Prepared for:

North Carolina Department of Transportation

Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, North Carolina, 27699-1589

Preliminary Site Assessment Report

John C. Strickland Property
Parcel # 61/61a
2401 N. William Street
Goldsboro, Wayne County, North Carolina
US 117 Alternate from US 70 Bypass to Belfast
TIP Number: U-2714
WBS Element: 38979.1.2

APEX

Apex Companies, LLC
10610 Metromont Parkway, Suite 206
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August 29, 2017

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1.0 INTRODUCTION

This report presents the results of a Preliminary Site Assessment (PSA) for the North Carolina Department of Transportation (NCDOT) Parcel 61/61a performed by Apex Companies, LLC (Apex) on behalf of the NCDOT. The subject site of this PSA report will be affected by the widening of the US Highway 117 from US Highway 70 to Belfast Road. The Site is comprised of two parcels and is located at 2401 North William Street and is identified as Parcel 61/61a, John C. Strickland Property, within the NCDOT U-2714 design project. The property is located at the northwest corner of the intersection of North William Street and Fedelon Trail in Goldsboro, Wayne County, North Carolina, as shown in the attached Site Location Map (**Figure 1)**. The site investigation was conducted in accordance with Apex Company's Technical and Cost proposal dated June 7, 2017.

NCDOT contracted Apex to perform the PSA within the proposed right-of-way (ROW) and/or easement of the Parcel 61/61a Property due to the potential presence of contamination at the site and the fact that excavation and grading may occur within the area. The PSA was performed to evaluate if soils have been impacted as a result of past and present uses of the property within the proposed investigation area, if buried underground storage tanks (USTs) are present in the area of investigation, and if groundwater is impacted.

The following report presents the results of a ground penetrating radar (GPR) evaluation to identify underground storage tanks (USTs) in the investigation area, and describes the subsurface field investigation at the site. The report includes the evaluation of field screening, as well as field and laboratory analyses with regards to the presence or absence of soil and groundwater contamination within the area of investigation across Parcel 61/61a. **Appendix A** includes a Photograph log for the site.

1.1 Site History

Parcel 61/61a has been identified with the address of 2401 North William Street and is an active Exxon gas station and convenience store. Based on a search of the North Carolina Department of Environmental Quality (NCDEQ) UST database registry, five registered tanks were identified as currently operational for the 2401 North William Street site and operate within the area of investigation under facility ID 0-006061. According to the UST database registry four of the USTs were installed on May 9, 1971 and one UST was installed on March 1, 1998. Two 6,000-gallon capacity tanks and one 4,000-gallon capacity tank contain a gasoline and gasoline/gasoline mixture, one 2,000-gallon capacity tank contains kerosene, and one 6,000-gallon capacity tank contains diesel. The site is an active gas station so dispenser islands, vent lines and fuel ports were noted during field activities. In addition to the five known USTs, the geophysical survey did identify one probable UST and one possible UST on site. Apex

personnel also reviewed the NCDEQ Incident Management Database and no groundwater incidents are associated with this parcel.

1.2 Site Description

The site is located in a commercial area of Goldsboro in Wayne County. The property currently operates as an Exxon gas station with a convenience store and is developed with a one story building located in the north central portion of the parcel with a canopy covering four dispensers on the east side of the building and a canopy covering four dispensers on the west side of the building. A business designated as Griffin Garage Doors borders the site to the north and west. The property is bordered by Fedelon Trail and North William Street to the south and west, respectively, followed by Hills Beef and Pork Center to the south and Pearson Pump Sales and Service, Inc., and the Carolina Motel to the east.

2.0 GEOLOGY

2.1 Regional Geology

Parcel 61/61a is located within the Coastal Plain Physiographic Province. The Coastal Plain is the largest physiographic province in the state, covering about 45% of the land area. According to the US Geological Survey Professional Paper 1404-I entitled "Hydrogeologic Framework of the North Carolina Coastal Plain" (Winner and Coble, 1996), the geology consists of an eastward-dipping and eastward-thickening series of sedimentary rocks which range in age from Holocene to Cretaceous. The most common type of sediment types are sand and clay, although a significant amount of limestone occurs in the southern part of the coastal plain. The site overlies the Black Creek Formation. The Black Creek Formation is Late Cretaceous in age and was deposited in a lagoonal to marine environment. It generally consists of thinly laminated gray to black clay with interbedded gray to tan sands. The most notable characteristic of the formation is the high concentration of wood and organic material. Shells and glauconite are also common.

2.2 Site Geology

Site geology was observed through the drilling and sampling of eight direct push probe soil borings (SB) onsite. **Figure 2** presents the boring locations and site layout. Borings did not exceed a total depth of fifteen feet below ground surface (bgs) since that depth was the maximum excavation depth for proposed drainage features. Soil consisting predominantly of brown to orange sand, clayey silt and clayey sand was observed across the parcel. The soils were unconsolidated and as a result the borings often collapsed. A conclusive determination regarding the groundwater flow direction requires a minimum of three wells, which was not part of this scope of work. Based on surface water in the area, groundwater may be flowing toward

the east. However, on the eastern portion of the site groundwater was encountered somewhat deeper (seven feet bgs) but this may have been due to a finer grained confining unit. Therefore, there was insufficient data to determine a groundwater flow direction at this time. Boring logs are presented in **Appendix B**.

3.0 FIELD ACTIVITIES

3.1 Preliminary Activities

Prior to commencing field sampling activities at the site, several tasks were accomplished in preparation for the subsurface investigation. A Health and Safety Plan (HASP) was prepared to include the site-specific health and safety information necessary for the field activities. North Carolina-One Call was contacted on May 31, 2017 to report the proposed drilling activities and notify affected utilities. Apex subcontracted Pyramid Environmental & Engineering, PC (Pyramid) to locate subsurface utilities and other subsurface drilling hazards as well as to perform a geophysical survey. Carolina Soil Investigations, LLC (CSI) of Olin, North Carolina was retained by Apex to perform the direct push sampling for soil borings. REDLAB, LLC (REDLAB) provided an ultraviolet fluorescence (UVF) Hydrocarbon Analyzer and Eastern Solutions provided a calibrated Flame Ionization/Photoionization Detector (FID/PID). Boring locations were strategically placed in a pattern within the area of investigation to maximize the opportunity to encounter potentially contaminated soil.

3.2 Site Reconnaissance

Apex personnel performed a site reconnaissance on June 6 and June 15, 2017. During the site reconnaissance, the area was visually examined for the presence of USTs or areas/obstructions that could potentially affect the subsurface investigation. The proposed boring locations were discussed based on the site inspection and geophysical survey results. Apex personnel sent the proposed boring locations to Dennis Li and Cyrus Parker of the NCDOT GeoEnvironmental Department. NCDOT forwarded the proposed boring locations to David Pleasants of NCDOT, Mr. John Strickland, property owner, and his attorneys Steven Newton and Judy Joines of Nicholls and Crampton, P.A. After negotiation, the location of the eight borings were adjusted to the agreement of all parties.

3.3 Geophysics Survey Results

The geophysical survey of the site was conducted on June 8 through 11, 2017. Pyramid performed an electromagnetic (EM) induction metal survey followed by a GPR survey. A copy of the Geophysical Report is presented in **Appendix C**. The geophysical survey identified one possible and one probable metallic UST on Parcel 61/61a. These tanks lie adjacent to each other and are located on the northeastern side of the current structure, due west of North

Williams Street. Each tank was approximately 10 feet long and six feet wide. The anomaly locations are depicted on **Figure 2.** Additionally, the survey verified the presence of five documented USTs. Four of these known USTs are located along the south side of the parcel and the other is located north of the building, on the northeastern corner of the parcel. The four known USTs located on the south side of the parcel are either partially or completely within the proposed easement area for the site. The possible UST and the probable UST as well as the known UST located on the eastern side of the parcel are all located within the proposed ROW.

3.4 Well Survey

No water supply or groundwater monitoring wells were observed on Parcel 61/61a.

3.5 Soil Sampling

Apex conducted drilling activities at the site on June 20, 2017 after 10:00am as was preapproved by Mr. John Strickland, his attorneys, Apex personnel and NCDOT. The Apex drilling subcontractor, CSI, advanced eight direct push soil borings within the proposed investigation area. These eight boring locations were placed in areas of the proposed drainage features, down gradient of the UST systems, and/or in a pattern to maximize the likelihood of intercepting potential soil contamination. **Figure 2** presents the Site Map with boring locations and identifications.

The purpose of soil sampling was to determine if a petroleum release had occurred within the investigation area, and if so, to estimate the volume of impacted soil that might require special handling during construction activities.

Soil sampling was performed utilizing hand auger and direct push methods accompanied by field screening with the FID/PID unit and onsite quantitative analyses with the UVF Hydrocarbon Analyzer. One to two intervals of the soil boring, exhibiting the most elevated FID/PID readings, were selected for onsite quantitative analysis of total petroleum hydrocarbons (TPH) and polycyclic aromatic hydrocarbons (PAH) in soil using the REDLAB UVF Hydrocarbon Analyzer. The analysis was performed onsite by Kristen Hartsen, a certified REDLAB UVF technician with Apex. The UVF results were generated concurrent with soil boring activities so that rapid assessment could be utilized for strategic boring placement.

3.6 Groundwater Sampling

Apex personnel mobilized to the Site on June 20th, 2017 to obtain groundwater grab samples. Groundwater grab sample locations were chosen based on data generated from the UVF analyzer and on site conditions such as the likely groundwater gradient and UST locations. On the southwestern corner of the parcel the soils encountered were very sandy and unconsolidated, and as a result the borings would not stand open. On the northeastern corner of

the parcel, the soils consisted of clayey silt which could possibly serve as a confining layer to the water. Groundwater was not encountered in the borings while advancing through the silt/clay unit but rose in the borehole upon reaching the underlying sands indicating potentially confined conditions. At that time, the groundwater was recharging slowing and was gauged at approximately seven feet below ground surface. At that depth, the soils were gray and marbled and potentially indicated a piezometric surface near five feet bgs. This would be consistent with the rest of the parcel. Due to scheduling constraints, Apex personnel did not have sufficient time to allow for the boring to fully recharge to confirm the confined conditions and a piezometric surface at the shallower depth. Apex instructed CSI personnel to temporarily install one-inch diameter 10-slot screens into two of the soil borings for the purposes of collecting a groundwater grab sample. Groundwater grab samples were collected from borings P61/61a-SB1 and P61/61a-SB6 for on-site quantitative analysis of TPH using the REDLAB UVF Hydrocarbon Analyzer. The analysis was performed onsite by Kristen Hartsen, a certified REDLAB UVF technician with Apex.

4.0 SAMPLING RESULTS

4.1 Soil Sampling Results

Based on FID/PID field screening and onsite UVF hydrocarbon analysis from the June 2017 soil sampling there is evidence of petroleum hydrocarbon contamination onsite, within the area of investigation.

Elevated FID/PID readings, above ten parts per million (ppm), were observed in the borings conducted at the site above the smear zone. The FID readings ranged from non-detectable to 46.3 ppm and the PID readings ranged from non-detectable to 88.9 ppm. The FID/PID field screening results are provided on the boring logs in **Appendix B**.

Soil concentrations of TPH gasoline range organics (GRO) and diesel range organics (DRO) measured using the onsite UVF unit are presented in **Table 1**, with instrument generated tables and chromatographs in **Appendix D**. **Figure 3** presents the TPH-GRO and TPH-DRO results at each boring.

Based on the UVF analyses, TPH-GRO and TPH-DRO was identified in soils on Parcel 61/61a. TPH-GRO concentrations ranged from below detectable levels to 1,749 milligram per kilogram (mg/kg) (P61/61a-SB7). TPH-DRO concentrations ranged from below detectable levels to 174.6 mg/kg (P15-SB4). TPH-GRO concentrations did exceed the regulatory action level of 50 mg/kg and the TPH-DRO concentrations did exceed the regulatory action level of 100 mg/kg. Apex originally proposed sixteen soil borings for Parcel 61/61a, however the number of borings permitted by the property owner was limited to eight. The eight borings were predetermined and

could not be altered. Therefore, Apex could not collect additional data to fully delineate the limits of impact. The estimated area of impact is based on the available data, topography of the site, and the location of the known and probable UST systems. Apex estimates the area of soil contamination to be 10,188 square feet (sq ft) or 1,887 cubic yards, of which 7,192 sq ft or 1,331 cubic yards is located within the proposed ROW and/or easement and 2,996 sq ft or 554 cubic yards is located on the parcel beyond the proposed ROW and/or easement.

4.2 Groundwater Sampling Results

Apex personnel collected groundwater grab samples from two soil borings (P61/61a-SB1 and P61/61a-SB6) for onsite quantitative analysis of TPH using the REDLAB UVF Hydrocarbon Analyzer. Based on the real time UVF analysis of the two groundwater grab samples, groundwater impact is not present on Parcel P61/61a at significant levels. Water sample P61/61a-SB1-WATER indicated TPH-GRO concentrations of <0.025 milligrams per liter (mg/L) and TPH-DRO concentrations of 0.9 mg/L, while P61/61a-SB6-WATER indicated TPH-GRO concentrations 0.84 mg/L and TPH-DRO concentrations of 0.27 mg/L. The groundwater UVF results are tabulated in **Table 1.** The instrument generated tables and chromatographs are included in **Appendix D.** Groundwater analytical data are summarized on **Figure 4**.

5.0 CONCLUSIONS

Based on site observations and onsite UVF analysis, petroleum-impacted soil contamination was identified above the NCDEQ Action level of 50 mg/kg for TPH-GRO and above the NCDEQ Action level of 100 mg/kg for TPH-DRO. The on-site UVF analysis of groundwater did not indicate groundwater contamination to be present at significant concentrations.

The following bulleted summary is based upon Apex's evaluation of field observations and onsite quantitative analyses of samples collected from the Site on June 20, 2017.

- Results of the geophysical survey produced evidence of two anomalies characteristic of USTs and verified the presence of five known USTs. The location of the anomalies are depicted on **Figure 2**.

- Eight soil borings were advanced on site. Soil samples collected from each boring were analyzed in the field using a REDLAB UVF Hydrocarbon Analyzer.

- Soil samples analyzed using the UVF did contain TPH-DRO and TPH-GRO concentrations above their respective NCDEQ Action levels of 100 mg/kg and 50 mg/kg.

- Apex estimates that up to 10,188 sq ft or 1,887 cubic yards of soil may be impacted, of which 7,192 sq ft or 1,331 cubic yards is within the ROW and/or easement and 2,996 sq ft or 554 cubic yards is located on the Strickland property. The estimated area of soil contamination is presented in **Figure 5.** Due to investigation limitations, the horizontal extent of impact could not be fully defined. A cross section index is located on **Figure 6** and Cross Section A – A' and Cross Section B – B' are located on **Figure 7** and **Figure 8** respectively.

- Two groundwater grab samples were collected and analyzed for TPH-DRO and TPH-GRO with the REDLAB UVF Hydrocarbon Analyzer. These samples did not exhibit impact at significant concentrations.

6.0 RECOMMENDATIONS

Based on these PSA results, Apex recommends further assessment or soil sampling in the area of investigation to define the limits of soil impact. Four of the known USTs located in the southwest portion of the parcel lie within the proposed easement. This section of the design project is a cut section and will be directly affected by construction activities. The one known UST as well as the one probable UST and one possible UST located in the northeast portion of the site also lie within the construction easement. This section of the design is a fill section. Should grading occur during construction activities that encounter the USTs, one or more those USTs will require removal. The groundwater contained low levels of TPH and was encountered at depths of approximately three to five feet bgs depending on location. NCDOT should be prepared to dewater and containerize contaminated groundwater if encountered during construction activities. Additionally, NCDOT should be prepared to excavated and dispose of contaminated soil in accordance with local, state and federal requirements.

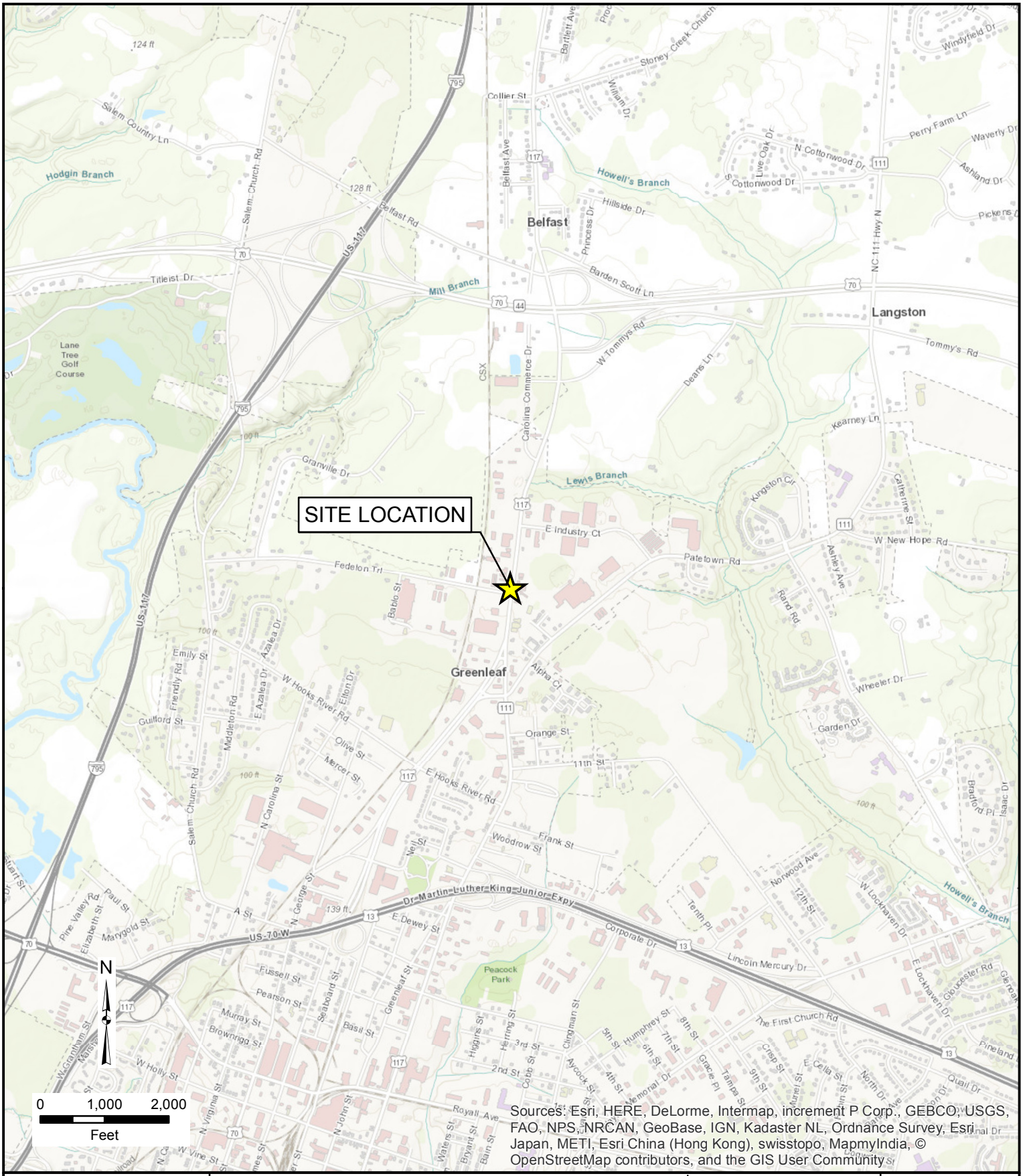
TABLES

Table 1
UVF Onsite Hydrocarbon Analytical Soil and Groundwater Data from June 2017
U-2714, Parcel 61/61a, John C Strickland, Wayne Oil Company Property
Goldsboro, North Carolina

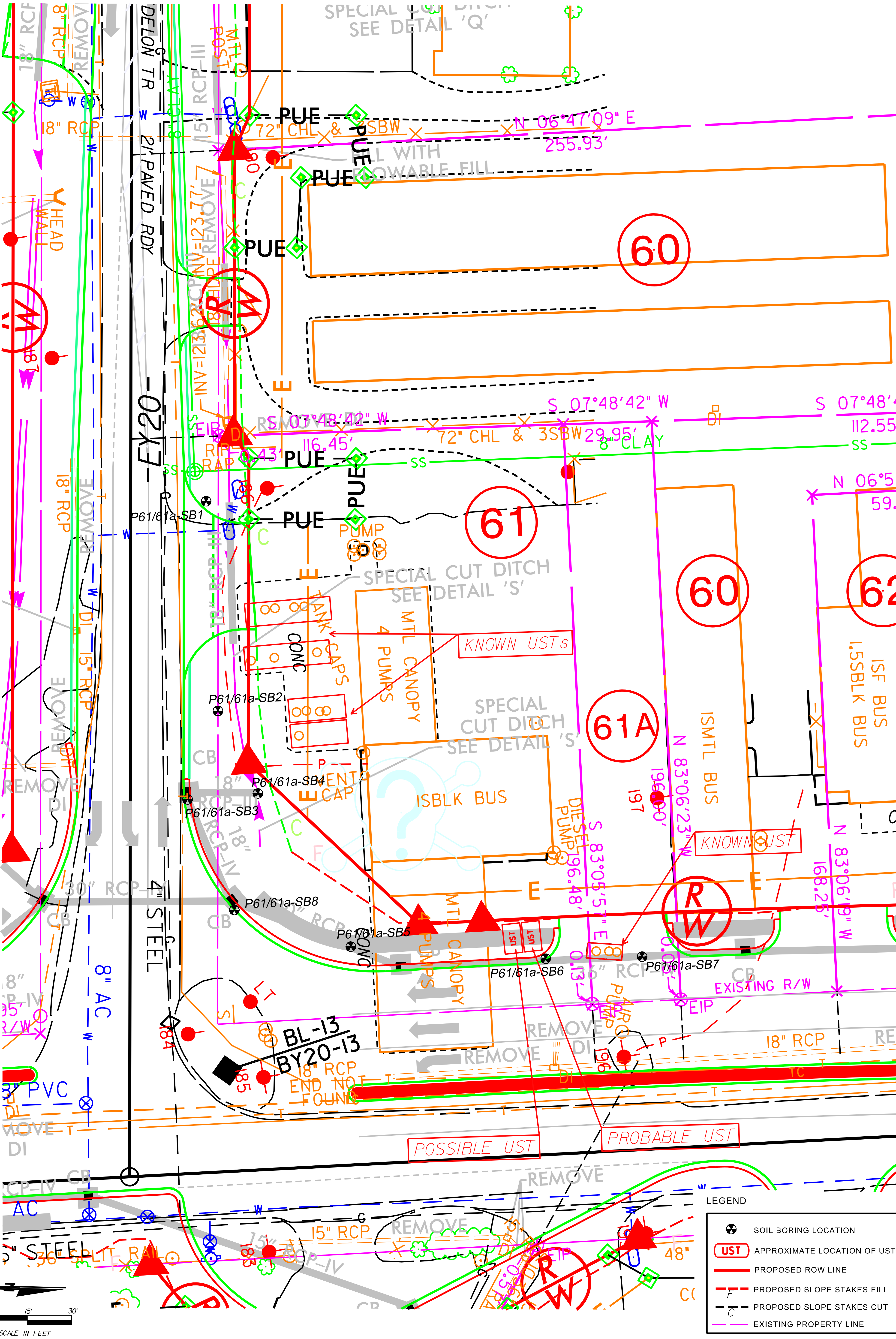
Sample ID Number	Sample Date	Sample Depth (ft bgs)	GRO (mg/kg) (C5-C10)	DRO (mg/kg) (C10-C35)
SOIL				
NCDEQ Action Level in mg/kg			**50**	**100**
P61/61a-SB1	6/20/2017	2	<0.5	0.5
P61/61a-SB2	6/20/2017	2	2.5	15.2
P61/61a-SB3	6/20/2017	2	1.4	7
P61/61a-SB4	6/20/2017	2	<2.4	**174.6**
P61/61a-SB5	6/20/2017	2	<0.62	20.2
P61/61a-SB6	6/20/2017	2	<2.6	**141.6**
P61/61a-SB7	6/20/2017	2	**1,749**	19.9
P61/61a-SB8	6/20/2017	2	<2.7	**107.4**
GROUNDWATER (mg/L)				
P61/61a-SB1-WATER	6/20/2017	NM	<0.025	0.09
P61/61a-SB6-WATER	6/20/2017	NM	0.84	0.27

NOTES:
(mg/kg) = Milligrams per kilogram
(mg/L) = Milligrams per liter
GRO = Gasoline Range Organics
DRO = Diesel Range Organics
ft bgs = feet below ground surface
NM = Not Measured
TPH - GRO values in exceedance of NCDEQ Action Level of 50 mg/kg are shown in Bold
TPH - DRO values in exceedance of NCDEQ Action Level of 100 mg/kg are shown in Bold

FIGURES



CHECK BY: TH	SITE LOCATION MAP	APEX	FIGURE
DRAWN BY: SP			1
DATE: 7/17/17	PARCELS #61/61a		
SCALE: AS SHOWN	2401 N. WILLIAM STREET		
CAD NO.: 510497-003	GOLDSBORO, NORTH CAROLINA		
PRJ NO.: 510497-003			



APEX

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FIGURE 2
PARCEL 61-61a
SITE MAP WITH BORING
LOCATIONS

Date: 7/15/17	Project Title: GOLDSBORO U-2714
Proj. # 510497-003	
CAD File: pc_61-61a_fig 2.dgn	
Approx. Scale: 1" = 30'	Drawn by: MJO
	Client: NC DOT

Sample Identification	P61/61a-SB1
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	<0.5
THP DRO (mg/kg)	0.5

Sample Identification	P61/61a-SB2
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	2.5
THP DRO (mg/kg)	15.2

Sample Identification	P61/61a-SB3
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	1.4
THP DRO (mg/kg)	7

Sample Identification	P61/61a-SB4
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	<2.4
THP DRO (mg/kg)	**174.6**

Sample Identification	P61/61a-SB5
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	<0.62
THP DRO (mg/kg)	20.2

Sample Identification	P61/61a-SB8
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	<2.7
THP DRO (mg/kg)	**107.4**

Sample Identification	P61/61a-SB6
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	<2.6
THP DRO (mg/kg)	**141.6**

Sample Identification	P61/61a-SB7
Sample Depth (Feet bgs)	2
TPH GRO (mg/kg)	**1749**
THP DRO (mg/kg)	19.9

LEGEND

- SOIL BORING LOCATION
- UST — APPROXIMATE LOCATION OF UST
- PROPOSED ROW LINE
- PROPOSED SLOPE STAKES FILL
- PROPOSED SLOPE STAKES CUT
- EXISTING PROPERTY LINE

0 15' 30'
SCALE IN FEET

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FIGURE 3
PARCEL 61/61a
ONSITE UVF HYDROCARBON
ANALYSIS RESULTS - SOIL
6/20/17

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc_61-61a_fig 3.dgn
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT
Project Title:	GOLDSBORO U-2714

Sample Identification	P61/61a-SB1
TPH GRO (mg/L)	<0.025
THP DRO (mg/L)	0.09

Sample Identification	P61/61a-SB6
TPH GRO (mg/L)	0.84
THP DRO (mg/L)	0.27

LEGEND

- SOIL BORING LOCATION
- UST — APPROXIMATE LOCATION OF UST
- PROPOSED ROW LINE
- PROPOSED SLOPE STAKES FILL
- PROPOSED SLOPE STAKES CUT
- EXISTING PROPERTY LINE

0 15' 30'

SCALE IN FEET

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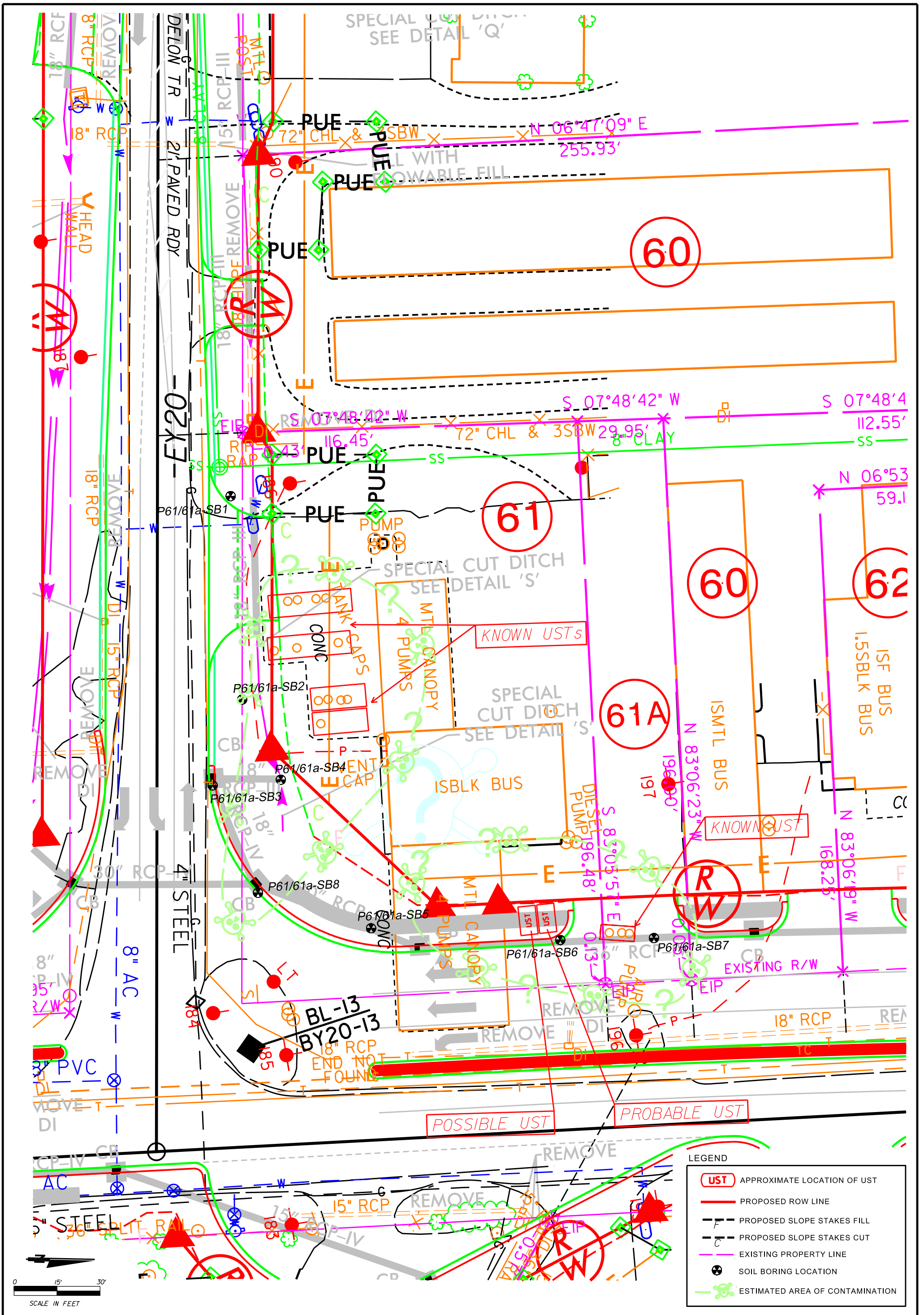
FIGURE 4
PARCEL 61/61a
ONSITE UVF HYDROCARBON ANALYSIS RESULTS - GROUNDWATER 6/20/17

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc__61-61a__fig 2.dgn
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT
Project Title:	GOLDSBORO U-2714



LEGEND

- UST — APPROXIMATE LOCATION OF UST
- PROPOSED ROW LINE
- PROPOSED SLOPE STAKES FILL
- PROPOSED SLOPE STAKES CUT
- EXISTING PROPERTY LINE
- SOIL BORING LOCATION
- ESTIMATED AREA OF CONTAMINATION

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FIGURE 5
PARCEL 61-61a
SITE MAP WITH ESTIMATED AREA OF CONTAMINATION

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc__61-61a__fig 5.dgn
Project Title:	GOLDSBORO U-2714
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT

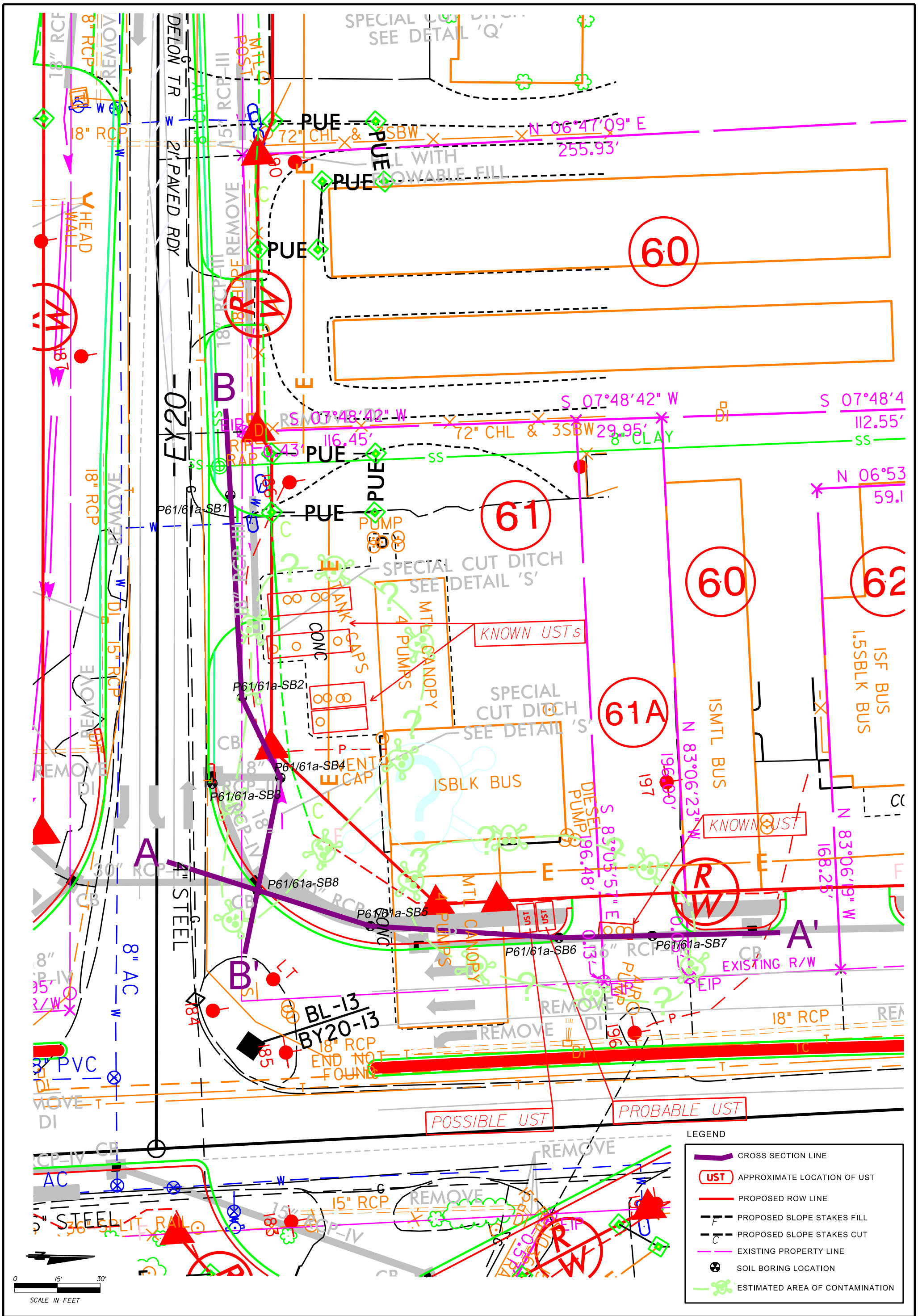

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FIGURE 6
PARCEL 61-61a
CROSS SECTION INDEX

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc_61-61a_fig 5.dgn
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT
Project Title:	GOLDSBORO U-2714

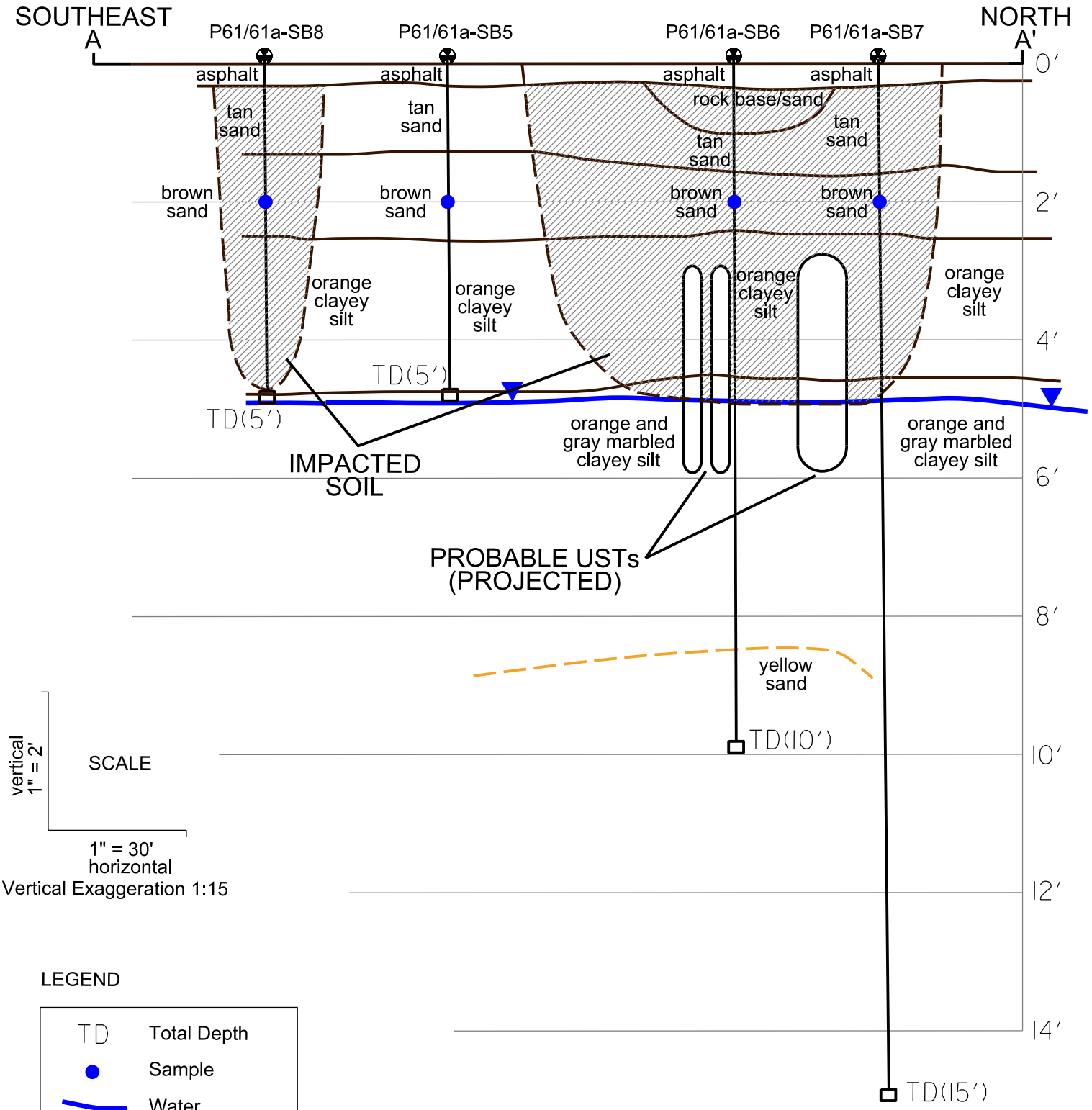

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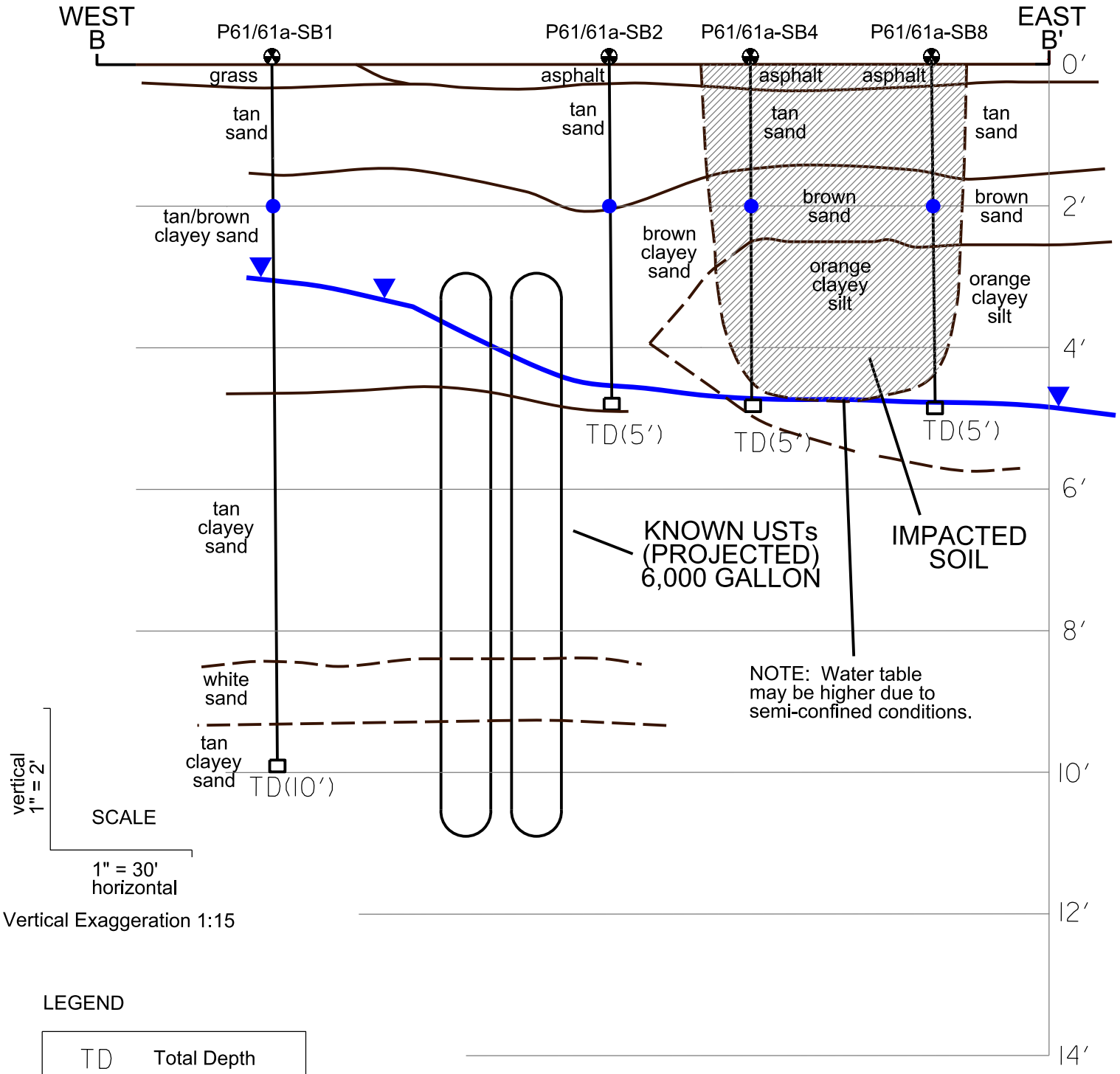
FIGURE 7
PARCEL 61-61a
CROSS SECTION A-A'

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc_61-61a_fig 7.dgn
Project Title:	GOLDSBORO U-2714
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT



LEGEND

TD	Total Depth
●	Sample
~	Water
~	Lithology

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FIGURE 8
PARCEL 61-61a
CROSS SECTION B-B'

Date:	7/15/17
Proj. #	510497-003
CAD File:	pc_61-61a_fig 8.dgn
Project Title:	GOLDSBORO U-2714
Approx. Scale:	1" = 30'
Drawn by:	MJO
Client:	NC DOT

APPENDIX A

PHOTOGRAPH LOG

Photo 1

Overview of site prior to preliminary site assessment activities.

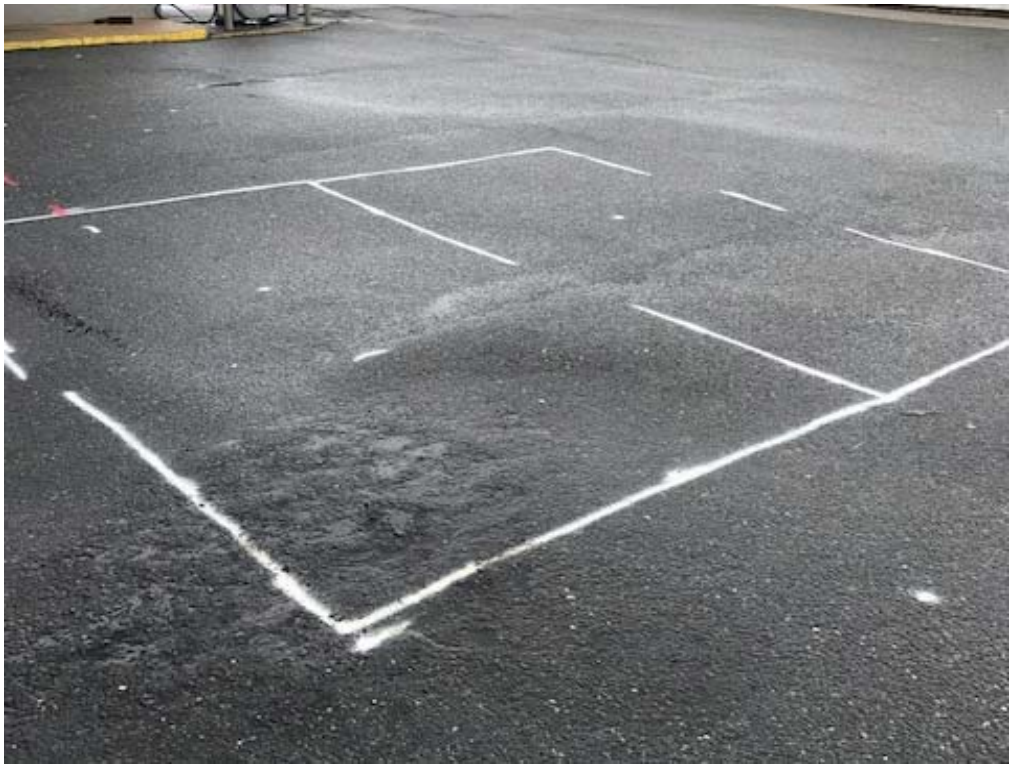

Photo 2

View of one probable UST and one possible UST in northeastern portion of the site.

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WBS	38979.1.2
PROCESSED	TLH
DATE	June 2017
PAGE	

PHOTOGRAPHIC LOG

PSA Field Activities
Parcel 61/61a
2401 N. William Street, Goldsboro, NC

Photo 3

View of CSI preparing to begin direct push activities.

Photo 4

View of utility easement marker in the foreground and Apex personnel analyzing real time data in the background.

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WBS	38979.1.2
PROCESSED	TLH
DATE	June 2017
PAGE	

PHOTOGRAPHIC LOG

PSA Field Activities
Parcel 61/61a
2401 N. William Street, Goldsboro, NC

APPENDIX B

BORING LOGS

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-1	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Grass
1				Tan Sand
2	0	0	Sample at 2'	Brown, Clayey Sand
3				Water
4	0	0		
5				Tan, Clayey Sand
6	0	0		
7				
8	0	0		
9				White Sand, Fine
10	2.1	1.8		Tan, Clayey Sand
				Boring terminated at 10 feet
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-2	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand
2	4.8	6.9	Sample at 2'	Brown, Clayey Sand
3				
4	0.8	4.7		
5				Water
				Boring terminated at 5 feet
6				
7				
8				
9				
10				
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-3	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand, Medium
2	0	0	Sample at 2'	Brown, Clayey Sand
3				Orange, Clayey Silt
4	0.5	0		
5				Water
				Boring terminated at 5 feet
6				
7				
8				
9				
10				
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-4	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand, Medium
2	10.8	0	Sample at 2'	Brown, Clayey Sand
3				Orange, Clayey Silt
4	42.2	10.5		
5				
				Boring terminated at 5 feet
6				
7				
8				
9				
10				
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-5	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand, Medium
2	5.6	0	Sample at 2'	Brown Sand, Medium
3				Orange, Clayey Silt
4	25.7	0		
5				
				Boring terminated at 5 feet
6				
7				
8				
9				
10				
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-6	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Rock Sand, Base
				Tan Sand, Medium
2	15.5	72.1	Sample at 2'	Brown Sand, Medium
3				Orange, Clayey Silt
4	46.3	88.9		
5				Orange and Grey Marbled, Clayey Silt (Confining layer, water rises to 7' slowly after getting to sand, due to time constraint we did not allow boring to fully charge. The Gray Marbling was an indication that the water would rise to 5')
6	397.4	25.6		
7				
8	859.8	10.9		
				Yellow Sand, Medium
9				
10	499.7	33.8		
				Boring terminated at 10 feet
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-7	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand, Medium
2			Sample at 2'	Brown Sand, Medium
3				Orange, Clayey Silt
4	42.5	75.7		
5				Orange and Grey Marbled, Clayey Silt (Confining layer, did not reach water) (Based on the depths of water in previous borings and the gray marbling which began at 5 feet below ground surface, apex personnel believed the depth to water to be 5 feet bgs.)
6	33.1	285		
7				
8				
9				
10	57.8	220		
11				
12				
13				
14	62.6	185		
15				
				Boring terminated at 15 feet

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

Apex Companies, LLC

Boring Log

Boring/Well No.: P61/61a-SB-8	**Site Name: Parcel 61/61a - John C Strickland-Wayne Oil Property**
Date: 06/20/17	**Location: Goldsboro, Wayne County, NC**
Job No.: 510497-003	**Sample Method: Hand Auger and Direct Push**
Apex Rep: Troy L. Holzschuh	**Drilling Method: Hand Auger and Direct Push**
Drilling Company: Carolina Soil Investigations	**Driller Name/Cert #: Danny Summers / 2579**
Remarks:	

Depth (ft BLS)	FID Reading (ppm)	PID Reading (ppm)	Lab Sample ID	Soil/Lithologic Description
				Asphalt
1				Tan Sand, Medium
2	8.7	0.5	Sample at 2'	Brown Sand, Medium
3				Orange, Clayey Silt
4	32.7	2.3		
5				
				Boring terminated at 5 feet
6				
7				
8				
9				
10				
11				
12				
13				
14				

WELL CONSTRUCTION DETAILS (If Applicable)

Well Type/Diameter:	Outer Casing Interval:
Total Depth:	Outer Casing Diameter:
Screen Interval:	Bentonite Interval:
Sand Interval:	Slot Size:
Grout Interval:	Static Water Level:

APPENDIX C

GEOPHYSICAL REPORT

PYRAMID GEOPHYSICAL SERVICES
(PROJECT 2017-156)

GEOPHYSICAL SURVEY

METALLIC UST INVESTIGATION:
PARCEL 061/061A
NCDOT PROJECT U-2714

2401 N. WILLIAM STREET, GOLDSBORO, NC

JULY 19, 2017

Report prepared for: Troy Holzschuh
Apex Companies
10610 Metromont Parkway, Suite 206
Charlotte, North Carolina 28269

Prepared by: _____
Eric C. Cross, P.G.
NC License #2181

Reviewed by: _____
Mike Jones, P.G.
NC License #1168

503 INDUSTRIAL AVENUE, GREENSBORO, NC 27406
P: 336.335.3174 F: 336.691.0648
C257: GEOLOGY C1251: ENGINEERING

GEOPHYSICAL INVESTIGATION REPORT
Parcel 061/061a – 2401 N. William Street
Goldsboro, Wayne County, North Carolina

Table of Contents

Figures

LIST OF ACRONYMS

CADD .....Computer Assisted Drafting and Design
DF .....Dual Frequency
EM.....Electromagnetic
GPR.....Ground Penetrating Radar
GPS .....Global Positioning System
NCDOT.....North Carolina Department of Transportation
ROW .....Right-of-Way
UST .....Underground Storage Tank

EXECUTIVE SUMMARY

Project Description: Pyramid Environmental conducted a geophysical investigation for Apex Companies (Apex) at Parcel 061/061a, located at 2401 N. William Street, Goldsboro, NC. The survey was part of a North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) investigation (NCDOT Project U-2714). Apex directed Pyramid as to the geophysical survey boundaries at the project site, which were designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. The geophysical investigation was conducted from June 8-11, 2017, to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

Geophysical Results: Several of the EM anomalies were directly attributed to visible cultural features at the ground surface. One area, north of the eastern pump island, contained EM anomalies that were associated with unknown buried metal, and were investigated further by GPR. A total of 3 GPR transects identified the following:

- One probable and one possible metallic UST were identified north of the eastern pump island. Each tank was approximately 10 feet long and 6 feet wide.
- The geophysical survey verified the presence of the known USTs at the site.

Collectively, the geophysical data recorded evidence of one probable and one possible metallic UST at Parcel 061/061a. Additionally, the known, active USTs currently in service at the property were verified.

INTRODUCTION

Pyramid Environmental conducted a geophysical investigation for Apex at Parcel 061/061a, located at 2401 N. William Street, Goldsboro, NC. The survey was part of a North Carolina Department of Transportation (NCDOT) Right-of-Way (ROW) investigation (NCDOT Project U-2714). Apex directed Pyramid as to the geophysical survey boundaries at the project site, which were designed to extend from the existing edge of pavement into the proposed ROW and/or easements, whichever distance was greater. The geophysical investigation was conducted from June 8-11, 2017, to determine if unknown, metallic underground storage tanks (USTs) were present beneath the survey area.

The site included an active service station with a metal canopy and pump island surrounded by asphalt parking areas and grass medians. It should be noted that the known, active USTs supplying fuel to the pump island were observed at the southwest and northeast portions of the survey area. An aerial photograph showing the survey area boundaries and ground-level photographs are shown in **Figure 1**.

FIELD METHODOLOGY

The geophysical investigation consisted of electromagnetic (EM) induction-metal detection and ground penetrating radar (GPR) surveys. Pyramid collected the EM data using a Geonics EM61 metal detector integrated with a Trimble AG-114 GPS antenna. The integrated GPS system allows the location of the instrument to be recorded in real-time during data collection, resulting in an EM data set that is geo-referenced and can be overlain on aerial photographs and CADD drawings. A boundary grid was established around the perimeter of the site with marks every 10 feet to maintain orientation of the instrument throughout the survey and assure complete coverage of the area.

According to the instrument specifications, the EM61 can detect a metal drum down to a maximum depth of approximately 8 feet. Smaller objects (1-foot or less in size) can be

detected to a maximum depth of 4 to 5 feet. The EM61 data were digitally collected at approximately 0.8-foot intervals along north-south trending or east-west trending, generally parallel survey lines spaced five feet apart. The data were downloaded to a computer and reviewed in the field and office using the Geonics NAV61 and Surfer for Windows Version 14.0 software programs.

GPR data were acquired across select EM anomalies on June 11, 2017, using a Geophysical Survey Systems, Inc. (GSSI) UtilityScan DF unit equipped with a dual frequency 300/800 MHz antenna. Data were collected both in reconnaissance fashion as well as along formal transect lines across EM features. The GPR data were viewed in real-time using a vertical scan of 512 samples, at a rate of 48 scans per second. GPR data were viewed down to a maximum depth of approximately 6 feet, based on dielectric constants calculated by the DF unit in the field during the reconnaissance scans. GPR transects across specific anomalies were saved to the hard drive of the DF unit for post-processing and figure generation.

Pyramid's classifications of USTs for the purposes of this report are based directly on the geophysical UST ratings provided by the NCDOT. These ratings are as follows:

Geophysical Surveys for Underground Storage Tanks
on NCDOT Projects

High Confidence	Intermediate Confidence	Low Confidence	No Confidence
Known UST Active tank - spatial location, orientation, and approximate depth determined by geophysics.	**Probable UST** Sufficient geophysical data from both magnetic and radar surveys that is characteristic of a tank. Interpretation may be supported by physical evidence such as fill/vent pipe, metal cover plate, asphalt/concrete patch, etc.	**Possible UST** Sufficient geophysical data from either magnetic or radar surveys that is characteristic of a tank. Additional data is not sufficient enough to confirm or deny the presence of a UST.	Anomaly noted but not characteristic of a UST. Should be noted in the text and may be called out in the figures at the geophysicist's discretion.

DISCUSSION OF RESULTS

Discussion of EM Results

A contour plot of the EM61 results obtained across the survey area at the property is presented in **Figure 2**. Each EM anomaly is numbered for reference in the figure. The following table presents the list of EM anomalies and the cause of the metallic response, if known:

LIST OF METALLIC ANOMALIES IDENTIFIED BY EM SURVEY

Metallic Anomaly #	Cause of Anomaly	Investigated with GPR
1	Sign	
2	Known USTs	
3	**One probable and one possible UST**	☑
4	Known UST	
5	Building	
6	Light poles	
7	Overhead power interference	
8	Poles/utilities	

The majority of the EM anomalies (Anomalies 1, 2, and 4-8) were directly attributed to known cultural features such as a sign, the known USTs in service at the station, a building, light poles, and utilities. Overhead (OH) power lines also contributed to EM anomalies observed intermittently along the east side of the survey area. However, Anomaly 3 was observed to be a high-amplitude feature that was associated with unknown buried metal; its size and amplitude was suggestive of large structures such as USTs. This feature was investigated further by GPR.

Discussion of GPR Results

Figure 3 presents the locations of the formal GPR transects performed at the property, as well as the transect images. A total of three GPR transects were performed at the site. GPR Transects 1-3 were performed across the high-amplitude EM anomaly on the north side of the canopy (Anomaly 3). These transects recorded two distinct hyperbolic reflectors and two discreet lateral reflectors that were consistent with USTs. These reflectors were more distinct across the northern of the two suspected USTs. For this reason, Pyramid is classifying the northern tank as a probable UST and the southern tank as a possible UST. Each probable/possible UST was approximately 10 feet long and 6 feet wide.

Collectively, the geophysical data recorded evidence of one probable and one possible metallic UST at Parcel 061/061a. Additionally, the survey verified the presence of the known USTs in the southwest and northeast portions of the survey area. These known USTs have already been incorporated into the engineering plans created by the NCDOT. **Figure 4** provides the locations and sizes of the probable/possible USTs identified by the survey. **Figure 5** provides an overlay of the geophysical survey area onto the NCDOT MicroStation engineering plans (proposed ROW and easements) for reference.

SUMMARY & CONCLUSIONS

Pyramid's evaluation of the EM61 and GPR data collected at Parcel 061/061a in Goldsboro, North Carolina, provides the following summary and conclusions:

- The EM61 and GPR surveys provided reliable results for the detection of metallic USTs within the accessible portions of the geophysical survey area.
- Several of the EM anomalies were directly attributed to visible cultural features at the ground surface.
- One area, north of the eastern pump island, contained EM anomalies that were associated with unknown buried metal, and were investigated further by GPR.

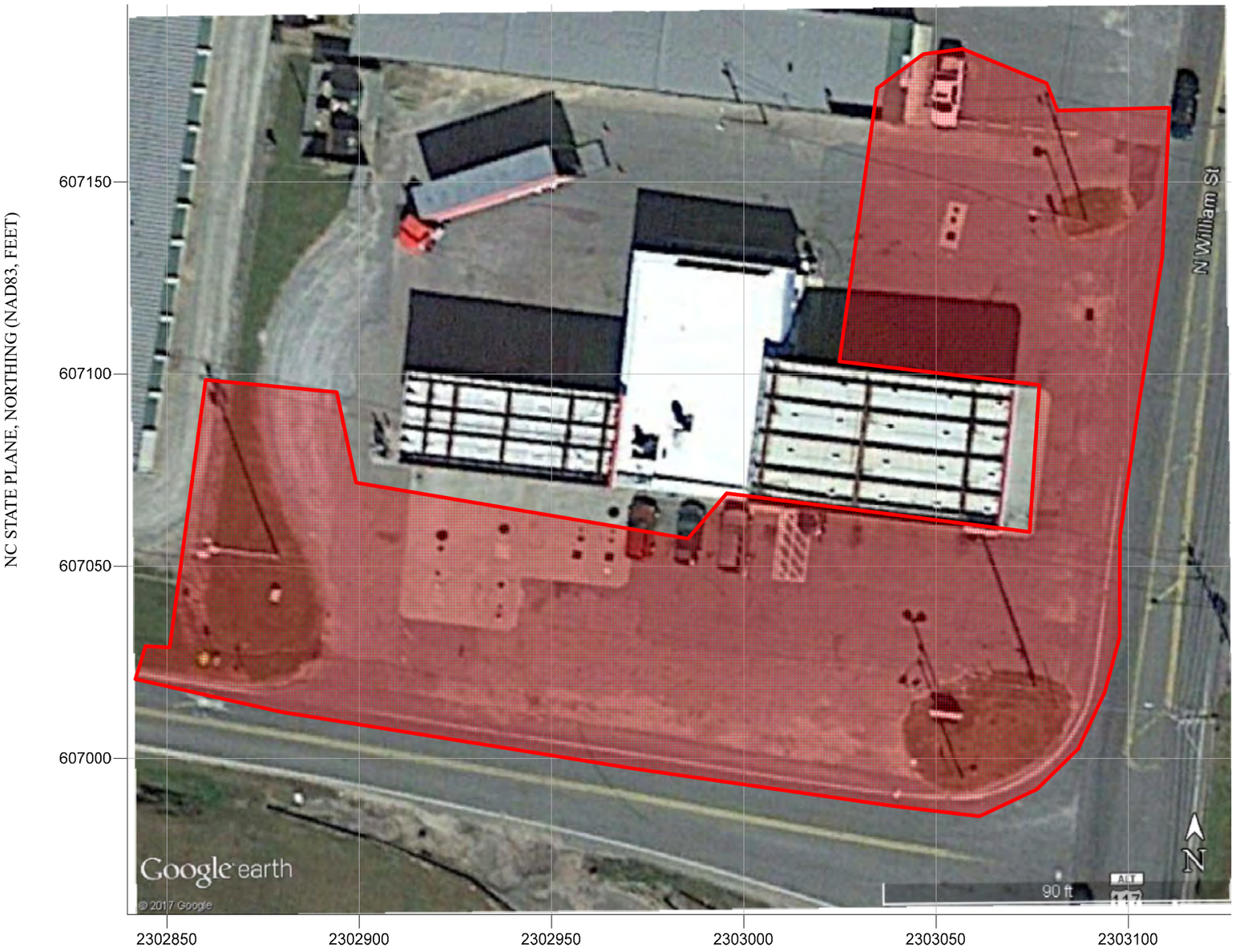
- A total of 3 GPR transects identified the following:
    - One probable and one possible metallic UST were identified north of the eastern pump island. Each tank was approximately 10 feet long and 6 feet wide.
    - The geophysical survey verified the presence of the known USTs at the site.
- Collectively, the geophysical data recorded evidence of one probable and one possible metallic UST at Parcel 061/061a. Additionally, the known, active USTs currently in service at the property were verified.

LIMITATIONS

Geophysical surveys have been performed and this report was prepared for Apex in accordance with generally accepted guidelines for EM61 and GPR surveys. It is generally recognized that the results of the EM61 and GPR surveys are non-unique and may not represent actual subsurface conditions. The EM61 and GPR results obtained for this project have not conclusively determined the definitive presence or absence of metallic USTs, but the evidence collected is sufficient to result in the conclusions made in this report. Additionally, it should be understood that areas containing extensive vegetation, reinforced concrete, or other restrictions to the accessibility of the geophysical instruments could not be fully investigated.

N

APPROXIMATE BOUNDARIES OF GEOPHYSICAL SURVEY AREA



View of Survey Area
(Facing Approximately East)

View of Survey Area
(Facing Approximately North)

TITLE
PARCEL 061 - GEOPHYSICAL SURVEY
BOUNDARIES AND SITE PHOTOGRAPHS

PROJECT
PARCEL 061
GOLDSBORO, NORTH CAROLINA
NCDOT PROJECT U-2714

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27460
(336) 335-3174 (p) (336) 691-0648 (f)
License # C1251 Eng. / License # C257 Geology

DATE 6/30/2017

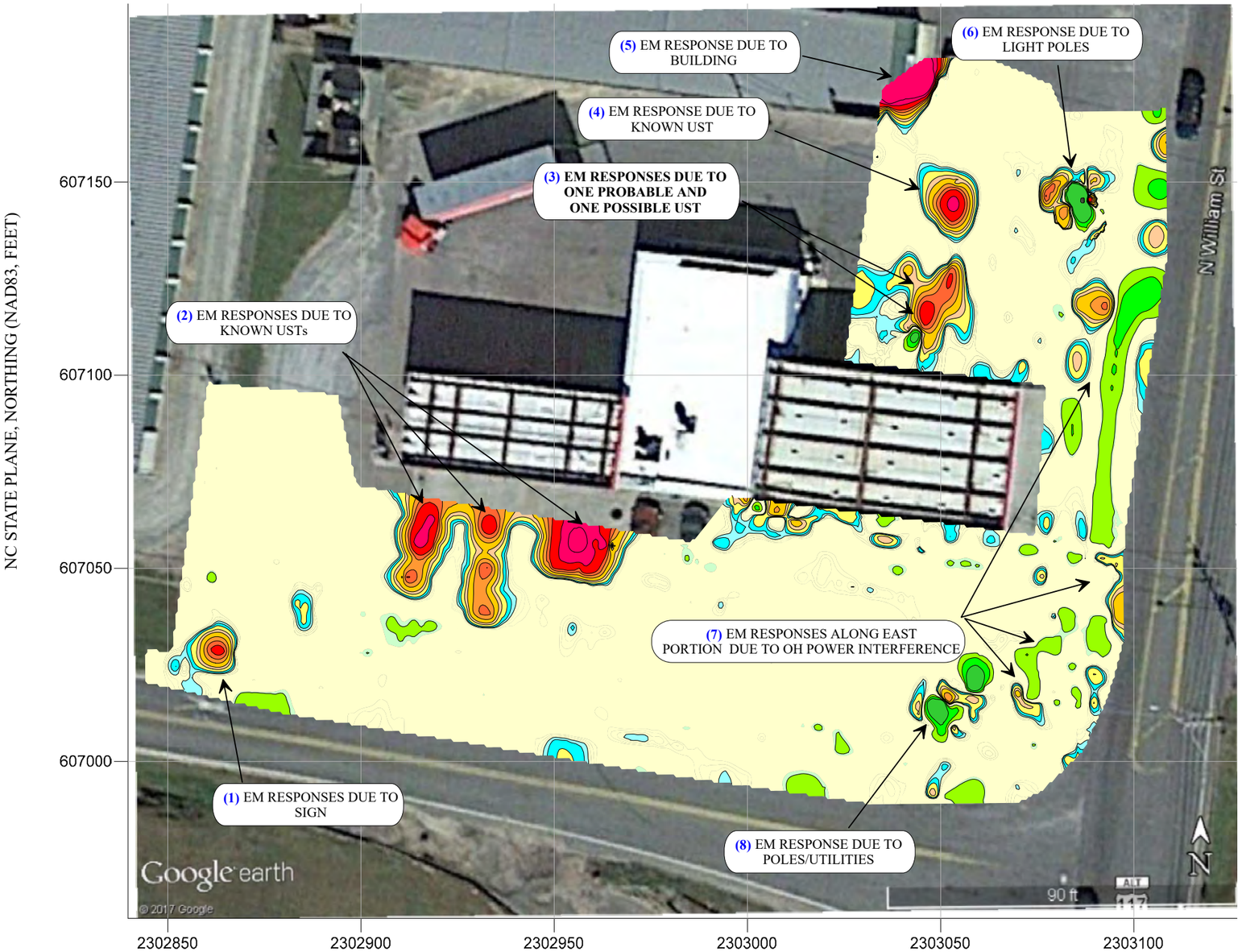
CLIENT APEX COMPANIES

PYRAMID PROJECT #: 2017-156

FIGURE 1

N

EM61 METAL DETECTION RESULTS



EVIDENCE OF ONE POSSIBLE AND ONE PROBABLE METALLIC UST OBSERVED (AND KNOWN UST BEDS)

The contour plot shows the bottom results of the EM61 instrument in millivolts (mV). The bottom coil shows all metal detected, and was used due to interference in the differential data from overhead power lines. The EM61 data were collected on June 8, 2017, using a Geonics EM61 instrument. Verification GPR data were collected using a GSSI UtilityScan DF instrument with a dual frequency 300/800 MHz antenna on June 11, 2017.

EM61 Metal Detection Response (millivolts)

TITLE
PARCEL 061 -
EM61 RESULTS CONTOUR MAP

PROJECT
PARCEL 061
GOLDSBORO, NORTH CAROLINA
NCDOT PROJECT U-2714

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
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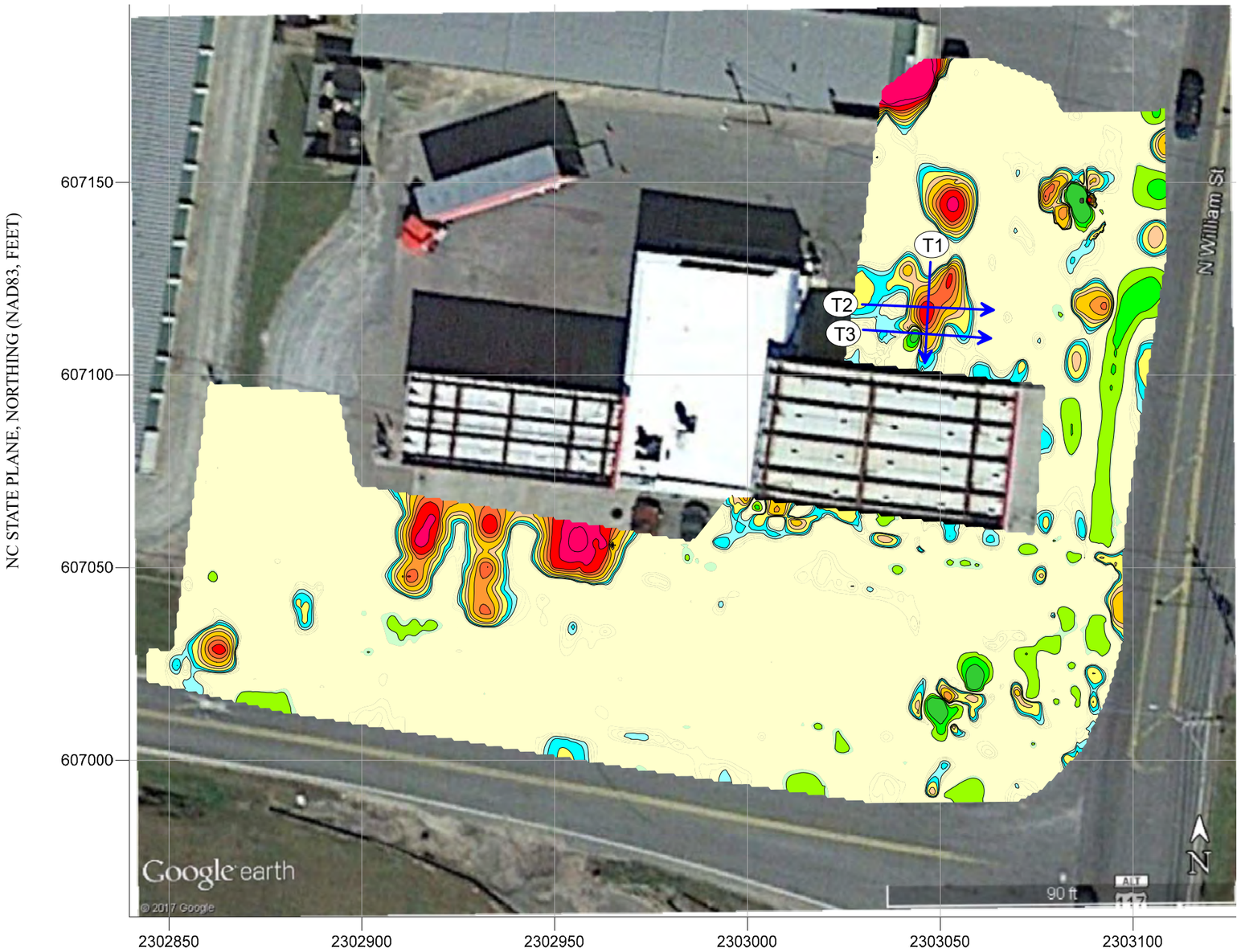
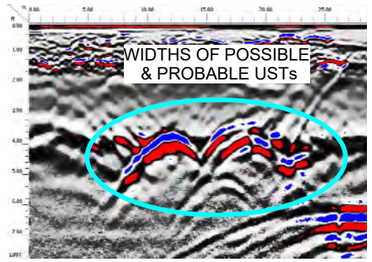
License # C1251 Eng. / License # C257 Geology

DATE 6/30/2017	CLIENT APEX COMPANIES
PYRAMID PROJECT #: 2017-156	**FIGURE 2**

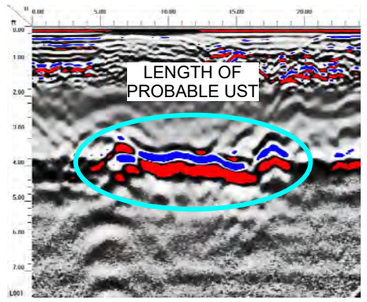
N

LOCATIONS OF GPR TRANSECTS

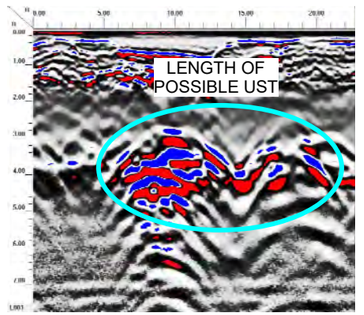




GPR TRANSECT 1 (T1)



GPR TRANSECT 2 (T2)

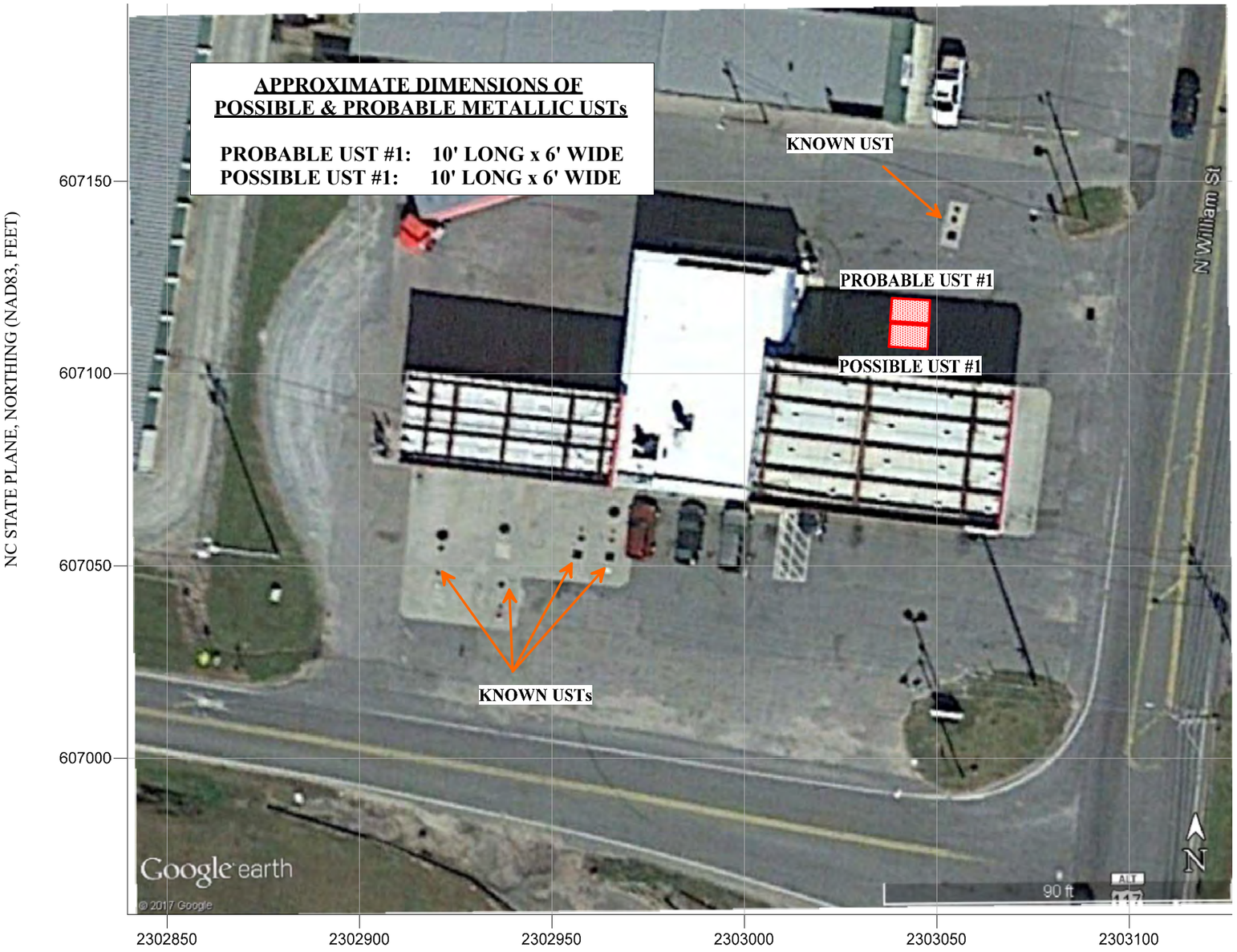


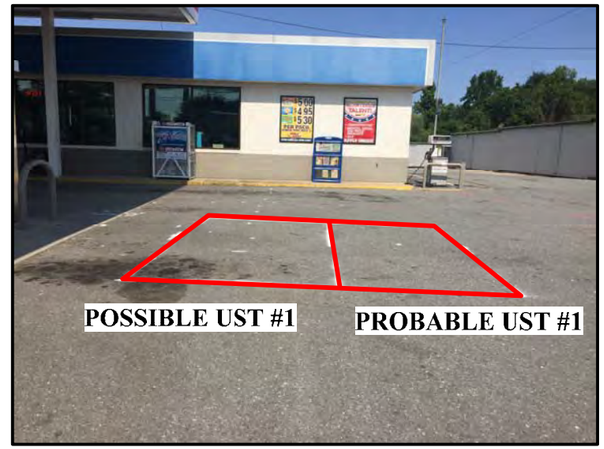
GPR TRANSECT 3 (T3)

TITLE: PARCEL 061 - GPR TRANSECT LOCATIONS AND IMAGES	
PROJECT: PARCEL 061 GOLDSBORO, NORTH CAROLINA NCDOT PROJECT U-2714	
PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology	
DATE: 6/30/2017	CLIENT: APEX COMPANIES
PYRAMID PROJECT #: 2017-156	**FIGURE 3**

N

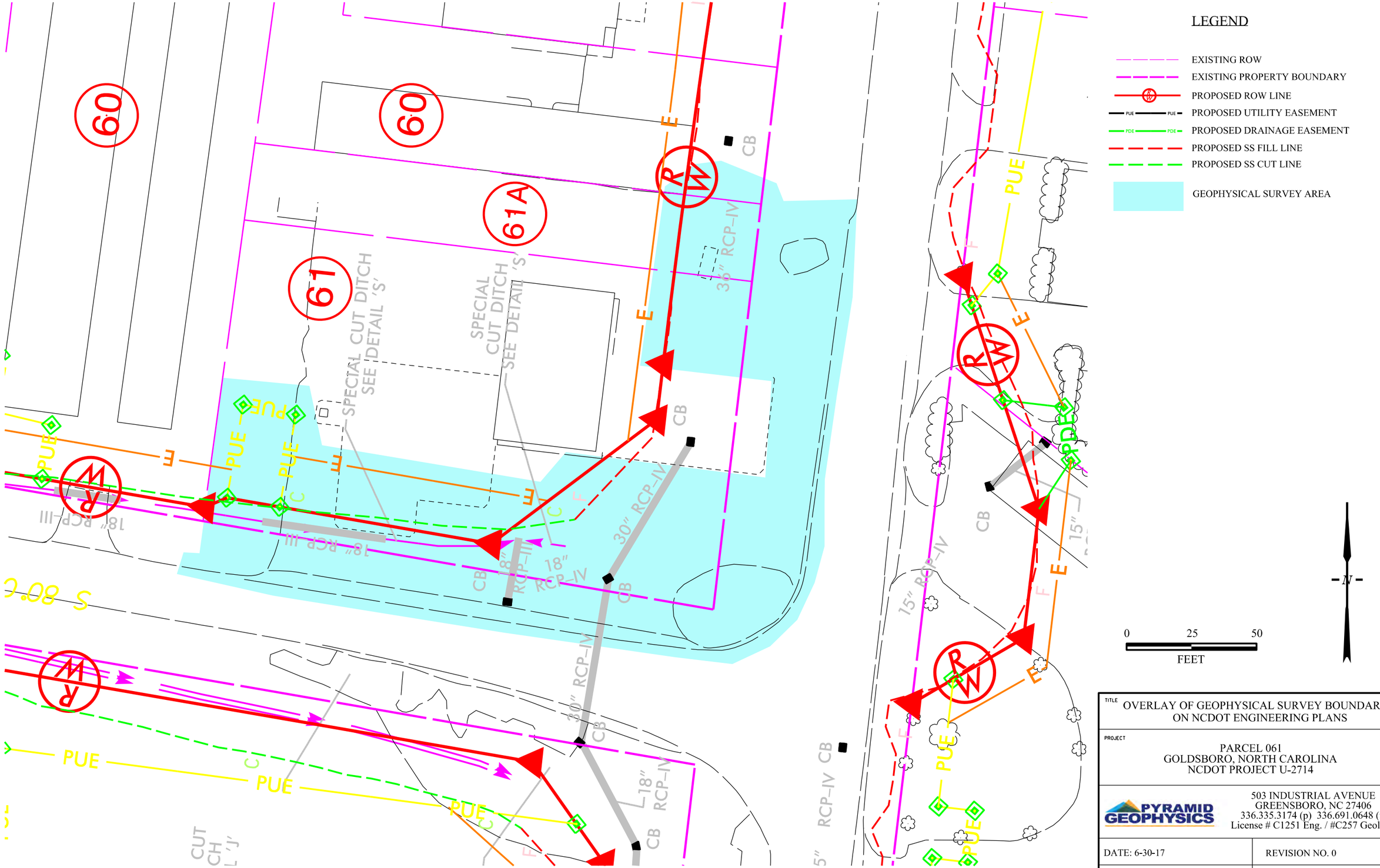
LOCATIONS OF PROBABLE & POSSIBLE USTs





PROBABLE & POSSIBLE USTs
FACING APPROXIMATELY WEST

TITLE	PARCEL 061 - LOCATIONS AND SIZES OF PROBABLE & POSSIBLE USTs
PROJECT	PARCEL 061 GOLDSBORO, NORTH CAROLINA NCDOT PROJECT U-2714
	PYRAMID GEOPHYSICS 503 INDUSTRIAL AVENUE GREENSBORO, NC 27460 (336) 335-3174 (p) (336) 691-0648 (f) License # C1251 Eng. / License # C257 Geology
DATE	6/30/2017
CLIENT	APEX COMPANIES
PYRAMID PROJECT #:	2017-156
	FIGURE 4



TITLE: OVERLAY OF GEOPHYSICAL SURVEY BOUNDARIES ON NCDOT ENGINEERING PLANS

PROJECT: PARCEL 061
GOLDSBORO, NORTH CAROLINA
NCDOT PROJECT U-2714

PYRAMID GEOPHYSICS
503 INDUSTRIAL AVENUE
GREENSBORO, NC 27406
336.335.3174 (p) 336.691.0648 (f)
License # C1251 Eng. / #C257 Geology

DATE: 6-30-17	REVISION NO. 0
PYRAMID PROJECT NO. 2017-156	FIGURE NO. 5

APPENDIX D

UVF HYDROCARBON ANALYSIS RESULTS

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS AQROS

Hydrocarbon Analysis Results

Client: NCDOT
Address: PARCEL 61/61a
2401 N William St
Goldsboro, NC

Contact: Dennis Li

Project: 510497-003

Samples taken Tuesday, June 20, 2017
Samples extracted Tuesday, June 20, 2017
Samples analysed Tuesday, June 20, 2017

Operator KH

F03640

Matrix	Sample ID	Dilution used	BTEX (C6 - C9)	GRO (C5 - C10)	DRO (C10 - C35)	TPH (C5 - C35)	Total Aromatics (C10-C35)	16 EPA PAHs	BaP	Ratios			HC Fingerprint Match
										% light	% mid	% heavy	
s	P61/61a-SB1 (2)	20.2	<0.5	<0.5	0.5	0.5	0.31	0.04	<0.002	0	57.4	42.6	Residual.PHC (FCM)
s	P61/61a-SB2 (2)	19.7	<0.49	2.5	15.2	17.7	11.2	1.2	0.023	18	69.4	12.6	Road Tar (FCM) 84.7%
s	P61/61a-SB3 (2)	20.6	<0.52	1.4	7	8.4	5	0.55	0.007	21.5	66.6	11.9	Road Tar (FCM) 93.8%
s	P61/61a-SB4 (2)	96.1	<2.4	<2.4	174.6	174.6	110.5	5	0.056	0	83.5	16.5	V.Deg.PHC (FCM) 86.3%
s	P61/61a-SB5 (2)	24.6	<0.62	<0.62	20.2	20.2	14.9	1.6	0.023	0	85.8	14.2	Road Tar (FCM) 95.6%
s	P61/61a-SB6 (2)	102.5	<2.6	<2.6	141.6	141.6	74.5	3.3	0.03	0	85.5	14.5	V.Deg.PHC (FCM) 60.1%
s	P61/61a-SB7 (2)	97.6	1730	1749	19.9	1768.9	7.9	0.35	0.01	99.6	0.4	0.1	V.Deg.PHC (FCM) 36.2%
W	P61/61a-SB1 - WATER	1.0	<0.025	<0.025	0.09	0.09	0.08	0.01	<0	0	14.1	85.9	V.Deg.PHC (FCM)
s	P61/61a-SB8	106.1	<2.7	<2.7	107.4	107.4	57.2	3.2	0.041	0	88.5	11.5	Deg Fuel (FCM) 92.1%
W	P61/61a-SB6 - WATER	1.0	<0.025	0.84	0.27	1.11	0.13	0.005	<0	86.9	12.5	0.6	Deg Gas (FCM) 46%

Initial Calibrator QC check OK Final FCM QC Check OK 101 %

Results generated by a QED HC-1 analyser. Concentration values in mg/kg for soil samples and mg/L for water samples. Soil values are not corrected for moisture or stone content

Fingerprints provide a tentative hydrocarbon identification. The abbreviations are:- FCM = Results calculated using Fundamental Calibration Mode : % = confidence for sample fingerprint match to library

(SBS) or (LBS) = Site Specific or Library Background Subtraction applied to result : (PFM) = Poor Fingerprint Match : (T) = Turbid : (P) = Particulate present

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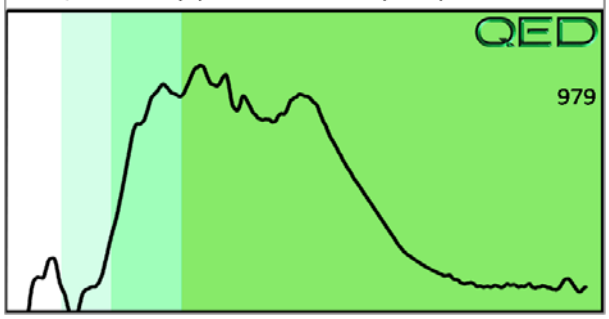
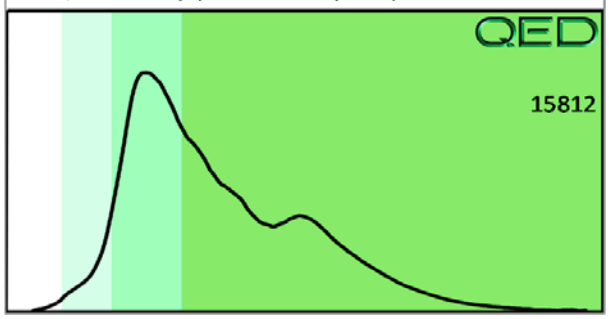
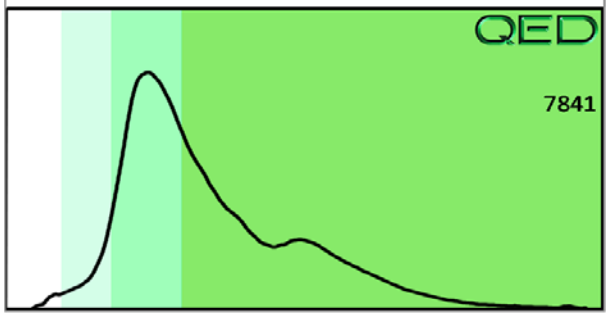
P61/61a-SB1 (2) : Residual.PHC (FCM)



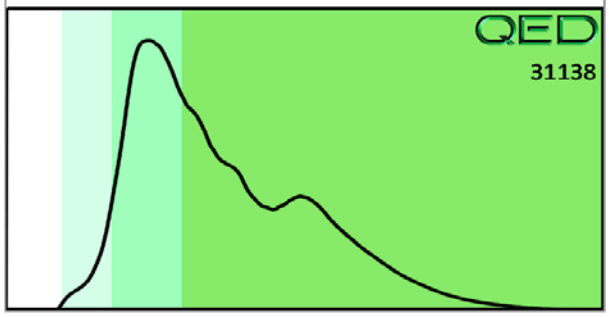
P61/61a-SB2 (2) : Road Tar (FCM) 84.7%



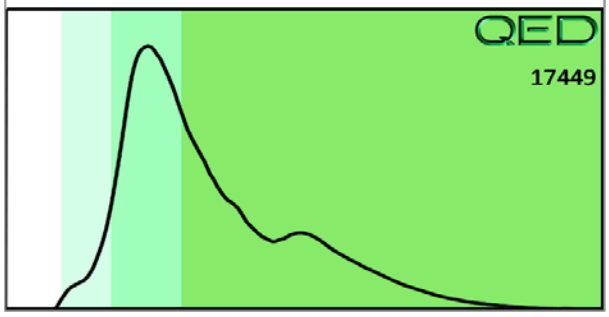
P61/61a-SB3 (2) : Road Tar (FCM) 93.8%



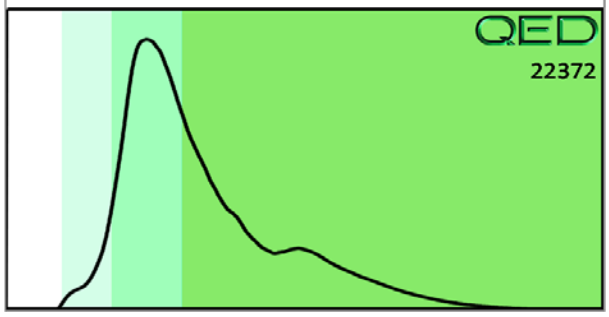
P61/61a-SB4 (2) : V.Deg.PHC (FCM) 86.3%



P61/61a-SB5 (2) : Road Tar (FCM) 95.6%

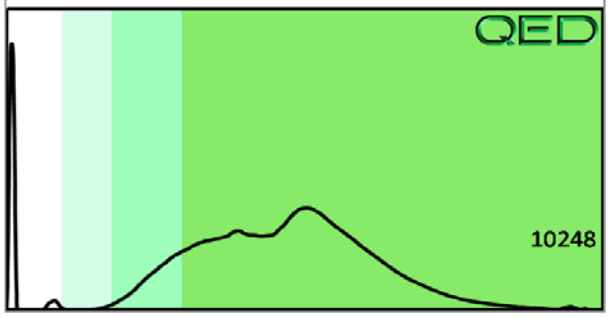


P61/61a-SB6 (2) : V.Deg.PHC (FCM) 60.1%

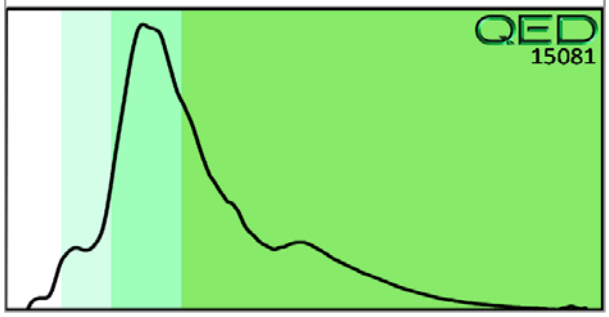


P61/61a-SB7 (2) : V.Deg.PHC (FCM) 36.2%

P61/61a-SB1 - WATER : V.Deg.PHC (FCM)



P61/61a-SB8 : Deg Fuel (FCM) 92.1%



P61/61a-SB6 - WATER : Deg Gas (FCM) 46%