CONTAMINATION TECHNICAL MEMORANDUM

Florida Department of Transportation

District 7

I-275 (SR 93) Design Change Re-evaluation

Project Development and Environment Study
from south of 54th Avenue South to north of 4th Street North

Pinellas County, Florida

Work Program Item Segment Number: 424501-1

ETDM Project Number: 12556

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The environmental review, consultation, and other actions required by applicable federal environmental laws for this project are being, or have been, carried out by the Florida Department of Transportation (FDOT) pursuant to Title 23, Section 327 of the United States Code (23 U.S.C. § 327) and a Memorandum of Understanding dated December 14, 2016, and executed by FHWA and FDOT.

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1 Project Summary

1.1 Project Description

The Florida Department of Transportation (FDOT), District Seven is conducting a Design Change Re-evaluation to evaluate and document proposed changes to the originally approved Type II Categorical Exclusion (CE) and subsequent Re-evaluation for I-275 (SR 93) from south of 54th Avenue South to north of 4th Street North in Pinellas County, Florida. A Project Development and Environment (PD&E) study was conducted for the 16.3-mile corridor to analyze the need for operational improvements and evaluate the location, conceptual design, and social, economic, and environmental effects of any proposed improvements. Following a Public Hearing held on September 29, 2015, FHWA approved the Type II CE for this project on July 15, 2016.

Following approval of the Type II CE, FDOT performed a Design Change Re-evaluation in 2017 to evaluate a change to the approved Typical Section of Segment C (from Dr. MLK, Jr. Boulevard to north of 4th Street North). The 2017 Re-evaluation assessed the repurposing of one of the two approved express lanes to accommodate the provision of three general use through lanes, one auxiliary lane, and one express lane in each direction for this segment of the study corridor. The 2017 Design Change Re-evaluation was approved by FDOT on April 26, 2017.

FDOT is currently conducting another Design Change Re-evaluation to assess impacts of accommodating improvements for a second express lane in Segment C and the addition of two express lanes in Segment B from north of I-375 to south of Gandy Boulevard. These proposed improvements would tie-in with planned improvements to the Howard Frankland Bridge (FPID 422904-2 and 422904-4). This re-evaluation also analyzes replacing the I-275 ramp bridges on 4th Street North over Big Island Gap.

The current re-evaluation also analyzes replacing the I-275 ramp bridges on 4th Street North over Big Island Gap, providing trail connections from the Howard Frankland Bridge to 4th Street North and Ulmerton Road, and ramp connection modifications at the Gandy Boulevard and Gateway Expressway interchange areas. To meet drainage and stormwater requirements, pond sites will be needed to accommodate new impervious surface due to widening to accommodate express lanes. Several of these new pond site locations will be outside of the existing right of way.

1.2 Purpose and Need

The purpose of this project is to provide for operational improvements that maximize capacity within the I-275 corridor, improve lane continuity, and connect I-275 within Pinellas County to the future network of express lanes planned for the Tampa Bay Region. Improvements are needed within the I-275 corridor to help improve existing traffic congestion, enhance safety, and better accommodate future travel demands associated with projected growth in employment and population. The addition of express lanes is included in the Pinellas County Metropolitan Planning Organization (MPO) 2040 Long Range Transportation Plan (LRTP).

I-275 is a vital link in the local and regional transportation network and serves as a critical evacuation route. As a major north-south corridor through Pinellas County, I-275 links the Tampa Bay Region with the remainder of the state and the nation supporting commerce, trade, and tourism. Preserving the operational integrity and regional functionality of I-275 is critical to the mobility and economy of the Tampa Bay Region.

1.3 Description of the Design Change

The current Design Change Re-evaluation includes a typical section change to extend two buffer-separated express lanes in both directions from I-375 to north of 4th Street North, as well as a 12-ft wide outside shoulder to accommodate bus-on-shoulder operations from I-375 to Gandy Boulevard. This concept supersedes the 2017 Design Change Re-evaluation concept. The current Design Change Re-evaluation also includes trail

connections from the Howard Frankland Bridge to 4th Street North and Ulmerton Road. To accommodate the new trail connection, the 4th Street North bridge over Big Island Gap will undergo either widening or reconstruction.

The Gateway Expressway interchange area will also be modified under this re-evaluation. Ramps located to the south of the Gateway area will carry drivers from northbound I-275 Express Lanes to Gateway Expressway, as well as carry drivers from the Gateway Expressway to southbound I-275 Express Lanes. In addition, access to southbound I-275 from the Gandy Boulevard interchange will be modified by connecting the westbound-to-southbound loop on ramp and the eastbound-to-southbound on ramp into a frontage road system that provides one entry point onto southbound I-275. Finally, additional drainage and stormwater requirements, such as pond sites, will be needed to accommodate the new impervious surface due to the express lane widening. Several of these new pond site locations will be outside of the existing right of way.

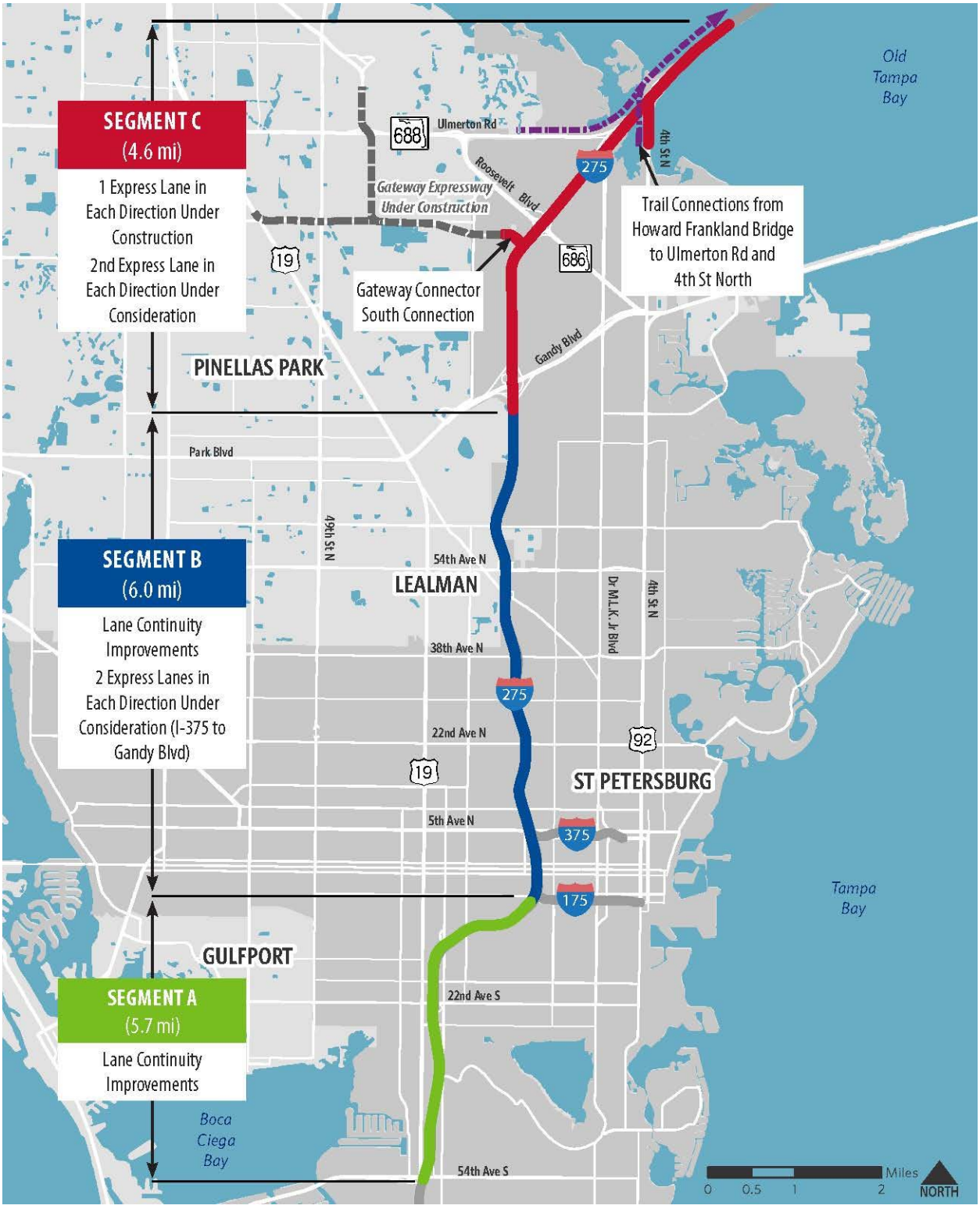


Figure 1.1: Project Location Map

2 Methodology

This Contamination Technical Memorandum (Tech Memo) provides an update to the Contamination Screening Evaluation Report (CSER) completed during the Project Development and Environment (PD&E) phase. This update is necessary due to the age of the original CSER and because of slight adjustments to the roadway alignment that have been proposed during preparation of the design plans as detailed in **Section 1**. The original CSER was issued in April 2016 and included an evaluation of the mainline corridor along I-275 for approximately 16.3-miles from 54th Avenue South to north of 4th Street North in Pinellas County. Offsite stormwater ponds were not evaluated as part of the 2016 CSER. The methodology employed for this contamination re-evaluation included the following tasks:

- Review of the PD&E CSER to determine the current distribution of contamination sites located within the limits of the design change re-evaluation,
- Conduct research using an Environmental Data Report from Environmental Data Management, Inc. (EDM) dated March 19, 2019 and the Florida Department of Environmental Protection's (FDEP's) MapDirect database for each identified contamination site for updated information since publication of the original PD&E CSER,
- Adjust risk ratings defined in Chapter 20 of the PD&E Manual, as necessary, based on updated contamination information and proposed changes to roadway alignment,
- Conduct search for any new contamination sites using the EDM report and the FDEP's MapDirect database and provide appropriate risk ratings, and
- Provide new risk ratings for new pond sites not previously evaluated.

3 Contamination Evaluation

3.1 Mainline Re-evaluation

Sites listed in the April 2016 CSER with updated information or changes to risk ratings are included in the following table. Those sites without changes can be reviewed in the April 2016 CSER. Sites identified since the April 2016 CSER are also presented in this table.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
PD&E Site 6	**1839 Building** 1839 Central Avenue FAC 9814263, 9814670	High	High	This facility was observed as a multi-story professional office building adjacent west of the project limits. The PD&E CSER noted that a former fuel facility existed in the southeast corner of the property. Three underground storage tanks (USTs) were discovered onsite, with one being located within FDOT ROW. Two of the three USTs were removed. The third UST, located within FDOT ROW, was located directly beneath a water main utility line. According to the Final UST Closure Report dated August 2015, the UST located within FDOT ROW was properly closed in place on July 17, 2015 under a separate Facility ID number (9814670). Soil and groundwater samples taken during closure activities detected concentrations of several petroleum constituents above Groundwater Cleanup Target Levels (GCTLs) and Soil Cleanup Target Levels (SCTLs) as defined in Chapter 62-777, Florida Administrative Code within or in close proximity to I-275 ROW. See excerpts in **Appendix B**. Further assessment is planned. Based on the documented contamination remaining onsite, this facility retains a risk rating of High.
PD&E Site 7	**ACC Recycling (Waste Services of Florida, Inc.)** 1190 20th Street North FDEP Cleanup #: COM_320501	High	Low	This site was observed as an active industrial warehouse located adjacent east of the project limits. The PD&E CSER noted chlorinated solvent groundwater concentrations above the GCTL onsite related to a discharge reported on September 3, 2013. The discharge was granted a Site Rehabilitation Completion Order (SRCO) on February 11, 2016. Due to the SRCO issuance and lack of current contamination concerns, this facility's risk rating is downgraded to Low.
PD&E Site 10	**Landhill Inc.** 1950 102nd Avenue North FDEP Cleanup #: COM_48389	Low	Medium	This site was observed as Fedex packaging and shipping services, located adjacent east of the project limits. The PD&E CSER noted this site as a closed Class III landfill that began operation in June 1982 and was closed in 1987 with long-term groundwater, gas and settlement monitoring. The data included in the Semi-Annual Landfill Monitoring report dated June 13, 2018 detected arsenic exceeding the GCTL in three monitoring wells (MW-4A, MW-11A, MW-15) located along the west property boundary that adjoins I-275. All wells sampled except for MW-11A detected ammonia above GCTLs. Elevated levels of iron were detected in each well sampled. Landfill gas (LFG) sampling detected methane at concentrations exceeding 100% Lower Explosive Limit (LEL) at the perimeter LFG wells. See excerpts in **Appendix B**. Due to the documented contamination in close proximity to the project, this facility's risk rating is upgraded to Medium.
PD&E Site 12	**Bridgeway Acres Landfill** 10901 28th Street North WACS#: 46742	Medium	Medium	This site was observed as an operating landfill located adjacent west of the project limits. The PD&E CSER noted that monitoring well MW-18, located adjacent to the I-275 ROW, has had reported concentrations of arsenic, barium, iron, potassium, sodium, total dissolved solids and turbidity above groundwater limits. The most recent assessment data included in the Semi-annual Monitoring Report, Second Half 2018 dated December 27, 2018 indicates that groundwater exceedances of antimony and TDS were detected in monitoring well PZ-36, located adjacent west of I-275 ROW. See excerpts in **Appendix B**. Therefore, this site retains a risk rating of Medium.
PD&E Site 14	**GBS Real Estate Investment, LLC (former Sensormatic)** 1615 118th Avenue North FDEP Cleanup #: COM_136839	Medium	Low	This site was observed as an office building located adjacent east of I-275 ROW. The PD&E CSER noted groundwater exceedances of arsenic onsite. An FDEP letter dated October 25, 2012 stated that the arsenic-impacted groundwater onsite is attributable to natural background conditions and no further action is necessary. Therefore, this facility's risk rating is downgraded to Low.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
PD&E Site 15	**Shell Tanker Accident** Northwest ROW of the southbound entrance ramp from I-275 to Gandy Boulevard FAC 9801820	Medium	Low	This site was observed as I-275 ROW. On July 20, 1999, a petroleum tractor-trailer was reportedly involved in a single vehicle accident on the southbound entrance ramp from I-275 to Gandy Boulevard in Pinellas County. An estimated 1,200 gallons of jet fuel spilled onto the ground and into a drainage ditch towards the northwest from the exit ramp. As part of an emergency response cleanup, 5,222 gallons of petroleum product and groundwater was removed from the drainage ditch and 843.1 tons of soil was removed for off-site treatment and disposal. Following additional assessments, the FDEP issued an SRCO for the site on August 13, 2009. Based on the SRCO issuance and lack of current contamination concerns, this site's risk rating is downgraded to Low.
1	**Frontier FL, LLC** 3250 54th Avenue South FAC 8630912	Not rated	Low	This site is located adjacent east of the project limits. According to the EDM report, one 2,000-gallon diesel fuel underground storage tank (UST) was closed in place at this facility in 1996, one 2,000-gallon diesel fuel aboveground storage tank (AST) was removed from the site in 2006, and one 4,000-gallon diesel fuel AST is currently in service at the site. No discharges or other contamination concerns were identified. Therefore, this facility is assigned a risk rating of Low.
2	**7-Eleven Food Store** 5301 34th Street South FAC 8623694	Medium	Medium	Some sites were PD&E CSER dated April 2016 and also in the March 2019 EDM report. Even though the risk rating has not changed, it is listed here again to maintain consistency between this table and the EDM report. See Site 1 in the April 2016 CSER for details.
3	**Sunoco #0613-4415** 5100 34th Street South FAC 8943544	Medium	Medium	This site was previously discussed as Site 2 in the PD&E CSER dated April 2016. The risk rating has not changed. See original report for details.
4	**Texaco Express #1055, ASC Quicklube – Castrol Inc.** 4940 34th Street South FAC 9100069, 9102993	Not rated	Low	This site is located adjacent west of the project limits. According to the EDM report, this facility formerly maintained one 1,000-gallon waste oil AST, and two 990-gallon new/lube oil ASTs. The two 990-gallon new/lube oil ASTs were removed in 2000. The 1,000-gallon waste oil AST was properly closed in place on the property in 2001. No discharges are reported. Given the lack of reported contamination concerns, this facility is assigned a risk rating of Low.
5	**Burger King Restaurant – New Construction** 4570 34th Street South ECHO ID 110067437955	Not rated	No	This site is listed on the USEPA Enforcement and Compliance History Online (ECHO) database. This database provides integrated compliance and enforcement information for facilities that are regulated under the Clean Air Act, Clean Water Act, Safe Drinking Water Act, and Resource Conservation and Recovery Act. In this instance, the listing is due to a National Pollutant Discharge Elimination System (NPDES) permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
6	**Wendy's** 4300 34th Street South ECHO ID 110070004273	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
7	**Bay Pointe Nursing Pavilion** 4201 31st Street South FAC 9047047	Not rated	Low	This site is located adjacent east of the project limits. According to the EDM report, this facility formerly maintained one 250-gallon diesel fuel UST, removed in 1998. One 300-gallon diesel fuel UST is currently in service. Two discharges were reported (February 28, 1994 and May 12, 1998). Cleanup was combined for the discharges and they were granted No Further Action (NFA) status on July 27, 1999. Given the lack of current contamination concerns, this facility is assigned a risk rating of Low.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
8	**Can Do Cleaners** 2810 34th Street South FAC 9500639 EPA ID: FLD984262659	Not rated	Low	This site is located approximately 250 feet west of the project limits. According to the EDM report, this facility was formerly a registered Conditionally Exempt Small Quantity Generator (CESQG) of hazardous waste with no code violations, enforcements, or other contamination concerns reported. The facility formerly operated as a drycleaner and maintained one tetrachloroethylene (PCE) AST of unspecified capacity, removed in 1996. No discharges or other contamination concerns are reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of Low.
9	**Rubber City** 2590 34th Street South FAC 9801741 Solid waste #95756	Not rated	Low	This site is located approximately 300 feet west of the project limits. According to the EDM report, no tanks are registered at the site. An unleaded gasoline discharge was reported on January 31, 1990. Cleanup is ongoing. Given the separation distance to contamination concerns, this facility is assigned a risk rating of Low.
10	**SR-93 FDOT 415202** 26th Avenue South to 5th Avenue South ECHO ID 110032780346	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction within the area at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
11	**State Project #15190-3512 FIN** Pinellas County/SR 93 (I-275) ECHO ID 11009110540	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction within the area at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
12	**Skyway Texaco** 2220 34th Street South FAC 8515544 EPA ID: FLT980060933	Not rated	Low	This site is located approximately 350 feet west of the project limits. According to the EDM report, this facility removed one 550-gallon waste oil UST and six 4,000-gallon USTs containing leaded or unleaded gasoline in 1998. A petroleum discharge was reported on September 24, 1988. Cleanup is ongoing. The most recent assessment data included in the Template Site Assessment Report (TSAR) dated May 15, 2019 indicates that contaminated soil and groundwater exist onsite. The groundwater contamination plume is stable and not migrating off the property. Groundwater flow is to the southwest (away from the project limits). In addition, this facility is a registered CESQG with no code violations, enforcements, or other contamination concerns related to hazardous waste reported. Given the separation distance to contamination concerns, this facility is assigned a risk rating of Low.
13	**Former Sixty Minute Cleaners** 3320 22nd Avenue South FDEP Cleanup #292328	Medium	Medium	This site was previously discussed as Site 3 in the PD&E CSER dated April 2016. The risk rating has not changed. See original report for details.
14	**Gladstone Bros Corporation** 2200 34th Street South FAC 9300748 EPA ID: FLTMP9304461	Not rated	Low	This listing is located approximately 150 feet southwest of the project limits. According to the EDM report, this facility formerly maintained nine USTs ranging in size from 550-gallons to 10,000-gallons containing diesel fuel, kerosene, unleaded gasoline, waste oil, or “hazardous substance.” All tanks were removed from the site in 1993. A diesel fuel discharge was reported on April 15, 1993. Cleanup is ongoing. The most recent assessment data included in the Low-Scored Site Initiative (LSSI) Site Assessment Report (SAR) Addendum dated June 27, 2017 indicates that petroleum-related contaminants remain in the soil and groundwater on the property. Groundwater flow is to the southwest (away from the project limits). The groundwater contamination plume is stable and not migrating off the property. In addition, this facility is a registered CESQG with no code violations, enforcements, or other contamination concerns related to hazardous waste reported. Based on the most recent assessment results and the separation distance to contamination concerns, this facility is given a risk rating of Low.
15	**Whitley’s Lakeview Transmission** 3101 22nd Avenue South FAC 9601432	Not rated	Low	This site is located Approximately 100 feet east of the project limits. According to the EDM report, one AST of unknown size or capacity was removed from the site in 1999. No discharges are reported. Given the lack of contamination concerns, this facility is assigned a risk rating of Low.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
16	**Twin Brooks Commons** 2100 34th Street South ECHO ID 110020720674	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
17	**Eddy's Autobody Shop** 3329 20th Avenue South FAC FLD984256586	Not rated	No	This facility is located approximately 400 feet west of the project limits. According to the EDM report, this facility is registered as "not a generator" of hazardous waste. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
18	**Shell Oil Co.** 1800 34th Street South FAC 8623619 EPA ID: FLD984174730	Not rated	Low	This site is located approximately 260 feet west of the project limits. According to the EDM report, nine USTs are registered at this facility. Seven USTs ranging in size from 550-gallons to 10,000-gallons containing leaded gasoline, unleaded gasoline, or waste oil were removed from the property between 1998 and 2009. Two unleaded gasoline USTs (12,000-gallon, 16,000-gallon) are currently in service. A discharge was reported on December 15, 1998 and was issued an SRCO on February 5, 2018. In addition, this facility is a registered Small Quantity Generator (SQG) of hazardous waste with no code violations, enforcements, or other contamination concerns related to hazardous waste reported. Given the lack of contamination concerns, this facility is assigned a risk rating of Low.
19	**Tangerine Wash House** 3101 18th Avenue South FAC 9500696 EPA ID: FLD982100083	Not rated	Low	This site is located approximately 280 feet east of the project limits. This facility is a drycleaner (currently a drop-off facility) that formerly maintained an AST of unspecified capacity containing PCE, removed in 1993. A soil sample collected from within the facility detected elevated levels of PCE adjacent to the former location of the drycleaning machine. Further assessment is on hold. Given the separation distance, this facility is assigned a risk rating of Low.
20	**Mobil – Gulf Coast # 144** 1750 34th Street South FAC 8623333	Not rated	No	This site is located approximately 370 feet west of the project limits. According to the EDM report, Seven USTs are registered at this facility. Three 10,000-gallon unleaded gasoline USTs were removed in 2005. One 1,000-gallon "other, non-regulated" UST is listed as temporarily out of service. Three 10,000-gallon unleaded gasoline USTs are currently in service. Two discharges are reported (March 30, 1995 and August 14, 1997). The cleanup was combined for the discharges and they were granted NFA status on September 5, 2013. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
21	**Elvis Towing** 1720 34th Street South FAC 8842041	Not rated	No	This site is located approximately 340 feet west of the project limits. According to the EDM report, six USTs ranging in size from 550-gallons to 3,000-gallons containing unleaded gasoline, leaded gasoline, or waste oil were removed from the property in 2007. A discharge reported on November 15, 1988 was classified as no cleanup required. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
22	**Sunrise Food Mart #137** 3334 15th Avenue South FAC 8515571	Not rated	No	This site is located approximately 400 feet west of the project limits. According to the EDM report, nine USTs are registered at this site. Four 3,000-gallon USTs containing leaded or unleaded gasoline were closed in place on the property in 1988. Three 6,000-gallon unleaded gasoline USTs and one 10,000-gallon diesel fuel UST were removed from the property in 2007. Two 12,000-gallon unleaded gasoline USTs are listed as temporarily out of service beginning in 2014. An unleaded gasoline discharge was reported on May 28, 1987. Cleanup is ongoing. According to the most recent assessment data included in the LSSI Natural Attenuation Monitoring (NAM) report dated April 17, 2018, concentrations of several petroleum-related compounds exceeding GCTLs remain both onsite and offsite to the west (away from the project limits) within 34th Street. Groundwater flow was variable when last measured on April 3, 2018, flowing to the east and west from the center of the property. Given the separation distance to contamination concerns, this facility is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
23	**ERNS Listing - State Road 275 at 31st South** Saint Petersburg ERNS 603698	Not rated	No	According to the EDM report, this site is listed on the Emergency Response Notification System (ERNS) database. On May 13, 2002 a caller reported an incident involving the dumping of an unknown amount of an unknown material into a drainage ditch in the proximity of 31st Street and I-275. No remedial activities are reported. Due to the uncertain nature of this listing and lack of contamination concerns identified, it is assigned a risk rating of No.
24	**Argos USA – St. Petersburg Plant** 1020 31st Street South FAC 8732082	High	High	This site was previously discussed as Site 4 in the PD&E CSER dated April 2016. The risk rating has not changed. See original report for details.
25	**Jordan School Renovation** 2390 9th Avenue South ECHO ID 110037316133	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
26	**CSX Property** 30th Street and 10th Avenue FAC 9103455	Not rated	No	This listing is located approximately 310 feet north of the project limits. According to the EDM report, a discharge reported on December 29, 1988 was later classified as no cleanup required. No tanks are registered under this facility ID. Based on the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
27	**Football Field, Tennis Courts & Parking at Wildwood Park** 2555 Irving Avenue South ECHO ID 110027252853	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
28	**9th Avenue Station** 2184 9th Avenue South FAC 8624615	Not rated	No	This site is located approximately 280 feet southeast of the project limits. According to the EDM report, this facility removed three USTs ranging in size from 150-gallons to 1,000-gallons containing leaded gasoline, unleaded gasoline, or new/lube oil from the property in 2002. One discharge was reported on February 24, 1997 and was issued an SRCO on February 12, 2018. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
29	**St. Petersburg Housing Authority** 2240 9th Avenue South EPA ID: FLTMP9304443	Not rated	No	This site is located approximately 160 feet south of the project limits. According to the EDM report, this facility a registered CESQG with no code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
30	**Angelo's Recycled Materials** 855 28th Street South FAC 8944292, FLD982168478, Solid Waste #100462	Medium	Medium	This site was previously discussed as Site 5 in the PD&E CSER dated April 2016. The risk rating has not changed. See original report for details.
31	**Vacant Lot (862 -22nd Street South)** 862 – 22nd Street South Brownfields #27161	Not rated	No	This site is located adjacent south of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I Environmental Site Assessment (ESA) on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
32	**Advantage Training System** 833 – 22nd Street South Brownfields # 13640, 98411697/7	Not rated	No	This site is located adjacent south of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
33	**ERNS Listing** 756 28th Street South ERNS #545771, 630680, 731920	Not rated	No	According to the EDM report, an ERNS incident occurred on August 15, 2004 resulting in the discharge of an unknown amount of anhydrous ammonia on the property. This is a gaseous compound and would dissipate into ambient air upon release. No soil or groundwater impact is likely. This listing is assigned a risk rating of No.
34	**Vacant Lot (2441 8th Avenue South)** 2441 8th Avenue South Brownfields #21001	Not rated	No	This site is located approximately 130 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
35	**Vacant Lot (2449 8th Avenue South)** 2449 8th Avenue South Brownfields #20981	Not rated	No	This site is located approximately 130 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
36	**Vacant Lot (2433 8th Avenue South)** 2433 8th Avenue South Brownfields #21002	Not rated	No	This site is located approximately 130 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
37	**Vacant Lot (2301 8th Avenue South)** 2301 8th Avenue South Brownfields #27181	Not rated	No	This site is located approximately 40 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
38	**Vacant Lot (2518 and 2524 7th Avenue South)** 2518 and 2524 7th Avenue South Brownfields #21021	Not rated	No	This site is located approximately 120 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
39	**Vacant Lot (2348 7th Avenue South)** 2348 7th Avenue South Brownfields #27201	Not rated	No	This site is located approximately 190 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
40	**Vacant Lot (2354 7th Avenue South)** 2354 7th Avenue South Brownfields #21024	Not rated	No	This site is located approximately 190 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
41	**Vacant Lot (2326 7th Avenue South)** 2326 7th Avenue South Brownfields #21025	Not rated	No	This site is located approximately 190 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
42	**Vacant Lot (2318 7th Avenue South)** 2318 7th Avenue South Brownfields #21041	Not rated	No	This site is located approximately 190 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
43	**Vacant Lot (2301 7th Avenue South)** 2301 7th Avenue South Brownfields #21022	Not rated	No	This site is located approximately 250 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
44	**Vacant Lot (2448 7th Avenue South)** 2448 7th Avenue South Brownfields #21023	Not rated	No	This site is located approximately 300 feet north of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
45	**Manhattan Casino** 22nd Street South/Fairfield Avenue ECHO ID 110020734794	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
46	**Kozuba & Sons Distillery Inc.** 1960 5th Avenue South FAC 9816535	Not rated	Medium	This site was observed as Kozuba & Sons Distillery, located adjacent west of the project limits. According to the Phase II Subsurface Investigation report dated December 10, 2015, a fuel oil tank (unknown size) is located onsite at an unknown location. Soil and groundwater sampling conducted during the investigation detected several petroleum-related compounds at concentrations above their respective SCTLs and GCTLs onsite. The report speculates that contamination may have migrated offsite, however no sampling was conducted outside the property boundaries. See excerpts in **Appendix B**. Given the documented petroleum contamination existing onsite and the possible petroleum contamination within the project limits, this facility is assigned a risk rating of Medium.
47	**Johnstone Bros Fuel Co.** 415 20th Street South FAC 8631060	Not rated	No	This site is located approximately 400 feet west of the project limits. According to the EDM report, this facility formerly maintained seven fuel storage tanks ranging in size from 1,000-gallons to 25,000-gallons containing unleaded gasoline, diesel fuel, kerosene, or fuel oil. The tanks were removed or properly closed in place on the property between the years of 1990 and 2004. No discharges are reported. Given the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
48	**Jones Asphalt and Masonry Inc.** 1951 4th Avenue South FAC 9400439	Not rated	No	This site is located approximately 440 feet west of the project limits. According to the EDM report, this facility formerly maintained one 1,000-gallon leaded gasoline UST, removed in 1993. No discharges are reported. Given the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
49	**Lantmannen Unibake USA** 1927 4th Avenue South ECHO ID 110040492240	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a USEPA Air Facility System permit. No code violations, enforcements or other contamination concerns are reported. Based on the nature of this listing and the lack of contamination concerns, this listing is assigned a risk rating of No.
50	**Kenic Pet Products Inc.** 330 19th Street South ECHO ID 110010689255	Not rated	No	This site is listed on the USEPA ECHO database. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
51	**Brownfields 1958 3rd Avenue South** 1958 3rd Avenue South Brownfields #13642, 98411697/9	Not rated	No	This site is located approximately 300 feet west of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment found no contamination concerns at the property and no further assessment was conducted. Based on the lack of contamination concerns, this facility is assigned a risk rating of No.
52	**Brownfields 1962 3rd Avenue South** 1962 3rd Avenue South Brownfields #13643, 98411697/10	Not rated	No	This site is located approximately 430 feet west of the project limits. According to the EDM database report and the USEPA's online database, funding was received to conduct a Phase I ESA on the property as part of the USEPA's Brownfields Assessment Cooperative. The assessment has not been conducted. Based on the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
53	**Euro Bake** 1901 3rd Avenue South ECHO ID 110021027244	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
54	**Sparkle Ice Plant, Atlantic Ice Plant** 1955 3rd Avenue South FAC 9101141	Not rated	No	This site is located approximately 300 feet west of the project limits. According to the EDM report, this facility formerly maintained one 1,000-gallon leaded gasoline UST, removed in 1990. No discharges are reported. Given the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
55	**Eurobake Property** 230 19th Street South FAC 9807407	Not rated	No	This site is located approximately 200 feet west of the project limits. According to the EDM report, this facility formerly maintained one 1,000-gallon AST (contents not specified), removed in 2005. No discharges are reported. Given the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
56	**City Wide Mini Storage** 1930 2nd Avenue South FAC 9201530	Not rated	No	This site is located approximately 310 feet west of the project limits. According to the EDM report, this facility formerly maintained one 888-gallon UST (contents not specified), removed in 1994. No discharges are reported. Given the separation distance and lack of reported contamination concerns, this facility is assigned a risk rating of No.
57	**St. Petersburg Printing Co** 118 18th Street South EPA ID: FLD982075863, FLTMP8901829	Not rated	No	This facility is located adjacent east of the project limits. According to the EDM report, this facility was formerly registered as a Small Quantity Generator (SQG) of hazardous waste with no code violations, enforcements, or other contamination concerns reported. Given the lack of contamination concerns, this facility is assigned a risk rating of No.
58	**Coleman Woodard Inc.** 1949 1st Avenue South FAC FLD98210668	Not rated	No	This facility is located approximately 400 feet west of the project limits. According to the EDM report, this facility was formerly registered as an SQG with no unresolved code violations, enforcements, or other contamination concerns noted. Given the lack of contamination concerns, this facility is assigned a risk rating of No.
59	**Rogers Cleaners, Central Building Association** 1720 Central Avenue FAC 9047228, 8943556, 9502134 FDEP Drycleaner #9813590, 9502134 EPA ID: FLD62784129	Not rated	Low	This site is located approximately 270 feet east of the project limits. According to the EDM report and files found on the FDEP's OCULUS database, this facility currently maintains one 500-gallon fuel oil UST. The former dry-cleaning storage tank is not registered. This facility formerly conducted dry-cleaning activities onsite, but changed to a dry-cleaning drop-off facility in 1996. Results of a soil sample collected near the former dry-cleaning machine revealed elevated levels of mineral spirits. Further assessment is pending. Given the separation distance to contamination concerns, this facility is assigned a risk rating of Low.
60	**Rogers Cleaners Inc.** 1700 Central Avenue FAC 8943556, 9502134 FDEP Drycleaner #9502134 EPA ID: FLD62784129	Not rated	Low	This listing is previously discussed as Site 59 - Rogers Cleaners, Central Building Association.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
61	**FDOT District 7 – I-275 ROW** I-275 at Central Avenue FAC 9814670	High	High	This site was previously discussed as PD&E Site 6 in this Mainline Contamination Sites Table.
62	**1839 BLDG LLC Property** 1839 Central Avenue FAC 9814263	High	High	This site was previously discussed as PD&E Site 6 in this Mainline Contamination Sites Table.
63	**Barnett Bank of Pinellas County** 1955 1st Avenue North FAC 9102869	Not rated	No	This site is located approximately 160 feet west of the project limits. According to the EDM report, this facility formerly maintained four USTs ranging in size from 550-gallons to 4,000-gallons containing diesel fuel, generic gasoline, or waste oil. The tanks were removed between 1973 and 1975. A discharge was reported on July 31, 1991 and was granted NFA status on May 5, 1992. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
64	**St. Petersburg Water Resources** 1650 3rd Avenue North EPA ID FLD982097263	Not rated	No	This facility is located approximately 250 feet southeast of the project limits. According to the EDM report, this facility was formerly registered as an SQG with no unresolved code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
65	**General Tire Service** 1771 5th Avenue North EPA ID: FLD981925324	Not rated	No	This facility is located approximately 300 feet east of the project limits. According to the EDM report, this facility was formerly registered as an SQG with no code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
66	**Northern High School** 1951 5th Avenue North EPA ID: FLTMP9102841	Not rated	No	This facility is located within the project limits. According to the EDM report, this facility was formerly registered as a CESQG with no code violations, enforcements, or other contamination concerns reported. Given the lack of contamination concerns, this facility is assigned a risk rating of No.
67	**ERNS Listing** 2110 6th Avenue North ERNS #702893	Not rated	No	This listing is located approximately 150 feet west of the project limits. According to the EDM report, an ERNS incident occurred on October 17, 2003 resulting in the release of seven pounds of mercury within a residence. Reportedly, the fire department removed most of the mercury and hired a contractor for further cleanup. Due to the separation distance and reported cleanup activities, this listing is assigned a risk rating of No.
68	**ERNS Listing – EMORY** I-275 at south exit ramp of 5th Avenue North ERNS #629717	Not rated	Low	This listing is located within the project limits. According to the EDM report, an ERNS incident occurred on June 17, 1999 resulting in the release of 250 gallons of PCE, an unknown amount of hexane, and an unknown amount of toluene. Reportedly, a cleanup crew was onsite. Although not documented, it is likely that some level of remediation was performed following the incident. Due to the reported cleanup activities, this listing is assigned a risk rating of Low.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
69	**City of St. Petersburg Fleet Management Facility, Pinellas Suncoast Transit Authority** 1800 7th Avenue North FAC 8624644 EPA ID: FLD981755903, FLD982096869	Not rated	High	This site was observed as the City of St. Petersburg's Fleet Management Facility, located adjacent east of I-275 ROW. According to the EDM report, thirty fuel storage tanks with capacities up to 20,000-gallons are registered at this facility. Twenty-two fuel storage tanks of various capacities consisting of a combination of ASTs and USTs containing unleaded gasoline, diesel fuel, waste oil, lube oil, or a "other non-regulated" substance were removed from the site between 1986 and 2009. Two 20,000-gallon unleaded gasoline USTs were closed in place at this site in the 1990s. Eight tanks ranging in size from 1,000-gallons to 20,000-gallons containing lube oil, unleaded gasoline, diesel fuel, or waste oil are currently in service. Cleanup is ongoing for petroleum discharges reported on April 26, 1991, August 25, 1992, and May 3, 1995. According to the most recent assessment data included in the TSAR dated July 24, 2017, several petroleum constituents were detected within the soil and groundwater at concentrations above their respective SCTLs and GCTLs onsite. The groundwater contamination plume is located as near as 10 feet east of I-275 ROW. Groundwater flow was measured to the southwest (toward I-275 ROW). Active remediation is planned. See excerpts in **Appendix B**. Given the ongoing cleanup of three petroleum discharges and the possibility of petroleum constituents migrating into I-275 ROW, this facility is assigned a risk rating of High.
70	**Peoples Gas System (former TECO Complex)** 1800 9th Avenue North FAC 8630812 Brownfields #BF529901001	Not rated	No	This facility is located approximately 200 feet east of the project limits and is listed as a Brownfield site. According to the EDM report, one 1,000-gallon unleaded gasoline UST was closed in place on the property in 1993. Petroleum-related contamination was discovered during a Phase II ESA conducted at the site in 2003. Following assessment and remedial activities, an SRCO was issued for this Brownfield site on July 10, 2019. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
71	**Brownfields Area – St. Petersburg Area** St. Petersburg Brownfields #BF529901000	Not rated	No	This listing encompasses approximately 6,033 acres of land. The Brownfields Resolution No. 2008-584 document (found on the OCULUS database) was approved on November 21, 2008. Brownfields are defined by the FDEP as abandoned, idled, or underused industrial and commercial facilities where expansion or redevelopment is complicated by real or perceived environmental contamination. A 'brownfield area' means a contiguous area of one or more brownfield sites, some of which may not be contaminated, that has been designated as such by a local government resolution. Such areas may include all or portions of community redevelopment areas, enterprise zones, empowerment zones, other such designated economically deprived communities and areas, and EPA designated brownfield pilot projects. Individual sites would be a contamination concern rather than a Brownfields Area. As such, this listing is assigned a risk rating of No.
72	**ACC Recyling** 1190 20th Street North FAC 9601853 Solid Waste ID #96950	High	Low	This site was previously discussed as PD&E Site 7 in this Mainline Contamination Sites Table.
73	**St. Petersburg Lift Station #58** 22nd Street and 12th Avenue North FAC 8733659	Not rated	No	This facility is located approximately 300 feet west of the project limits. According to the EDM report, one 500-gallon fuel oil UST was removed from the property in 1990. A discharge was reported on December 15, 1986 and was granted NFA status on October 12, 2012. Given the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
74	**Booker Lake Alum Treatment** 2100 13th Avenue North FAC 9812310	Not rated	Low	This facility is located approximately 110 feet west of the project limits. According to the EDM report, one 8,000-gallon "hazardous substance" AST is currently in service at this facility. No discharges are reported. Given the lack of contamination concerns, this facility is assigned a risk rating of Low.
75	**Former Polypave Inc.** 1900 13th Avenue North EPA ID: FLT050075613	Not rated	No	This facility is located approximately 440 feet east of the project limits. According to the EDM report, this facility was formerly registered as a CESQG with no code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
76	**Carroll's Building Materials** 2001 13th Avenue North ECHO ID 110035579530, 110039627865	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit and USEPA Air Facility System permit. It is presumed that the NPDES permit was necessary for dewatering during construction on or near the property at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
77	**All States Auto Salvage** 1311 22nd Street North Solid Waste ID #101521 ERNS #90-2153	Not rated	Low	This facility is located approximately 200 feet west of the project limits. According to the EDM report and the Contamination Assessment Report (CAR) dated November 2000, the site was abandoned in 1997. After a new owner acquired the property, a large amount of solid waste including tires, automobile parts, and a demolished building existed onsite. Following cleanup and assessment activities, no contaminated groundwater remains onsite. Contaminated soil remains onsite and removal is planned. Given the separation distance to contamination concerns remaining within the soil onsite, this facility is assigned a risk rating of Low.
78	**St. Petersburg Leisure Services Complex** 1400 19th Street North FAC 9808899	Not rated	Low	This facility is located approximately 360 feet east of the project limits. According to the EDM report, one 2,000-gallon diesel fuel AST is currently in service at this facility. No discharges are reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of Low.
79	**Caribe Interiors Inc.** 1444 19th Street North EPA ID: FLD032701047	Not rated	No	This facility is located approximately 270 feet east of the project limits. According to the EDM report, this facility was formerly registered as a SQG with no unresolved code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
80	**Cemex St. Petersburg North Ready Mix** 1700 22nd Street North FAC 8624551, 9045764 EPA ID: FLD982159501	Not rated	No	This facility is located approximately 170 feet northwest of the project limits. According to the EDM report, this facility formerly maintained six petroleum storage tanks. No tanks remain onsite and the facility is closed. A petroleum discharge was reported on November 3, 1993 and was issued an SRCO on September 28, 2006. Based on the separation distance and lack of current contamination concerns, this facility is assigned a risk rating of No.
81	**A&A Tire and Repair Inc.** 2727 38th Avenue North Solid waste ID #100803	Not rated	No	This facility is located approximately 300 feet west of the project limits. According to the EDM report, this facility is a registered waste tire collector with no code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
82	**22nd Avenue Improvements** ECHO ID 110067020299	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction taking place in the area at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
83	**Creative Arts Unlimited** 2700 22nd Street North EPA ID: FLR000022681	Not rated	No	This facility is located approximately 320 feet west of the project limits. According to the EDM report, this facility was formerly registered as a SQG with no unresolved code violations, enforcements, or other contamination concerns reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
84	**Carol Cube** 2736 22nd Street North FAC 9401288	Not rated	No	This facility is located approximately 210 feet west of the project limits. According to the EDM report, this facility formerly maintained four fuel storage tanks of various capacities containing fuel oil or waste oil. All tanks were removed from the property in 1994. No discharges are reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
85	**AQUACAL Autopilot Inc.** 2737 24th Street North EPA ID: FLR000022459	Not rated	No	This facility is located approximately 400 feet west of the project limits. According to the EDM report, this facility is registered as "not a generator" of hazardous waste. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
86	**Hands on Recycling** 2311 28th Avenue North EPA ID: FLR000148361	Not rated	No	This facility is located approximately 430 feet west of the project limits. According to the EDM report, this facility is registered as “not a generator” of hazardous waste. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
87	**Counts Home & Auto Supply Inc.** 4994 24th Street North FAC 8515217	Not rated	Low	This facility is located adjacent west of the project limits. According to the EDM report, this facility formerly maintained eight USTs of various capacities containing leaded gasoline, unleaded gasoline, kerosene, or diesel fuel. The tanks were removed between 1990 and 2008. Two 3,000-gallon unleaded gasoline USTs and one 2,000-gallon kerosene UST are currently in service. A kerosene discharge was reported on December 23, 1991 and was classified as no cleanup required in 2001. Given the lack of current contamination concerns, this facility is assigned a risk rating of Low.
88	**Suttle Service Center** 5001 Haines Road North FAC 8840837	Medium	Medium	This site was previously discussed as Site 9 in the PD&E CSER dated April 2016. The risk rating has not changed. See original report for details.
89	**Lazzara Oil Co.** 2441 52nd Avenue North FAC 8840121	Not rated	No	This facility is located approximately 340 feet west of the project limits. According to the EDM report, this facility formerly maintained ten fuel storage tanks of various capacities containing unleaded gasoline, leaded gasoline, diesel fuel, or “other, non-regulated” substances. All tanks were removed from the property on an unspecified date. No discharges are reported. Given the separation distance and lack of contamination concerns, this facility is assigned a risk rating of No.
90	**Pet Dairy** 5700 22nd Street North FAC 8630191, 8624497 EPD ID: FLTMP8801724	Not rated	Low	This facility is located adjacent east of the project limits. According to the EDM report, this facility formerly maintained seven fuel storage tanks of various capacities containing unleaded gasoline, leaded gasoline, diesel fuel, kerosene, or waste oil. The tanks were removed from the property between 1990 and 1992. A discharge was reported on October 17, 1986 and was issued an SRCO on August 3, 2000. Given the lack of current contamination concerns, this facility is assigned a risk rating of Low.
91	**SR-93 (I-275) – ECHO Listing** I-275 ECHO ID 110037332106	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a NPDES permit. It is presumed that this permit was necessary for dewatering during construction taking place in the area at one time. No code violations, enforcements or other contamination concerns are reported. Based on the lack of contamination concerns, this listing is assigned a risk rating of No.
92	**Shell Tanker Accident** Northwest ROW of the southbound entrance ramp from I-275 to Gandy Boulevard FAC 9801820	Medium	Low	This site was previously discussed as PD&E Site 15 in this Mainline Contamination Sites Table.
93	**Valpak Direct Marketing Systems Inc.** 1 Valpak Avenue North FAC 9808751 EPA ID: FLR000161687	Not rated	Low	This facility is located adjacent west of the project limits. According to the EDM report, this facility currently maintains three 7,000-gallon diesel fuel ASTs. No discharges are reported. In addition, this facility is a registered CESQG with no unresolved code violations, enforcements, or other contamination concerns regarding hazardous materials reported. Given the lack of reported contamination concerns, this facility is assigned a risk rating of Low.
94	**Aviation Fuel Inc. – ERNS Listing** Route 686 off-ramp to I-275 ERNS #632153	Not rated	Low	This site was previously discussed as PD&E Site 15 in this Mainline Contamination Sites Table.
95	**GBS Real Estate Investment, LLC (former Sensormatic)** 1615 118th Avenue North FDEP Cleanup #: COM_136839	Medium	Low	This site was previously discussed as PD&E Site 14 in this Mainline Contamination Sites Table.

Mainline Contamination Sites Table				
Site No.	**Site Name**	**PD&E Risk Rating**	**Re-evaluation Risk Rating**	**Comments**
96	**APAC-Georgia** 13000 9th Street ECHO ID 110039617340	Not rated	No	This site is listed on the USEPA ECHO database. In this instance, the listing is due to a USEPA Air Facility System permit. No code violations, enforcements or other contamination concerns are reported. Based on the nature of this listing and the lack of contamination concerns, this listing is assigned a risk rating of No.

3.2 Pond Site Evaluation

Pond sites were not evaluated as part of the April 2016 CSER. They have been assigned a risk rating using the FDOT's standard methodology (High, Medium, Low or No). Details for the pond sites investigated are provided below. Pond locations are shown on a recent aerial photograph presented in **Appendix A**.

Pond Name	Risk Rating	Comments
2A	No	**Land Use:** This pond site was observed as wooded land within existing I-275 median. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of No.
7B	Low	**Land Use:** This pond site was observed as open field and public roadway (23rd Street South/ 8th Avenue South) located adjacent north of existing I-275 ROW. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of Low.
11C	Medium	**Land Use:** This pond site was observed as an existing stormwater drainage pond located adjacent east of I-275 ROW. **Concerns:** Railroad tracks are located adjacent east of this pond site. Historically, railroads used arsenic based pesticides and/or herbicides for vegetation and weed control along its corridors. In addition, petroleum-based and creosote compounds were often used to preserve railroad ties. Therefore, the railroad tracks located adjacent east are considered a contamination concern to Pond 11C. *ACC Recycling (Waste Services of Florida, Inc.) (FDEP Cleanup #: COM_320501) (PD&E Site No. 7)* located at 1190 20th Street North, adjacent north of Pond 11C. The PD&E CSER noted chlorinated solvent groundwater concentrations above the GCTLs onsite related to a discharge reported on September 3, 2013. The discharge was granted an SRCO on February 11, 2016. No current contamination concerns are reported. Due to the SRCO issuance and lack of current contamination concerns, this site is not considered a contamination concern to Pond 11C. *Peoples Gas System (Former TECO Complex) (FAC 8630812*) *(Site No. 70)* located at 1800 9th Avenue North approximately 180 feet south of Pond 11C. A petroleum discharge was reported in 2003 and was issued an SRCO on July 10, 2019. Due to the separation distance and SRCO issuance, this facility is not considered a contamination concern to Pond 11C. **Risk Rating:** Due to the railroad tracks located adjacent east, this pond site is assigned a risk rating of Medium.
12A	Medium	**Land Use:** Please note that a locked gate prevented access to this pond site during the site reconnaissance. According to Google Earth aerial photography, this pond site is composed of a vacant concrete lot located 120 feet northwest of existing I-275 ROW. **Concerns:** *Former Cemex St. Petersburg Ready Mix (FAC 8624551) (Site No. 80)* is located onsite. This facility formerly maintained six petroleum storage tanks. No tanks remain onsite and the facility is closed. A petroleum discharge was reported on November 3, 1993 and was issued an SRCO on September 28, 2006. Based on the regulatory status and facility closure, it is not considered a contamination concern to Pond 12A. Railroad tracks are located adjacent east and west of this pond site. Historically, railroads used arsenic based pesticides and/or herbicides for vegetation and weed control along its corridors. In addition, petroleum-based and creosote compounds were often used to preserve railroad ties. Therefore, the railroad tracks located adjacent east and west are considered a contamination concern to Pond 12A. **Risk Rating:** Due to the railroad tracks located adjacent east and west, this pond site is assigned a risk rating of Medium.
13B	Low	**Land Use:** This pond site was observed as several residential properties located adjacent west of existing I-275 ROW. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of Low.
14A	No	**Land Use:** This pond site was observed as existing I-275 median. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of No.

Pond Name	Risk Rating	Comments
15A	Low	**Land Use:** This pond site was observed as a residence located adjacent west of existing I-275 ROW. Numerous boats and dilapidated automobiles are stored onsite. Soil stockpiles were observed in the northern portion of the pond site. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of Low.
16A and access easement	No	**Land Use:** This pond site was observed as several residential properties located 260 feet west of existing I-275 ROW. Its access easement was observed as 46th Avenue North roadway. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of No.
17A	Low	**Land Use:** This pond site was observed as existing I-275 ROW. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of Low.
18A	No	**Land Use:** This pond site was observed as residences, woods, and a manmade drainage pond located adjacent east of I-275 ROW. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of No.
19A	Low	**Land Use:** This pond site was observed as woods within existing I-275 ROW. **Concerns:** *Shell Tanker Accident (PD&E Site No. 15) (FAC 9801820)* is located approximately 120 feet southwest of this pond site. A petroleum tractor-trailer reportedly was involved in a single vehicle accident on the southbound entrance ramp from I-275 to Gandy Boulevard. An estimated 1,200 gallons of jet fuel spilled onto the ground and into a drainage ditch towards the northwest from the exit ramp. As part of an emergency response cleanup, contaminated soil and groundwater were removed from the site. Following additional assessments, on August 13, 2009, the FDEP issued an SRCO for the spill. Based on the separation distance and reported cleanup, this site is not considered a contamination concern to Pond 19A. **Risk Rating:** Due to the lack of contamination concerns, this pond site is assigned a risk rating of Low.
20A	No	**Land Use:** This pond site was observed as open field located adjacent west of I-275 ROW. **Concerns:** No contamination sites/facilities that would be expected to impact the project were noted within or in close proximity to the pond site boundaries. **Risk Rating:** Based on the lack of contamination concerns, this pond site is assigned a risk rating of No.

4 Conclusions and Recommendations

The following table presents a summary of the risk ratings assigned for each potential contamination site listing discussed in this report:

Mainline Risk Rating Summary	
Risk Rating	Number of Sites
No	66
Low	23
Medium	8
High	5

Pond sites were assigned a risk rating using the FDOT's standard methodology (High, Medium, Low or No). The risk ratings are as follows:

Pond Name	Risk Rating
Pond 2A	No
Pond 7B	Low
Pond 11C	Medium
Pond 12A	Medium
Pond 13B	Low
Pond 14A	No
Pond 15A	Low
Pond 16A	No
Pond 17A	Low
Pond 18A	No
Pond 19A	Low
Pond 20A	No

Based on the conclusions of the study and the risk ratings noted above, the following recommendations are made for this project:

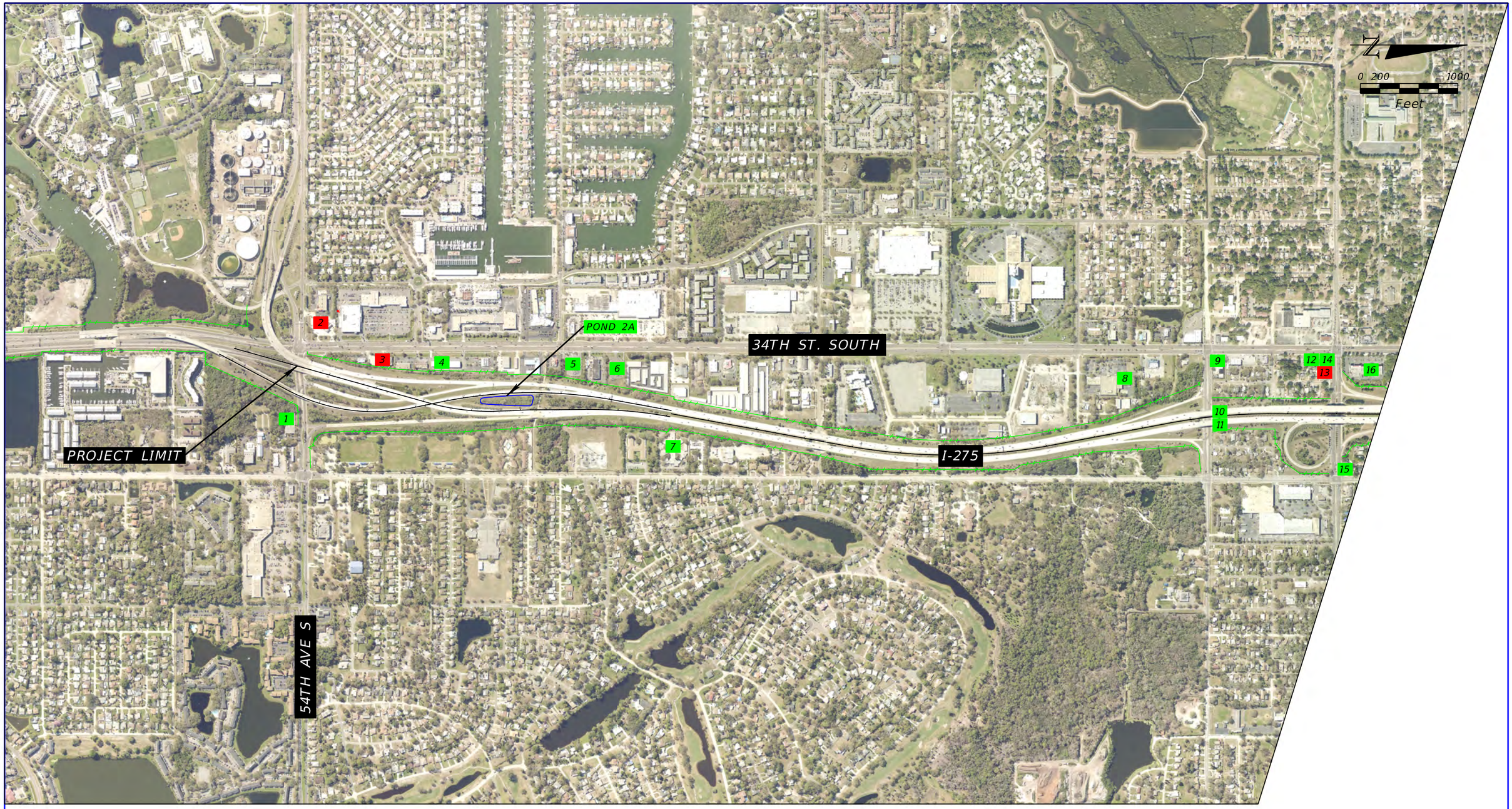
Additional information may become available or site-specific conditions may change from the time this report was prepared and should be considered prior to acquiring ROW and/or proceeding with roadway construction.

- For the locations rated "No" for potential contamination, no further action is required. These sites have been evaluated and determined not to have any potential contamination risk to the study area at this time.

- For the locations rated “Low” for potential contamination, no further action is required at this time. These sites/facilities have the potential to impact the study area, but are determined to have low risk to the project at this time. Variables that may change the risk rating include a facility’s non-compliance to environmental regulations, new discharges to the soil or groundwater, and modifications to current permits. Should any of these variables change, additional assessment of the facilities should be considered.
- For the locations with a risk rating of “Medium” or “High,” Level II field screening should be conducted. A soil and groundwater sampling plan should be developed. The sampling plan should provide sufficient detail as to the number of soil and groundwater samples to be obtained and the specific analytical tests to be performed. A site location sketch for each facility showing all proposed boring locations and groundwater monitoring wells should be prepared. The FDOT District Contamination Impact Coordinator (DCIC) should be consulted regarding the site-specific Level II field screening scope of work.

Appendix A

Potential Contamination Sites Map



SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		A-1
			TIERRA PROJECT NO.: 6511-12-122A			PINELLAS	424501-1-22-01		

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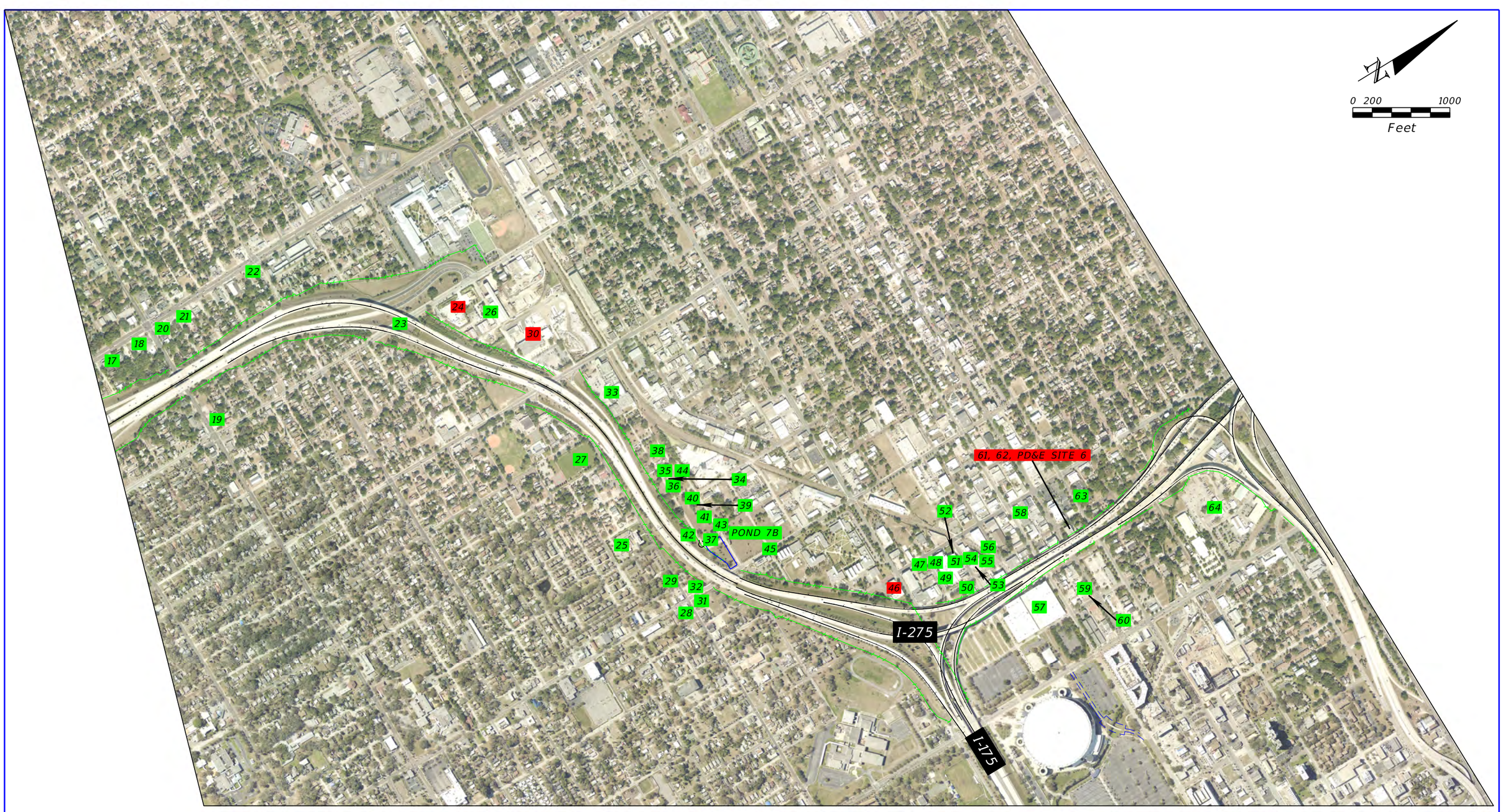

SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-12-122A			PINELLAS	424501-1-22-01		A-2

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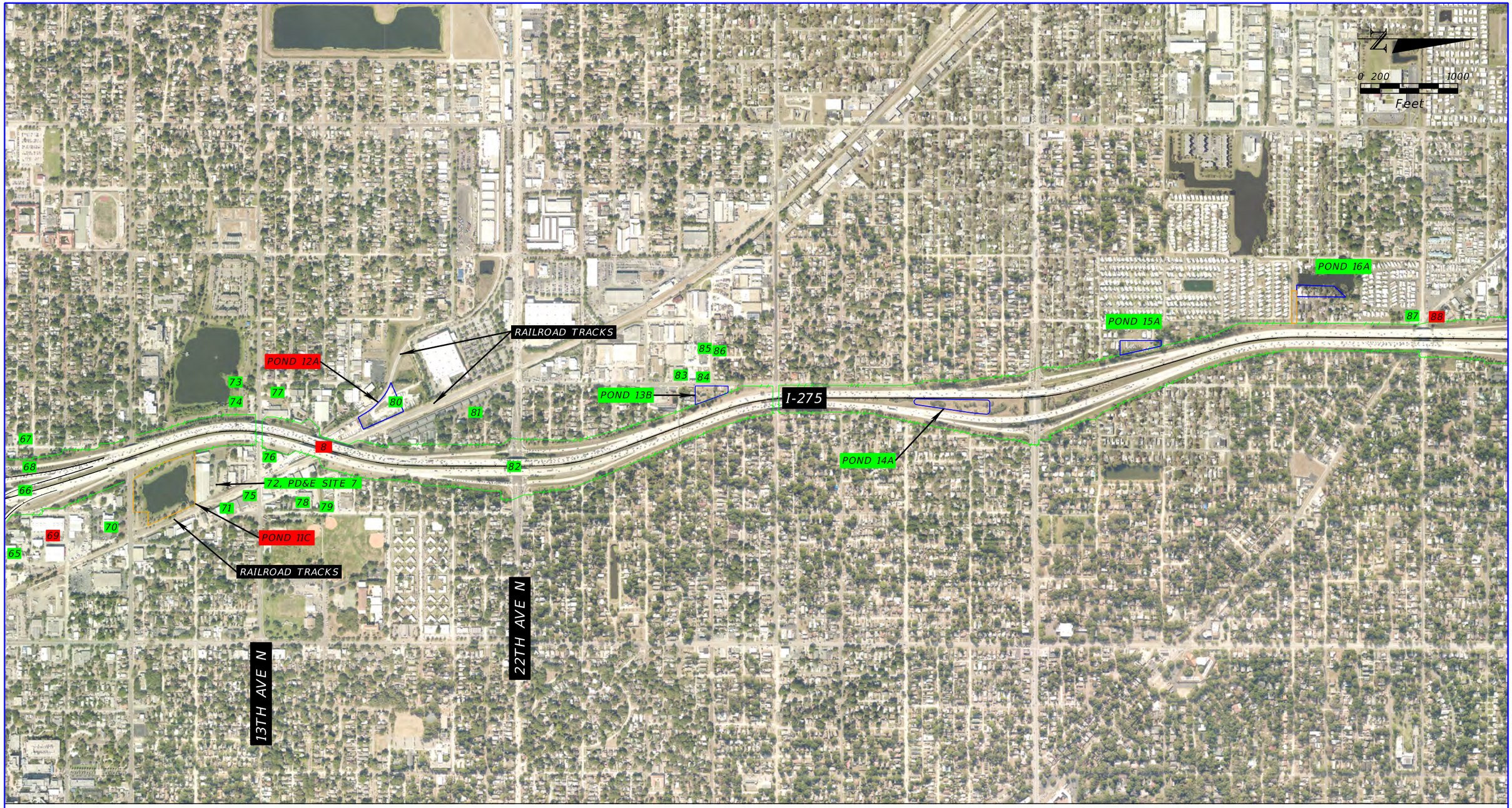

SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-12-122A			PINELLAS	424501-1-22-01		A-3

SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS			
DATE	DESCRIPTION	DATE	DESCRIPTION
			TIERRA PROJECT NO.: 6511-12-122A

TIERRA, INC.
7351 TEMPLE TERRACE HIGHWAY
TAMPA, FLORIDA 33637
CERTIFICATE OF AUTHORIZATION 6486

STATE OF FLORIDA
DEPARTMENT OF TRANSPORTATION

ROAD NO.	COUNTY	FINANCIAL PROJECT ID
	PINELLAS	424501-1-22-01

I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH

SHEET NO. A-4

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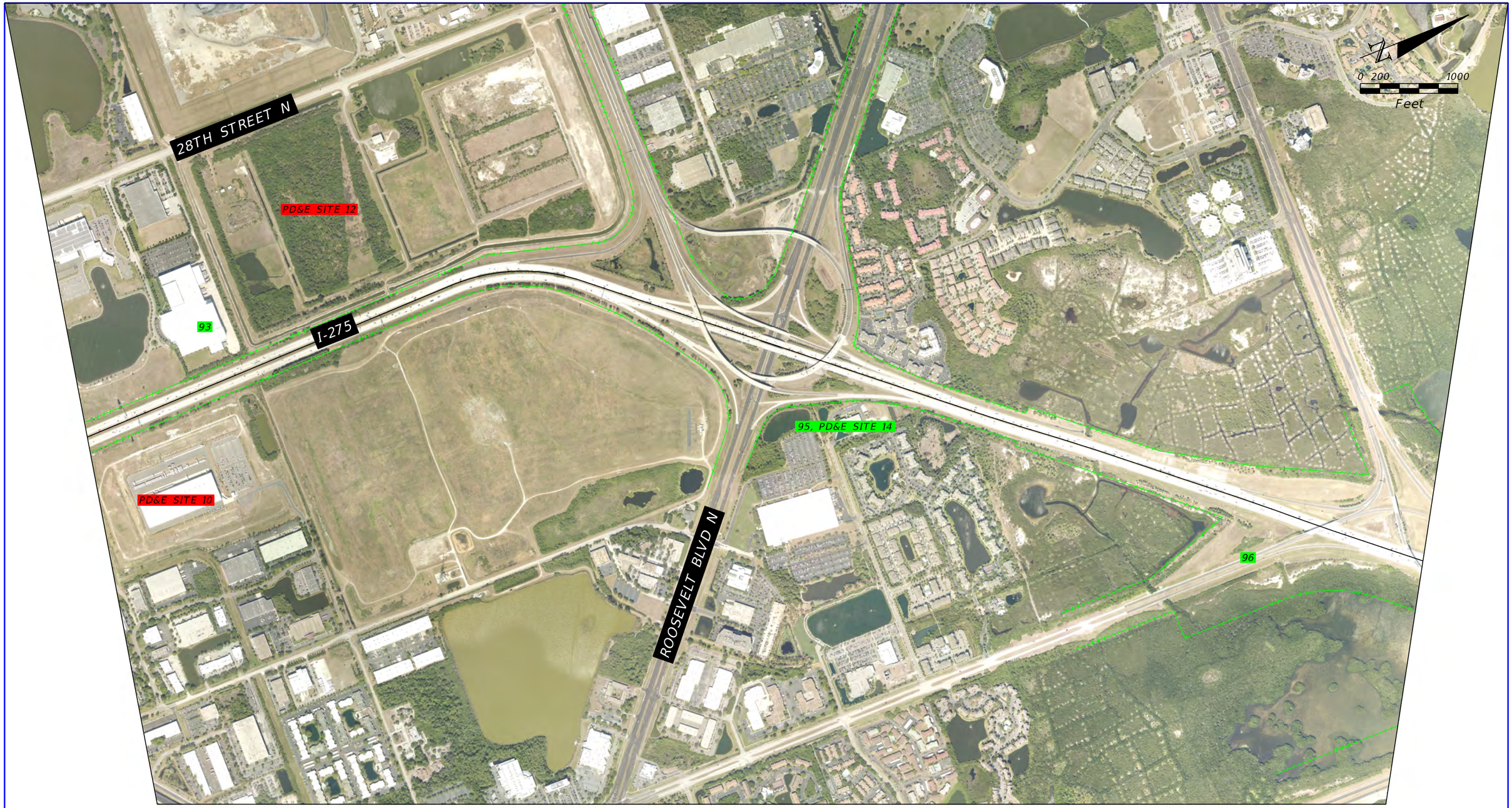

SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-12-122A			PINELLAS	424501-1-22-01		A-5

SOURCE: FDOT SURVEY AND MAPPING DATED 2018

POTENTIAL CONTAMINATION SITES

GREEN = NO/LOW RISK SITES

RED = HIGH/MEDIUM RISK SITES

REVISIONS				TIERRA, INC. 7351 TEMPLE TERRACE HIGHWAY TAMPA, FLORIDA 33637 CERTIFICATE OF AUTHORIZATION 6486	STATE OF FLORIDA DEPARTMENT OF TRANSPORTATION			I-275 (SR 93) FROM SOUTH OF 54TH AVENUE SOUTH TO NORTH OF 4TH STREET NORTH	SHEET NO.
DATE	DESCRIPTION	DATE	DESCRIPTION		ROAD NO.	COUNTY	FINANCIAL PROJECT ID		
			TIERRA PROJECT NO.: 6511-12-122A			PINELLAS	424501-1-22-01		A-6

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Appendix B

Supplemental Info

PD&E Site 6, Site 61, Site 62 – 1839 Building

FINAL
UNDERGROUND STORAGE TANK
CLOSURE ASSESSMENT REPORT

I-275 at Central Avenue
St. Petersburg, Pinellas County, Florida
FDOT Financial Project No.: 254558-1-C2-13
FDEP Facility ID No. 52-9814670
NorthStar Project No. 40-5-1409

***Submitted to*:**
Mr. Joseph Sowers
Florida Department of Health
Pinellas County Bureau of Environmental Health
Department of Environmental Protection - Storage Tanks Program
205 Dr. Martin Luther King, Jr. Street North
St. Petersburg, FL 33701

Submitted by:
NorthStar Contracting Group, Inc.
2760 S. Falkenburg Road
Riverview, Florida 33578
Telephone: (813) 684-4400

August 2015

1.0 INTRODUCTION

1.1 Purpose and Scope

NorthStar Contracting Group, Inc. (NorthStar) performed underground storage tank (UST) closure activities from July 15, 2015, to July 17, 2015, and has prepared this UST Closure Assessment Report documenting activities performed on the Florida Department of Transportation (FDOT) District 7's right-of-way (ROW) at I-275 at Central Avenue, hereinafter referred to as the "site". The site is located in St. Petersburg, Pinellas County, Florida (**Figure 1**).

The purpose of this report is to document the in-place closure of one (1) 500-gallon UST and to report subsurface soil and groundwater conditions in accordance with Chapters 489 and 376.303, Florida Statutes (FS) and Chapter 62-761.800(3), Florida Administrative Code (F.A.C.). As required by Chapter 62-761, F.A.C., an Underground Storage System Installation and Removal Form for Certified Contractors, [Florida Department of Environmental Protection (FDEP) Form 62-761.900(5) has been completed. Per Chapter 62-761.800(2)(c)2, which states "*System removal, closure in-place, and disposal shall be performed: By a Certified Contractor if the system is removed from the ground,* ***unless it is closed in place by filling it with a solid inert material of sufficient density to prevent a structural collapse of the closed system***," a Certified Contractor's signature is not required because the UST was closed in-place by filling with concrete. The completed regulatory form is included in **Appendix A**. The regulatory inspection records are included in **Appendix B**.

The following report and supporting documentation detail the closure of the UST and the closure assessment findings.

1.2 Site Description

The site is located at I-275 at Central Avenue, St. Petersburg, Pinellas County, Florida. Placement is within Section 024, Township 31 South, Range 16 East of the Pinellas County, St. Petersburg Quadrangle, United States Geological Survey (USGS) 7.5-minute topographic quadrangle map as illustrated on **Figure 1**. Land use in the vicinity of the site is of mixed commercial and residential use. A Site Layout Map depicting the layout of the site and the location of the UST is included as **Figure 2**.

1.3 Site History

Currently, the site is occupied by the FDOT I-275 ROW and an asphalt parking lot. A Phase I Environmental Site Assessment (ESA) conducted by Universal Engineering Sciences on the adjacent property to the west (1839 Central Avenue) in January 2014, concluded that an historic fuel/service station existed on the southeastern portion of the property at 1839 Central Avenue. In response to this recognized environmental condition, Lees Environmental Services,

Inc. (Lees) was contracted by Synovus Bank to perform Phase II ESA assessment activities at 1839 Central Avenue. During soil boring activities, Lees discovered a UST near the FDOT ROW property boundary. Lees conducted UST removal activities in August 2014. During the UST removal activities, Lees removed two (2) USTs, one of which was partially within the FDOT ROW. Lees also discovered one (1) additional UST that appeared to be completely within the FDOT ROW beneath a water backflow line. Lees reported the presence of the UST within the FDOT ROW to the Pinellas County Health Department (PCHD) in their October 10, 2014, UST Closure Assessment Report. The PCHD subsequently contacted FDOT District 7 to properly close the UST.

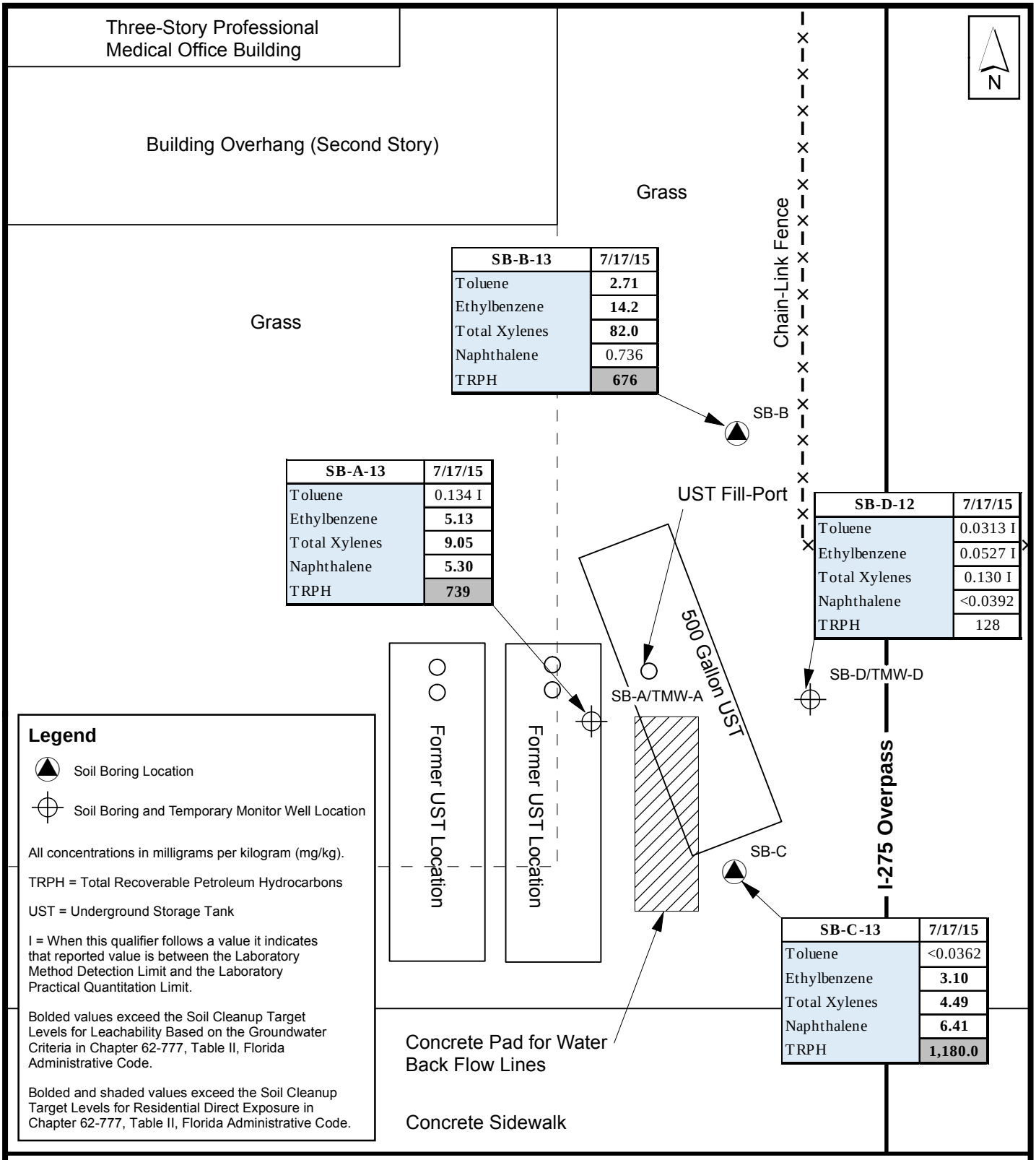
5.0 SUMMARY AND CONCLUSIONS

On July 15, 2015, one (1) 500-gallon steel UST located within the FDOT ROW at I-275 at Central Avenue was abandoned in-place using concrete. Overburden soils were field-screened using an OVA/FID. None of the OVA/FID readings for the overburden soils exceeded 0.0 ppm.

Prior to filling the UST with concrete, the liquid in the UST was vacuumed into a vacuum truck provided by SWS and the interior of the UST was power-washed with a 1/10 chlorine solution. A total of 450 gallons of petroleum contact water (including the used power-wash solution) was vacuumed into the vacuum truck provided by SWS. The vacuum truck transported the liquids to Universal Environmental Solutions, LLC's disposal facility in Tampa, Florida.

Following the in-place abandonment of the tank, soil samples were obtained and analyzed by both OVA and laboratory analyses. The OVA soil screening results showed evidence of elevated hydrocarbon concentrations above ten (10) ppm at SB-A-13 (4,019 ppm), SB-B-10 (1275.5 ppm), SB-B-13 (2,742 ppm), SB-C-13 (1,438 ppm) and SB-D-12 (1,263 ppm). Soil analytical samples SB-A-13, SB-B-13 and SB-C-13 each contained concentrations of ethylbenzene and total xylenes which exceeded their respective Leachability SCTLs but were below their respective Residential Direct Exposure SCTLs. Additionally, soil analytical sample SB-B-13 contained a toluene concentration which exceeded its Leachability SCTL. Finally, TRPH concentrations in soil samples SB-A-13, SB-B-13 and SB-C-13 exceeded the Residential Direct Exposure SCTL.

The analytical results for groundwater sample TMW-D contained concentrations of naphthalene and 2-methylnaphthalene which exceeded their respective GCTLs. Additionally, the 2-methylnaphthalene concentration in groundwater sample TMW-A exceeded the GCTL. Finally, groundwater sample TMW-A contained concentrations of ethylbenzene, total xylenes and naphthalene above their respective NADCs.



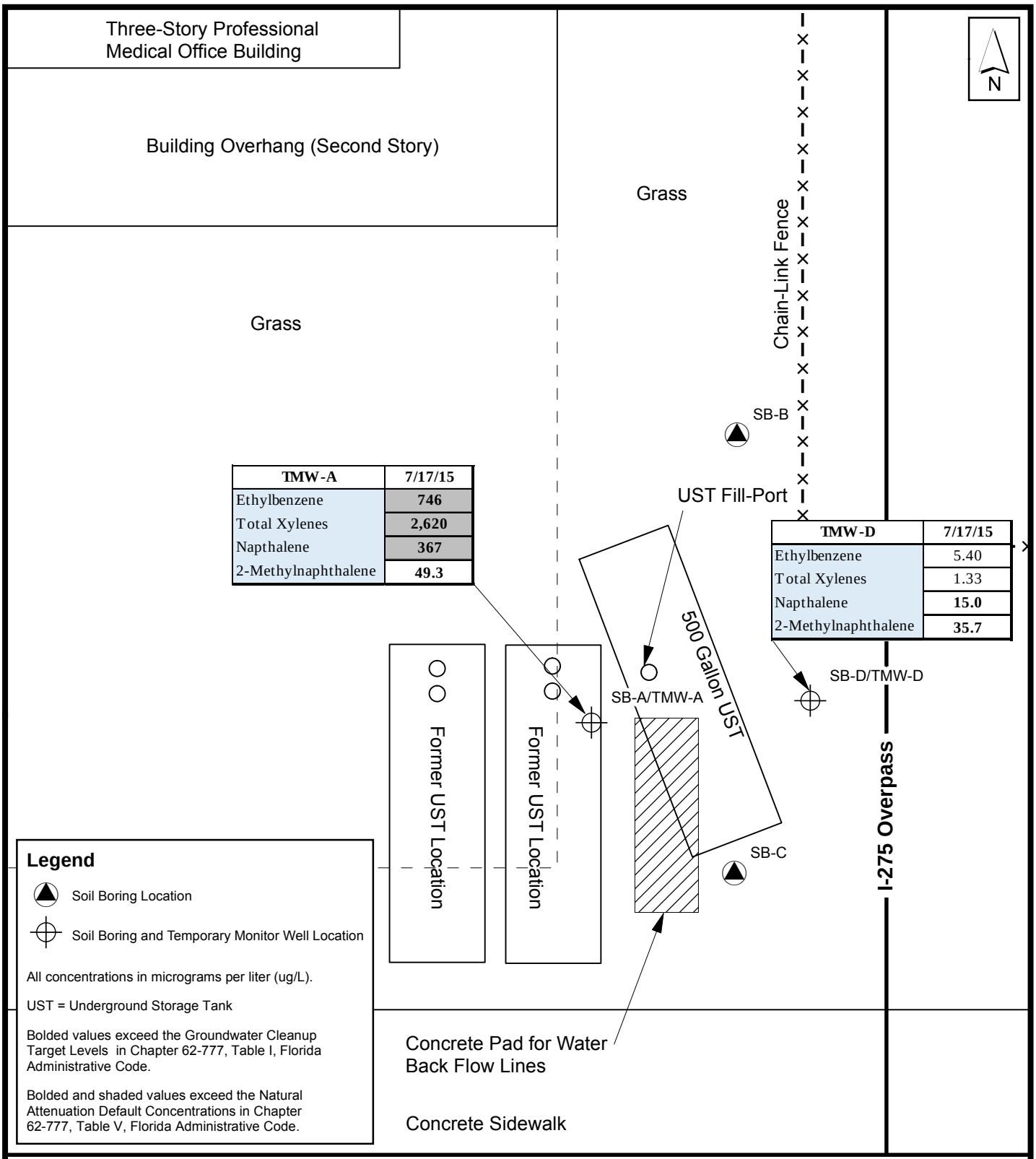
BASEMAP DATA SOURCE: LEES ENVIRONMENTAL SERVICES, INC. (2014)

0 2.5 5 10 Feet

PROJECT NO.: 40-5-1409		GIS ID: 4051409A003	PROJECT MANAGER: BRENT ANDERSON, PE, PG		
REVISION NO.: 01	REVISION DATE: 08/05/2015	DATE: 08/03/2015	DRN BY: GIS	CHK BY: PG	STATUS: **FINAL**

NorthStar
Contracting Group, Inc.
2760 FALKENBURG ROAD, RIVERVIEW, FLORIDA 33578
PHONE: (813) 684-4400 FAX: (813) 684-9177

FIGURE 3
SOIL SAMPLE LOCATIONS MAP
UST CLOSURE ASSESSMENT REPORT
I-275 AT CENTRAL AVENUE
ST. PETERSBURG, PINELLAS COUNTY, FLORIDA
FPID NO. 254558-1-C2-13
FDEP FACILITY ID NO. 52-9814670



BASEMAP DATA SOURCE: LEES ENVIRONMENTAL SERVICES, INC. (2014)

0 2.5 5 10 Feet

PROJECT NO.: 40-5-1409		GIS ID: 4051409A004	PROJECT MANAGER: BRENT ANDERSON, PE, PG		
REVISION NO.: 02	REVISION DATE: 08/05/2015	DATE: 08/03/2015	DRN BY: GIS	CHK BY: PG	STATUS: **FINAL**

NorthStar
Contracting Group, Inc.
2760 FALKENBURG ROAD, RIVERVIEW, FLORIDA 33578
PHONE: (813) 684-4400 FAX: (813) 684-9177

FIGURE 4
GROUNDWATER SAMPLE LOCATIONS MAP
UST CLOSURE ASSESSMENT REPORT
I-275 AT CENTRAL AVENUE
ST. PETERSBURG, PINELLAS COUNTY, FLORIDA
FPID NO. 254558-1-C2-13
FDEP FACILITY ID NO. 52-9814670

TABLES

TABLE 2
SOIL ANALYTICAL RESULTS
I-275 AT CENTRAL AVENUE
ST. PETERSBURG, PINELLAS COUNTY, FLORIDA
FPID NO. 254558-1-C2-13
FDEP FACILITY ID NO. 52-9814670

Sample Name	Sample Depth (feet)	Sample Date	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Naph-thalene	2-Methyl-naphthalene	1-Methyl-naphthalene	Benzo(a)-pyrene	CPAH #	TRPH
SCTL-Residential (mg/kg)	-	(mo/dy/yr)	**1.2**	**7,500**	**1,500**	**130**	**4,400**	**55**	**210**	**200**	**0.1**	**0.1**	**460**
SCTL-Commercial (mg/kg)	-	(mo/dy/yr)	**1.7**	**60,000**	**9,200**	**700**	**24,000**	**300**	**2,100**	**1,800**	**0.7**	**0.7**	**2,700**
Leachability based on GW	-	(mo/dy/yr)	**0.007**	**0.5**	**0.6**	**0.2**	**0.09**	**1.2**	**8.5**	**3.1**	**8**	**8**	**340**
SB-A-13	13	7/17/2015	<0.0232	0.134 I	**5.13**	**9.05**	<0.0314	**5.30**	5.50	2.44	<0.0555	<0.0555	**739**
SB-B-13	13	7/17/2015	<0.0257	**2.71**	**14.2**	**82.0**	<0.0348	0.736	0.512	0.253	0.0899	0.124	**676**
SB-C-13	13	7/17/2015	<0.0316	<0.0362	**3.10**	**4.49**	<0.0426	**6.41**	5.15	2.17	<0.0542	<0.0542	**1,180**
SB-D-12	12	7/17/2015	<0.0229	0.0313 I	0.0527 I	0.130 I	<0.0310	<0.0392	<0.0459	<0.0378	<0.0541	<0.0541	128

Notes:

SCTL = Soil Cleanup Target Level per FDEP Chapter 62-777, F.A.C.

FDEP = Florida Department of Environmental Protection

MTBE = Methyl Tert-Butyl Ether

TRPH = Total Recoverable Petroleum Hydrocarbons by FL-PRO method

GW = Groundwater

I = The reported value is between the laboratory method detection limit and the practical quantitation limit.

- Carcinogenic Polycyclic Aromatic Hydrocarbons - Site concentrations for CPAH's (Benzo(a)pyrene, Benzo(a)anthracene, Benzo(b)fluoranthene, Benzo(k)fluoranthene, Chrysene, Dibenz(a,h)anthracene, Indeno(1,2,3-cd)pyrene) must be converted to Benzo(a)pyrene equivalents before comparison with the appropriate direct exposure SCTL for Benzo(a)pyrene using the approach described in the February 2005 'Final Technical Report: Development of Cleanup Target Levels (CTL's) for Chapter 62-777, F.A.C.'

All data recorded in milligrams per kilogram (mg/kg)

Bolded values meet or exceed Leachability SCTLs

Bolded and shaded values exceed Residential SCTLs

TABLE 3
GROUNDWATER ANALYTICAL RESULTS
I-275 AT CENTRAL AVENUE
ST. PETERSBURG, PINELLAS COUNTY, FLORIDA
FPID NO. 254558-1-C2-13
FDEP FACILITY ID NO. 52-9814670

Sample Name	Sample Date	TMW Installed Depth	Benzene	Toluene	Ethyl-benzene	Total Xylenes	MTBE	Acenaph-thene	Acenaph-thylene
GCTL (µg/L)	-	-	**1**	**40**	**30**	**20**	**20**	**20**	**210**
NADC (µg/L)	-	-	**100**	**400**	**300**	**200**	**200**	**200**	**2,100**
TMW-A	7/17/2015	17	0.970 I	1.15	**746**	**2,620**	<0.180	<0.113	<0.0606
TMW-D	7/17/2015	18	<0.160	<0.140	5.40	1.33	<0.180	0.158 I	0.798

Sample Name	Sample Date	TMW Installed Depth	Fluorene	Naphthalene	2-Methyl-naphthalene	1-Methyl-naphthalene	Phenan-threne	Lead	TRPH
GCTL (µg/L)	-	-	**280**	**14**	**28**	**28**	**210**	**15**	**5,000**
NADC (µg/L)	-	-	**2,800**	**140**	**280**	**280**	**2,100**	**150**	**50,000**
TMW-A	7/17/2015	17	0.197	**367**	**49.3**	18.3	<0.0418	0.00440 I	4,310
TMW-D	7/17/2015	18	0.483	**15.0**	**35.7**	13.4	2.02	<0.00330	4,560

Notes:
GCTL = Groundwater Cleanup Target Level as per FDEP Chapter 62-777, F.A.C.
NADC = Natural Attenuation Default Concentrations as per FDEP Chapter 62-777, F.A.C.
FDEP = Florida Department of Environmental Protection
TMW = Temporary Monitor Well
TRPH = Total Recoverable Petroleum Hydrocarbons by FL-PRO Method
MTBE = Methyl Tert-Butyl Ether
I = The reported value is between the laboratory method detection limit and the laboratory practical quantitation limit.
Data recorded in micrograms per liter (µg/L).
Values in bold font indicate a GCTL exceedance.
Bolded and shaded values indicate a GCTL and NADC exceedance.

PD&E Site 10 – Landhill Inc.

June 13, 2018

SEMI-ANNUAL LANDFILL MONITORING REPORT

FORMER LANDHILL LANDFILL FACILITY
1950 102ND AVENUE NORTH
ST. PETERSBURG, FLORIDA
PERMIT 69710-009-SF/14, SITE #48389

Prepared by:
Kimley-Horn and Associates, Inc.
655 North Franklin Street, Suite 150
Tampa, FL 33602
Phone: 813-620-1460
www.kimley-horn.com

Kimley»Horn

Project No. 148447005

Groundwater Results

Historical arsenic concentrations were reported for MW-3 during the years 1996-2007. This monitoring well was located along the western property boundary of the property, in the location of current monitor well MW-3A. Arsenic concentrations during these years averaged 42 ug/L, which exceeded the MCL for arsenic of 10 ug/L. In 2007, investigative well MW-12 was installed to compare subsequent sampling results to those collected from MW-3. MW-12 was located approximately 100 feet eastward of MW-3, closer to the solid waste disposal area, in the location of current monitor well MW-12A. Since August 2007, arsenic concentrations at MW-12 have been below the laboratory method detection limit (MDL) or below the MCL, while arsenic concentrations at MW-3 continued to exceed the GCTL. During this investigation, the arsenic concentrations observed at MW-3A and MW-12A were below the GCTL. However, arsenic was identified in the area of MW-4A (15.7 ug/L) and MW-15 (13.7 ug/L), further to the north along the property boundary, at concentrations slightly above the GCTL. Arsenic was also identified during this sampling event at the up-gradient well, MW-11A (11.3 ug/L) at a concentration exceeding the MCL. MW-4A is located along the property boundary and MW-15 is located approximately 120 feet to the east, closer to the landfill. As previously stated, the wells closer to the landfill historically show lower concentrations of arsenic, suggesting an offsite arsenic source. Interstate 275 (I-275) is located to the west of the property and contains a stormwater swale immediately adjacent to the property boundary, which may accumulate concentrations of contaminants along the property boundary that may not be representative of landfill concentrations. Arsenic concentrations will continue to be monitored during future sampling events.

Chloride was detected in MW-1A (393 mg/L) at a concentration exceeding the MCL of 250 mg/L. This well is located along the southern property boundary, adjacent to a gas pipeline easement that typically holds water during the wet months. Groundwater flow at the site has been determined to flow from southwest to northeast, suggesting that chloride impacts may be introduced from an offsite source. All other wells were below the MCL for chloride. The results from this sampling event showed a slight increase from the last sampling event. Chloride will continue to be monitored during future sampling events.

Historical sodium concentrations were reported for MW-5A, located at the current MW-5B location, during the years 1996-2008. During these years, sodium concentrations averaged 199 mg/L, exceeding the sodium MCL of 160 mg/L. In August 2008, MW-13 was installed closer to the landfill in order to compare sodium levels between wells MW-5A and MW-13. Sodium concentrations since 2008 have generally been lower for MW-13 compared to MW-5A. In an April 2014 sampling event conducted by the previous owner, sodium concentrations were identified in MW-5A at 235 mg/L and MW-13 at 59.9 mg/L. During the semi-annual sampling events conducted during construction, this

same pattern was observed between MW-5A and MW-13. During this sampling event, sodium concentrations at MW-1A (248 mg/L), MW-5B (254 mg/L), and MW-13A (169 mg/L) exceeded the MCL of 160 mg/L. With the exception of MW-13A, these wells are located along the property boundary. Sodium will continue to be monitored during future sampling events.

With the exception of the up-gradient well, MW-11A, ammonia was detected at concentrations exceeding the GCTL and/or NADC in all wells. This is consistent with historical ammonia concentrations. Ammonia will continue to be monitored during future sampling events.

Iron concentrations exceeded the MCL in all wells. Concentrations identified in MW-4A, MW-5B, MW-7B, MW-9, MW-12A, MW-13A, MW-14, and MW-15 also exceeded the NADC. Iron has historically always exceeded the MCL and/or NADC across the site and continues to fluctuate. Iron will continue to be monitored during future sampling events.

TDS was identified in all wells at concentrations exceeding the MCL of 500 mg/L, and is consistent with historical data. TDS will continue to be monitored during future sampling events.

The identification of metals, TDS, and ammonia in groundwater is common in association with closed landfills and may be related to the "shadowing effect" as described in the January 31, 2006 FDEP memorandum titled *Secondary Ground Water Standards at Solid Waste facilities, SWM-13.9* from Richard Tedder, Program Administrator, of the Solid Waste Section at that time. The shadowing effect occurs when metals within aquifer matrix material are mobilized due to a change in the valence state of the groundwater resulting from the construction of an impervious surface, such as a landfill liner/cap, over the affected aquifer. Construction activities began on the landfill in October 2015, which consisted of excavation and redistribution of landfill waste within the landfill footprint, compaction of waste throughout the landfill, utility installation, stormwater being cut-off from the existing pond, and recapping of the landfill with impervious pavement and a sandy-clay cap. Monitoring conducted as part of this permit will be used to evaluate the potential for the shadowing effect.

Surface Water Results

Ammonia was detected in the surface water samples collected from the northern drainage ditch at concentrations ranging from 0.067 mg/L to 1.3 mg/L. Ammonia was not detected in the sample collected from the pond, which historically contains the highest ammonia concentrations. This may be due to a recent rain event and/or little water movement within the pond.

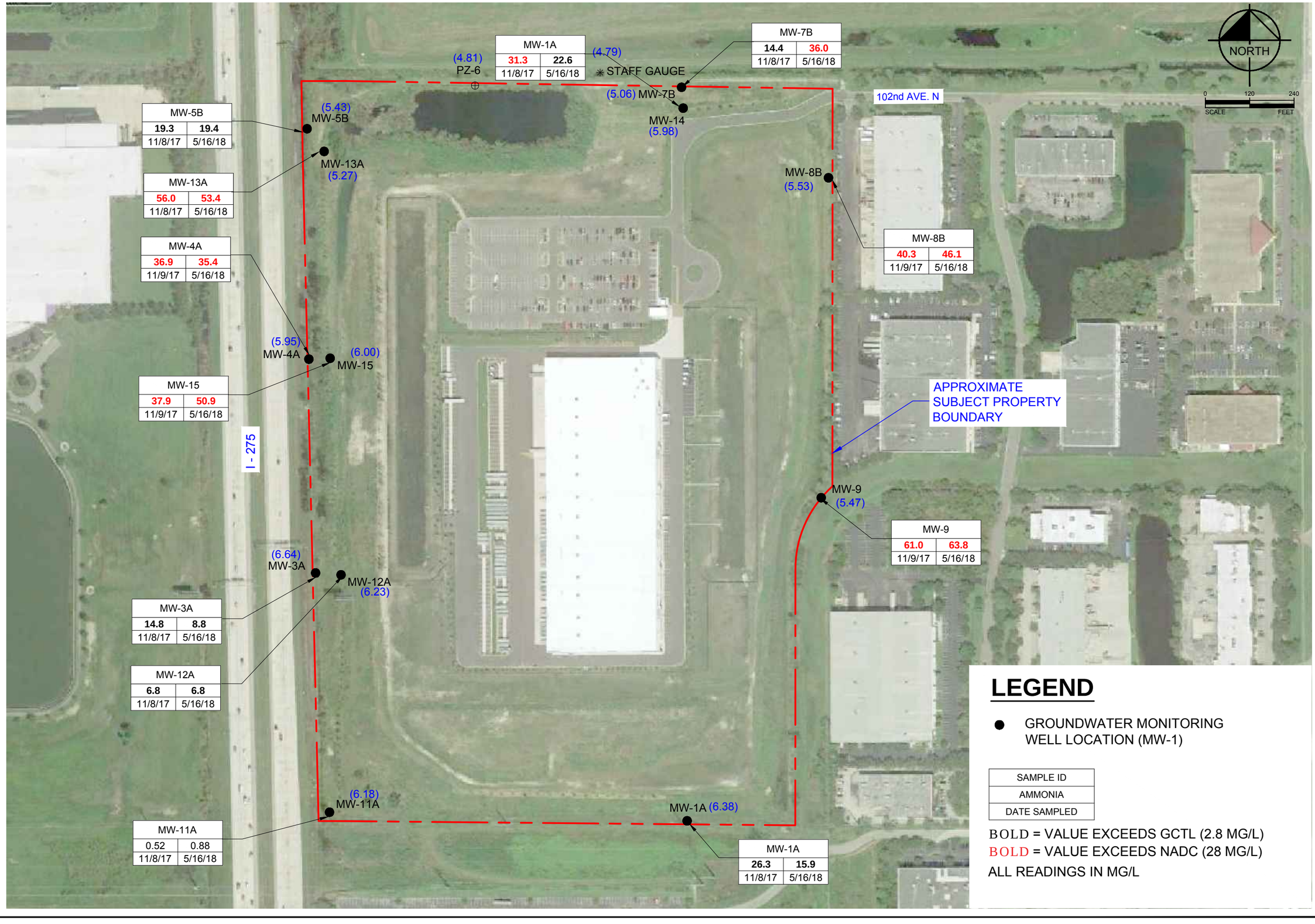
Unionized ammonia was identified above the SWCTL of 0.02 mg/L at the down-gradient sampling location, SW-4. This marks the first sampling event that unionized ammonia was detected at a concentration exceeding the SWCTL at this sampling location. Unionized ammonia will continue to be monitored during future sampling events.

LFG Results

Methane was detected at concentrations exceeding 100%LEL at the perimeter LFG wells. Since the last semi-annual monitoring event, Kimley-Horn installed 5 additional vent wells along the top of the landfill to alleviate LFG buildup at the property boundary. Kimley-Horn is currently monitoring LFG concentrations in these wells on a monthly basis to evaluate if further LFG mitigation measures are required in the future. Results of this monitoring event indicate that methane concentrations in the perimeter LFG wells have significantly reduced, but remain above the 100 %LEL threshold. Further monitoring will be conducted during the wet season.

5.0 Recommendations

Based on the results of this sampling event, it appears that further monitoring is required to establish contaminant trends to determine if contamination is originating from offsite source(s). Additionally, there are no positive receptors (potable water wells), located within 0.5-mile from the property. As such, Kimley-Horn recommends continuing the semi-annual sampling program.



LEGEND

- GROUNDWATER MONITORING WELL LOCATION (MW-1)

SAMPLE ID
AMMONIA
DATE SAMPLED

BOLD = VALUE EXCEEDS GCTL (2.8 MG/L)

BOLD = VALUE EXCEEDS NADC (28 MG/L)

ALL READINGS IN MG/L

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2018 KIMLEY-HORN AND ASSOCIATES, INC.
655 NORTH FRANKLIN STREET, SUITE 150, TAMPA, FL 33602
PHONE: 813-620-1460
WWW.KIMLEY-HORN.COM CA 00000696

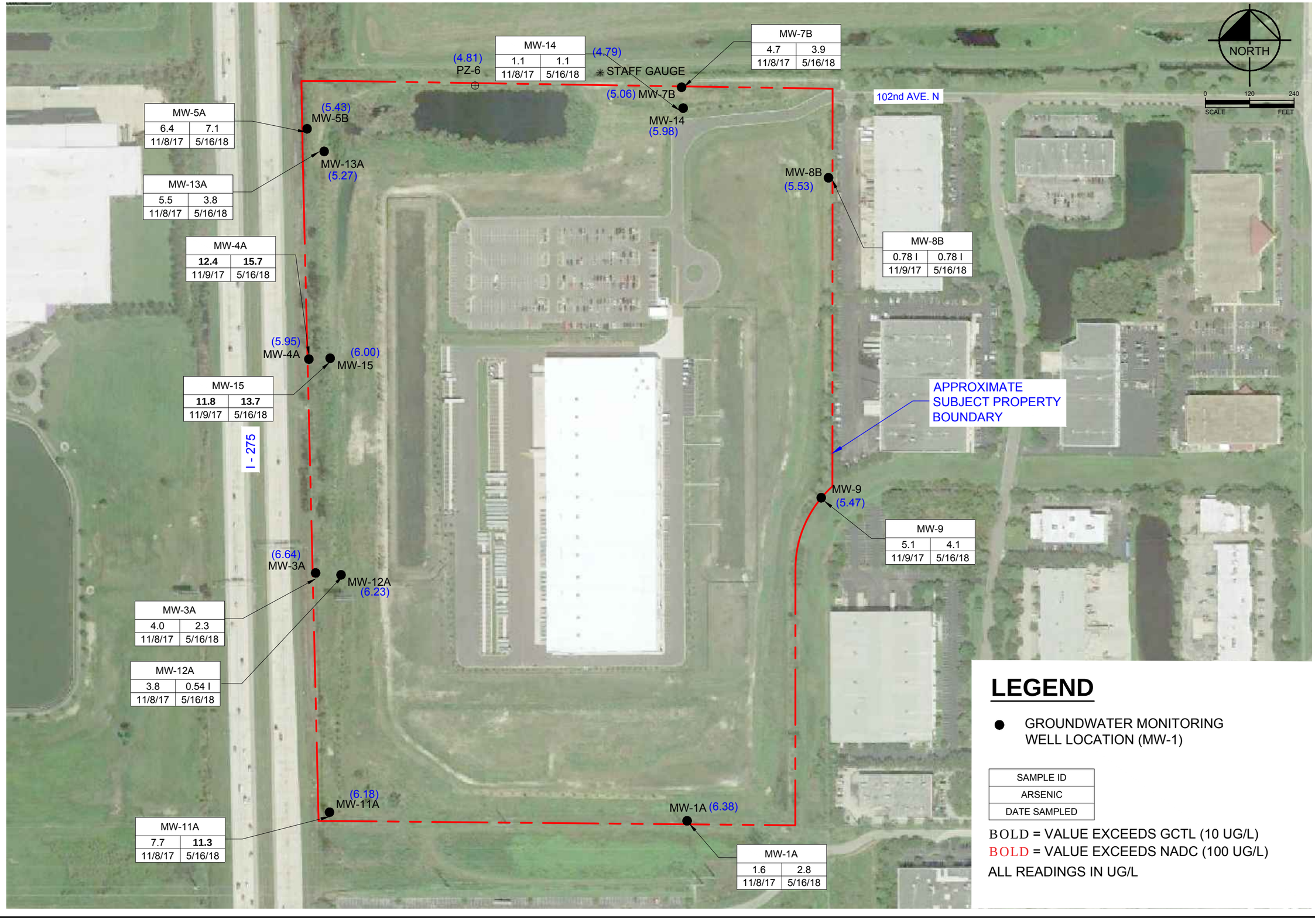
DESIGN PROFESSIONAL: WILLIAM SPINNER, P.G.
FLORIDA REGISTRATION NUMBER: FL 2570
DATE:

SCALE
DESIGNED BY WTS
DRAWN BY RGB
CHECKED BY WTS

AMMONIA CONCENTRATION MAP

FORMER LANDHILL LANDFILL
1950 102ND AVENUE NORTH
ST. PETERSBURG, FLORIDA

DATE 06/05/2018
PROJECT NO. 148447005
SHEET NUMBER 4B



LEGEND

- GROUNDWATER MONITORING WELL LOCATION (MW-1)

SAMPLE ID
ARSENIC
DATE SAMPLED

BOLD = VALUE EXCEEDS GCTL (10 UG/L)

BOLD = VALUE EXCEEDS NADC (100 UG/L)

ALL READINGS IN UG/L

No.	REVISIONS	DATE	BY

Kimley»Horn
© 2018 KIMLEY-HORN AND ASSOCIATES, INC.
655 NORTH FRANKLIN STREET, SUITE 150, TAMPA, FL 33602
PHONE: 813-620-1460
WWW.KIMLEY-HORN.COM CA 00000696

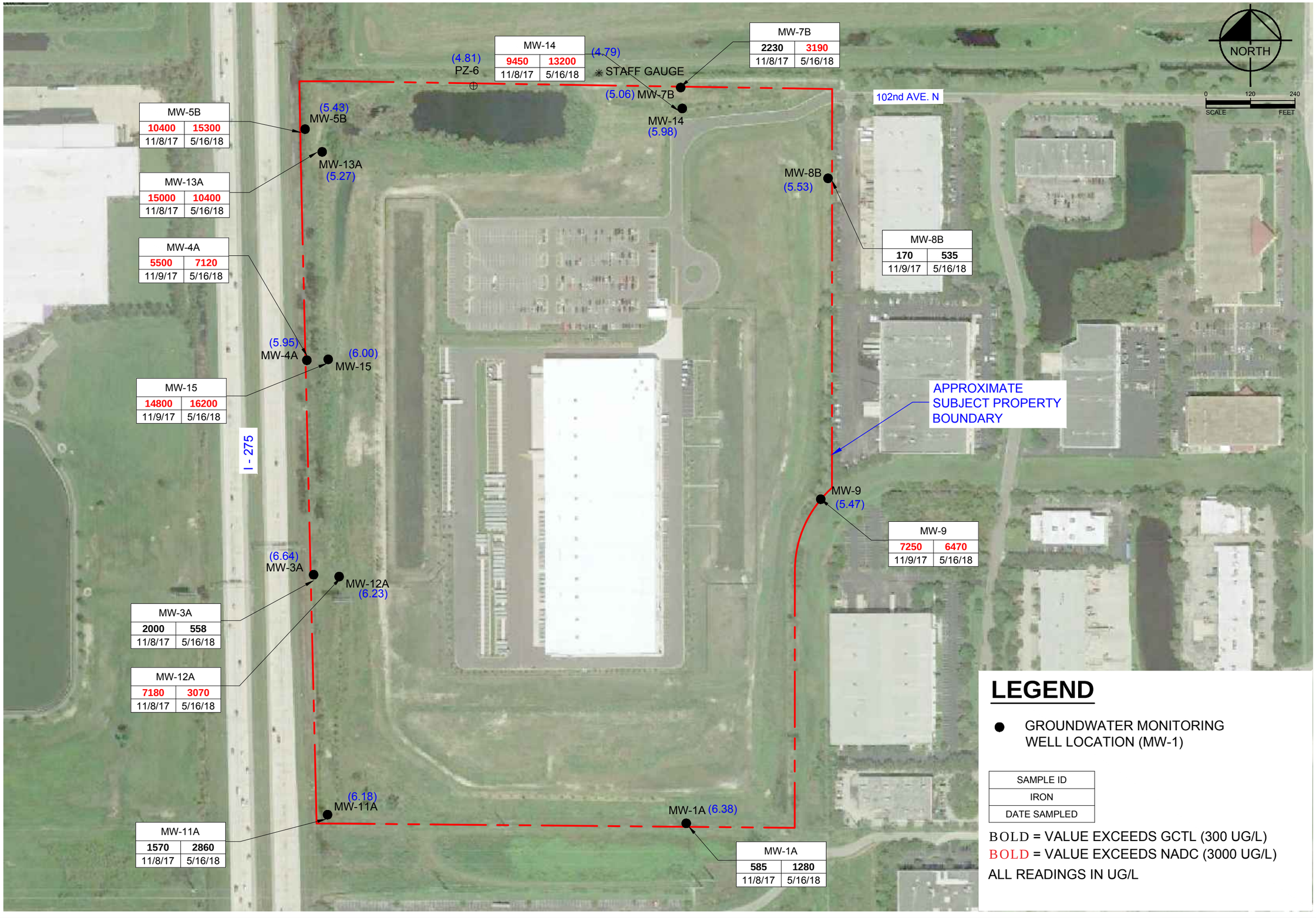
DESIGN PROFESSIONAL: WILLIAM SPINNER, P.G.
FLORIDA REGISTRATION NUMBER: FL 2570
DATE:

SCALE
DESIGNED BY WTS
DRAWN BY RGB
CHECKED BY WTS

ARSENIC CONCENTRATION MAP

FORMER LANDHILL LANDFILL
1950 102ND AVENUE NORTH
ST. PETERSBURG, FLORIDA

DATE 06/05/2018
PROJECT NO. 148447005
SHEET NUMBER 4D



LEGEND

- GROUNDWATER MONITORING WELL LOCATION (MW-1)

SAMPLE ID
IRON
DATE SAMPLED

BOLD = VALUE EXCEEDS GCTL (300 UG/L)

BOLD = VALUE EXCEEDS NADC (3000 UG/L)

ALL READINGS IN UG/L

No.	REVISIONS	DATE	BY

Kimley»Horn
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655 NORTH FRANKLIN STREET, SUITE 150, TAMPA, FL 33602
PHONE: 813-620-1460
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DESIGN PROFESSIONAL: WILLIAM SPINNER, P.G.
FLORIDA REGISTRATION NUMBER: FL 2570
DATE:

SCALE
DESIGNED BY WTS
DRAWN BY RGB
CHECKED BY WTS

IRON CONCENTRATION MAP

FORMER LANDHILL LANDFILL
1950 102ND AVENUE NORTH
ST. PETERSBURG, FLORIDA

DATE 06/05/2018
PROJECT NO. 148447005
SHEET NUMBER 4E

PD&E Site 12 – Bridgeway Acres Landfill

2002 N. Lois Avenue, Suite 200
Tampa, FL 33607
tel: (813) 281-2900
fax: (813) 348-6037
www.cdmsmith.com

December 27, 2018

Solid Waste Section
Southwest District
Florida Department of Environmental Protection
13051 North Telecom Parkway
Temple Terrace, FL 33637

Subject: Semi-Annual Monitoring Report, Second Half 2018– Bridgeway Acres Class I Landfill
Operation Permit No.: 34184-022-SO/01
WACS Facility No.: 46742

Via Email

To Whom It May Concern,

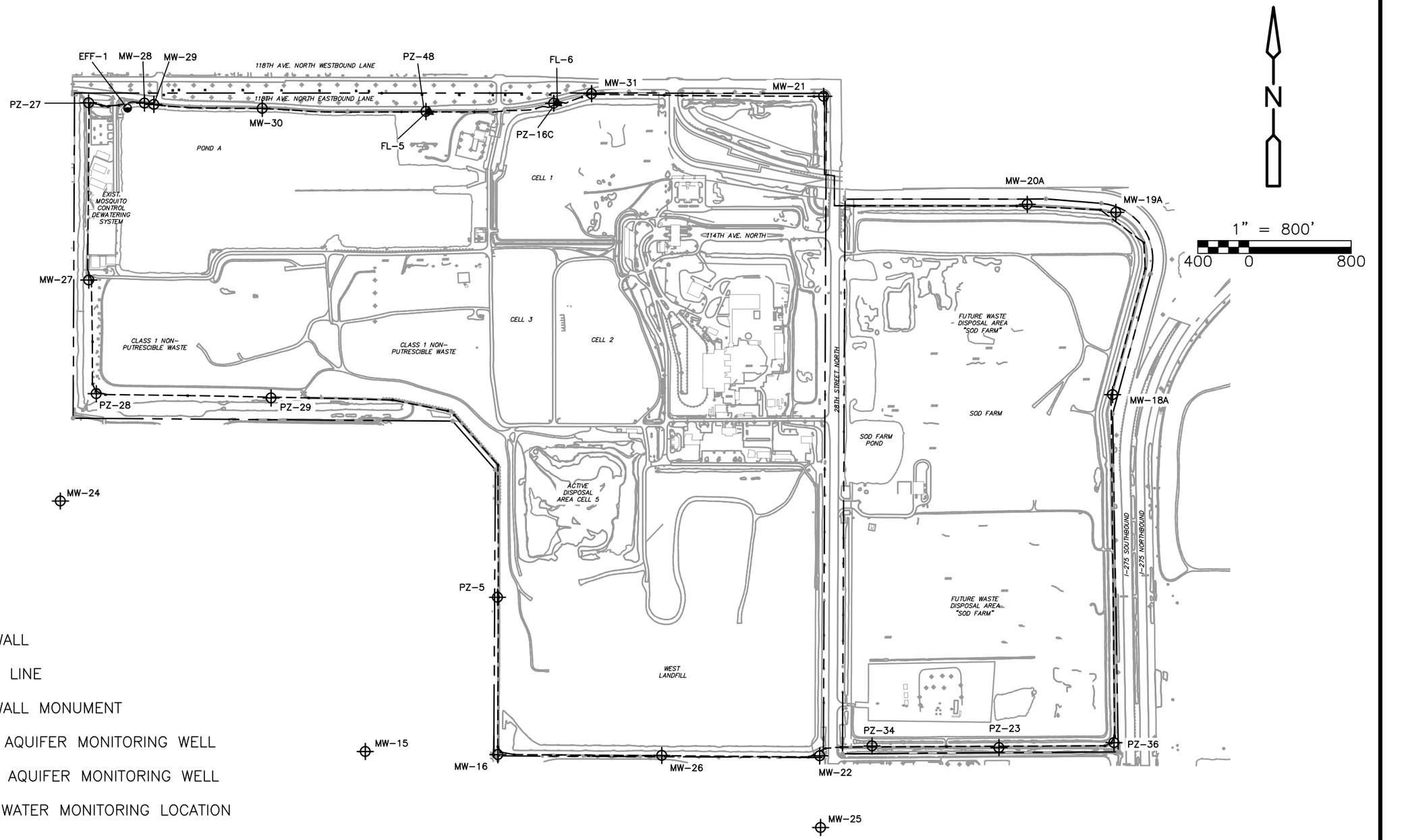
CDM Smith Inc. (CDM Smith), on behalf of Pinellas County, is submitting the Second Half 2018 Water Quality Monitoring Report for the Bridgeway Acres Landfill. This report is submitted in accordance with Paragraph 21 of the Water Quality Monitoring Plan (Appendix 3 of the permit) for the facility. The ADaPT files are transmitted with a separate email. Please let me know if you have any questions or comments.

Sincerely,

Wei Liu, P.E.
CDM Smith Inc.

Encl.

cc: Mr. T. F. Armbruster, Pinellas County
David Anderson P.G., CDM Smith
FDEP-Tallahassee

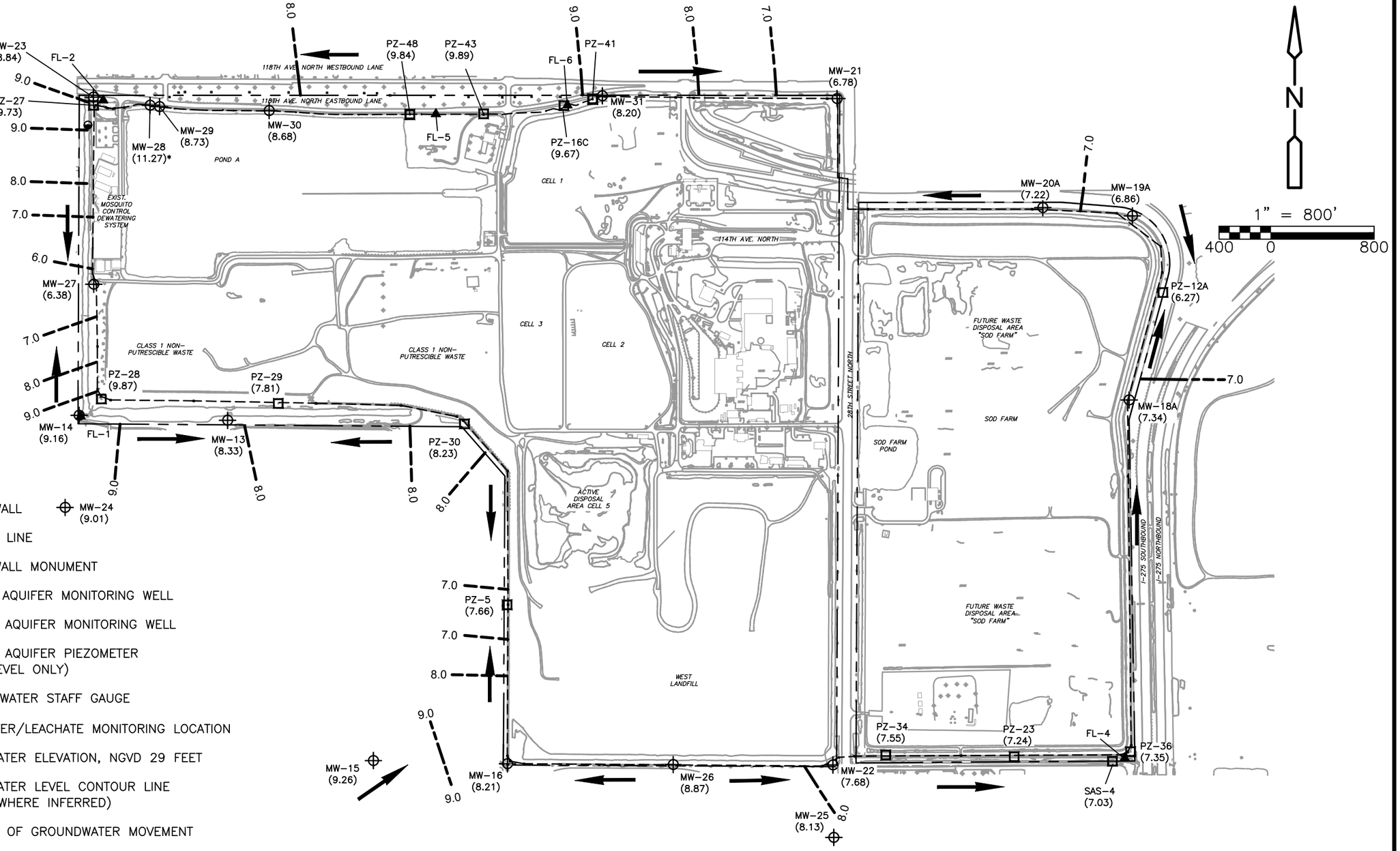


LEGEND:

– — — –	SLURRY WALL
— – – —	PROPERTY LINE
⊡	SLURRY WALL MONUMENT
▲ FL–5	FLORIDAN AQUIFER MONITORING WELL
⊕ MW–15	SURFICIAL AQUIFER MONITORING WELL
◒ EFF–1	SURFACE WATER MONITORING LOCATION

CDM Smith

Figure No. 1-1
Pinellas County Bridgeway Acres Landfill
Water Quality Monitoring Locations



LEGEND:

— — — —	SLURRY WALL
— — — —	PROPERTY LINE
⊡	SLURRY WALL MONUMENT
▲ FL-5	FLORIDAN AQUIFER MONITORING WELL
⊕ MW-15	SURFICIAL AQUIFER MONITORING WELL
□ PZ-5	SURFICIAL AQUIFER PIEZOMETER (WATER LEVEL ONLY)
◒ SG-1	SURFACE WATER STAFF GAUGE
SW-4	STORMWATER/LEACHATE MONITORING LOCATION
(7.94)	GROUNDWATER ELEVATION, NGVD 29 FEET
6.0	GROUNDWATER LEVEL CONTOUR LINE (DASHED WHERE INFERRED)
→	DIRECTION OF GROUNDWATER MOVEMENT

* WATER LEVEL IS INCONSISTENT WITH OTHER REPORTED VALUES IN THE VICINITY AND NOT USED FOR GENERATION OF CONTOURS.

WATER LEVEL MEASURED BY PINELLAS COUNTY STAFF ON AUGUST 27, 2018.

CDM Smith

Figure No. 2-1
Pinellas County Bridgeway Acres Landfill
Surficial Aquifer Groundwater Contour Map, August 2018

Section 3
Summary of Exceedances and Recommendations

A summary of the exceedances of groundwater quality criteria detected in samples collected during the second half of 2018 sampling event is provided in **Table 3-1**. Based on evaluation of the data from the second half of 2018 monitoring event, no changes to the monitoring program are recommended.

The concentrations of ammonia exceeded the Groundwater Cleanup Target Level (GCTL) established in Chapter 62-777, F.A.C. in samples from compliance wells MW-29, MW-30, PZ-16C, PZ-23, PZ-27, and PZ-48. The highest concentration detected was in the sample from PZ-16C (28.5 mg/L). The concentrations of ammonia were generally consistent with historical concentrations.

The concentrations of antimony exceeded the Primary Drinking Water Standard (PDWS) Maximum Contaminant Level (MCL) established in Chapter 62-550, F.A.C. in compliance wells MW-31 (20.5 µg/L), PZ-34 (21.8 µg/L) and PZ-36 (29.2 µg/L). The concentrations detected in these samples were generally consistent with historical concentration. The concentration detected in compliance well PZ-36 (29.2 µg/L) is the highest concentration detected since the first half of 2009. Concentrations of antimony in samples collected from PZ-36 are variable and only sporadically exceed the MCL.

The concentrations of arsenic exceeded the PDWS MCL in the samples from compliance wells MW-21 (17 µg/L), MW-26 (31 µg/L) and PZ-23 (16.7 µg/L). The concentrations detected in the samples collected from these wells are within their historical ranges.

The concentrations of iron exceeded the Secondary Drinking Water Standard (SDWS) MCL in samples collected from two background wells and 11 compliance wells. The highest concentration detected in a background well sample was 7.42 mg/L from MW-25. The highest concentration detected in a compliance well sample was 26.7 mg/L from PZ-16C. The concentrations of iron detected in samples from all the compliance and background wells were within the range of historical values.

The concentration of selenium exceeded the SDWS MCL in the sample collected from compliance well PZ-28 (151 µg/L). This concentration is within historical concentrations. Concentrations of selenium are highly variable and sporadically exceed the MCL in samples collected from PZ-28.

The concentrations of TDS exceeded the SDWS MCL in samples from 15 compliance wells and two background wells. The highest concentration detected was in the sample from PZ-23 (2,040 mg/L). The highest concentration of TDS detected in a background well was 784 mg/L in the sample collected from MW-25. The concentrations of TDS in samples collected from compliance and background wells were generally consistent with historical concentrations.

Values of pH were below the acceptable SDWS range of 6.5 and 8.5 standard units (S.U.) in samples collected from MW-20A (6.4 S.U.) and PZ-27 (6.44 S.U.). Values for pH are typically within the acceptable range in samples from MW-20A and below the acceptable range in samples from PZ-27.

Table 3-1 Summary of Groundwater Quality Criteria Exceedances - Second Half 2018 Sampling Event

Compliance Wells				
Parameter	**MCL/GCTL**	**Units**	**Well No**	**Results August 2018**
Ammonia	2.8	mg/L	MW-29	7.18
			MW-30	11.5
			PZ-16C	28.5
			PZ-23	8.42
			PZ-27	6.31
			PZ-48	4.73
Antimony	6	µg/L	MW-31	20.5
			PZ-34	21.8
			PZ-36	29.2
Arsenic	10	µg/L	MW-21	17
			MW-26	31
			PZ-23	16.7
Iron	0.3	mg/L	MW-16	1.77
			MW-20A	1.62
			MW-21	5.46
			MW-22	3.37
			MW-26	11.5
			MW-29	1.18
			MW-30	4.85
			PZ-5	1.63
			PZ-16C	26.7
			PZ-23	5.58
			PZ-27	0.772
Selenium	50	µg/L	PZ-28	151
pH	6.5 - 8.5	S.U.	MW-20A	6.4
			PZ-27	6.44
TDS	500	mg/L	FL-5	560
			FL-6	704
			MW-19A	932
			MW-22	522
			MW-26	1010
			MW-27	682
			MW-29	690
			MW-30	770

Table 3-1 Summary of Groundwater Quality Criteria Exceedances - Second Half 2018 Sampling Event (Continued)

Compliance Wells (Continued)				
Parameter	**MCL/GCTL**	**Units**	**Well No**	**Results August 2018**
TDS	500	mg/L	PZ-5	534
			PZ-16C	674
			PZ-23	2,040
			PZ-27	890
			PZ-28	1,860
			PZ-34	652
			PZ-36	648
Background Wells				
Iron	0.3	mg/L	MW-24	1.84
			MW-25	7.42
TDS	500	mg/L	MW-15	538
			MW-25	784
Surface Water				
No sample collected due to Pond A non-flow				

Notes:
1. MCL = Maximum Contaminant Target Level (Chapter 62-550, F.A.C.)
2. GCTL = Groundwater Cleanup Target Level (Chapter 62-777, F.A.C.) (Ammonia Only)
3. mg/L = Milligram per Liter
4. µg/L = Microgram per Liter
5. S.U. = Standard Units

Site 46 - Kozuba & Sons Distillery Inc.

Greenfield Environmental

December 10, 2015

1960 5th Avenue South, LLC
Mr. Peter Zent
1960 5th Avenue South
St. Petersburg, FL 33712

RE: PHASE II SUBSURFACE INVESTIGATION AT THE COMMERCIAL PROPERTY LOCATED AT 1960 5TH AVENUE SOUTH IN ST PETERSBURG, FLORIDA

Dear Mr. Zent:

On November 23, 2015 Greenfield Environmental, Inc. (GE) conducted a limited subsurface investigation at the above-referenced property. The assessment was conducted to determine if contaminated soils or groundwater exist at the site due to the historical presence of an on-site fuel oil tank.

The soil boring and groundwater sample locations were chosen based upon the highest likelihood of encountering contamination at the subject site. In addition, select soil boring locations were determined in order to provide comprehensive data throughout the site. A Sampling Location Map depicting soil boring and temporary monitoring well locations is included as **Appendix A**.

The scope of work for this assessment consisted of the installation of eleven (11) soil borings (SB) for organic vapor analysis (OVA) soil screening and the collection of two (2) groundwater samples and one (1) soil sample.

In addition, on December 2, 2015 GE contracted Geo View, Inc. (Geo View) to conduct a Ground Penetrating Radar (GPR) survey of the western portion of the paved parking area located at the subject site in an effort to locate the historic fuel-oil tank. Geo View also utilized a magnetometer in an effort to locate metal objects beneath the ground surface. Geo View did register a small anomaly within the western portion of the on-site paved parking area.

On December 4, 2015 GE mobilized to the subject site to excavate the area marked by Geo View. GE excavated the area that had the anomaly, which was an area of asphalt approximately two (2) feet by two (2) feet. During the excavation activities, GE was unable to locate the anomaly identified.

The groundwater samples collected at temporary monitoring wells TMW-1, TMW-2 were analyzed for 1,2-Dibromoethane (EDB) via EPA Method 8011, Petroleum Range Organics (PRO) via EPA Method FL-PRO, total and dissolved lead via EPA Method 6010, Polyaromatic Hydrocarbons (PAHs) via EPA Method 8270 and Volatile Organic Compounds via EPA Method 8260.

The soil sample from SB-4 was analyzed for PRO via EPA Method FL-PRO, PAHs via EPA Method 8270 and VOCs via EPA Method 8260.

Upon sample collection, the groundwater and soil sample containers were capped, labeled, packed on ice, and transported to the Pace Analytical Services, Inc. laboratory in Tampa, Florida for analysis. The sample kits were provided to Greenfield Environmental, Inc. by Pace Analytical Services, Inc.

Chapter 62-780, Florida Administrative Code defines "contaminated" as the presence of free product or any contaminant in surface water, groundwater, soil, sediment, or upon the land, in concentrations that exceed the applicable Cleanup Target Levels (CTLs) specified in Chapter 62-777, FAC, or water quality standards in Chapter 62-302 or 62-520.

SOIL SAMPLING

"Excessively contaminated soils" are defined in Chapter 62-770, Florida Administrative Code, as soils that are saturated with petroleum or petroleum product, or those that cause a total corrected hydrocarbon reading of 500 parts per million (ppm) or higher for the Gasoline Analytical Group or 50 ppm or higher for the Kerosene Analytical Group on an Organic Vapor Analyzer (OVA) instrument equipped with a Photo Ionization Detector (PID) upon sampling the head space in a half-filled 16-ounce soil jar. Upon retrieval, soil samples were also examined for physical and olfactory signs of degradation by petroleum products. In addition, Chapter 62-770, Florida Administrative Code defines "contaminated soil" as soil that is contaminated with petroleum or petroleum products or their chemical constituents to the extent that Chapter 62-777, Florida Administrative Code, SCTLs are exceeded.

The soil borings (SB) were constructed by a combination of advancing a 3-inch stainless-steel, hand auger and direct push technology to collect the soils for classification and sampling. Soil samples were collected at two (2) foot intervals down to an approximate depth of twelve (12) feet below land surface (BLS). The watertable at the subject site was encountered at approximately ten (10) to twelve (12) feet BLS at the time of this subsurface investigation.

Elevated organic vapor analyzer (OVA) readings above 50 ppm were detected during the subsurface investigation at SB-1, SB-4, SB-9, SB-10 and SB-11. In addition, olfactory evidence of petroleum-type odors was detected at the previously mentioned soil boring sample locations. The locations of soil boring sample points are represented in **Appendix A** and the Soil Boring Logs are provided in **Appendix B**.

One (1) soil sample was collected from SB-4 at approximately twelve (12) feet BLS. The soil sample from SB-4 was analyzed for PRO via EPA Method FL-PRO, PAHs via EPA Method 8270 and VOCs via EPA Method 8260.

The analytical results from the soil sample indicated that all of the constituents analyzed for were either below the laboratory Method Detection Limits (MDLs) or below their respective FDEP soil cleanup target levels (SCTLs), with the exception of 1-Methylnaphthalene, 2-Methylnaphthalene, and Petroleum Range Organics. 1-Methylnaphthalene, reported at 22.6 milligrams per kilogram (mg/kg) in SB-4, was above the FAC Chapter 62-777 Table II SCTL of 3.1 mg/kg. 2- Methylnaphthalene, reported at 31.6 mg/kg, was above the FAC Chapter 62-777 Table II SCTL of 8.5 mg/kg in the sample collected. Petroleum Range Organics, reported at 5400 mg/kg was above the FAC Chapter 62-777 Table II SCTL of 340 mg/kg.

GROUNDWATER SAMPLING

Groundwater sampling conducted by Greenfield Environmental, Inc. was performed by the Point-In-Time Groundwater Sampling method via direct push technology. Groundwater purging was accomplished utilizing a portable low flow Peristaltic Pump and a dedicated section of Teflon-lined tubing through the pump head and polyethylene tubing set to the top two (2) feet of the water column.

Two (2) Geoprobe water sample points (TMW-1 & TMW-2) were installed on November 23, 2015. The temporary monitoring wells were installed at fourteen (14) feet BLS at the locations of soil borings SB-4 (TMW-1) and SB-10 (TMW-2). The locations of the temporary monitoring wells were chosen in order to determine if potential contamination is present due to the historical presence of an on-site fuel oil tank. The sample points were developed using 0.25 inch Teflon tubing and a peristaltic pump. The sample point locations are represented in **Appendix A**.

The groundwater samples from TMW-1 and TMW-2 were analyzed for EDB via EPA Method 8011, PRO via EPA Method FL-PRO, total and dissolved lead via EPA Method 6010, PAHs via EPA Method 8270 and VOCs via EPA Method 8260.

The analytical results from the November 23, 2015 groundwater sampling event indicated that the following constituents analyzed for were above their respective FDEP groundwater cleanup target levels (GCTLs). 1,2,4- Trimethylbenzene in TMW-1 and TMW-2; 1,3,5-Trimethylbenzene in TMW-1 and TMW-2; 1-Methylnaphthalene in TMW-1 and TMW-2; 2-Methylnaphthalene in TMW-1 and TMW-2; Ethylbenzene in TMW-2; Isopropylbenzene in TMW-1 and TMW-2; Naphthalene in TMW-1 and TMW-2 and Total Xylene in TMW-2.

1,2,4- Trimethylbenzene, reported at 135 micrograms per liter (ug/L) in TMW-1 and 227 ug/L in TMW-2, was above the FAC Chapter 62-777 Table I GCTL of 10 ug/L in the samples collected. 1,3,5- Trimethylbenzene, reported at 57.5 ug/L in TMW-1 and 90.2 ug/L in TMW-2, was above the FAC Chapter 62-777 Table I GCTL of 10 ug/L. 1-Methylnaphthalene, reported at 86.8 ug/L in TMW-1 and 77.7 ug/L in TMW-2, was above the FAC Chapter 62-777 Table I GCTL of 28 ug/L. 2-Methylnaphthalene, reported at 109 ug/L in TMW-1 and 99.2 ug/L in TMW-2, was above the FAC Chapter 62-777 Table I

GCTL of 28 ug/L. Ethylbenzene, reported at 57.4 ug/L in TMW-2 was above the FAC Chapter 62-777 Table I GCTL of 30 ug/L. Isopropylbenzene, reported at 11.7 in TMW-1 and 11.9 in TMW-2, was above the FAC Chapter 62-777 Table I GCTL of 0.8 ug/L. Naphthalene, reported at 149 ug/L in TMW-1 and 188 ug/L in TMW-2, was above the FAC Chapter 62-777 Table I GCTL of 14 ug/L. Total Xylene, reported at 80.8 ug/L in TMW-2, were above the FAC Chapter 62-777 Table I GCTL of 20 ug/L.

Groundwater analytical results and the Chain of Custody for all samples collected are included in **Appendix C**.

CONCLUSIONS & RECOMMENDATIONS

Elevated organic vapor analyzer (OVA) readings above 50 ppm were detected at SB-1, SB-4, SB-9, SB-10 and SB-11. In addition, olfactory evidence and petroleum-type odors were also detected at the previously mentioned soil boring sample locations. The analytical results from the soil sampling event indicated that 1-Methylnaphthalene, 2-Methylnaphthalene, and Petroleum Range Organics were above their respective FDEP SCTLs.

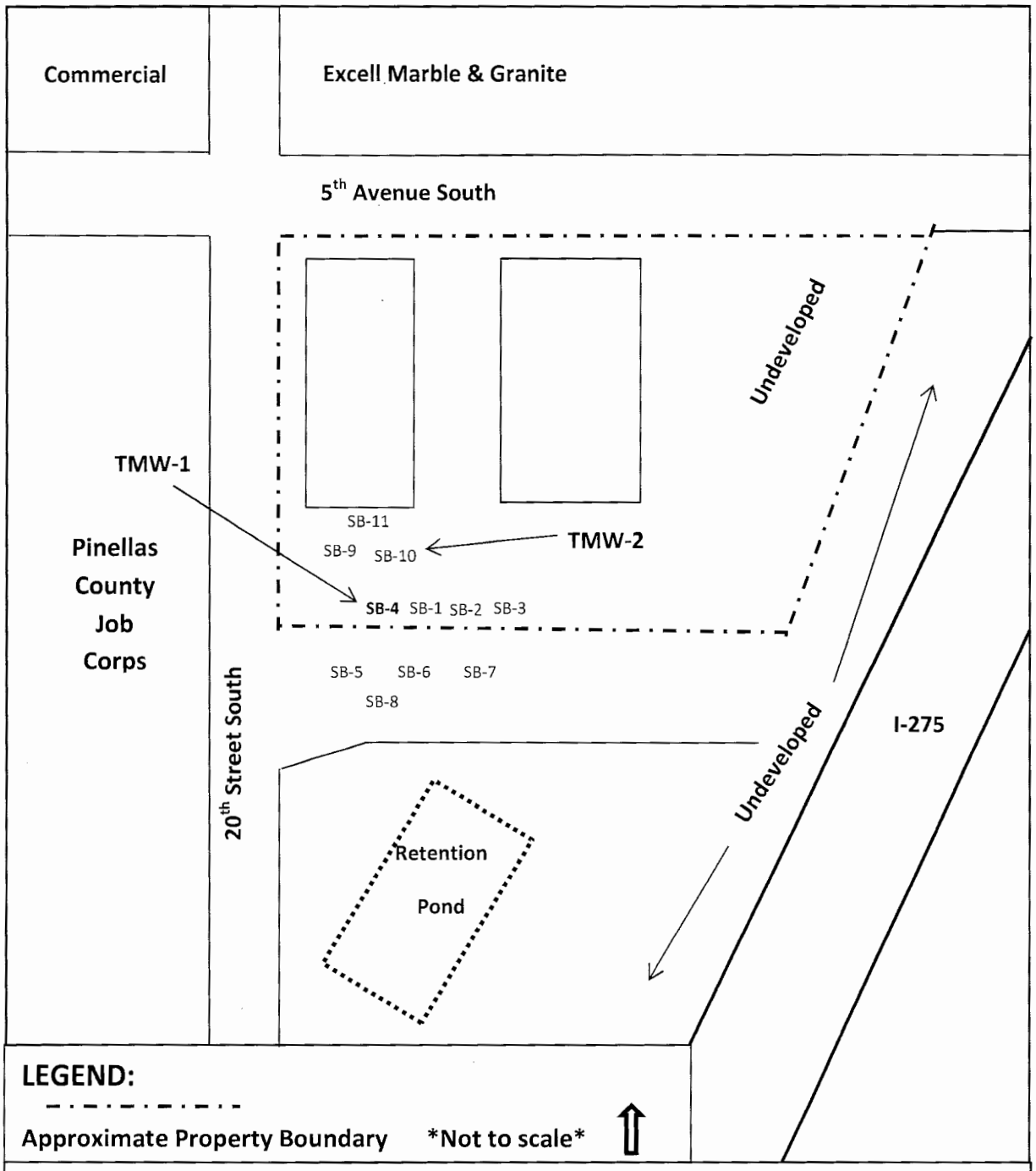
The analytical results from the November 23, 2015 groundwater sampling event indicated that the following constituents analyzed for were above their respective FDEP groundwater cleanup target levels (GCTLs). 1,2,4- Trimethylbenzene in TMW-1 and TMW-2; 1,3,5-Trimethylbenzene in TMW-1 and TMW-2; 1-Methylnaphthalene in TMW-1 and TMW-2; 2-Methylnaphthalene in TMW-1 and TMW-2; Ethylbenzene in TMW-2; Isopropylbenzene in TMW-1 and TMW-2; Naphthalene in TMW-1 and TMW-2 and Total Xylene in TMW-2.

Given the close proximity of soil borings SB-1 through SB-4 to the southern property boundary of the subject site, the potential does exist that the on-site contamination has migrated off site. It should be noted that the property located adjoining to the south of the subject site is owned by the City of St. Petersburg.

GE was unable to locate the anomaly identified during the GPR and magnetometer survey of the paved parking area. Therefore, the potential does exist that the historic on-site fuel oil tank is still located at the subject site and could potentially be badly damaged.

This investigation was not intended to be a comprehensive site assessment for all potential petroleum, solvent or metal contamination that may be present at the site. The potential exists that small isolated areas of contamination may exist onsite.

Based on the OVA results and analytical data, GE recommends that the contaminated soil identified below the paved parking area at the subject site be properly excavated and incinerated in accordance with the State of Florida Department of Environmental Protection (FDEP) regulations.



Appendix A

Sampling Location Map

1960 5th Avenue South

St. Petersburg, FL 33712

Project # 2372-0600

Greenfield Environmental

Site 69 - City of St. Petersburg Fleet Management Facility

TEMPLATE SITE ASSESSMENT REPORT

[Signature Page]

DATE:	7-24-17
PO#/TA#/WO#:	PO# AE501B – Task 3

Site FDEP Facility ID #	52/8624644 Score: 30
Site Name:	St. Petersburg City Fleet Management
Address:	1800 7th Avenue North
City:	St. Petersburg
County:	Pinellas
Consultant Company:	Professional Service Industries, Inc./ Intertek
Address:	5801 Benjamin Center Drive, # 112
City, State, Zip	Tampa, FL 33634
Consultant Rep.:	Erin Lennox
Phone #:	(813) 886-1075
Responsible Party Name:	City of St. Petersburg Fleet Maintenance (on DRF)
Address:	Address on DRF – 1800 7th Avenue North
City, State, Zip:	St. Petersburg, FL 33713
Responsible Party Rep.:	On 1991 DRF – Not documented
Phone #:	

CERTIFICATION:

Qualified Registered Professional Engineer or Registered Professional Geologist Certification.

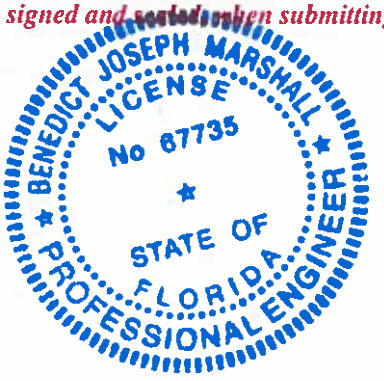
I hereby certify that I have supervised the field work (as summarized in the "Recent Site Assessment Activities" section) and preparation of this report, in accordance with Florida Rules and Regulations. As a registered professional geologist and/or professional engineer, as authorized by Chapters 492 or 471, Florida Statutes, I certify that I am a qualified groundwater professional, with knowledge and experience in groundwater contamination assessment and cleanup. To the best of my knowledge, the information and laboratory data summarized in the "Recent Site Assessment Activities" section (including the applicable attachments) are true, accurate, complete, and in accordance with applicable State Rules and Regulations. ***Include a hard (paper) copy of this cover page, signed and sealed when submitting the report electronically.***

Consultant Name: Ben Marshall, P.E.

PE or PG License #: 67735

Signature: Ben Marshall

Date: 7/24/17 FLORIDA Stamp or Seal



III-A) Soil Investigation (continued)

Was soil Investigative Derived Waste (IDW) generated? *If yes, please describe method used for identifying soil needing disposal:*	YES	NO	N/A
	X		

Soil investigative derived waste (IDW) generated from the 52 soil borings in March 2017 were returned to the original soil boring location.

Drill cuttings IDW generated during monitor well installations in March 2017 were containerized into 55-gallon drums. A total of 12 IDW drums containing drill cuttings and a total of 2 drums containing purge water were transported to an approved facility for proper disposal.

Volume of contaminated soil disposed of: _____ 12 *drums* [ ] *cu. yds.*
Disposal method: Approved facility

Was soil contamination above applicable Cleanup Target Levels identified above the water table? *If yes, identify where concentrations above CTLs were detected, depths encountered and corresponding OVA readings. If no, please indicate whether laboratory results agree with OVA readings (if they do not agree, please discuss significance of OVA screening data and/or reliability of laboratory results). If "N/A", please explain.*	YES	NO	N/A
	X		

Soil Analytical Results – VOAs and TRPH

Benzene was detected in soil samples SB-10, 8' and SB-25, 8' at concentrations exceeding the leaching to groundwater soil cleanup target level (SCTL-LGW) criteria.
Ethylbenzene was detected in seven of the ten soil samples at concentrations exceeding the SCTL-LGW criteria.

Toluene exceeded the SCTL-LGW criteria in soil samples SB-25, 8' and SB-41, 8'.

Total xylenes was detected in soil sample SB-25, 8' at a concentration exceeding the residential direct exposure soil cleanup target level (SCTL-RDE) and SCTL-LGW criteria. Total xylenes was detected in six other soil samples at concentrations exceeding the SCTL-LGW criteria.

Total recoverable petroleum hydrocarbons (TRPH) was detected in eight of the ten soil samples at concentrations exceeding the SCTL-LGW and SCTL-RDE criteria. In addition, the SCTL for TRPH commercial criteria was exceeded at six locations.

It should be noted, the laboratory method detection limits for benzene and/or MTBE exceeded the SCTL-LGW criteria for a number of soil samples, so the concentrations for these soil samples exceeding the SCTL-LGW criteria cannot be completely ruled out. These samples are flagged with "U" for non-detect.

Soil Analytical Results – Non-Carcinogenic PAHs

Naphthalene, 1-methylnaphthalene and 2-methylnapthalene were detected at concentrations exceeding the SCTL-LGW criteria in seven of the ten soil samples analyzed.

Acenaphthene was detected in soil sample SB-24, 8' at a concentration exceeding its respective SCTL-LGW criteria.

Soil Analytical Results – Carcinogenic PAHs

The laboratory results from the soil samples identified no carcinogenic PAHs above the applicable SCTLs.

SPLP Testing and Results

Upon receipt of the initial soil data, PSI subsequently performed testing by the Synthetic Precipitation Leaching Procedure (SPLP) Method for semivolatile organics (SVOCs) or volatile organic compounds (VOCs) on five different samples to evaluate the leaching potential for these compounds on the St. Pete Fleet Management property. SPLP soil samples were chosen based on variable VOC and SVOCs concentrations detected in the initial soil samples.

Results indicate there is a possibility for leaching contaminates from the soil and into the groundwater at levels that would exceed the groundwater cleanup target level (GCTL) criteria.

1-methylnapthalene, 2-methylnapthalene, and naphthalene were detected in the leachates from samples SB-14, 8'; SB-24, 8' and SB-56, 8' at concentrations exceeding respective GCTL criteria.

Ethylbenzene was detected in the extract from SB-25, 8' at a concentration exceeding the GCTL.

Total xylenes was detected in the extract from SB-25, 8' at a concentration exceeding both GCTL and natural attenuation default criteria (NADC) criteria.

TRPH Speciation Testing and Results

Since TRPH exceeded its SCTL-RDE (and commercial) and SCTL-LGW criteria, TRPH speciation analysis was subsequently conducted on five soil samples by the MADEP Method. The hydrocarbon chain fractions were then compared to the alternative SCTLs provided in Technical Report: Development of Cleanup Target Levels for Chapter 62-777, FAC, Table C-9 (FDEP, 2005). Review of the TRPH fraction analytical results indicate the exceedances of the SCTL-RDE criteria for the C9-C18 aliphatic fraction for samples SB-14, 8'; SB-20, 8' and SB-25, 8'. The C9-C10 aromatic fraction exceeds SCTL-LGW in SB-20, 8' and exceeds both SCTL-LGW and SCTL-RDE in soil samples SB-14, 8' and SB-25, 8'. The SCTL-LGW criteria was also exceeded in samples SB-14, 8'; SB-20, 8' and SB-25, 8' for the C11-C22 aromatic fraction. Results are summarized in Table 2C.

OVA data is summarized on Table 1. Soil analytical results are summarized on Table 2. Soil analytical results are depicted on Figures 5A through 5D. Please note, historically soil contamination was identified in the top 8 ft bls, however recent analysis did not include samples from this zone. Therefore, the volume of vadose zone soil contamination was not estimated.

Approximate volume of vadose zone soil contamination: *unknown* *cu. yds.*

Site map (Figures 5A-5D) illustrating extent of soil contamination is included in Appendix B

Soil concentration summary (Table 2, 2A, 2B, 2C) is included in Appendix A

Soil sampling logs (for laboratory samples) are included in Appendix C

Site Name: St. Pete Fleet Management
Facility ID #: 52/8624644
Date: 7-24-17

III-A) Soil Investigation (continued)

	YES	NO	N/A
Was vadose zone soil contamination delineated? If no, please describe where additional borings should be located (indicating proposed depths of investigations). If "N/A", please explain.			X

Based on a review of the site history and recent soil and groundwater assessment, the soil and groundwater on the property are impacted at levels exceeding regulatory criteria. The recent soil assessment revealed vadose zone impacts in what appear to be "hot spots" throughout the property, mainly beneath the maintenance building, near the carwash and near the UST located in front of the sanitation truck repair building. It appears that soil impacts are on-site and confined to the area that was recently investigated. Based on SPLP testing, TRPH speciation analysis and groundwater analytical, the impacted soils appear to be leaching petroleum constituents into the groundwater at levels exceeding groundwater cleanup criteria.

Site map (Figure _____) illustrating proposed sampling locations is included in Appendix _____

	YES	NO	N/A
Has a smear zone been identified? Definition: The "smear zone" is the soil contamination located within the zone of water table fluctuation (it has been described as a "secondary source" of contamination). *If yes, please discuss the horizontal and vertical contaminant mass distribution in the smear zone. If no, please describe what additional information is needed (soil borings, well data, etc.). If "N/A", please explain.*	X		

The depth to groundwater at the site generally ranged from 10 to 14 ft bls and the smear zone being between 9 to 12 ft bls. Soil samples were collected primarily from areas at 8 ft bls. Based on the recent soil and groundwater analytical data, there are petroleum impacts exceeding SCTLs in the smear zone.

Site map (Figure _____) illustrating proposed sampling locations is included in Appendix _____

III-B) Groundwater Investigation (continued)

	YES	NO	N/A
Was groundwater IDW generated? If yes, please explain why disposal on-site was not possible.		X	

Any groundwater IDW that was generated during well purging and sampling in March and June 2017 was spread on an impervious surface on-site.

Any groundwater IDW that was generated during well developments during the new well installations were placed into 55-gallon drums and disposed of properly

Volume of contaminated groundwater disposed of: _____ [ ] *drums* [ ] *gallons*

[groundwater results]

	YES	NO	N/A
Was groundwater contamination identified above the applicable Cleanup Target Levels? If yes, indicate locations where highest concentrations detected with depths encountered. If "N/A", please explain.	X		

Groundwater Analytical Results – July 2016
VOCs, TRPHs and Metals
Concentrations of benzene, toluene, ethylbenzene and total xylenes were reported above the applicable GCTL and/or NADC criteria in five (5) of the twenty-six (26) sampled wells. Benzene was detected in monitor wells MW-20 and MW-21 at concentrations exceeding the GCTL. Ethylbenzene and total xylenes were reported in three other monitor wells at levels exceeding GCTL and/or NADC criteria.

MTBE was detected in two monitor wells MW-32 and MW-36 at concentrations exceeding GCTL.

TRPH was detected in 6 monitor wells at concentrations exceeding the GCTL and in one monitor well at a concentration exceeding NADC.

Lead was not detected in any monitor well at levels exceeding any regulatory criteria. EDB was detected in one well (MW-38MB) above the NADC criteria and above the GCTL in well MW-37.

PAHs
1-methylnapthalene and 2-methylnapthalene was reported in fourteen monitor wells at concentrations exceeding respective GCTL criteria. Two of these wells revealed detections of 2-methylnapthalene at concentrations exceeding NADC.

Napthalene was detected in one or more monitor wells at levels exceeding applicable GCTL and/or NADC criteria.

Groundwater Analytical Results – April 2017
VOCs and TRPHs
Concentrations of benzene, toluene, ethylbenzene and total xylenes were reported above the

applicable GCTL and NADC criteria in newly installed well MW-44. Benzene was detected in deep well MW-37D, and surficial wells MW-41, MW-42 and MW-43 at concentrations exceeding GCTL. Ethylbenzene was detected MW-42 at a concentration exceeding GCTL. Total xylenes was reported in MW-43 above GCTL and in MW-42 exceeding NADC criteria.

TRPH was detected in monitor well MW-44 at a concentration exceeding GCTL criteria.

PAHs

1-methylnapthalene and 2-methylnapthalene were detected in newly installed wells MW-43, MW-44 and MW-45 at concentrations exceeding GCTL.

Napthalene was reported in MW-43, MW-44, and MW-45 at levels exceeding NADC and was detected in MW-42 above GCTL criteria.

A summary of the groundwater analytical results is summarized on Table 4 and illustrated on Figures 8A-8D. Since the actual vertical extent of groundwater contamination is unknown an estimate of the volume of contaminated groundwater was not calculated.

Approximate volume of contaminated groundwater: unknown *Gallons*

Plume maps [Figure(s) 8A-8D] illustrating extent of groundwater contamination is/are included in Appendix B

Site Name: St. Pete Fleet Management
Facility ID #: 52/8624644
Date: 7-24-17

The lower surficial aquifer near MW-37D is impacted with a concentration of benzene of 6.8 ug/L, which exceeds the GCTL of 1 ug/L. No other deeper wells currently exist at the site.

Cross-section (Figure _____) illustrating vertical extent of contamination is included in Appendix _____

	YES	NO
Were natural attenuation parameters data collected? If yes, please specify which parameters were collected (and where collected) and provide interpretation of results.		X

Site map (Figure _____) illustrating natural attenuation parameter data is included in Appendix _____
Tabular summary of parameter sampling results (Table _____) is included in Appendix _____

SECTION V - Post Assessment Summary & Recommendations

Filled out AFTER site assessment has been completed

V-A) Site Assessment Summary

The Site Assessment Summary table shall be completed and submitted as an attachment to this TSAR. The summary is a separate Excel worksheet.

Site Assessment Summary completed and included as Table **6** in Appendix A.

	YES	NO
Are all the documents submitted to date adequate to meet the site assessment requirements of Rule 62-780.600, Florida Administrative Code (F.A.C.)?	X	

V-B) Recommendations

	YES	NO
Is No Further Action (NFA) without conditions recommended? If yes, please provide reasons NFA is appropriate.		X

Based on a review of the site history and recent soil and groundwater assessment, the soil and groundwater on the property are impacted at levels exceeding regulatory criteria. The recent soil assessment revealed vadose zone impacts in what appear to be "hot spots" throughout the property, mainly beneath the maintenance building, near the carwash and near the UST located in front of the sanitation truck repair building. Based on SPLP testing, TRPH speciation analysis and groundwater analytical, the impacted soils appear to be leaching petroleum constituents into the groundwater at levels exceeding groundwater cleanup criteria. Petroleum impacts above GCTLs and NADC criteria extend across the property and appear to be primarily confined to the shallow groundwater. The deep well also has impacts exceeding the GCTL criteria.

PSI recommends additional assessment to the soils to better define the "hot spots" and collect more data to find where vadose zone soils are posing as a continuous source for leaching contaminates into groundwater. The groundwater plumes appear to be defined to the north, east and south, however it is loosely defined to the west and may be present under the railroad tracks. PSI also recommends installing a replacement well for MW-39, which was not installed into the surficial aquifer, and install a monitor well south of MW-41 and 7th Avenue to further define the groundwater impacts.

	YES	NO
Is No Further Action (NFA) with conditions recommended? If yes, please provide reasons conditional NFA is appropriate and describe the conditions [the needed institutional or engineering controls] *pursuant to Rule 62-770.680(2), F.A.C.*		X

V-B) Recommendations (continued)

	YES	NO
If the groundwater plume is shrinking or stable is there any reason that Remediation by Natural Attenuation (RNA) cannot be the selected remedial strategy?		X

If no, outline the proposed monitoring plan including monitoring wells, sampling parameters and sampling frequency. If yes, specify why natural attenuation is not appropriate.

Based on the sampling events from 2016 and 2017, there are high concentrations of petroleum constituents in the groundwater across the property. The soil contamination in the smear zone across the property appears to be acting as a secondary source of continuing contamination. PSI recommends active remediation to decrease the amount of contamination in the soil and groundwater at the site. Based on recent data and data collected in the 1990's, the plume appears to be stable, however additional groundwater sampling data is necessary to estimate the stability of the plume.

Monitoring Wells: _____

Contaminants: _____ Frequency: _____ Duration: _____

	YES	NO
Is Source Removal (soil or free product) recommended? If yes, please outline proposed method and extent of source removal (is dewatering needed?)	X	

No free product has been detected in site monitoring wells during the 2016 and 2017 groundwater sampling events.
Recent sampling of soils to depths of approximately 8 ft bls, have shown elevated concentrations of heavier end petroleum constituents in the soils (TRPH) which have shown resilience to in-situ remedial technologies. In addition, SPLP tests show leaching is likely to occur in the tested soils. Therefore, surgical removal of soils exhibiting elevated TRPH concentrations is recommended.

Site map (Figure _____) illustrating proposed extent of excavation is included in Appendix _____

Site Name: St. Pete Fleet Management
Facility ID #: 52/8624644
Date: 7-24-17

V-B) Recommendations (continued)

	YES	NO
Is a Remedial Action Plan (RAP) needed? *If yes, please provide reasons for performing in-situ remediation at the site and indicate which remediation technology or combination of technologies is recommended or should be evaluated (with reasons for recommendation).*	X	

PSI recommends active remediation at this site to reduce concentrations of petroleum related constituents in the groundwater and soils. Given the lithology and distribution of contaminants at the site it appears AS/SVE would be an effective technology. Although AS/SVE is not expected to significantly reduce TRPH concentrations in soils, the technology is expected to significantly reduce BTEX/PAH concentrations in both soils and groundwater. In addition, surgical removal of soils exhibiting elevated TRPH concentrations is recommended.

	YES	NO
Is a Pilot Test recommended? *If yes, please indicate recommended remedial technology and outline specifics of proposed pilot test. Details include area of site where test is planned, recovery/air sparging well construction details, which wells will be used to evaluate test, proposed recovery and/or pumping and/or blowing rates and plan for IDW disposal (if applicable).*	X	

The FDEP should be consulted before preparing a pilot test outline.

PSI recommends a Pilot Test using Air Sparge and Soil Vapor Extraction (AS/SVE) Results of the Pilot Test would be used to determine the feasibility and expected effectiveness of AS/SVE in reducing concentrations of contaminants in soils and groundwater at the site..

Site map (Figure_____) illustrating pilot test layout is included in Appendix _____

LEGEND

- SOIL BORING LOCATION
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS — SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ LEACHABILITY LEVELS
- ESTIMATED PLUME ≥ DIRECT EXPOSURE SCTL

SB-10	SAMPLE ID
3/16/17	DATE
537.3	NET OVA (PPM)
8	SAMPLE DEPTH (FBLS)
0.19	BENZENE
0.051 U	TOLUENE
0.12	ETHYLBENZENE
0.11 U	TOTAL XYLENES
0.030 U	MTBE

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN mg/kg

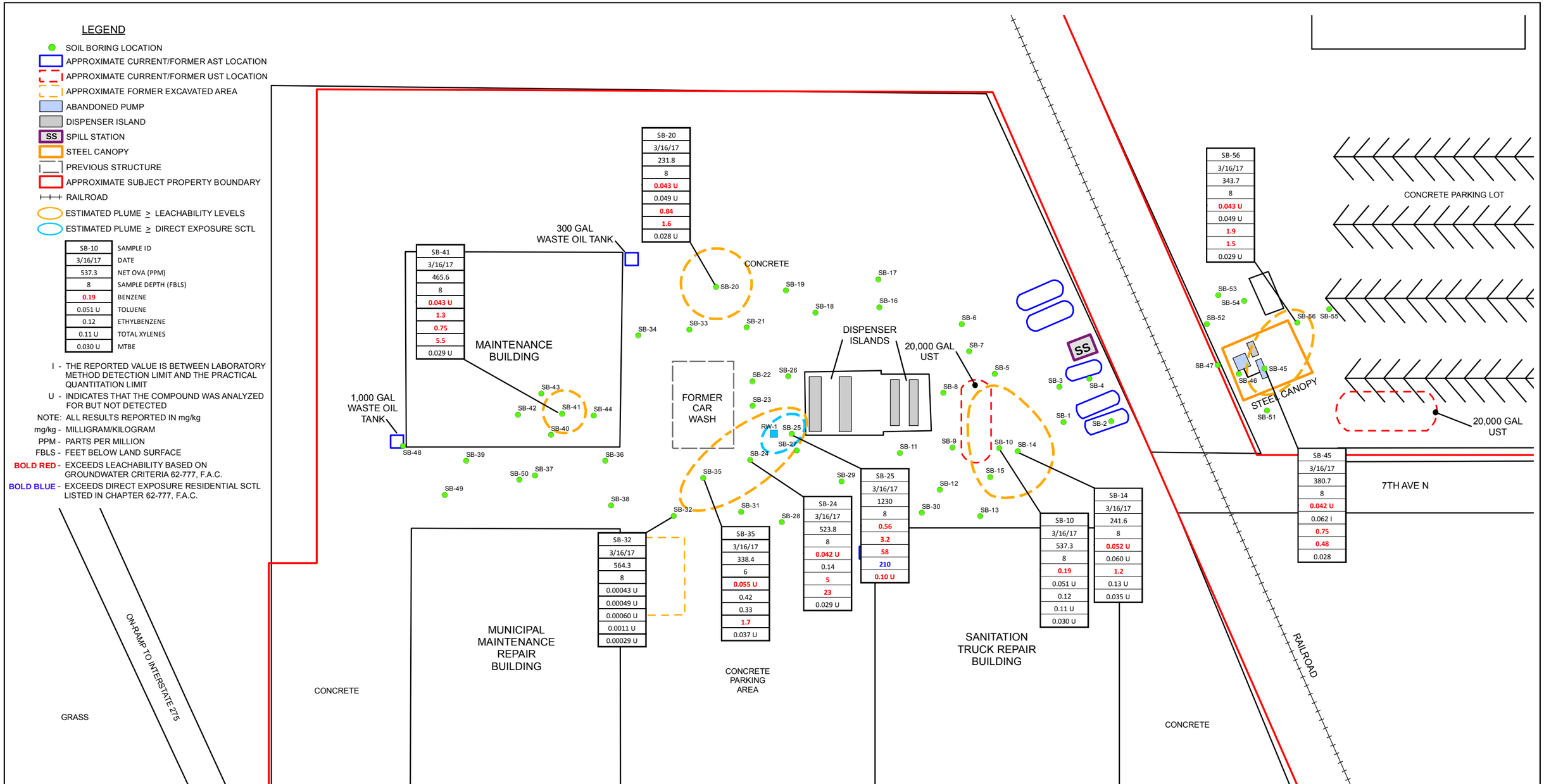
mg/kg - MILLIGRAM/KILOGRAM

PPM - PARTS PER MILLION

FBLS - FEET BELOW LAND SURFACE

BOLD RED - EXCEEDS LEACHABILITY BASED ON GROUNDWATER CRITERIA 62-777, F.A.C.

BOLD BLUE - EXCEEDS DIRECT EXPOSURE RESIDENTIAL SCTL LISTED IN CHAPTER 62-777, F.A.C.



PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/21/2017
REFERENCE SCALE	1: 720

Intertek psi
5801 Benjamin Center Drive, Suite 112
Tampa, Florida 33634
(813) 886-1075
(813) 249-4916 fax

SOIL ANALYTICAL RESULTS - VOCs
ST PETERSBURG CITY - FLEET MANAGEMENT
1800 7TH AVENUE NORTH
ST PETERSBURG, PINELLAS COUNTY, FLORIDA
FDEP FACILITY ID: 528624644

FIGURE NO.
5A

P:\552-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 5A - Soil Analytical Results - VOCs.mxd

LEGEND

- SOIL BORING LOCATION
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS — SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ LEACHABILITY LEVELS
- ESTIMATED PLUME ≥ DIRECT EXPOSURE SCTL

SB-10	SAMPLE ID
3/16/17	DATE
537.3	NET OVA (PPM)
8	SAMPLE DEPTH (FBLS)
7,600	TRPHs
NS	C9-C18 ALIPHATIC
NS	C9-C10 AROMATIC
NS	C11-C22 AROMATIC

* SAMPLE NOT SPECIATED

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN mg/kg

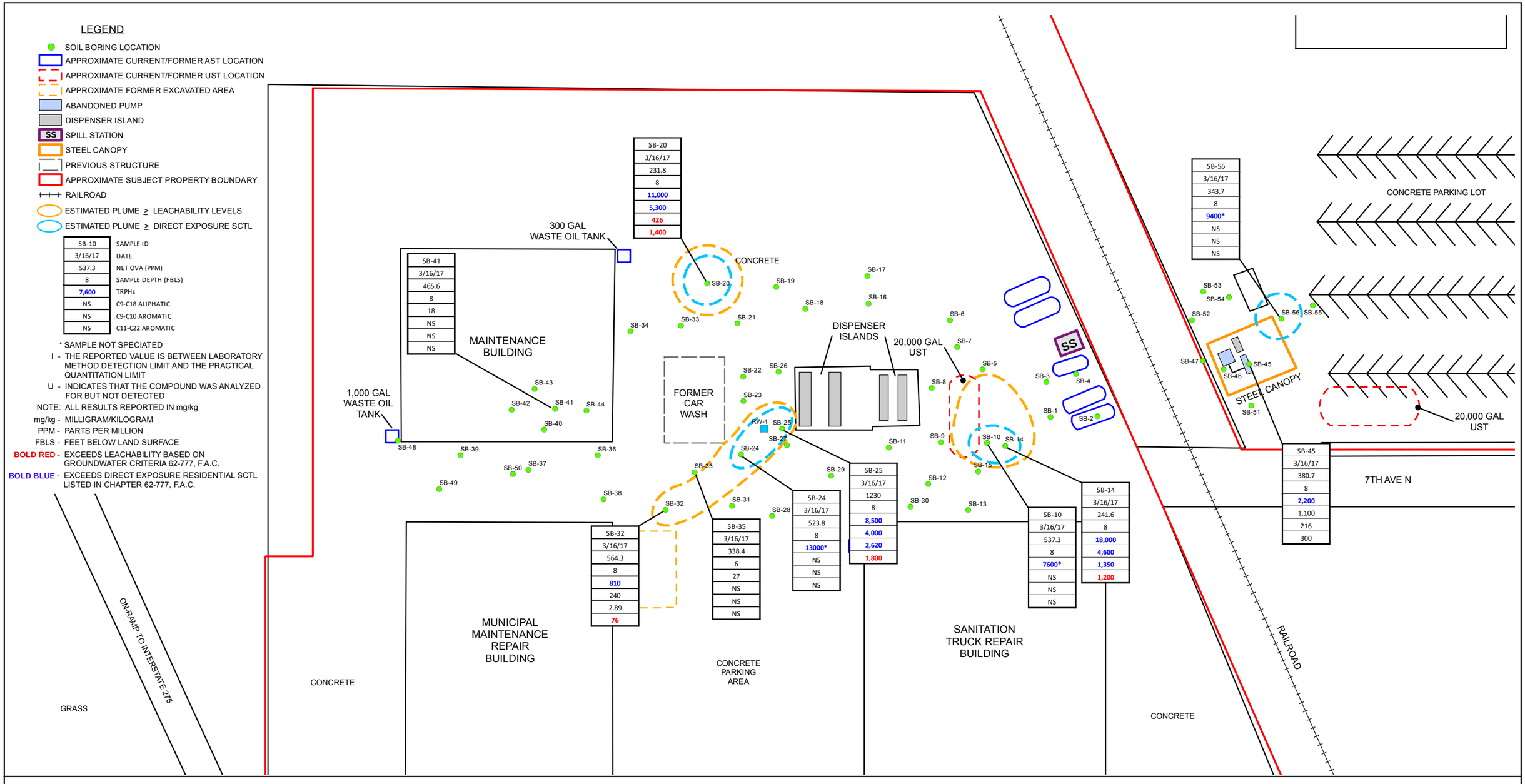
mg/kg - MILLIGRAM/KILOGRAM

PPM - PARTS PER MILLION

FBLS - FEET BELOW LAND SURFACE

BOLD RED - EXCEEDS LEACHABILITY BASED ON GROUNDWATER CRITERIA 62-777, F.A.C.

BOLD BLUE - EXCEEDS DIRECT EXPOSURE RESIDENTIAL SCTL LISTED IN CHAPTER 62-777, F.A.C.



0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/21/2017
REFERENCE SCALE 1: 720	

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5801 Benjamin Center Drive, Suite 112
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(813) 886-1075
(813) 249-4916 fax

SOIL ANALYTICAL RESULTS - TRPH - SPECIATED

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA

FDEP FACILITY ID: 528624644

FIGURE NO.

5B

P:\552-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 5B - Soil Analytical Results - TRPH.mxd

LEGEND

- SOIL BORING LOCATION
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ LEACHABILITY LEVELS
- ESTIMATED PLUME ≥ DIRECT EXPOSURE SCTL

SB-56	SAMPLE ID
3/16/17	DATE
343.7	NET OVA (PPM)
8.1	SAMPLE DEPTH (FBLS)
24	NAPHTHALENE
34	1-METHYLNAPHTHALENE
1.9	2-METHYLNAPHTHALENE

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN mg/kg

mg/kg - MILLIGRAM/KILOGRAM

PPM - PARTS PER MILLION

FBLS - FEET BELOW LAND SURFACE

BOLD RED - EXCEEDS LEACHABILITY BASED ON GROUNDWATER CRITERIA 62-777, F.A.C.

SB-20	
3/16/17	
231.8	
8	
5.4	
16	
25	

SB-41	
3/16/17	
465.6	
8	
0.77	
0.27	
0.45	

SB-56	
3/16/17	
343.7	
8	
24	
34	
1.9	

SB-32	
3/16/17	
564.3	
8	
0.080	
0.089	
0.12	

SB-35	
3/16/17	
338.4	
8	
0.86	
0.87	
1.4	

SB-24	
3/16/17	
523.8	
8	
12	
35	
53	

SB-25	
3/16/17	
1230	
8	
20	
30	
50	

SB-10	
3/16/17	
537.3	
8	
9.9	
31	
41	

SB-14	
3/16/17	
241.6	
8	
15	
34	
46	

SB-45	
3/16/17	
380.7	
8	
3.9	
8.7	
12	

300 GAL WASTE OIL TANK

1,000 GAL WASTE OIL TANK

MAINTENANCE BUILDING

CONCRETE

FORMER CAR WASH

DISPENSER ISLANDS

20,000 GAL UST

STEEL CANOPY

CONCRETE PARKING LOT

20,000 GAL UST

7TH AVE N

ON-RAMP TO INTERSTATE 275

GRASS

CONCRETE

MUNICIPAL MAINTENANCE REPAIR BUILDING

CONCRETE PARKING AREA

SANITATION TRUCK REPAIR BUILDING

CONCRETE

RAILROAD

0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.
05522014

DRAWN BY
CEF

DATE CREATED
7/21/2017

REFERENCE
SCALE 1: 720

Intertek psi
5801 Benjamin Center Drive, Suite 112
Tampa, Florida 33634
(813) 886-1075
(813) 249-4916 fax

SOIL ANALYTICAL RESULTS - PAHs
ST PETERSBURG CITY - FLEET MANAGEMENT
1800 7TH AVENUE NORTH
ST PETERSBURG, PINELLAS COUNTY, FLORIDA
FDEP FACILITY ID: 528624644

FIGURE NO.
5C

P:\552-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 5C - Soil Analytical Results - PAHs.mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- 136.00 APPROXIMATE LINE OF EQUAL GROUNDWATER ELEVATION (FT.)
- (129.43) APPROXIMATE GROUNDWATER ELEVATION (FT.)
- GROUNDWATER FLOW DIRECTION

132.00 133.00 134.00 135.00 136.00 137.00

130.00 131.00

MAINTENANCE BUILDING

300 GAL WASTE OIL TANK

1,000 GAL WASTE OIL TANK

500 GAL WASTE OIL TANK

MUNICIPAL MAINTENANCE REPAIR BUILDING

FORMER CAR WASH

CONCRETE

DISPENSER ISLANDS

20,000 GAL UST

SS

ABANDONED BUS WASH OFFICE

STEEL CANOPY

CONCRETE PARKING LOT

20,000 GAL UST

7TH AVE N

1,000 GAL HYDRAULIC OIL TANK

1,000 GAL MOTOR OIL TANK

SANITATION TRUCK REPAIR BUILDING

CONCRETE PARKING AREA

CONCRETE

RAILROAD

ON-RAMP TO INTERSTATE 275

GRASS

GRASS

MW-1 MW-2 (135.85) MW-3 MW-4 (135.96) MW-5 (135.81) MW-6 (136.29) MW-7 (135.45) MW-8 (134.03) MW-9 (135.73) MW-10 MW-11 (134.72) MW-12 MW-13 MW-14 MW-15 (136.33) MW-16 (134.39) MW-17 MW-18 (132.56) MW-19 (129.43) MW-20 (132.77) MW-21 (131.35) MW-22 (132.56) MW-23 MW-24 (136.87) MW-25 (136.31) MW-26 MW-27 (137.12) MW-28 MW-29 MW-30 MW-31 MW-32 MW-33 MW-34 MW-35 MW-36 MW-37 MW-37D MW-38BW MW-38MB MW-39 MW-40 MW-41 MW-42 MW-43 MW-44 MW-45 RW-1

0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/18/2017
REFERENCE SCALE 1: 720	

Intertek psi
5801 Benjamin Center Drive, Suite 112
Tampa, Florida 33634
(813) 886-1075
(813) 249-4916 fax

SHALLOW GROUNDWATER ELEVATION CONTOUR (JULY 26, 2016)

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA
FDEP FACILITY ID: 528624644

FIGURE NO.
7A

P:\1522-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 7A - Shallow GW Elevation Contour (July 26, 2016).mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- 130.00 APPROXIMATE LINE OF EQUAL GROUNDWATER ELEVATION (FT.)
- (130.42) APPROXIMATE GROUNDWATER ELEVATION (FT.)
- GROUNDWATER FLOW DIRECTION

130.00
131.00
132.00
133.00
MW-16
300 GAL WASTE OIL TANK
MW-20
MW-39 (129.48)
MAINTENANCE BUILDING
MW-26
1,000 GAL WASTE OIL TANK
MW-38MB
MW-35
MW-12
MW-37
MW-10
MW-14
MW-42 (130.42)
MW-36
MW-40 (129.55)
MW-33
MW-23
MW-32
MW-37D
MW-28
MW-21
500 GAL WASTE OIL TANK
MW-22
MW-19
MUNICIPAL MAINTENANCE REPAIR BUILDING
CONCRETE
GRASS
ON-RAMP TO INTERSTATE 275
MW-41 (129.07)
MW-18
CONCRETE PARKING AREA
MW-43 (132.75)
FORMER CAR WASH
MW-44 (132.17)
CONCRETE
MW-9
MW-11
RW-1
MW-31
MW-8
MW-29
DISPENSER ISLANDS
MW-5
20,000 GAL UST
MW-15
MW-4
MW-13
MW-3
MW-2
MW-1
MW-45 (133.34)
MW-30
SS
MW-25
MW-17
1,000 GAL HYDRAULIC OIL TANK
MW-7
MW-6
1,000 GAL MOTOR OIL TANK
SANITATION TRUCK REPAIR BUILDING
CONCRETE
ABANDONED BUS WASH OFFICE
MW-38BW
MW-27
MW-34
STEEL CANOPY
CONCRETE PARKING LOT
MW-24
20,000 GAL UST
7TH AVE N
RAILROAD

0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.
05522014

DRAWN BY
CEF

DATE CREATED
7/18/2017

REFERENCE
SCALE 1: 720

Intertek psi
5801 Benjamin Center Drive, Suite 112
Tampa, Florida 33634
(813) 886-1075
(813) 249-4916 fax

GROUNDWATER ELEVATION CONTOUR MAP (APRIL 6, 2017)
ST PETERSBURG CITY - FLEET MANAGEMENT
1800 7TH AVENUE NORTH
ST PETERSBURG, PINELLAS COUNTY, FLORIDA
FDEP FACILITY ID: 528624644

FIGURE NO.
7B

P:\1522-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 7B - GW Elevation Contour (April 6, 2017).mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ GCTLs
- ESTIMATED PLUME ≥ NADCs

MW-42	WELL ID
4/6/17	DATE
13	BENZENE
11	TOLUENE
250	ETHYLBENZENE
330	TOTAL XYLENES
1.9 I	MTBE
1800	TRPHs

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

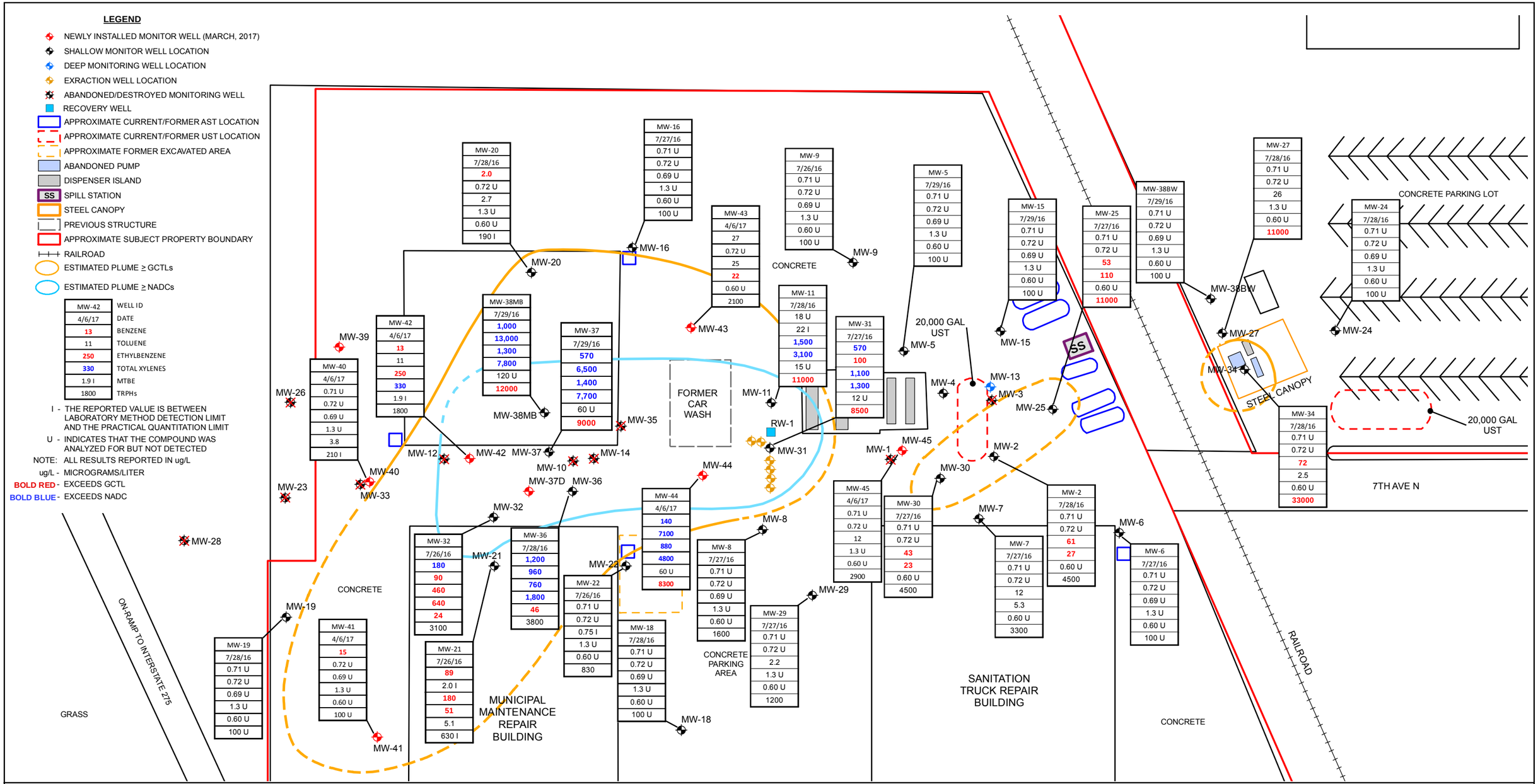
U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN ug/L

ug/L - MICROGRAMS/LITER

BOLD RED - EXCEEDS GCTL

BOLD BLUE - EXCEEDS NADC



0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/18/2017
REFERENCE SCALE 1: 720	

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GROUNDWATER ANALYTICAL RESULTS - VOCs (2016/2017)

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA

FDEP FACILITY ID: 528624644

FIGURE NO.

8A

P:\1552-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 8A - GW Analytical Results - VOCs.mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ GCTLs
- ESTIMATED PLUME ≥ NADCs

MW-42	WELL ID
4/6/17	DATE
13	BENZENE
11	TOLUENE
250	ETHYLBENZENE
330	TOTAL XYLENES
1.9 I	MTBE
1800	TRPHs

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN ug/L

ug/L - MICROGRAMS/LITER

BOLD RED - EXCEEDS GCTL

BOLD BLUE - EXCEEDS NADC

MW-20	MW-16	MW-9	MW-43	MW-5	MW-15	MW-25	MW-38BW	MW-27	MW-24
7/28/16	7/27/16	7/26/16	4/6/17	7/29/16	7/29/16	7/27/16	7/29/16	7/28/16	7/28/16
2.0	0.71 U	0.71 U	27	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
2.7	0.69 U	0.69 U	25	0.69 U	0.69 U	53	0.69 U	26	0.69 U
1.3 U	1.3 U	1.3 U	22	1.3 U	1.3 U	110	1.3 U	1.3 U	1.3 U
0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
190 I	100 U	100 U	2100	100 U	100 U	11000	100 U	11000	100 U

MW-42	MW-38MB	MW-37	MW-11	MW-31	MW-34
4/6/17	7/29/16	7/29/16	7/28/16	7/27/16	7/28/16
13	1,000	570	18 U	570	0.71 U
11	13,000	6,500	22 I	100	0.72 U
250	1,300	1,400	1,500	1,100	72
330	7,800	7,700	3,100	1,300	2.5
1.9 I	120 U	60 U	15 U	12 U	0.60 U
1800	12000	9000	11000	8500	33000

MW-40	MW-41	MW-32	MW-36	MW-44	MW-45	MW-30	MW-2
4/6/17	4/6/17	7/26/16	7/28/16	4/6/17	4/6/17	7/27/16	7/28/16
0.71 U	15	180	1,200	140	0.71 U	0.71 U	0.71 U
0.72 U	0.72 U	90	960	7100	0.72 U	0.72 U	0.72 U
0.69 U	0.69 U	460	760	880	12	43	61
1.3 U	1.3 U	640	1,800	4800	1.3 U	23	27
3.8	0.60 U	24	46	60 U	0.60 U	0.60 U	0.60 U
210 I	100 U	3100	3800	8300	2900	4500	4500

MW-19	MW-21	MW-22	MW-18	MW-8	MW-29	MW-7	MW-6
7/28/16	7/26/16	7/26/16	7/28/16	7/27/16	7/27/16	7/27/16	7/27/16
0.71 U	89	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U	0.71 U
0.72 U	2.0 I	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U	0.72 U
0.69 U	180	0.75 I	0.69 U	0.69 U	2.2	12	0.69 U
1.3 U	51	1.3 U	1.3 U	1.3 U	1.3 U	5.3	1.3 U
0.60 U	5.1	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U	0.60 U
100 U	630 I	830	100 U	1600	1200	3300	100 U

CONCRETE

FORMER CAR WASH

20,000 GAL UST

STEEL CANOPY

CONCRETE PARKING LOT

7TH AVE N

ON-RAMP TO INTERSTATE 275

GRASS

MUNICIPAL MAINTENANCE REPAIR BUILDING

CONCRETE PARKING AREA

SANITATION TRUCK REPAIR BUILDING

RAILROAD

0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/18/2017
REFERENCE SCALE 1: 720	

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GROUNDWATER ANALYTICAL RESULTS - TRPH (2016/2017)

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA

FDEP FACILITY ID: 528624644

FIGURE NO.

8B

P:\1522-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 8B - GW Analytical Results - TRPH.mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ GCTLs
- ESTIMATED PLUME ≥ NADCs

MW-2	WELL ID
7/28/16	DATE
280	NAPHTHALENE
200	1-METHYLNAPHTHALENE
230	2-METHYLNAPHTHALENE

I - THE REPORTED VALUE IS BETWEEN LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

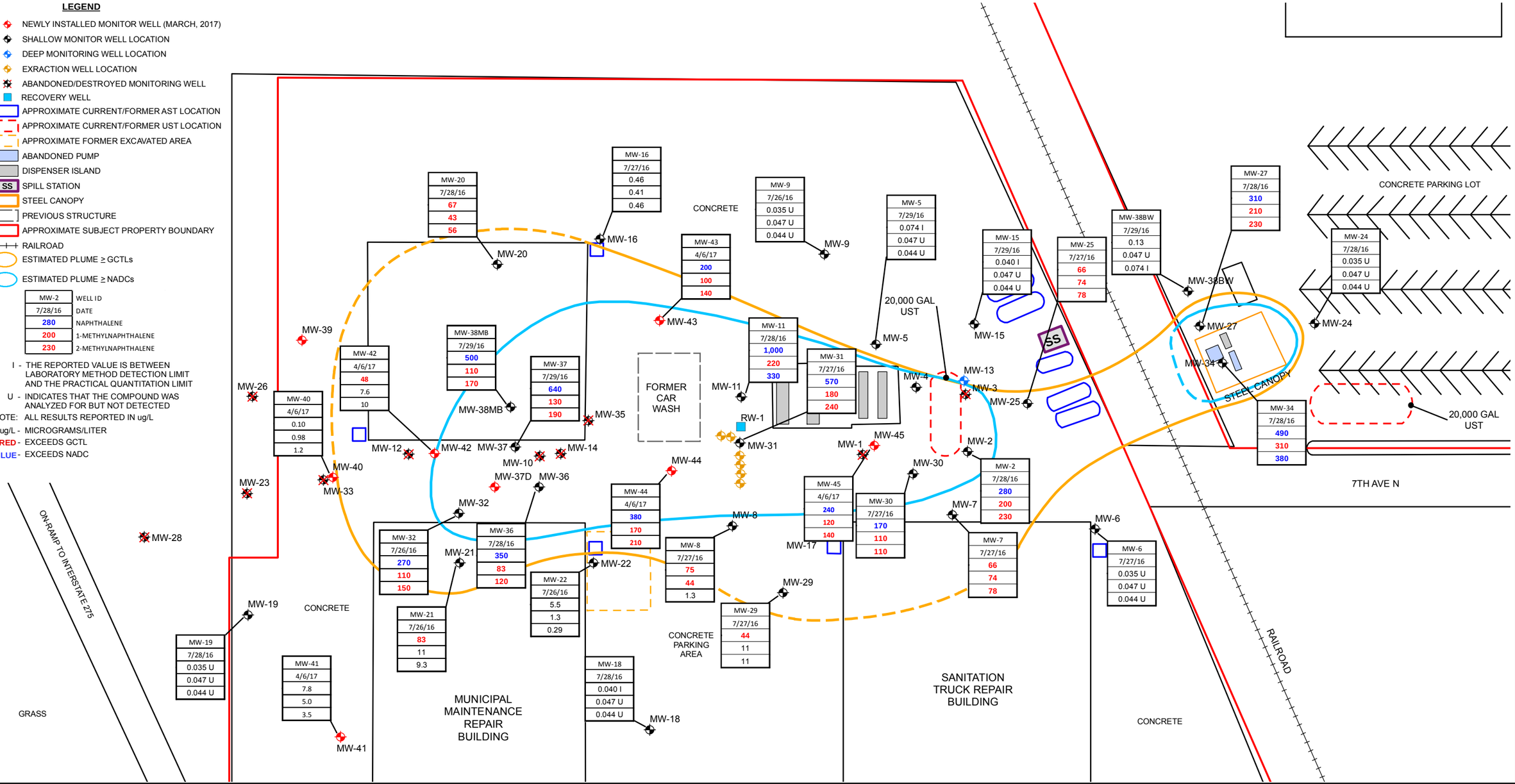
U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN ug/L

ug/L - MICROGRAMS/LITER

BOLD RED - EXCEEDS GCTL

BOLD BLUE - EXCEEDS NADC



0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.	05522014
DRAWN BY	CEF
DATE CREATED	7/18/2017
REFERENCE SCALE 1: 720	

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GROUNDWATER ANALYTICAL RESULTS - PAHs (2016/2017)

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA

FDEP FACILITY ID: 528624644

FIGURE NO.

8C

P:\1522-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 8C- GW Analytical Results - PAHs.mxd

LEGEND

- NEWLY INSTALLED MONITOR WELL (MARCH, 2017)
- SHALLOW MONITOR WELL LOCATION
- DEEP MONITORING WELL LOCATION
- EXRACTION WELL LOCATION
- ABANDONED/DESTROYED MONITORING WELL
- RECOVERY WELL
- APPROXIMATE CURRENT/FORMER AST LOCATION
- APPROXIMATE CURRENT/FORMER UST LOCATION
- APPROXIMATE FORMER EXCAVATED AREA
- ABANDONED PUMP
- DISPENSER ISLAND
- SS SPILL STATION
- STEEL CANOPY
- PREVIOUS STRUCTURE
- APPROXIMATE SUBJECT PROPERTY BOUNDARY
- RAILROAD
- ESTIMATED PLUME ≥ GCTLs
- ESTIMATED PLUME ≥ NADCs

MW-13	WELL ID
7/27/16	DATE
0.71 U	BENZENE
0.72 U	TOLUENE
0.69 U	ETHYLBENZENE
1.3 U	TOTAL XYLENES
0.60 U	MTBE
100 U	TRPHs

I - THE REPORT LABORATORY METHOD DETECTION LIMIT AND THE PRACTICAL QUANTITATION LIMIT

U - INDICATES THAT THE COMPOUND WAS ANALYZED FOR BUT NOT DETECTED

NOTE: ALL RESULTS REPORTED IN ug/L

ug/L - MICROGRAMS/LITER

BOLD RED - EXCEEDS GCTL

BOLD BLUE - EXCEEDS NADC

MW-37D
4/6/17
6.8
5.4
3.5
7.7
0.60 U
100 U

MW-13
7/27/16
0.71 U
0.72 U
0.69 U
1.3 U
0.60 U
100 U

MW-28 MW-26 MW-23 MW-39 MW-40 MW-33 MW-12 MW-42 MW-37 MW-37D MW-14 MW-10 MW-36 MW-32 MW-21 MW-16 MW-20 MW-38MB MW-35 MW-43 MW-44 MW-9 MW-11 RW-1 MW-31 MW-5 MW-4 MW-13 MW-3 MW-15 MW-25 MW-1 MW-45 MW-30 MW-2 MW-8 MW-17 MW-7 MW-6 MW-29 MW-22 MW-19 MW-41 MW-18 MW-24 MW-38BW MW-27 MW-34

300 GAL WASTE OIL TANK

1,000 GAL WASTE OIL TANK

500 GAL WASTE OIL TANK

20,000 GAL UST

1,000 GAL HYDRAULIC OIL TANK

1,000 GAL MOTOR OIL TANK

20,000 GAL UST

FORMER CAR WASH

CONCRETE

CONCRETE

CONCRETE PARKING LOT

ABANDONED BUS WASH OFFICE

STEEL CANOPY

SS

7TH AVE N

ON-RAMP TO INTERSTATE 275

GRASS

MUNICIPAL MAINTENANCE REPAIR BUILDING

CONCRETE PARKING AREA

SANITATION TRUCK REPAIR BUILDING

CONCRETE

RAILROAD

0 30 60 120 Feet

1 inch = 60 feet

PROJECT NO.
05522014

DRAWN BY
CEF

DATE CREATED
7/18/2017

REFERENCE SCALE 1: 720

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DEEP GROUNDWATER ANALYTICAL RESULTS - VOCs (2016/2017)

ST PETERSBURG CITY - FLEET MANAGEMENT

1800 7TH AVENUE NORTH

ST PETERSBURG, PINELLAS COUNTY, FLORIDA
FDEP FACILITY ID: 528624644

FIGURE NO.

8D

P:\1522-Env\FDEP PRP Contract\FDEP Petroleum GC 771 - central region\Projects\05522014- St. Petersburg City- Fleet Management\GIS\2017-06\fig 8D - Deep GW Analytical Results - VOCs.mxd