



June 5, 2020

Ashley B. Cox, Jr, LG
Geotechnical Engineering Unit
North Carolina Department of Transportation
1020 Birch Ridge Drive
Raleigh, NC 27610

RE: PHASE II INVESTIGATION OF PARCEL 7
Jay's One Stop, The Joyce Family LLP
3965 Old Greensboro Road, Winston-Salem, NC
ESP Project No. GR22.325

TIP Number: R-2577A
WBS Number: 37405.1.2
County: FORSYTH
Description: US 158 from North of US 421 to SR 1965 (Belews Creek Road)

Dear Mr. Cox:

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 received on April 14, 2020, and our Cost Proposal dated April 23, 2020.

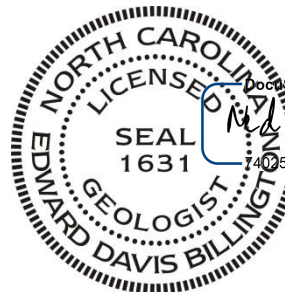
We appreciate the opportunity to assist you during this phase of the project. If you should have any questions concerning this report, or if we may be of further assistance, please contact us.

Sincerely,

ESP Associates, Inc.

A handwritten signature in blue ink, appearing to read "Edward D. Billington".

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



DocuSigned by:

Edward D. Billington

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1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is planning to widen U.S. 158 (Reidsville Road) from north of U.S. 421/I-40 Business to Belews Creek Road (S.R. 1965) in Forsyth County. The primary purpose of this project is to improve traffic operations. The NCDOT requested that ESP Associates, Inc. (ESP) perform a Phase II geoenvironmental investigation of the proposed temporary construction easement (E) of Parcel 7 to locate possible underground storage tanks (USTs), sample soil, and delineate potential contaminated soil. Parcel 7 is located on the northwest side of Old Greensboro Road at the intersection with Harvest Drive, approximately 700 feet southwest of the intersection with Reidsville Road (Figure 1). The proposed temporary construction easement is on the southwest side of the parcel.

2.0 HISTORY

2.1 Ownership

The following is the current parcel ownership, according to the Forsyth County GIS (<https://www.forsyth.cc/Tax/geodata.aspx>):

- Sale Date: 2/27/2020
- Current Owner: Humayun, Nizam
- Owner's Address: 890 West Northwest Blvd, Winston Salem NC 27101

2.2 NCDEQ Information

This site was not listed in the 2004 Phase 1 report that was provided by the NCDOT. We checked the following sources at the NCDEQ with the results summarized below:

- Division of Waste Management Site Locator Tool
 - Indicated Facility ID 28203. No files in Documents Link.
- NC UST Facility Operating Permits
 - Facility No. 28203 (City View One Stop).
 - Permit expired December 31, 2018.
- Registered USTs Database
 - 5 Registered USTs installed in September 1979.
 - Tanks 4 and 5 were removed in July 1997.
 - The remaining tanks 1, 2, and 3 are listed as containing gasoline with capacities of 6000, 4000, and 3000 gallons.
- Incident Management Database (Regional USTs)
 - No listing.
- Winston-Salem Regional NCDEQ Office
 - Copy of the August 1997 UST closure report for the removal of a 550-gallon kerosene tank and a 2000-gallon used oil tank. Based on the sketch map in the

report, the kerosene tank was located on the left side (facing) of the building. The used oil tank was located on the rear side of the building. Testing of a closure soil sample from below the south end of the kerosene tank indicated TPH-GRO and TPH-DRO levels above the current North Carolina Action Levels of 50 ppm GRO and 100 ppm DRO.

- A copy of Figure 1 from the 1997 closure report is included in Appendix D.

3.0 SITE OBSERVATIONS

During our May 2020 field work, the site was occupied by a vacant gasoline service station and market (Jay's One Stop) (Figure 2). The ground in the study area was covered by grass and gravel. The existing tank bed was located approximately 43 feet northeast of the center of the study area and approximately 25 feet outside of the proposed temporary construction easement.

4.0 METHODS

ESP performed a geophysical study of the area designated by the NCDOT on May 4, 2020. The geophysical investigation area was approximately 0.1 acres and encompassed the proposed temporary construction easement. We performed direct-push drilling and sampling of subsurface soils on May 13, 2020. 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 (Figures 3 and 4). Location control was provided in real-time using a differential global positioning system (DGPS). No EM61 anomalies were observed that required additional investigation using ground-penetrating radar (GPR).

4.2 Borings

ESP performed direct-push drilling activities within the proposed temporary construction easement of Parcel 7 using a subcontractor, SAEDACCO of Fort Mill, South Carolina. Four borings were drilled, designated B7-1 through B7-4, and were located approximately evenly spaced within the proposed temporary construction easement (Figure 7). The soil borings were advanced using a GeoProbe 7822DT drill rig. Soil samples were obtained to a maximum depth of approximately 10 feet using two 5-foot long Macro-Core® tubes. Soil cores varied in recovery from 3.8 to 5.0 feet (76 to 100 percent recovery). Two borings encountered refusal at 7.0 feet depth with 100 percent recovery of the second tube (2.0 of 2.0 feet), probably on weathered rock. The sampling equipment was decontaminated prior to drilling and between borings by the driller using a Liquinox® detergent solution.

4.3 Soil Sample Protocol

Representative soil samples were taken from the Macro-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 PID readings ranged from 0.0 to 0.8 parts per million (ppm) (Table 1).

Four soil samples were selected for 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 ultraviolet fluorescence (UVF) method for benzene, toluene, ethylbenzene, and xylene (BTEX); gasoline range organics (GRO); diesel range organics (DRO); total petroleum hydrocarbons (TPH); total aromatics; polycyclic aromatic hydrocarbons (PAHs); and benzo(a)pyrene (BaP).

4.4 Groundwater

Groundwater was not encountered in the 4 borings.

5.0 RESULTS

5.1 Geophysics

The EM61 early time gate data show the response from both shallow and deeper metallic objects (Figure 3). The differential response reduces the effect of shallow anomalies and emphasizes anomalies from larger and more deeply buried metallic objects, such as USTs (Figure 4). Our evaluation of the differential response indicated the anomalies were caused by known site features.

The EM61 early time gate response and differential response are shown on the plan sheet on Figures 5 and 6, respectively.

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 milligrams per kilogram (mg/kg or ppm).

5.3 Sample Observations

The results of the laboratory testing indicate that BTEX, GRO, DRO, PAHs and BaP were below the laboratory detection limits for the 4 samples tested (Table 2, Appendix B).

6.0 CONCLUSIONS

The results of the Phase II investigation for Parcel 7 of NCDOT Project R-2577A indicates that there is no evidence for abandoned USTs in the proposed temporary construction easement. The 3 known USTs are approximately 25 feet outside of the proposed temporary construction easement. Laboratory testing did not detect petroleum compounds in the 4 soil samples tested. The PID readings during sampling were 0.8 ppm or less.

7.0 RECOMMENDATIONS

No limitations on construction activities or special handling of excavated soil are recommended for Parcel 7. Groundwater was not encountered in the upper 10 feet in the study area.

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)
B7-1	none	0.8 (1.0-1.5)
B7-2	none	0.2 (2.0-2.5, 6.0-6.5, 9.0-9.5)
B7-3	none	0.3 (1.0-1.5, 3.0-4.5)
B7-4	none	0.3 (3.0-3.5, 7.0-7.5)

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)
B7-1	S5 (5.0-5.5)	5/13/20	<0.49	<0.49	<0.49	<0.16
B7-2	S6 (6.0-6.5)	5/13/20	<0.46	<0.46	<0.46	<0.15
B7-3	S4 (4.0-4.5)	5/13/20	<0.44	<0.44	<0.44	<0.14
B7-4	S7 (7.0-7.5)	5/13/20	<0.44	<0.44	<0.44	<0.14

FIGURES



From: USGS US Topo 7.5 - minute map for WINSTON SALEM EAST, NC, Date: 2019, Original Scale: 1:24,000

PROJECT NO.	GR22.325
SCALE	AS SHOWN
DATE	5/29/2020
BY	CRP/EDB

**FIGURE 1 – PARCEL 7, THE JOYCE FAMILY LLP
SITE VICINITY MAP**

**NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
FORSYTH 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 end of parcel, looking northwest.



B. Photograph from northwest end of parcel, looking southeast.



C. Photograph of tank bed area, looking northeast.



D. Photograph during drilling operations.

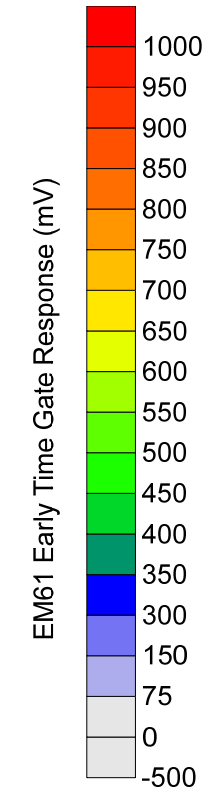
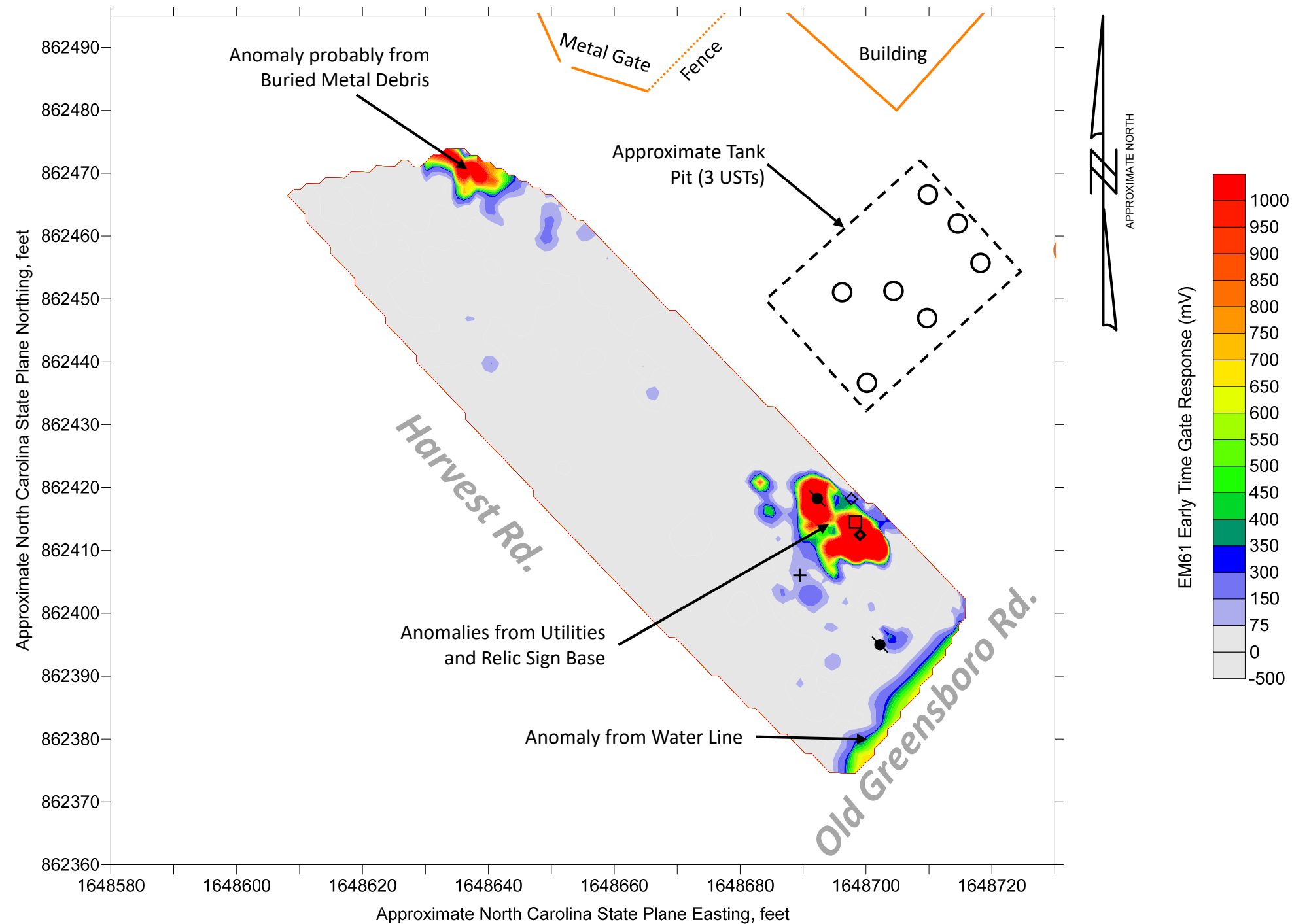
PROJECT NO.	GR22.325
SCALE	N/A
DATE	5/29/2020
BY	CRP/EDB

**FIGURE 2 – PARCEL 7, THE JOYCE FAMILY LLP
SITE PHOTOGRAPHS**

**NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
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EXPLANATION	
◆	Miscellaneous metal object (pipe, debris, etc.)
□	Utility Box (water meter, electrical outlet, etc.)
⊠	Drop Inlet, Catch Basin, Manhole
⊙	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

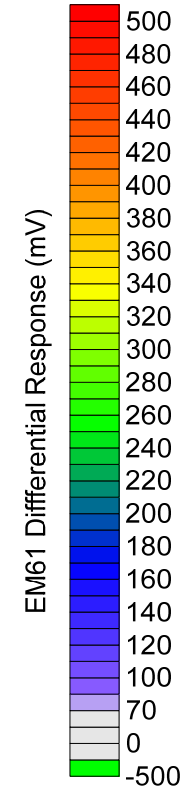
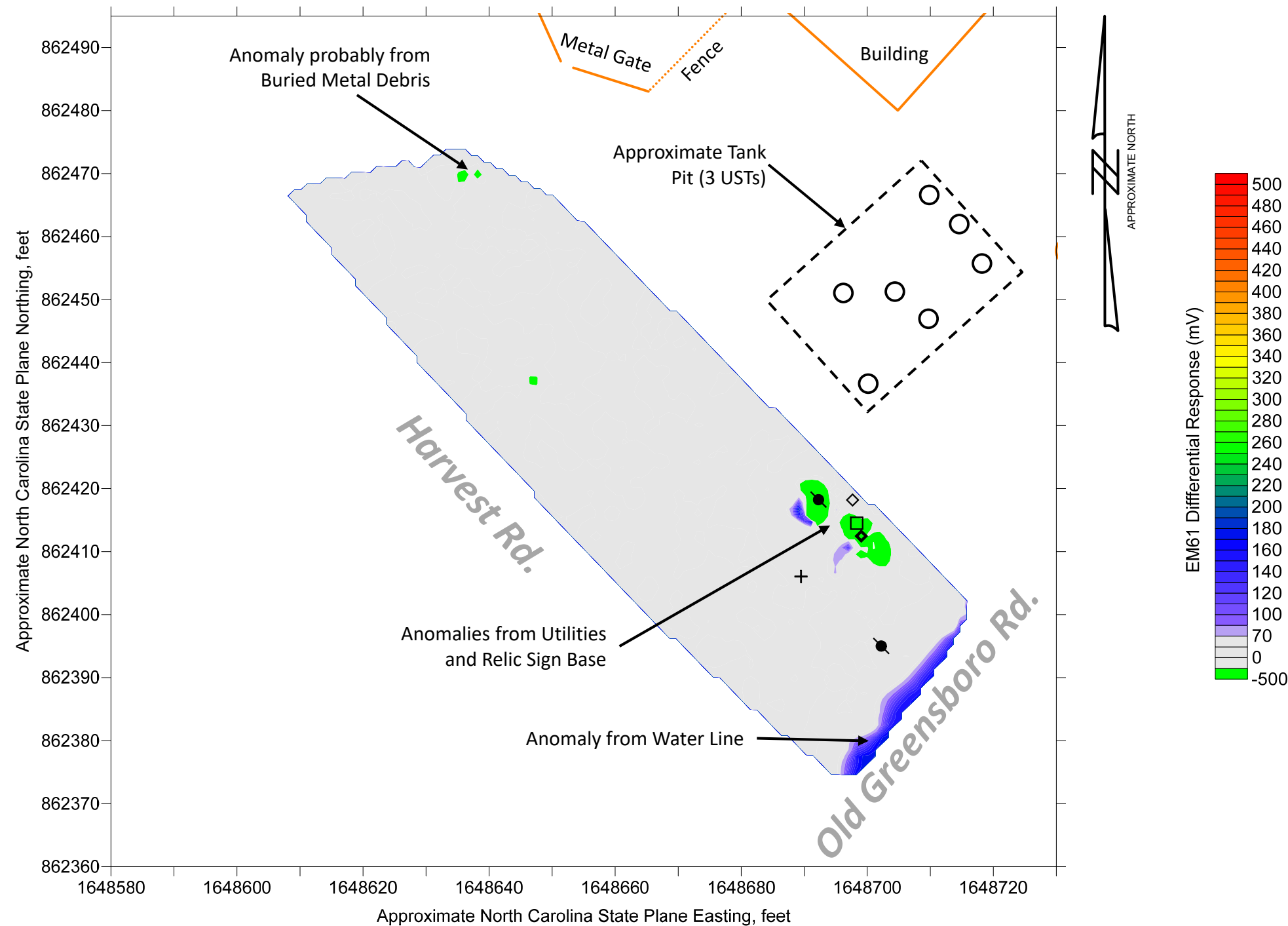
Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP makes no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

PROJECT NO.	GR22.325
SCALE	AS SHOWN
DATE	5/29/2020
BY	CRP/EDB

FIGURE 3 – PARCEL 7, THE JOYCE FAMILY LLP
EM61 EARLY TIME GATE DATA
 NCDOT PROJECT R-2577A
 US 158 FROM NORTH OF US 421 TO SR 1965
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EXPLANATION	
◆	Miscellaneous metal object (pipe, debris, etc.)
□	Utility Box (water meter, electrical outlet, etc.)
⊞	Drop Inlet, Catch Basin, Manhole
⊙	Culvert, storm drain pipe
●	Utility pole
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●	Sign pole, other pole
○	UST Fill Port or Valve Cover
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- -	Buried utility line (marked by others)
■	EM61 Data Collection Areas
⌈	GPR Data Collection Areas
▭	Underground Storage Tank

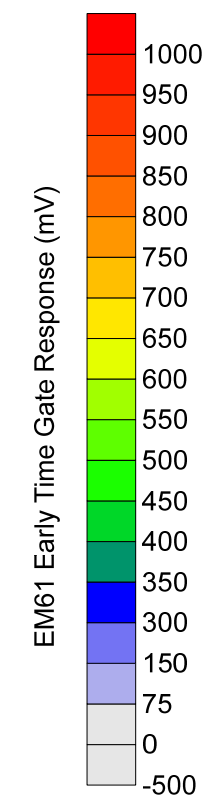
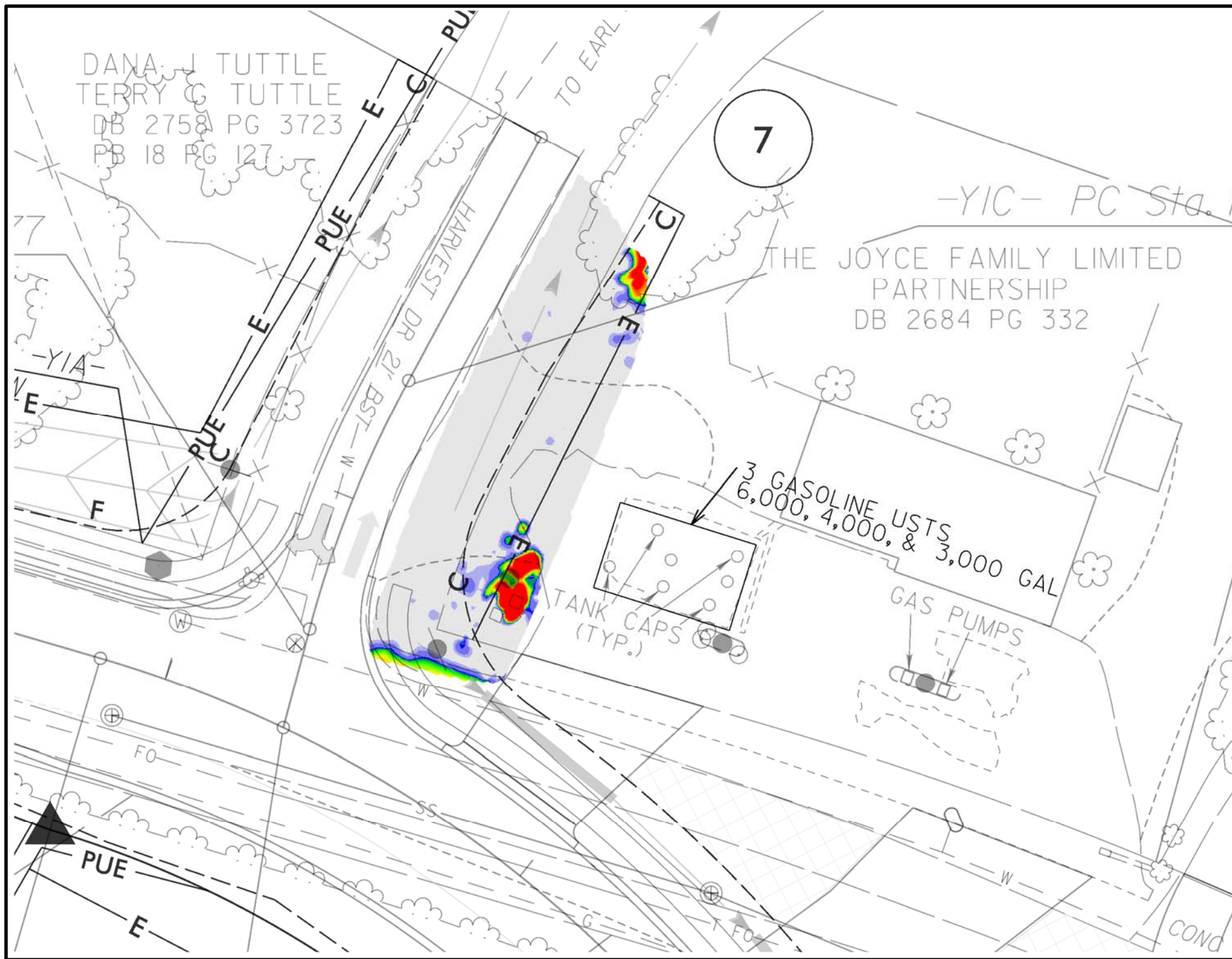
Note: Locations of data and features are approximate and were collected using a DGPS instrument. ESP makes no guarantees as to the accuracy of these locations. Coordinates on the axes of the maps are approximate and provided for general reference only.

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SCALE	AS SHOWN
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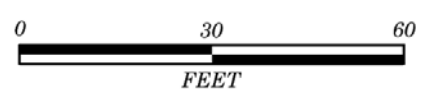
FIGURE 4 – PARCEL 7, THE JOYCE FAMILY LLP
EM61 DIFFERENTIAL DATA
NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
FORSYTH COUNTY, NORTH CAROLINA



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- R-2577A_Geo_env.dgn
- R-2577A_hyd_drn.dgn
- R2577A_ncdot_fs.dgn
- R-2577A_rdy_dsn.dgn
- R-2577A_rdy_dsn_driveways.dgn
- R-2577A_rdy_dsn_guardrail.dgn
- R-2577A_rdy_HISTORIC.dgn
- R-2577A_rdy_map_owner_no.dgn
- R-2577A_rdy_row.dgn
- R-2577A_rdy_row_AG.dgn
- R-2577A_rdy_row_SB.dgn
- R-2577A_rdy_ss.dgn



See Figure 9 for explanation of symbols and line types

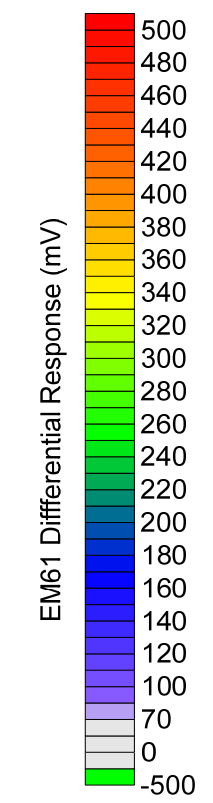
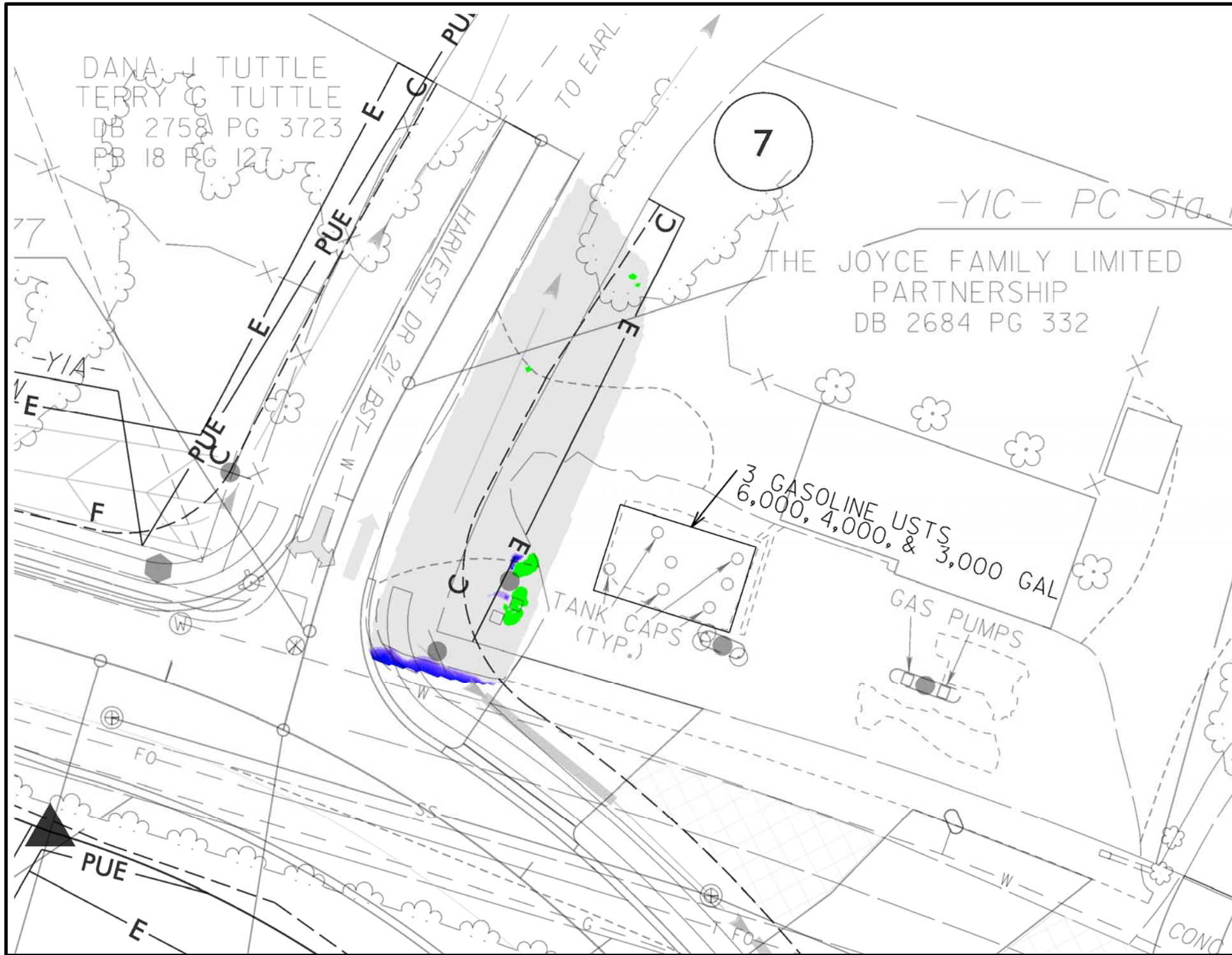
PROJECT NO.	GR22.325
SCALE	1" = 30'
DATE	5/29/2020
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FIGURE 5 – PARCEL 7, THE JOYCE FAMILY LLP
EM61 EARLY TIME GATE DATA ON PLAN SHEET

NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
FORSYTH COUNTY, NORTH CAROLINA



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- R-2577A_Geo_env.dgn
- R-2577A_hyd_drn.dgn
- R2577A_ncdot_fs.dgn
- R-2577A_rdy_dsn.dgn
- R-2577A_rdy_dsn_driveways.dgn
- R-2577A_rdy_dsn_guardrail.dgn
- R-2577A_rdy_HISTORIC.dgn
- R-2577A_rdy_map_owner_no.dgn
- R-2577A_rdy_row.dgn
- R-2577A_rdy_row_AG.dgn
- R-2577A_rdy_row_SB.dgn
- R-2577A_rdy_ss.dgn



See Figure 9 for explanation of symbols and line types

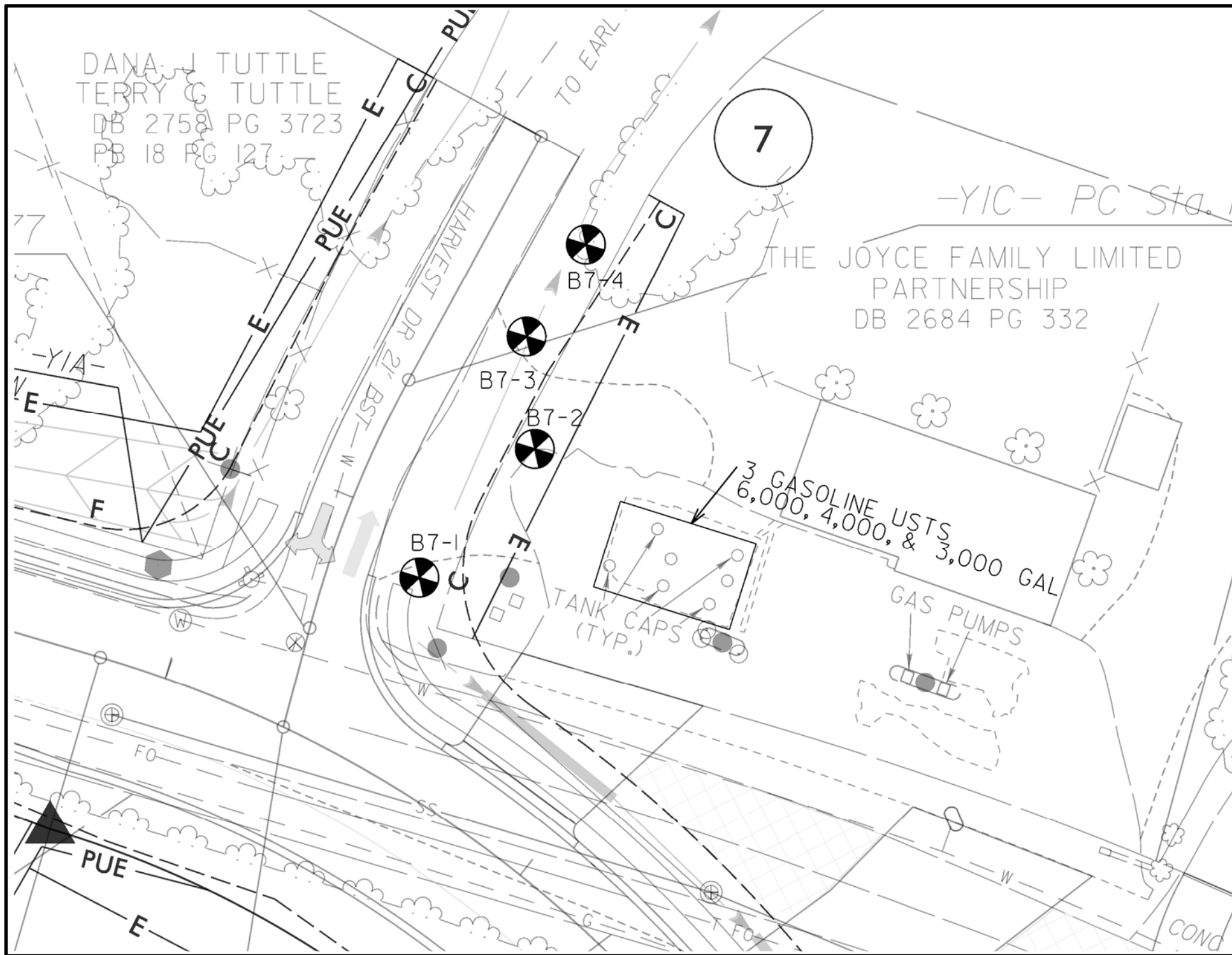
PROJECT NO.	GR22.325
SCALE	1" = 30'
DATE	5/29/2020
BY	CRP/EDB

FIGURE 6 – PARCEL 7, THE JOYCE FAMILY LLP
EM61 DIFFERENTIAL DATA ON PLAN SHEET

NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
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- R-2577A_Geo_env.dgn
- R-2577A_hyd_drn.dgn
- R2577A_ncdot_fs.dgn
- R-2577A_rdy_dsn.dgn
- R-2577A_rdy_dsn_driveways.dgn
- R-2577A_rdy_dsn_guardrail.dgn
- R-2577A_rdy_HISTORIC.dgn
- R-2577A_rdy_map_owner_no.dgn
- R-2577A_rdy_row.dgn
- R-2577A_rdy_row_AG.dgn
- R-2577A_rdy_row_SB.dgn
- R-2577A_rdy_ss.dgn

See Figure 9 for explanation of symbols and line types

PROJECT NO.	GR22.325
SCALE	1" = 30'
DATE	5/29/2020
BY	CRP/EDB

**FIGURE 7 – PARCEL 7, THE JOYCE FAMILY LLP
BORING LOCATIONS ON PLAN SHEET**

**NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
FORSYTH COUNTY, NORTH CAROLINA**



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12/2/2016

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

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	⑫
Existing Fence Line	-x-x-x-
Proposed Woven Wire Fence	-o-o-o-
Proposed Chain Link Fence	-o-o-o-
Proposed Barbed Wire Fence	-o-o-o-
Existing Wetland Boundary	-----
Proposed Wetland Boundary	-----
Existing Endangered Animal Boundary	-----
Existing Endangered Plant Boundary	-----
Existing Historic Property Boundary	-----
Known Contamination Area: Soil	-S-S-S-
Potential Contamination Area: Soil	-S-S-S-
Known Contamination Area: Water	-W-W-W-
Potential Contamination Area: Water	-W-W-W-
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 Easment Pin and Cap	◇
New Permanent Easment 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	⊙

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

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.	GR22.325
SCALE	N/A
DATE	5/29/2020
BY	CRP/EDB

FIGURE 9
LEGEND FOR PLAN SHEET FIGURES
NCDOT PROJECT R-2577A
US 158 FROM NORTH OF US 421 TO SR 1965
FORSYTH 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.**B7-1**

PROJECT NAME: NCDOT R-2577A Phase II PROJ. NO.: GR22.325
 LOCATION: Southern corner of parcel
 TYPE OF BORING: Direct Push DATE STARTED: 5/13/20 SHEET: 1 of 1
 DRILLING FIRM: SAEDACCO DATE FINISHED: 5/13/20 TOTAL DEPTH: 7.0 ft
 DRILLER: Brian Ewing SAMPLE METHOD: 5' Macrocore DEPTH TO GW: N/A ft
 DRILL RIG: GeoProbe 722DT LOGGED BY: R. Pastrana COMMENT: _____

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0' - 0.3' - Topsoil	Core 1 Rec 3.0'/3.0'
				0.3' - 4.7' - Red-Brown, Silty SAND, Moist	0.0' - 2.0' Hand Auger 2.0' -5.0' Direct Push
1	S-1	1.0-1.5	0.8		
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	4.7' - 7.0' - Red-Brown to Gray-Brown, Silty SAND, Mottled, Moist	Core 2 Rec 2.0'/2.0'
6	S-6	6.0-6.5	0.3	6.0' - with Rock Fragments	
7				7.0' - Refusal	
8					
9					
10					
11					
12					
13					
14					
15					



FIELD BORING LOG

BORING NO.

B7-2

PROJECT NAME: NCDOT R-2577A Phase II PROJ. NO.: GR22.325

LOCATION: East side of Proposed Tempory Construction Easement, near USTs

TYPE OF BORING: Direct Push DATE STARTED: 5/13/20 SHEET: 1 of 1

DRILLING FIRM: SAEDACCO DATE FINISHED: 5/13/20 TOTAL DEPTH: 10.0 ft

DRILLER: Brian Ewing SAMPLE METHOD: 5' Macrocore DEPTH TO GW: N/A ft

DRILL RIG: GeoProbe 722DT LOGGED BY: R. Pastrana COMMENT: _____

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0' - 0.4' - Gravel	Core 1 Rec 3.8'/5.0'
				0.4' - 2.0' - Red-Brown, Silty CLAY, Moist	
1	S-1	1.0-1.5	0.1		
2	S-2	2.0-2.5	0.2	2.0' - 8.5' - Red-Brown, Sandy SILT, Moist	
3	S-3	3.0-3.5	0.0		
4					
5	S-5	5.0-5.5	0.1		Core 2 Rec 5.0'/5.0'
6	S-6	6.0-6.5	0.2		
7	S-7	7.0-7.5	0.1		
8	S-8	8.0-8.5	0.1		
9	S-9	9.0-9.5	0.2	8.5' - 10.0' - Red-Brown to Gray, White, and Black, Silty SAND, Mottled, Moist to Dry	
10					
11					
12					
13					
14					
15					



FIELD BORING LOG

BORING NO.

B7-3

PROJECT NAME: NCDOT R-2577A Phase II PROJ. NO.: GR22.325

LOCATION: Approximately 25 feet north of B7-2

TYPE OF BORING: Direct Push DATE STARTED: 5/13/20 SHEET: 1 of 1

DRILLING FIRM: SAEDACCO DATE FINISHED: 5/13/20 TOTAL DEPTH: 7.0 ft

DRILLER: Brian Ewing SAMPLE METHOD: 5' Macrocore DEPTH TO GW: N/A ft

DRILL RIG: GeoProbe 722DT LOGGED BY: R. Pastrana COMMENT: _____

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0' - 0.2' - Topsoil	Core 1 Rec 4.5'/5.0'
				0.2' - 4.2' - Red-Brown, Sandy CLAY, Moist	
1	S-1	1.0-1.5	0.3		
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	0.3		
				4.2' - 6.0' - Red-Brown, Sandy SILT, Moist	
5	S-5	5.0-5.5	0.1		Core 2 Rec 2.0'/2.0'
6	S-6	6.0-6.5	0.1	6.0' - 7.0' - Gray-Brown and White, Silty SAND, Mottled, Dry	
7				7.0' - Refusal	
8					
9					
10					
11					
12					
13					
14					
15					



FIELD BORING LOG

BORING NO.

B7-4

PROJECT NAME: NCDOT R-2577A Phase II PROJ. NO.: GR22.325

LOCATION: Western end of proposed easement, next to wooded area

TYPE OF BORING: Direct Push DATE STARTED: 5/13/20 SHEET: 1 of 1

DRILLING FIRM: SAEDACCO DATE FINISHED: 5/13/20 TOTAL DEPTH: 10.0 ft

DRILLER: Brian Ewing SAMPLE METHOD: 5' Macrocore DEPTH TO GW: N/A ft

DRILL RIG: GeoProbe 722DT LOGGED BY: R. Pastrana COMMENT: _____

DEPTH (ft)	SAMPLE NO.	SAMPLE DEPTH (ft)	PID READING (ppm)	FIELD CLASSIFICATION AND PHYSICAL DESCRIPTION	REMARKS
				0.0' - 0.3' - Topsoil	Core 1 Rec 4.3'/5.0'
				0.3' - 2.5' - Red-Brown, Silty CLAY, Moist	
1	S-1	1.0-1.5	0.2		
2	S-2	2.0-2.5	0.1		
				2.5' - 9.0' - Red-Brown, Sandy SILT, Trace Mica, Moist	
3	S-3	3.0-3.5	0.3		
4	S-4	4.0-4.5	0.2		
5	S-5	5.0-5.5	0.2		Core 2 Rec 5.0'/5.0'
6	S-6	6.0-6.5	0.1		
7	S-7	7.0-7.5	0.3		
8	S-8	8.0-8.5	0.1		
9	S-9	9.0-9.5	0.0	9.0' - 10.0' - Red-Brown to Gray-Brown, Silty SAND, Mottled, Moist to Dry	
10					
11					
12					
13					
14					
15					

APPENDIX B

RED LAB LABORATORY TESTING REPORT



Hydrocarbon Analysis Results

Client: ESP
Address: 7011 Albert Pick Rd
 Ste E
 Greensboro, NC 27409

Samples taken 5/13 - 5/14/2020
Samples extracted 5/13 - 5/14/2020
Samples analysed Monday, May 18, 2020

Contact: Ned Billington

Operator Harry Wooten

Project: GR22.325

										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	B7-1 , S5	19.6	<0.49	<0.49	<0.49	<0.49	<0.1	<0.16	<0.02	0	0	0	PHC not detected,(BO)		
s	B7-2 , S6	18.5	<0.46	<0.46	<0.46	<0.46	<0.09	<0.15	<0.018	0	0	0	PHC not detected,(BO)		
s	B7-3 , S4	17.7	<0.44	<0.44	<0.44	<0.44	<0.09	<0.14	<0.018	0	0	0	PHC not detected,(BO)		
s	B7-4 , S7	17.6	<0.44	<0.44	<0.44	<0.44	<0.09	<0.14	<0.018	0	0	0	PHC not detected,(BO)		
Initial Calibrator QC check										OK		Final FCM QC Check		OK	101.6 %

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: **Greensboro**
 Contact: **Ned Billington**
 Project Ref.: **GR22.325**
 Email: **on file**
 Phone #: **on file**
 Collected by: **R. Pastrana**



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.

CHAIN OF CUSTODY AND ANALYTICAL REQUEST FORM

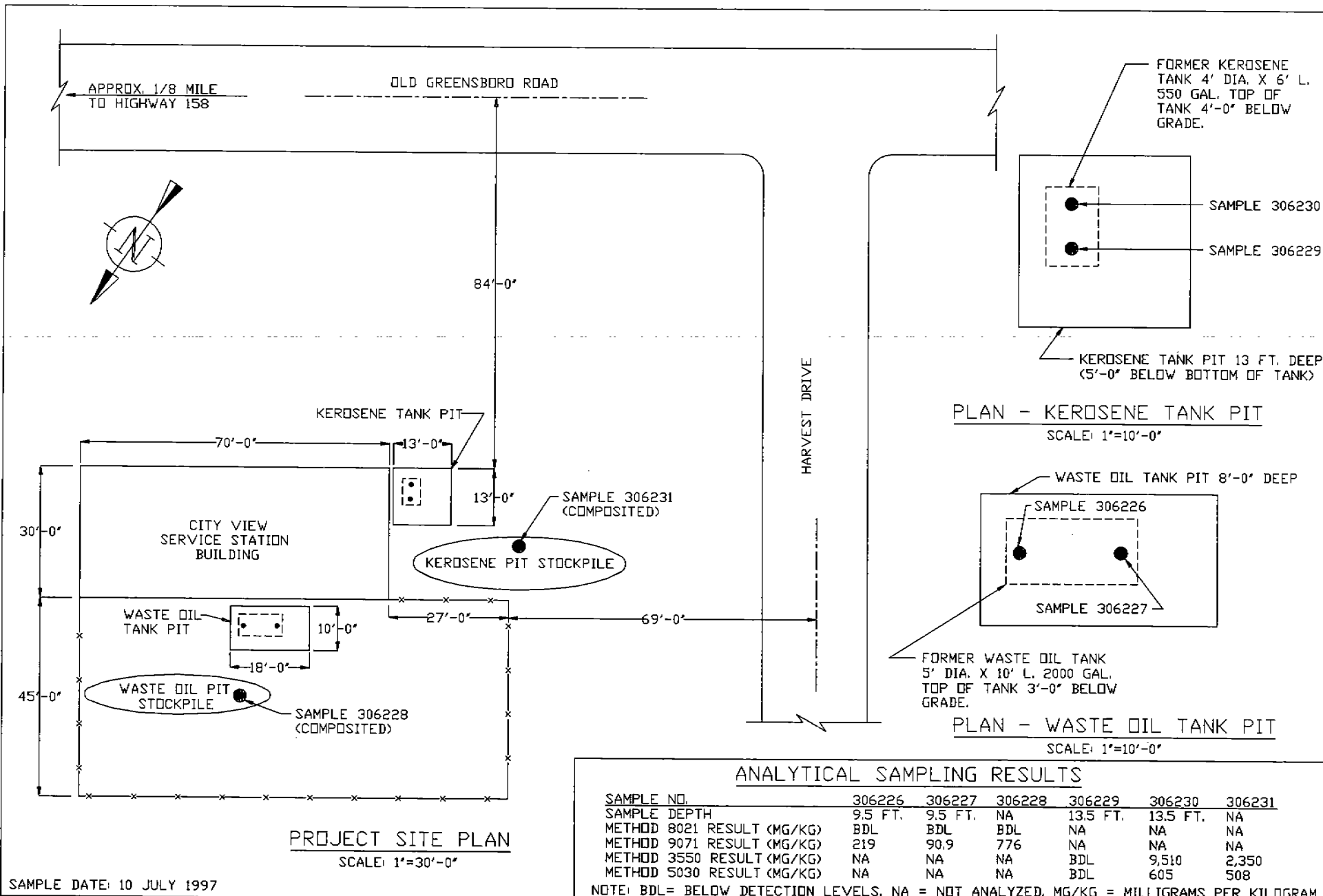
Sample Collection	TAT Requested		Analysis Type		Initials	Sample ID	Total Wt.	Tare Wt.	Sample Wt.
	24 Hour	48 Hour	UVF	GC					
5/13/20		✓	✓		EDB	B7-1, S5 B7-2, S6 B7-3, S4 B7-4, S7 } * letter "S" ↓	55.6	44.4	11.2
							56.6	44.7	11.9
							56.6	44.2	12.4
							56.2	43.7	12.5

COMMENTS/REQUESTS:
 * Report bracketed samples separately

TARGET GC/UVF ANALYTES:

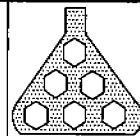
Relinquished by		Accepted by	Date/Time	RED Lab USE ONLY 20 Ref. No H01-02
<i>[Signature]</i>	5/15/20	<i>[Signature]</i>	5/18/20 12:00	
Relinquished by		Accepted by	Date/Time	

APPENDIX D
1997 UST CLOSURE REPORT FIGURE 1



SAMPLE DATE: 10 JULY 1997

FIGURE 1
CITY VIEW SERVICE STATION
WASTE OIL AND KEROSENE UST CLOSURE SITE PLAN



R&A ENGINEERING, INC.

108 SHORT STREET
KERNERSVILLE, NORTH CAROLINA
910-996-2841