

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

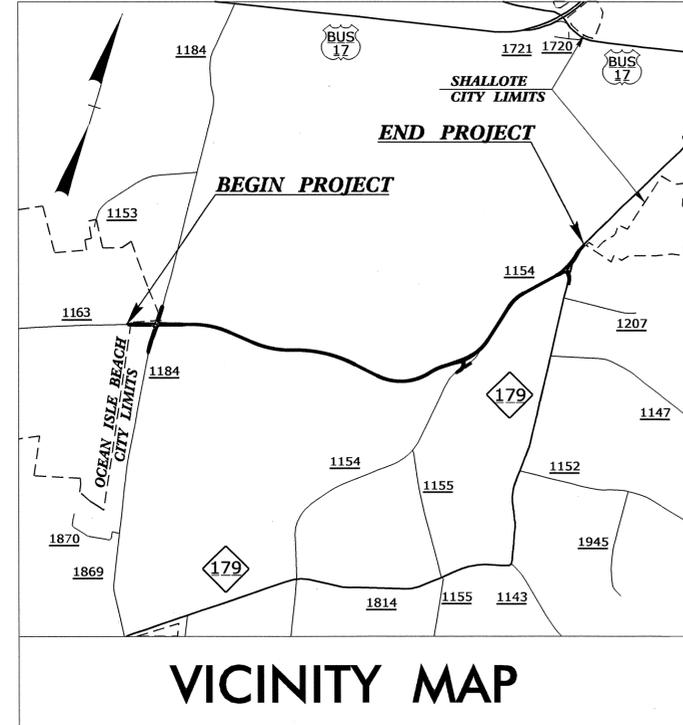
**UTILITY CONSTRUCTION PLANS  
BRUNSWICK COUNTY**

**LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION)  
FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179**

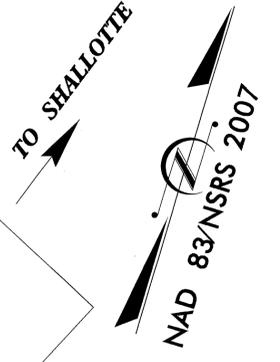
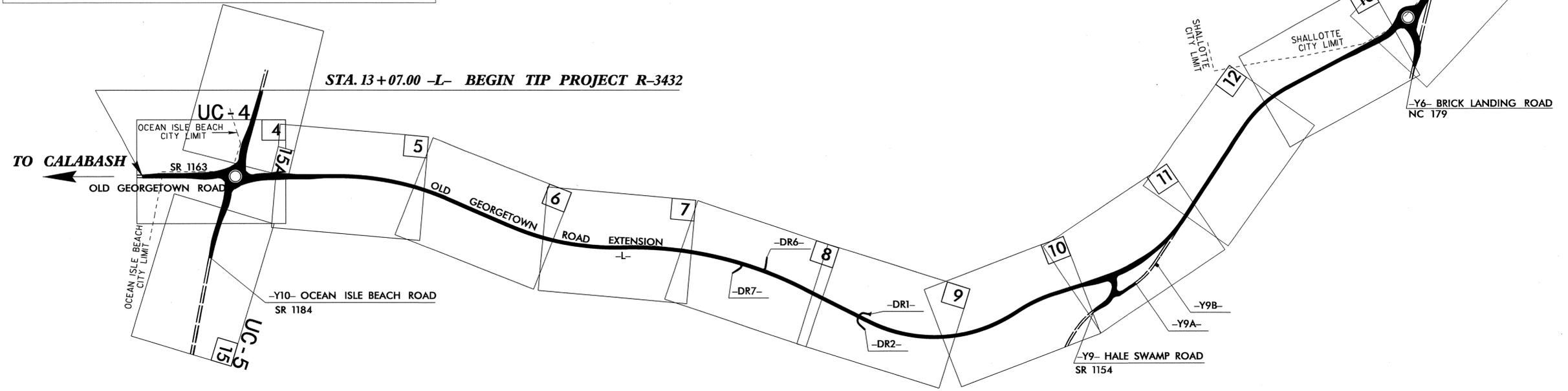
**TYPE OF WORK: RELOCATION OF WATER LINES**

STA. 164 + 00.00 -L- END TIP PROJECT R-3432

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional symbols

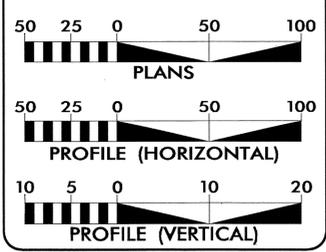


VICINITY MAP



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF OCEAN ISLE BEACH AND SHALLOTTE.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

GRAPHIC SCALES

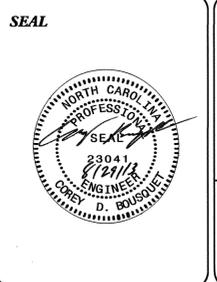


INDEX OF SHEETS

SHEET NO.	DESCRIPTION
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UC-2	UTILITY SYMBOLOGY
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UC-3A THRU UC-3D	DETAILS
UC-4 THRU UC-6	UTILITY CONSTRUCTION SHEETS
UC-7 THRU UC-17	PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) 12" AND 16" WATER LINES- BRUNSWICK COUNTY



PREPARED IN THE OFFICE OF:  
DIVISION OF HIGHWAYS  
UTILITIES UNIT  
UTILITIES ENGINEERING

1591 MAIL SERVICES CENTER  
RALEIGH NC 27699-1591  
PHONE (919) 707-6690  
FAX (919) 250-4151

**Roger Worthington, P.E.** UTILITIES SECTION ENGINEER  
**Corey Bousquet, P.E.** UTILITIES SQUAD LEADER PROJECT ENGINEER  
**Mariko Hafeez** UTILITIES PROJECT DESIGNER

TIP PROJECT: R-3432

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STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

# UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	----- 12" WL -----
11¼ Degree Bend	----- +-+ -----
22½ Degree Bend	----- +-x -----
45 Degree Bend	----- +x -----
90 Degree Bend	----- + -----
Plug	-----   -----
Tee	----- +-----
Cross	----- +-----
Reducer	----- > -----
Gate Valve	----- GV -----
Butterfly Valve	----- BV -----
Tapping Valve	----- TGV -----
Line Stop	----- LS -----
Line Stop with Bypass	----- LS/BP -----
Blow Off	----- BO -----
Fire Hydrant	----- PEH -----
Relocate Fire Hydrant	----- PEH -----
Remove Fire Hydrant	----- REM FH -----
Water Meter	----- PWM -----
Relocate Water Meter	----- RWM -----
Remove Water Meter	----- REM WM -----
Water Pump Station	----- PS(W) -----
RPZ Backflow Preventer	----- PRPZ -----
DCV Backflow Preventer	----- PBFDP -----
Relocate RPZ Backflow Preventer	----- RRPZ -----
Relocate DCV Backflow Preventer	----- RBFP -----

## PROPOSED SEWER SYMBOLS

Gravity Sewer Line (Sized as Shown)	----- 12" SS -----
Force Main Sewer Line (Sized as Shown)	----- 12" FSS -----
Manhole (Sized per Note)	----- • -----
Sewer Pump Station	----- PS(SS) -----

## PROPOSED MISCELLANEOUS UTILITIES SYMBOLS

Power Pole	----- ○ -----
Telephone Pole	----- ⊖ -----
Joint Use Pole	----- ⊖ -----
Telephone Pedestal	----- TEL PED -----
Utility Line by Others (Type as Shown)	----- PROP O/H POW LINES -----
Trenchless Installation	----- 12" TL INSTALL -----
Encasement by Open Cut	----- 24" ENCAS BY OC -----
Encasement	----- 24" ENCASEMENT -----

Thrust Block	-----   -----
Air Release Valve	----- AR -----
Utility Vault	----- UV -----
Concrete Pier	----- CP -----
Steel Pier	----- SP -----
Plan Note	----- NOTE -----
Pay Item Note	----- PAY ITEM -----

## EXISTING UTILITIES SYMBOLS

Power Pole	----- • -----	*Underground Power Line	----- P -----
Telephone Pole	----- • -----	*Underground Telephone Cable	----- T -----
Joint Use Pole	----- • -----	*Underground Telephone Conduit	----- TC -----
Utility Pole	----- • -----	*Underground Fiber Optics Telephone Cable	----- T FO -----
Utility Pole with Base	----- □ -----	*Underground TV Cable	----- TV -----
H-Frame Pole	----- •-----	*Underground Fiber Optics TV Cable	----- TV FO -----
Power Transmission Line Tower	----- ⊠ -----	*Underground Gas Pipeline	----- G -----
Water Manhole	----- ⊙ -----	Aboveground Gas Pipeline	----- A/G Gas -----
Power Manhole	----- ⊙ -----	*Underground Water Line	----- W -----
Telephone Manhole	----- ⊙ -----	Aboveground Water Line	----- A/G Water -----
Sanitary Sewer Manhole	----- ⊙ -----	*Underground Gravity Sanitary Sewer Line	----- SS -----
Hand Hole for Cable	----- ⊠ -----	Aboveground Gravity Sanitary Sewer Line	----- A/G Sanitary Sewer -----
Power Transformer	----- ⊠ -----	*Underground SS Forced Main Line	----- FSS -----
Telephone Pedestal	----- ⊠ -----	Underground Unknown Utility Line	----- ?UTL -----
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) ----- W -----  
 Designated Utility Line (Type as Shown) ----- W -----

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 REV: 2/1/2012

# UTILITY CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-3
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
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 UTILITIES BELONG TO COUNTY OF BRUNSWICK PUBLIC UTILITIES.
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 12" WATER LINES SHALL BE 12" PVC C900, DR-18 150 WP. PROPOSED 16" WATER LINES SHALL BE 16" PVC C905, DR-18 150 WP. THIS APPLIES TO ALL AREAS EXCEPT IN AREAS WHERE TRENCHLESS INSTALLATION AND DUCTILE IRON WATER PIPE IS REQUIRED.
- ALL DI FITTINGS RESTRAINED OR NOT IS INCIDENTAL TO THE WATER LINE. THE UNIT PRICE FOR \_\_\_ " WATER LINE INCLUDES THE COST FOR RESTRAINT, PVC C900, C905 OR DI PIPE AS SHOWN IN THE PLANS FOR EACH SIZE OF WATER LINE.
- 1" WATER SERVICES LINE ARE REQUIRED FOR 3 / 4" AND 1" WATER METERS AND SHALL BE PE TUBING , SDR 9, 200# WP. ALL SERVICE CONNECTION TO THE MAIN REQUIRE TAPPING SADDLES AND CORPORATION STOPS.
- ALL MATERIALS REQUIRED TO A WATER METER OR FIRE HYDRANT ARE INCIDENTAL TO RELOCATE FIRE HYDRANT OR WATER METER.
2. CLEAN WATER LINES BY FLUSHING WITH WATER AT LEAST 2.5 FT/S VELOCITY. REMOVE ALL DEBRIS AND DIRT FROM WATER MAINS LARGER THAN 4" BY PASSING A MEDIUM DENSITY FOAM PIG WITH ABRASIVE STRIPS THROUGH THE LINES.
3. 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 PATH DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
4. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.
5. NO BLOCKING IS REQUIRED FOR THIS PROJECT. ADDTITONAL RESTRAINED JOINT PIPE WILL BE INSTALLED INSTEAD OF BLOCKING
6. ONCE MARKER BALLS ARE INSTALLED BRUNSWICK COUNTY SHOULD BE NOTIFIED SO THEY CAN VERIFY THE LOCATION OF THE MARKER BALLS

7. CONCRETE VALVE MARKER MUST BE OUTSIDE THE CLEAR RECOVERY ZONE

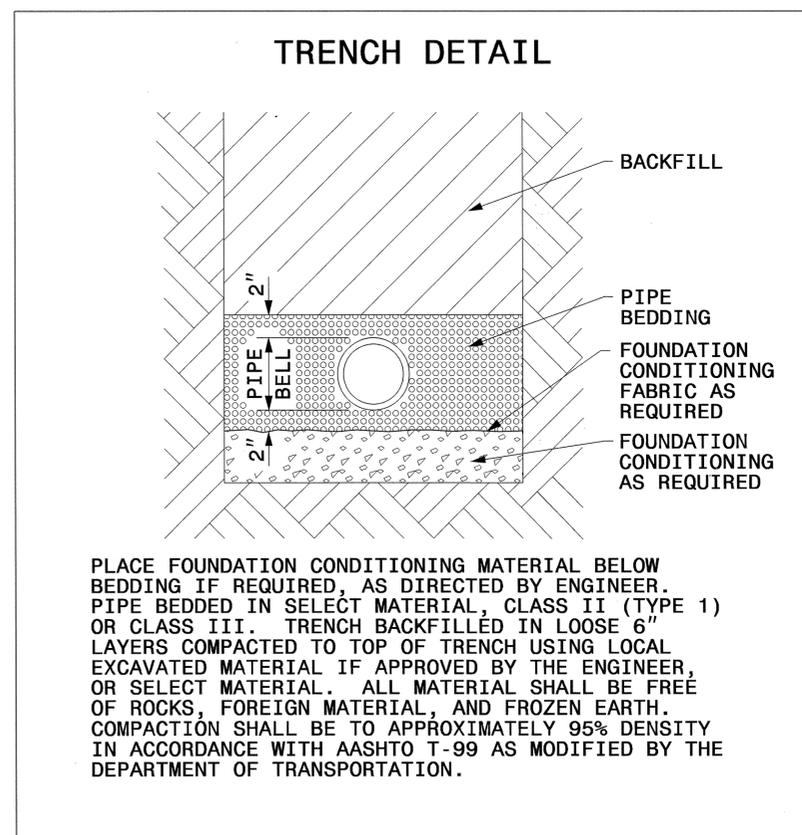
## LIST OF STANDARD DRAWINGS

- 1515.01 WATER METER
- 1515.02 FIRE HYDRANT

## UTILITY CONSTRUCTION

# PROJECT TYPICAL DETAILS

## UTILITY CONSTRUCTION



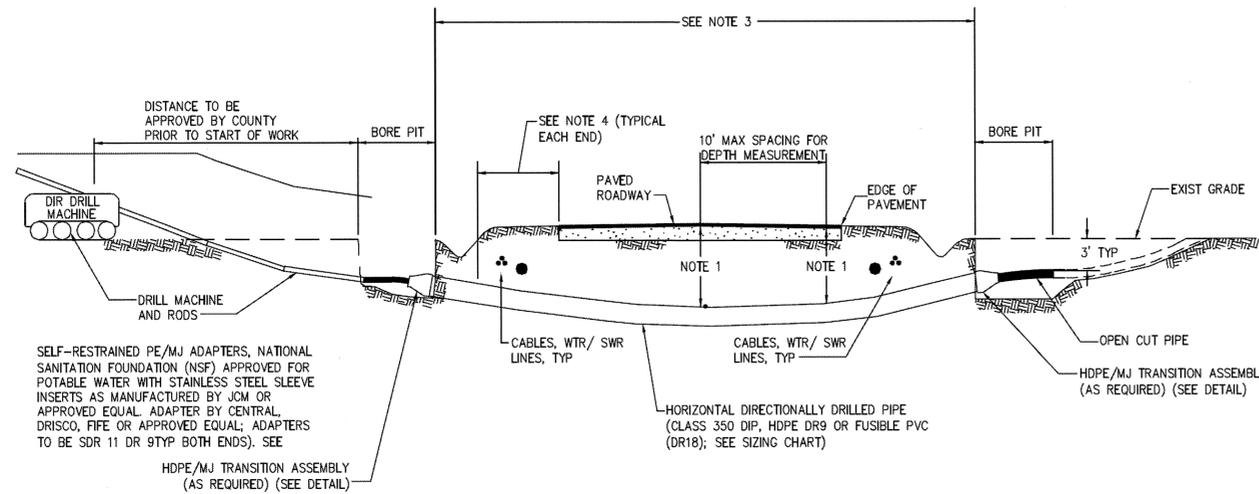
**MAXIMUM TRENCH WIDTH  
AT TOP OF PIPE**

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		

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# UTILITY CONSTRUCTION



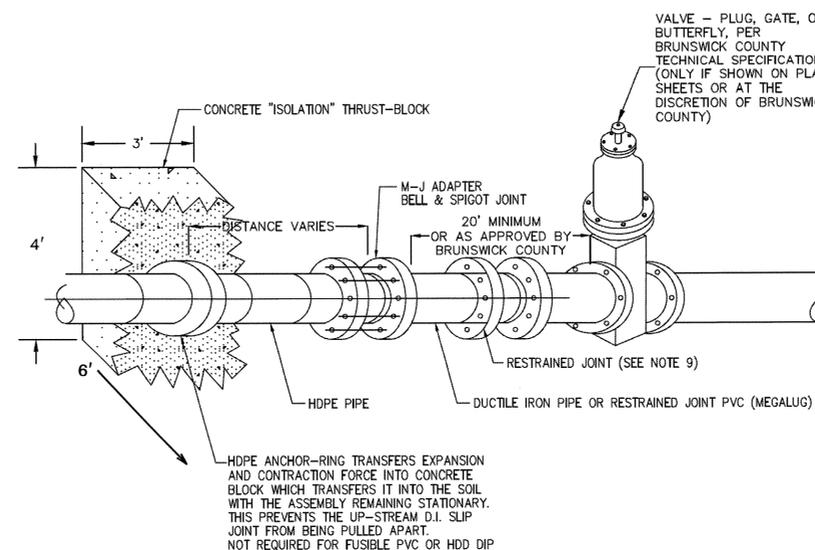
NOMINAL OPEN CUT PIPE SIZE (INCHES)	NOMINAL HDPE DR9 HDD PIPE SIZE (INCHES)
3	3
4	6
6	8
8	10
10	12
12	16
14	18
16	20
18	24
20	24
24	30
30	36

NOTES:

- AN AS-BUILT PLAN AND PROFILE SHALL BE PROVIDED FROM ENTRY TO EXIT FOR EACH DIRECTIONAL BORE SECTION BY THE DIRECTIONAL BORE CONTRACTOR. THIS SHALL INCLUDE ACCURATE HORIZONTAL AND VERTICAL DIMENSIONS AND SHALL MEET OR EXCEED NCDOT VERTICAL REQUIREMENTS FROM HDD PIPE TO EDGE OF PAVEMENT.
- ALL BORE SECTIONS SHALL BE HYDROSTATICALLY TESTED PER COUNTY STANDARDS AFTER INSTALLATION, AND PRIOR TO CONNECTION TO THE OPEN CUT WATER/SEWER LINE. A FINAL TEST WILL BE A PART OF THE TOTAL MAIN LINE SYSTEM TEST.
- LENGTH OF CROSSING, LOCATION OF INSPECTION/OBSERVATION EXCAVATION, NUMBER OF HDD PIPE JOINTS, LOCATION OF DRILL MACHINE, AUGER ENTRANCE LOCATION AND TIE-IN POINTS ARE TO BE APPROVED BY COUNTY PRIOR TO ANY START OF WORK.
- ON CONVENTIONAL HIGHWAYS, AS A MINIMUM, THE HDD PIPE SHALL EXTEND TO THE SHOULDER BREAK OR 10 FEET BEYOND THE EDGE OF PAVEMENT ON FILL SLOPES, WHICHEVER IS GREATER; 3 FEET BEYOND THE EDGE OF PAVEMENT IN CUTS; AND ON CURBED SECTIONS TO THE BACK OF THE SIDEWALK AREA. ON FREEWAYS, EXPRESSWAYS, AND OTHER CONTROLLED ACCESS HIGHWAYS, THE HDD PIPE WILL BE REQUIRED TO EXTEND TO THE ACCESS CONTROL LINES, TO THE OUTSIDE OF FRONTAGE ROADS, OR A SUFFICIENT DISTANCE TO ALLOW FOR FUTURE HIGHWAY IMPROVEMENTS, OR AS REQUIRED BY THE NCDOT ENCROACHMENT AGREEMENT.
- THE BORE DEVELOPED FOR THE DIRECTIONALLY DRILLED PIPE SHALL BE KEPT AT A MINIMUM DIAMETER FOR THE PIPE INSTALLATION. THE AUGER HEAD SIZE SHALL BE APPROVED BY THE COUNTY PRIOR TO THE START OF WORK.
- HORIZONTAL DIRECTIONAL DRILL OF NCDOT STATE ROADS TO BE APPROVED BY NCDOT PRIOR TO CONSTRUCTION. PIPE MATERIAL AND THICKNESS MAY VARY.
- THE CONTRACTOR SHALL ALLOW SUFFICIENT LENGTHS OF PIPE TO EXTEND PAST THE TERMINATION POINT TO ALLOW FOR CONTRACTION. PULLED HDD PIPE SHALL BE ALLOWED TO RELAX 7 DAYS OR THE AMOUNT OF TIME RECOMMENDED BY THE MANUFACTURER PRIOR TO MAKING CONNECTIONS.
- FUSIBLE PVC HAS BEEN APPROVED FOR USE WITHIN NCDOT RIGHT-OF-WAYS.
- MINIMUM OF (3) RESTRAINED JOINTS ARE REQUIRED UPSTREAM AND DOWNSTREAM OF DIP/HDPE/FUSIBLE PVC MJ ADAPTER ON EACH END OF THE HORIZONTAL DIRECTIONALLY DRILLED PIPE UNLESS OTHERWISE APPROVED BY BRUNSWICK COUNTY.

HDPE/MJ TRANSITION ASSEMBLY  
WS-4A

## DIRECTIONAL DRILL DETAIL WS-4



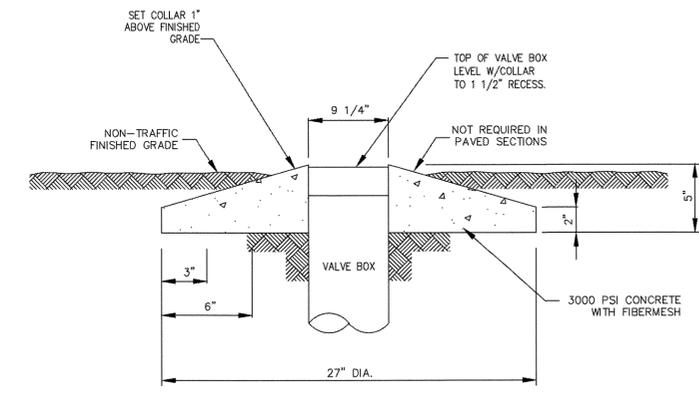
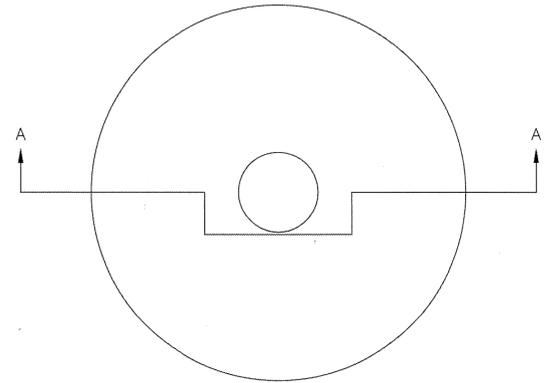
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 Details.dgn

PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UC-3C</b>
DESIGNED BY: <b>MEH</b>	
DRAWN BY: <b>MEH</b>	
CHECKED BY: <b>CDB</b>	
APPROVED BY: <b>CDB</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

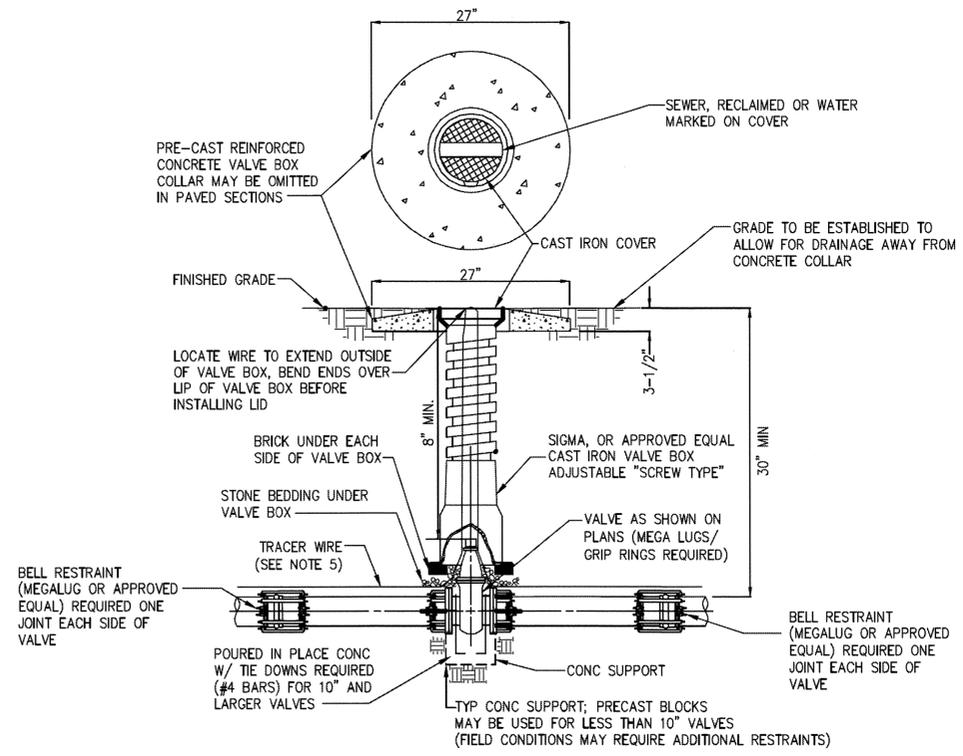
**UTILITY CONSTRUCTION**

AERIAL PIPE CROSSING  
DETAIL WS-15



SECTION A-A

PRECAST CONCRETE VALVE BOX COLLAR  
DETAIL WS-16

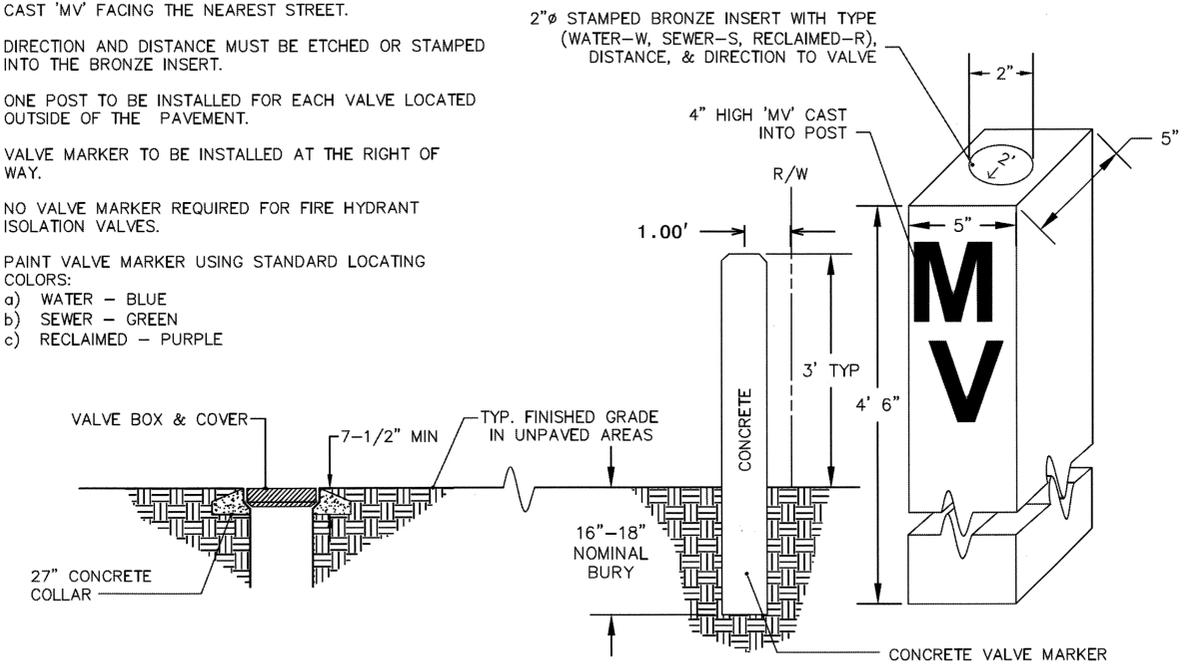


**NOTES:**

- TOP OF VALVE BOX AND COLLAR SHALL BE PAINTED GREEN FOR SEWER FM, PURPLE FOR RECLAIMED WATER, AND BLUE FOR WATER.
- EXTENSION STEM WILL BE REQUIRED TO BE WITHIN 2 FEET OF THE SURFACE IF OPERATING NUT WOULD OTHERWISE BE OVER 5 FEET BELOW GRADE. EXTENSIONS SHALL BE PERMANENTLY ATTACHED TO VALVE NUT AND SHALL BE PROVIDED WITH HORIZONTAL SPACERS FOR VERTICAL ALIGNMENT WITHIN THE VALVE BOX.
- MINIMUM CLEARANCE TO EXTENSION IS 8".
- WIRE COLORS REQUIRED: SEWER-GREEN/WATER-BLUE/RECLAIMED WATER-PURPLE OR GREEN WITH PURPLE STRIPE
- 12 GA. COPPERHEAD SUPER FLEX TRACER WIRE OR APPROVED EQUAL.

VALVE BOX  
DETAIL WS-9

- NOTES:**
- VALVE MARKER TO BE INSTALLED UPRIGHT WITH THE CAST 'MV' FACING THE NEAREST STREET.
  - DIRECTION AND DISTANCE MUST BE ETCHED OR STAMPED INTO THE BRONZE INSERT.
  - ONE POST TO BE INSTALLED FOR EACH VALVE LOCATED OUTSIDE OF THE PAVEMENT.
  - VALVE MARKER TO BE INSTALLED AT THE RIGHT OF WAY.
  - NO VALVE MARKER REQUIRED FOR FIRE HYDRANT ISOLATION VALVES.
  - PAINT VALVE MARKER USING STANDARD LOCATING COLORS:
    - WATER - BLUE
    - SEWER - GREEN
    - RECLAIMED - PURPLE



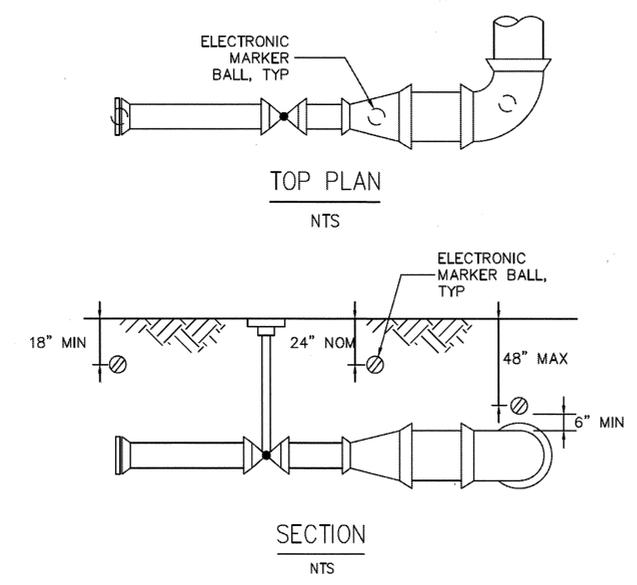
VALVE MARKER IN RIGHT OF WAY (PAVED)  
DETAIL WS-11

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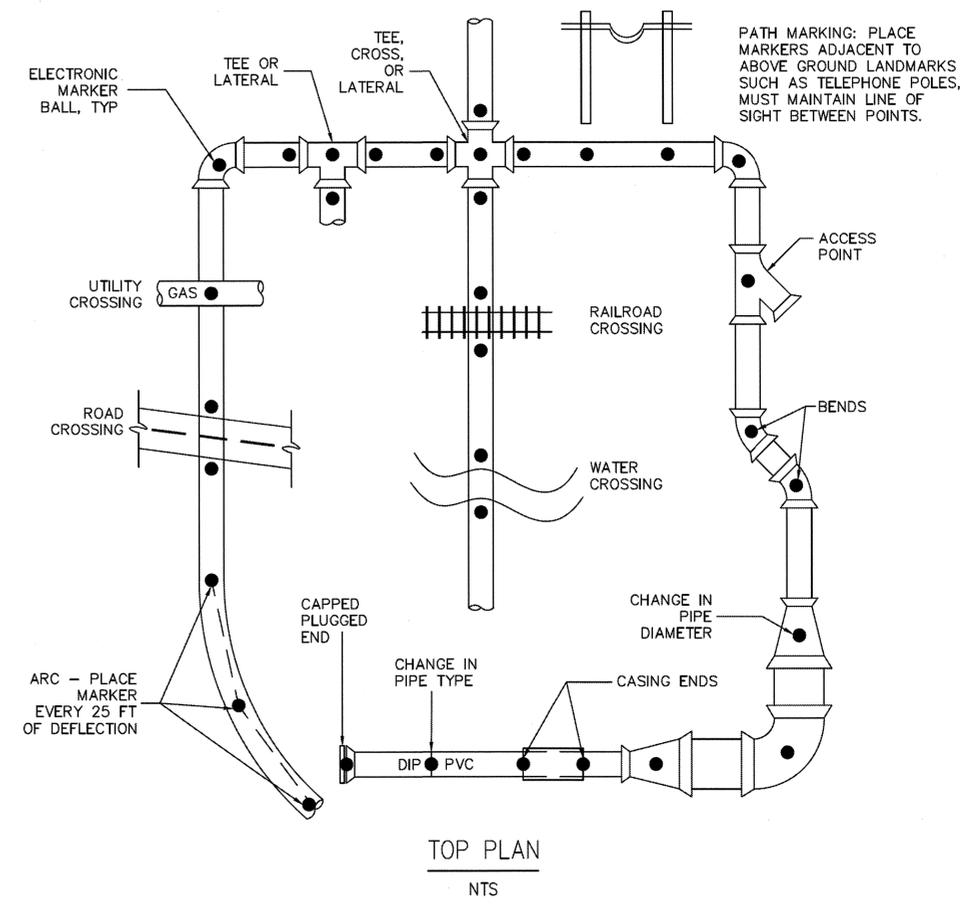
PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UC-3D</b>
DESIGNED BY: <b>MEH</b>	
DRAWN BY: <b>MEH</b>	
CHECKED BY: <b>CDB</b>	
APPROVED BY: <b>CDB</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**

# MARKER BALL DETAILS



- NOTES:**
- ELECTRONIC MARKER BALL MATERIALS SHALL BE AS FOLLOWS:
    - WATER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1403-XR, 4-INCH DIAMETER, BLUE
    - SEWER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1404-XR, 4-INCH DIAMETER, GREEN
    - RECLAIMED WATER - 3M SCOTCHMARK ELECTRONIC MARKER, MODEL # 1404-XR, 4-INCH DIAMETER, PURPLE
  - PLACEMENT SHALL CONFORM TO DETAILS ABOVE. FOR FURTHER GUIDANCE, REFER TO BRUNSWICK COUNTY TECHNICAL SPECIFICATIONS SECTION TITLED "ELECTRONIC MARKER BALLS FOR WATER AND SEWER FORCE MAINS".



**ELECTRONIC MARKER BALL PLACEMENT DETAIL  
DETAIL WS-21**

5/14/99

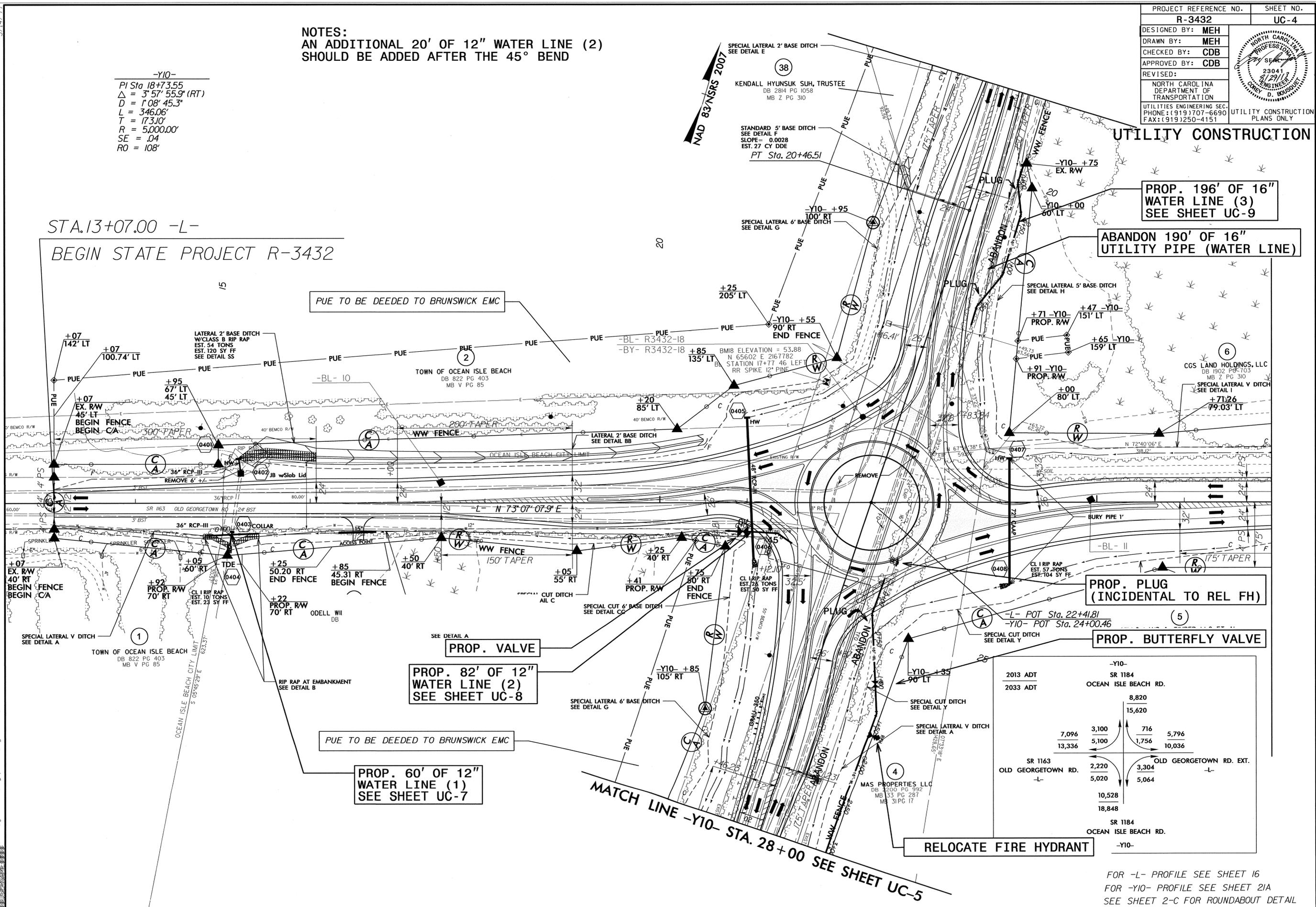
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 MEH



NOTES:  
 AN ADDITIONAL 20' OF 12" WATER LINE (2)  
 SHOULD BE ADDED AFTER THE 45° BEND

-Y10-  
 PI Sta. 18+73.55  
 $\Delta = 3^{\circ} 57' 55.9" (RT)$   
 $D = 1^{\circ} 08' 45.3"$   
 $L = 346.06'$   
 $T = 173.10'$   
 $R = 5,000.00'$   
 $SE = .04$   
 $RO = 108'$

STA. 13+07.00 -L-  
 BEGIN STATE PROJECT R-3432



2013 ADT		2033 ADT	
SR 1184 OCEAN ISLE BEACH RD.			
	8,820		
	15,620		
7,096	3,100	716	5,796
13,336	5,100	1,756	10,036
SR 1163 OLD GEORGETOWN RD.		OLD GEORGETOWN RD. EXT.	
	2,220	3,304	
	5,020	5,064	
	10,528		
	18,848		
SR 1184 OCEAN ISLE BEACH RD.			

FOR -L- PROFILE SEE SHEET 16  
 FOR -Y10- PROFILE SEE SHEET 21A  
 SEE SHEET 2-C FOR ROUNDABOUT DETAIL

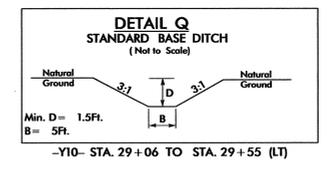
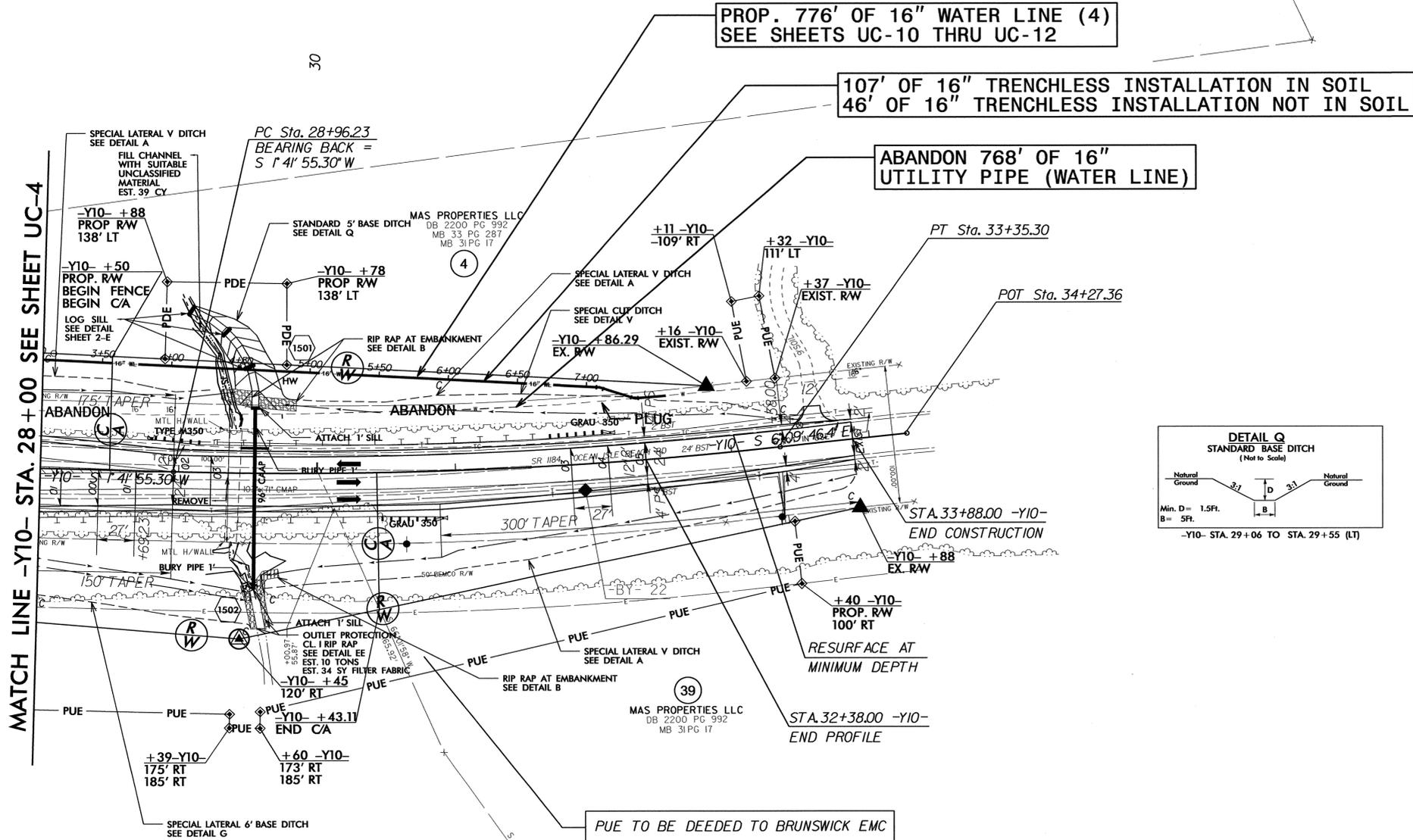
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PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-5
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

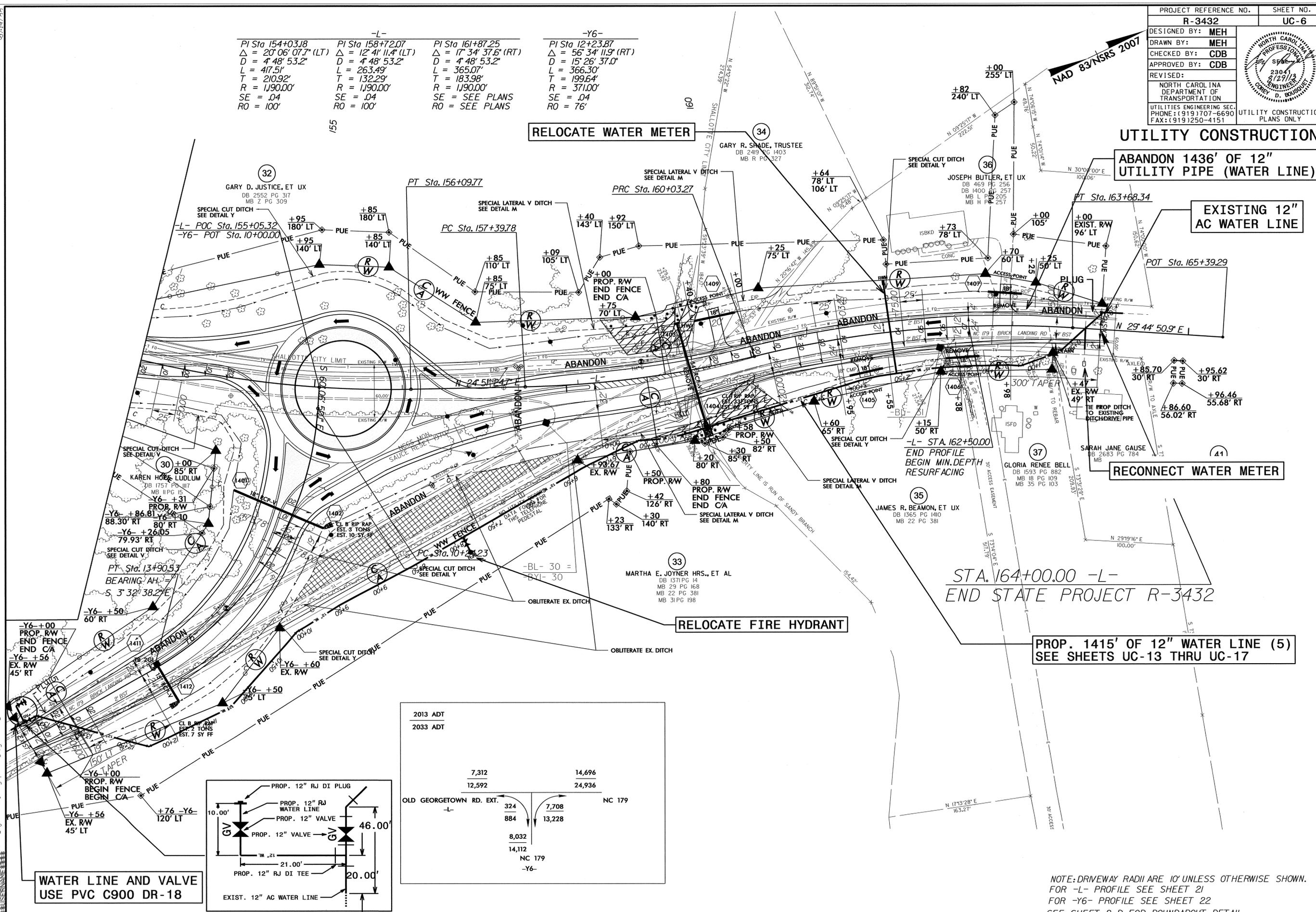
NAD 83/NSRS 2007

UTILITY CONSTRUCTION

-Y10-  
 PI Sta 31+16.11  
 $\Delta = 7^{\circ} 51' 41.7''$  (LT)  
 $D = 1^{\circ} 47' 25.8''$   
 $L = 439.07'$   
 $T = 219.88'$   
 $R = 3,200.00'$   
 $SE = .03$   
 $RO = 81'$



-L-		-Y6-	
PI Sta 154+03.18	PI Sta 158+72.07	PI Sta 161+87.25	PI Sta 12+23.87
$\Delta = 20^{\circ} 06' 07.7" (LT)$	$\Delta = 12^{\circ} 41' 11.4" (LT)$	$\Delta = 17^{\circ} 34' 37.6" (RT)$	$\Delta = 56^{\circ} 34' 11.9" (RT)$
D = 4' 48' 53.2"	D = 4' 48' 53.2"	D = 4' 48' 53.2"	D = 15' 26' 37.0"
L = 417.51'	L = 263.49'	L = 365.07'	L = 366.30'
T = 210.92'	T = 132.29'	T = 183.98'	T = 199.64'
R = 1,190.00'	R = 1,190.00'	R = 1,190.00'	R = 371.00'
SE = .04	SE = .04	SE = .04	SE = .04
RO = 100'	RO = 100'	RO = 100'	RO = 76'



RELOCATE WATER METER

UTILITY CONSTRUCTION  
 ABANDON 1436' OF 12" UTILITY PIPE (WATER LINE)

EXISTING 12" AC WATER LINE

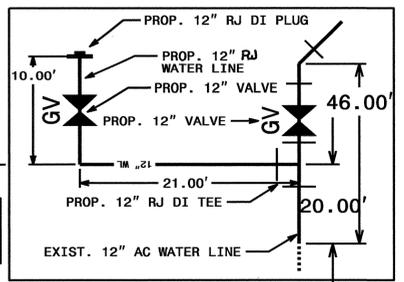
RECONNECT WATER METER

RELOCATE FIRE HYDRANT

STA. 164+00.00 -L-  
 END STATE PROJECT R-3432

PROP. 1415' OF 12" WATER LINE (5)  
 SEE SHEETS UC-13 THRU UC-17

WATER LINE AND VALVE  
 USE PVC C900 DR-18



2013 ADT	2033 ADT
7,312	14,696
12,592	24,936

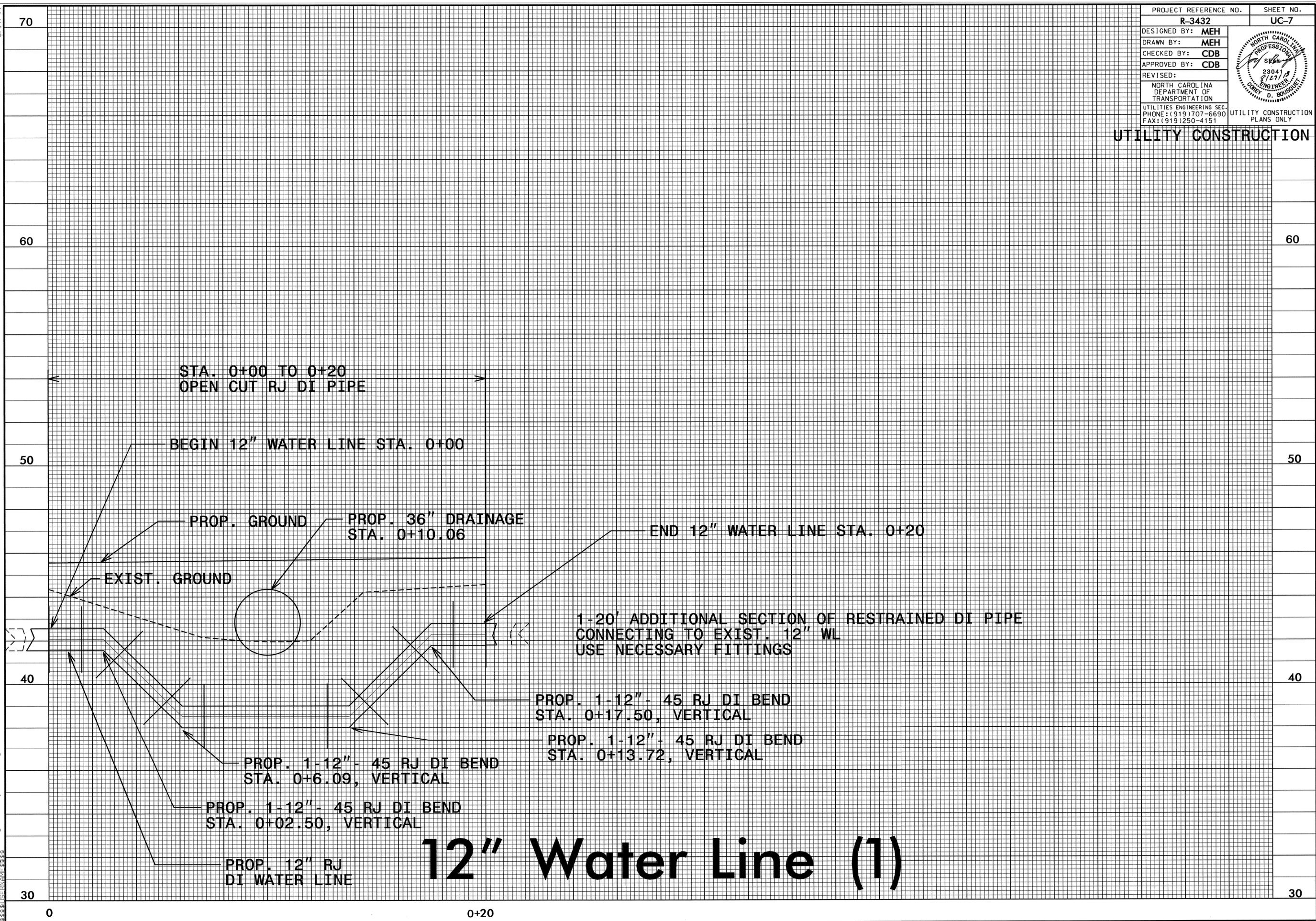
324	7,708	NC 179
884	13,228	
8,032		
14,112		
	NC 179	
	-Y6-	

NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.  
 FOR -L- PROFILE SEE SHEET 21  
 FOR -Y6- PROFILE SEE SHEET 22  
 SEE SHEET 2-D FOR ROUNDABOUT DETAIL

PROJECT REFERENCE NO.	R-3432	SHEET NO.	UC-7
DESIGNED BY:	MEH		
DRAWN BY:	MEH		
CHECKED BY:	CDB		
APPROVED BY:	CDB		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
			UTILITY CONSTRUCTION PLANS ONLY

**UTILITY CONSTRUCTION**

1-20' ADDITIONAL SECTION OF RESTRAINED DI PIPE CONNECTING TO EXIST. 12" WL USE NECESSARY FITTINGS



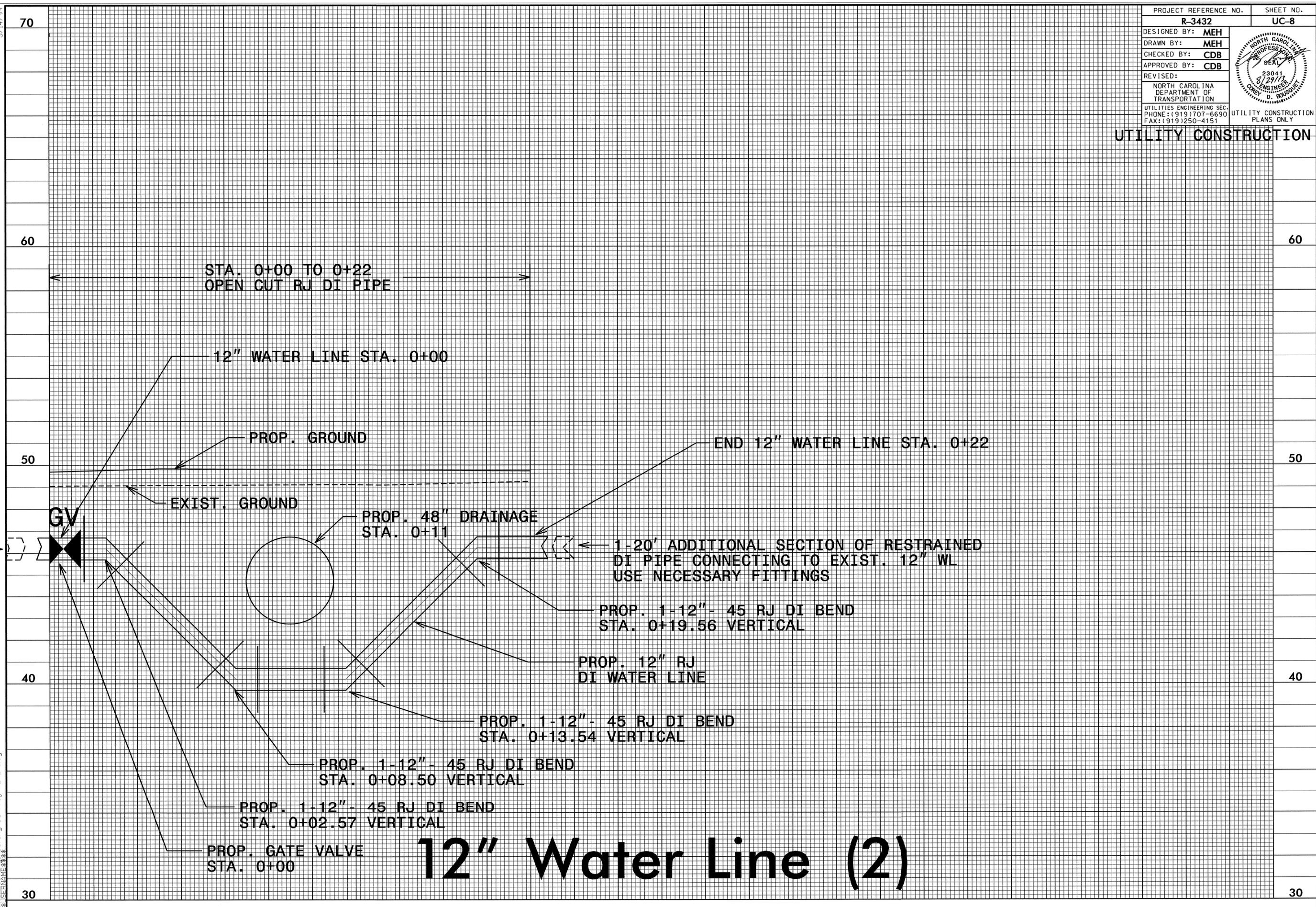
# 12" Water Line (1)

5/14/99  
 28 AUG 2013 17:02  
 R:\01\Engineering\UC\Proj\WL 1A4.dgn  
 \$\$\$DATE\$\$\$\$\$

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-8
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

1-20' ADDITIONAL SECTION OF RESTRAINED DI PIPE CONNECTING TO EXIST. 12" WL USE NECESSARY FITTINGS



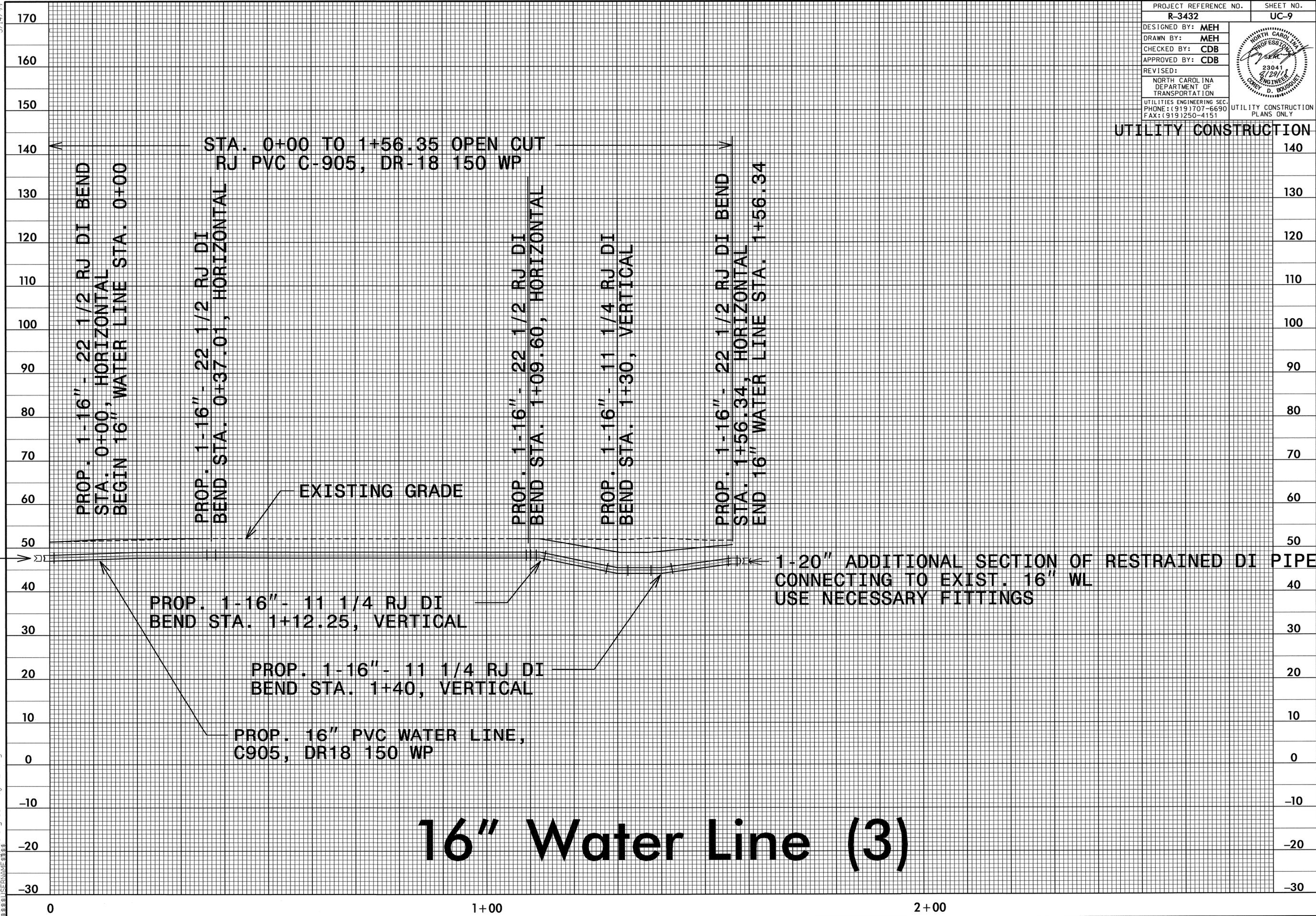
# 12" Water Line (2)

5/14/99

29-AUG-2013 16:56 \\sers\engineering\UC\Proj\WL\_2A1.dgn

1-20" ADDITIONAL SECTION OF RESTRAINED DI PIPE  
CONNECTING TO EXIST. 16" WL  
USE NECESSARY FITTINGS

5/14/99  
29-AUG-2013 11:14  
C:\Users\me\Documents\Engineering\UC\Proj\WL 3.dgn



STA. 0+00 TO 1+56.35 OPEN CUT  
RJ PVC C-905, DR-18 150 WP

PROP. 1-16" - 22 1/2 RJ DI BEND  
STA. 0+00, HORIZONTAL  
BEGIN 16" WATER LINE STA. 0+00

PROP. 1-16" - 22 1/2 RJ DI  
BEND STA. 0+37.01, HORIZONTAL

PROP. 1-16" - 22 1/2 RJ DI  
BEND STA. 1+09.60, HORIZONTAL

PROP. 1-16" - 11 1/4 RJ DI  
BEND STA. 1+30, VERTICAL

PROP. 1-16" - 22 1/2 RJ DI BEND  
STA. 1+56.34, HORIZONTAL  
END 16" WATER LINE STA. 1+56.34

EXISTING GRADE

PROP. 1-16" - 11 1/4 RJ DI  
BEND STA. 1+12.25, VERTICAL

PROP. 1-16" - 11 1/4 RJ DI  
BEND STA. 1+40, VERTICAL

PROP. 16" PVC WATER LINE,  
C905, DR18 150 WP

1-20" ADDITIONAL SECTION OF RESTRAINED DI PIPE  
CONNECTING TO EXIST. 16" WL  
USE NECESSARY FITTINGS

# 16" Water Line (3)

PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UC-9</b>
DESIGNED BY: <b>MEH</b>	
DRAWN BY: <b>MEH</b>	
CHECKED BY: <b>CDB</b>	
APPROVED BY: <b>CDB</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

0

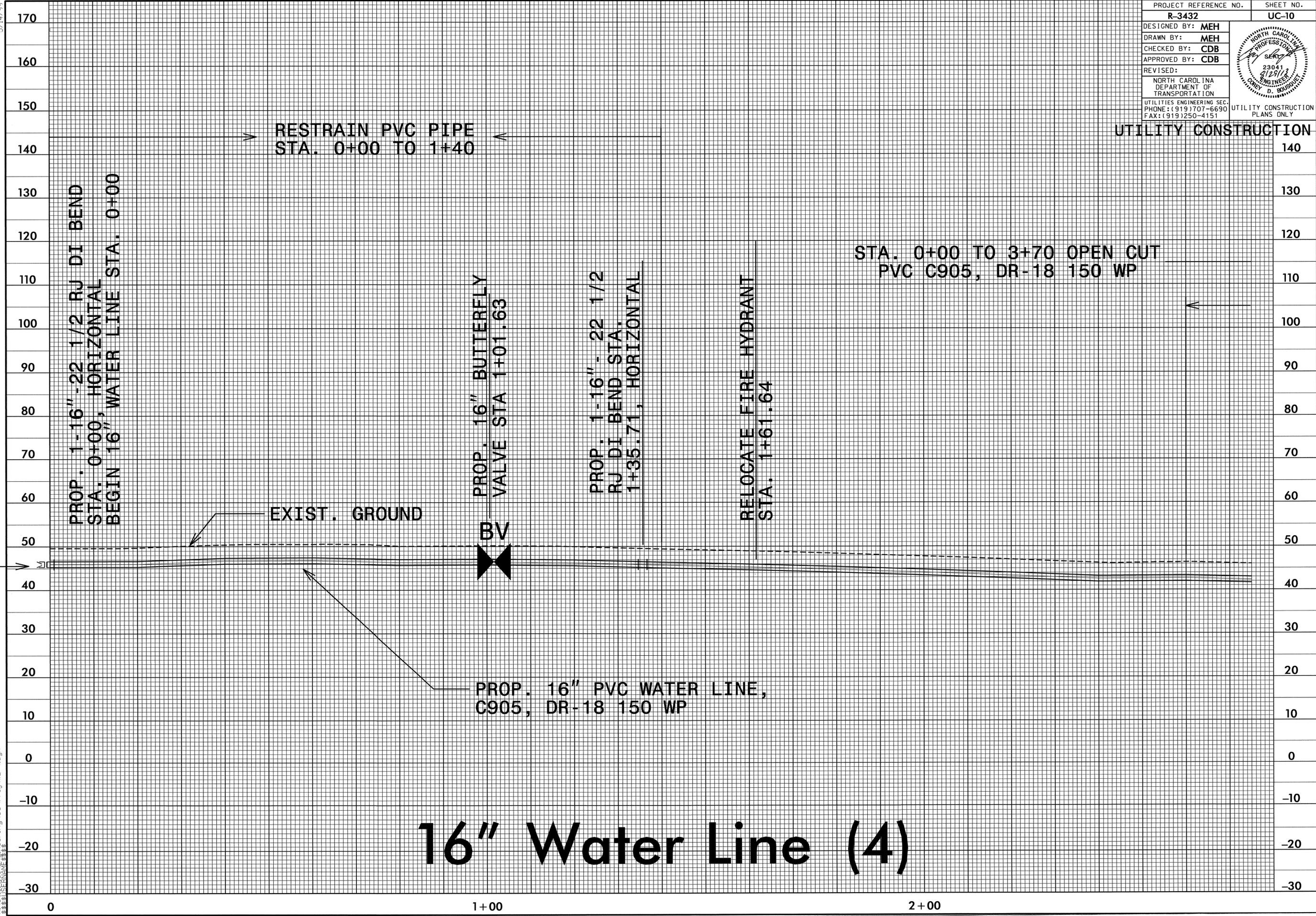
1+00

2+00

170  
160  
150  
140  
130  
120  
110  
100  
90  
80  
70  
60  
50  
40  
30  
20  
10  
0  
-10  
-20  
-30

1-20' ADDITIONAL SECTION OF RESTRAINED DI PIPE  
CONNECTING TO EXIST. 16" WL  
USE NECESSARY FITTINGS

5/14/99  
29-AUG-2013 11:30  
S:\AUG-2013\11:30\Engineering\UC\Proj\WL 4.dgn



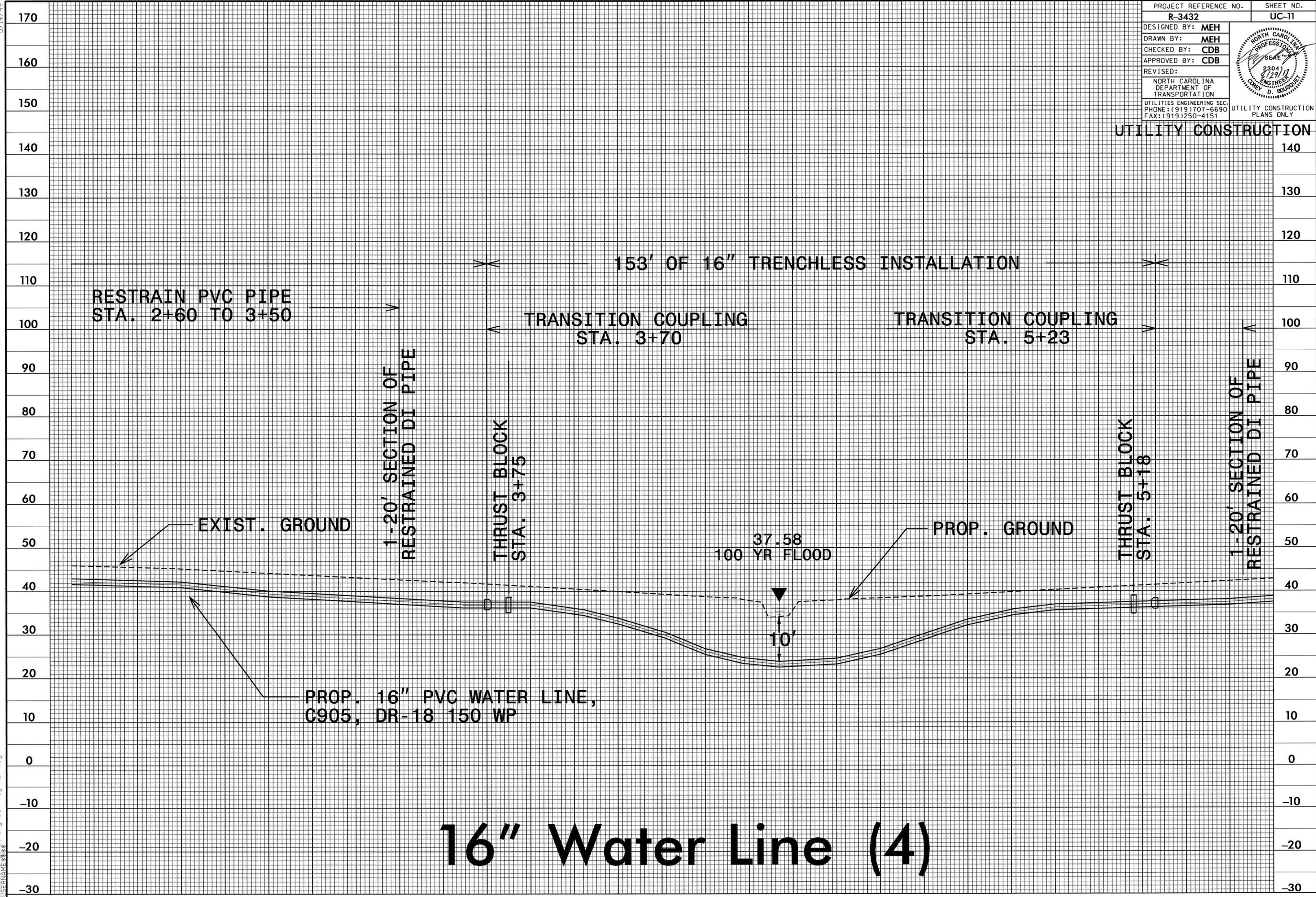
PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UC-10</b>
DESIGNED BY: <b>MEH</b>	
DRAWN BY: <b>MEH</b>	
CHECKED BY: <b>CDB</b>	
APPROVED BY: <b>CDB</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

# 16" Water Line (4)

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-11
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



# 16" Water Line (4)

29-Aug-2013 17:30  
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S:\Projects\Engineering\UC\Proj\WL\_4.dgn

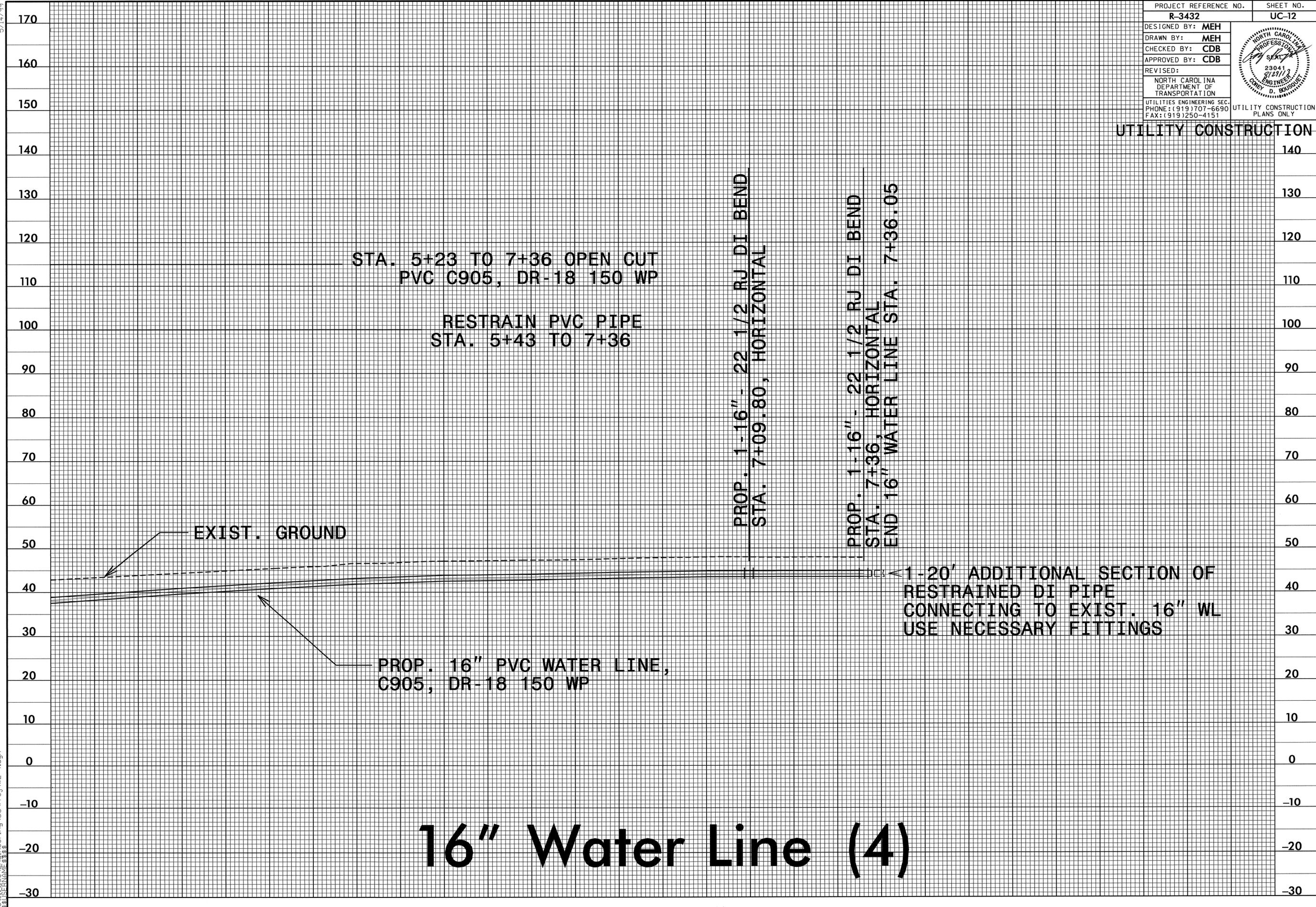
3+00

4+00

5+00

5/14/99

29-AUG-2013 10:11 AM  
C:\Users\bill\Documents\Engineering\UC\Proj\WL 4.dgn



PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-12
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION

STA. 5+23 TO 7+36 OPEN CUT  
PVC C905, DR-18 150 WP

RESTRAIN PVC PIPE  
STA. 5+43 TO 7+36

PROP. 1-16" - 22 1/2 RJ DI BEND  
STA. 7+09.80, HORIZONTAL

PROP. 1-16" - 22 1/2 RJ DI BEND  
STA. 7+36, HORIZONTAL  
END 16" WATER LINE STA. 7+36.05

EXIST. GROUND

PROP. 16" PVC WATER LINE,  
C905, DR-18 150 WP

1-20' ADDITIONAL SECTION OF  
RESTRAINED DI PIPE  
CONNECTING TO EXIST. 16" WL  
USE NECESSARY FITTINGS

# 16" Water Line (4)

6+00

7+00

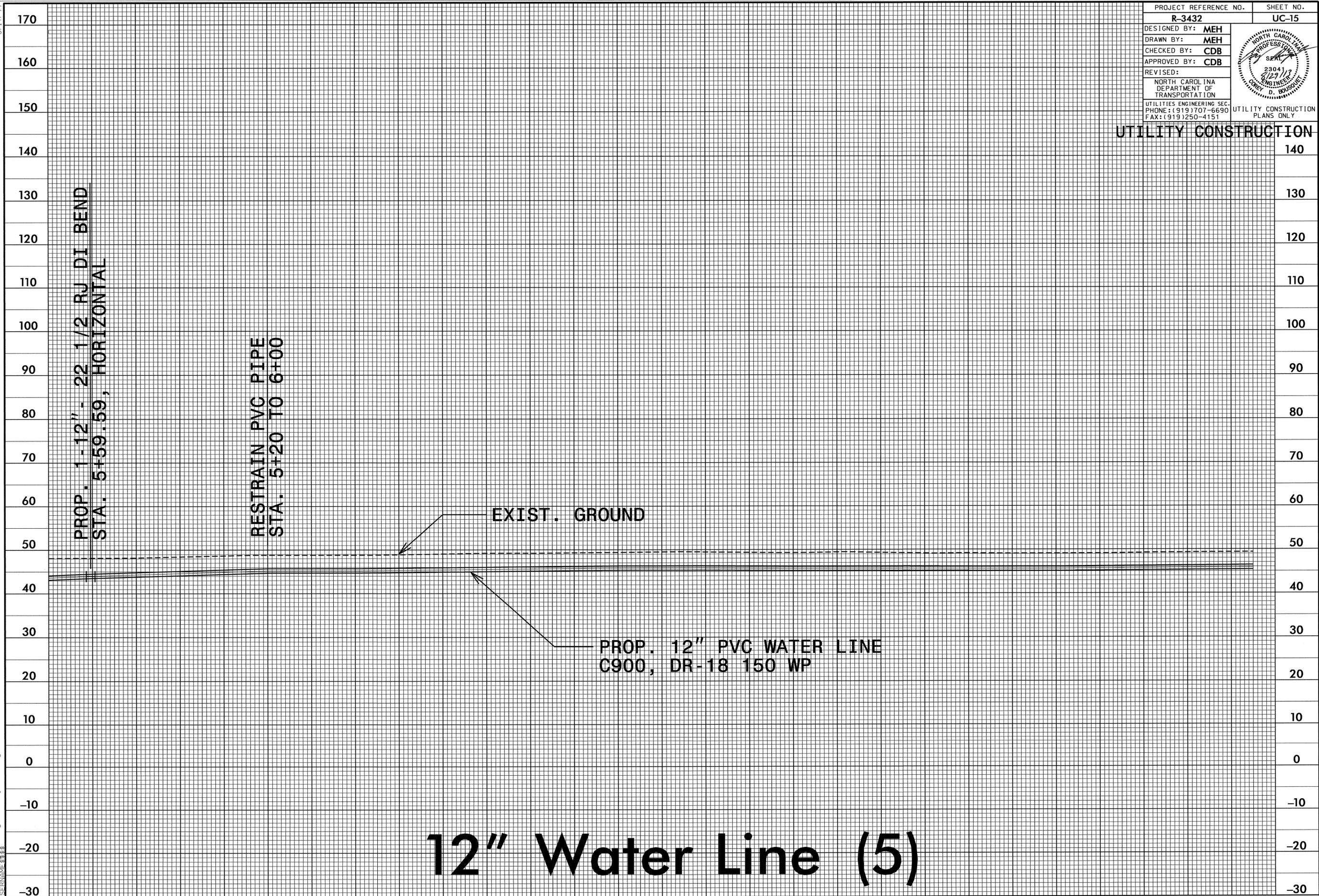




5/14/99

PROJECT REFERENCE NO.	R-3432	SHEET NO.	UC-15
DESIGNED BY:	MEH		
DRAWN BY:	MEH		
CHECKED BY:	CDB		
APPROVED BY:	CDB		
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
		UTILITY CONSTRUCTION PLANS ONLY	

**UTILITY CONSTRUCTION**



PROP. 1-12" - 22 1/2 RJ DI BEND  
STA. 5+59.59, HORIZONTAL

RESTRAIN PVC PIPE  
STA. 5+20 TO 6+00

EXIST. GROUND

PROP. 12" PVC WATER LINE  
C900, DR-18 150 WP

# 12" Water Line (5)

6+00

7+00

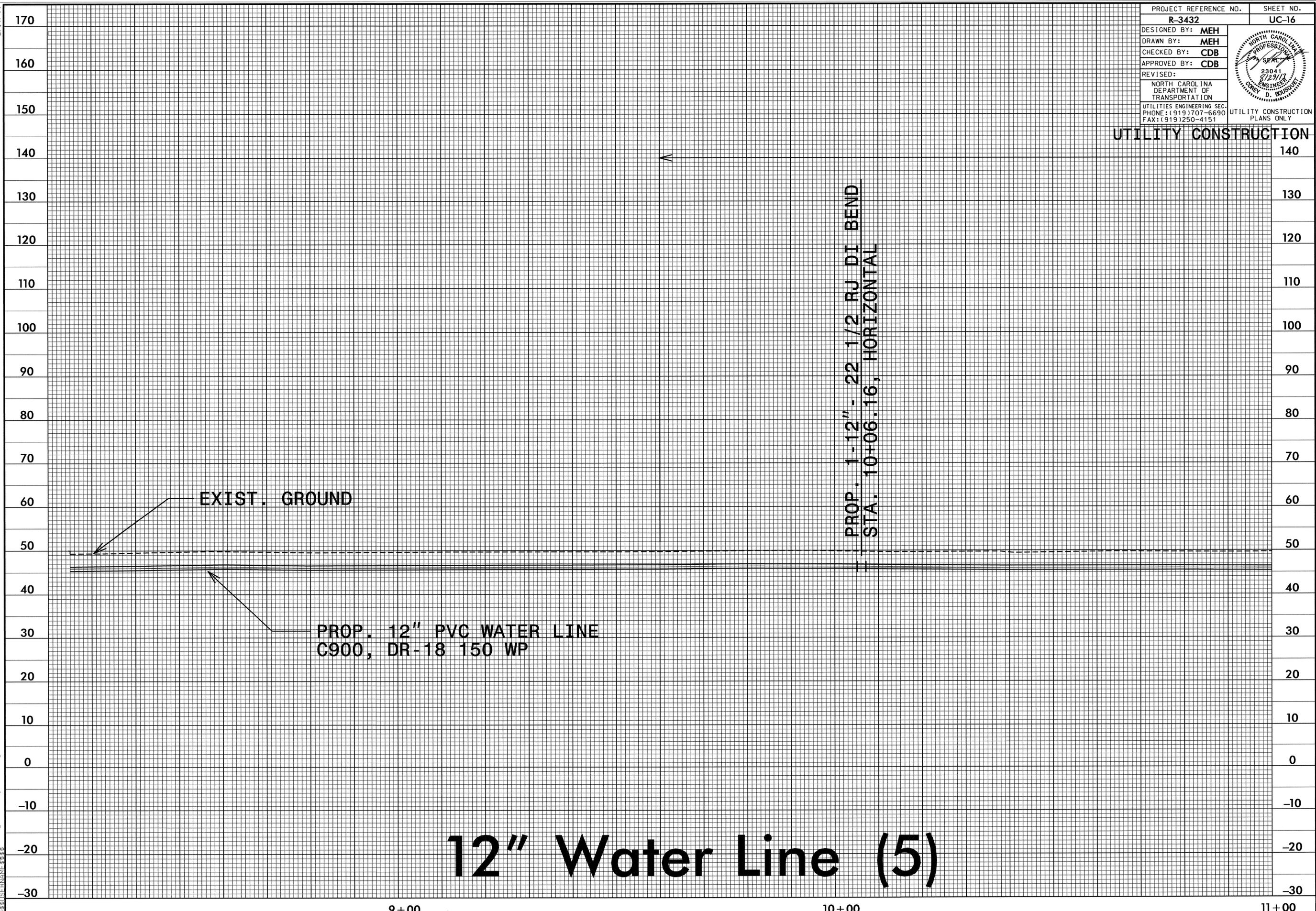
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20-AUG-2013 11:47 AM  
C:\Users\meah\Documents\Projects\UC\Proj\WL 51.dgn

5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-16
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILITY CONSTRUCTION PLANS ONLY

### UTILITY CONSTRUCTION



PROP. 1-12" - 22 1/2 RJ DI BEND  
 STA. 10+06.16, HORIZONTAL

# 12" Water Line (5)

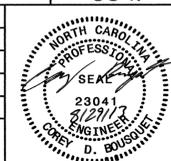
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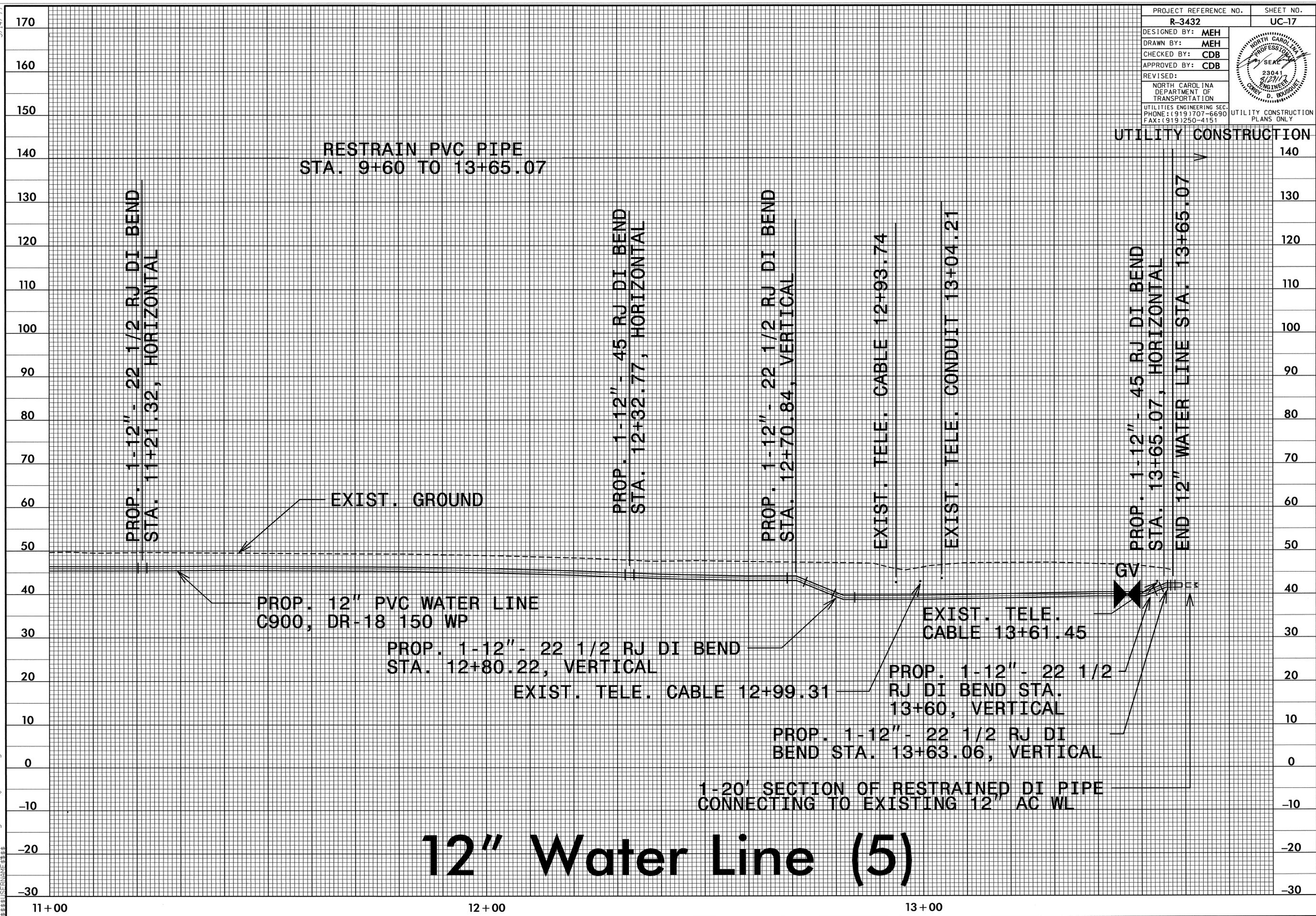
10+00

11+00

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5/14/99  
23-AUG-2013 17:46  
C:\Users\me\Documents\Engineering\UC\Proj\WL 51.dgn

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UC-17
DESIGNED BY: MEH	
DRAWN BY: MEH	
CHECKED BY: CDB	
APPROVED BY: CDB	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



09/08/99

See Sheet 1-A For Index of Sheets  
See Sheet 1-B For Conventional symbols

T.I.P. NO.	SHEET NO.
R-3432	UO-1

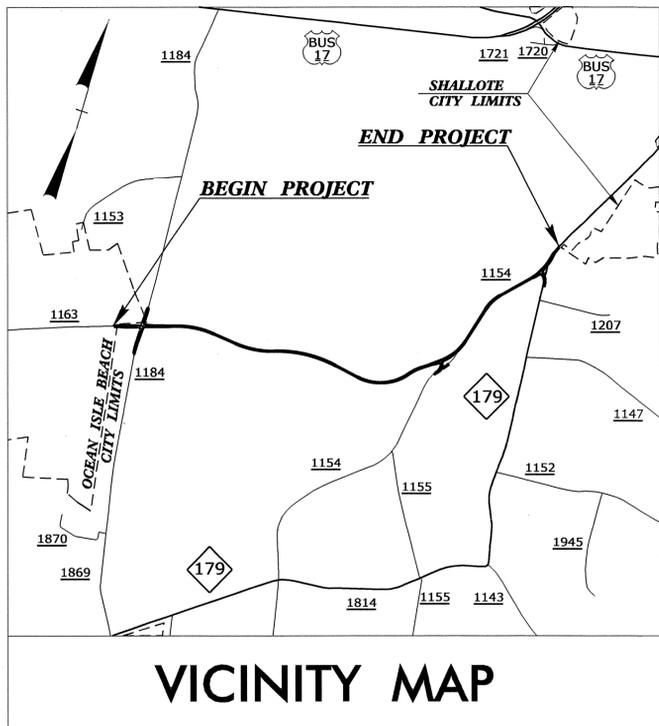
STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

**UTILITIES BY OTHERS PLANS  
BRUNSWICK COUNTY**

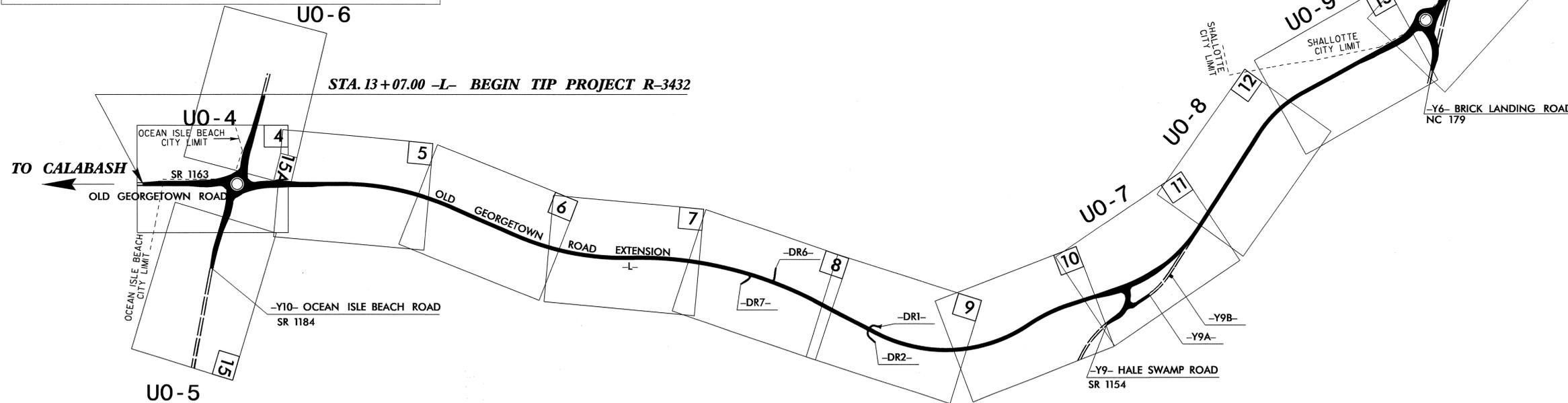
**LOCATION: SR 1163 (OLD GEORGETOWN ROAD EXTENSION)  
FROM SR 1184 (OCEAN ISLE BEACH ROAD) TO NC 179**

**TYPE OF WORK: RELOCATION OF POWER, TELEPHONE AND CABLE LINES**

STA. 164+00.00 -L- END TIP PROJECT R-3432



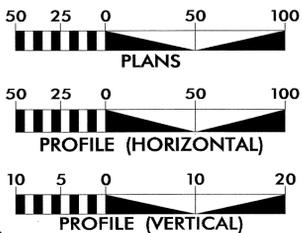
VICINITY MAP



THIS IS A PARTIAL CONTROLLED-ACCESS PROJECT WITH ACCESS BEING LIMITED TO POINTS AS SHOWN ON THE PLANS.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF OCEAN ISLE BEACH AND SHALLOTTE.  
CLEARING ON THIS PROJECT SHALL BE PERFORMED TO THE LIMITS ESTABLISHED BY METHOD III.

TIP PROJECT: R-3432

**GRAPHIC SCALES**



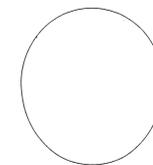
**INDEX OF SHEETS**

SHEET NO.	DESCRIPTION
UC-1	TITLE SHEET
UBO-4 THRU UBO-10	UTILITIES BY OTHERS SHEETS
UBO-11 THUR UBO-15	PROFILE SHEETS

**UTILITIES OWNERS ON PROJECT**

- ATLANTIC TELEPHONE MEMBERSHIP CORPORATION
- BRUNSWICK ELECTRIC MEMBERSHIP CORPORATION

SEAL



PREPARED IN THE OFFICE OF:  
DIVISION OF HIGHWAYS  
UTILITIES UNIT  
UTILITIES ENGINEERING

1591 MAIL SERVICES CENTER  
RALEIGH NC 27699-1591  
PHONE (919) 707-6690  
FAX (919) 250-4151

Roger Worthington, P.E. UTILITIES SECTION ENGINEER  
Corey Bousquet, P.E. UTILITIES SQUAD LEADER PROJECT ENGINEER  
Mariko Hafeez UTILITIES PROJECT DESIGNER

03-SEP-2013 07:42  
R:\Utilities\Engineering\UBO\Proj\NR-3432\_Ut\_Title\_UBO1.psh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$



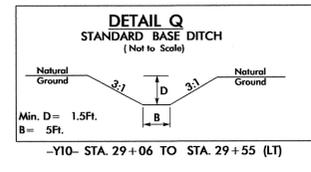
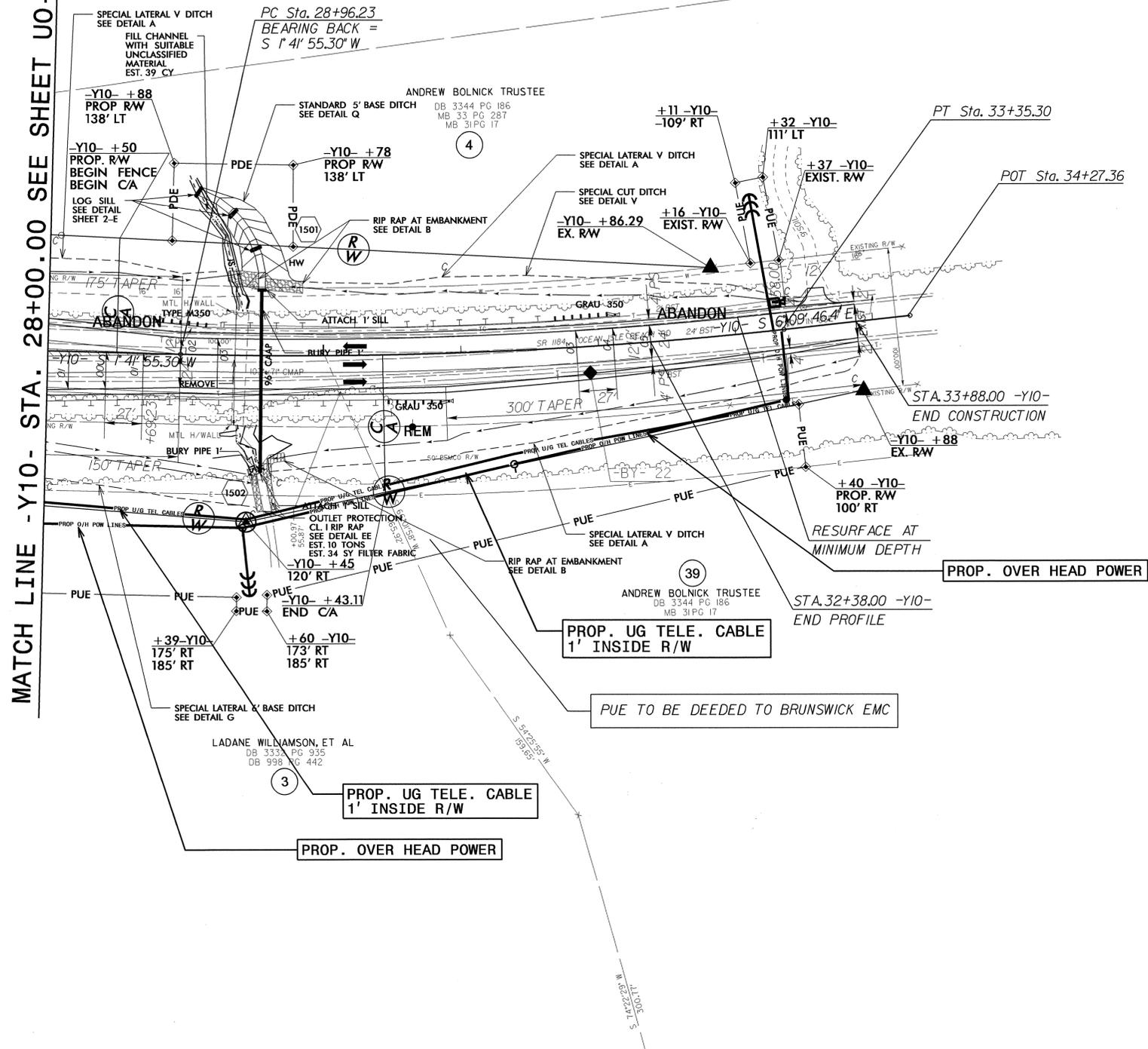
### UTILITIES BY OTHERS

NOTE:  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS



-Y10-  
PI Sta 31+16.11  
 $\Delta = 7^{\circ} 51' 41.7''$  (LT)  
 $D = 1^{\circ} 47' 25.8''$   
 $L = 439.07'$   
 $T = 219.88'$   
 $R = 3,200.00'$   
 $SE = .03$   
 $RO = 8'$

MATCH LINE -Y10- STA. 28+00.00 SEE SHEET U0-4

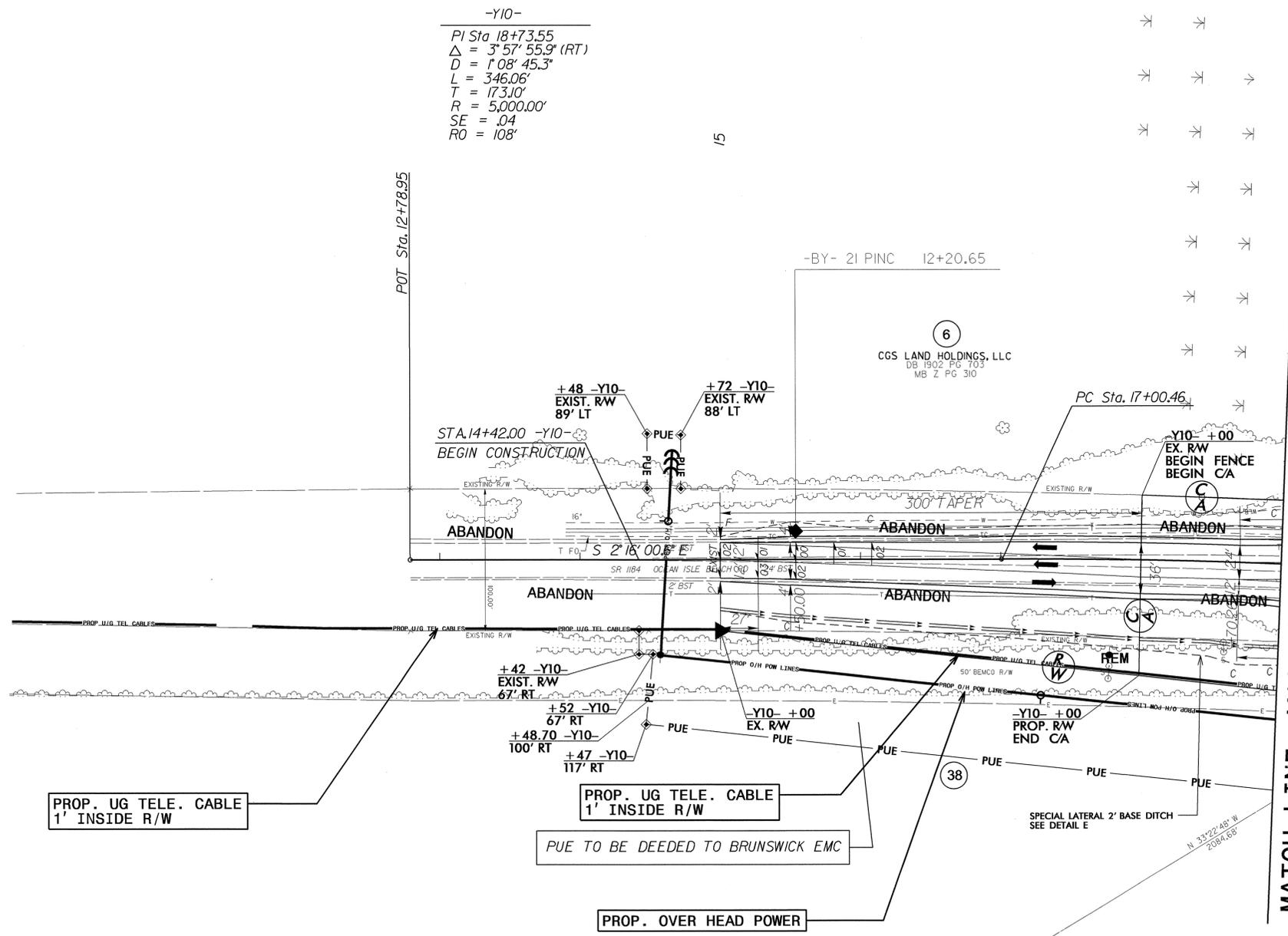


5/14/99  
11-SEP-2015 11:28  
X:\ENGINEERING\U0\U05\Proj\NR3432\_ut\_r.dwg U05\_psh.dgn  
\$\$\$\$\$USERNAME\$\$\$\$\$

### UTILITIES BY OTHERS

**NOTE:**  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS

-Y10-  
PI Sta 18+73.55  
 $\Delta = 3^{\circ} 57' 55.9''$  (RT)  
D = 1' 08' 45.3"  
L = 346.06'  
T = 173.10'  
R = 5,000.00'  
SE = .04  
RO = 108'



MATCH LINE -Y10- STA. 19+00.00 SEE SHEET U0-4

PROP. UG TELE. CABLE  
1' INSIDE R/W

PROP. UG TELE. CABLE  
1' INSIDE R/W

PUE TO BE DEEDED TO BRUNSWICK EMC

PROP. OVER HEAD POWER

SPECIAL LATERAL 2' BASE DITCH  
SEE DETAIL E

5/14/99

IF-SEP-2013 11:34  
I:\Projects\2013\11834\Proj\N3432.ut\_rdy15A\_U06\_pah.dgn

UTILITIES BY OTHERS

NOTE:  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS

-L-  
PI Sta 119+40.44  
Δ = 39° 34' 10.4" (LT)  
D = 3' 49' 11.0"  
L = 1,035.93'  
T = 539.58'  
R = 1,500.00'  
SE = .04  
RO = 108'

2013 ADT	2033 ADT
5,796	7,312
10,036	12,592

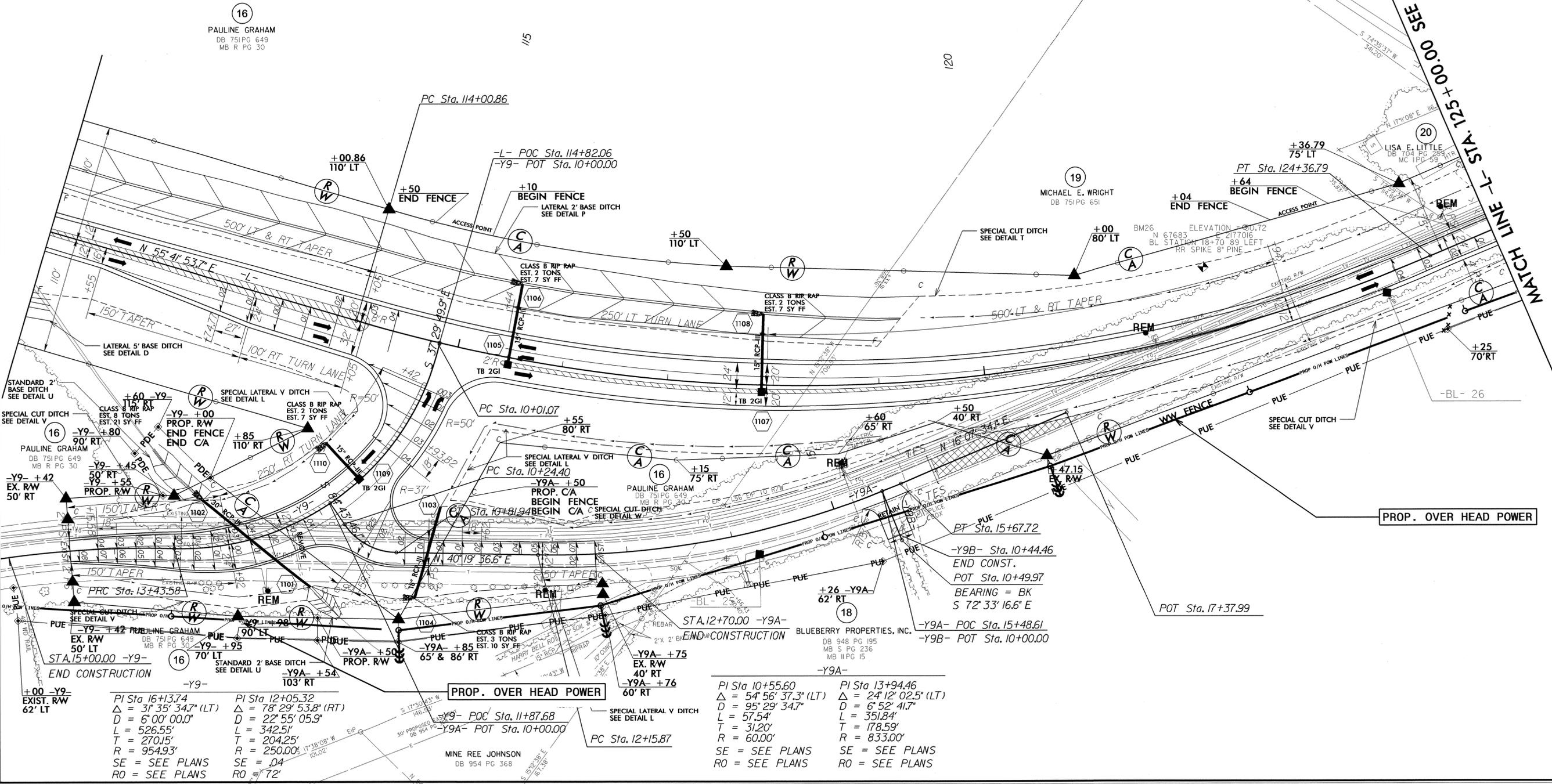
  

OLD GEORGETOWN RD. EXT.	OLD GEORGETOWN RD. EXT.
320	1,836
1,120	3,676
2,156	
4,796	

SR 1154  
HALE SWAMP RD.  
-Y9-

SHEFFIELD SEAFOOD & GROCERY, INC  
DB 1503 PG 859  
MB R PG 90

NAD 83/NSRS 2000  
SEE SHEET U0-8  
MATCH LINE - STA 125+00.00 SEE SHEET U0-7



PAULINE GRAHAM  
DB 751 PG 649  
MB R PG 30

MICHAEL E. WRIGHT  
DB 751 PG 651

LISA E. LITTLE  
DB 704 PG 283  
MC 1 PG 59

PI Sta 10+55.60  
Δ = 54° 56' 37.3" (LT)  
D = 95' 29' 34.7"  
L = 57.54'  
T = 31.20'  
R = 60.00'  
SE = SEE PLANS  
RO = SEE PLANS

PI Sta 13+94.46  
Δ = 24° 12' 02.5" (LT)  
D = 6' 52' 41.7"  
L = 351.84'  
T = 178.59'  
R = 833.00'  
SE = SEE PLANS  
RO = SEE PLANS

PI Sta 16+13.74  
Δ = 31° 35' 34.7" (LT)  
D = 6' 00' 00.0"  
L = 526.55'  
T = 270.15'  
R = 954.93'  
SE = SEE PLANS  
RO = SEE PLANS

PI Sta 12+05.32  
Δ = 78° 29' 53.8" (RT)  
D = 22' 55' 05.9"  
L = 342.51'  
T = 204.25'  
R = 250.00'  
SE = .04  
RO = 72'

PI Sta 11+87.68  
Δ = 17° 38' 08" W  
D = 101.02'  
L = 101.02'  
T = 101.02'  
R = 101.02'  
SE = .04  
RO = 72'

03-SEP-2013 07:52 \\proj\proj\3432\U00\_rdy\_psh.dgn

UTILITIES BY OTHERS

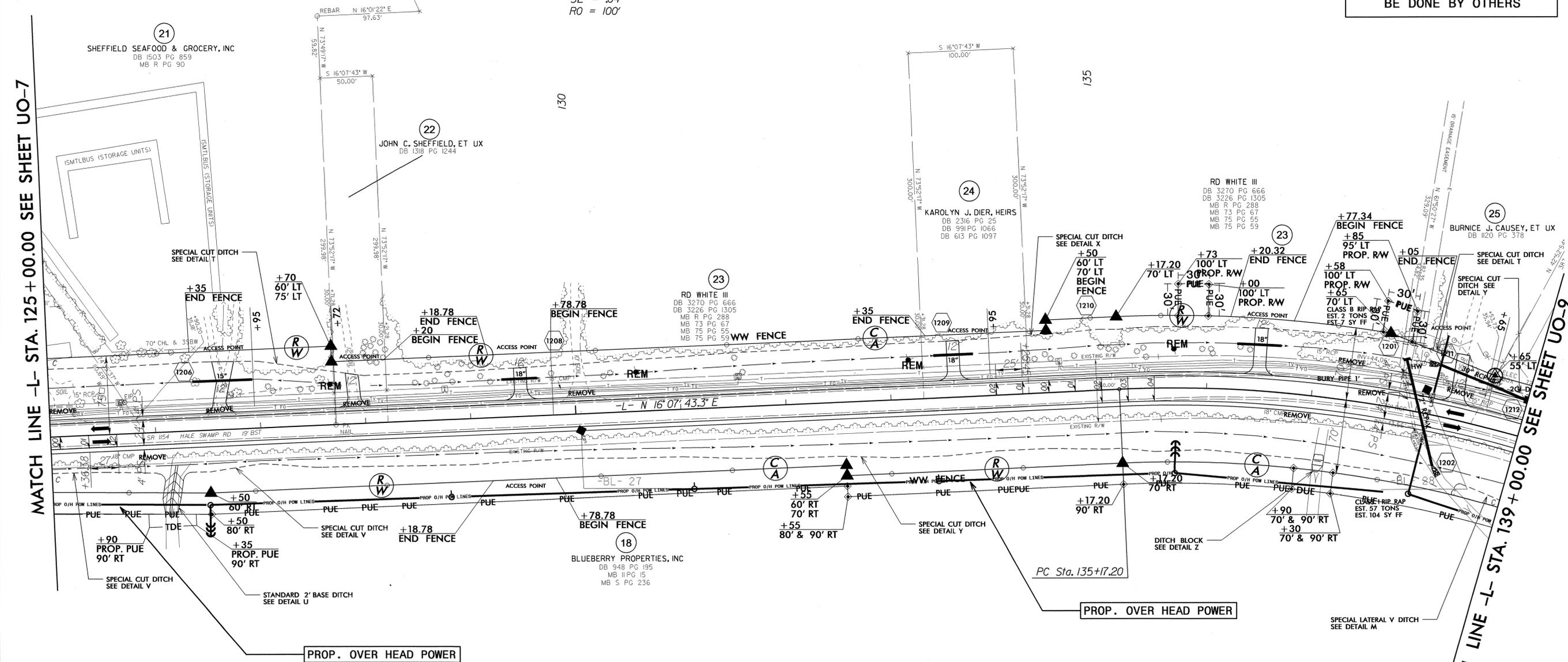
NOTE:  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS

NAD 83/NSRS 2007

-L-  
PI Sta 138+23.07  
 $\Delta = 28^{\circ} 49' 49.1''$  (RT)  
 $D = 4' 48.532''$   
 $L = 598.79'$   
 $T = 305.88'$   
 $R = 1,190.00'$   
 $SE = .04$   
 $RO = 100'$

MATCH LINE -L- STA. 125 + 00.00 SEE SHEET UO-7

MATCH LINE -L- STA. 139 + 00.00 SEE SHEET UO-9



5/14/99

03-SEP-2013 07:54  
C:\Users\jg\Documents\Projects\R3432\_U80\_r-dy\_psh\_12.dgn

UTILITIES BY OTHERS

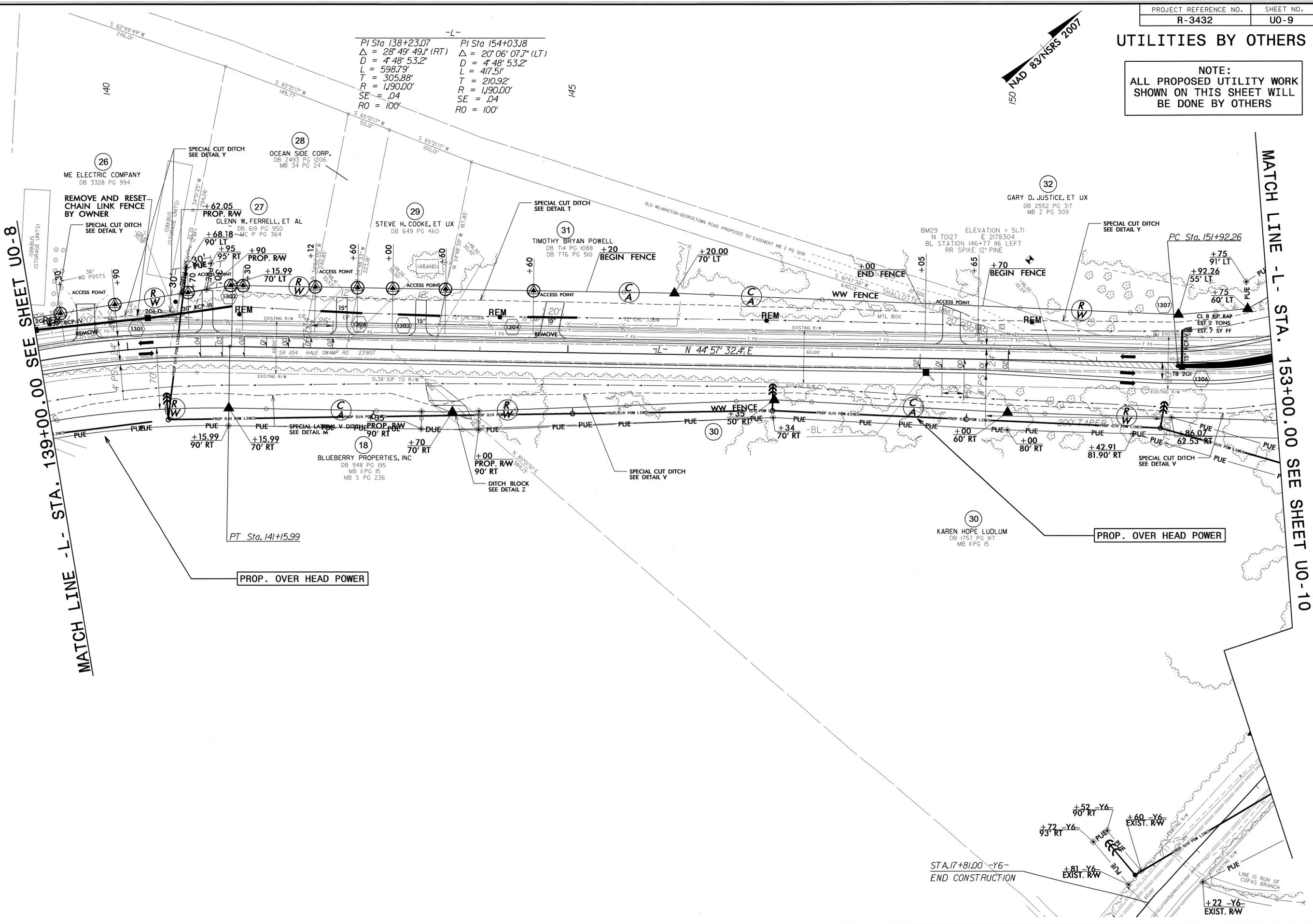
NOTE:  
ALL PROPOSED UTILITY WORK  
SHOWN ON THIS SHEET WILL  
BE DONE BY OTHERS



-L-  
 PI Sta 138+23.07 PI Sta 154+03.18  
 $\Delta = 28^{\circ} 49' 49''$  (RT)  $\Delta = 20^{\circ} 06' 07.7''$  (LT)  
 $D = 4' 48' 53.2''$   $D = 4' 48' 53.2''$   
 $L = 598.79'$   $L = 417.51'$   
 $T = 305.88'$   $T = 210.92'$   
 $R = 1,190.00'$   $R = 1,190.00'$   
 $SE = .04$   $RO = 100'$   
 $RO = 100'$

MATCH LINE -L- STA. 139+00.00 SEE SHEET U0-8

MATCH LINE -L- STA. 153+00.00 SEE SHEET U0-10

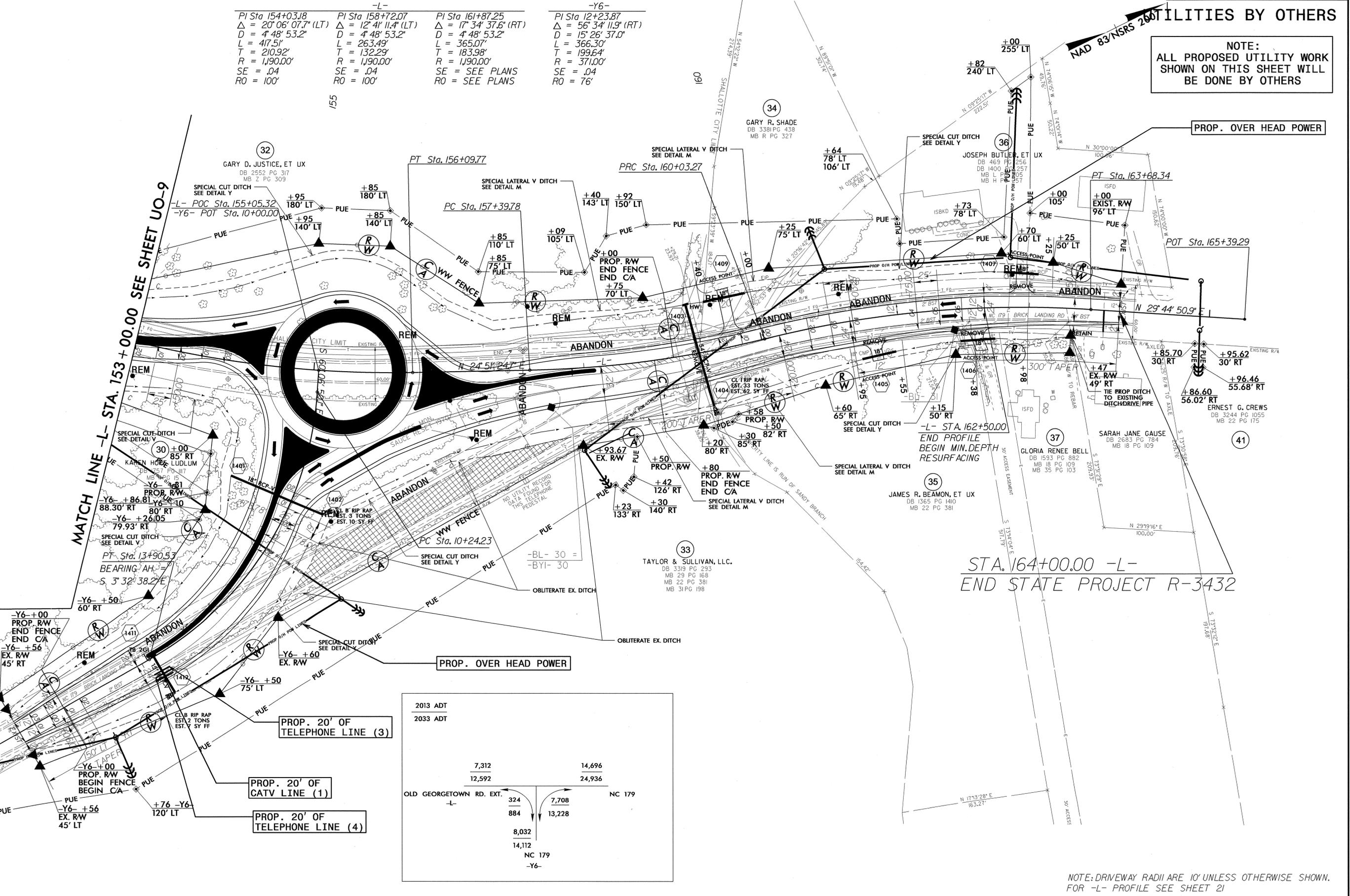


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NOTE:  
ALL PROPOSED UTILITY WORK SHOWN ON THIS SHEET WILL BE DONE BY OTHERS

-L-			-Y6-		
PI Sta 154+03.8	PI Sta 158+72.07	PI Sta 161+87.25	PI Sta 12+23.87		
$\Delta = 20^{\circ}06'07.7''$ (LT)	$\Delta = 12^{\circ}41'11.4''$ (LT)	$\Delta = 17^{\circ}34'37.6''$ (RT)	$\Delta = 56^{\circ}34'11.9''$ (RT)		
D = 4'48'53.2"	D = 4'48'53.2"	D = 4'48'53.2"	D = 15'26'37.0"		
L = 417.51'	L = 263.49'	L = 365.07'	L = 366.30'		
T = 210.92'	T = 132.29'	T = 183.98'	T = 199.64'		
R = 1,190.00'	R = 1,190.00'	R = 1,190.00'	R = 371.00'		
SE = .04	SE = .04	SE = SEE PLANS	SE = .04		
RO = 100'	RO = 100'	RO = SEE PLANS	RO = 76'		

MATCH LINE -L- STA. 153+00.00 SEE SHEET U0-9



2013 ADT	7,312	14,696
2033 ADT	12,592	24,936
OLD GEORGETOWN RD. EXT. -L-	324	7,708
	884	13,228
	8,032	
	14,112	
	NC 179	
	-Y6-	

STA. 164+00.00 -L-  
END STATE PROJECT R-3432

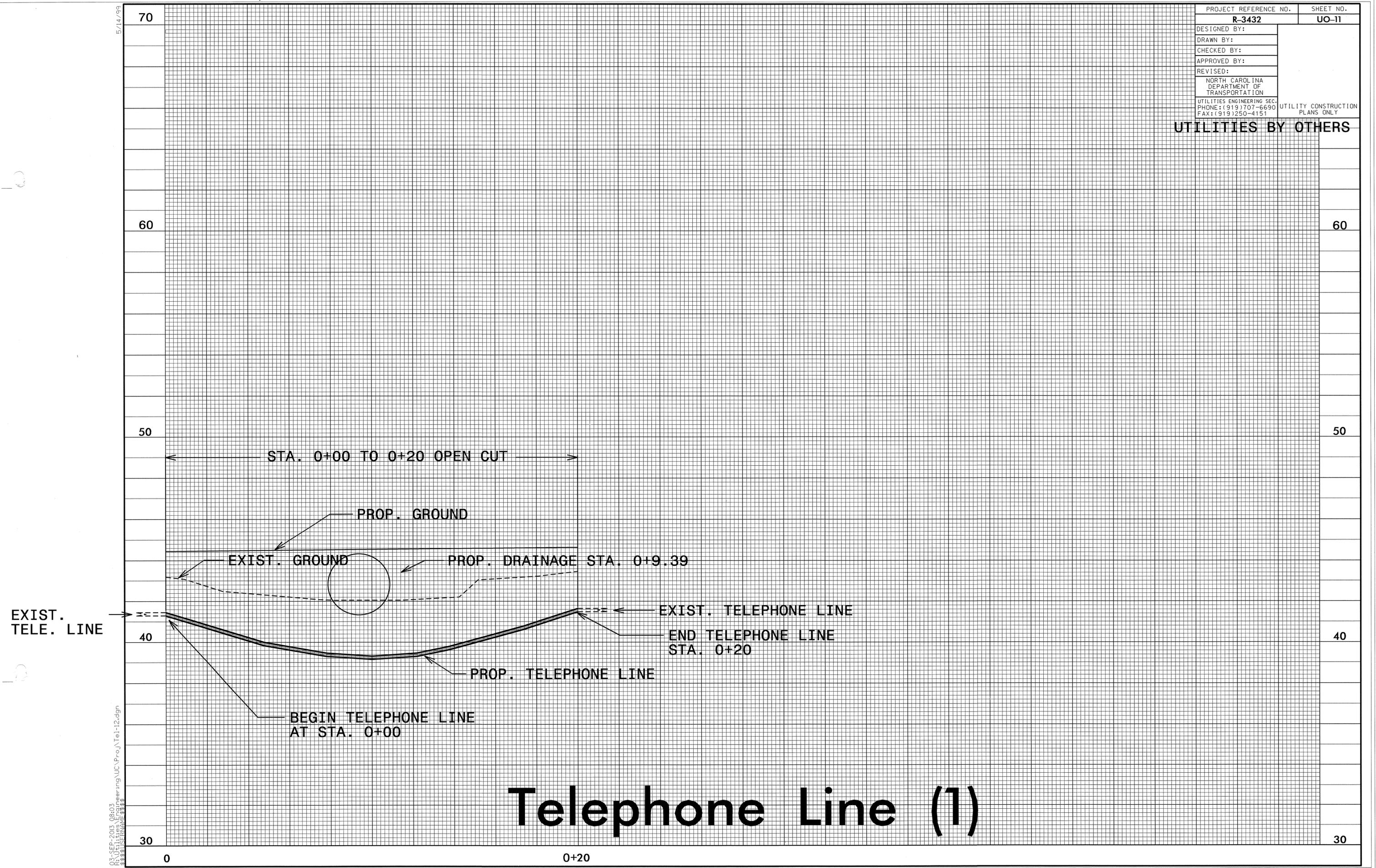
NOTE: DRIVEWAY RADII ARE 10' UNLESS OTHERWISE SHOWN.  
FOR -L- PROFILE SEE SHEET 21  
FOR -Y6- PROFILE SEE SHEET 22  
SEE SHEET 2-D FOR ROUNDABOUT DETAIL

5/14/99

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\$\$\$\$\$SYTIME\$\$\$\$\$

PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UO-11</b>
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	

### UTILITIES BY OTHERS



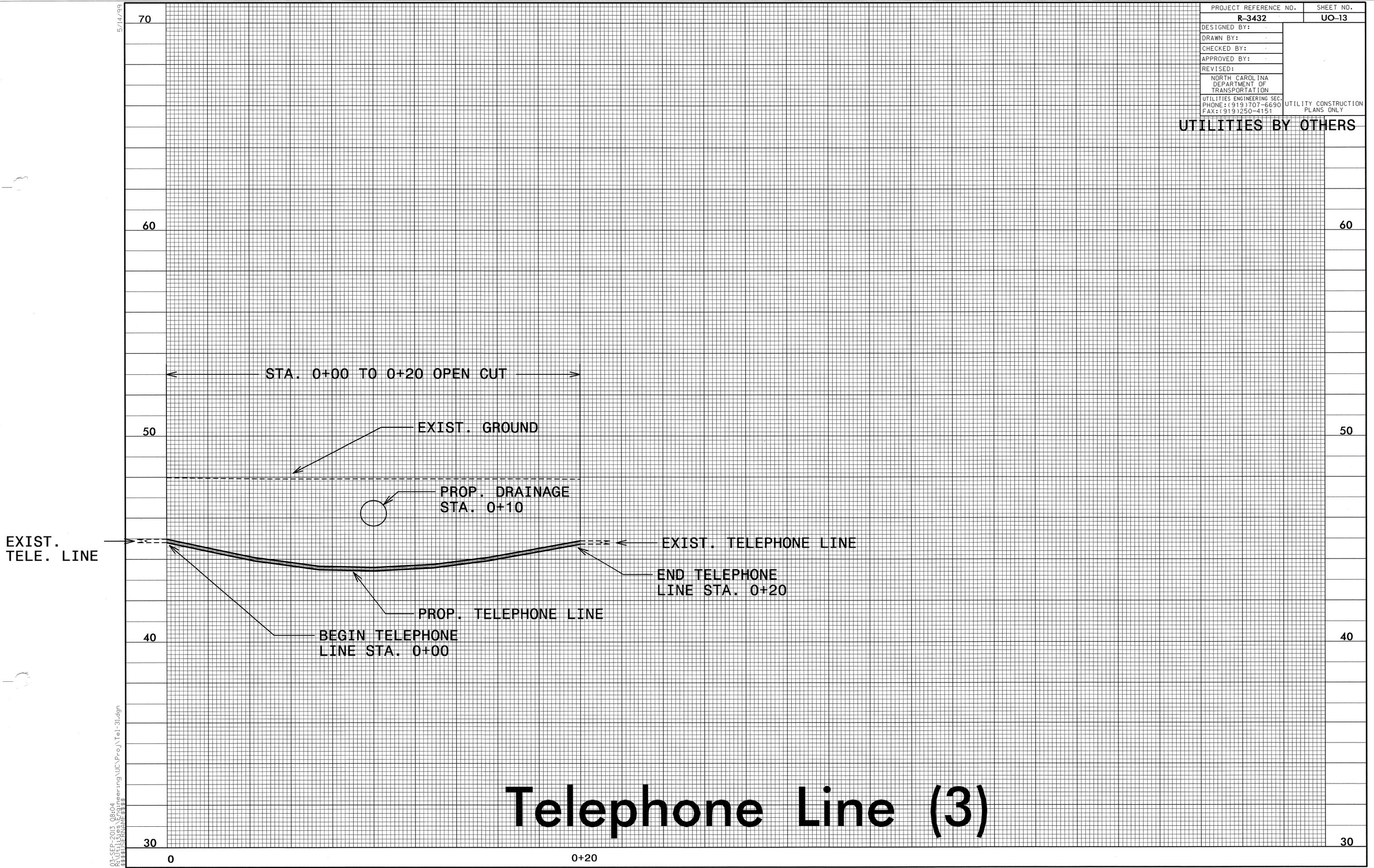
# Telephone Line (1)



5/14/99

PROJECT REFERENCE NO. <b>R-3432</b>	SHEET NO. <b>UO-13</b>
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

**UTILITIES BY OTHERS**



# Telephone Line (3)

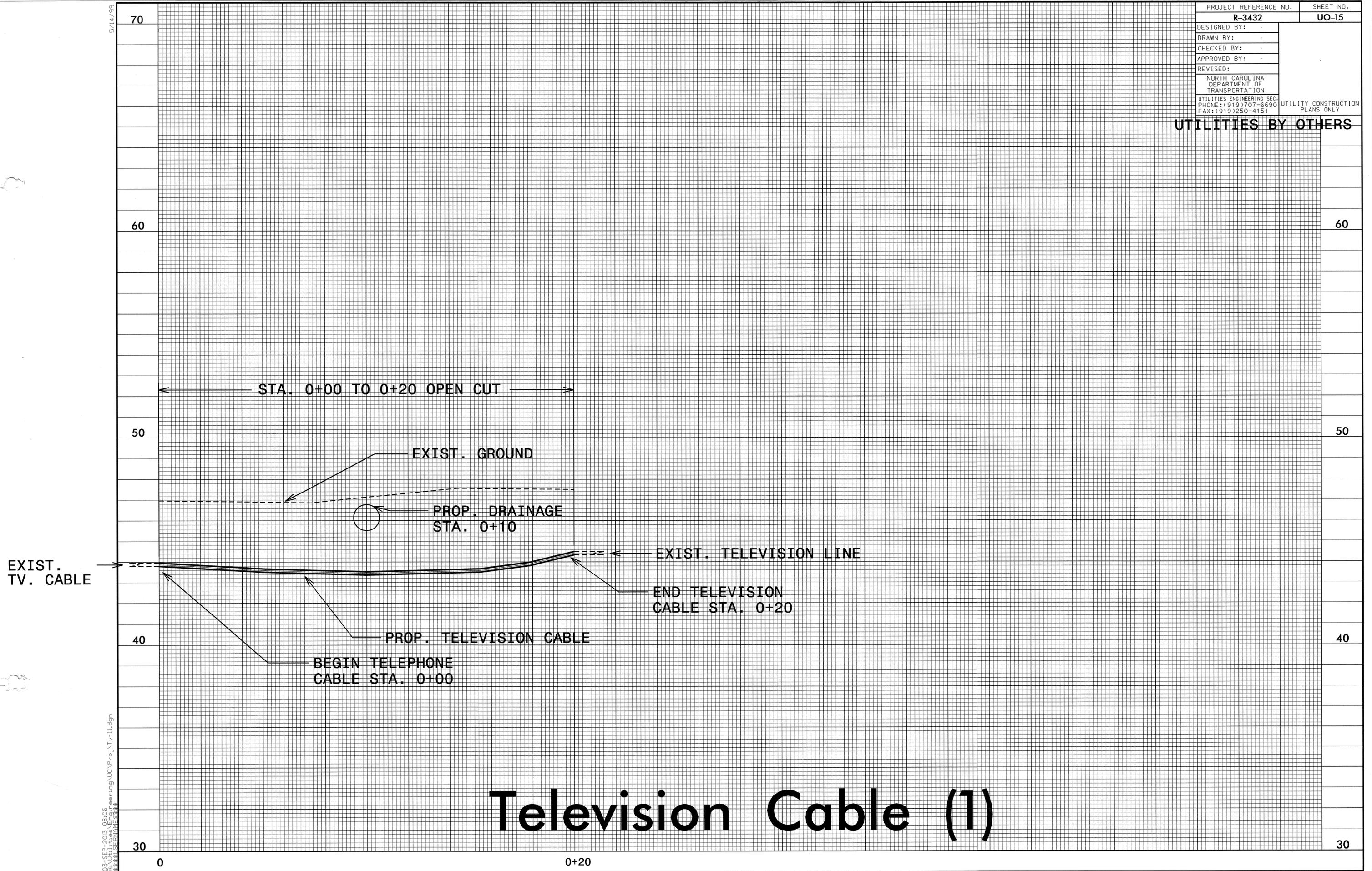
03-SEP-2003 08:04  
S:\AS\PROJECTS\Engineering\UCV\Pro\Tel-31.dgn



5/14/99

PROJECT REFERENCE NO.	SHEET NO.
R-3432	UO-15
DESIGNED BY:	
DRAWN BY:	
CHECKED BY:	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITIES BY OTHERS



# Television Cable (1)

Q:\SEP-2013\08:06\Engineering\UC\Proj\TV-11.dgn  
\$\$\$\$\$DATE\$\$\$\$\$