

**This electronic collection of documents is provided
for the convenience of the user
and is Not a Certified Document –**

**The documents contained herein were originally issued
and sealed by the individuals whose names and license
numbers appear on each page, on the dates appearing
with their signature on that page.**

**This file or an individual page
shall not be considered a certified document.**

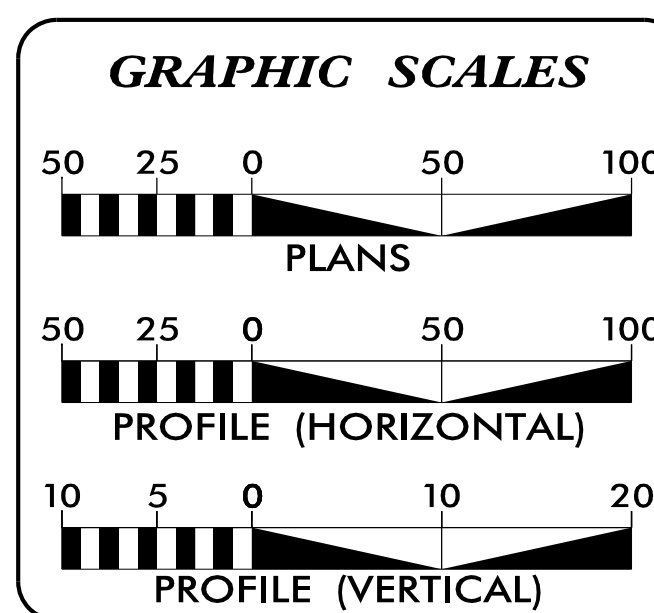
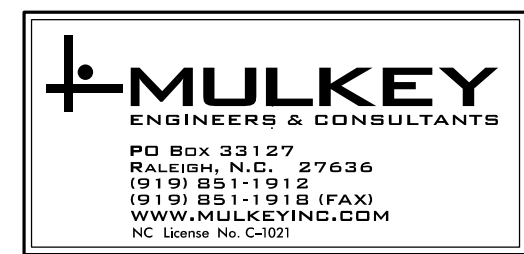
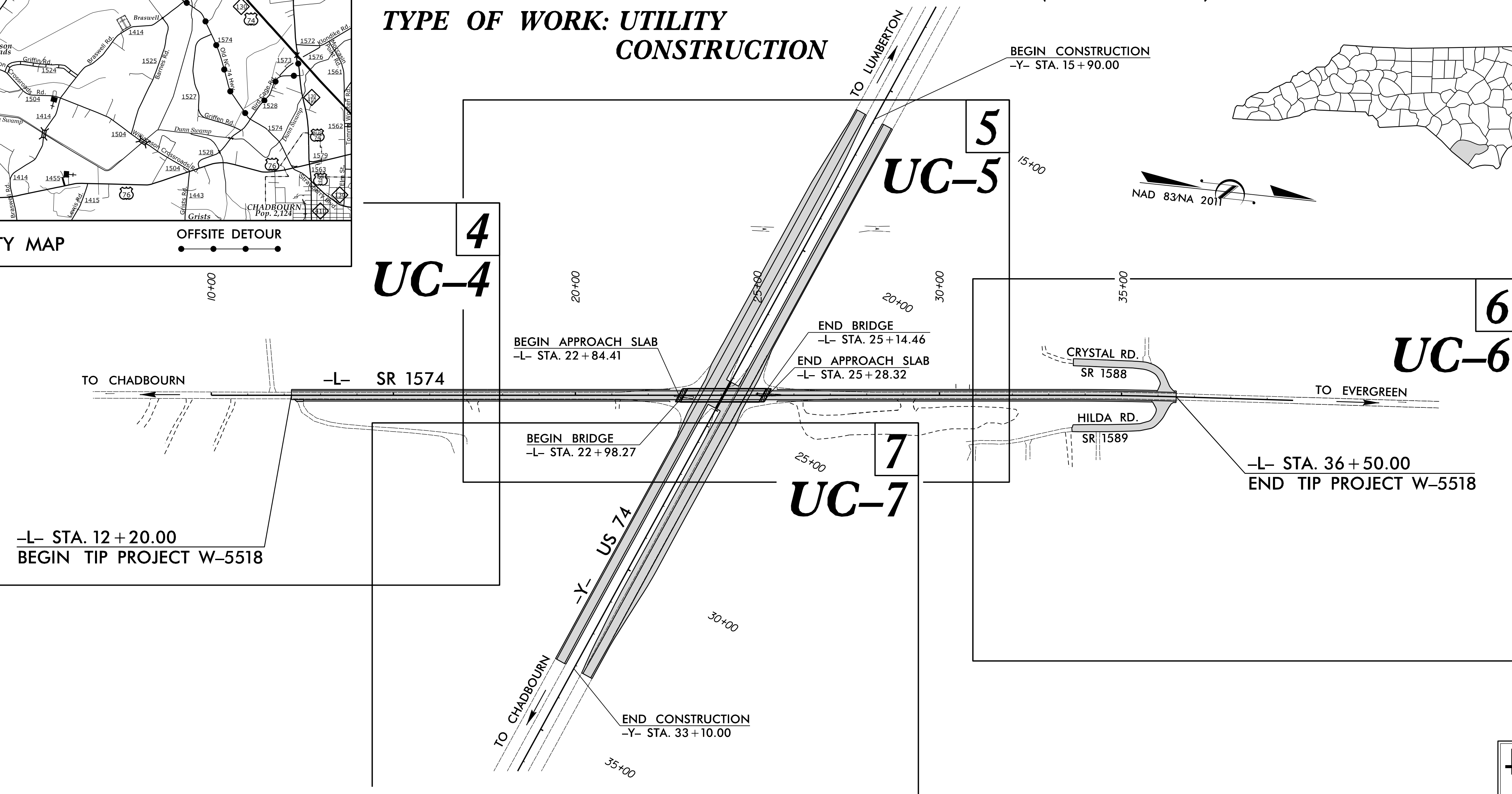
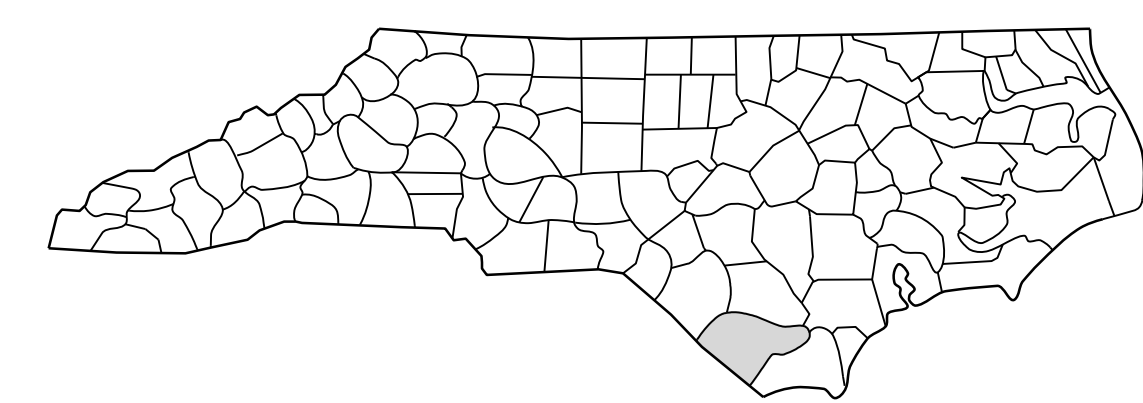
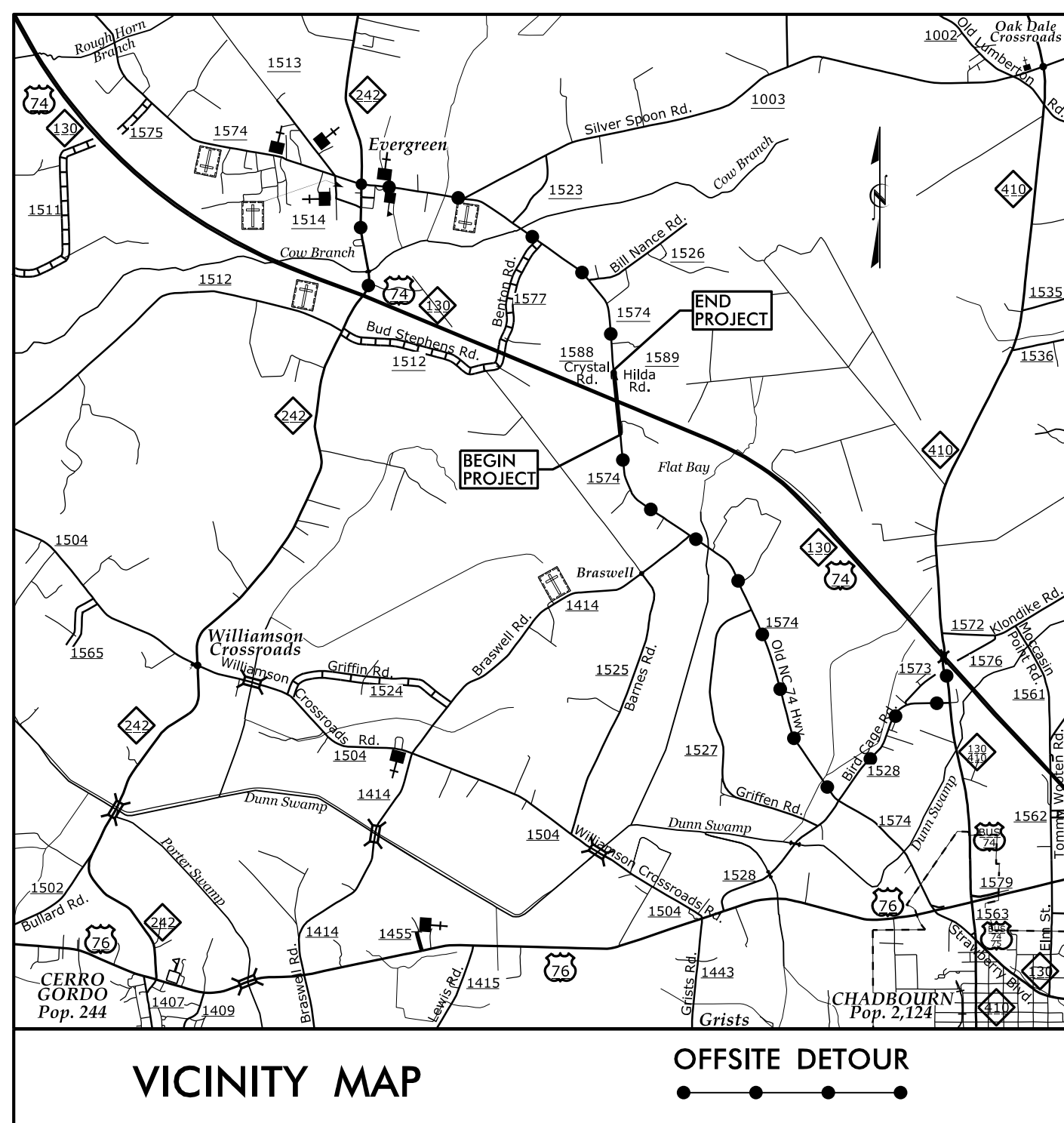
TIP PROJECT: W-5518

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
W-5518	UC-1

UTILITY CONSTRUCTION PLANS COLUMBUS COUNTY

LOCATION: CONSTRUCT OVERPASS OF SR 1574 (OLD US 74) OVER US 74
TYPE OF WORK: UTILITY CONSTRUCTION



SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A	DETAILS
UC-4 THRU UC-7	UTILITY CONSTRUCTION SHEETS
UC-8	PROFILE SHEET

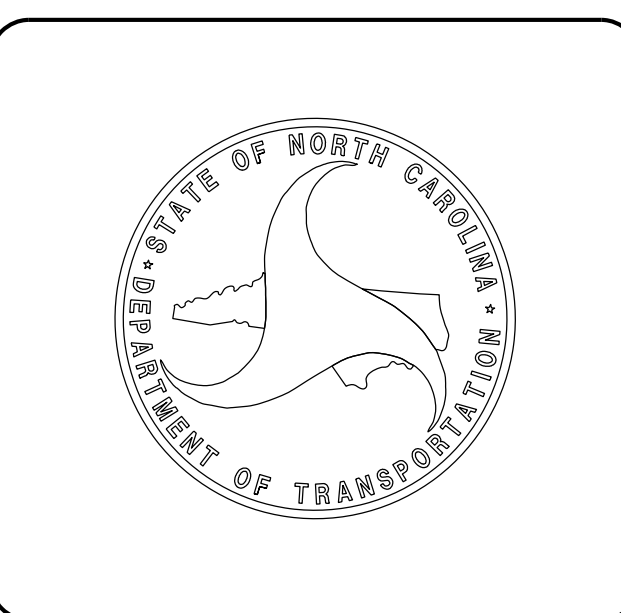
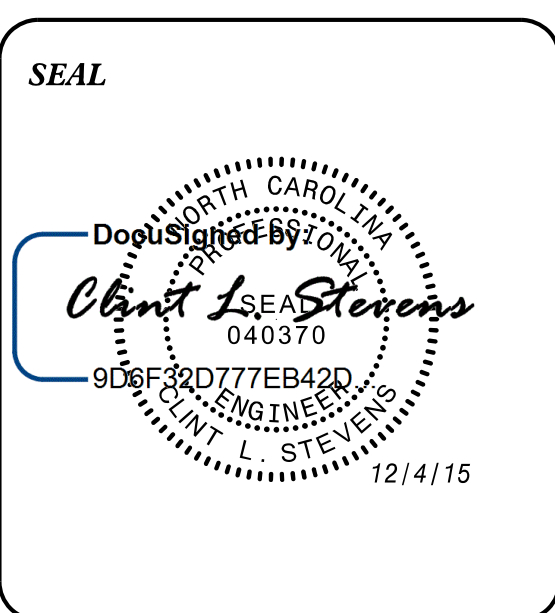
WATER AND SEWER OWNERS ON PROJECT

(1) WATER - COLUMBUS COUNTY WATER DEPARTMENT

PREPARED IN THE OFFICE OF:

HINDE ENGINEERING
License No. C-2639
401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

Clint L. Stevens, P.E. UTILITIES PROJECT MANAGER
Corey D. Bousquet, P.E. UTILITIES PROJECT ENGINEER
James N. Arnold UTILITIES PROJECT DESIGNER



04-DEC-2015 09:32 SA\SOP\FIT\PROJECTS\2014\A20141202.00 Mulkey - Chadbourne-W-5518\Design\Utilities\Engineering\UC\Proj\W5518_ut_1sh_UC01.psh.dgn \$\$\$USERNAME\$\$\$

UTILITIES PLAN SHEET SYMBOLS

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	REM FH
Water Meter	
Relocate Water Meter	
Remove Water Meter	REM WM
Water Pump Station	
RPZ Backflow Preventer	
DCV Backflow Preventer	
Relocate RPZ Backflow Preventer	
Relocate DCV Backflow Preventer	

PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	
Force Main Sewer Line (Sized as Shown)	
Manhole (Sized per Note)	
Sewer Pump Station	

PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	
Telephone Pole	
Joint Use Pole	
Telephone Pedestal	
Utility Line by Others (Type as Shown)	
Trenchless Installation	
Encasement by Open Cut	
Encasement	

Thrust Block	
Air Release Valve	
Utility Vault	
Concrete Pier	
Steel Pier	
Plan Note	
Pay Item Note	

NOTE
PAY ITEM

EXISTING UTILITIES SYMBOLS

Power Pole		*Underground Power Line	
Telephone Pole		*Underground Telephone Cable	
Joint Use Pole		*Underground Telephone Conduit	
Utility Pole		*Underground Fiber Optics Telephone Cable	
Utility Pole with Base		*Underground TV Cable	
H-Frame Pole		*Underground Fiber Optics TV Cable	
Power Transmission Line Tower		*Underground Gas Pipeline	
Water Manhole		Aboveground Gas Pipeline	
Power Manhole		*Underground Water Line	
Telephone Manhole		Aboveground Water Line	
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line	
Hand Hole for Cable		Aboveground Gravity Sanitary Sewer Line	
Power Transformer		*Underground SS Forced Main Line	
Telephone Pedestal		Underground Unknown Utility Line	
CATV Pedestal		SUE Test Hole	
Gas Valve		Water Meter	
Gas Meter		Water Valve	
Located Miscellaneous Utility Object		Fire Hydrant	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout	
End of Information	E.O.I.		

*For Existing Utilities
Utility Line Drawn from Record (Type as Shown)
Designated Utility Line (Type as Shown)

04-DEC-2015 09:27 04-Multi-Utilities\Engineering\UC\Proj\W5518-ut_sym-UC02_psh.dgn REV: 2/1/2012

UTILITY CONSTRUCTION



PROJECT REFERENCE NO.	W-5518	SHEET NO.	UC-3
DESIGNED BY:	CDB		
DRAWN BY:	JNA		
CHECKED BY:	CLS		
APPROVED BY:	CLS		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

GENERAL NOTES:

1. THE PROPOSED UTILITY CONSTRUCTION SHALL MEET THE APPLICABLE REQUIREMENTS OF THE NC DEPARTMENT OF TRANSPORTATION'S "STANDARD SPECIFICATIONS FOR ROADS AND STRUCTURES" DATED JANUARY 2012.
2. THE EXISTING WATER LINES BELONG TO THE COLUMBUS COUNTY WATER DEPARTMENT.
3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, PUBLIC WATER SUPPLY SECTION. ALL SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT AND NATURAL RESOURCES, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNER OWNS THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNER ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNER AND CONTRACTOR FOR THE WORK THAT IS NOT PART OF THIS CONTRACT OR IS SECONDARY TO THIS CONTRACT ARE ALLOWED, BUT ARE NOT BINDING UPON THE DEPARTMENT.
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPROTUNITY FOR INSPECTION OF CONSTRUCTION AND TESTING.

6. THE PLANS DEPICT THE BEST AVAILABLE INFORMATION FOR THE LOCATION, SIZE, AND TYPE OF MATERIAL FOR ALL EXISTING UTILITIES. MAKE INVESTIGATIONS FOR DETERMINING THE EXACT LOCATION, SIZE, AND TYPE MATERIAL OF THE EXISTING FACILITIES AS NECESSARY FOR THE CONSTRUCTION OF THE PROPOSED UTILITIES AND FOR AVOIDING DAMAGE TO EXISTING FACILITIES. REPAIR ANY DAMAGE INCURRED TO EXISTING FACILITIES TO THE ORIGINAL OR BETTER CONDITION AT NO ADDITIONAL COST TO THE DEPARTMENT.
7. MAKE FINAL CONNECTIONS OF THE NEW WORK TO THE EXISTING SYSTEM WHERE INDICATED ON THE PLANS, AS REQUIRED TO FIT THE ACTUAL CONDITIONS, OR AS DIRECTED.
8. MAKE CONNECTIONS BETWEEN EXISTING AND PROPOSED UTILITIES AT TIMES MOST CONVENIENT TO THE PUBLIC, WITHOUT ENDANGERING THE UTILITY SERVICE, AND IN ACCORDANCE WITH THE UTILITY OWNER'S REQUIREMENTS. MAKE CONNECTIONS ON WEEKENDS, AT NIGHT, AND ON HOLIDAYS IF NECESSARY.
9. ALL UTILITY MATERIALS SHALL BE APPROVED PRIOR TO DELIVERY TO THE PROJECT. SEE 1500-7, " SUBMITTALS AND RECORDS" IN SECTION 1500 OF THE STANDARD SPECIFICATIONS.

PROJECT SPECIFIC NOTES:

1. PROPOSED WATER LINE FROM -W1- STA 10+00 TO 11+30, FROM -W1- STA 19+20 TO 21+80, FROM -W1- STA 23+44 TO 24+05, & FROM -W1- STA 32+20 TO 33+50 SHALL BE PVC RESTRAINED JOINT PIPE.
2. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
3. CONTRACTOR SHALL CONNECT ALL WATER LINES AND SERVICE CONNECTIONS USING NECESSARY FITTINGS.
4. ALL BACKFLOW PREVENTORS ARE THE RESPONSIBILITY OF THE PROPERTY OWNER.
5. CONTRACTOR IS REQUIRED TO CONTACT DANNY FOWLER, OF THE COLUMBUS COUNTY WATER DEPARTMENT, AT (910) 642-5257 AT LEAST 1 WEEK PRIOR TO ANY WATER CONSTRUCTION.

LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT

UTILITY CONSTRUCTION

24-DEC-2015 09:30 84-UC-2015-09-30 PROJECTS\2014\A20141202.00 Multkey - Chadbourn-W-5518\Design\Utilities\Engineering\UC\Proj\W5518_ut_notes_UC03_psh.dgn

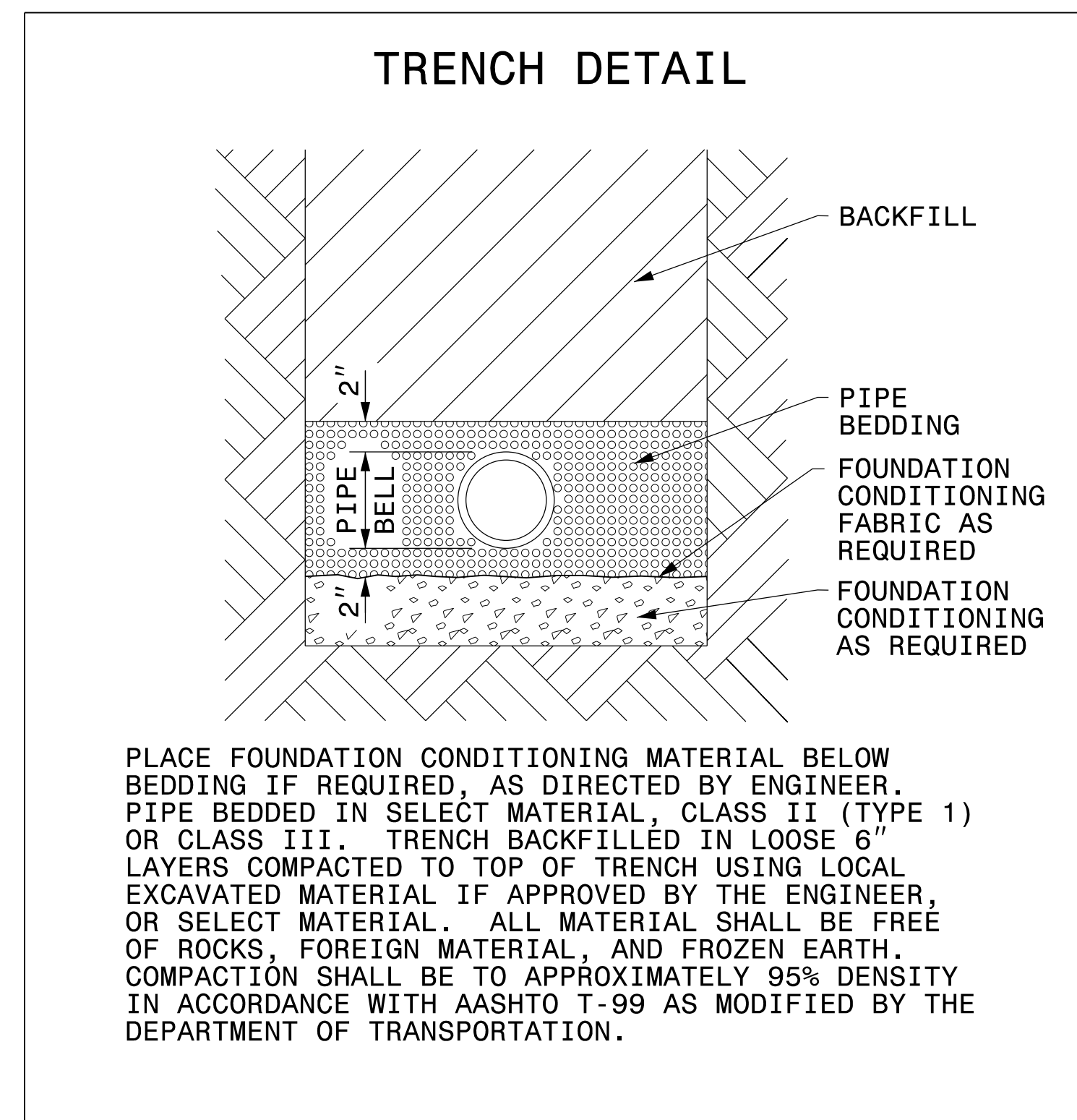
NOT TO SCALE



PROJECT REFERENCE NO.	W-5518	SHEET NO.	UC-3A
DESIGNED BY:	CDB		
DRAWN BY:	JNA		
CHECKED BY:	CLS		
APPROVED BY:	CLS		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		12/4/15	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

PROJECT TYPICAL DETAILS

UTILITY CONSTRUCTION



MAXIMUM TRENCH WIDTH AT TOP OF PIPE

NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)	NOMINAL PIPE SIZE (INCHES)	TRENCH WIDTH (INCHES)
4	28	20	44
6	30	24	48
8	32	30	54
10	34	36	60
12	36	42	66
14	38	48	72
16	40	54	78
18	42		

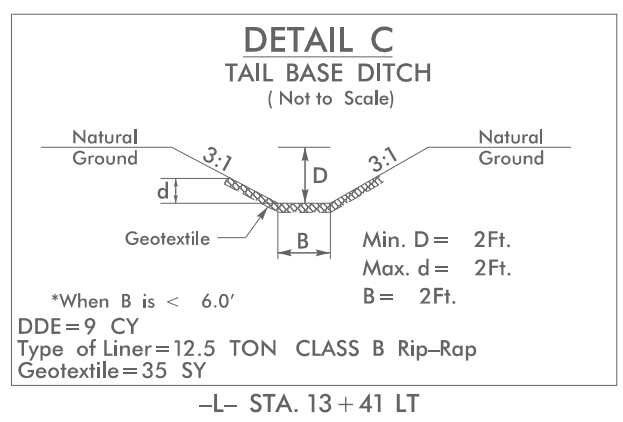
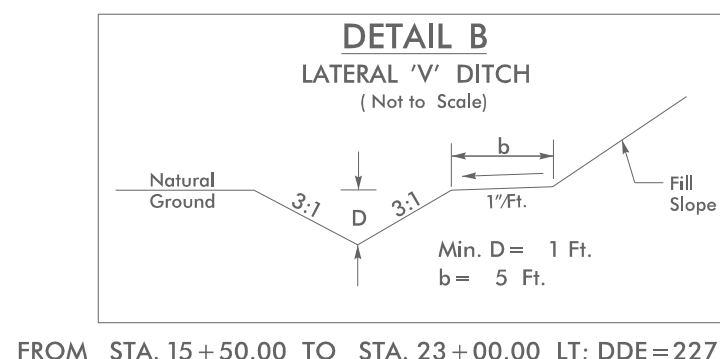
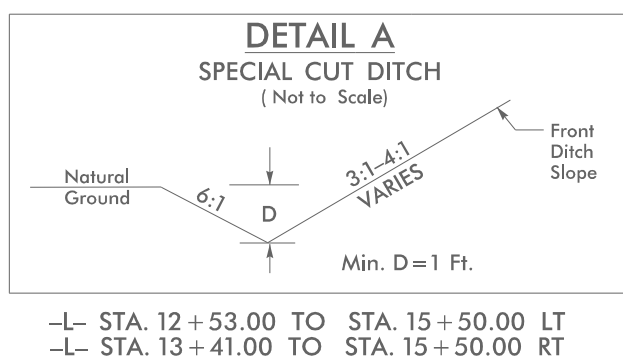
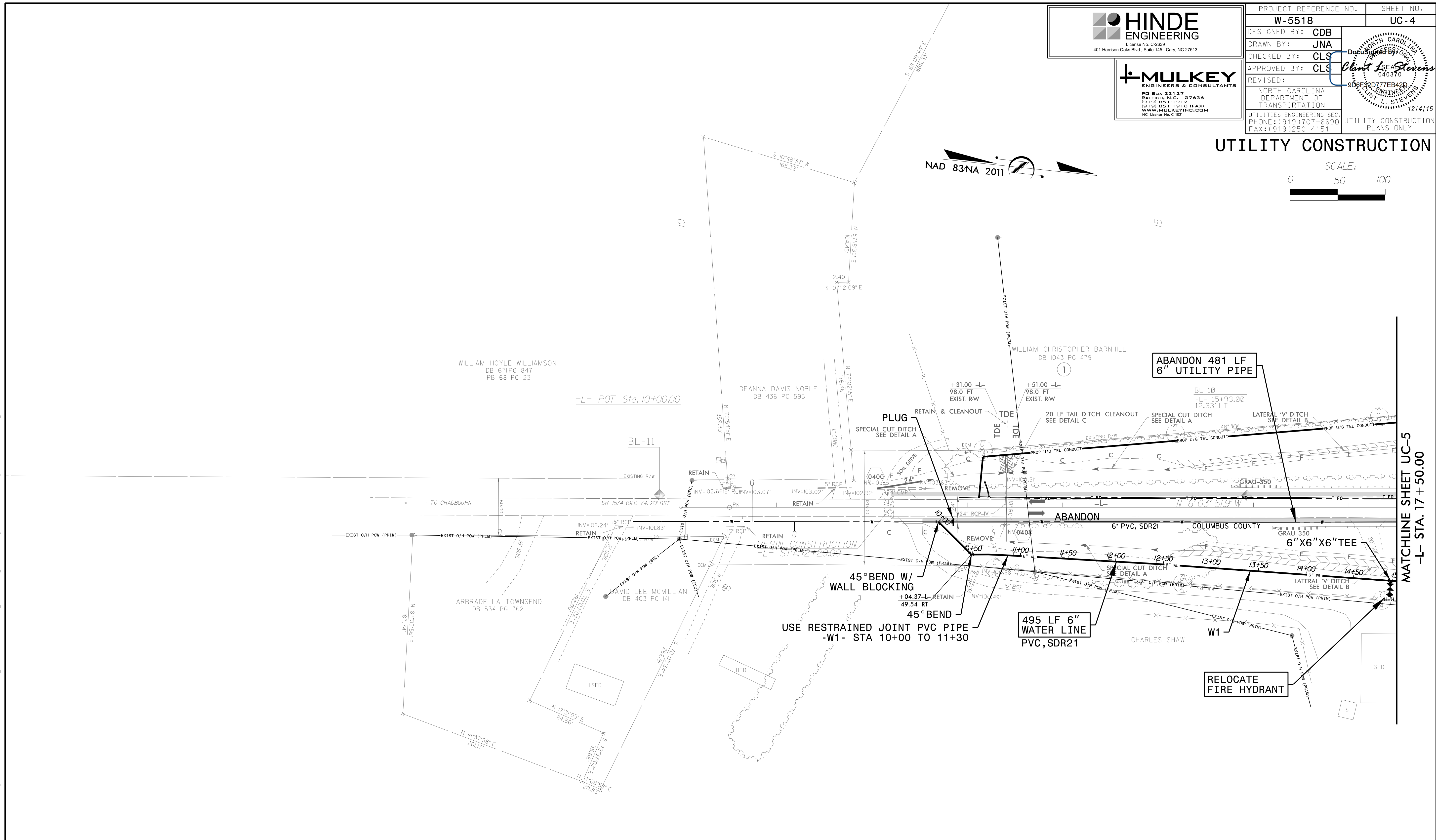
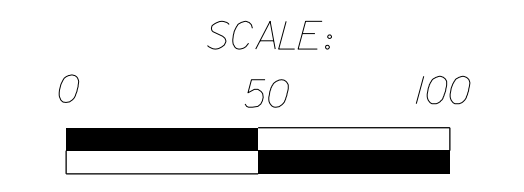
24-DEC-2015 09:39
 C:\COURT\PROJECTS\2014\A20141202.00 Multkey - Chadbourn-W-5518\Design\Utilities\Engineering\UC\Proj\W5518-ut-dtl_UC03A_psh.dgn
 11/11/2015 11:11:11 AM

HINDE ENGINEERING
 License No. C-2639
 401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

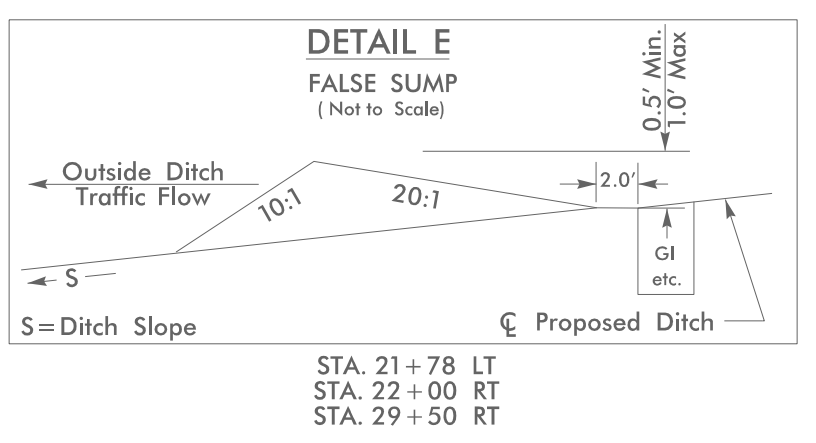
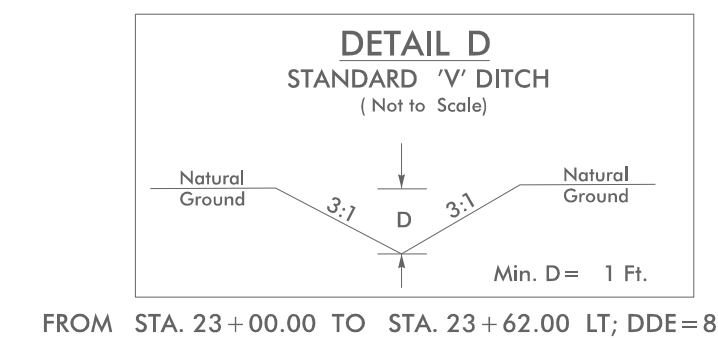
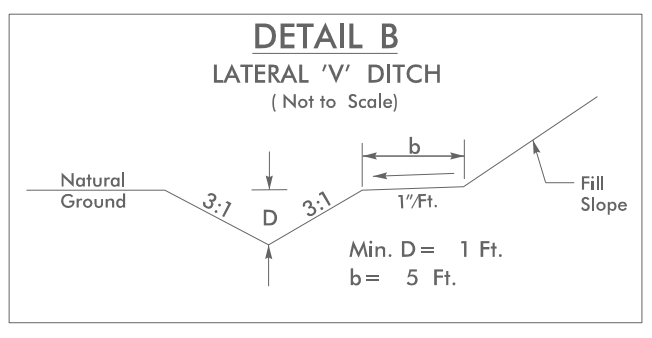
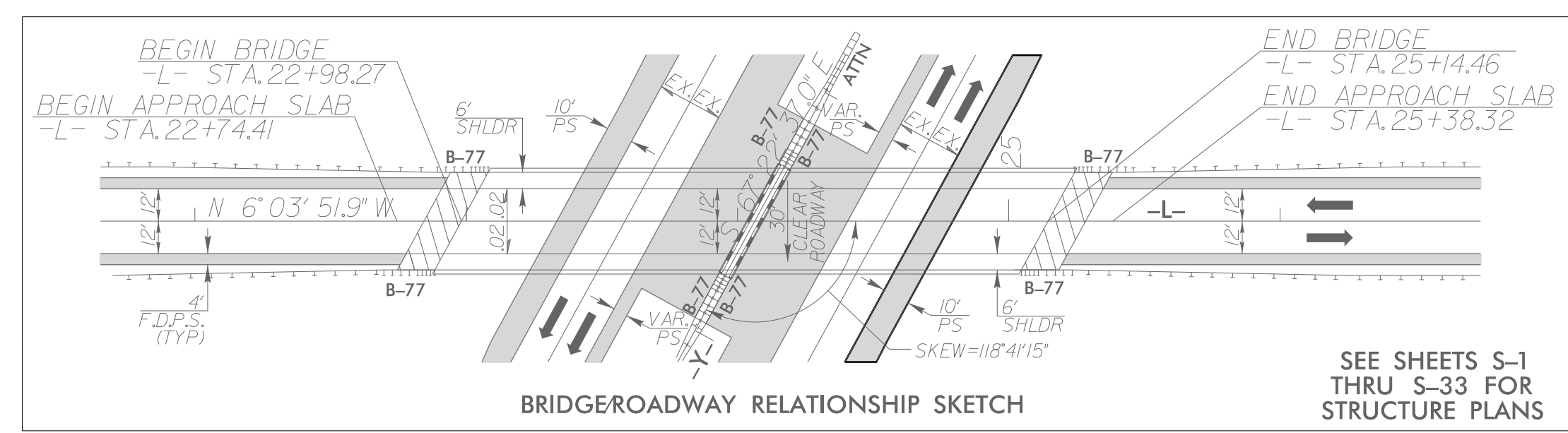
MULKEY ENGINEERS & CONSULTANTS
 PO Box 33127
 Raleigh, N.C. 27636
 (919) 851-1912
 (919) 851-1918 (FAX)
 WWW.MULKEYINC.COM
 NC License No. C-2021

PROJECT REFERENCE NO.	W-5518	SHEET NO.	UC-4
DESIGNED BY:	CDB		
DRAWN BY:	JNA		
CHECKED BY:	CLS		
APPROVED BY:	CLS		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		UTILITY CONSTRUCTION PLANS ONLY	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

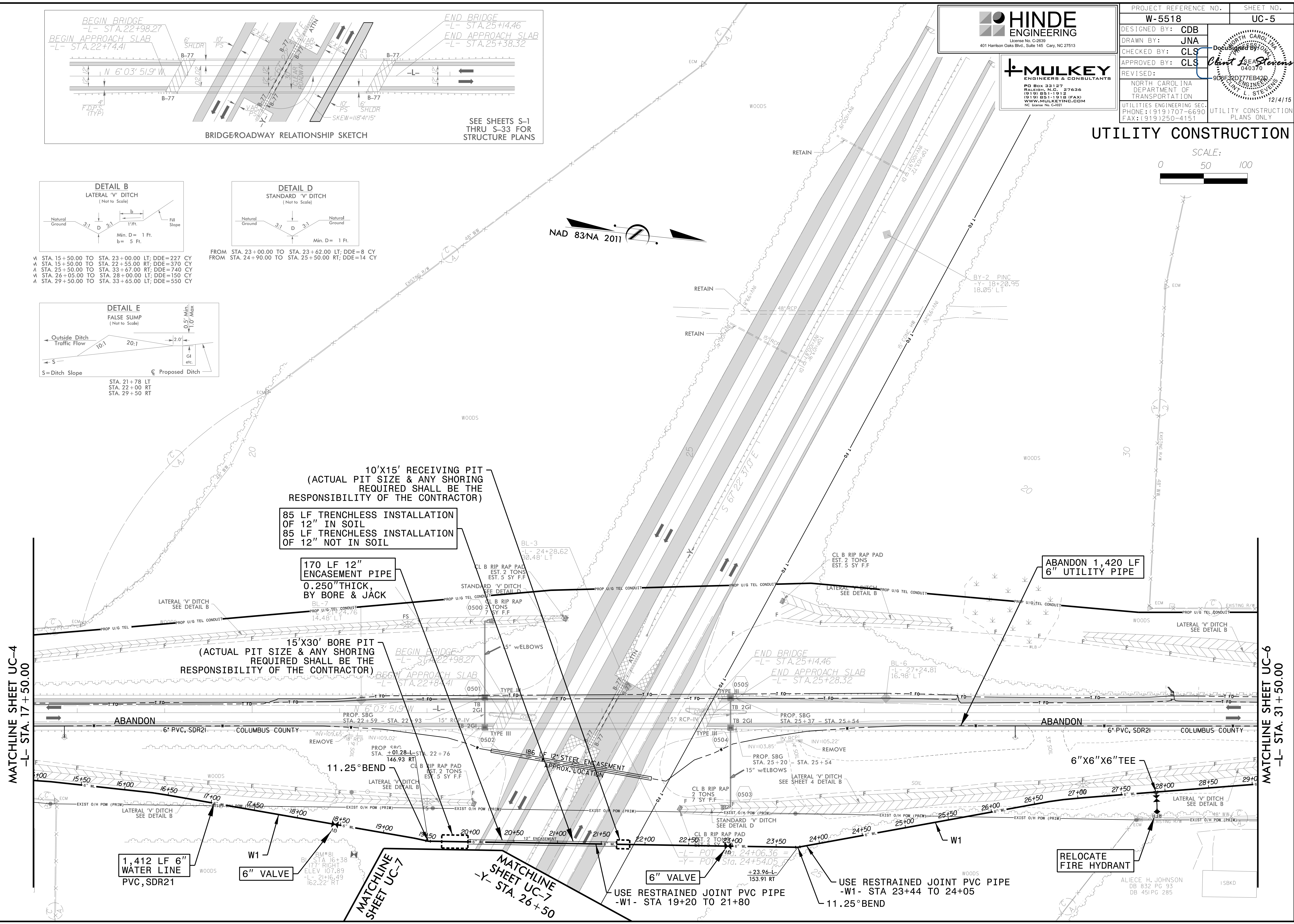
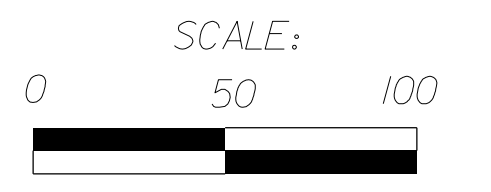
UTILITY CONSTRUCTION



24-DEC-2015 09:15 PROJECTS\2014\A20141202\00 Mulkey - Chadbourn-W-5518\Design\Utilities\Engineering\UC\Proj\W5518_ut_rdy4_UC04_psh.dgn
 3:38:58 PM



UTILITY CONSTRUCTION



24-DEC-2015 09:23 PROJECTS\2014\A20141202\00_Mulkey - Chadourn-W-5518\Design\Utilities\Engineering\UC\Proj\W5518_ut_rdy5_UC05_psh.dgn

ALIECE H. JOHNSON
 DB 832 PG 93
 DB 451 PG 285

-L-
 PI Sta. 35+09.29
 $\Delta = 1' 43" 16.7" (RT)$
 $D = 0' 35" 13.4"$
 $L = 293.21'$
 $T = 146.62'$
 $R = 9,760.00'$
 SUPER = NC
 DS = 60MPH

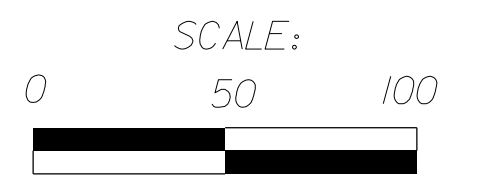
HINDE ENGINEERING
 License No. C-2639
 401 Harrison Oaks Blvd., Suite 145 Cary, NC 27513

MULKEY ENGINEERS & CONSULTANTS
 PO Box 33127
 Raleigh, N.C. 27636
 (919) 851-1912
 (919) 851-1918 (FAX)
 WWW.MULKEYINC.COM
 NC License No. C-1021

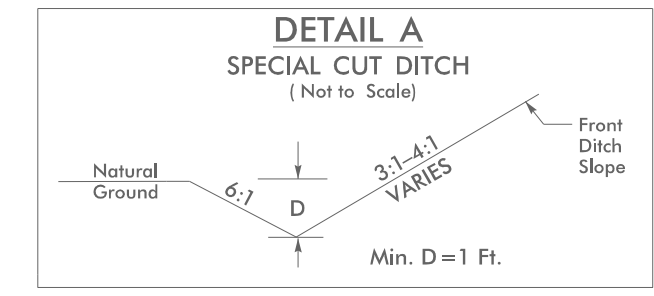
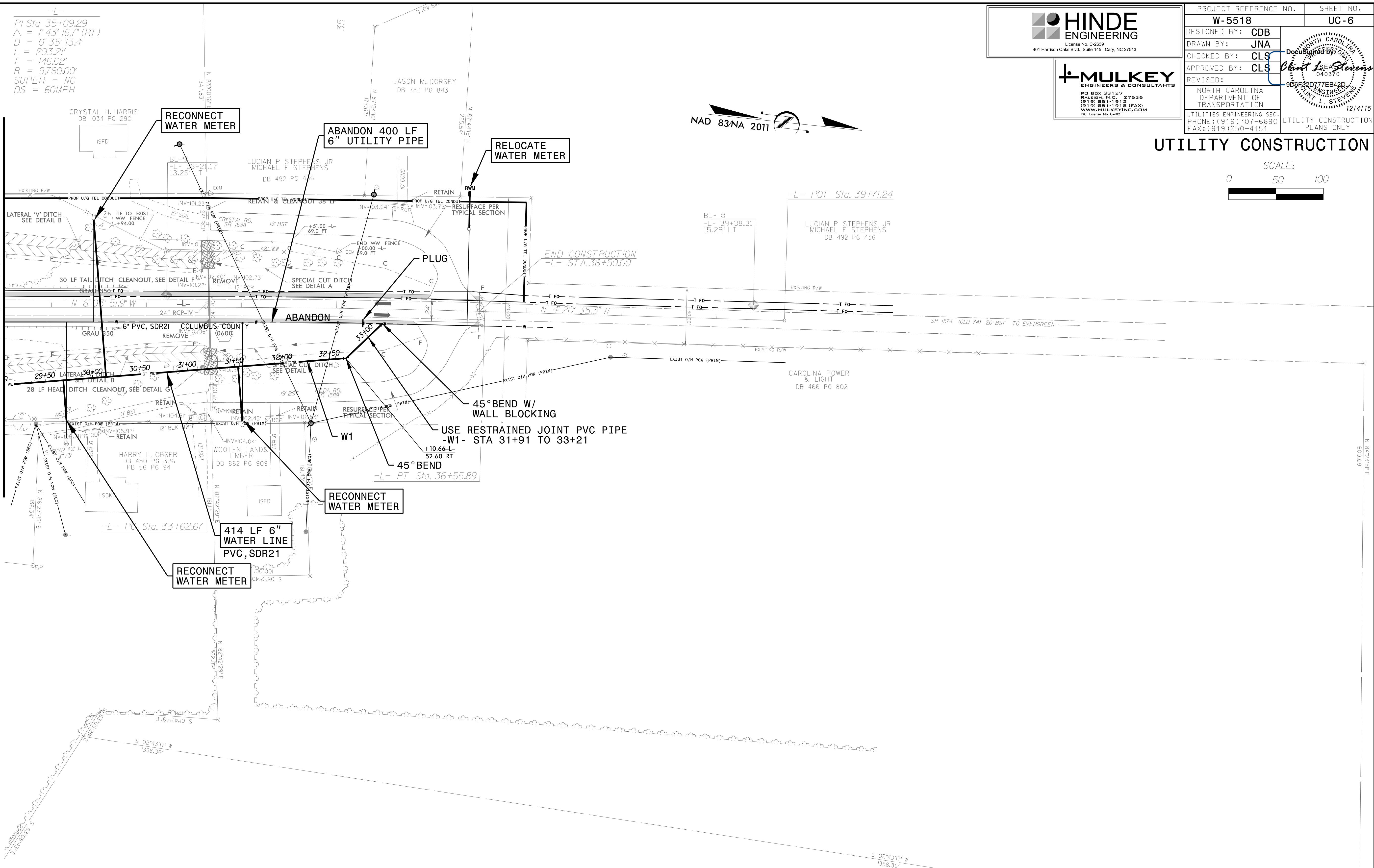
PROJECT REFERENCE NO. W-5518	SHEET NO. UC-6
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CLS	
REVISED:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
UTILITY CONSTRUCTION PLANS ONLY	



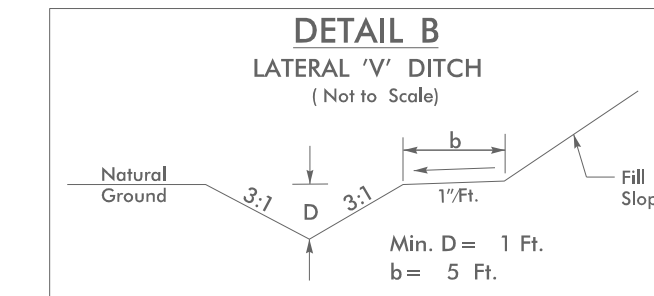
UTILITY CONSTRUCTION



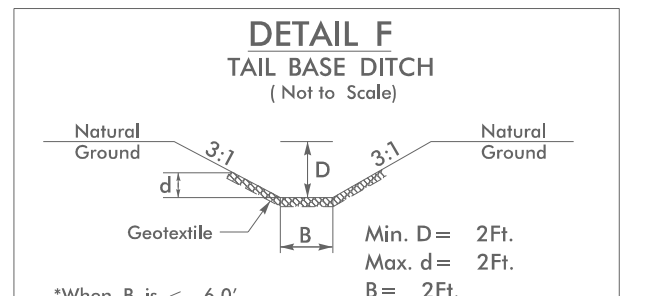
MATCHLINE SHEET UC-5
-L- STA. 31+50.00



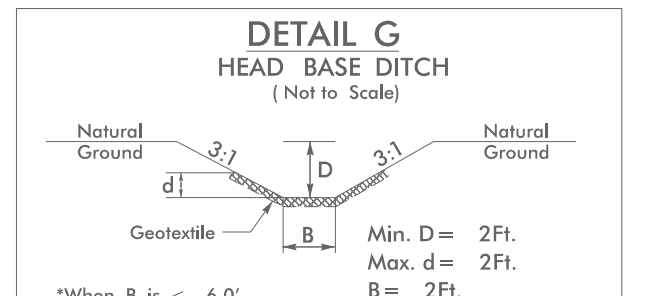
-L- STA. 33+65.00 TO STA. 35+00.00 LT
 -L- STA. 33+67.00 TO STA. 35+00.00 RT



FROM STA. 25+50.00 TO STA. 33+67.00 RT; DDE=740 CY
 FROM STA. 26+05.00 TO STA. 28+00.00 LT; DDE=150 CY
 FROM STA. 29+50.00 TO STA. 33+65.00 LT; DDE=550 CY

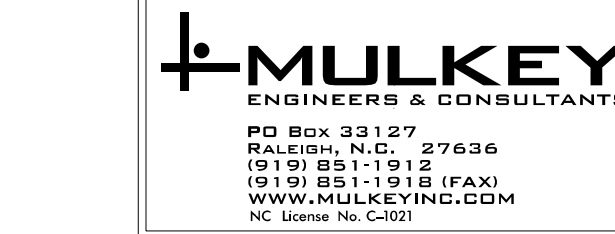


*When B is < 6.0'
 DDE=14 CY
 Type of Liner=19 TON CLASS B Rip-Rap
 Geotextile=53 SY
 -L- STA. 33+65 LT



*When B is < 6.0'
 DDE=13 CY
 Type of Liner=17.5 TON CLASS B Rip-Rap
 Geotextile=49 SY
 -L- STA. 33+67 RT

24-DEC-2015 09:24 PROJECTS\2014\A20141202\00_Mulkey - Chadbourn-W-5518\Design\Utilities\Engineering\UC\11\ties\Engineering\UC\Proj\W5518_ut_cd\6_UC06_psh.dgn

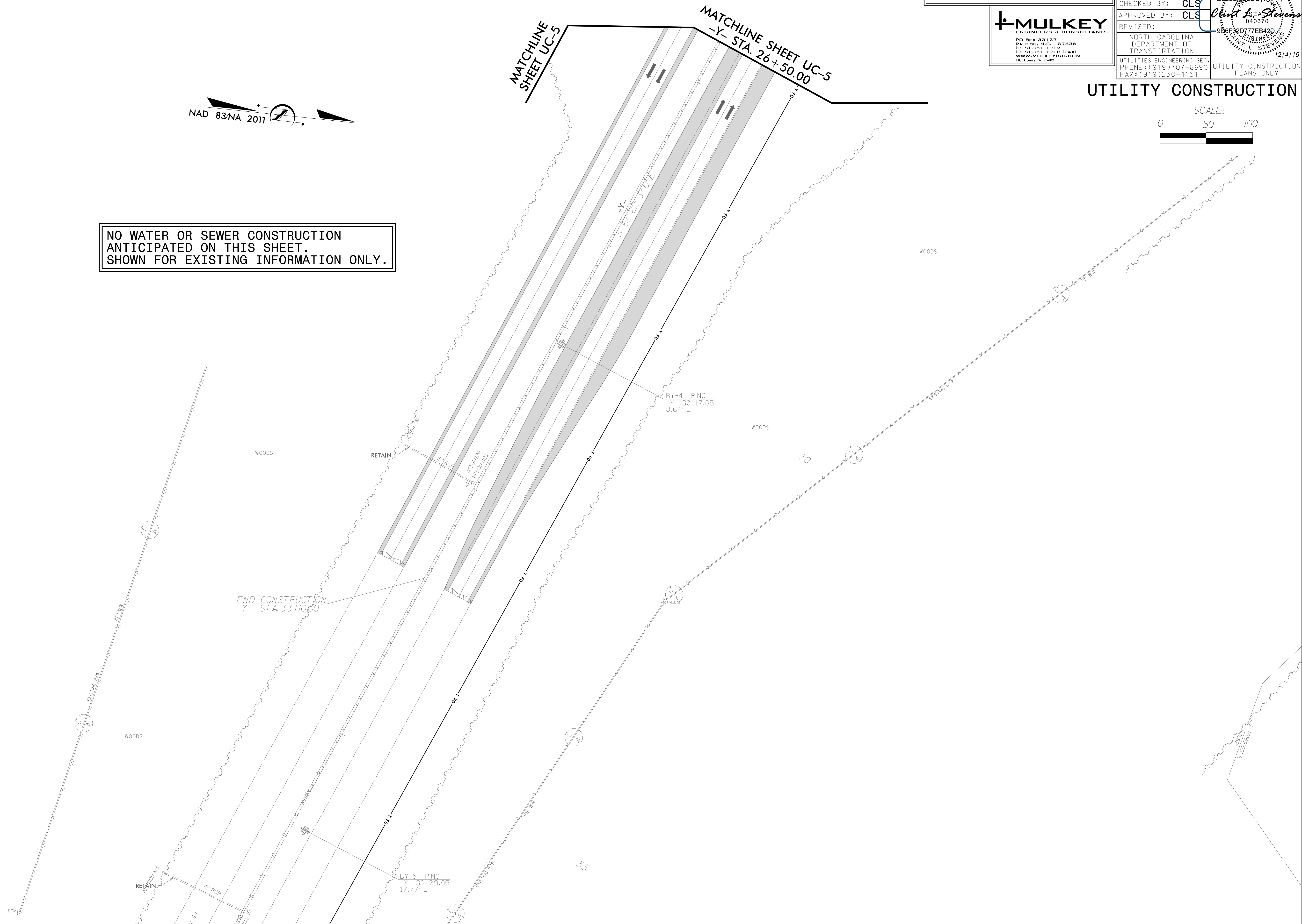
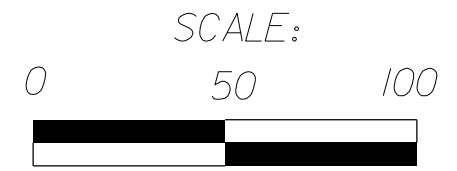


PROJECT REFERENCE NO. W-5518	SHEET NO. UC-7
DESIGNED BY: CDB	
DRAWN BY: JNA	
CHECKED BY: CLS	
APPROVED BY: CLS	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY



NO WATER OR SEWER CONSTRUCTION ANTICIPATED ON THIS SHEET. SHOWN FOR EXISTING INFORMATION ONLY.

UTILITY CONSTRUCTION



S:\DEC-2015\09-25\PROJECTS\2014\A20141202.00\Mulkey - Chadbourn-W-5518\Design\Utilities\Engineering\UC\Proj\W5518-ut-rcdy7_UC07_psh.dgn
 5/5/2015 11:58:38 AM

