3	40	
Fluorene	ug/L	0.088 U	5	5	2.9	3.6	58	71	44-100	20	40	
Indeno(1,2,3-cd)pyrene	ug/L	0.12 U	5	5	4.1	4.2	81	84	46-121	3	40	
Naphthalene	ug/L	0.29 U	5	5	2.5	3.1	49	61	40-91	22	40	
Phenanthrene	ug/L	0.16 U	5	5	3.5	4.0	71	79	47-111	12	40	
Pyrene	ug/L	0.032 U	5	5	4.3	4.4	86	88	51-120	2	40	
2-Fluorobiphenyl (S)	%						50	64	38-92			
p-Terphenyl-d14 (S)	%						76	77	54-112			

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QUALITY CONTROL DATA

Project: Tom Thumb # 140
Pace Project No.: 35573805

QC Batch: 661278
QC Batch Method: EPA 3510
Analysis Method: FL-PRO
Analysis Description: FL-PRO Water Low Volume
Laboratory: Pace Analytical Services - Ormond Beach

Associated Lab Samples: 35573805001

METHOD BLANK: 3595944 Matrix: Water
Associated Lab Samples: 35573805001

Parameter	Units	Blank Result	Reporting Limit	MDL	Analyzed	Qualifiers
Petroleum Range Organics	mg/L	0.80 U	1.0	0.80	08/29/20 14:45	
N-Pentatriacontane (S)	%	92	42-159		08/29/20 14:45	
o-Terphenyl (S)	%	70	66-139		08/29/20 14:45	

LABORATORY CONTROL SAMPLE: 3595945

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Petroleum Range Organics	mg/L	5	3.6	71	66-119	
N-Pentatriacontane (S)	%			100	42-159	
o-Terphenyl (S)	%			69	66-139	

MATRIX SPIKE SAMPLE: 3596349

Parameter	Units	35573825006 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
Petroleum Range Organics	mg/L	0.74 U	4.6	3.8	80	65-123	
N-Pentatriacontane (S)	%				101	42-159	
o-Terphenyl (S)	%				85	66-139	

SAMPLE DUPLICATE: 3596350

Parameter	Units	35573826003 Result	Dup Result	RPD	Max RPD	Qualifiers
Petroleum Range Organics	mg/L	0.79 U	0.79 U		20	
N-Pentatriacontane (S)	%	99	98			
o-Terphenyl (S)	%	75	75			

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QUALIFIERS

Project: Tom Thumb # 140
Pace Project No.: 35573805

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to dilution of the sample aliquot.

ND - Not Detected at or above adjusted reporting limit.

TNTC - Too Numerous To Count

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit - The lowest concentration value that meets project requirements for quantitative data with known precision and bias for a specific analyte in a specific matrix.

S - Surrogate

1,2-Diphenylhydrazine decomposes to and cannot be separated from Azobenzene using Method 8270. The result for each analyte is a combined concentration.

Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

U - Indicates the compound was analyzed for, but not detected.

N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.

Pace Analytical is TNI accredited. Contact your Pace PM for the current list of accredited analytes.

TNI - The NELAC Institute.

ANALYTE QUALIFIERS

I	The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
U	Compound was analyzed for but not detected.
J(M1)	Estimated Value. Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
J(v1)	The continuing calibration verification was above the method acceptance limit. Any detection for the analyte in the associated samples may have a high bias.
c2	Acid preservation may not be appropriate for the analysis of 2-Chloroethylvinyl ether.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Tom Thumb # 140
Pace Project No.: 35573805

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
35573805001	**MW-1**	EPA 8011	661156	EPA 8011	661332
35573805001	**MW-1**	EPA 3510	661278	FL-PRO	661474
35573805001	**MW-1**	EPA 3010	661402	EPA 6010	661403
35573805001	**MW-1**	EPA 3510	661349	EPA 8270 by SIM	661756
35573805001	**MW-1**	EPA 8260	661482		
35573805001	**MW-1**	EPA 8260	663400		

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WO# : 35573805

35573805

Chain of Custody Record

N12/N

Lab Report No.:

Company: AE

Address: 1318 Dunmire St STE 1
Pensacola, FL 32504

Gulf Coast LabNet, Inc.
Environmental Lab Services Co.

Phone: (251) 625-1331
Fax: (251) 625-1299

Modified from DEP Form #: 62-770.900(2) | Page 1 of 1

FDEP Facility No.: 57/9805862

Project Name: Tom Thumb #140

Location: Gulf Breeze, FL

Project No.: 27360.02

Attn: | Phone: | Fax:

Sampled by [Print Name]/Affiliation: Avery Van Brussel/AET

Sampler Signature: Avery Van Brussel

Item No.	Field ID No.	Sampled Date	Sampled Time	Grab or Comp.	Matrix Codes	No. Cont.	8260 VOHs/BTEX H	PAHs 8270 H	T12PH FL-PRO I	EDB 8011 H	Pb 6010 N				←Preservative / ←Analysis	Remarks	Lab. No.
1	MW-1	8-25-20	14:27	G	GW	8	X	X	X	X	X					VOHs/BTEX does not equal Full VOCs	

REQUESTED DUE DATE: Standard

Shipment Method

Out: 8/26/20 Via: LabNet

Returned: / / Via:

Additional Comments

8 ←Total Number of Containers

Item #	Relinquished by / Affiliation	Date	Time	Accepted by / Affiliation	Date	Time
	Avery Van Brussel/AET	8-26-20	1400		8-26-20	1400
		8-26-20	1700	FedEx Ground	8-26-20	1700
	FedEx Ground			UNIT	8/26/20	11:55

Cooler No.(s) / Temperature(s) (°C): 2.4/C

Sampling Kit No.:

Equipment ID No.:

6223

Page 19 of 29

MATRIX CODES: A = Air GW = Groundwater SE = Sediment SO = Soil SW = Surface Water W = Water (Blanks) O = Other (specify)

PRESERVATIVE CODES: H = Hydrochloric acid + ice I = Ice only N = Nitric acid + ice S = Sulfuric acid + ice O = Other (specify)

Pace Analytical	Document Name: Sample Condition Upon Receipt Form Document No.: F-FL-C-007 rev. 13	Document Revised: May 30, 2018 Issuing Authority: Pace Florida Quality Office

Sample Condition Upon Receipt Form (SCUR)

WO#: 35573805
PM: SMM Due Date: 09/02/20
CLIENT: 36-GCLN

Project
Project Manage
Client

Date and Initials of person:
Examining contents: CMT
Label:
Deliver:
pH:

Thermometer Used: T349 Date: 8/27/20 Time: 1219 Initials: CSA

State of Origin: ☐ For WV projects, all containers verified to ≤6 °C

Cooler #1 Temp.°C 2.5	(Visual) -0.1	(Correction Factor) 2.4	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #2 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #3 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #4 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #5 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun
Cooler #6 Temp.°C	(Visual)	(Correction Factor)	(Actual)	☐ Samples on ice, cooling process has begun

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace ☐ Other

Shipping Method: ☐ First Overnight ☐ Priority Overnight ☐ Standard Overnight ☐ Ground ☐ International Priority ☐ Other

Billing: ☑ Recipient ☐ Sender ☐ Third Party ☐ Credit Card ☐ Unknown

Tracking # 771367747063

Custody Seal on Cooler/Box Present: ☑ Yes ☐ No **Seals intact:** ☐ Yes ☐ No **Ice:** ☑ Wet ☐ Blue ☐ Dry ☐ None

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☑ Other foam

Samples shorted to lab (If Yes, complete) Shorted Date: Shorted Time: Qty:

		Comments:
Chain of Custody Present	☑ Yes ☐ No ☐ N/A	
Chain of Custody Filled Out	☑ Yes ☐ No ☐ N/A	
Relinquished Signature & Sampler Name COC	☑ Yes ☐ No ☐ N/A	
Samples Arrived within Hold Time	☑ Yes ☐ No ☐ N/A	
Rush TAT requested on COC	☐ Yes ☑ No ☐ N/A	
Sufficient Volume	☑ Yes ☐ No ☐ N/A	
Correct Containers Used	☑ Yes ☐ No ☐ N/A	
Containers Intact	☑ Yes ☐ No ☐ N/A	
Sample Labels match COC (sample IDs & date/time of collection)	☑ Yes ☐ No ☐ N/A	
All containers needing acid/base preservation have been checked. All Containers needing preservation are found to be in compliance with EPA recommendation: Exceptions: VOA, Coliform, TOC, O&G, Carbamates	☑ Yes ☐ No ☐ N/A ☑ Yes ☐ No ☐ N/A	Preservation Information: Preservative: Lot #/Trace #: Date: Time: Initials:
Headspace in VOA Vials? (>6mm):	☐ Yes ☑ No ☐ N/A	
Trip Blank Present:	☐ Yes ☑ No ☐ N/A	

Client Notification/ Resolution:
Person Contacted: Date/Time:

Comments/ Resolution (use back for additional comments):

Project Manager Review: Date:

Benzo(a)pyrene Conversion Table

For Direct Exposure Soil Cleanup Target Levels

Facility/Site Name: Tom Thumb Food Store #140
Location: Gulf Breeze, Santa Rosa County
Facility/Site ID No.: 57/9805882

Soil Sample No. SB1-1
Sample Date 2/18/2020
Location: SB1
Depth (ft): 0-1

INSTRUCTIONS: Calculate Total Benzo(a)pyrene Equivalents if at least one of the carcinogenic PAHs is detected in the sample at a concentration equal to or higher than the Method Detection Limit (MDL), whether quantified with certainty (the concentration reported has no qualifier) or estimated (the concentration reported has a "J", "T" or "I" qualifier). Enter the contaminant concentrations (in mg/kg) for all seven carcinogenic PAHs in the yellow boxes using the following criteria (and see table below):

1. If quantified with certainty, or estimated and has the "J" qualifier, enter the reported value;
2. If not detected at the MDL (the concentration reported is the MDL followed by the "U" qualifier) enter 1/2 of the reported value;
3. If detected at a concentration lower than the MDL and the concentration is estimated (has the "T" qualifier) enter the estimated value;
4. If detected at a concentration equal to or higher than the MDL but lower than the Practical Quantitation Limit (PQL) and the concentration is estimated (has the "I" qualifier) enter the estimated value;
5. If detected at a concentration equal to or higher than the MDL but lower than the PQL and it is not estimated (the concentration reported is the PQL followed by the "M" qualifier) enter 1/2 of the reported value.

Contaminant	Concentration (mg/kg)	Toxic Equivalency Factor	Benzo(a)pyrene Equivalents
Benzo(a)pyrene	0.010	1.0	0.0100
Benzo(a)anthracene	0.011	0.1	0.0011
Benzo(b)fluoranthene	0.013	0.1	0.0013
Benzo(k)fluoranthene	0.005	0.01	0.0000
Chrysene	0.006	0.001	0.0000
Dibenz(a,h)anthracene	0.004	1.0	0.0041
Indeno(1,2,3-cd)pyrene	0.004	0.1	0.0004

DE Residential = 0.1 mg/kg; DE Industrial = 0.7 mg/kg

Total Benzo(a)pyrene Equivalents = **0.0**

The concentration shown does not exceed the Residential Direct Exposure SCTL of 0.1 mg/kg.

The concentration shown does not exceed the Industrial Direct Exposure SCTL of 0.7 mg/kg.

Summary Criteria for Table Entries			
Detection	**Concentration Reported**	**Data Qualifier**	**Enter**
Various	Quantified with certainty	None	reported value
Various	Estimated	J	reported (estimated) value
ND at MDL	MDL	U	1/2 reported value
< MDL	Estimated	T	reported (estimated) value
≥ MDL but < PQL	Estimated	I	reported (estimated) value

≥ MDL but < PQL	PQL	M	1/2 reported value

Advanced Environmental TECHNOLOGIES, LLC

ELECTRONIC SIGNATURE REPORT

Florida Professional Engineer Licensee: Debra Joy Hitchcock

Florida Professional Engineer License Number: 53473

Client Name: Florida Department of Health Escambia County

Project Name: Tom Thumb Food Mart #140 FAC ID 57/9805882

List of the Electronically Signed and Sealed Engineering Documents:

DESCRIPTION	SHA-1 AUTHENTICATION CODE
Site Assessment Report	20392A4A9E62832D572C46446622629C82A89608

Florida Professional Engineer Signature, Seal, and Date:



Signature

Date: 10/19/2022

Debra J. Hitchcock, P.E.
State of Florida License No. 53473
AET Certificate of Authorization No. 8215
1318 Dunmire Street, Suite 1
Pensacola, Florida 32504

October 26, 2020

(Sent via email only to addressee at CJohnson@cumberlandfarms.com)

Christopher Johnson
EG Retail – Cumberland Farms, Inc.
165 Flanders Rd
Westborough, MA 01581

Subject: Deliverable Review
Tom Thumb Food Store #140
4991 Gulf Breeze Parkway
Gulf Breeze, Santa Rosa County
FDEP FAC ID #579805882
Discharge Date: July 3, 2019 (Non-program)

Dear Mr. Johnson:

The Florida Department of Health in Escambia County (FDOH-Escambia), on behalf of the Florida Department of Environmental Protection (FDEP), has reviewed the Site Assessment Report dated October 19, 2020 (received October 19, 2020), submitted for the above referenced site. We found the documents submitted to date to be adequate to meet the requirements of Chapter 62-780, Florida Administrative Code (F.A.C.), and applicable FDEP guidelines.

We do not agree with your recommendation to issue a No Further Action for this discharge at this time. We recommend that additional monitoring well installation and semi-annual groundwater sampling is necessary to determine the groundwater quality in the area of impact. One (1) shallow monitoring well should be installed 15-20 feet South of MW-1, and one (1) shallow monitoring well should be installed adjacent to SB-1 or SB-2.

The first semi-annual groundwater sampling event should be conducted no sooner than February 24, 2021. All monitoring wells, including MW-1, should be sampled and analyzed for BTEX/MTBE, PAHs, and TRPH. Depth-to-water measurements should be collected from all monitoring wells to obtain groundwater flow direction data, as well.

A Supplemental Site Assessment Report (SSAR) is due to be submitted no later than 150 days from the date of this letter. After submittal of the SSAR, please be advised that additional requirements for cleanup of the contamination may apply.

The FDEP Facility Number for this site is 579805882. Please use this identification on all future correspondence. We request that you keep us informed of petroleum cleanup activities at this site, and when applicable, submit notification as required by Chapter 62-780, F.A.C.

If you have any questions or require additional information, please contact us at (850) 595-6700, ext. 2009, or at the Florida Department of Health in Escambia County – Environmental Health Division, 1300 West Gregory Street, Pensacola, Florida 32502-3724.

Sincerely,

Jessica Batres

Jessica L. Batres
Environmental Specialist II
Florida Department of Health in Escambia County
Jessica.Batres@flhealth.gov

jlb

ec: Jodi Marsden, Advanced Environmental Technologies, LLC – JMarsden@aetllc.com
Debbie Hitchcock, Advanced Environmental Technologies, LLC – DHitchcock@aetllc.com

Site Manager
File

6.0 PHASE I CULTURAL RESOURCES SURVEY

A PHASE I CULTURAL RESOURCES SURVEY FOR THE SOUTH SANTA ROSA COUNTY SPORTS COMPLEX, SANTA ROSA COUNTY, FLORIDA

Prepared by
TerraXplorations, Inc.

Prepared for
Moffatt & Nichol



TerraXplorations, Inc.
257 Pinehill Drive
Mobile, Alabama 36606
www.terraxplorations.com

January 2021

Moffatt & Nichol
730 Bayfront Parkway
Pensacola, Florida 32502

A PHASE I CULTURAL RESOURCES SURVEY FOR THE SOUTH SANTA ROSA COUNTY SPORTS COMPLEX, SANTA ROSA COUNTY, FLORIDA

By
Amy Carruth

Prepared for:

Moffatt & Nichol
730 Bayfront Parkway
Pensacola, Florida 32502

Prepared by:

TerraXplorations, Inc.
257 Pinehill Drive
Mobile, Alabama 36606

Principal Investigator



Emily Warner

TerraX Report No. 2020.388

January 19, 2021

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ABSTRACT

TerraXplorations, Inc. (TerraX) of Mobile, Alabama was contracted by Moffatt & Nichol of Pensacola, Florida to conduct a cultural resources survey for the proposed South Santa Rosa County Sports Complex in Santa Rosa County, Florida. The survey area totals approximately 22.78 acres (9.2 hectares) and is located south of U.S. Highway 98 between Gulf Breeze and Navarre. The investigation was performed on January 13-15, 2021.

No archaeological sites or cultural resources were encountered and no further cultural resource investigations are recommended for the proposed project.

PHASE I CULTURAL RESOURCES SURVEY FOR THE SOUTH SANTA ROSA COUNTY SPORTS COMPLEX, SANTA ROSA COUNTY, FLORIDA

INTRODUCTION

TerraXplorations, Inc. (TerraX) of Mobile, Alabama was contracted by Moffatt & Nichol of Pensacola, Florida to conduct a Phase I cultural resources survey of approximately 22.78 acres (9.2 hectares) for the proposed South Santa Rosa County Sports Complex within Santa Rosa County, Florida. The Phase I survey was conducted on January 13-15, 2021 by Emily Warner, Principal Investigator, who was assisted by Brogan Latil. The purpose of this study was to determine if any prehistoric or historic properties exist within the limits of the survey tract, and if so, to document and assess each based on the National Register of Historic Places (NRHP) criteria. This investigation was conducted in accordance with Chapter 267 Florida Statutes and conformed to Chapter 1A-46, Florida Administrative Code and the Cultural Resource Management Standards and Operation Manual (FDHR 2002). The property is owned by Pensacola State College and will be leased by Santa Rosa County in order to build a sports complex using county funds. An Archaeological Research Permit (#2021.029) was obtained prior to field work (see Appendix A).

The proposed 22.78-acre sports complex is located in Section 25, Township 2 South, Range 28 West as shown on the 1994 Garcon Point, Florida USGS 7.5' series topographical map (Figure 1). This is on the Gulf Breeze Peninsula with East Bay to the north and Santa Rosa Sound to the south. More specifically, it is south of U.S. Highway 98 (Gulf Breeze Parkway), east of Nantahala Beach Road, west of the Woodlawn Heights subdivision, and north of Woodlawn Beach Middle School (Figure 2). Photographs depicting the present state of the land within the project area are provided (Figures 3-10).

PROJECT AREA ENVIRONMENT AND LAND USE

The survey tract lies within the Southern Pine Plains and Hills area of the Southeastern Plains ecoregion. This contains a mixture of cropland, pasture, woodland, and forest. Native vegetation was mainly longleaf pine with some oak-pine and southern mixed forest. This has been replaced by slash and loblolly pine plantations, decimating the habitat of rare or endangered species such as red-cockaded woodpecker, gopher tortoise, eastern indigo snake, and black pine snake (Griffith et al. 2001a, b). Elevations are about 30 feet above mean sea level (AMSL) within the primarily flat study area with a large wetland area to the east and smaller wetlands to the south and west.

According to the *Soil Survey of Santa Rosa County* (Weeks et al. 1980), Santa Rosa County has a warm, humid-temperate climate. Summers are long, warm and humid and winters are short and mild, moderated near the coast by effects of the Gulf of Mexico. Summer temperatures average about 80 degrees Fahrenheit (F) and winter temperatures average about 54 degrees F. Annual rainfall averages about 65 inches with about 45 percent of the total annual rainfall occurring from June to September. Most summer rainfall usually comes from afternoon to evening local thundershowers, but over nine inches of rainfall within a 24-hour period may occur; such heavy rainfall events are typically associated with tropical storms. Destructive hurricanes historically occur about one in eight years.

According to the Web Soil Survey (2020), there are four soil types within the proposed project area (Figure 11). About half the project area contains Leon sand, 0 to 2 percent slopes (#24 on Figure 11). This poorly drained soil occurs on broad low positions on the Coastal Plain with most remaining in natural vegetation. It is not suited for cultivated crops. Slightly less than one-third of the area contains Ortega sand, 0 to 5 percent slopes (#33). This moderately well drained soil is found on broad areas that are slightly higher than



Figure 1. *Map showing the project area.*

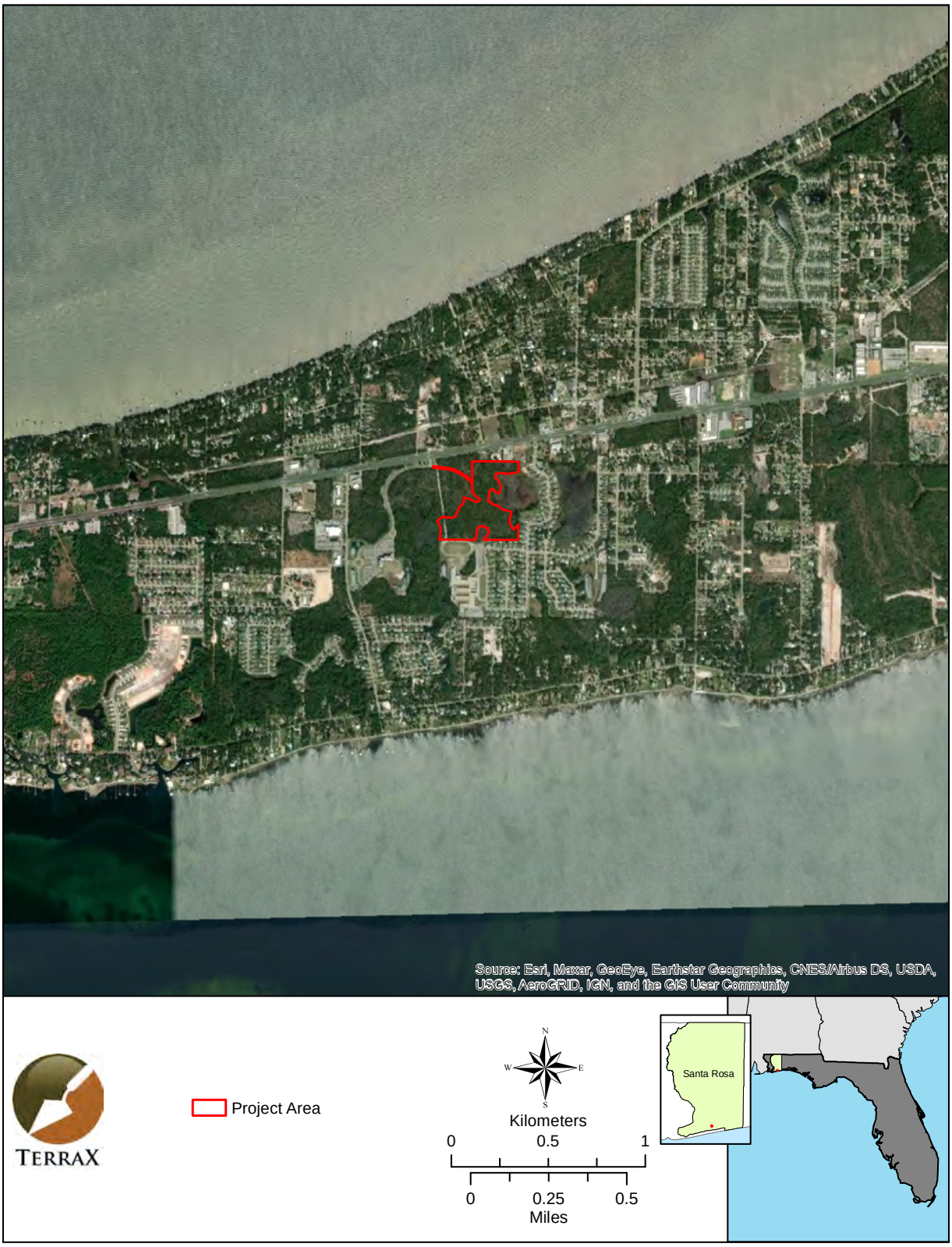


Figure 2. *Aerial image showing the project area.*



Figure 3. *View from end of northwestern projection in project area, facing east.*



Figure 4. *View of typical vegetation in central portion of project area, facing northeast.*



Figure 5. *View of southern boundary of project area, facing east.*



Figure 6. *View of existing road along southwestern portion of project area, facing north.*



Figure 7. *View of thick vegetation in southern portion of project area, facing northeast.*



Figure 8. *View of swamp in south-central portion of project area, facing east.*



Figure 9. *View of modern trash in southwestern portion of project area, facing west.*



Figure 10. *View of typical vegetation in central portion of project area, facing north.*

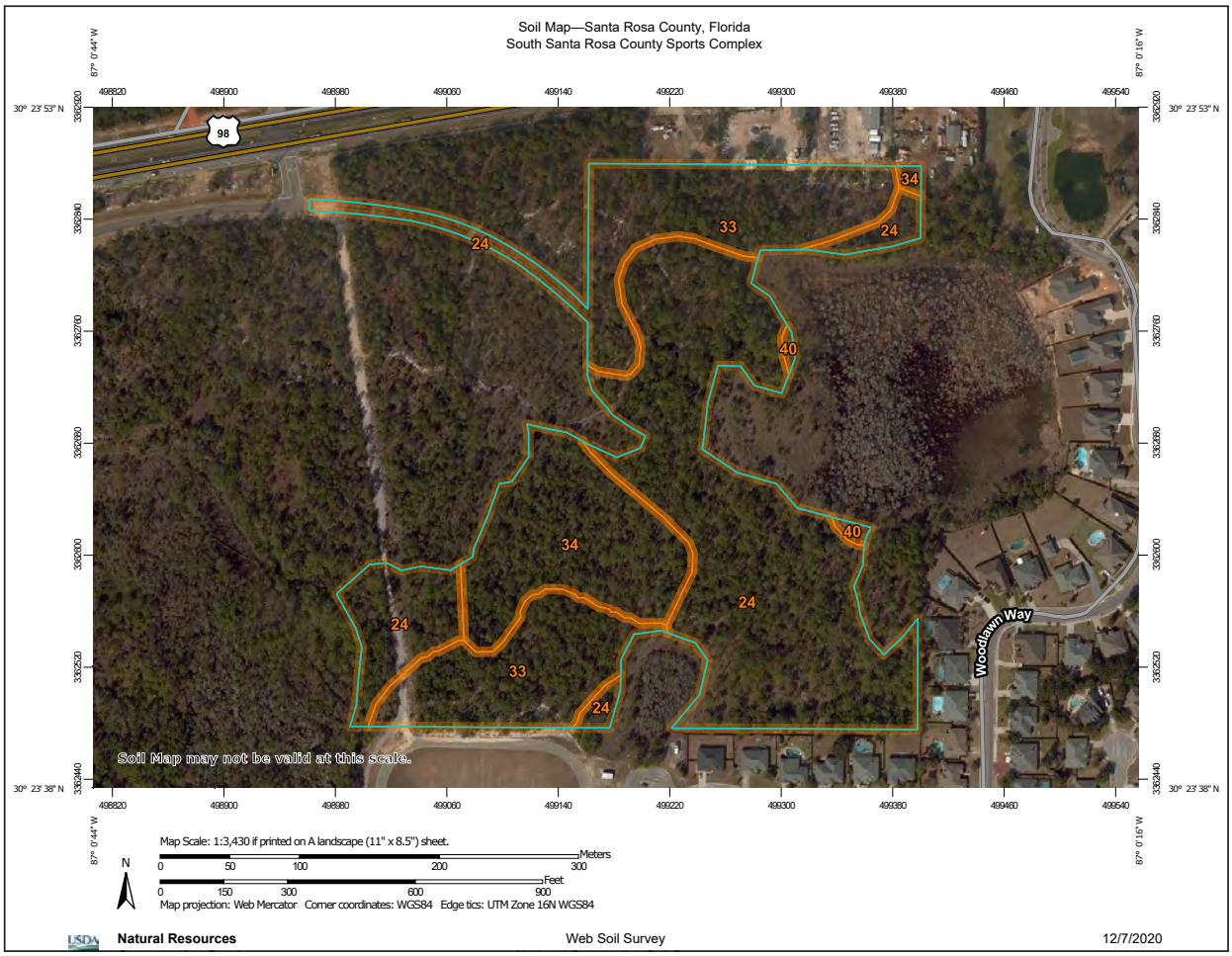


Figure 11. *Aerial image showing the soil types within the study area.*

the adjacent flatwoods. It is also not well suited for crops and most is in natural vegetation. Pactolus loamy sand, 0 to 5 percent slopes (#34) accounts for about 17 percent of the project area. It is moderately well drained to somewhat poorly drained and is found on low positions in the uplands. While most remains in woodland, it is moderately suited for crops. Less than one percent of the project area contains Rutlege loamy sand (#40). This very poorly drained soil occurs along small stream bottoms, in ponded areas, and on low upland flats. It is not suited for crops and remains in natural vegetation (Weeks et al. 1980).

The 1921 Pensacola 15' series USGS topographic map depicts only forest with an unimproved road cutting across the southern portion of the project area (Figure 12). A 1925 U.S. Coast and Geodetic Survey map shows roads running roughly north-south through the project area as well as across the northwestern portion (Figure 13). The 1941 and 1942 Pensacola 15' series topo maps both depict U.S. Highway 98 to the north, an unimproved road along the western border, and trails running diagonally northeast-southwest and across the northwestern portion of the project area (Figure 14). A structure is seen outside the project area to the southwest. The 1944 Garcon Point 1:25000 map is similar with an additional structure adjacent to the one southwest of the project area (Figure 15). By the time of the 1970 Garcon Point 7.5' series topo map, the trail shown through the project area now runs northwest-southeast, but the unimproved road along the west is unchanged. Midway Landing Strip is to the east. Numerous structures are scattered along U.S. Highway 98. Houses and piers/docks line Santa Rosa Sound and East Bay (Figure 16). The 1987 photorevised Garcon Point map shows increased structures in the vicinity, but none within the project area (Figure 17).

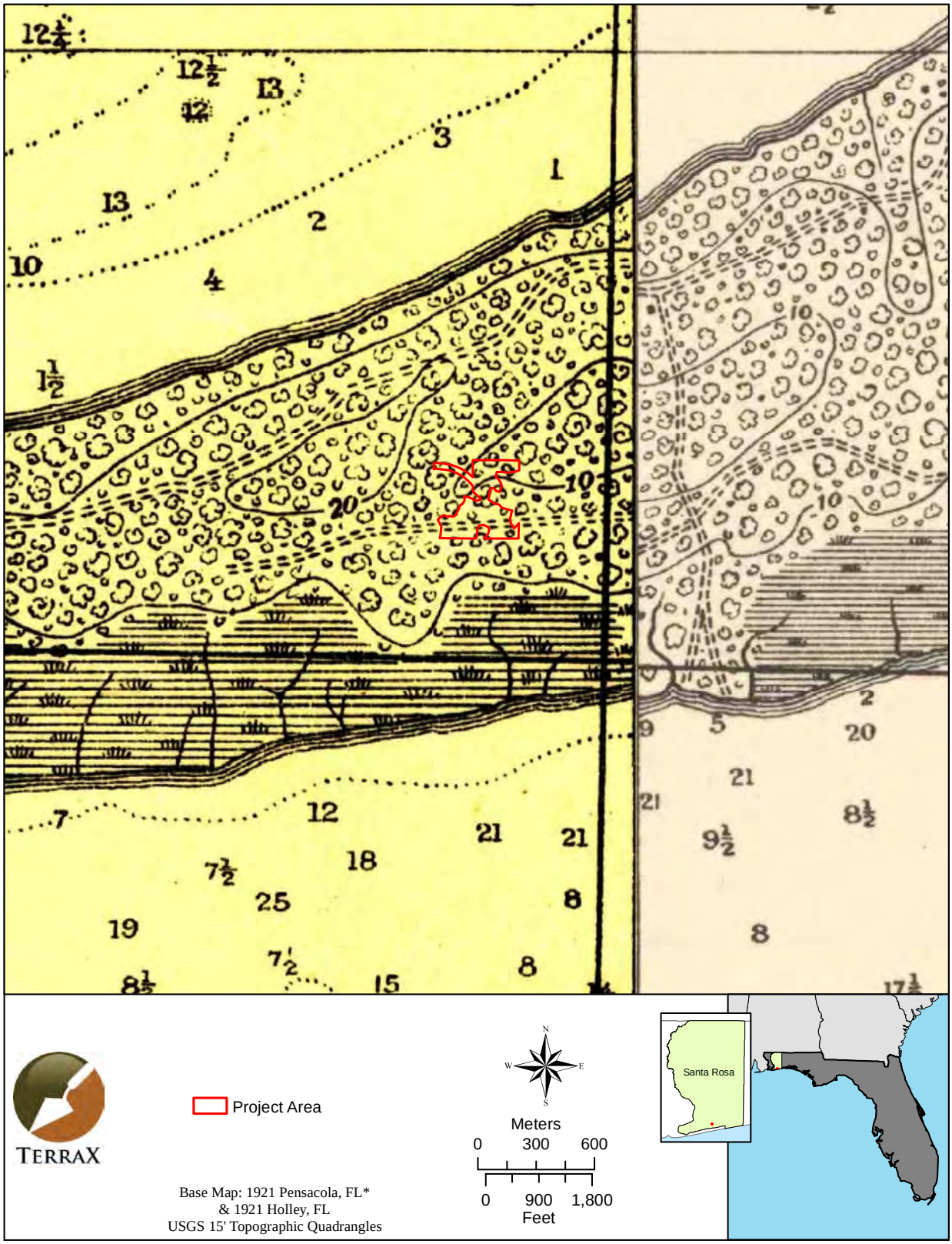


Figure 12. *Historic 1921 map showing the project area and surroundings.*

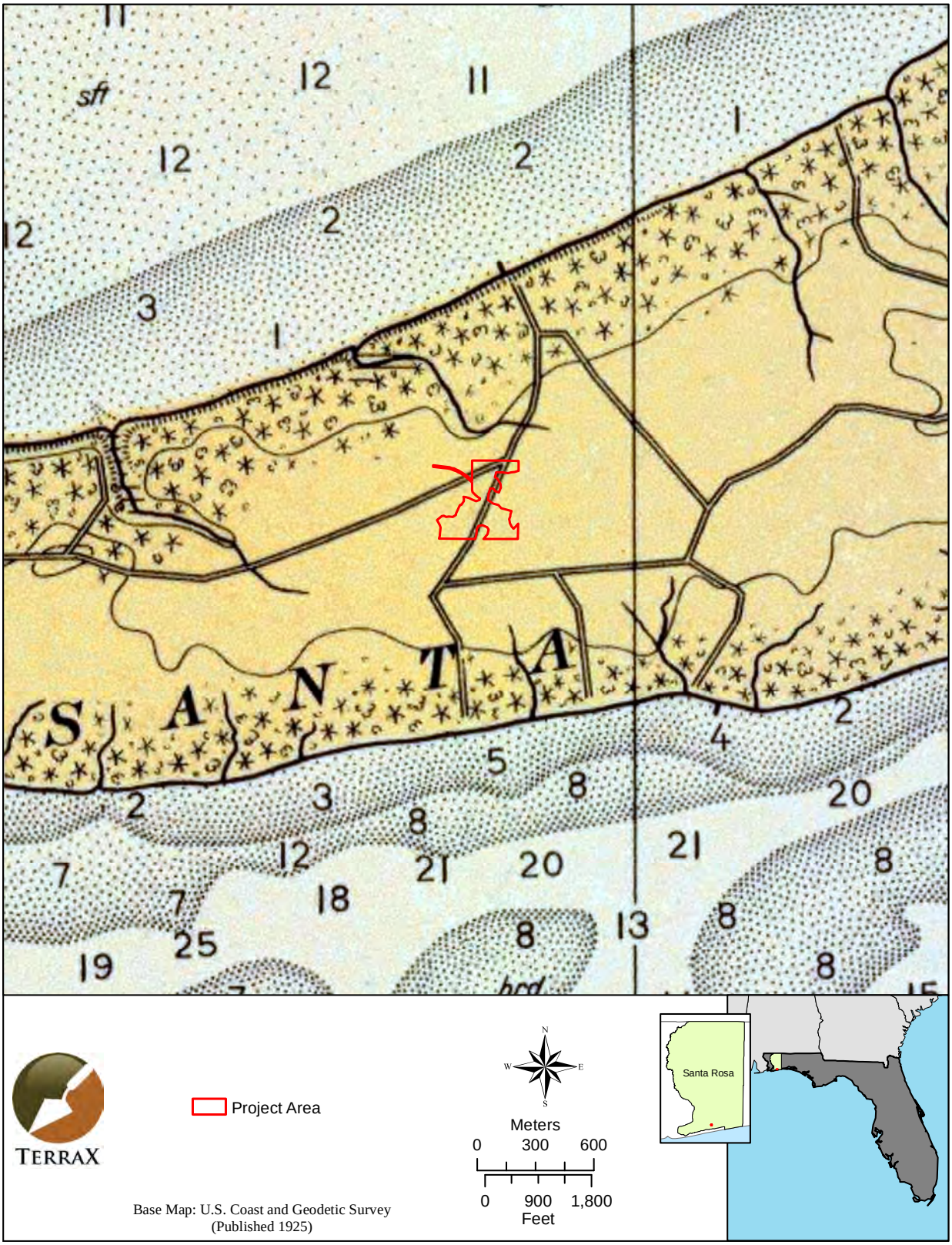


Figure 13. *Historic 1925 map showing the project area and surroundings.*

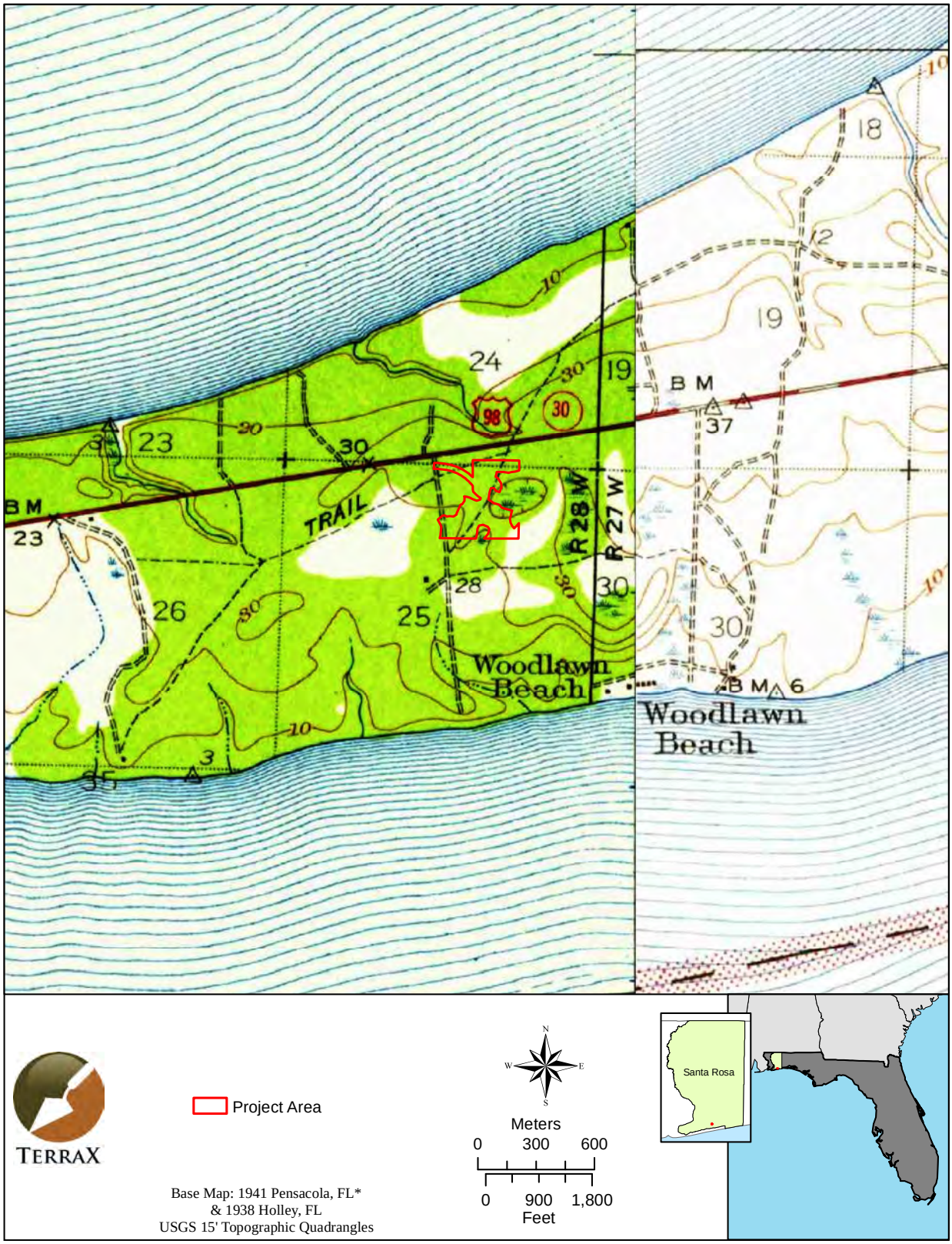


Figure 14. *Historic 1941 map showing the project area and surroundings.*

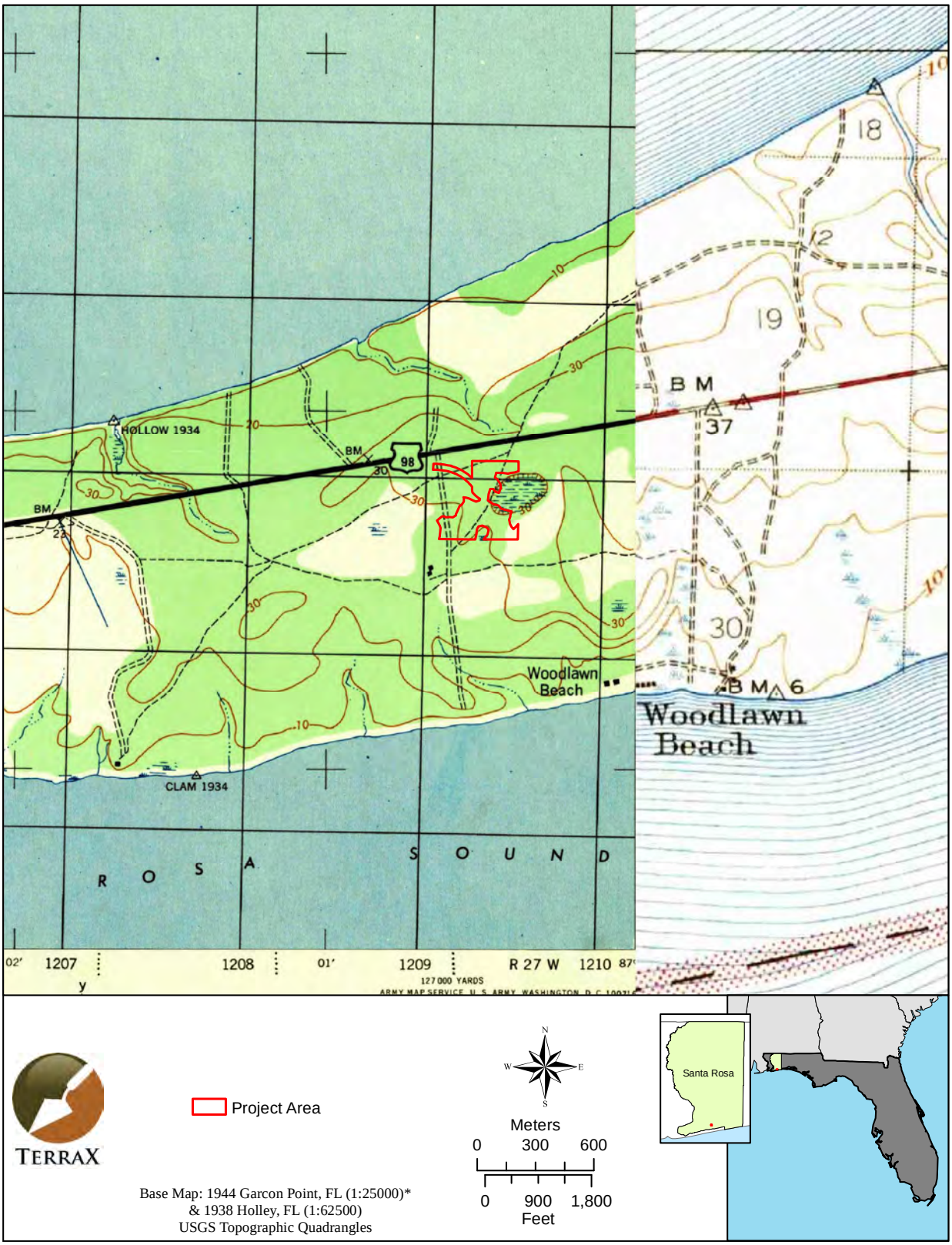


Figure 15. *Historic 1944 map showing the project area and surroundings.*



Figure 16. *Historic 1970 map showing the project area and surroundings.*



Figure 17. *Photorevised 1987 map showing the project area and surroundings.*

LITERATURE AND DOCUMENT SEARCH

A literature and document search was conducted in order to gather pertinent background information regarding the subject property and its surroundings. This research included inspections of the Florida Master Site File (FMSF) records as well as the National Register of Historic Places (NRHP) (National Park Service 2020). No NRHP-listed sites are located within a mile of the study area. Queries of the FMSF records were conducted for the purpose of identifying any previously recorded archaeological or historical sites and/or surveys within one mile of the project area.

Background research revealed one previously identified archaeological site, 10 previously conducted cultural resource surveys, and 16 previously recorded historic resources within a mile of the study area (Figure 18; Tables 1 and 2). While two previous surveys appear to encompass a portion of the northern part of the project area, these areas were not shovel tested. Survey #3489 consisted of a vehicular and pedestrian survey by Florida Department of Transportation archaeologists for a sidewalk within the existing right-of-way (Browning and Jackson 1993). Survey #25441 only inspected those portions of the overall survey that contained previously recorded sites, which does not include this proposed project area (RabbySmith et al. 2018).

Site 8SR00001 was recorded by Gordon R. Willey in 1949, but had been partially excavated by C.B. Moore 50 years earlier. Willey documented two low sand mounds and a midden. Both primary flexed and secondary human burials were found. The site has been revisited by the University of West Florida (UWF) in 1997 and 2011, and in 2006 by researchers with the Conservation and Recreational Land (CARL) project. CARL archaeologists also documented human burials and artifacts, but made no collection. All remains and artifacts were reburied. UWF was called to the site in 2011 when the landowner unearthed human remains while constructing a new home. Research Associate Norma Harris and Biological Anthropologist Dr. Joanne Curtin confirmed the bones were human. Dr. Ryan Wheeler, State Archaeologist, was contacted, who directed that the bones be reburied. The site has not been evaluated by SHPO.

Historic maps were inspected for the presence of possible structures in the project area. The 1921, 1941, and 1942 Pensacola 15' series maps; the 1944 Garcon Point 1:25000 map; and 1970 Garcon Point 7.5' series map do not show any historic structures within the survey area.

CULTURAL OVERVIEW

PREHISTORIC

Earliest indications of human habitation in the Florida panhandle date to approximately 8,000 years ago, about 4,000 years after the earliest evidence of human presence in Florida. Florida's earliest known cultural era is the Paleoindian, dating to over 9,900 years ago. Lanceolate lithic artifacts with concave bases diagnostic of Paleoindian cultures have been found primarily in tertiary karst areas of Florida, near springs, sinks and lithic outcroppings. Some examples exhibit overshot flaking, basal grinding and waisted sides. Microliths, unifacial scrapers, bifacial knives, spokeshaves and bola stones are sometimes found in Paleoindian contexts. The perspective of Paleoindian lifeways as nomadic hunting and gathering has been amended by archaeological evidence from Florida sites including Harney Flats (Daniel and Wisenbaker 1987), Little Salt Spring (Clausen et al. 1979), and St. George Point (Thulman 2009). Evidence from these sites indicate that rather than strict reliance on extinct megafauna for food, Florida's earliest known people also subsisted on a wide variety of flora and fauna typical of subsequent precontact cultural eras.

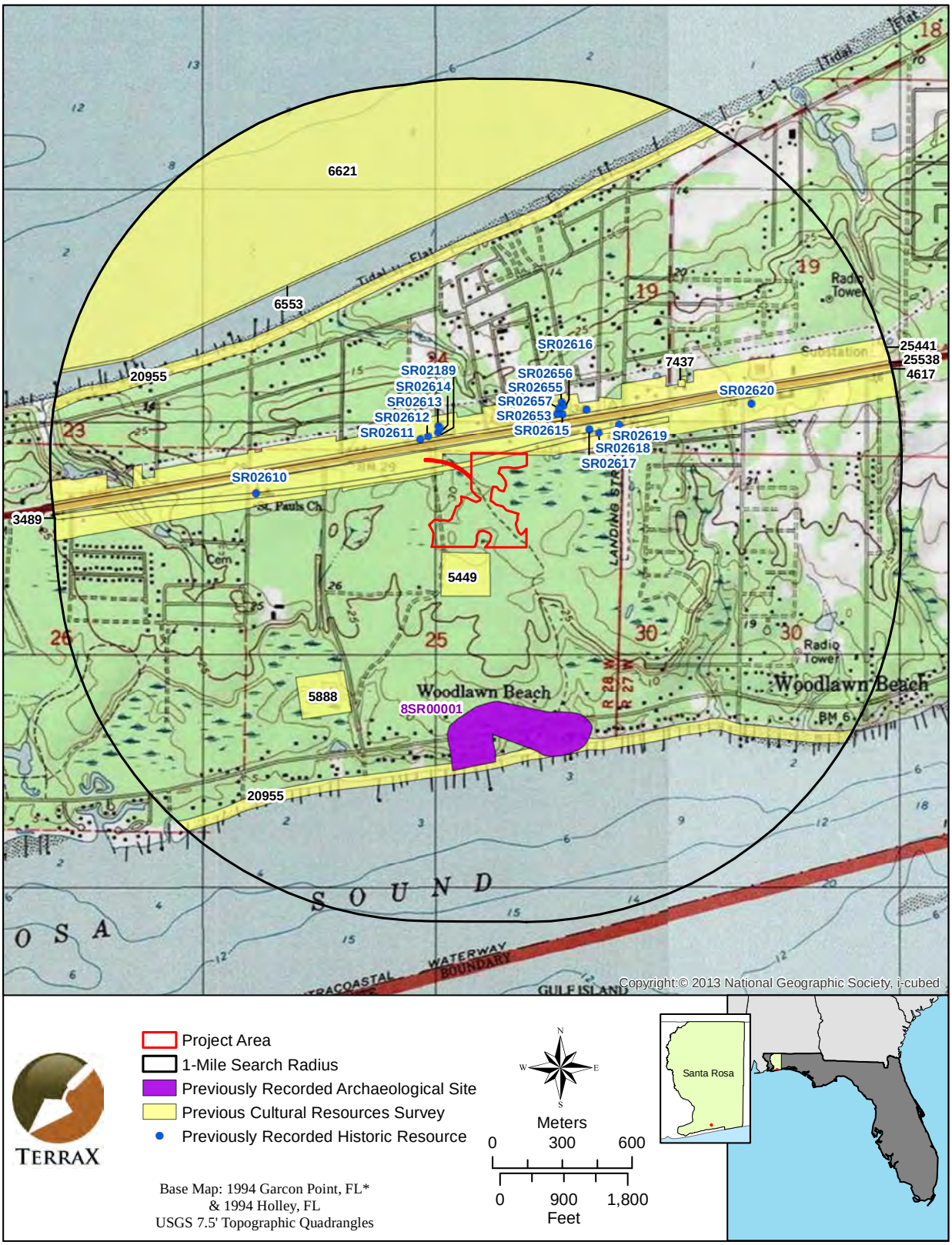


Figure 18. *Map showing previous surveys, previously recorded archaeological site, and previously recorded historic resources within a one mile radius of the study area.*

Table 1. Previously conducted surveys within one mile of the project area.		
Report number	Report Title	Reference
25441	Cultural Resource Assessment Survey Update of SR 30 (US 98) from Portside Drive to Okaloosa County Line and SR 30 (US 98) from Santa Rosa County Line to SR 393 (Mary Esther Blvd), Santa Rosa and Okaloosa Counties, Florida	Steve RabbySmith & David Ray 2018
25538	Technical Memorandum: Effects Assessment for the Cultural Resource Assessment Survey Update of SR 30 (US 98) from Portside Dr. to Okaloosa Co. Line and SR 30 (US 98) from Santa Rosa Co. Line to SR 393 (Mary Esther Blvd.), Santa Rosa and Okaloosa Counties	David Ray 2018
20955	Archaeological Investigations in Support of the MC252 (Deepwater Horizon) Oil Spill Response in the State of Florida	Barry Wharton et al. 2014
6553	Pensacola Underwater Archaeological Survey for 2000	J. Cozzi et al. 2001
7437	A Historical Survey of the Proposed Pensacola BTA #25- East Bay Tower Location in Santa Rosa County, Florida	Lucy Jones 2001
5888	A Phase I Archaeolgical Survey of the Berkeley Forest Development Santa Rosa County, Florida Permit Application Number 199607285	Caleb Curren et al. 2000
5449	A Phase I Archaeological Survey of the Woodlawn Beach Tract, Santa Rosa County, Florida	Caleb Curren et al. 1998
4617	Phase I Cultural Resources Survey of State Road No. 30 (US 98) from the End of the Pensacola Bay Bridge to Hurlburt Field Entrance, Santa Rosa and Okaloosa Counties, Florida	J. Cinder Griffen Miller 1996
3489	Cultural Resources Assessment Survey of SR-30/US-98 from the End of Pensacola Bay Bridge to Pavement Change at Milepost 14.04	William Browning & Roy Adlai Jackson 1993
6621	Submerged Historical Resources of Pensacola Bay, Florida, Florida Archaeological Reports 25, The Pensacola Shipwreck Survey Phase One, 1991	Marianne Franklin et al. 1992

Table 2. Previously recorded historic resources within one mile of the project area.			
Number	Name/Address	Build Date/Description	SHPO Evaluation
SR02189	5104 Gulf Breeze Parkway	c1950	Unevaluated
SR02610	Saint Paul Methodist Church	c1955 Masonry Vernacular	Not Eligible
SR02611	5080 Gulf Breeze Pkwy - Bldg 1	c1961 Masonry Vernacular	Unevaluated
SR02612	5080 Gulf Breeze Pkwy - Bldg 2	c1961 Frame Vernacular	Unevaluated
SR02613	5104 Gulf Breeze Pkwy	c1958 Masonry Vernacular	Unevaluated
SR02614	5106 Gulf Breeze Pkwy	c1956 Masonry Vernacular	Unevaluated
SR02615	5230 Gulf Breeze Pkwy - Restaurant	c1951 Masonry Vernacular	Unevaluated
SR02616	5260 Gulf Breeze Pkwy	c1961 Masonry Vernacular	Unevaluated
SR02617	5263 Gulf Breeze Pkwy	1950 Masonry Vernacular	Unevaluated
SR02618	5259 Gulf Breeze Pkwy	c1950 Masonry Vernacular	Unevaluated
SR02619	5297 Gulf Breeze Pkwy	c1961 Commercial	Unevaluated
SR02620	1758 Woodlawn Beach Rd	c1950 Frame Vernacular	Unevaluated
SR02653	5230 Gulf Breeze Pkwy - Apartment	c1951 Masonry Vernacular	Unevaluated
SR02655	1735 Wheeler Rd	c1960 Frame Vernacular	Unevaluated
SR02656	1731 Wheeler Rd	c1960 Frame Vernacular	Unevaluated
SR02657	1727 Wheeler Rd	c1960 Frame Vernacular	Unevaluated

The relatively wet Early Archaic cultural era 10,000 to 8,000 years ago is represented archaeologically by carryovers from their Paleoindian predecessors and artifacts diagnostic of the Early Archaic such as smaller stemmed projectile points/knives (PPKs) than those utilized by the preceding Paleoindians. These PPKs, some with side- or corner-notching, in addition to an increase in the proportion of grinding stones found in Early Archaic sites, imply a greater reliance on smaller animals and more botanicals than by their predecessors. Windover Pond is an Early-to-Middle Archaic site whose wet conditions provided excellent preservation of such fragile materials as basketry, woven mats, cordage, fabrics, and wooden artifacts. Materials recovered from Windover Pond demonstrate that material technologies indicative of cultural organization were well-advanced by the end of the Early Archaic (Doran and Dickel 1988).

The presence of stemmed PPKs defines the transition to the somewhat drier Middle Archaic 8,000 to 5,000 years ago. Diagnostic PPKs of the Middle Archaic include Newnan, Hillsborough, Alachua, Levy, and Marion PPKs. The relatively larger proportions of large lithic hoes/adzes are considered evidence of increasing horticulture and woodworking. Increased use of heat-treated chert for lithic tool making is indicative of greater use of local resources.

Dating from 5,000 to 3,000 years ago, Late Archaic sites in Florida typically include stemmed PPKs as well as lithic tools such as grinders, abraders, bannerstones, microliths, and other functional carryovers from earlier times. Diagnostic artifacts of Florida's Late Archaic cultures include basally notched PPKs, cultural materials associated with the Lower Mississippi River Valley's Poverty Point culture, burnishing stones and fiber-tempered pottery. Technical variations and decorative styles of ceramic materials are the primary archaeological basis for cultural differentiation within larger regions. Florida's earliest fiber-tempered pottery is believed to be in southwest Florida, followed by portions of the St. Johns River Basin. Regional variations of these early ceramics include Norwood in northwest Florida and Satilla in south Georgia. Florida's Late Archaic and Woodland cultures may be differentiated into three broad cultural areas based on ceramic technologies and decorative styles that originated from Deptford, St. Johns, or Glades traditions (Brinkley 2006).

Deptford cultural assemblages dominate Early Woodland sites in Northwest Florida, the cultural region that spans the panhandle east to the Aucilla River. The region is divided into eastern and western subregions, demarked by the Apalachicola River and subdivided into Coastal Lowlands and Interior Uplands. Deptford ceramics often display fabric impressed, stamped, or cordmarked treatments. The material culture in Late Deptford sites in northwest Florida are of the Yent Complex, with assemblages reflecting Adena-Hopewellian influences. Deptford persisted in northwest Florida until about A.D. 100, by which time Swift Creek culture developed out of Deptford Yent. Deptford and early Swift Creek sites are found in similar locales, the respective peoples utilized similar stamping on their ceramic vessels, and continuing presence of Yent Complex artifacts are indications that Swift Creek is a transformation of Deptford. Sites in northwest Florida and in west-central Georgia have yielded evidence that Swift Creek was well-established in the deep Southeast prior to the appearance of Santa Rosa cultural influences along the western panhandle coast and inland riverine sites (Brinkley 2006).

West of the Apalachicola River, the Deptford-Swift Creek-Santa Rosa traditions persisted until Weeden Island developed, beginning about A.D. 300. Diagnostic ceramic styles of the Weeden Island culture include an increase in punctate and incised treatments. Weeden Island I ceramics include decorative treatments typical of northwest Florida's Santa Rosa-Swift Creek, with the increase in Carrabelle types of ceramics that exhibit more Santa Rosa styles of manufacture and decoration defining differentiation between Weeden Island I and Weeden Island II.

Relative increases in the proportions of cord marked as compared to stamped and incised ceramics define the Wakulla Weeden Island (Weeden Island II) phase beginning about A.D. 750, coincidental with the earliest Mississippian Fort Walton ceramic assemblages along the Apalachicola River; Pensacola shell-tempered ceramics are the Mississippian expression west of the Apalachicola River. Mississippian Fort Walton and Pensacola ceramics are diagnostics generally found in sites dating between A.D. 1000 and 1500.

Historic

The earliest Europeans in the vicinity of Pensacola Bay were the Spanish. It is possible that Don Diego Miruelo visited the area in 1516, followed by Alonzo Alvarez de Pineda in 1519. Survivors of the Narvaez entrada would have passed by or through the area. Francisco Maldonado spent time on Pensacola and Mobile bays between 1540 and 1543. Don Tristán de Luna led the earliest colonization attempt in the area in 1559, establishing a temporary settlement on Santa Rosa Island as an exploratory base. Within weeks after the arrival of De Luna's fleet of 13 ships carrying about 1500 people, a hurricane devastated the expedition on September 19, 1559. Spanish presence was established and maintained at Ochuse (Pensacola Bay) by about 50 soldiers until 1561 when they abandoned the area. There was subsequently little European presence there until Pensacola, named for the Penzacola Indians who inhabited the area, was founded in 1698 to provide defense from the French who had established a presence to the west.

Although Florida was Spanish territory from the sixteenth century until it was ceded to Britain in 1763, French forces captured and held Presidio Santa Maria de Galve from 1719 until 1722. The Spanish built Presidio Isla de Santa Rosa on Santa Rosa Island upon return of the area from France, which was occupied from 1722 until 1752 when it was moved inland. Presidio San Miguel de Pensacola, built in 1754 in what is now downtown Pensacola, remained the primary Spanish community in the area until la Florida was ceded to Britain in accordance with terms of the Treaty of Paris. British occupation brought significant development to Pensacola and the area began to prosper with Pensacola as the capital of British West Florida. During the American Revolution, Spain allied with France and the Colonies against the British. In 1781, Pensacola was retaken and held by Spain until Florida's transfer to the United States under terms of the Adams-Onis Treaty in 1821, except during brief occupations by U.S. forces led by Andrew Jackson in 1813, 1814 and 1818.

During the Second Spanish period (1781-1821), many brickyards and sawmills were established as construction flourished and timber harvesting grew in importance. The Arcadia industrial complex began with Juan de la Rua in 1817. He began land clearing on his 667-acre land grant and possibly started construction of a sawmill. Between his many other interests and responsibilities, as well as labor issues, he eventually abandoned his plans in favor of brickmaking, in which his wife's family was prominent. Brickmaking along the larger rivers of the area was an important enterprise, furnishing bricks for military forts as far away as Mobile and the Florida Keys before and during the Civil War. De la Rua sold his land to Joseph Forsyth. The property had a large sandstone/ironstone formation and Forsyth began quarrying the stone and selling it to the federal and local governments for construction projects.

Around 1830, Forsyth convinced brothers Ezekiel and Andrew Simpson to join in partnership, bringing much needed capital to the venture. The sawmill envisioned by de la Rua was finally completed and by 1835 was producing over 250,000 board feet of lumber per year. A gristmill, flour mill, and blacksmith's shop were added. The partners even planned a railroad from Pensacola to Columbus, Georgia, receiving authorization and charters in 1834. Work began on the Alabama, Florida & Georgia railroad in 1835, but it was never completed. Plans for a cotton textile mill were begun in 1835 and incorporated under the Escambia Manufacturing Company, although construction did not begin until 1845. In 1840, the sawmill at Arcadia was abandoned in favor of a new steam-powered enterprise at Bagdad.

Timothy Twitchell had moved to the Arcadia area in 1830 and built a small sawmill, adding a shingle mill in 1836. In 1841, Twitchell added the Arcadia Pail Factory, making wooden buckets. He tried silk production, planting eight acres of mulberry trees and building a cocoonery 100 ft long and two stories tall with 400,000 silkworms. The silk industry collapsed before Twitchell's efforts could pay off. In the meantime, the cotton textile mill was thriving with the use of young, female slave labor. In 1855, the cotton mill was consumed by fire and not rebuilt (Phillips 1993).

The town of Milton began in 1825 as a trading post that was accessible by river and stagecoach. Early settlers in the area raised cattle, sheep, hogs, and poultry and grew cotton, tobacco, sugarcane, cowpeas, velvetbeans, Irish potatoes, corn, peanuts, and fruits (Weeks et al. 1980). Santa Rosa County was formed on February 15, 1842, with Milton becoming the county seat. By this time, the lumber industry was in full swing in the area and numerous sawmills were thriving. Known by various names through time, the Bagdad Land and Lumber Company operated from 1828 until the timber was exhausted in 1939 (Santa Rosa County Historical Society 2018). Sources vary as to the origin of the name of Milton. Some say it was named for John Milton, an early governor of Florida, and others say it is a derivation of Milltown (Weeks et al 1980; City of Milton 2018). During the Civil War, many local industries were burned by the 1st Regular Florida Volunteers to prevent them from falling into enemy hands (Santa Rosa GenWeb 2018). World War II prompted the creation of Naval Air Station Whiting Field in Santa Rosa County. Currently, the major industries are agriculture, manufacturing, forestry, and the military.

FIELD METHODS

A Phase I cultural resources survey was guided by procedural standards established by the Florida Division of Historical Resources (FDHR). Land coverage requirements were achieved by walking and visually inspecting all survey areas. Any exposed surfaces were carefully examined for cultural material.

For this survey, subsurface testing was performed along moderate probability 50-m interval transects comprised of shovel tests spaced 50 m apart. Each shovel test was 50 cm in diameter and excavated to a depth of one meter unless water or subsurface obstructions were encountered. Soils from each test were screened through 1/4-inch hardware cloth for the purpose of recovering any cultural material that may exist at that location. When cultural material is encountered, the material is sorted by provenience and placed into bags labeled with the pertinent excavation information before being transported to TerraX's laboratory. Delineation shovel tests are placed around positive finds in cardinal directions at 5- or 10-m intervals. This continues until two consecutive negative tests are excavated or until the project boundary or other barrier is reached.

LABORATORY METHODS AND COLLECTION CURATION

All cultural materials recovered during field projects are delivered to TerraX's laboratory in Mobile, Alabama for processing. Here, materials are sorted by provenience, cleaned, and analyzed. Along with any cultural material, all project records, photographs, and maps produced while conducting the investigation are transported for curation at the Bureau of Archaeological Research (BAR), Florida Division of Historical Resources (FDHR) facility in Tallahassee, Florida.

RESULTS OF FIELD INVESTIGATION

The project area is primarily flat with a large wetland area to the east and smaller wetlands to the south and west. The wooded area is composed of mixed hardwoods and pines with an understory of palmetto, yaupon holly, and beach grasses and shrubs. This investigation required 44 shovel tests to be attempted (Figure 19).



Figure 19. *Aerial image showing shovel test locations within the project area.*

Three of these were not excavated due to the gravel road. The remaining 41 shovel tests were negative for cultural material. A typical soil profile consisted of 20 cm of light gray (10YR 7/1) sand underlain by yellowish brown (10YR 5/4) sand to 100 cmbs (Figure 20). In the areas near wetlands, the water table was reached at about 50-60 cmbs. No cultural resources or archaeological sites were found in the project area.



Figure 20. *View of typical shovel test in the project area.*

Unmarked Human Burials and Fortuitous Finds

Professional archaeological survey, testing or monitoring provides sampling of a project area but does not guarantee that any or all cultural materials or features present will be discovered by established sampling standards and guidelines. In the event that human remains, any concentration(s) of artifacts or any significant feature(s) are later discovered, all ground-disturbing activities in the immediate vicinity must cease, a professional archaeologist must be consulted and the archaeologist's recommendations, determined through the archaeologist's consultation with representatives of the State Historic Preservation Officer, must be followed before project activities in the vicinity of the unanticipated find(s) may resume.

Should additional cultural materials be inadvertently discovered during construction, the consulting archaeologist and FDHR should be notified. Furthermore, according to FS 872.05, when an unmarked human burial is discovered and the unmarked human burial represents the burial of an individual who has been dead less than 75 years, the archaeologist shall notify the district medical examiner, and all activity that may disturb the unmarked human burial shall cease until the district medical examiner authorizes work to resume. If such unmarked human burial represents the burial of an individual who has been dead 75 years or more, archaeological activities may not resume until the State Archaeologist has been notified of the unmarked human burial. Within 15 days after the discovery of an unmarked human burial, the archaeologist

conducting the excavation shall report to the State Archaeologist his or her opinion regarding the cultural and biological characteristics of the unmarked human burial and where human skeletal remains and associated burial artifacts should be held prior to a final disposition. The division may assume jurisdiction over and responsibility for the unmarked human burial pursuant to subsection (6).

CONCLUSIONS AND RECOMMENDATIONS

TerraX, under contract with Moffatt & Nichol of Pensacola, Florida, performed the Phase I cultural resources survey of the proposed South Santa Rosa County Sports Complex in Santa Rosa County, Florida in compliance with state regulations. No archaeological sites or cultural material was found and no further cultural resource investigations are recommended for the proposed project.

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APPENDIX A
ARCHAEOLOGICAL RESEARCH PERMIT

FLORIDA DEPARTMENT OF STATE
Laurel M. Lee
Secretary of State
DIVISION OF HISTORICAL RESOURCES

ARCHAEOLOGICAL RESEARCH PERMIT

Permit No. 2021.029 Field Begin Date: 2020-12-28 Field End Date: 2020-12-30

PERMITTEE/AUTHORIZED ENTITY:
Jon Glass
Emily Warner
TerraXplorations, Inc
1001 Hampton Gate
Mobile, AL 36609

Report/Artifact Due Date: 2021-12-30
Santa Rosa County Sports Complex

This permit is issued under the authority of Chapters 267.031 (1) and 267.12, Florida Statutes (F.S.) and Rule 1A-32, Florida Administrative Code (F.A.C.), and is administered by the Florida Bureau of Archaeological Research (BAR), Florida Division of Historical Resources (DHR).

ACTIVITY DESCRIPTION:
CRAS within Project APE

LOCATION DESCRIPTION:
Gulf Breeze Peninsula between Gulf Breeze and Navarre, Santa Rosa County

GENERAL CONDITIONS:

1. The Principal Investigator listed above or another qualified archaeologist designated by the applicant shall be responsible for all archaeological investigations, production of a final report, and be on site during all fieldwork.

2. A copy of this permit shall be provided to the land managing agency (when applicable) and field personnel shall carry a copy during fieldwork.

3. The permittee shall (initial each item as indicated):
   a. prepare a final report that meets standards and guidelines required by Rule 1A-46, F.A.C., including the necessary Florida Master Site File forms; JG
   b. inform the BAR permit administrator that a report has been completed and submitted to the Division of Historical Resources; or submit a copy of the final report to the BAR permit administrator; JG
   c. provide proper curation and conservation of recovered artifacts and other recovered site materials until such time as those artifacts and other site materials are conveyed to the BAR for curation; JG
   d. convey all artifacts and related materials obtained from state-owned or controlled land to the

BAR permit administrator for permanent curation or processing for loan; JG

e. convey copies of all notes, maps, photographs, videotapes, and other field records pertaining to research conducted under this permit to the BAR permit administrator following completion of the project JG;

f. and not remove from a stable environment artifacts and materials which the permit recipient is unable to properly curate and conserve before conveying to BAR. JG

4. The effective field investigation dates are subject to receipt of permission from the land management agency and, in some instances, State/Federal dredge-and-fill permitting programs. Those agencies may also require work performance conditions relevant to their natural resource management and permitting responsibilities. A representative of the land managing agency (if one exists) will need to sign this permit document prior to BAR executing this permit (see page 3).

5. Unless approved in writing by BAR, no work beyond that described in the "ACTIVITY DESCRIPTION" and attached to your application shall be performed.

6. This permit is valid for up to one year following the requested report due date. Requests for approval for amendments to fieldwork, fieldwork end date and report/artifact due date are required during this time. Such requests may be made and approved by phone, email, or in writing during this time and do not require amendments to this document.

7. In any release of information, including public presentations, media contacts, and the final written report, there shall be acknowledgement that the portion of the project involving state-owned and controlled land was conducted under the terms of an archaeological research permit issued by the Florida Department of State, Division of Historical Resources, Bureau of Archaeological Research.

8. If Unmarked Human Burials are discovered, permit recipient shall comply with the provisions of 872.05, F.S., and when appropriate, Rule 1A-44, F.A.C. Specifically, upon discovery of unmarked human remains, all activities that might further affect those remains shall be halted and the remains protected from further disturbance until an appropriate course of action has been determined by the local medical examiner or by the State Archaeologist, as appropriate.

9. In issuing this permit, the State assumes no liability for the acts, omissions to act or negligence of the permittee, its agents, servants or employees; nor shall this permittee exclude liability for its own acts, omissions to act or negligence to the State.

10. The permittee, unless the permittee is an agency of the State, agrees to assume all responsibility for, indemnify, defend and hold harmless the Division of Historical Resources from and against any and all claims, demands, or liabilities, or suits of any nature whatsoever arising out of, because of, or due to any act or occurrence of omission or commission arising out of the permittee's operations pursuant to this permit and shall investigate all claims at its own expense. In addition, the permittee hereby agrees to be responsible for any injury or property damage resulting from any activities conducted by the permittee.

11. The parties hereto agree that the permittee, its officers, agents and employees, in performance of this permit, shall act in the capacity of an independent contractor and not as an officer, employee, or agent of the State.

The undersigned, as representative of the Permittee/Authorized Entity, understands and accepts the terms of this 1A-32 Archaeological Research Permit.

Signature: _____ Date: 12-18-20

The undersigned, as representative of the land managing agency for the managed area/state property described in the "LOCATION DESCRIPTION" section of this document, hereby permits the activity described above.

_____ Date: 28-Dec 2020

Title: Asst. County Engineer

This permit will not become effective until it has been executed by the Chief of BAR. Before BAR *can execute this permit, the Permittee must have a land management representative* (if applicable) sign in the space provided above. Please send the signed permit to the Permit Administrator at the address above.

A copy of the executed permit will be sent to you prior to commencing fieldwork.

Executed in Tallahassee, Florida

STATE OF FLORIDA
DEPARTMENT OF STATE

_____ 12/29/20

Kathryn O'Donnell Miyar, Ph.D.
State Archaeologist

Date of Issue

Enclosures:

- DHR Curation Guidelines
- DHR Conservation Field Guide
- DHR Destructive Analysis Protocol
- DHR Florida Master Site File Requirements
- DHR Report Compliance Requirements

Copies furnished to:

- MG

7.0 GEOTECHNICAL REPORTS

7.1 GEOTECHNICAL REPORT PHASE I

TIERRA

REPORT OF GEOTECHNICAL EXPLORATION

Santa Rosa County Sports Complex @ PSC – Phase I
Santa Rosa County, Florida

Tierra Project No. 4511-20-031

Prepared for:

Moffat & Nichol
730 Bayfront Parkway, Suite 5B
Pensacola, FL 32502
Attn: Mr. Jeff Helms, PE

Prepared by:

Tierra, Inc.
1300 West Main Street
Pensacola, Florida 32502

April 14, 2021

1300 West Main Street • Pensacola, FL 32502
Phone (850) 462-8774 • Fax (850) 462-8784

TIERRA

April 14, 2021

Moffat & Nichol
730 Bayfront Parkway, Suite 5B
Pensacola, Florida 32502
Attn: Mr. Jeff Helms, PE

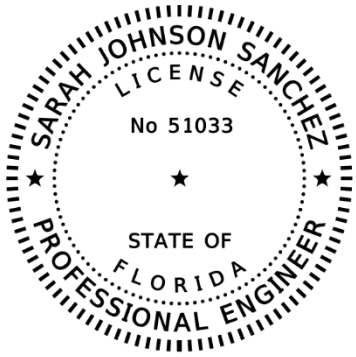
Subject: Santa Rosa County Sports Complex @ PSC – Phase I
Santa Rosa County, Florida
Tierra Project No. 4511-20-031

Mr. Helms:

Thank you for choosing Tierra, Inc. (Tierra) as your Geotechnical consultant. Per your authorization, and in general accordance with our proposal dated June 26, 2020, we have completed the Phase I Geotechnical exploration for the subject project. The results of the study are discussed in this report.

Should you have any questions regarding the enclosed report or the project in general, please do not hesitate to contact us at (850) 462-8774.

Sincerely,
TIERRA, INC.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TIERRA, INC.
1300 WEST MAIN STREET
PENSACOLA, FLORIDA 32502

SARAH JOHNSON SANCHEZ, P.E. NO. 51033

Mitchell L. Smith, PE
Principal Geotechnical Engineer
Florida License No. 43416

Sarah Johnson Sanchez, PE
Sr. Project Engineer
Florida License No. 51033

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APPENDIX A

Boring Location Plan
Soil Profiles

Appendix B

Table 1 – Groundwater Data & Estimated “Normal” Seasonal High/Low Water Table Levels

1.0 PROJECT INFORMATION

1.1 Project Authorization

Authorization to proceed on this project was issued by Mr. Jeff Helms, PE, Vice President with Moffat & Nichol (M&N) via acceptance of our Geotechnical Engineering Services Proposal dated June 26, 2020. A formal contract has been executed between Tierra, Inc. (Tierra) and M&N for these services.

1.2 Project Description

Based on the information provided, we understand that Phase I of the project will include an entrance road with roadside ditches/swales, associated parking areas, a concession/storage building, athletic fields/playgrounds, and stormwater ponds.

We have assumed structural loads for the concession/storage building will be carried by load bearing walls (maximum load of 5 kips/ft) and column loads (maximum load 75 kips). Finished grades in the proposed roadway/parking, building, and field/playground areas will be within 2± feet of existing grades.

Three ponds (SW Pond 1, SW Pond 1A, and SW Pond 1B) will manage and treat stormwater runoff in the Phase I development. The ponds will be designed as wet ponds.

If any of the project information noted above is incorrect or has changed, please inform Tierra so that we may amend the recommendations presented in this report, if necessary.

1.3 Purpose and Scope of Services

The purpose of this exploration was to evaluate the subsurface conditions present in the subject areas and to render site preparation recommendations for the building, pavement, and field/playground areas; foundation recommendations for the buildings; pavement recommendations for the proposed roadway/pavement areas; and Geotechnical parameters for design of the proposed stormwater ponds.

The exploration consisted of a series of shallow auger borings in the proposed pavement and athletic field/playground areas and a series of 15-foot to 20-foot deep Standard Penetration Test (SPT) borings in the proposed building and stormwater pond areas. In addition to the borings, the exploration included laboratory soil testing, multiple site visits to review the conditions present and

to collect groundwater data, visual classification of the soil samples, and analysis by our engineering staff.

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 Site Location and Description

The site is located south of US 98 (Gulf Breeze Parkway) between the Pensacola State College (PSC) Santa Rosa County campus and Woodlawn Heights subdivision in Santa Rosa County, Florida. An aerial photograph depicting the site location is shown on the Boring Location Plan (Appendix A, Sheet 1).

At the time of our exploration, the majority of the site was vegetated with pine trees and underbrush, principally palmetto bushes. Jurisdictional wetlands bordered the majority of the east and west sides of the site and a small portion south of the site. The north side of the site is bordered by undeveloped and residential properties, and the south side of the site is bordered by Woodlawn Beach Middle school and residential properties.

Based on topographical information provided, site grades range from approximately elevation +28 feet to +30 feet NAVD88.

2.2 Subsurface Conditions

The Boring Location Plan and the Soil Profiles of the auger and SPT borings drilled for this study can be found in Appendix A. The borings were field located and staked using a Garmin GPSMap 64ST Global Positioning System (GPS) unit with a reported accuracy of ±1 meter. Therefore, the boring locations should be considered approximate.

The subsurface exploration consisted of a series of shallow auger borings in the proposed pavement and athletic field/playground areas and a series of 15-foot to 20-foot deep Standard Penetration Test (SPT) borings in the proposed building and stormwater pond areas. The subsurface conditions encountered in each area are summarized below.

The building borings (B-1 and B-2) generally encountered very loose sand from the ground surface to roughly 4 feet underlain by medium dense to very dense sand to the bottom of the 20-foot deep borings.

The pavement borings (A-1 through A-6) and the athletic field/playground borings (F-1 through F-13) generally encountered sand from the ground surface to the bottom of the borings.

The stormwater pond borings (PBS-1 through PBS-5) generally encountered sand and slightly silty sand from the ground surface to the bottom of the 15-foot to 20-foot deep borings.

The above subsurface descriptions are of a generalized nature provided to highlight the major soil stratum encountered. The Soil Profiles should be reviewed for specific subsurface conditions at each boring location. The stratification shown on the Soil Profiles represents the subsurface conditions at the actual boring locations only, and variations in the subsurface conditions can and may occur between boring locations and should therefore be expected. The stratification represents the approximate boundary between subsurface materials, and the transitions between strata may be gradual.

2.3 Groundwater Conditions

Groundwater was generally encountered at depths ranging from approximately 1 foot to 3 feet below existing grade at the time of drilling, which was during a period of relatively normal seasonal rainfall. Groundwater levels will fluctuate with rainfall and could vary several feet during typical seasonal fluctuations. Larger fluctuations are possible under severe weather conditions. We recommend that the Contractor determine the actual groundwater levels at the time of construction to determine potential impacts groundwater can/will have on construction procedures. Groundwater will be discussed in greater detail in Section 3 below.

2.4 Laboratory Soil Testing

Laboratory soil testing consisted of natural moisture content tests and wash #200 sieve tests. The results of the tests can be found on the Soil Profiles opposite the samples tested (Appendix A).

3.0 EVALUATION AND RECOMMENDATIONS

3.1 General Comments

Based on our understanding of the proposed development, the exploration indicated that the subsurface conditions encountered will provide adequate support for the proposed development provided the recommendations presented in this report are followed. Shallow groundwater was encountered in the majority of the test borings. Site grades will need to be developed to account for the shallow groundwater conditions present and the use of the specific area of the site. Measures may also be required to manage groundwater during site work operations. Site preparation recommendations are presented in Section 3.2.

The borings drilled in the building area indicate that the lightly loaded structures can be founded on shallow foundations provided the subsoils are prepared as noted in this report. Foundation recommendations are provided in Section 3.3.

Given the shallow groundwater present across the site, the pavement design may need to include graded aggregate base (GAB) or recycled concrete base (RCB) depending on final grades. Limerock base could be an option if grades are elevated such that base wetting is not a significant concern. Pavement recommendations are presented in Section 3.6 below.

As noted previously, wet ponds will be used to manage and treat stormwater runoff. Geotechnical parameters for wet pond design are presented in Section 3.7 below.

3.2 Site Preparation Recommendations

The proposed development areas should be cleared, grubbed, and stripped of topsoil. Excavations made to remove significant root systems should be backfilled with soils compacted to a minimum soil density of 93% of the Modified Proctor test (ASTM D1557).

The shallow groundwater table could result in subgrade stabilization concerns, particularly if construction occurs during a period of increased rainfall. If elevated groundwater conditions are present at the time of construction, dewatering in the form of pumped ditches, well points or trenched underdrains may be required to prepare the site subsoils.

Prior to the placement of structural fill soils in pavement and building areas, we recommend that the ground surface be compacted with non-vibratory traffic sized equipment to a minimum soil density

of 93% of the Modified Proctor test (ASTM D1557). Yielding areas, if any, may require undercutting or bridging with clean coarse sands, depending in part on the groundwater conditions at the time of construction and the proposed finished grades. Areas where undercutting occurs should be backfilled with a clean coarse sand containing less than 5% fines as this type of soils is more readily compactible under increased moisture conditions. The first lift of backfill should be placed 12± inches thick or as needed to achieve grades 1 foot above the groundwater table present at the time of construction and should be compacted with non-vibratory traffic sized equipment to a minimum soil density of 93% of the modified Proctor test (ASTM D1557). Successive lifts of fill should be a maximum of 8 inches (loose) thick and be compacted to a minimum soil density of 95% of the modified Proctor test (ASTM D1557). Once stabilized conditions are achieved, backfill/fill soils can be any readily compactible sandy soil.

The Stratum 1 and Stratum 2 soils (see the Soil Profile sheets, Appendix A) can be used as structural fill in the building and pavement areas as well as in the athletic field areas provided the material is free of significant organics. Moisture conditioning may be required to use these materials depending on their condition at the time of construction.

3.3 Foundation Recommendations

Based on the anticipated relatively light building loads and provided sufficient fill material will be placed in the building area to provide 1+ feet of separation between the bottom of the footings and the groundwater table, the subsurface conditions encountered in the borings should be suitable for founding the proposed structure on shallow spread footings. The soil immediately beneath and to a minimum depth of 12 inches below the footings should be compacted to a minimum soil density of 98% of the modified Proctor test (ASTM D1557).

Footings having a minimum width of 2 feet and a minimum embedment of 2 feet below finished exterior grades can be designed for an allowable soil bearing pressure of 1,500 lbs/ft^2 which reflects the very loose soil conditions present.

Settlements on sandy soils usually occur immediately upon or soon after loading, and we would expect most of the estimated 1 inch of total settlement to occur during construction.

3.4 Floor Slab Recommendations

A modulus of subgrade reaction of 80 lbs/in^3 can be used for the floor slab design provided the slab is placed on soils similar to the near surface in-situ soils prepared in accordance with the recommendations presented in this report. To reduce the possibility of slab cracking due to minor differential settlement, we recommend that the floor slab be structurally isolated from foundations or that transitions from foundation-supported building elements to soil supported floors be reinforced. The subgrade should be covered with an effective vapor barrier to reduce the loss of water from the plastic concrete into the subgrade soils and to reduce the possibility of slab dampness due to moisture.

3.5 Pavement Recommendations

The top 12 inches of subgrade in the proposed pavement areas should consist of a soil having a minimum LBR value of 40. The native sands and slightly silty sands are not likely to meet this criteria, so material may need to be imported to construct the stabilized subgrade. The stabilized subgrade should be compacted to a minimum soil density of 98% of the modified Proctor test (ASTM D1557).

Shallow groundwater was encountered over most areas of the site, and pavement grades should consider the seasonal high water table levels shown on the Soil Profiles (Appendix A). A best and recommended practice for pavement design is to maintain a minimum 3 foot separation between the seasonal high groundwater table and the bottom of the base course. If this can be reasonably accomplished, limerock base should be suitable for the base course. If grades must be set such that only 1 foot to 2 feet of base clearance can be maintained, we recommend that either graded aggregate base (GAB) or recycled concrete base (RCB) be used in the pavement section.

Limerock base should be compacted to a minimum soil density of 98% of the modified Proctor test (ASTM D1557). GAB and RCB should be compacted to a minimum soil density of 100% of the modified Proctor test (ASTM D1557).

While designing the pavement section(s) for the proposed development was beyond the scope of our service, typical light duty flexible pavement sections for developments of this type in the local area consist of a minimum of 6 inches of base and a minimum of 1½ inches of Superpave SP-12.5 asphaltic concrete. Moderate duty pavement sections typically consist of a minimum of 8 inches of base and a minimum of 2 inches of Superpave SP-12.5 asphaltic concrete.

The above sections represent minimum thicknesses representative of typical, local construction practices, and as such, periodic maintenance should be anticipated. All pavement materials and construction procedures should conform to FDOT and/or appropriate city or county requirements.

3.6 Athletic/Playground Recommendations

The athletic field/playground borings encountered sands and relatively shallow groundwater conditions. No unsuitable or mucky soils were encountered in the borings. These areas can be prepared in general accordance with the recommendations presented in Section 3.2 above, the exception being that fill soils need only be compacted to a minimum soil density of 93% of the modified Proctor test (ASTM D1557). Best practices for turf establishment/management should be followed, with grades set as necessary given the seasonal high groundwater levels noted on the Soil Profiles.

3.7 Stormwater Pond Recommendations

The design of wet ponds requires estimated “normal” seasonal high and low groundwater levels. To this end, groundwater data was collected from the pond borings and temporary piezometers, and the subsurface profile, recent rainfall data, and wetland line elevations were considered. The groundwater levels recorded are summarized in Table 1 (Appendix B).

Rainfall data from a weather station to the east of the site (KFLNAVAR127) was reviewed to evaluate recent rainfall patterns. The rainfall data is summarized below.

RAINFALL DATA – KFLNAVAR127 WEATHER STATION			
Month	**Actual (in)**	**Normal (in)**	**Delta (in)**
December	5.16	4.55	+0.61
January	4.97	4.63	+0.34
February	4.53	5.06	-0.53
March 1-11	1.96	1.87	+0.09
March 1-31	6.05	5.81	+0.24
April 1-5	0	0.72	-0.72
April 1-11	6.72	1.58	+5.14

Cumulative rainfall over the 3 months preceding the first two water level readings was generally near normal rainfall and as such the groundwater levels recorded on these two dates likely reflects normal seasonal levels. However, the weather station recorded 5.14 inches of rainfall two days before the last groundwater levels were measured, so it is reasonable to assume that the levels recorded at this time reflect above normal seasonal rainfall conditions.

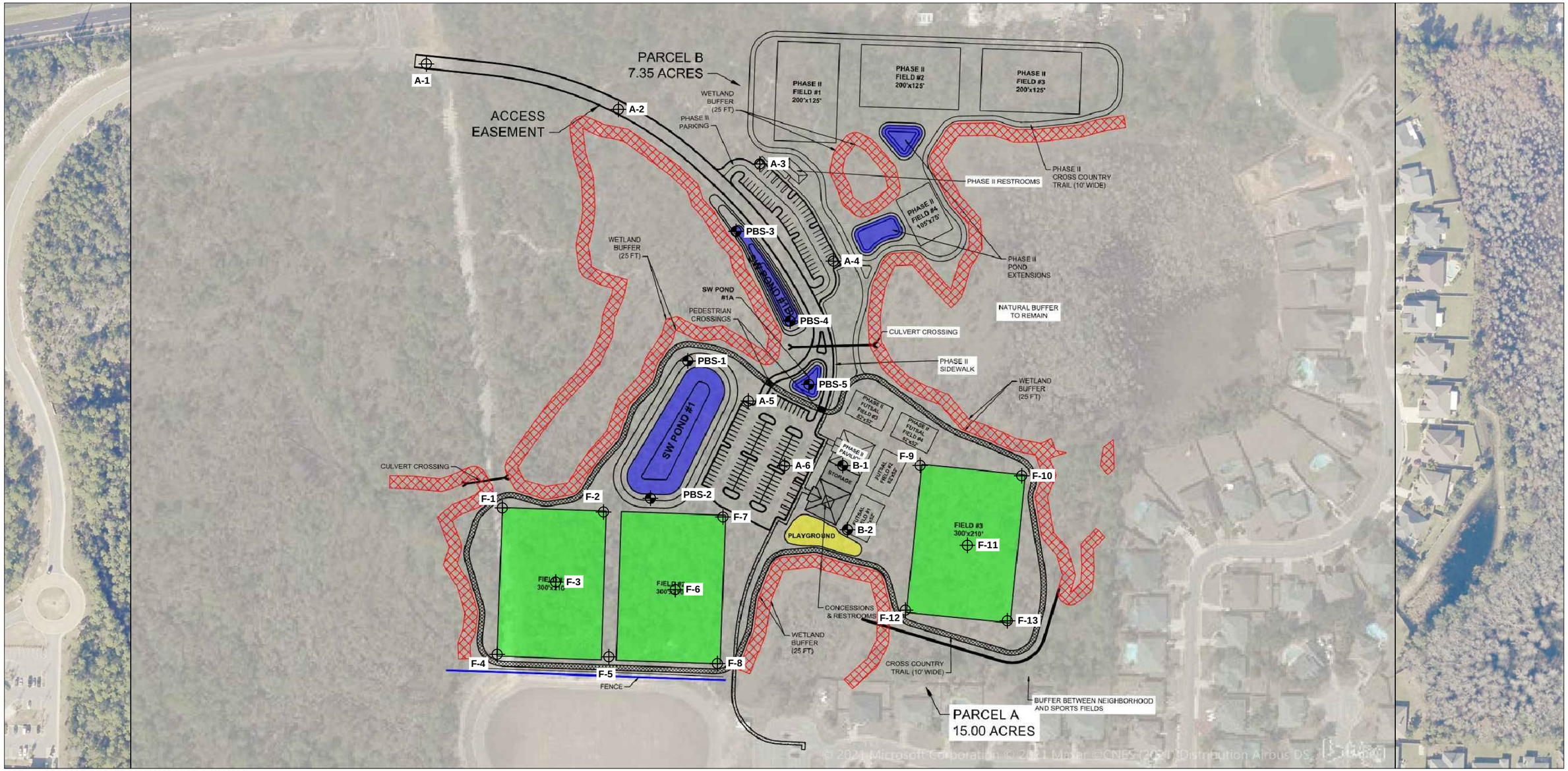
Based on the findings of the study, estimated “normal” seasonal high/low water table elevations at each pond boring location are presented in Table 1 (Appendix B). Note that the phreatic surface of wet ponds will seek the elevation of the lowest estimated “normal” seasonal high/low water elevation of the boring within the footprint of each pond, and this elevation should be used to design each pond.

4.0 REPORT LIMITATIONS

The recommendations submitted are based on the available soil information obtained by Tierra, Inc. and design details furnished by Moffat & Nichol for the subject project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Tierra should be notified immediately to determine if changes in site preparation or other recommendations are required. If Tierra is not retained to perform these functions, we cannot be responsible for the impact of such conditions on the performance of the project.

The findings, recommendations, specifications, and professional advice contained herein have been made in accordance with generally accepted professional Geotechnical engineering practices in the local area.

After the plans and specifications are more complete, the Geotechnical engineer should be provided the opportunity to review the final design plans and specifications to assure our engineering recommendations have been properly incorporated into the design documents. At that time, it may be necessary to submit supplementary recommendations. This report has been prepared for the exclusive use of Moffat & Nichol for the specific application to the subject project.



NOTE: BASE MAP PROVIDED BY MOFFAT & NICHOL

BORING LOCATION PLAN

0 200'

PLAN SCALE

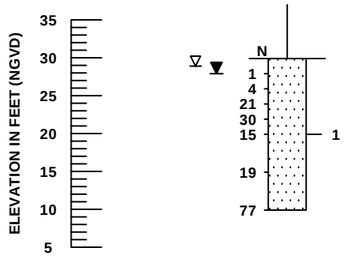
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- APPROXIMATE LOCATION OF AUGER BORING
- APPROXIMATE LOCATION OF SPT BORING

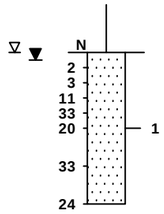
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SOIL PROFILES

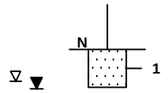
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DATE 4/5/2021
DRILLER J THARPE
HAMMER SAFETY
RIG KINCO



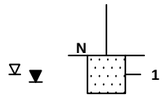
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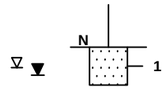
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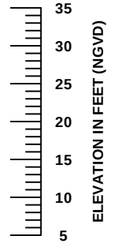


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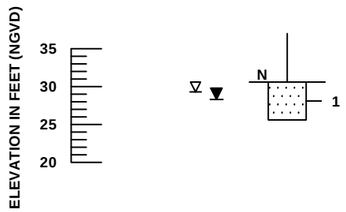


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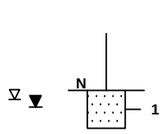




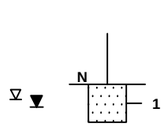
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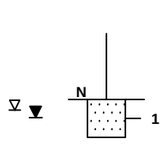
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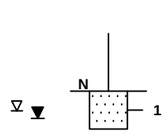
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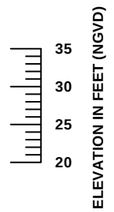


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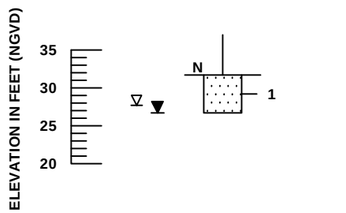


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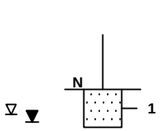




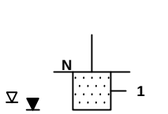
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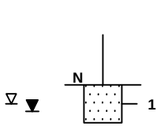
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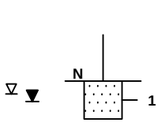
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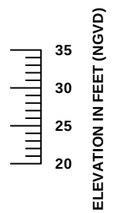


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DATE 3/12/2021
DRILLER C TURNER



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NORTHING 516066
ELEV. 30.9
DATE 3/12/2021
DRILLER C TURNER





LEGEND

1 — WHITE, GRAY, LIGHT BROWN, BROWN SAND (SP)

2 — BROWN SLIGHTLY SILTY SAND (SP-SM)

A - WITH ORGANICS (Pt)

▼ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION

▽ ESTIMATED SEASONAL HIGH GROUNDWATER TABLE

N — SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)

SP — UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.

NGVD — NATIONAL GEODETIC VERTICAL DATUM OF 1929

EASTING — EASTING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

NORTHING — NORTHING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN EGARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

-200 — PERCENT PASSING #200 SIEVE

NMC — NATURAL MOISTURE CONTENT (%)

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

DRAWN BY: SW
CHECKED BY: SJS
APPROVED BY: SJS
DATE: APR 2021
ENGINEER OF RECORD: SARAH J. SANCHEZ, P.E.
FLORIDA LICENSE NO.: 51033

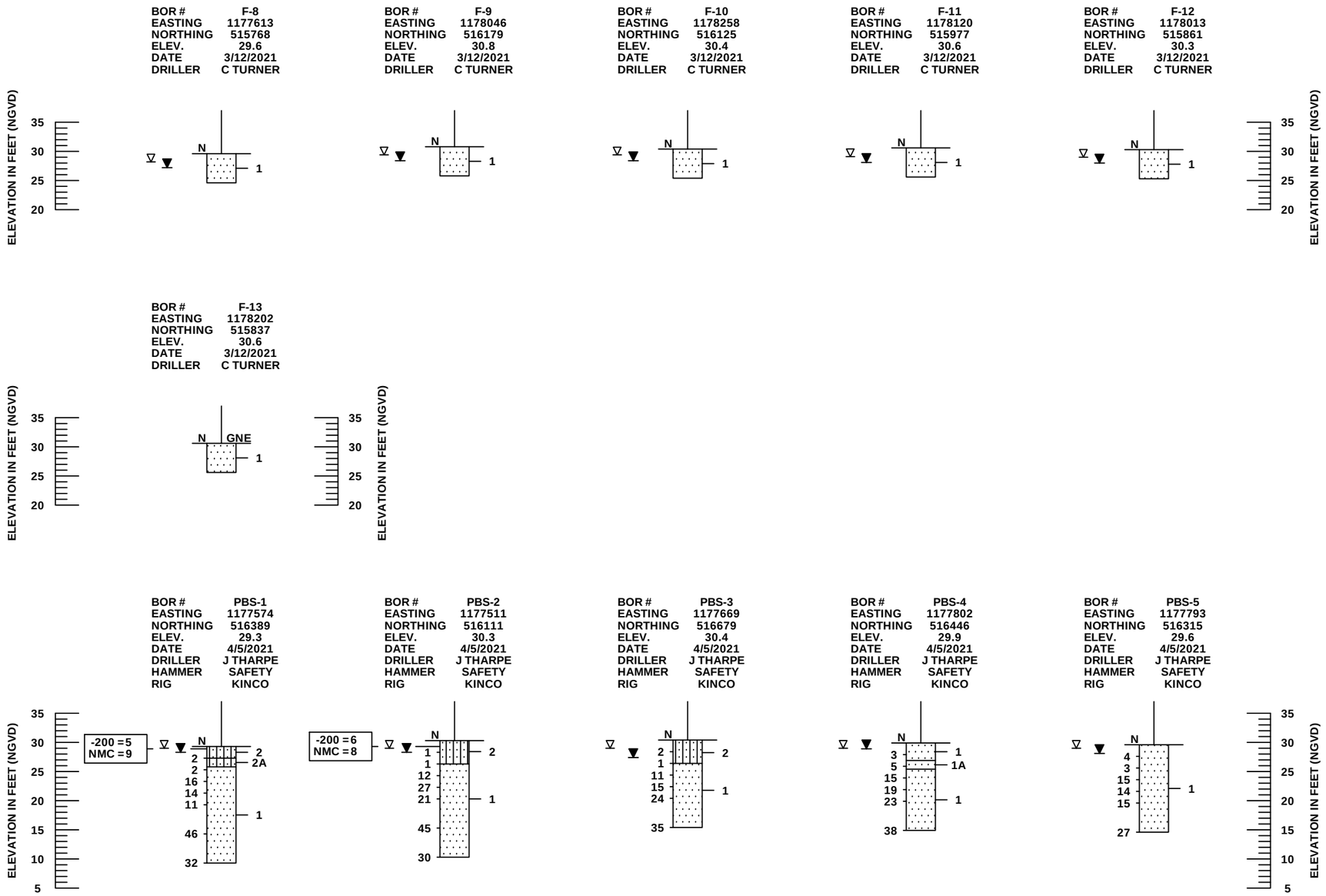
TIERRA
1300 West Main Street
Pensacola, Florida 32502
Phone: 850-462-8774 Fax: 850-462-8784

SCALE: NOTED
PROJECT NUMBER: 4511-20-031

GEOTECHNICAL ENGINEERING SERVICES
SANTA ROSA COUNTY SPORTS COMPLEX AT PSC
SANTA ROSA COUNTY, FLORIDA

SHEET 2

SOIL PROFILES



LEGEND

1 — WHITE, GRAY, LIGHT BROWN, BROWN SAND (SP)

2 — BROWN SLIGHTLY SILTY SAND (SP-SM)

A - WITH ORGANICS (Pt)

▼ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION

▽ ESTIMATED SEASONAL HIGH GROUNDWATER TABLE

N — SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)

SP — UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.

NGVD — NATIONAL GEODETIC VERTICAL DATUM OF 1929

EASTING — EASTING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

NORTHING — NORTHING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN EGARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

-200 — PERCENT PASSING #200 SIEVE

NMC — NATURAL MOISTURE CONTENT (%)

	SAFETY HAMMER	AUTOMATIC HAMMER
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4	LESS THAN 3
LOOSE	4 to 10	3 to 8
MEDIUM DENSE	10 to 30	8 to 24
DENSE	30 to 50	24 to 40
VERY DENSE	GREATER THAN 50	GREATER THAN 40
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2	LESS THAN 1
SOFT	2 to 4	1 to 3
FIRM	4 to 8	3 to 6
STIFF	8 to 15	6 to 12
VERY STIFF	15 to 30	12 to 24
HARD	GREATER THAN 30	GREATER THAN 24

DRAWN BY: SW
CHECKED BY: SJS
APPROVED BY: SJS
DATE: APR 2021
ENGINEER OF RECORD: SARAH J. SANCHEZ, P.E.
FLORIDA LICENSE NO.: 51033

TIERRA
1300 West Main Street
Pensacola, Florida 32502
Phone: 850-462-8774 Fax: 850-462-8784

SCALE: NOTED
PROJECT NUMBER: 4511-20-031

GEOTECHNICAL ENGINEERING SERVICES
SANTA ROSA COUNTY SPORTS COMPLEX AT PSC
SANTA ROSA COUNTY, FLORIDA

SHEET 3

APPENDIX A

Boring Location Plan

Soil Profiles

TABLE 1
GROUNDWATER DATA & ESTIMATED "NORMAL" SEASONAL HIGH/LOW WATER TABLE LEVELS
SANTA ROSA COUNTY SPORTS COMPLEX @ PSC
SANTA ROSA COUNTY, FLORIDA
TIERRA PROJECT NO. 4511-20-031

Location	BORING INFORMATION			GROUND SURFACE ELEVATION (ft. NAVD88)[1]	GROUNDWATER ELEVATION (ft. NAVD88)[1]			ESTIMATED "NORMAL" SEASONAL HIGH WATER TABLE ELEVATION (ft.)[2]	ESTIMATED "NORMAL" SEASONAL LOW WATER TABLE ELEVATION (ft.)[2]
	Boring	Easting	Northing		3/11/2021	4/5/2021	4/12/2021		
SW Pond #1	PBS-1	1177574	516389	29.3	27.0	28.3	28.6	29	26.5
	PBS-2	1177511	516111	30.3	27.0	28.3	28.7		
SW Pond #1A	PBS-5	1177793	516315	29.6	27.8	28.1	29.2	29	26.5
SW Pond #1B	PBS-3	1177669	516679	30.4	27.8	27.4	28.8	29	26.5
	PBS-4	1177802	516446	29.9	27.8	28.9	29.3		

Notes: [1] Ground surface elevation provided by Nichol & Moffat
[2] Seasonal High/Low Water Table may be influenced by drainage features and irrigation where present/designed.

APPENDIX B

Table 1 – Groundwater Data & Estimated "Normal" Seasonal High/Low Water Table Levels

7.2 GEOTECHNICAL REPORT PHASE II

TIERRA

REPORT OF GEOTECHNICAL EXPLORATION

Santa Rosa County Sports Complex @ PSC – Phase II
Santa Rosa County, Florida

Tierra Project No. 4511-20-031

Prepared for:

Moffat & Nichol
730 Bayfront Parkway, Suite 5B
Pensacola, FL 32502
Attn: Mr. Jason Ripley, PE

Prepared by:

Tierra, Inc.
1300 West Main Street
Pensacola, Florida 32502

May 17, 2022

1300 West Main Street • Pensacola, FL 32502
Phone (850) 462-8774 • Fax (850) 462-8784

TIERRA

May 17, 2022

Moffat & Nichol
730 Bayfront Parkway, Suite 5B
Pensacola, Florida 32502
Attn: Mr. Jason Ripley, PE

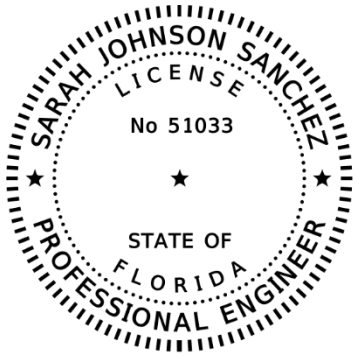
Subject: Santa Rosa County Sports Complex @ PSC – Phase II
Santa Rosa County, Florida
Tierra Project No. 4511-20-031

Mr. Ripley:

Thank you for choosing Tierra, Inc. (Tierra) as your Geotechnical consultant. Per your authorization, and in general accordance with our proposal dated June 26, 2020, we have completed the Phase II Geotechnical exploration for the subject project. The results of the study are discussed in this report.

Should you have any questions regarding the enclosed report or the project in general, please do not hesitate to contact us at (850) 462-8774.

Sincerely,
TIERRA, INC.



THIS ITEM HAS BEEN DIGITALLY SIGNED AND SEALED BY

ON THE DATE ADJACENT TO THE SEAL

PRINTED COPIES OF THIS DOCUMENT ARE NOT CONSIDERED SIGNED AND SEALED AND THE SIGNATURE MUST BE VERIFIED ON ANY ELECTRONIC COPIES.

TIERRA, INC.
1300 WEST MAIN STREET
PENSACOLA, FLORIDA 32502

SARAH JOHNSON SANCHEZ, P.E. NO. 51033



Mitchell L. Smith, PE
Principal Geotechnical Engineer
Florida License No. 43416

Sarah Johnson Sanchez, PE
Sr. Project Engineer
Florida License No. 51033

TIERRA
GEOTECHNICAL • MATERIALS
ENVIRONMENTAL • ENGINEERING

1300 West Main Street • Pensacola, FL 32502
Phone (850) 462-8774 • Fax (850) 462-8784

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APPENDIX A

Boring Location Plan
Soil Profiles

1.0 PROJECT INFORMATION

1.1 Project Authorization

Authorization to proceed on this project was issued by Mr. Jeff Helms, PE, Vice President with Moffat & Nichol (M&N) via acceptance of our Geotechnical Engineering Services Proposal dated June 26, 2020, and authorization to proceed with the Phase II portion of the contract was approved via Amendment No 1. A formal contract has been executed between Tierra, Inc. (Tierra) and M&N for these services.

1.2 Project Description

Based on the information provided, we understand that Phase II of the project will include a concession and restroom building and additional athletic fields.

We have assumed that structural loads for the concession and restroom building will be carried by load bearing walls (maximum load of 3 kips/ft) and perhaps an isolated column or two (maximum load of 50 kips). Finished grades in the proposed building and field areas will be within 2± feet of existing grades.

If any of the project information noted above is incorrect or has changed, please inform Tierra so that we may amend the recommendations presented in this report, if necessary.

1.3 Purpose and Scope of Services

The purpose of this Phase II exploration was to evaluate the subsurface conditions present in the subject areas and to render site preparation and foundation recommendations for the proposed building and general site preparation recommendations for the athletic fields.

The Phase II exploration consisted of two (2) 16-foot deep Standard Penetration Test (SPT) borings in the proposed building area and eleven (11) 3-foot to 5-foot deep auger borings in the athletic field areas. In addition to the borings, the exploration included laboratory soil testing, multiple site visits to review the conditions present, visual classification of the soil samples, and analysis by our engineering staff.

2.0 SITE AND SUBSURFACE CONDITIONS

2.1 Site Location and Description

The site is located south of US 98 (Gulf Breeze Parkway) between the Pensacola State College (PSC) Santa Rosa County campus and the Woodlawn Heights subdivision in Santa Rosa County, Florida. An aerial photograph depicting the site location is shown on the Boring Location Plan (Appendix A, Sheet 1).

At the time of our exploration, the majority of the site was vegetated with pine trees and underbrush, principally palmetto bushes. Jurisdictional wetlands bordered the majority of the east and west sides of the site and a small portion south of the site. The north side of the site is bordered by undeveloped and residential properties, and the south side of the site is bordered by Woodlawn Beach Middle school and residential properties.

Based on topographical information provided, site grades range from approximately elevation +28 feet to +33 feet NAVD88.

2.2 Subsurface Conditions

The Boring Location Plan and the Soil Profiles of the auger and SPT borings drilled for the Phase II study can be found in Appendix A. The borings were field located and staked using a Garmin GPSMap 64ST Global Positioning System (GPS) unit with a reported accuracy of ±1 meter. Therefore, the boring locations should be considered approximate.

The Phase II subsurface exploration consisted of a two (2) SPT borings in the proposed building area and eleven (11) shallow auger borings in the athletic field areas. The subsurface conditions encountered in each area are summarized below.

The building borings (B-3 and B-4) generally encountered very loose to loose sand and slightly silty sand from the ground surface to a depth of roughly 7 feet underlain by medium dense sand and slightly silty sand to the bottom of the 16-foot deep borings.

The athletic field borings (F-7 through F-11) generally encountered sand and slightly silty sand from the ground surface to the bottom of the 3-foot to 5-foot deep borings. The depths of the borings were limited by the depth to groundwater.

The above subsurface descriptions are of a generalized nature provided to highlight the major soil stratum encountered. The Soil Profiles should be reviewed for specific subsurface conditions at each boring location. The stratification shown on the Soil Profiles represents the subsurface conditions at the actual boring locations only, and variations in the subsurface conditions can and may occur between boring locations and should therefore be expected. The stratification represents the approximate boundary between subsurface materials, and the transitions between strata may be gradual.

2.3 Groundwater Conditions

Groundwater was generally encountered at depths ranging from approximately 1 foot to 3 feet below existing grade at the time of drilling, which was during a period of below normal seasonal rainfall. Groundwater levels will fluctuate with rainfall and could vary several feet during typical seasonal fluctuations. Larger fluctuations are possible under severe weather conditions. We recommend that the Contractor determine the actual groundwater levels at the time of construction to determine potential impacts groundwater can/will have on construction procedures. Groundwater will be discussed in greater detail in Section 3 below.

2.4 Laboratory Soil Testing

Laboratory soil testing consisted of natural moisture content tests and wash #200 sieve tests. The results of the tests can be found on the Soil Profiles opposite the samples tested (Appendix A).

3.0 EVALUATION AND RECOMMENDATIONS

3.1 General Comments

The Phase II exploration encountered similar subsurface conditions to the Phase I exploration, and as such should provide adequate support for the proposed improvements provided the recommendations presented in this report are followed. Shallow groundwater (within 3 feet of the ground surface) was encountered in the majority of the borings. Site grades will need to be developed to account for the shallow groundwater conditions present and the use of the specific area of the site. Measures may also be required to manage groundwater during site work operations. Site preparation recommendations are presented in Section 3.2.

The borings drilled in the building area indicate that the lightly loaded structures can be founded on shallow foundations provided the subsoils are prepared as noted in this report. Foundation recommendations are provided in Section 3.3.

3.2 Site Preparation Recommendations

The proposed development areas should be cleared, grubbed, and stripped of topsoil. Excavations made to remove significant root systems should be backfilled with soils compacted to a minimum soil density of 93% of the Modified Proctor test (ASTM D1557).

The shallow groundwater table could result in subgrade stabilization concerns, particularly if construction occurs during a period of increased rainfall. If elevated groundwater conditions are present at the time of construction, dewatering in the form of pumped ditches, well points or trenched underdrains may be required to prepare the site subsoils.

Prior to the placement of structural fill soils in building areas, we recommend that the ground surface be compacted with non-vibratory traffic sized equipment to a minimum soil density of 93% of the Modified Proctor test (ASTM D1557). Yielding areas, if any, may require undercutting or bridging with clean coarse sands, depending in part on the groundwater conditions at the time of construction and the proposed finished grades. Areas where undercutting occurs should be backfilled with a clean coarse sand containing less than 5% fines as this type of soils is more readily compactible under increased moisture conditions. The first lift of backfill should be placed 12± inches thick or as needed to achieve grades 1 foot above the groundwater table present at the time of construction and should be compacted with non-vibratory traffic sized equipment to a minimum soil density of

93% of the modified Proctor test (ASTM D1557). Successive lifts of fill should be a maximum of 8 inches (loose) thick and be compacted to a minimum soil density of 95% of the modified Proctor test (ASTM D1557). Once stabilized conditions are achieved, backfill/fill soils can be any readily compactible sandy soil.

The Stratum 1 and Stratum 2 soils (see the Soil Profile sheets, Appendix A) can be used as structural fill in the building areas as well as in the athletic field areas provided the material contains less than 5% organics. Moisture conditioning may be required to use these materials depending on their condition at the time of construction.

3.3 Foundation Recommendations

Based on the expected relatively light building loads and provided sufficient fill material will be placed in the building area to provide 1+ feet of separation between the bottom of the footings and the groundwater table, the subsurface conditions encountered in the borings should be suitable for founding the proposed structure on shallow spread footings. The soil immediately beneath and to a minimum depth of 12 inches below the footings should be compacted to a minimum soil density of 98% of the modified Proctor test (ASTM D1557).

Footings having a minimum width of 2 feet and a minimum embedment of 2 feet below finished exterior grades can be designed for an allowable soil bearing pressure of 1,500 lbs/ft^2, which reflects the very loose soil conditions present.

Settlements on sandy soils usually occur immediately upon or soon after loading, and we would expect most of the estimated 1 inch of total settlement to occur during construction.

3.4 Floor Slab Recommendations

A modulus of subgrade reaction of 80 lbs/in^3 can be used for the floor slab design provided the slab is placed on soils similar to the near surface in-situ soils prepared in accordance with the recommendations presented in this report. To reduce the possibility of slab cracking due to minor differential settlement, we recommend that the floor slab be structurally isolated from foundations or that transitions from foundation-supported building elements to soil supported floors be reinforced. The subgrade should be covered with an effective vapor barrier to reduce the loss of water from the plastic concrete into the subgrade soils and to reduce the possibility of slab dampness due to moisture.

3.5 Athletic/Playground Recommendations

The athletic field/playground borings encountered sand and slightly silty sand with a relatively shallow groundwater table. No unsuitable or mucky soils were encountered in the borings. These areas can be prepared in general accordance with the recommendations presented in Section 3.2 above, the exception being that fill soils need only be compacted to a minimum soil density of 93% of the modified Proctor test. Best practices for turf establishment/management should be followed, with grades set as necessary given the shallow groundwater conditions present.

4.0 REPORT LIMITATIONS

The recommendations submitted are based on the available soil information obtained by Tierra, Inc. and design details furnished by Moffat & Nichol for the subject project. If there are any revisions to the plans for this project or if deviations from the subsurface conditions noted in this report are encountered during construction, Tierra should be notified immediately to determine if changes in site preparation or other recommendations are required. If Tierra is not retained to perform these functions, we cannot be responsible for the impact of such conditions on the performance of the project.

The findings, recommendations, specifications, and professional advice contained herein have been made in accordance with generally accepted professional Geotechnical engineering practices in the local area.

After the plans and specifications are more complete, the Geotechnical engineer should be provided the opportunity to review the final design plans and specifications to assure our engineering recommendations have been properly incorporated into the design documents. At that time, it may be necessary to submit supplementary recommendations. This report has been prepared for the exclusive use of Moffat & Nichol for the specific application to the subject project.

APPENDIX A

Boring Location Plan

Soil Profiles



NOTE: BASE MAP PROVIDED BY MOFFAT & NICHOL

BORING LOCATION PLAN

0 100'

PLAN SCALE

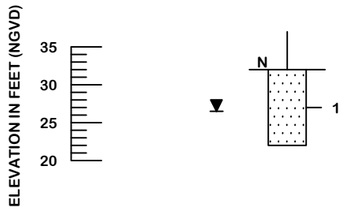
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- APPROXIMATE LOCATION OF AUGER BORING
- APPROXIMATE LOCATION OF SPT BORING

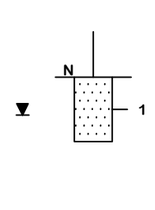
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SOIL PROFILES

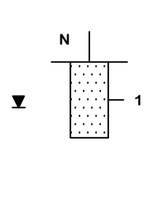
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DRILLER M DAVIS



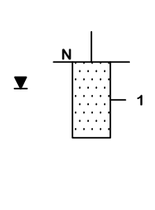
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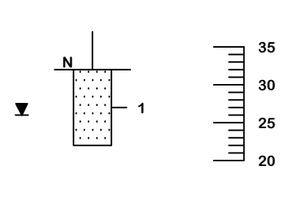
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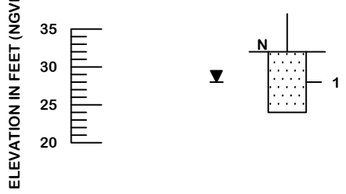
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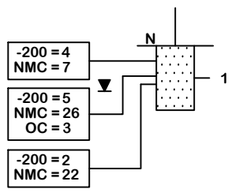
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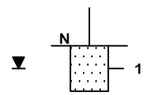
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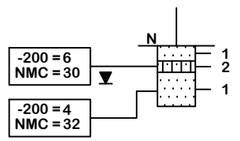
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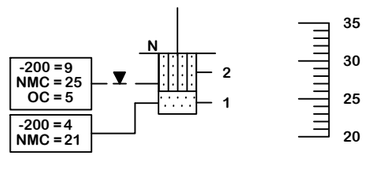
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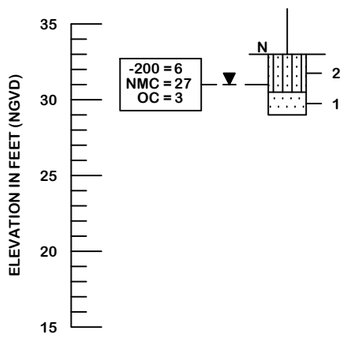
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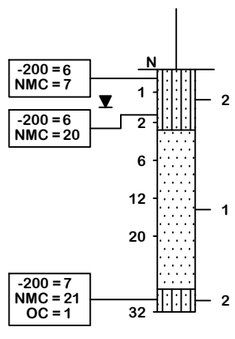
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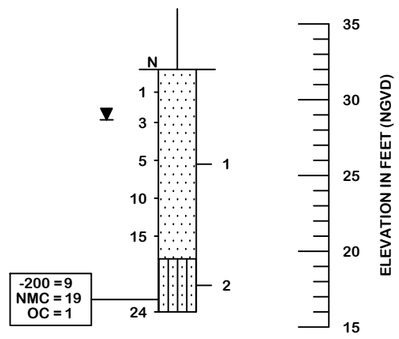
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DRILLER M DAVIS



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ELEV. 32.0
DATE 4/7/2022
DRILLER S RYAN
HAMMER SAFETY
RIG B-24



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DATE 4/7/2022
DRILLER S RYAN
HAMMER SAFETY
RIG B-24



LEGEND

1 WHITE, GRAY, LIGHT BROWN, BROWN SAND (SP)

2 LIGHT BROWN, BROWN SLIGHTLY SILTY SAND (SP-SM)

▼ GROUNDWATER LEVEL ENCOUNTERED DURING INVESTIGATION

N SPT N-VALUE IN BLOWS/FOOT FOR 12 INCHES OF PENETRATION (UNLESS OTHERWISE NOTED)

SP UNIFIED SOIL CLASSIFICATION SYSTEM (ASTM D 2488) GROUP SYMBOL AS DETERMINED BY VISUAL REVIEW AND LABORATORY TESTING ON SELECTED SAMPLES FOR CONFIRMATION OF VISUAL REVIEW.

NGVD NATIONAL GEODETIC VERTICAL DATUM OF 1929

EASTING EASTING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

NORTHING NORTHING COORDINATE REFERENCED TO THE FLORIDA STATE PLANE COORDINATE SYSTEM, FLORIDA NORTH ZONE, N.A.D. 83 DETERMINED USING HAND-HELD GARMIN EGARMIN GPS MAP 64 ST GPS GLOBAL POSITIONING SYSTEM WITH A REPORTED ACCURACY OF +/- 1 METER.

-200 PERCENT PASSING #200 SIEVE

NMC NATURAL MOISTURE CONTENT (%)

OC ORGANIC CONTENT (%)

NOTE: ELEVATIONS OBTAINED FROM GOOGLE EARTH.

SAFETY HAMMER	
GRANULAR MATERIALS- RELATIVE DENSITY	SPT N-VALUE (BLOWS/FT.)
VERY LOOSE	LESS THAN 4
LOOSE	4 TO 10
MEDIUM	10 TO 30
DENSE	30 TO 50
VERY DENSE	GREATER THAN 50
SILTS AND CLAYS CONSISTENCY	SPT N-VALUE (BLOWS/FT.)
VERY SOFT	LESS THAN 2
SOFT	2 TO 4
FIRM	4 TO 8
STIFF	8 TO 15
VERY STIFF	15 TO 30
HARD	GREATER THAN 30

DRAWN BY: SW
CHECKED BY: SJS
APPROVED BY: SJS
DATE: MAY 2022
ENGINEER OF RECORD: SARAH J. SANCHEZ, P.E.
FLORIDA LICENSE NO.: 51033

TIERRA
1300 West Main Street
Pensacola, Florida 32502
Phone: 850-462-8774 Fax: 850-462-8784

SCALE: NOTED
PROJECT NUMBER: 4511-20-031

GEOTECHNICAL ENGINEERING SERVICES
SANTA ROSA COUNTY SPORTS COMPLEX AT PSC
PHASE II
SANTA ROSA COUNTY, FLORIDA

SHEET 2

8.0 PENSACOLA STATE COLLEGE LEASE AGREEMENT

Please sign and return this copy to Pensacola State College. Thank you.

College Contract Number
2020059

PLEASE MAIL TO

Pensacola State College
1000 College Boulevard, Building 7
Pensacola, FL 32504
ATTN: CONTRACTS / BUSINESS AFFAIRS

THIS LEASE AGREEMENT is made effective on the 1st day of September, 2019 (the "Effective Date") by and between **THE DISTRICT BOARD OF TRUSTEES OF PENSACOLA STATE COLLEGE, FLORIDA**, a Florida public State College ("Landlord") and **SANTA ROSA COUNTY, FLORIDA**, a political subdivision of the State of Florida ("Tenant").

WHEREAS, Landlord owns certain property located on Highway 98 in Santa Rosa County, Florida upon which the Tenant desires to construct and operate an athletic complex with soccer fields and other similar outdoor facilities for the use and benefit of the citizens of Santa Rosa County, and

WHEREAS, Landlord desires to lease said property to the Tenant to support the Tenant's objective of providing outdoor recreation to the citizens of Santa Rosa County,

NOW THEREFORE, for and in consideration of the mutual covenants and agreements set forth herein, the receipt and sufficiency of which are hereby acknowledged, Landlord and the Tenant agree as follows:

1. **LEASE OF PREMISES**. Landlord hereby leases to the Tenant two parcels of real property located in Section 25, Township 2 South, Range 28 West on Highway 98 in the Santa Rosa County, Florida. The first parcel consists of approximately 15.0 acres and is more particularly described in Exhibit "A" attached hereto and made a part hereof by reference and is referred to hereinafter as "Parcel A". The second parcel consists of approximately 7.35 acres and is more particularly described in Exhibit "B" attached hereto and made a part hereof by reference and is referred to hereinafter as "Parcel B." (Parcel A and Parcel B are collectively referred to as the "Leased Premises").

2. **TERM**.

A. **PARCEL A**. The Lease term for Parcel A shall commence on the Effective Date set forth above and shall continue for a period of forty (40) years, ending on August 31, 2059.

B. **PARCEL B**. The Lease term for Parcel B shall commence on the Effective Date set forth above and shall continue for a period of three (3) years, whereupon the Lease for Parcel B shall automatically renew for four (4) successive renewal terms of three (3) years each, unless either party gives written notice to the other party at least 90 days prior to the termination of the initial term or any renewal term that such party does not intend to renew.

3. **RENT**. During the term of this lease, Tenant shall pay to Landlord the sum of One Dollar ($1.00) per year.

4. **USE OF THE PREMISES**. The Tenant will use the Leased Premises as a public recreational facility for outdoor athletic and related activities open to the public. Tenant, or other parties designated by

Tenant, may charge admission to such special events as Tenant deems appropriate. Tenant may also operate a concession stand or other facility for the purposes of selling food or goods to the public.

5. **ACCESS EASEMENT**. In addition to the Leased Premises, Landlord grants to Tenant a non-exclusive access easement across Landlord's property in the location shown on Exhibit "C" attached hereto for ingress and egress by Tenant and Tenant's licensees, invitees and guests to access the Leased Premises from Highway 98. Tenant shall build a paved roadway across the unpaved portions of the easement area to facilitate access to the Leased Premises by the public. Such roadway shall be the size and type appropriate for a public facility.

6. **IMPROVEMENTS TO LEASED PREMISES**. The Tenant shall be free to construct or install buildings, restrooms, concession stands, athletic fields, pavement, fencing, signage, and any other improvements related to providing athletic fields and recreational facilities to the citizens of Santa Rosa County. Landlord shall have the right to review and approve all proposed improvements on the Leased Premises, which approval shall not be unreasonably withheld, conditioned or delayed. If Landlord does not notify Tenant of any objection to any proposed improvements within ten (10) days after Landlord has received the plans and specifications therefor, then Landlord shall be deemed to have approved same. Tenant covenants and agrees to construct the proposed improvements in a good and workmanlike manner and in accordance with the plans and specifications therefor. The Tenant will be responsible for the cost of constructing all improvements on the Leased Premises. All improvements constructed will be maintained by the Tenant at its sole expense, and Tenant will promptly pay all contractors, subcontractors, laborers and material suppliers for their goods and services. Tenant shall keep the Leased Premises free and clear of all liens or encumbrances arising from the provision of goods or services in the construction of the improvements. All improvements made to the Leased Premises shall remain the property of the Tenant during the term of this lease.

7. **UTILITIES**. The Tenant shall pay for all utility services required for the Leased Premises, including electricity, gas, telephone, internet, water, sewage and garbage disposal, and shall pay the charges incurred for those services when due. In no event shall Landlord be responsible for any utility costs associated with the Leased Premises.

8. **TAX EXEMPT STATUS**. As a political subdivision of the State of Florida, Tenant is exempt from payment of ad valorem real property taxes and Florida sales and use taxes.

9. **ASSIGNMENT**. Tenant shall not assign this Lease in whole or in part without written permission from the Landlord.

10. **QUIET POSSESSION**. Landlord covenants with Tenant that it has full right and authority to lease the premises and Tenant shall enjoy quiet possession of the Leased Premises and shall not be evicted nor disturbed in possession of the Leased Premises so long as Tenant complies with the terms of this Lease.

11. **COMPLIANCE WITH LAWS AND AGREEMENTS**. During the Term, Tenant shall comply with and cause the Leased Premises and all current and future improvements thereon to be in compliance with all

laws, ordinances and regulations, and other governmental rules, orders and determinations, applicable to the Leased Premises, the improvements or the uses conducted thereon. Landlord agrees, at its sole cost and expense, to comply with all laws, ordinances and regulations, and other governmental rules, orders and determinations, regarding ownership of, and access to, the Leased Premises and to take all actions necessary to preserve such ownership and access.

12. **INSURANCE**. Upon request each party promptly shall deliver evidence of its respective insurance coverage required below to the other. Each of Landlord and Tenant shall have the right to provide any insurance required to be carried by it hereunder under blanket policies of insurance. In each case where either Landlord or Tenant has an obligation under this Lease to defend the other party (the "Defense Indemnified Party"), the Defense Indemnified Party agrees that it shall not be entitled to receive an award of attorney's fees (and any related legal costs) where the indemnifying party or its insurer has engaged, at its expense, counsel to defend the Defense Indemnified Party.

A. **Tenant's Liability Insurance**. During the Term, Tenant shall maintain liability insurance covering the Leased Premises with limits equal to or greater than the level of Tenant's maximum liability set forth in Section 768.28, Florida Statutes, (or any successor statute limiting Landlord's liability) with Tenant being self-insured through the Florida Association of Counties Trust (or such successor entity insuring county governments within the State of Florida in accordance with Section 768.28, Florida Statutes).

B. **Landlord's Liability Insurance**. During the Term, Landlord shall maintain liability insurance covering the Leased Premises with limits equal to or greater than the level of Landlord's maximum liability set forth in Section 768.28, Florida Statutes, (or any successor statute limiting Landlord's liability) with Landlord being self-insured through the Florida College System Risk Management Consortium (or such successor entity insuring public colleges within the State of Florida in accordance with Section 768.28, Florida Statutes).

C. **Tenant's Hazard Insurance**. It shall be Tenant's responsibility to maintain hazard insurance in the amount deemed appropriate by Tenant covering improvements owned by Tenant on the Leased Premises.

13. **INDEMNIFICATION**.

A. **Sovereign Immunity**. Landlord and Tenant are both public entities covered by the limited waiver of sovereign immunity set forth in section 768.28, Florida Statutes. Nothing in this agreement shall be deemed an agreement by either party to indemnify the other party for any amount in excess of the monetary limits set forth in section 768.28, nor shall any provision of this agreement be deemed a waiver of either party's sovereign immunity under the statute.

B. **Indemnification by Tenant**. Subject to the limitations in section 13(a) above, Tenant shall indemnify, defend and hold harmless Landlord, and any officer, administrator, employee, contractor or agent of Landlord acting within the scope of their agency, employment or relationship with Landlord (collectively the "Landlord Indemnified Parties"), against, any and all claims, demands,

liabilities, losses, damages, costs and expenses (collectively, "Liabilities"), arising from injury to or death of any person, or damage to or loss of any property, on the Leased Premises or connected with the use, condition or occupancy of Tenant's improvements to the Leased Premises, due to the negligence or willful misconduct of Tenant, or its agents, employees, officers, directors, contractors, or licensees, solely to the extent any such party is acting within the scope of their agency, employment or relationship to Tenant. Notwithstanding the foregoing, however, Tenant shall have no obligation or liability under this Section with respect to any Liabilities suffered by the Landlord Indemnified Parties in connection with the Leased Premises caused by or arising solely from the negligence or willful misconduct of the Landlord Indemnified Parties.

C. **Indemnification by Landlord**. Subject to the limitations in section 13(a) above, Landlord shall indemnify, defend and hold harmless Tenant, and any trustee, officer, administrator, employee, contractor or agent of Tenant acting within the scope of their agency, employment or relationship with Tenant (collectively the "Tenant Indemnified Parties"), against, any and all Liabilities arising from injury to or death of any person, or damage to or loss of property, on the Leased Premises or connected with the use, condition or occupancy of the Leased Premises due to the negligence or willful misconduct of Landlord, its agents, employees, officers, directors, contractors, and licensees, solely to the extent any such party is acting within the scope of their agency, employment or relationship to Landlord. Notwithstanding the foregoing, however, Landlord shall have no obligation or liability under this Section with respect to any Liabilities suffered by the Tenant Indemnified Parties in connection with the Leased Premises caused by or arising solely from the negligence or willful misconduct of the Tenant Indemnified Parties.

14. **HAZARDOUS WASTE**

A. **LANDLORD'S REPRESENTATIONS AND WARRANTIES**. Landlord represents and warrants to Tenant that, to the Landlord's knowledge and belief:

(1) No Hazardous Substance or underground tanks, vessels, or containers are present on or under the Leased Premises or on or under any adjacent property;

(2) The Leased Premises as of the commencement of this Lease is in compliance in all material respects with the provisions of all local, state and federal environmental, health and safety laws, codes and ordinances and all rules and regulations promulgated thereunder;

(3) Landlord has received no order, notice, or other communication of alleged or potential violation or failure to comply with any applicable environmental laws from any federal, state or local authorities in relation to any acts or omissions at the Leased Premises before the Commencement Date;

(4) There have been no releases of Hazardous Substances during Landlord's ownership of the Leased Premises, and there are no liabilities or remedial obligations

with respect to the assets, operations, or surface or subsurface of the Leased Premises; and

(5) Landlord has supplied to Tenant all information known by, or in the possession of, Landlord with respect to the environmental condition of the Leased Premises, including but not limited to:

(a) The use, storage, disposal or presence of Hazardous Substances on the Leased Premises, and

(b) Notices, written or oral, from any person, including governmental entities, of any Environmental Claims (hereinafter defined).

B. **TENANT'S OBLIGATIONS**. Tenant shall not cause or permit any Hazardous Substance to be brought, kept or used in or about the Leased Premises by Tenant or by its agents, employees, or contractors when acting within the scope of their employment, agency or stated relationship with Tenant, except in commercial quantities similar to those quantities usually kept on similar premises by others conducting similar recreational activities as Tenant. Tenant shall store, use and dispose of such substances in material compliance with all applicable federal, state and local laws. If Tenant, or its officers, directors, agents, contractors, or employees, when acting within the scope of their employment, agency or stated relationship with Tenant, brings or keeps hazardous substance on, in or under the Leased Premises, and any such hazardous substance is released in violation of any applicable environmental law, or otherwise results in any contamination of the Leased Premises or any other adjoining property or the air, soil, surface water or ground water of the Leased Premises or adjoining property in violation of any applicable environmental law, Tenant shall promptly take all actions at its sole expense, as are necessary to return the affected area(s) to the condition existing prior to the unlawful introduction of such hazardous substance, including, without limitation, any investigation or monitoring of site conditions or any clean up, remediation, response, removal, encapsulation, containment or restoration work required because of the presence of such hazardous substance on, in or under the Leased Premises in violation of any applicable environmental law. Notwithstanding the foregoing, however, Tenant shall not have any obligation to perform any remedial work that (i) is necessitated by the presence of any hazardous substance coming onto or into the Leased Premises from any adjacent real property that is not directly caused by Tenant or its officers, directors, agents, contractors, employees or invitees when acting within the scope of their employment, agency or stated relationship with Tenant, (ii) is required because of the presence of any hazardous substance on, in or under the Leased Premises that is caused by any party other than Tenant or its officers, directors, employees, agents, contractors or invitees when acting within the scope of their employment, agency or stated relationship with Tenant, (iii) is the responsibility of Landlord under the terms of this Lease, or (iv) is required on account of any hazardous substance which was present on, in or under the Leased Premises prior to the Effective Date hereof.

15. **NOTICES**. Any notice or demand to be given or that may be given under this Lease shall be in writing and shall be (a) delivered by hand with the recipient providing a written receipt, or (b) delivered through the United States Mail postage prepaid, certified, return receipt requested, addressed to the parties as follows:

If to Landlord:	**If to Tenant:**
Pensacola State College	Santa Rosa County
1000 College Boulevard	6495 Caroline Street, Suite K
Pensacola, Florida 32504	Milton, Florida 32570
Attn: President	Attn: County Administrator

Any party to this Lease may change address by notice in writing to the other party in the manner provided in this paragraph.

16. **CONDEMNATION**. If the whole or any substantial part of the Leased Premises is taken for any public or quasi-public use under any governmental law, ordinance or regulation or by right of eminent domain or should the Leased Premises be sold to a condemning authority under threat of condemnation, this lease shall terminate and the rent shall be abated during the unexpired portion of the lease effective from the date of the physical taking of the Leased Premises. Any award for the taking of any or any part of the Leased Premises under the power of eminent domain or any payment made under threat of the exercise of such power shall be divided between the Landlord and the Tenant, with the Landlord receiving all compensation awarded for the value of the land, and the Tenant receiving all compensation awarded for the value of the improvements.

17. **SURRENDER**. Upon the expiration of the term of this Lease, Tenant agrees to peaceably deliver up the Leased Premises to Landlord, and thereupon title to all improvements shall vest in the Landlord.

18. **MISCELLANEOUS**. This Lease shall not be modified except by written agreement signed by the parties and shall be construed in accordance with the laws of the State of Florida. Time is of the essence of this Agreement.

The failure of Landlord to seek redress for violation of, or to insist upon the strict performance of any covenant or condition of this Lease, or any of the rules and regulations herein or hereafter adopted by Landlord, shall not prevent a subsequent act or omission, which would have originally constituted a violation, from having all the force and effect of an original violation. The receipt by Landlord of the Rent hereunder with knowledge of the breach of any covenant of this Lease shall not be deemed a waiver of such breach. No provision of this Lease shall be deemed to have been waived by Landlord, unless such waiver be in writing signed by Landlord.

If any of the provisions of this Lease shall be held to be invalid, illegal or unenforceable for any reason, such circumstance shall not affect any other provision. This Lease shall be construed as if such invalid, illegal or unenforceable provision had never been herein.

Both parties agree, in the event it becomes necessary to employ an attorney to collect any of the rent agreed to be paid, or to enforce performance of any of the provisions of this lease, the non-prevailing party shall pay all costs of any kind and reasonable attorneys' fees incurred by the prevailing party, whether or not suit is actually required to be filed, and including litigation through all appeals.

This lease shall be governed by and construed in accordance with the laws of the State of Florida without regard to any choice of law provisions therein. Venue for any dispute arising between the parties shall be in the state and federal courts of competent jurisdiction in Santa Rosa County, Florida.

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IN WITNESS WHEREOF, the Landlord and the Tenant have cause this Lease Agreement to be executed by their duly authorized representatives as of the day and year first written above.

ATTEST:

ATTEST: Donald C. Spencer, Clerk of Court

Print name: _____

Print name: _____

SANTA ROSA COUNTY
BOARD OF COUNTY COMMISSIONERS

By: Sam Parker

Title: Chairman

ATTEST:

Print name: Patricia S. Crews

Print name: Lisa R. Carter

THE DISTRICT BOARD OF TRUSTEES OF PENSACOLA STATE COLLEGE, FLORIDA

By: _____

Title: President

Approved as to form:

Thomas J. Gilliam, Jr., General Counsel
For Pensacola State College

EXHIBIT "A"

LEGAL DESCRIPTION:

COMMENCE AT THE NORTHWEST CORNER OF SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA; THENCE PROCEED SOUTH 00 DEGREES 05 MINUTES 36 SECONDS EAST ALONG THE WEST LINE OF SAID SECTION 25 FOR A DISTANCE OF 445.61 FEET TO THE SOUTH RIGHT-OF-WAY (R/W) LINE OF U.S. HIGHWAY 98 (STATE ROAD NO. 30, 160' R/W); THENCE PROCEED NORTH 79 DEGREES 30 MINUTES 00 SECONDS EAST ALONG SAID SOUTH R/W LINE FOR A DISTANCE OF 2492.38 FEET TO THE NORTH LINE OF SAID SECTION 25; THENCE DEPARTING SAID SOUTH R/W LINE PROCEED NORTH 89 DEGREES 47 MINUTES 57 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 187.08 FEET TO THE EAST LINE OF GOVERNMENT LOT 3; THENCE PROCEED SOUTH 89 DEGREES 59 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION FOR A THE NORTH LINE OF SAID SECTION FOR A DISTANCE OF 1321.32 FEET TO THE EAST LINE OF GOVERNMENT LOT 2; THENCE DEPARTING THE NORTH LINE OF SAID SECTION 25 PROCEED SOUTH 00 DEGREES 06 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 1060.56 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE LAST COURSE PROCEED SOUTH 00 DEGREES 06 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 261.74 FEET TO THE NORTHEAST CORNER OF THE SOUTH HALF OF GOVERNMENT LOT 2; THENCE DEPARTING THE EAST LINE OF SAID GOVERNMENT LOT 2 PROCEED SOUTH 89 DEGREES 56 MINUTES 03 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 577.33 FEET; THENCE DEPARTING THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 PROCEED NORTH 00 DEGREES 03 MINUTES 57 SECONDS WEST FOR A DISTANCE OF 1.64 FEET; THENCE PROCEED NORTH 39 DEGREES 42 MINUTES 04 SECONDS EAST FOR A DISTANCE OF 100.15 FEET; THENCE PROCEED NORTH 12 DEGREES 20 MINUTES 17 SECONDS EAST FOR A DISTANCE OF 81.75 FEET; THENCE PROCEED NORTH 34 DEGREES 34 MINUTES 14 SECONDS WEST FOR A DISTANCE OF 49.06 FEET; THENCE PROCEED NORTH 70 DEGREES 26 MINUTES 49 SECONDS WEST FOR A DISTANCE OF 87.88 FEET; THENCE PROCEED SOUTH 82 DEGREES 27 MINUTES 28 SECONDS WEST FOR A DISTANCE OF 63.29 FEET; THENCE PROCEED SOUTH 26 DEGREES 47 MINUTES 29 SECONDS WEST FOR A DISTANCE OF 65.59 FEET; THENCE PROCEED SOUTH 01 DEGREES 15 MINUTES 23 SECONDS WEST FOR A DISTANCE OF 76.48 FEET; THENCE PROCEED SOUTH 17 DEGREES 33 MINUTES 22 SECONDS WEST FOR A DISTANCE OF 60.18 FEET; THENCE PROCEED SOUTH 09 DEGREES 45 MINUTES 25 SECONDS WEST FOR A DISTANCE OF 28.24 FEET TO THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2; THENCE PROCEED SOUTH 89 DEGREES 56 MINUTES 03 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 599.58 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2; THENCE DEPARTING THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 PROCEED NORTH 01 DEGREES 11 MINUTES 39 SECONDS EAST FOR A DISTANCE OF 50.62 FEET; THENCE PROCEED NORTH 03 DEGREES 57 MINUTES 26 SECONDS EAST FOR A DISTANCE OF 72.66 FEET; THENCE PROCEED NORTH 05 DEGREES 41 MINUTES 19 SECONDS EAST FOR A DISTANCE OF 63.05 FEET; THENCE PROCEED NORTH 17 DEGREES 33 MINUTES 19 SECONDS WEST FOR A DISTANCE OF 44.53 FEET; THENCE PROCEED NORTH 29 DEGREES 53 MINUTES 55 SECONDS WEST FOR A DISTANCE OF 94.76 FEET; THENCE PROCEED NORTH 48 DEGREES 28 MINUTES 31 SECONDS EAST FOR A DISTANCE OF 105.81 FEET; THENCE PROCEED NORTH 83 DEGREES 48 MINUTES 09 SECONDS EAST FOR A DISTANCE OF 39.00 FEET; THENCE PROCEED SOUTH 63 DEGREES 22 MINUTES 32 SECONDS EAST FOR A DISTANCE OF 40.21 FEET; THENCE PROCEED NORTH 77 DEGREES 35 MINUTES 01 SECONDS EAST FOR A DISTANCE OF 43.93 FEET; THENCE PROCEED SOUTH 83 DEGREES 31 MINUTES 02 SECONDS EAST FOR A DISTANCE OF 72.47 FEET; THENCE PROCEED NORTH 59 DEGREES 22 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 59.83 FEET; THENCE PROCEED NORTH 09 DEGREES 21 MINUTES 34 SECONDS EAST FOR A DISTANCE OF 27.43 FEET; THENCE PROCEED NORTH 24 DEGREES 06 MINUTES 07 SECONDS EAST FOR A DISTANCE OF 64.13 FEET; THENCE PROCEED NORTH 19 DEGREES 03 MINUTES 01 SECONDS EAST FOR A DISTANCE OF 92.57 FEET; THENCE PROCEED NORTH 80 DEGREES 36 MINUTES 25 SECONDS EAST FOR A DISTANCE OF 30.81 FEET; THENCE PROCEED NORTH 33 DEGREES 47 MINUTES 07 SECONDS EAST FOR A DISTANCE OF 69.38 FEET;

THENCE PROCEED NORTH 00 DEGREES 47 MINUTES 43 SECONDS WEST FOR A DISTANCE OF 57.32 FEET; THENCE PROCEED NORTH 13 DEGREES 48 MINUTES 30 SECONDS WEST FOR A DISTANCE OF 20.25 FEET; THENCE PROCEED SOUTH 78 DEGREES 33 MINUTES 48 SECONDS EAST FOR A DISTANCE OF 78.19 FEET; THENCE PROCEED SOUTH 79 DEGREES 10 MINUTES 13 SECONDS EAST FOR A DISTANCE OF 19.84 FEET; THENCE PROCEED SOUTH 62 DEGREES 38 MINUTES 14 SECONDS EAST FOR A DISTANCE OF 74.48 FEET; THENCE PROCEED SOUTH 66 DEGREES 31 MINUTES 52 SECONDS EAST FOR A DISTANCE OF 55.47 FEET; THENCE PROCEED NORTH 68 DEGREES 30 MINUTES 49 SECONDS EAST FOR A DISTANCE OF 60.12 FEET; THENCE PROCEED NORTH 22 DEGREES 42 MINUTES 14 SECONDS EAST FOR A DISTANCE OF 29.94 FEET; THENCE PROCEED NORTH 59 DEGREES 56 MINUTES 38 SECONDS WEST FOR A DISTANCE OF 28.67 FEET; THENCE PROCEED NORTH 56 DEGREES 36 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 13.71 FEET; THENCE PROCEED SOUTH 89 DEGREES 18 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 176.61 FEET; THENCE PROCEED SOUTH 05 DEGREES 39 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 49.41 FEET; THENCE PROCEED SOUTH 56 DEGREES 23 MINUTES 41 SECONDS EAST FOR A DISTANCE OF 99.20 FEET; THENCE PROCEED SOUTH 74 DEGREES 16 MINUTES 15 SECONDS EAST FOR A DISTANCE OF 95.22 FEET; THENCE PROCEED SOUTH 41 DEGREES 25 MINUTES 36 SECONDS EAST FOR A DISTANCE OF 74.76 FEET; THENCE PROCEED SOUTH 75 DEGREES 19 MINUTES 50 SECONDS EAST FOR A DISTANCE OF 123.85 FEET; THENCE PROCEED SOUTH 75 DEGREES 04 MINUTES 10 SECONDS EAST FOR A DISTANCE OF 54.69 FEET; THENCE PROCEED SOUTH 21 DEGREES 29 MINUTES 19 SECONDS WEST FOR A DISTANCE OF 38.26 FEET; THENCE PROCEED SOUTH 02 DEGREES 43 MINUTES 55 SECONDS WEST FOR A DISTANCE OF 50.84 FEET; THENCE PROCEED SOUTH 20 DEGREES 50 MINUTES 16 SECONDS WEST FOR A DISTANCE OF 56.28 FEET; THENCE PROCEED SOUTH 13 DEGREES 29 MINUTES 16 SECONDS EAST FOR A DISTANCE OF 71.78 FEET; THENCE PROCEED SOUTH 21 DEGREES 54 MINUTES 32 SECONDS EAST FOR A DISTANCE OF 60.51 FEET; THENCE PROCEED SOUTH 45 DEGREES 14 MINUTES 46 SECONDS EAST FOR A DISTANCE OF 46.92 FEET; THENCE PROCEED NORTH 46 DEGREES 06 MINUTES 48 SECONDS EAST FOR A DISTANCE OF 54.47 FEET; THENCE PROCEED NORTH 37 DEGREES 40 MINUTES 59 SECONDS EAST FOR A DISTANCE OF 62.81 FEET TO THE POINT OF BEGINNING; ALL LYING AND BEING IN SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA, AND CONTAINING 15.0 ACRES, MORE OR LESS.

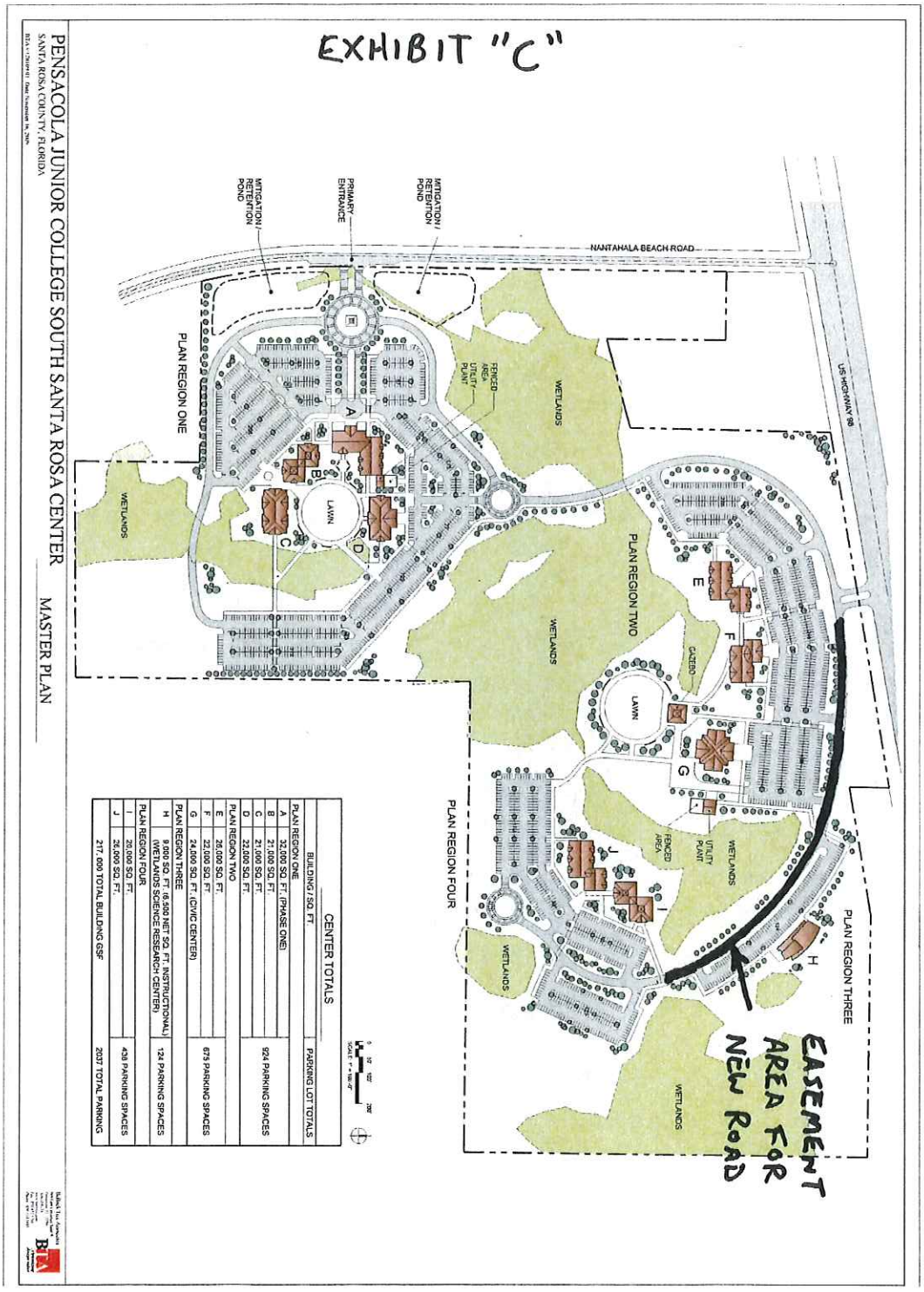
EXHIBIT "B"

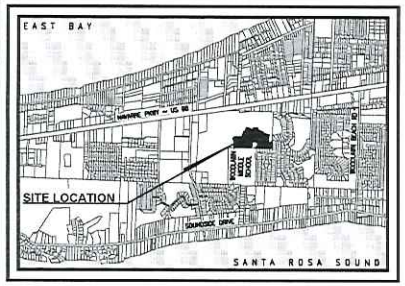
LEGAL DESCRIPTION:

COMMENCE AT THE NORTHWEST CORNER OF SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA; THENCE PROCEED SOUTH 00 DEGREES 05 MINUTES 36 SECONDS EAST ALONG THE WEST LINE OF SAID SECTION 25 FOR A DISTANCE OF 445.61 FEET TO THE SOUTH RIGHT-OF-WAY (R/W) LINE OF U.S. HIGHWAY 98 (STATE ROAD NO. 30, 160' R/W); THENCE PROCEED NORTH 79 DEGREES 30 MINUTES 00 SECONDS EAST ALONG SAID SOUTH R/W LINE FOR A DISTANCE OF 2492.38 FEET TO THE NORTH LINE OF SAID SECTION 25; THENCE DEPARTING SAID SOUTH R/W LINE PROCEED NORTH 89 DEGREES 47 MINUTES 57 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 187.08 FEET TO THE EAST LINE OF GOVERNMENT LOT 3; THENCE PROCEED SOUTH 89 DEGREES 59 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 538.93 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE LAST COURSE PROCEED SOUTH 89 DEGREES 59 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 782.39 FEET TO THE EAST LINE OF GOVERNMENT LOT 2 OF SAID SECTION; THENCE DEPARTING THE NORTH LINE F 782.39 FEET TO THE EAST LINE OF GOVERNMENT LOT 2 OF SAID SECTION; THENCE DEPARTING THE NORTH LINE 782.39 FEET TO THE EAST LINE OF GOVERNMENT LOT 2 OF SAID SECTION; THENCE DEPARTING THE NORTH LINE OF SAID SECTION PROCEED SOUTH 00 DEGREES 06 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 169.29 FEET; THENCE DEPARTING THE EAST LINE OF SAID GOVERNMENT LOT 2 PROCEED SOUTH 72 DEGREES 49 MINUTES 55 SECONDS WEST FOR A DISTANCE OF 66.82 FEET; THENCE PROCEED SOUTH 80 DEGREES 01 MINUTES 13 SECONDS WEST FOR A DISTANCE OF 117.39 FEET; THENCE PROCEED NORTH 82 DEGREES 52 MINUTES 24 SECONDS WEST FOR A DISTANCE OF 89.04 FEET; THENCE PROCEED SOUTH 88 DEGREES 55 MINUTES 20 SECONDS WEST FOR A DISTANCE OF 109.92 FEET; THENCE PROCEED SOUTH 14 DEGREES 47 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 80.25 FEET; THENCE PROCEED SOUTH 56 DEGREES 23 MINUTES 13 SECONDS EAST FOR A DISTANCE OF 52.94 FEET; THENCE PROCEED SOUTH 32 DEGREES 00 MINUTES 50 SECONDS EAST FOR A DISTANCE OF 98.93 FEET; THENCE PROCEED SOUTH 07 DEGREES 37 MINUTES 00 SECONDS EAST FOR A DISTANCE OF 63.86 FEET; THENCE PROCEED SOUTH 20 DEGREES 32 MINUTES 52 SECONDS WEST FOR A DISTANCE OF 86.28 FEET; THENCE PROCEED NORTH 74 DEGREES 32 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 68.47 FEET; THENCE PROCEED NORTH 36 DEGREES 26 MINUTES 10 SECONDS WEST FOR A DISTANCE OF 56.01 FEET; THENCE PROCEED SOUTH 41 DEGREES 40 MINUTES 30 SECONDS WEST FOR A DISTANCE OF 112.35 FEET; THENCE PROCEED SOUTH 05 DEGREES 39 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 63.15 FEET; THENCE PROCEED NORTH 89 DEGREES 18 MINUTES 23 SECONDS WEST FOR A DISTANCE OF 176.61 FEET; THENCE PROCEED NORTH 56 DEGREES 36 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 49.06 FEET; THENCE PROCEED NORTH 40 DEGREES 54 MINUTES 14 SECONDS WEST FOR A DISTANCE OF 76.08 FEET; THENCE PROCEED NORTH 16 DEGREES 25 MINUTES 29 SECONDS WEST FOR A DISTANCE OF 37.99 FEET; THENCE PROCEED NORTH 00 DEGREES 06 MINUTES 34 SECONDS WEST FOR A DISTANCE OF 495.77 FEET TO THE POINT OF BEGINNING; ALL LYING AND BEING IN SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA, AND CONTAINING 7.35 ACRES, MORE OR LESS.

EXHIBIT "C"

ACCESS EASEMENT LOCATION:





VICINITY MAP
1" = 2000'

DESCRIPTION: (AS PREPARED BY McKIM & CREED, INC.)

COMMENCE AT THE NORTHWEST CORNER OF SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA; THENCE PROCEED SOUTH 00 DEGREES 00 MINUTES 38 SECONDS EAST ALONG THE WEST LINE OF SAID SECTION 25 FOR A DISTANCE OF 445.61 FEET TO THE SOUTH RIGHT-OF-WAY (R/W) LINE OF U.S. HIGHWAY 98 (STATE ROAD NO. 30, 100' R/W); THENCE PROCEED NORTH 79 DEGREES 30 MINUTES 00 SECONDS EAST ALONG SAID SOUTH R/W LINE FOR A DISTANCE OF 2482.26 FEET TO THE NORTH LINE OF SAID SECTION 25; THENCE DEPARTING SAID SOUTH R/W LINE PROCEED NORTH 89 DEGREES 47 MINUTES 57 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 187.08 FEET TO THE EAST LINE OF GOVERNMENT LOT 3; THENCE PROCEED SOUTH 00 DEGREES 38 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION FOR A DISTANCE OF 1321.32 FEET TO THE EAST LINE OF GOVERNMENT LOT 2; THENCE DEPARTING THE NORTH LINE OF SAID SECTION 25 PROCEED SOUTH 00 DEGREES 06 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 1000.56 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE LAST COURSE PROCEED SOUTH 00 DEGREES 06 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 281.24 FEET TO THE NORTHEAST CORNER OF THE SOUTH HALF OF GOVERNMENT LOT 2; THENCE DEPARTING THE EAST LINE OF SAID GOVERNMENT LOT 2 PROCEED SOUTH 89 DEGREES 58 MINUTES 03 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 577.33 FEET; THENCE DEPARTING THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 PROCEED NORTH 00 DEGREES 03 MINUTES 57 SECONDS WEST FOR A DISTANCE OF 1.64 FEET; THENCE PROCEED NORTH 39 DEGREES 42 MINUTES 34 SECONDS EAST FOR A DISTANCE OF 100.15 FEET; THENCE PROCEED NORTH 12 DEGREES 39 MINUTES 17 SECONDS EAST FOR A DISTANCE OF 81.75 FEET; THENCE PROCEED NORTH 34 DEGREES 34 MINUTES 14 SECONDS WEST FOR A DISTANCE OF 49.08 FEET; THENCE PROCEED NORTH 70 DEGREES 28 MINUTES 49 SECONDS WEST FOR A DISTANCE OF 87.88 FEET; THENCE PROCEED SOUTH 82 DEGREES 27 MINUTES 28 SECONDS WEST FOR A DISTANCE OF 63.29 FEET; THENCE PROCEED SOUTH 26 DEGREES 47 MINUTES 29 SECONDS WEST FOR A DISTANCE OF 65.59 FEET; THENCE PROCEED SOUTH 01 DEGREES 15 MINUTES 23 SECONDS WEST FOR A DISTANCE OF 78.48 FEET; THENCE PROCEED SOUTH 17 DEGREES 33 MINUTES 22 SECONDS WEST FOR A DISTANCE OF 60.18 FEET; THENCE PROCEED SOUTH 09 DEGREES 45 MINUTES 25 SECONDS WEST FOR A DISTANCE OF 28.24 FEET TO THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2; THENCE PROCEED SOUTH 89 DEGREES 58 MINUTES 03 SECONDS WEST ALONG THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 599.58 FEET TO THE NORTHWEST CORNER OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2; THENCE DEPARTING THE NORTH LINE OF THE SOUTH HALF OF SAID GOVERNMENT LOT 2 PROCEED NORTH 01 DEGREES 11 MINUTES 39 SECONDS EAST FOR A DISTANCE OF 30.82 FEET; THENCE PROCEED NORTH 03 DEGREES 57 MINUTES 28 SECONDS EAST FOR A DISTANCE OF 72.66 FEET; THENCE PROCEED NORTH 05 DEGREES 41 MINUTES 19 SECONDS EAST FOR A DISTANCE OF 63.05 FEET; THENCE PROCEED NORTH 17 DEGREES 33 MINUTES 19 SECONDS WEST FOR A DISTANCE OF 44.53 FEET; THENCE PROCEED NORTH 29 DEGREES 53 MINUTES 33 SECONDS WEST FOR A DISTANCE OF 94.76 FEET; THENCE PROCEED NORTH 48 DEGREES 28 MINUTES 31 SECONDS EAST FOR A DISTANCE OF 105.81 FEET; THENCE PROCEED NORTH 83 DEGREES 48 MINUTES 09 SECONDS EAST FOR A DISTANCE OF 39.00 FEET; THENCE PROCEED SOUTH 63 DEGREES 22 MINUTES 32 SECONDS EAST FOR A DISTANCE OF 40.21 FEET; THENCE PROCEED NORTH 77 DEGREES 35 MINUTES 01 SECONDS EAST FOR A DISTANCE OF 43.93 FEET; THENCE PROCEED SOUTH 83 DEGREES 31 MINUTES 02 SECONDS EAST FOR A DISTANCE OF 72.47 FEET; THENCE PROCEED NORTH 59 DEGREES 22 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 59.83 FEET; THENCE PROCEED NORTH 68 DEGREES 21 MINUTES 34 SECONDS EAST FOR A DISTANCE OF 27.43 FEET; THENCE PROCEED NORTH 24 DEGREES 06 MINUTES 07 SECONDS EAST FOR A DISTANCE OF 64.13 FEET; THENCE PROCEED NORTH 19 DEGREES 03 MINUTES 01 SECONDS EAST FOR A DISTANCE OF 92.57 FEET; THENCE PROCEED NORTH 80 DEGREES 36 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 30.81 FEET; THENCE PROCEED NORTH 33 DEGREES 47 MINUTES 07 SECONDS EAST FOR A DISTANCE OF 69.38 FEET; THENCE PROCEED NORTH 00 DEGREES 47 MINUTES 43 SECONDS WEST FOR A DISTANCE OF 57.32 FEET; THENCE PROCEED NORTH 13 DEGREES 48 MINUTES 30 SECONDS WEST FOR A DISTANCE OF 20.25 FEET; THENCE PROCEED SOUTH 78 DEGREES 33 MINUTES 48 SECONDS EAST FOR A DISTANCE OF 78.19 FEET; THENCE PROCEED SOUTH 79 DEGREES 10 MINUTES 13 SECONDS EAST FOR A DISTANCE OF 19.84 FEET; THENCE PROCEED SOUTH 83 DEGREES 38 MINUTES 14 SECONDS EAST FOR A DISTANCE OF 74.48 FEET; THENCE PROCEED SOUTH 66 DEGREES 31 MINUTES 52 SECONDS EAST FOR A DISTANCE OF 55.47 FEET; THENCE PROCEED NORTH 68 DEGREES 30 MINUTES 49 SECONDS EAST FOR A DISTANCE OF 60.12 FEET; THENCE PROCEED NORTH 22 DEGREES 42 MINUTES 14 SECONDS EAST FOR A DISTANCE OF 29.84 FEET; THENCE PROCEED NORTH 58 DEGREES 58 MINUTES 38 SECONDS WEST FOR A DISTANCE OF 29.67 FEET; THENCE PROCEED NORTH 36 DEGREES 34 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 13.71 FEET; THENCE PROCEED SOUTH 89 DEGREES 19 MINUTES 23 SECONDS EAST FOR A DISTANCE OF 178.61 FEET; THENCE PROCEED SOUTH 05 DEGREES 39 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 49.41 FEET; THENCE PROCEED SOUTH 53 DEGREES 23 MINUTES 41 SECONDS EAST FOR A DISTANCE OF 98.20 FEET; THENCE PROCEED SOUTH 74 DEGREES 16 MINUTES 15 SECONDS EAST FOR A DISTANCE OF 95.22 FEET; THENCE PROCEED SOUTH 41 DEGREES 25 MINUTES 36 SECONDS EAST FOR A DISTANCE OF 74.76 FEET; THENCE PROCEED SOUTH 75 DEGREES 19 MINUTES 50 SECONDS EAST FOR A DISTANCE OF 123.85 FEET; THENCE PROCEED SOUTH 79 DEGREES 54 MINUTES 10 SECONDS EAST FOR A DISTANCE OF 54.69 FEET; THENCE PROCEED SOUTH 21 DEGREES 29 MINUTES 19 SECONDS WEST FOR A DISTANCE OF 38.26 FEET; THENCE PROCEED SOUTH 02 DEGREES 43 MINUTES 35 SECONDS WEST FOR A DISTANCE OF 59.84 FEET; THENCE PROCEED SOUTH 20 DEGREES 50 MINUTES 16 SECONDS WEST FOR A DISTANCE OF 58.28 FEET; THENCE PROCEED SOUTH 13 DEGREES 29 MINUTES 18 SECONDS EAST FOR A DISTANCE OF 71.78 FEET; THENCE PROCEED SOUTH 21 DEGREES 54 MINUTES 32 SECONDS EAST FOR A DISTANCE OF 60.51 FEET; THENCE PROCEED SOUTH 43 DEGREES 14 MINUTES 46 SECONDS EAST FOR A DISTANCE OF 46.92 FEET; THENCE PROCEED NORTH 46 DEGREES 04 MINUTES 48 SECONDS EAST FOR A DISTANCE OF 54.47 FEET; THENCE PROCEED NORTH 37 DEGREES 40 MINUTES 59 SECONDS EAST FOR A DISTANCE OF 62.81 FEET TO THE POINT OF BEGINNING, ALL LYING AND BEING IN SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA, AND CONTAINING 15.0 ACRES, MORE OR LESS.

GENERAL NOTES:

1. NORTH AND THE SURVEY DATUM SHOWN HEREON IS REFERENCED TO THE GRID BEARING OF S 89°58'16" E ALONG THE NORTH LINE OF SECTION 25, A COPY OF THE REVISED PLAT ADDITION TO OVERCREEK SHORES, AS RECORDED IN PLAT BOOK B, AT PAGE 8OOL OF THE PUBLIC RECORDS OF SANTA ROSA COUNTY, FLORIDA; A COPY OF WOODLAWN HEIGHTS, AS RECORDED IN PLAT BOOK H, AT PAGES 5 AND 6A, OF SAID PUBLIC RECORDS; DEEDS OF RECORD AND EXISTING FIELD MONUMENTATION.
2. MEASUREMENTS AS SHOWN HEREON WERE MADE TO UNITED STATES STANDARDS AND ARE EXPRESSED IN DECIMAL OF FEET.
3. GRAPHIC SYMBOLISM FOR FEATURES SUCH AS MONUMENTATION, LINES, ETCETERA MAY BE EXAGGERATED IN SIZE FOR CLARITY PURPOSES. DIMENSIONS TO EXAGGERATED FEATURES WILL SUPERSEDE SCALED MEASUREMENTS.
4. THE STRUCTURE DIMENSIONS DO NOT INCLUDE THE EAVE OVERHANG OR FOUNDATION FOOTINGS.
5. THE SURVEYING BUSINESS CERTIFICATE OF AUTHORIZATION NUMBER FOR MCKIM & CREED, INC. IS LB7917.
6. THIS SURVEY DOES NOT REPRESENT NOR GUARANTEE OWNERSHIP.
7. THE JURISDICTIONAL WETLANDS LINES AS SHOWN HEREON ARE BASED ON INFORMATION PROVIDED BY CLIENT AND HAVE NOT BEEN FIELD VERIFIED.
8. THIS IS NOT A BOUNDARY SURVEY

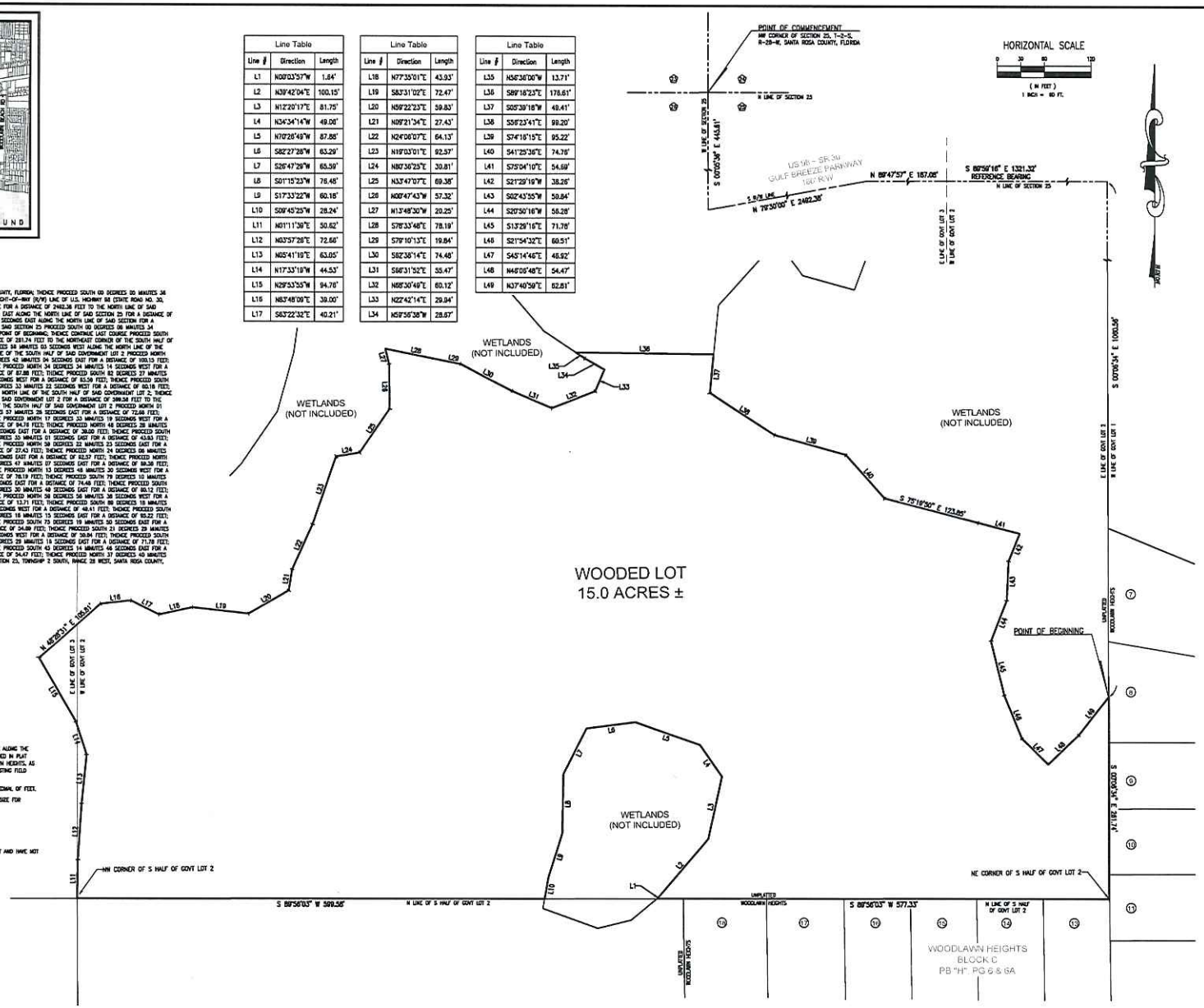
LEGEND:

ϟ	LINE SHOWN NOT TO SCALE
⑫	LOT NUMBER
⊙	SECTION NUMBER
(GOVT	GOVERNMENT
L1	LINE IDENTIFICATION (SEE LINE TABLE)
PB	PLAT BOOK
PG	PAGE
R/W	RIGHT-OF-WAY
SR	STATE ROAD NO.
US	UNITED STATES HIGHWAY

Line Table		
Line #	Direction	Length
L1	N00°03'37"W	1.84'
L2	N39°42'04"E	100.15'
L3	N12°20'17"E	81.75'
L4	N34°34'14"W	49.08'
L5	N70°28'49"W	87.88'
L6	S82°27'28"W	63.29'
L7	S26°47'29"W	65.59'
L8	S01°15'23"W	78.48'
L9	S17°33'22"W	60.18'
L10	S09°45'25"W	28.24'
L11	N01°11'39"E	30.82'
L12	N03°57'28"E	72.66'
L13	N05°41'19"E	63.05'
L14	N17°33'19"W	44.53'
L15	N29°53'33"W	94.76'
L16	N83°48'09"E	39.00'
L17	S63°22'32"E	40.21'

Line Table		
Line #	Direction	Length
L18	N77°35'01"E	43.93'
L19	S83°31'02"E	72.47'
L20	N59°22'23"E	59.83'
L21	N68°21'34"E	27.43'
L22	N24°06'07"E	64.13'
L23	N19°03'01"E	92.57'
L24	N80°36'23"E	30.81'
L25	N33°47'07"E	69.38'
L26	N00°47'43"W	57.32'
L27	N13°48'30"W	20.25'
L28	S78°33'48"E	78.19'
L29	S79°10'13"E	19.84'
L30	S83°38'14"E	74.48'
L31	S66°31'52"E	55.47'
L32	N68°30'49"E	60.12'
L33	N22°42'14"E	29.84'
L34	N58°36'38"W	28.67'

Line Table		
Line #	Direction	Length
L35	N58°36'00"W	13.71'
L36	S89°18'23"E	178.61'
L37	S05°39'18"W	49.41'
L38	S53°23'41"E	98.20'
L39	S74°16'15"E	95.22'
L40	S41°25'36"E	74.76'
L41	S75°04'10"E	54.69'
L42	S21°29'19"W	38.26'
L43	S02°43'35"W	59.84'
L44	S20°50'16"W	58.28'
L45	S13°29'18"E	71.78'
L46	S21°54'32"E	60.51'
L47	S45°14'46"E	46.92'
L48	N46°05'48"E	54.47'
L49	N37°40'59"E	62.81'



NOTE: UNLESS STATED OTHERWISE, NO TITLE SEARCH HAS BEEN PERFORMED BY THE UNDERSIGNED TO DETERMINE ANY DEFECTS AND/OR ASSERTED IN TITLE. THIS SURVEY DOES NOT REFLECT OR ENCROACHMENTS, OVERLAPPING OF IMPROVEMENTS, OR EASEMENTS AND/OR RIGHTS-OF-WAY OF RECORD OR NOT OTHERWISE KNOWN TO THE UNDERSIGNED. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID UNLESS IT BEARS THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER THIS SURVEY, SKETCH, PLAT OR

McKIM & CREED
ENGINEERS SURVEYORS PLANNERS
1336 North Palafox Street • Pensacola, Florida 32501
(850) 434-4567
www.mckimcreed.com
Certificate of Authorization Number LB 7917
Surveying License Number LB 7917

DESCRIPTION AND SKETCH
PENSACOLA STATE COLLEGE
SOUTH SANTA ROSA CENTER
5075 GULF BREEZE PARKWAY
GULF BREEZE, FLORIDA
SECTION: 25 TOWNSHIP: 2S RANGE: 28W
SANTA ROSA COUNTY, FLORIDA

SURVEYOR'S CERTIFICATE:
I CERTIFY THAT THE SURVEY SHOWN HEREON TO BE CORRECT AND SUFFICIENT TO ACCURATELY DESCRIBE THE PROPERTY AS DESCRIBED HEREIN TO THE BEST OF MY KNOWLEDGE AND BELIEF AND MEETS THE STANDARDS OF PRACTICE SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS IN CHAPTER 5J-17.051, FLORIDA ADMINISTRATIVE CODE, AT LEAST FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS PURSUANT TO SECTION 472.027 FLORIDA STATUTES

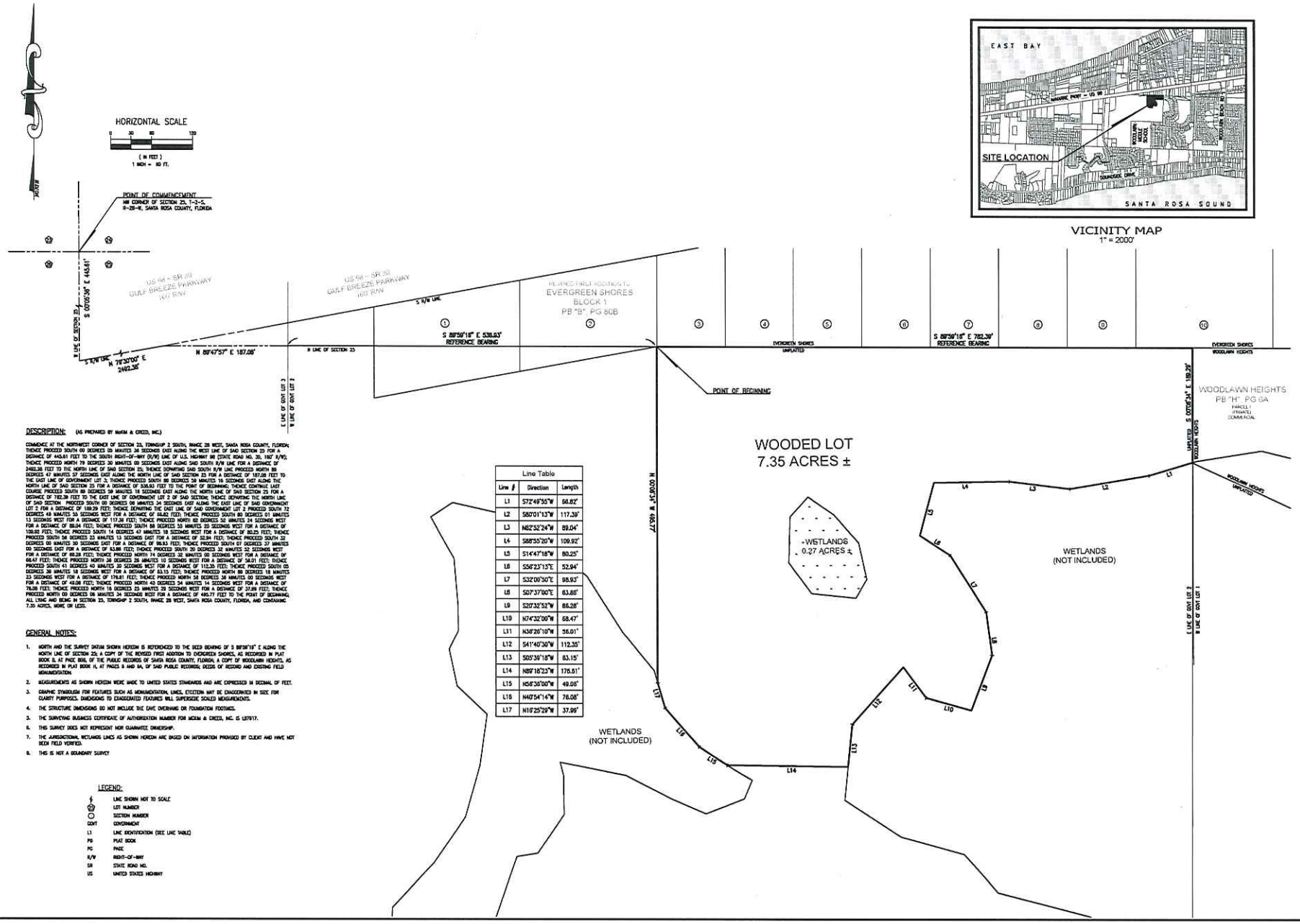
STEPHEN GARY BUTAN
PROFESSIONAL LAND SURVEYOR, LICENSE NO. 4898 DATE

Valid only with embossed seal

Revisions	
Date	Description

Designed By: —
Drawn By: JDC
Checked By: SGR
Job No.: 07781-0001
Date: 6/26/2019
Scale: 1" = 60'

FIELD DATE: —
CREW: —
CREW: —
FB —
PG —
FB —
PG —



VICINITY MAP
1" = 2000'

Line Table		
Line #	Direction	Length
L1	S72°49'55"W	56.82'
L2	S80°01'13"W	117.39'
L3	N82°32'24"W	89.04'
L4	S88°55'20"W	109.92'
L5	S14°47'18"W	80.25'
L6	S56°23'13"E	52.94'
L7	S32°00'50"E	95.93'
L8	S07°37'00"E	63.88'
L9	S20°32'52"W	66.28'
L10	N74°32'00"W	68.47'
L11	N36°26'10"W	56.01'
L12	S41°40'30"W	112.35'
L13	S05°39'18"W	63.15'
L14	N89°16'23"W	176.51'
L15	N56°36'00"W	49.08'
L16	N40°54'14"W	76.08'
L17	N16°25'29"W	37.99'

DESCRIPTION: (AS PREPARED BY McKIM & CREED, INC.)

COMMENCE AT THE NORTHWEST CORNER OF SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA; THENCE PROCEED SOUTH 00 DEGREES 05 MINUTES 36 SECONDS EAST ALONG THE WEST LINE OF SAID SECTION 25 FOR A DISTANCE OF 445.81 FEET TO THE SOUTH RIGHT-OF-WAY (R/W) LINE OF U.S. HIGHWAY 98 (STATE ROAD NO. 30, 100' R/W); THENCE PROCEED NORTH 79 DEGREES 30 MINUTES 00 SECONDS EAST ALONG SAID SOUTH R/W LINE FOR A DISTANCE OF 2402.36 FEET TO THE NORTH LINE OF SAID SECTION 25; THENCE DEPARTING SAID SOUTH R/W LINE PROCEED NORTH 89 DEGREES 47 MINUTES 57 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 187.08 FEET TO THE EAST LINE OF GOVERNMENT LOT 3; THENCE PROCEED SOUTH 89 DEGREES 59 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 538.63 FEET TO THE POINT OF BEGINNING; THENCE CONTINUE LAST COURSE PROCEED SOUTH 89 DEGREES 59 MINUTES 16 SECONDS EAST ALONG THE NORTH LINE OF SAID SECTION 25 FOR A DISTANCE OF 782.39 FEET TO THE EAST LINE OF GOVERNMENT LOT 2 OF SAID SECTION; THENCE DEPARTING THE NORTH LINE OF SAID SECTION PROCEED SOUTH 00 DEGREES 05 MINUTES 34 SECONDS EAST ALONG THE EAST LINE OF SAID GOVERNMENT LOT 2 FOR A DISTANCE OF 189.29 FEET; THENCE DEPARTING THE EAST LINE OF SAID GOVERNMENT LOT 2 PROCEED SOUTH 72 DEGREES 48 MINUTES 55 SECONDS WEST FOR A DISTANCE OF 69.82 FEET; THENCE PROCEED SOUTH 80 DEGREES 01 MINUTES 13 SECONDS WEST FOR A DISTANCE OF 117.39 FEET; THENCE PROCEED NORTH 82 DEGREES 32 MINUTES 24 SECONDS WEST FOR A DISTANCE OF 89.04 FEET; THENCE PROCEED SOUTH 88 DEGREES 55 MINUTES 20 SECONDS WEST FOR A DISTANCE OF 109.92 FEET; THENCE PROCEED SOUTH 14 DEGREES 47 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 80.25 FEET; THENCE PROCEED SOUTH 56 DEGREES 23 MINUTES 13 SECONDS EAST FOR A DISTANCE OF 52.94 FEET; THENCE PROCEED SOUTH 32 DEGREES 00 MINUTES 50 SECONDS EAST FOR A DISTANCE OF 95.93 FEET; THENCE PROCEED SOUTH 07 DEGREES 37 MINUTES 00 SECONDS EAST FOR A DISTANCE OF 63.88 FEET; THENCE PROCEED SOUTH 20 DEGREES 32 MINUTES 52 SECONDS WEST FOR A DISTANCE OF 66.28 FEET; THENCE PROCEED NORTH 74 DEGREES 32 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 68.47 FEET; THENCE PROCEED NORTH 36 DEGREES 26 MINUTES 10 SECONDS WEST FOR A DISTANCE OF 56.01 FEET; THENCE PROCEED SOUTH 41 DEGREES 40 MINUTES 30 SECONDS WEST FOR A DISTANCE OF 112.35 FEET; THENCE PROCEED SOUTH 05 DEGREES 39 MINUTES 18 SECONDS WEST FOR A DISTANCE OF 63.15 FEET; THENCE PROCEED NORTH 89 DEGREES 16 MINUTES 23 SECONDS WEST FOR A DISTANCE OF 176.51 FEET; THENCE PROCEED NORTH 56 DEGREES 36 MINUTES 00 SECONDS WEST FOR A DISTANCE OF 49.08 FEET; THENCE PROCEED NORTH 40 DEGREES 54 MINUTES 14 SECONDS WEST FOR A DISTANCE OF 76.08 FEET; THENCE PROCEED NORTH 16 DEGREES 25 MINUTES 29 SECONDS WEST FOR A DISTANCE OF 37.99 FEET; THENCE PROCEED NORTH 00 DEGREES 05 MINUTES 34 SECONDS WEST FOR A DISTANCE OF 699.77 FEET TO THE POINT OF BEGINNING; ALL LYING AND BEING IN SECTION 25, TOWNSHIP 2 SOUTH, RANGE 28 WEST, SANTA ROSA COUNTY, FLORIDA, AND CONTAINING 7.35 ACRES, MORE OR LESS.

GENERAL NOTES:

1. NORTH AND THE SURVEY DATUM SHOWN HEREON IS REFERENCED TO THE BEED BEARING OF S 89°59'16" E ALONG THE NORTH LINE OF SECTION 25; A COPY OF THE REVISED FIRST ADDITION TO EVERGREEN SHORES, AS RECORDED IN PLAT BOOK B, AT PAGE 80B, OF THE PUBLIC RECORDS OF SANTA ROSA COUNTY, FLORIDA, A COPY OF WOODLAWN HEIGHTS, AS RECORDED IN PLAT BOOK H, AT PAGES 9 AND 9A, OF SAID PUBLIC RECORDS; DEEDS OF RECORD AND EXISTING FIELD MONUMENTATION.
2. MEASUREMENTS AS SHOWN HEREON WERE MADE TO UNITED STATES STANDARDS AND ARE EXPRESSED IN DECIMAL OF FEET.
3. GRAPHIC SYMBOLISM FOR FEATURES SUCH AS MONUMENTATION, LINES, ETCETERA MAY BE EXAGGERATED IN SIZE FOR CLARITY PURPOSES. DIMENSIONS TO EXAGGERATED FEATURES WILL SUPERSEDE SCALED MEASUREMENTS.
4. THE STRUCTURE DIMENSIONS DO NOT INCLUDE EAVE OVERHANG OR FOUNDATION FOOTINGS.
5. THE SURVEYING BUSINESS CERTIFICATE OF AUTHORIZATION NUMBER FOR MCKIM & CREED, INC. IS LB7917.
6. THIS SURVEY DOES NOT REPRESENT NOR GUARANTEE OWNERSHIP.
7. THE JURISDICTIONAL WETLANDS LINES AS SHOWN HEREON ARE BASED ON INFORMATION PROVIDED BY CLIENT AND HAVE NOT BEEN FIELD VERIFIED.
8. THIS IS NOT A BOUNDARY SURVEY

LEGEND:

	LINE SHOWN NOT TO SCALE
⊙	LOT NUMBER
⊙	SECTION NUMBER
CONT	CONTINUATION
L1	LINE IDENTIFICATION (SEE LINE TABLE)
PB	PLAT BOOK
PG	PAGE
R/W	RIGHT-OF-WAY
SR	STATE ROAD NO.
US	UNITED STATES HIGHWAY

NOTE: UNLESS STATED OTHERWISE, NO TITLE SEARCH HAS BEEN PERFORMED BY THE UNDERSIGNED TO DETERMINE ANY DEFECTS AND/OR ASSOCIATED IN TITLE. THIS SURVEY DOES NOT REFLECT OR DETERMINE OWNERSHIP. THE UNDERSIGNED ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF INFORMATION FURNISHED BY OTHERS. THIS MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID UNLESS IT BEARS THE SIGNATURE AND ORIGINAL RAISED SEAL OF A FLORIDA LICENSED SURVEYOR AND MAPPER. THIS SURVEY, PLAT OR MAP IS FOR INFORMATIONAL PURPOSES ONLY AND IS NOT VALID WITHOUT THE SIGNATURE AND THE ORIGINAL RAISED SEAL OF THE FLORIDA LICENSED SURVEYOR AND MAPPER.

MCKIM & CREED
ENGINEERS SURVEYORS PLANNERS
1730 North Palafox Street Pensacola, Florida 32501
850.476.0896
Certificate of Authorization #LB 7917
Surveying License Number LS 6267

DESCRIPTION AND SKETCH
PENSACOLA STATE COLLEGE
SOUTH SANTA ROSA CENTER
5075 GULF BREEZE PARKWAY
GULF BREEZE, FLORIDA
SECTION: 25 TOWNSHIP: 2S RANGE 28W
SANTA ROSA COUNTY, FLORIDA

SURVEYOR'S CERTIFICATE:
I CERTIFY THAT THE SURVEY SHOWN HEREON TO BE CORRECT AND COMPLIES WITH THE PROFESSIONAL SURVEYOR AND MAPPER ACT, CHAPTER 472, FLORIDA STATUTES, AND FLORIDA ADMINISTRATIVE CODE, AS SET FORTH BY THE FLORIDA BOARD OF PROFESSIONAL SURVEYORS AND MAPPERS PURSUANT TO SECTION 472.027 FLORIDA STATUTES.

STEPHEN CARY BUSH
PROFESSIONAL LAND SURVEYOR, LICENSE NO. 6269 DATE

Not valid without the signature and original raised seal of a Florida licensed surveyor and mapper.

Revisions	
Date	Description

Designed By: -
Drawn By: JDC
Checked By: SGR
Job No.: 07781-0001
Date: 6/26/2019
Scale: 1" = 60'
FIELD DATE: -
CREW: -
CREW: -
FB -
FB -
PG -
PG -

9.0 BID PLANS