February 18, 2022

Mr. Gordon Box, PG
Geotechnical Engineering Unit
North Carolina Department of Transportation
1020 Birch Ridge Drive
Raleigh, NC 27610

RE: PHASE II INVESTIGATION OF PARCEL 176
Circle K Store 1526, Circle K Stores, Inc.
8400 Norcross Road, Colfax, NC 27235
ESP Project No. IS14.314

TIP Number:	U-4758
WBS Number:	40251.1.1
County:	GUILFORD
Description:	Johnson St – Sandy Ridge Road from Skeet Club Road to I-40

Dear Mr. Box:

ESP Associates, Inc. (ESP) is pleased to submit this report on our GeoEnvironmental Phase II Investigation of the subject parcel. This work was performed in accordance with your Request for Proposal dated December 7, 2021 and our Cost Proposal dated December 13, 2021.

We appreciate the opportunity to assist you during this phase of the project. If you should have any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,

ESP Associates, Inc.

Edward D. Billington, PG
Senior Geologist/Geophysicist
EDB/CRP/???

NORTH CAROLINA LICENSED SEAL 1631 GEOLOGIST EDWARD DAVIS BILLINGTON

DocuSigned by: Ed Billington 7402544DC9...

not considered Final unless all signatures are completed

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1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is planning to improve Johnson Street – Sandy Ridge Road from Skeet Club Road to I-40 in High Point. The NCDOT requested that ESP Associates, Inc. (ESP) perform a Phase II geoenvironmental investigation of Parcel 176 to locate underground storage tanks (USTs), sample soil, and delineate potential contaminated soil. Parcel 176 is located at 8400 Norcross Road in Colfax on the west side of the intersection with Sandy Ridge Road (Figure 1).

2.0 HISTORY

2.1 Phase I Report

According to the 2015 Johnson Street – Sandy Ridge Road Environmental Report for Planning (Phase I Report) for U-4758, Parcel 176 is an active gasoline service station with 7 USTs on site. Petroleum releases were recorded in 1986 (closed in 1987) and in 2014. This site was anticipated to present low geoenvironmental impacts to the project.

2.2 Background Research

We checked the following NCDEQ online sources: Division of Waste Management Site Locator Tool and linked files, the UST Incident Management Database, and the Registered Tanks Database.

The Registered Tanks Database indicated 7 USTs were installed on September 30, 1984:

Tank ID	Type	Volume, gallons	Tank Basin
1	Gasoline	10,000	Automobile
2	Gasoline	10,000	Automobile
3	Gasoline	8,000	Automobile
4	Kerosene	8,000	Other
5	Diesel	20,000	Truck
6	Diesel	20,000	Truck
7	Diesel	8,000	Automobile

The Site Locator Tool shows above-ground storage tank (AST) Incident No. 3216 and UST Incident Nos. 44346, 44550, 47300, and 47682 with linked online files for each. There are comments for each of these incidents in the UST Incident Management Database. ESP observed overlap between the referenced incidents in the online files and database comments.

Significant information from the incidents is provided below:

- **AST Incident No. 3216 with Notice of Violation dated April 28, 1986.** This report indicated that eight petroleum spills occurred from January 1, 1985 to

February 12, 1986 with volumes ranging from 5 to 50 gallons. Investigations were associated with the sump pit to the west (Figure D-1). The incident was closed out on October 13, 1987.

- **UST Incident No. 44346 dated June 20, 2014.** The online files for this incident were limited to two cost reimbursement memos.
  - The UST Incident Management Database included comments that indicated the following:
    - 4,000-gallons of diesel were released from the diesel UST (UST No. 7, automobile tank basin) via the flex connector in the sump on June 20, 2014 (Figure D-2). The diesel sump assessment report indicated total petroleum hydrocarbons (TPH) of 1,900 milligrams per kilogram (mg/kg) detected via soft dig sampling near the sump and the diesel UST No. 7. Free product (FP) was detected in monitoring wells MW-2 and MW-3 with thicknesses of 2.72 and 5.54 feet, respectively. The NCDEQ indicated that a Comprehensive Site Assessment (CSA) and FP recovery were required. Benzene, toluene, ethylbenzene, and xylene (BTEX) were detected in soil and groundwater (GW) samples collected during the CSA investigation, indicating a release from the gasoline tanks. A letter was sent by NCDEQ requesting additional information to complete the CSA.
    - Note dated 11/12/2019. Additional GW and FP assessment indicated no GW contamination had migrated off of the site. FP was detected in three monitoring wells within the automobile tank basin at thicknesses greater than 2 feet. The NCDEQ indicated that FP needs to be addressed and the CSA needs to be completed by January 20, 2019.
  - The 2015 report discussed below referenced an Initial Abatement Action (IAA) completed on September 2, 2014 and a Phase II Limited Site Assessment (LSA) completed on November 21, 2014. The LSA reported no contaminants above the Ground Water Quality Standards; however, the site was classified as a high risk due to nearby potable water wells. Additional GW monitoring was performed in April and July of 2015, when low levels of MTBE and benzene were detected above the North Carolina Code 2L Drinking Water Standards (NCAC 2L) Standards.
- **UST Incident No. 44550 dated July 30, 2015.** The following reports were included in the linked files:
  - Initial Abatement Action (IAA) and Limited Site Assessment (LSA) dated December 7, 2015. Soil samples tested from the base of the excavation for a new product line from the 20,000-gallon truck diesel USTs indicated petroleum contamination (Figure D-3). Approximately 63 tons of contaminated soil were removed but no over-excavation could be performed due to various obstacles. The LSA included installation of two

monitoring wells (MW-5 and MW-6) and six soil borings around the two 20,000-gallon USTs. Groundwater was encountered approximately 42 feet below ground surface (bgs). There was no contamination in the soil or groundwater identified above regulatory limits.

  - GW Monitoring Report dated November 11, 2019. This is the most recent GW report received by the NCDEQ and addresses GW contamination in the vicinity of the automobile tank pit in the southeastern corner of the parcel. The GW report concluded that dissolved groundwater concentrations exceed 2L Standards in monitoring wells MW-1 and MW-14 (Figure D-4). Light Non-Aqueous Phase Liquid (LNAPL) was observed in MW-2, MW-3, and MW-11. Groundwater flow in the area is generally towards the east-southeast (Figure D-5). The GW sample results are provided in Figure D-6 and summarized in Table 3. The closest water-supply wells are located approximately 550 feet downgradient and are used for potable supply.

- **UST Incident No. 47300 dated October 7, 2020.** A UST-61 form was submitted for a release discovered on October 7, 2020. During diesel fuel delivery, approximately 40 to 50 gallons of diesel fuel were released around the fill ports for UST Nos. 5 and 6. The released fuel flowed into a stormwater inlet and the soils were impacted. After the remediation of the area, soil samples indicated that the contamination did not exceed the soil to groundwater maximum soil contaminant concentrations (MSCCs). A NCDEQ Letter of No Further Action was issued on December 16, 2020.
- **UST Incident No. 47682 dated March 29, 2021**. Approximately 60 to 80 gallons of gasoline were released from the fill port on UST No. 7. A vacuum truck was utilized to remove the contaminated water from the stormwater inlet. No documents are linked to this Incident.

2.3 Other Information

ESP's recent email correspondence with Carin Kromm, L.G., NCDEQ Winston-Salem Regional Office, indicated that the 2019 GW monitoring report was the latest report received. The site incident manager, Gene Mao, Guilford County, also indicated no further GW reports have been received. However, Mr. Mao did provide a copy of a 20-Day report regarding the October 7, 2020 diesel spill referenced above (Incident No. 47300).

The Guilford County GIS indicates that the property owner is listed as Circle K Stores, Inc.

3.0 SITE OBSERVATIONS

During our December 2021 and January 2022 field work, the site was occupied by an active Circle K gas station (Figure 2 and 3). The ground surface in the study area was covered by grass and concrete pavement. There are three tank beds located within the study area. The automobile fuel

tank bed is located on the southeastern corner, the truck diesel tank bed is located on the north side of the diesel canopy, and the kerosene tank bed is located north of the building. The automobile tank bed is partially within the proposed temporary construction easement for NCDOT Project U-5748. In addition, the kerosene tank bed and part of the truck diesel tank bed are located with the proposed temporary construction easement for NCDOT Project I-5712.

The inventory report provided by Circle K lists three 8,000-gallon tanks (one regular gasoline, one diesel, and one kerosene), two 10,000-gallon tanks (one regular gasoline and one supreme gasoline), and two 20,000-gallon diesel tanks. One AST is located at the northwest end of the diesel canopy and is listed as a 6,000-gallon Diesel Exhaust Fluid (DEF) tank. A total of 15 monitoring wells should be present on the parcel, including 3 not numbered and one not found (MW-10) (Figure 4). Note that Figure 4 also shows the 2 offsite monitoring wells, MW-13 and MW-14. The coordinates for the identified monitoring wells are provided in Table 3.

4.0 METHODS

ESP performed a geophysical study of the area designated by the NCDOT on December 28 and 29, 2021 and January 24 and 25, 2022. The geophysical investigation area was approximately 3.1 acres and encompassed the accessible areas of the parcel. We performed direct-push drilling and sampling of subsurface soils to depths of 10 feet on January 24 and 25, 2022. A photoionization detector (PID) was used to screen subsurface soils in the field and select soil samples to send for laboratory analysis. Groundwater was not encountered during the drilling investigation.

4.1 Geophysics

ESP performed a metal detector study over the accessible areas of the site using a Geonics EM61 MK2 with a line spacing of approximately three feet followed by ground-penetrating radar (GPR) data collected over selected EM61 anomalies (Figures 5, 6, and 7). Location control was provided in real-time using a differential global positioning system (DGPS).

4.2 Borings

ESP performed direct-push drilling on Parcel 176 using a subcontractor, SAEDACCO of Fort Mill, South Carolina. Twenty borings were drilled, designated B176-1 through B176-20 (Figure 13). The soil borings were advanced using a hand auger and a GeoProbe 54DT drill rig. Soil samples were obtained to a depth of approximately 10 feet using hand auger cuttings and 4-foot long Macro-Core® tubes. Soil cores varied in recovery from 80 to 100 percent. The sampling equipment was decontaminated prior to drilling and between borings by the driller using a pressure washer with Liquinox® detergent solution.

4.3 Soil Sample Protocol

Representative soil samples were taken from hand auger cuttings and the Macro-Core (core) tubes at approximate one-foot intervals by the ESP field geologist while wearing nitrile disposable gloves. Each sample was placed in a sealed plastic bag and then kept in a warm area for approximately 10 to 15 minutes prior to measuring volatile organic compound (VOC) levels in the head space with the PID. The maximum PID readings per boring ranged from 0.5 to 43.7 parts per million (ppm) (Table 1).

Seventeen soil samples were selected for ultraviolet fluorescence (UVF) laboratory analysis, as listed in Table 2. For each selected sample, an approximate 10-gram soil sample was collected from the sample bag using a Terra Core™ sampler and placed into a laboratory-supplied 40-milliliter volatile organic analysis (VOA) vial containing methanol. Once sealed, the vial was labeled with the sample identification number and then shaken vigorously for about one minute. The samples were packed on ice and sent via overnight delivery to RED Lab, LLC (RED Lab), located in Wilmington, North Carolina, following proper chain-of-custody procedures (Appendix C).

RED Lab used a QED Hydrocarbon Analyzer to quantitatively analyze the soil samples using the UVF method for BTEX; gasoline range organics (GRO); diesel range organics (DRO); TPH; total aromatics; polycyclic aromatic hydrocarbons (PAHs); and benzo(a)pyrene (BaP).

4.4 Groundwater

Groundwater was not encountered in the 20 borings.

5.0 RESULTS

5.1 Geophysics

The EM61 early time gate data show the response from both shallow and deeper metallic objects (Figure 5). The differential response reduces the effect of shallow anomalies and emphasizes anomalies from larger and more deeply buried metallic objects, such as USTs (Figures 6 and 7). Our evaluation of the EM61 data indicated several anomalies at the north end of the building that could not be attributed to known cultural features; GPR data collected over these anomalies indicated that they were caused by reinforced concrete. GPR data collected over the 4 known USTs in the automobile tank bed and over the 2 USTs in the truck diesel tank bed are shown on Figures 8 and 9, respectively.

The automobile fuel tank bed GPR data indicated that the four tanks are buried approximately 6 feet bgs. The two northern USTs have approximate diameters of 9 feet and lengths of 22 feet. The two southern USTs have approximate diameters of 8 feet and lengths of 25 feet. The truck diesel tank bed GPR data indicated that the two tanks are buried approximately 6 feet bgs and have

approximated diameters of 11 feet and lengths of 30 feet. No GPR data were collected over the kerosene tank bed due to two dumpsters located directly on top of the UST.

The EM61 early time gate response and differential response are shown on the plan sheet for NCDOT Project U-4758 on Figures 9, 10, and 12.

5.2 Sample Data

The soil sample UVF hydrocarbon analysis results for BTEX, GRO, DRO, and PAHs are presented in Table 2. The RED Lab laboratory report, which also includes results for TPH, total aromatics, and BaP, is provided in Appendix B. Values are provided in mg/kg, or ppm.

5.3 Sample Observations

The results of the laboratory testing indicate that BTEX and BAP were below the laboratory detection limits in the 17 samples tested. GRO was detected in one sample with values of 17.9 ppm, below the NCDEQ action level of 50 ppm for GRO. DRO was detected in 12 samples, with one sample above the NCDEQ action level of 100 ppm for DRO with a value of 868.2 ppm (Sample S1 in Boring B176-13). PAHs were detected in 3 samples with values ranging from 0.83 to 12.1 ppm.

6.0 CONCLUSIONS

The results of the Phase II investigation of Parcel 176 for NCDOT Project U-4758 indicates one boring location where DRO was above the NCDEQ Action Level for DRO. Groundwater was not encountered in the upper 10 feet at the site. However, groundwater contamination is known to be present on the parcel, based on previous investigations.

6.1 Geophysics

The geophysical data did not indicate the presence of abandoned USTs. The 4 known USTs in the automobile fuel tank bed on the southeast corner of the site are located partially within the proposed temporary construction easement for NCDOT Project U-4758. The two known USTs in the truck diesel tank bed and the single kerosene UST are within the proposed temporary construction easement for NCDOT Project I-5712 (Figure 15).

6.2 Soil

The results of the Phase II investigation for Parcel 176 of NCDOT Project U-4758 indicates that DRO was detected in Sample S1 (1.0 - 1.5 feet bgs) in Boring B176-13 at levels above the NCDEQ Action Level of 100 ppm for DRO (Figure 14). This boring is located outside of the proposed ROW and easements for Project U-4758 but within the proposed temporary construction easement for Project I-5712 (Figure 15).

6.3 Estimated Quantities

Based on the laboratory results and field observations, the petroleum contamination appears to be between ground surface and 4 feet bgs at and in the vicinity of Boring B176-13. The PID readings and UVF results from adjacent borings indicates the contamination does not extend to those borings. Using an average contaminated soil thickness of 4.0 feet and an area of 491 square feet, the volume of contaminated soil above 10 feet bgs is estimated as follows:

Total Estimated Volume of Contaminated Soil above 10 feet depth bgs
491 square feet * 4.0 feet = 1,964 cubic feet = 73 cubic yards

Assuming 100 pounds per cubic foot, the estimated amount of contaminated soil to be removed for construction is approximately 98 tons in the vicinity of Boring B176-13.

Additional soil contamination may be discovered when the 7 USTs and the dispenser islands are removed, so this should be considered when planning demolition and construction.

7.0 RECOMMENDATIONS

ESP recommends that the 4 known USTs in the automobile tank bed at the southeast corner that are located partially within the proposed temporary construction easement be removed in accordance with NCDEQ regulations. ESP also recommends that soil removed from the site as part of NCDOT construction activities in the vicinity of B176-13 be screened for petroleum hydrocarbon contamination, properly handled, segregated, and disposed of in accordance with NCDEQ regulations. Additionally, soil removed in the vicinity of the USTs, the product lines, and the dispenser islands also should be screened for petroleum hydrocarbon contamination, properly handled, segregated, and disposed of in accordance with NCDEQ regulations.

For NCDOT Project I-5712, the two USTs in the truck diesel tank pit, the kerosene UST, and Boring P176-13 are within the proposed temporary construction easement as shown on the 25 percent plans (Figure 15).

Groundwater was not encountered in the upper 10 feet in the study area. Based on the planned cut depths and proposed drainage features, it does not appear that groundwater will be encountered during construction. However, if groundwater is encountered during construction, it may be contaminated and should be screened for petroleum hydrocarbons, properly handled, segregated, and disposed of in accordance with NCDEQ regulations.

8.0 LIMITATIONS

ESP's professional services have been performed, findings obtained, and recommendations prepared in accordance with customary principles and practices in the fields of environmental science and engineering. ESP is not responsible for the independent conclusions, opinions, or recommendations made by others based on the data presented in this report.

The passage of time may result in a change in the environmental characteristics at this site and surrounding properties. ESP does not warrant against future operations or conditions, or against operations or conditions present of a type or at a location not investigated. ESP does not assume responsibility for other environmental issues that may be associated with the subject site.

TABLES

TABLE 1
SOIL SAMPLE PID READINGS

Boring	Sample Depth Range with PID > 10 ppm (feet bgs)	Maximum PID Reading (ppm) and Sample Depth (feet bgs)
B176-1	None	0.6 (7.0 – 7.5)
B176-2	None	1.3 (4.0 – 4.5)
B176-3	None	0.6 (1.0 – 1.5, 8.0 – 8.5)
B176-4	None	1.5 (1.0 – 1.5)
B176-5	None	1.9 (1.0 – 1.5)
B176-6	None	1.6 (9.0 – 9.5)
B176-7	None	0.5 (4.0 – 4.5, 8.0 – 8.5)
B176-8	None	1.1 (9.0 – 9.5)
B176-9	None	0.8 (2.0 – 2.5)
B176-10	None	0.8 (5.0 – 5.5, 7.0 – 7.5)
B176-11	None	3.2 (9.0 – 9.5)
B176-12	None	1.2 (9.0 – 9.5)
B176-13	1.0 – 1.5	43.7 (1.0 – 1.5)
B176-14	None	1.6 (7.0 – 7.5)
B176-15	None	0.9 (1.0 – 1.5)
B176-16	None	0.8 (4.0 – 6.5)
B176-17	None	0.9 (5.0 – 5.5)
B176-18	None	1.1 (8.0 – 8.5)
B176-19	None	1.8 (2.0 – 2.5)
B176-20	None	1.4 (2.0 – 2.5)

TABLE 2
SOIL SAMPLE UVF RESULTS SUMMARY

Boring	Sample ID (depth in feet bgs)	Date Collected	BTEX (C6-C9) (mg/kg)	GRO (C5-C10) (mg/kg)	DRO (C10-C35) (mg/kg)	PAHs (mg/kg)
B176-1	S5	1/24/22	<0.64	<0.64	<0.64	<0.2
B176-1	S7	1/24/22	<0.53	<0.53	0.64	<0.17
B176-2	S4	1/24/22	<0.34	<0.34	<0.34	<0.11
B176-3	S1	1/24/22	<0.59	<0.59	0.85	<0.19
B176-3	S5	1/24/22	<0.54	<0.54	0.54	<0.17
B176-5	S4	1/24/22	<0.58	<0.58	<0.58	<0.19
B176-8	S6	1/24/22	<0.49	<0.49	0.67	<0.16
B176-9	S2	1/24/22	<0.61	<0.61	<0.61	<0.2
B176-10	S4	1/25/22	<0.54	<0.54	0.83	<0.17
B176-11	S2	1/24/22	<0.58	<0.58	<0.58	<0.19
B176-12	S6	1/25/22	<0.66	<0.66	0.66	<0.21
B176-13	S1	1/24/22	<7.5	<7.5	**868.2**	12.1
B176-13	S4	1/24/22	<1.2	17.9	68.8	0.83
B176-13	S8	1/24/22	<0.73	<0.73	11.7	<0.23
B176-17	S5	1/25/22	<0.52	<0.52	19.8	1.0
B176-19	S4	1/25/22	<0.33	<0.33	0.33	<0.11
B176-20	S2	1/25/22	<0.57	<0.57	0.57	<0.18

TABLE 3
MONITORING WELL LOCATIONS WITH 2019 MONITORING REPORT RESULTS

Monitoring Well	Northing	Easting	Depth to Groundwater, feet	2019 Monitoring Report Results		
				Detected Compound	Detected Level, ug/L	NC 2L Groundwater Standard ug/L
MW-1	853361	1705573	39.39	Benzene	**15.4**	1
				Toluene	27	600
				Ethylbenzene	47.1	600
				Xylenes, Total	109	500
				MTBE	15.2	20
				Naphthalene	**9.8**	6
MW-2[1]	853345	1705578	40.73	Free Product 1.95ft thick	-	-
MW-3[1]	853332	1705603	42.59	Free Product 4.18ft thick	-	-
MW-4	853332	1705603	39.08	MTBE	0.4	20
MW-5	853458	1705250	39.40	Not Sampled	-	-
MW-6	853493	1705254	38.50	Not Sampled	-	-
MW-7	853364	1705550	39.18	MTBE	10.1	20
MW-8	853384	1705595	39.53	MTBE	7.2	20
MW-9	853356	1705624	39.59	MTBE	0.46	20
MW-10[4]	NL		-	-	-	-
MW-11[1]	853352	1705587	42.68	Free Product 4.30ft thick	-	-
MW-12D	853335	1705588	39.20	MTBE	1.1	20
MW-13	NL[3]		36.19	All Below Detection Limits	-	-
MW-14	NL[3]		38.77	MTBE	**26.7**	20
MW[2]	853341	1705580	N/A	N/A	-	-
MW[2]	853366	1705624	N/A	N/A	-	-
MW[2]	853351	1705624	N/A	N/A	-	-

The complete summary of GW sampling results from the 2019 MR is provided in Appendix D-6

NL = Not Located

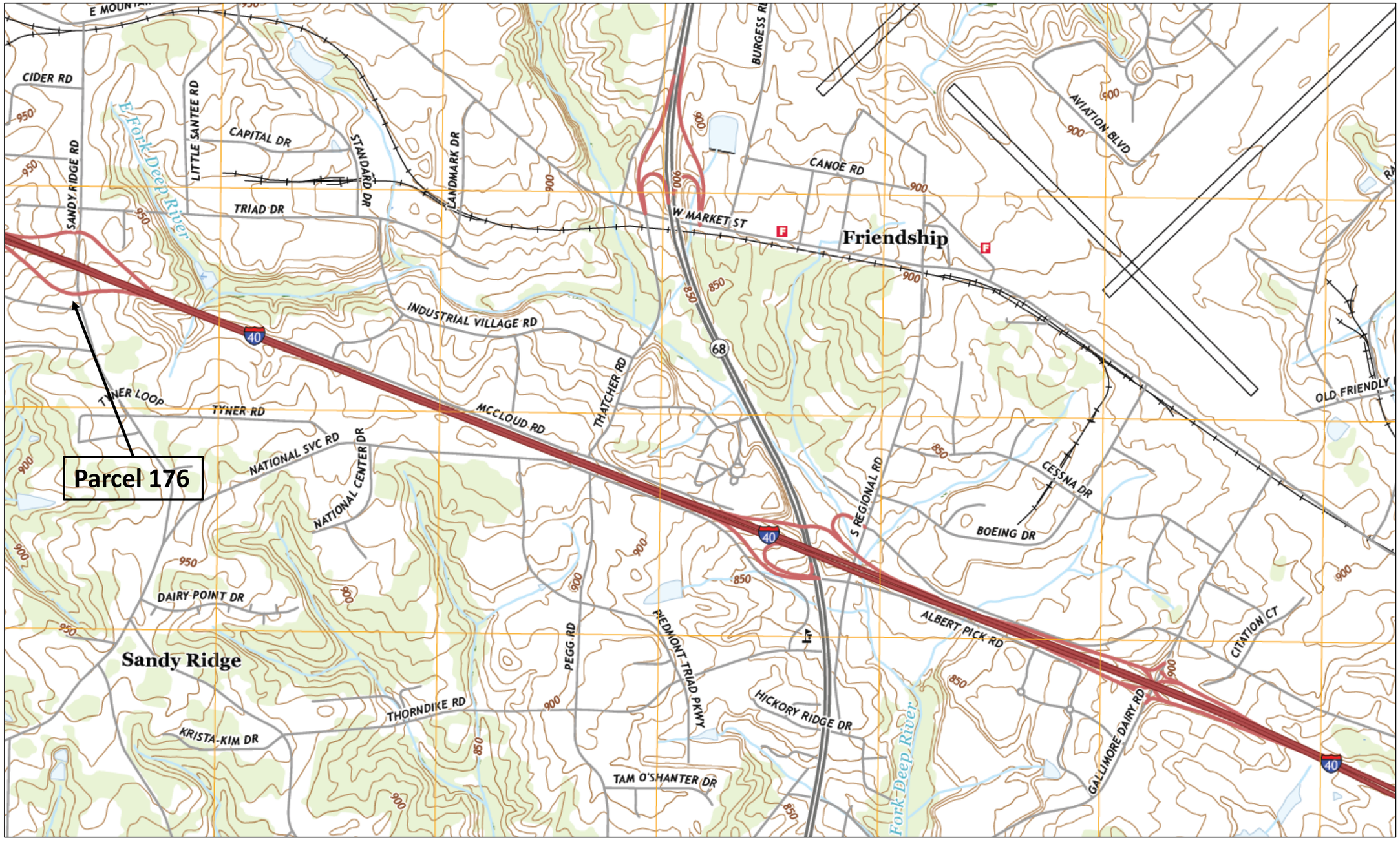
[1] Monitoring well not sampled due to free product

[2] Monitoring well not associated with 2019 Monitoring Report

[3] Monitoring well not located during 2022 Phase II Investigation

[4] MW-10 not located in the 2019 MR or 2022 Phase II Investigation

FIGURES



From: USGS US Topo 7.5 - minute map for GUILFORD QUADRANGLE, NC, Date: 2019, Original Scale: 1:24,000

PROJECT NO.	IS14.314
SCALE	AS SHOWN
DATE	2/17/2022
BY	CRP/EDB

FIGURE 1 – PARCEL 176, CIRCLE K STORES, INC
SITE VICINITY MAP

NCDOT PROJECT U-4758
JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40
GUILFORD COUNTY, NORTH CAROLINA

ESP Associates, Inc.

7011 Albert Pick Rd.,
Suite E
Greensboro, NC 27409

336.334.7724

www.espassociates.com

A. Photograph from southeast corner of parcel, looking west.

B. Photograph from southwest corner of parcel, looking east.

C. Photograph from northeast end of parcel, looking west.

D. Photograph of west end of parcel, looking north.

PROJECT NO. IS14.314	***FIGURE 2 – PARCEL 176, CIRCLE K STORES, INC SITE PHOTOGRAPHS, 1 OF 2***	ESP Associates, Inc. 7011 Albert Pick Rd., Suite E Greensboro, NC 27409 336.334.7724 www.espassociates.com
SCALE N/A		
DATE 2/17/2022	***NCDOT PROJECT U-4758***	
BY CRP/EDB	***JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40***	
	GUILFORD COUNTY, NORTH CAROLINA	

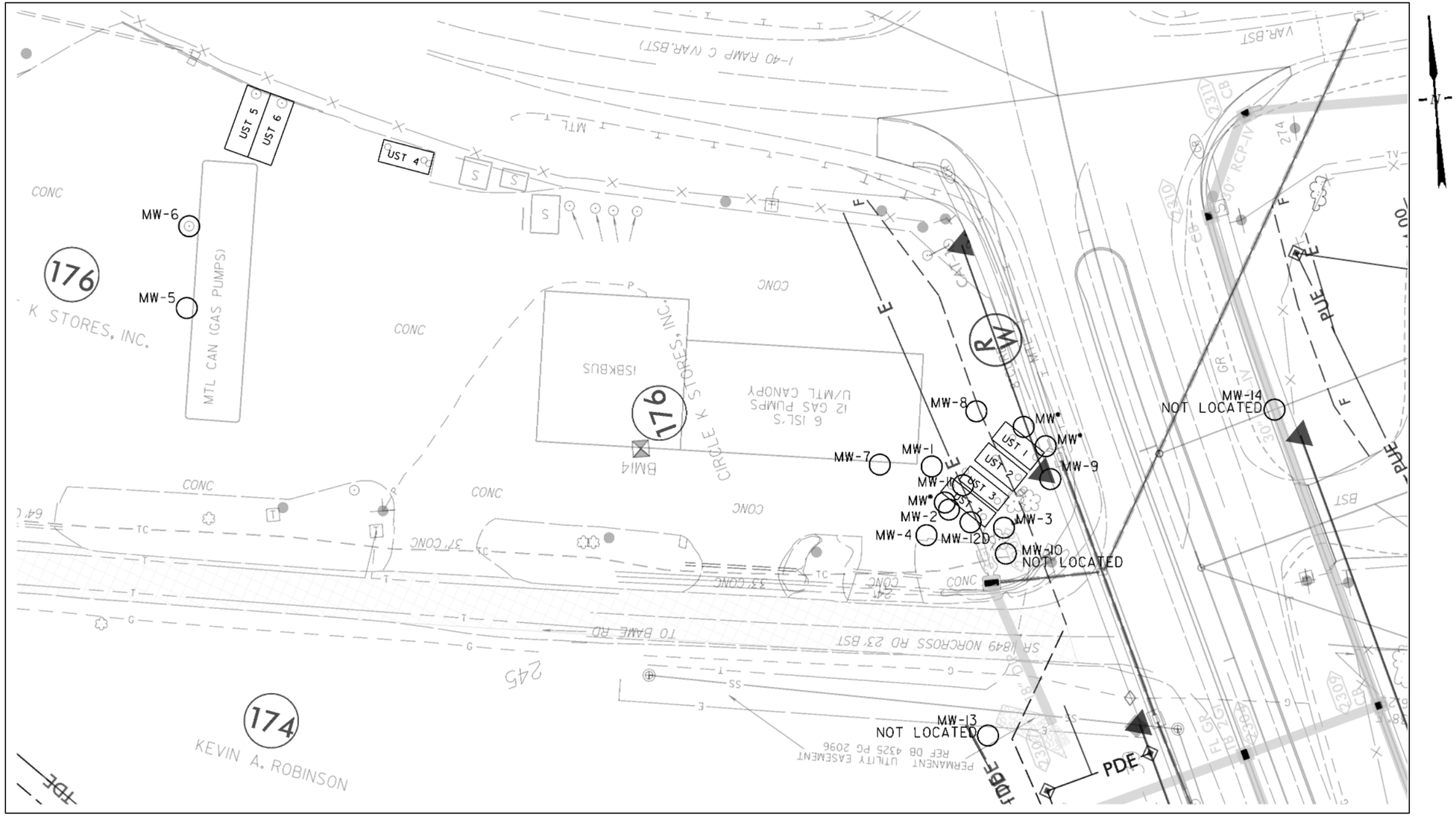
E. Photograph of the southeastern tank pit, looking south.

F. Photograph of the kerosene UST, looking northeast.

G. Photograph of the tank pit located on the north end of the diesel canopy, looking north.

H. Photograph of DEF AST located at the northwest end of the diesel canopy, looking south east. DEF is reportedly non-hazardous.

PROJECT NO. IS14.314	***FIGURE 3 – PARCEL 176, CIRCLE K STORES, INC SITE PHOTOGRAPHS, 2 OF 2***	ESP Associates, Inc.
SCALE N/A		7011 Albert Pick Rd., Suite E Greensboro, NC 27409
DATE 2/17/2022	***NCDOT PROJECT U-4758 JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40 GUILFORD COUNTY, NORTH CAROLINA***	336.334.7724
BY CRP/EDB		www.espassociates.com



MW* - Monitoring well not associated with the 2019 Monitoring Report

List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

See Figure 16 for explanation of symbols and line types

0 50 100
FEET

PROJECT NO. IS14.314	***FIGURE 4 – PARCEL 176, CIRCLE K STORES, INC MONITORING WELL LOCATIONS ON PLAN SHEET***
SCALE 1" = 50'	
DATE 2/17/2022	***NCDOT PROJECT U-4758***
BY CRP/EDB	***JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40***
	GUILFORD COUNTY, NORTH CAROLINA

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336.334.7724
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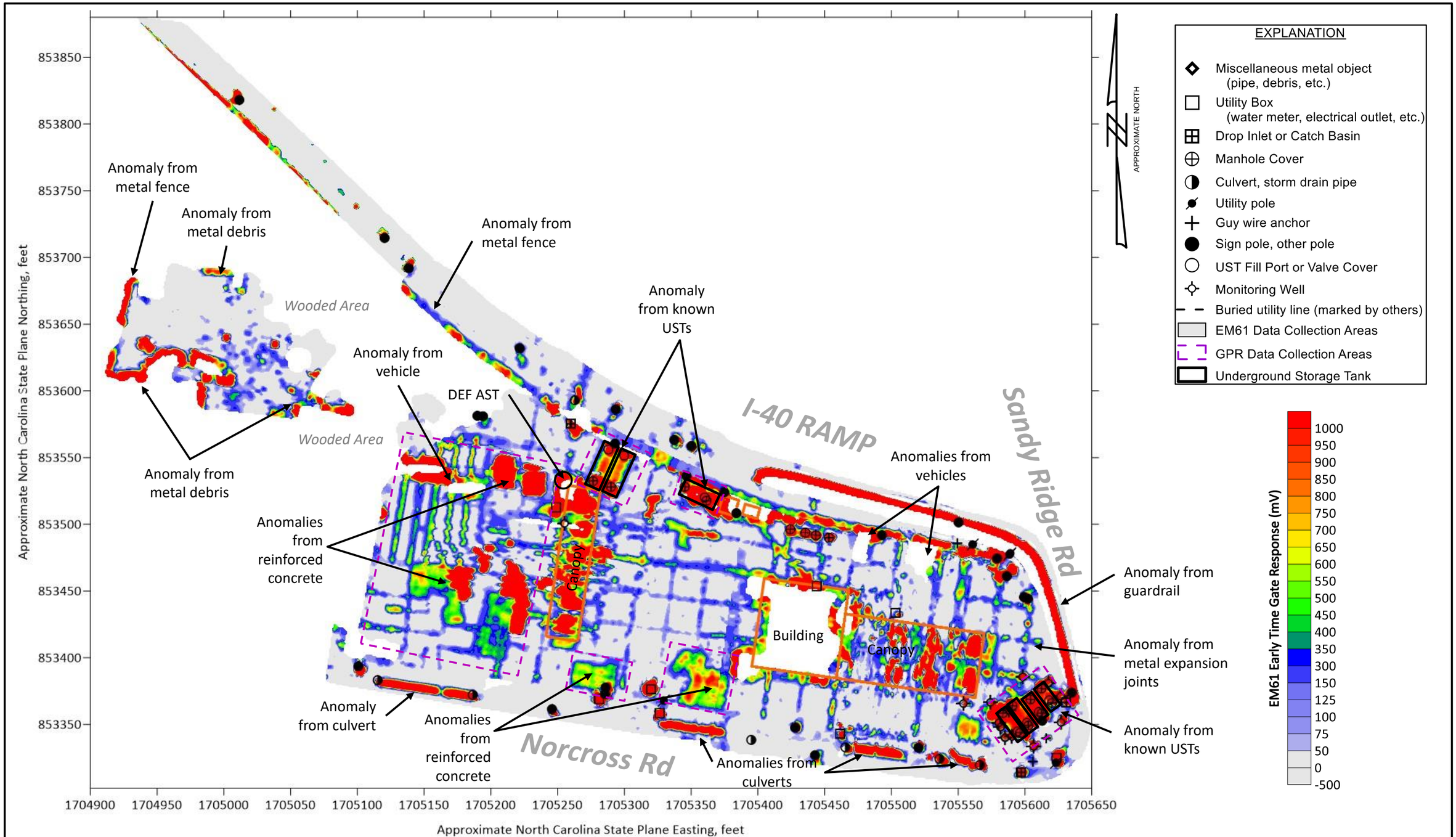

Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP makes no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

PROJECT NO. IS14.314	***FIGURE 5 – PARCEL 176, CIRCLE K STORES, INC EM61 EARLY TIME GATE DATA***
SCALE AS SHOWN	***NCDOT PROJECT U-4758 JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40 GUILFORD COUNTY, NORTH CAROLINA***
DATE 2/17/2022	
BY CRP/EDB	

ESP Associates, Inc.
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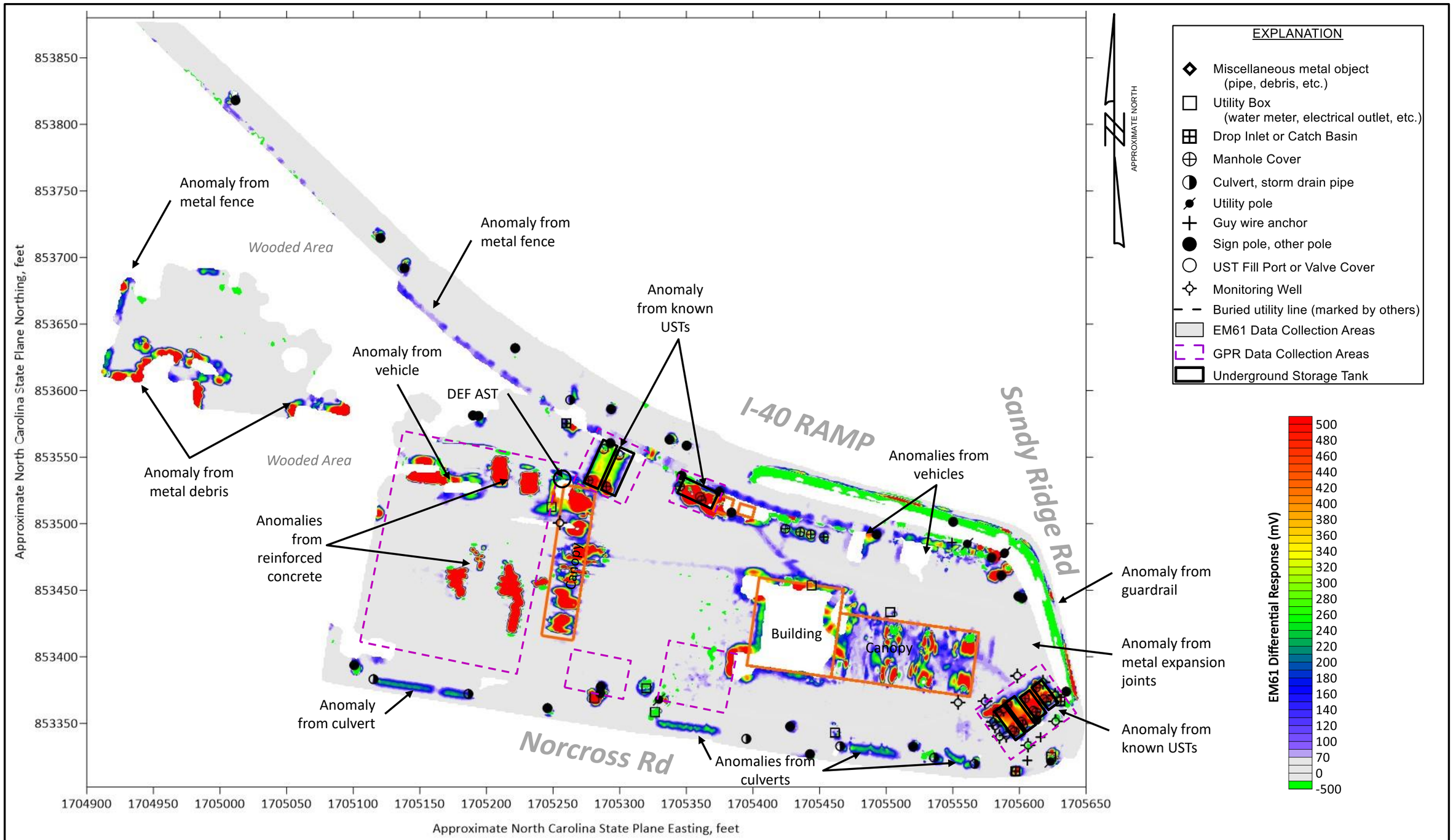
Greensboro, NC 27409
336.334.7724
www.espassociates.com



Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP makes no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

PROJECT NO.	IS14.314
SCALE	AS SHOWN
DATE	2/17/2022
BY	CRP/EDB

FIGURE 6 – PARCEL 176, CIRCLE K STORES, INC
EM61 DIFFERENTIAL DATA

NCDOT PROJECT U-4758
JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40
GUILFORD COUNTY, NORTH CAROLINA

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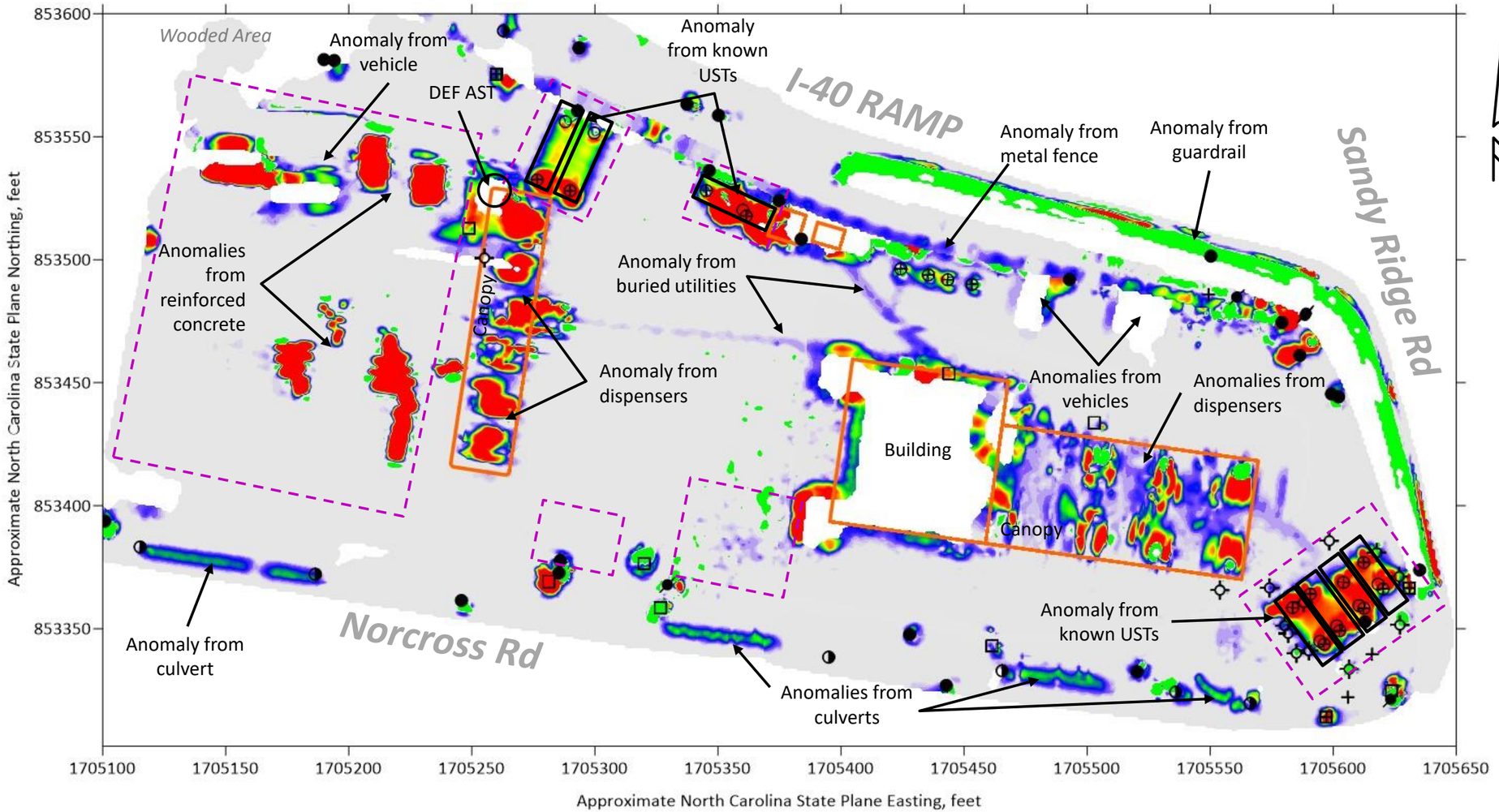

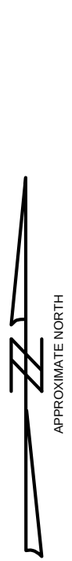

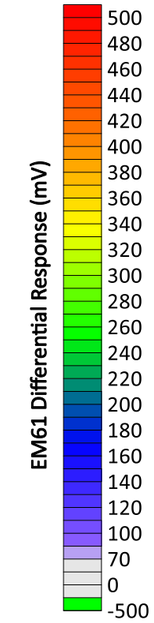

EXPLANATION

- Miscellaneous metal object (pipe, debris, etc.)
- Utility Box (water meter, electrical outlet, etc.)
- Drop Inlet or Catch Basin
- Manhole Cover
- Culvert, storm drain pipe
- Utility pole
- Guy wire anchor
- Sign pole, other pole
- UST Fill Port or Valve Cover
- Monitoring Well
- Buried utility line (marked by others)
- EM61 Data Collection Areas
- GPR Data Collection Areas
- Underground Storage Tank

Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP makes no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

PROJECT NO. IS14.314	***FIGURE 7 – PARCEL 176, CIRCLE K STORES, INC DETAIL AREA, EM61 DIFFERENTIAL DATA***
SCALE AS SHOWN	***NCDOT PROJECT U-4758***
DATE 2/17/2022	***JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40***
BY CRP/EDB	***GUILFORD COUNTY, NORTH CAROLINA***

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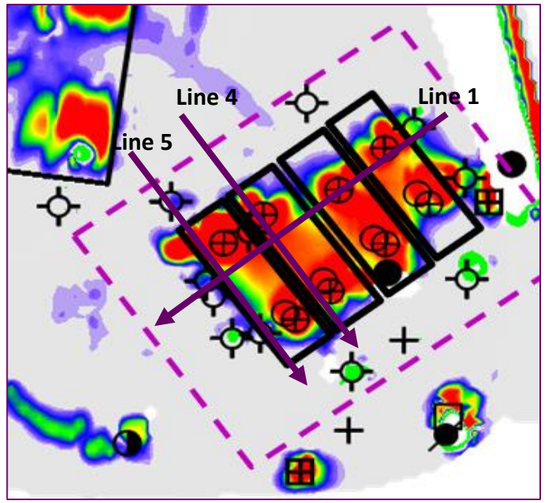
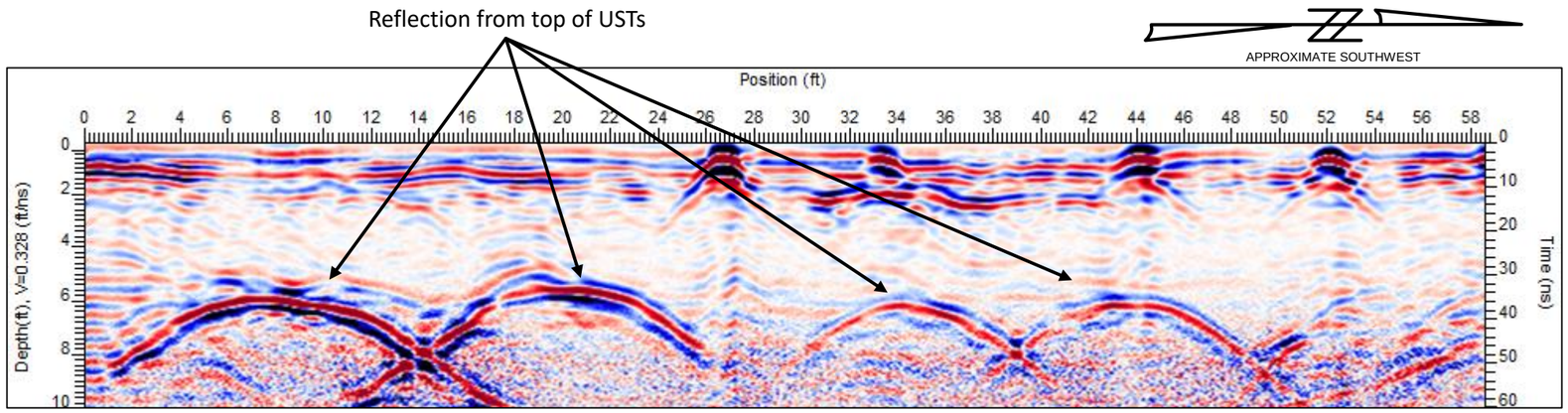
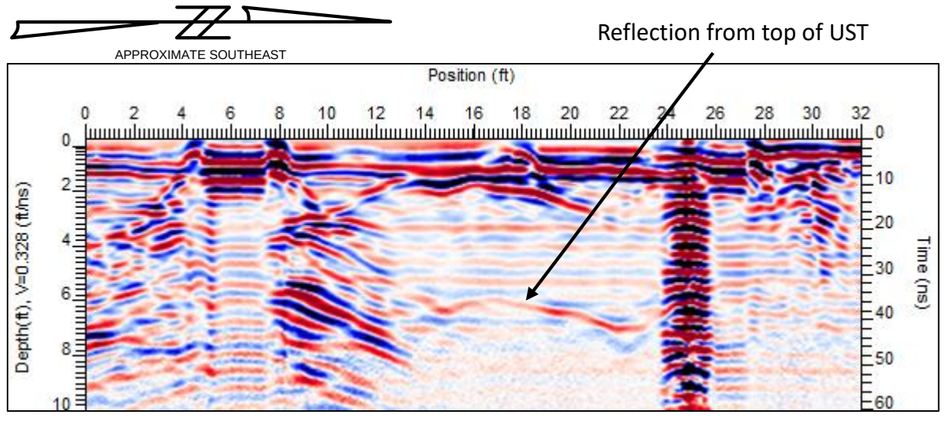
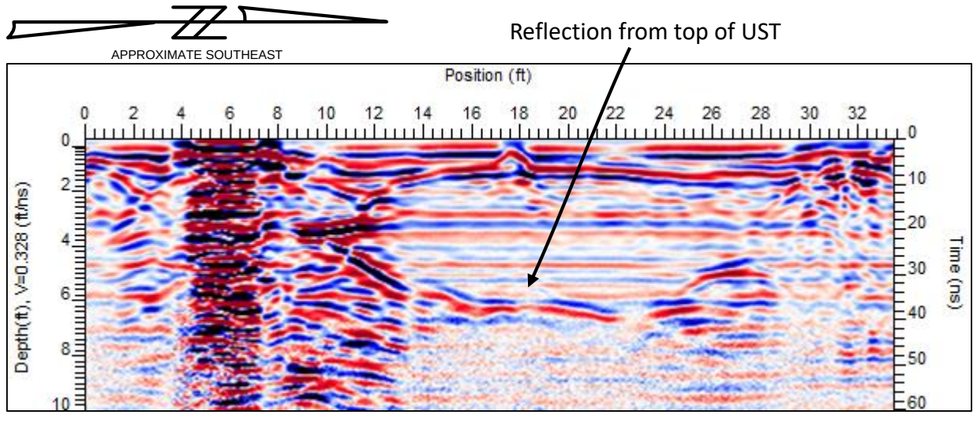


A. Approximate location of example GPR lines over 4 known USTs in southeastern corner of site.



B. Example GPR Line 1 over short axes of 4 known USTs in southeastern corner of site.





C. Example GPR Lines 4 (left) and 5 (right) over long axis of second UST from the south (Line 4) and the southern UST (Line 5). Reflection from UST is partially blocked by steel plates on surface.

PROJECT NO. IS14.314	***FIGURE 8 - PARCEL 176, CIRCLE K STORES, INC***
SCALE AS SHOWN	***GPR IMAGES OF FOUR AUTOMOBILE FUEL USTS***
DATE 2/17/2022	***NCDOT PROJECT U-4758***
BY CRP/EDB	***JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40***
	GUILFORD COUNTY, NORTH CAROLINA

ESP Associates, Inc.
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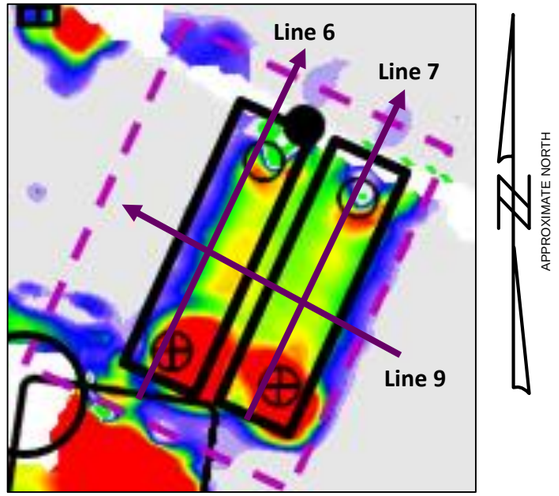
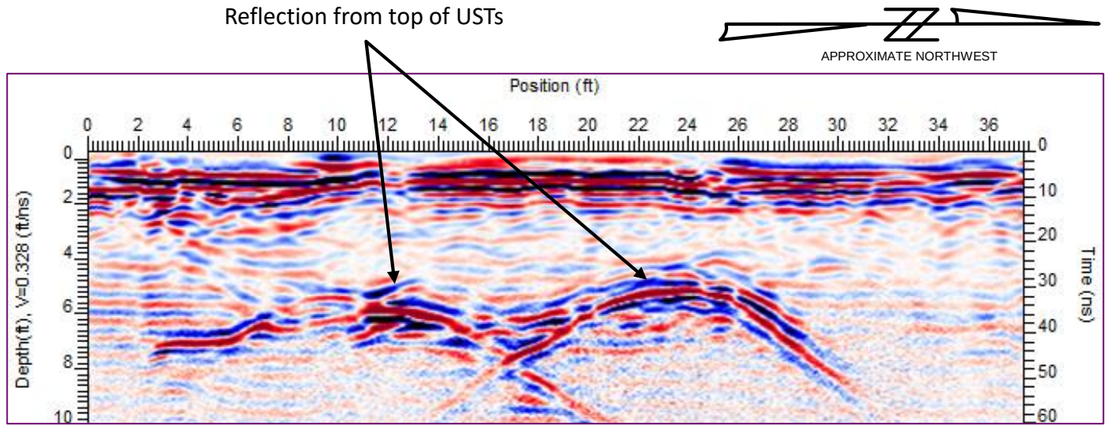
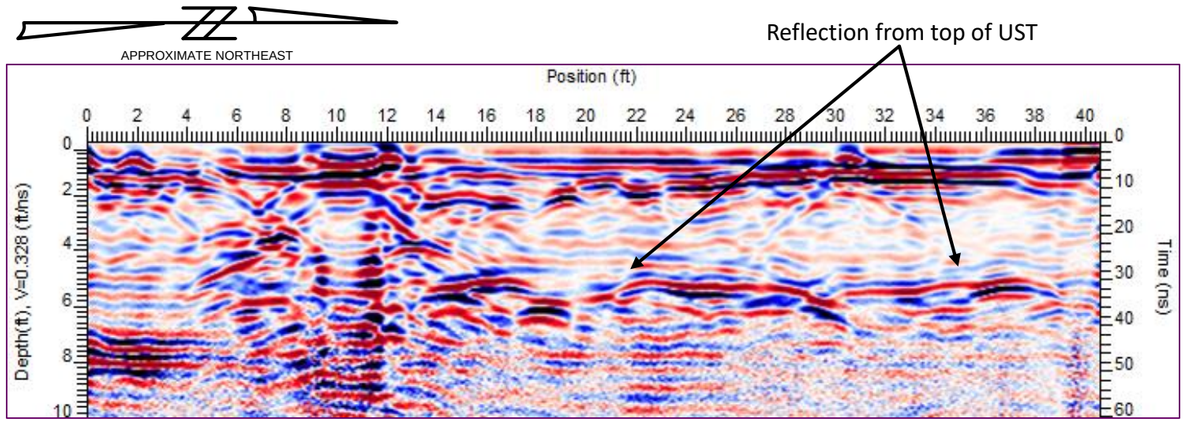
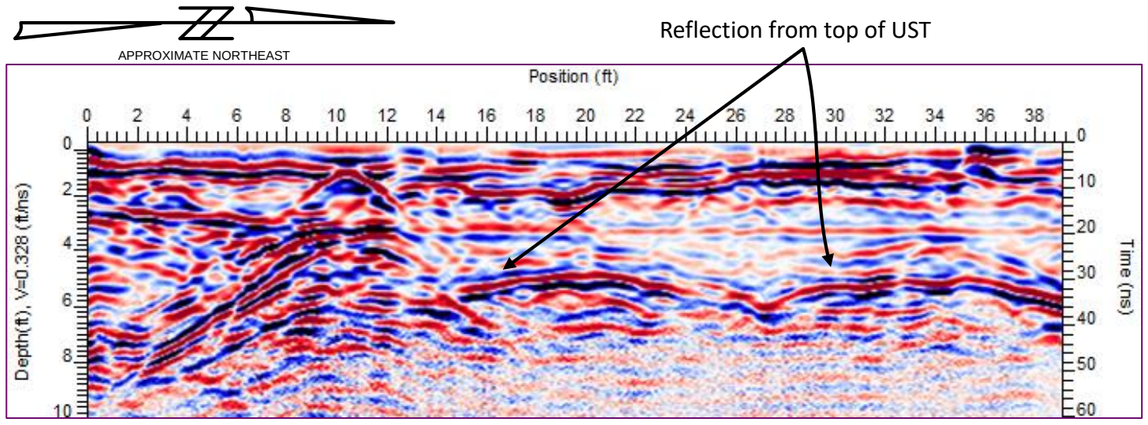


A. Approximate location of example GPR lines over 2 truck diesel USTs.



B. Example GPR Line 9 over short axes of 2 truck diesel USTs.





C. Example GPR Lines 6 (left) and 7 (right) over long axis of the western UST (Line 6) and the eastern UST (Line 7). Reflection from USTs are partially blocked by steel plates on surface.

PROJECT NO. IS14.314	***FIGURE 9 - PARCEL 176, CIRCLE K STORES, INC***
SCALE AS SHOWN	***GPR IMAGES OF TWO TRUCK DIESEL USTS***
DATE 2/17/2022	***NCDOT PROJECT U-4758***
BY CRP/EDB	***JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40***
	GUILFORD COUNTY, NORTH CAROLINA

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List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

See Figure 16 for explanation of symbols and line types

0 80 160
FEET

PROJECT NO.	IS14.314
SCALE	1" = 80'
DATE	2/17/2022
BY	CRP/EDB

FIGURE 10 – PARCEL 176, CIRCLE K STORES, INC
EM61 EARLY TIME GATE DATA ON PLAN SHEET

NCDOT PROJECT U-4758
JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40
GUILFORD COUNTY, NORTH CAROLINA

ESP Associates, Inc.
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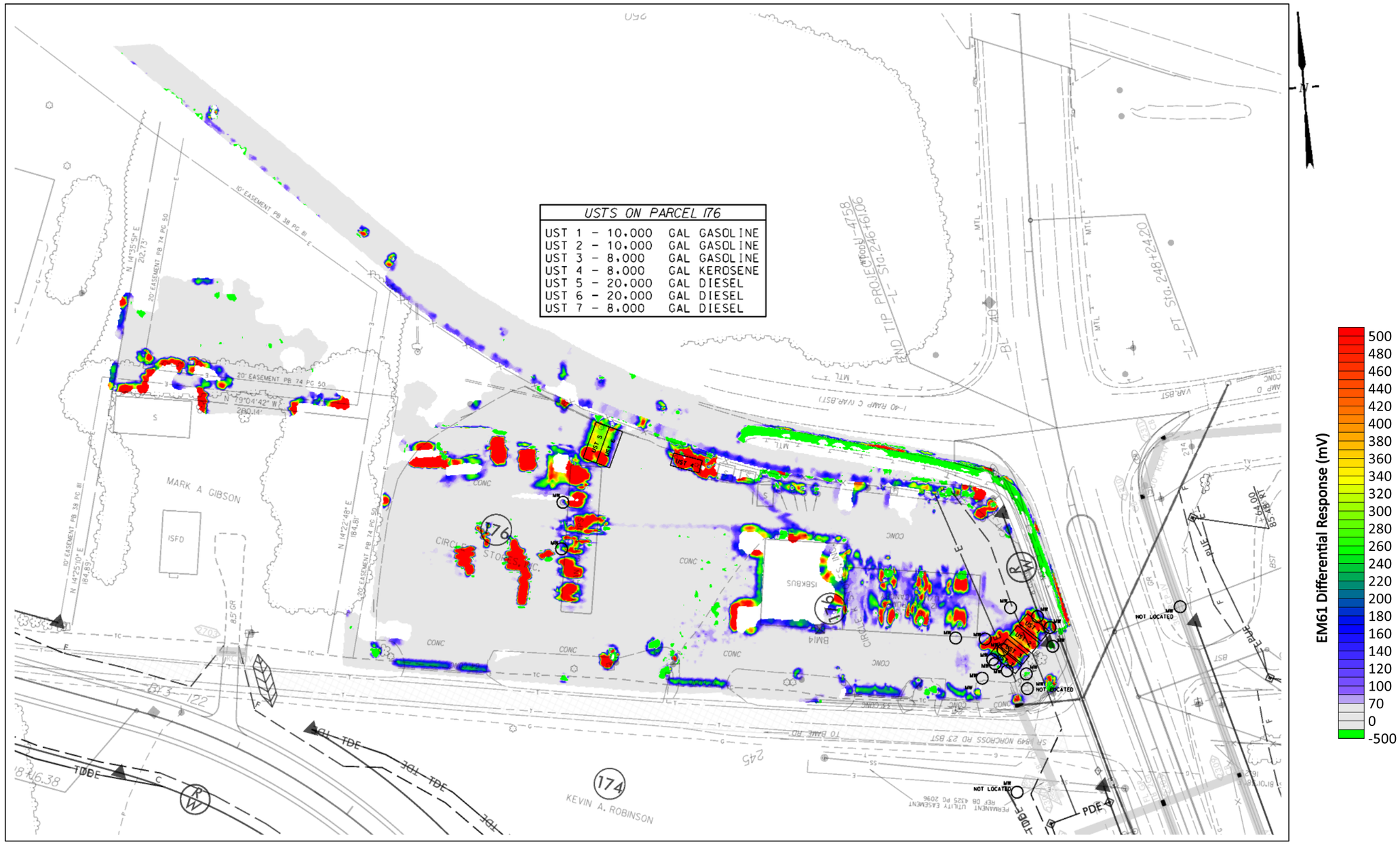

List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

0 80 160
FEET

See Figure 16 for explanation of symbols and line types

PROJECT NO.	IS14.314
SCALE	1" = 80'
DATE	2/17/2022
BY	CRP/EDB

FIGURE 11 – PARCEL 176, CIRCLE K STORES, INC
EM61 DIFFERENTIAL DATA ON PLAN SHEET

NCDOT PROJECT U-4758
JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40
GUILFORD COUNTY, NORTH CAROLINA

ESP Associates, Inc.
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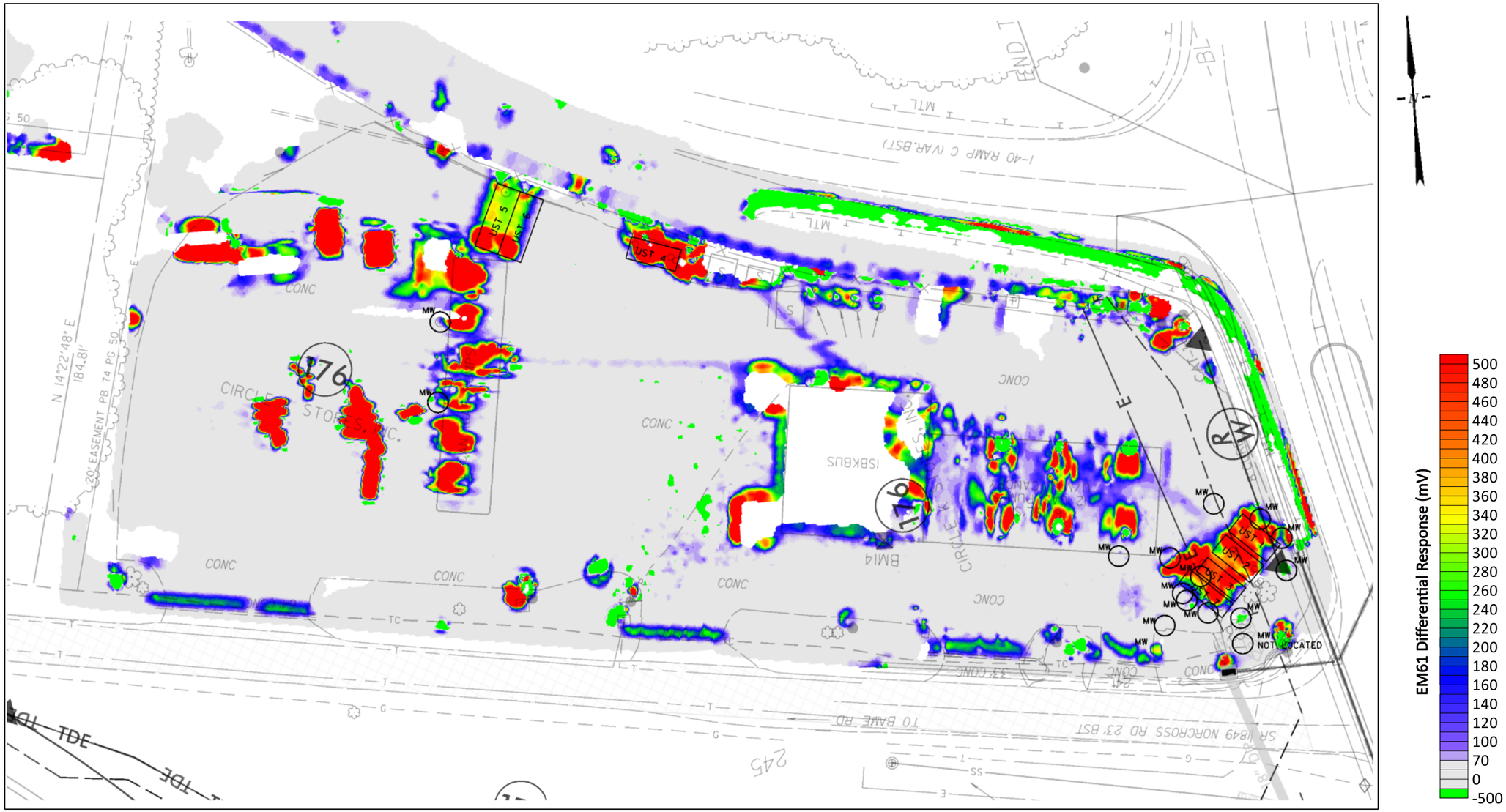

List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

0 50 100
FEET

See Figure 16 for explanation of symbols and line types

PROJECT NO. IS14.314	***FIGURE 12 – PARCEL 176, CIRCLE K STORES, INC DETAIL AREA, EM61 DIFFERENTIAL DATA ON PLAN SHEET***
SCALE 1" = 50'	
DATE 2/17/2022	***NCDOT PROJECT U-4758 JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40 GUILFORD COUNTY, NORTH CAROLINA***
BY CRP/EDB	

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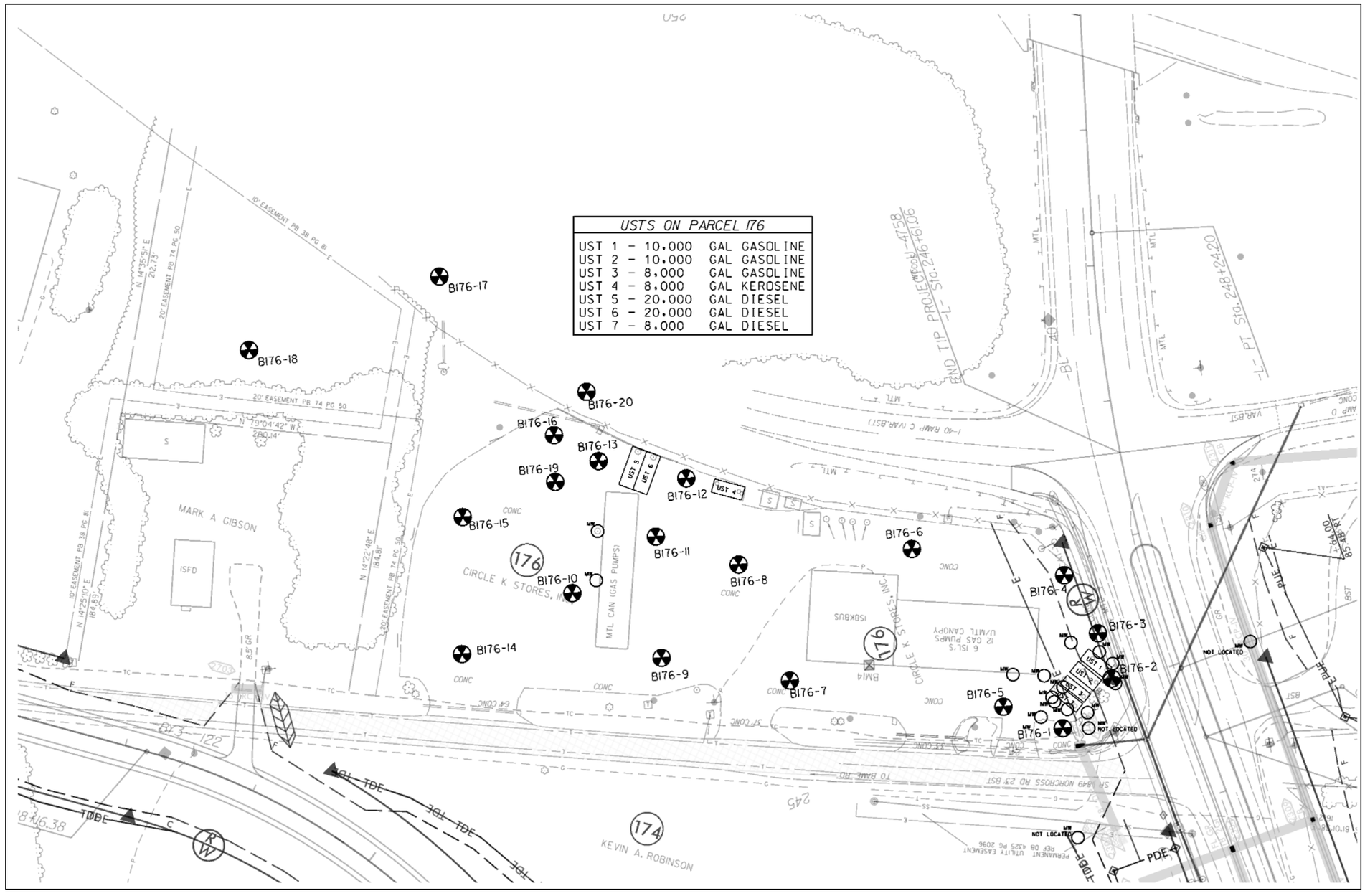

List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

See Figure 16 for explanation of symbols and line types

PROJECT NO. IS14.314	**FIGURE 13 – PARCEL 176, CIRCLE K STORES, INC BORING LOCATIONS ON PLAN SHEET**
SCALE 1" = 80'	
DATE 2/17/2022	**NCDOT PROJECT U-4758 JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40 GUILFORD COUNTY, NORTH CAROLINA**
BY CRP/EDB	

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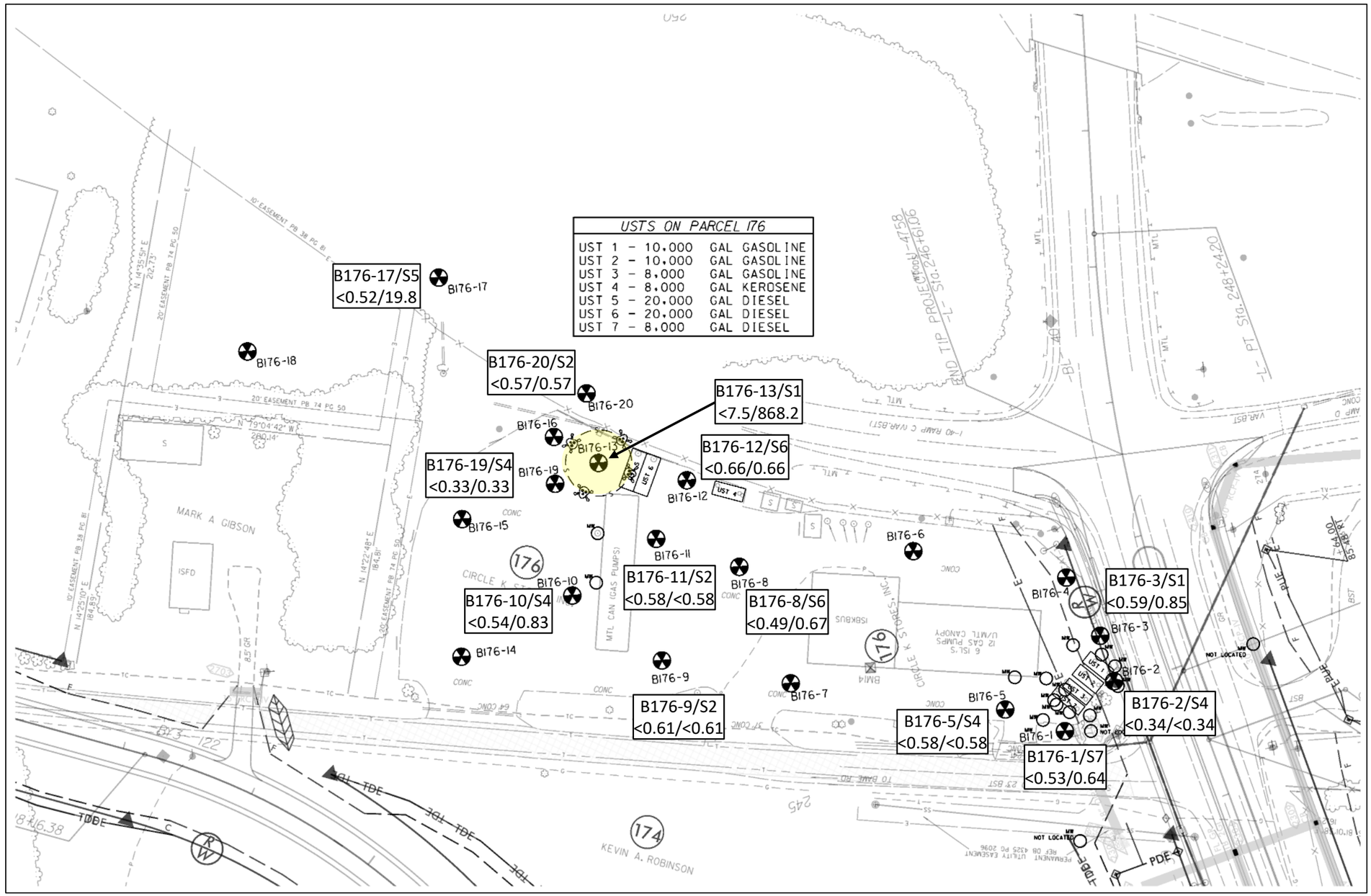

Explanation

B176-1/S7 <0.53/0.64

Maximum Analytical Results per Boring
Boring No./Sample No.
GRO/DRO (mg/kg, ppm)

List of Microstation References

- U4758_Geo_env.dgn
  - U4758_HYD_DRN.dgn
  - U4758_ncdot_fs.dgn
  - U4758_rdy_dsn.dgn
  - U4758_rdy_row.dgn
  - U4758_rdy_ss.dgn

0 80 160
FEET

See Figure 16 for explanation of symbols and line types

PROJECT NO. IS14.314	***FIGURE 14 – PARCEL 176, CIRCLE K STORES, INC SOIL ANALYTICAL RESULTS ON PLAN SHEET***
SCALE 1" = 80'	
DATE 2/17/2022	***NCDOT PROJECT U-4758 JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40 GUILFORD COUNTY, NORTH CAROLINA***
BY CRP/EDB	

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USTS ON PARCEL 176		
UST 1 -	10,000	GAL GASOLINE
UST 2 -	10,000	GAL GASOLINE
UST 3 -	8,000	GAL GASOLINE
UST 4 -	8,000	GAL KEROSENE
UST 5 -	20,000	GAL DIESEL
UST 6 -	20,000	GAL DIESEL
UST 7 -	8,000	GAL DIESEL

<u>List of Microstation References</u>

- U4758_Geo_env.dgn
  - Ref, I-5712_rdy_row.dgn
  - I-5712_rdy_ss.dgn
  - i5712_ncdot_fs.dgn
  - I-5712_rdy_row.dgn

0 80 160
FEET

See Figure 16 for explanation of symbols and line types

PROJECT NO.	IS14.314
SCALE	1" = 80'
DATE	2/17/2022
BY	CRP/EDB

FIGURE 15 – PARCEL 176, CIRCLE K STORES, INC
SOIL CONTAMINATION SHOWN FOR PROJECT I-5712

NCDOT PROJECT U-4758
JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40
GUILFORD COUNTY, NORTH CAROLINA

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12/2/2016

STATE OF NORTH CAROLINA, DIVISION OF HIGHWAYS
CONVENTIONAL PLAN SHEET SYMBOLS

Note: Not to Scale **S.U.E. = Subsurface Utility Engineering*

PROJECT REFERENCE NO. | SHEET NO.

BOUNDARIES AND PROPERTY:
- State Line
- County Line
- Township Line
- City Line
- Reservation Line
- Property Line
- Existing Iron Pin
- Computed Property Corner
- Property Monument
- Parcel/Sequence Number
- Existing Fence Line
- Proposed Woven Wire Fence
- Proposed Chain Link Fence
- Proposed Barbed Wire Fence
- Existing Wetland Boundary
- Proposed Wetland Boundary
- Existing Endangered Animal Boundary
- Existing Endangered Plant Boundary
- Existing Historic Property Boundary
- Known Contamination Area: Soil
- Potential Contamination Area: Soil
- Known Contamination Area: Water
- Potential Contamination Area: Water
- Contaminated Site: Known or Potential

BUILDINGS AND OTHER CULTURE:
- Gas Pump Vent or U/G Tank Cap
- Sign
- Well
- Small Mine
- Foundation
- Area Outline
- Cemetery
- Building
- School
- Church
- Dam

HYDROLOGY:
- Stream or Body of Water
- Hydro, Pool or Reservoir
- Jurisdictional Stream
- Buffer Zone 1
- Buffer Zone 2
- Flow Arrow
- Disappearing Stream
- Spring
- Wetland
- Proposed Lateral, Tail, Head Ditch
- False Sump

RAILROADS:
- Standard Gauge
- RR Signal Milepost
- Switch
- RR Abandoned
- RR Dismantled

RIGHT OF WAY & PROJECT CONTROL:
- Secondary Horiz and Vert Control Point
- Primary Horiz Control Point
- Primary Horiz and Vert Control Point
- Exist Permanent Easement Pin and Cap
- New Permanent Easement Pin and Cap
- Vertical Benchmark
- Existing Right of Way Marker
- Existing Right of Way Line
- New Right of Way Line
- New Right of Way Line with Pin and Cap
- New Right of Way Line with Concrete or Granite R/W Marker
- New Control of Access Line with Concrete C/A Marker
- Existing Control of Access
- New Control of Access
- Existing Easement Line
- New Temporary Construction Easement
- New Temporary Drainage Easement
- New Permanent Drainage Easement
- New Permanent Drainage / Utility Easement
- New Permanent Utility Easement
- New Temporary Utility Easement
- New Aerial Utility Easement

ROADS AND RELATED FEATURES:
- Existing Edge of Pavement
- Existing Curb
- Proposed Slope Stakes Cut
- Proposed Slope Stakes Fill
- Proposed Curb Ramp
- Existing Metal Guardrail
- Proposed Guardrail
- Existing Cable Guiderail
- Proposed Cable Guiderail
- Equality Symbol
- Pavement Removal

VEGETATION:
- Single Tree
- Single Shrub
- Hedge
- Woods Line
- Orchard
- Vineyard

EXISTING STRUCTURES:
MAJOR:
- Bridge, Tunnel or Box Culvert
- Bridge Wing Wall, Head Wall and End Wall

MINOR:
- Head and End Wall
- Pipe Culvert
- Footbridge
- Drainage Box: Catch Basin, DI or JB
- Paved Ditch Gutter
- Storm Sewer Manhole
- Storm Sewer

UTILITIES:
POWER:
- Existing Power Pole
- Proposed Power Pole
- Existing Joint Use Pole
- Proposed Joint Use Pole
- Power Manhole
- Power Line Tower
- Power Transformer
- U/G Power Cable Hand Hole
- H-Frame Pole
- U/G Power Line LOS B (S.U.E.*)
- U/G Power Line LOS C (S.U.E.*)
- U/G Power Line LOS D (S.U.E.*)

TELEPHONE:
- Existing Telephone Pole
- Proposed Telephone Pole
- Telephone Manhole
- Telephone Pedestal
- Telephone Cell Tower
- U/G Telephone Cable Hand Hole
- U/G Telephone Cable LOS B (S.U.E.*)
- U/G Telephone Cable LOS C (S.U.E.*)
- U/G Telephone Cable LOS D (S.U.E.*)
- U/G Telephone Conduit LOS B (S.U.E.*)
- U/G Telephone Conduit LOS C (S.U.E.*)
- U/G Telephone Conduit LOS D (S.U.E.*)
- U/G Fiber Optics Cable LOS B (S.U.E.*)
- U/G Fiber Optics Cable LOS C (S.U.E.*)
- U/G Fiber Optics Cable LOS D (S.U.E.*)

WATER:
- Water Manhole
- Water Meter
- Water Valve
- Water Hydrant
- U/G Water Line LOS B (S.U.E.*)
- U/G Water Line LOS C (S.U.E.*)
- U/G Water Line LOS D (S.U.E.*)
- Above Ground Water Line

TV:
- TV Pedestal
- TV Tower
- U/G TV Cable Hand Hole
- U/G TV Cable LOS B (S.U.E.*)
- U/G TV Cable LOS C (S.U.E.*)
- U/G TV Cable LOS D (S.U.E.*)
- U/G Fiber Optic Cable LOS B (S.U.E.*)
- U/G Fiber Optic Cable LOS C (S.U.E.*)
- U/G Fiber Optic Cable LOS D (S.U.E.*)

GAS:
- Gas Valve
- Gas Meter
- U/G Gas Line LOS B (S.U.E.*)
- U/G Gas Line LOS C (S.U.E.*)
- U/G Gas Line LOS D (S.U.E.*)
- Above Ground Gas Line

SANITARY SEWER:
- Sanitary Sewer Manhole
- Sanitary Sewer Cleanout
- U/G Sanitary Sewer Line
- Above Ground Sanitary Sewer
- SS Forced Main Line LOS B (S.U.E.*)
- SS Forced Main Line LOS C (S.U.E.*)
- SS Forced Main Line LOS D (S.U.E.*)

MISCELLANEOUS:
- Utility Pole
- Utility Pole with Base
- Utility Located Object
- Utility Traffic Signal Box
- Utility Unknown U/G Line LOS B (S.U.E.*)
- U/G Tank; Water, Gas, Oil
- Underground Storage Tank, Approx. Loc.
- A/G Tank; Water, Gas, Oil
- Geoenvironmental Boring
- U/G Test Hole LOS A (S.U.E.*)
- Abandoned According to Utility Records — AATUR
- End of Information — E.O.I.

PROJECT NO. IS14.314	**FIGURE 16**
SCALE N/A	**LEGEND FOR PLAN SHEET FIGURES**
DATE 2/17/2022	**NCDOT PROJECT U-4758**
BY CRP/EDB	**JOHNSON ST– SANDY RIDGE RD FROM SKEET CLUB RD TO I-40**
	GUILFORD COUNTY, NORTH CAROLINA

ESP Associates, Inc.
7011 Albert Pick Rd., Suite E
Greensboro, NC 27409
336.334.7724
www.espassociates.com

APPENDIX A
SOIL BORING LOGS

FIELD BORING LOG

BORING NO. B176-1

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 43' southeast of southeast corner of gas canopy

TYPE OF BORING	Hand Auger and Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	Hand Auger / 4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 968.9'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.2' Topsoil	Hand Auger 0.0'-5.0'
				0.3'-8.3' Red Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.1		
2	S-2	2.0-2.5	0.2		
3	S-3	3.0-3.5	0.3		
4	S-4	4.0-4.5	0.4		
5	S-5	5.0-5.5	0.5		Macrocore 5.0'-9.0'
					Core Rec 3.5'/4.0'
6	S-6	6.0-6.5	0.3		
7	S-7	7.0-7.5	0.6		
8	S-8	8.0-8.5	0.3		Macrocore 9.0'-10.0'
				8.3'-10.0' Reddish Brown and White Micaceous Silty CLAY, Moist	Core Rec 1.0'/1.0'
9	S-9	9.0-9.5	0.4		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-2

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 52' east of southeast corner of gas canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 969.3'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Topsoil	Macrocore 0.0'-4.0'
					Core Rec 3.7'/4.0'
				0.3'-8.7' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	1.1		
2	S-2	2.0-2.5	0.9		
3	S-3	3.0-3.5	1.0		
4	S-4	4.0-4.5	1.3		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.8		
6	S-6	6.0-6.5	0.6		
7	S-7	7.0-7.5	0.7		
8	S-8	8.0-8.5	1.1		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
				8.7'-10' Yellow-Brown Clayey SILT, Moist	
9	S-9	9.0-9.5	0.5		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-3

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 50' northeast of southeast corner of gas canopy

TYPE OF BORING	Hand Auger and Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	Hand Auger/4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 969.7'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Hand Auger 0.0'-2.0'
				0.3'-8.7' Red Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.6		
2	S-2	2.0-2.5	0.4		Macrocore 2.0'-4.0'
					Core Rec 2.0'/2.0'
3	S-3	3.0-3.5	0.4		
4	S-4	4.0-4.5	0.1		Macrocore 4.0'/8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.5		
6	S-6	6.0-6.5	0.5		
7	S-7	7.0-7.5	0.4		
8	S-8	8.0-8.5	0.6		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
				8.7'-10.0' Red Micaceous Silty CLAY, Moist	
9	S-9	9.0-9.5	0.5		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-4

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 26' northeast of northeast corner of gas canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 970.2'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 3.3'/4.0'
				0.3'-5.8' Red Sandy CLAY, Moist	
1	S-1	1.0-1.5	1.5		
2	S-2	2.0-2.5	0.7		
3	S-3	3.0-3.5	0.6		
4	S-4	4.0-4.5	0.5		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.6		
				5.8'-10.0' Red Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.6		
7	S-7	7.0-7.5	0.9		
8	S-8	8.0-8.5	0.8		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.2		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-5

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 38' feet southwest of southeast corner of gas canopy

TYPE OF BORING	Hand Auger and Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	Hand Auger/4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 969.6

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Hand Auger 0.0'-1.5'
				0.3'-10.0' Red-Brown Sandy CLAY, Moist	
1	S-1	1.0-1.5	1.9		
					Macrocore 1.5'-4.0'
2	S-2	2.0-2.5	1.7	2.0' Grading to Gray	Core Rec 2.5'/2.5'
3	S-3	3.0-3.5	1.0		
				3.3' Grading to Yellow-Brown	
4	S-4	4.0-4.5	0.5		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
					4.0'-5.0' Petroleum Odor
5	S-5	5.0-5.5	0.4		
6	S-6	6.0-6.5	0.7		
7	S-7	7.0-7.5	0.7		
8	S-8	8.0-8.5	0.4		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.0		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-6

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 28' northeast of northeast corner of building

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 971.2'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.8' Dark Gray Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.7		
				1.5' Grading to Red	
2	S-2	2.0-2.5	0.4		
3	S-3	3.0-3.5	0.5		
4	S-4	4.0-4.5	0.5		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.4		
				5.8'-10.0' Orange and Red Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.6		
7	S-7	7.0-7.5	0.5		
8	S-8	8.0-8.5	0.9		Macrocore 8.0'-10.0
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.6	9.0' Grading to White	
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-7

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 21' southwest of southwest corner of building

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 972.0'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 3.5'/4.0'
				0.3'-7.7' Red-Brown and Gray Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.4		
				1.9' Grading to Brown-Red	
2	S-2	2.0-2.5			
3	S-3	3.0-3.5	0.4		
4	S-4	4.0-4.5	0.5		Macrocore 4.0-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.3		
6	S-6	6.0-6.5	0.3		
7	S-7	7.0-7.5	0.4		
				7.7'-10.0' Brown-Red Silty CLAY, Moist	
8	S-8	8.0-8.5	0.5		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	0.3		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-8

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 52' west from northwest corner of building

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 971.5'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.6' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.9		
2	S-2	2.0-2.5	0.3		
3	S-3	3.0-3.5	0.5		
4	S-4	4.0-4.5	0.3		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.4		
				5.6'-10.0' Red and Orange Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.7		
7	S-7	7.0-7.5	0.5		
8	S-8	8.0-8.5	0.7		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.1	9.0' Grading to Yellow	
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-9

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 107' feet west of southwest corner of building

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 972.5'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.6' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.6		
2	S-2	2.0-2.5	0.8		
3	S-3	3.0-3.5	0.4		
4	S-4	4.0-4.5	0.4		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.3		
				5.6'-10.0' Orange-Red Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.5		
7	S-7	7.0-7.5	0.5		
8	S-8	8.0-8.5	0.6		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	0.5		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-10

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 39' north from southwest corner of diesel canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 971.3'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'-4.0'
				0.3'-6.2' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.5		
2	S-2	2.0-2.5	0.4		
3	S-3	3.0-3.5	0.5		
4	S-4	4.0-4.5	0.7		Macrocore 4.0'-8.0'
					Core Rec 4.0'-4.0'
5	S-5	5.0-5.5	0.8		
6	S-6	6.0-6.5	0.7		
				6.2'-10.0' Red and Orange Micaceous Clayey SILT, Moist	
7	S-7	7.0-7.5	0.8		
8	S-8	8.0-8.5	0.7		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
				8.9' Grading to Black	
9	S-9	9.0-9.5	1.1		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-11

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 42' southeast of northeast corner of diesel canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/24/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/24/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 970.8'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.3' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.9		
2	S-2	2.0-2.5	1.9		
3	S-3	3.0-3.5	1.3		
4	S-4	4.0-4.5	2.1		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	1.9		
				5.3'-10.0' Red-Brown Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	2.0		
7	S-7	7.0-7.5	1.9		
8	S-8	8.0-8.5	3.0	8.0' Grading to Yellow	Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	3.2		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-12

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 35' west of the kerosene tank pit

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 970.4'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.6' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.6		
2	S-2	2.0-2.5	0.7		
3	S-3	3.0-3.5	0.5		
4	S-4	4.0-4.5	0.3		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.5		
				5.6'-10.0' Orange Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.8		
7	S-7	7.0-7.5	0.5		
8	S-8	8.0-8.5	0.7	8.0' Grading to Yellow	Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.2		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-13

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 15' north from the northwest corner of diesel canopy

TYPE OF BORING: Hand Auger and Direct Push | DATE STARTED: 1/24/2022 | SHEET: 1 of 1

DRILLING FIRM: SAEDACCO | DATE FINISHED: 1/24/2022 | TOTAL DEPTH: 10.0 ft

DRILLER: Robert Miller | SAMPLE METHOD: Hand Auger and 4' Macrocore | DEPTH TO GW: Dry ft

DRILL RIG: Geoprobe 54DT | LOGGED BY: A. Roseman | COMMENT: Elev: 969.2'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Hand Auger 0.0'-5.0'
				0.3'-4.7' Gray and Black Silty CLAY, Moist	0.5'-1.5' petroleum odor
1	S-1	1.0-1.5	43.7		
				1.8' Grading to Red	
2	S-2	2.0-2.5	3.8		
3	S-3	3.0-3.5	0.6		
4	S-4	4.0-4.5	3.6		
				4.7'-10.0' Red Micaceous Clayey SILT, Moist	
5	S-5	5.0-5.5	1.3		Macrocore 5.0'-9.0'
					Core Rec 4.0'/4.0'
6	S-6	6.0-6.5	1.1		
7	S-7	7.0-7.5	0.9		
				7.3' Grading to Yellow-Brown	
8	S-8	8.0-8.5	3.2		
9	S-9	9.0-9.5	1.6		Macrocore 9.0'-10.0'
					Core Rec 1.0'/1.0'
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-14

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approx. 45' north from edge of pavement from the middle of the fourth entrance off of Norcross

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 971.6'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-10.0' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	1.1		
2	S-2	2.0-2.5	1.0		
3	S-3	3.0-3.5	0.8		
4	S-4	4.0-4.5	0.6		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	1.1		
6	S-6	6.0-6.5	0.8		
7	S-7	7.0-7.5	1.6		
8	S-8	8.0-8.5	1.1		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
				8.8' Grading to White	
9	S-9	9.0-9.5	1.2		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-15

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 100' west of the diesel canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 970.1'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-6.3' Dark Gray Silty CLAY, Moist	
1	S-1	1.0-1.5	0.9		
				1.8' Grading to Red	
2	S-2	2.0-2.5	0.6		
3	S-3	3.0-3.5	0.5		
4	S-4	4.0-4.5	0.4		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.4		
6	S-6	6.0-6.5	0.3		
				6.3'-9.3' Red Micaceous Clay SILT, Moist	
7	S-7	7.0-7.5	0.2		
8	S-8	8.0-8.5	0.7		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
				8.7' Grading to Orange	
9	S-9	9.0-9.5	0.5		
				9.3'-10.0 Orange and White Sandy SILT, Moist	
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-16

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 48' northwest from the northwest corner of the diesel canopy

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 969.4'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-5.8' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.3		
2	S-2	2.0-2.5	0.6		
3	S-3	3.0-3.5	0.3		
4	S-4	4.0-4.5	0.8		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.8		
				5.8'-10.0' Yellow-Brown, Micaceous Clayey SILT, Moist	
6	S-6	6.0-6.5	0.8		
7	S-7	7.0-7.5	0.5		
8	S-8	8.0-8.5	1.0		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.3	9.0' Grading to Yellow	
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-17

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 15' east of the gas stores sign on the I-40 East exit ramp

TYPE OF BORING	Hand Auger and Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	Hand Auger and 4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: N/A

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Gravel and Topsoil	Hand Auger 0.0'-5.0'
				0.3'-5.4' Red Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.4		
2	S-2	2.0-2.5	0.5		
3	S-3	3.0-3.5	0.3		
4	S-4	4.0-4.5	0.5	4.0' Grading to Yellow	
5	S-5	5.0-5.5	0.9		Macrocore 5.0'-9.0'
					Core Rec 3.2'/4.0'
				5.4'-8.8' Orange and White Silty SAND, Moist	
6	S-6	6.0-6.5	0.4		
7	S-7	7.0-7.5	0.4		
8	S-8	8.0-8.5	0.4		
				8.8'-10.0' Yellow-Brown Micaceous Clayey SILT, Moist	
9	S-9	9.0-9.5	0.6		Macrocore 9.0'-10.0'
					Core Rec 1.0'/1.0'
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-18

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 70' northeast from the northwest corner of garage

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: 966.9'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Topsoil	Macrocore 0.0'-4.0'
					Core Rec 3.5'/4.0'
				0.3'-6.2' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.6		
2	S-2	2.0-2.5	0.4		
3	S-3	3.0-3.5	0.3		
4	S-4	4.0-4.5	0.3		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.7		
				5.3' Grading to Orange	
6	S-6	6.0-6.5	0.6		
				6.2'-10.0' Orange Micaceous Clayey SILT, Moist	
7	S-7	7.0-7.5	0.9		
8	S-8	8.0-8.5	1.1		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	1.0	9.0' Grading to Yellow-Brown	
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-19

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314
LOCATION: Approximately 20' west of the DEF AST
TYPE OF BORING: Direct Push | DATE STARTED: 1/25/2022 | SHEET: 1 of 1
DRILLING FIRM: SAEDACCO | DATE FINISHED: 1/25/2022 | TOTAL DEPTH: 10.0 ft
DRILLER: Robert Miller | SAMPLE METHOD: 4' Macrocore | DEPTH TO GW: Dry ft
DRILL RIG: Geoprobe 54DT | LOGGED BY: A. Roseman | COMMENT: Elev: 969.7'

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Concrete	Macrocore 0.0'-4.0'
					Core Rec 3.4'/4.0'
				0.3'-4.4' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	1.2		
2	S-2	2.0-2.5	1.8		
3	S-3	3.0-3.5	0.7		
4	S-4	4.0-4.5	1.0		Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
				4.4'-10.0' Red Micaceous Clayey SILT, Moist	
5	S-5	5.0-5.5	0.6		
6	S-6	6.0-6.5	0.8		
7	S-7	7.0-7.5	1.0		
				7.2' Grading to Yellow-Brown	
8	S-8	8.0-8.5	1.1		Macrocore 8.0'-10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	0.9		
10					
11					
12					
13					
14					
15					

FIELD BORING LOG

BORING NO. B176-20

PROJECT NAME: NCDOT U-4758 Phase II | PROJ. NO.: IS14.314

LOCATION: Approximately 50' northwest of B176-13, located at the end of a drain pipe

TYPE OF BORING	Direct Push	DATE STARTED:	1/25/2022	SHEET:	1 of 1
DRILLING FIRM:	SAEDACCO	DATE FINISHED:	1/25/2022	TOTAL DEPTH:	10.0 ft
DRILLER:	Robert Miller	SAMPLE METHOD:	4' Macrocore	DEPTH TO GW:	Dry ft
DRILL RIG:	Geoprobe 54DT	LOGGED BY:	A. Roseman	COMMENT:	Elev: N/A

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0'-0.3' Topsoil	Macrocore 0.0'-4.0'
					Core Rec 4.0'/4.0'
				0.3'-4.0' Red Silty CLAY, Moist	
1	S-1	1.0-1.5	0.8		
2	S-2	2.0-2.5	1.4		
3	S-3	3.0-3.5	0.9		
4	S-4	4.0-4.5	0.8	4.0'-10.0' Orange Micaceous Clayey SILT, Moist	Macrocore 4.0'-8.0'
					Core Rec 4.0'/4.0'
5	S-5	5.0-5.5	0.6		
6	S-6	6.0-6.5	0.6		
7	S-7	7.0-7.5	0.2		
8	S-8	8.0-8.5	0.4	8.0' Grading to Gray	Macrocore 8.0'/10.0'
					Core Rec 2.0'/2.0'
9	S-9	9.0-9.5	0.6		
10					
11					
12					
13					
14					
15					

APPENDIX B

RED LAB LABORATORY TESTING REPORT

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: ESP
Address: GREENSBORO, NC

Samples taken Monday, January 24, 2022
Samples extracted Monday, January 24, 2022
Samples analysed Thursday, January 27, 2022

Contact: NED BILLINGTON

Operator CLAIRE NAKAMURA

Project: I514.314

U04049

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	B176-1, S5	25.5	<0.64	<0.64	<0.64	<0.64	<0.13	<0.2	<0.025	0	0	0	PHC not detected,(BO)
s	B176-1, S7	21.1	<0.53	<0.53	0.64	0.64	0.61	<0.17	<0.021	0	18.1	81.9	Residual HC,(BO)
s	B176-2, S4	13.6	<0.34	<0.34	<0.34	<0.34	<0.07	<0.11	<0.014	0	100	0	,(FCM)
s	B176-3, S1	23.6	<0.59	<0.59	0.85	0.85	0.43	<0.19	<0.024	0	87.6	12.4	V.Deg.PHC 49.3%,(FCM)
s	B176-3, S5	21.7	<0.54	<0.54	0.54	0.54	0.31	<0.17	<0.022	0	0	100	PHC not detected,(BO)
s	B176-5, S4	23.2	<0.58	<0.58	<0.58	<0.58	<0.12	<0.19	<0.023	0	100	0	PHC not detected
s	B176-8, S6	19.4	<0.49	<0.49	0.67	0.67	0.64	<0.16	<0.019	0	10.9	89.1	Residual HC,(BO)
s	B176-9, S2	24.5	<0.61	<0.61	<0.61	<0.61	<0.12	<0.2	<0.025	0	0	0	PHC not detected
s	B176-10, S4	21.5	<0.54	<0.54	0.83	0.83	0.79	<0.17	<0.021	0	7.5	92.5	Residual HC,(BO)
s	B176-11, S2	23.2	<0.58	<0.58	<0.58	<0.58	<0.12	<0.19	<0.023	0	100	0	Residual HC

Initial Calibrator QC check OK Final FCM QC Check OK 102.7 %

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

QED

REDLAB™ RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: ESP
Address: GREENSBORO, NC

Samples taken Monday, January 24, 2022
Samples extracted Monday, January 24, 2022
Samples analysed Thursday, January 27, 2022

Contact: NED BILLINGTON

Operator CLAIRE NAKAMURA

Project: I514.314

U04049

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	B176-12, S6	26.5	<0.66	<0.66	0.66	0.66	0.47	<0.21	<0.027	0	27.3	72.7	Residual HC,(BO)
s	B176-13, S1	302.0	<7.5	<7.5	868.2	868.2	337.6	12.1	<0.3	0	96.8	3.2	Undeg.Diesel 93.3%,(FCM)
s	B176-13, S4	24.5	<1.2	17.9	68.8	86.7	22.2	0.83	<0.025	89.5	10.2	0.3	Deg.Diesel 94.1%,(FCM)
s	B176-13, S8	29.2	<0.73	<0.73	11.7	11.7	3.7	<0.23	<0.029	0	86	14	Deg.Diesel 97.3%,(FCM)
s	B176-17, S5	20.8	<0.52	<0.52	19.8	19.8	9.5	1	<0.021	0	84.9	15.1	Road Tar 93.6%,(FCM)

Initial Calibrator QC check OK

Final FCM QC Check OK 103.3 %

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

QED

REDLAB™ RAPID ENVIRONMENTAL DIAGNOSTICS

QROS

Hydrocarbon Analysis Results

Client: ESP
Address: GREENSBORO, NC

Samples taken Monday, January 24, 2022
Samples extracted Monday, January 24, 2022
Samples analysed Thursday, January 27, 2022

Contact: NED BILLINGTON

Operator CLAIRE NAKAMURA

Project: I514.314

U04049

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	B176-19, S4	13.3	<0.33	<0.33	0.33	0.33	0.21	<0.11	<0.013	0	0	100	,(FCM),(BO)
s	B176-20, S2	22.8	<0.57	<0.57	0.57	0.57	0.29	<0.18	<0.023	0	0	100	PHC not detected,(BO)

Initial Calibrator QC check OK

Final FCM QC Check OK 101.4 %

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

APPENDIX C
CHAIN-OF-CUSTODY FORM

Client Name:	ESP
Address:	ON FILE
Contact:	NED BILLINGTON
Project Ref.:	1514.314
Email:	ON FILE
Phone #:	ON FILE
Collected by:	ANNA ROSEMAN

REDLAB™
RAPID ENVIRONMENTAL DIAGNOSTICS

CHAIN OF CUSTODY AND ANALYTICAL REQUEST FORM

RED Lab, LLC
5598 Marvin K Moss Lane
MARBIONC Bldg, Suite 2003
Wilmington, NC 28409

Each UVF sample will be analyzed for total BTEX, GRO, DRO, TPH, PAH total aromatics and BaP. Standard GC Analyses are for BTEX and Chlorinated Solvents: VC, 1,1 DCE, 1,2 cis DCE, 1,2 trans DCE, TCE, and PCE. Specify target analytes in the space provided below.

Sample Collection	TAT Requested		Analysis Type		Initials	Sample ID	Total Wt.	Tare Wt.	Sample Wt.
Date/Time	24 Hour	48 Hour	UVF	GC					
1-24-22		✓	✓		CRP	B176-1, S5	50.5	40.3	10.2
1-24-22						B176-1, S7	52.2	39.9	12.3
1-24-22						B176-2, S4	50.5	40.2	10.3
1-24-22						B176-3, S1	51.1	40.1	11.0
1-24-22						B176-3, S5	52.1	40.1	12.0
1-24-22						B176-5, S4	51.3	40.1	11.2
1-24-22						B176-8, S6	53.6	40.2	13.4
1-24-22						B176-9, S2	50.7	40.1	10.6
1-25-22						B176-10, S4	52.2	40.1	12.1
1-24-22						B176-11, S2	51.3	40.1	11.2
1-25-22						B176-12, S6	49.7	39.9	9.8
1-24-22						B176-13, S1	51.4	40.2	11.2
1-24-22						B176-13, S4	50.8	40.2	10.6
1-24-22						B176-13, S8	49.1	40.2	8.9
1-25-22						B176-17, S5	52.6	40.1	12.5
1-25-22						B176-19, S4	50.7	40.2	10.5
1-25-22		✓	✓		CRP	B176-20, S2	51.7	40.3	11.4

COMMENTS/REQUESTS:

TARGET GC/UVF ANALYTES:

Relinquished by		Accepted by	Date/Time
	1-26-22		
Relinquished by		Accepted by	Date/Time
		ECN 1/27/2022 12:17 PM	

RED Lab USE ONLY

(17)

Ref. No 1-2022-2

APPENDIX D
RELEVANT NCDEQ INFORMATION

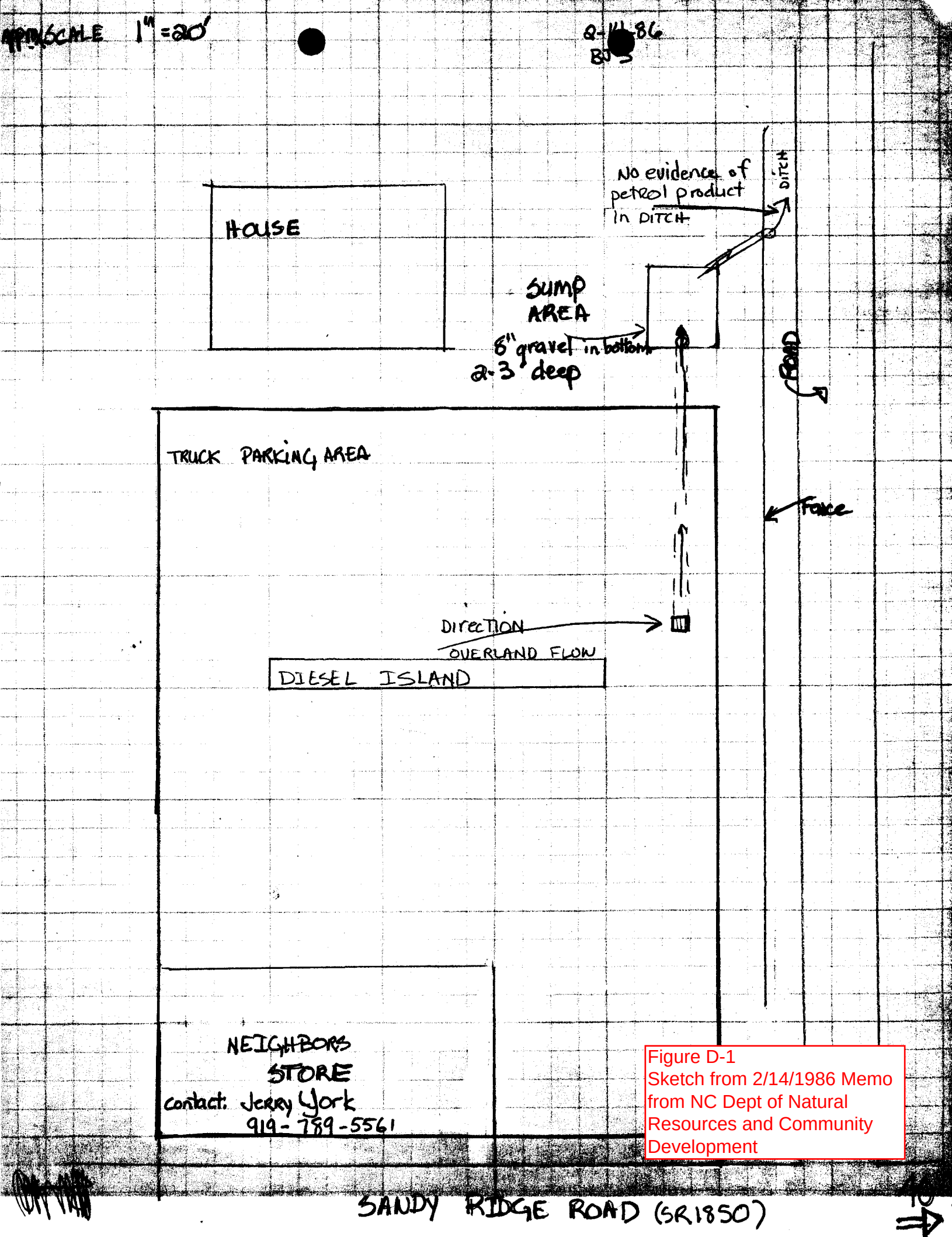
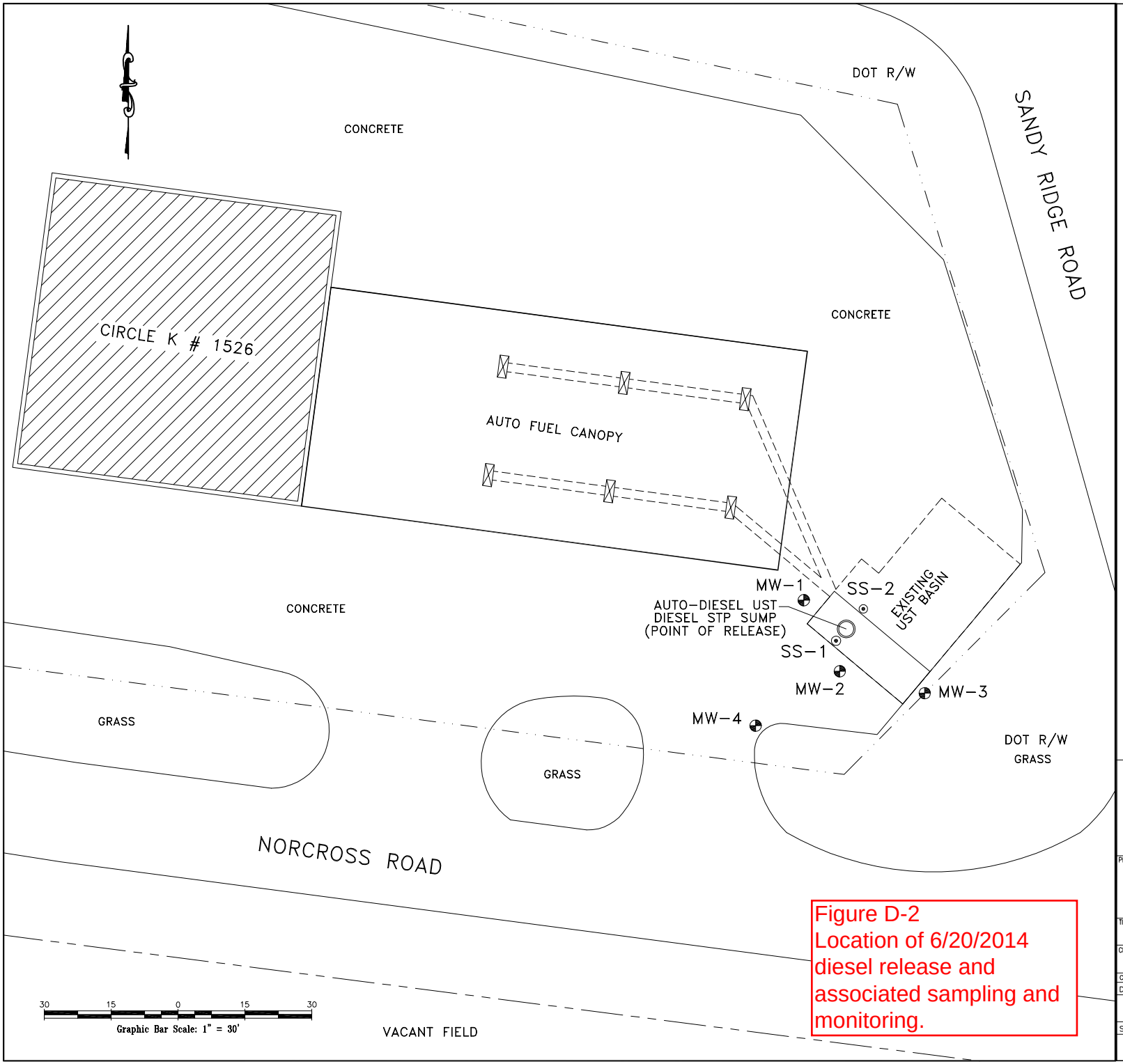


Figure D-1
Sketch from 2/14/1986 Memo from NC Dept of Natural Resources and Community Development



Legend

- Property Line (Approx)
- Right-of-Way (Approx)
- UST System (Approx)
- Monitoring Well Location
- Fuel Dispenser
- Soft Dig Boring

General Notes

Map adapted from aerial photograph from Guilford County GIS.

Structure locations are approximate

UST – Underground Storage Tank

Figure D-2
Location of 6/20/2014 diesel release and associated sampling and monitoring.

ATC
7606 Whitehall Executive Center Drive, Suite 600
Charlotte, North Carolina 28273
Phone: (704)583-2711 Fax: (704)583-2744

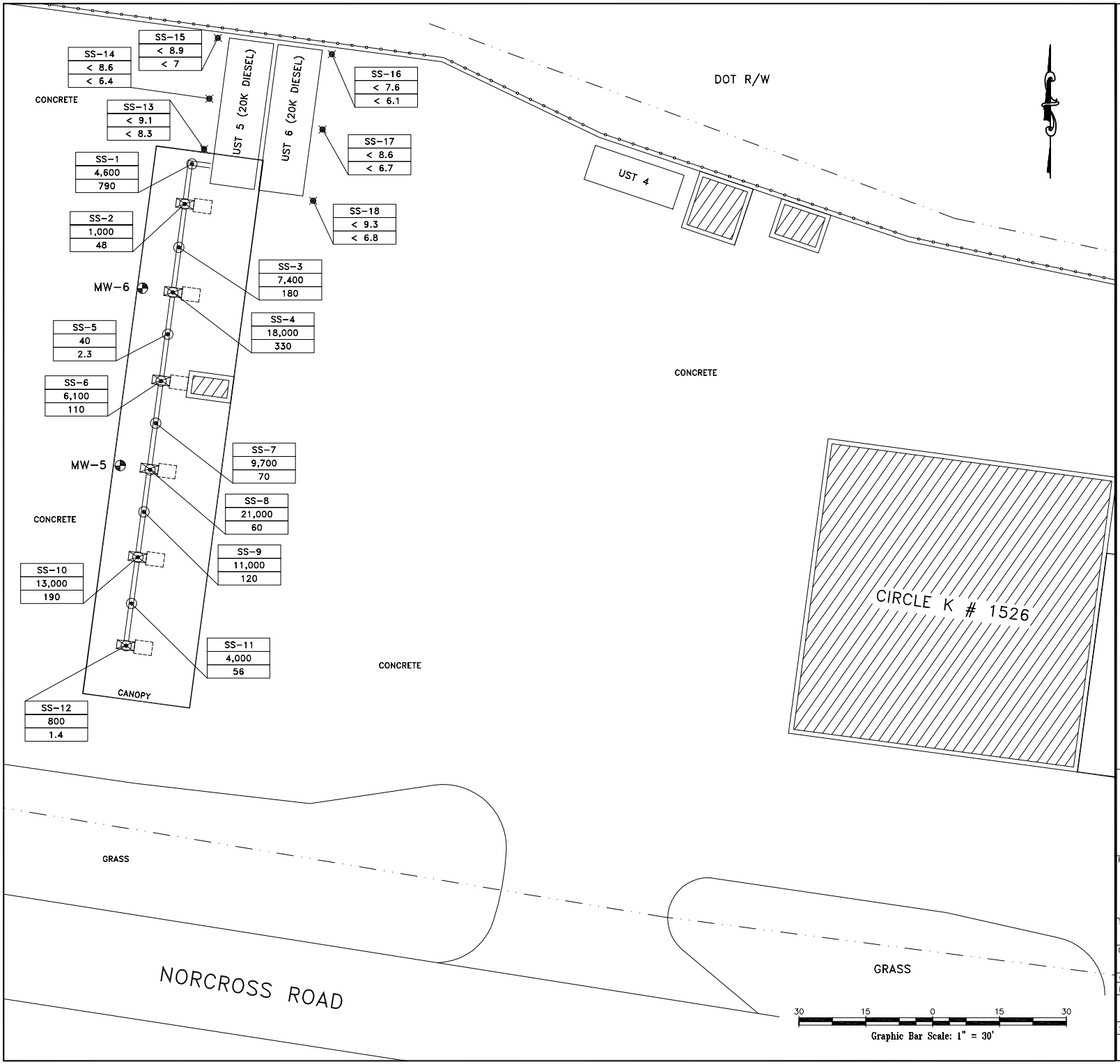
PROJECT:
Circle K No. 1526
8400 Norcross Road
Colfax, North Carolina

TITLE:
Soil Sample Locations

CLIENT:
Circle K Stores Inc.

COMPUTER CADFILE: https://ecsconsult.app.box.com

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
TG	TG	TG	TG
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1" = 30'	2/2/17	14-223176	2



Legend

- Property Line
- Right-of-Way
- Fence-Line
- Former UST System
- Soil Sample Location
- Soil Boring Location
- Monitoring Well Location

Sample ID
TPH-DRO
TPH-GRO

Data Legend

Figure D-3
TPH Concentrations in vicinity of truck diesel USTs and dispenser island.

General Notes

Map adapted from aerial photograph from Guilford County GIS.

Structure locations are approximate.

UST – Underground Storage Tank

Data provided in mg/kg

Refer to Table 2 for sample dates

DRO – Diesel Range Organics

GRO – Gasoline Range Organics

UST – Underground Storage Tank

TPH – Total Petroleum Hydrocarbons

ecs
13504 South Point Blvd. Unit F * Charlotte, NC 28273
Phone: (704)583-2711 Fax: (704)583-2744

PROJECT:
Circle K # 1526
8400 Norcross Road
Colfax, North Carolina

TITLE:
TPH in Soils Map

CLIENT:
Circle K Stores Inc.

COMPUTER CADFILE: https://ecsconsult.app.box.com

DRAWN BY:	DESIGNED BY:	CHECKED BY:	APPROVED BY:
TG	TG	TG	TG
SCALE:	DATE:	JOB NO.:	FIGURE NO.:
1" = 30'	11/25/15	14-223176	3

UST 4

DOT R/W

CONCRETE

CONCRETE

CIRCLE K # 1526

AUTO FUEL CANOPY

SANDY RIDGE ROAD

MW-1
15.4
27
47.1
109
15.2
9.8

MW-7
<0.50
<0.50
<0.50
<1.5
10.1
<0.50

MW-8
<0.50
<0.50
<0.50
<1.5
7.2
<0.50

MW-14
<0.50
<0.50
<0.50
<1.5
26.7
<0.50

MW-4
<0.50
<0.50
<0.50
<1.5
0.4
<0.50

MW-9
<0.50
<0.50
<0.50
<1.5
0.46J
<0.50

MW-12D
<0.50
<0.50
<0.50
<1.5
1.1
<0.50

MW-13
<0.50
<0.50
<0.50
<1.5
<0.50
<0.50

MW-1 MW-2 MW-3 MW-4 MW-7 MW-8 MW-9 MW-10 NL MW-11 MW-12D MW-13 MW-14

GRASS

GRASS

DOT R/W GRASS

VACANT FIELD

NORCROSS ROAD

LEGEND

= MONITORING WELL LOCATION

NL = NOT LOCATED

Well ID	2L	GCL
Benzene	1	*5,000*
Toluene	600	*260,000*
Ethylbenzene	600	*84,500*
Xylenes, Total	500	*85,500*
MTBE	20	*20,000*
Naphthalene	6	6,000

N

0 15 30

APPROXIMATE SCALE IN FEET

Figure D-4
2019 GW Monitoring Well Results

ATC ASSOCIATES OF NORTH CAROLINA, P.C.
Charlotte, North Carolina 28273 (704) 529-3200 FAX (704) 529-3272

PROJECT NO. CIRK152604
DATE 11/05/19
SCALE AS SHOWN
REV. BY SB
PREP. BY LB
DCSA ID
CAD FILE NORCROSSSM

TITLE FIGURE 4
CONSTITUENTS OF CONCERN MAP
CIRCLE K NO. 1526
8400 NORCROSS ROAD
COLFAX, GUILFORD COUNTY, NORTH CAROLINA

NOTE

UST 4

CONCRETE

DOT R/W

CONCRETE

CIRCLE K # 1526

AUTO FUEL CANOPY

SANDY RIDGE ROAD

MW-14
56.80

60.47
MW-8

60.61
MW-1

MW-7
60.65

60.6
60.5
60.4
60.3
60.2
60.1

MW-11
60.62

MW-2
60.56

MW-9
60.27

60.19
MW-12D
59.81

MW-4

MW-3
60.47

DOT R/W
GRASS

MW-10
NL

CONCRETE

GRASS

GRASS

VACANT FIELD

NORCROSS ROAD

MW-13
60.91

LEGEND

= MONITORING WELL LOCATION

60.27 = GROUNDWATER ELEVATION IN FEET

NL = NOT LOCATED

= GROUNDWATER ELEVATION CONTOUR (DASHED WHERE PRESUMED)

= GROUNDWATER FLOW DIRECTION

N

0 15 30

APPROXIMATE SCALE IN FEET

ATC
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PROJECT NO. CIRK152604
DATE 11/05/19
SCALE AS SHOWN
REV. BY SB
PREP. BY LB
DCSA ID
CAD FILE NORCROSSSM

TITLE FIGURE 3
GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE K NO. 1526
8400 NORCROSS ROAD
COLFAX, GUILFORD COUNTY, NORTH CAROLINA

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Figure D-5
2019 GW Elevation Contour Map indicating direction groundwater GW flow.

Table 4: Summary of Groundwater Sampling Results

Revision Date: 8/22/19 | Incident Number and Name: 44346/Circle K 1526 | Facility ID #: 0-001979

Analytical Method (e.g. EPA 601)				EPA Method 6200B																								610	8270						
Contaminant of Concern																																			
Well ID	Date Collected	Sample ID	Incident Phase	Acetone	Benzene	Toluene	Ethylbenzene	Xylenes, Total	Methyl-tert-butyl ether	Naphthalene	Carbon Tetrachloride	Tetrachloroethylene	Isopropylbezene	1,2,4-Trimethylbenzene	1,3,5-Trimethylbenzene	Diisopropyl ether	n-Propyl Benzene	n-Butylbenzene	sec-Butylbenzene	tert-Butylbenzene	Bromodichloromethane	Chlorodibromomethane	Dibromochloromethane	2-Hexanone	2-Butanone	4-Methyl-2-pentanone	Methyl Chloride	p-Isopropyltoluene	Chloroethane	Chloroform	Benzo(a)-anthracene	2-Methylnaphthalene	Acenaphthene	Fluorene	Naphthalene	Phenanthrene	Pyrene
MW-1	8/6/2014	MW-1	IAA	--	< 1	< 1	< 1	< 3	**60.5**	< 2	--	--	< 1	< 2	< 1	NA	< 1	< 1	< 1	< 1	NA	NA	--	--	NA	NA	--	NA	--	NA	< 0.33	NA	NA	NA	NA	NA	NA
	4/8/2015	MW-1	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	**31**	< 5.0	--	--	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	7/8/2015	MW-1	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	**27**	< 5.0	--	--	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	6/1/2017	MW-1	CSA	--	<0.50	<0.50	<0.50	0.48J	**28**	<1.0	--	--	<0.50	0.57	0.23J	0.19J	<0.50	<0.50	<0.50	<0.50	0.95	0.26J	--	--	<5.0	<5.0	--	<0.50	--	14	NA	0.17J	<0.30	<1.0	<1.0	0.061	0.035
	10/3/2019	MW-1	Post-CSA	24.8	**15.4**	27.4	47.1	109	15.2	**9.8**	<0.50	<0.50	7.7	45	32.5	1.9	12.5	2.4	3.4	<0.50	2.4	NA	**0.77**	26.2	7.7	9.7	0.75	3.1	0.48J	20.4	NA	NA	NA	NA	NA	NA	NA
MW-2	8/6/2014	MW-2	IAA	--	< 1	< 1	< 1	< 3	12.9	< 2	--	--	< 1	< 2	< 1	NA	< 1	< 1	< 1	< 1	NA	NA	--	--	NA	NA	--	NA	--	NA	**1.1 J**	NA	NA	NA	NA	NA	NA
	4/8/2015	MW-2	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	8.8	< 5.0	--	--	< 1.0	< 5.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	7/8/2015	MW-2	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	5.9	< 5.0	--	--	< 1.0	< 5.0	< 1.0	1.3	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	6/1/2017	MW-2	CSA	***Free Product***																																	
	10/3/2019	MW-2	Post-CSA																																		
MW-3	8/6/2014	MW-3	IAA	--	< 1	< 1	< 1	< 3	10.5	< 2	--	--	< 1	< 2	< 1	NA	< 1	< 1	< 1	< 1	NA	NA	--	--	NA	NA	--	NA	--	NA	< 0.33	NA	NA	NA	NA	NA	NA
	4/8/2015	MW-3	LSA	--	< 1.0	2.5	1.6	7.2	12	< 5.0	--	--	< 1.0	< 5.0	< 1.0	15	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	7/8/2015	MW-3	LSA	--	**6.1**	34	18	90	12	<2	--	--	< 1.0	< 5.0	< 1.0	<1	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	6/1/2017	MW-3	CSA	***Free Product***																																	
	10/3/2019	MW-3	Post-CSA																																		
MW-4	10/14/2014	MW-4	IAA	--	< 1	< 1	< 1	< 3	1.4	< 2	--	--	< 1	< 2	< 1	< 1	< 1	< 1	< 1	< 1	NA	NA	--	--	NA	NA	--	NA	--	NA	< 0.15	NA	NA	NA	NA	NA	NA
	4/8/2015	MW-4	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	--	--	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	7/8/2015	MW-4	LSA	--	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 5.0	--	--	< 1.0	< 5.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	NA	NA	--	--	NA	NA	--	NA	--	NA	< 5.0	NA	NA	NA	NA	NA	NA
	6/1/2017	MW-4	CSA	--	<0.50	<0.50	<0.50	<1.50	1.2	<1.0	--	--	<0.50	0.39J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	<5.0	<5.0	--	<0.50	--	6.4	NA	0.095J	<0.30	0.052J	<1.0	0.14	<1.0
	10/3/2019	MW-4	Post-CSA	<10	<0.50	<0.50	<0.50	<1.5	0.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.20J	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	7.7	NA	NA	NA	NA	NA	NA	NA
MW-5	10/3/2019	MW-5	Post-CSA	<10	<0.50	<0.50	<0.50	<1.5	0.31J	<0.50	<0.50	0.13J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.17J	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	15.4	NA	NA	NA	NA	NA	NA	NA
MW-6	10/3/2019	MW-6	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	0.34J	<0.50	0.71	0.24J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.47J	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	31.8	NA	NA	NA	NA	NA	NA	NA
MW-7	6/1/2017	MW-7	CSA	--	0.25J	0.34J	0.15J	1.68J	5.6	<1.0	--	--	<0.50	0.59	0.98	3.3	<0.50	0.25J	<0.50	<0.50	<0.50	<0.50	--	--	<5.0	<5.0	--	<0.50	--	1.4	NA	0.46J	<0.30	0.084J	0.13J	0.10	<1.0
	10/3/2019	MW-7	Post-CSA	<10	<0.50	<0.50	<0.50	<1.5	10.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	3.5	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	2.7	NA	NA	NA	NA	NA	NA	NA
MW-8	6/1/2017	MW-8	CSA	--	0.23J	0.28J	0.18J	1.5	17	<1.0	--	--	<0.50	<0.50	0.96	7.4	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	<5.0	<5.0	--	<0.50	--	5.4	NA	0.10J	<0.30	<1.0	<1.0	0.054	<1.0
	10/3/2019	MW-8	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	7.2	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.65	<0.50	<0.50	<0.50	<0.50	0.33J	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	12.1	NA	NA	NA	NA	NA	NA	NA
MW-9	6/1/2017	MW-9	CSA	--	0.53	0.45J	0.13J	6.64J	17	<1.0	--	--	<0.50	0.52	0.16J	14	<0.50	<0.50	<0.50	<0.50	0.47J	<0.50	--	--	2.8J	6.8	--	<0.50	--	12	NA	<1.0	<0.30	<1.0	0.16J	0.071	<1.0
	10/3/2019	MW-9	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	0.46J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.21J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	1.8	NA	NA	NA	NA	NA	NA	NA
MW-10	6/1/2017	MW-10	CSA	--	**9.6**	76	68	310	<2.0	**24**	**--**	**--**	11	150	40	<2.0	26	15	6.6	<2.0	<2.0	<2.0	--	--	<20	<20	--	4.4	--	6.2	NA	26	<0.30	<1.0	**15**	<0.050	1.4
MW-11	6/1/2017	MW-11	CSA	--	**94**	480	180	**880**	6.5	**66**	**--**	**--**	32	**440**	120	<5.0	**78**	60	<5.0	<5.0	<5.0	<5.0	--	--	<50	<50	--	18	--	3.5J	NA	**59**	1.7J	4.0J	**38**	4.6	4.5
	10/3/2019	MW-11	Post-CSA	***Free Product***																																	
MW-12D	6/14/2016	MW-12D	CSA	--	<0.50	<0.50	<0.50	<1.50	0.93	<1.0	--	--	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	--	--	<5.0	<5.0	--	<0.50	--	2.3	NA	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0
	10/3/2019	MW-12D	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	1.1	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	0.17J	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	7.8	NA	NA	NA	NA	NA	NA	NA
MW-13	10/3/2018	MW-13	Post-CSA	--	<0.5	<0.5	<0.5	<1.5	<0.5	<0.5	--	--	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	<0.5	--	--	<0.5	<0.5	--	<0.5	--	<0.5	NA	NA	NA	NA	NA	NA	NA
	10/3/2019	MW-13	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	<0.50	NA	NA	NA	NA	NA	NA	NA
MW-14	10/3/2018	MW-14	Post-CSA	--	<5	<5	<5	<15	**297**	<5	--	--	<5	<5	<5	<5	<5	<5	<5	<5	<5	<5	--	--	<5	<5	--	<5	--	17.8	NA	NA	NA	NA	NA	NA	NA
	10/3/2019	MW-14	Post-CSA	<10	<0.50	<0.50	<0.50	<0.50	**26.7**	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<0.50	<5.0	<2.5	<2.5	<0.50	<0.50	<0.50	4.9	NA	NA	NA	NA	NA	NA	NA
2L Standard				6,000	1	600	600	500	20	6	NE	0.7	70	400	400	70	70	70	70	70	NE	NE	0.4	40	NE	NE	5	NE	NE	70	0.05	30	80	300	6	200	200
GCL = gross contamination level				6,000,000	5,000	260,000	84,500	85,500	20,000	6,000	NE	700	25,000	28,500	25,000	70,000	30,000	6,900	8,500	15,000	NE	NE	400	40,000	NE	NE	5,000	NE	NE	70,000	4.7	12,500	2,120	990	6,000	410	200

Results in ug/L

Concentrations in bold exceeded the 2L Standard

Concentrations in bold and italics exceeded the GCL

NA= Not Analyzed

J = Estimated Value

NE= Not Established

Figure D-6
2019 MR - Summary of groundwater sampling results