STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

ROY COOPER
GOVERNOR

JAMES H. TROGDON, III
SECRETARY

May 6, 2019

MEMORANDUM TO: Susan Westberry, AICP, PWS, CPESC
Senior Transportation Planning/NEPA Project Manager
AECOM

FROM: Ashley B Cox, Jr, LG
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit

DocuSigned by:
Ashley B Cox, Jr, LG
[illegible]D7F429...

TIP NO: B-4838
WBS: 38608.1.1
COUNTY: WAYNE
DIVISION 4
DESCRIPTION: Replace Bridge No 20 Over the CSX Transportation Railroad Tracks on US 70.

SUBJECT: **GeoEnvironmental Phase I Report**

The GeoEnvironmental Section of the Geotechnical Engineering Unit performed a Phase I field investigation on April 29, 2019 for the above referenced project to identify geoenvironmental sites of concern. The purpose of this report is to document sites of concern within the project study area that are or may be contaminated. These sites of concern should be included in the environmental planning document in an effort to assist the project stakeholders in reducing or avoiding impacts to these sites. Sites of concern may include, but are not limited to, underground storage tank (UST) sites, dry cleaning facilities, hazardous waste sites, regulated landfills and unregulated dumpsites.

Findings

Five (5) sites of concern were identified within the proposed study area. We anticipate moderate monetary and scheduling impacts resulting from these sites, particularly the Superfund site. See the following table and figure for details.

Please note that discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance may occur. The GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

Mailing Address:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
1589 MAIL SERVICE CENTER
RALEIGH, NC 27699-1589

Telephone: (919) 707-6850
Customer Service: 1-877-368-4968

Website: www.ncdot.gov

Location:
1020 BIRCH RIDGE DRIVE
RALEIGH, NC 27610

Sites of concern identified in this report should be reviewed by the GeoEnvironmental Section once the Final Right of Way plans are complete to determine if Phase II Investigations and Right of Way Recommendations are necessary prior to right of way being acquired.

If there are questions regarding the geoenvironmental issues, please contact me, at (919) 707-6872.

cc:
John Pilipchuk, LG, PE, State Geotechnical Engineer
Brian Hanks, PE, State Structures Engineer
Dale Burton, PE, PLS, State Location and Surveys Engineer
Carl Barclay, PE, State Utilities Manager
Corey McLamb, PE, Division Construction Engineer
Lloyd Johnston, Division Right of Way Agent
Chris Kreider, PE, Geotechnical Regional Manager
Dean Argenbright, LG, Regional Geological Engineer
Heather Fulghum, ROW Unit, Negotiations, State Negotiator
row-notify@ncdot.gov
roadwaydesign@ncdot.gov
hydraulics_notify@ncdot.gov

(01) Property Name:
Franklin Baking Company
500 Grantham Street
713 N Carolina Street
Goldsboro, NC 27533

Facility ID: 00-0-0000011529 / 00-0-0000013379
Incident Type/Number: 3742 / 19975 / 13140
UST Number: 01

Property Owner:
Franklin Baking Company
500 West Grantham Street
Goldsboro, NC 27530

UST Owner:
Franklin Baking Company
500 West Grantham Street
Goldsboro, NC 27530

Anticipated Impacts: Low

This site and adjacent properties are part of the Franklin Baking Company's Goldsboro facility. There are numerous soil and groundwater incidents associated with this property. NCDEQ's tank registry shows that one underground petroleum tank is currently in use on-site. It appears the three incidents listed as being associated with this parcel have all been closed out.

(02) Property Name:
Bass Tires Auto Center
300 N Grantham Street
Goldsboro, NC 27533

Property Owner:
Latrell Bass and Mauricio Howell
300 West Grantham Street
Goldsboro, NC 27530

Facility ID: N/A
Incident Type/Number: N/A

Anticipated Impacts: Low

An automotive business operates at this location, specializing in wheels and used tires. While on-site, the outline of a pump island was observed, although no monitoring wells were visible and there are no documented incidents related to the parcel. While speaking to the owner, the site has utilized in-ground lifts in the past. Evidence of the presence of underground storage tanks was inconclusive.

(03) Property Name:
McGowan's Starter and Alternator
714 N George Street
Goldsboro, NC 27533

Property Owner:
Robert and Mary McGowan
1922 Tara Court Apt 101
Greenville, NC 27858

Facility ID: N/A
Incident Type/Number: 20283

Anticipated Impacts: Low

This facility currently operates as an automotive repair shop. This site is listed in the regulatory database as the "Former RB's Package Store". This site was accepted into the State Lead Program in June 2001, the database also mentions the presence of free product on site. Seven (7) monitoring wells were observed during our site reconnaissance. There was no evidence observed as to whether the tanks have been removed.

(04) Property Name:
General Electric Lighting
900 N George Street
Goldsboro, NC 27533

Facility ID: 00-0-0000032095
Incident Type/Number: NCD003198967

Property Owner:
General Electric
3135 Easton Turnpike
Fairfield, CT 6828

UST Owner:
General Electric
PO Drawer 107
Wilson, NC 27530

Anticipated Impacts: High

This facility manufactures lead wires used in lightbulbs and other specialty wire products. Production processed include dip forming (nickel and copper plating of steel wire), annealing, wire drawing, borating, and electroplating. Sludges generated from these processes are classified under the Resource Conservation and Recovery Act (RCRA) as hazardous wastes. In 1990, a 10,000-gallon diesel tank was removed from the property. Currently there are no known registered tanks listed in the regulatory database associated with the property.

(05) Property Name:
Sky Discount Tobacco
301 W. Grantham Street
Goldsboro, NC 27533

Property Owner:
Nagla Alsaidi
306 Chancery Drive
Goldsboro, NC 27530

Facility ID: 00-0-0000000016
Incident Type/Number: 11821 / 38206
UST Number: 03

UST Owner:
A & K Express Corporation
301 South Grantham Street
Goldsboro, NC 28560

Anticipated Impacts: Low

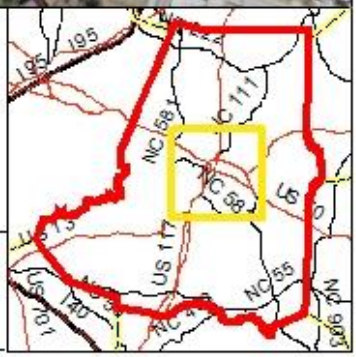
This site is currently operating as an active gas station with 3 tanks in the ground. Multiple monitoring wells are located across the property. There are two UST incidents associated with this parcel; 11821 when the facility operated as Conoco #33025 and most recently, 38206 under the current ownership.

Figure
Location of GeoEnvironmental Sites of Concern

Project 38608.1.1 (TIP # B-4838)
Replace Bridge # 20 over CSX Transportation Railroad Tracks on US 70 Business
Wayne County

500 250 0 500 Feet

NC Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section



STATE OF NORTH CAROLINA
DEPARTMENT OF TRANSPORTATION

PAT MCCRORY
GOVERNOR

ANTHONY J. TATA
SECRETARY

July 12, 2013

MEMORANDUM TO: William T. Goodwin, PE
Project Development-Bridge Section - Section Head
Project Development and Environmental Analysis Branch

ATTN: Tracy Walter
Project Development Engineer

FROM: Gordon Box, LG
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit

TIP NO: B-4838
WBS: 38608.1.1
COUNTY: Wayne
DIVISION 4
DESCRIPTION: Replace Bridge 20 over the CSX Transportation Railroad Tracks on US 70

SUBJECT: **GeoEnvironmental Report for Planning**

The GeoEnvironmental Section has completed the GeoEnvironmental Report for Planning. This report has the following components and is transmitted as:

__X_ Hazardous Materials Report (5) pages

Please contact me if you have any questions concerning this project.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
GEOENVIRONMENTAL SECTION
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
FAX: 919-250-4237

www.ncdot.gov/doh/preconstruct/highway/geotech

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Hazardous Materials Report

The GeoEnvironmental Section of the Geotechnical Engineering Unit has investigated the above referenced project to identify hazardous material sites for inclusion in the environmental document.

HAZARDOUS MATERIALS EVALUATION

Purpose

This section presents the results of a hazardous material evaluation conducted along the above referenced project. The main purpose of this investigation is to identify properties within the project study area that are or may be contaminated and therefore could result in increased project costs and future liability if acquired by the Department. Hazardous material impacts may include, but are not limited to, active and abandoned underground storage tank (UST) sites, hazardous waste sites, regulated landfills and unregulated dumpsites.

Techniques/Methodologies

The Geographical Information System (GIS) was consulted to identify known sites of concern in relation to the project corridor. GeoEnvironmental Section staff conducted a field reconnaissance along the Bridge 20 over the CSX Transportation Railroad Tracks on US 70 on July 11, 2013. A search of appropriate environmental agencies' databases was performed to assist in evaluating sites identified during this study.

Findings

UST Facilities

One (1) petroleum site was identified within the project limits.

Hazardous Waste Sites

No Hazardous Waste Sites were identified within the project limits.

Landfills

No apparent landfills were identified within the project limits.

Other GeoEnvironmental Concerns

No other geoenvironmental concerns were identified within the project limits.

MAILING ADDRESS:
NC DEPARTMENT OF TRANSPORTATION
GEOTECHNICAL ENGINEERING UNIT
GEOENVIRONMENTAL SECTION
1589 MAIL SERVICE CENTER
RALEIGH NC 27699-1589

TELEPHONE: 919-707-6850
FAX: 919-250-4237
www.ncdot.gov/doh/preconstruct/highway/geotech

LOCATION:
CENTURY CENTER COMPLEX
BUILDING B
1020 BIRCH RIDGE DRIVE
RALEIGH NC 27610

Anticipated Impacts

The GeoEnvironmental Section observed one (1) potentially contaminated property during the field reconnaissance and regulatory agencies' records search.

---

1) **Property Name**

Franklin Baking Company
500 Grantham St.
Goldsboro, NC 27530
Facility ID:
0-005343
Groundwater Incident ID:
19975

Property Owner

Franklin Baking Company, LLC
500 Grantham St.
Goldsboro, NC 27530

This active bakery is located on southwest corner of the intersection of Grantham St. and North Carolina St. This parcel appears on the UST Section Registry as having had five (5) USTs. A Groundwater Incident is associated with this site. There is no evidence of USTs or UST removals along the proposed project corridor. Two (2) above ground storage tanks are evident on site. (View of photo is toward the southwest.) **This site is anticipated to present low geoenvironmental impacts to the project.**

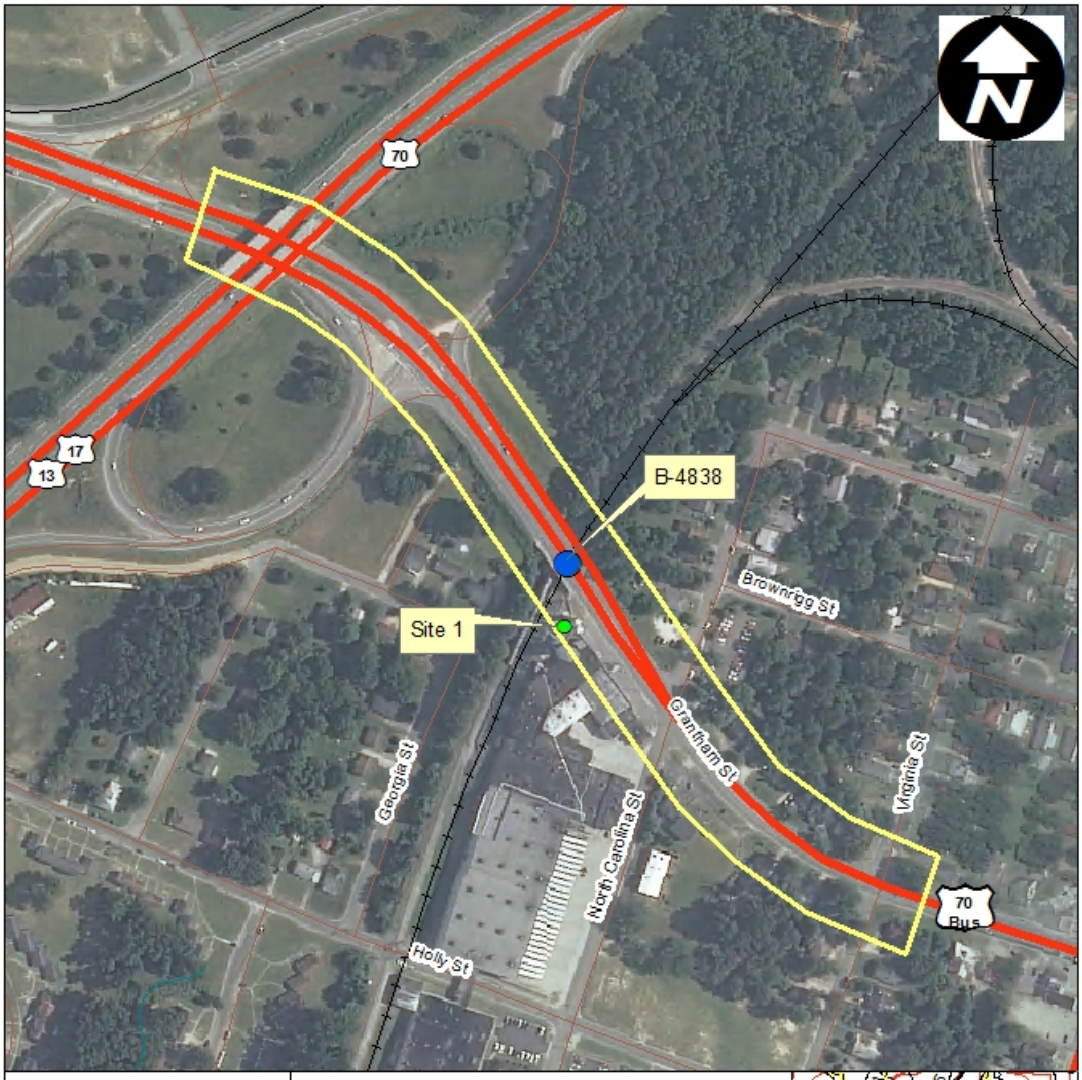
Please note that discovery of additional sites not recorded by regulatory agencies and not reasonably discernible during the project reconnaissance may occur. The GeoEnvironmental Section should be notified immediately after discovery of such sites so their potential impact(s) may be assessed.

If there are questions regarding the geoenvironmental issues, please contact me, at 919-707-6859.

Gordon Box, LG
GeoEnvironmental Project Manager
GeoEnvironmental Section
Geotechnical Engineering Unit

Cc:
John Pilipchuk, LG, PE, State Geotechnical Engineer
David Chang, Ph.D, PE, State Hydraulics Engineer
Tom Koch, PE, Assistant State Structures Engineer
Charles Brown, PE, PLS, State Locations and Surveys Engineer
Kevin Bowen, PE, Area Bridge Construction Engineer
Lloyd Johnston, Division Right of Way Agent
K.J. Kim, PE, Geotechnical Regional Manager
Neil Roberson, LG, Regional Geological Engineer
Dennis Li, Ph.D, LG, Production Support Supervisor
File

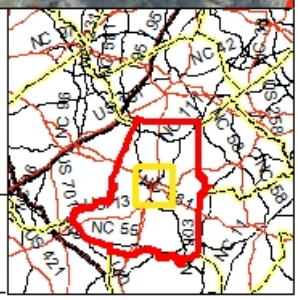
Appendix A
Location of USTs, Landfills, & Other Potentially Contaminated Sites



Project 38608.1.1 (TIP # B-4838)
Bridge # 20 over the CSX Transportation Railroad tracks on US 70
Wayne County

300 150 0 300 Feet

NC Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section



TIP: B-4838 **Bridge Photographs** **7/11/13**

	
Bridge 20 over the CSX Transportation Railroad Tracks on US 70. View to the southeast.	Bridge 20 over the CSX Transportation Railroad Tracks on US 70. View to the northwest.
	
View of CSX Transportation Railroad Tracks from Bridge 20 toward the north.	View from Bridge 20 toward the south.

ECS Southeast, LLP

GeoEnvironmental Phase II Investigation

TIP Number: B-4838
WBS Number: 38608.1.1
Description: Replace Bridge 20 over CSX Transportation Railroad Tracks on US 70 Business in Goldsboro

301 W. Grantham St
Goldsboro, North Carolina 27533
Parcel # 22 PSH 8
Owner: Nagla Alsaidi
ECS Project Number 49:17192
July 26, 2022

ECS SOUTHEAST, LLP
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities
NC Registered Engineering Firm F-1078
NC Registered Geologists Firm C-553
SC Registered Engineering Firm 3239

July 26, 2022

Mr. John L. Pilipchuk, L.G., P.E.
State Geotechnical Engineer
Geotechnical Engineering Unit (GEU)
1589 Mail Service Center
Raleigh, NC. 27699-1589

Reference: **Proposal for GeoEnvironmental Phase II Investigation**
TIP No.: B-4838
WBS No.: 38608.1.1
County: Wayne
Description: Replace Bridge 20 over CSX Transportation Railroad tracks on US 70 Business in Goldsboro

Site Address: 301 W. Grantham St, Goldsboro, North Carolina 27533

Dear Mr. Pilipchuck:

ECS Southeast, LLP (ECS) is pleased to provide NCDOT with the results of our Phase II Investigation for the above-referenced site. ECS's services were provided in accordance with ECS Proposal No. 49:30647 dated and authorized on April 28, 2022. ECS appreciates the opportunity to provide our services to you. If there are questions regarding this report, or a need for further information, please contact us.

Respectfully submitted,

ECS SOUTHEAST, LLP

Ron Navarro, G.I.T
Staff Project Manager
rnavarro@ecslimited.com

NORTH CAROLINA LICENSED SEAL 1027 GEOLOGIST JOSEPH P. NESTOR
07-26-2022

DocuSigned by:
71E46B90AB8D419...
07/28/2022

Joseph P. Nestor, P. G., P.E.
Environmental Principal
jnestor@ecslimited.com

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1.0 PROJECT INFORMATION

ECS completed the scope of work in accordance with the Request for Request for Technical and Cost Proposal (RFP) GeoEnvironmental Phase II Investigation dated March 31, 2022 (TIP No. B-4838, WBS No. 38608.1.1). The project consisted of testing soil in the vicinity of future stormwater installation activities at 301 W. Grantham St in Goldsboro, Wayne County, North Carolina (**Figure 1 and Figure 2**), as well as attempting to survey for in place USTs within the area of investigation.

The property is owned by Nagla Alsaidi and is assigned DOT parcel number 22 PSH 8. According to the Wayne County GIS website, the property identification number (PIN) of the property is 2599990539 and encompasses 0.36 acres of land. The property is currently developed with a gasoline service station that includes a 1,375 square foot convenience store constructed in 1966 and two gasoline dispenser islands with associated canopies. The property has been used as a gas station since as far back as 1966. According to the North Carolina Department of Environmental Quality (NCDEQ) Division of Waste Management (DWM) site locator tool, the property was issued an Underground Storage Tank (UST) incident number by NCDEQ (incident #11821, site name Conoco #33025). No other historic uses outside of that of a gas station could be determined using the NCDEQ DWM Site locator tool or using the Wayne County GIS website.

2.0 SCOPE OF SERVICES

Drilling activities were conducted using a track mounted Direct Push Technology (DPT) drill rig. The drilling subcontractor used for this assessment was Quantex, Inc. (Quantex). Drilling and sampling activities were conducted on May 24, 2022. Photo documentation collected during field activities has been included as **Appendix A**.

Prior to assessment activities, private utility locating utilizing Electromagnetic Survey (EM) and Ground Penetrating Radar (GPR) was conducted by KCI Technologies Inc. (KCI). KCI also attempted to locate any USTs in the investigation area as defined in the RFP. ECS proposed to collect a soil sample in the vicinity of any USTs identified only in the proposed right-of-way and/or easement as defined by plan sheets provided to ECS prior to field activities, however, no USTs were observed at the time of investigation.

A total of two (2) soil borings for the collection of soil samples were advanced on the subject property. Both borings were advanced to a total depth of 10 ft below ground surface (bgs). See **Figure 2** for soil sample locations.

2.1 Utility Locate Services

Prior to commencing with field activities, ECS contacted North Carolina One-Call (811) to locate/mark public utilities at the site. ECS also contracted with KCI to locate private utilities on the subject property using GPR and EM methods. KCI was requested to identify and mark any potential USTs on the subject property. KCI did not identify any USTs on the property at 301 W Grantham St. Required separation distances between subsurface activities and marked utilities (typically 30-inches) were maintained during the field activities. A copy of the geophysical report provided by KCI is located in **Appendix B**.

2.2 Soil Sampling Activities

On May 24 2022, two soil borings (SB-1 and SB-2) were drilled at the property on 301 W Grantham St to collect soil samples in the proposed right-of-way/easement as defined by plan sheets provided by NCDOT with the RFP prior to conducting field services. The borings were advanced to a total depth of 10 ft below ground surface (bgs). See **Figure 2** for soil sample locations.

Soils were collected with a Terracore sampler using new dedicated nitrile gloves from the liner retrieved from the soil sample probe and placed directly into laboratory provided containers. PID readings were screened in 2-ft intervals from the ground surface to the observed water table at the time of boring in the soil sleeve. Boring logs are provided in **Appendix C.**

The soil sample containers were labeled with ECS project number, sample identification, sample date and time, and requested analytical analysis. The soil samples were identified as SB-1 and SB-2. The container was placed into a cooler with ice to maintain the sample at approximately four degrees Celsius. The samples were submitted to Rapid Environmental Diagnostics (Redlab) in Wilmington, North Carolina to be analyzed for total petroleum hydrocarbons (TPH) similar to diesel and gasoline range organics (DRO/GRO) using ultraviolet fluorescence technology (UVF). ECS maintained chain-of-custody (COC) procedures throughout the sample collection and transportation process. A copy of the COC is included in **Appendix D**.

3.0 RESULTS

3.2 Soil Sample Analytical Results

Laboratory analytical results indicated TPH-DRO above laboratory reporting limits in SB-1. TPH-GRO was detected above laboratory reporting limits in SB-2. TPH-DRO was detected in SB-1 at a concentration of 2.8 milligrams per kilogram (mg/kg). TPH-GRO was detected in SB-2 at a concentration of 2.1 mg/kg. Neither of these two soil samples collected identified TPH-DRO or TPH-GRO above the NCDEQ action limits of 100 mg/kg and 50 mg/kg respectively. A copy of the laboratory analytical report is included in **Appendix D**. A summary of soil sample analytical results is included as **Table 1**.

4.0 CONCLUSIONS

Based on the laboratory analytical results; ECS concludes the following:

- Both of the soil samples collected at 301 W Grantham St indicated TPH-GRO or TPH-DRO above their laboratory reporting limits. However, petroleum hydrocarbons were not detected above NCDEQ action limits in either of the soil samples collected.
- The geophysical survey conducted by KCI did not identify USTs within the proposed area of investigation.

5.0 RECOMMENDATIONS

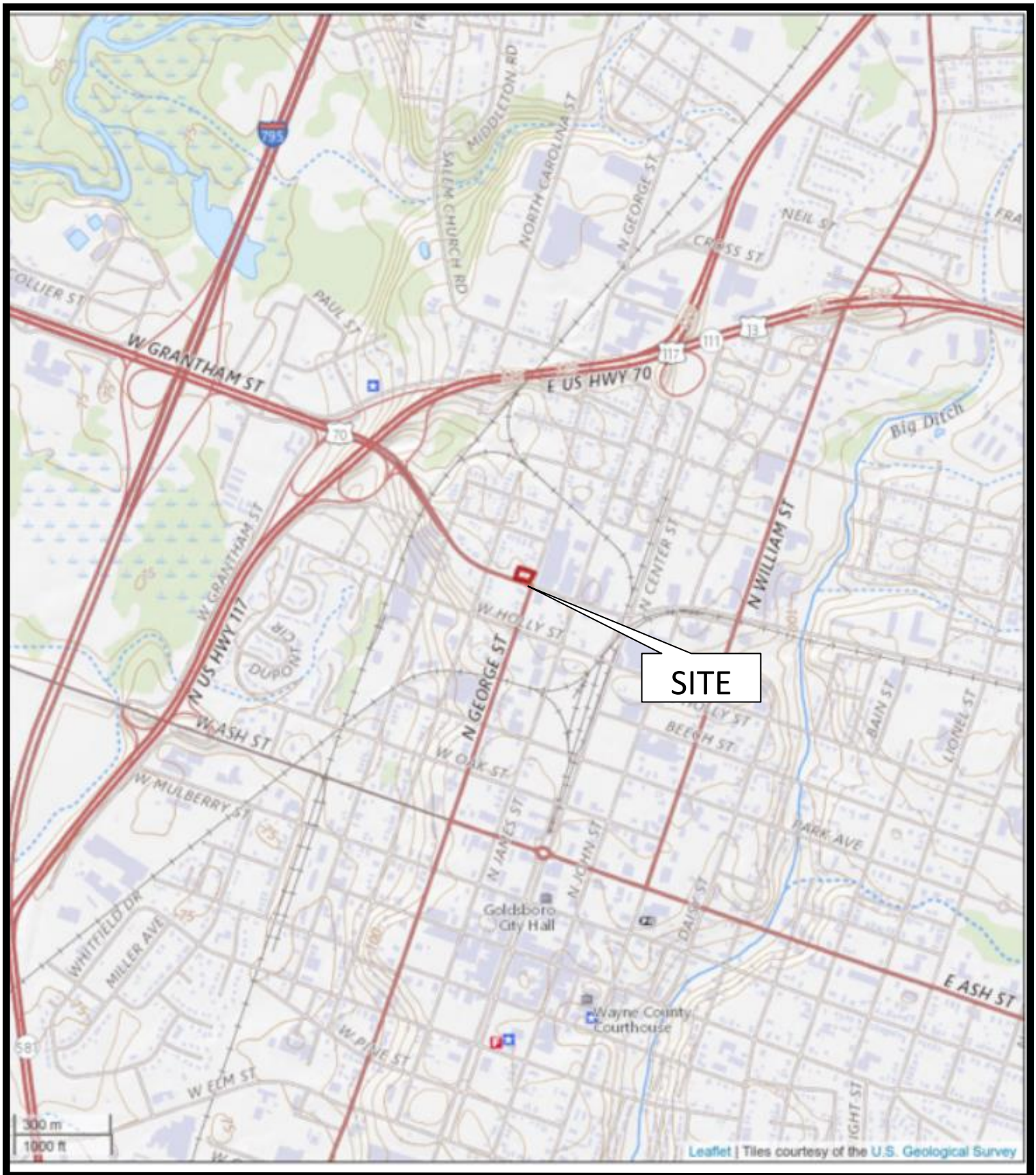
Based on the results of the environmental assessment, ECS recommends the following:

- No further environmental services are recommended at this time.
- A copy of this report be retained for future reference.

6.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in environmental assessment projects of this type. Our evaluation of site conditions has been based on our understanding of the site project information and the data obtained during our field activities. This report was prepared for the express use of NCDOT. Use of this report by other individuals or companies implies their acceptance of the General Conditions of Service of the original contract.

FIGURES

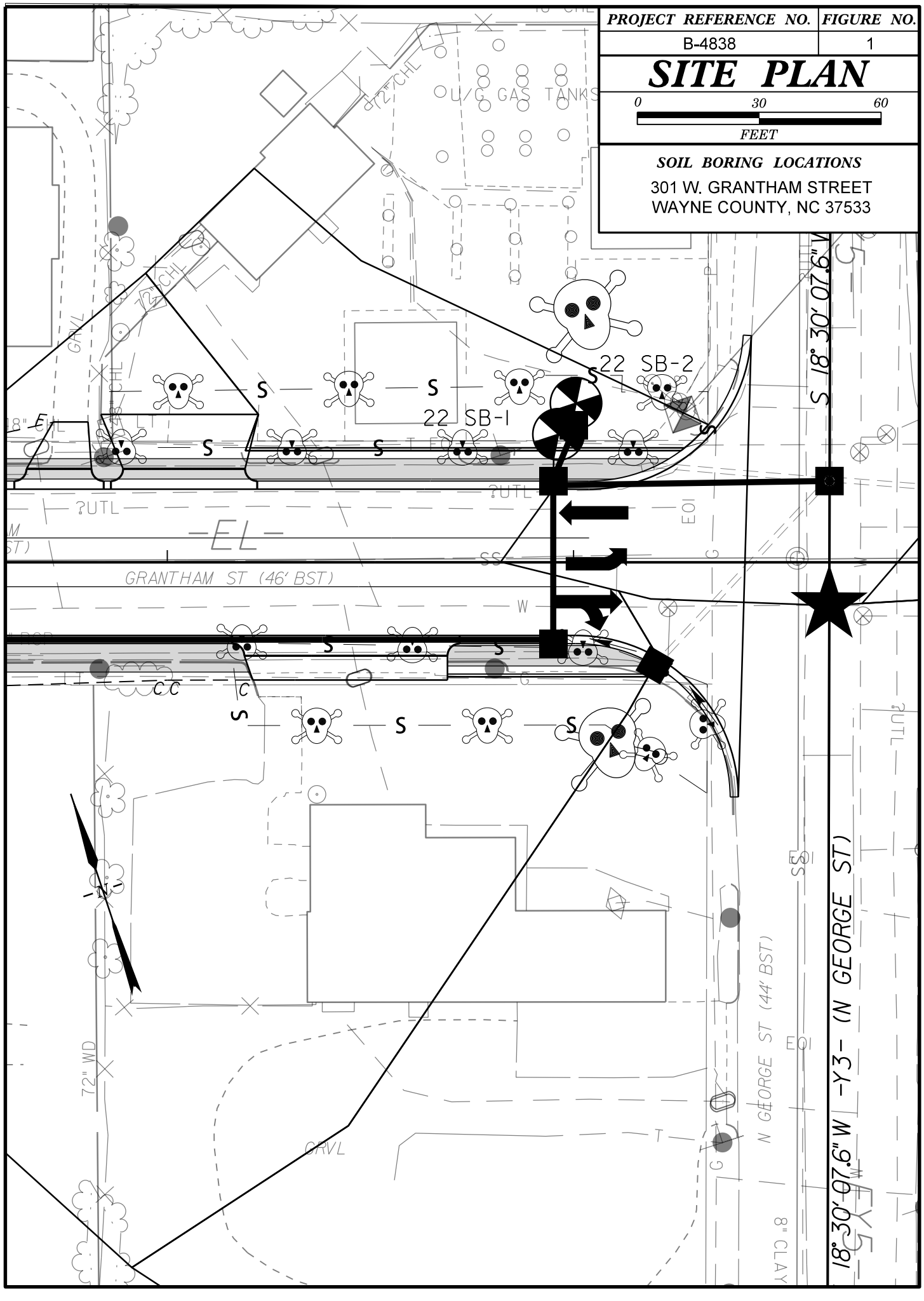


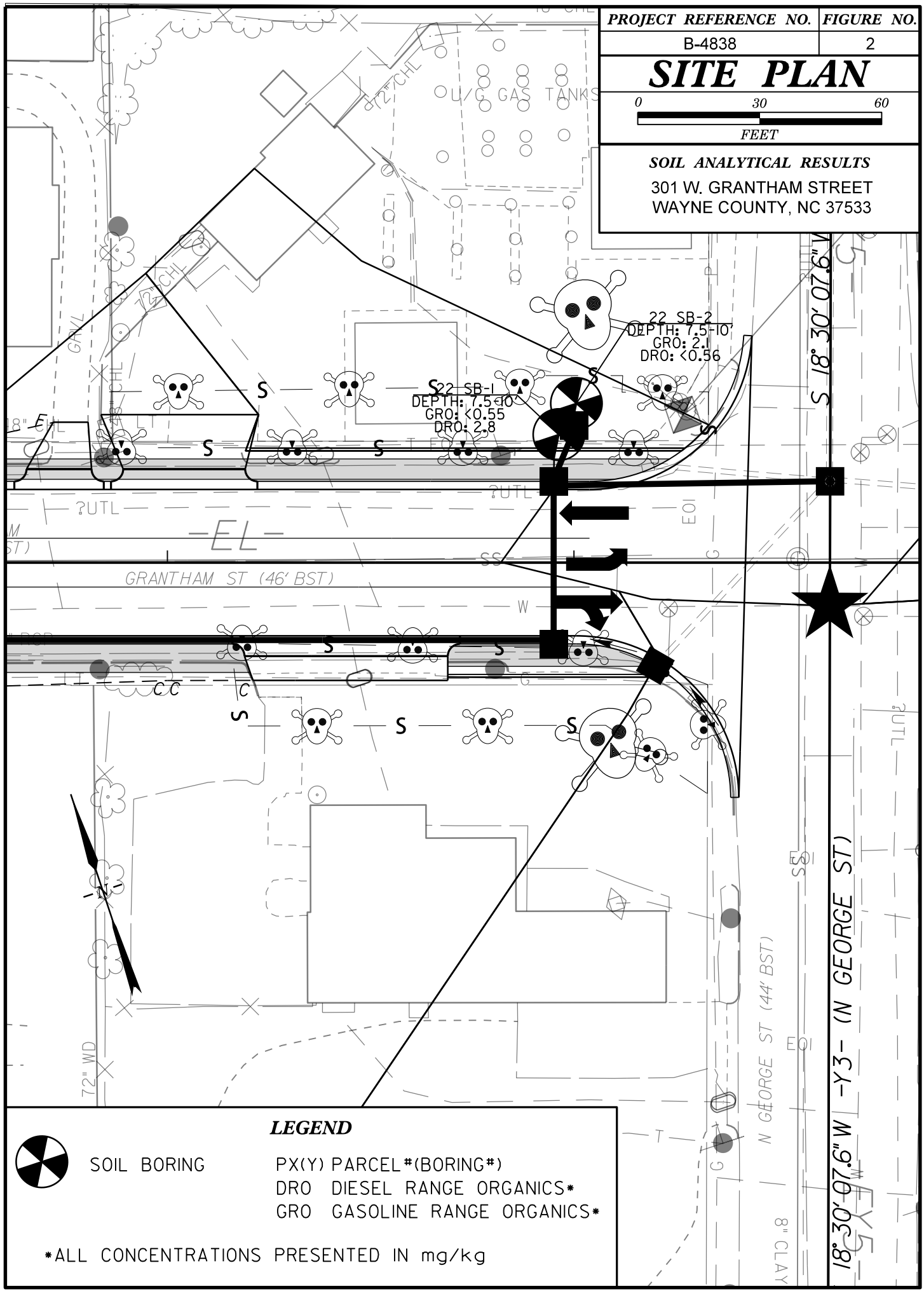
SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC SERIES –
NORTHWEST GOLDSBORO QUADRANGLE

SCALE SHOWN ABOVE

FIGURE 1
SITE TOPOGRAPHIC MAP

301 W Grantham Street
Goldsboro, Wayne County, NC
ECS Project Number: 49:17192
NCDOT TIP No. B-4838


PROJECT REFERENCE NO.
B-4838
FIGURE NO.
1
SITE PLAN
0
30
60
FEET
SOIL BORING LOCATIONS
301 W. GRANTHAM STREET
WAYNE COUNTY, NC 37533
22 SB-2
22 SB-1
GRANTHAM ST (46' BST)
N GEORGE ST (44' BST)
S 18° 30' 07.6" W
18° 30' 07.6" W -Y3- (N GEORGE ST)
U/G GAS TANKS
72" CHL
72" WD
8" CLAY
GRVL
?UTL
-EL-
EOI


PROJECT REFERENCE NO.
B-4838
FIGURE NO.
2
SITE PLAN
0
30
60
FEET
SOIL ANALYTICAL RESULTS
301 W. GRANTHAM STREET
WAYNE COUNTY, NC 37533
22 SB-2
DEPTH: 7.5-10'
GRO: 2.1
DRO: <0.56
22 SB-1
DEPTH: 7.5-10'
GRO: <0.55
DRO: 2.8
GRANTHAM ST (46' BST)
N GEORGE ST (44' BST)
S 18° 30' 07.6" W
18° 30' 07.6" W -Y3- (N GEORGE ST)
LEGEND
SOIL BORING
PX(Y) PARCEL#(BORING#)
DRO DIESEL RANGE ORGANICS*
GRO GASOLINE RANGE ORGANICS*
*ALL CONCENTRATIONS PRESENTED IN mg/kg

Summary of Hydrocarbon Analysis Results

B-4838 Phase II Investigation

301 W Grantham St

Goldsboro, North Carolina 27533

ECS Project No. 49:17192

Sample ID	Sample Matrix	Sample Depth (ft bgs)	Sample Date	Sample Location (lat/long)	GRO (C5-C10)	DRO (C10-C35)
NCDEQ Action Levels					**50**	**100**
SB-1	Soil	7.5 - 10	05/24/22	35.393202, -77.99653	<0.55	2.8
SB-2	Soil	7.5 - 10	05/24/22	35.393176, -77.99656	2.1	<0.56

Notes:

Results Generated by a QED HC-1 analyser.

Concentration values in mg/kg

Soil values are not corrected for moisture or stone content

< = not detected

Bold indicates analytes above NCDEQ Action Levels for TPH DRO / GRO

APPENDIX A

Photo 1 – View facing south of SB-1 boring location on 5/24/2022.

Photo 2 – View facing southeast of SB-2 boring location on 5/24/2022.

PHOTO DOCUMENTATION		B-4838 301 W. GRANTHAM STREET GOLDSBORO, WAYNE COUNTY, NC ECS PROJECT NO. 49:17192

APPENDIX B

1.0 SCOPE OF WORK : 301 W Grantham St, Goldsboro NC

The objective of this survey was to investigate the subsurface for any USTs and/or former excavations. The secondary objective was to trace any subsurface utilities within a 10' radius of the proposed soil boring locations. All findings would be marked and sketched on ARCGIS as well as conveyed to the on-site personnel.

2.0 METHODOLOGY

Selection of survey equipment is dependent site conditions and project objectives. For this project the technician utilized the following equipment to survey the area of concern:

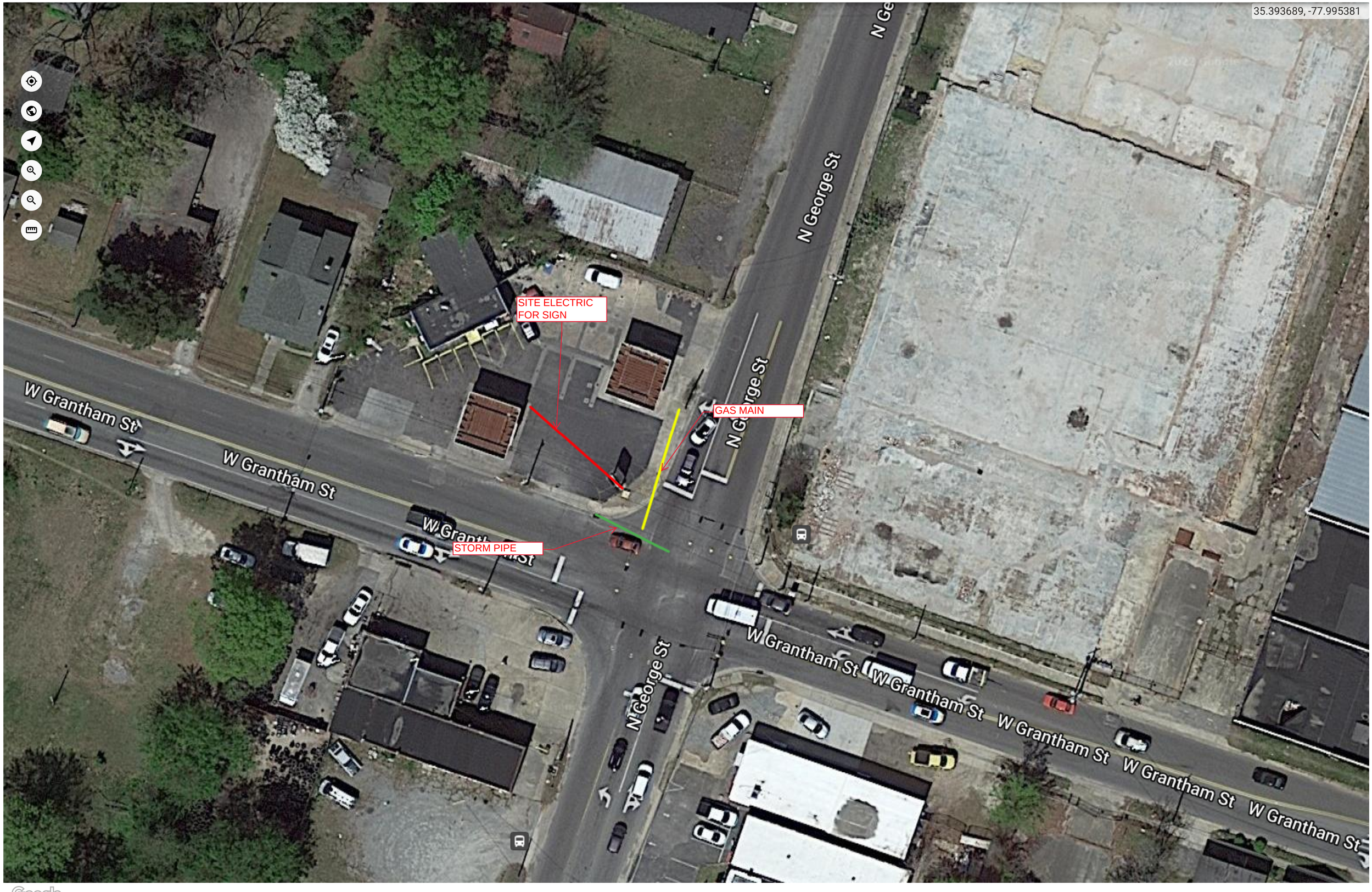
- LMX100 Ground Penetrating Radar (GPR) unit with a 250 Mhz antenna.
- Vivax vLocPro3 (VLP2) multiple frequency pipe and cable locator.
- Fisher M-Scope TW-6 pipe and cable locator / metal detector.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

The LMX100 GPR with high resolution touchscreen uses state-of-the art hardware and Sensors & Software latest GPR technology. The 250 MHz antenna can achieve depths of penetration up to about 20 feet, but this depth may be greatly reduced due to site-specific conditions. Signal penetration decreases with increased soil conductivity. Conductive materials attenuate or absorb the GPR signal. As depth increases the return signal becomes weaker. Penetration is the greatest in unsaturated sands and fine gravels. Clay, highly saline or saturated soils, areas covered by steel reinforced concrete, foundry slag, of other highly conductive materials significantly reduces GPR depth of penetration.

The Vivax vLocPro3 is an electromagnetic utility locator that has the capability to use multiple frequencies ranging from 512Hz to 200 kHz to horizontally trace metallic pipes and cables. The vLocPro 3 can use three different methods to trace utilities inductive, conductive and passive.

The TW-6 is designed to find pipes, cables and other metallic objects such as underground storage tanks. One surveyor can carry both the transmitter and receiver together, making it ideally suited for exploration type searches of ferrous metal masses. Metal detectors of this type operate by generating a magnetic field at the transmitter which causes metallic objects in the subsurface to generate a secondary magnetic field. The induced secondary field is detected by the receiver, which generates an audible tone equal to the strength of the secondary field.



APPENDIX D

Project Name:	**B-4838 – Phase II Investigation**	Sheet: **1 of 1**	Boring No:	**SB-1**	
Client:	**NCDOT-Geotechnical Engineering Unit**	Project No.: **49:17192**			
Site Location:	**301 W. Grantham Street, Goldsboro, North Carolina 27533**	Driller:	**Quantex**	Drill Rig:	**GeoProbe**
Latitude/Longitude:	**35.393202**	**-77.99653**			

Depth/Elevation	PID Reading	Sample Number	Sample Recovery (in)	Graphic Log	Soil Classification	Description
					Asphalt	Asphalt
					SW/GW	Gray Sand with Gravel. Slight Petrol Odor
	9.2				**SC**	Yellowish Tan Clayey Sand, Slight Petrol Odor
	6.9					
5 -5						
	3.0				**SC**	Yellowish Tan Clayey Sand, Slight Petrol Odor
	17.9	SB-1				
10 -10						**END OF DRILLING AT 10.0 FT**

▽ WL (First Encountered)		Boring Started:	**May 24 2022**
▼ WL (Completion)		Boring Completed:	**Jun 24 2022**
Remarks:		Logged By:	**Emery Lovecamp**
		Principal Engineer/ Responsible PG:	**Scott Werley**

Project Name:	**B-4838 – Phase II Investigation**	Sheet: **1 of 1**	Boring No:	**SB-2**	
Client:	**NCDOT-Geotechnical Engineering Unit**	Project No.: **49:17192**			
Site Location:	**301 W. Grantham Street, Goldsboro, North Carolina 27533**	Driller:	**Quantex**	Drill Rig:	**GeoProbe**
Latitude/Longitude:	**35.393176**	**-77.99656**			

Depth/Elevation	PID Reading	Sample Number	Sample Recovery (in)	Graphic Log	Soil Classification	Description
					Asphalt	Asphalt
	0.0				**SC**	Yellowish Tan Clayey Sand
	0.0					
5 -5					**CL**	Yellowish Tan Clay
	0.0					
	1.5	SB-2			**SC**	Light Gray Sandy Clay
10 -10						**END OF DRILLING AT 10.0 FT**

▽ WL (First Encountered)		Boring Started:	**May 24 2022**
▼ WL (Completion)		Boring Completed:	**Jun 24 2022**
Remarks:		Logged By:	**Emery Lovecamp**
		Principal Engineer/ Responsible PG:	**Scott Werley**

APPENDIX C

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: ECS SOUTHEAST
Address: 5260 GREENE DAIRY ROAD
RALEIGH NC 27616

Contact: EMERY LOVEKAMP

Project: #49-17192

Samples taken Tuesday, May 24, 2022
Samples extracted Tuesday, May 24, 2022
Samples analysed Wednesday, May 25, 2022

Operator MAX MOYER

T03308

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	SB-1	22.0	<0.55	<0.55	2.8	2.8	1.3	<0.18	<0.022	0	79.3	20.7	Deg.PHC 84.6%,(FCM)
s	SB-2	22.2	<0.56	2.1	<0.56	2.1	<0.11	<0.18	<0.022	99.1	0.9	0	Deg.Gas,(FCM)
s	SB-3	12.3	<0.31	<0.31	<0.31	<0.31	<0.06	<0.1	<0.012	0	100	0	Residual HC,(P)
s	SB-4	20.2	<0.5	<0.5	<0.5	<0.5	<0.1	<0.16	<0.02	0	0	0	PHC not detected,(P)
s	SB-5	23.9	<0.6	<0.6	0.6	0.6	0.31	<0.19	<0.024	0	70	30	V.Deg.PHC 92.1%,(FCM)

Initial Calibrator QC check OK Dilution not within recommended range OK 97.8 %

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

Client Name:	ECS SOUTHEAST, LLP
Address:	5260 GREENS DAIRY ROAD RALEIGH, NC 27616
Contact:	EMERY LOVELAMP
Project Ref.:	49-17192
Email:	ELOVELAMP@ECSLIMITED.COM
Phone #:	919-414-6036
Collected by:	EMERY LOVELAMP

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					
5/24 0930		X	X		EL	SB-1	52.0	40.2	11.8
" 0950		X	X		EL	SB-2	51.8	40.1	11.7
" 1000		X	X		EL	SB-3	51.6	40.2	11.4
" 1010		X	X		EL	SB-4	52.9	40.0	12.9
" 1030		X	X		EL	SB-5	51.1	40.2	10.9

COMMENTS/REQUESTS:

TARGET GC/UVF ANALYTES:

Relinquished by		Accepted by	Date/Time
EMERY LOVELAMP 5/24 1655		MM 5/25/22	1195
Relinquished by		Accepted by	Date/Time

RED Lab USE ONLY

Ref. No 15

ECS Southeast, LLP

GeoEnvironmental Phase II Investigation

TIP Number:	B-4838
WBS Number:	38608.1.1
Description:	Replace Bridge 20 over CSX Transportation Railroad Tracks on US 70 Business in Goldsboro

300 W. Grantham St
Goldsboro, North Carolina 27533
ECS Proposal Number 49:30647P
July 26, 2022
Parcel # 23 PSH 8
Owner: Letrell Bass

ECS SOUTHEAST, LLP
"Setting the Standard for Service"
Geotechnical • Construction Materials • Environmental • Facilities
NC Registered Engineering Firm F-1078
NC Registered Geologists Firm C-553
SC Registered Engineering Firm 3239

July 26, 2022

Mr. John L. Pilipchuk, L.G., P.E.
State Geotechnical Engineer
Geotechnical Engineering Unit (GEU)
1589 Mail Service Center
Raleigh, NC. 27699-1589

Reference: **Proposal for GeoEnvironmental Phase II Investigation**
TIP No.: B-4838
WBS No.: 38608.1.1
County: Wayne
Description: Replace Bridge 20 over CSX Transportation Railroad Tracks on US 70 Business in Goldsboro
Site Address: 300 W. Grantham St, Goldsboro, North Carolina 27533

ECS Project Number: 49:17192

Dear Mr. Pilipchuck:

ECS Southeast, LLP (ECS) is pleased to provide NCDOT with the results of our Phase II Investigation for the above-referenced site. ECS's services were provided in accordance with ECS Proposal No. 49:30647 dated and authorized on April 28, 2022. ECS appreciates the opportunity to provide our services to you. If there are questions regarding this report, or a need for further information, please contact us.

Respectfully submitted,

ECS SOUTHEAST, LLP

Ron Navarro, G.I.T
Staff Project Manager
rnavarro@ecslimited.com

NORTH CAROLINA LICENSED SEAL 1027 GEOLOGIST JOSEPH P. NESTOR
07-26-2022

DocuSigned by:
71E46B90AB8D419...

Joseph P. Nestor, P. G., P.E.
Environmental Principal
jnestor@ecslimited.com

07/28/2022

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FIGURES

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APPENDIX

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1.0 PROJECT INFORMATION

ECS completed the scope of work in accordance with the Request for Request for Technical and Cost Proposal (RFP) GeoEnvironmental Phase II Investigation dated March 31, 2022 (TIP No. B-4838, WBS No. 38608.1.1). The project consisted of testing soil in the vicinity of future stormwater installation activities at 300 W. Grantham St in Goldsboro, Wayne County, North Carolina (**Figure 1 and Figure 2**), as well as attempting to survey for in place USTs within the area of investigation.

The property is owned by Letrell Bass and is assigned DOT parcel number 23 PSH 8. According to the Wayne County GIS website, the property identification number (PIN) of the property is 2599899485 and encompasses 0.19 acres of land. The property is currently developed with an auto shop that includes a 1,455 square foot building constructed in 1956. According to the North Carolina Department of Environmental Quality (NCDEQ) Division of Waste Management (DWM) site locator tool, the property was issued an Underground Storage Tank (UST) incident number by the North Carolina Department of Environmental Quality (NCDEQ) Division of Waste Management (incident #24500, site name Corner Pocket Auto Detail). No other historic uses outside of that of an auto shop could be determined using the NCDEQ DWM Site locator tool or using the Wayne County GIS website.

2.0 SCOPE OF SERVICES

Drilling activities were conducted using a track mounted Direct Push Technology (DPT) drill rig. The drilling subcontractor used for this assessment was Quantex, Inc. (Quantex). Drilling and sampling activities were conducted on May 24, 2022. Photo documentation collected during field activities has been included as **Appendix A**.

Prior to assessment activities, private utility locating utilizing Electromagnetic Survey (EM) and Ground Penetrating Radar (GPR) was conducted by KCI Technologies Inc. (KCI). KCI also attempted to locate any USTs in the investigation area as defined in the RFP. ECS proposed to collect a soil sample in the vicinity of any USTs identified only in the proposed right-of-way and/or easement as defined by plan sheets provided to ECS prior to field activities, however, no USTs were observed within the area of investigation at the time of field services.

A total of three (3) soil borings for the collection of soil samples were advanced on the subject property. Both borings were advanced to a total depth of 10 ft below ground surface (bgs). See Figure 2 for soil sample locations.

2.1 Utility Locate Services and GPR/EM Survey

Prior to commencing with field activities, ECS contacted North Carolina One-Call (811) to locate/mark public utilities at the site. ECS also contracted with KCI to locate private utilities on the subject property using GPR and EM methods. KCI was requested to identify and mark any potential USTs on the subject

`

property. KCI observed a subsurface geophysical anomaly which may correlate to a UST on the subject property at 300 W Grantham St just to the north of the building. However, the anomaly was outside of the area of investigation as defined previously by NCDOT, and a soil sample was not taken within the vicinity of the subsurface anomaly. Required separation distances between subsurface activities and marked utilities (typically 30-inches) were maintained during the field activities. A copy of the geophysical report is provided in **Appendix B**.

2.2 Soil Sampling Activities

On May 24, 2022, three soil borings (SB-3 through SB-5) were drilled at the property on 300 W Grantham St to collect soil samples in the proposed right-of-way/easement as defined by plan sheets provided by NCDOT with the RFP prior to conducting field services. (The borings were advanced to a total depth of 10 ft below ground surface (bgs). See Figure 2 for soil sample locations.

Soils were collected with a Terracore sampler using new dedicated nitrile gloves from the liner retrieved from the soil sample probe and placed directly into laboratory provided containers. PID readings were screened in 2-ft intervals from the ground surface to the observed water table at the time of boring in the soil sleeve.

The soil sample containers were labeled with ECS project number, sample identification, sample date and time, and requested analytical analysis. The soil samples were identified as SB-3 through SB-5. The container was placed into a cooler with ice to maintain the sample at approximately four degrees Celsius. The samples were submitted to Rapid Environmental Diagnostics (Redlab) in Wilmington, North Carolina to be analyzed for total petroleum hydrocarbons (TPH) similar to diesel and gasoline range organics (DRO/GRO) using ultraviolet fluorescence technology (UVF). ECS maintained chain-of-custody (COC) procedures throughout the sample collection and transportation process. A copy of the COC is included in Appendix D.

3.0 RESULTS

3.2 Soil Sample Analytical Results

Laboratory analytical results indicated TPH-DRO above laboratory reporting limits in the soil sample labeled SB-5. TPH-DRO was detected in SB-5 at a concentration of 0.6 mg/kg, which is below the NCDEQ action level concentration of 100 mg/kg for TPH-DRO. The soil samples labeled SB-3 and SB-4 did not indicate TPH constituents above laboratory reporting limits. A copy of the laboratory analytical report is included in **Appendix D**. A summary of soil sample analytical results is included as **Table 1**.

4.0 CONCLUSIONS

Based on the laboratory analytical results; ECS concludes the following:

- One out of the three soil samples collected at 300 W Grantham St indicated TPH-DRO above its respective laboratory reporting limit. However, petroleum hydrocarbons were not detected above NCDEQ action limits the soil sample collected.
- The geophysical survey conducted by KCI did not identify USTs within the proposed area of investigation. A geophysical anomaly was observed on the subject property, but outside of the area of investigation.

5.0 RECOMMENDATIONS

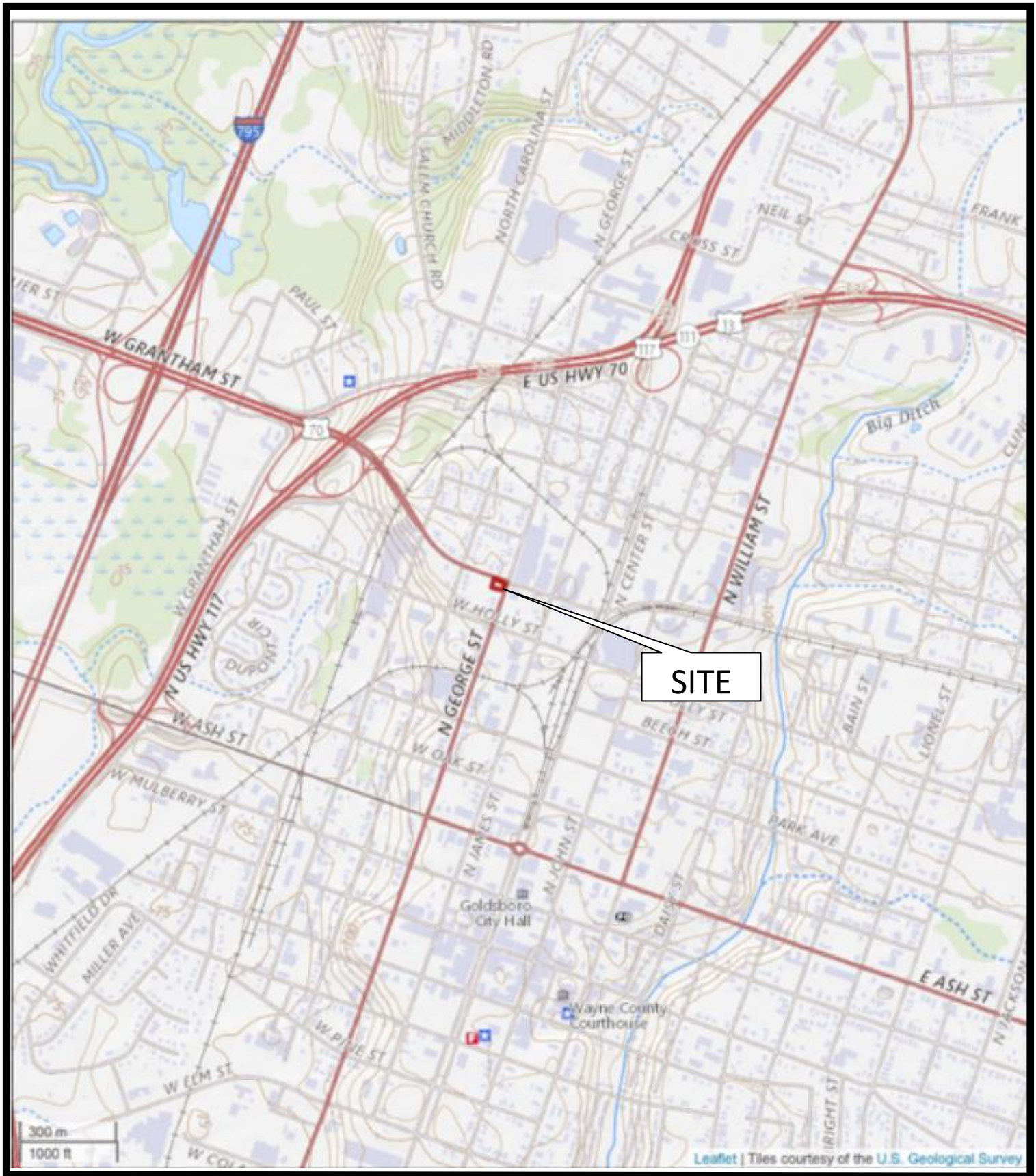
Based on the results of the environmental assessment, ECS recommends the following:

- No further environmental services are recommended at this time.
- A copy of this report be retained for future reference.

6.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in environmental assessment projects of this type. Our evaluation of site conditions has been based on our understanding of the site project information and the data obtained during our field activities. This report was prepared for the express use of NCDOT. Use of this report by other individuals or companies implies their acceptance of the General Conditions of Service of the original contract.

FIGURES AND TABLES

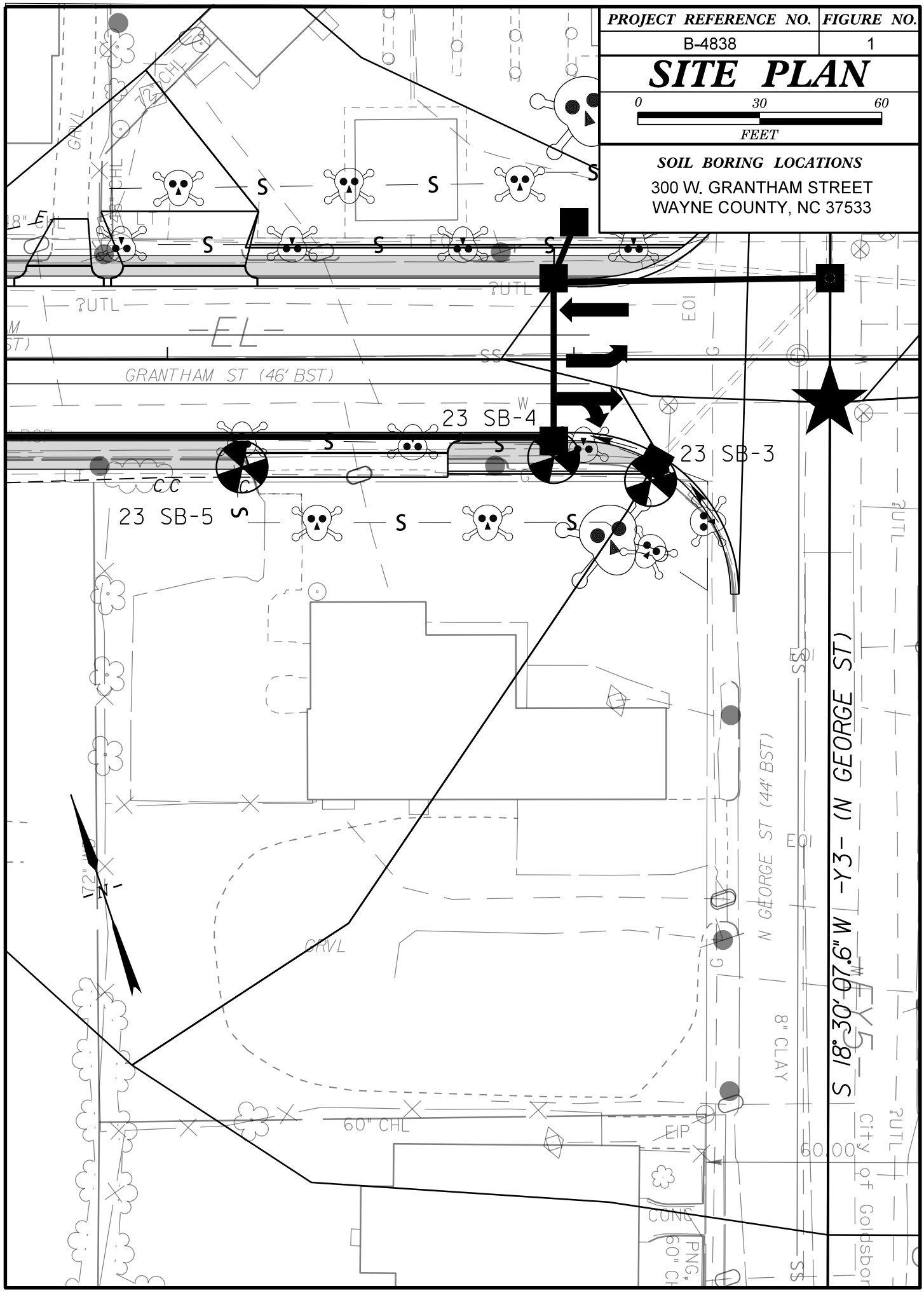


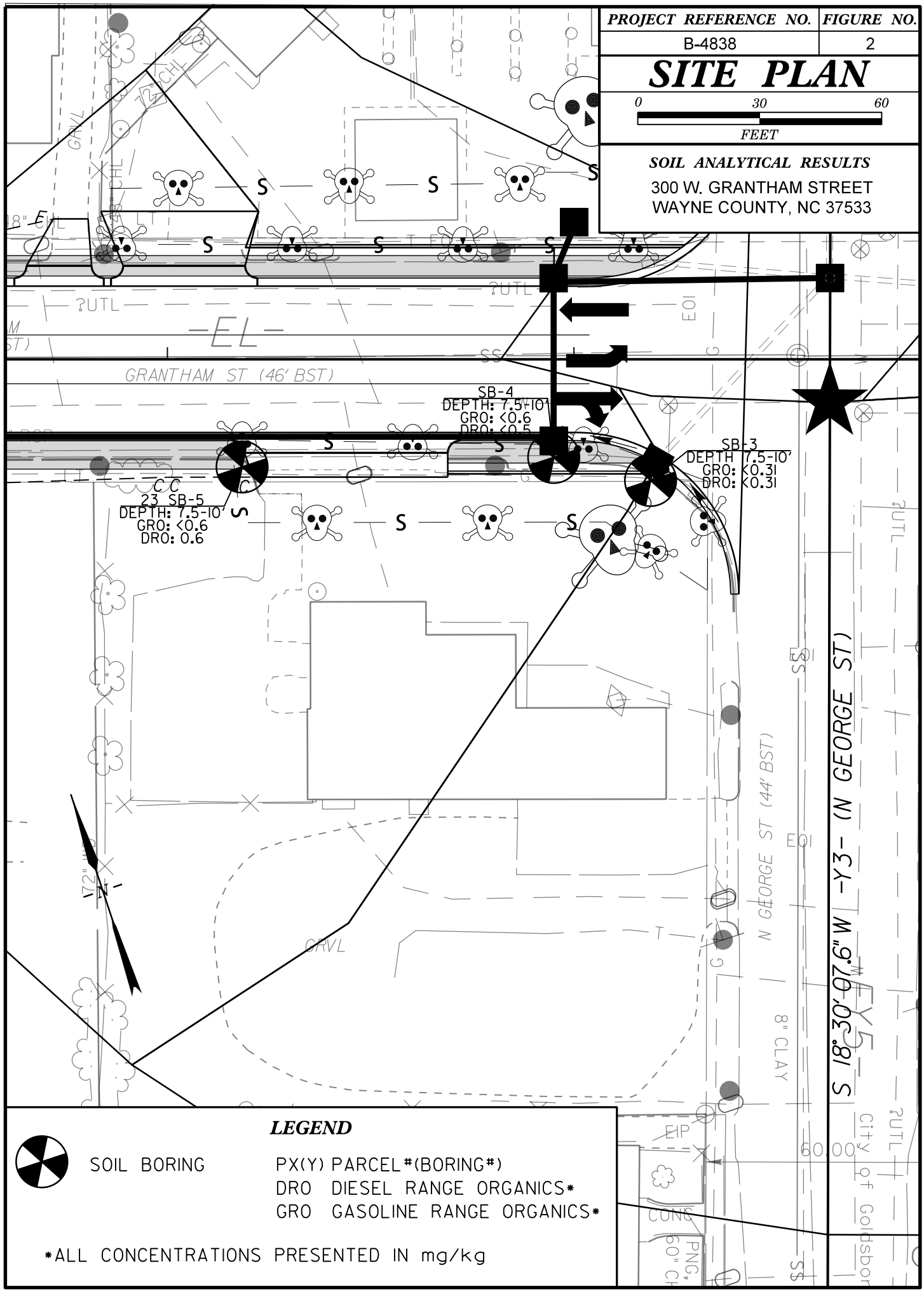
SOURCE:
USGS 7.5-MINUTE TOPOGRAPHIC SERIES –
NORTHWEST GOLDSBORO QUADRANGLE

SCALE SHOWN ABOVE

FIGURE 1
SITE TOPOGRAPHIC MAP

300 W Grantham Street
Goldsboro, Wayne County, NC
ECS Project Number: 49:17192
NCDOT TIP No. B-4838


PROJECT REFERENCE NO.
B-4838
FIGURE NO.
1
SITE PLAN
0
30
60
FEET
SOIL BORING LOCATIONS
300 W. GRANTHAM STREET
WAYNE COUNTY, NC 37533
GRANTHAM ST (46' BST)
23 SB-4
23 SB-3
23 SB-5
N GEORGE ST (44' BST)
S 18° 30' 07.6" W -Y3- (N GEORGE ST)
-EL-
?UTL
GRVL
60" CHL
8" CLAY
CONC
EIP
City of Goldsbo


PROJECT REFERENCE NO.
B-4838
FIGURE NO.
2
SITE PLAN
0
30
60
FEET
SOIL ANALYTICAL RESULTS
300 W. GRANTHAM STREET
WAYNE COUNTY, NC 37533
GRANTHAM ST (46' BST)
SB-4
DEPTH: 7.5-10'
GRO: <0.6
DRO: <0.5
SB-3
DEPTH: 7.5-10'
GRO: <0.31
DRO: <0.31
SB-5
DEPTH: 7.5-10'
GRO: <0.6
DRO: 0.6
N GEORGE ST (44' BST)
S 18° 30' 07.6" W -Y3- (N GEORGE ST)
LEGEND
SOIL BORING
PX(Y) PARCEL#(BORING#)
DRO DIESEL RANGE ORGANICS*
GRO GASOLINE RANGE ORGANICS*
*ALL CONCENTRATIONS PRESENTED IN mg/kg

Summary of Hydrocarbon Analysis Results

B-4838 Phase II Investigation

300 W Grantham St

Goldsboro, North Carolina 27533

ECS Project No. 49:17192

Sample ID	Sample Matrix	Sample Depth (ft bgs)	Sample Date	Sample Location (lat/long)	GRO (C5-C10)	DRO (C10-C35)
NCDEQ Action Levels					**50**	**100**
SB-3	Soil	7.5 - 10	05/24/22	35.392975, -77.99658	<0.31	<0.31
SB-4	Soil	7.5 - 10	05/24/22	35.393012, -77.99663	<0.5	<0.5
SB-5	Soil	7.5 - 10	05/24/22	35.393083, -77.99686	<0.6	0.6

Notes:

Results Generated by a QED HC-1 analyser.

Concentration values in mg/kg

Soil values are not corrected for moisture or stone content

< = not detected

Bold indicates analytes above NCDEQ Action Levels for TPH DRO / GRO

APPENDIX A

Photo 1 – View facing southeast of SB-3 boring location on 5/24/2022.

Photo 2 – View facing north of SB-5 boring location on 5/24/2022.

PHOTO DOCUMENTATION		B-4838 300 W. GRANTHAM STREET GOLDSBORO, WAYNE COUNTY, NC ECS PROJECT NO. 49:17192

APPENDIX B

KCI ASSOCIATES OF NC

ISO 9001:2008 CERTIFIED

ENGINEERS • PLANNERS • SCIENTISTS • CONSTRUCTION MANAGERS

4505 Falls of Neuse Rd., Suite 400 • Raleigh, NC 27609 • Phone 919-783-9214 • Fax 919-783-9266

1.0 SCOPE OF WORK : 300 W Grantham St, Goldsboro NC

The objective of this survey was to investigate the subsurface for any USTs and/or former excavations. The secondary objective was to trace any subsurface utilities within a 10' radius of the proposed soil boring locations. All findings would be marked and sketched on ARCGIS as well as conveyed to the on-site personnel.

2.0 METHODOLOGY

Selection of survey equipment is dependent site conditions and project objectives. For this project the technician utilized the following equipment to survey the area of concern:

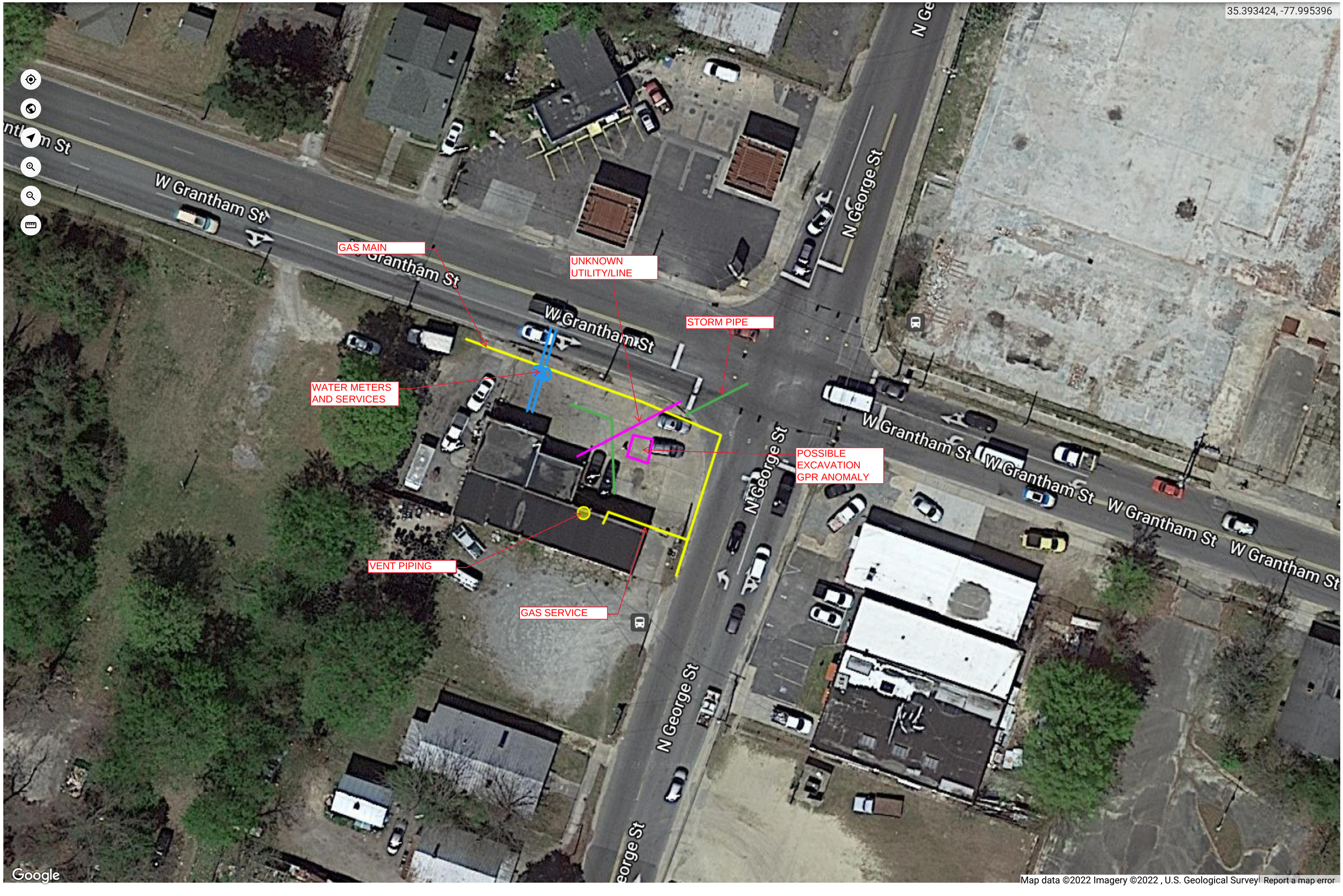
- LMX100 Ground Penetrating Radar (GPR) unit with a 250 Mhz antenna.
- Vivax vLocPro3 (VLP2) multiple frequency pipe and cable locator.
- Fisher M-Scope TW-6 pipe and cable locator / metal detector.

Ground penetrating radar (commonly called GPR) is a geophysical method that has been developed over the past thirty years for shallow, high-resolution, subsurface investigations of the earth. GPR uses high frequency pulsed electromagnetic waves (generally 10 MHz to 1,000 MHz) to acquire subsurface information. Energy is propagated downward into the ground and is reflected back to the surface from boundaries at which there are electrical property contrasts. GPR is a method that is commonly used for environmental, engineering, archeological, and other shallow investigations.

The LMX100 GPR with high resolution touchscreen uses state-of-the art hardware and Sensors & Software latest GPR technology. The 250 MHz antenna can achieve depths of penetration up to about 20 feet, but this depth may be greatly reduced due to site-specific conditions. Signal penetration decreases with increased soil conductivity. Conductive materials attenuate or absorb the GPR signal. As depth increases the return signal becomes weaker. Penetration is the greatest in unsaturated sands and fine gravels. Clay, highly saline or saturated soils, areas covered by steel reinforced concrete, foundry slag, of other highly conductive materials significantly reduces GPR depth of penetration.

The Vivax vLocPro3 is an electromagnetic utility locator that has the capability to use multiple frequencies ranging from 512Hz to 200 kHz to horizontally trace metallic pipes and cables. The vLocPro 3 can use three different methods to trace utilities inductive, conductive and passive.

The TW-6 is designed to find pipes, cables and other metallic objects such as underground storage tanks. One surveyor can carry both the transmitter and receiver together, making it ideally suited for exploration type searches of ferrous metal masses. Metal detectors of this type operate by generating a magnetic field at the transmitter which causes metallic objects in the subsurface to generate a secondary magnetic field. The induced secondary field is detected by the receiver, which generates an audible tone equal to the strength of the secondary field.


35.393424, -77.995396
GAS MAIN
UNKNOWN
UTILITY/LINE
STORM PIPE
WATER METERS
AND SERVICES
POSSIBLE
EXCAVATION
GPR ANOMALY
VENT PIPING
GAS SERVICE
W Grantham St
N George St
Google
Map data ©2022 Imagery ©2022 , U.S. Geological Survey
Report a map error

APPENDIX C

Project Name: **B-4838 – Phase II Investigation**	Sheet: **1 of 1**	Boring No:	**SB-3**
Client: **NCDOT-Geotechnical Engineering Unit**	Project No.: **49:17192**		
Site Location: **300 W. Grantham Street, Goldsboro, North Carolina 27533**	Driller: **Quantex**	Drill Rig:	**GeoProbe**
Latitude/Longitude: **35.392975**	**-77.99658**		

Depth/Elevation	PID Reading	Sample Number	Sample Recovery (in)	Graphic Log	Soil Classification	Description
					Concrete	Concrete
	0.0				**SW**	Light Brown Sand
	0.0				**SC**	Light Brown Clayey Sand
5 -5	0.0				**SC**	Red Brown Clayey Sand with White Mottles
	0.0	SB-3				
10 -10						**END OF DRILLING AT 10.0 FT**

▽ WL (First Encountered)	Boring Started: **May 24 2022**
▼ WL (Completion)	Boring Completed: **Jun 24 2022**
Remarks:	Logged By: **Emery Lovecamp**
	Principal Engineer/ Responsible PG: **Scott Werley**

Project Name: **B-4838 – Phase II Investigation**		Sheet: **1 of 1**	Boring No:	**SB-4**
Client: **NCDOT-Geotechnical Engineering Unit**		Project No.: **49:17192**		
Site Location: **300 W. Grantham Street, Goldsboro, North Carolina 27533**	Driller: **Quantex**		Drill Rig:	**GeoProbe**
Latitude/Longitude: **35.393012**	**-77.99663**			

Depth/Elevation	PID Reading	Sample Number	Sample Recovery (in)	Graphic Log	Soil Classification	Description
					Concrete	Concrete
	0.0				**SW**	Light Brown Sand
	0.0				**SC**	Light Brown Clayey Sand
5 -5	0.0				**SC**	Light Brown Clayey Sand with Red Mottles
	0.0	SB-4				
10 -10						**END OF DRILLING AT 10.0 FT**

▽ WL (First Encountered)	Boring Started: **May 24 2022**
▼ WL (Completion)	Boring Completed: **Jun 24 2022**
Remarks:	Logged By: **Emery Lovecamp**
	Principal Engineer/ Responsible PG: **Scott Werley**

Project Name: **B-4838 – Phase II Investigation**		Sheet: **1 of 1**	Boring No:	**SB-5**
Client: **NCDOT-Geotechnical Engineering Unit**		Project No.: **49:17192**		
Site Location: **300 W. Grantham Street, Goldsboro, North Carolina 27533**		Driller: **Quantex**	Drill Rig:	**GeoProbe**
Latitude/Longitude: **35.393083**	**-77.99686**			

Depth/Elevation	PID Reading	Sample Number	Sample Recovery (in)	Graphic Log	Soil Classification	Description
0	0.0				**SC**	Brown Clayey Sand
	0.0					
5 / -5						
	0.0				**SC**	Brown Clayey Sand
	0.0	SB-5				
10 / -10						**END OF DRILLING AT 10.0 FT**

▽ WL (First Encountered)	Boring Started: **May 24 2022**
▼ WL (Completion)	Boring Completed: **Jun 24 2022**
Remarks:	Logged By: **Emery Lovecamp**
	Principal Engineer/ Responsible PG: **Scott Werley**

APPENDIX D

QED REDLAB RAPID ENVIRONMENTAL DIAGNOSTICS QROS

Hydrocarbon Analysis Results

Client: ECS SOUTHEAST
Address: 5260 GREENE DAIRY ROAD
RALEIGH NC 27616

Contact: EMERY LOVEKAMP

Project: #49-17192

Samples taken Tuesday, May 24, 2022
Samples extracted Tuesday, May 24, 2022
Samples analysed Wednesday, May 25, 2022

Operator MAX MOYER

T03308

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	SB-1	22.0	<0.55	<0.55	2.8	2.8	1.3	<0.18	<0.022	0	79.3	20.7	Deg.PHC 84.6%,(FCM)
s	SB-2	22.2	<0.56	2.1	<0.56	2.1	<0.11	<0.18	<0.022	99.1	0.9	0	Deg.Gas,(FCM)
s	SB-3	12.3	<0.31	<0.31	<0.31	<0.31	<0.06	<0.1	<0.012	0	100	0	Residual HC,(P)
s	SB-4	20.2	<0.5	<0.5	<0.5	<0.5	<0.1	<0.16	<0.02	0	0	0	PHC not detected,(P)
s	SB-5	23.9	<0.6	<0.6	0.6	0.6	0.31	<0.19	<0.024	0	70	30	V.Deg.PHC 92.1%,(FCM)

Initial Calibrator QC check OK Dilution not within recommended range OK 97.8 %

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

Client Name:	ECS SOUTHEAST, LLP
Address:	5260 GREENS DAIRY ROAD RALEIGH, NC 27616
Contact:	EMERY LOVELAMP
Project Ref.:	49-17192
Email:	ELOVELAMP@ECSLIMITED.COM
Phone #:	919-414-6036
Collected by:	EMERY LOVELAMP

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					
5/24 0930		X	X		EL	SB-1	52.0	40.2	11.8
" 0950		X	X		EL	SB-2	51.8	40.1	11.7
" 1000		X	X		EL	SB-3	51.6	40.2	11.4
" 1010		X	X		EL	SB-4	52.9	40.0	12.9
" 1030		X	X		EL	SB-5	51.1	40.2	10.9

COMMENTS/REQUESTS:

TARGET GC/UVF ANALYTES:

Relinquished by		Accepted by	Date/Time
EMERY LOVELAMP 5/24 1655		MM 5/25/22	1195
Relinquished by		Accepted by	Date/Time

RED Lab USE ONLY

Ref. No 15

PROJECT SPECIAL PROVISIONS
GEOENVIRONMENTAL

CONTAMINATED SOIL (7/20/2022)

The Contractor's attention is directed to the fact that soil contaminated with petroleum hydrocarbon compounds exist may within the project area. The known areas of contamination are indicated on corresponding plans sheets. Information relating to these contaminated areas, sample locations, and investigation reports will be available at the following web address by navigating to the correct letting year and month then selecting, "Plans and Proposals", "B-4838", "Individual Sheets/520 GeoEnvironmental":

http://dotw-xfer01.dot.state.nc.us/dsplan/

Petroleum contaminated soil may be encountered during any earthwork activities on the project. The Contractor shall only excavate those soils that the Engineer designates necessary to complete a particular task. The Engineer shall determine if soil is contaminated based on areas shown on the plans, petroleum odors, and unusual soil staining. Contaminated soil not required to be excavated is to remain in place and undisturbed. Undisturbed soil shall remain in place, whether contaminated or not. The Contractor shall transport all contaminated soil excavated from the project to a facility licensed to accept contaminated soil.

In the event that a stockpile is needed, the stockpile shall be created within the property boundaries of the source material and in accordance with the Diagram for Temporary Containment and Treatment of Petroleum-Contaminated Soil per North Carolina Department of Environmental Quality's (NCDEQ) Division of Waste Management UST Section GUIDELINES FOR EX SITU PETROLEUM CONTAMINATED SOIL REMEDIATION. If the volume of contaminated material exceeds available space on site, the Contractor shall obtain a permit from the NCDEQ UST Section's Regional Office for off-site temporary storage. The Contractor shall provide copies of disposal manifests completed per the disposal facilities requirements and weigh tickets to the Engineer.

Measurement and Payment:

The quantity of contaminated soil hauled and disposed of shall be the actual number of tons of material, which has been acceptably transported and weighed with certified scales as documented by disposal manifests and weigh tickets. The quantity of contaminated soil, measured as provided above, shall be paid for at the contract unit price per ton for "Hauling and Disposal of Petroleum Contaminated Soil".

The above price and payment shall be full compensation for all work covered by this section, including, but not limited to stockpiling, loading, transportation, weighing, laboratory testing, disposal, equipment, decontamination of equipment, labor, and personal protective equipment.

Payment shall be made under:

Pay Item	Pay Unit
Hauling and Disposal of Petroleum Contaminated Soil	Ton

DocuSigned by:
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07/20/2022