

UST Closure Report

5 UST Closure Report and Site Investigation Report for Permanent Closure or Change-in-Service of UST

A UST Closure Report following the UST-12 format outlined below must be submitted to the appropriate regional office of the UST Section within thirty (30) days following completion of closure, **if the results of the UST closure investigation indicate that no soil contamination equal to or in exceedance of 10 mg/kg TPH, no groundwater contamination in exceedance of 2L, and no FREE PRODUCT are present.** (If contamination in exceedance of these limits is present, then initial response and abatement actions, followed by an Initial Abatement Action Report (Appendix A, p. 62) which incorporates the information required by the UST Closure Report format, are required within 90 days of release discovery.)

A. Site Information

1. Site Identification

- Date of Report: April 30, 2008
- Facility I.D.: N/A UST Incident Number (if known): N/A
- Site Name: NCDOT Parcel 21 – James Brigman Property
- Site Street Address: 2589 US Highway 1
- City/Town: Marston Zip Code: 28363 County: Richmond
- Description of Geographical Data Point (e.g., diesel fill port): Underground Storage Tank
- Location Method (GPS, topographical map, other): GPS
- Latitude (decimal degrees): 34.992 Longitude (decimal degrees): 79.576

2. Information about Contacts Associated with the Leaking UST System (Addresses must include street, city, state, zip code and mailing address, if different).

- UST Owner: Unknown
- Address: _____ Tel: Unknown
- UST Operator: Unknown
- Address: _____ Tel: Unknown
- Property Owner: NCDOT By Permanent Easement
- Address: 2589 US Highway 1 Tel: _____
- Property Occupant: None
- Address: _____ Tel: _____
- Consultant/Contractor: Solutions-IES, Inc.,
- Address: 1101 Nowell Road, Raleigh, NC 27607 Tel: (919) 873-1060
- Analytical Laboratory: Prism Laboratories, Inc. State Certification No. 37735
- Address: 449 Springbrook Road, Charlotte, NC 28224 Tel: (800) 529-6364

3. Information about Release

- Date Discovered: NA
- Estimated Quantity of Release: No release identified
- Cause of Release: NA
- Source of Release (Dispenser/Piping/UST): NA
- Sizes and contents of UST system(s) from which the release occurred): NA

**UNDERGROUND STORAGE TANK CLOSURE REPORT
NCDOT PARCEL 21, JAMES BRIGMAN PROPERTY
2589 US HIGHWAY 1
MARSTON, RICHMOND COUNTY
NORTH CAROLINA
WBS ELEMENT: 34438.1.1
NCDOT PROJECT: R-2502A**

Prepared for:

**NC Department of Transportation
Geotechnical Engineering Unit
GeoEnvironmental Section
1589 Mail Service Center
Raleigh, North Carolina 27699-1589**

Prepared by

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Solutions-IES Project No. 6000.082.NDOT

April 30, 2008



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APPENDICES

Appendix A	UST-2 Form "Site Investigation Report for Permanent Closure or Change-In-Service of UST" UST-3 Form "Notice of Intent: UST Permanent Closure or Change-In-Service"
Appendix B	Site-Specific Health and Safety Plan
Appendix C	Tank Disposal Certificate
Appendix D	Laboratory Analytical Report and Chain-of-Custody Forms
Appendix E	Photographs

1.0 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) is widening the existing alignment of US Highway 1 near the towns of Marston and Hoffman, located in Richmond County, North Carolina. Solutions-IES, Inc. (Solutions-IES) was retained by NCDOT to collect closure samples and document closure of underground storage tanks (USTs) at the James Brigman property, NCDOT Parcel 21 (Site), located at 2589 US Highway 1 in Marston, Richmond County, North Carolina (**Figure 1**). This scope of work was initiated based on a Notice to Proceed issued by the NCDOT Geotechnical Engineering Unit dated February 22, 2008 under contract 7000008011, dated May 31, 2007. The USTs on the Site are located within the proposed right-of-way and had to be removed prior to road construction. This UST Closure Report (Report) documents the UST closure activities and has been prepared according to the July 2007 *Underground Storage Tank Section Guidelines For Site Checks, Tank Closure, and Initial Response and Abatement (Guidelines)* published by the UST Section, North Carolina Department of Environment and Natural Resources (NCDENR) Division of Waste Management. Tables and figures have been numbered in general accordance with the system outlined in the *Guidelines*.

2.0 SITE HISTORY AND CHARACTERIZATION

2.1 UST OWNER AND OPERATOR INFORMATION

Table B-2 provides known tank owner and operator information.

2.2 UST INFORMATION

Table B-1 summarizes the information known about each of the USTs that was closed by removal at the Site (**Figure 2**). In August 2006, Solutions-IES conducted a preliminary site assessment (PSA)¹ of Parcel 21. At that time, four potential UST locations had been identified by geophysical surveys. During actual tank removal activities conducted in March 2008 and the subject of this report, two large tanks were identified instead of four smaller tanks. The tanks were single-walled and constructed of steel. They were located at a depth of about 3 feet below ground surface (ft bgs). Both tanks previously contained

¹ Solutions-IES, Inc. "Preliminary Site Assessment, Parcel # 21, Parcel 21, James Brigman property, 2589 US Highway 1, Richmond County, North Carolina, WBS Element: 34438.1.1; NCDOT Project: R-2502A", September 28, 2006.

gasoline, had a 6,000-gallon capacity, and dimensions of approximately 8 ft by 16 ft. No product lines were present.

2.3 NON-UST INFORMATION

No aboveground storage tanks or other potential petroleum release sources were identified at the Site.

2.4 RELEASE DESCRIPTION

According to the November 2007 version of the Regional UST (RUST) database, no release has been reported at this Site. During PSA activities, Solutions-IES advanced 11 soil borings to determine the presence or absence of petroleum contamination at the Site. Analytical results of soil samples submitted for chemical analysis indicated that total petroleum hydrocarbon (TPH) diesel range organics (DRO) and TPH gasoline range organics (GRO) were not present above the laboratory reporting limits. As a result, additional assessment was not recommended and the USTs were slated for closure.

Results of the closure activities conducted during March 2008 as documented in this Report corroborate the PSA results, except that two USTs were present instead of four. No petroleum impacts from the USTs are evident at this Site.

2.5 SITE CHARACTERISTICS

The Site is currently vacant and covered with grass and vegetation. Overhead electric lines are present within the right-of-way and a billboard is located adjacent to the tank locations. Photographs of the UST removal activities are presented in **Appendix E**.

According to information provided in a Phase I Site Assessment ² conducted by S&ME, the site probably formerly operated as a gas station, as well as a smoke shop and body-piercing establishment. A fuel dispenser island may have been present at the Site and located approximately 50 feet west of the centerline of US Highway 1. This dispenser island was not identified during closure activities.

A description of the surrounding property is as follows:

- North – rural residential
- South – rural residential
- East – rural residential
- West – rural residential

² S&ME, Inc. "Limited Phase I Environmental Site Assessment", February 5, 1999.

2.6 HISTORICAL REGULATORY ACTIVITY SUMMARY

A review of the RUST database indicated UST facility number FA-3262 associated with this property. No incident number indicating historical releases was associated with this facility. The database did not identify ownership of the USTs. No other regulatory activity is associated with this location.

3.0 SITE CHECK REPORT

A site check summarizes the operating condition of the USTs in question if they remain in service. The two inactive fuel USTs were closed by removal, therefore site check requirements are not applicable.

4.0 UST CLOSURE REPORT

4.1 PREPARATION FOR UST CLOSURE

On March 3, 2008, the NCDENR and the Fayetteville Regional Office were notified of UST closure activities by submitting a completed UST-3, "Notice of Intent: UST Permanent Closure or Change-in-Service" form (**Appendix A**). A site-specific Health and Safety Plan was prepared prior to the initiation of the field work and is included as **Appendix B**. Utilities were located by One-Call and KCI Associates of North Carolina prior to initiation of field activities. The soil and tank removal contractor, Soil Solutions, Inc. (SSI) of Winston-Salem, NC, obtained a permit from the County Fire Marshal prior to mobilizing to site.

4.2 CLOSURE PROCEDURES

SSI was contracted by Solutions-IES to remove the USTs. On March 13, 2008, Solutions-IES and SSI mobilized to the site to initiate excavation activities. The two USTs were uncovered with a trackhoe. There was no residual petroleum product identified in the tanks. Dry ice was used to purge the USTs of potentially explosive vapors and the Lower Explosive Limit (LEL) and oxygen content (O₂) were confirmed to be suitable prior to initiating removal.

Each UST was removed using the trackhoe. Two soil closure samples were collected from beneath each UST. A total of four soil samples were collected for laboratory analysis. **Figure 3** shows the closure sample locations.

Both USTs appeared to be in good condition. Although rust was evident on the outside of the tanks, there were no holes, pits or cracks observed. The tanks were cleaned and properly disposed of by SSI. The tank pits were then backfilled with fill provided by SSI from an off-site source. Photographs of the UST removal activities are provided in **Appendix E**. A Tanks Disposal Certificate is provided in **Appendix C**.

4.3 RESIDUAL MATERIAL REMOVED

All of the USTs were empty, so no residual material was removed.

4.4 INITIAL RESPONSE ACTIONS

The UST-2 form, "Site Investigation Report for Permanent Closure or Change-in-Service of UST" was submitted to the NCDENR Central Office as well as the Fayetteville Regional Office on March 28, 2008 (**Appendix A**).

4.5 CLOSURE INVESTIGATION

4.5.1 Field Screening of Soils

Soils were screened in the field using a Photovac Microfid flame ionization detector (FID). The FID was calibrated at the start of the workday using 100-parts per million (ppm) methane calibration gas; the calibration of the instrument was re-checked periodically over the course of the day. Soil samples collected for field screening were placed in resealable plastic bags, and labeled with information identifying the sample name and/or location. Each screening sample was initially agitated to break up the soil. The bags were sealed and time was allowed for volatile organic compounds (VOCs) trapped within the sample to volatilize into the headspace of the bag. After approximately 20 minutes, the probe of the FID was inserted into the headspace of the bag and the concentration of VOCs or volatile vapors present in the headspace was read in ppm on the FID display and recorded in the field log book. None of the four samples submitted for laboratory analysis had detectable FID readings and no visual staining of soil was noted. The FID readings are summarized in **Table B-3A**.

4.5.2 Closure Soil Sampling

Closure soil samples were collected in accordance with Section 5.3 of the *Guidelines*. Two samples were collected from beneath each UST. Samples were collected from soil obtained from either end of each tank pit using a trackhoe bucket. Soil samples were collected as grab samples and screened with the FID as described in **Section 4.5.1**.

The closure samples were then transferred to laboratory-supplied glassware. The containers were labeled with the sample location information, date, time of collection, requested analyses, and were placed on ice in an insulated cooler for delivery to Prism Laboratories, Inc. (Prism Labs) in Charlotte, NC. Samples were delivered under chain-of-custody procedures by laboratory courier on March 14, 2008.

Closure samples were analyzed for low boiling point fuels identified as TPH GRO with EPA Method 5030/Modified 8015 (California Method) and for high boiling point fuels identified as TPH DRO with EPA Method 3545/Modified 8015 (California Method). The laboratory analytical results for the soil samples are summarized in **Table B-3B**. Copies of the laboratory analytical reports and chain-of-custody forms are provided in **Appendix D**.

4.5.3 Groundwater and Surface Water Samples

Groundwater was not encountered during tank closure activities. Groundwater sampling was not included in this scope of work. No surface water features were identified on the Site.

4.5.4 Quality Control Measures

All non-disposable sampling equipment was decontaminated by rinsing with potable water, washing with a liquinox[®]/water solution and scrub brush, rinsing both with potable water then deionized water, and letting air dry. NCDOT does not routinely specify collection of additional field QC samples (*e.g.*, blind duplicate, matrix and matrix spike, equipment rinse, field, and trip blank) for tank closure activities. Samples submitted for laboratory analysis are collected using NCDENR-approved methods using new pre-preserved laboratory-supplied containers as required by the analytical method. The containers were labeled with the sample location information, including date, time of collection, and requested analyses. The filled containers were preserved on ice, and handled under chain-of-custody procedures. The samples were delivered to Prism Labs via same day courier for analysis. Prism Labs is approved by

North Carolina (NC Certification Number 402) for analyses required for UST closure and corrective action. Laboratory QC results are included with the analytical results in **Appendix D**.

4.5.5 Sample Results

The excavation activities did not reveal any visual evidence of soil impacts, the FID readings did not indicate the presence of any volatile vapor in any of the samples, and none of the closure samples contained detectable amounts of TPH DRO or TPH GRO. The laboratory analytical results for the closure soil samples are summarized in **Table B-3B**, and copies of the laboratory analytical reports are provided in **Appendix D**.

5.0 FREE PRODUCT INVESTIGATION AND RECOVERY REPORT

Free product was not encountered during field activities.

6.0 GROUNDWATER AND SURFACE WATER INVESTIGATION

No groundwater or surface water samples were collected during closure of the USTs at the Site, therefore **Table B-4** "Summary of Groundwater and Surface Water Results" is not included in this report.

7.0 CONCLUSIONS

Two inactive USTs located at the James Brigman property, NCDOT Parcel 21, were closed by removal on March 14, 2008. Solutions-IES personnel collected closure samples from beneath the USTs to identify any potential impacts to soil and to document permanent closure of the USTs. No elevated volatile vapors were detected by an FID during field screening of the soil samples and no visual impacts to soil were noted. TPH DRO and TPH GRO were not detected by analytical methods in any of the soil samples. Therefore, no additional assessment is necessary for this Site.

TABLES

TABLE B-1
SITE HISTORY – UST SYSTEM INFORMATION
NCDOT Parcel 21 – James Brigman Property
2589 US Hwy 1, Marston, Richmond County, North Carolina
WBS Element: 34438.1.1; NCDOT Project: R-2502A
Solutions-IES Project No. 6000.08A2.NDOT

Incident Number and Name: NA

UST ID Number	Current/Last Contents *	Previous Contents *	Depth (ft bgs)	Capacity (in gallons)	Construction Details **	Tank Dimensions	Description of Associated Piping and Pumps	Date Tank Installed	Status of UST ***	Was release associated with the UST System?
1	Gasoline	Unknown	3'	6,000	Single-walled steel tank	8' x 16'	No Product Lines	Unknown	Permanently Closed 3/14/08	No
2	Gasoline	Unknown	3'	6,000	Single-walled steel tank	8' x 16'	No Product Lines	Unknown	Permanently Closed 3/14/08	No
<i>Note: UST ID Numbers correspond to UST locations on Figure 3</i>										

* Gasoline (unleaded or leaded), diesel, used oil, waste oil, aviation fuel, etc., or pesticides, non-halogenated or halogenated solvents, etc.

** Fiberglass (single- or double-walled), steel (single- or double-walled), steel with FRP (single- or double-walled), steel with liner, other, unknown.

*** Currently operational, not in use or temporarily closed (specify date), permanently closed in place (specify date), permanently closed by removal (specify date).

TABLE B-2
SITE HISTORY – UST OWNER AND OPERATOR INFORMATION
NCDOT Parcel 21 – James Brigman Property
2589 US Hwy 1, Marston, Richmond County, North Carolina
WBS Element: 34438.1.1; NCDOT Project: R-2502A
Solutions-IES Project No. 6000.08A2.NDOT

Incident Number and Name: NA

UST ID Number	Unknown			Facility ID Number	Unknown
Name of Owner			Dates of Operation		
NCDOT by Permanent Easement			Unknown		
Street Address					
2589 US Hwy 1					
City		State	Zip	Telephone Number	
Marston		NC	28363	Unknown	
Name of Operator			Dates of Operation (mm/dd/yy to mm/dd/yy)		
Unknown			Unknown		
Street Address					
2589 US Hwy 1					
City		State	Zip	Telephone Number	
Marston		NC	28363	Unknown	

TABLE B-3A
SUMMARY OF FIELD SCREEN RESULTS
NCDOT Parcel 21 – James Brigman Property
2589 US Hwy 1, Marston, Richmond County, North Carolina
WBS Element: 34438.1.1; NCDOT Project: R-2502A
Solutions-IES Project No. 6000.08A2.NDOT

Incident Number and Name: [NA](#)

Sample ID	Depth (ft bgs)	Location	Sample Type	FID Reading (ppm)
21-T1-1	12'	Tank pit 1 – south end of tank	Soil	ND
21-T1-2	12'	Tank pit 1 – north end of tank	Soil	ND
21-T2-1	12'	Tank pit 2 – south end of tank	Soil	ND
21-T2-2	12'	Tank pit 2 –north end of tank	Soil	ND

ND = Not Detected.

TABLE B-3B
SUMMARY OF SOIL SAMPLING RESULTS
NCDOT Parcel 21 – James Brigman Property
2589 US Hwy 1, Marston, Richmond County, North Carolina
WBS Element: 34438.1.1; NCDOT Project: R-2502A
Solutions-IES Project No. 6000.08A2.NDOT

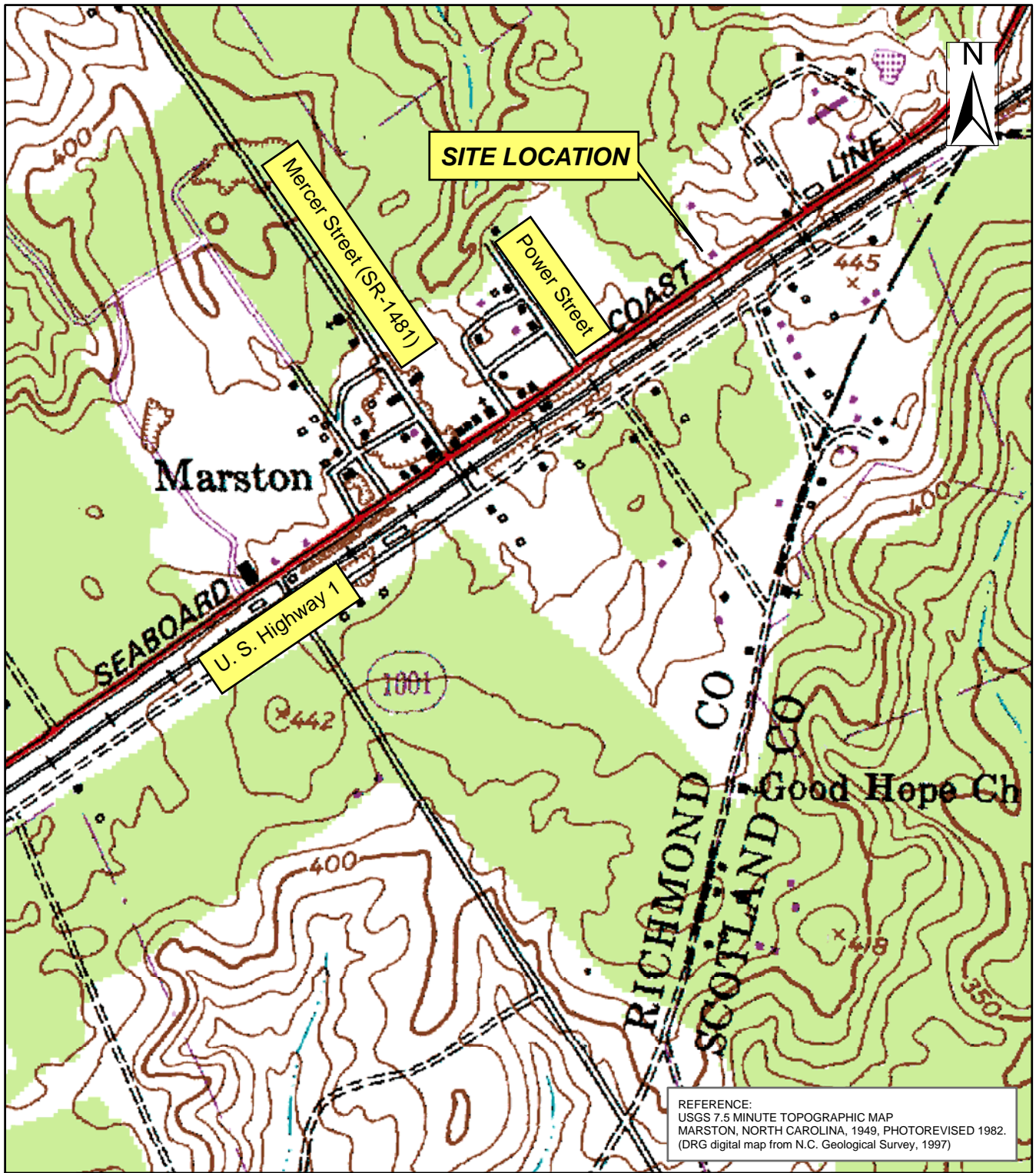
Incident Number and Name:

Sample Information					Total Petroleum Hydrocarbons	
Sample ID	Date Collected	Location	Depth (ft bgs)	Incident Phase	Diesel Range (mg/kg)	Gasoline Range (mg/kg)
21-T1-1	3/14/08	Tank pit 1 – south end of tank	12'	Closure	<7.3	<5.2
21-T1-2	3/14/08	Tank pit 1 – north end of tank	12'	Closure	<7.6	<5.5
21-T2-1	3/14/08	Tank pit 2 – south end of tank	12'	Closure	<7.4	<5.3
21-T2-2	3/14/08	Tank pit 2 –north end of tank	12'	Closure	<7.1	<5.1

Notes:

Diesel Range analytical method = TPH Method 3545/8015MOD
 Gasoline Range analytical method = TPH Method 5030/8015MOD
 ft bgs = feet below ground surface
 mg/kg - milligrams per kilogram

FIGURES



1:10,000

REFERENCE:
 USGS 7.5 MINUTE TOPOGRAPHIC MAP
 MARSTON, NORTH CAROLINA, 1949, PHOTOREVISED 1982.
 (DRG digital map from N.C. Geological Survey, 1997)

SITE LOCATION MAP
 PARCEL 21
 JAMES BRIGMAN PROPERTY
 RICHMOND COUNTY, NORTH CAROLINA
 STATE PROJECT NO. R-2502 A, WBS ELEMENT# 34438.1.1



1101 Nowell Road, Raleigh, NC 27609 Phone (919) 873-1060, Fax (919) 873-1074	
Created by: JD	Project: 6000.08A2.NDOT
Checked by: SK	Date: APRIL 2008
File: Figure 1.mxd	
Software: ESRI ArcMap 9.1	FIGURE 1

PROJECT NUMBER
6000.08AZ.NDOT

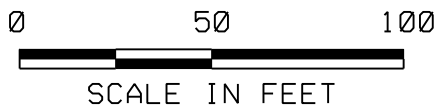
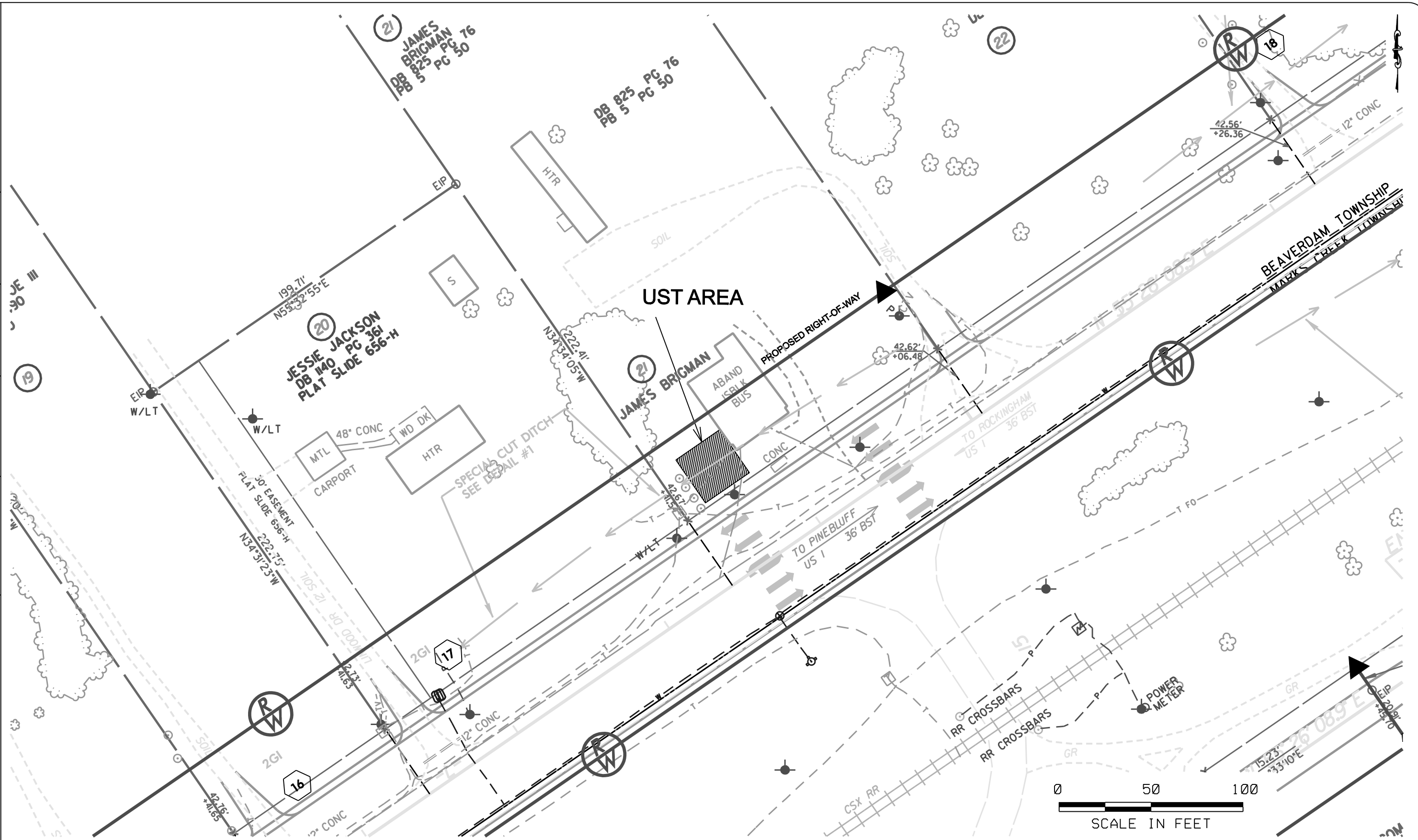
DRAFTER
JC

CHECKED BY
JD

PROJECT MANAGER
SK

DATE
APRIL 2008

FILE
Figure2.dgn



NOTE:

1. BASEMAP PROVIDED BY NCDOT
2. LOCATIONS ARE APPROXIMATE

NCDOT PARCEL 21- JAMES BRIGMAN PROPERTY
2589 US HIGHWAY 1
MARSTON, RICHMOND COUNTY, NORTH CAROLINA
WBS ELEMENT: 34438.I.I
STATE PROJECT: R-2502-A

SITE MAP

FIGURE:
2

PROJECT NUMBER
6000.08AZ.NDOT

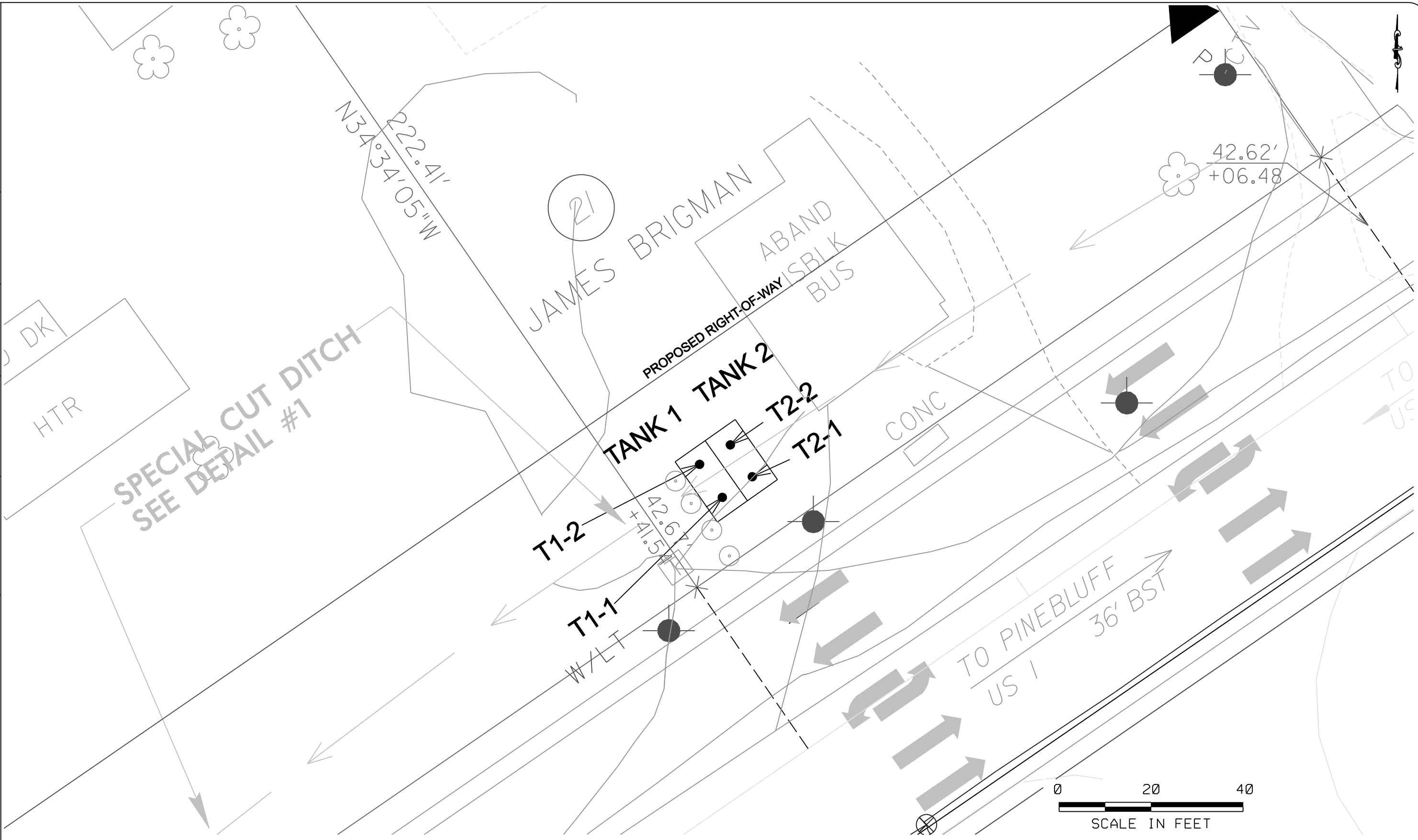
DRAFTER
JC

CHECKED BY
JD

PROJECT MANAGER
SK

DATE
APRIL 2008

FILE
Figure3.dgn



NOTE:

1. BASEMAP PROVIDED BY NCDOT
2. LOCATIONS ARE APPROXIMATE

NCDOT PARCEL 21- JAMES BRIGMAN PROPERTY
2589 US HIGHWAY 1
MARSTON, RICHMOND COUNTY, NORTH CAROLINA
WBS ELEMENT: 34438.I.I
STATE PROJECT: R-2502-A

CLOSURE SAMPLE LOCATIONS

FIGURE:

3

APPENDIX A

**UST-2: “SITE INVESTIGATION REPORT FOR PERMANENT
CLOSURE OR CHANGE-IN SERVICE OF UST”**

**UST-3: “NOTICE OF INTENT: UST PERMANENT CLOSURE OR
CHANGE-IN-SERVICE”**

UST-2 Site Investigation Report for Permanent Closure or Change-in-Service of UST

Return completed form to:

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY:

I.D. # _____

Date Received _____

INSTRUCTIONS (READ THIS FIRST)

For more than five UST systems you may attach additional forms as needed.

Permanent closure – For permanent closure, complete all sections of this form.

Change-in-service – For change-in-service where UST systems will be converted from containing a regulated substance to storing a non-regulated substance, complete sections I, II, III, IV, and VIII

Effective February 1, 1995, all UST closure/change-in-service reports must be submitted in the format provided in the UST-12 form. UST closure and change-in-services must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. A copy of the UST-12 form and the *Guidelines for Tank Closure* can be obtained at www.wastenotnc.org.

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

NOTE: If a release from the tank(s) has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G.

I. OWNERSHIP OF TANKS

II. LOCATION OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity) NCDOT by Permanent Easement			Facility Name or Company		
Street Address 2589 US Highway 1			Facility ID # (If known)		
City Marston	County Richmond	Street Address 2589 US Highway 1			
State NC	Zip Code 28363	City Marston	County Richmond	Zip Code 28363	
Phone Number none			Phone Number none		

III. CONTACT PERSONNEL

Contact for Facility: Mr. Cyrus F. Parker, LG, PE NCDOT Geoenvironmental Unit		Job Title: Project Manager	Phone. No: 919-250-4088
Closure Contractor Name: Tony Disher	Closure Contractor Company: Soil Solutions, Inc..	Address: 1703 Vargrave St, Winston-Salem, NC	Phone. No: 336-725-5844
Primary Consultant Name: Jessica L. Dehart, P.G.	Primary Consultant Company: Solutions-IES, Inc.	Address: 1101 Nowell Rd., Raleigh, NC	Phone. No: 919-873-1060

IV. UST INFORMATION FOR REGISTERED UST SYSTEMS

V. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Change-in-Service Date	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
1	6000	8' x 16'	Gasoline, Ga	unknown	03/14/08		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2	6000	8' x 16'	Gasoline, Ga	unknown	03/14/08		<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

VI. UST INFORMATION FOR UNREGISTERED UST SYSTEMS

VII. EXCAVATION CONDITION

Tank ID No.	Size in Gallons	Tank Dimensions	Last Contents	Last Use Date	Permanent Close Date	Tank Owner Name *	Water in excavation		Free product		Notable odor or visible soil contamination	
							Yes	No	Yes	No	Yes	No
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
							<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

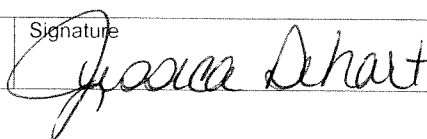
* If the tank owner address is different from the one listed in Section I., then enter the street address, city, state, zip code and telephone no. below:

VIII. CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this and all attached documents and that based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the submitted information is true accurate and complete.

Print name and official title of owner or owner's authorized representative
Jessica L. Dehart, P.G. Acting Agent for NCDOT

Signature



Date Signed

3/28/08

UST-3 Notice of Intent: UST Permanent Closure or Change-in-Service

Return completed form to:

The DWM Regional Office located in the area where the facility is located. Send a copy to the Central Office in Raleigh so that the status of the tank may be changed to "PERMANENTLY CLOSED" and your tank fee account can be closed out. SEE MAP ON THE BACK OF THIS FORM FOR THE CENTRAL AND REGIONAL OFFICE ADDRESSES.

STATE USE ONLY

I.D. # _____

Date Received _____

INSTRUCTIONS (READ THIS FIRST)

Complete and return at least **thirty (30) days** prior to closure or change-in-service activities. If a Professional Engineer (P.E.) or a Licensed Geologist (L.G.) provides supervision for closure or change-in-service site assessment activities and signs and seals all closure reports then at least a **five (5) working days** notice is acceptable.

Completed UST closure or change-in-service site assessment reports, along with a copy of the UST-2 form, should be submitted to the appropriate Division of Waste Management (DWM) Regional Office within thirty (30) days following closure activities. The UST-2 form should also be submitted to the Central Office in Raleigh so that the status of the tanks may be changed to permanently closed and your tank fee account can be closed out.

UST closure and change-in-service site assessments must be completed in accordance with the latest version of the *Guidelines for Tank Closure*. The *Guidelines for Tank Closure* can be obtained at www.wastenotnc.org.

You must make sure that USTs removed from your property are disposed of properly. When choosing a closure contractor, ask where the tank(s) will be taken for disposal. Usually, USTs are cleaned and cut up for scrap metal. This is dangerous work and must be performed by a qualified company. Tanks disposed of illegally in fields or other dumpsites can leak petroleum products and sludge into the environment. If your tanks are disposed of improperly, you could be held responsible for the cleanup of any environmental damage that occurs.

I. OWNERSHIP OF TANKS

Owner Name (Corporation, Individual, Public Agency, or Other Entity)
NCDOT by Permanent Easement

Street Address
2589 US Hwy-1

City
Marston

State
NC

Phone Number
none

II. LOCATION

Facility Name or Company
James Brigman Property - Parcel #21

Facility ID # (If known)
Unknown

Street Address
2589 US Hwy-1

City
Marston

County
Richmond

Zip Code
28363

Phone Number
none

III. CONTACT PERSONNEL

Name: Cyrus F. Parker, LG, PE Company Name: NCDOT Geotechnical Unit Job Title: Project Manager Phone Number: 250-4088

IV. TANK REMOVAL, CLOSURE IN PLACE, CHANGE-IN SERVICE

- Contact local fire marshal.
- Plan entire closure event.
- Conduct Site Soil Assessment.
- If removing tanks or closing in place, refer to API Publication 2015 *Cleaning Petroleum Storage Tanks* and 1604 *Removal and Disposal of Used Underground Petroleum Storage Tanks*.
- Provide a sketch locating piping, tanks and soil sampling locations.
- Submit a closure report in the format of UST-12 (including the form UST-2) within thirty (30) days following the site investigation.
- If a release from the tanks has occurred, the site assessment portion of the tank closure must be conducted under the supervision of a P.E. or L.G., with all closure site assessment reports bearing the signature and seal of the P.E. or L.G. If a release has not occurred, the supervision, signature or seal of a P.E. or L.G. is not required.
- Keep closure records for three (3) years.

V. WORK TO BE PERFORMED BY

Contractor Name: Tony Disher Contractor Company Name: Soil Solutions INC.

Address: 1703 Vargave Street, Winston Salem State: NC Zip Code: 27107 Phone No: (336) 725-5844

Primary Consultant Name: Sheri Knox Primary Consultant Company Name: Solutions-IES Consultant Phone No: (919) 873-1060

VI. TANKS SCHEDULED FOR CLOSURE OR CHANGE-IN-SERVICE

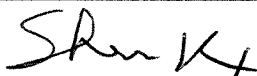
Tank ID No.	Size in Gallons	Last Contents	Proposed Activity		
			Closure		Change-In-Service New Contents Stored
			Removal	Abandonment in Place *	
1	1000	Petroleum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
2	1000	Petroleum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
3	1000	Petroleum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
4	1000	Petroleum	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
			<input type="checkbox"/>	<input type="checkbox"/>	

* Prior written approval to abandon a tank in place must be received from a DWM Regional Office.

VII. OWNER OR OWNER'S AUTHORIZED REPRESENTATIVE

I understand that I can be held responsible for environmental damage resulting from the improper disposal of my USTs.

Print name and official title: Sheri Knox - Solutions-IES project manager and acting agent for NCDOT

Signature:  Date Signed: 3/3/08 SCHEDULED REMOVAL DATE: week of March 10, 2008 **Notify your DWM Regional Office 48 hours before this date if scheduled removal date changes**

APPENDIX B

SITE-SPECIFIC HEALTH AND SAFETY PLAN

HEALTH AND SAFETY PLAN

PRELIMINARY SITE ASSESSMENTS

PARCELS: (R-2502-A&B) 009, 021, 048, 050, 061, and 068

Along US-1 South of SR1001 to North of the Richmond County Line

**NCDOT TIP: R-2502 A & B
NCDOT WBS Element: 34438.1.1
RICHMOND / MOORE COUNTY
NORTH CAROLINA**

Prepared for:

NCDOT Geotechnical Unit
1589 Mail Service Center
Raleigh, NC 27699-1589

Prepared by:

Solutions-IES, Inc.
1101 Nowell Road
Raleigh, NC 27607

Solutions-IES Project No. 6000.07A3.NDOT

February 2008

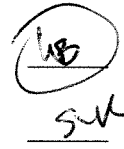
**HEALTH AND SAFETY PLAN
PRELIMINARY SITE ASSESSMENT**

LOCATION OF SITE: 6 Parcels from South of SR 1001 to North of the
Richmond County Line, North Carolina

SOLUTIONS-IES JOB NO.: 6000.07A3.NDOT
CLIENT: Mr. Cyrus F. Parker, LG , PE
(NCDOT Geotechnical Unit)

REVIEWED BY

Corporate Health & Safety Officer Walter J. Beckwith, P.G.
Project Manager Sheri Knox, P.E.



DATE OF PLAN PREPARATION

February 27, 2008

DATES OF PLANNED FIELD ACTIVITIES:

March 10, 2008 to March 21

EMERGENCY CONTACT INFORMATION:

Hospital: **First Health Richmond Memorial Hospital
925 South Long Drive
Rockingham, NC 28379 (910) 417-3665**

Distance from Site: **Approximately 15.7 miles**

Travel Time: 24 minutes

Directions:

Start: Going West on US-1/Main Street towards Bracy St.
Turn LEFT on South Long Drive / NC-1646
End: 925 South Long Drive, Rockingham, NC 28379-4835

Source: www.mapquest.com
(See Figure 1 for Hospital Route)

EMS/FIRE/POLICE: 911

SOLUTIONS-IES HEALTH AND SAFETY OFFICER:

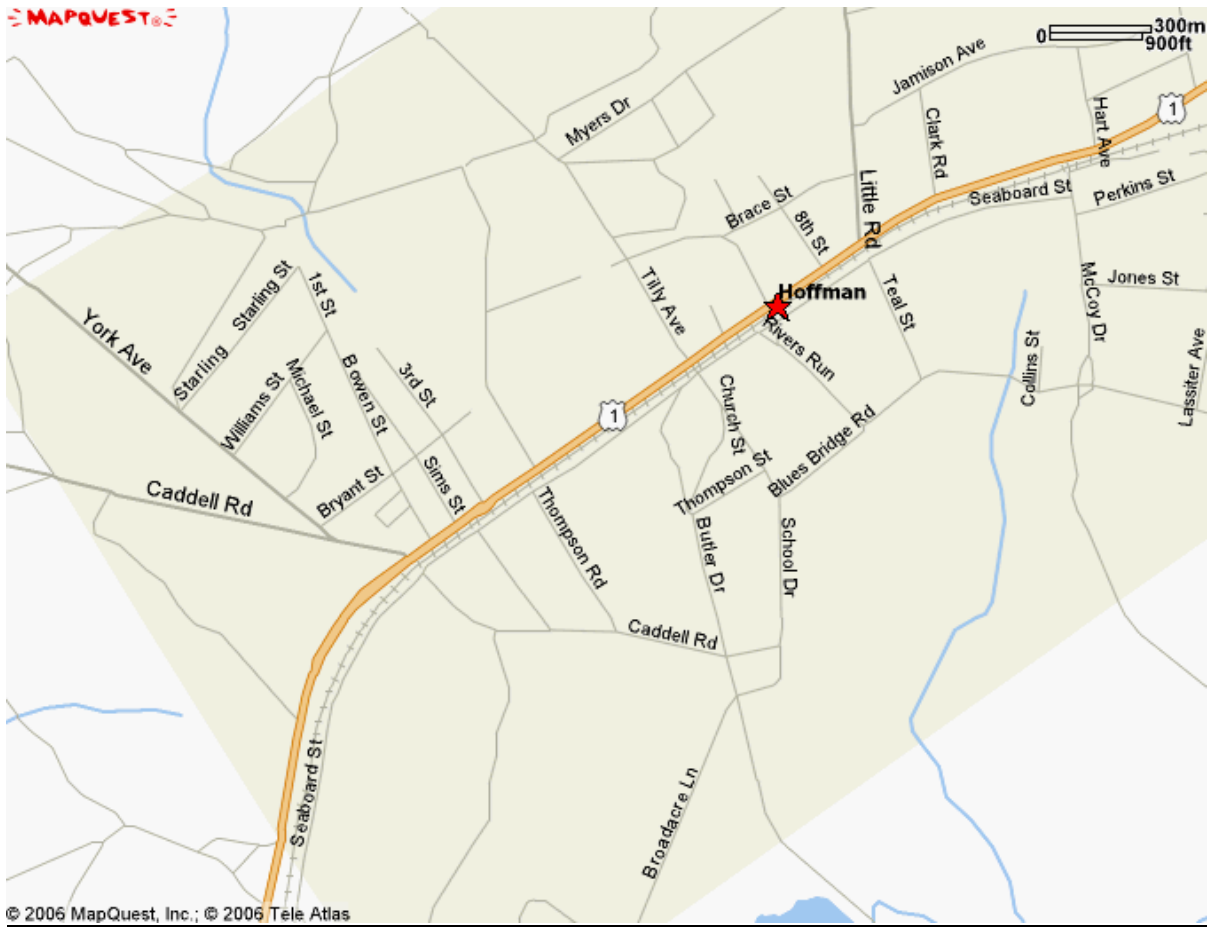
Walt Beckwith, Office (919) 873-1060; Mobile (919) 345-1310

CLIENT CONTACT: Mr. Cyrus F. Parker, LG, PE
Office (919) 250-4088

**FIGURE 1
ROUTE TO HOSPITAL**



**FIGURE 2
LOCAL MAP**



DAILY SIGN IN LOG:

Solutions-IES is not liable for any Health & Safety issues involving non-Solutions-IES employees. Contractors, sub-contractors and government employees are responsible for providing and following their own Health & Safety Plans and adhering to their own company policies.

The undersigned Solutions-IES employees have read and understood this site-specific health and safety plan:

<u>Name</u>	<u>Signature</u>	<u>Date</u>	<u>Attended Today's Site Specific H&S Meeting?(Y/N)</u>
Jessica Dehart	J. Dehart	3/10/08	Y
Jessica Dehart	J. Dehart	3/11/08	Y
Jessica Dehart	J. Dehart	3/12/08	Y
Jessica Dehart	J. Dehart	3/13/08	Y
Jessica Dehart	J. Dehart	3/14/08	Y
Jessica Dehart	J. Dehart	3/18/08	Y
Jessica Dehart	J. Dehart	3/19/08	Y
Jessica Dehart	J. Dehart	3/20/08	Y
Jessica Dehart	J. Dehart	3/21/08	Y
Tim Parks	T. Parks	³¹²⁴⁻⁰⁰³ 3/23/08	Y
Tim Parks	T. Parks	3/25/08	Y
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____
_____	_____	_____	_____

SITE-SPECIFIC HEALTH AND SAFETY PLAN

TANK PULL'S AND SOIL EXCAVATION / REMOVAL

PARCELS: (R-2502-A&B) 009, 021, 048, 050, 061, and 068

A. Site History and Description

NCDOT TIP: R-2502 A & B Richmond County, NC

A Limited PSAs was performed at the six parcels referenced in the Request for Technical and Cost Proposal dated July 10, 2006. NCDOT provided a brief description of the six parcels including some background information and a Limited Phase I Site Assessment report prepared by S&ME, Inc. Work is to be performed in Right of Way and/or Easement only.

State Project: R-2502A

Parcel 009, K.J. Lewis Property - 2505 US Hwy 1 (north side of hwy 1 and east of Mercer St.) Richmond County NC. This parcel is located on the north side of US 1 just east of Mercer Street. Three USTs were noted on the property in the existing right of way. Heavy vegetation, overhead electric lines exist on the site. It probably operated as a gas station in the past. Pump island remains were observed. We did not collect any samples as access at this site is difficult.

Scope: Remove USTs contents and piping; excavate and dispose of contaminated soils.

Parcel 021, James Brigman Property - 2589 US Hwy 1 near the towns of Marston and Hoffman. It previously operated as gas station, smoke shop and body-piercing establishment. No evidence of UST system observed. 11 soil borings showed low concentrations detected in headspace analysis and no detects of TPH DRO/GRO above lab limits

Scope: Remove USTs contents and piping; excavate and dispose of contaminated soils.

Parcel 048, Roy Barry Bostick Property - 3569 US Hwy 1 Richmond County, NC near Marston and Hoffman. Previously, buildings housed a towing company which performed vehicle maintenance and race car assembly. There is possibly one small UST southwest corner of building. There is no evidence of UST system. 10 soil borings showed low levels of volatile vapors in headspace and chromium and lead detected above reporting limits in all 10 samples. DRO was above lab reporting limits in 6 of 10.

Scope: Remove USTs, contents and piping; excavate and dispose of contaminated soils. This parcel is located on the north side of US 1 and 300 feet west of Tilley Street.

Parcel 050, Pansy Earnest Property -3585 US Hwy 1 near Marston and Hoffman Richmond Co., near Hwy 1 and Tilley St in Hoffman. There is a cinder block building on site, and several utilities including overhead. GPR showed 2 potential USTs near southwestern corner of bldg. No evidence of UST system noted. Nine soil borings showed low concentration of volatiles in headspace and DRO levels between 5.4-6.6 mg/kg .

Scope: Remove USTs, contents and piping; excavate and dispose of contaminated soils.

Parcel 061, Cooper & Brown Incorporated Property - 3702 Us Hwy 1. There is a cinder block building on site, along with dense brush and trees. Utilities were noted overhead. Geophysical found no evidence of USTs. There are elevated DRO and GRO in soils that are stockpiled on site.

Scope: Load and dispose of 50 yd³ stockpiled on-site.

Parcel 068 (R-2502B), James Pugh Property - US Hwy 1 Richmond County, near Marston and Hoffman. Located on the north side of US 1 ~500 ft west of Special Forces Way. The site is covered with dense brush and trees. A former pump island noted suggesting gas station operated in the past. GPR did not suggest a UST, but maybe a cistern or well 140 ft west of pump island. Nineteen soil borings had volatile vapors in headspace screening, and elevated GRO and DRO levels.

Scope: Excavate and dispose of contaminated soils down to an elevation of 278 feet or until no contamination is detected.

A. Site Classification: (i.e. plant, landfill, etc.)

The sites are either abandoned commercial businesses that were previously used as commercial fueling stations or cleared lots. Parcel 068 is a local resident with an open well head that presents a fall hazard.

B. Activities performed prior to investigation: (i.e. groundwater sampling, tank removal, spill, fire, etc.)

The property owner of Parcel 061 reportedly closed eight UST's. Phase 1 ESA was completed that encompasses the properties. Solutions-IES completed an PSA of the properties in August of 2006.

C. Unusual Features: (i.e. lakes, streams, utilities, dikes, drum storage, etc.)

Properties are adjacent to the highways, and a opened well head on parcel 68

D. Waste Classification: Solid Liquid Gas Sludge

E. Waste Characterization: Toxic Corrosive Radioactive

Flammable Volatile Reactive

Other (Specify) _____

F. Substance(s) Quantity Action Level (PEL/TWA)

Gasoline unknown 5ppm

Kerosene/Diesel unknown 100ppm

Diesel Fuel unknown 10ppm

Heating Oil unknown 100ppm

Waste Oil unknown Not Established

1. Soil sampling out of back-hoe bucket or hand auger

Comments:

Solutions-IES Employee will make direct eye contact with back-hoe operator before approaching bucket to obtain sample, and will only approach bucket when it is at rest. _____

B. Work Plan Description:

The following describes the activities to be performed at the site. UST's will be removed by Soil Solutions, and contaminated soils will be excavated to the extent written in the proposal. Additional soil may be removed after verbal confirmation from the project manager. Solutions-IES will screen soils and perform closure and confirmation sampling. The samples will be shipped on under Chain-of-Custody control to Pace Analytical Laboratories for analysis. Soil samples collected will be analyzed for total petroleum hydrocarbons. Contaminated soil will be removed from the sites by Soil Solutions and disposed of according to regulations.

D. Levels of Protection

<u>Job Activity</u>	<u>Personal Protective Equipment (PPE)</u>	<u>Level</u>
1. Soil sampling	<u>Steel toe boots, nitrile gloves,</u> <u>safety glasses, ear plugs, and DOT safety vest.</u> <u>Hard hat will be worn while working around</u> <u>Geo-Probe.</u>	D

V. Ambient Field Monitoring

A. Equipment required:

Flame ionization detector (FID)

B. Monitoring Protocol:

Position yourself upwind of the purging/sampling operation if possible. If odors are detected monitor the breathing zone with a flame ionization detector (FID). Monitor the breathing zone frequently. If readings approach 5 ppm over background, cease activities. Move upwind from the suspected source and let levels stabilize. Return to work when levels are less than 5 ppm. If levels do not decrease, stop activities and call Solutions-IES Health and Safety officer.

VI. Safety Equipment List

- A. First-Aid kit Yes ___ No Location: Solutions-IES truck
- B. Fire Extinguisher: Yes ___ No Location: Solutions-IES truck
Verify condition prior to mobilization
- C. Communication: ___ Buddy ___ Radio ___ Hand Signals Cell Phone
- D. Personal Protective Equipment List: Level D
___ Tyvek
___ Chemical Resistant Suit
___ Fully Encapsulated Suit
 Steel Toed Boots
 Orange Work Vest
 Hard Hat
 Safety Glasses
___ Ear Plugs (**See Attached Hearing Protection Protocol**)
___ Gloves, inner (specify) _____
 Gloves, outer (specify) Nitrile, work gloves
___ Respirator, Type: ___ Half-face ___ Full-face ___ SCBA
___ Respirator Cartridge Type: _____
- E. Other Specialized Equipment:
 Water Cooler
 Cell Phone
 Traffic Cones
 Traffic Signs (When Necessary)
 API UST Closure Guidelines
 NCDENR UST Section Tank Closure Guidelines
 Other(specify) roll of plastic sheeting

VII. Decontamination Equipment

- Pressure Washer (Geoprobe) ___ Solvent Rinse
___ Steam Ginny (Drill Rig) ___ Other (specify) _____
 Water
 Liquinox™
 5-Gallon Carboy of Deionized Water

VIII. Decontamination Procedures

Activity: Soil sampling

Procedure: All non-disposable sampling equipment will be rinsed with potable water, washed with a Liquinox™/water mixture, and then rinsed with DI water and allowed to air dry.

IX. Sanitation:

Restrooms/Hand Washing:

Locate suitable facilities before beginning work.

Shower:

Not Available

Comments:

Hose on Geo-Probe can be used for hand washing.

X. Education, Training and Medical Surveillance

A. Special Training Beyond OSHA 40-Hour Requirement?

No

___ Yes (specify) _____

B. Special Medical Monitoring beyond standard OSHA program required?

No

___ Yes (specify) _____

APPENDIX I MSDS FORMS

Unknown concentrations of the contaminants listed below may be detected in the soil and groundwater at the parcels to be assessed.

1. Gasoline
2. Diesel
3. Kerosene
4. Heating Oil
5. Waste Oil

APPENDIX II
ACCIDENT, ENVIRONMENTAL RELEASE, PROPERTY DAMAGE OR
NEAR MISS FORM

Appendix IV
Hearing Protection Protocol

APPENDIX C

TANKS DISPOSAL CERTIFICATE



SOIL SOLUTIONS

TANKS DISPOSAL CERTIFICATE

Tank Owner: NCDOT (Parcel 21)

Site Address: 2589 US-1
Marston, NC

Description of Tanks:

<u>Tank Number</u>	<u>Size of Tank</u>	<u>Contents</u>
1	6,000 Gallons	Gasoline
2	6,000 Gallons	Gasoline

Transporter: Soil Solutions, Inc.

SSI Project #: 030807

Disposal Certification:

Soil Solutions, Inc. does hereby certify that the above named storage tanks were transported to Atlantic Scrap and Processing in Winston-Salem, NC for proper disposal and recycling.

Signature

Thomas W. Hammett
Vice President
Soil Solutions, Inc.



APPENDIX D

**LABORATORY ANALYTICAL REPORT AND
CHAIN-OF-CUSTODY FORM**



PRISM
LABORATORIES, INC.

Case Narrative

Date: 04/01/08
Company: N. C. Department of Transportation
Contact: Jessica Dehart
Address: c/o Solution - IES
 1101 Nowell Road
 Raleigh, NC 27607

Client Project ID: NCDOT Parcel 21
Prism COC Group No: G0308584
Collection Date(s): 03/14/08
Lab Submittal Date(s): 03/18/08

Client Project Name Or No: Richmond Co. WBS# 34438.1.1

This data package contains the analytical results for the project identified above and includes a Case Narrative, Laboratory Report and Quality Control Data totaling 6 pages. A chain-of-custody is also attached for the samples submitted to Prism for this project.

Data qualifiers are flagged individually on each sample. A key reference for the data qualifiers appears at the end of this case narrative. Quality control statements and/or sample specific remarks are included in the sample comments section of the laboratory report for each sample affected.

Semi Volatile Analysis

No Anomalies Reported

Volatile Analysis

Analysis Note for Q31115 MSD Gasoline Range Organics (GRO): Recovery above the control limits. Matrix interference is suspected.

Metals Analysis

N/A

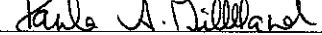
Wet Lab and Micro Analysis

N/A

Please call if you have any questions relating to this analytical report.

Date Reviewed by: Paula A. Gilleland

Project Manager: Angela D. Overcash

Signature: 

Signature: 

Review Date: 04/01/08

Approval Date: 04/01/08

Data Qualifiers Key Reference:

- B: Compound also detected in the method blank.
- #: Result outside of the QC limits.
- DO: Compound diluted out.
- E: Estimated concentration, calibration range exceeded.
- J: The analyte was positively identified but the value is estimated below the reporting limit.
- H: Estimated concentration with a high bias.
- L: Estimated concentration with a low bias.
- M: A matrix effect is present.

Notes: This report should not be reproduced, except in its entirety, without the written consent of Prism Laboratories, Inc. The results in this report relate only to the samples submitted for analysis.



NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Laboratory Report

04/01/08

N. C. Department of Transportation
 Attn: Jessica Dehart
 c/o Solution - IES
 1101 Nowell Road
 Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 21
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: 21-T1-1
Prism Sample ID: 208984
COC Group: G0308584
Time Collected: 03/14/08 9:55
Time Submitted: 03/18/08 8:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	95.3	%			1	SM2540 G	03/20/08 15:00	mbarber	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	7.3	1.2	1	8015B	03/28/08 15:56	jvogel	Q31344
Sample Preparation:			25.31 g	/	1 mL	3545	03/26/08 15:15	wconder	P21169
						Surrogate	% Recovery	Control Limits	
						o-Terphenyl	90	49 - 124	
Sample Weight Determination									
Weight 1	4.49	g			1	GRO	03/19/08 0:00	lbrown	
Weight 2	4.10	g			1	GRO	03/19/08 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.2	3.3	50	8015B	03/20/08 20:38	wbradley	Q31115
						Surrogate	% Recovery	Control Limits	
						aaa-TFT	109	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Laboratory Report

04/01/08

N. C. Department of Transportation
 Attn: Jessica Dehart
 c/o Solution - IES
 1101 Nowell Road
 Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 21
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: 21-T1-2
Prism Sample ID: 208985
COC Group: G0308584
Time Collected: 03/14/08 10:00
Time Submitted: 03/18/08 8:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	90.7	%			1	SM2540 G	03/20/08 15:00	mbarber	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	7.6	1.2	1	8015B	03/28/08 17:48	jvoget	Q31344
Sample Preparation:			25.49 g	/	1 mL	3545	03/26/08 15:15	wconder	P21169
						Surrogate	% Recovery	Control Limits	
						o-Terphenyl	123	49 - 124	
Sample Weight Determination									
Weight 1	4.90	g			1	GRO	03/17/08 0:00	lbrown	
Weight 2	5.15	g			1	GRO	03/17/08 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.5	3.5	50	8015B	03/20/08 21:10	wbradley	Q31115
						Surrogate	% Recovery	Control Limits	
						aaa-TFT	117	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

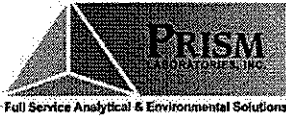
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NC Certification No. 402
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 NC Drinking Water Cert. No. 37735

Laboratory Report

04/01/08

N. C. Department of Transportation
 Attn: Jessica Dehart
 c/o Solution - IES
 1101 Nowell Road
 Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 21
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: 21-T2-1
Prism Sample ID: 208986
COC Group: G0308584
Time Collected: 03/14/08 9:35
Time Submitted: 03/18/08 8:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	93.7	%			1	SM2540 G	03/20/08 15:00	mbarber	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	7.4	1.2	1	8015B	03/28/08 18:25	jvogel	Q31344
Sample Preparation:			25.1 g	/	1 mL	3545	03/26/08 15:15	wconder	P21169
						Surrogate	% Recovery	Control Limits	
						o-Terphenyl	74	49 - 124	
Sample Weight Determination									
Weight 1	5.43	g			1	GRO	03/19/08 0:00	lbrown	
Weight 2	5.36	g			1	GRO	03/19/08 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.3	3.3	50	8015B	03/20/08 21:41	wbradley	Q31115
						Surrogate	% Recovery	Control Limits	
						aaa-TFT	77	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

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Laboratory Report

04/01/08

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 Raleigh, NC 27607

Project Name: Richmond Co.
Project ID: NCDOT Parcel 21
Project No.: WBS# 34438.1.1
Sample Matrix: Soil

Client Sample ID: 21-T2-2
Prism Sample ID: 208987
COC Group: G0308584
Time Collected: 03/14/08 9:40
Time Submitted: 03/18/08 8:00

Parameter	Result	Units	Report Limit	MDL	Dilution Factor	Method	Analysis Date/Time	Analyst	Batch ID
Percent Solids Determination									
Percent Solids	97.1	%			1	SM2540 G	03/20/08 15:00	mbarber	
Diesel Range Organics (DRO) by GC-FID									
Diesel Range Organics (DRO)	BRL	mg/kg	7.1	1.2	1	8015B	03/28/08 19:02	jvogel	Q31344
Sample Preparation:			25.26 g	/	1 mL	3545	03/26/08 15:15	wconder	P21169
						Surrogate	% Recovery	Control Limits	
						o-Terphenyl	78	49 - 124	
Sample Weight Determination									
Weight 1	3.39	g			1	GRO	03/19/08 0:00	lbrown	
Weight 2	4.44	g			1	GRO	03/19/08 0:00	lbrown	
Gasoline Range Organics (GRO) by GC-FID									
Gasoline Range Organics (GRO)	BRL	mg/kg	5.1	3.2	50	8015B	03/20/08 22:13	wbradley	Q31115
						Surrogate	% Recovery	Control Limits	
						aaa-TFT	129	55 - 129	

Sample Comment(s):

BRL = Below Reporting Limit

J- Estimated value between the Reporting Limit and the MDL

The results in this report relate only to the samples submitted for analysis and meet state certification requirements other than NELAC certification except for those instances indicated in the case narrative and/or test comments.

All results are reported on a dry-weight basis

Angela D. Overcash, V.P. Laboratory Services

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449 Springbrook Road - P.O. Box 240543 - Charlotte, NC 28224-0543

Phone: 704/529-6364 - Toll Free Number: 1-800/529-6364 - Fax: 704/525-0409



NC Certification No. 402
 SC Certification No. 99012
 NC Drinking Water Cert. No. 37735

Level II QC Report

04/01/08

N. C. Department of Transportation
 Attn: Jessica Dehart
 c/o Solution - IES
 1101 Nowell Road
 Raleigh, NC 27607

Project Name: Richmond Co.
 Project ID: NCDOT Parcel 21
 Project No.: WBS# 34438.1.1

COC Group Number: G0308584
 Date/Time Submitted: 3/18/200 8:00

Gasoline Range Organics (GRO) by GC-FID, method 8015B

Method Blank							QC Batch ID		
	Result	RL	Control Limit	Units					
Gasoline Range Organics (GRO)	ND	5	<2.5	mg/kg			Q31115		
Laboratory Control Sample							QC Batch ID		
	Result	Spike Amount		Units	Recovery %	Recovery Ranges %			
Gasoline Range Organics (GRO)	42.8	50		mg/kg	86	67-116	Q31115		
Matrix Spike							QC Batch ID		
Sample ID:	Result	Spike Amount		Units	Recovery %	Recovery Ranges %			
208809 Gasoline Range Organics (GRO)	132	50		mg/kg	87	57-113	Q31115		
Matrix Spike Duplicate							QC Batch ID		
Sample ID:	Result	Spike Amount		Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	
208809 Gasoline Range Organics (GRO)	161	50		mg/kg	145 #	57-113	20	0 - 23	Q31115

Diesel Range Organics (DRO) by GC-FID, method 8015B

Method Blank							QC Batch ID		
	Result	RL	Control Limit	Units					
Diesel Range Organics (DRO)	ND	7	<3.5	mg/kg			Q31344		
Laboratory Control Sample							QC Batch ID		
	Result	Spike Amount		Units	Recovery %	Recovery Ranges %			
Diesel Range Organics (DRO)	65.4	80		mg/kg	82	55-109	Q31344		
Matrix Spike							QC Batch ID		
Sample ID:	Result	Spike Amount		Units	Recovery %	Recovery Ranges %			
208984 Diesel Range Organics (DRO)	73.2	80		mg/kg	92	50-117	Q31344		
Matrix Spike Duplicate							QC Batch ID		
Sample ID:	Result	Spike Amount		Units	Recovery %	Recovery Ranges %	RPD %	RPD Range %	
208984 Diesel Range Organics (DRO)	60.9	80		mg/kg	76	50-117	18	0 - 24	Q31344

#-See Case Narrative



Full Service Analytical & Environmental Solutions
 449 Springbrook Road • P.O. Box 240543 • Charlotte, NC 28224-0543
 Phone: 704/525-6364 • Fax: 704/525-0409

Client Company Name: SOLUTIONS-IES
 Report To/Contact Name: JESSICA DEHART
 Reporting Address: 101 NEWELL ROAD
PALESTINE, NC 27067

Phone: 919-833-1000 (Yes) (No):
 Email (Yes) (No) Email Address: DEHART@SOLUTIONS-IES.COM
 EDD Type: PDF Excel Other COM
 Site Location Name: RICHMOND COUNTY USF
 Site Location Physical Address: LAUREL COUNTRY
LEWISBURG, VA

CHAIN OF CUSTODY RECORD

PAGE 1 OF 1 QUOTE # TO ENSURE PROPER BILLING: _____
 Project Name: NEW RICHMOND COUNTY USF
 Short Hold Analysis: (Yes) (No) USF Project: (Yes) (No)
 *Please ATTACH any project specific reporting (QC LEVEL III III IV) provisions and/or QC Requirements
 Invoice To: WEST ENVIRONMENTAL UNIT
 Address: PALESTINE, NC

Purchase Order No./Billing Reference: WBSS 34438.1.1
 Requested Due Date: 1 Day 2 Days 3 Days 4 Days 5 Days
 "Working Days" 6-9 Days Standard 10 days Rush Work Must Be Samples received after 15:00 will be processed next business day.
 Turnaround time is based on business days, excluding weekends and holidays.
 (SEE REVERSE FOR TERMS & CONDITIONS REGARDING SERVICES RENDERED BY PRISM LABORATORIES, INC. TO CLIENT)

LAB USE ONLY

Samples INTACT upon arrival? YES NO N/A
 Received ON NET (ICE)? Temp: 21
 PROPER PRESERVATIVES indicated? YES NO N/A
 Received WITHIN HOLDING TIMES? YES NO N/A
 CUSTODY SEALS INTACT? YES NO N/A
 VOLATILES rec'd W/OUT HEADSPACE? YES NO N/A
 PROPER CONTAINERS used? YES NO N/A

TO BE FILLED IN BY CLIENT/SAMPLING PERSONNEL
 Certification: NIELAC USACE FL NC X
 Water Chlorinated: YES NO N/A
 Sample Iced Upon Collection: YES NO

CLIENT SAMPLE DESCRIPTION	DATE COLLECTED	TIME COLLECTED MILITARY HOURS	MATRIX (SOIL, WATER OR SLUDGE)	SAMPLE CONTAINER			PRESERVATIVES	ANALYSES REQUESTED	REMARKS	PRISM LAB ID NO.
				*TYPE SEE BELOW	NO.	SIZE				
21-T1-1	3/14/08	955	SOIL	6/00A	1/2		NIELAC/USACE	TPH, DEP, TPH, GDD		202934
21-T1-2		1000								202935
21-T2-1		935								202936
21-T2-2		940								202937

Sampler's Signature: [Signature] Sampled By (Print Name): Jessica Dehart Affiliation: SOLUTIONS-IES
 Upon relinquishing, this Chain of Custody is your authorization for Prism to proceed with the analyses as requested above. Any changes must be submitted in writing to the Prism Project Manager. There will be charges for any changes after analyses have been initialized.

Requisitioned By (Signature): [Signature] Received By (Signature): [Signature]
 Requisitioned By (Print Name): [Name] Received By (Print Name): [Name]
 Requisitioned By (Signature): [Signature] Received By (Signature): [Signature]
 Requisitioned By (Print Name): [Name] Received By (Print Name): [Name]

Method of shipment: Prism Field Service
 NOTE: ALL SAMPLE COOLERS SHOULD BE TAPED SHUT WITH VISIBLY SEALED TRANSPORTATION TO THE LABORATORY. SAMPLES ARE NOT ACCEPTED AND VERIFIED AGAINST FOOTPRINT RECEIVED AT THE LABORATORY.
 Date: 3/14/08 Mileage: 1600
 Date: 3/17/08 Mileage: 1150
 Date: 3/17/08 Mileage: 1330
 COC Group No.: 60308594

PRISM USE ONLY

Site Arrival Time: _____
 Site Departure Time: _____
 Field Tech Fee: _____
 Mileage: _____

SEE REVERSE FOR TERMS & CONDITIONS

ORIGINAL

PRESS DOWN FIRMLY - 3 COPIES

APPENDIX E
PHOTOGRAPHS



Parcel 21 tanks in place.



Preparing Tanks 1 and 2 for removal.



Tank 1 removed.



Tank 2 removed.



Excavation following tank removal.



Two former USTs loaded on trucks.