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May 21, 2010

North Carolina Department of Transportation
Attn: Ms. Cheryl Youngblood, LG
GeoEnvironmental Project Manager
Geotechnical Engineering Unit
1589 Mail Service Center
Raleigh, North Carolina 27699-1589

Re: Tank Closure
Parcel 24, Marilyn K. Sellers property
7443 Ocean Highway (US 17 South)
Brunswick County, North Carolina
State Project: R-2633AA&AB
WBS Element: 34491.1.2
Description: US 17 Wilmington Bypass from NC 87 South of
Bishop to US 74-76 East of Malmo
CATLIN Project Number: 210029

Dear Ms. Youngblood:

The following letter report is submitted to document the non-regulated heating oil underground storage tank (UST) closure within the proposed right-of-way and/or easement at Parcel 24, Marilyn K. Sellers property located at 7443 Ocean Highway in Brunswick County, North Carolina. The NCDOT project vicinity is illustrated on Figure 1 and the site layout is illustrated on Figure 2. This letter and attached documents are submitted in accordance with the NCDOT March 10, 2010 *Request for Technical and Cost Proposal*, subsequent scope clarification, CATLIN's Technical and Cost Proposal revised March 30, 2010, and subsequent Notice to Proceed.

Background:

A suspected UST was discovered at the above referenced site during right-of-way acquisition. Based on size and location, it was determined that the UST was likely an abandoned heating oil tank. No signs of contamination were noted and

no fuel supply lines were observed. NCDOT suspected the UST was likely a residential, non-regulated, heating oil UST. Therefore, the North Carolina Department of Environment and Natural Resources was not required to be notified before tank removal activities.

Methods:

The Brunswick County Fire Marshall was contacted regarding permitting and inspection requirements. The Fire Marshall waived the permitting and inspection fee but required a representative be on site during removal activities. Field activity scheduling was coordinated with Brunswick County Fire Marshall personnel.

CATLIN received one soil sample of backfill borrow material (SP-1) from Navassa Sand for Standard Proctor analysis in accordance with ASTM International (ASTM) D 698, "Standard Test Methods for Laboratory Compaction Characteristics of Soil Using Standard Effort [12,400 ft-lbf/ft³ (600kN-m/m³)]". The resulting Standard Proctor results are attached.

CATLIN personnel met NCDOT personnel at the site on April 28, 2010. The suspected tank location was identified at Parcel 24, Marilyn K. Sellers property, 7443 Ocean Highway. Additionally, a suspected tank location was indicated on the adjacent parcel to the south. According to information provided by NCDOT, the adjacent parcel is identified as Parcel 23, Wilbur S. McKeithan property at 7435 Ocean Highway. The suspected tank at the McKeithan property was also assumed to be a heating oil UST.

CATLIN personnel began tank investigation/removal activities on April 28, 2010. A heating oil tank was uncovered at the Sellers property. The suspected tank location at Parcel 23, the McKeithan property, was determined to be a water supply well. The top of the well was accessed and the bottom of the well was measured with a flexible fiberglass tape measure at approximately 28 feet below land surface (BLS). No further activities were conducted at the McKeithan property.

No residual fluids were measured inside the heating oil tank at the Sellers property and acceptable vapor readings inside the tank were measured with a lower explosion limit (LEL) and oxygen meter. The Brunswick County Fire Marshall was on site and confirmed acceptable vapor readings before CATLIN removed the tank from the excavation. Excavation and tank removal was conducted with a rubber tracked mini-excavator.

Closure and Backfill Procedures:

The top of the tank was approximately 1.5 feet BLS. No signs of a release or tank overfills were noted. The tank location is illustrated on Figure 2.

Sufficient soils were removed from the tops and sides of the UST allowing the tank to be lifted from the excavation. Soil encountered around the UST was predominately clayey sand. No indications of a release were noted during excavation activities. Excavated soils were placed adjacent to the UST and subsequently spread onsite following tank removal. Groundwater was not encountered during excavation and closure activities. Photographs of excavation activities are provided as an attachment and the excavation limits are illustrated on Figure 2.

In-place field density testing was performed in accordance with ASTM D 1556, "Standard Test Method for Density and Unit Weight of Soil in Place by the Sand-Cone Method". Following UST removal, the excavation limits were approximately 10 feet (long) by seven (7) feet (wide) by 4.5 feet (deep) (see Figure 2). The sub-base of the excavation area was compacted prior to receiving fill material obtained from Navassa Sand. One dump-truck load (approximately 15 to 20 tons) of Navassa Sand backfill material was staged adjacent to the excavation. The excavation area was backfilled with borrow material in approximately 12-inch lifts. Once each lift was placed and compacted, sand-cone testing was performed at random locations across each individual lift for percent relative compaction. Density testing was performed in accordance with the above mentioned requirements. A percent relative compaction value greater than or equal to 95 percent of the maximum dry density value was labeled "PASS" which indicated that another lift could be placed. A percent relative compaction value of less than 95 percent was labeled "FAIL" and required additional compaction and testing until a value of greater than or equal to 95 percent was achieved. In-place field densities per sand-cone testing results are provided on Table 1.

The tank was constructed of steel and measured five (5) feet by three (3) feet diameter with an approximate volume of 250 gallons. The tank was in poor condition with several holes and severe pitting noted. However, there was no indication of a release in soils surrounding the tank. During tank closure activities, a property owner family member (Mr. Don Sellers) was onsite and questioned regarding the tank history. Mr. Sellers did not recall the heating oil UST being used after sometime in the 1960s.

The tank was transported by CATLIN to Southeast Response and Remediation's facility in Wilmington, North Carolina. According to the attached Certificate of Disposal, Southeast Response and Remediation personnel cleaned and cut the tank and then delivered the steel pieces to Horton Iron and Metal Company for recycling.

Summary and Conclusion

An apparent heating oil tank was found during right-of-way acquisition at 7443 Ocean Highway (US 17), Parcel 24, Sellers property. The UST has been removed and properly disposed. No signs of a release were noted during removal activities.

An unknown pipe identified at 7435 Ocean Highway, Parcel 23, Wilbur S. McKeithan property was investigated and determined to be a water well. No USTs were discovered at the McKeithan property.

If you should have any questions or need additional information, please feel free to contact us at (910) 452-5861.

Sincerely,



G. Richard Garrett, P.G.
Contract Manager

Benjamin J. Ashba
Project Manager

Enclosures

cc: Mr. Cyrus Parker, L.G., P.E. - NCDOT GeoEnvironmental Supervisor (w/ encl.)

ATTACHMENTS

TABLE

TABLE 1

SUMMARY OF SAND CONE DENSITY FIELD LOGS

**PARCEL 24, SELLERS PROPERTY
7443 OCEAN HIGHWAY
BRUNSWICK COUNTY, NORTH CAROLINA**

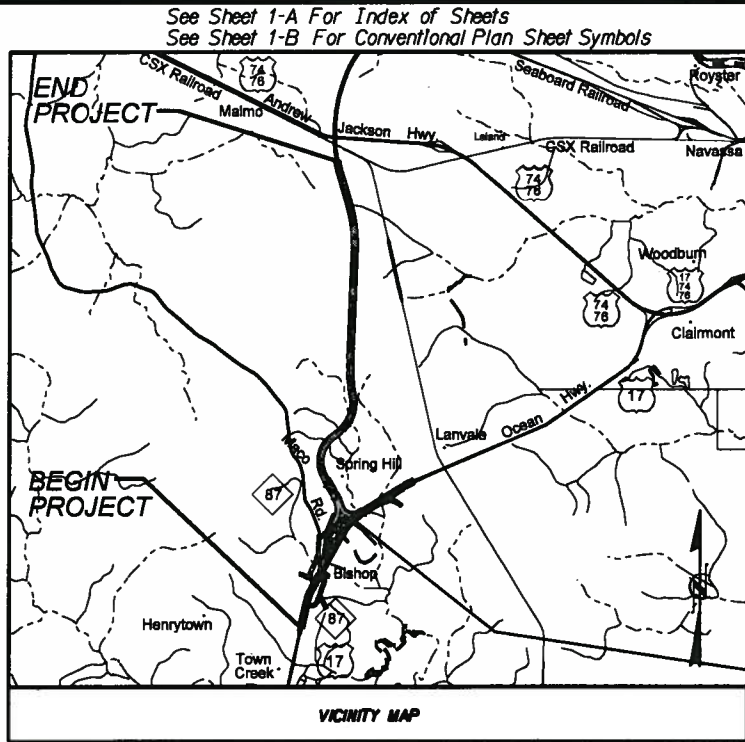
Lift Number	Field Test Number	Date of Test	Standard Proctor (lbs./ft³)	Optimum Moisture content (%)	Field Moisture content (%)	Dry Density (lbs./ft³)	% Relative Compaction	Pass/Fail
Lift 1	LT-1	4/29/2010	99.60	15.6	12.6	98.22	98.6	P
Lift 2	LT-2	4/29/2010	99.60	15.6	11.8	97.54	97.9	P
Lift 3	LT-3	4/29/2010	99.60	15.6	11.4	103.18	103.6	P
Lift 4	LT-4	4/29/2010	99.60	15.6	11.4	101.97	102.4	P

Pass/Fail is based on 95% compaction of standard proctor value.

FIGURES

TIP PROJECT: R-2633A

CONTRACT:



STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

BRUNSWICK COUNTY

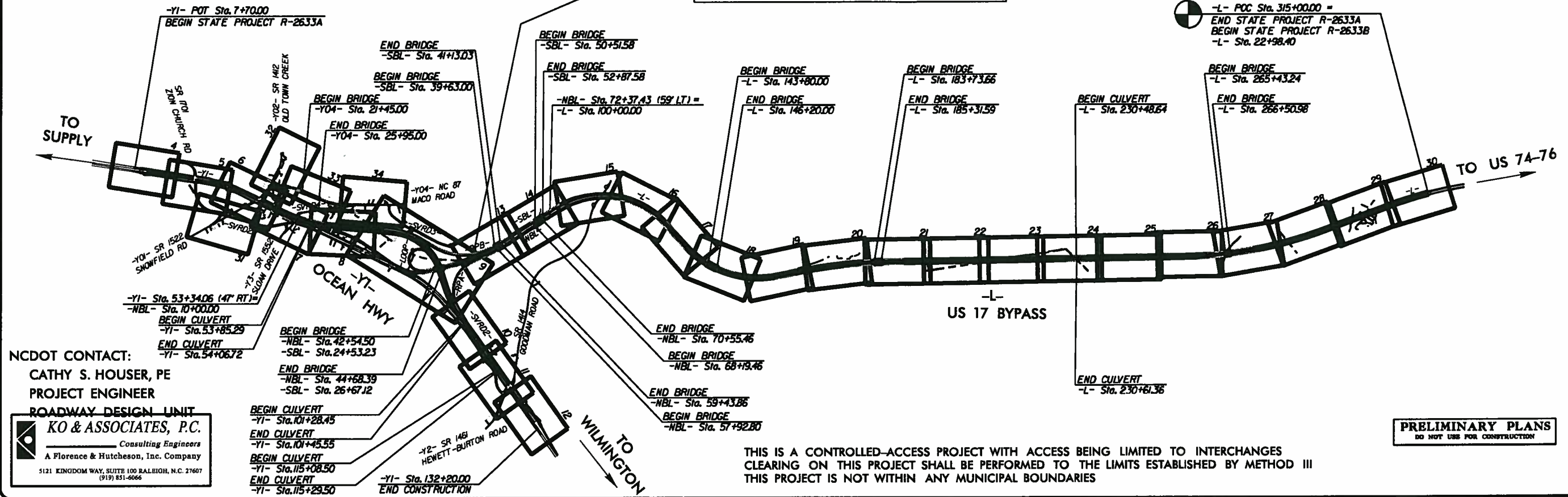
LOCATION: US 17 (WILMINGTON BYPASS) FROM US 17 TO SOUTH OF US 74-76

TYPE OF WORK: GRADING, DRAINAGE, PAVING, CULVERTS, STRUCTURES, SIGNING, AND SIGNALS

STATE	STATE PROJECT REFERENCE NO.	SHEET NO.	TOTAL SHEETS
N.C.	R-2633A	1	2
STATE PROJ. NO.	F.A. PROJ. NO.	DESCRIPTION	
34491.2	STPNHF-17(1)	P.E.	
34491.2B		RIGHT-OF-WAY	



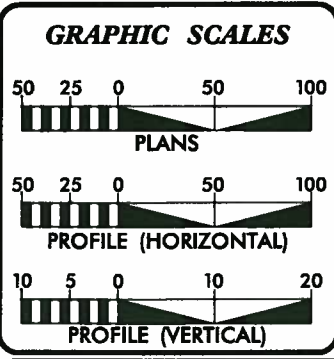
**PARCEL 24
SELLER'S PROPERTY SITE**



NCDOT CONTACT:
CATHY S. HOUSER, PE
PROJECT ENGINEER
ROADWAY DESIGN UNIT
KO & ASSOCIATES, P.C.
Consulting Engineers
A Florence & Hutcheson, Inc. Company
5121 KINGDOM WAY, SUITE 100 RALEIGH, N.C. 27607
(919) 851-6666

PRELIMINARY PLANS
DO NOT USE FOR CONSTRUCTION

THIS IS A CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO INTERCHANGES
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III
THIS PROJECT IS NOT WITHIN ANY MUNICIPAL BOUNDARIES



DESIGN DATA (-L-)

ADT 2008 = 19,600 VPD	DHV = 12%	D = 60%	T = 15% *	V = 70 mph
ADT 2035 = 46,800 VPD				

FUNCTIONAL CLASSIFICATION:
INTERSTATE
* (TTST 10% + DUAL 5%)

DESIGN DATA (-Y1-)

ADT 2008 = 30,400 VPD	DHV = 9%	D = 55%	T = 15% *	V = 60 mph
ADT 2035 = 80,100 VPD				

FUNCTIONAL CLASSIFICATION:
RURAL ARTERIAL
* (TTST 10% + DUAL 5%)

PROJECT LENGTH

LENGTH OF ROADWAY TIP PROJECT R-2633A = 5.906 MILES (-Y1-, -NBL-, -L-)
LENGTH OF STRUCTURE TIP PROJECT R-2633A = 0.212 MILES
TOTAL LENGTH OF TIP PROJECT R-2633A = 6.118 MILES (-Y1-, -NBL-, -L-)

PLANS PREPARED FOR THE NCDOT BY:

2006 STANDARD SPECIFICATIONS

RIGHT OF WAY DATE:
JUNE 20, 2008

LETTING DATE:

Kimley-Horn and Associates, Inc.
© 2008
Post Office Box 23006
Raleigh, North Carolina 27616

JEFFREY W. MOORE, PE
PROJECT ENGINEER

J. JASON PACE, PE
PROJECT DESIGN ENGINEER

HYDRAULICS ENGINEER

SIGNATURE P.E.

ROADWAY DESIGN ENGINEER

SIGNATURE P.E.

**DIVISION OF HIGHWAYS
STATE OF NORTH CAROLINA**

STATE HIGHWAY DESIGN ENGINEER P.E.

\$DATE\$

NOTE: FIGURE ADAPTED FROM NCDOT PROVIDED PLAN SHEET NO. 13.

ENGLISH	WBS ELEMENT: 34491.1.2	SHEET NO.: 2
	T.I.P. NO.: R-2633AA&AB	TOTAL SHEETS: 2
	F.A. NO.: N/A	FIGURE NO.:
	COUNTY: BRUNSWICK	
DESCRIPTION:		
SELLER'S PROPERTY HEATING OIL UST LOCATION		

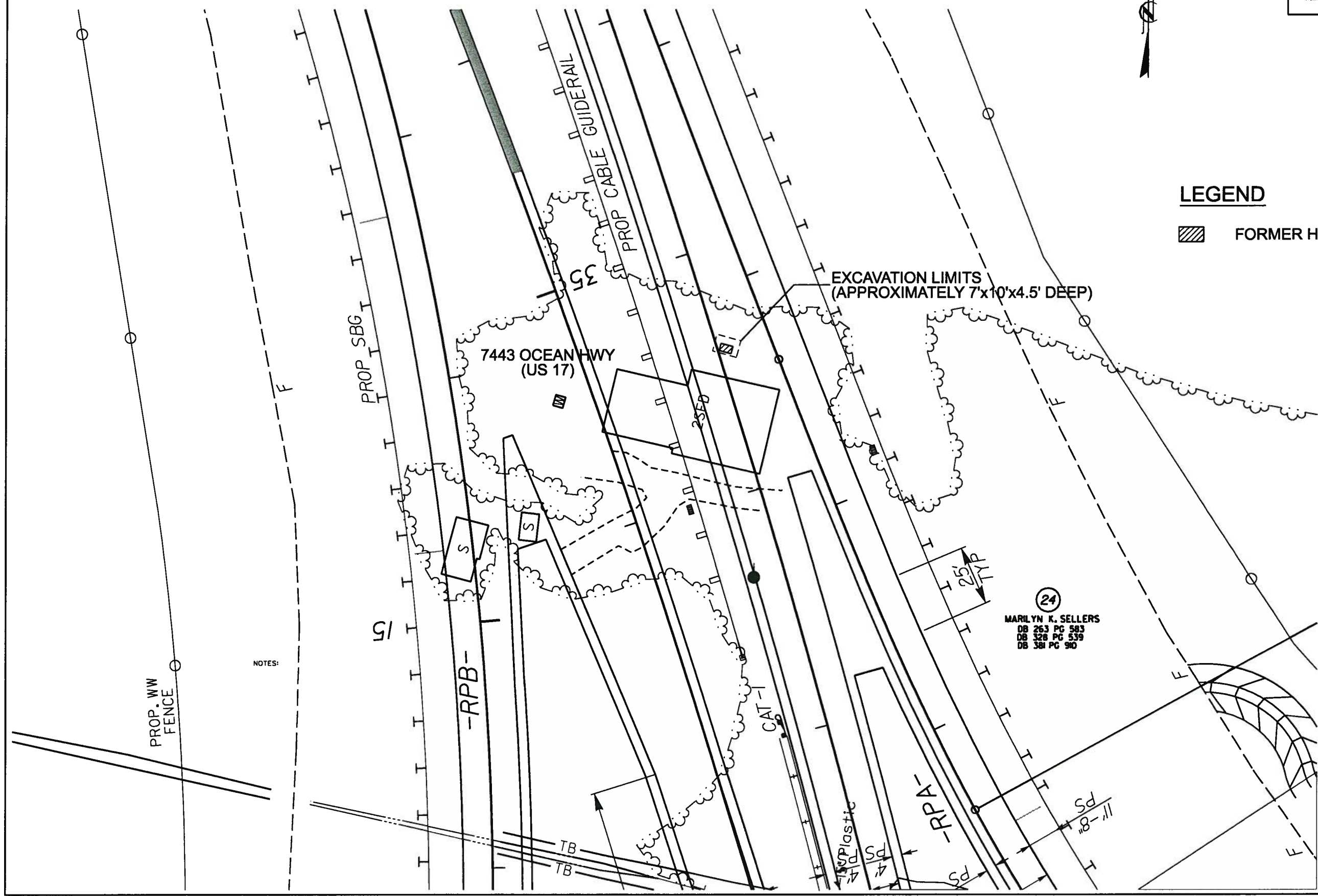
10ft 0 20ft
SCALE

PREPARED BY:
CATLIN
238 Old Entry Road
Wilmington, NC 28403
Corporate License No. For Engineering Services 6-0001
Wordfile: 110029_BHT.dwg



LEGEND

 FORMER HEATING OIL UST LOCATION



NOTES:

CERTIFICATE OF DISPOSAL



SOUTHEAST

RESPONSE &
REMEDATION, INC.

CERTIFICATE OF DISPOSAL

May 3, 2010

To Whom It May Concern:

This is to certify that one (1) 250-gallon steel orphan Under Ground Storage Tank (UST) which was removed from a North Carolina Department of Transportation site identified as Sellars Property and delivered to Southeast Response & Remediation, Inc by Catlin Engineers and Scientist. This UST was cleaned and dissected then carried to Horton Iron & Metal Company on US Hwy 421 North in Wilmington, NC for recycling. Water generated during cleaning operations was carried to an approved treatment facility.

Sincerely,

Richard Miles
General Manager
Southeast Response & Remediation

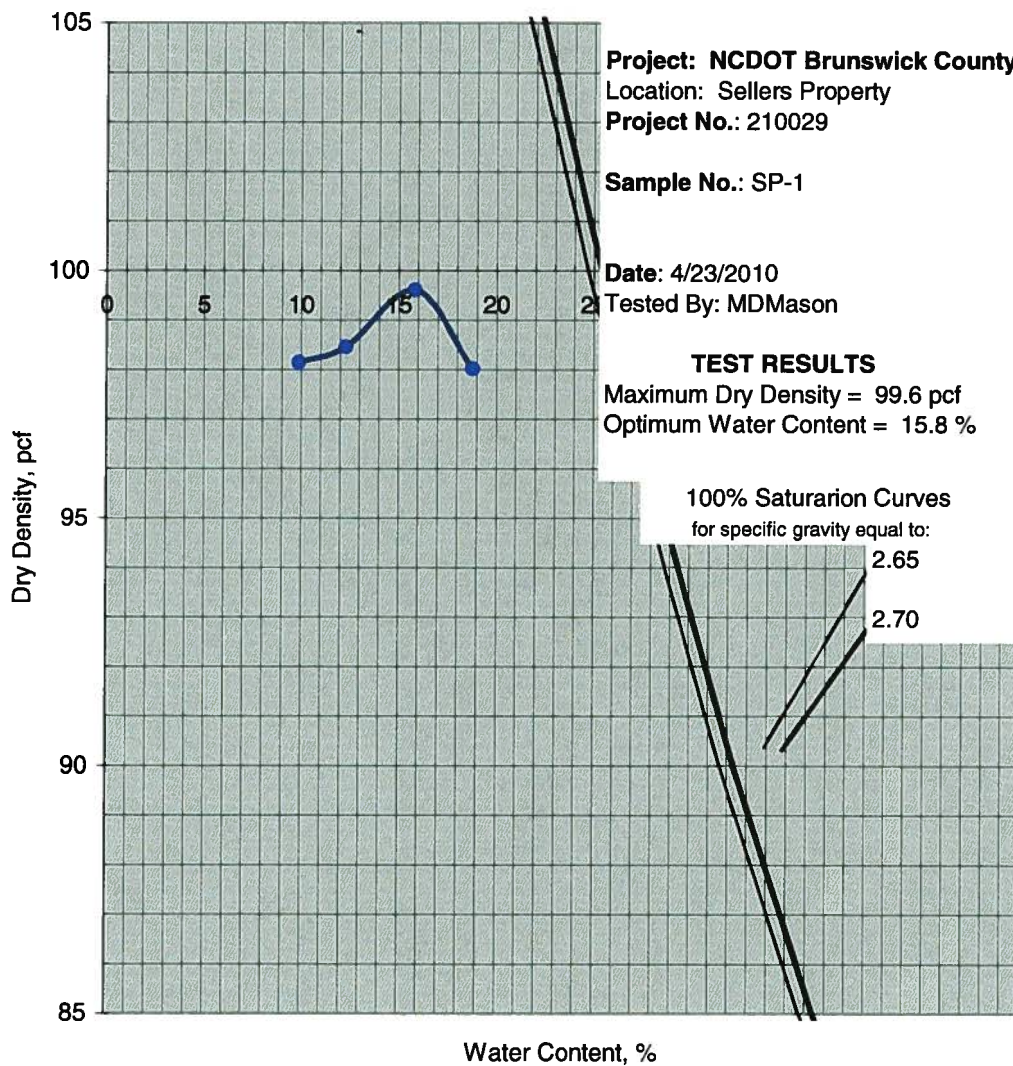


STANDARD PROCTOR RESULTS

9.87	98.15	45.5	75	46.2	75
12.28	98.45	40.3	80	41	80
15.81	99.61	35.7	85	36.4	85
18.77	98.01	31.6	90	32.3	90
		28	95	28.7	95
		24.7	100	25.4	100
		21.7	105	22.4	105
		19	110	19.7	110
		16.6	115	17.2	115
		14.3	120	15	120
		12.2	125	12.9	125

MOISTURE-DENSITY RELATIONSHIP

Standard Proctor- Procedure A



PHOTOGRAPHS

**PHOTOGRAPHS
HEATING OIL TANK REMOVAL
APRIL 28, 2010
PARCEL 24 SELLERS PROPERTY
7443 OCEAN HIGHWAY
BRUNSWICK COUNTY, NORTH CAROLINA**



UST Location – Looking northeast along north side of former Sellers residence
(note: UST piping extending above ground in foreground of picture)



UST Location – Looking west along north side of former Sellers residence (note:
UST fill port and piping extending above ground in foreground of picture)

**PHOTOGRAPHS
HEATING OIL TANK REMOVAL
APRIL 28, 2010
PARCEL 24 SELLERS PROPERTY
7443 OCEAN HIGHWAY
BRUNSWICK COUNTY, NORTH CAROLINA**



UST Excavation – Looking west along north side of former Sellers residence and UST excavation



UST Excavation – Looking southwest towards northern side of Sellers residence



Removed UST - Looking west along north side of former Sellers residence

**PHOTOGRAPHS
HEATING OIL TANK REMOVAL
APRIL 28, 2010
PARCEL 24 SELLERS PROPERTY
7443 OCEAN HIGHWAY
BRUNSWICK COUNTY, NORTH CAROLINA**



UST Excavation – Looking west across excavation towards north side of former Sellers residence



UST Excavation – Looking east across excavation from west side of excavation

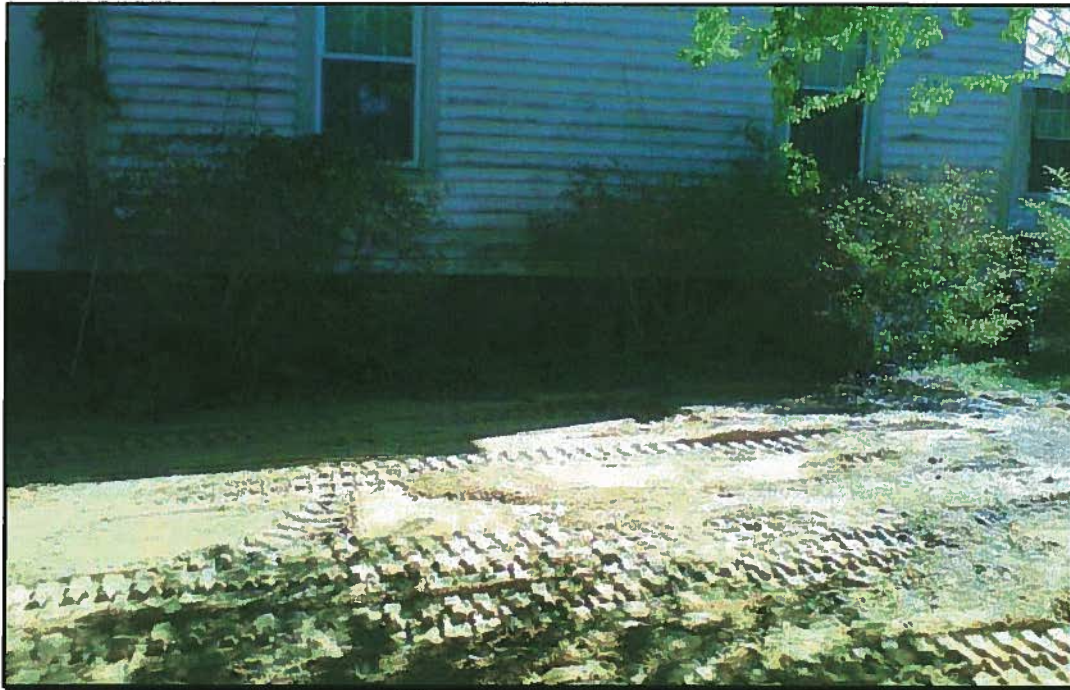


Removed UST loaded for transport to Southeast Response and Remediation for proper disposal

**PHOTOGRAPHS
HEATING OIL TANK REMOVAL
APRIL 29, 2010
PARCEL 24 SELLERS PROPERTY
7443 OCEAN HIGHWAY
BRUNSWICK COUNTY, NORTH CAROLINA**



UST excavation area backfilled and compacted –
Looking west from near northeast corner of former Sellers residence



UST excavation area backfilled and compacted –
Looking south across former UST location