

09/08/2019

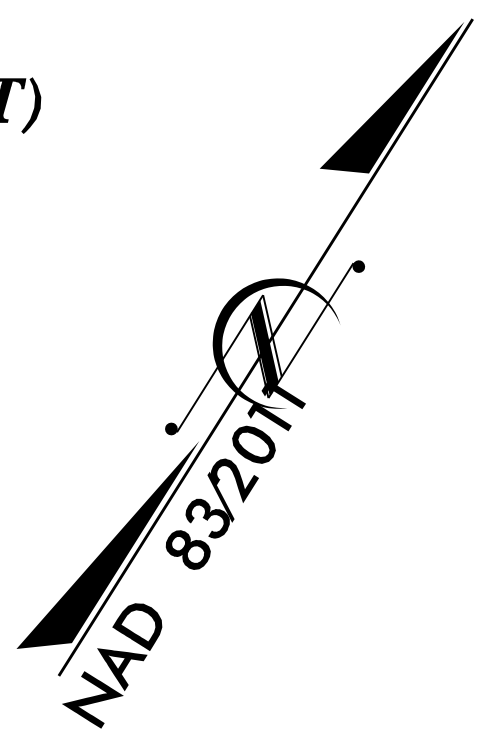
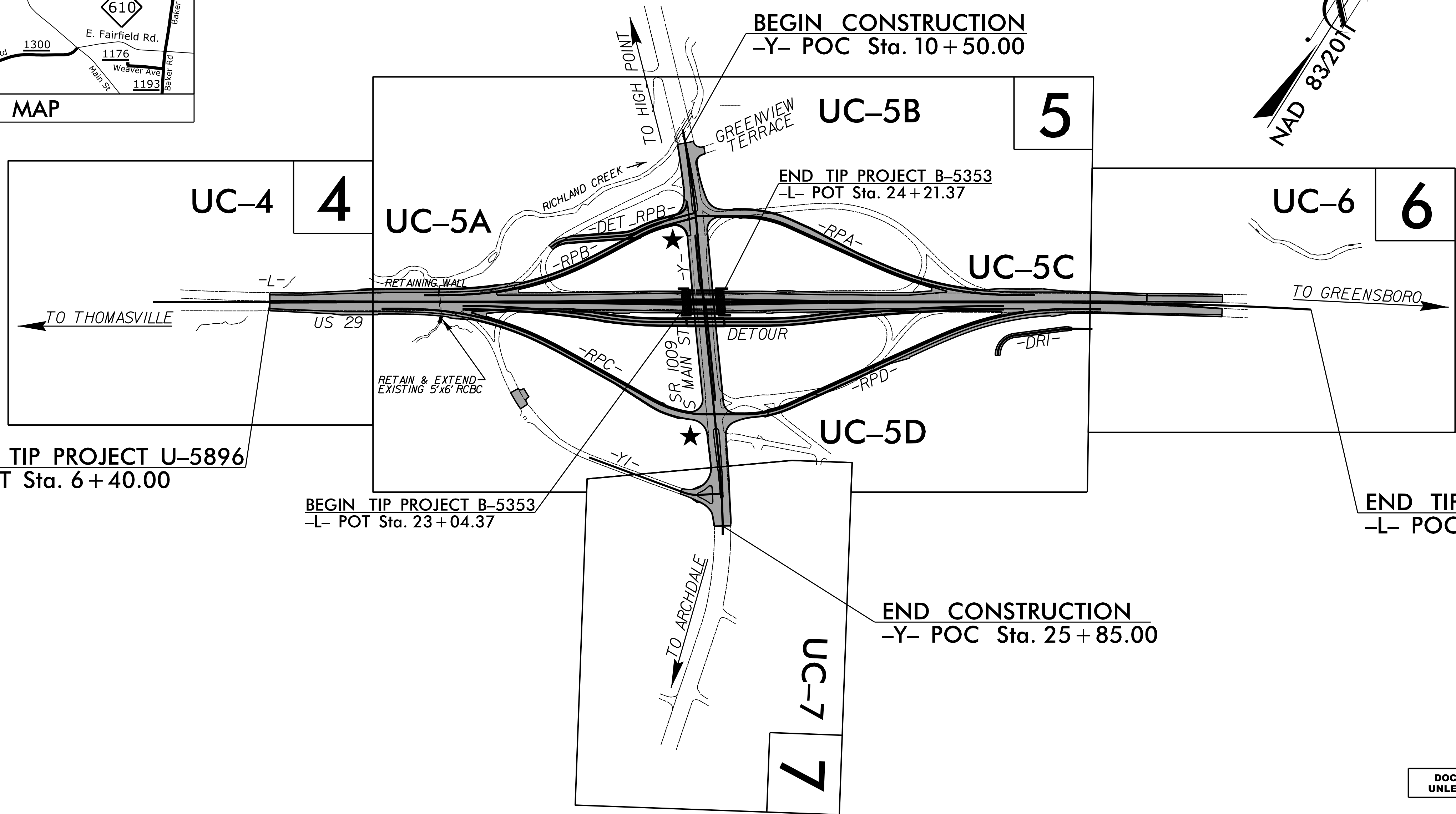
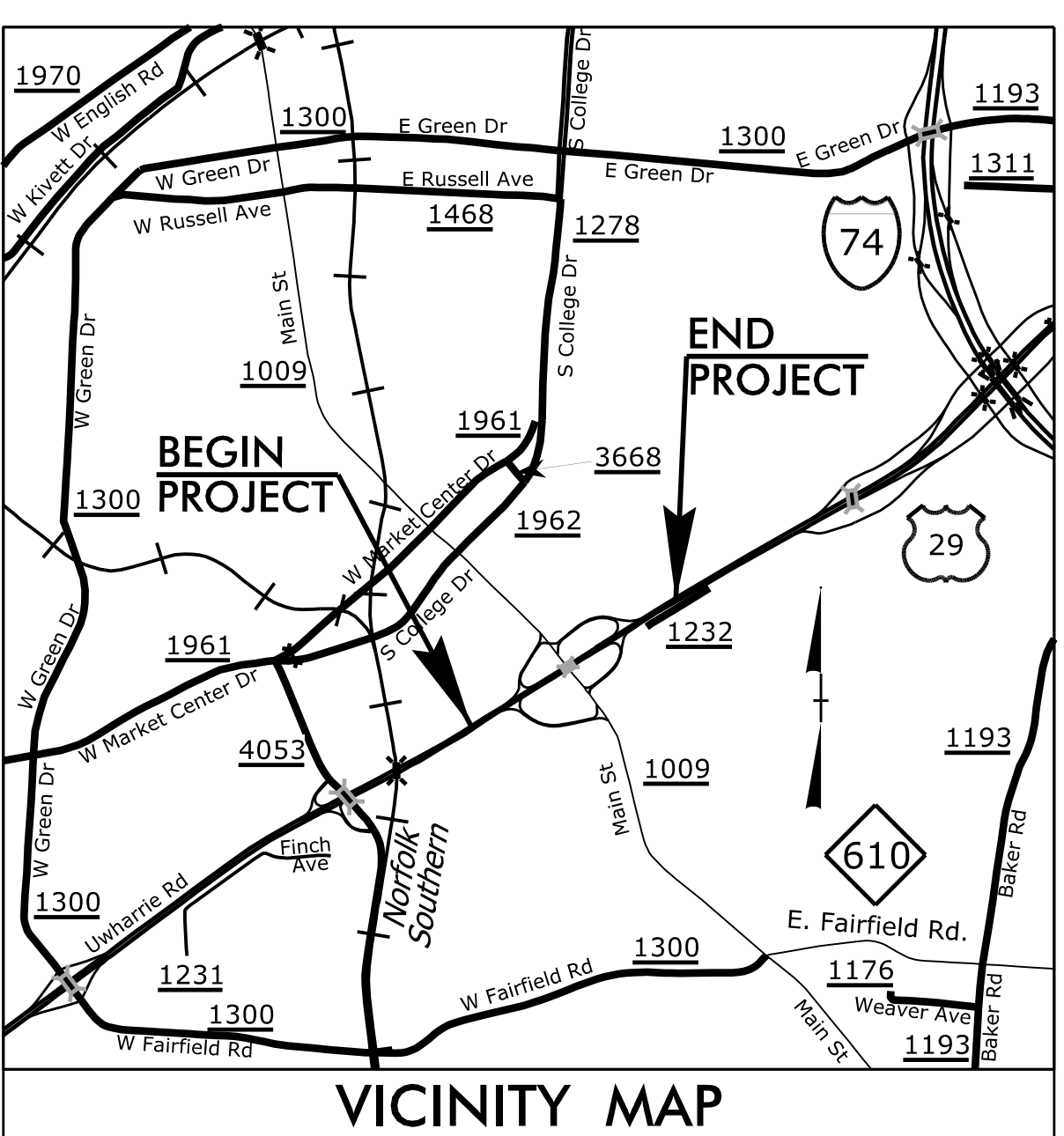
TIP PROJECT: U-5896 / B-5353

STATE OF NORTH CAROLINA  
DIVISION OF HIGHWAYS

T.I.P. NO.	SHEET NO.
U-5896	UC-1

# UTILITY CONSTRUCTION PLANS GUILFORD COUNTY

LOCATION: INTERCHANGE AT US 29 AND SR 1009 (S MAIN STREET)  
IN HIGH POINT  
TYPE OF WORK: UTILITY CONSTRUCTION



BEGIN TIP PROJECT U-5896  
-L- POT Sta. 6 + 40.00

BEGIN TIP PROJECT B-5353  
-L- POT Sta. 23 + 04.37

BEGIN CONSTRUCTION  
-Y- POC Sta. 10 + 50.00

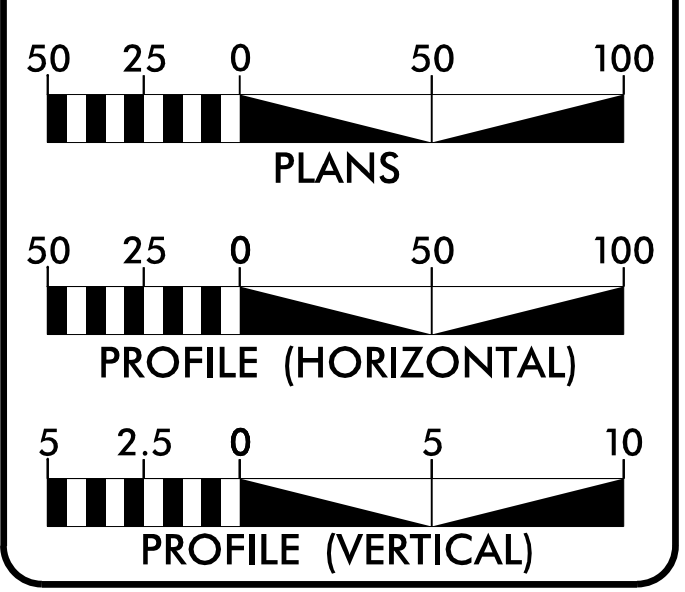
END TIP PROJECT B-5353  
-L- POT Sta. 24 + 21.37

END CONSTRUCTION  
-Y- POC Sta. 25 + 85.00

END TIP PROJECT U-5896  
-L- POC Sta. 47 + 78.12

DOCUMENT NOT CONSIDERED FINAL  
UNLESS ALL SIGNATURES COMPLETED

### GRAPHIC SCALES



### INDEX OF SHEETS

SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3	NOTES
UC-3A THRU UC-3E	DETAILS
UC-4 THRU UC-7	UTILITY CONSTRUCTION SHEETS
UC-8 THRU UC-10	PROFILE SHEETS

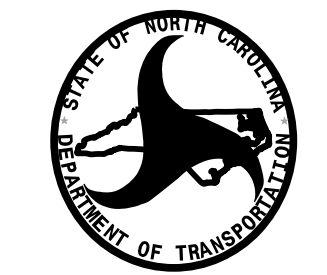
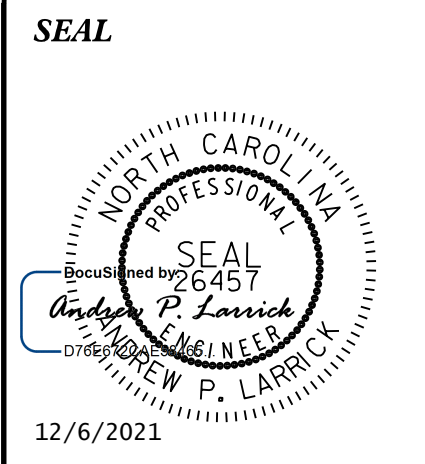
### WATER AND SEWER OWNERS ON PROJECT

- A) WATER - CITY OF HIGH POINT
- B) SEWER - CITY OF HIGH POINT

PREPARED IN THE OFFICE OF:  
**DAVIS • MARTIN • POWELL**  
ENGINEERS & SURVEYORS

6415 OLD PLANK RD., HIGH POINT, NC 27265  
PHONE: (336)886-4821 FAX: (336)886-4458  
WWW.DMP-INC.COM LICENSE: F-0245

- Andy Larrick, P.E. CONSULTANT CONTACT #1
- Steve McKee, P.E. CONSULTANT CONTACT #2
- Ralph Lowe CONSULTANT CONTACT #3



DIVISION OF HIGHWAYS  
UTILITIES UNIT  
1555 MAIL SERVICE CENTER  
RALEIGH, NC 27699-1555  
PHONE (919) 707-6690  
FAX (919) 250-4151

- Amy York CENTRAL UTILITIES MANAGER
- Ali Kouchehi, P.E. UTILITIES REGIONAL ENGINEER
- Jon Loughry SENIOR UTILITIES ENGINEER
- Dayton Martin REGIONAL UTILITY COORDINATOR
- O'Hara Parker SENIOR UTILITY COORDINATOR

\$\$\$\$\$ SYSTEM \$\$\$\$\$\$  
\$\$\$\$\$ USER \$\$\$\$\$\$

# STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

## UTILITIES PLAN SHEET SYMBOLS

### PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11 1/4 Degree Bend	
22 1/2 Degree Bend	
45 Degree Bend	
90 Degree Bend	
Plug	
Tee	
Cross	
Reducer	
Gate Valve	
Butterfly Valve	
Tapping Valve	
Line Stop	
Line Stop with Bypass	
Blow Off	
Fire Hydrant	
Relocate Fire Hydrant	
Remove Fire Hydrant	
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)

5/14/99  
REV: 2/1/2012

5/14/99

REVISIONS

# 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 WATER AND SEWER UTILITIES BELONG TO THE CITY OF HIGH POINT.
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 SUPPLY SECTION. ALL SEWER LINES AND SEWER PUMP STATIONS TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENTAL QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. THE UTILITY OWNERS OWN THE EXISTING UTILITY FACILITIES AND WILL OWN THE NEW UTILITY FACILITIES AFTER ACCEPTANCE BY THE DEPARTMENT AND ACCEPTANCE BY EACH UTILITY OWNER. THE DEPARTMENT OWNS THE CONSTRUCTION CONTRACT AND HAS ADMINISTRATIVE AUTHORITY. COMMUNICATIONS AND DECISIONS BETWEEN THE CONTRACTOR AND UTILITY OWNERS ARE NOT BINDING UPON THE DEPARTMENT OR THIS CONTRACT UNLESS AUTHORIZED BY THE ENGINEER. AGREEMENTS BETWEEN THE UTILITY OWNERS 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 OWNERS' REPRESENTATIVES TO ALL PHASES OF CONSTRUCTION. NOTIFY DEPARTMENT PERSONNEL AND THE UTILITY OWNERS 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. LINE STOPS AND INSERT VAVLES WILL BE REQUIRED WHERE INDICATED ON THE PLANS, WHERE THE UTILITY OWNER CANNOT ISOLATE THE EXISTING LINES WITHOUT MAJOR DISRUPTION OF SERVICE TO MANY USERS.
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. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED WATER MAINS IN NOMINAL DIAMETERS 4" THROUGH 12" SHALL BE DUCTILE IRON, PC 350. PROVIDE RESTRAINED JOINT PIPE WHERE INDICATED ON PROFILES.
2. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED WATER LINES IN NOMINAL DIAMETERS 2" AND SMALLER SHALL BE TYPE K COPPER.
3. WATER LINE VALVES SHALL BE RESILIENT-SEAT GATE VALVES CONFORMING TO ANSI/AWWA C509 OR ANSI/AWWA C515, AND SHALL BE RATED FOR A MINIMUM WORKING PRESSURE OF 250 PSI.
4. FOR PROPOSED WATER VALVES, OR EXISTING WATER VALVES THAT WILL REMAIN IN SERVICE: IF THE TOP OF THE VALVE NUT WILL BE MORE THAN 5 FEET DEEP FROM FINISHED GRADE, THE CONTRACTOR SHALL INSTALL A VALVE STEM EXTENSION WITH A 2" SQUARE OPERATING NUT SO THE TOP OF THE VALVE STEM EXTENSION WILL BE BETWEEN 3 FEET AND 5 FEET DEEP FROM FINISHED GRADE, PER CITY OF HIGH POINT STANDARD DRAWING 237.00. THE COST TO FURNISH AND INSTALL ANY VALVE STEM EXTENSIONS SHALL BE INCIDENTAL TO THE CONTRACT.
5. UNLESS OTHERWISE NOTED, PIPE FOR PROPOSED GRAVITY SEWER LINES IN NOMINAL DIAMETERS 8" AND LARGER SHALL BE DUCTILE IRON, CLASS 51. PROVIDE RESTRAINED JOINT PIPE WHERE INDICATED ON PROFILES. THE INTERIOR OF THE PIPE SHALL BE COATED TO A MINIMU DRY THICKNESS OF 24 MILS WITH AND APPROVED COAL-TAR EPOXY HAVING AN EPOXY RESIN CONTENT OF 35% BY WEIGHT IN THE DRY FILM AND A MINIMUM SOLIDES CONTENT OF 74% BY VOLUME.
6. TEMPORARY BYPASS PUMPING OF FLOW IN SOME EXISTING SEWER LINES WILL BE REQUIRED WHEN INSTALLING NEW SEWER LINES IN THE SAME HORIZONTAL ALIGNMENT AS THE EXISTING SEWER LINES, AND WHEN TYING PROPOSED MH'S INTO EXISTING SEWER LINES. SEE DIVISION 15, SECTION 1520-3-A-1 OF THE NCDOT STANDARD SPECIFICATIONS. COSTS FOR TEMPORARY BYPASS PUMPING SHALL BE INCIDENTAL TO THE CONTRACT.
7. THE CONTRACTOR SHALL COORDINATE WITH THE UTILITY OWNER CONCERNING THE TIMING AND SCHEDULE OF REQUIRED SHUT-DOWNS OF ANY EXISTING WATER OR SEWER MAINS.
8. THE CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE TO CUSTOMERS WHEN EXISTING WATER MAINS HAVE TO BE SHUT DOWN FOR MORE THAN 8 HOURS, OR AS DIRECTED BY THE ENGINEER.
9. FOR EXISTING WATER SERVICES TO BE ABANDONED, AND ARE CONNECTED TO EXISTING WATER MAINS THAT WILL REMAIN IN SERVICE, THE CONTRACTOR SHALL EXCAVATE THE CORPORATION STOP AT THE WATER MAIN, CLOSE THE CORPORATION STOP, AND DISCONNECT THE WATER SERVICE LINE FROM THE CORPORATION STOP. THE COST FOR THIS WORK SHALL BE INCIDENTAL TO THE COST FOR THE "REMOVE WATER METER" PAY ITEM.
10. THE CONTRACTOR SHALL REPLACE ANY DAMAGED SEWER LATERALS AND/OR CLEANOUTS AS DIRECTED BY THE ENGINEER. THE NECESSARY QUANTITIES HAVE BEEN ADDED TO THE CONTRACT TO FACILITATE THIS PROCEDURE.

PROJECT REFERENCE NO. U-5896	SHEET NO. UC-3
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/6/2021
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**

5/14/2021

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO. U-5896 SHEET NO. UC-3A

DESIGNED BY: DMP  
 DRAWN BY: DMP  
 CHECKED BY: DMP  
 APPROVED BY:  
 REVISED:

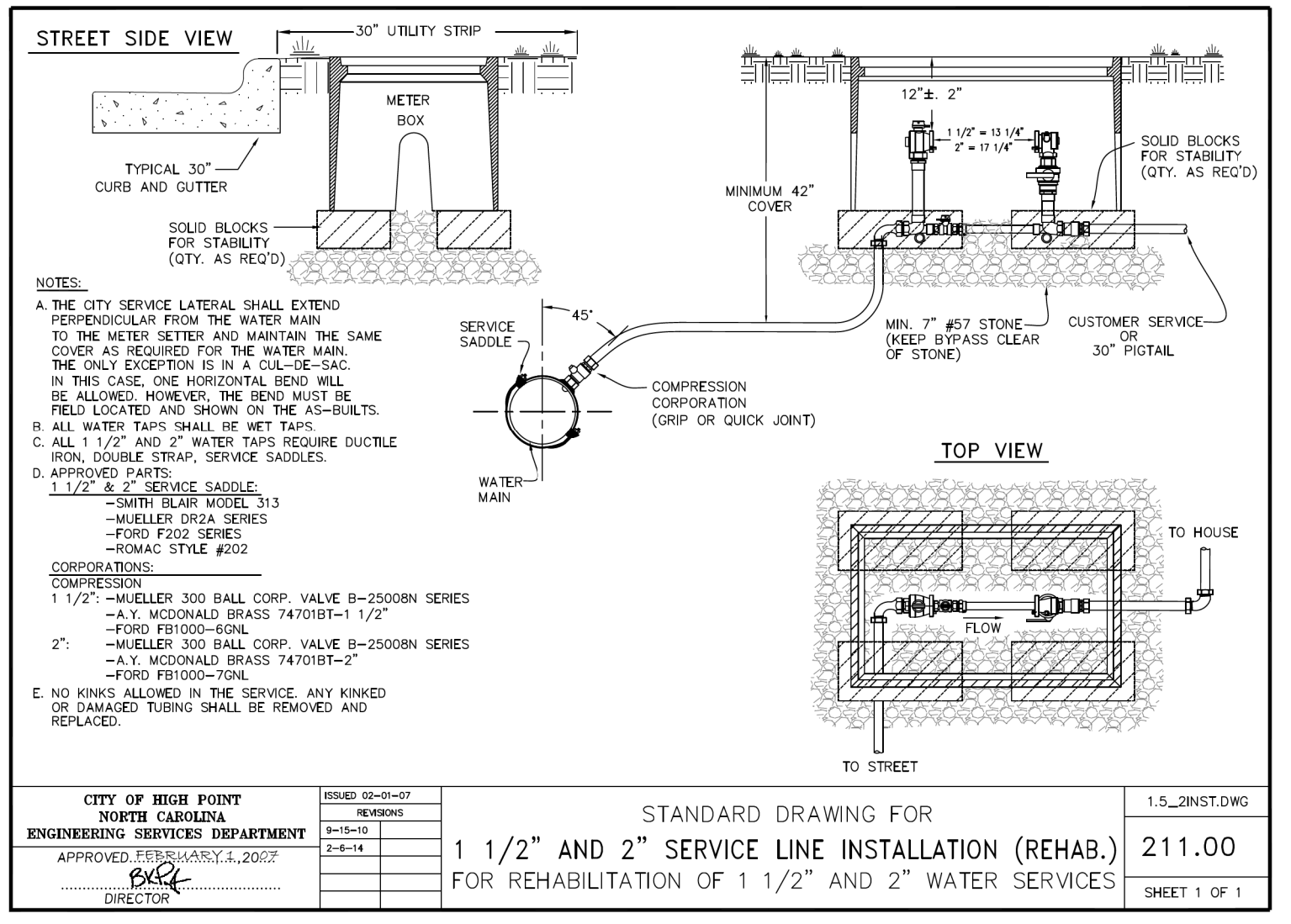
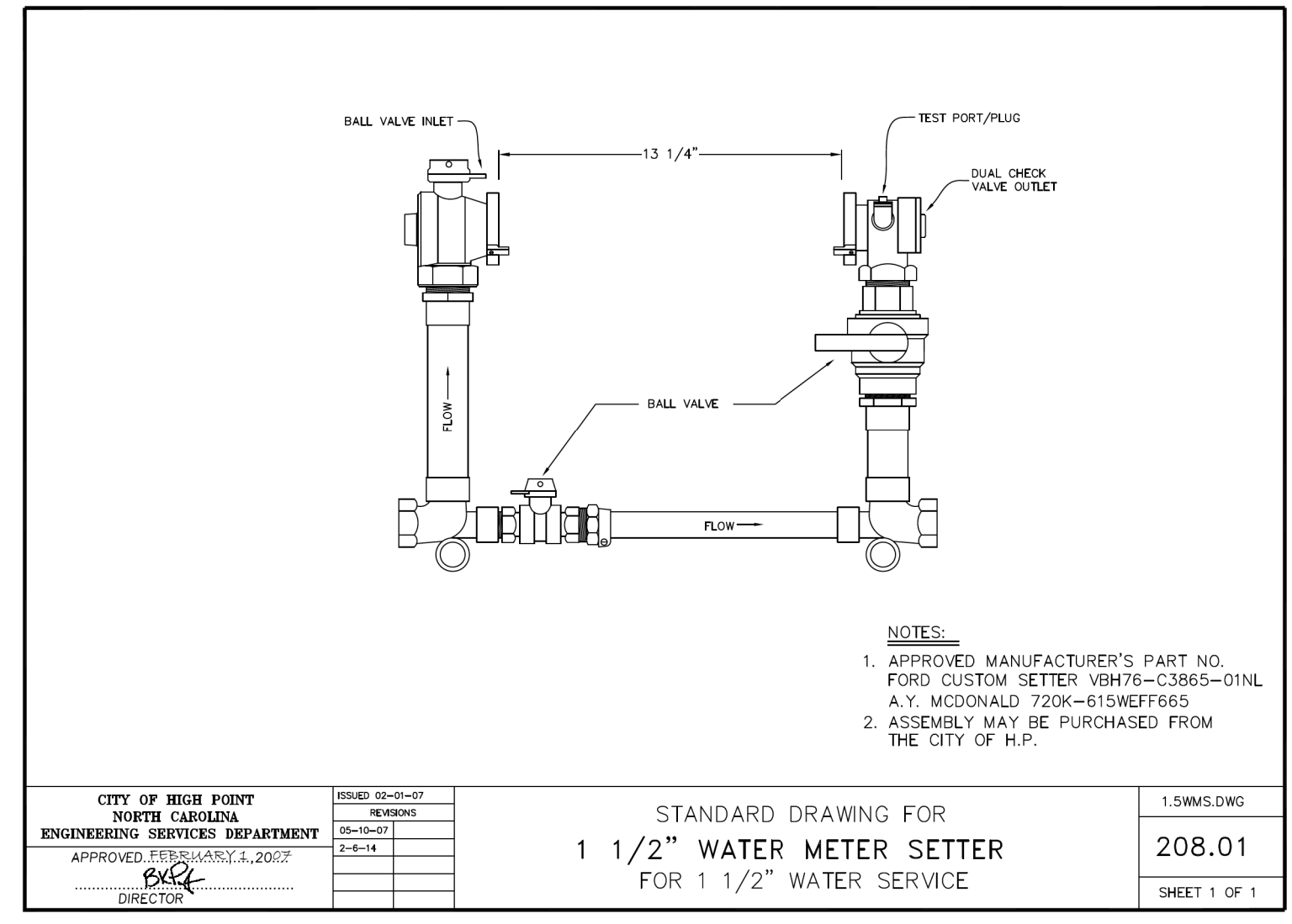
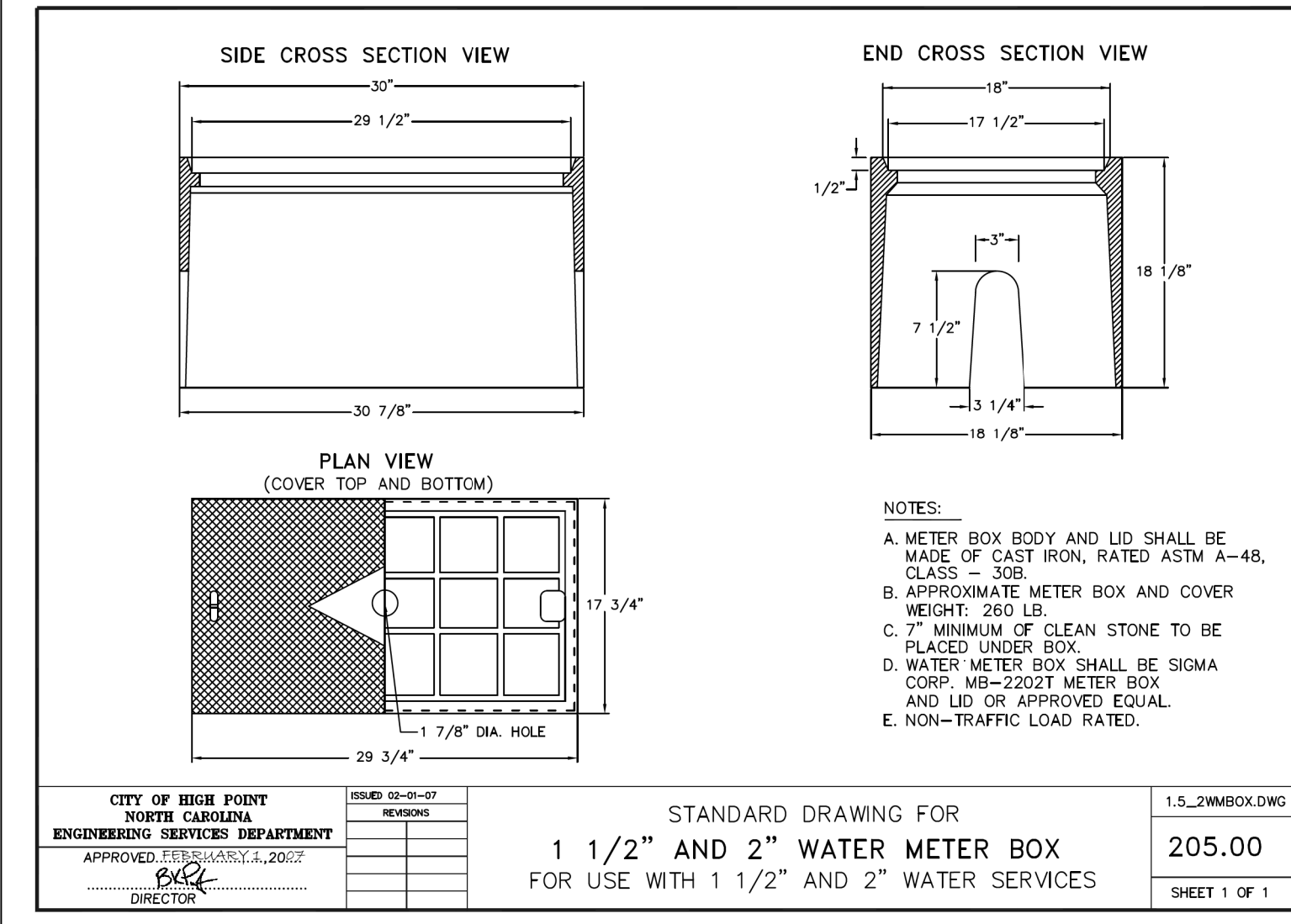
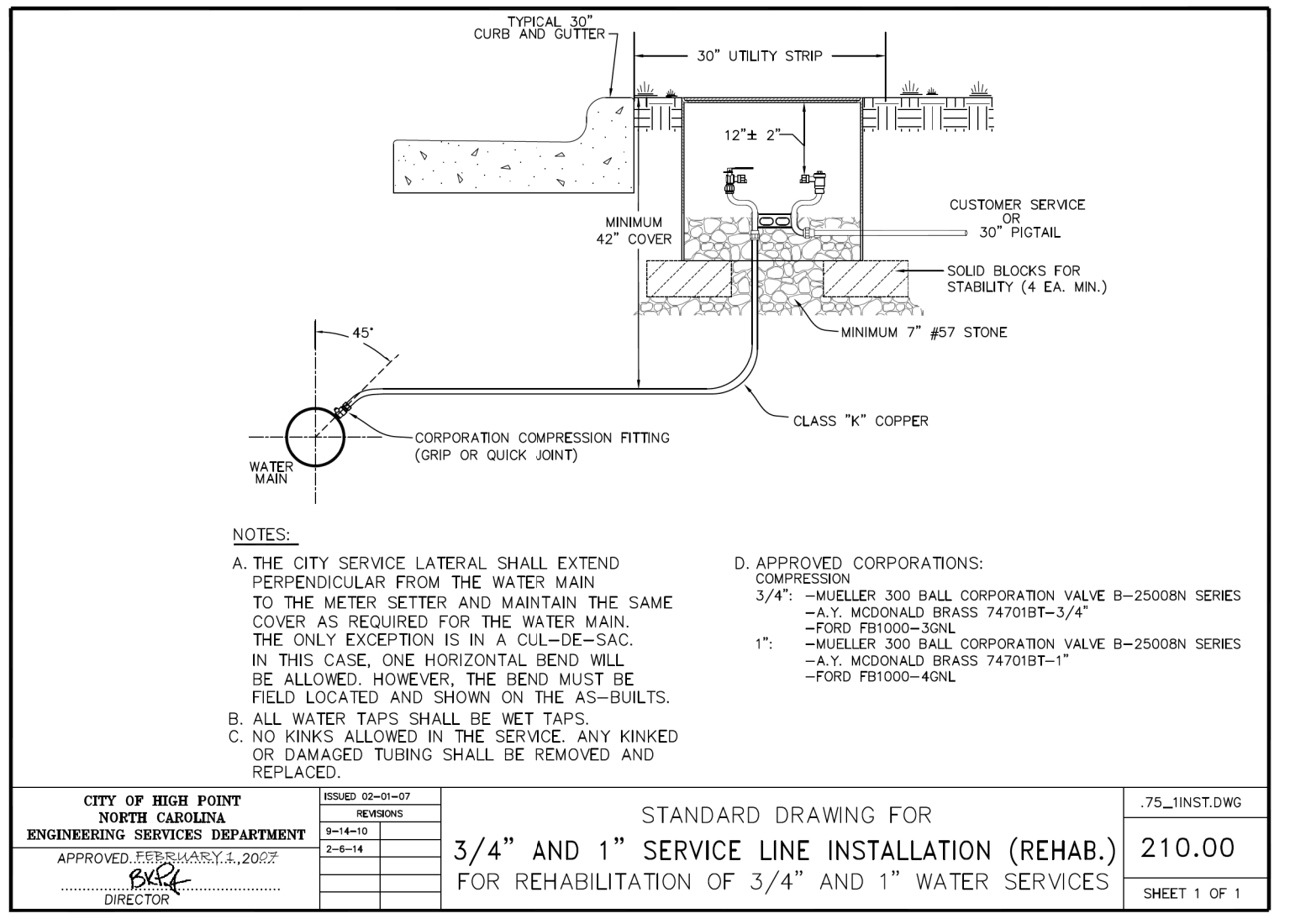
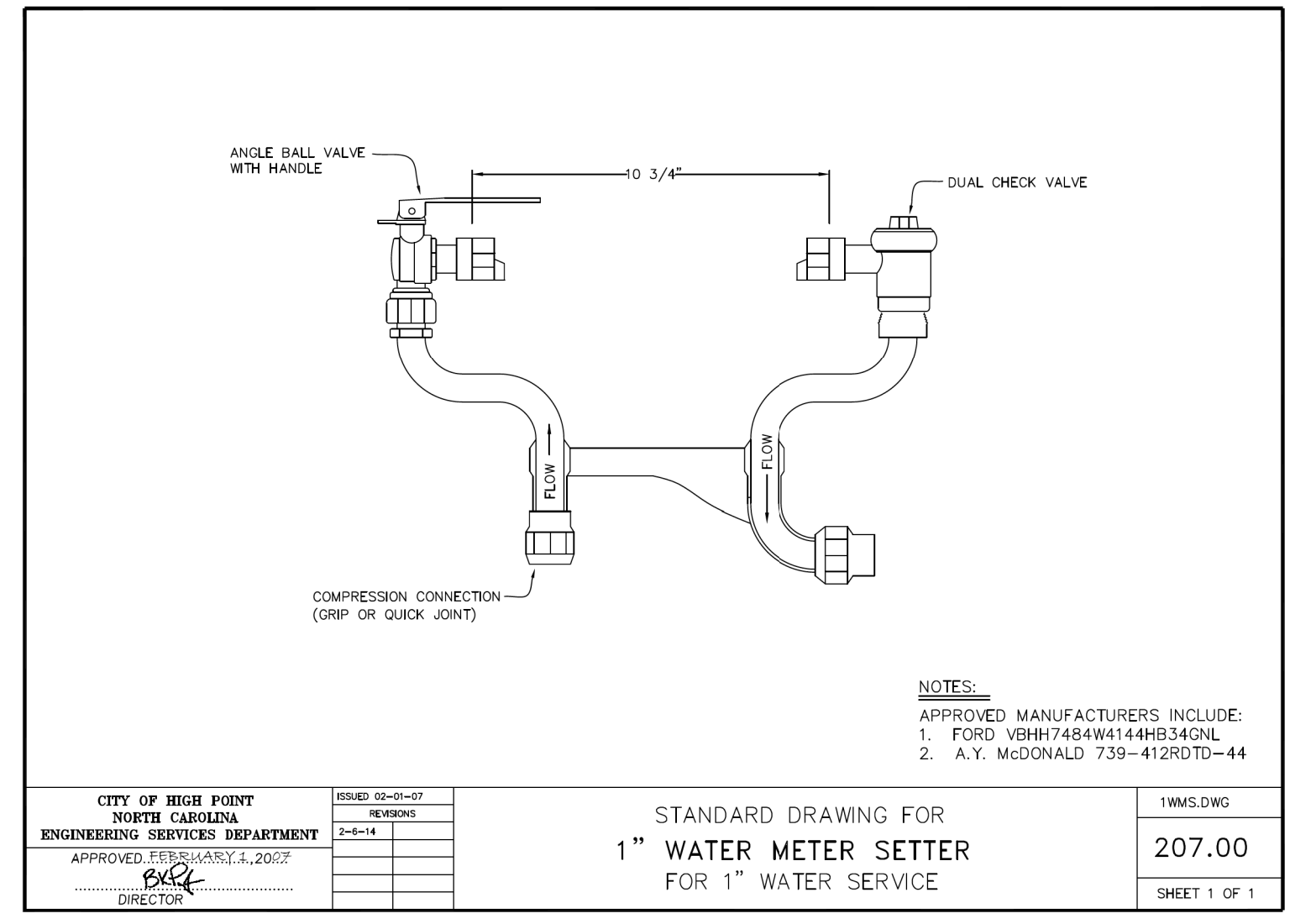
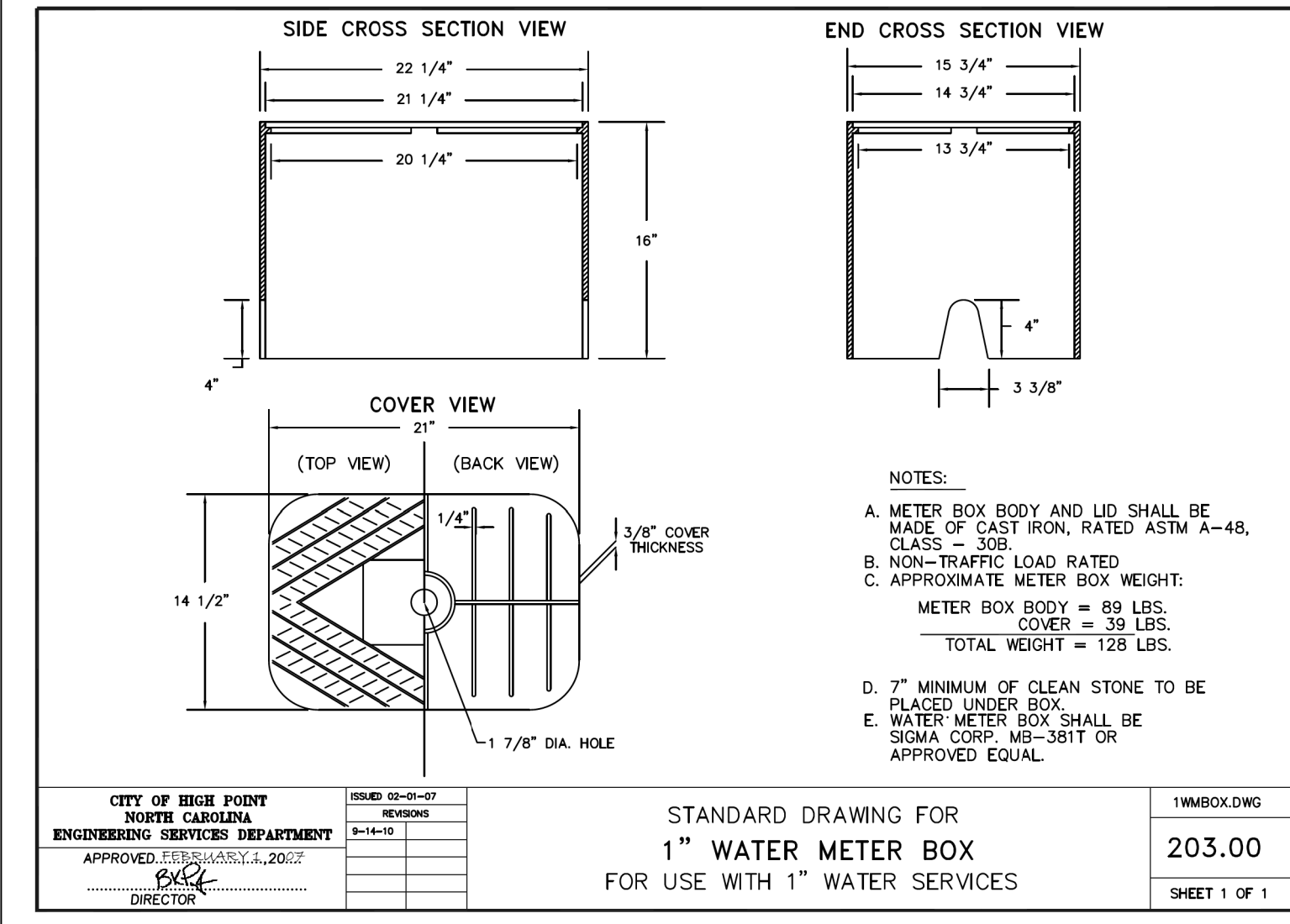
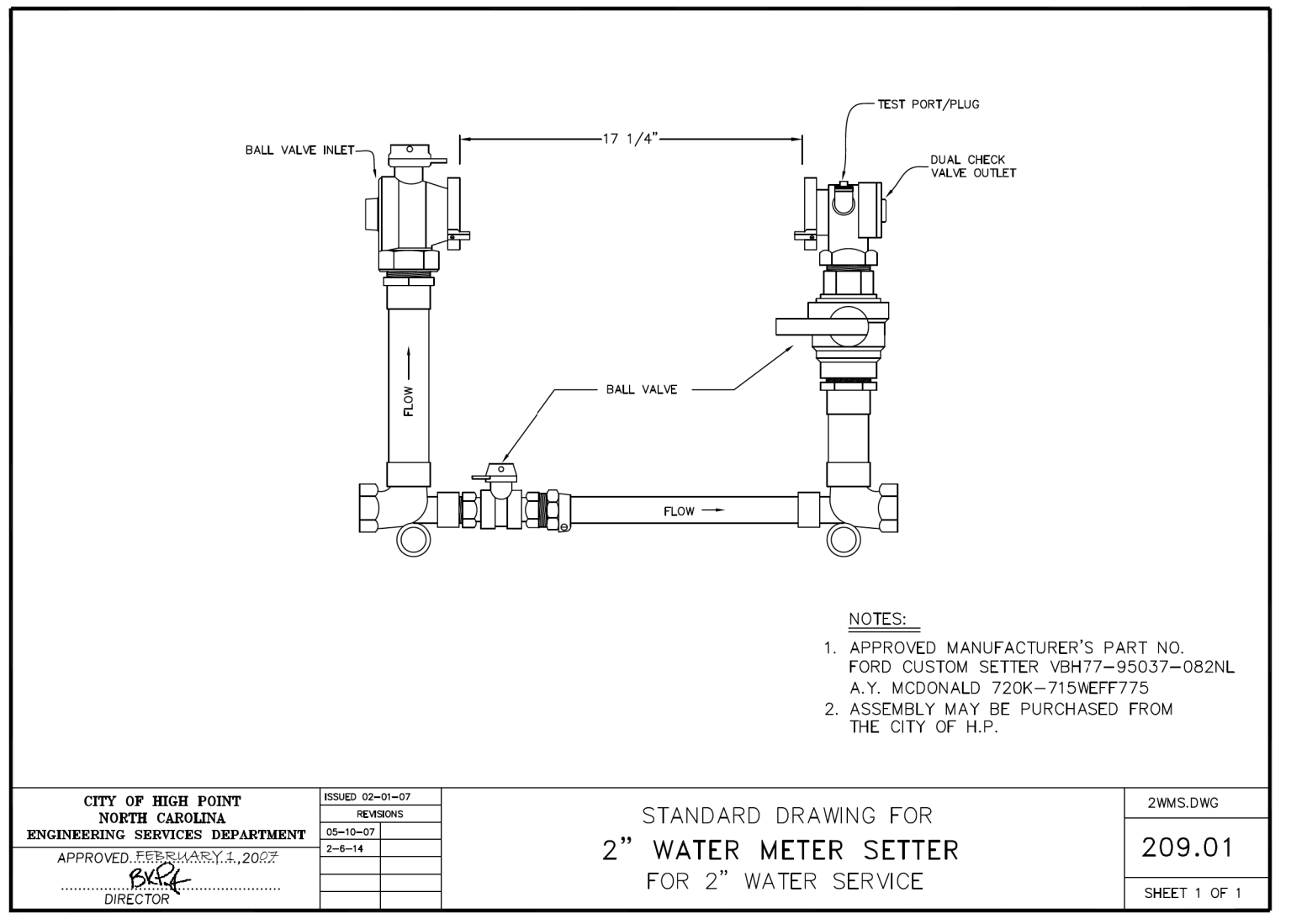
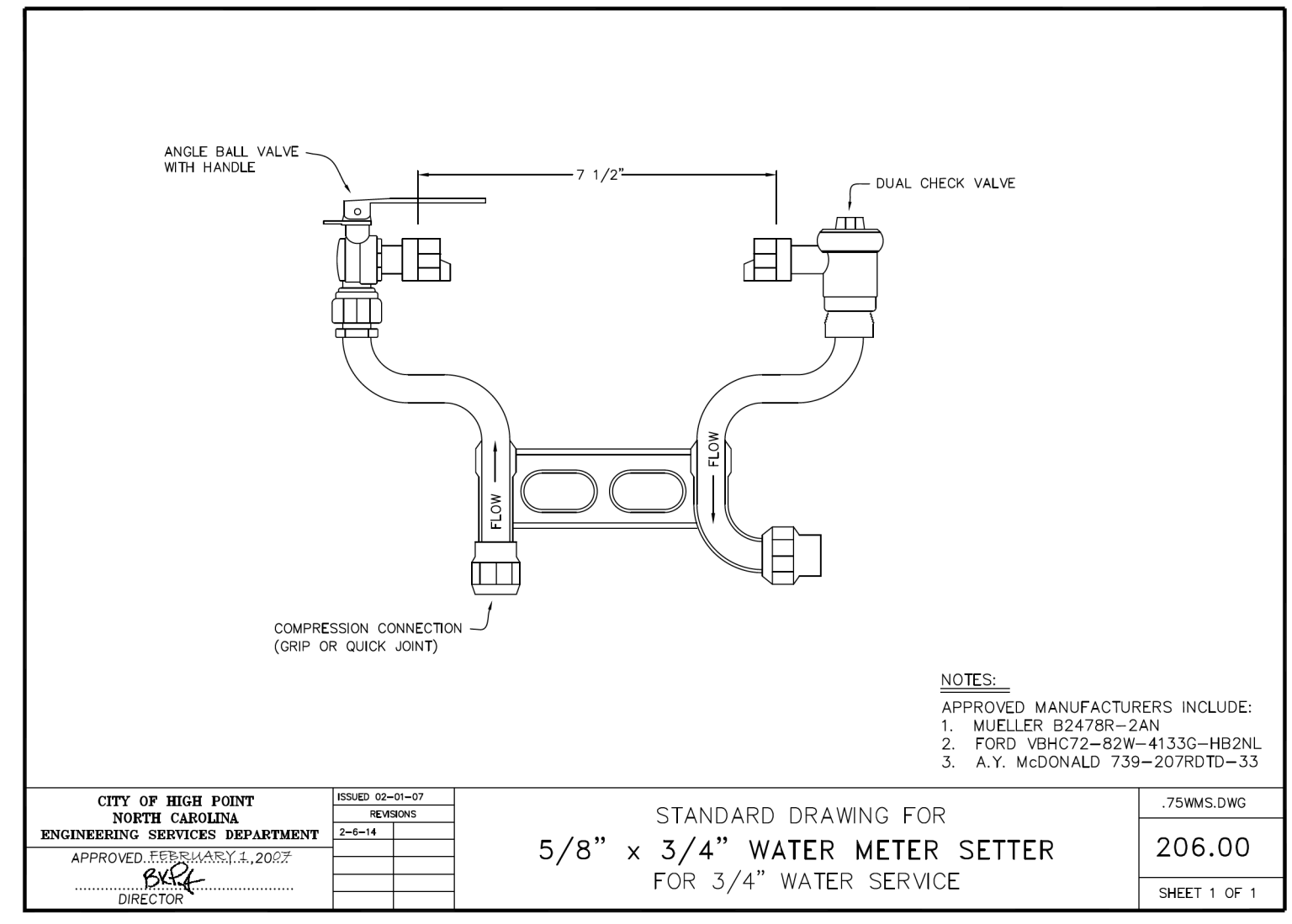
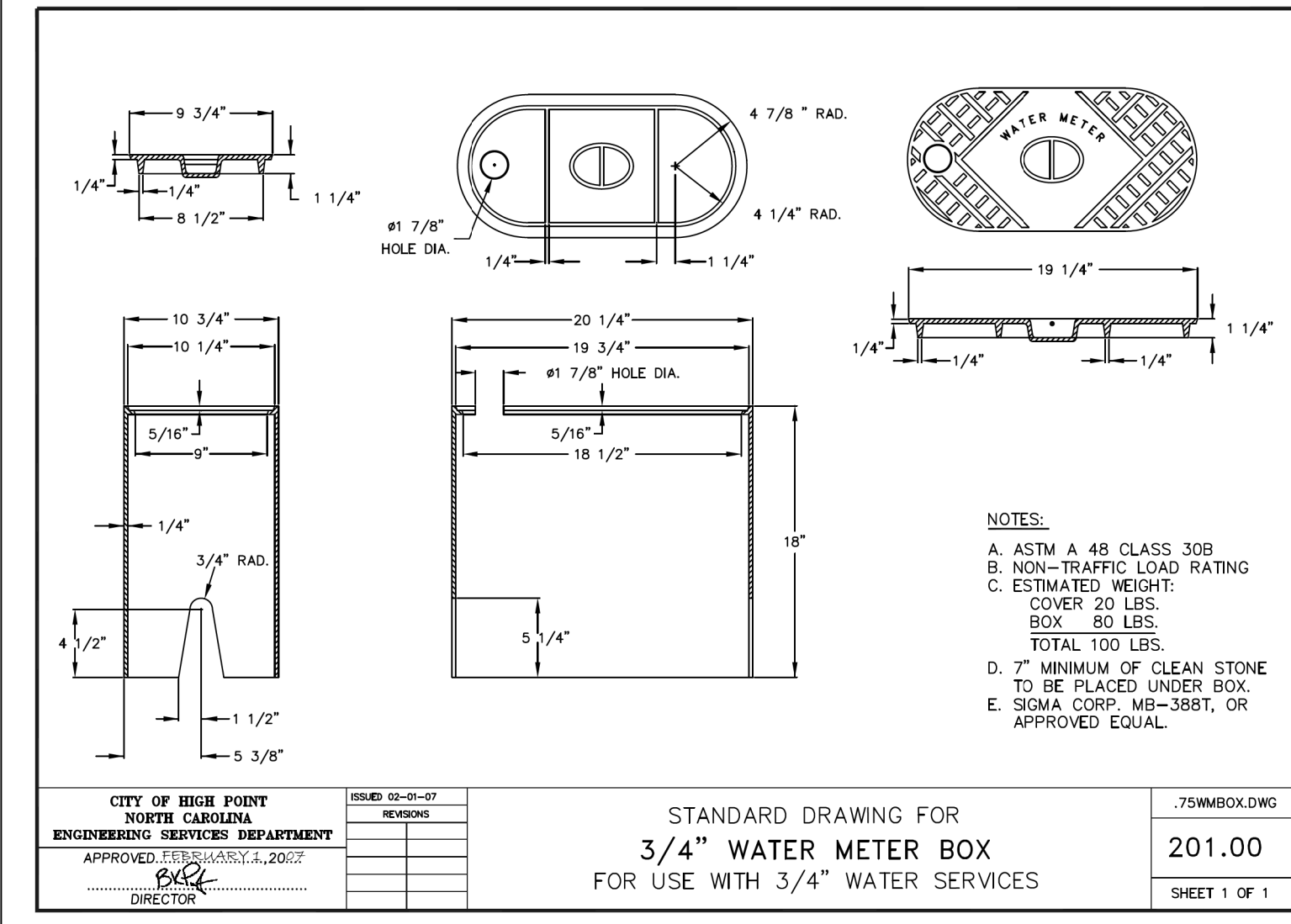
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION  
 UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151

12/6/2021  
 SEAL  
 NORTH CAROLINA PROFESSIONAL ENGINEER  
 Andrew P. Larrick  
 No. 26457  
 NEW P. LARRICK

UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



REVISIONS

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5/14/2019

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO. <b>U-5896</b>	SHEET NO. <b>UC-3B</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISED:	
DATE:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

## UTILITY CONSTRUCTION

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**STANDARD DRAWING FOR 3/4" AND 1" SERVICE LINE INSTALLATION (NEW) FOR 3/4" AND 1" WATER SERVICES**

75\_INSTDWG  
**212.00**  
SHEET 1 OF 1

REACTION BEARING AREAS FOR HORIZONTAL WATER PIPE BENDS BASED ON TEST PRESSURE OF 200 PSI										
SIZE AND DEGREE OF BEND	STATIC THRUST IN POUNDS	REACTION BEARING AREAS IN SQUARE FEET MEASURED IN A VERTICAL PLANE IN THE TRENCH SIDE AT AN ANGLE OF 90° TO THE THRUST VECTOR								
		1/2 MIN. 90° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND	1/2 MIN. 45° BEND
6"	1125	1	1	1	1	1	1	1	1	1
11.25"	2207	1	2	2	1	1	1	1	1	1
22.50"	4328	2	3	3	1	1	1	2	1	1
45°	7996	2	4	5	1	1	1	2	1	1
90°	5665	2	3	4	1	1	2	2	1	1
PLUG: 10053 3 5 6 2 2 2 6 1 2 2-1/2" DIA.										
6"	1970	1	1	2	1	1	2	1	2	1
11.25"	3922	1	2	3	1	1	3	1	3	1
22.50"	7694	2	4	5	1	1	5	1	5	1
45°	14215	4	8	9	2	2	8	2	8	2
90°	10053	3	5	6	2	2	6	2	6	2
PLUG: 10053 3 5 6 2 2 2 6 1 2 2-1/2" DIA.										
12"	4433	2	3	3	1	1	2	1	2	1
11.25"	8826	3	5	6	2	2	3	1	3	1
22.50"	17312	5	9	11	3	3	5	2	5	2
45°	31983	8	16	19	4	4	8	4	8	4
90°	22619	8	12	14	3	3	6	3	4-3/4" DIA.	3
PLUG: 22619 8 12 14 3 3 6 3 4-3/4" DIA.										

**STANDARD DRAWING FOR SPIDER SUPPORT FOR DUCTILE IRON PIPE INSTALLED IN STEEL ENCASEMENT PIPE**

SPIDER.DWG  
**234.00**  
SHEET 1 OF 1

REVISIONS

**STANDARD DRAWING FOR 1 1/2" AND 2" SERVICE LINE INSTALLATION (NEW) FOR 1 1/2" AND 2" WATER SERVICES**

1.5\_INSTDWG  
**213.00**  
SHEET 1 OF 1

MOD. TYPE 1		MOD. TYPE 2		MOD. TYPE 3		MOD. TYPE 4	
Bc	12"	Bc	8 1/2"	Bc	1/8" PIPE DIA. (4" MIN.)	Bc	1/8" PIPE DIA. (4" MIN.)
FLAT BOTTOM, UNDISTURBED EARTH TRENCH ROADWAY. INITIAL BACKFILL COMPACTED TO 95% OF THE AASHTO T99 STANDARD PROCTOR, AS MODIFIED BY THE NDOT.				FLAT BOTTOM, UNDISTURBED EARTH TRENCH ROADWAY. INITIAL BACKFILL COMPACTED TO 95% OF THE AASHTO T99 STANDARD PROCTOR, AS MODIFIED BY THE NDOT.			
NON-ROADWAY. INITIAL BACKFILL COMPACTED TO 90% STANDARD PROCTOR, AASHTO T-99.				NON-ROADWAY. INITIAL BACKFILL COMPACTED TO 90% STANDARD PROCTOR, AASHTO T-99.			

**STANDARD DRAWING FOR D.I. PIPE BEDDING & MAXIMUM DEPTH OF COVER**

BED\_DEPTH.DWG  
**233.00**  
SHEET 1 OF 2

**STANDARD DRAWING FOR FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS**

FHINSTALL1.DWG  
**235.00**  
SHEET 1 OF 2

SAVE COVER	WATER LINES				SEWER LINES			
	3"	4"	6"	8"	8"	12"	16"	24"
0'								
2'								
4'								
6'								
8'	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1
10'								
12'								
14'								
16'								
18'								
20'								

**STANDARD DRAWING FOR WATER PIPE COVER REQUIREMENTS FOR 6" - 36" D.I. WATER PIPE - PRESSURE CLASS 350**

COVER.DWG  
**230.00**  
SHEET 1 OF 1

SAVE COVER	WATER LINES				SEWER LINES			
	3"	4"	6"	8"	8"	12"	16"	24"
0'								
2'								
4'								
6'								
8'	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1	MOD. TYPE 1
10'								
12'								
14'								
16'								
18'								
20'								

**STANDARD DRAWING FOR D.I. PIPE BEDDING & MAXIMUM DEPTH OF COVER**

THICK\_VS\_PSI.DWG  
**233.00**  
SHEET 2 OF 2

**STANDARD DRAWING FOR FIRE HYDRANT INSTALLATION FOR 6" 3-WAY FIRE HYDRANTS**

FHINSTALL2.DWG  
**235.00**  
SHEET 2 OF 2

5/14/2022

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-3C
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY: DMP	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY	

## UTILITY CONSTRUCTION

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**STANDARD DRAWING FOR WATER VALVE BOX FOR ROADWAY AND UNPAVED AREAS**

237.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR MANHOLE STEPS FOR UTILITY AND STORM SEWER STRUCTURES**

303.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR UTILITY MANHOLE RING AND COVER FOR ROADWAY APPLICATIONS**

307.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR 2" COMBINATION AIR RELEASE VALVE FOR WATER MAINS**

240.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR TYPICAL SANITARY MANHOLE INVERT FOR SANITARY SEWER MANHOLES**

304.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR OUTFALL MANHOLE LOCKABLE RING AND COVER, TYPE FT FOR USE IN WATERTIGHT OUTFALL MANHOLES**

308.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR 4" DIAMETER SANITARY MANHOLE FOR SANITARY SEWER MAINS LESS THAN 21"**

300.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR FLEXIBLE WATERTIGHT CONNECTOR FOR SANITARY SEWER MANHOLES**

306.00  
SHEET 1 OF 1

**STANDARD DRAWING FOR VENTED OUTFALL MANHOLE FOR 4" OR 5" SANITARY SEWER MANHOLES**

310.00  
SHEET 1 OF 1

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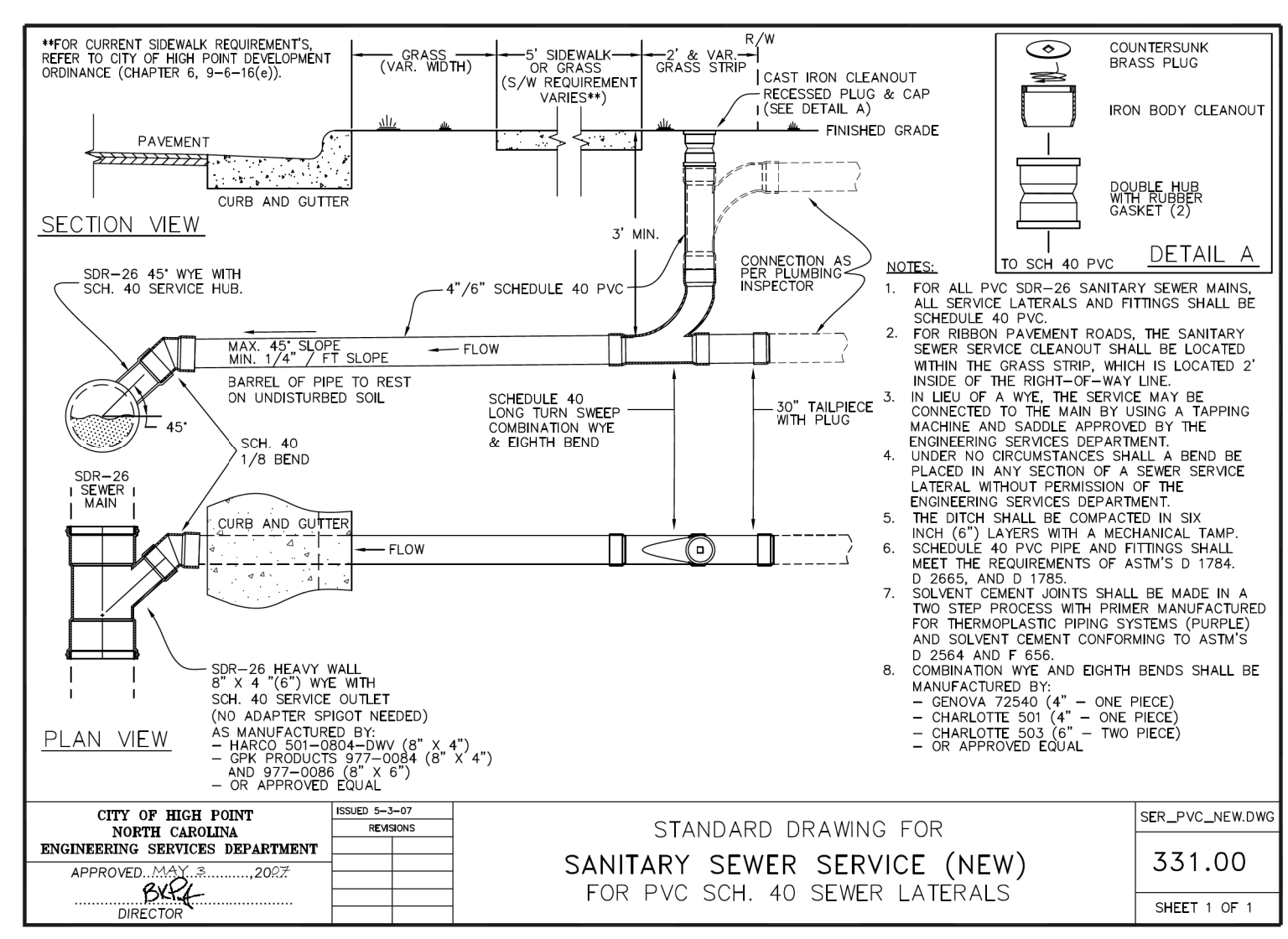
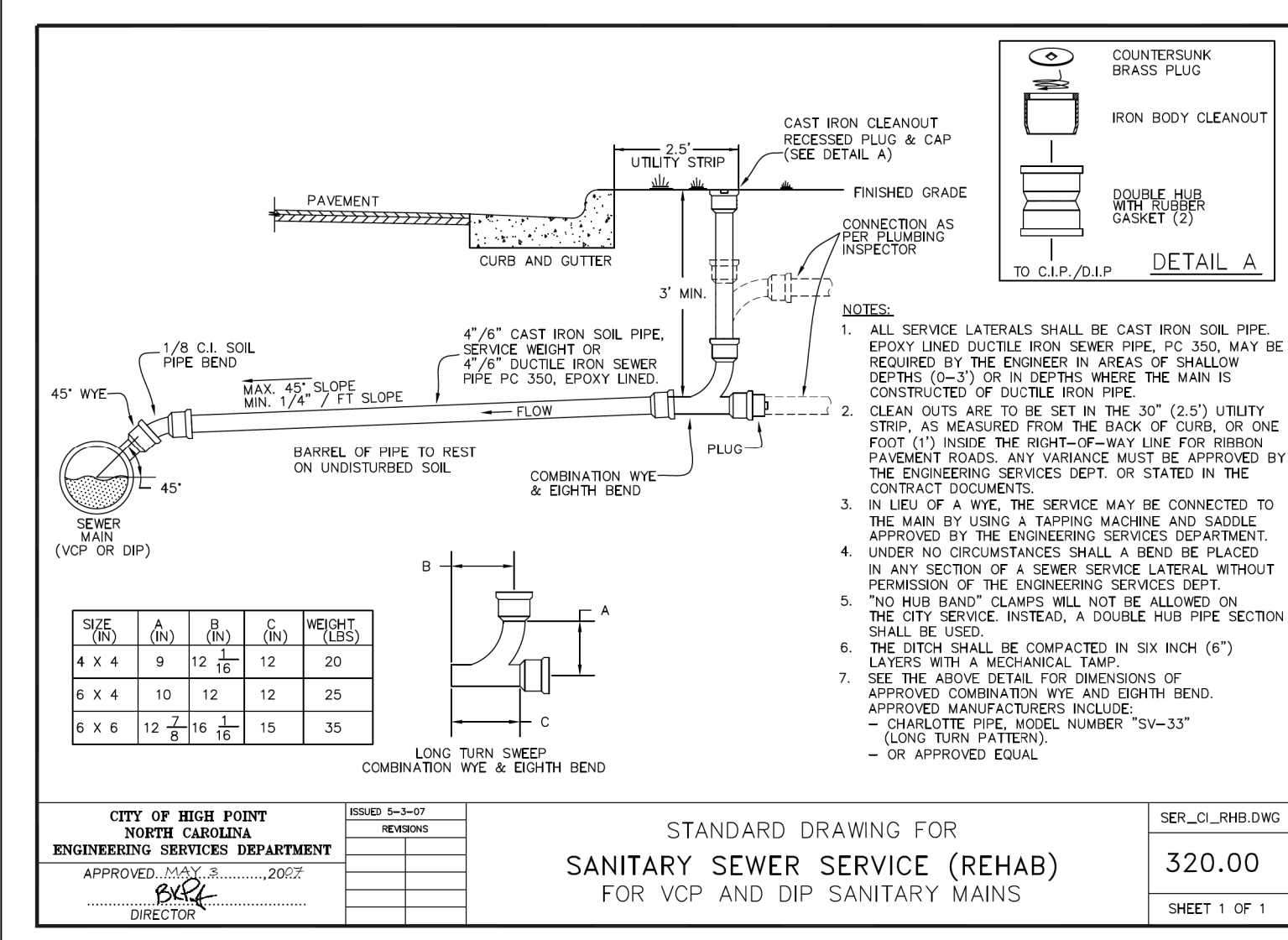
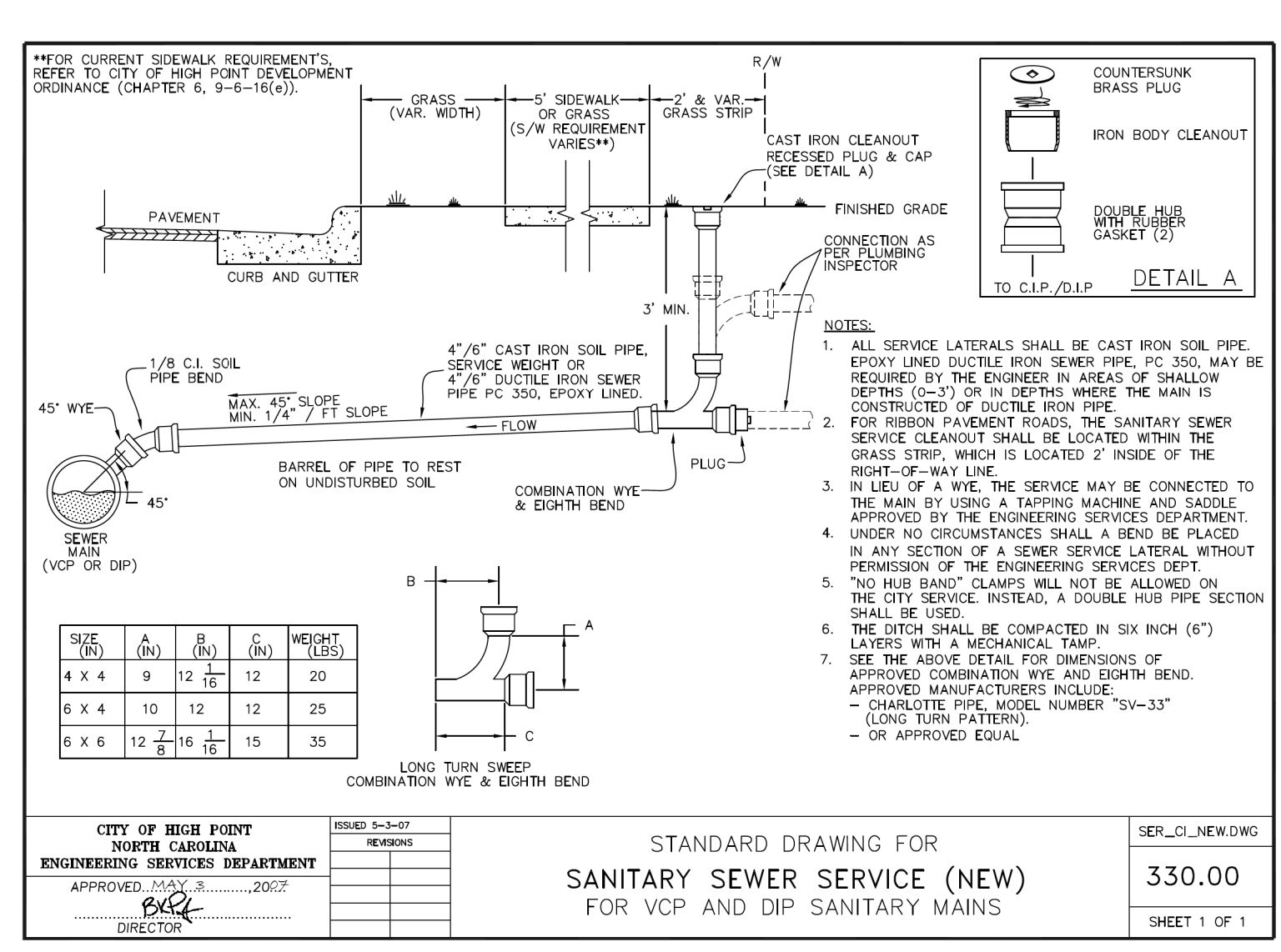
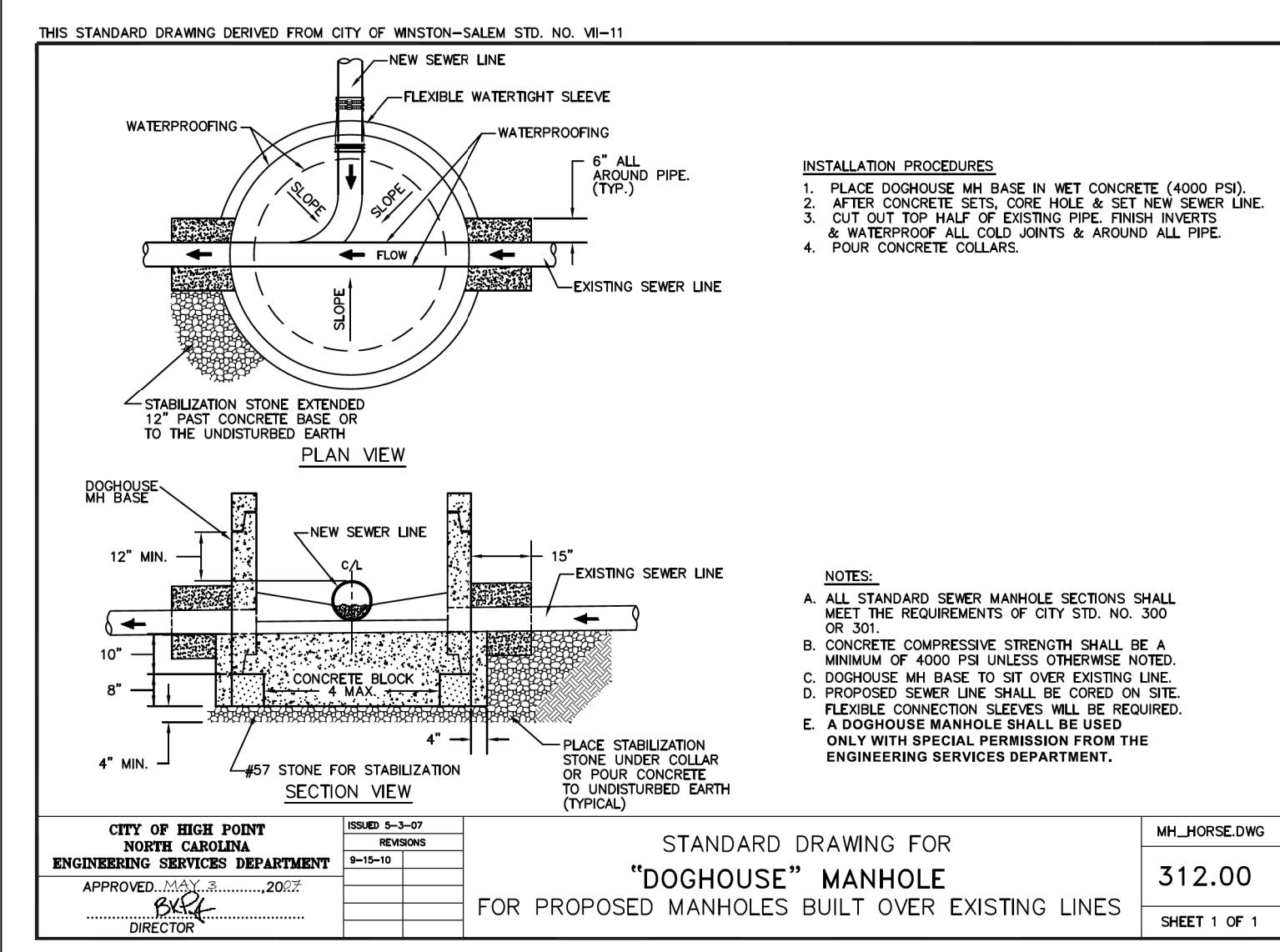
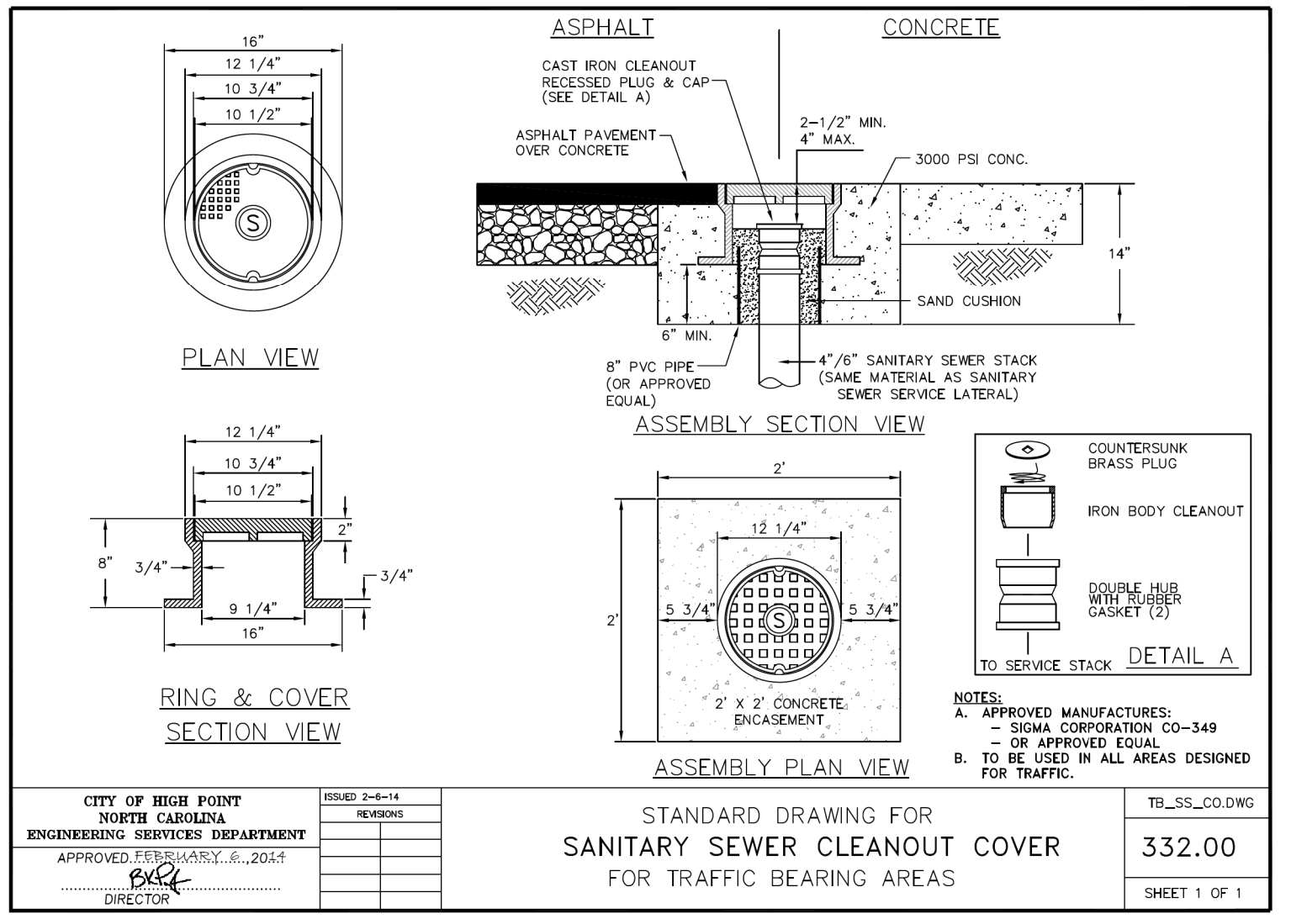
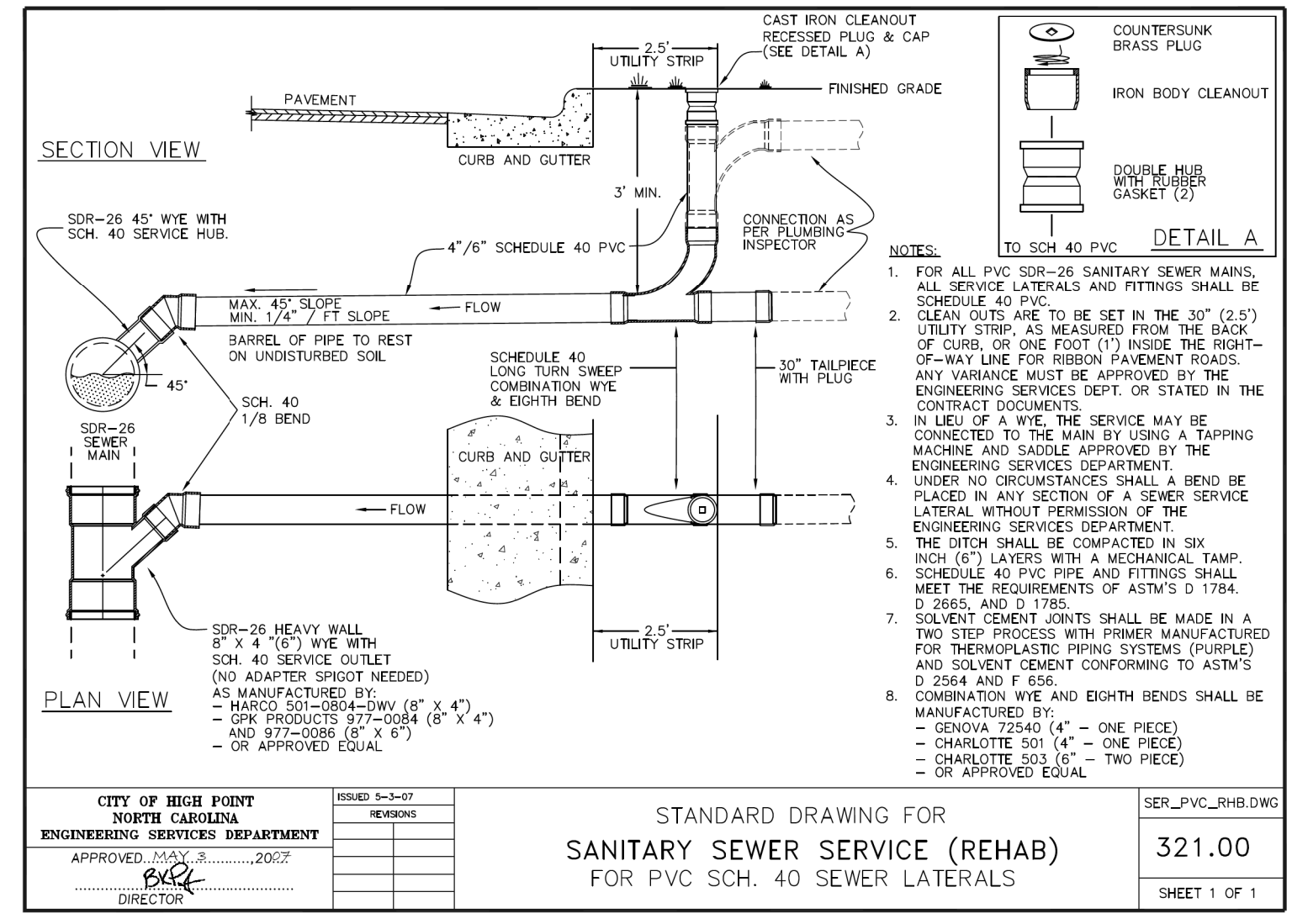
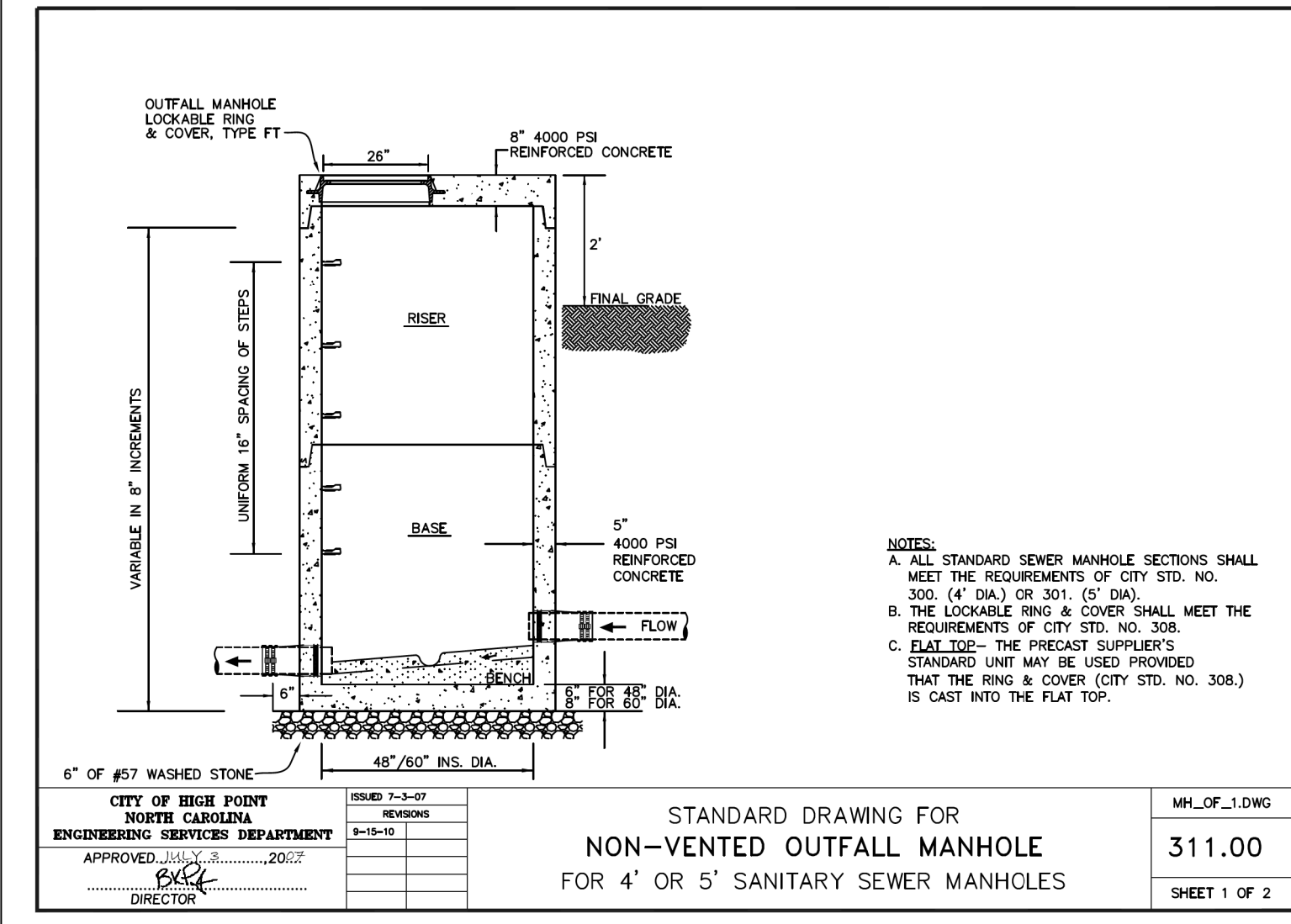
5/14/2023

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-3D
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY: DMP	
REVISED:	
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



5/14/99

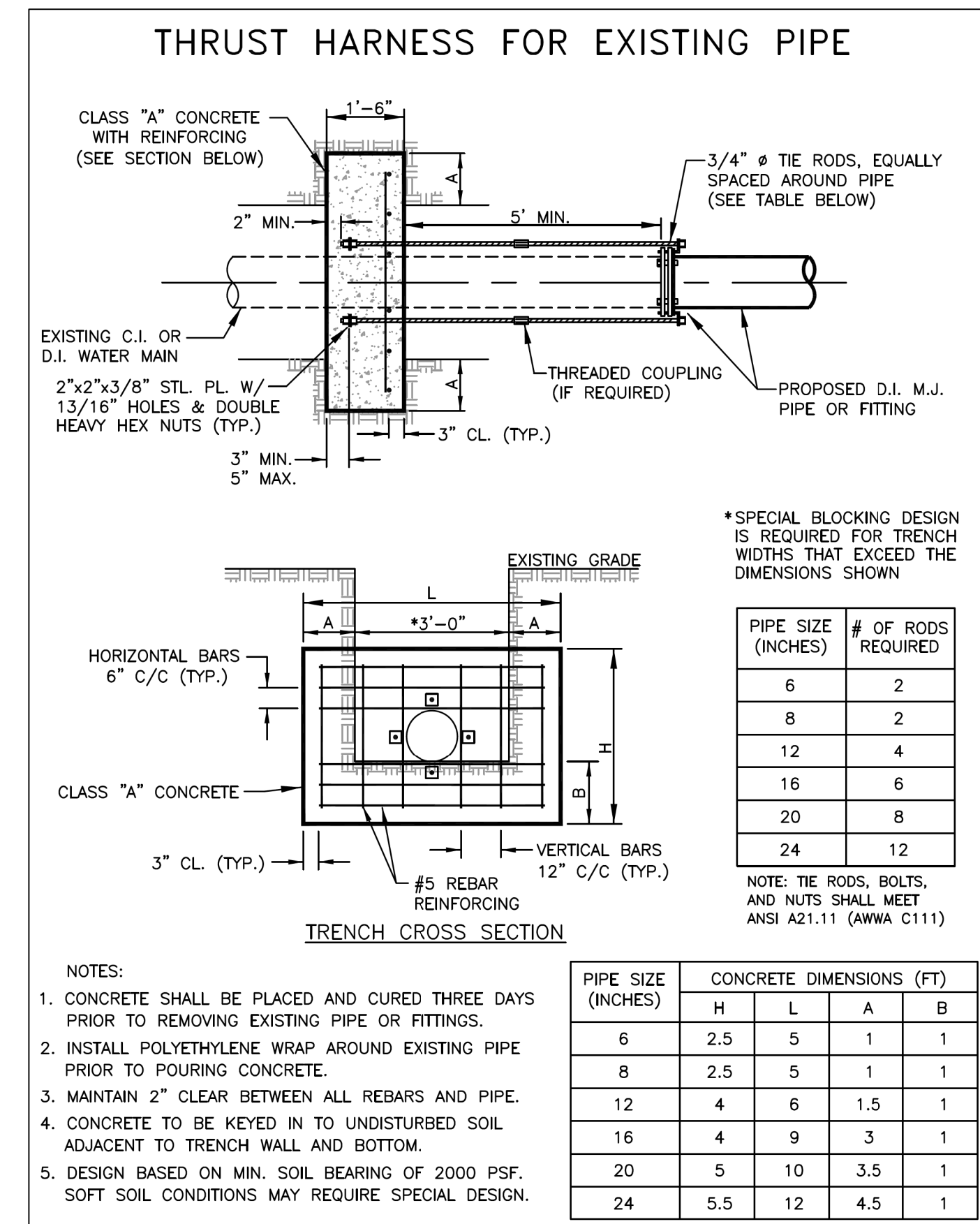
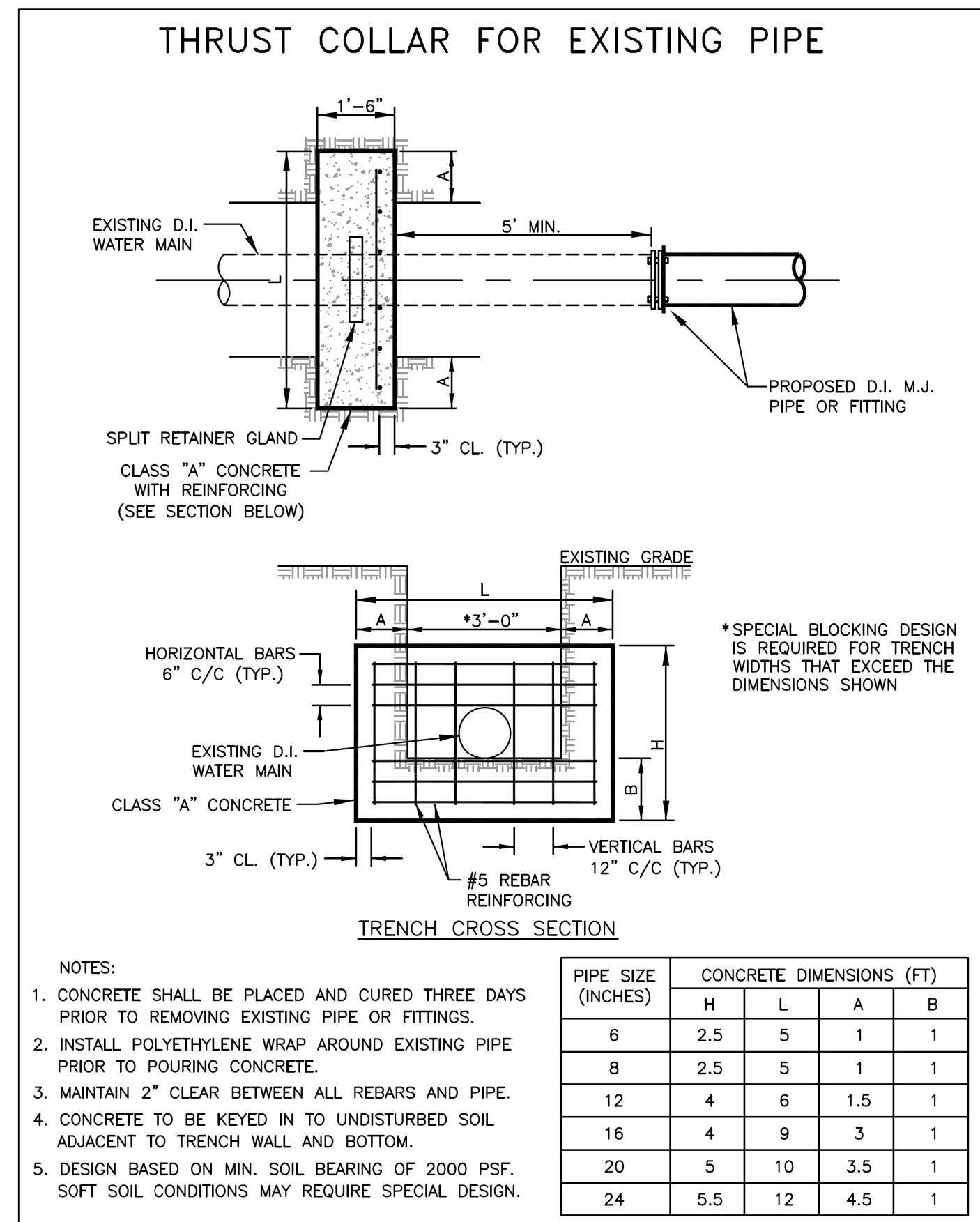
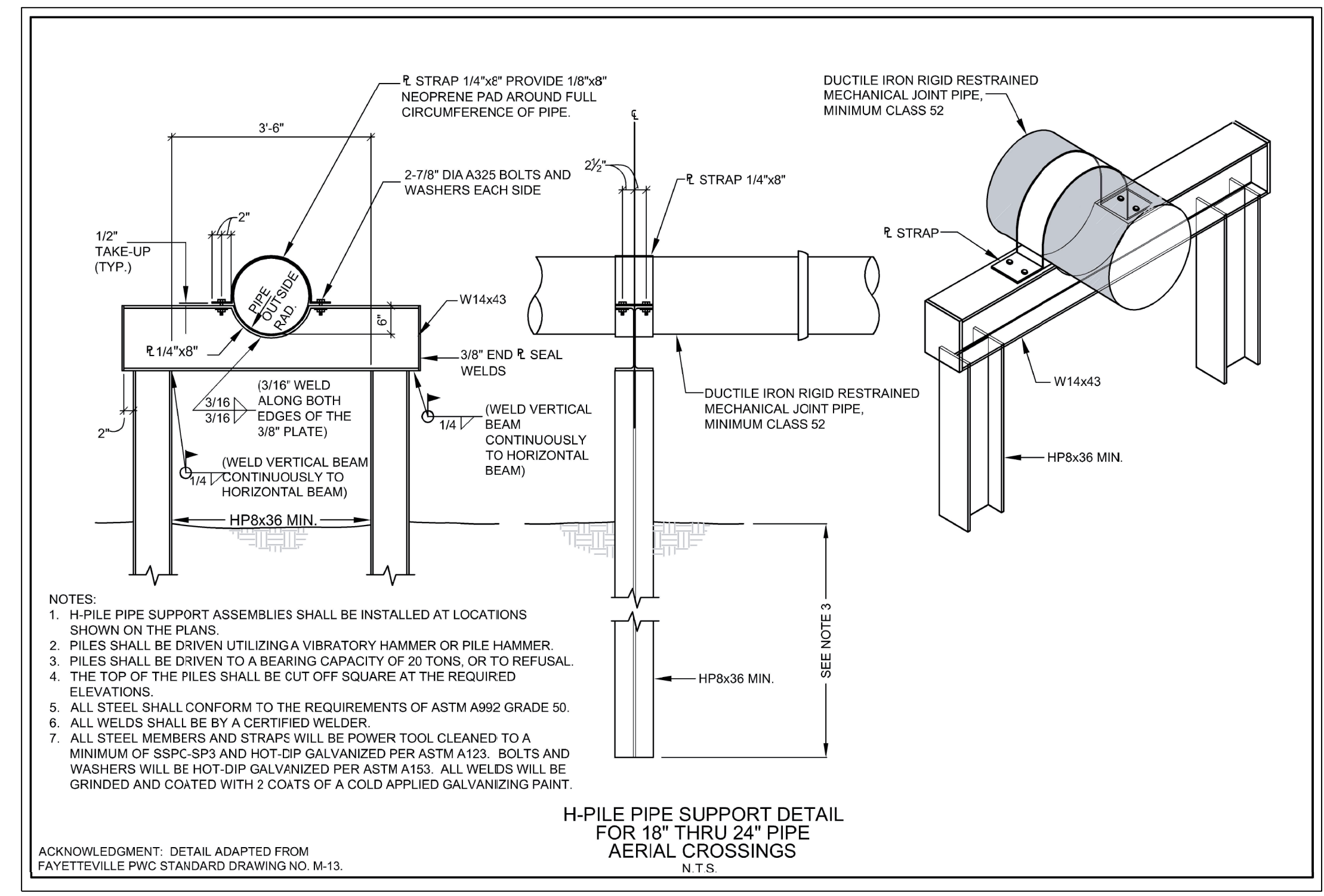
REVISIONS

# PROJECT TYPICAL DETAILS

PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-3E
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
12/6/2021	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

## UTILITY CONSTRUCTION

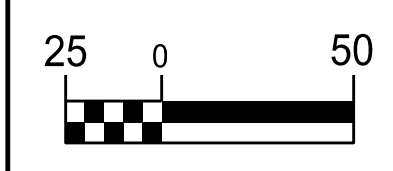
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**





5/14/99

THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. NO WATER OR SEWER CONFLICTS ARE ANTICIPATED ON THIS SHEET.

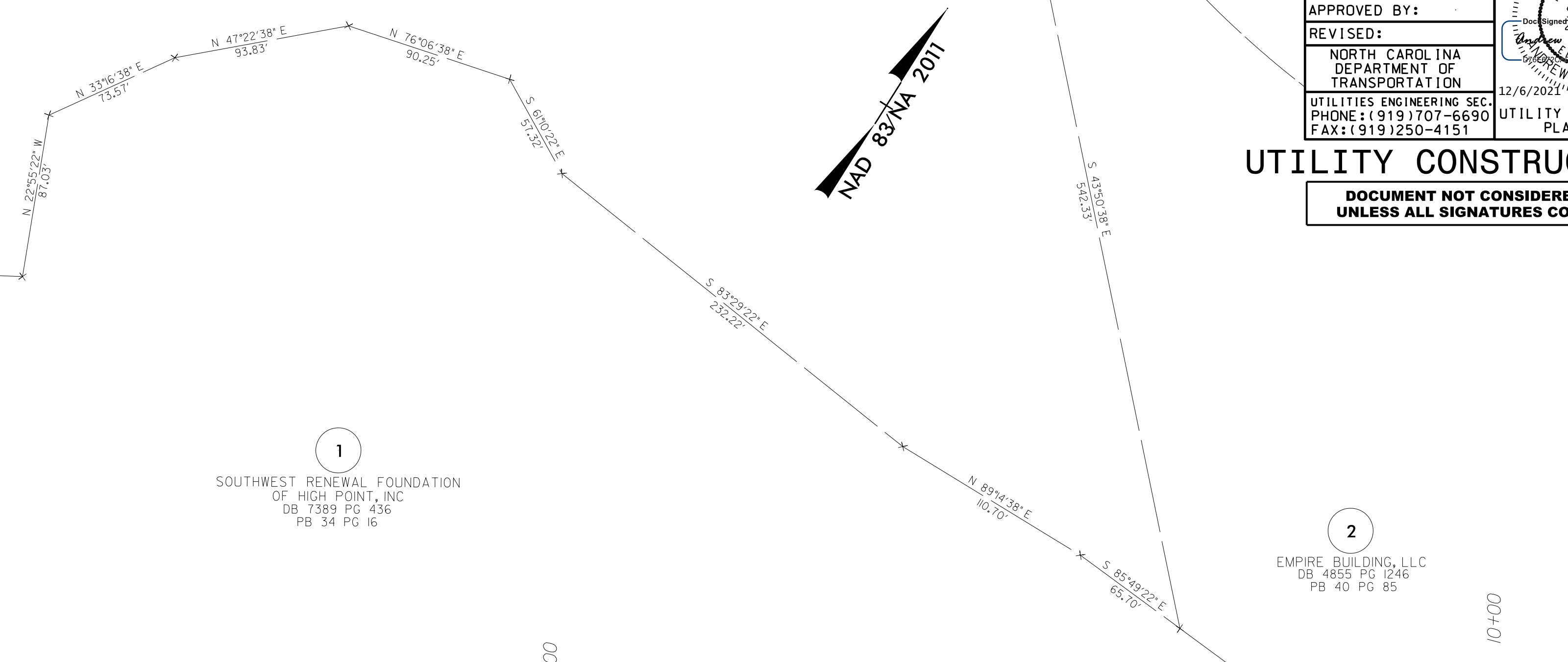


PROJECT REFERENCE NO. <b>U-5896</b>	SHEET NO. <b>UC-4</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISED:	12/6/2021
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

### UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS



1  
SOUTHWEST RENEWAL FOUNDATION  
OF HIGH POINT, INC  
DB 7389 PG 436  
PB 34 PG 16

2  
EMPIRE BUILDING, LLC  
DB 4855 PG 1246  
PB 40 PG 85

3  
WINDSOR INVESTMENTS OF  
NORTH CAROLINA, LLC  
DB 7222 PG 2772  
PB 34 PG 16

-L- POT Sta. 1+74.81

-BL-10

BEGIN WIDENING LT  
-L- Sta. 7+70.00

BEGIN OVERLAY LT  
-L- Sta. 6+40.00

BEGIN TIP U-5896  
-L- Sta. 6+40.00

BEGIN OVERLAY & WIDENING RT  
-L- Sta. 6+40.00

BEG. RET. WALL 1  
-L- Sta. 10+00.00

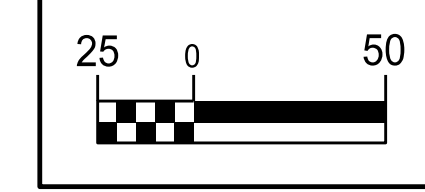
BERM BASE DITCH  
SEE DETAIL 2  
EST. 105 TONS RIP RAP  
EST. 275 SY GEOTEXTILE  
EST. 410 CY DDE

LATERAL DITCH  
SEE DETAIL 1

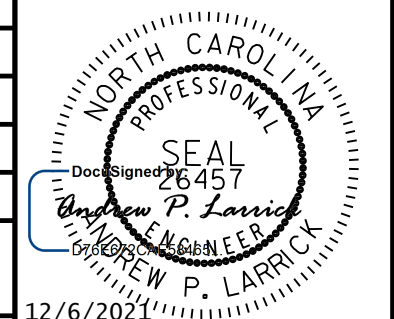
MATCHLINE -L- STA. 10 + 50.00  
SEE SHEET UC-5A

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5/14/2019



PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-5A
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/6/2021
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY



**UTILITY CONSTRUCTION**

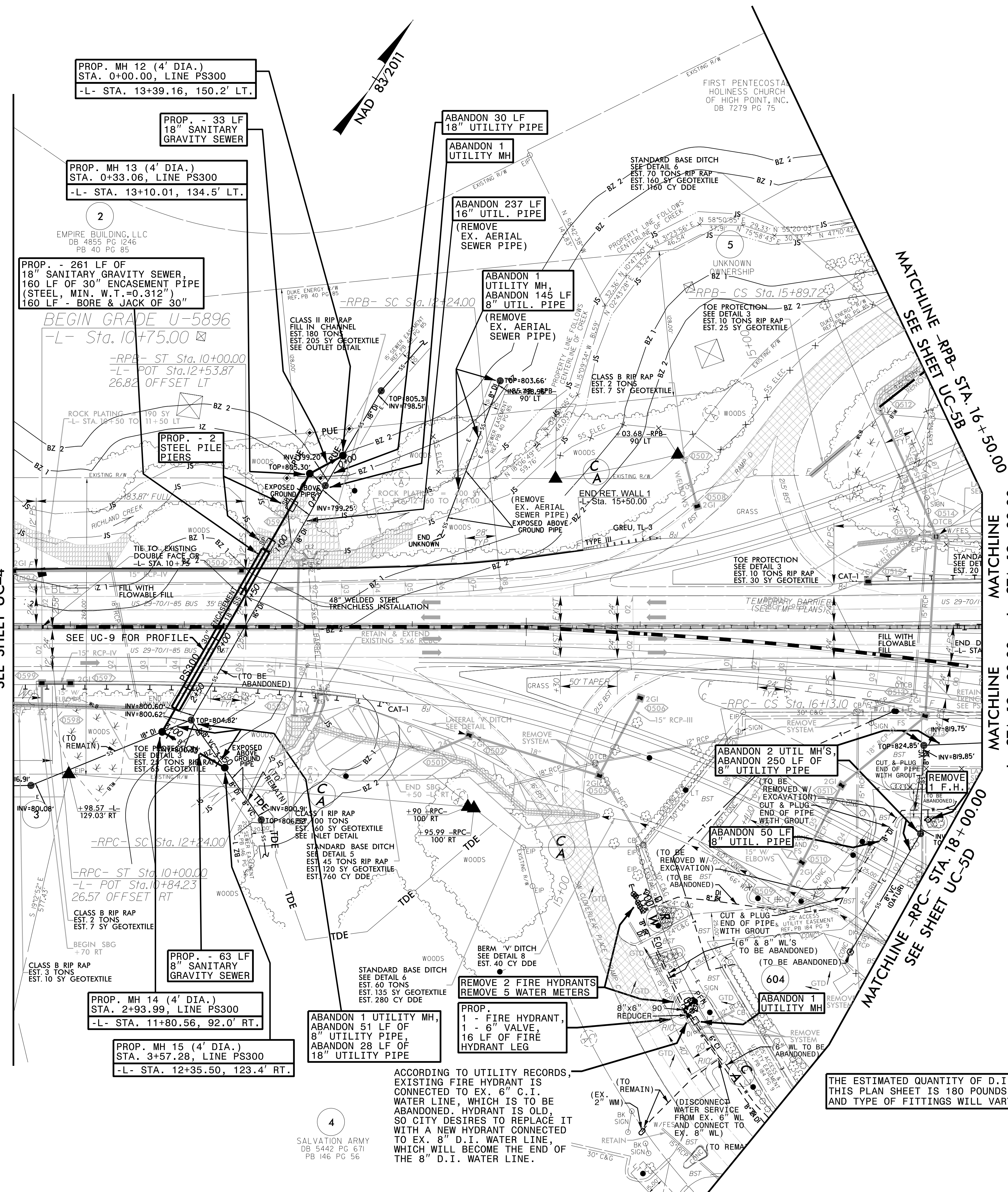
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

REVISIONS

MATCHLINE -L- STA. 10+50.00  
SEE SHEET UC-4

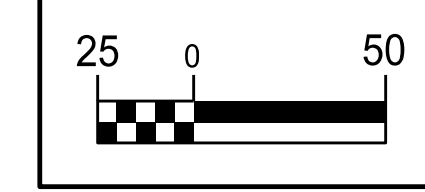
MATCHLINE -L- STA. 19+00.00  
SEE SHT. UC-5B

MATCHLINE -RPC- STA. 18+00.00  
SEE SHEET UC-5D



ACCORDING TO UTILITY RECORDS, EXISTING FIRE HYDRANT IS CONNECTED TO EX. 6" C.I. WATER LINE, WHICH IS TO BE ABANDONED. HYDRANT IS OLD, SO CITY DESIRES TO REPLACE IT WITH A NEW HYDRANT CONNECTED TO EX. 8" D.I. WATER LINE, WHICH WILL BECOME THE END OF THE 8" D.I. WATER LINE.

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 180 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-5B
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/6/2021
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

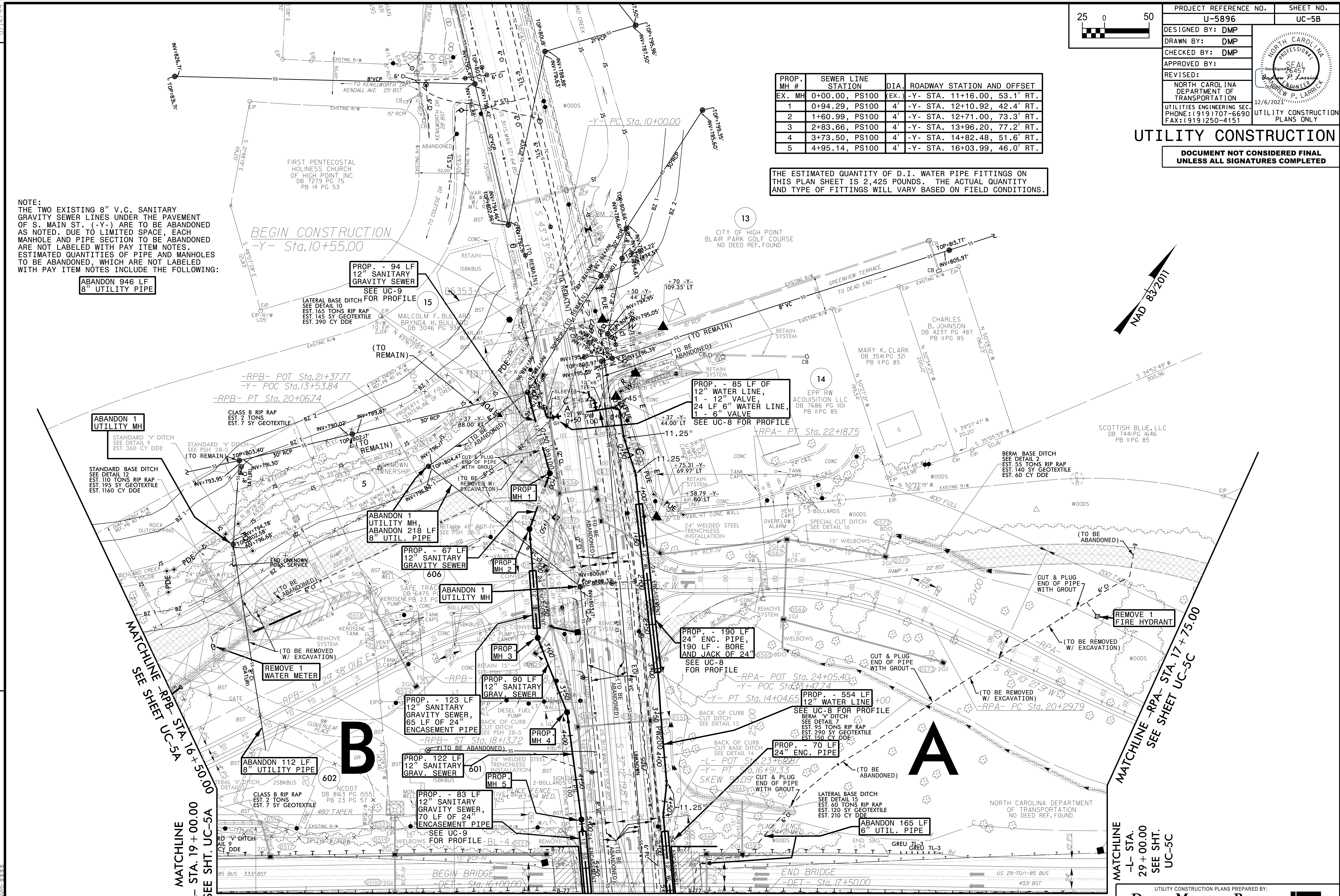
PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
EX. MH	0+00.00, PS100	(EX.)	-Y- STA. 11+16.00, 53.1' RT.
1	0+94.29, PS100	4'	-Y- STA. 12+10.92, 42.4' RT.
2	1+60.99, PS100	4'	-Y- STA. 12+71.00, 73.3' RT.
3	2+83.66, PS100	4'	-Y- STA. 13+96.20, 77.2' RT.
4	3+73.50, PS100	4'	-Y- STA. 14+82.48, 51.6' RT.
5	4+95.14, PS100	4'	-Y- STA. 16+03.99, 46.0' RT.

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,425 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

NOTE:  
THE TWO EXISTING 8" V.C. SANITARY GRAVITY SEWER LINES UNDER THE PAVEMENT OF S. MAIN ST. (-Y-) ARE TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:

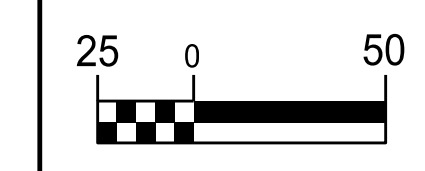
ABANDON 946 LF 8" UTILITY PIPE

REVISIONS



MATCHLINE -L- STA. 19+00.00 SEE SHT. UC-5A

MATCHLINE -Y- STA. 16+91.40 SEE SHEET NO. UC-5D

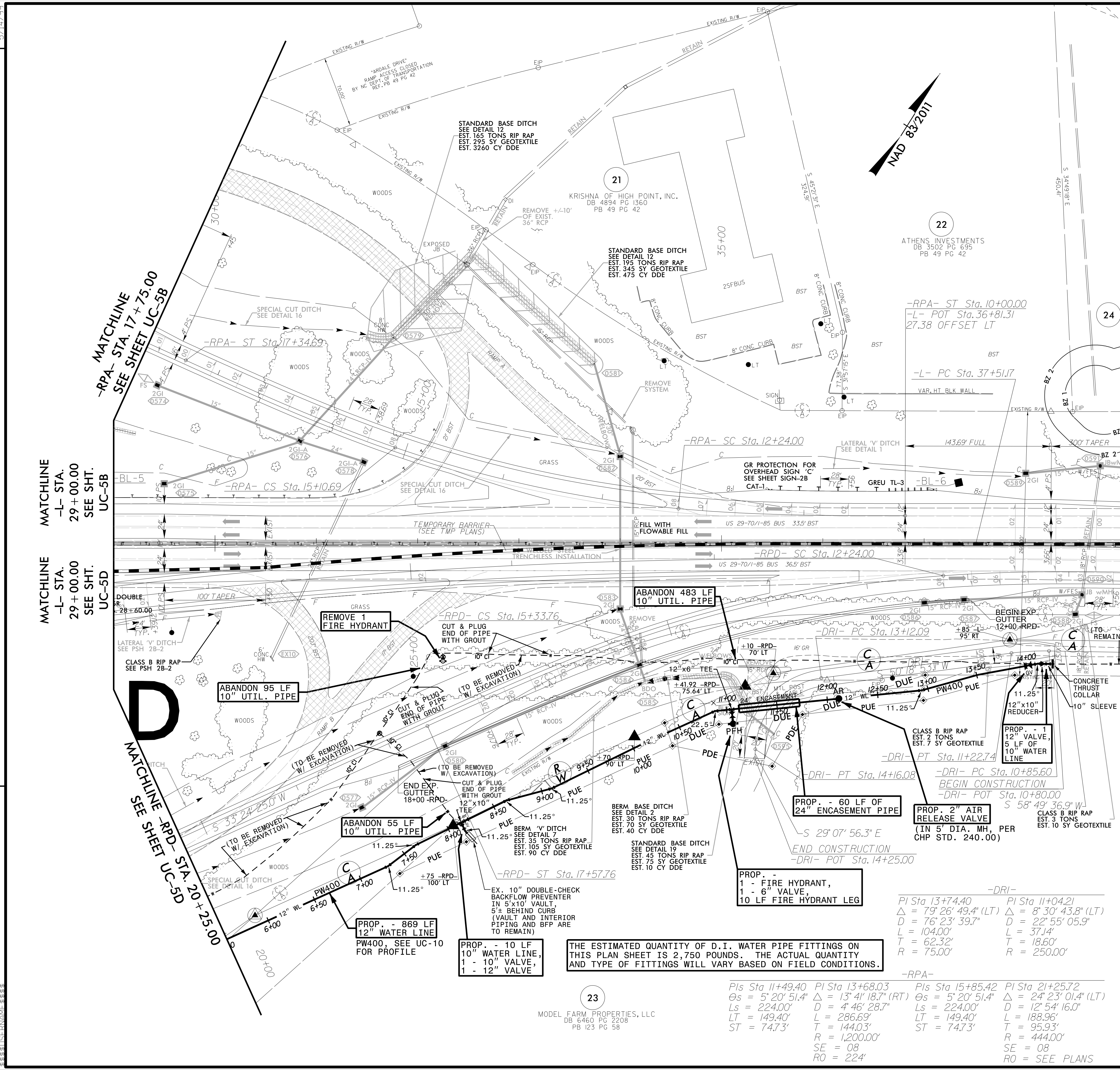


PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-5C
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	1/31/2022
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

# UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

REVISIONS  
1. 1/31/2022 - ADDED 12" GATE VALVE AT STA. 8+20 ON PW400. REVISED QUANTITY OF 10" WATER LINE FROM 12 LF TO 10 LF FOR 10" BRANCH WATER LINE AT STA 8+14 ON PW400. ADDED 5 LF OF 10" WATER LINE AT END OF PW400.



MATCHLINE UC-5D  
-L- STA. 29+00.00  
SEE SHT.

MATCHLINE UC-5B  
-L- STA. 29+00.00  
SEE SHT.

MATCHLINE UC-5B  
-RPA- STA. 17+75.00  
SEE SHEET UC-5B

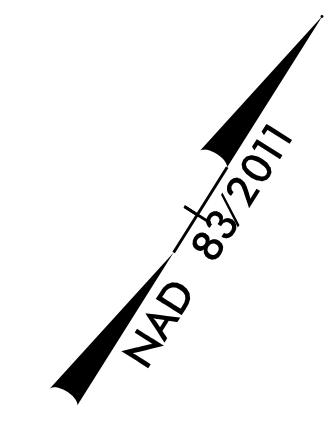
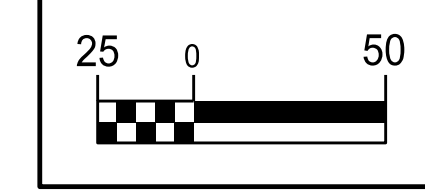
MATCHLINE UC-6  
-L- STA. 39+00.00  
SEE SHEET UC-6

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,750 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

Pi Sta 13+74.40	Pi Sta 11+04.21
Δ = 79° 26' 49.4" (LT)	Δ = 8° 30' 43.8" (LT)
D = 76' 23' 39.7"	D = 22' 55' 05.9"
L = 104.00'	L = 37.14'
T = 62.32'	T = 18.60'
R = 75.00'	R = 250.00'

-RPA-	Pi Sta 11+49.40	Pi Sta 13+68.03	Pi Sta 15+85.42	Pi Sta 21+25.72
Os = 5° 20' 51.4"	Δ = 13° 41' 18.7" (RT)	Os = 5° 20' 51.4"	Δ = 24° 23' 01.4" (LT)	
Ls = 224.00'	D = 4' 46' 28.7"	Ls = 224.00'	D = 12' 54' 16.0"	
LT = 149.40'	L = 286.69'	LT = 149.40'	L = 188.96'	
ST = 74.73'	T = 144.03'	ST = 74.73'	T = 95.93'	
	R = 1,200.00'		R = 444.00'	
	SE = 08		SE = 08	
	RO = 224'		RO = SEE PLANS	

23  
MODEL FARM PROPERTIES, LLC  
DB 6460 PG 2208  
PB 123 PG 58

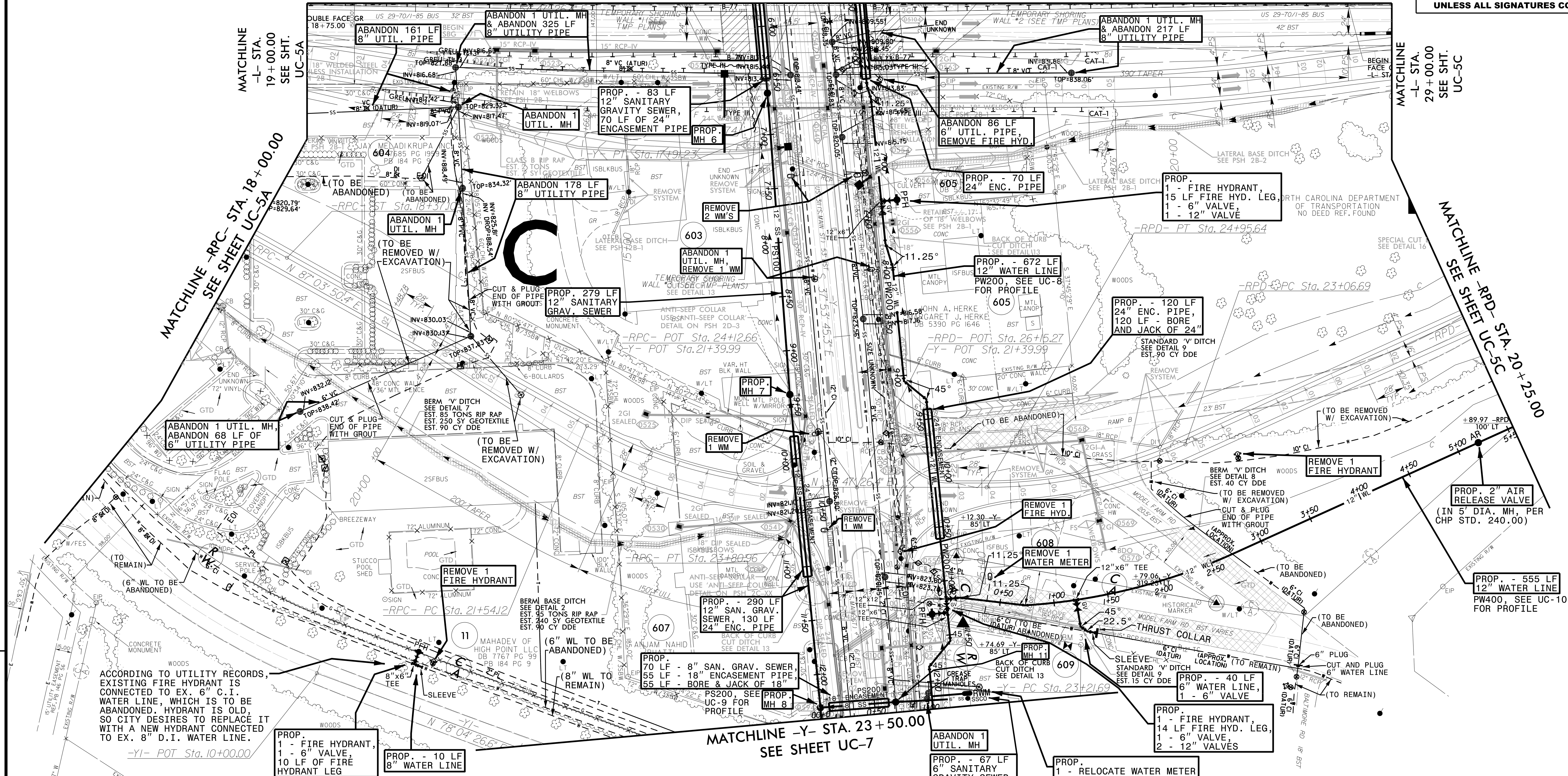


PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-5D
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISER:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

### UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

MATCHLINE -Y- STA. 16 + 91.40  
SEE SHEET UC-5B



ACCORDING TO UTILITY RECORDS, EXISTING FIRE HYDRANT IS CONNECTED TO EX. 6" C.I. WATER LINE, WHICH IS TO BE ABANDONED. HYDRANT IS OLD, SO CITY DESIRES TO REPLACE IT WITH A NEW HYDRANT CONNECTED TO EX. 8" D.I. WATER LINE.

NOTE:  
THE TWO EXISTING 8" V.C. SANITARY GRAVITY SEWER LINES UNDER THE PAVEMENT OF S. MAIN ST. (-Y-) ARE TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:

ABANDON 1,342 LF 8" UTILITY PIPE,  
ABANDON 7 UTILITY MH'S

PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
6	6+61.81, PS100	4'	-Y- STA. 17+70.21, 46.0' RT.
7	9+40.48, PS100	4'	-Y- STA. 20+48.68, 53.0' RT.
8	12+30.66, PS100	4'	-Y- STA. 23+39.19, 53.5' RT.
11	0+69.58, PS200	4'	-Y- STA. 23+39.19, 16.1' LT.

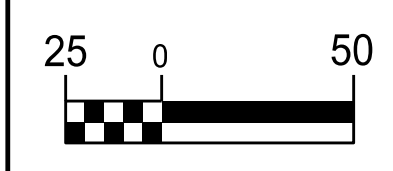
THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 2,020 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

REVISIONS

5/14/2019  
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5/14/2019

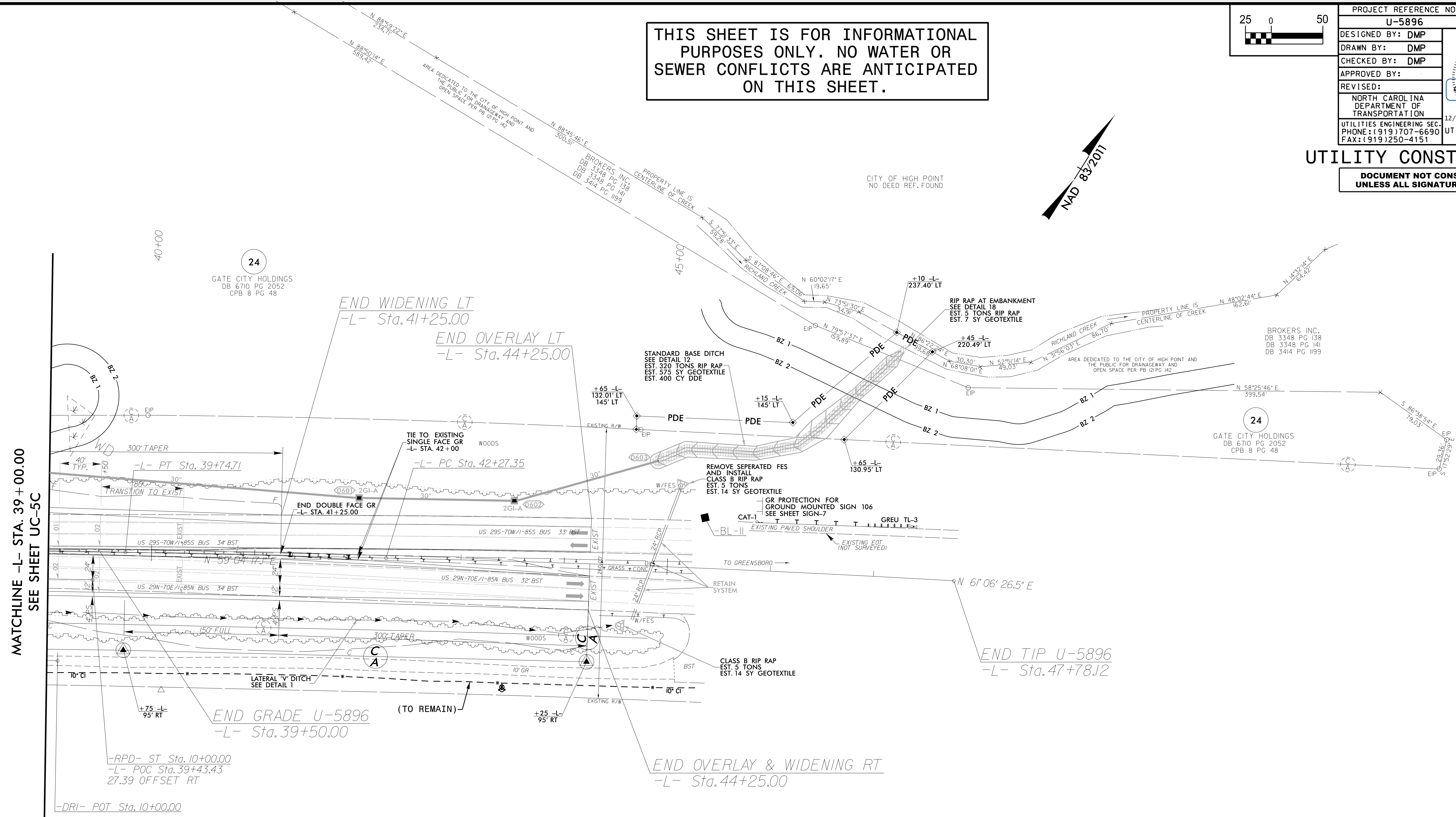
THIS SHEET IS FOR INFORMATIONAL PURPOSES ONLY. NO WATER OR SEWER CONFLICTS ARE ANTICIPATED ON THIS SHEET.



PROJECT REFERENCE NO. <b>U-5896</b>	SHEET NO. <b>UC-6</b>
DESIGNED BY: <b>DMP</b>	
DRAWN BY: <b>DMP</b>	
CHECKED BY: <b>DMP</b>	
APPROVED BY:	
REVISED:	
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	12/6/2021
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



REVISIONS

MATCHLINE -L- STA. 39+00.00 SEE SHEET UC-5C

-RPD- ST Sta. 10+00.00  
 -L- POC Sta. 39+43.43  
 27.39 OFFSET RT  
 -DRI- POT Sta. 10+00.00

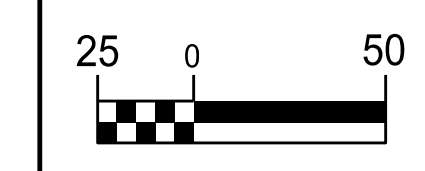
END GRADE U-5896  
 -L- Sta. 39+50.00

23  
 MODEL FARM PROPERTIES, LLC  
 DB 6460 PG 2208  
 PB 123 PG 55

-L-  
 Pl Sta 38+62.95 PI Sta 43+82.98  
 $\Delta = 1' 16'' 50.7'' (RT)$   $\Delta = 1' 09'' 01.9'' (RT)$   
 $D = 0' 34'' 22.6''$   $D = 0' 22'' 10.7''$   
 $L = 223.53'$   $L = 311.24'$   
 $T = 111.77'$   $T = 155.63'$   
 $R = 10,000.00'$   $R = 15,500.00'$   
 $SE = NC$   $SE = NC$   
 $RO = SEE PLANS$   $RO = SEE PLANS$

-RPD-  
 Pls Sta 11+49.40 PI Sta 13+79.75  
 $Os = 5' 20'' 51.4''$   $\Delta = 14' 47'' 24.1'' (LT)$   
 $Ls = 224.00'$   $D = 4' 46'' 28.7''$   
 $LT = 149.40'$   $L = 309.76'$   
 $ST = 74.73'$   $T = 155.75'$   
 $R = 1,200.00'$   
 $SE = 08$   
 $RO = 224'$

5/21/2022



PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-7
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISID:	1/31/2022
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	UTILITY CONSTRUCTION PLANS ONLY
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

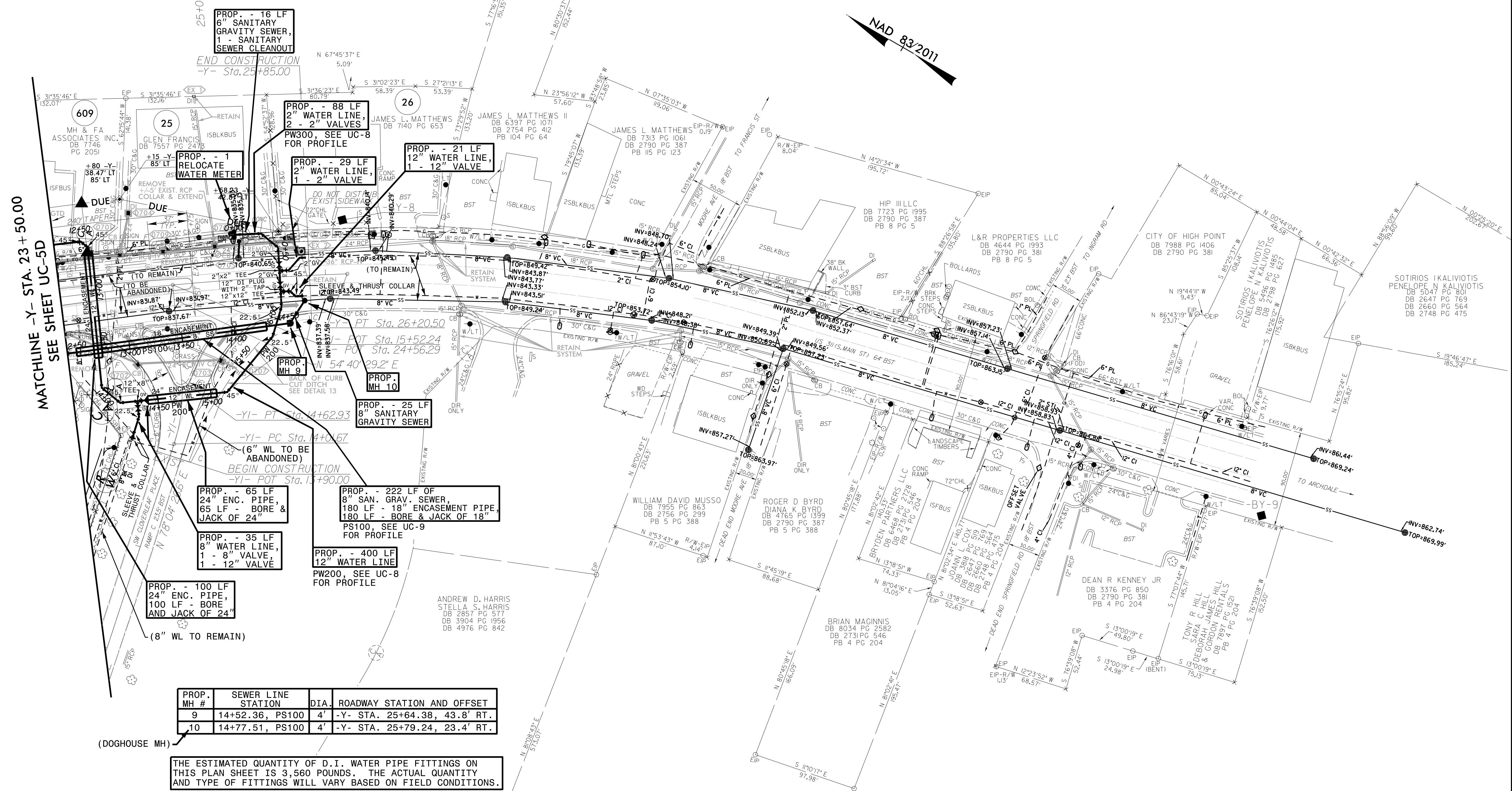
# UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

-Y-	-Y-	-Y-	-Y-
PI Sta 12+02.53	PI Sta 17+30.99	PI Sta 24+71.21	PI Sta 14+32.74
$\Delta = 6' 2" 07.05' (RT)$	$\Delta = 0' 4" 25.5' (LT)$	$\Delta = 5' 42' 24.6' (RT)$	$\Delta = 23' 23' 57.3' (LT)$
$D = 1' 34' 11.09"$	$D = 0' 34' 22.6"$	$D = 1' 54' 35.5"$	$D = 38' 11' 49.9"$
$L = 404.65'$	$L = 120.50'$	$L = 298.81'$	$L = 61.26'$
$T = 202.53'$	$T = 60.25'$	$T = 149.53'$	$T = 31.06'$
$R = 3,650.00'$	$R = 10,000.00'$	$R = 3,000.00'$	$R = 150.00'$
$SE = RC$	$SE = NC$	$SE = NC$	$SE = NC$
$RO = 74'$	$RO = SEE PLANS$	$RO = SEE PLANS$	$RO = SEE PLANS$

NOTE:  
 THE EXISTING 8" V.C. SANITARY GRAVITY SEWER LINE UNDER THE PAVEMENT ON THE WEST SIDE OF S. MAIN ST. (-Y-) IS TO BE ABANDONED AS NOTED. DUE TO LIMITED SPACE, EACH MANHOLE AND PIPE SECTION TO BE ABANDONED ARE NOT LABELED WITH PAY ITEM NOTES. ESTIMATED QUANTITIES OF PIPE AND MANHOLES TO BE ABANDONED, WHICH ARE NOT LABELED WITH PAY ITEM NOTES INCLUDE THE FOLLOWING:

ABANDON 227 LF  
 8" UTILITY PIPE,  
 ABANDON 1 UTILITY MH



REVISIONS  
 1. 1/31/2022 - ADDED 12" GATE VALVE AT STA. 14+36 ON PW200. ADDED NOTE FOR 12" DI PLUG WITH 2" TAP AT END OF PW200. ADDED NOTES ABOUT EX. 8" WATER LINE TO REMAIN NEXT TO -Y1-, AND EX. 6" WATER LINE TO BE ABANDONED AT -Y1-.

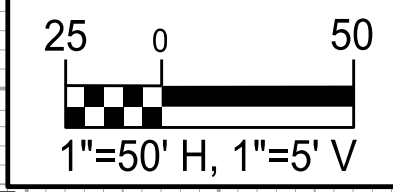
MATCHLINE -Y- STA. 23+50.00  
 SEE SHEET UC-5D

PROP. MH #	SEWER LINE STATION	DIA.	ROADWAY STATION AND OFFSET
9	14+52.36, PS100	4'	-Y- STA. 25+64.38, 43.8' RT.
10	14+77.51, PS100	4'	-Y- STA. 25+79.24, 23.4' RT.

(DOGHOUSE MH)

THE ESTIMATED QUANTITY OF D.I. WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3,560 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

5/14/22

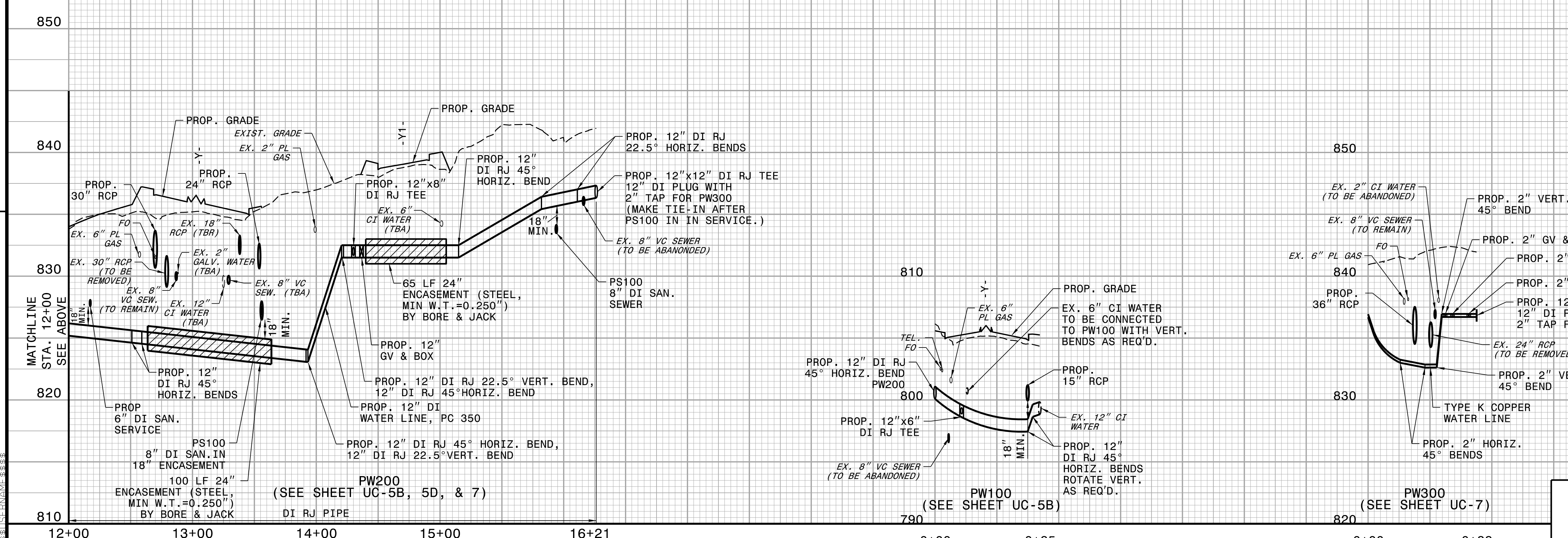
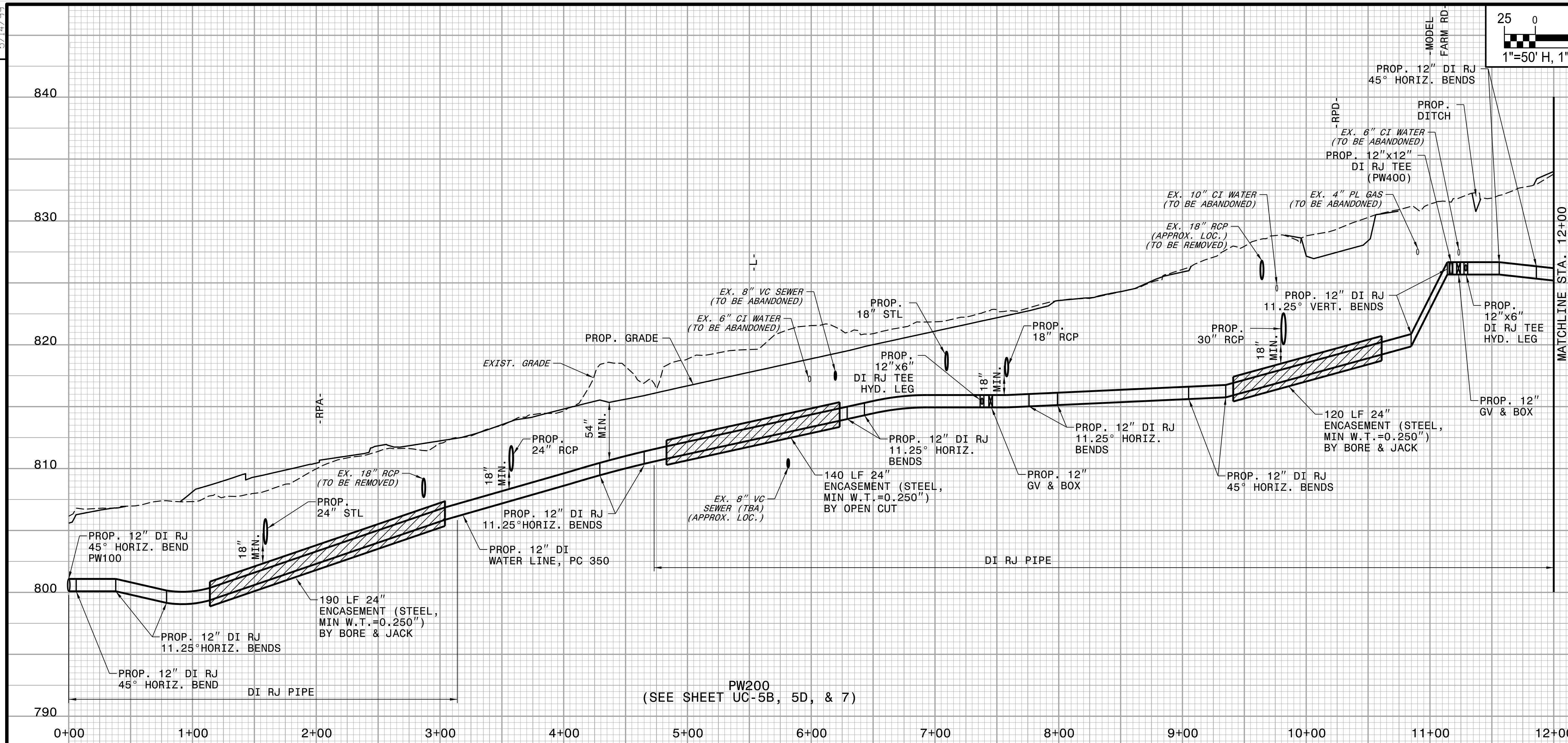


PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-8
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	1/31/2022
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

# UTILITY CONSTRUCTION

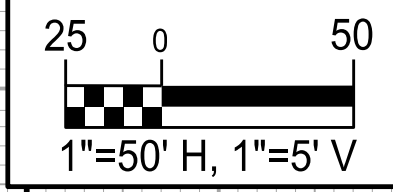
**DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED**

REVISIONS  
1. 1/31/2022 - ADDED 12" GATE VALVE AT STA. 14+36 ON PW200. SHOWED 2" GATE VALVE AT STA. 0+62 ON PW300.





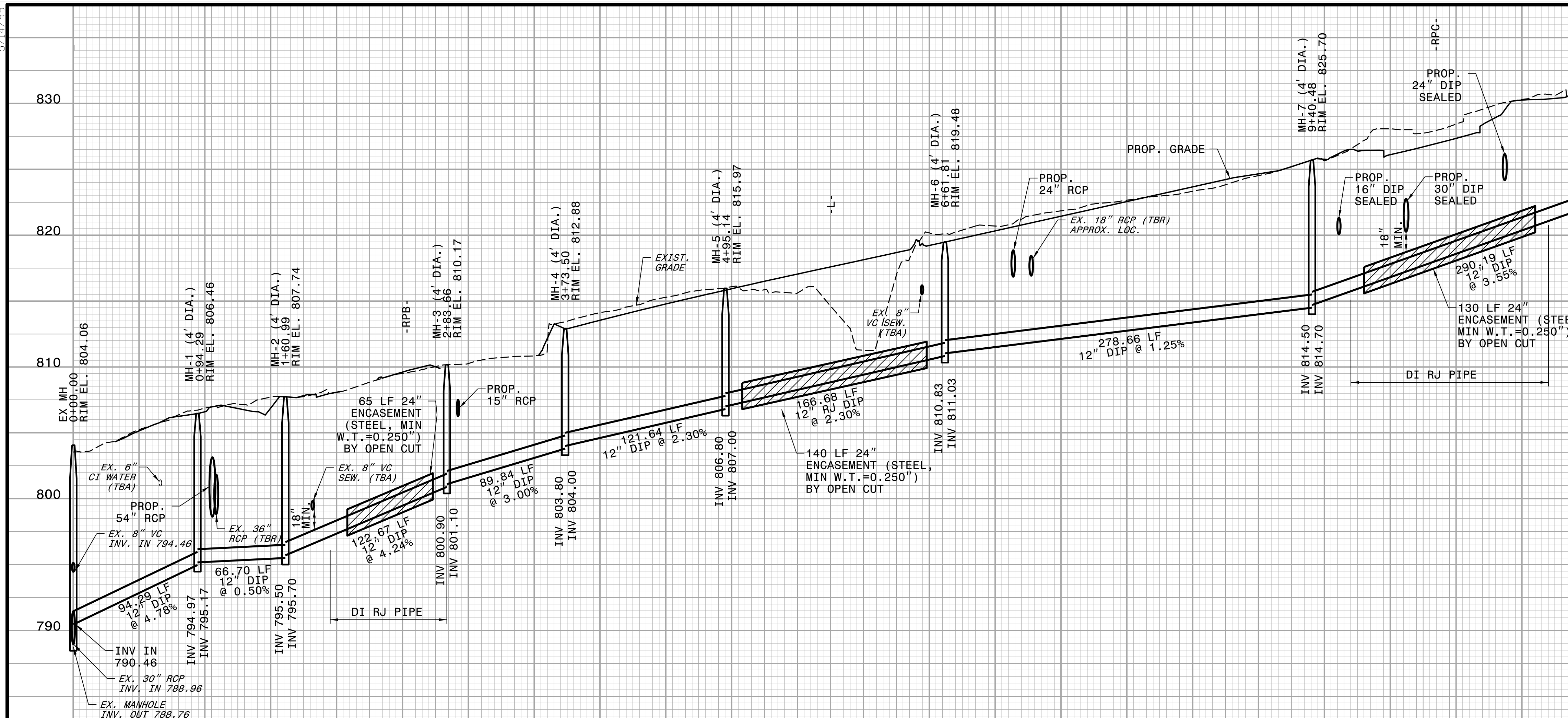
5/14/2021



PROJECT REFERENCE NO.	SHEET NO.
U-5896	UC-9
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	12/6/2021
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

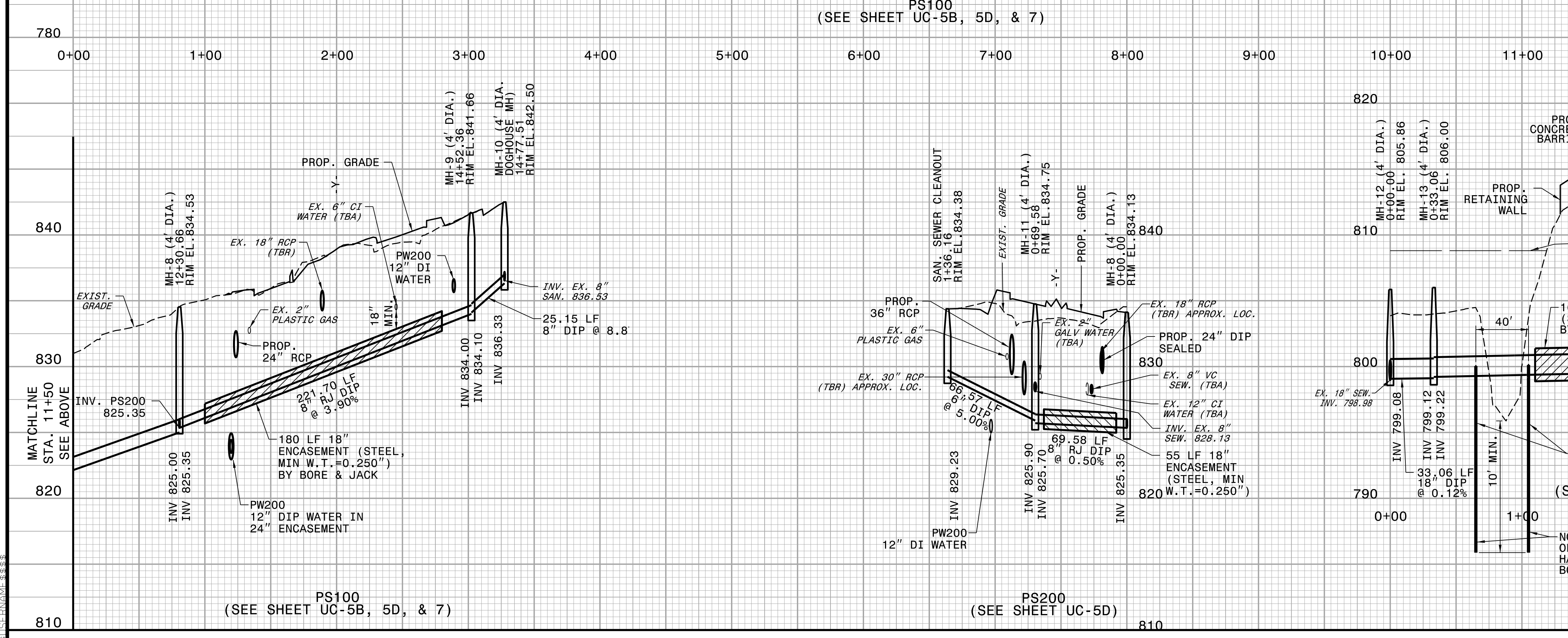
### UTILITY CONSTRUCTION

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



PS100  
(SEE SHEET UC-5B, 5D, & 7)

- NOTES:
- MH'S 12, 13, AND 15 SHALL BE CHP STD. NO. 311.00 4' DIA. FLAT-TOP MH'S.
  - MH 14 SHALL BE CHP STD. NO. 310.00 4' DIA. VENTED FLAT-TOP MH.

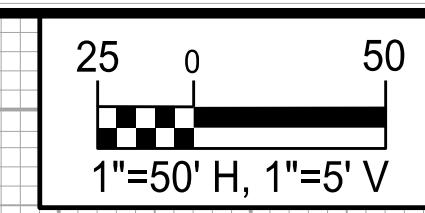


PS100  
(SEE SHEET UC-5B, 5D, & 7)

PS200  
(SEE SHEET UC-5D)

NOTE: DRIVE STEEL PILE PIERS TO BEARING CAPACITY OF 20 TONS, OR TO REFUSAL, WITH PILE DRIVER HAMMER APPROVED BY ENGINEER. (MIN. 10' BELOW BOTTOM OF STREAM, OR AS DIRECTED BY ENGINEER.)

5/14/99



PROJECT REFERENCE NO. U-5896	SHEET NO. UC-10
DESIGNED BY: DMP	
DRAWN BY: DMP	
CHECKED BY: DMP	
APPROVED BY:	
REVISED:	1/31/2022
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

### UTILITY CONSTRUCTION

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REVISIONS

1. 1/31/2022 - ADDED 12" GATE VALVE AT STA. 8+20 ON PW400.

