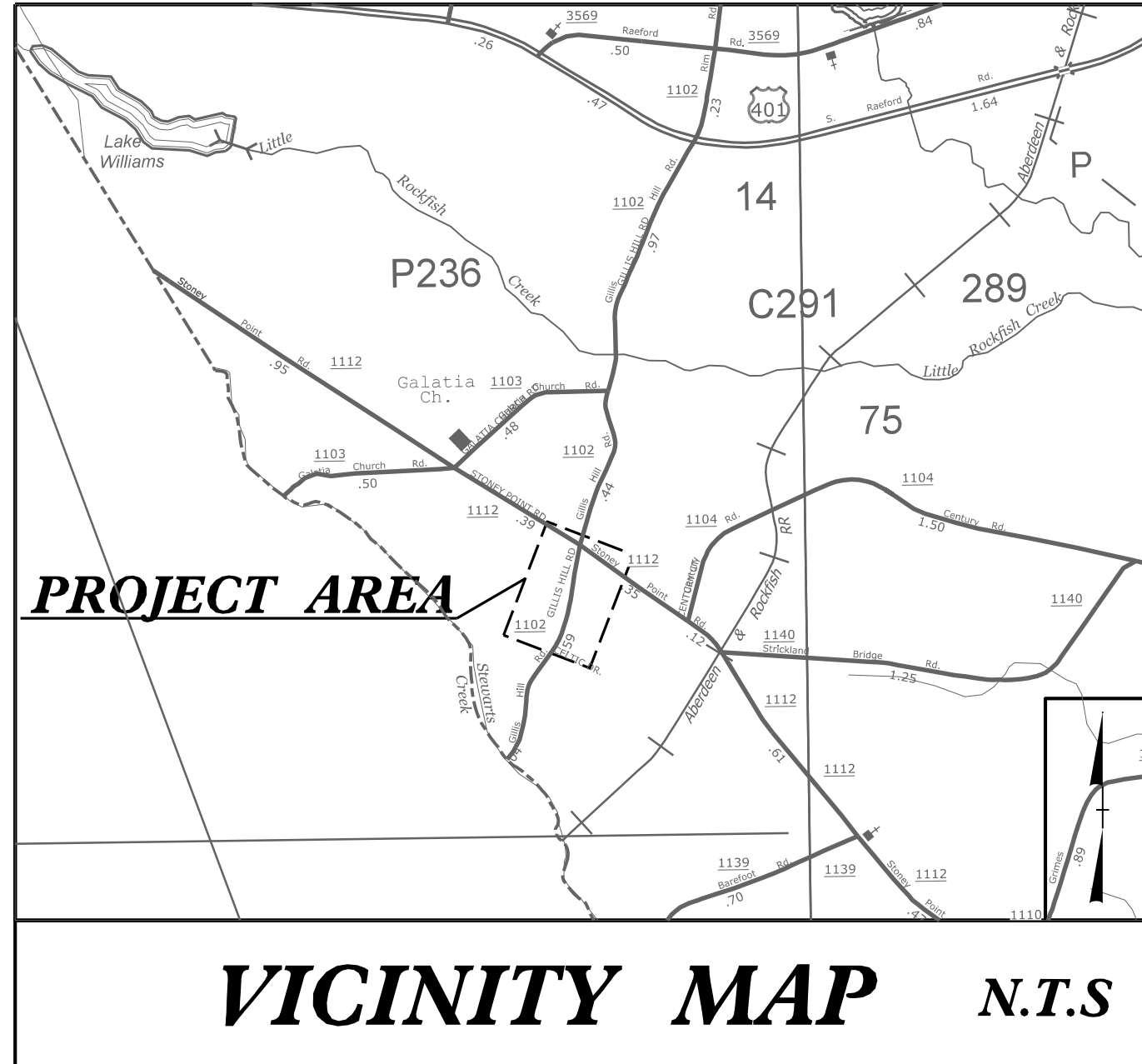


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09.08/99

TIP PROJECT: U-5798B

T.I.P. NO.	SHEET NO.
U-5798B	UC-1

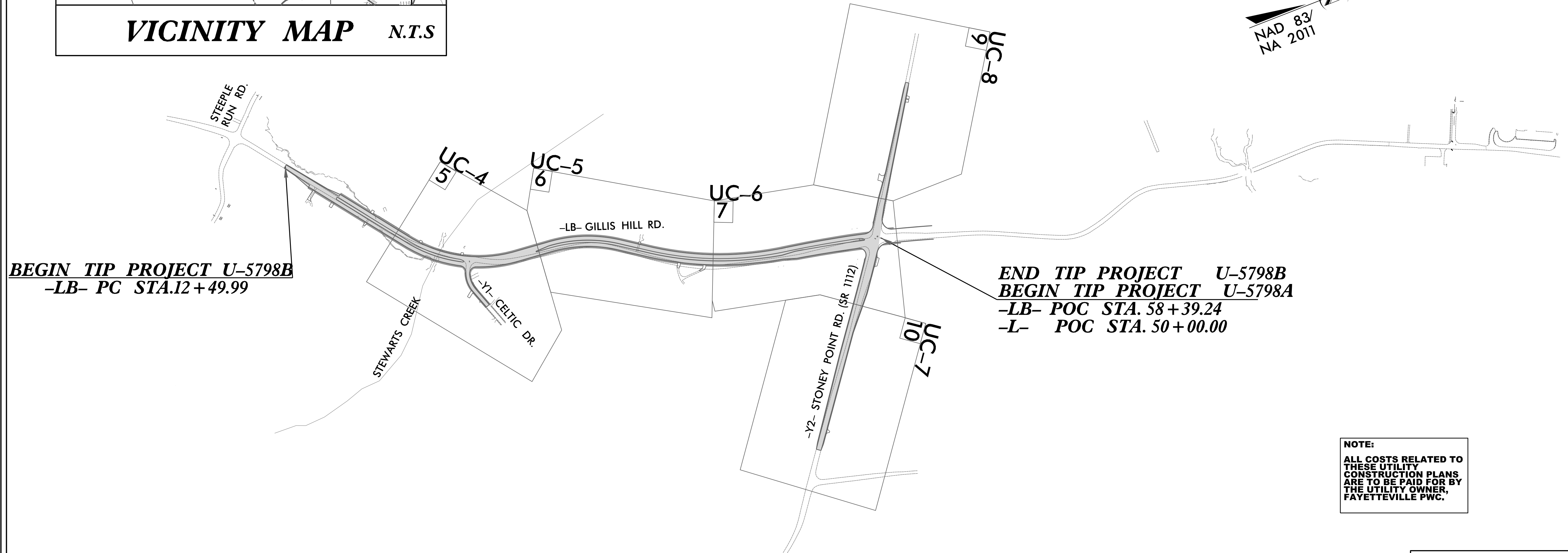
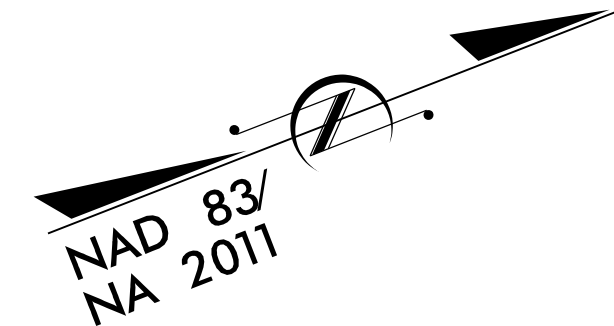


STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITY CONSTRUCTION PLANS
CUMBERLAND COUNTY

LOCATION: SR 1102 (GILLIS HILL ROAD) FROM SR 1418 (LINDSAY ROAD)
TO NORTH OF SR 1112 (STONEY POINT ROAD). WIDEN TO MULTI-LANES.

TYPE OF WORK: WATER AND SEWER RELOCATION

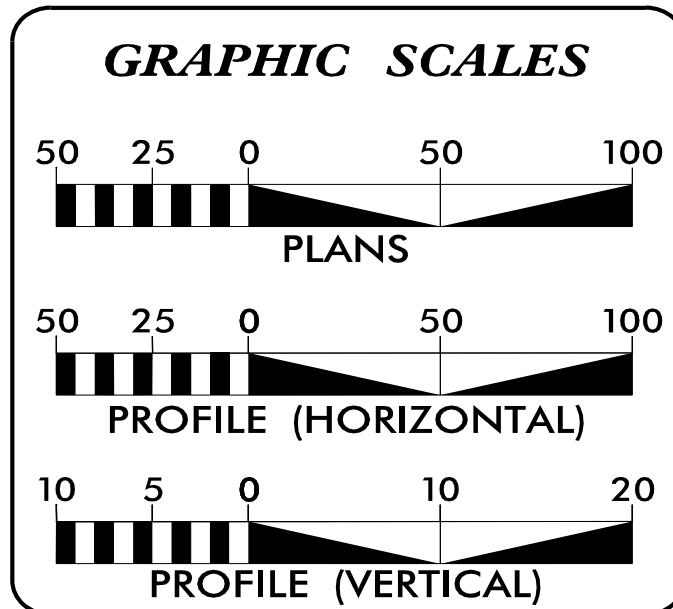


BEGIN TIP PROJECT U-5798B
-LB- PC STA. 12+49.99

END TIP PROJECT U-5798B
BEGIN TIP PROJECT U-5798A
-LB- POC STA. 58+39.24
-L- POC STA. 50+00.00

NOTE:
ALL COSTS RELATED TO
THESE UTILITY
CONSTRUCTION PLANS
ARE TO BE PAID FOR BY
THE UTILITY OWNER,
FAYETTEVILLE PWC.

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED



INDEX OF SHEETS	
SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOGY
UC-3 THRU UC-3A	NOTES
UC-3B THRU UC-3F	DETAILS
UC-4 THRU UC-8	UTILITY CONSTRUCTION SHEETS
UC-9 THRU UC-14	PROFILE SHEETS

WATER AND SEWER
OWNERS ON PROJECT

(A) WATER: FAYETTEVILLE PWC
(B) SANITARY SEWER: FAYETTEVILLE PWC

PREPARED IN THE OFFICE OF

WK DICKSON

AN ARDURRA COMPANY

720 CORPORATE CENTER DRIVE
RALEIGH, NORTH CAROLINA 27607
(919) 782-0495 NCBES #F-0374

MONROE HUCKABY, PE CONSULTANT CONTACT #1
MICHAEL YOUNGBLOOD, PE CONSULTANT CONTACT #2

SEAL

Signed by:

**DIVISION OF HIGHWAYS
UTILITIES UNIT**

1555 MAIL SERVICES CENTER
RALEIGH, NC 27699-1555
PHONE (919) 707-6690
FAX (919) 250-4151

NABIL HAMDAN UTILITIES REGIONAL ENGINEER
TEVIN ASAMOAH, EI UTILITIES ENGINEER
TANGA SAMPSON REGIONAL UTILITIES COORDINATOR
TEVIN ASAMOAH, EI UTILITIES COORDINATOR

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

UTILITIES PLAN SHEET SYMBOLS

Signed by:

6/25/2025

PROJECT REFERENCE NO.
U-5798B

SHEET NO.
UC-2

PROPOSED WATER SYMBOLS

Water Line (Sized as Shown)	
11¼ Degree Bend	
22½ 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 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	

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)

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5/14/99

REVISIONS

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25-JUN-2025 12:00 Sheets\\Title-Notes-Details sheets\\U4900_ut_notes_UC03A_psh.dgn

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 2024 AND THE CONTRACT SPECIAL PROVISIONS.
2. FAYETTEVILLE PWC OWNS AND OPERATES THE EXISTING WATER AND SEWER UTILITIES
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 TO BE INSTALLED WITHIN COMPLIANCE OF THE RULES AND REGULATIONS OF THE NORTH CAROLINA DEPARTMENT OF ENVIRONMENT QUALITY, DIVISION OF WATER RESOURCES, WATER QUALITY SECTION. PERFORM ALL WORK IN ACCORDANCE WITH THE APPLICABLE PLUMBING CODES.
4. FAYETTEVILLE PWC 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. THE CONTRACTOR SHALL 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. 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.

7. 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.
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.
10. PRIOR TO PLACEMENT OF PROPOSED SANITARY GRAVITY SEWER THE CONTRACTOR SHALL LOCATE ALL EXISTING SEWER SERVICE LATERALS (DEPTH, MATERIAL AND DIAMETER) AND NOTIFY THE RESIDENT ENGINEER IF THERE ARE COMPLICATIONS WITH CONNECTING TO THE PROPOSED SANITARY GRAVITY SEWER. THE CONTRACTOR'S COST FOR ALL WORK ASSOCIATED WITH SEWER SERVICES, IS INCIDENTAL TO SEWER SERVICE PAYMENT ITEM.
11. PRIOR TO PLACEMENT OF PROPOSED WATERLINE THE CONTRACTOR SHALL LOCATE ALL EXISTING WATER SERVICE LATERALS (DEPTH, MATERIAL AND DIAMETER) AND NOTIFY THE RESIDENT ENGINEER IF THERE ARE COMPLICATIONS WITH CONNECTING TO THE PROPOSED WATERLINE. THE CONTRACTOR'S COST FOR ALL WORK ASSOCIATED WITH WATER SERVICES, IS INCIDENTAL TO WATER SERVICE PAYMENT ITEM.
12. THE CONTRACTOR SHALL REFER TO THE "UTILITIES BY OTHERS" PLANS FOR PROPOSED GAS, TELECOMMUNICATIONS, AQUA AMERICA WATER, AND POWER UTILITY RELOCATIONS.
13. THE CONTRACTOR SHALL FIELD VERIFY THE LOCATION, SIZE AND TYPES OF VALVES ON THE EXISITNG WATER LINES THROUGHOUT THE PROJECT. IMMEDIATELY INFORM THE RESIDENT ENGINEER IF THERE ARE DISCREPANCIES BETWEEN THE FIELD CONDITIONS AND THE PLANS.

UTILITY CONSTRUCTION

PROJECT SPECIFIC NOTES:

1. ALL PROPOSED WATER LINE 2" IN DIAMETER SHALL BE SDR21, PRESSURE CLASS 200 IN ACCORDANCE WITH ASTM D 2241. ALL PROPOSED WATER LINE 4"-12" IN DIAMETER SHALL BE DI (DUCTILE IRON PUSH-ON) PC 350 PIPE, UNLESS SPECIFIED TO BE RESTRAINED JOINT PIPE AND/OR SPECIAL THICKNESS CLASS AS SHOWN ON THE PLAN/PROFILE. ALL PROPOSED WATERLINE LINE 16" IN DIAMETER AND LARGER SHALL BE DI (DUCTILE IRON PUSH-ON) PC 250 PIPE, UNLESS SPECIFIED TO BE RESTRAINED JOINT PIPE AND/OR SPECIAL THICKNESS CLASS AS SHOWN ON THE PLAN/PROFILE.
2. ALL PROPOSED GRAVITY SEWER LINES 12" IN DIAMETER AND SMALLER SHALL BE CERAMIC EPOXY LINED DI (DUCTILE IRON PUSH ON) PC 350 PIPE UNLESS OTHERWISE SPECIFIED. ALL PROPOSED GRAVITY SEWER LINES 16" IN DIAMETER AND GREATER SHALL BE CERAMIC EPOXY LINED DI (DUCTILE IRON PUSH ON) PC 250, UNLESS OTHERWISE SPECIFIED.
3. CONTRACTOR'S ATTENTION IS DIRECTED TO SECTIONS 102, 107, AND 1550 OF THE STANDARD SPECIFICATIONS CONCERNING TRENCHLESS INSTALLATION. IT IS CONTRACTOR'S RESPONSIBILITY TO HAVE BORE DESIGNED AND SEALED BY A LICENSED NORTH CAROLINA PROFESSIONAL ENGINEER. NO DAMAGE IS ALLOWED TO RIVER, WETLANDS, OR BUFFER ZONES.
4. TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET BELOW GROUND SURFACE. THIS REQUIREMENT IS APPLICABLE TO ALL UTILITY CONSTRUCTION SHEETS.
5. WHERE PROPOSED SEWER LATERALS CONNECT TO THE EXISTING LATERALS, THE CONTRACTOR SHALL MATCH THE EXISTING SEWER LATERALS MATERIAL (DUCTILE IRON OR PVC) UNLESS APPROVED BY THE RESIDENT ENGINEER.

Prepared in the Office of:
WK DICKSON
AN ARDURRA COMPANY
720 CORPORATE CENTER DRIVE,
RALEIGH, NC 27607
(919)782-0495 | NCBELS #F-0374

DOCUMENT NOT
CONSIDERED FINAL
UNTIL ALL SIGNATURES
ARE COMPLETED

PROJECT REFERENCE NO. U-5798B		SHEET NO. UC-03A
DESIGNED BY: AMH	Signed by: 	
DRAWN BY: EA		
CHECKED BY: MEY		
APPROVED BY: AR		
REVISED:		6/25/2025 UTILITY CONSTRUCTION PLANS ONLY
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		

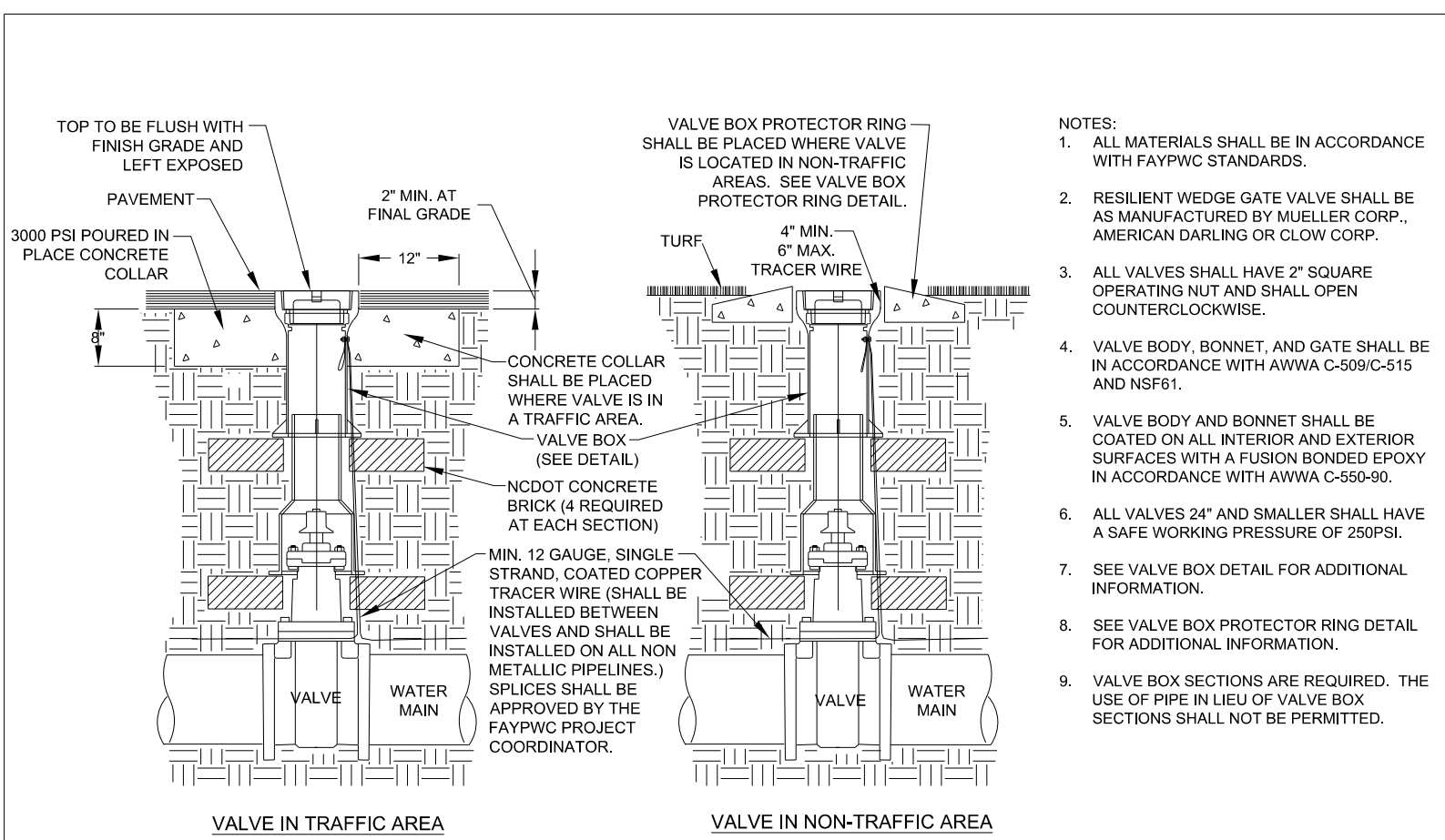
UTILITY CONSTRUCTION

7. UTILITY CONSTRUCTION NOTE SHEETS PROVIDE SEQUENCE OPTIONS FOR THE CRITICAL INSTALLATIONS AND KILL OUTS OF THE PROPOSED WATER AND SEWER LINES. CONTRACTOR SHALL PROVIDE A CONSTRUCTION SEQUENCE FOR ALL WATER LINE AND SEWER LINE SEGMENTS AND KILLOUTS PRIOR TO INSTALLATION FOR REVIEW AND APPROVAL BY ENGINEER. CONTRACTOR SHALL UPDATE CONSTRUCTION SEQUENCES WHERE ACTUAL CONDITIONS REQUIRE AJDUSTMENTS OR ALTERATIONS TO THE PLANNED WORK. CONSTRUCTION SEQUENCE OPTIONS THAT ARE PROVIDED ARE INTENDED TO MINIMIZE IMPACTS TO WATER AND SEWER OPERATIONS. INSTALLATION SHALL NOT BEGIN UNTIL AN APPROVED SEQUENCE PLAN IS IN PLACE.
8. ALL EXISTING VALVES, AIR RELEASE VALVES, FIRE HYDRANTS AND MANHOLE RING AND COVERS TO BE REMOVED SHALL BE RETURNED TO PWC
9. SEE PROFILE SHEETS FOR REFERENCE TO PIPE MATERIALS AND VALVE TYPES.

1. ALL WATER MAINS, LATERALS AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH FAYPWC STANDARDS.
2. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
3. CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE FOR ALL WATER OUTAGES.
4. CONSTRUCTION STAKING IS REQUIRED FOR ALL FAYPWC WATER AND SEWER UTILITY INSTALLATIONS. CUT SHEETS, SIGNED AND SEALED BY A N.C. PLS. SHALL BE PROVIDED TO THE FAYPWC WATER RESOURCES ENGINEERING DEPARTMENT AND THE CONTRACTOR IN ADVANCE OF CONSTRUCTION FOR FAYPWC WATER AND SEWER UTILITIES.
5. CONTRACTOR SHALL MAINTAIN A COPY OF THE SIGNED AND SEALED CUT SHEET ON THE JOB SITE. CONSTRUCTION ON FAYPWC WATER AND SEWER UTILITIES CANNOT BEGIN UNTIL THE CONTRACTOR POSSESSES, ON SITE, A SIGNED AND SEALED CUT SHEET FROM THE PROFESSIONAL LAND SURVEYOR.
6. ALL NEW WATER AND SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE TESTED AND/OR INSPECTED IN ACCORDANCE WITH FAYPWC STANDARDS PRIOR TO PLACING INTO SERVICE.
7. CONTRACTOR SHALL COORDINATE TESTING AND INSPECTION WITH THE FAYPWC PROJECT COORDINATOR.
8. CONTRACTOR SHALL REPAIR ALL WATER LATERALS AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL REPORT IMMEDIATELY ALL WATER MAIN AND LATERAL BREAKS TO THE FAYPWC PROJECT COORDINATOR. THE CONTRACTOR SHALL INITIATE IMMEDIATE REPAIRS IN ACCORDANCE WITH FAYPWC STANDARDS. CONTRACTOR SHALL NOT OPERATE FAYPWC WATER MAIN VALVES WITHOUT FAYPWC APPROVAL AND SHALL COORDINATE ALL VALVE CLOSINGS WITH FAYPWC.
9. THE CONTRACTOR SHALL NOT USE HOUSE HOSE BIBBS OR ANY OTHER METHOD OF BLOW OFF WHICH ALLOWS DOMESTIC WATER CONTAINING SEDIMENTS OR HIGH LEVELS OF CHLORINE TO PASS THRU RESIDENTS' METERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM ALLOWING "DIRTY" WATER TO ENTER RESIDENTS' PLUMBING SYSTEM, SUCH AS WATER HEATERS, STAINED CLOTHING, CLOTTED SCREENS, ETC.
10. TRANSFER OF WATER SERVICES SHALL BE ACCOMPLISHED AS FOLLOWS:
 - A. INSTALL, TEST AND STERILIZE NEW MAIN AND LATERALS. LATERALS SHALL BE INSTALLED 18" INSIDE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY FAYPWC.
 - B. TRANSFER EXISTING METER TO NEW METER BOX AND TO NEW WATER LATERAL TO EXISTING DOMESTIC SERVICE UTILIZING BRASS FITTING. SAME METER NUMBER SHALL BE INSTALLED ON SAME ADDRESS AND/OR CUSTOMER. BLOW OFF SERVICE AT HOSE BIBBS ON HOUSE ONLY AFTER METER HAS BEEN TRANSFERRED.
 - C. AFTER ALL SERVICES ARE TRANSFERRED TO THE NEW SYSTEM, SHUT OFF VALVE ON EXISTING SYSTEM AND ABANDON EXISTING MAINS IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 - D. CONTRACTOR SHALL SUPPLY NEW METER BOXES AND DISPOSE OF EXISTING METER BOXES.
11. CONTRACTOR SHALL ABANDON ("NOLL-OUT") ANY EXISTING WATER SERVICES THAT ARE UNDESIRABLE BY CUTTING THE SERVICE AT THE MAIN PLUGGING OVER A STORM DRAINAGE LINE UNLESS DUCTILE IRON PIPE IS USED. IN ADDITION, THREE AND A HALF (3.5) FEET OF COVER MUST BE MAINTAINED OVER THE WATER MAIN OR IT SHALL BE DUCTILE IRON. IF DUCTILE IRON PIPE IS USED THEN TWO AND A HALF (2.5) FEET OF COVER MUST BE MAINTAINED OVER THE WATER MAIN AND A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND THE STORM DRAINAGE LINE. WHERE A WATER MAIN CROSSES UNDER A STORM DRAINAGE LINE THE MINIMUM OF TWELVE (12) INCHES OF VERTICAL SEPARATION SHALL BE MAINTAINED AND THE WATER MAIN SHALL BE DUCTILE IRON FOR A DISTANCE OF 10-FOOT ON EACH SIDE OF THE CROSSING.
12. ALL EXISTING UTILITIES IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE, IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
13. ALL WORK ON FAYPWC WATER UTILITIES (MAINS, LATERALS, ETC.) SHALL BE PERFORMED BY A LICENSED UTILITY CONTRACTOR. THE FAYETTEVILLE PUBLIC WORKS COMMISSION SHALL OBSERVE AND APPROVE ALL WORK ON FAYPWC WATER UTILITIES. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
14. SEPARATION REQUIREMENTS:
 - A. LATERAL SEPARATION OF SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10-FOET LATERALLY FROM EXISTING OR PROPOSED SEWER MANHOLE. UNLESS LOCAL CONDITIONS REQUIRE OTHERWISE, THE SEPARATION SHALL BE MAINTAINED IN ALL CASES.
 - I. THE WATER MAIN IS LAID IN A SEPARATE TRENCH, WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MANHOLE LATERAL OR
 - II. THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER MANHOLE LATERAL WITH THE WATER MAIN LOCATED AT ONE SIDE ON A BENCH OF UNDISTURBED EARTH AND WITH THE ELEVATION OF THE BOTTOM OF THE WATER MAIN AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MANHOLE LATERAL.
 - B. CROSSING A WATER MAIN OVER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MANHOLE LATERAL, THE WATER MAIN SHALL BE LAID AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18-INCHES ABOVE THE TOP OF THE SEWER MANHOLE LATERAL.
 - C. CROSSING WATER MAIN OVER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MANHOLE LATERAL, A MINIMUM OF 18-INCHES OF SEPARATION SHALL BE PROVIDED. BOTH THE WATER MAIN AND THE SEWER MANHOLE LATERAL SHALL BE CONSTRUCTED OF DUCTILE IRON MATERIAL AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10-FOET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE IDENTIFIED AT THE POINT OF CROSSING.

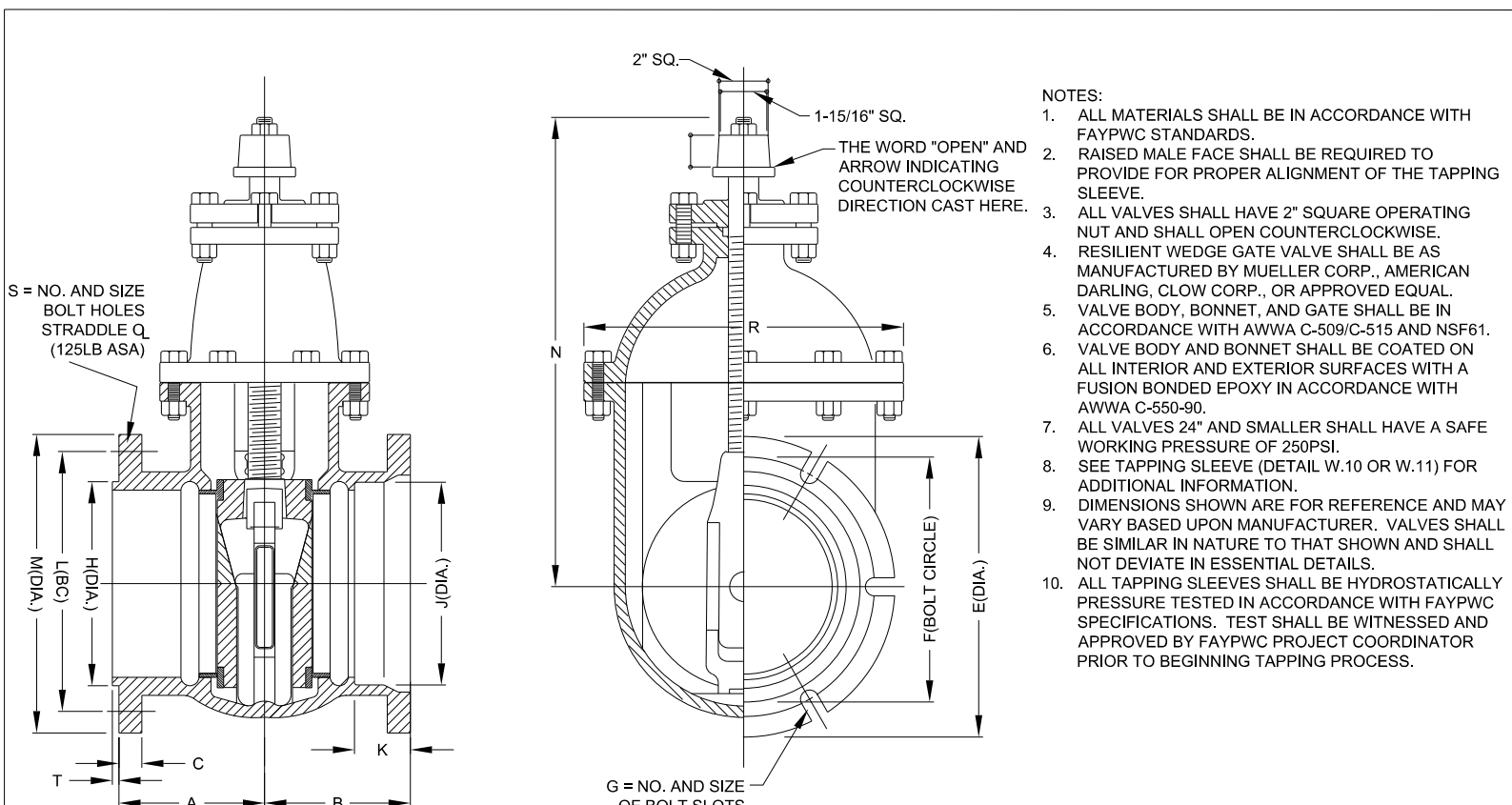
WATER UTILITY NOTES		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 2	DWG. NO. W.1	WATER RESOURCES ENGINEERING DEPARTMENT	1	01/01/18	ADDED NOTES 6, 8
	DATE: JAN. 01, 2025		2	06/01/21	ADDED NOTES 1-7 AND RENUMBERED
	APPROVED BY: K.A.H.		3	11/23	REVISED NOTES 10, 14

W1-WATER-UTILITY-NOTES.dwg



GATE VALVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.6	WATER RESOURCES ENGINEERING DEPARTMENT	1	6/06	ADDED NOTE NO. 9
	DATE: JAN. 01, 2025		2	7/09	CLARIFIED NOTES
	APPROVED BY: K.A.H.				

W6-GATEVALVE.dwg



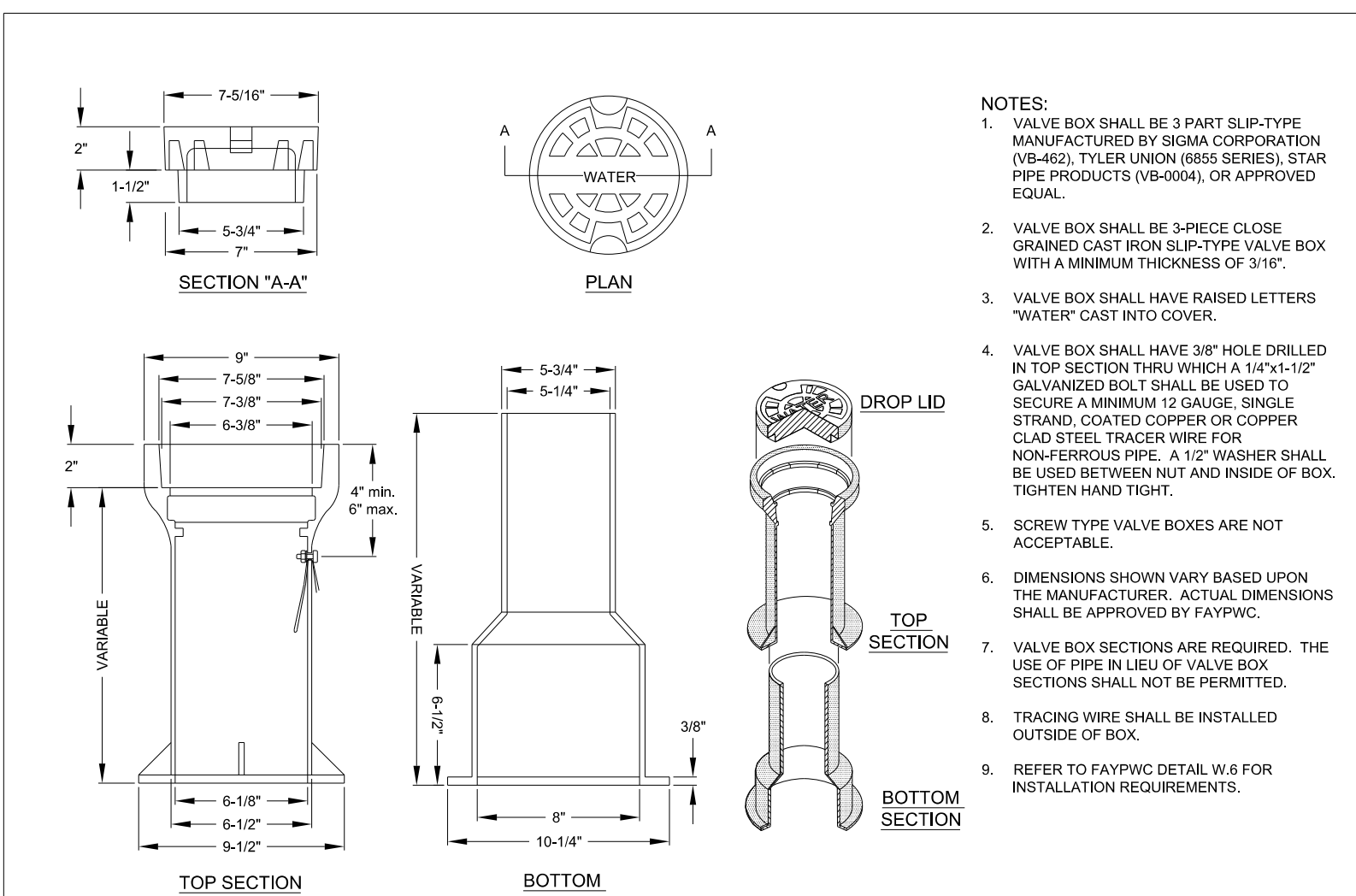
TAPPING VALVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.9	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/09	ADDED NOTE 10, REVISED 4 AND 5
	DATE: JAN. 01, 2025		2	07/13	REVISED NOTES 4, 8, 10
	APPROVED BY: K.A.H.				

W9-M.J.-TAPPING-VALVE.dwg

15. CROSSING STORM DRAINAGE LINES: A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED OVER THE WATER MAIN OR IT SHALL BE DUCTILE IRON. IF DUCTILE IRON PIPE IS USED THEN TWO AND A HALF (2.5) FEET OF COVER MUST BE MAINTAINED OVER THE WATER MAIN AND A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN THE WATER MAIN AND THE STORM DRAINAGE LINE. WHERE A WATER MAIN CROSSES UNDER A STORM DRAINAGE LINE THE MINIMUM OF TWELVE (12) INCHES OF VERTICAL SEPARATION SHALL BE MAINTAINED AND THE WATER MAIN SHALL BE DUCTILE IRON FOR A DISTANCE OF 10-FOET ON EACH SIDE OF THE CROSSING.
16. WATER OUTAGES: THE CONTRACTOR SHALL SCHEDULE A COORDINATION MEETING WITH THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER A MINIMUM OF THREE (3) WORKING DAYS PRIOR TO ANY PLANNED WATER OUTAGE. THE COORDINATION MEETING SHALL BE CONDUCTED PRIOR TO ANY NOTICES BEING ISSUED. ADDITIONALLY, THE CONTRACTOR SHALL LOCATE VERTICALLY AND HORIZONTALLY ANY UTILITIES WITHIN THE WORK AREA IN ACCORDANCE WITH THESE CONTRACT DOCUMENTS. THE LOCATIONS OF ALL UTILITIES WITHIN THE WORK AREA SHALL BE DETERMINED PRIOR TO THE COORDINATION MEETING. ANY CONFLICTS WITH THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER SHALL BE IDENTIFIED AND A PLAN FOR RESOLVING ANY CONFLICTS SHALL BE PRESENTED. THE PURPOSE OF THE COORDINATION MEETING IS TO ENSURE THAT THE CONTRACTOR HAS A GOOD UNDERSTANDING OF THE REQUIREMENTS RELATED TO THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER. THE CONTRACTOR SHALL ADVISE THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER OF ANY CONFLICTS THAT WILL PREVENT THE WORK FROM BEING COMPLETED. ALL EQUIPMENT IS IN GOOD WORKING ORDER. ALL EQUIPMENT IS FUNCTIONAL. ALL MATERIALS ARE ON-SITE. ALL NECESSARY TOOLS ARE ON-SITE. DISCUSS ANY NECESSARY CONTINGENCY PLANS AND ANY OTHER ITEMS THAT MAY BE REQUIRED TO ENSURE THAT THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER RESERVE THE RIGHT TO CANCEL OR POSTPONE THE OUTAGE AT ANY GIVEN TIME, IF DEEMED NECESSARY.

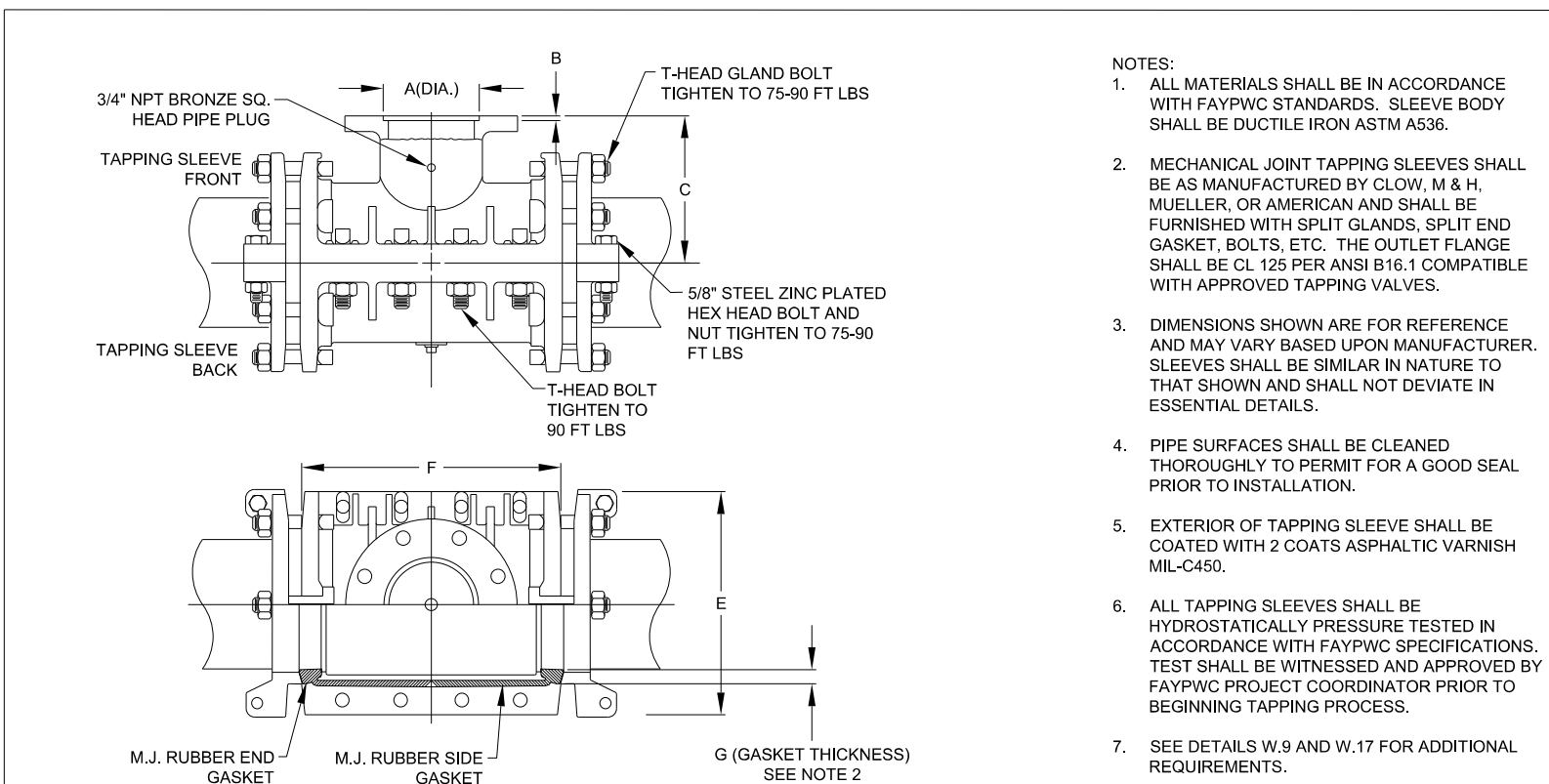
WATER UTILITY NOTES		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. W.1	WATER RESOURCES ENGINEERING DEPARTMENT	1	01/01/18	ADDED NOTES 6, 8
	DATE: JAN. 01, 2025		2	06/01/21	ADDED NOTES 1-7 AND RENUMBERED
	APPROVED BY: K.A.H.		3	11/23	REVISED NOTES 10, 14

W1-WATER-UTILITY-NOTES.dwg



VALVE BOX N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.7	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/09	ADDED NOTES 7, 8, AND CLARIFIED NOTES
	DATE: JAN. 01, 2025		2	01/14	REVISED NOTES 1, 4, 6
	APPROVED BY: K.A.H.				

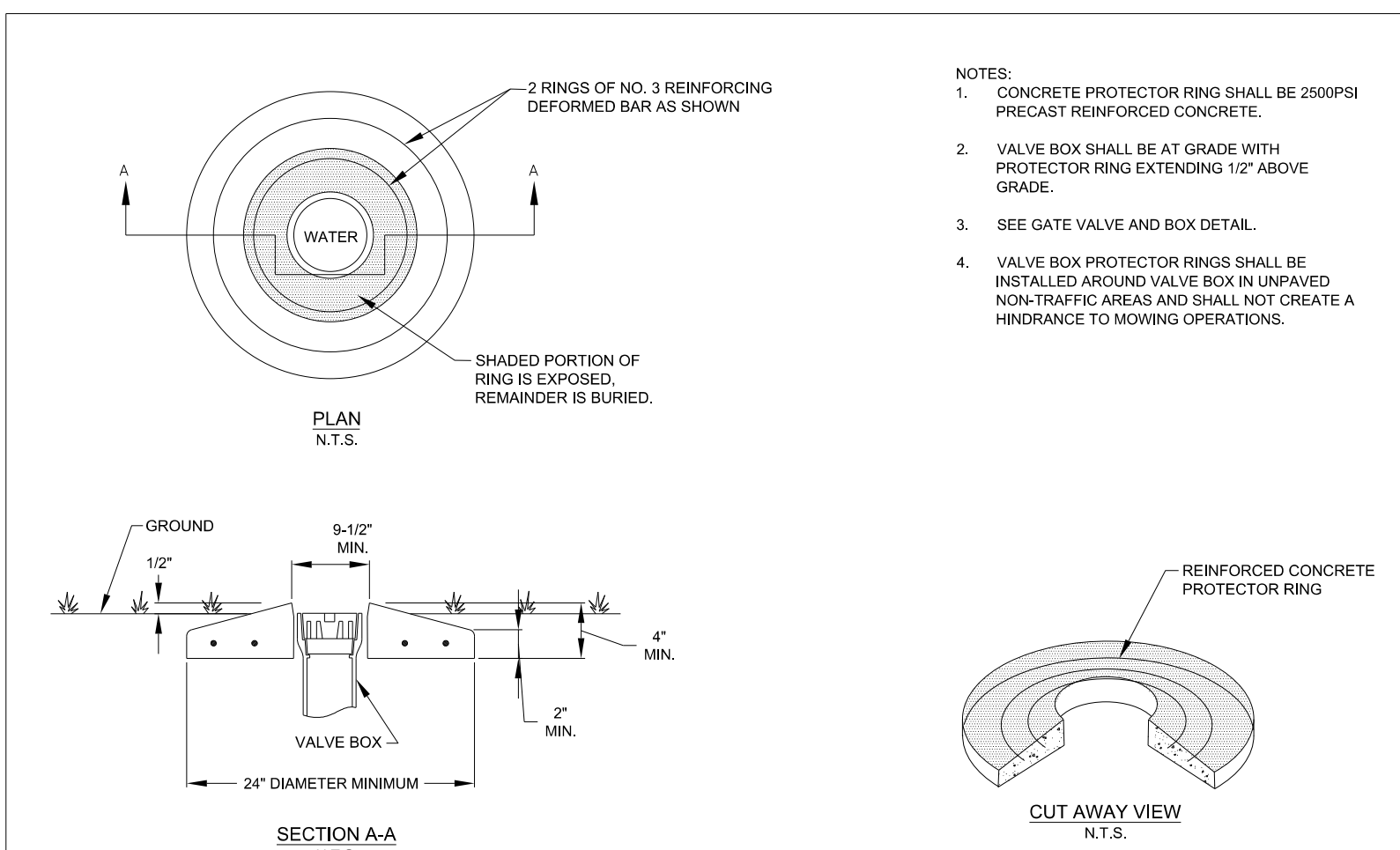
W7-VALVEBOX.dwg



DUCTILE IRON TAPPING SLEEVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.10	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/09	REVISED NOTE 6 REMOVED NOTE 8
	DATE: JAN. 01, 2025		2	07/13	REVISED NOTES 6, 7
	APPROVED BY: K.A.H.				

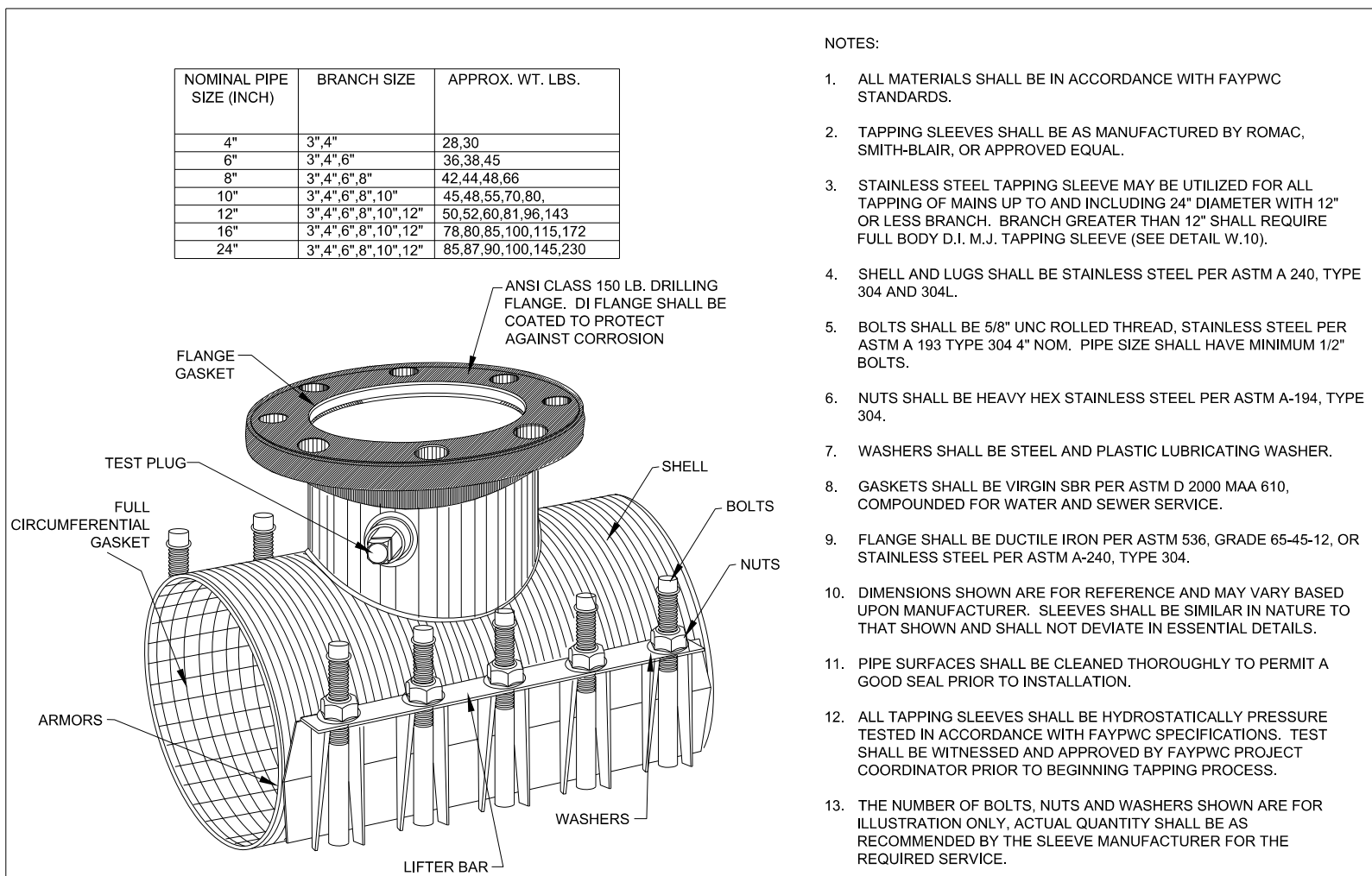
W10-M.J.-TAPPING-SLEEVE.dwg

SLEEVE SIZE PIPE X BRANCH		6X6	8X6	8X8	12X6	12X8	12X12	16X6	16X8	16X12	24X6	24X8	24X12	24X16	24X24	30X6	30X8	30X12	30X16	30X24
A DIA		7.016	7.016	9.016	7.016	9.016	13.016	7.016	9.016	13.016	11.00	13.0	19.0	23.5	32.0	11.00	13.5	19.0	23.5	32.0
B		31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
C		11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4
D		11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4
E		11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4
F		11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4
G (GASKET THICKNESS)		11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4	11-3/4
SEE NOTE 2																				



VALVE BOX PROTECTOR RING N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.8	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/09	ADDED NOTES 7, 8, AND CLARIFIED NOTES
	DATE: JAN. 01, 2025		2	01/14	REVISED NOTES 1, 4, 6
	APPROVED BY: K.A.H.				

W8-CONC-PROTECTOR-RING.dwg



STAINLESS STEEL TAPPING SLEEVE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. W.11	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/09	ADDED NOTES 2, 12, AND CLARIFIED NOTES
	DATE: JAN. 01, 2025		2	07/13	REVISED NOTES 2, 12, 14
	APPROVED BY: K.A.H.				

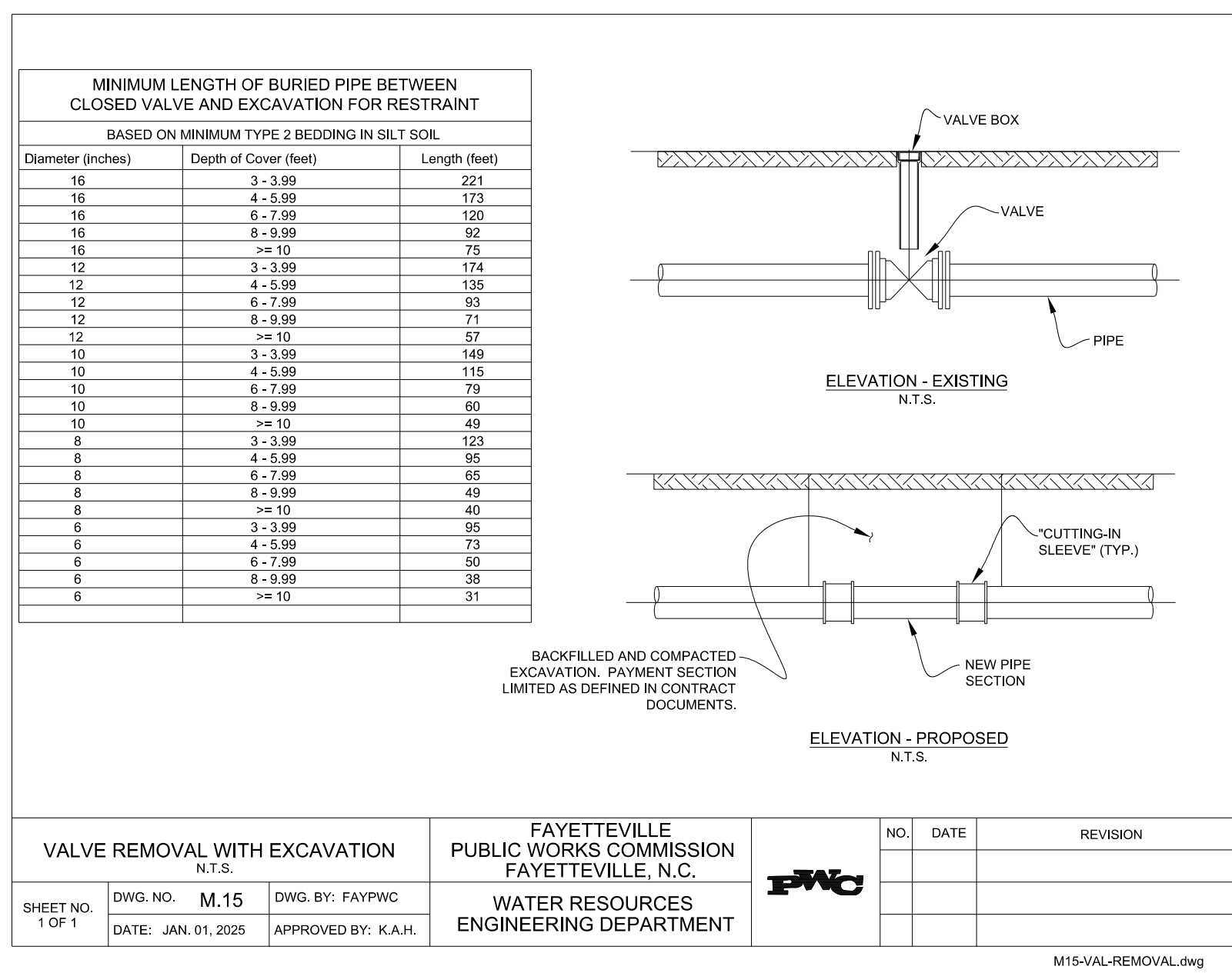
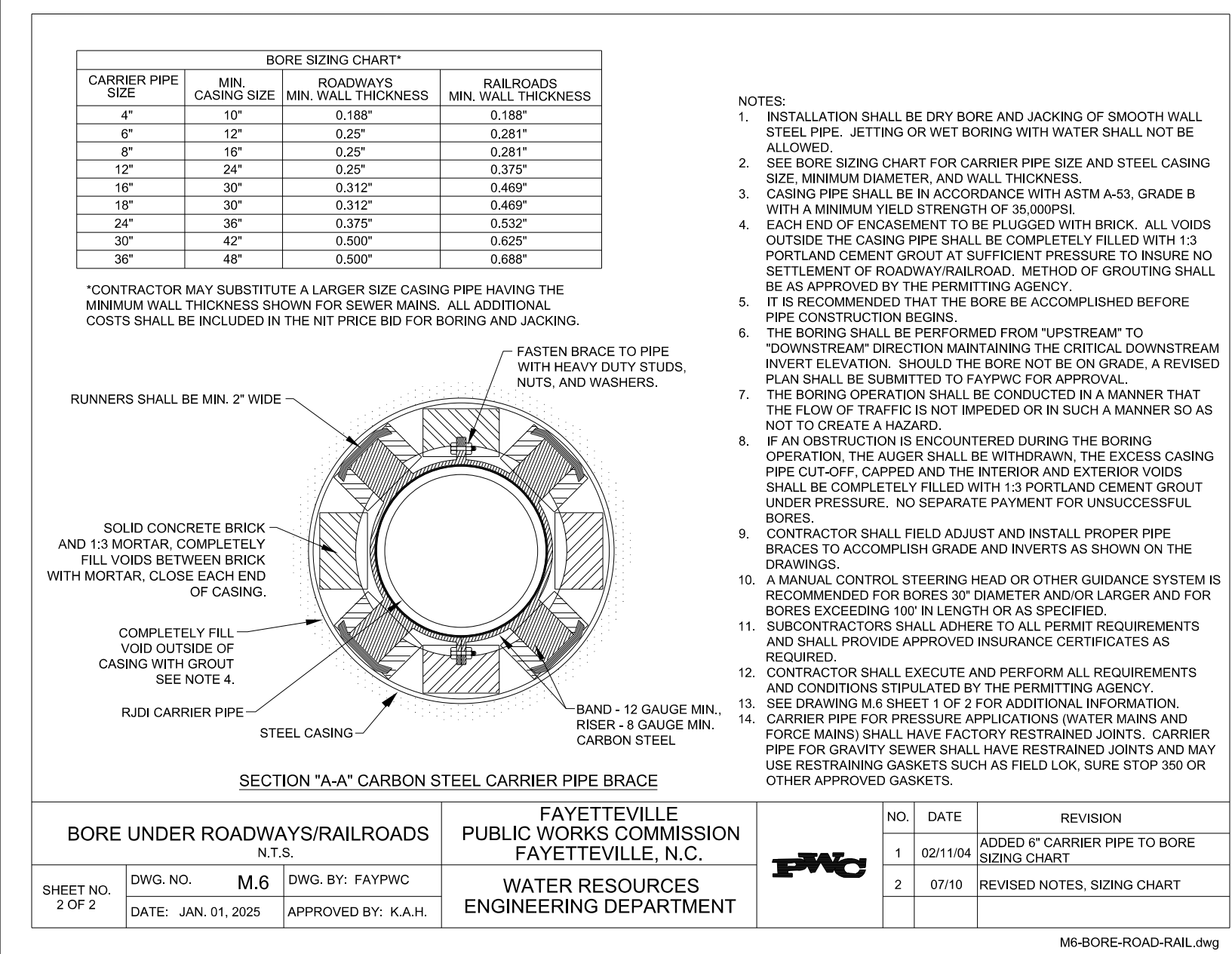
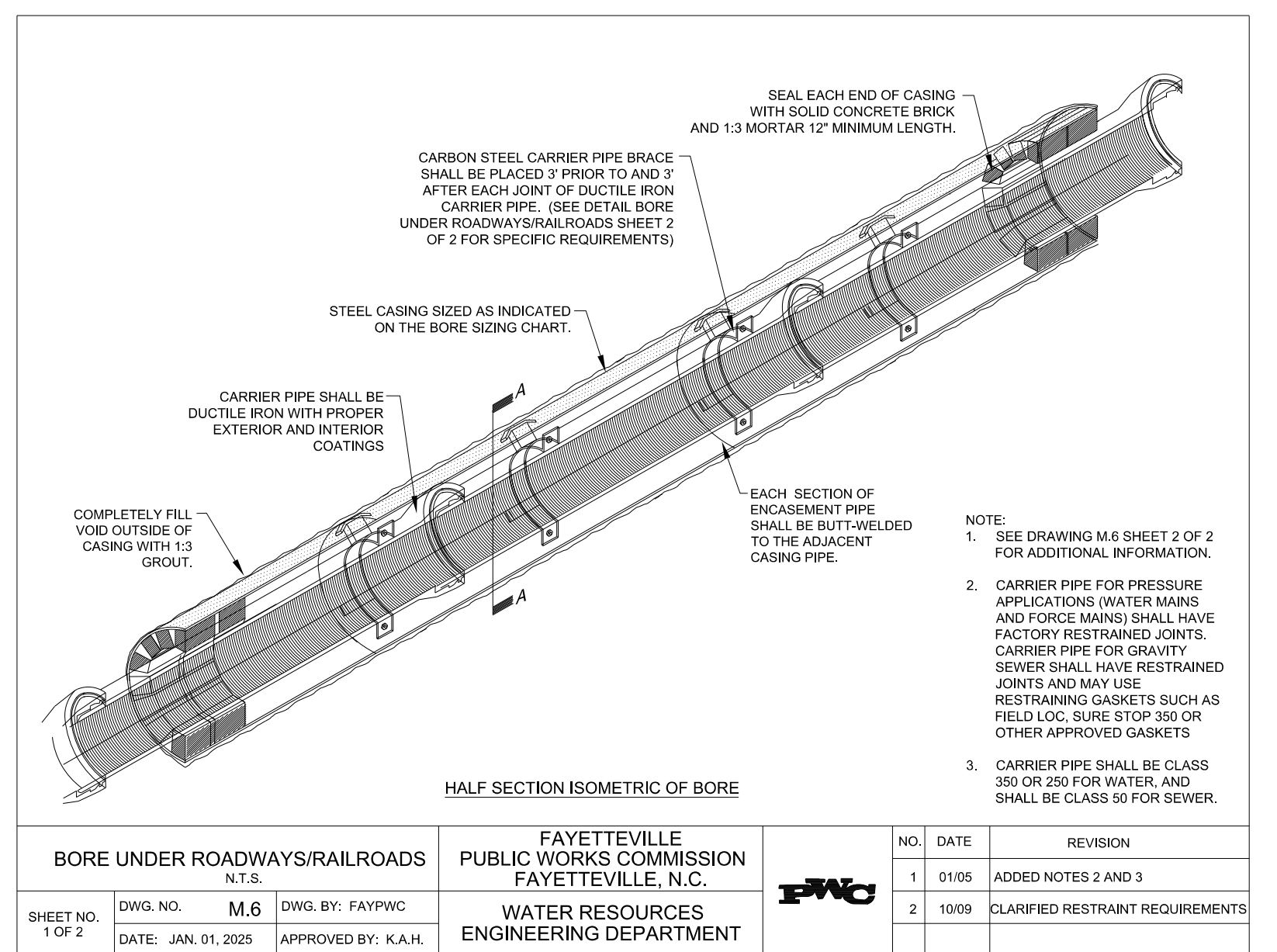
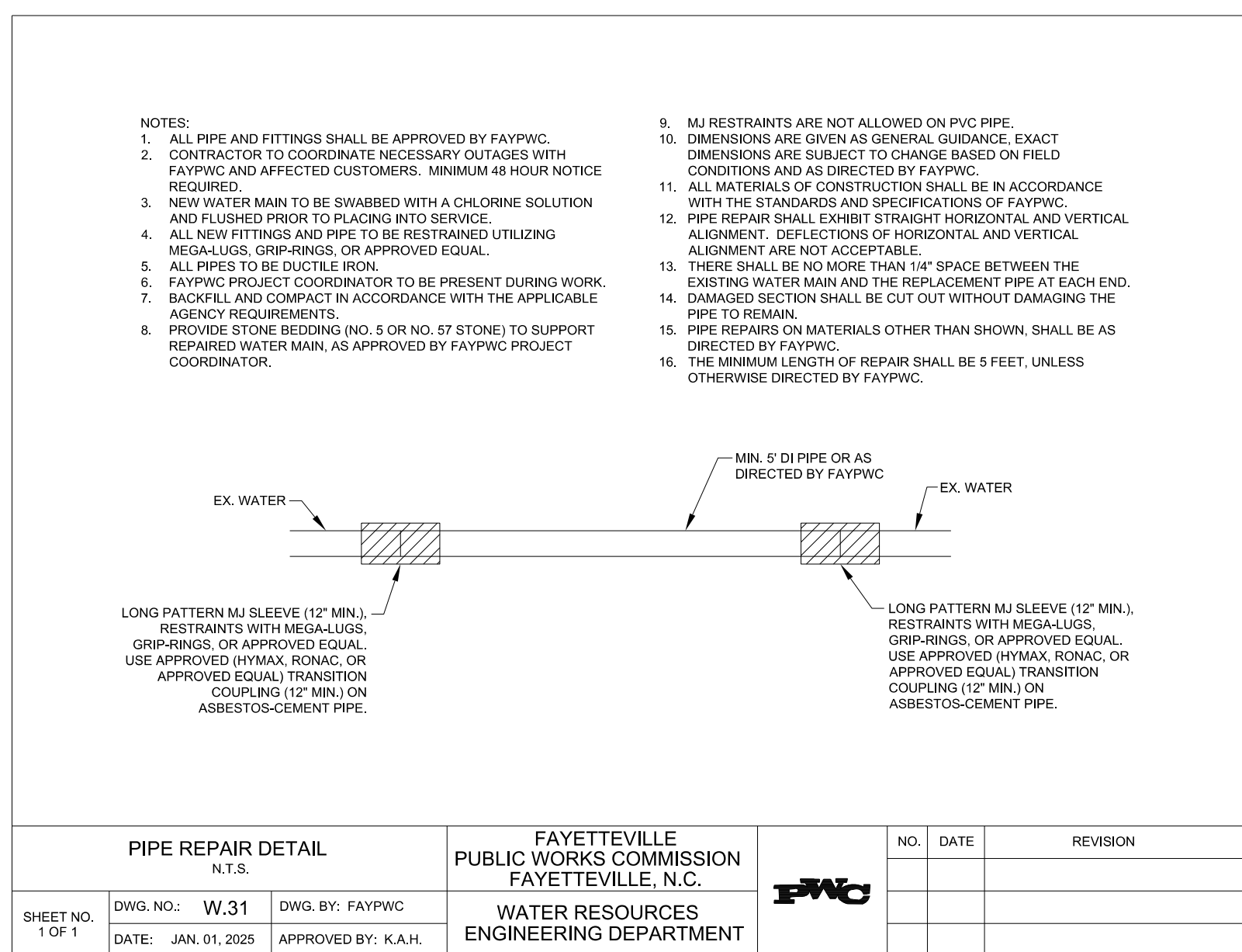
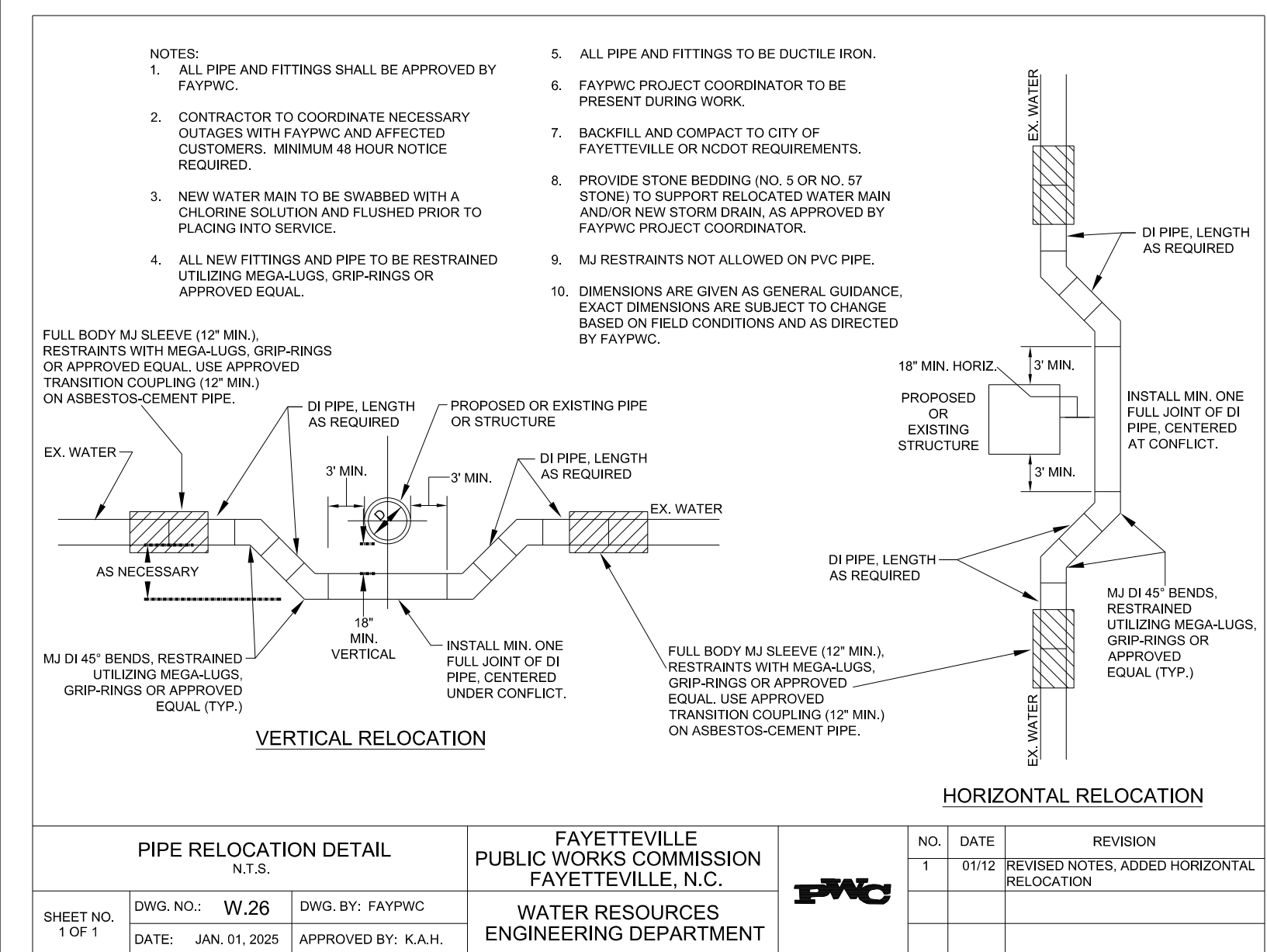
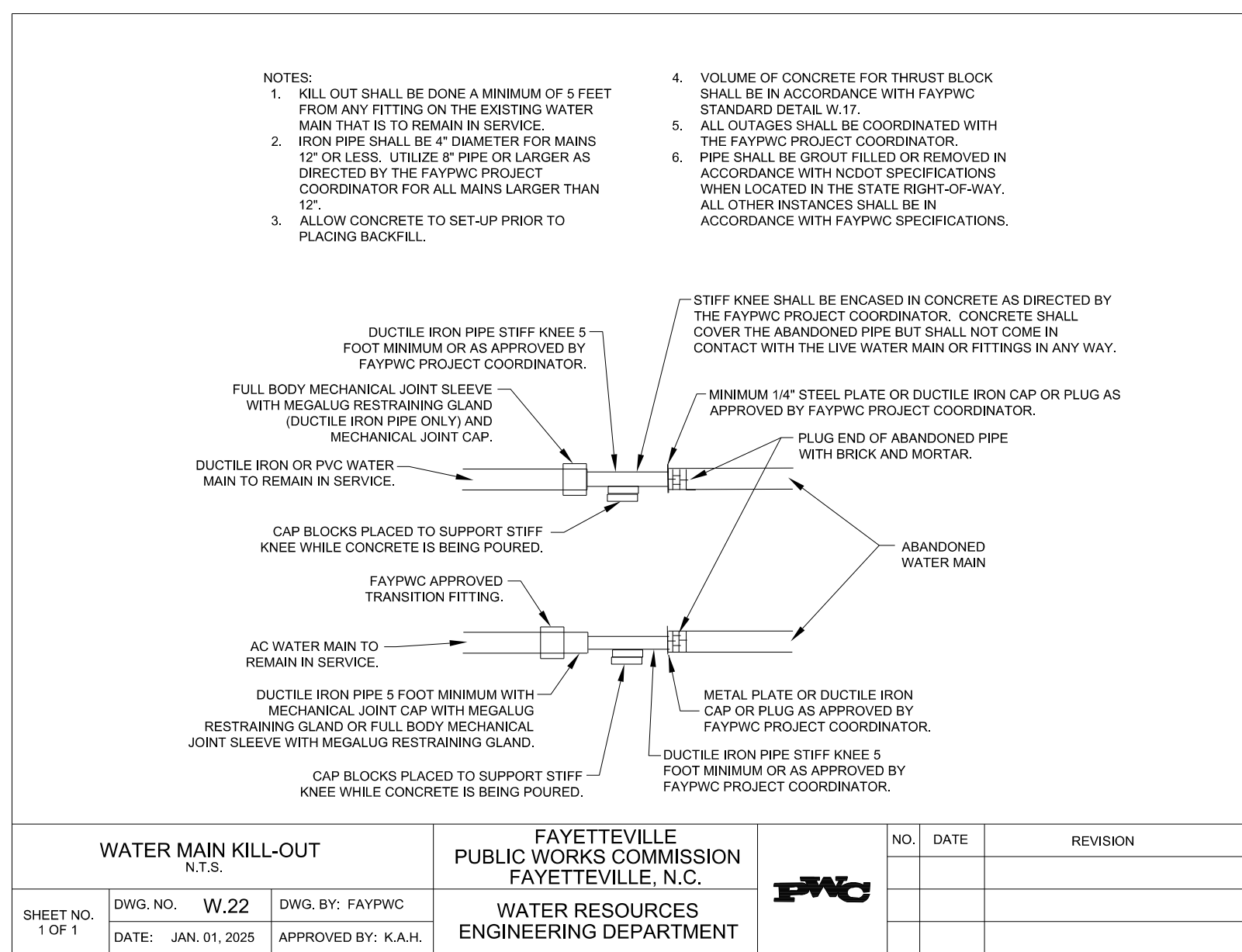
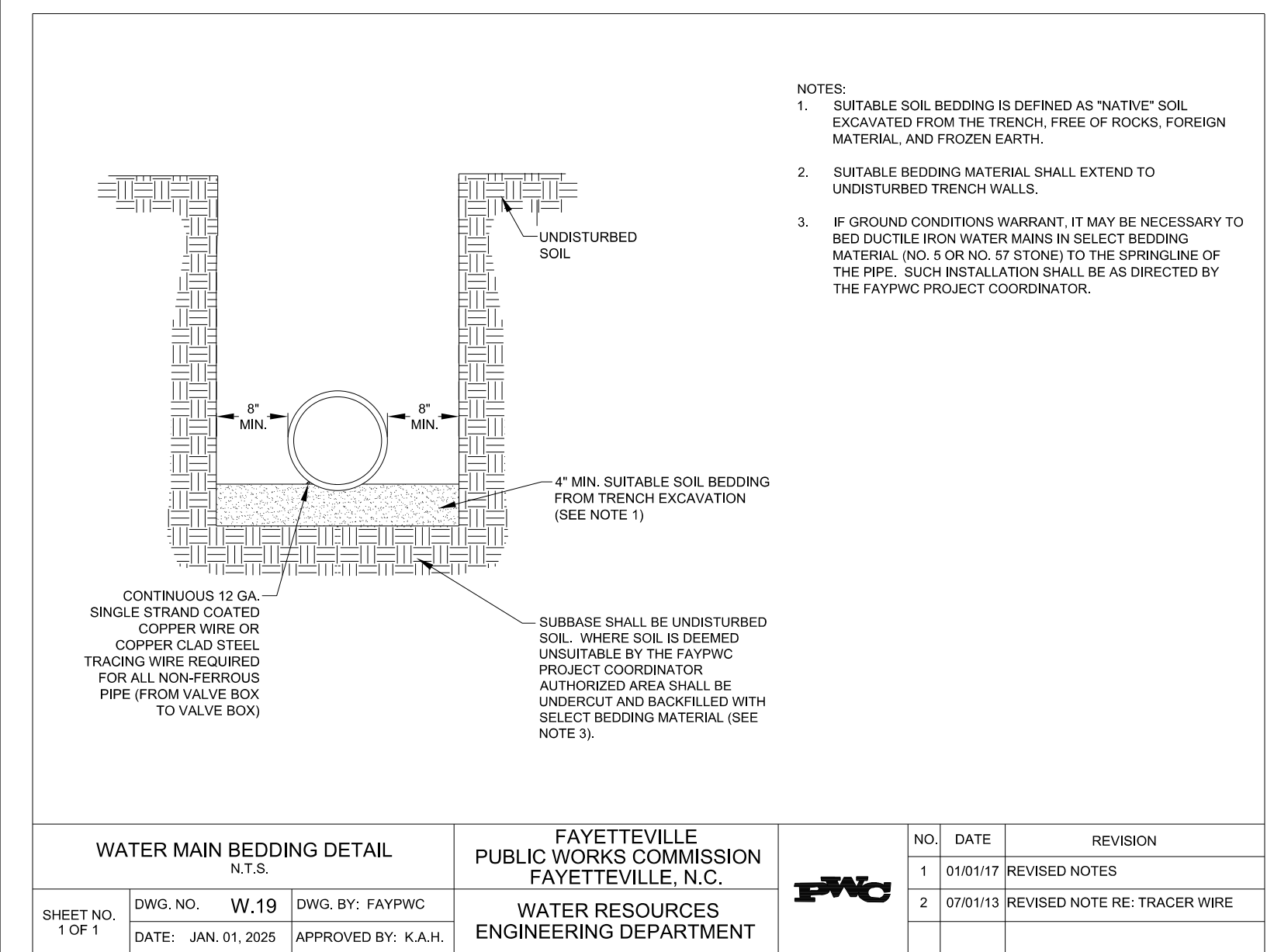
W11-SS-TAPPING-SLEEVE.dwg

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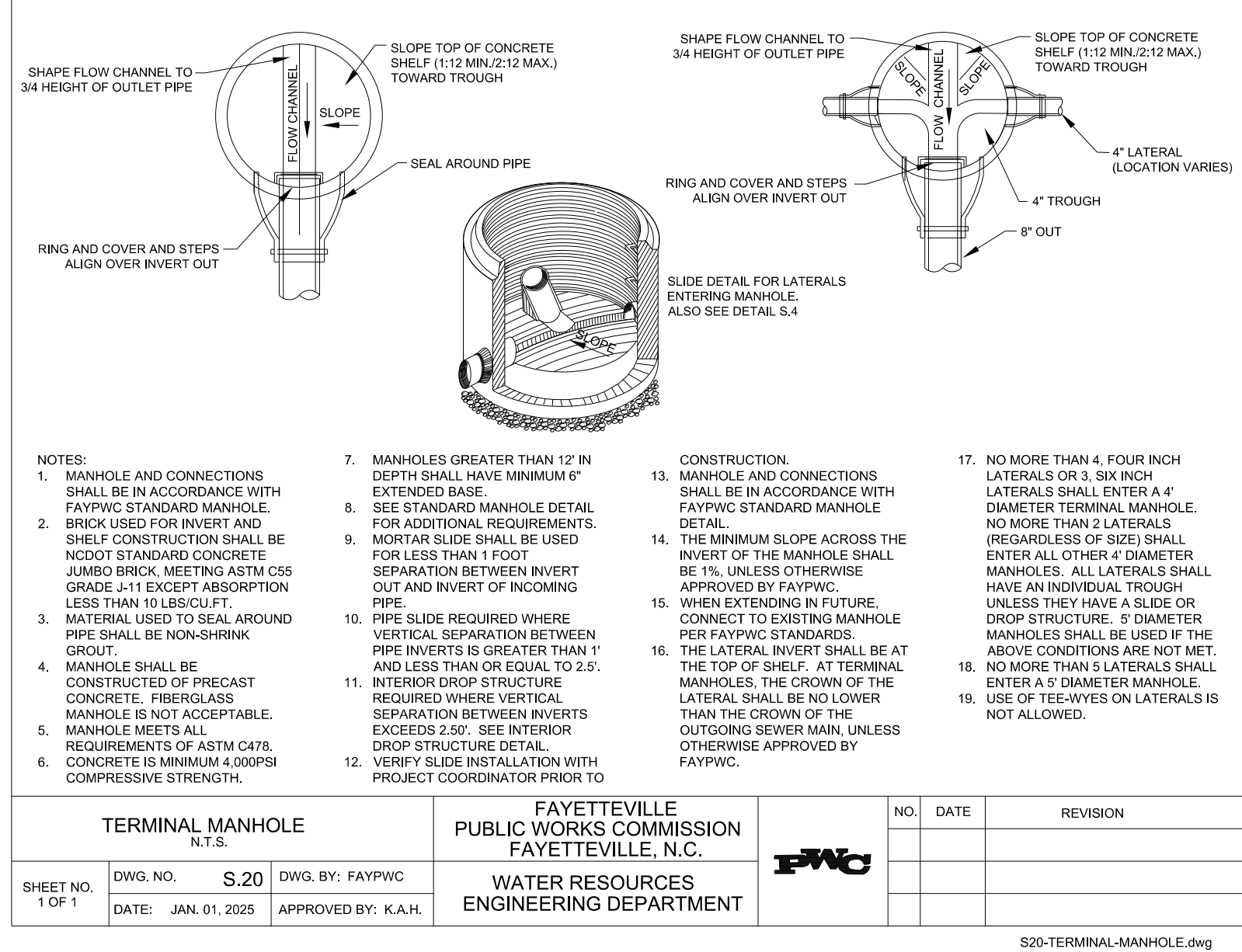
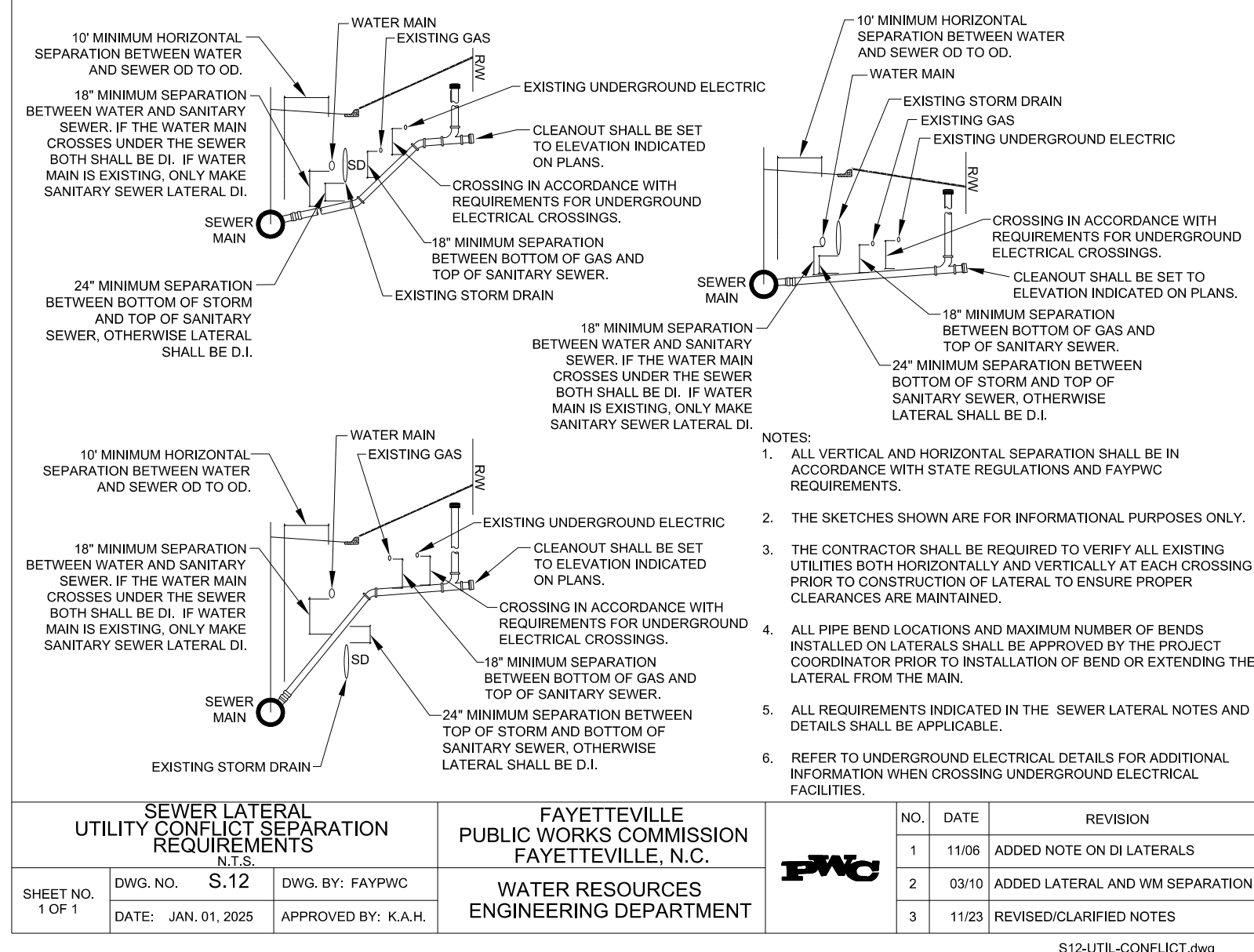
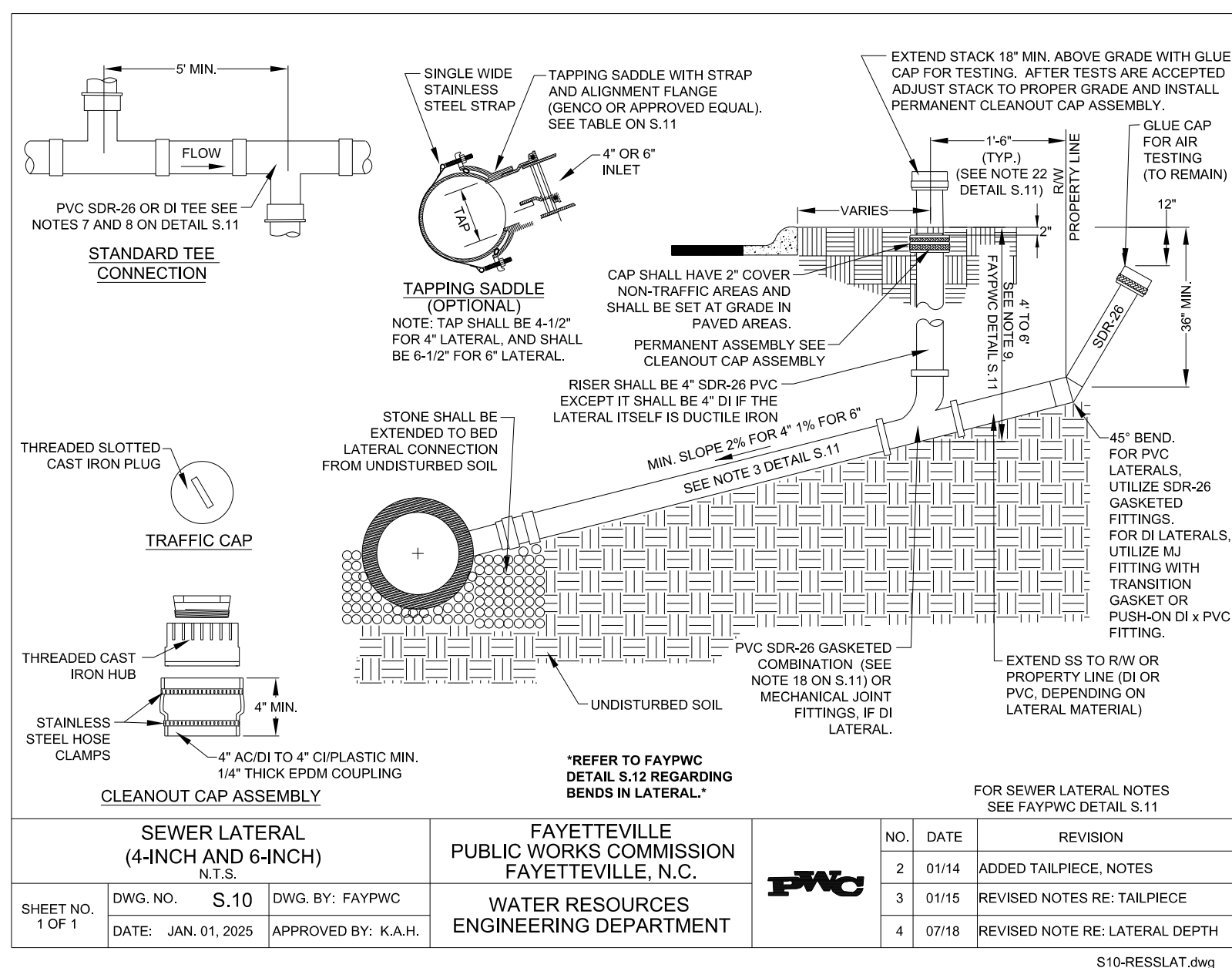
PROJECT REFERENCE NO.		SHEET NO.	
U-5798B		UC-03B	
DESIGNED BY: AMH		Signed by:	
DRAWN BY: EA			
CHECKED BY: MEY			
APPROVED BY: AR			
REVISED:		NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



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PROJECT REFERENCE NO. U-5798B	SHEET NO. UC-03D				
DESIGNED BY: AMH DRAWN BY: EA CHECKED BY: MEY APPROVED BY: AR REVISED: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	Signed by:  6/25/2025 UTILITY CONSTRUCTION PLANS ONLY				

UTILITY CONSTRUCTION



SEWER LATERAL NOTES

10. IN SANITARY SEWER LATERAL SHALL BE CUT WITH SHELL CUTTER NO HAMMER TAPS ALLOWED.
11. ALL SLOPE SHALL CONFORM TO ASTM SPEC. D-3034 9-D68 UNLESS OTHERWISE INDICATED AS DI.
12. ALL PIPE AND FITTINGS SHALL BE OF 6" UNLESS OTHERWISE SPECIFIED.
13. ALL DI PIPE SHALL HAVE AN INTERIOR LINING OF CERAMIC POXY REPAIR TYPE 1 OR EQUIVALENT. LATERAL SHALL BE COMPRISED OF DI PIPE AND MECHANICAL JOINT FITTINGS.
14. ALL CONNECTIONS SHALL HAVE RUBBER GASKET SEALS.
15. SANITARY SEWER LATERAL CLEANOUT SHALL BE LOCATED AT EACH MANHOLE AND SHALL NOT BE DEEPER THAN 2' FROM INSTALLATION OTHER THAN AS SHOWN MUST BE APPROVED BY THE FAYATW.
16. REFERENCE TO TOP OF MAIN SHALL NOT BE ALLOWED UNLESS OTHERWISE APPROVED BY THE DESIGN ENGINEER.
17. THE DESIGN ENGINEER SHALL DETERMINE THE SLOPE AND DEPTH OF THE LATERAL BASED ON THE PROPOSED USE OF THE LOT.
18. LATERAL SHALL CONFORM TO MINIMUM SLOPE FOR:
 - a. FOR 0' OR 1% MINIMUM SLOPE FOR 6" DI
 - b. FOR 1% MINIMUM SLOPE FOR 8" DI 40 FEET.UNLESS OTHERWISE APPROVED BY FAYATW.
19. ALL CHIMNEY ROOF STRUTS SHALL BE INSTALLED ON SLIDE AND SHELF DETAIL FOR VERTICAL DROPS OF MANS AND LATERALS.
20. LATERALS LESS THAN 2' IN DEPTH OR GREATER THAN 20' DEPTH SHALL UTILIZE DUCTILE IRON PIPE AND FITTINGS WITH CERAMIC EPOXY (PROTECTO QUL) OR WHEN SEPARATION REQUIREMENTS CANNOT BE MET:
21. ENTIRE SEWER LATERAL ASSEMBLY SHALL BE AIR TESTED CONCURRENTLY WITH SEWER MAIN.
22. ALL EXISTING LATERALS SHALL BE CLEANED AND FLUSHED PRIOR TO PLUSHING SANITARY SEWER MAINS.
23. LATERAL SHALL NOT BE BACKFILLED INTO INSPECTED BY THE FAYATW PROJECT COORDINATOR.
24. WYE CONNECTIONS SHALL NOT BE USED TO THE LATERALS INTO A MAINLINE.
25. IF BENDS ARE APPROVED BY THE PROJECT COORDINATOR, STONE BENDING IS REQUIRED TO BE INSTALLED FROM UNDISTURBED (SEE DETAIL S-12 SOL) TO BOTTOM OF BEND.
26. PVC COMBINATION SHALL BE A MOLDED WYE AND BEND. ALL MATERIAL SHALL BE AS MANUFACTURED BY HARKCO, GPIR, OR APPROVED EQUAL.
27. NO MORE THAN 4 FOUR-INCH LATERALS OR 3 SIX-INCH LATERALS SHALL ENTER A 4' DIA. MANHOLE. THERE SHALL BE NO MORE THAN 2 LATERALS (REGARDLESS OF SIZE) SHALL ENTER ANY OTHER 4' DIA. MANHOLE MANHOLES SHALL BE 4' DIA. MANHOLES. 6" DIA. TROUGH, 5" DIA. MANHOLES SHALL BE USED IF THE ABOVE CONDITIONS ARE NOT MET.
28. ALL LATERALS OF 4" OR SMALLER UTILIZE 4' Riser (STACK).
29. REFER TO DETAIL S-12 FOR SEPARATION REQUIREMENTS.
30. FOR SINGLE FAMILY RESIDENTIAL LOTS, CLEANOUT SHALL BE LOCATED 15' FROM FRONT PROPERTY LINE. FOR LARGE NON-SINGLE FAMILY LOTS, CLEANOUT SHALL BE NO CLOSER THAN 4' TO FOOTPRINT OF BUILDING, UNLESS OTHERWISE APPROVED BY FAYATW.

THE FOLLOWING TABLE SUMMARIZES THE MATERIALS TO BE UTILIZED FOR SEWER MAIN TO LATERAL CONNECTIONS:

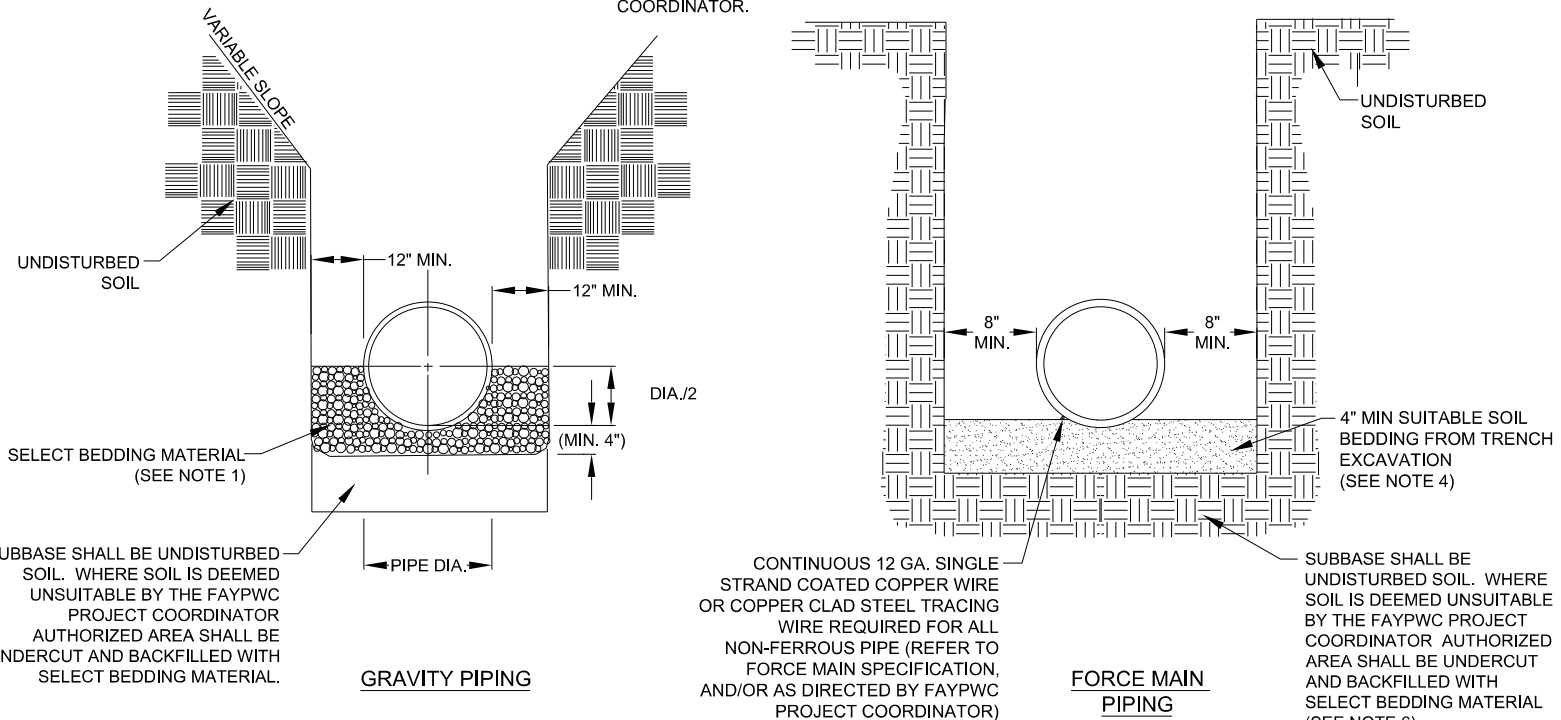
	PVC Main	DI Main
DI Lateral	DI fitting or approved saddle	MJ fitting or approved saddle
PVC Lateral	PVC fitting or approved saddle	MJ fitting with transition gasket or approved saddle

NOTE: REFER TO FAYPWC TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION

SEWER LATERAL NOTES (4-INCH AND 6-INCH)		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			NO. DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. S.11	DWG. BY: FAY/PWC	3 01/13		REVISED NOTES AND ADDED TABLE	
	WATER RESOURCES ENGINEERING DEPARTMENT		4 01/14		REVISED NOTE 22, TABLE	
	DATE: JAN 01, 2025	APPROVED BY: K.A.H.	5 07/18		REVISED NOTES 6, 9	
S11-RES-LAT-NOTES.dwg						

S11-RESSLAT-NOTES.dwg

- NOTES:
- | | |
|--|---|
| 1. SELECT BEDDING MATERIAL SHALL BE WELL
GRADED CRUSHED ROCK (NO. 5 OR NO. 57 STONE) FOR
THE FULL WIDTH OF THE TRENCH. | 4. SUITABLE SOIL BEDDING IS DEFINED AS "NATIVE" SOIL
EXCAVATED FROM THE TRENCH, FREE OF ROCKS
FOREIGN MATERIAL, AND FROZEN EARTH. |
| 2. SELECT BEDDING MATERIAL SHALL EXTEND TO
UNDISTURBED TRENCH WALLS. | 5. SUITABLE BEDDING MATERIAL SHALL EXTEND TO
UNDISTURBED TRENCH WALLS. |
| 3. SELECT BEDDING MATERIAL SHALL BE PROPERLY
PLACED TO THE SPRING LINE OF THE PIPE FOR ITS
ENTIRE LENGTH. | 6. IF GROUND CONDITIONS WARRANT, IT MAY BE
NECESSARY TO BED DUCTILE IRON FORCE MAINS IN
SELECT BEDDING MATERIAL, 5 OR NO. 57 STONE TO
THE SPRINGLINE OF THE PIPE. SUCH INSTALLATION
SHALL AS BE DIRECTED BY THE FAYATPC PROJECT
COORDINATOR. |



SEWER BEDDING N.T.S.			FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.			(SEE NOTE 6).	
				NO.		DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. S.13	DWG. BY: FAYPWC		1		01/01/05	REVISED NOTES
	DATE: JAN. 01, 2025	APPROVED BY: K.A.H.		2		01/01/16	REVISED NOTES

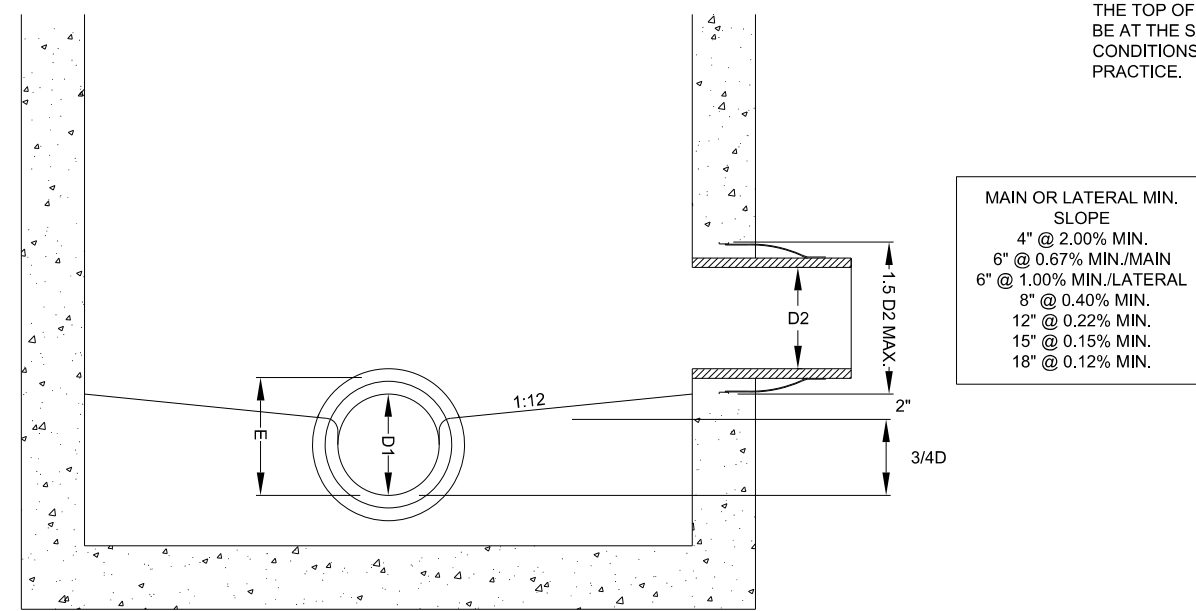
S13-SFWEVER-BEDDING.dwg

S13-SEWER-BEDDING.dwg

TO FIND "E" ENTER CHART AT LEFT WITH EFFLUENT PIPE SIZE AND ENTER PIPE AT TOP WITH INFLUENT PIPE SIZE. "E" DISTANCE IS POINT OF CONVERGENCE OF COLUMN AND ROW.

		D2						
		4"	6"	8"	12"	15"	18"	24"
D1	8	9.00	9.50	10.00	-	-	-	-
	12	11.00	11.50	12.00	13.00	-	-	-
	15	14.25	14.75	15.25	16.25	17.00	-	-
	18	16.50	17.00	17.50	18.50	19.25	20.00	-
	24	21.00	21.50	22.00	23.00	23.75	24.50"	26.00

WHERE 5' MANHOLE IS REQUIRED ADD 1/2" TO "E" DISTANCE TO ACCOUNT FOR THE ADDITIONAL 6" OF SHELF SLOPE.



- NOTES:**
1. SEE FAYPWC STANDARD MANHOLE AND PIPE SLIDE, MORTAR SLIDE, AND SHELF DETAILS FOR ADDITIONAL INFORMATION.
 2. THE "E" DISTANCES INDICATED ARE FOR CONNECTION TO AN EXISTING OUTFALL AND ARE THE MINIMUM DISTANCE ALLOWABLE.
 3. WHERE SANITARY SEWER OUTFALLS AND MAINS ARE BEING CONSTRUCTED THE TOP OF THE EFFLUENT PIPE AND THE TOP OF THE INFLUENT PIPE SHALL BE AT THE SAME ELEVATION UNLESS CONDITIONS ARE PROHIBITIVE TO THIS PRACTICE.

MH CONNECTION DESIGN GUIDE N.T.S.			FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. S.18	DWG. BY: FAYPWC	WATER RESOURCES ENGINEERING DEPARTMENT				
	DATE: JAN. 01, 2025	APPROVED BY: K.A.H.					
S:\18\PENETRATION-DETAIL.dwg							

S18-PENETRATION-DETAIL.dwg



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APPROVED BY: AR			
REVISED:			
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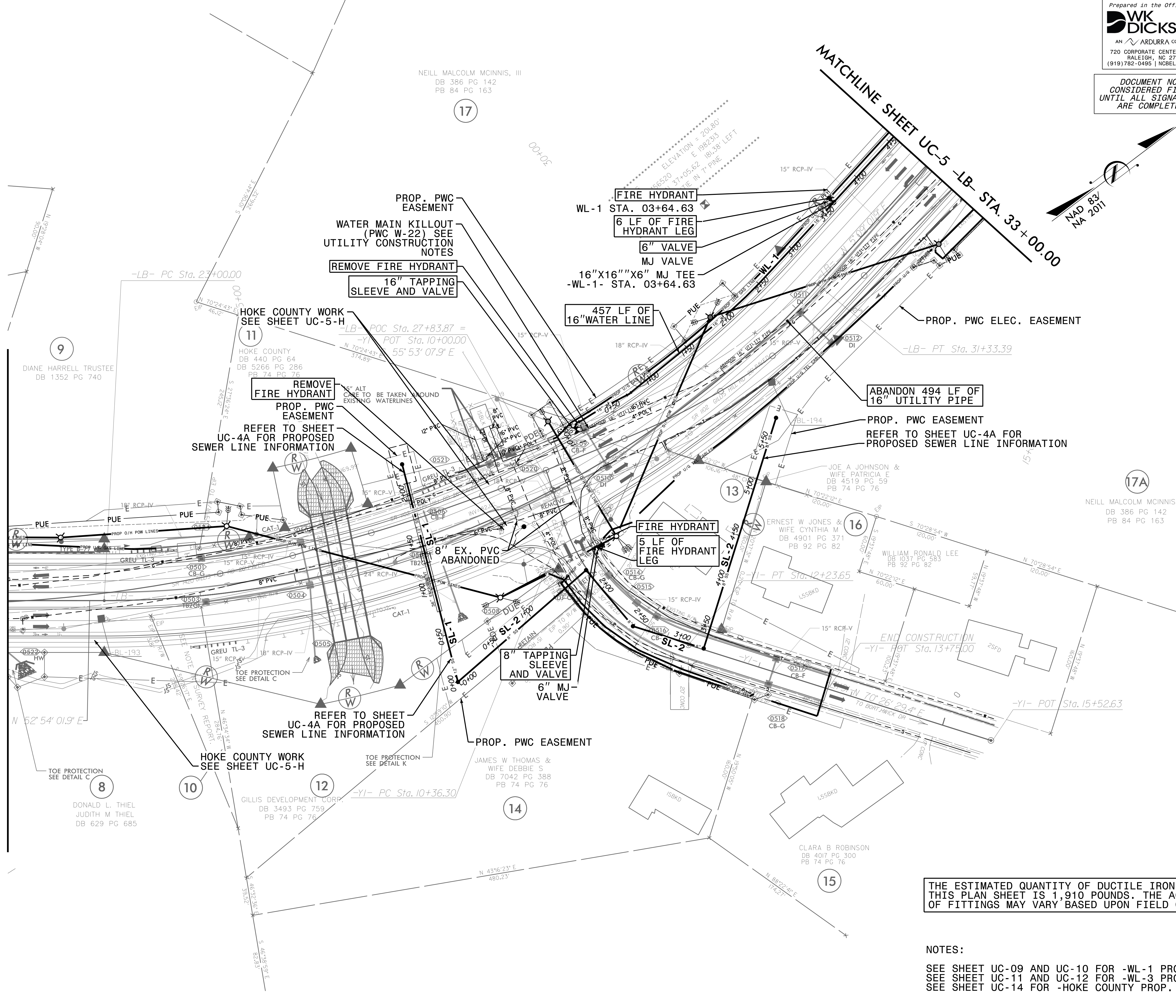
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5/14/99
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REVISIONS

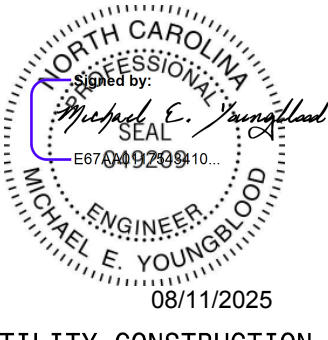
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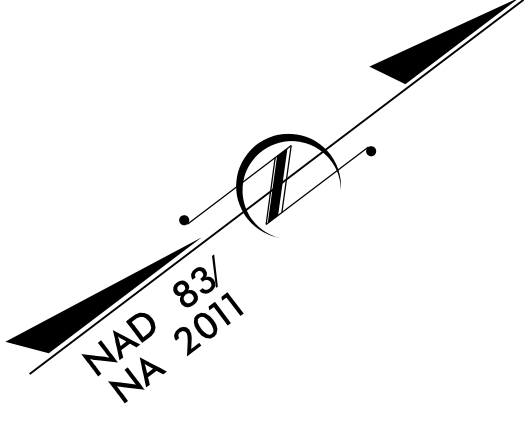


UTILITY CONSTRUCTION

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U-5798B		UC-04	
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CHECKED BY:	MEY		
APPROVED BY:	AR		
REVISED:	MEY		
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION			
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151			



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 1,910 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS MAY VARY BASED UPON FIELD CONDITIONS.

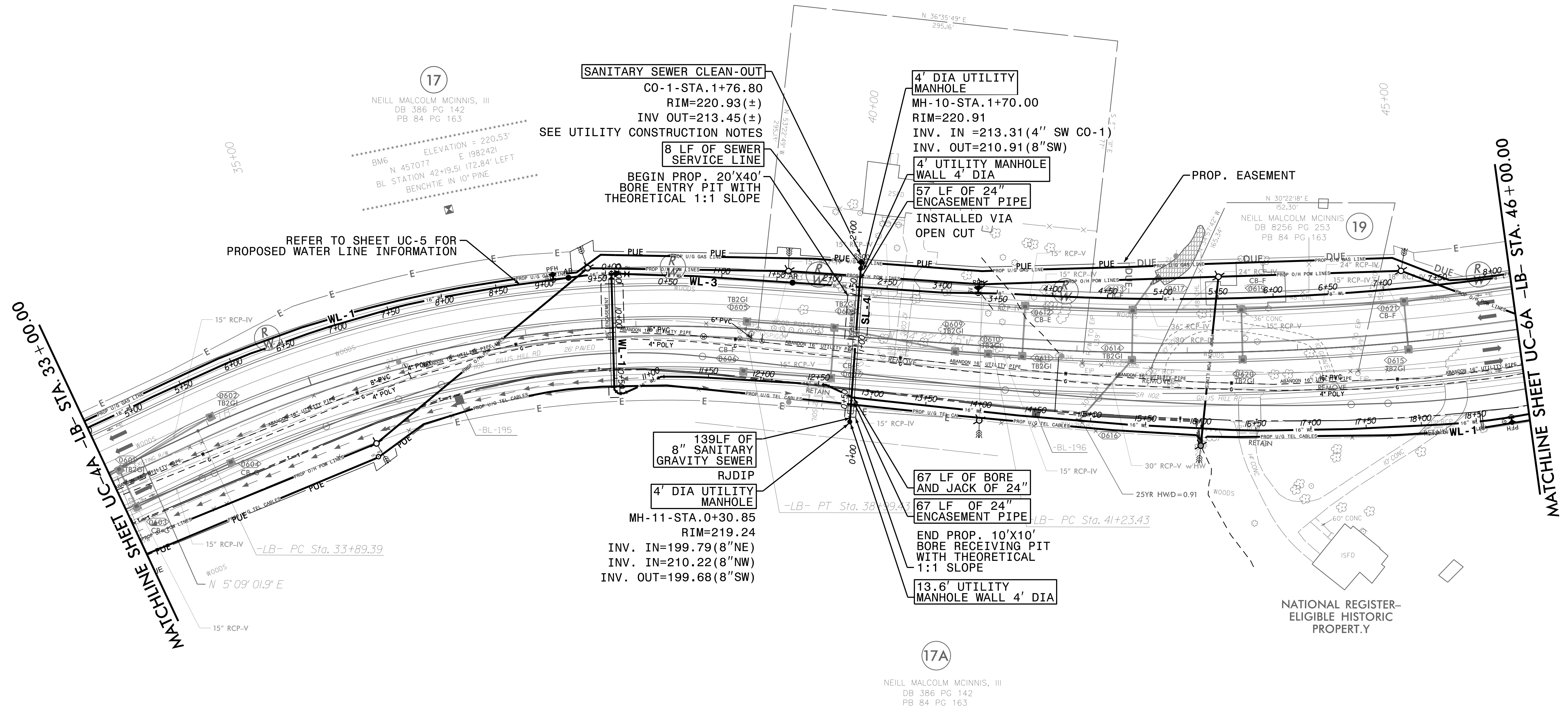
NOTES:
SEE SHEET UC-09 AND UC-10 FOR -WL-1 PROFILE
SEE SHEET UC-11 AND UC-12 FOR -WL-3 PROFILE
SEE SHEET UC-14 FOR -HOKE COUNTY PROP. 8" WL- PROFILE



SEE SHEET UC-09 AND UC-10 FOR -WL-1 PROFILE
SEE SHEET UC-11 AND UC-12 FOR -WL-3 PROFILE

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NOTES:
SEE SHEET UC-13 FOR -SL-4 PROFILE