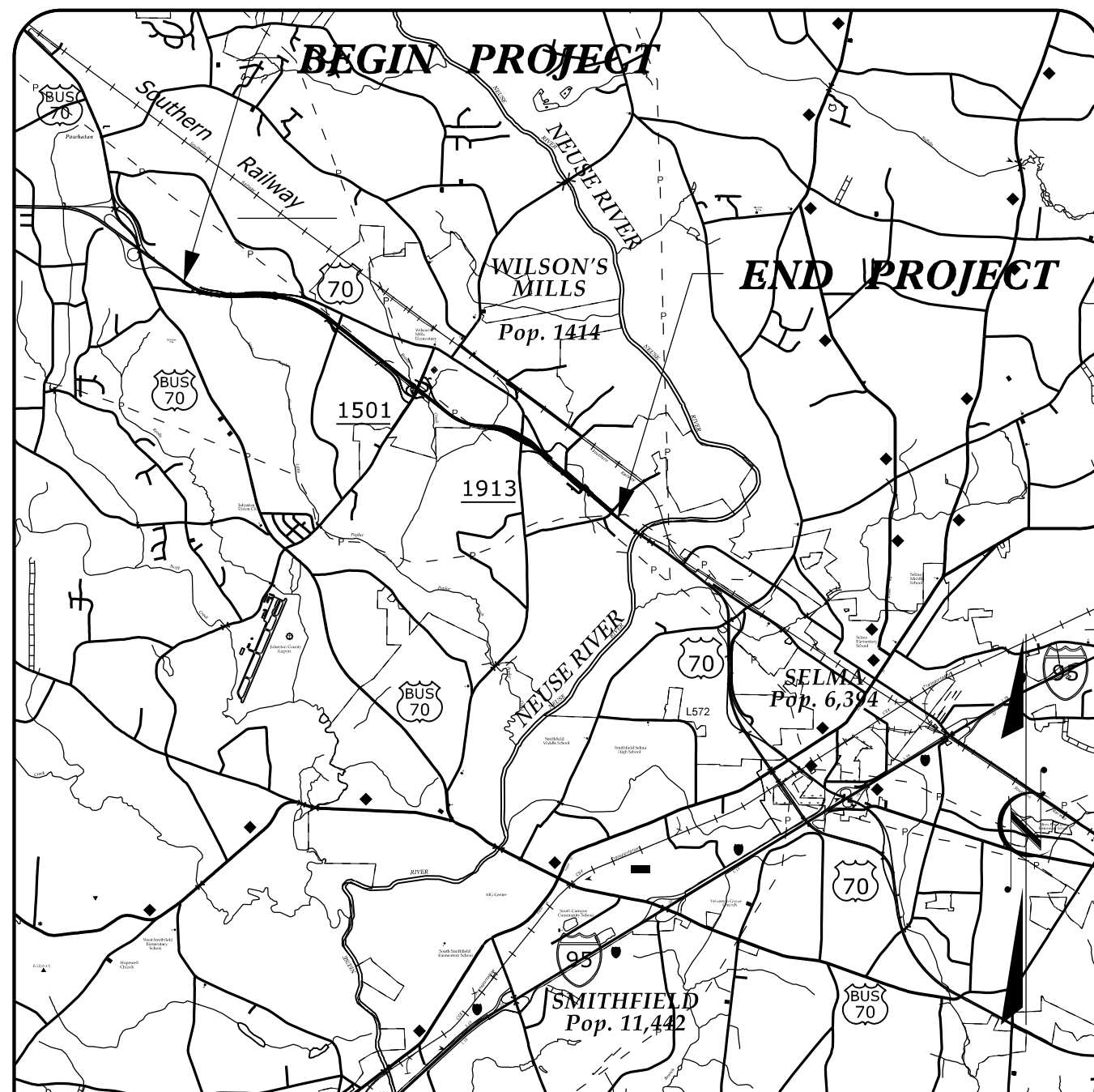


**TIP PROJECT: W-5600**

**CONTRACT:**

7:41:41 AM P:\2017\1712101\W-5600\_UC-1\Utilities\Engineering\UC-Proj\w5600\_rdy\_UC1\_psh.dgn  
PLOT\_DRIVER: C:\WINDOWS\system32\cmd.exe /c plot Utilities\Utilities\_PDF\_22x34.plt c f g  
PEN\_TABLE: C:\UTILITIES\WATER-SEWER\_Revise.d.tbi



**VICINITY MAP**

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

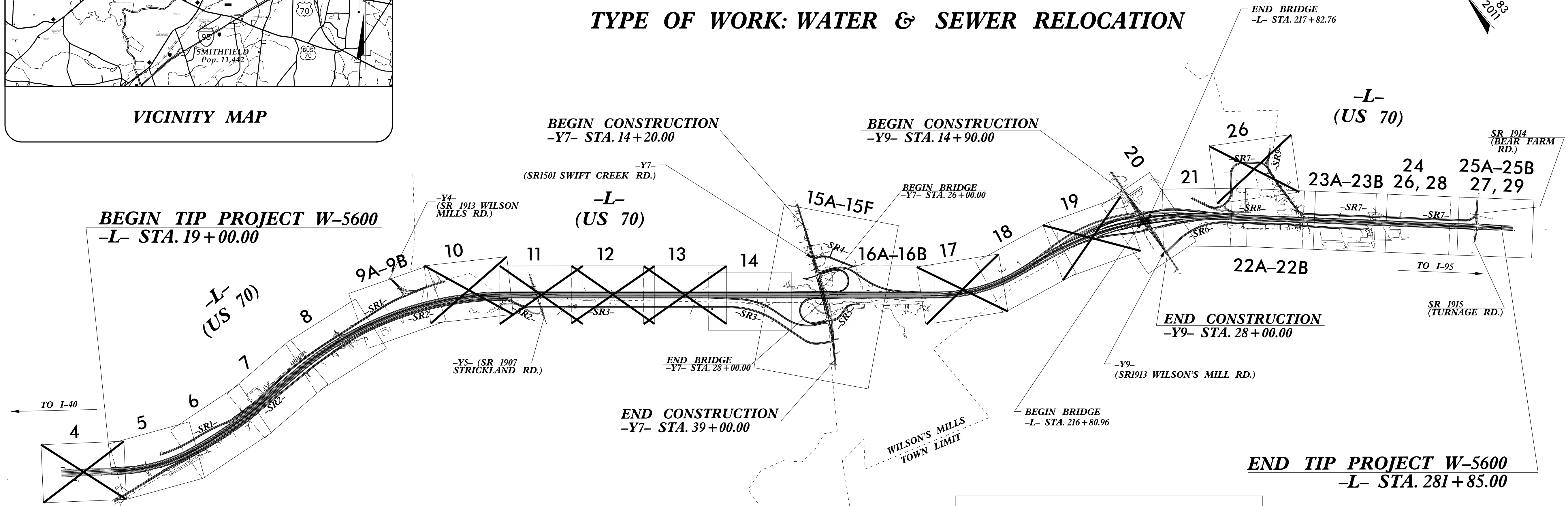
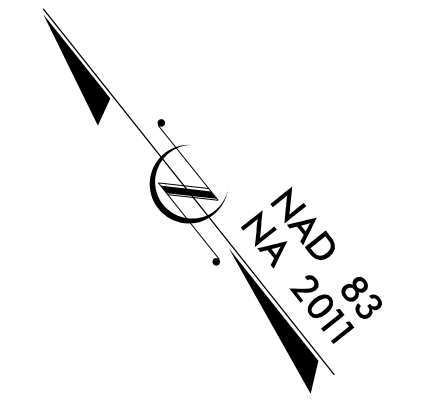
# UTILITY CONSTRUCTION PLANS JOHNSTON COUNTY

**LOCATION: US 70 FROM EAST OF US 70 BUSINESS  
TO WEST OF NEUSE RIVER.**

**TYPE OF WORK: WATER & SEWER RELOCATION**

T.I.P. NO.	SHEET NO.
W-5600	UC-1

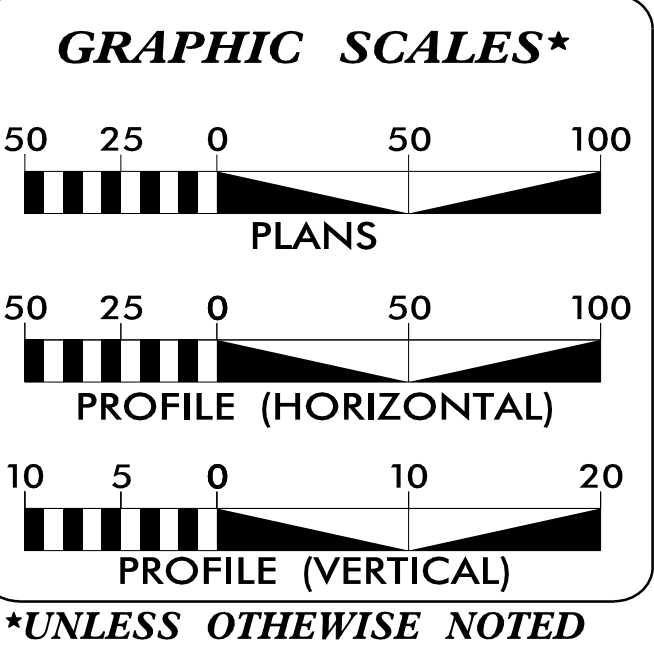
**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION



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.  
A PORTION OF THIS PROJECT IS WITHIN THE MUNICIPAL BOUNDARIES OF WILSON'S MILLS.

**NOTE:**  
SHEETS CROSSED OUT WITH X  
4, 10, 11, 12, 13, 17, 19 AND 26  
ARE NOT BEING USED.

DOCUMENT NOT CONSIDERED FINAL  
UNTIL ALL SIGNATURES ARE COMPLETED



SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A & 3B	DETAILS
UC-5 - UC-9B, UC-14 - UC-16B	UTILITY PLAN
UC-18, UC-20 - UC-29	& PROFILE SHEETS

**WATER AND SEWER OWNERS ON PROJECT**

(A) JOHNSTON COUNTY PUBLIC WORKS  
(WATER & SEWER)

PREPARED IN THE OFFICE OF:

**WETHERILL ENGINEERING**

1223 Jones Franklin Rd.  
Raleigh, N.C. 27606  
License No. F-0377  
Bus: 919 851 8077  
Fax: 919 851 8107

TRANSPORTATION PLANNING/DESIGN -  
BRIDGE/STRUCTURE DESIGN  
CIVIL/SITE DESIGN - GIS/GPS - CONSTRUCTION OBSERVATION

**EDWARD G. WETHERILL, PE** UTILITY ENGINEER  
**JOHN D. SCHRINER, PLS** PROJECT UTILITY COORDINATOR

SEAL

6/5/2020 10:51:38 EDT

**DIVISION OF HIGHWAYS UTILITIES UNIT**  
1555 MAIL SERVICES CENTER  
RALEIGH, NC 27699-1555  
PHONE (919) 707-8690  
FAX (919) 250-4151

**KIM MOORE** DIVISION UTILITY ENGINEER  
**FRANK ZDELAR** UTILITIES COORDINATOR

5/14/99

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UTILITIES PLAN SHEET SYMBOLS

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-2</b>
DESIGNED BY: <b>SS</b>	11/20/2019
DRAWN BY: <b>SS</b>	
CHECKED BY: <b>MVZ</b>	
APPROVED BY: <b>MVZ</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

### 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	
Water Meter	
Relocate Water Meter	
Remove Water Meter	
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	
Telephone Pole	
Joint Use Pole	
Utility Pole	
Utility Pole with Base	
H-Frame Pole	
Power Transmission Line Tower	
Water Manhole	
Power Manhole	
Telephone Manhole	
Sanitary Sewer Manhole	
Hand Hole for Cable	
Power Transformer	
Telephone Pedestal	
CATV Pedestal	
Gas Valve	
Gas Meter	
Located Miscellaneous Utility Object	
Abandoned According to Utility Records	
End of Information	

*Underground Power Line	
*Underground Telephone Cable	
*Underground Telephone Conduit	
*Underground Fiber Optics Telephone Cable	
*Underground TV Cable	
*Underground Fiber Optics TV Cable	
*Underground Gas Pipeline	
Aboveground Gas Pipeline	
*Underground Water Line	
Aboveground Water Line	
*Underground Gravity Sanitary Sewer Line	
Aboveground Gravity Sanitary Sewer Line	
*Underground SS Forced Main Line	
Underground Unknown Utility Line	
SUE Test Hole	
Water Meter	
Water Valve	
Fire Hydrant	
Sanitary Sewer Cleanout	

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

11/20/2019  
\\uc\pro\w5600\_rdy\_uc2\_psh.dgn  
PLOT\_DRIVER: \$PLOTDRVL\$\$  
PEN\_TABLE: \$PENITBLI\$\$

5/14/19

# UTILITY CONSTRUCTION

## 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 2018.

2. THE EXISTING UTILITIES BELONG TO JOHNSTON COUNTY. CONTACT MIKE KEEN (UTILITY PROJECT MANAGER) 919-209-8333.

3. ALL WATER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, PUBLIC WATER SECTION. ALL SANITARY SEWER LINES TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WQ PERMITTING SECTION, PERCS UNIT. 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.

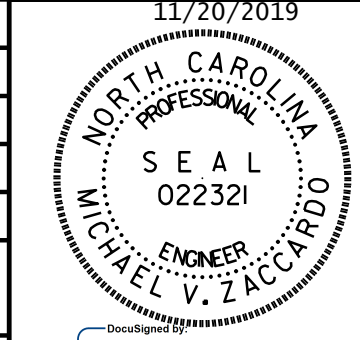
5. PROVIDE ACCESS FOR THE DEPARTMENT PERSONNEL AND THE OWNER'S REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNER TWO WEEKS PRIOR TO COMMENCEMENT OF ANY WORK AND ONE WEEK PRIOR TO SERVICE INTERRUPTION. KEEP UTILITY OWNERS' REPRESENTATIVES INFORMED OF WORK PROGRESS AND PROVIDE OPPORTUNITY 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 REFERENCE NO.	SHEET NO.
W-5600	UC-3
DESIGNED BY: SS	11/20/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

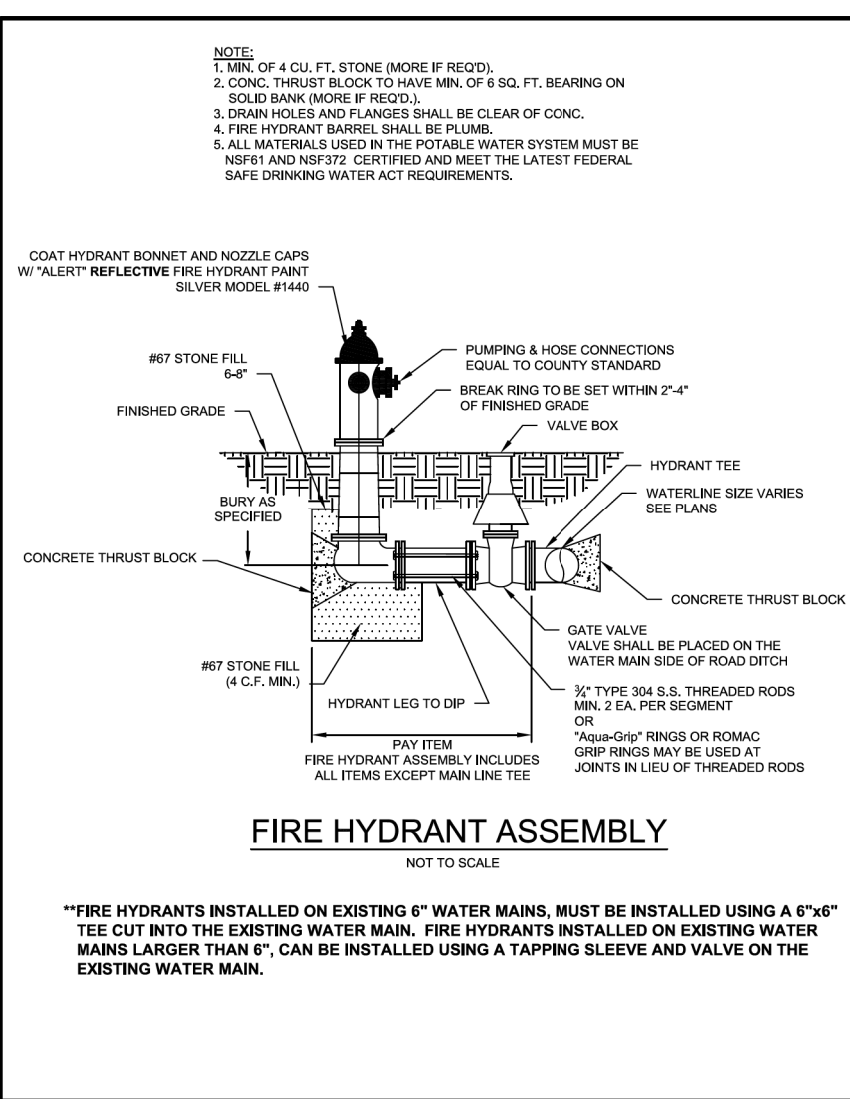
**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

11/20/2019  
\\uc\proj\w5600\_fdy\_uc3\_psh.dgn  
PLOT DRIVER: \$PLOTDRIVER\$  
PEN TABLE: \$PEN\$

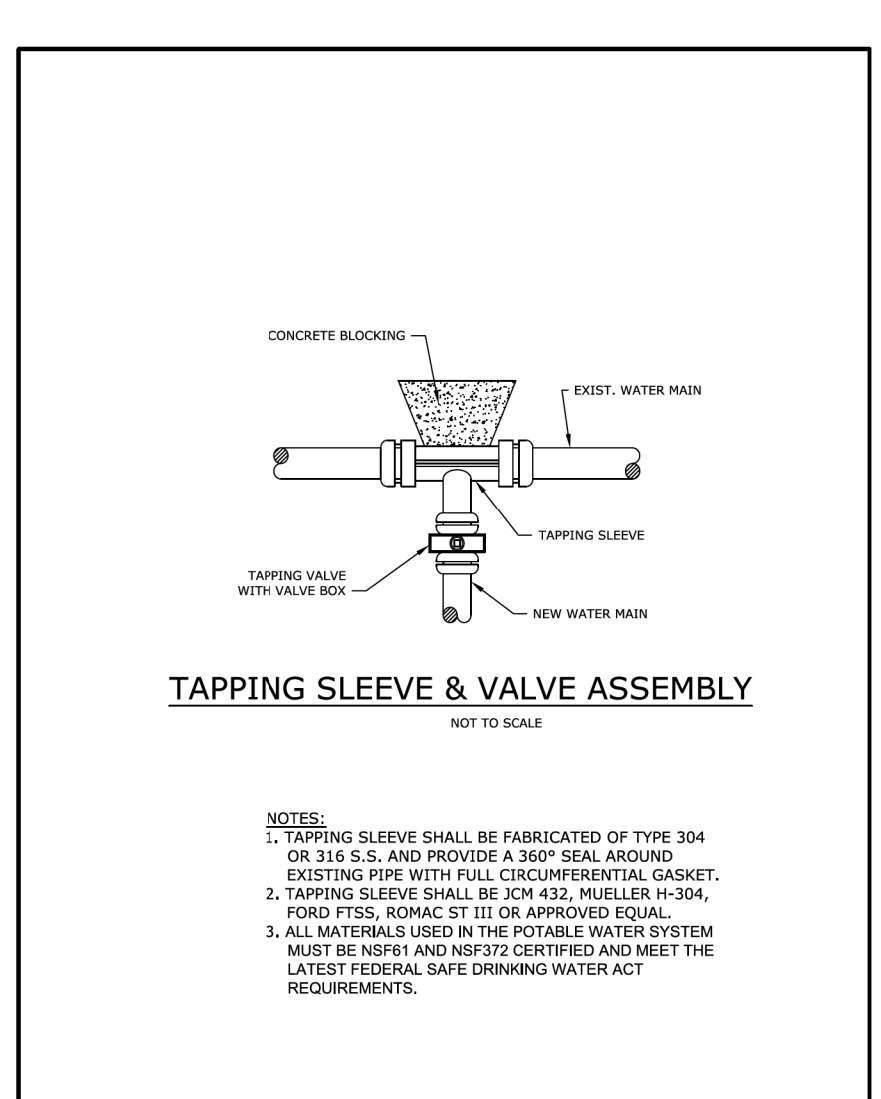
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

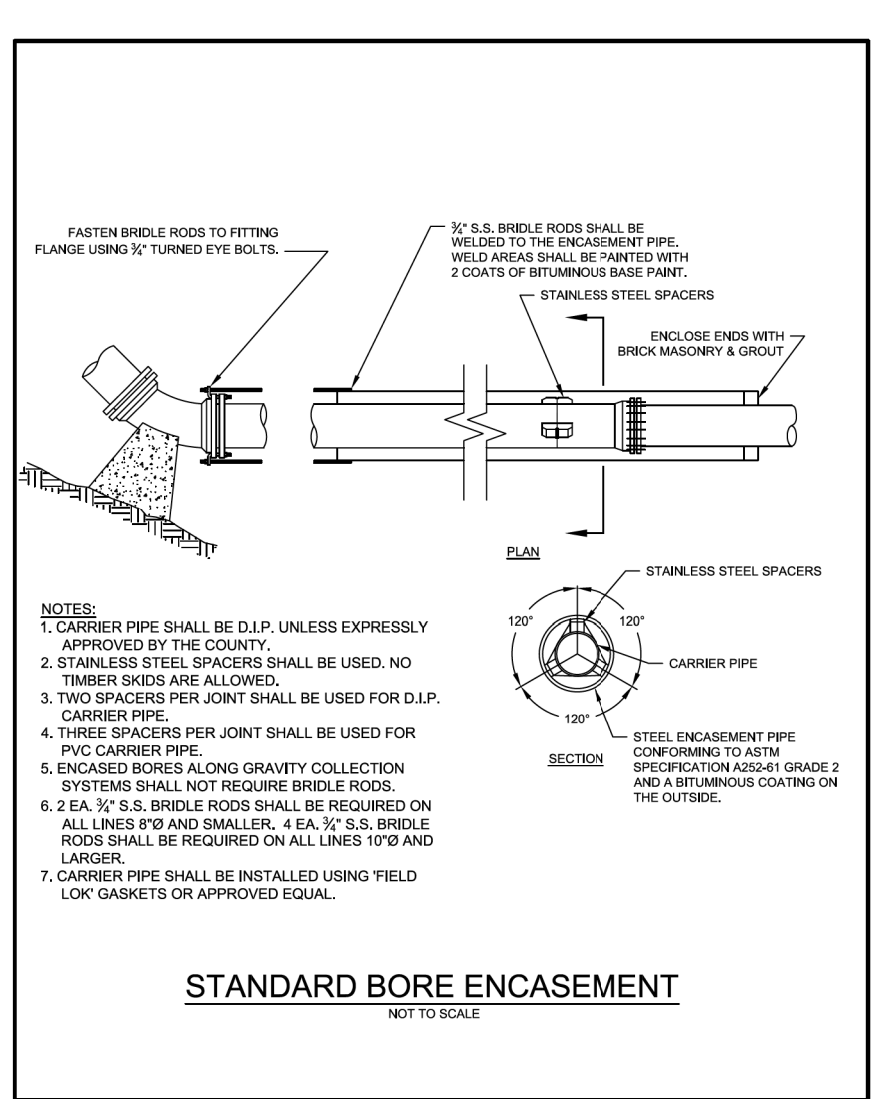
FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION



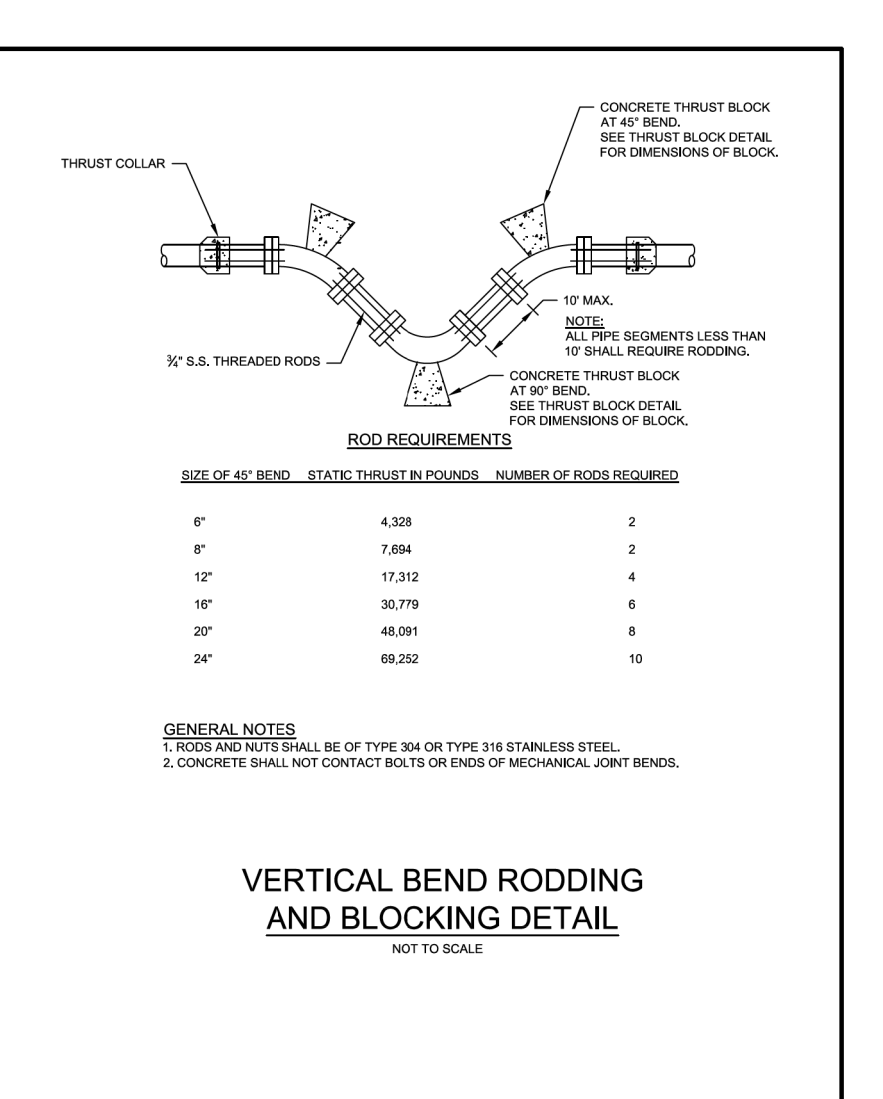
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Fire Hydrant Assembly	PAGE 4
-----------	-------	-------	--	--	-----------



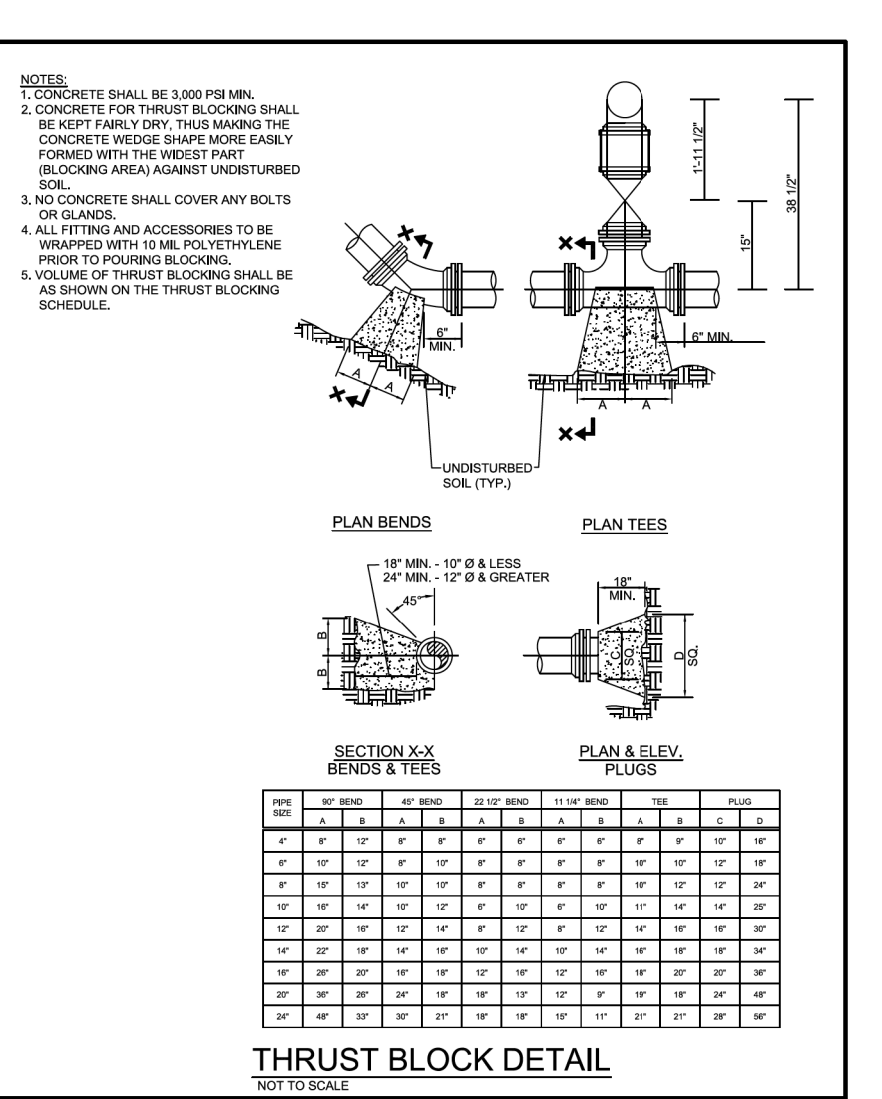
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Tapping Sleeve and Valve Assembly	PAGE 5
-----------	-------	-------	--	--	-----------



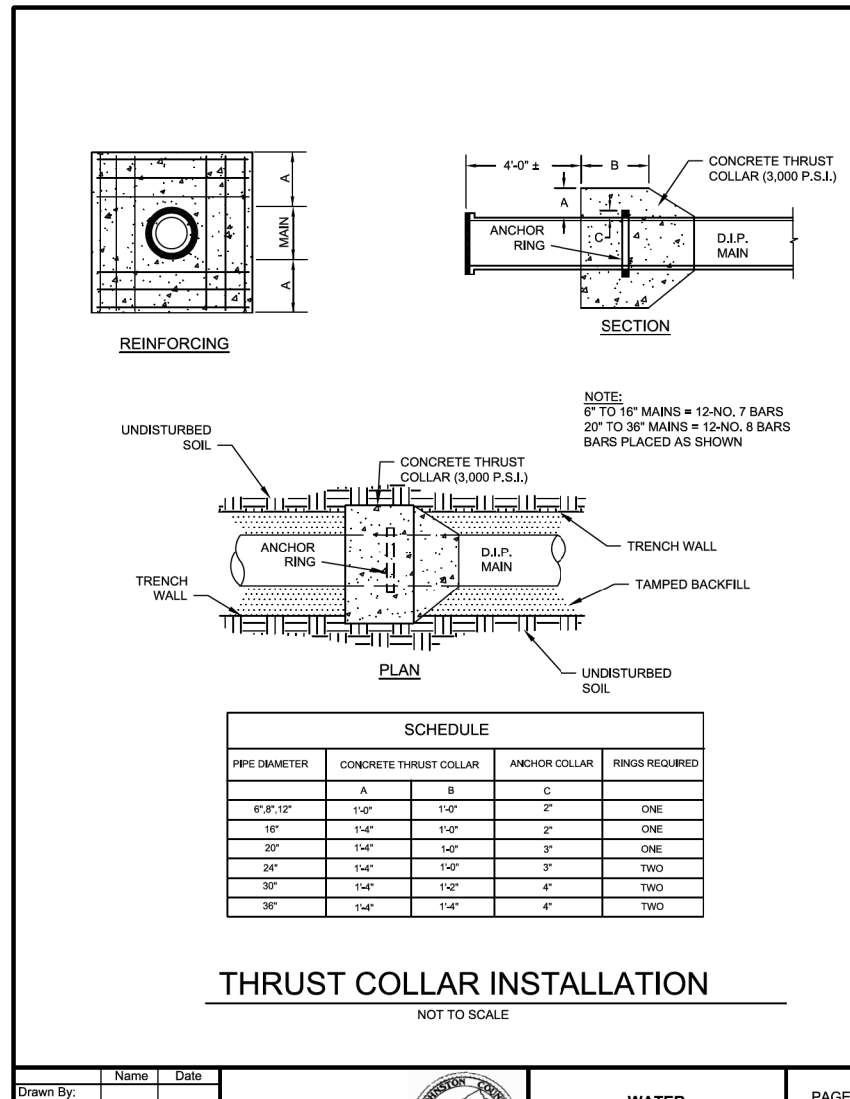
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Standard Bore Encasement	PAGE 6
-----------	-------	-------	--	---	-----------



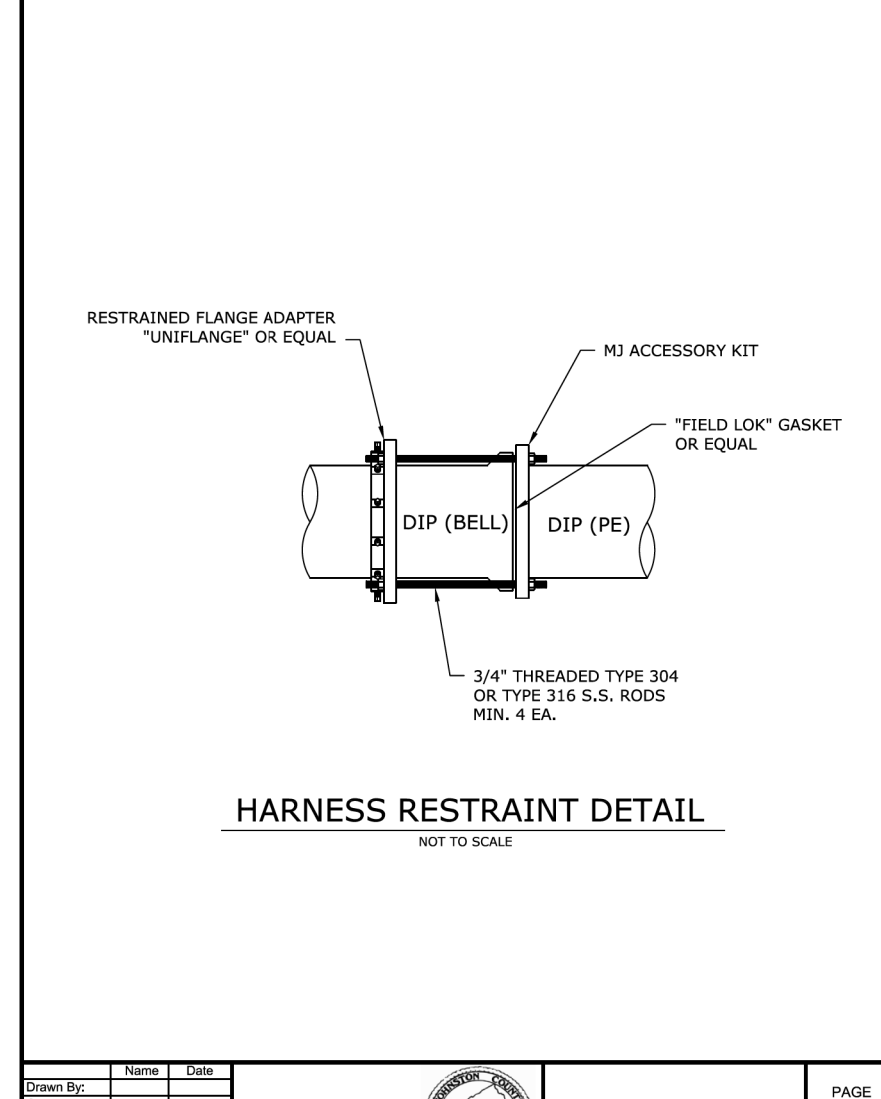
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Critical Bend Rodding and Blocking Details	PAGE 7
-----------	-------	-------	--	---	-----------



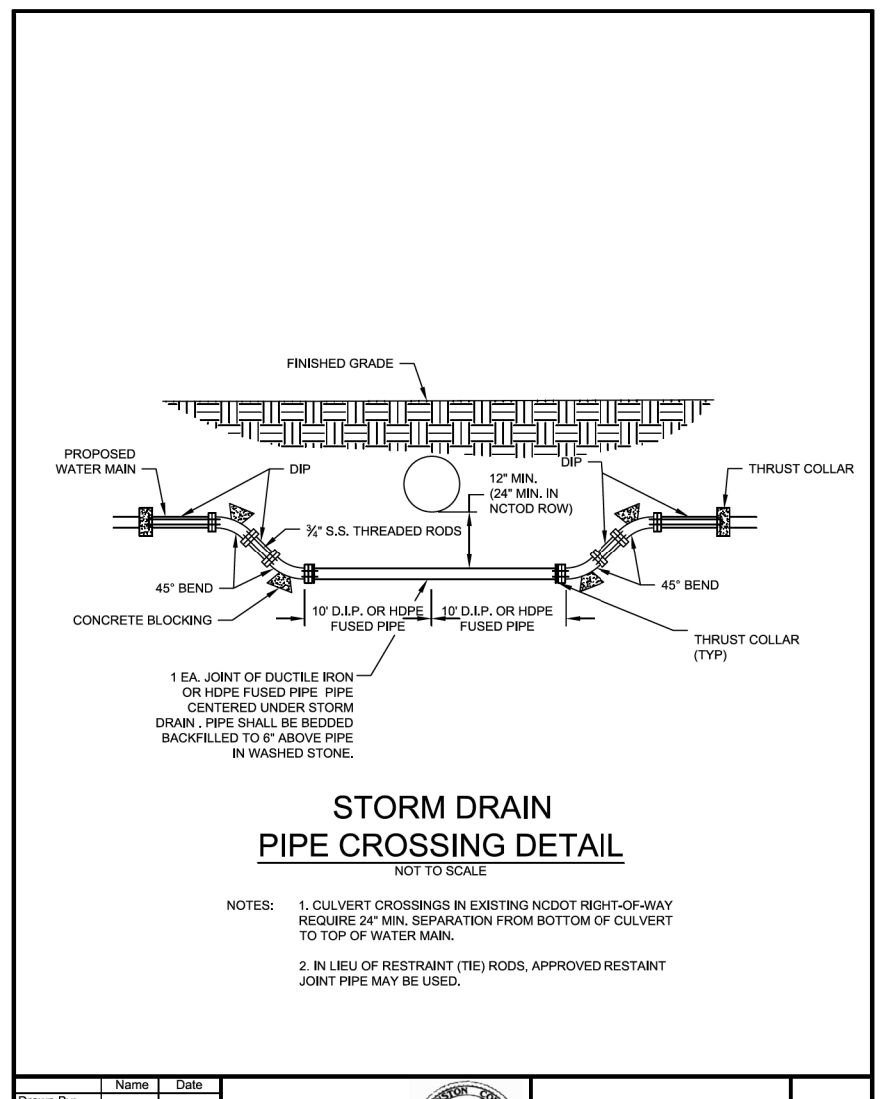
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Thrust Block	PAGE 8
-----------	-------	-------	--	--	-----------



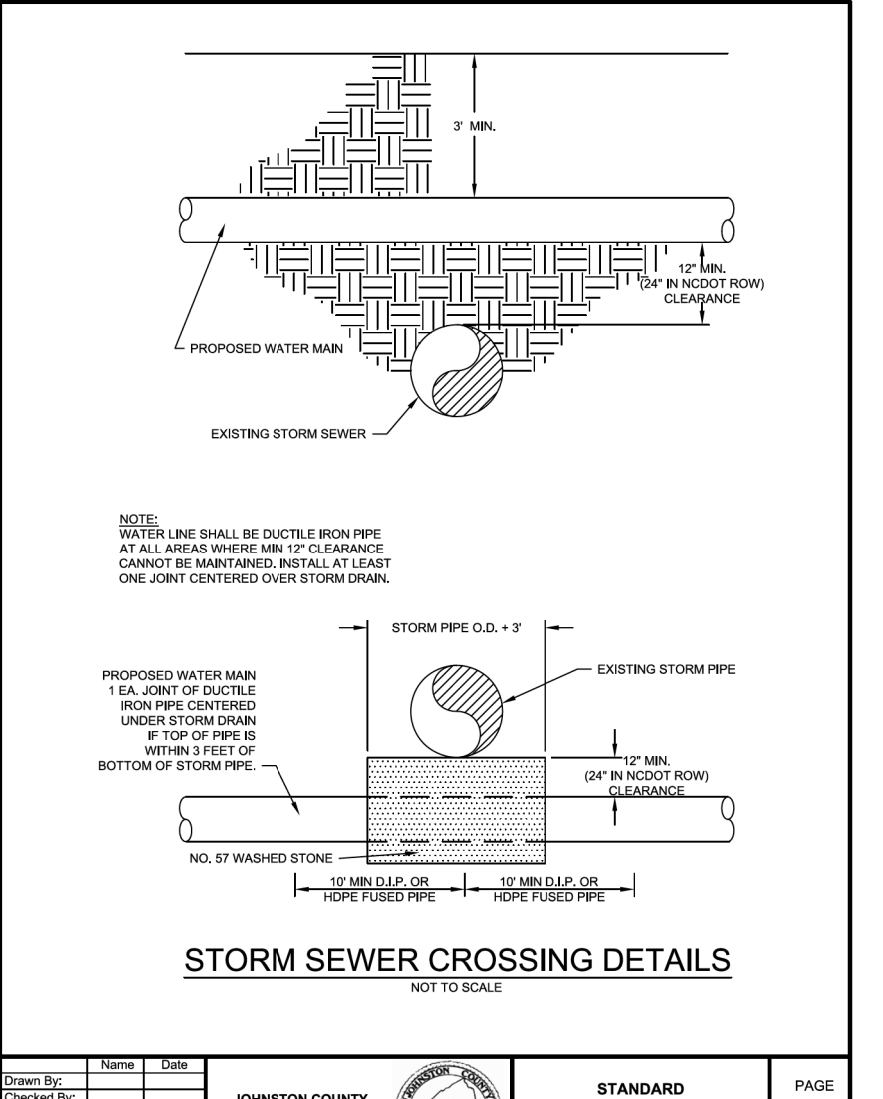
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Thrust Collar Installation	PAGE 9
-----------	-------	-------	--	---	-----------



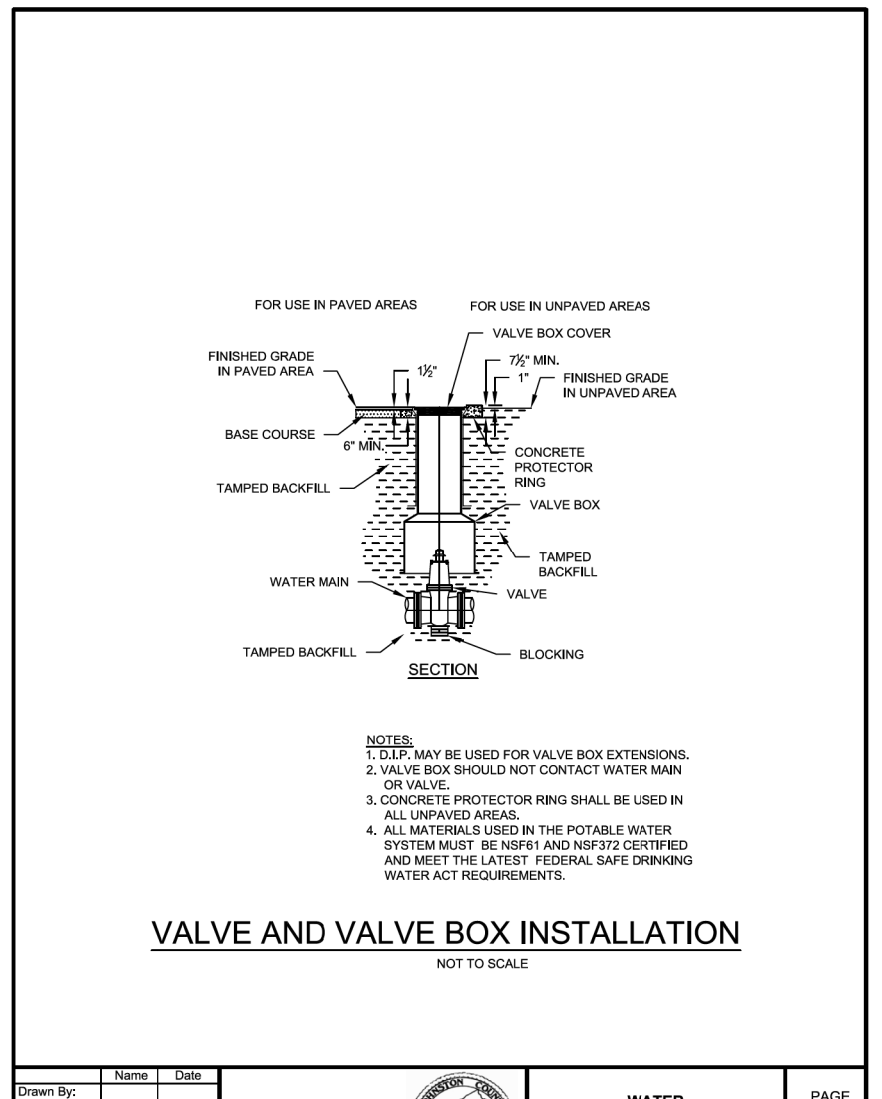
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Restraint Harness	PAGE 10
-----------	-------	-------	--	---	------------



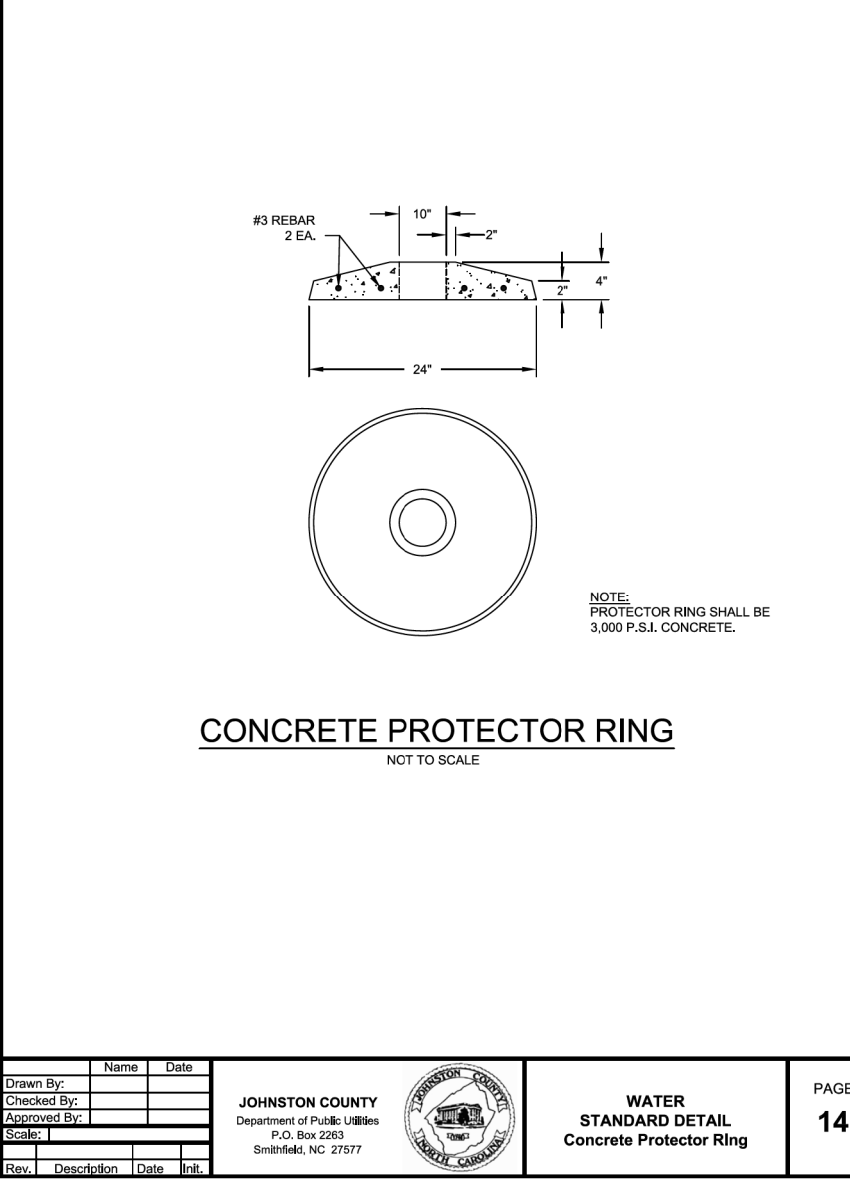
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Storm Drain Pipe Crossing	PAGE 11
-----------	-------	-------	--	--	------------



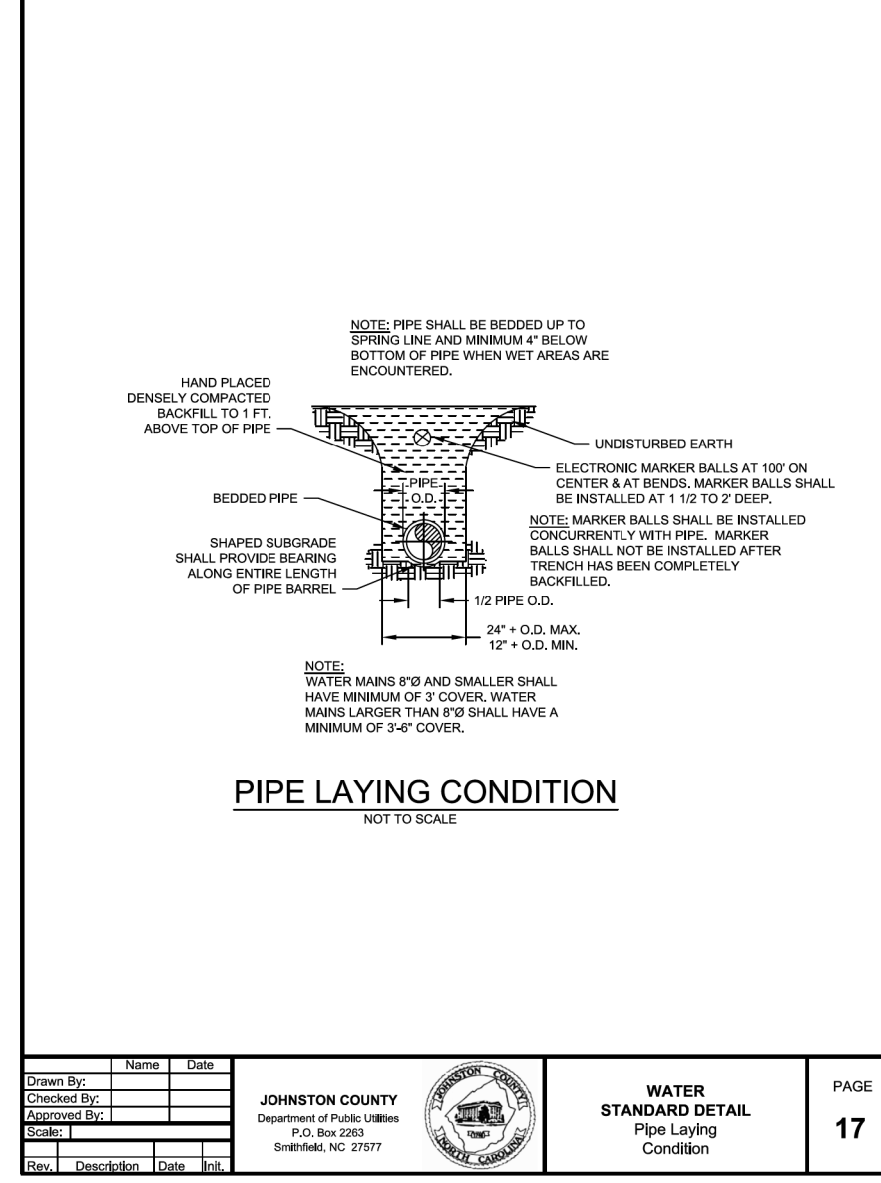
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Storm Sewer Crossing	PAGE 12
-----------	-------	-------	--	---	------------



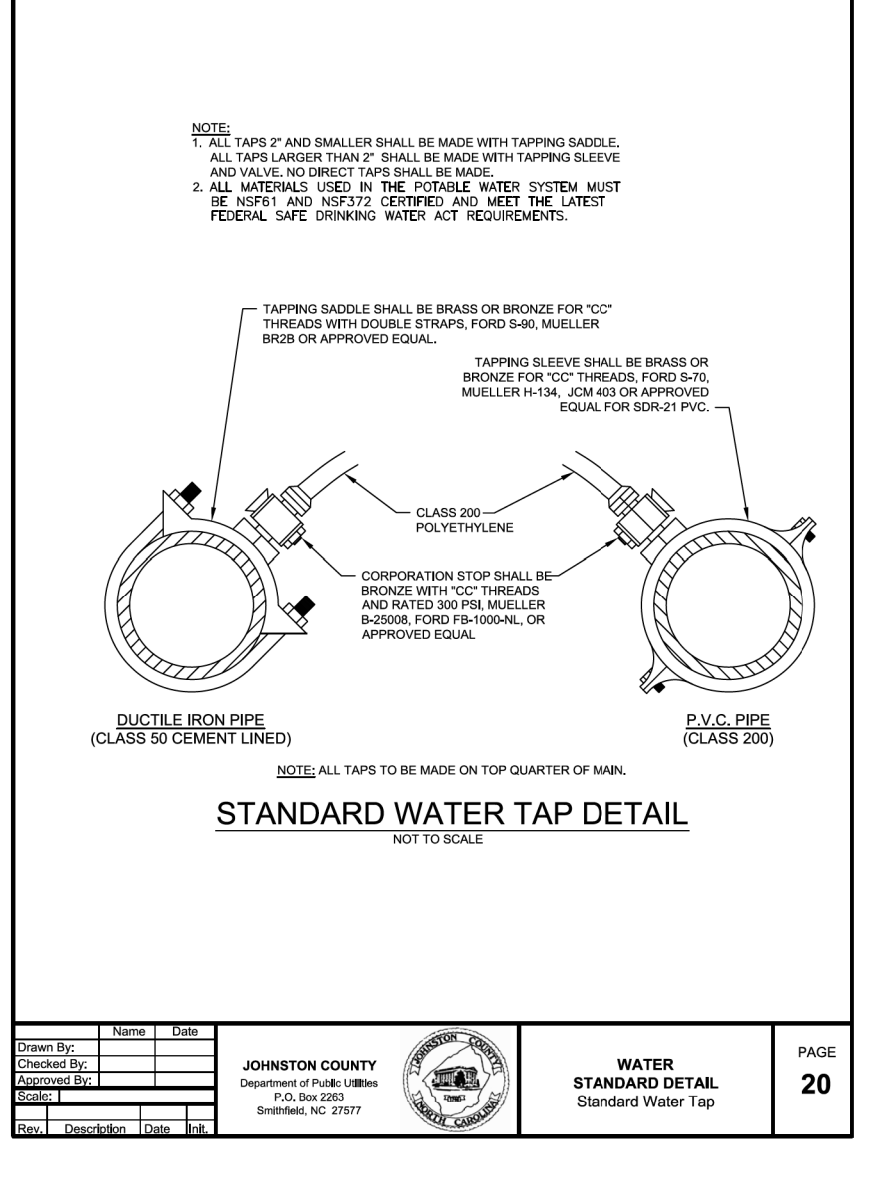
Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Valve and Valve Box Installation	PAGE 13
-----------	-------	-------	--	---	------------



Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Concrete Protector Ring	PAGE 14
-----------	-------	-------	--	--	------------



Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Pipe Laying Condition	PAGE 17
-----------	-------	-------	--	--	------------



Drawn By:	Name:	Date:	JOHNSTON COUNTY Department of Public Utilities P.O. Box 2303 SHEPHERD, NC 27577	WATER STANDARD DETAIL Standard Water Tap	PAGE 20
-----------	-------	-------	--	--	------------

REVISIONS

11/20/2019  
UC3A.dgn  
PLOT DRIVER: \$PLOTDRVL\$  
PEN TABLE: \$PEN\$TABLE\$

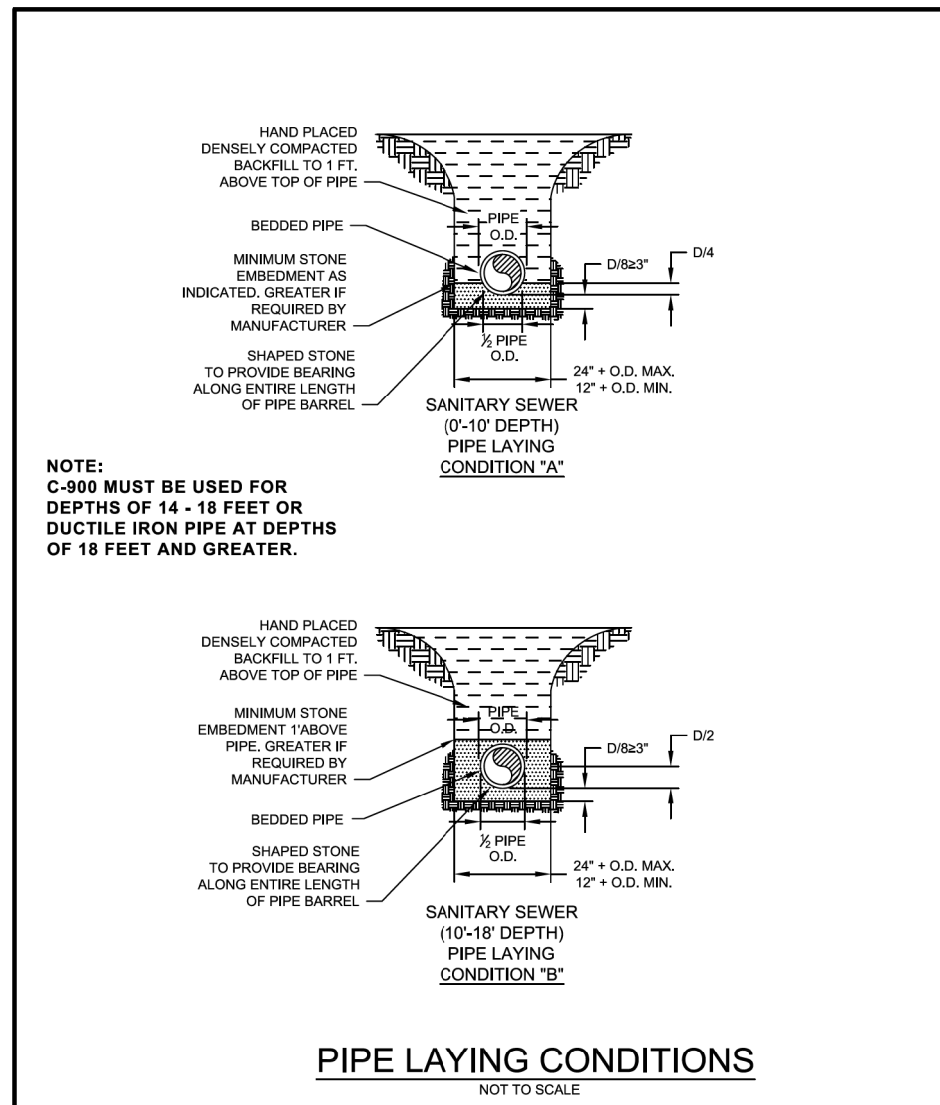
PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-3B
DESIGNED BY: SS	11/27/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

UTILITIES CONSTRUCTION PLANS ONLY

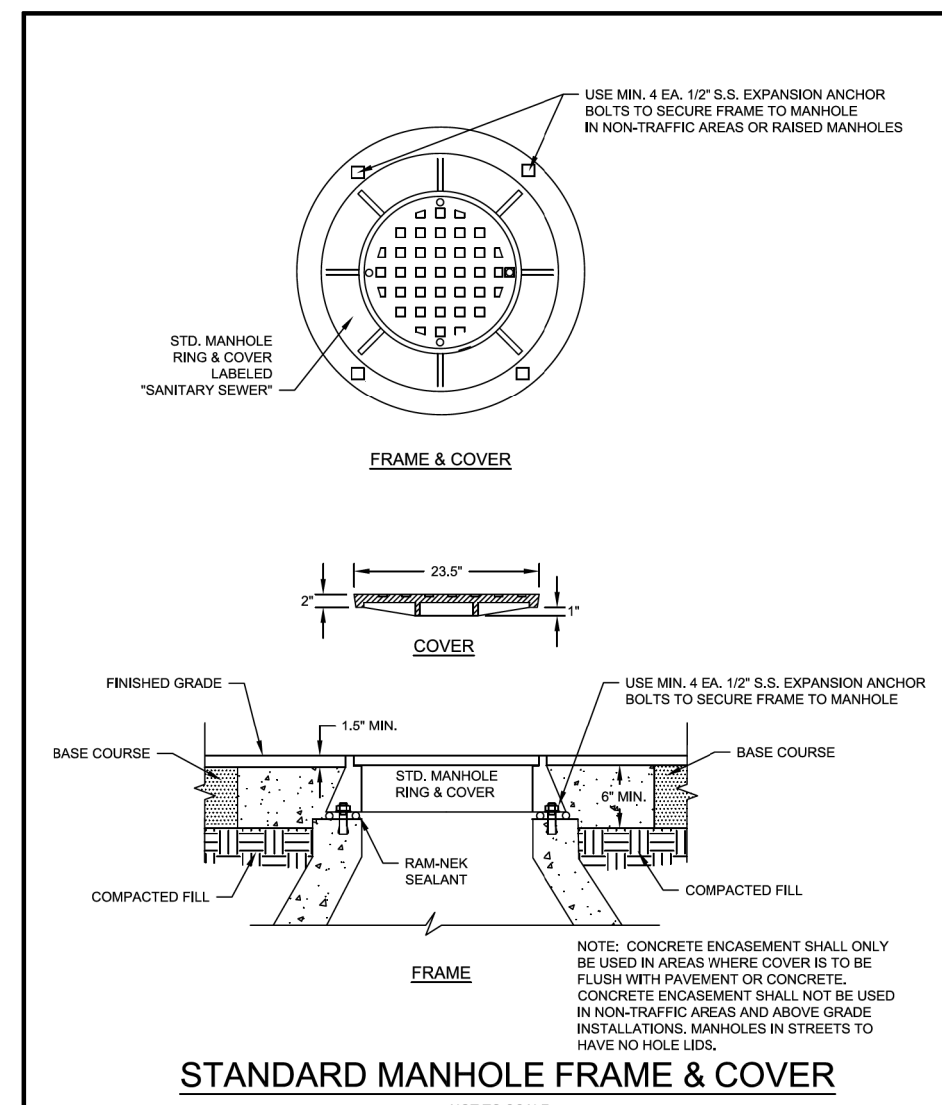
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

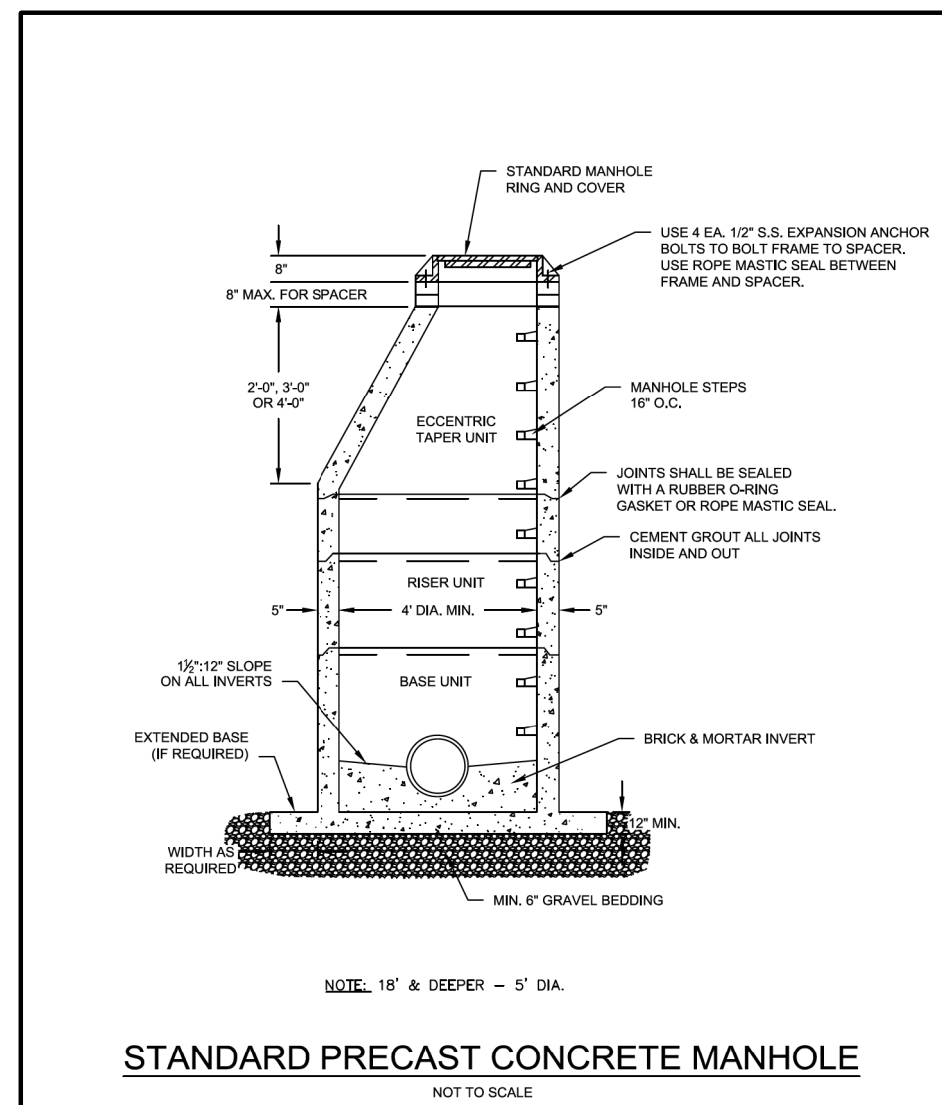
FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION



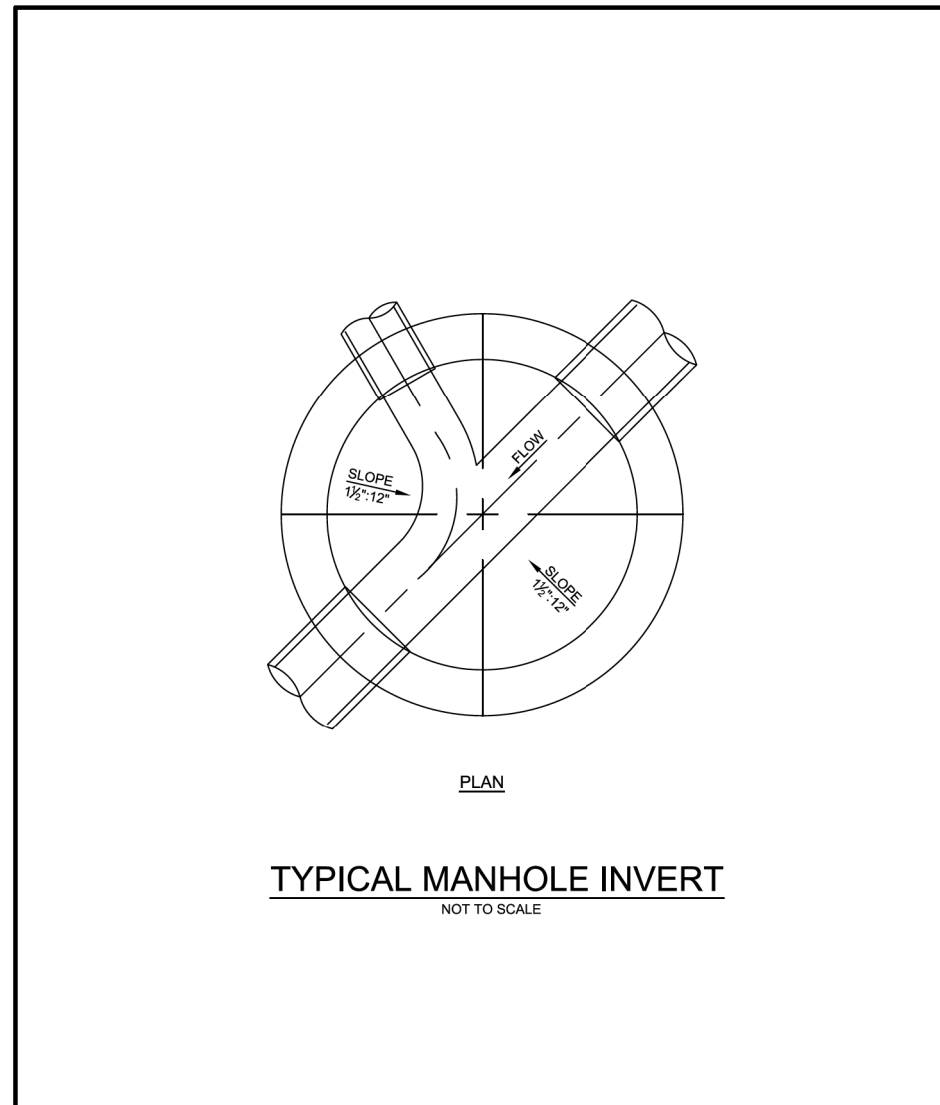
Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Pipe Laying Conditions A & B	PAGE <b>36</b>
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Standard Manhole Frame & Cover	PAGE <b>27</b>
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Standard Precast Manhole	PAGE <b>30</b>
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Typical Invert	PAGE <b>34</b>
Checked By:					
Approved By:					
Date:					

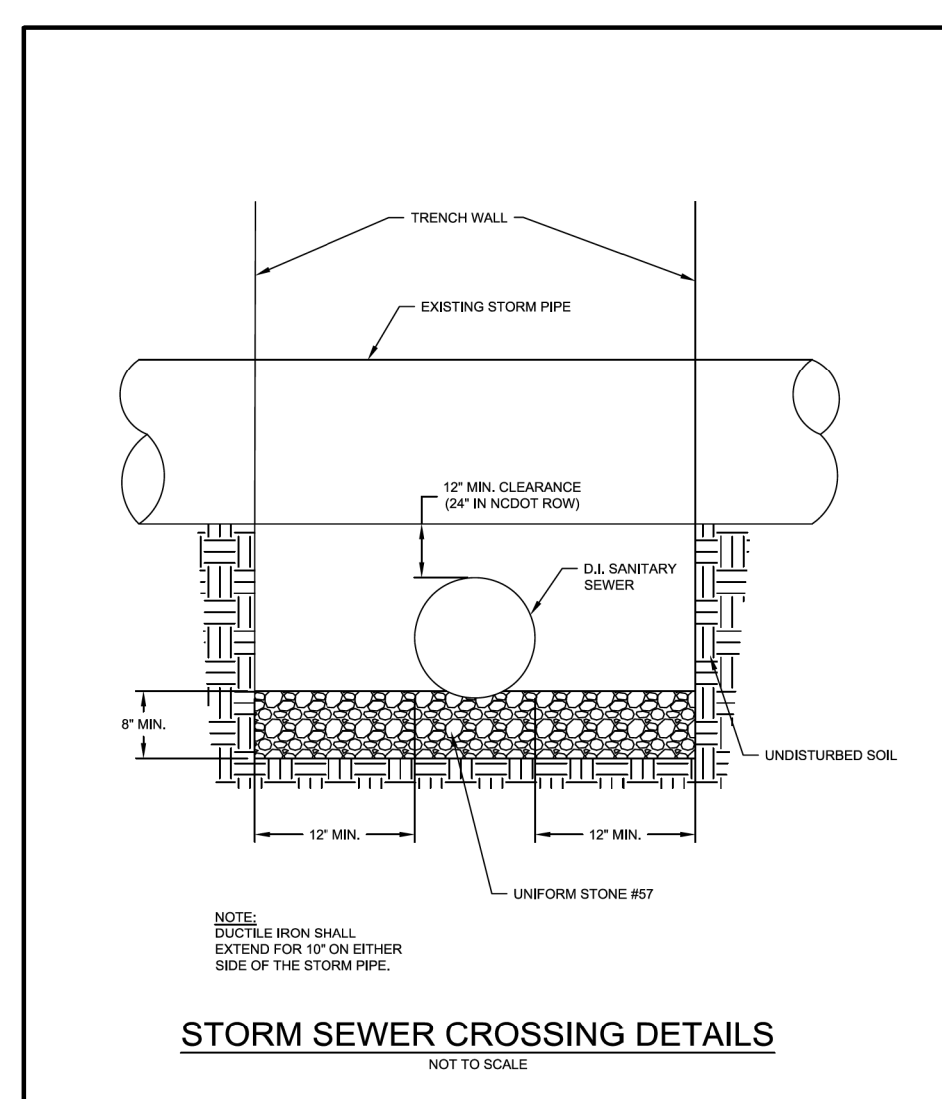
NOTES FOR AERIAL CROSSING:

- STEEL CASING PIPE SHALL BE SPIRAL WELDED OR SMOOTH WALL SEAMLESS WITH A MIN. YIELD STRENGTH OF 35,000 PSI. REQUIREMENTS SHOWN IN TABLE BELOW:

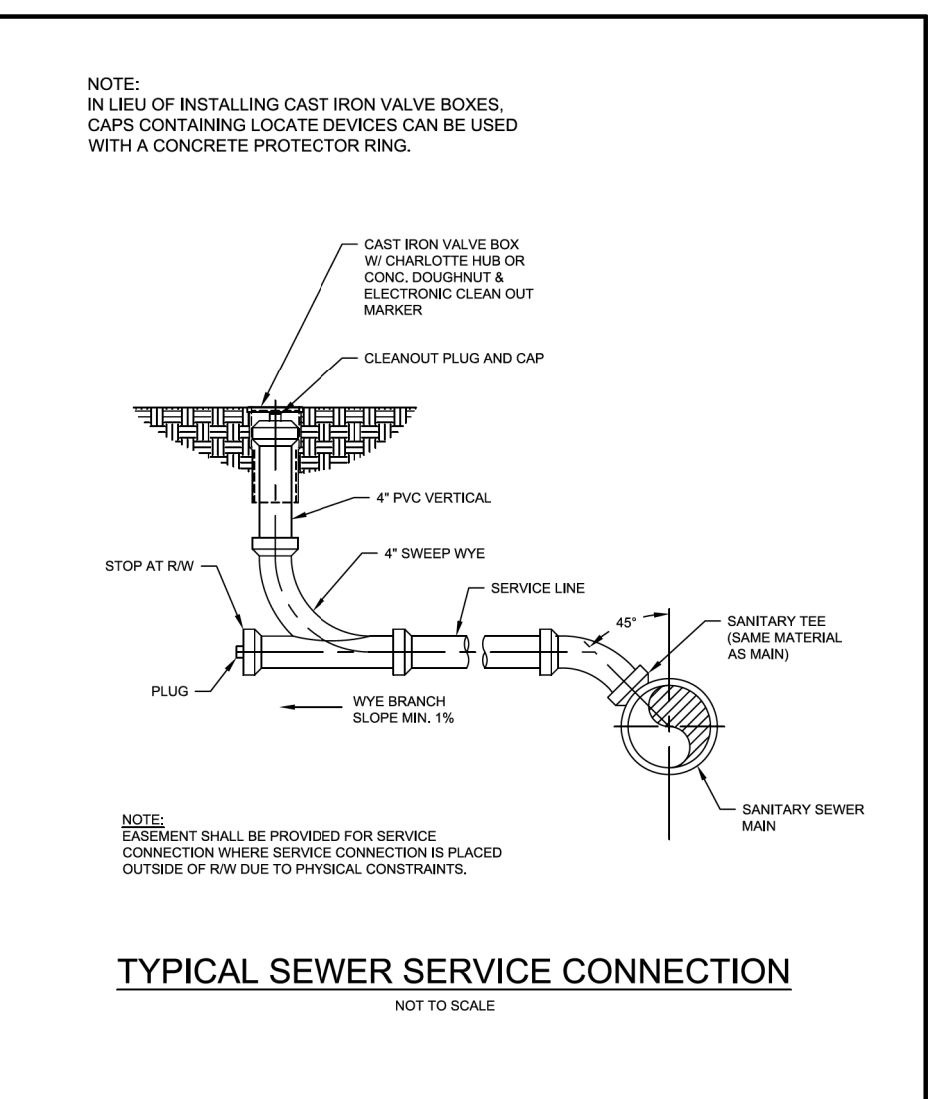
ALLOWABLE SPANS FOR STEEL CASING PIPE			
CARRIER PIPE, R/DIP DIAMETER (IN)	CASING PIPE, STEEL DIAMETER (IN)	MIN. CASING PIPE WALL THICKNESS (IN)	ALLOWABLE SPAN (FT)
5	14	0.3750	40
8	16	0.3750	45
10	17	0.3750	50
12	20	0.3750	50
14	24	0.3750	55
16	26	0.3750	55
18	30	0.3750	60
20	32	0.3750	60
24	36	0.4375	65
30	42	0.4375	65
36	48	0.5000	65
40	56	0.5000	65

- RESTRAINED JOINT PIPE AND FITTINGS SHALL CONSIST OF BOLTED RETAINER RINGS AND WELDER RETAINER BARS OR BOLTED TYPE WHICH INCLUDE DUCTILE IRON LOCKING SEGMENTS AND RUBBER RETAINERS. RESTRAINED PIPE AND FITTINGS MEET REQUIREMENTS SET IN JOHNSTON COUNTY STANDARD SPECIFICATIONS.
- CONCRETE PROPERTIES SHALL BE AS FOLLOWS:  
CONCRETE COMPRESSIVE STRENGTH = 4000 PSI  
NOMINAL SLUMP = 4 INCHES  
WATER/CEMENTIOUS MATERIAL RATIO = 0.45 MAX  
AIR CONTENT = MIN 6%, MAX 7.5%  
CONCRETE SHALL BE TYPE I/1 OR IN ACCORDANCE WITH ASTM C-150.
- ALL EXPOSED CONCRETE CORNERS SHALL BE CHAMFERED 3/4"
- CONVENTIONAL REINFORCING STEEL SHALL CONFORM TO ASTM A615 GRADE 60 AND SHALL BE PLACED IN ACCORDANCE WITH "THE RECOMMENDED PRACTICE FOR PLACING REINFORCING BARS" (LATEST EDITION) AS PUBLISHED BY THE CONCRETE REINFORCING INSTITUTE. SPACES SHALL BE CLASS B CONFORMING TO ACI 318 OF "BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE."
- NEOPRENE BEARING PADS SHALL BE FORMED FROM PREVIOUSLY UNVULCANIZED, 100% VIRGIN NEOPRENE WITH DUROMETER HARDNESS OF 50.
- IF ENGINEERED DESIGN REQUIRES PILES, THE CALCULATIONS AND ALTERNATE DESIGN MUST BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION.

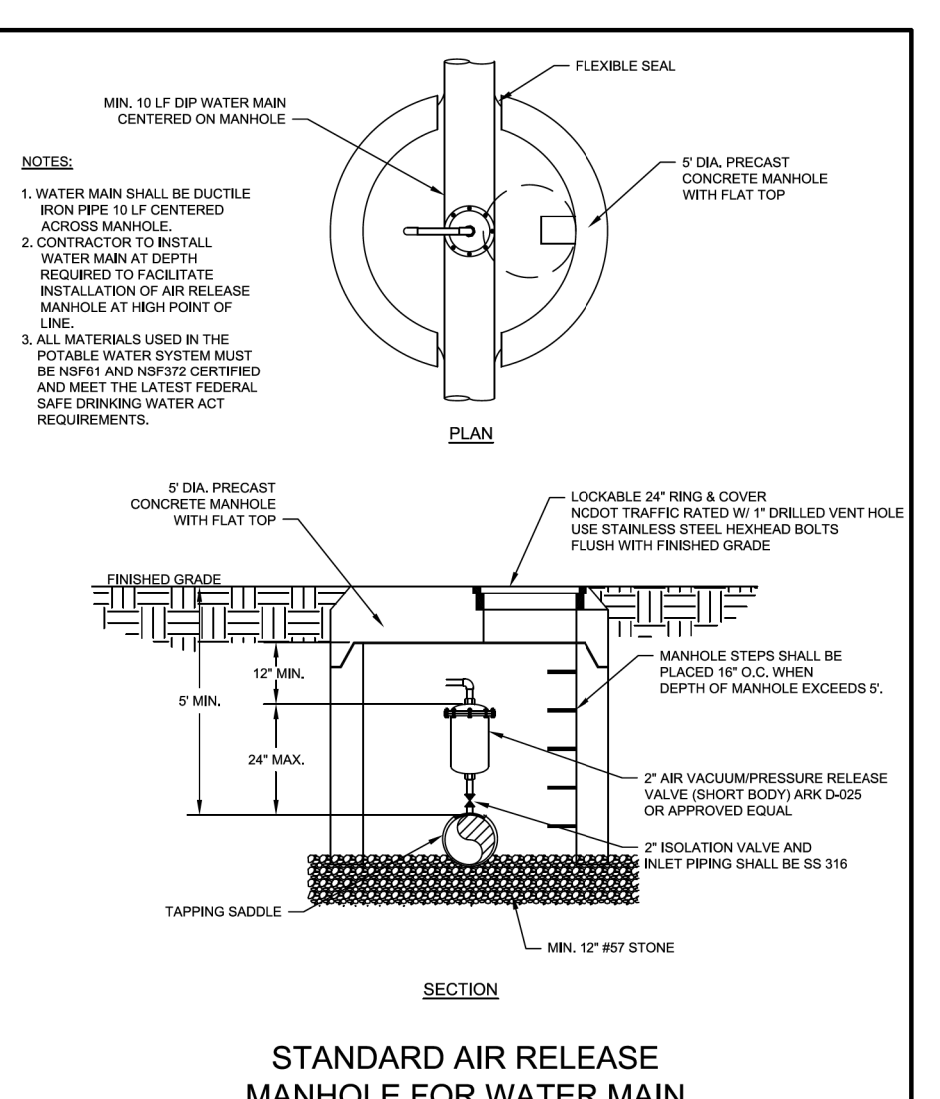
Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Aerial Pipe Supports	PAGE <b>39B</b>
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Typical Storm Sewer Crossing	PAGE <b>40</b>
Checked By:					
Approved By:					
Date:					

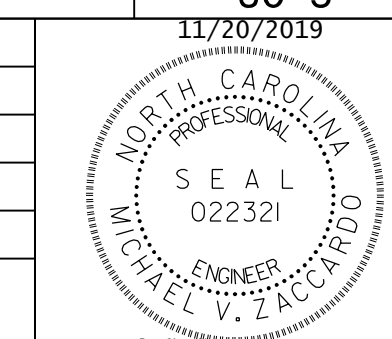


Drawn By:	Name:	Date:		<b>SANITARY SEWER STANDARD DETAIL</b> Typical Sewer Service Connection	PAGE <b>41</b>
Checked By:					
Approved By:					
Date:					



Drawn By:	Name:	Date:		<b>WATER STANDARD DETAIL</b> Air Vacuum/Pressure Release Valve in Manhole	PAGE <b>3</b>
Checked By:					
Approved By:					
Date:					

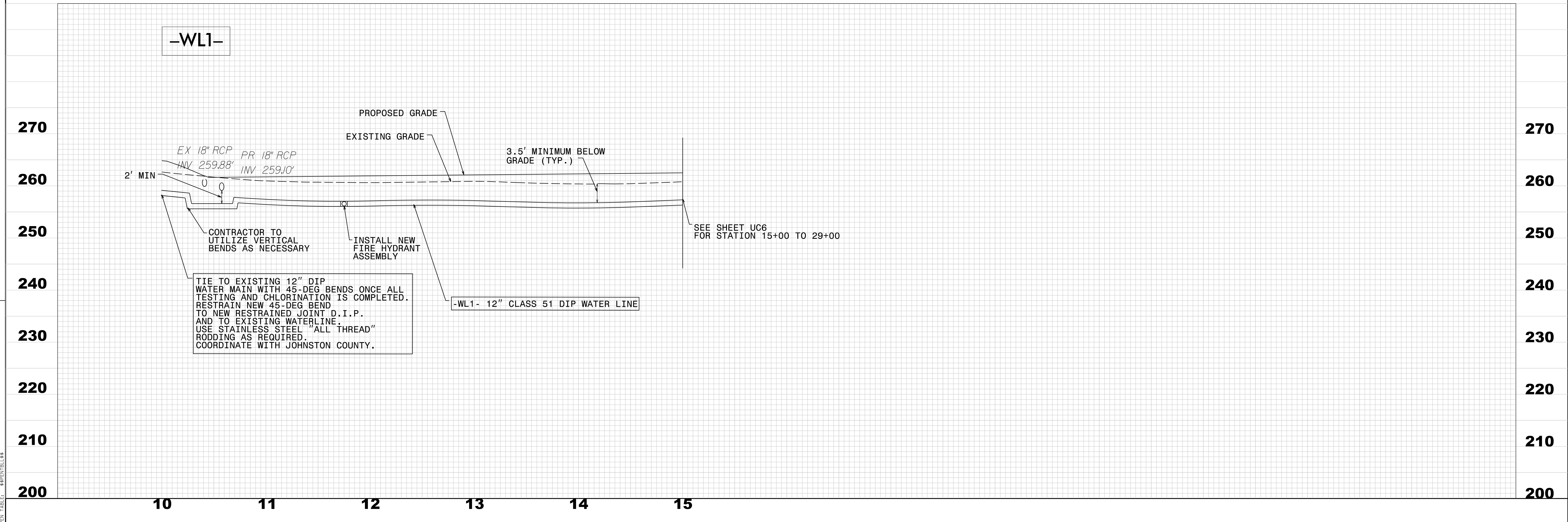
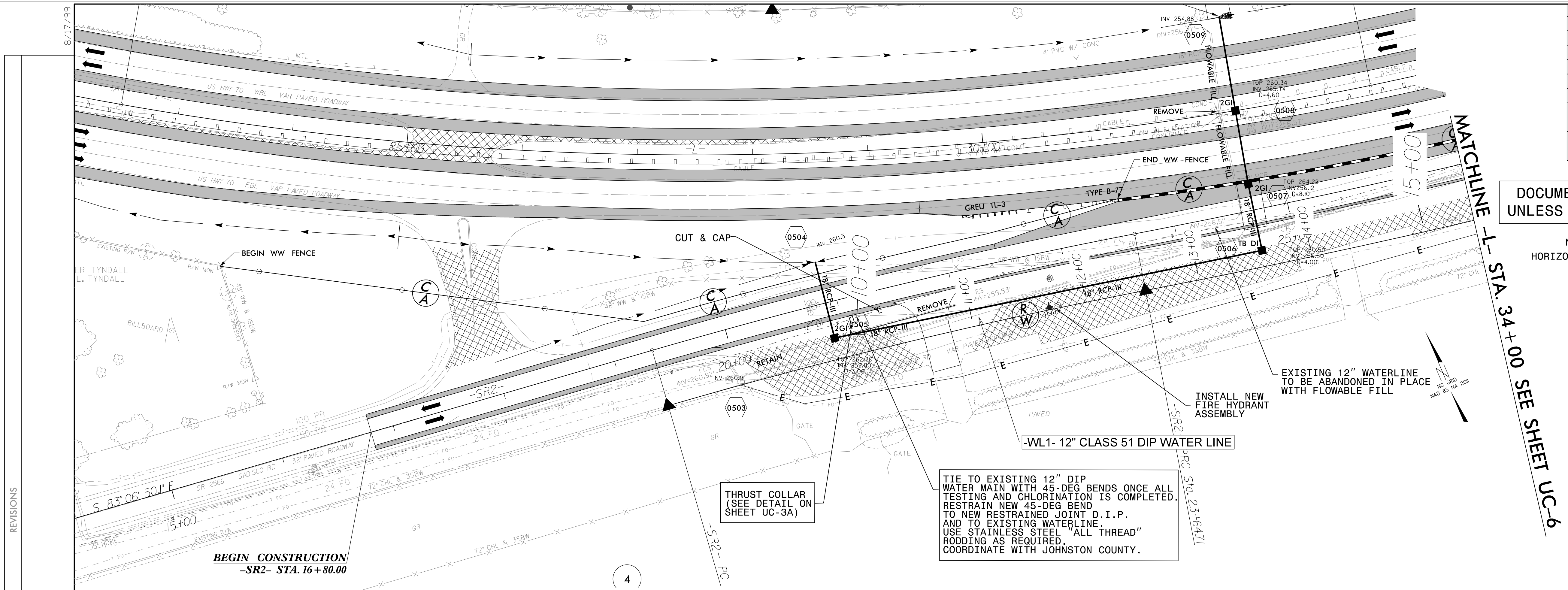
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-5
DESIGNED BY: SS	11/20/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY

**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION



8/17/99  
 M. V. ZACCARDO  
 PROFESSIONAL ENGINEER  
 NORTH CAROLINA  
 LICENSE NO. 022321  
 PROJECT: W-5600, UC-5, STATION 10+00 TO 34+00

B.17/7/99

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-6
DESIGNED BY: SS	6/23/2020 11:01:11 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

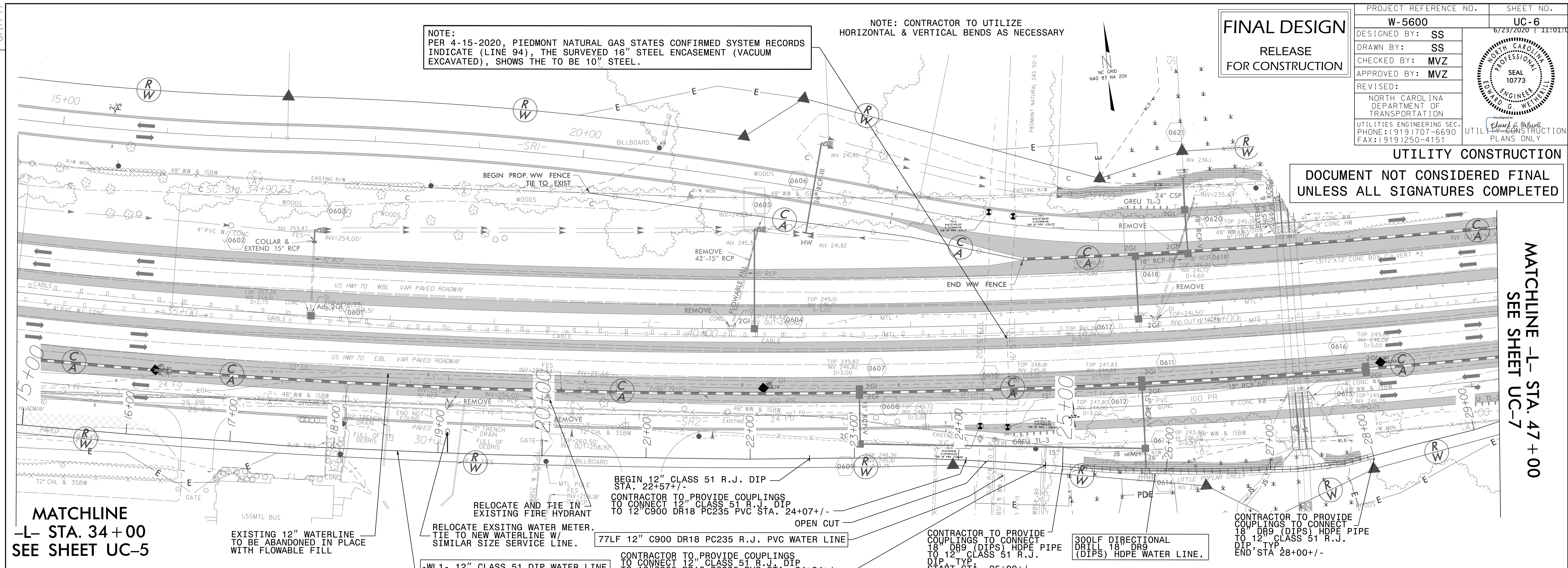
FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION

NOTE:  
PER 4-15-2020, PIEDMONT NATURAL GAS STATES CONFIRMED SYSTEM RECORDS INDICATE (LINE 94), THE SURVEYED 16" STEEL ENCASEMENT (VACUUM EXCAVATED), SHOWS THE TO BE 10" STEEL.

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 47 + 00  
SEE SHEET UC-7



MATCHLINE  
-L- STA. 34 + 00  
SEE SHEET UC-5

EXISTING 12" WATERLINE  
TO BE ABANDONED IN PLACE  
WITH FLOWABLE FILL

RELOCATE EXISTING WATER METER.  
TIE TO NEW WATERLINE W/  
SIMILAR SIZE SERVICE LINE.

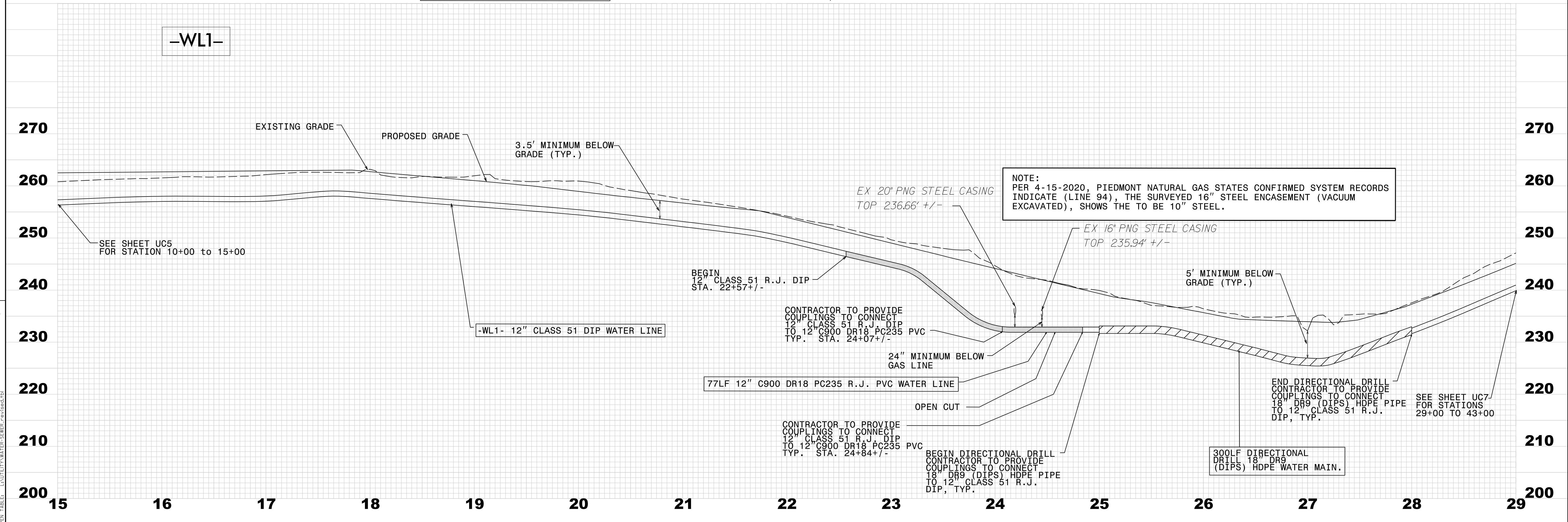
-WL1- 12" CLASS 51 DIP WATER LINE

BEGIN 12" CLASS 51 R.J. DIP  
STA. 22+57+/-  
CONTRACTOR TO PROVIDE COUPLINGS  
TO CONNECT 12" CLASS 51 R.J. DIP  
TO 12" C900 DR18 PC235 PVC STA. 24+07+/-  
OPEN CUT  
77LF 12" C900 DR18 PC235 R.J. PVC WATER LINE  
CONTRACTOR TO PROVIDE COUPLINGS  
TO CONNECT 12" CLASS 51 R.J. DIP  
TO 12" C900 DR18 PC235 PVC STA. 24+84+/-

CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
18" DR9 (DIPS) HDPE PIPE  
TO 12" CLASS 51 R.J.  
DIP, TYP.  
START STA. 25+00+/-

300LF DIRECTIONAL  
DRILL 18" DR9  
(DIPS) HDPE WATER LINE.

CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
18" DR9 (DIPS) HDPE PIPE  
TO 12" CLASS 51 R.J.  
DIP, TYP.  
END STA 28+00+/-



-WL1-

NOTE:  
PER 4-15-2020, PIEDMONT NATURAL GAS STATES CONFIRMED SYSTEM RECORDS INDICATE (LINE 94), THE SURVEYED 16" STEEL ENCASEMENT (VACUUM EXCAVATED), SHOWS THE TO BE 10" STEEL.

EX 20" PNG STEEL CASING  
TOP 236.66' +/-

EX 16" PNG STEEL CASING  
TOP 235.94' +/-

BEGIN  
12" CLASS 51 R.J. DIP  
STA. 22+57+/-

CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
12" CLASS 51 R.J. DIP  
TO 12" C900 DR18 PC235 PVC  
TYP. STA. 24+07+/-

-WL1- 12" CLASS 51 DIP WATER LINE

77LF 12" C900 DR18 PC235 R.J. PVC WATER LINE

CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
12" CLASS 51 R.J. DIP  
TO 12" C900 DR18 PC235 PVC  
TYP. STA. 24+84+/-

BEGIN DIRECTIONAL DRILL  
CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
18" DR9 (DIPS) HDPE PIPE  
TO 12" CLASS 51 R.J.  
DIP, TYP.

300LF DIRECTIONAL  
DRILL 18" DR9  
(DIPS) HDPE WATER MAIN.

END DIRECTIONAL DRILL  
CONTRACTOR TO PROVIDE  
COUPLINGS TO CONNECT  
18" DR9 (DIPS) HDPE PIPE  
TO 12" CLASS 51 R.J.  
DIP, TYP.  
SEE SHEET UC-7  
FOR STATIONS  
29+00 TO 43+00

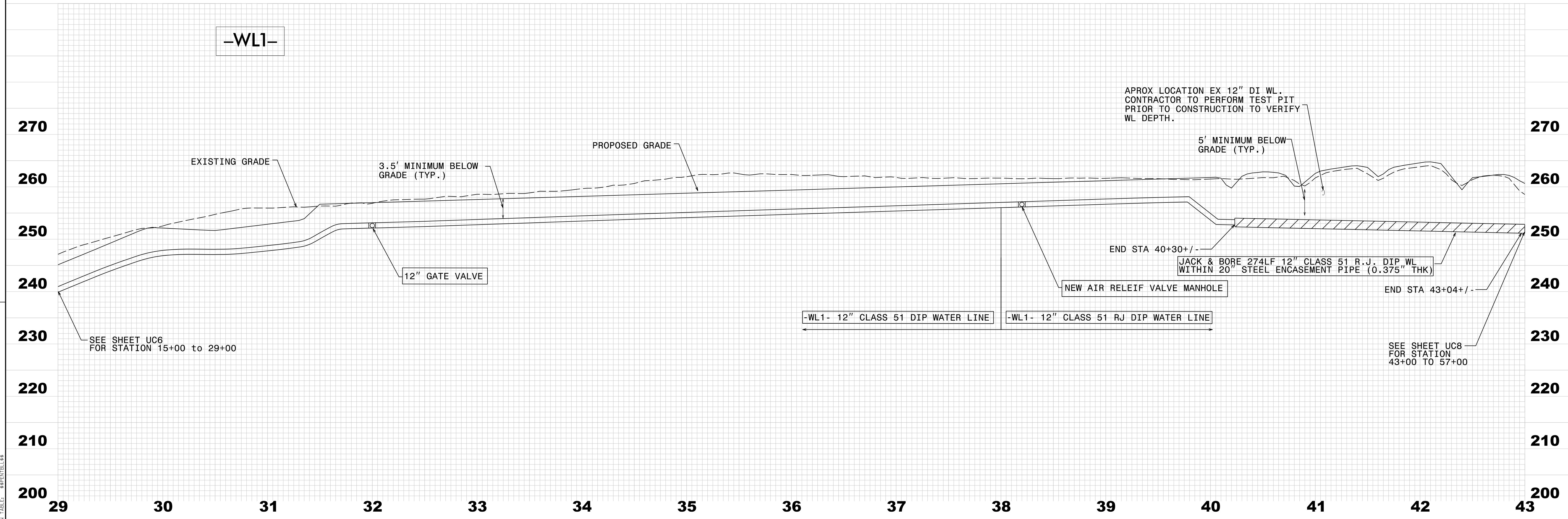
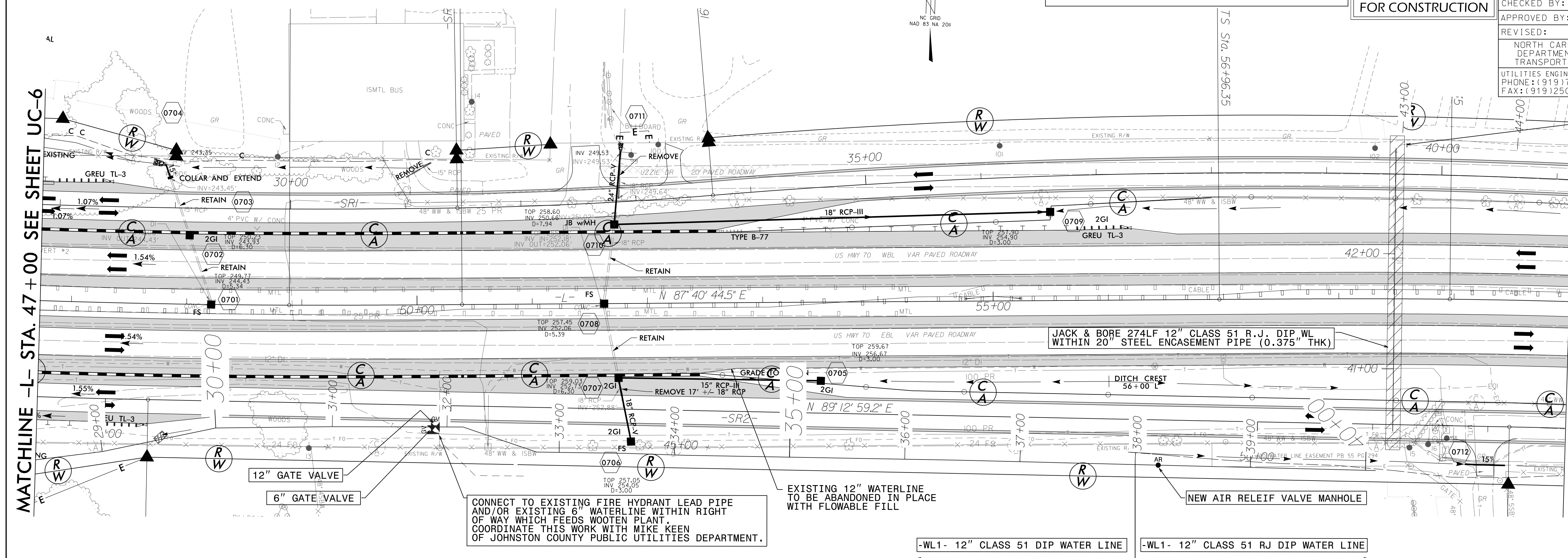
P:\2020\W-5600\Drawings\Engineering\UC-7\Plan\W-5600\_24\_UC7.dwg  
 FILED: 6/23/2020 11:01:11 AM  
 USER: mvz  
 PLOT: 6/23/2020 11:01:11 AM  
 PLOTTER: HP DesignJet T1100

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-7</b>
DESIGNED BY: <b>SS</b>	DATE: <b>11/20/2019</b>
DRAWN BY: <b>SS</b>	
CHECKED BY: <b>MVZ</b>	
APPROVED BY: <b>MVZ</b>	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6650 FAX: (919) 250-4151



REVISIONS

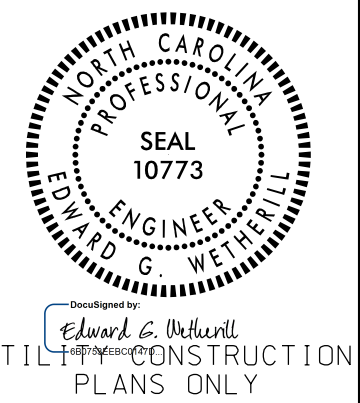
P:\0500\W-5600\10270\Utilities\Engineering\UC-7\W-5600\_UC7.dwg  
 DATE: 11/20/2019 10:58:11 AM  
 USER: mvz



**UTILITY CONSTRUCTION**  
**DOCUMENT NOT CONSIDERED FINAL**  
**UNLESS ALL SIGNATURES COMPLETED**

**FINAL DESIGN**  
 RELEASE  
 FOR CONSTRUCTION

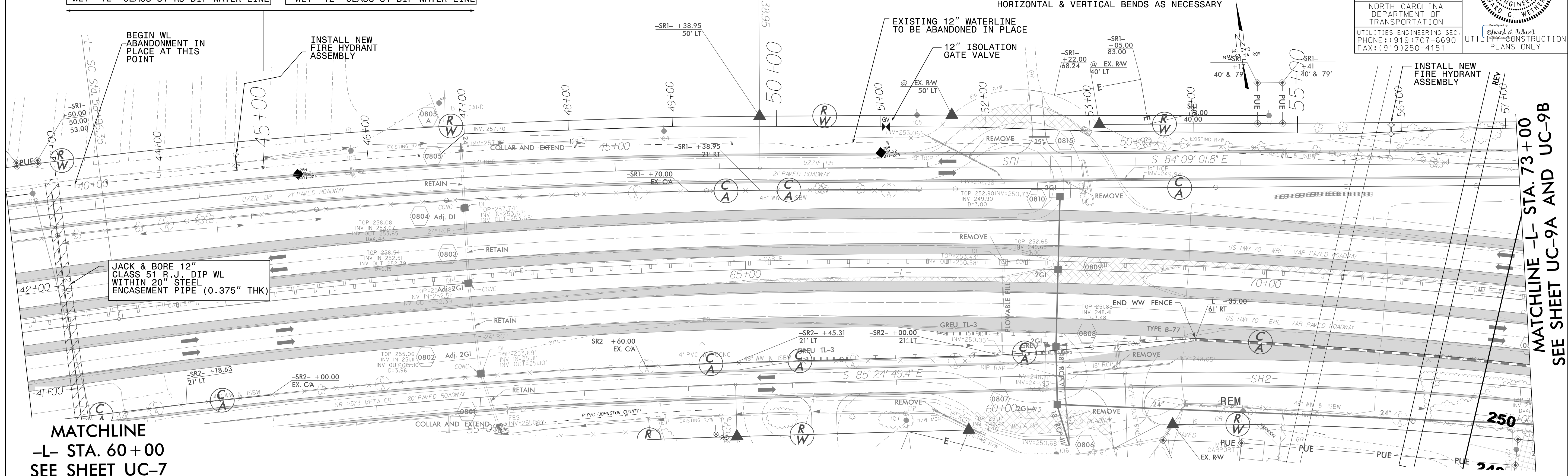
PROJECT REFERENCE NO.	W-5600	SHEET NO.	UC-8
DESIGNED BY:	SS	DATE:	6/5/2020 10:51:38 EDT
DRAWN BY:	SS		
CHECKED BY:	MVZ		
APPROVED BY:	MVZ		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			



8

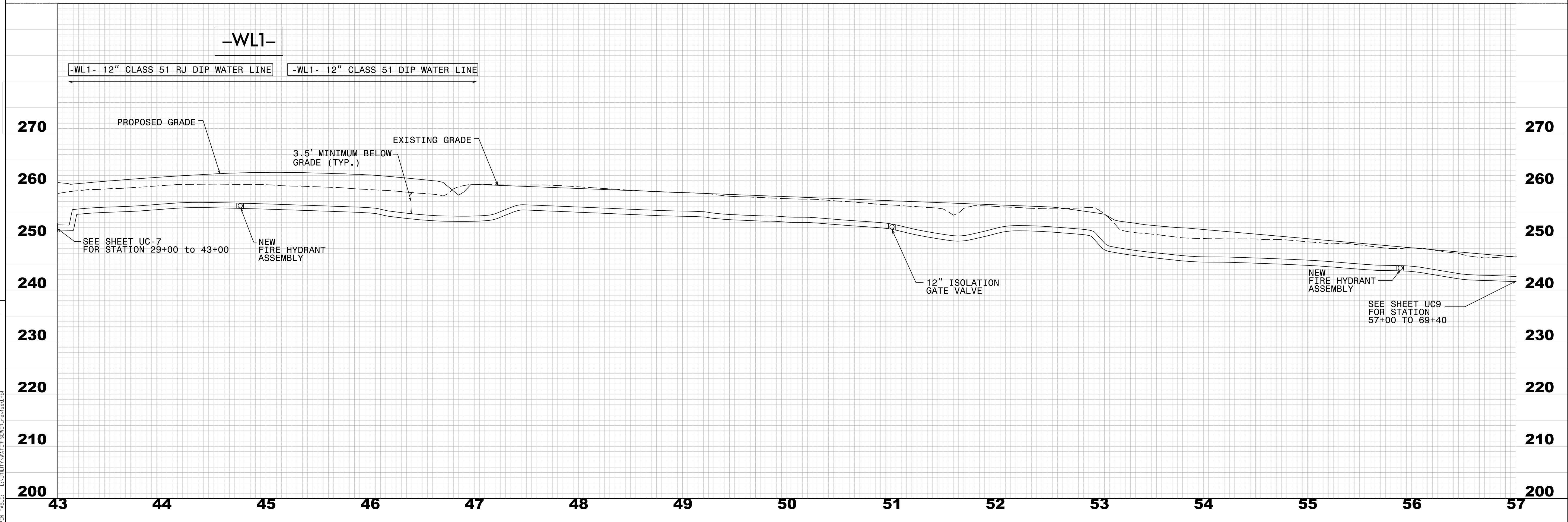
DOUBLE Z FARMS LIMITED PARTNERSHIP  
DB 2001 PG 927

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY



**MATCHLINE**  
 -L- STA. 60+00  
 SEE SHEET UC-7

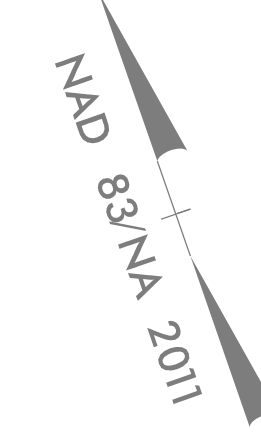
**MATCHLINE -L- STA. 73+00**  
 SEE SHEET UC-9A AND UC-9B



E:\Projects\2019\W-5600\Drawings\Engineering\UC\9A\W-5600\_UC9A.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9B\W-5600\_UC9B.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9C\W-5600\_UC9C.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9D\W-5600\_UC9D.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9E\W-5600\_UC9E.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9F\W-5600\_UC9F.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9G\W-5600\_UC9G.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9H\W-5600\_UC9H.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9I\W-5600\_UC9I.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9J\W-5600\_UC9J.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9K\W-5600\_UC9K.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9L\W-5600\_UC9L.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9M\W-5600\_UC9M.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9N\W-5600\_UC9N.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9O\W-5600\_UC9O.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9P\W-5600\_UC9P.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9Q\W-5600\_UC9Q.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9R\W-5600\_UC9R.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9S\W-5600\_UC9S.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9T\W-5600\_UC9T.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9U\W-5600\_UC9U.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9V\W-5600\_UC9V.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9W\W-5600\_UC9W.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9X\W-5600\_UC9X.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9Y\W-5600\_UC9Y.dwg, JCB, 10/1/19  
 E:\Projects\2019\W-5600\Drawings\Engineering\UC\9Z\W-5600\_UC9Z.dwg, JCB, 10/1/19

8/17/99

17  
PATTIE B. PROCTOR  
DB 699 PG 604



**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-9A</b>
DESIGNED BY: <b>SS</b>	6/5/2020 10:51:38 EDT
DRAWN BY: <b>SS</b>	
CHECKED BY: <b>MVZ</b>	
APPROVED BY: <b>MVZ</b>	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
REVISIONS:	UTILITIES ENGINEERING SEC. PLANS ONLY

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY

TIE TO EXISTING 16" DIP  
WATER MAIN ONCE ALL  
TESTING AND CHLORINATION IS COMPLETED.  
RESTRAIN NEW WATERLINE  
TO EXISTING WATERLINE.  
USE STAINLESS STEEL "ALL THREAD"  
RODDING AS REQUIRED.  
COORDINATE WITH COUNTY.

NEW 12" WATERLINE TIE IN  
INSTALL 12X12 TEE  
AND (1) 12" GATE VALVE

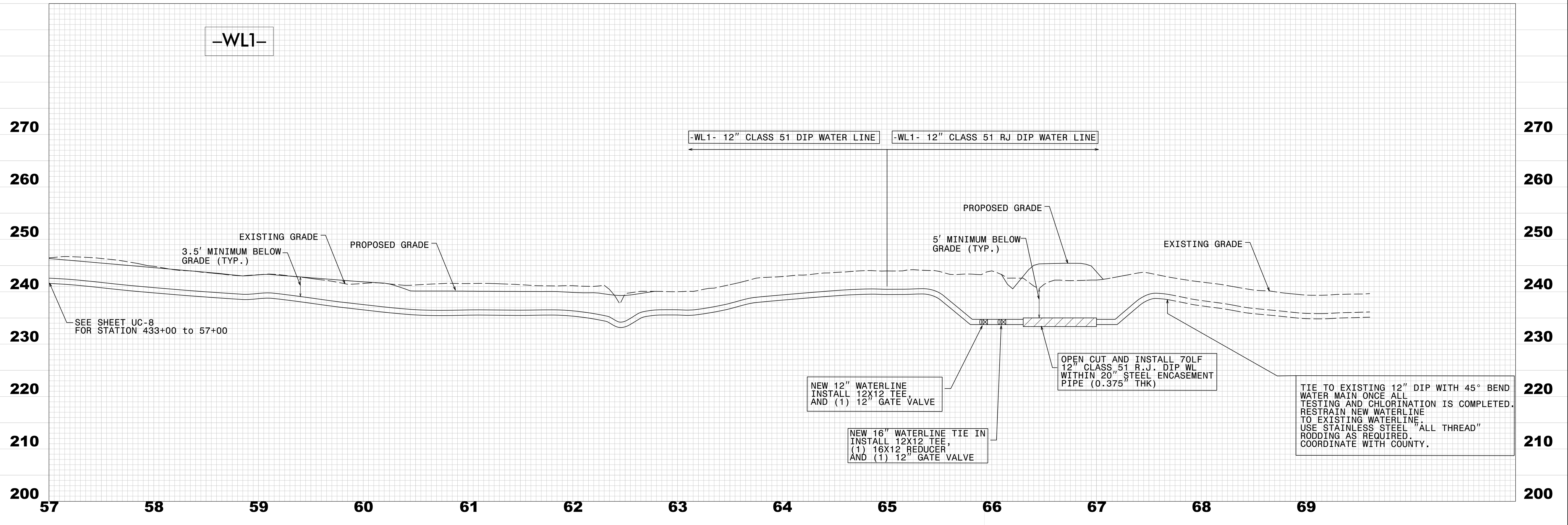
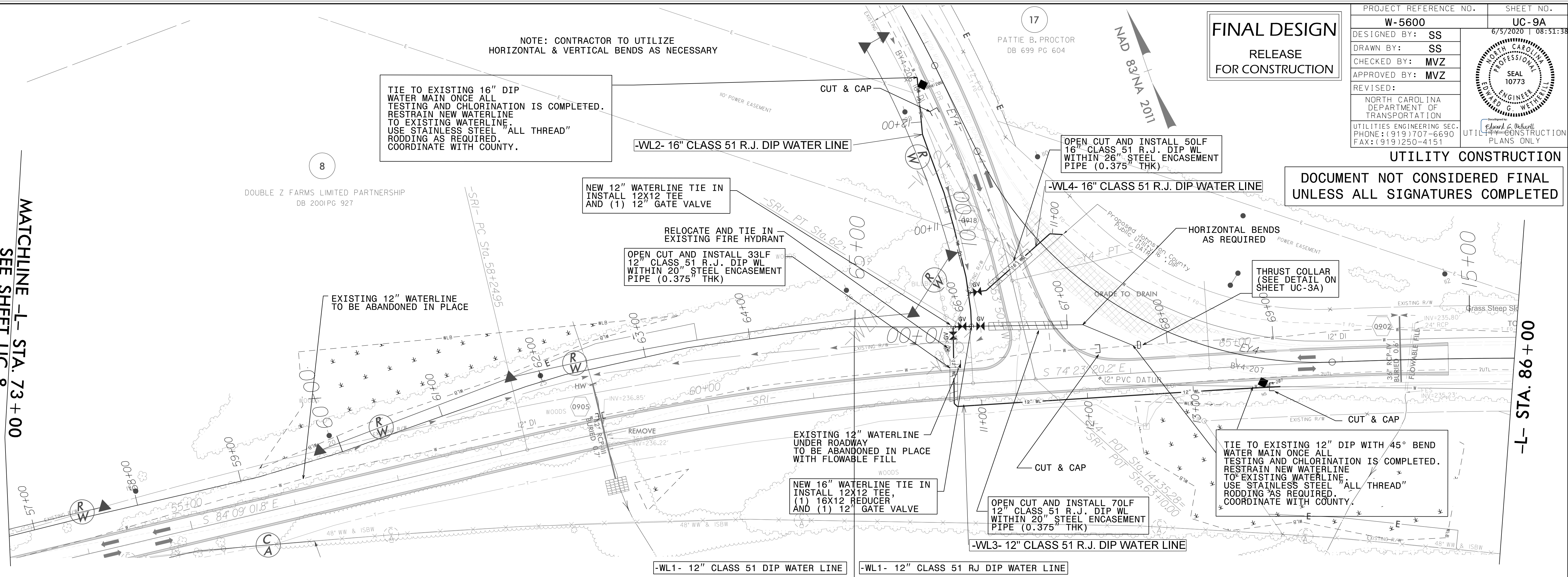
OPEN CUT AND INSTALL 33LF  
12" CLASS 51 R.J. DIP WL  
WITHIN 20" STEEL ENCASEMENT  
PIPE (0.375" THK)

OPEN CUT AND INSTALL 50LF  
16" CLASS 51 R.J. DIP WL  
WITHIN 26" STEEL ENCASEMENT  
PIPE (0.375" THK)

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 73+00  
SEE SHEET UC-8

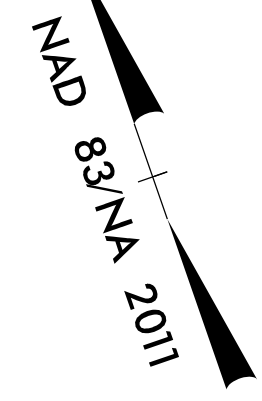
DOUBLE Z FARMS LIMITED PARTNERSHIP  
DB 2001 PG 927



REVISIONS

AS SHOWN ON W-5600 UTILITIES ENGINEERING UC-9A W-5600 04/12/2018.dwg  
REV. DATE BY W-5600 UTILITIES ENGINEERING UC-9A W-5600 04/12/2018.dwg

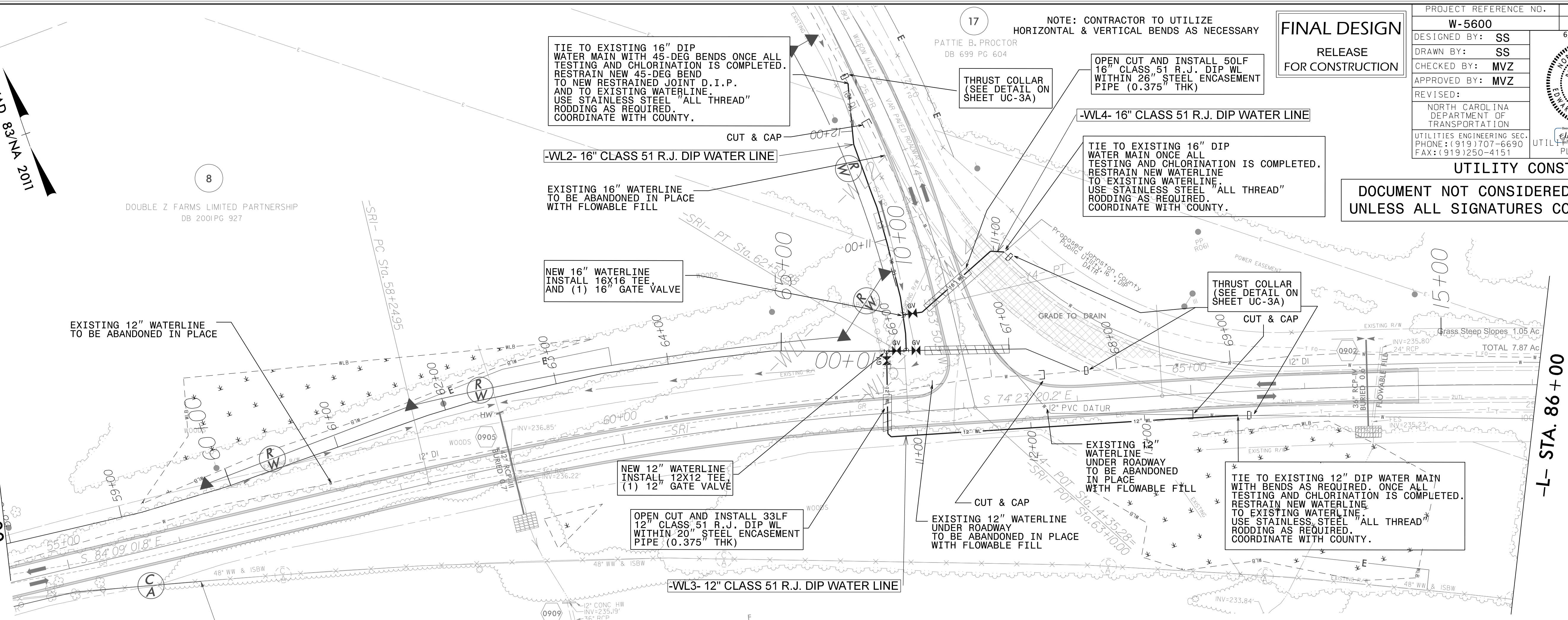
8/17/99



8

DOUBLE Z FARMS LIMITED PARTNERSHIP  
DB 2001/PG 927

MATCHLINE -L- STA. 73+00  
SEE SHEET UC-8



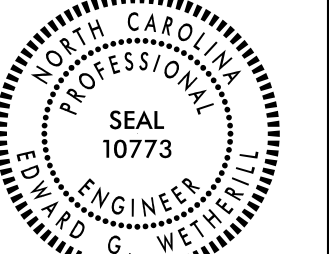
17  
PATTIE B. PROCTOR  
DB 699 PG 604

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY

**FINAL DESIGN**

RELEASE  
FOR CONSTRUCTION

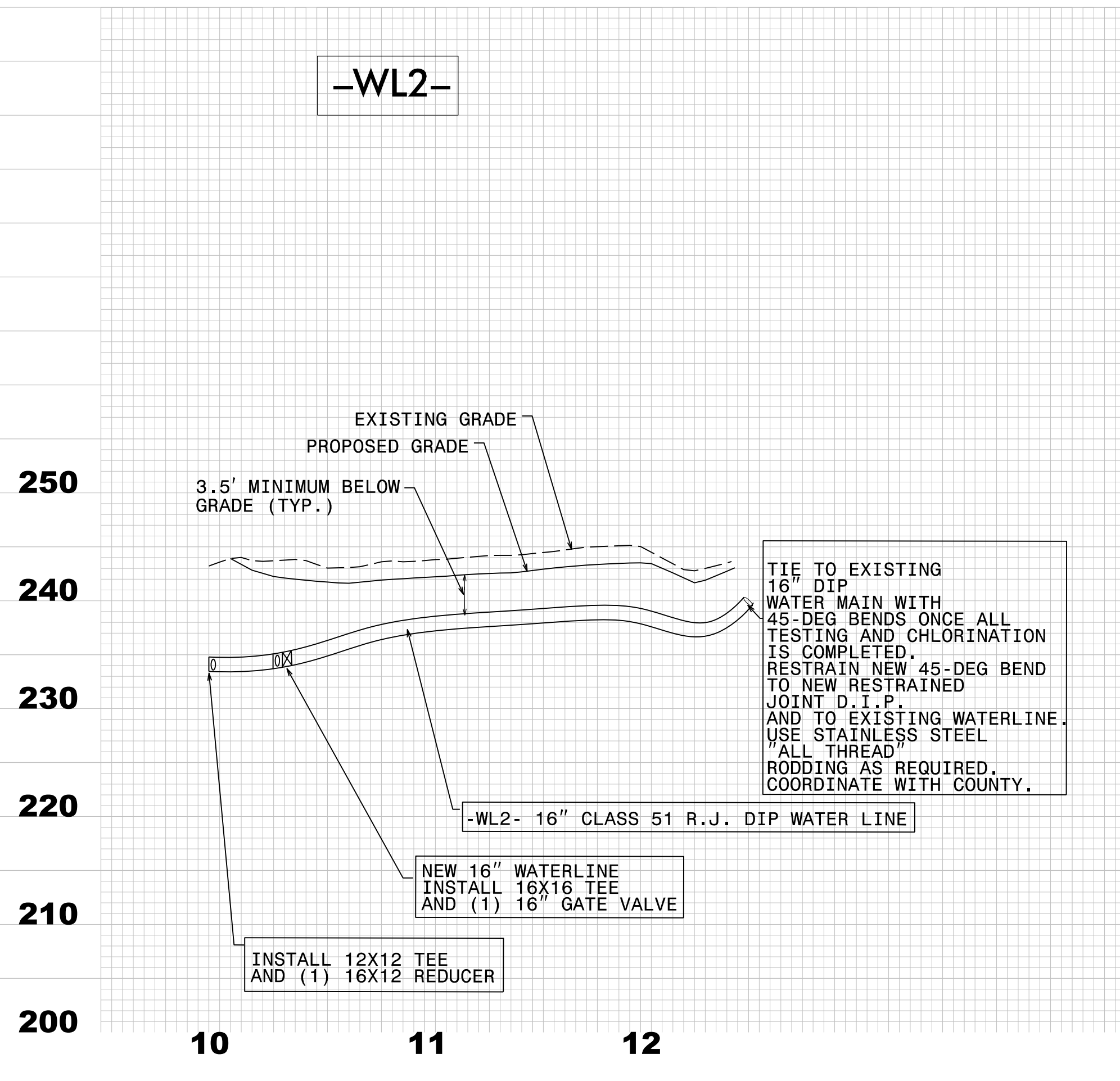
PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-9B
DESIGNED BY: SS	6/5/2020 08:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6630 FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



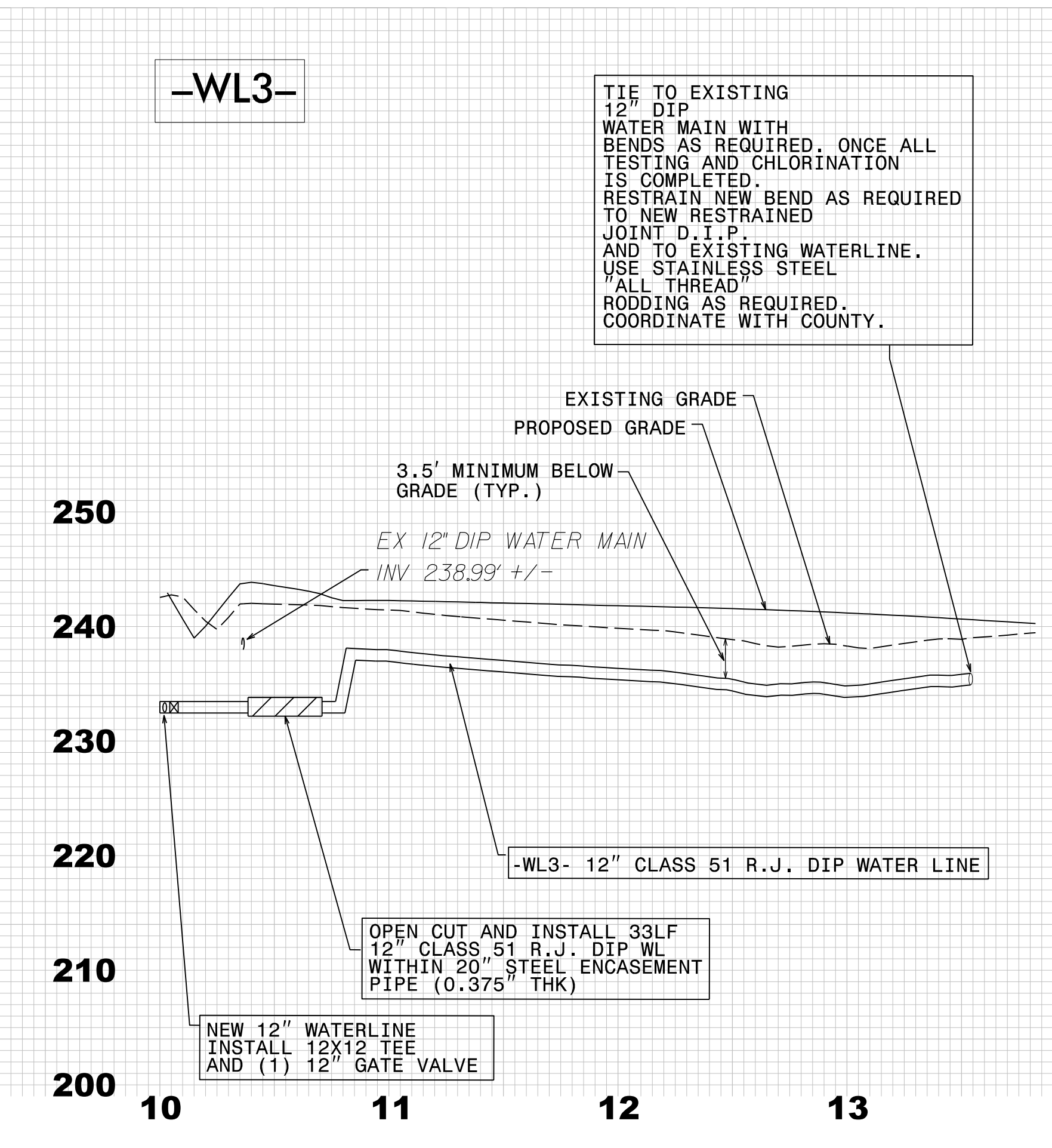
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

REVISIONS

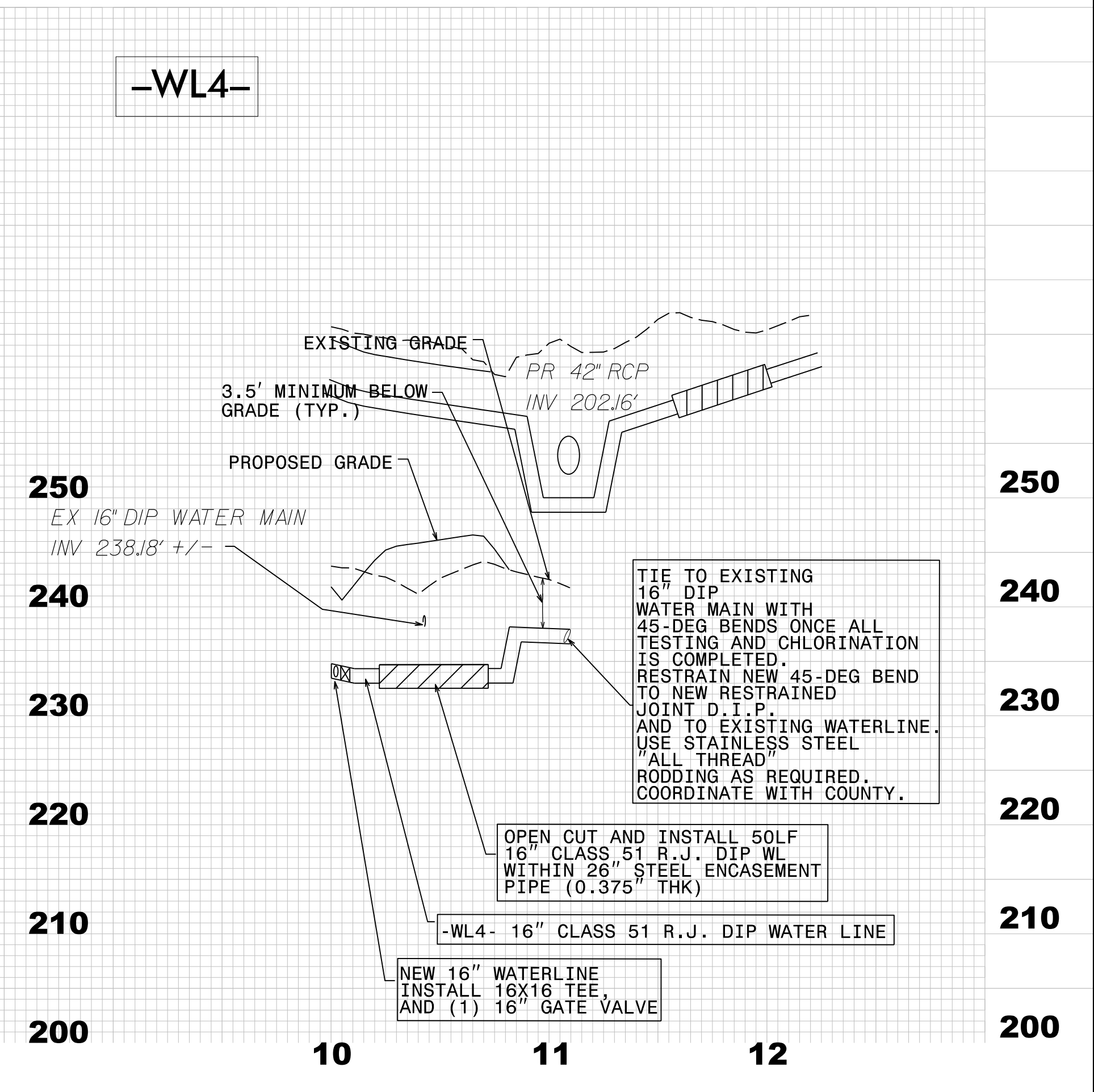
-WL2-



-WL3-



-WL4-



PL 2001/PG 927, W-5600, JES/CON/Utilities Engineering, Inc., 1000 W. 90th St., Suite 100, Charlotte, NC 28226  
REVISED: 8/17/99 BY: [Signature]

B.17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

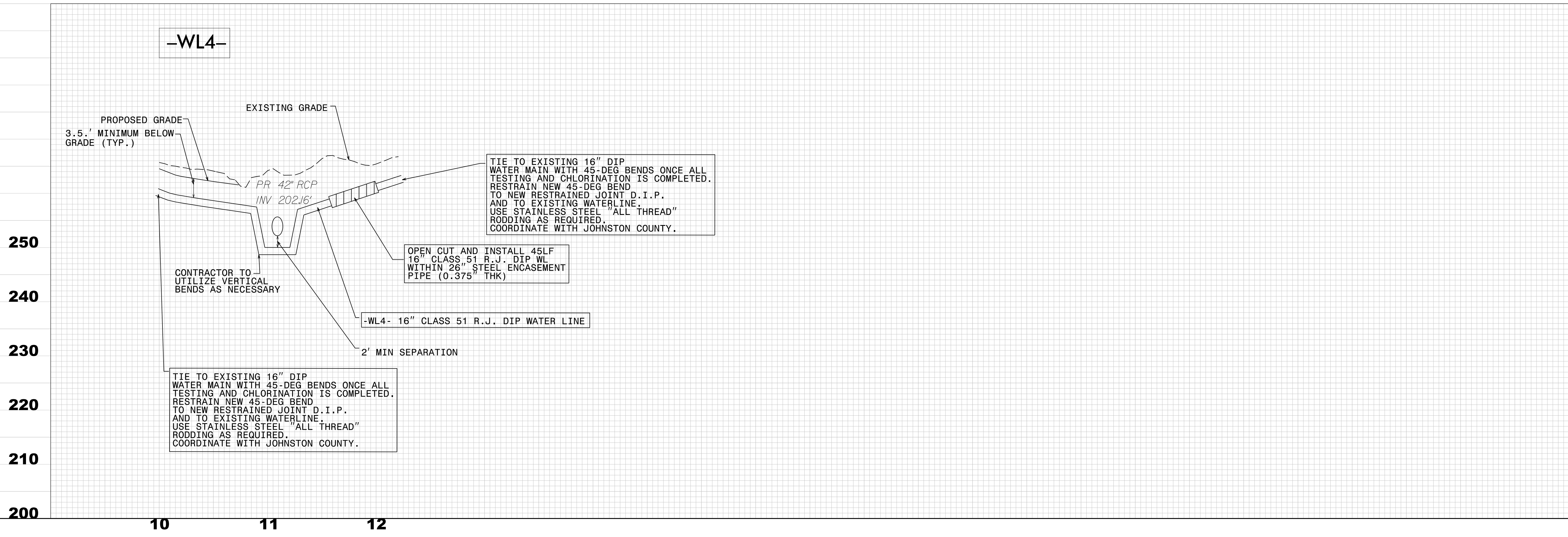
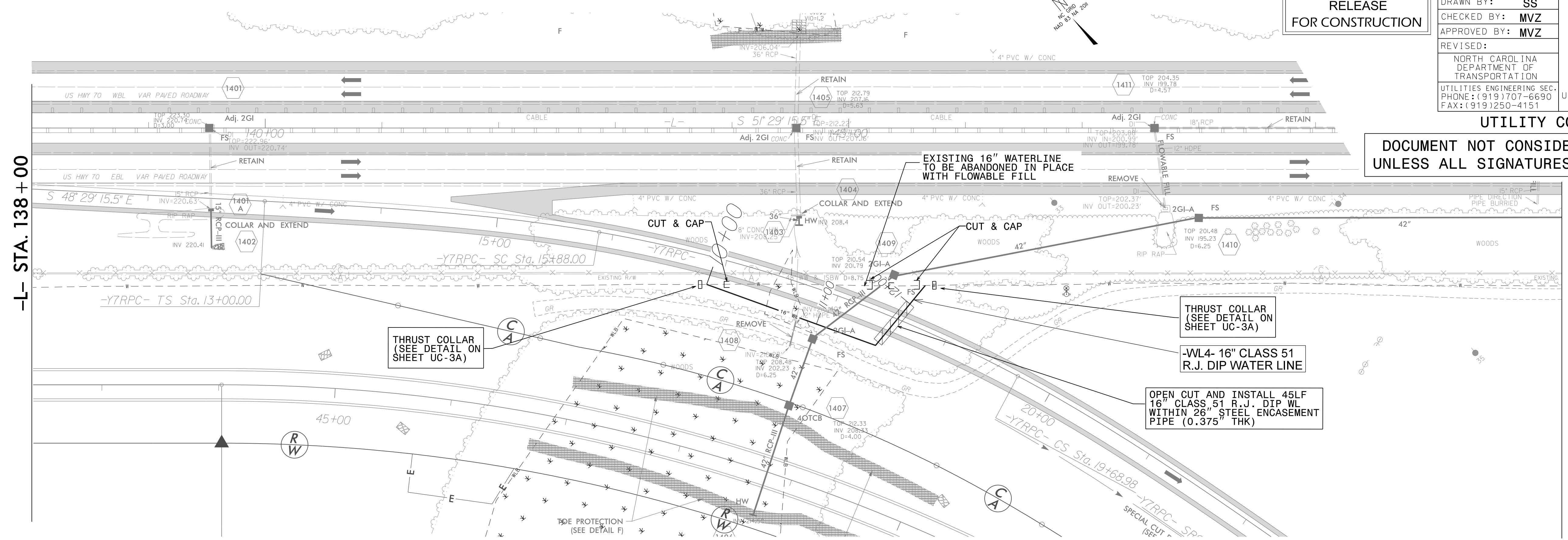
**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-14
DESIGNED BY: SS	6/5/2020 08:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
REVISED:	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 151+00  
SEE SHEET UC-15A AND UC-15B




REVISIONS

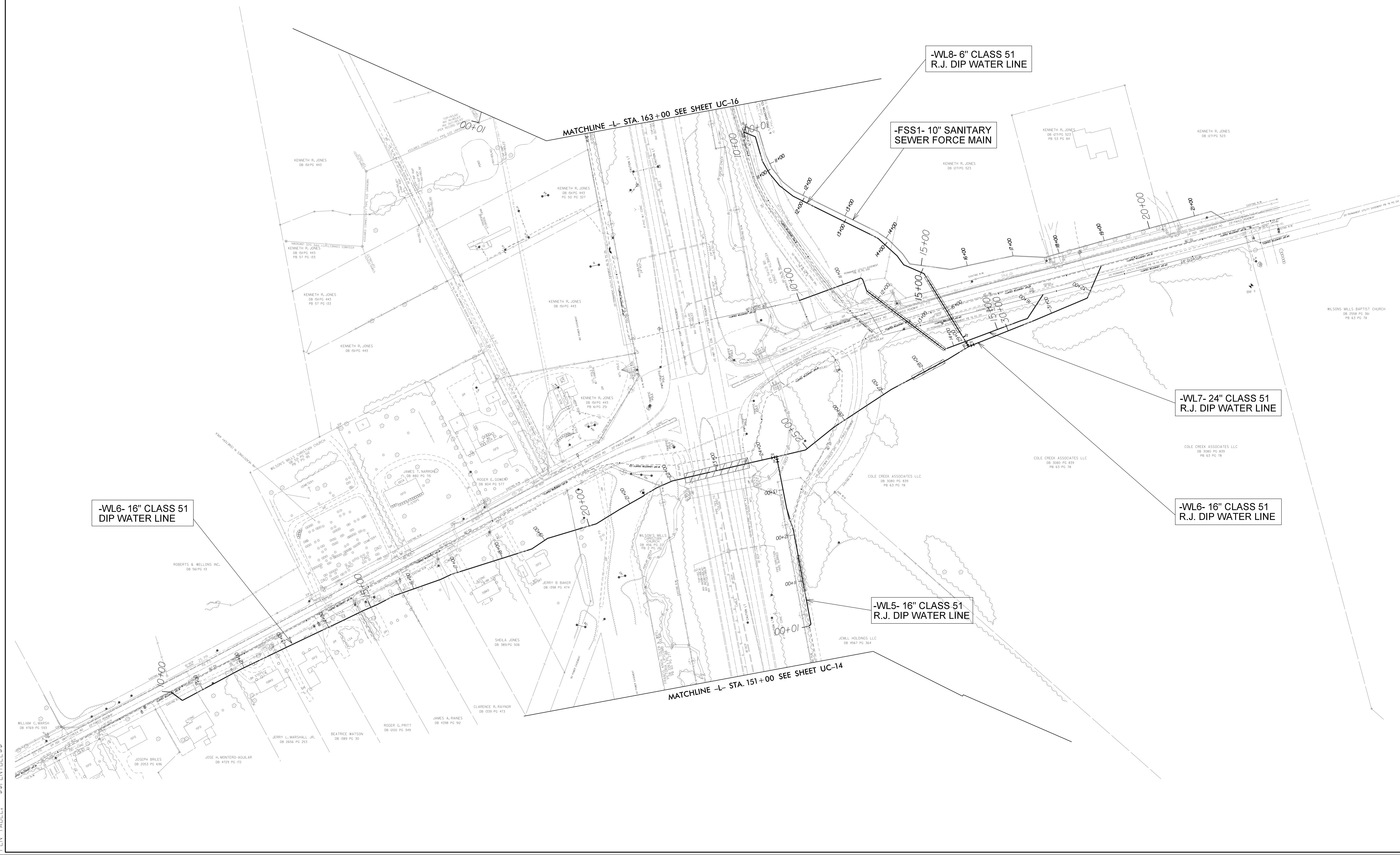
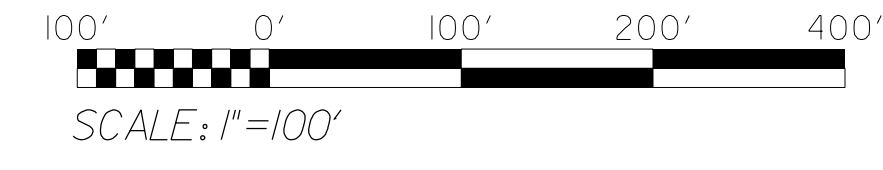
PL: 2020.06.01 W: 5600 UC: 14 UC-14.dwg  
REV: 1 DATE: 6/5/2020 BY: MVZ  
REV: 2 DATE: 6/5/2020 BY: MVZ

5/14/99

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-15
DESIGNED BY: SS	11/20/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
UTILITIES ENGINEERING CONSTRUCTION PLANS ONLY	



10:06:47 AM  
 P:\2017\172101\_W-5600\Utilities\Engineering\UC\Proj\w5600\_ut\_UC15\_pf.dgn  
 PLOT DRIVER: \$PLOTDRVL\$\$  
 PEN TABLE: \$PENBTBL\$\$

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

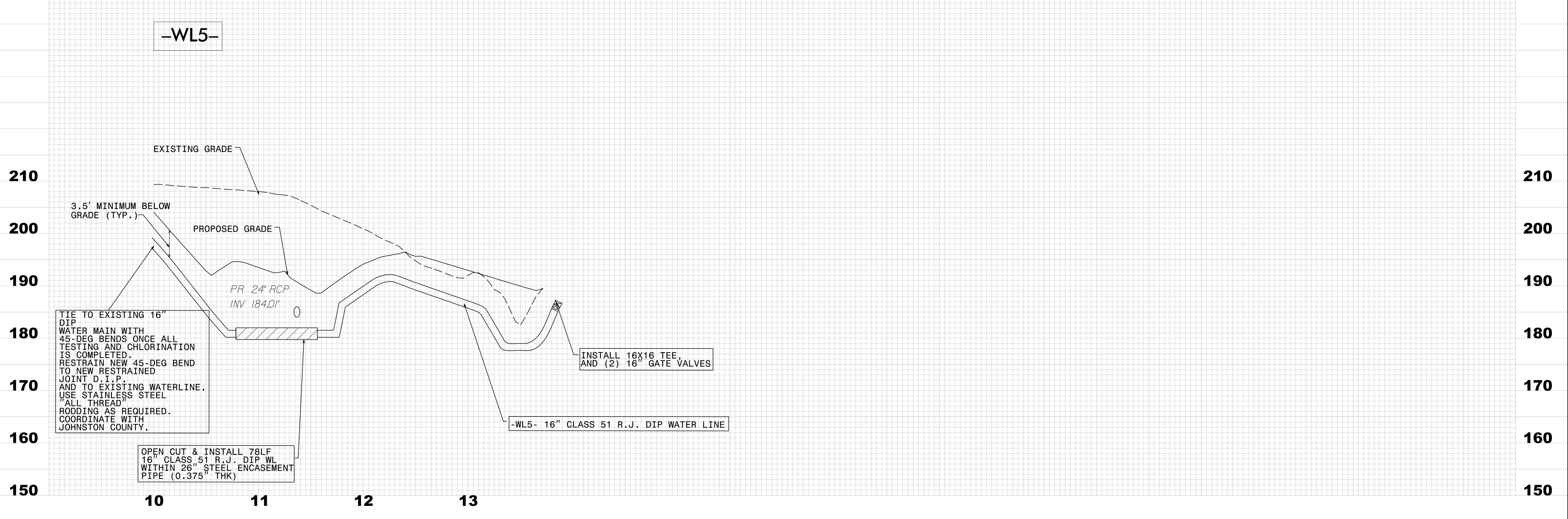
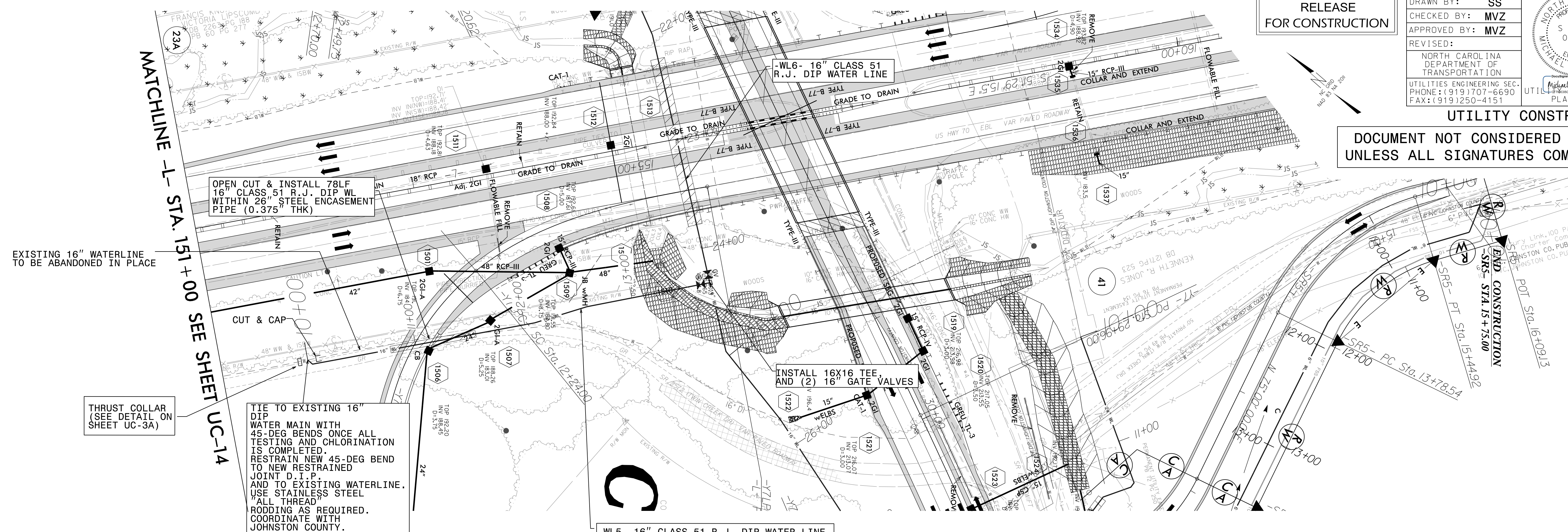
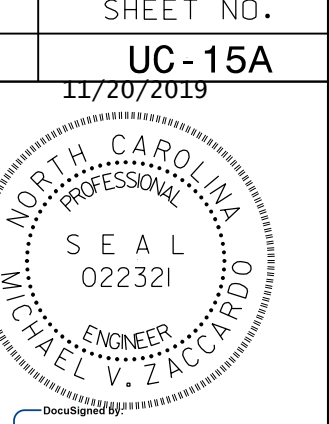
FINAL DESIGN

RELEASE FOR CONSTRUCTION

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-15A</b>
DESIGNED BY: <b>SS</b>	DRAWN BY: <b>SS</b>
CHECKED BY: <b>MVZ</b>	APPROVED BY: <b>MVZ</b>
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

**UTILITY CONSTRUCTION**

**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**



REVISIONS

8/17/19

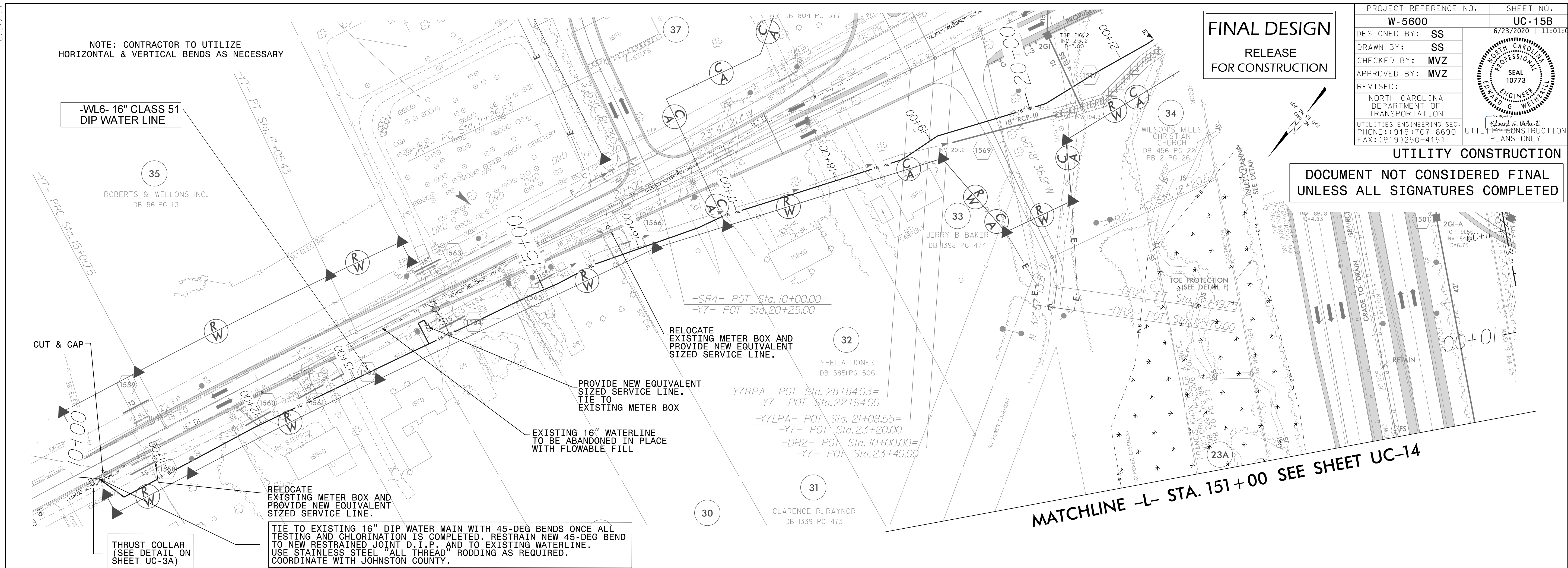
8/17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

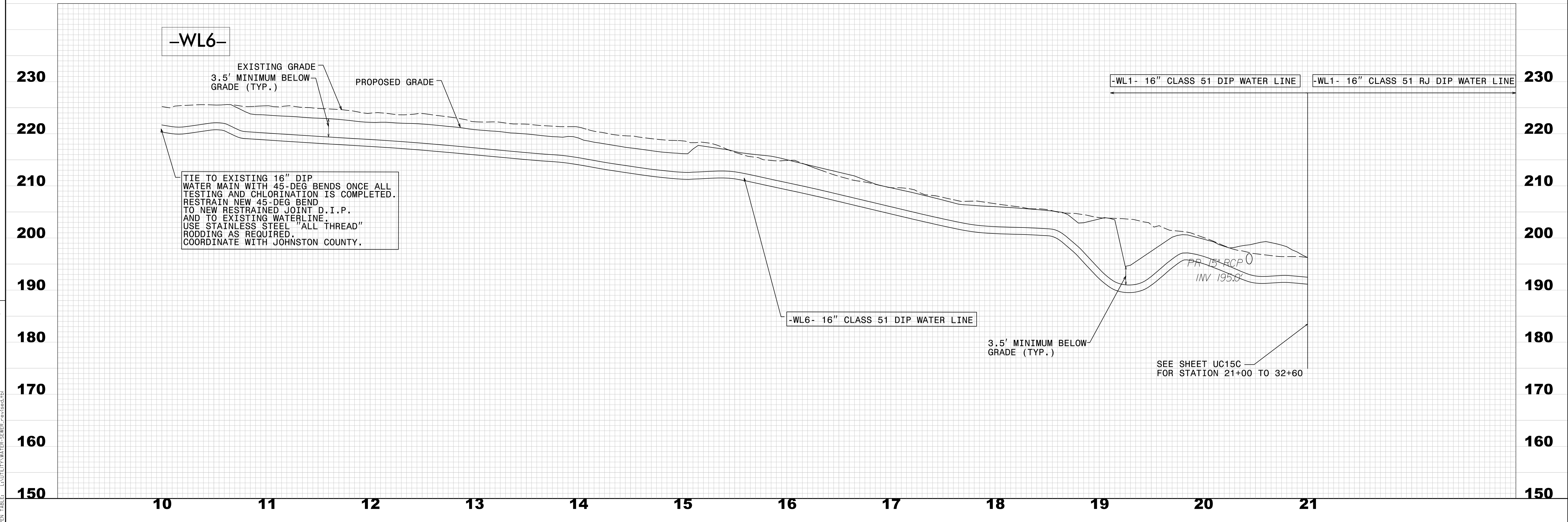
**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-15B
DESIGNED BY: SS	6/23/2020 11:01:01
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
REVISED:	UTILITIES CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



MATCHLINE -L- STA. 151+00 SEE SHEET UC-14



-WL6-

EXISTING GRADE  
3.5' MINIMUM BELOW GRADE (TYP.)

PROPOSED GRADE

TIE TO EXISTING 16" DIP WATER MAIN WITH 45-DEG BENDS ONCE ALL TESTING AND CHLORINATION IS COMPLETED. RESTRAIN NEW 45-DEG BEND TO NEW RESTRAINED JOINT D.I.P. AND TO EXISTING WATERLINE. USE STAINLESS STEEL "ALL THREAD" RODDING AS REQUIRED. COORDINATE WITH JOHNSTON COUNTY.

-WL6- 16" CLASS 51 DIP WATER LINE

-WL1- 16" CLASS 51 DIP WATER LINE


-WL1- 16" CLASS 51 RJ DIP WATER LINE

3.5' MINIMUM BELOW GRADE (TYP.)

SEE SHEET UC15C FOR STATION 21+00 TO 32+60

REVISIONS

8/17/99  
REVISED BY: MVZ  
DATE: 6/23/2020  
PROJECT: W-5600  
SHEET: UC-15B

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-15C
DESIGNED BY: SS	11/20/2019
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151	

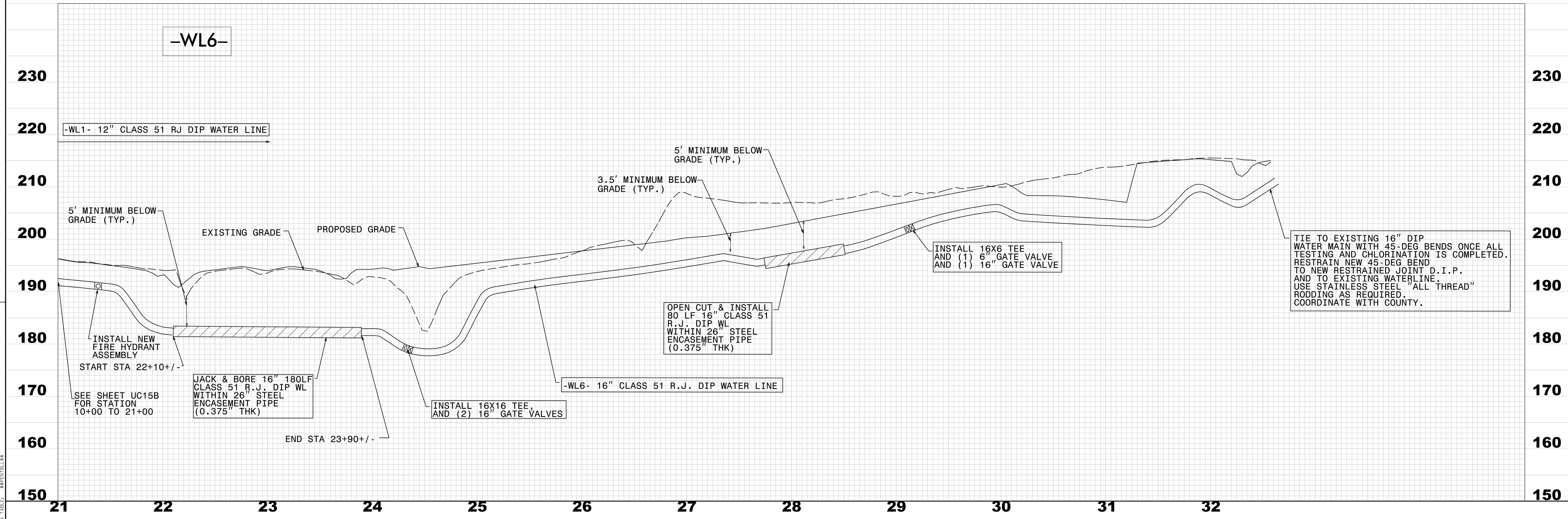
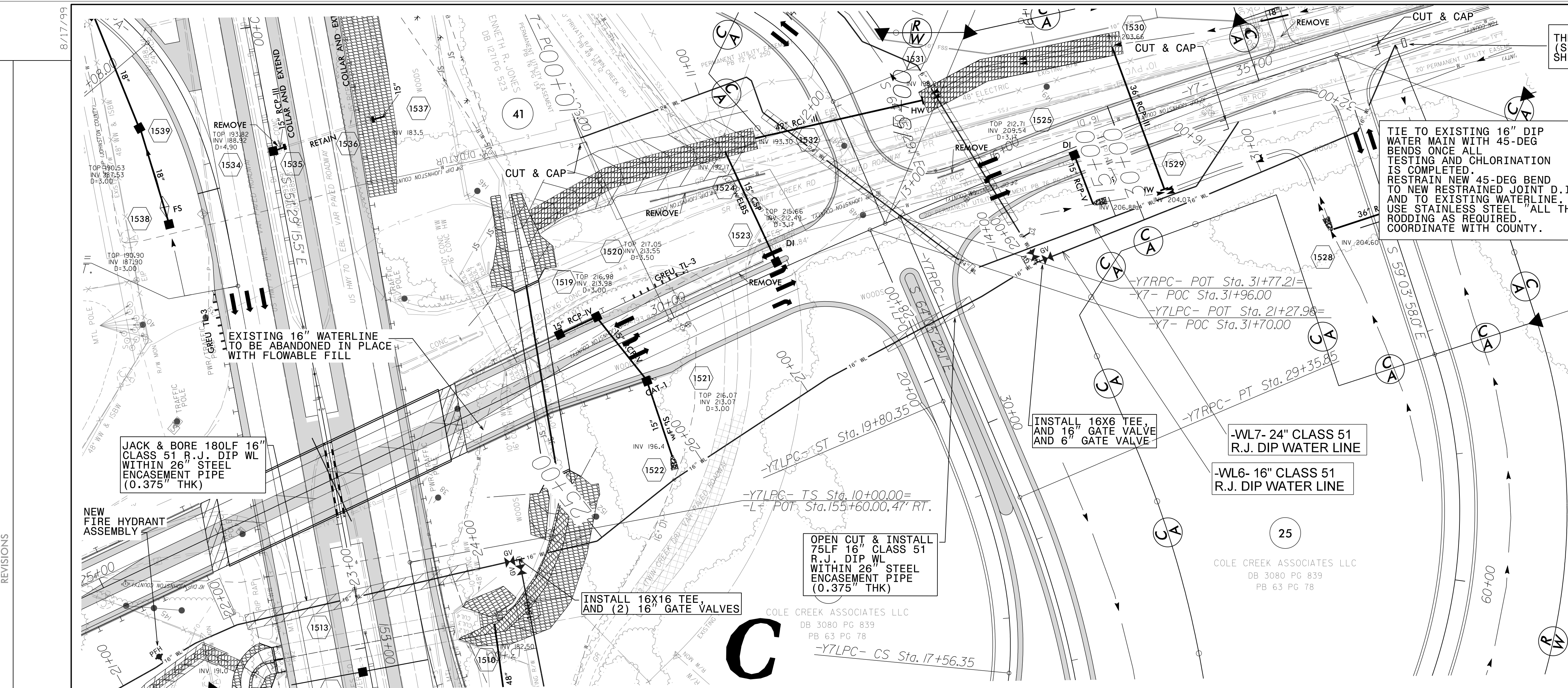
UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

FINAL DESIGN  
RELEASE FOR CONSTRUCTION

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

25  
COLE CREEK ASSOCIATES LLC  
DB 3080 PG 839  
PB 63 PG 78



PROJECT NO. W-5600, SHEET UC-15C, PROJECT LOCATION: ...  
 DATE: 11/20/2019  
 DRAWN BY: SS  
 CHECKED BY: MVZ  
 APPROVED BY: MVZ

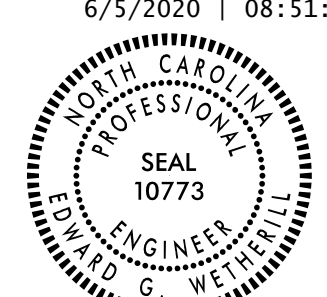


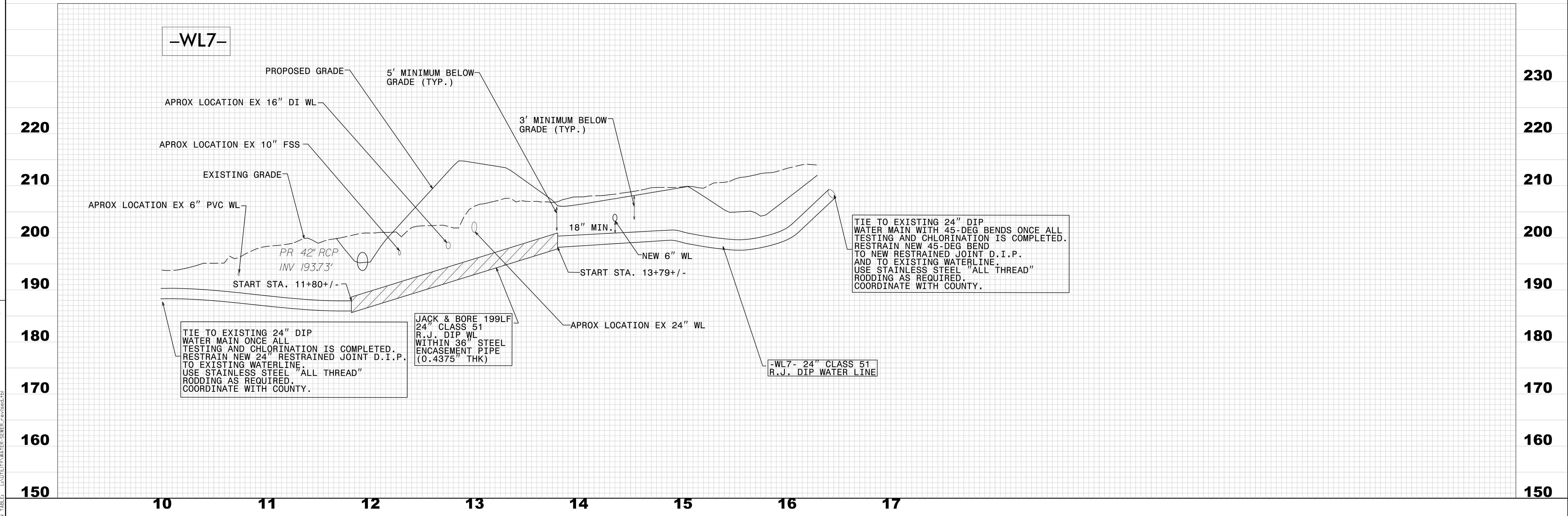
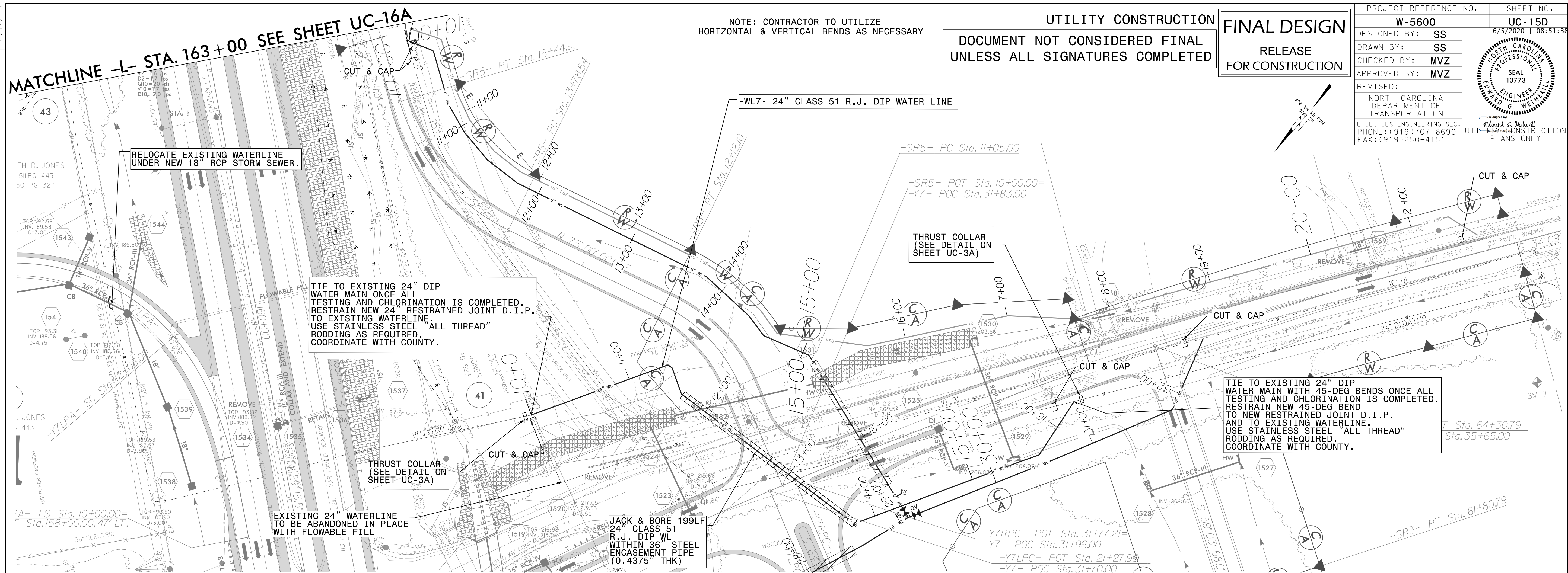
B.17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-15D
DESIGNED BY: SS	6/5/2020 08:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	REVISIONS
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	
FAX: (919) 250-4151	
UTILITY CONSTRUCTION PLANS ONLY	



REVISIONS

6/5/2020 10:50:15 AM  
E:\Projects\W-5600\Drawings\Utility\UC-15D.dwg  
REVISED BY: MVZ  
DATE: 6/5/2020

MATCHLINE -L- STA. 163+00 SEE SHEET UC-16A

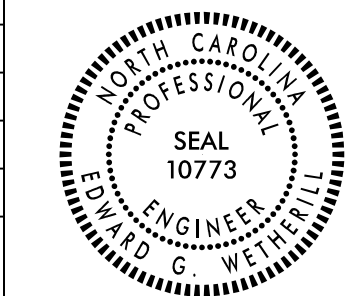
CONSTRUCTION  
SR5- STA. 15+75.00

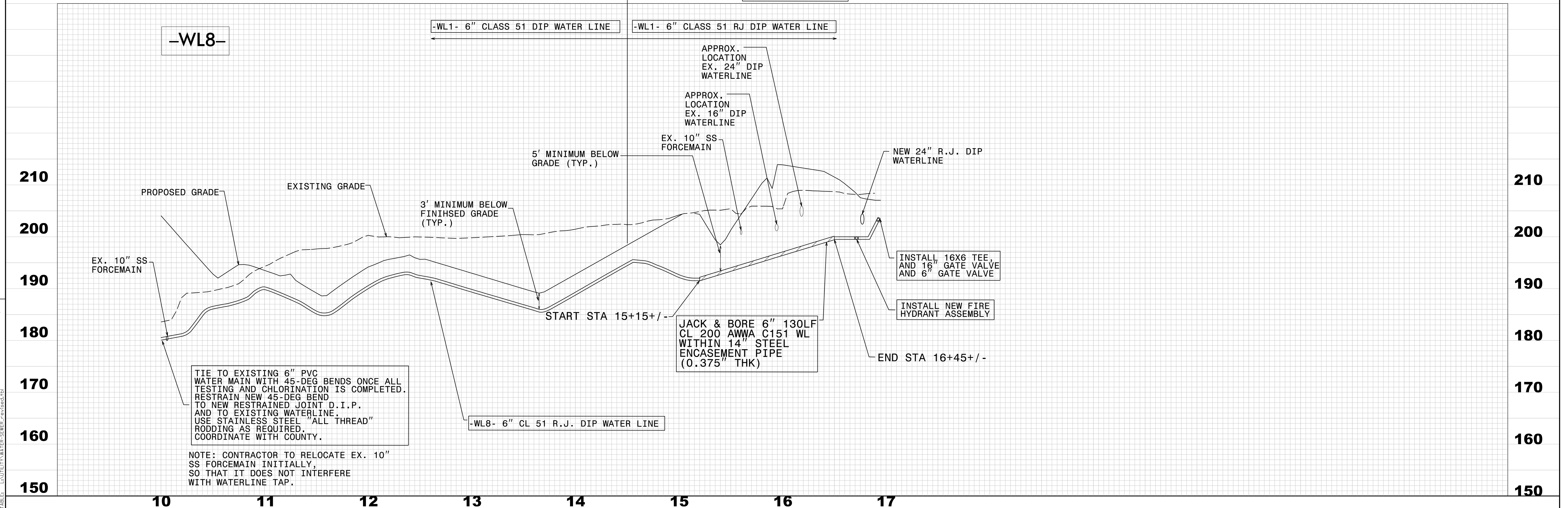
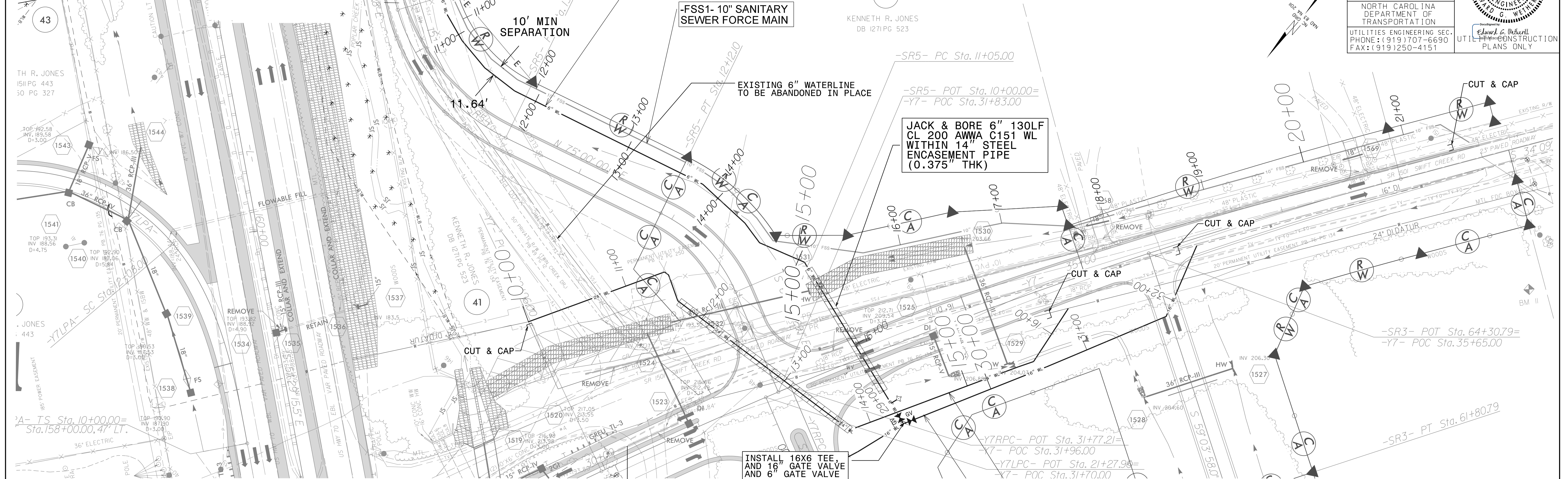
THRUST COLLAR  
(SEE DETAIL ON  
SHEET UC-3A)

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY

UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-15E</b>
DESIGNED BY: <b>SS</b>	DRAWN BY: <b>SS</b>
CHECKED BY: <b>MVZ</b>	APPROVED BY: <b>MVZ</b>
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
 EDWARD G. O'NEIL LICENSE NO. 10773 PROFESSIONAL ENGINEER STATE OF NORTH CAROLINA	



REVISIONS

15-08-99  
 E.G. O'NEIL  
 PROFESSIONAL ENGINEER  
 STATE OF NORTH CAROLINA  
 LICENSE NO. 10773  
 PROJECT: W-5600, UTILITIES ENGINEERING SECTION  
 SHEET: UC-15E, 15 OF 15

8/17/99

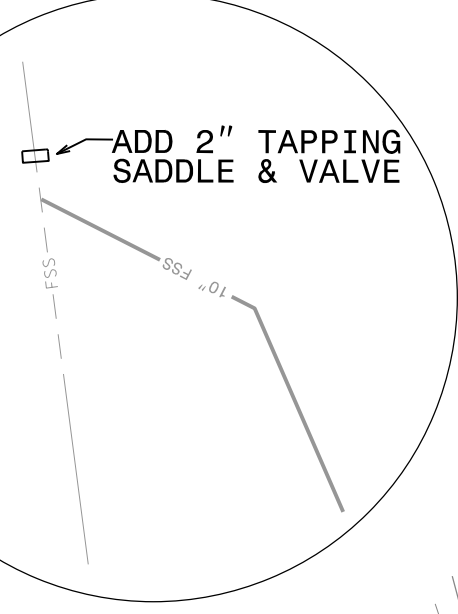
**MATCHLINE -L- STA. 163+00  
SEE SHEET UC-16B**

**UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED**

PROJECT REFERENCE NO.		SHEET NO.	
W-5600		UC-15F	
DESIGNED BY:	SS	6/5/2020 10:53:38 EDT	
DRAWN BY:	SS	NORTH CAROLINA PROFESSIONAL ENGINEERS SEAL 10773	
CHECKED BY:	MVZ	UTILITY CONSTRUCTION PLANS ONLY	
APPROVED BY:	MVZ		
REVISER:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			

SEE INSET "A" ON THIS SHEET

**INSET "A"**



NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

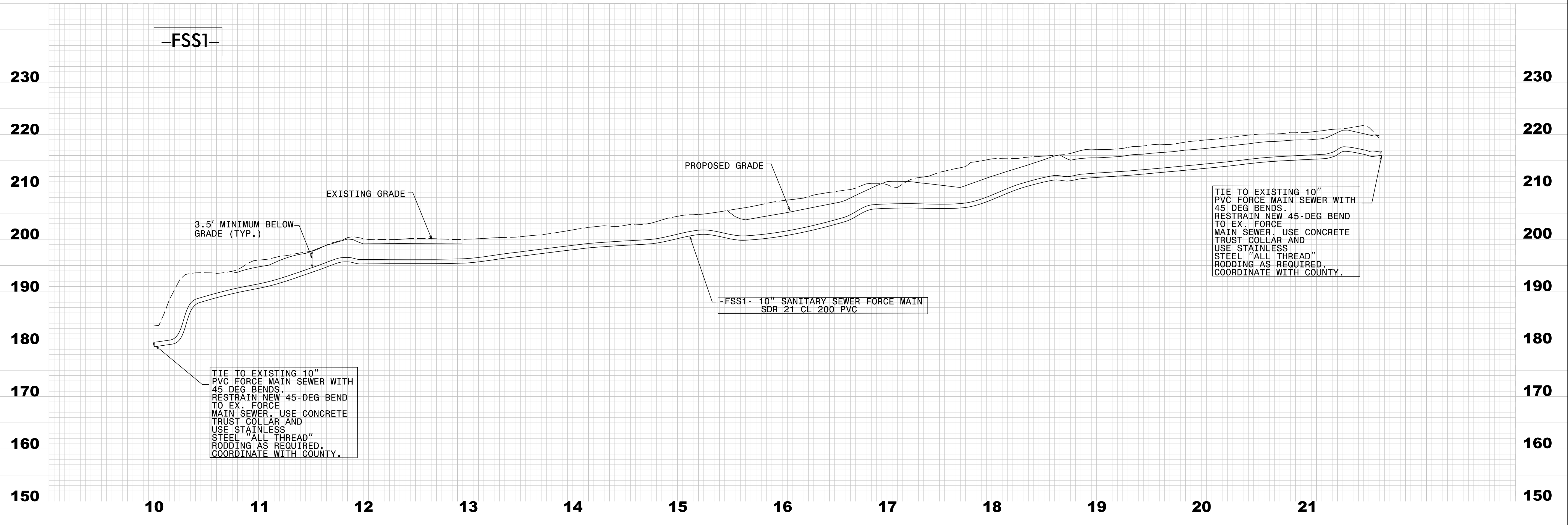
TIE TO EXISTING 10" PVC FORCE MAIN SEWER WITH 45 DEG BENDS. RESTRAIN NEW 45-DEG BEND TO EX. FORCE MAIN SEWER. USE CONCRETE TRUST COLLAR AND USE STAINLESS STEEL "ALL THREAD" RODDING AS REQUIRED. COORDINATE WITH COUNTY.

-WL8- 6" CLASS 51 RJ DIP WATER LINE

-FSS1- 10" SANITARY SEWER FORCE MAIN

EXISTING 10" SANITARY FORCE MAIN TO BE ABANDONED IN PLACE

TIE TO EXISTING 10" PVC FORCE MAIN SEWER. RESTRAIN NEW RESTRAINED JOINT D.I.P. TO EX. FORCE MAIN SEWER. USE CONCRETE TRUST COLLAR AND USE STAINLESS STEEL "ALL THREAD" RODDING AS REQUIRED. COORDINATE WITH COUNTY.



REVISIONS

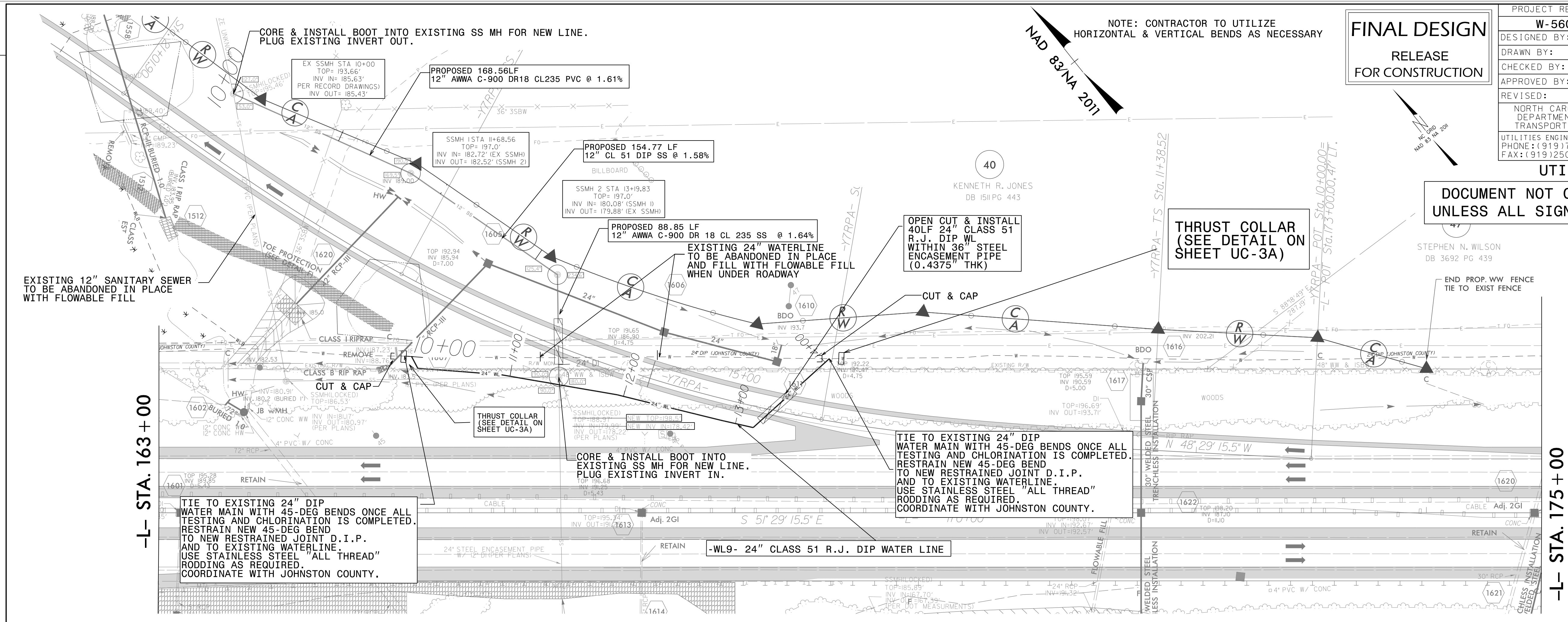
DESIGNED BY: W. S. S. ENGINEERING, INC.  
DRAWN BY: W. S. S. ENGINEERING, INC.  
CHECKED BY: W. S. S. ENGINEERING, INC.  
APPROVED BY: W. S. S. ENGINEERING, INC.

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY  
NAD 83/NA 2011

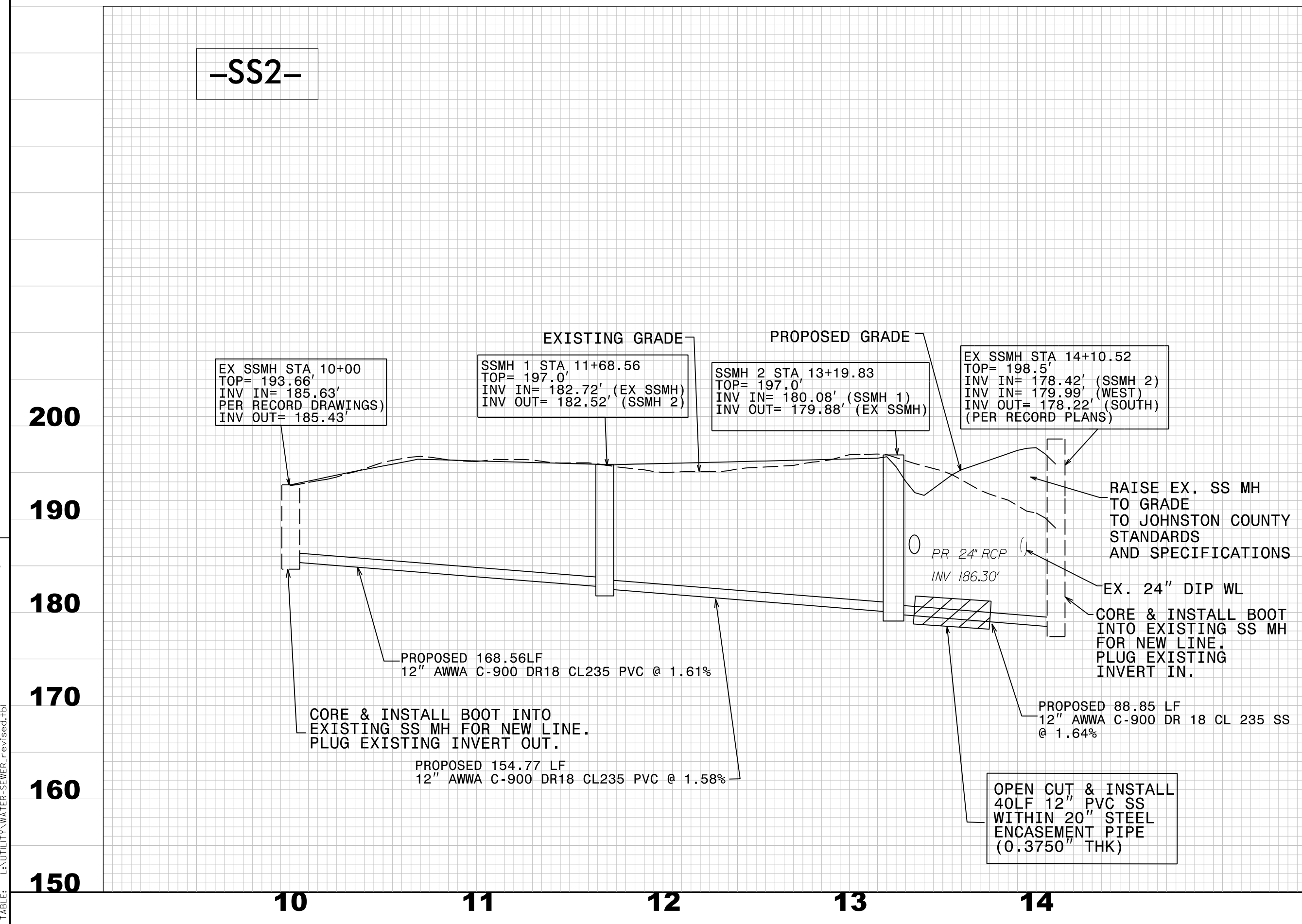
**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-16A
DESIGNED BY: SS	6/5/2020 08:51:38
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
REVISED:	UTILITY CONSTRUCTION PLANS ONLY

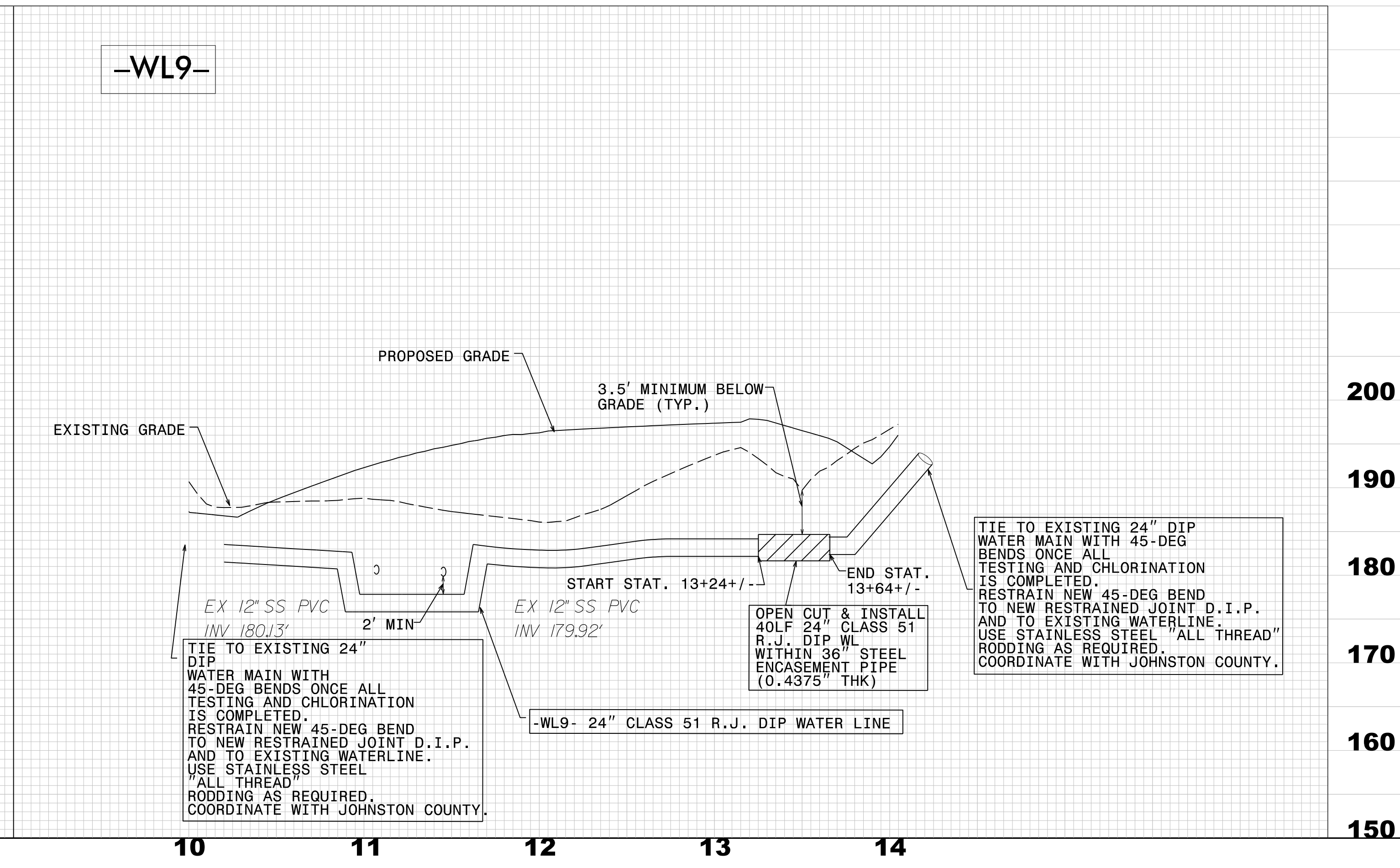
UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



-SS2-



-WL9-



Vertical text on the left margin containing project details and dates.

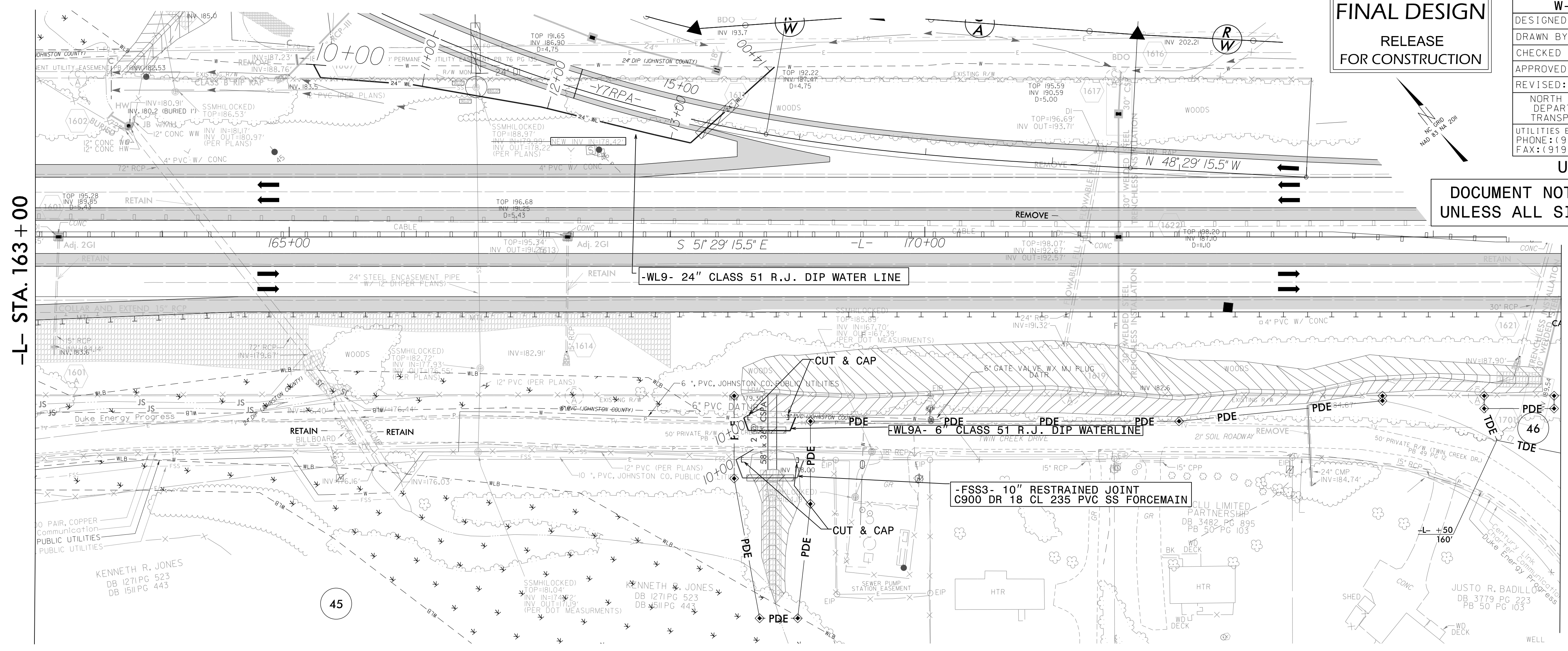
PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-16B
DESIGNED BY: SS	3/7/2021
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SECTION	
PHONE: (919) 707-6690	
FAX: (919) 250-4151	



**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

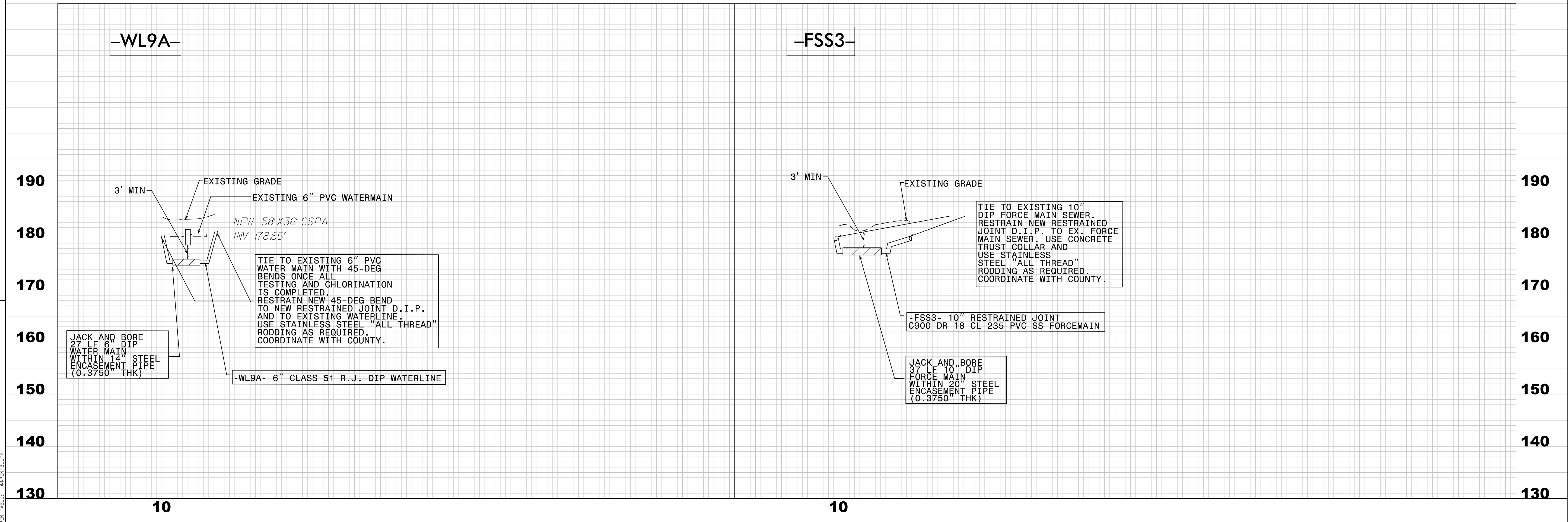
**UTILITY CONSTRUCTION**  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY



**-WL9A-**

**-FSS3-**

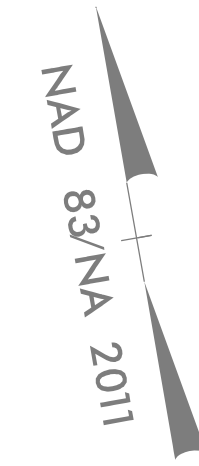


PROJECT NO. W-5600, UC-16B, UTILITIES ENGINEERING SECTION, PROJECT W-5600\_UC-16B\_UC-16B.PLT  
 DATE: 3/7/2021  
 DRAWN BY: SS  
 CHECKED BY: MVZ  
 APPROVED BY: MVZ

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-18
DESIGNED BY: SS	6/5/2020 08:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	UTILITIES ENGINEERING SECTION
REVISED:	PHONE: (919) 707-6690
	FAX: (919) 250-4151

**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

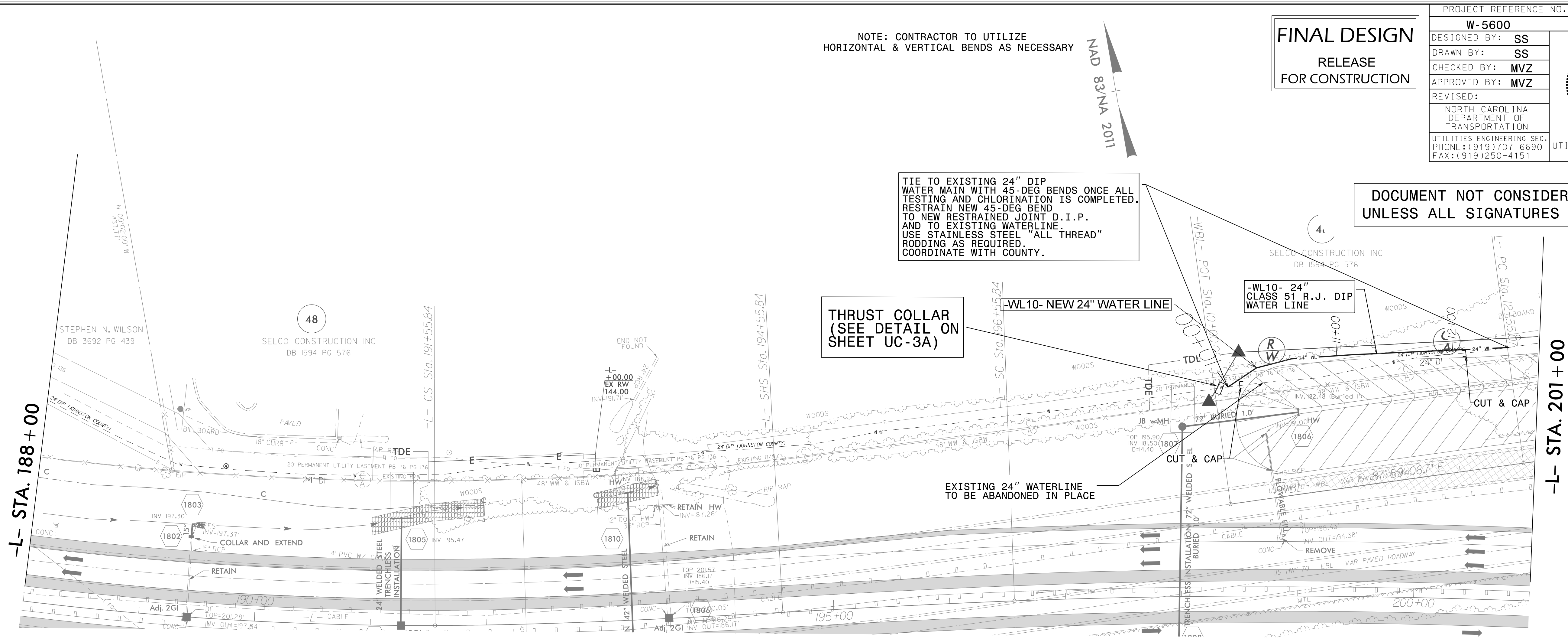
NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY



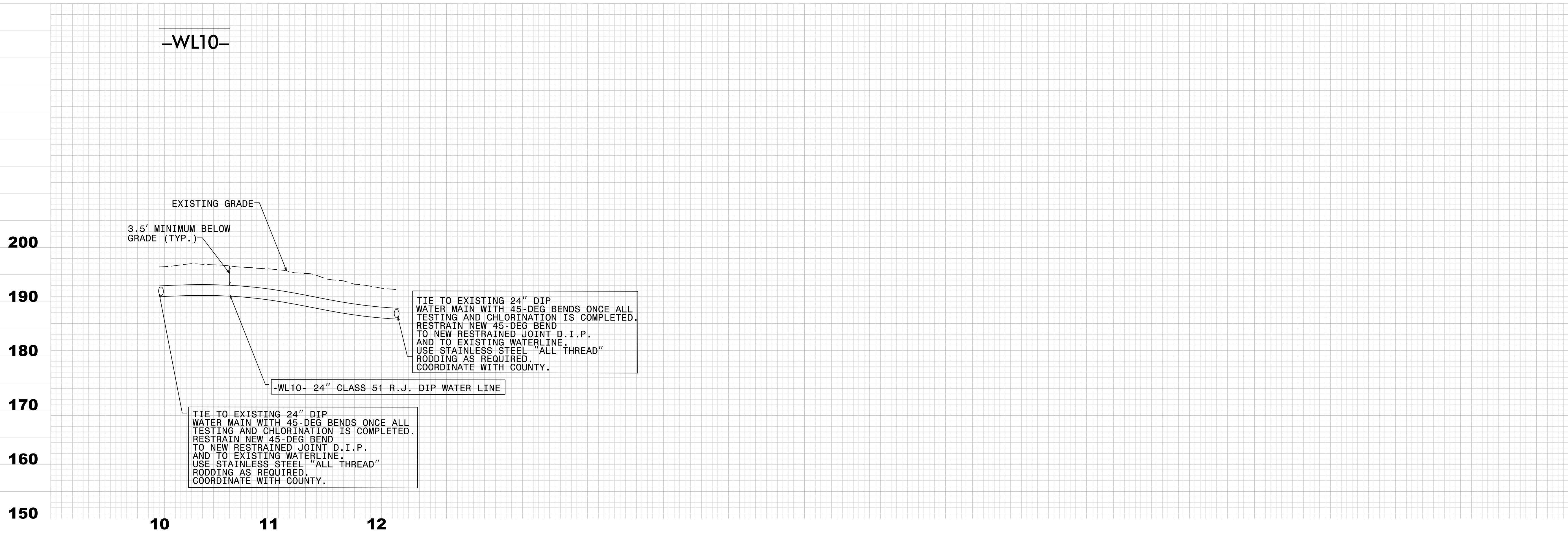
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

TIE TO EXISTING 24" DIP  
WATER MAIN WITH 45-DEG BENDS ONCE ALL  
TESTING AND CHLORINATION IS COMPLETED.  
RESTRAIN NEW 45-DEG BEND  
TO NEW RESTRAINED JOINT D.I.P.  
AND TO EXISTING WATERLINE.  
USE STAINLESS STEEL "ALL THREAD"  
RODDING AS REQUIRED.  
COORDINATE WITH COUNTY.

THRUST COLLAR  
(SEE DETAIL ON  
SHEET UC-3A)



-WL10-



REVISIONS

8/17/99  
 W-5600-1800-Utilities-Engineering-UC-18-Plan-WL10-24-2020.dwg  
 ECD: [unclear] L:\W\10\1800-Utilities-Engineering-UC-18-Plan-WL10-24-2020.dwg

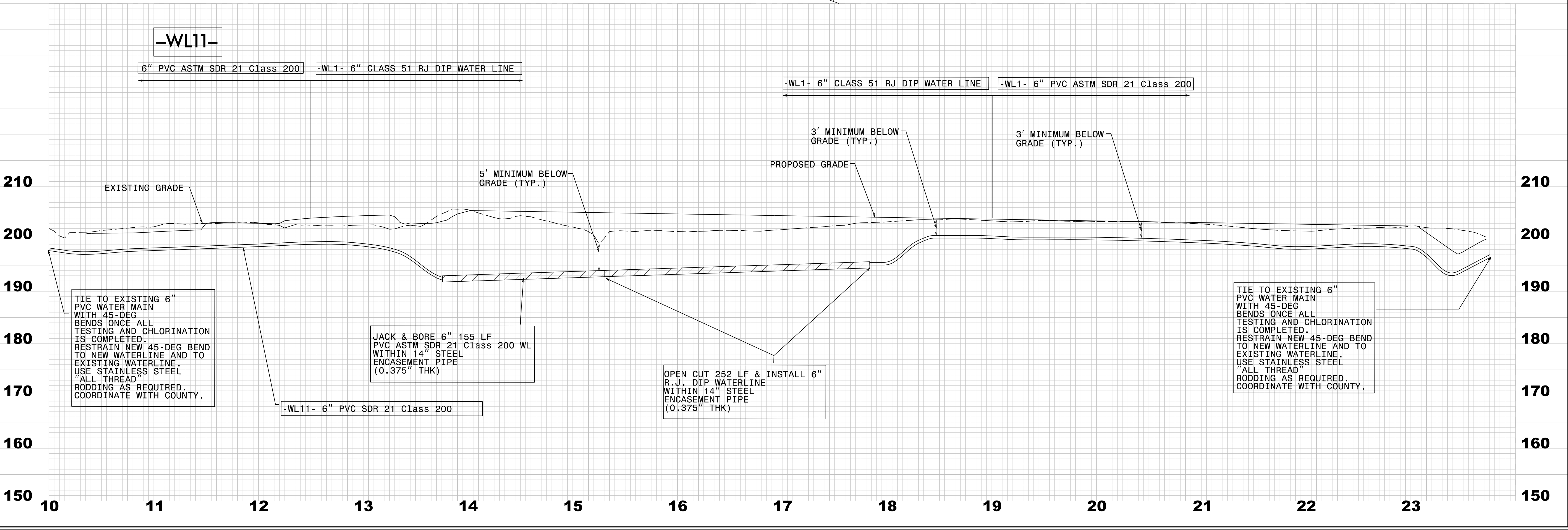
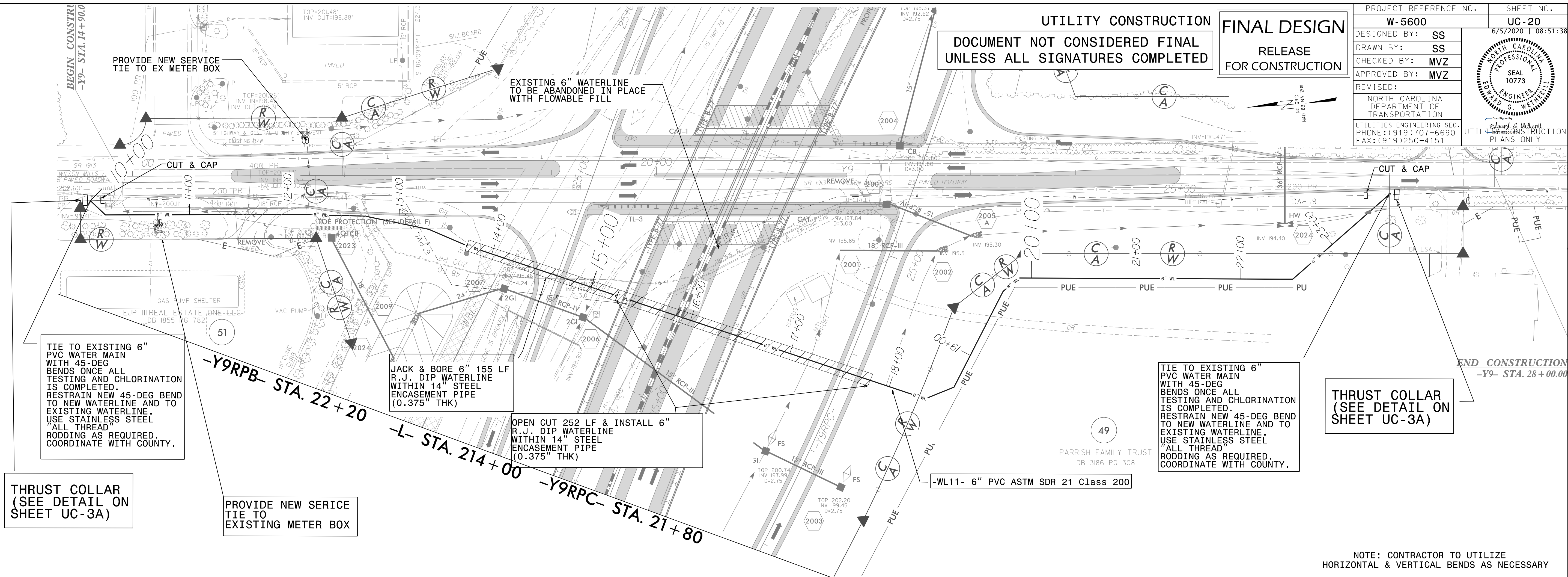
8/17/99

# UTILITY CONSTRUCTION FINAL DESIGN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RELEASE FOR CONSTRUCTION

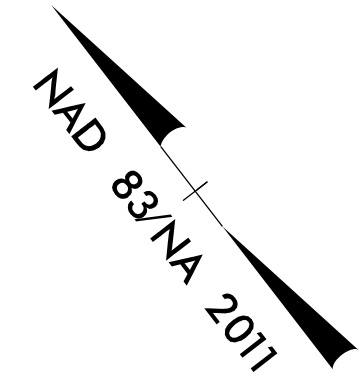
PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-20
DESIGNED BY: SS	6/5/2020 10:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	UTILITIES ENGINEERING SEC.
REVISED:	PHONE: (919) 707-6690
	FAX: (919) 250-4151



NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

REVISIONS

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY



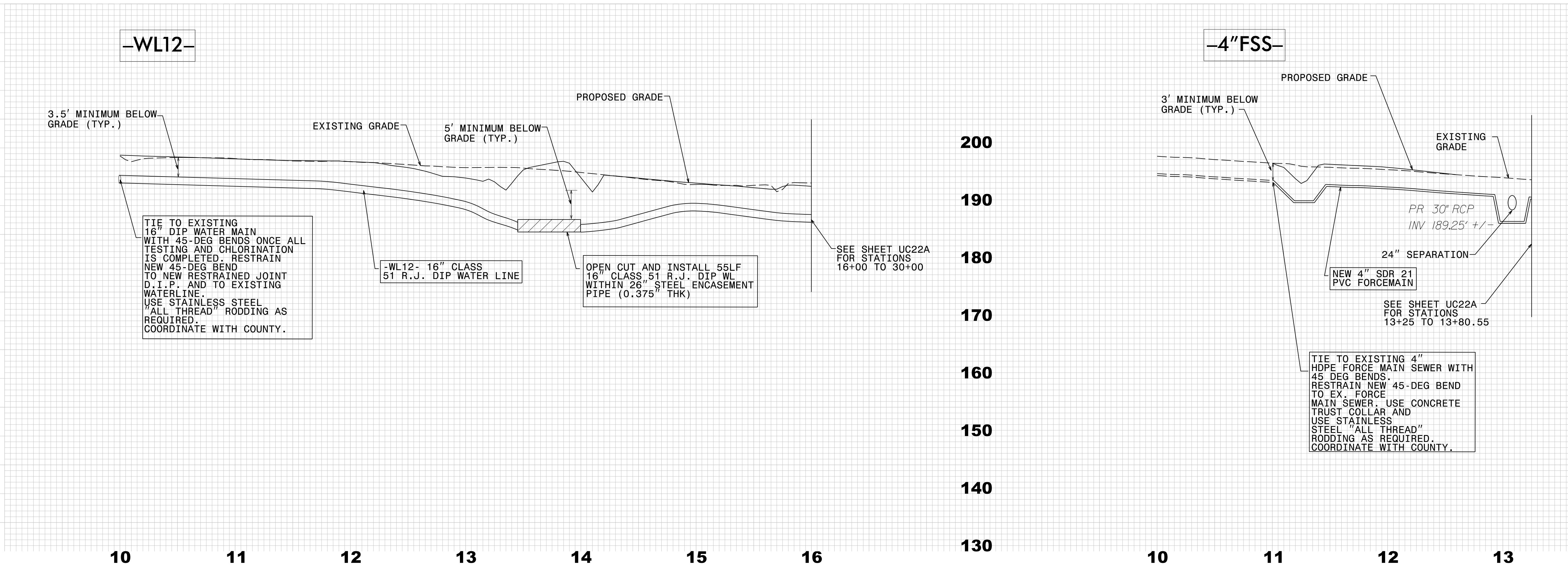
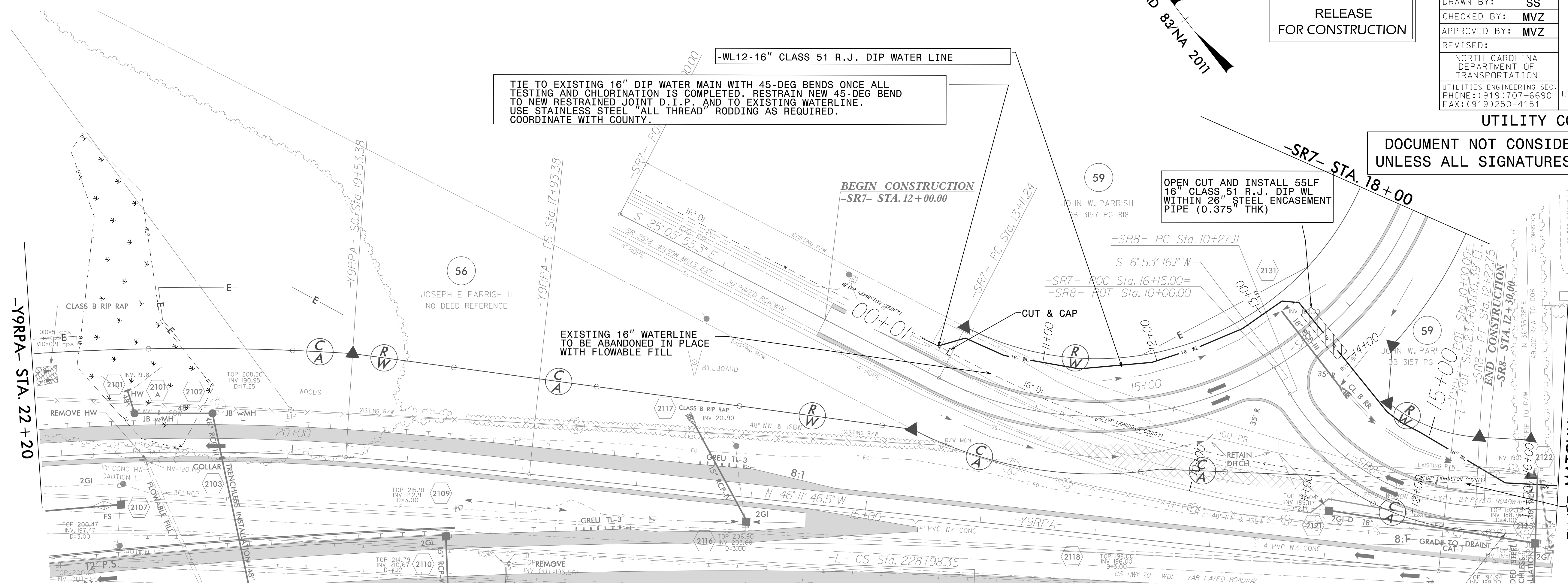
**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-21</b>
DESIGNED BY: <b>SS</b>	6/5/2020 T 08:51:38
DRAWN BY: <b>SS</b>	
CHECKED BY: <b>MVZ</b>	
APPROVED BY: <b>MVZ</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	



UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



MATCHLINE -L- STA. 234+00  
SEE SHEET UC-22A

EXISTING 16\"/>

REVISIONS

PLANNED BY: W. S. S. ENGINEERING, INC. (WSEI) 2020-06-17  
DRAWN BY: W. S. S. ENGINEERING, INC. (WSEI) 2020-06-17  
CHECKED BY: M. V. Z. ENGINEERING, INC. (MVZE) 2020-06-17  
APPROVED BY: M. V. Z. ENGINEERING, INC. (MVZE) 2020-06-17



8/17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

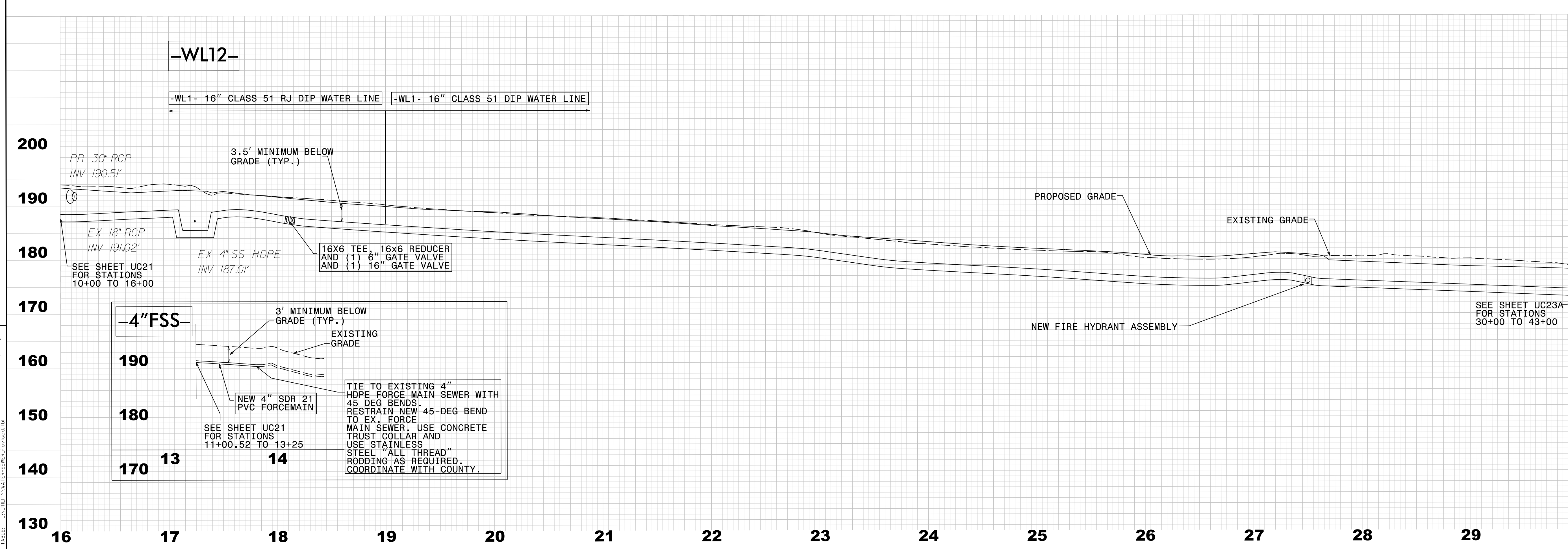
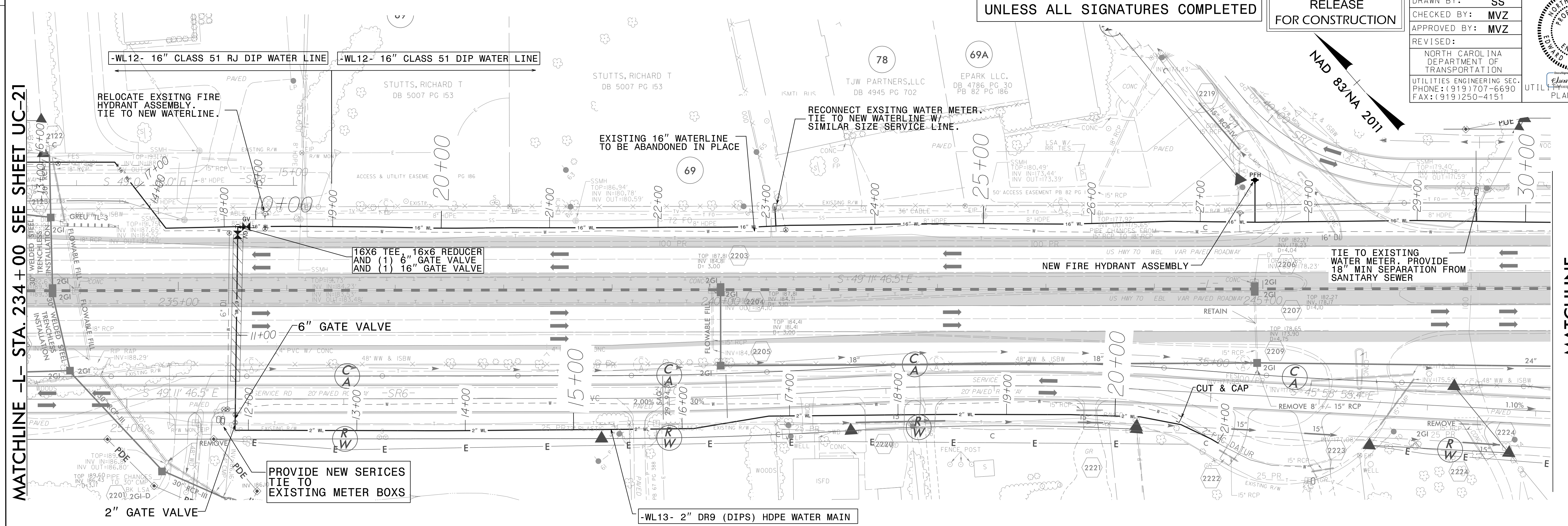
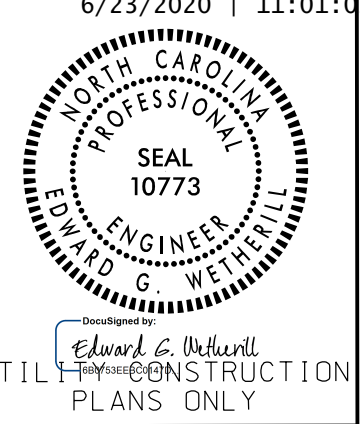
UTILITY CONSTRUCTION

FINAL DESIGN

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

RELEASE FOR CONSTRUCTION

PROJECT REFERENCE NO.	W-5600	SHEET NO.	UC-22A
DESIGNED BY:	SS	DATE:	6/23/2020
DRAWN BY:	SS	SCALE:	11:01:01
CHECKED BY:	MVZ		
APPROVED BY:	MVZ		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			



MATCHLINE -L- STA. 234+00 SEE SHEET UC-21

MATCHLINE -L- STA. 247+00 SEE SHEET UC-23A

REVISIONS

**-4\" FSS -**

3' MINIMUM BELOW GRADE (TYP.)

EXISTING GRADE

NEW 4\" SDR 21 PVC FORCEMAIN

SEE SHEET UC21 FOR STATIONS 11+00.52 TO 13+25

TIE TO EXISTING 4\" HDPE FORCE MAIN SEWER WITH 45 DEG BENDS. RESTRAIN NEW 45-DEG BEND TO EX. FORCE MAIN SEWER. USE CONCRETE TRUST COLLAR AND USE STAINLESS STEEL \"ALL THREAD\" RODDING AS REQUIRED. COORDINATE WITH COUNTY.

8/17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

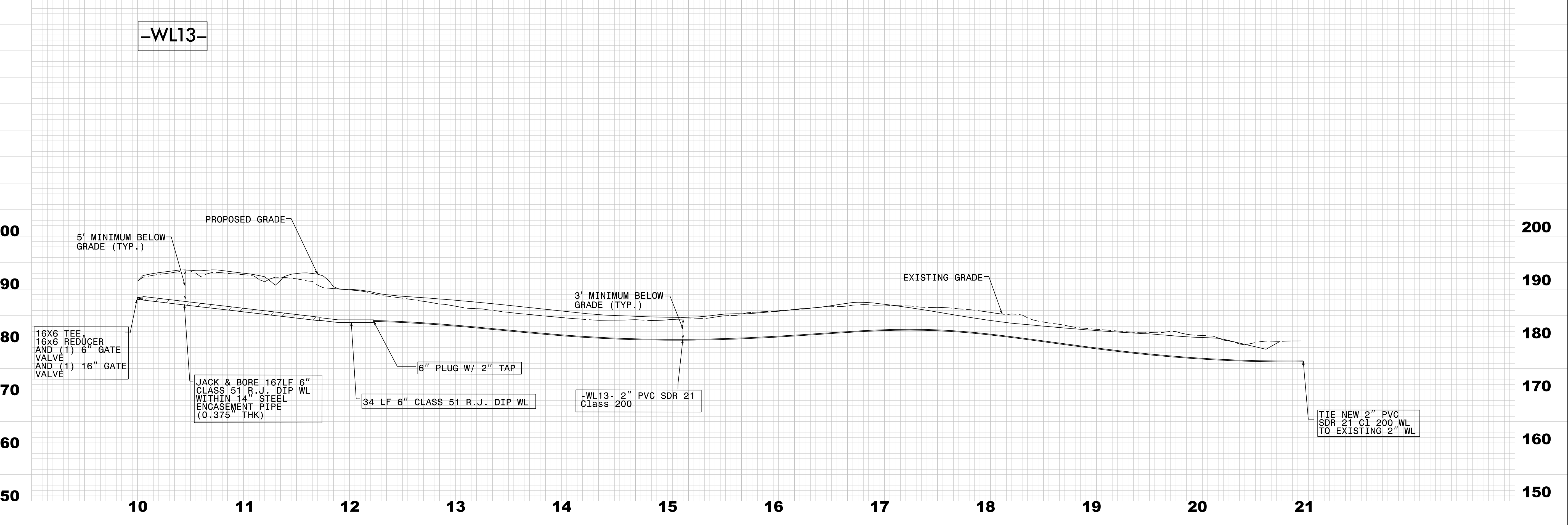
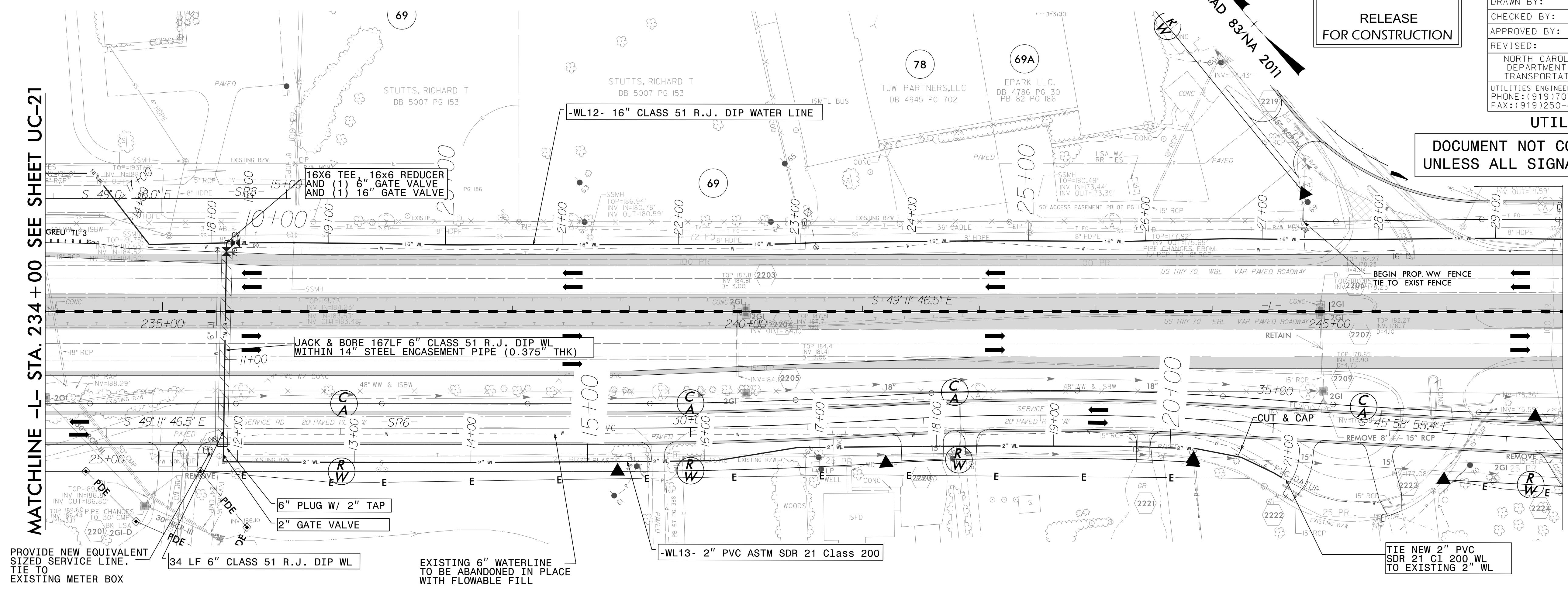
PROJECT REFERENCE NO.	W-5600	SHEET NO.	UC-22B
DESIGNED BY:	SS	DATE:	3/3/2021
DRAWN BY:	SS		
CHECKED BY:	MVZ		
APPROVED BY:	MVZ		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			



UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -L- STA. 234+00 SEE SHEET UC-21

MATCHLINE -L- STA. 247+00 SEE SHEET UC-23A AND UC-23B



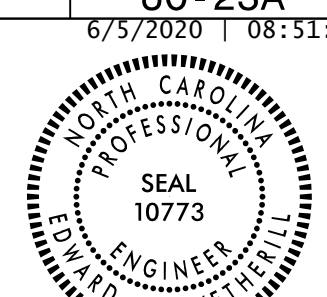
REVISIONS

8/17/99  
 W-5600 UC-22B  
 PROJECT: W-5600 UC-22B  
 DATE: 8/17/99  
 DRAWN BY: SS  
 CHECKED BY: MVZ  
 APPROVED BY: MVZ

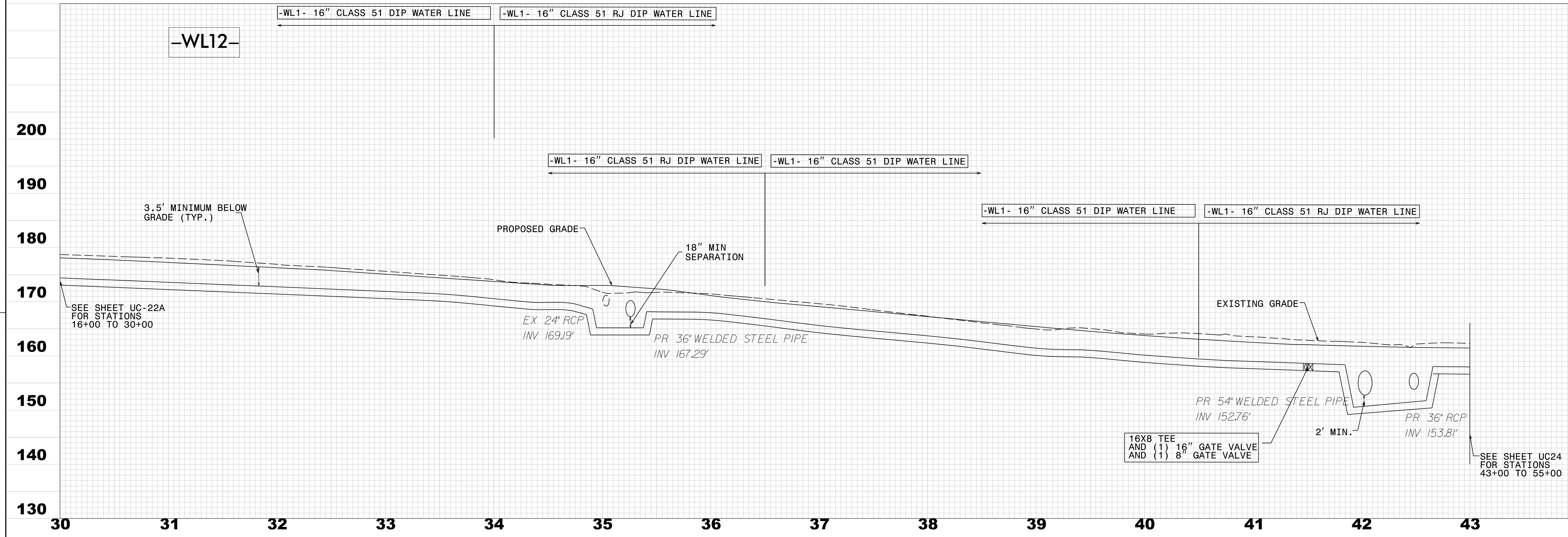
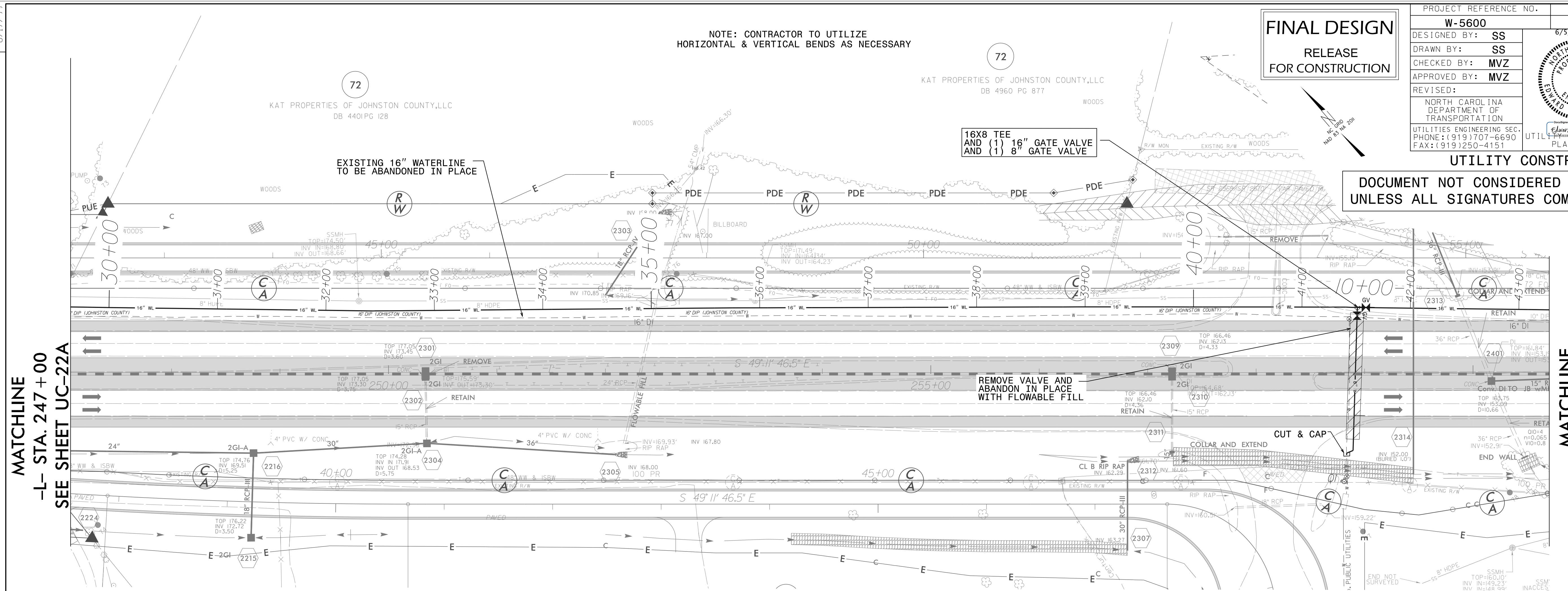
8/17/99

NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

FINAL DESIGN  
RELEASE  
FOR CONSTRUCTION

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-23A
DESIGNED BY: SS	6/5/2020 10:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151
REVISED:	UTILITIES CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED




MATCHLINE  
-L- STA. 247+00  
SEE SHEET UC-22A

MATCHLINE  
-L- STA. 260+00  
SEE SHEET UC-24

200  
190  
180  
170  
160  
150  
140  
130

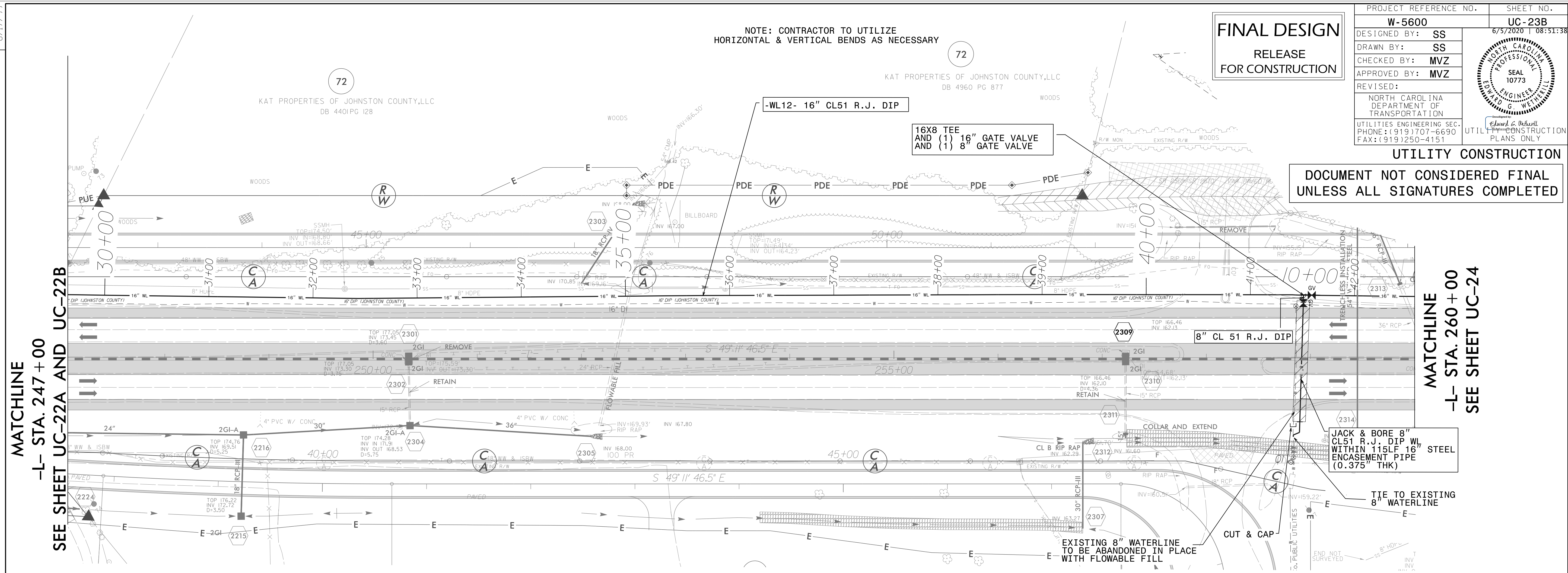
200  
190  
180  
170  
160  
150  
140  
130

30 31 32 33 34 35 36 37 38 39 40 41 42 43

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-23B
DESIGNED BY: SS	6/5/2020 10:51:38 EDT
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	REVISER:
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

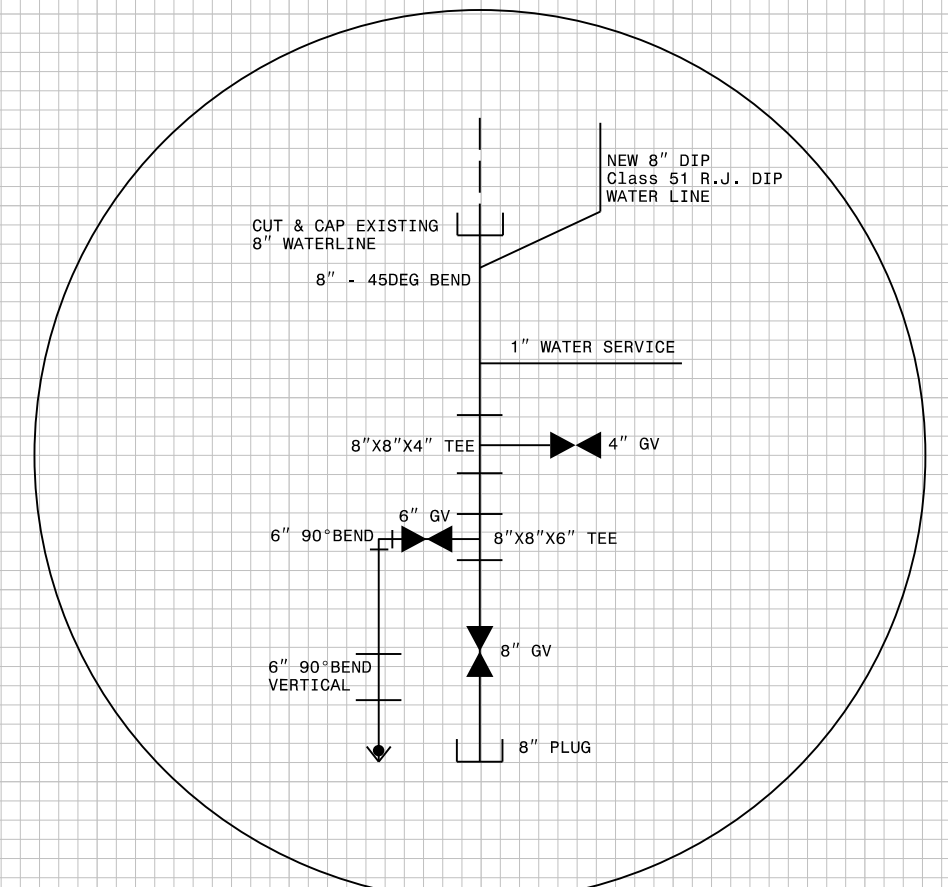
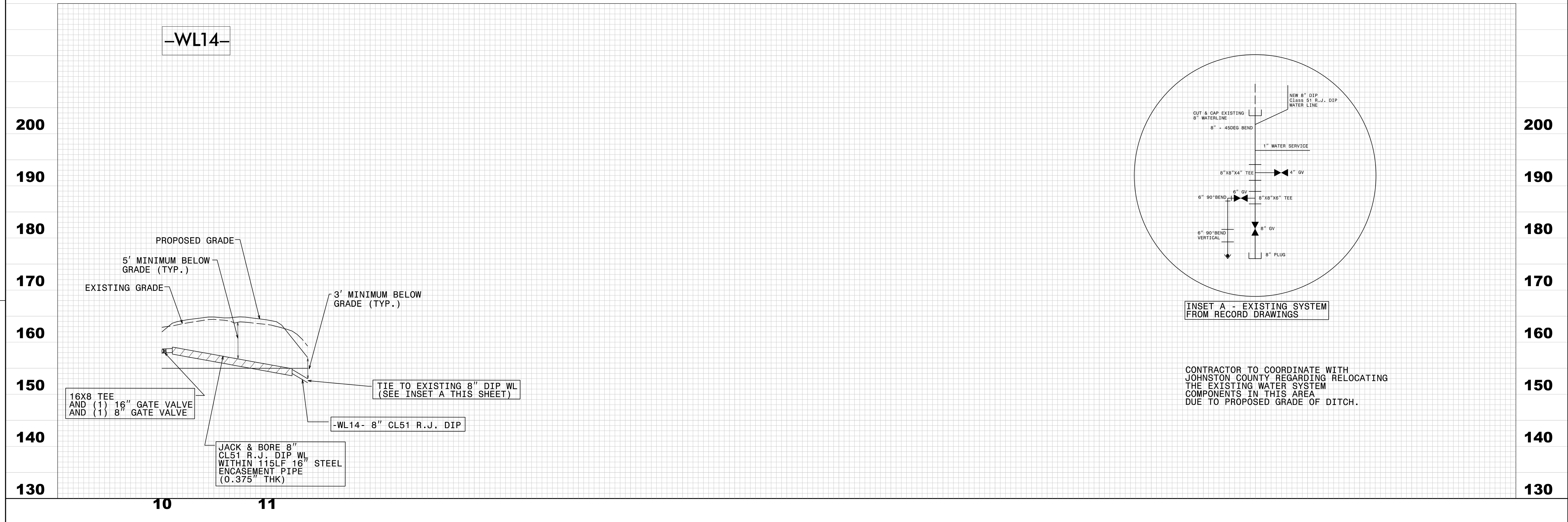
NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY



UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE  
-L- STA. 247 + 00  
SEE SHEET UC-22A AND UC-22B

MATCHLINE  
-L- STA. 260 + 00  
SEE SHEET UC-24

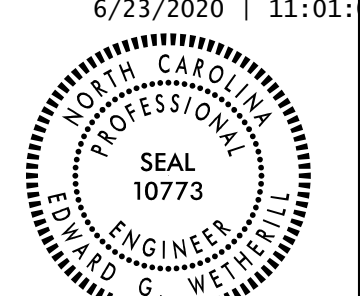


INSET A - EXISTING SYSTEM FROM RECORD DRAWINGS

CONTRACTOR TO COORDINATE WITH JOHNSTON COUNTY REGARDING RELOCATING THE EXISTING WATER SYSTEM COMPONENTS IN THIS AREA DUE TO PROPOSED GRADE OF DITCH.

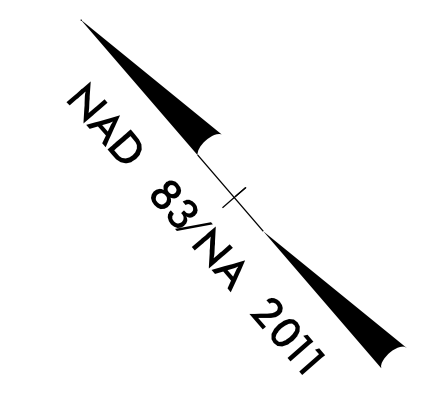
REVISIONS

PROJECT REFERENCE NO.	SHEET NO.
W-5600	UC-24
DESIGNED BY: SS	6/23/2020 11:01:01
DRAWN BY: SS	
CHECKED BY: MVZ	
APPROVED BY: MVZ	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

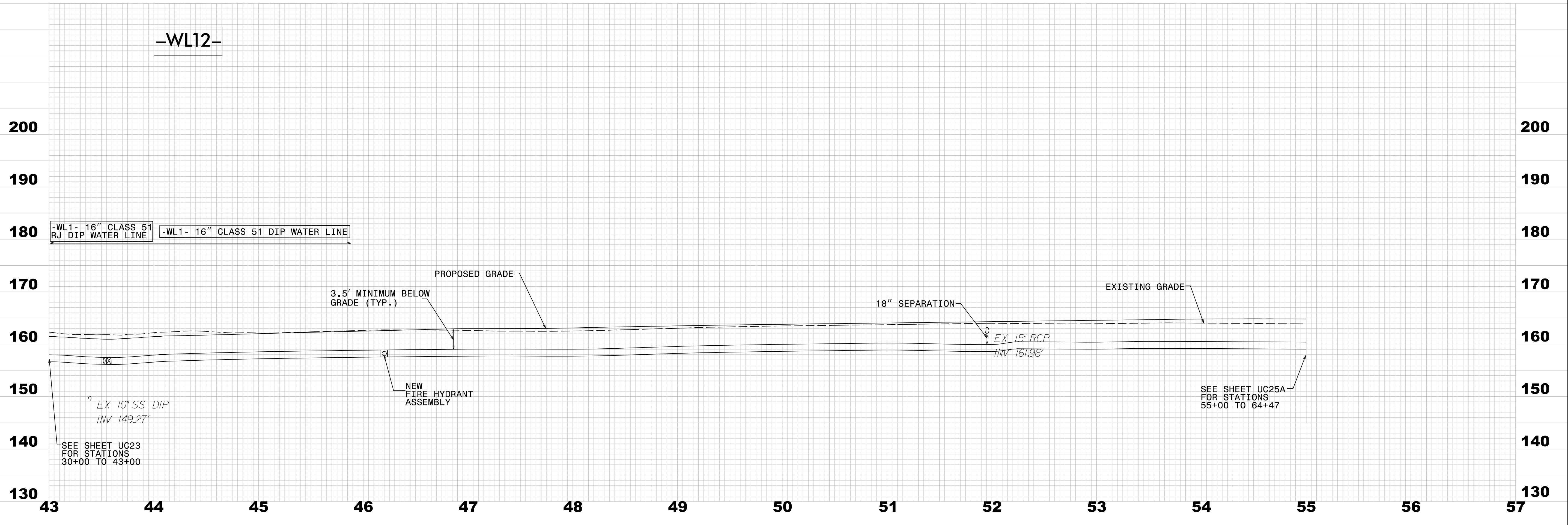
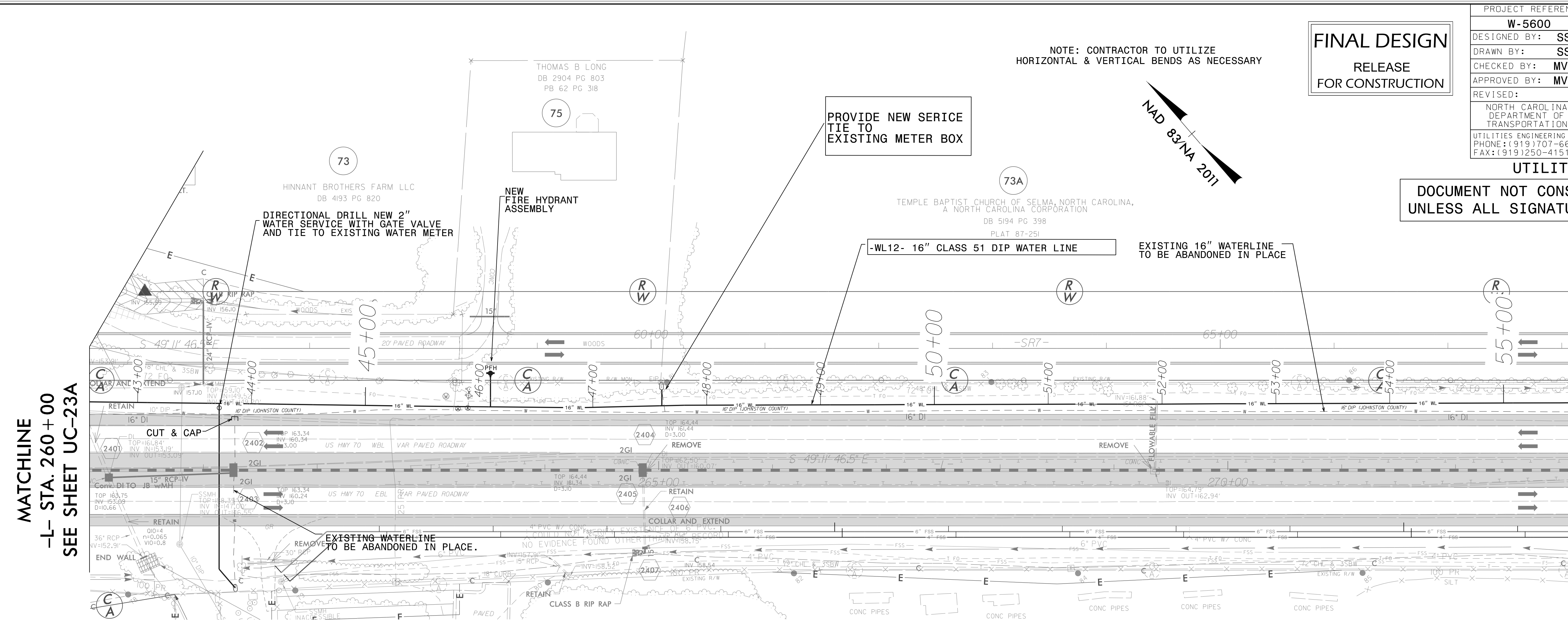


**FINAL DESIGN**  
RELEASE  
FOR CONSTRUCTION

NOTE: CONTRACTOR TO UTILIZE  
HORIZONTAL & VERTICAL BENDS AS NECESSARY



UTILITY CONSTRUCTION  
DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED



MATCHLINE  
-L- STA. 260+00  
SEE SHEET UC-23A

MATCHLINE  
-L- STA. 273+00  
SEE SHEET UC-25A

REVISIONS

8/17/99

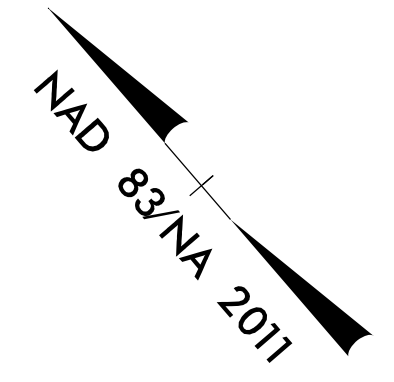
NOTE: CONTRACTOR TO UTILIZE HORIZONTAL & VERTICAL BENDS AS NECESSARY

**FINAL DESIGN**  
RELEASE FOR CONSTRUCTION

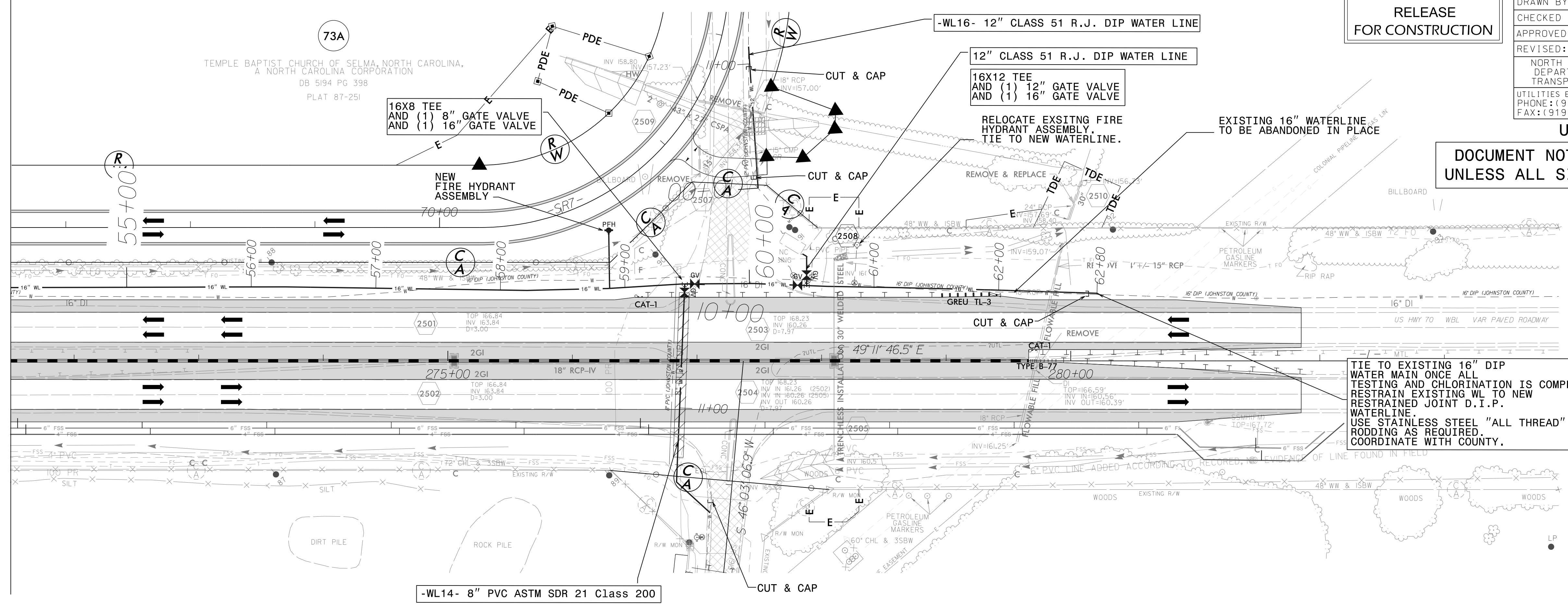
PROJECT REFERENCE NO. <b>W-5600</b>	SHEET NO. <b>UC-25A</b>
DESIGNED BY: <b>SS</b>	DATE: 3/3/2021
DRAWN BY: <b>SS</b>	
CHECKED BY: <b>MVZ</b>	
APPROVED BY: <b>MVZ</b>	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	



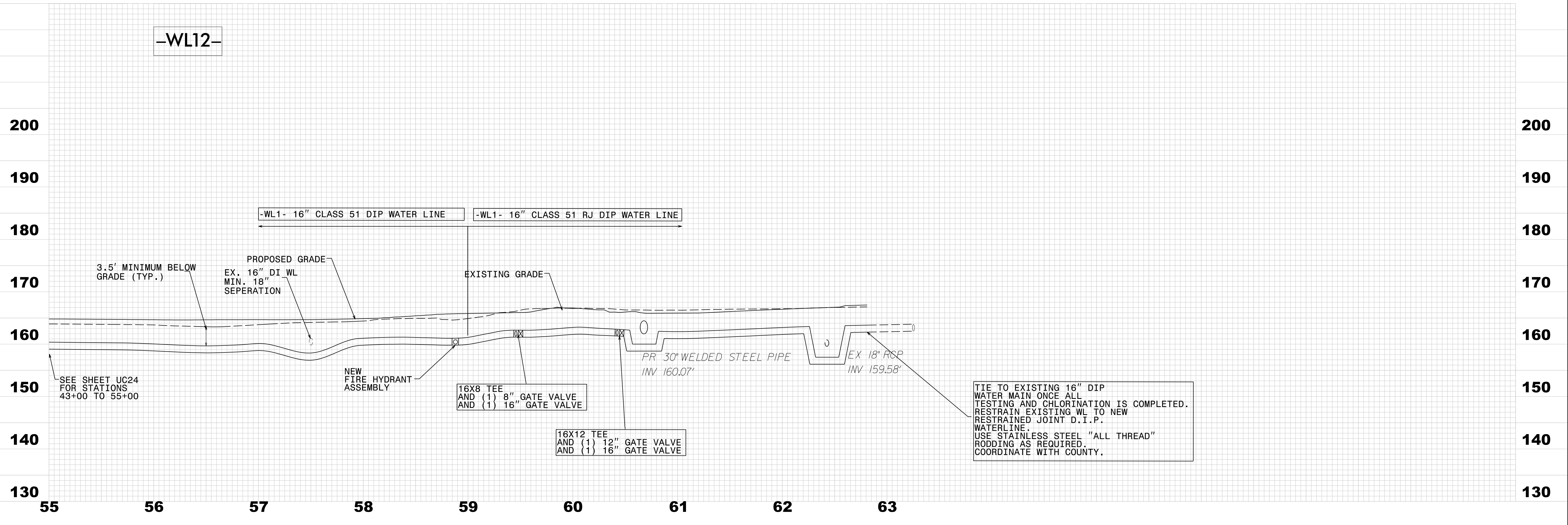
**UTILITY CONSTRUCTION**  
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



**MATCHLINE**  
-L- STA. 273+00  
SEE SHEET UC-24



TIE TO EXISTING 16" DIP WATER MAIN ONCE ALL TESTING AND CHLORINATION IS COMPLETED. RESTRAIN EXISTING WL TO NEW RESTRAINED JOINT D.I.P. WATERLINE. USE STAINLESS STEEL "ALL THREAD" RODDING AS REQUIRED. COORDINATE WITH COUNTY.



TIE TO EXISTING 16" DIP WATER MAIN ONCE ALL TESTING AND CHLORINATION IS COMPLETED. RESTRAIN EXISTING WL TO NEW RESTRAINED JOINT D.I.P. WATERLINE. USE STAINLESS STEEL "ALL THREAD" RODDING AS REQUIRED. COORDINATE WITH COUNTY.

REVISIONS

8/17/99

MATCHLINE  
-L- STA. 273+00  
SEE SHEET UC-24

REVISIONS

