

09/08/99

TIP PROJECT: U-3422

STATE OF NORTH CAROLINA
DIVISION OF HIGHWAYS

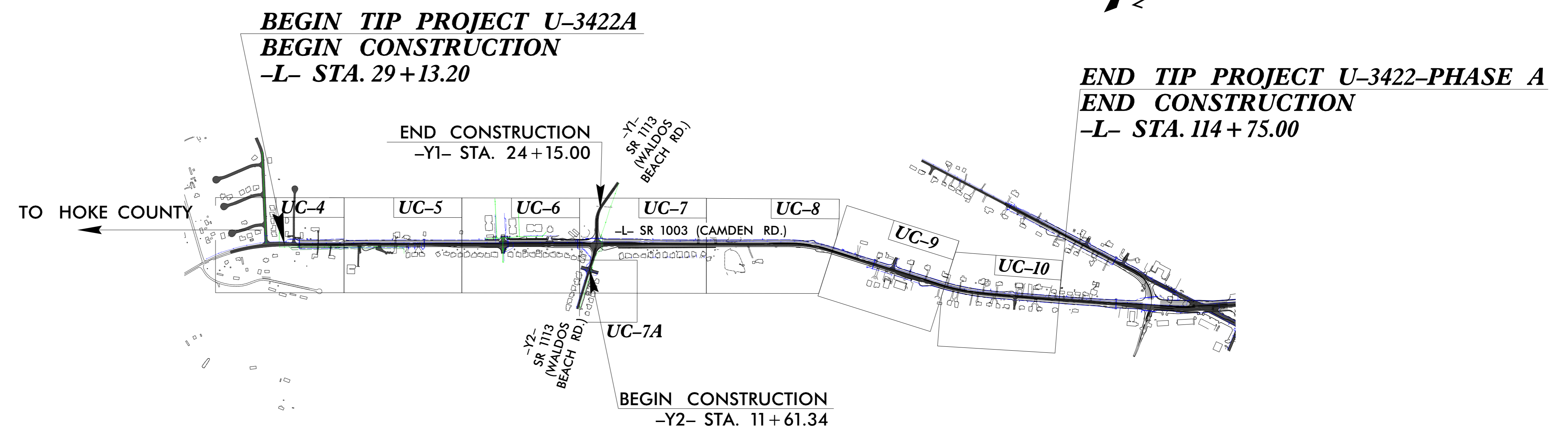
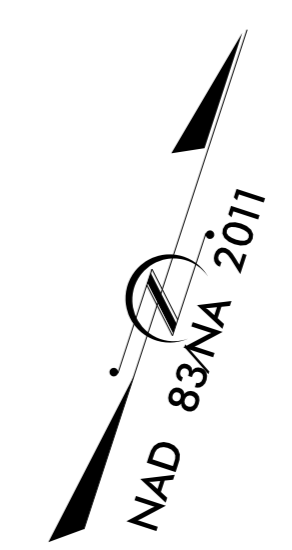
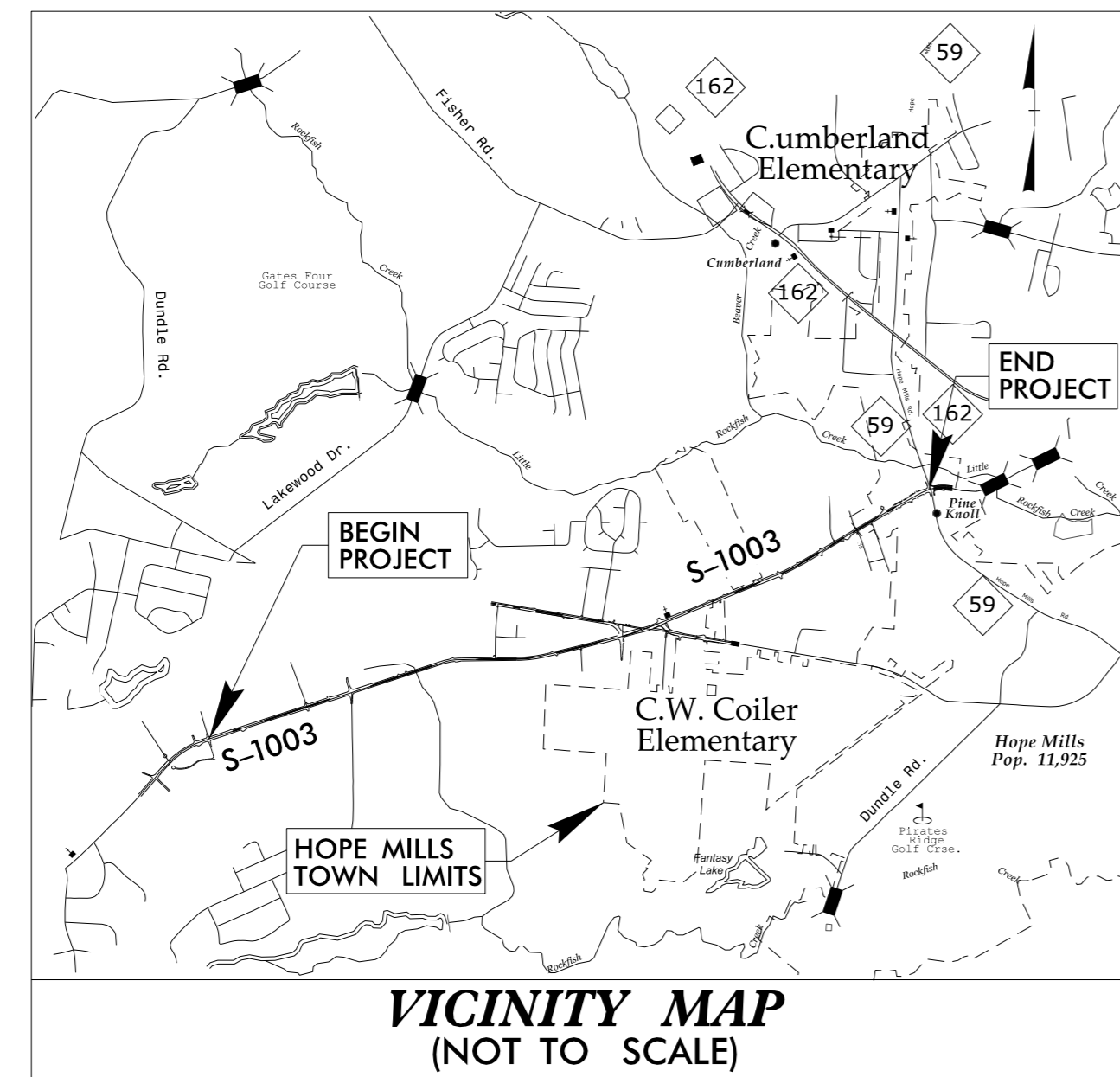
T.I.P. NO.	SHEET NO.
U-3422A	UC-1

UTILITY CONSTRUCTION PLANS CUMBERLAND COUNTY

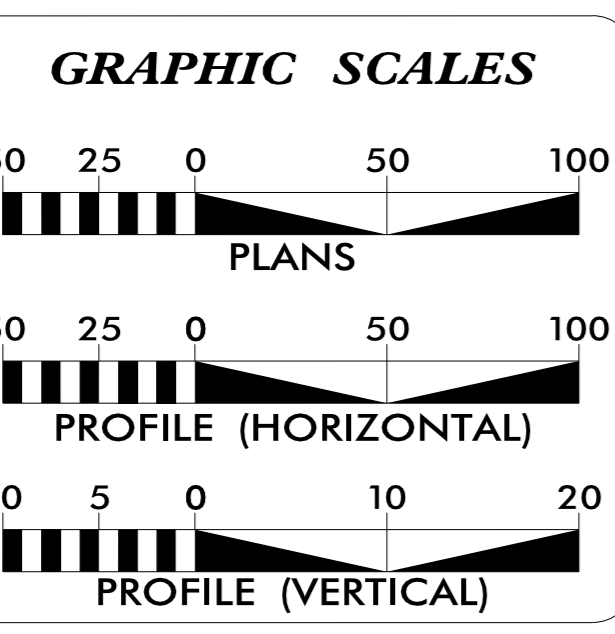
LOCATION: SR 1003 (Camden Road) from Future I-295
(Fayetteville Outer Loop) To NC 59 (Hope Mills Road)

TYPE OF WORK: WATER AND SEWER RELOCATION

FINAL PLANS: PHASE A



DOCUMENT NOT CONSIDERED FINAL
UNTIL ALL SIGNATURES ARE COMPLETED



SHEET NO.:	DESCRIPTION:
UC-1	TITLE SHEET
UC-2	UTILITY SYMBOLOLOGY
UC-3	NOTES
UC-3A THRU UC-3H	DETAILS
UC-4 THRU UC-10	UTILITY CONSTRUCTION PLAN SHEETS
UC-20 THRU UC-27	UTILITY CONSTRUCTION PROFILE SHEETS

WATER AND SEWER OWNERS ON PROJECT

(1) WATER: FAYETTEVILLE PWC
(2) SANITARY SEWER: FAYETTEVILLE PWC

PREPARED IN THE OFFICE OF

CDM Smith
CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3228
NC COA No. F-1255

(919) 325-3594 CONSULTANT CONTACT #

MICHAEL A. POLLARD, PE PROJECT ENGINEER
SAM MILLER, EI PROJECT DESIGN ENGINEER
HEATHER HARKENRIDER, PE PROJECT NUMBER
234306

SEAL

Signed by: *Michael A. Pollard*

11/14/2024

DIVISION OF HIGHWAYS
DIVISION 6 UTILITIES UNIT
500 TRANSPORTATION DRIVE
FAYETTEVILLE NC 28301
PHONE (910) 364-0834
CELL (910) 568-7342

RICK HANDLIN UTILITIES REGIONAL ENGINEER
UTILITIES ENGINEER
JOHN WALTERS UTILITIES AREA COORDINATOR
UTILITIES COORDINATOR

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USER: MILLERS

STATE OF NORTH CAROLINA DIVISION OF HIGHWAYS

CDM Smith
 CDM Smith Inc.
 5400 Glenwood Avenue
 Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

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PROJECT REFERENCE NO.	SHEET NO.
U-3422	UC-2

UTILITIES PLAN SHEET SYMBOLS

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 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	
Proposed Utility Easement	

Temporary Utility Easement	
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	
Air Release Valve	

*For Existing Utilities

Utility Line Drawn from Record (Type as Shown)

Designated Utility Line (Type as Shown)

5/14/2024

REVISIONS

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UTILITY CONSTRUCTION

CDM Smith CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255	PROJECT REFERENCE NO.	SHEET NO.
	U-3422	UC-3
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	DESIGNED BY: SSM	
	DRAWN BY: SSM	
CHECKED BY: HMH		
APPROVED BY: MAP		
	REVISED:	
	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

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

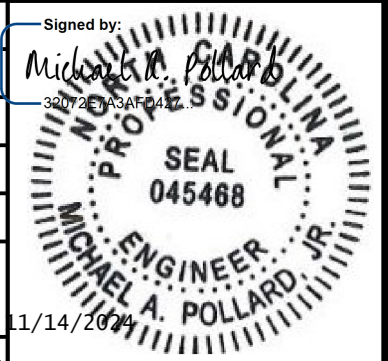
PROJECT SPECIFIC NOTES:

1. ALL PROPOSED WATER LINE 2" IN DIAMETER SHALL BE SDR21, PRESSURE CLASS 200 IN ACCORDANCE WITH ASTM D 2241 OR SDR-17 WITH A PRESSURE RATING OF 250 PSI, IN ACCORDANCE WITH ASTM D-224. 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 PROTECTO 401 LINED DI (DUCTILE IRON PUSH ON) PC 350 PIPE UNLESS OTHERWISE SPECIFIED. ALL PROPOSED GRAVITY SEWER LINES 16" IN DIAMETER AND GREATER SHALL BE PROTECTO 401 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. IF HDPE PIPE IS INSTALLED BY DIRECTIONAL DRILL. IT SHALL BE FILLED WITH WATER AND NOT BE CONNECTED TO ANY OTHER PIPE OR FITTINGS FOR ONE WEEK FROM THE TIME OF INSTALLATION.
5. ALL CONSTRUCTION TO BE IN ACCORDANCE WITH ALL FAYETTEVILLE PWC AND/OR NCDOT STANDARDS AND SPECIFICATIONS.
6. 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.

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 AJDJUSTMENTS 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. ANY REFERENCE TO THE FAYPWC COORDINATOR OR PWC COORDINATOR SHALL BE INTERPRETED AS A REFERENCE TO THE ENGINEER.

UTILITY CONSTRUCTION

DOCUMENT NOT CONSIDERED FINAL
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- ALL WATER MAINS, LATERALS AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH FAYPWC STANDARDS.
- CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
- CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE FOR ALL WATER OUTAGES.
- 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.
- CONTRACTOR SHALL MAINTAIN A COPY OF THE SIGNED AND SEALED CUT SHEET FROM 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.
- ALL NEW WATER AND SEWER MAINS, LATERALS AND APPURTENANCES SHALL BE TESTED AND INSPECTED IN ACCORDANCE WITH FAYPWC STANDARDS PRIOR TO PLACING INTO SERVICE.
- CONTRACTOR SHALL COORDINATE TESTING AND INSPECTION WITH THE FAYPWC PROJECT COORDINATOR.
- 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 IMMEDIATELY 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.
- 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 RESIDENT'S METERS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL DAMAGES RESULTING FROM ALLOWING "DIRTY" WATER TO ENTER RESIDENT'S PLUMBING SYSTEM, SUCH AS WATER HEATERS, STAINLESS STEEL, CLOSURE SCREENS, ETC.
- TRANSFER OF WATER SERVICES SHALL BE ACCOMPLISHED AS FOLLOWS:
 - INSTALL, TEST AND STERILIZE NEW MAIN AND LATERALS. LATERALS SHALL BE INSTALLED 18" ABOVE RIGHT-OF-WAY UNLESS OTHERWISE DIRECTED BY FAYPWC.
 - TRANSFER EXISTING METER TO NEW METER BOX AND THE NEW WATER LATERAL TO EXISTING DOMESTIC SERVICE. TYPING BRASS OR STAINLESS STEEL SHALL BE USED. METER NUMBER SHALL BE INSTALLED ON SAME ADDRESS AND/OR CUSTOMER. BLOW OFF SERVICE AT HOSE BIBB OR HOUSE ONLY AFTER METER HAS BEEN TRANSFERRED.
 - AFTER ALL SERVICES ARE TRANSFERRED TO THE NEW SYSTEM, SHUT OFF VALVE ON EXISTING SYSTEM AND ABANDON EXISTING MAINS IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 - CONTRACTOR SHALL SUPPLY NEW METER BOXES AND DISPOSE OF EXISTING METER BOXES.
- CONTRACTOR SHALL ABANDON ("KILL-OUT") ANY EXISTING WATER SERVICES THAT WOULD BE UTILIZED BY CUTTING THE WATER LINE CROSSING 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. 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.
- SEPARATION REQUIREMENTS:
 - LATERAL SEPARATION OF SEWERS AND WATER MAINS: WATER MAINS SHALL BE LAID AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWER MAINS UNLESS LOCAL CONDITIONS OR BARRIERS PREVENT A 10'-0" LATERAL SEPARATION - IN WHICH CASE:
 - 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 MAIN/LATERAL, OR
 - THE WATER MAIN IS LAID IN THE SAME TRENCH AS THE SEWER MAIN/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 MAIN/LATERAL.
 - CROSSING A WATER MAIN OVER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAIN/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 MAIN/LATERAL.
 - CROSSING WATER MAIN UNDER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAIN/LATERAL, A MINIMUM OF 18-INCHES OF SEPARATION SHALL BE PROVIDED. BOTH THE WATER MAIN AND THE SEWER MAIN/LATERAL SHALL BE CONSTRUCTED OF DUCTILE IRON MATERIAL, AND WITH EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10-FOOT ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.

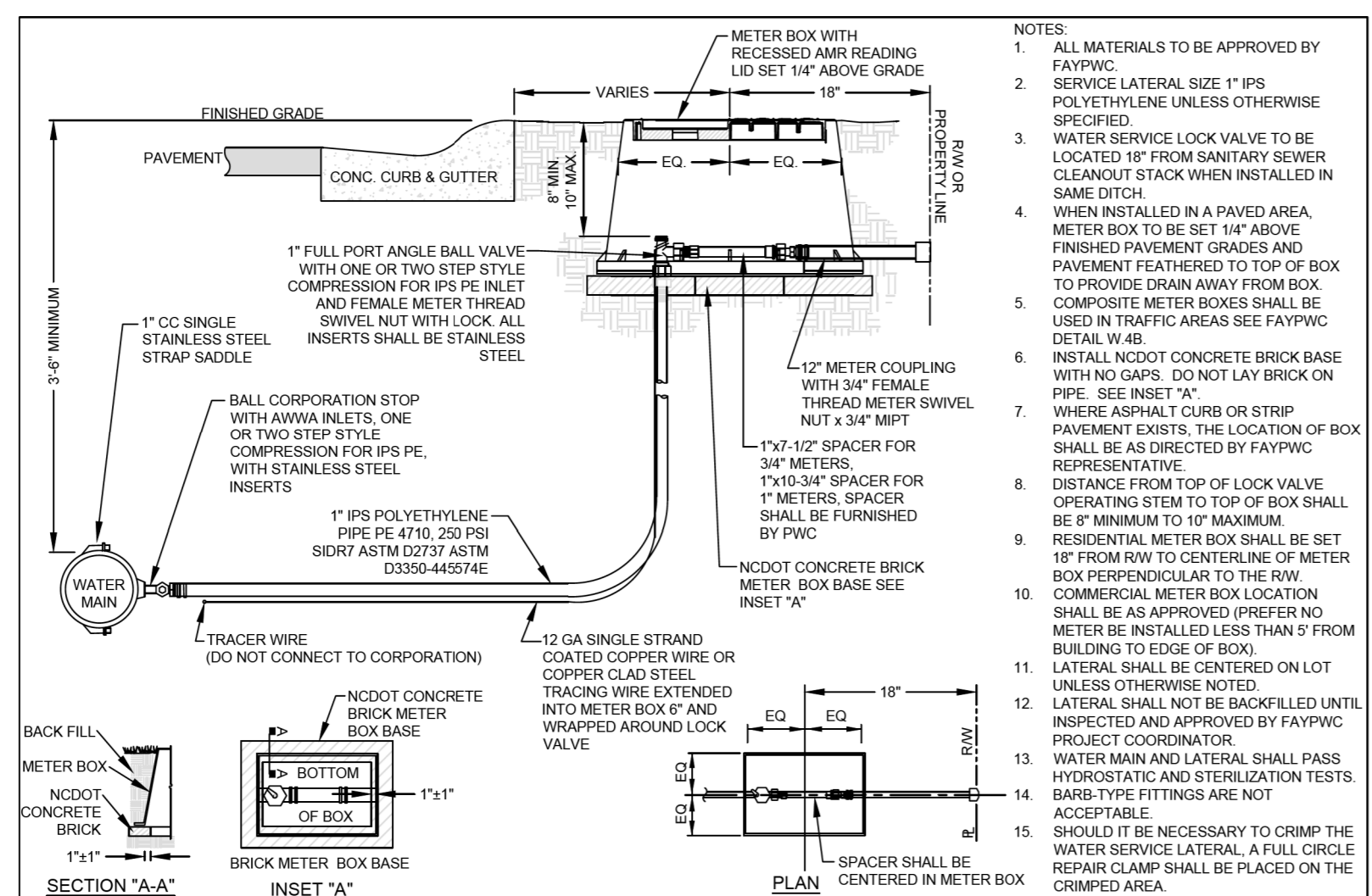
- CROSSING STORM DRAINAGE LINES: A MINIMUM OF 12-INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED OVER A WATER LINE CROSSING OVER A STORM DRAINAGE LINE UNLESS DUCTILE IRON PIPE IS USED. IN ADDITION, THREE AND A HALF (3.5) FEET OF COVER MUST BE MAINTAINED OVER THE WATER MAIN OR IT SHALL BE DUCTILE IRON. 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.
- 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 LOCATION OF ALL UTILITIES WITHIN THE WORK AREA SHALL BE DETERMINED PRIOR TO THE COORDINATION MEETING. ANY CONFLICTS WITH THE EXISTING UTILITIES SHALL BE IDENTIFIED AND A PLAN FOR RESOLVING ANY CONFLICTS SHALL BE PRESENTED TO THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER. THE CONTRACTOR SHALL COMPLETE THE REQUIRED WORK AND RESTORE WATER SERVICE WITHIN THE GIVEN TIME PERIOD FOR THE OUTAGE. IF THE FAYPWC PROJECT COORDINATOR DETERMINES THAT THE CONTRACTOR WILL NOT RESTORE WATER SERVICE WITHIN THE APPROVED TIMEFRAME, THE FAYPWC PROJECT COORDINATOR WILL DIRECT THE CONTRACTOR ON HOW TO RESTORE WATER SERVICE. THE CONTRACTOR SHALL ADHERE TO ALL INSTRUCTIONS GIVEN BY THE FAYPWC PROJECT COORDINATOR.

IF THE CONTRACTOR FAILS TO COMPLETE THE WORK WITHIN THE ALLOTTED TIME, THE FAYPWC PUBLIC WORKS COMMISSION SHALL ASSESS A PENALTY OF \$500 PER 15-MINUTE INTERVAL OR ANY PORTION THEREOF UNTIL WATER SERVICE IS RESTORED. THIS PENALTY WILL BE DEDUCTED FROM THE CONTRACTOR'S PAY APPLICATION OR BE BILLED DIRECTLY TO THE CONTRACTOR. THE PENALTY MAY BE WAIVED FOR CIRCUMSTANCES BEYOND THE CONTRACTOR'S CONTROL, AS DETERMINED BY THE FAYPWC PUBLIC WORKS COMMISSION. THE FAYPWC PROJECT COORDINATOR AND/OR PROJECT ENGINEER RESERVE THE RIGHT TO CANCEL OR POSTPONE THE OUTAGE AT ANY GIVEN TIME, IF DEEMED NECESSARY.

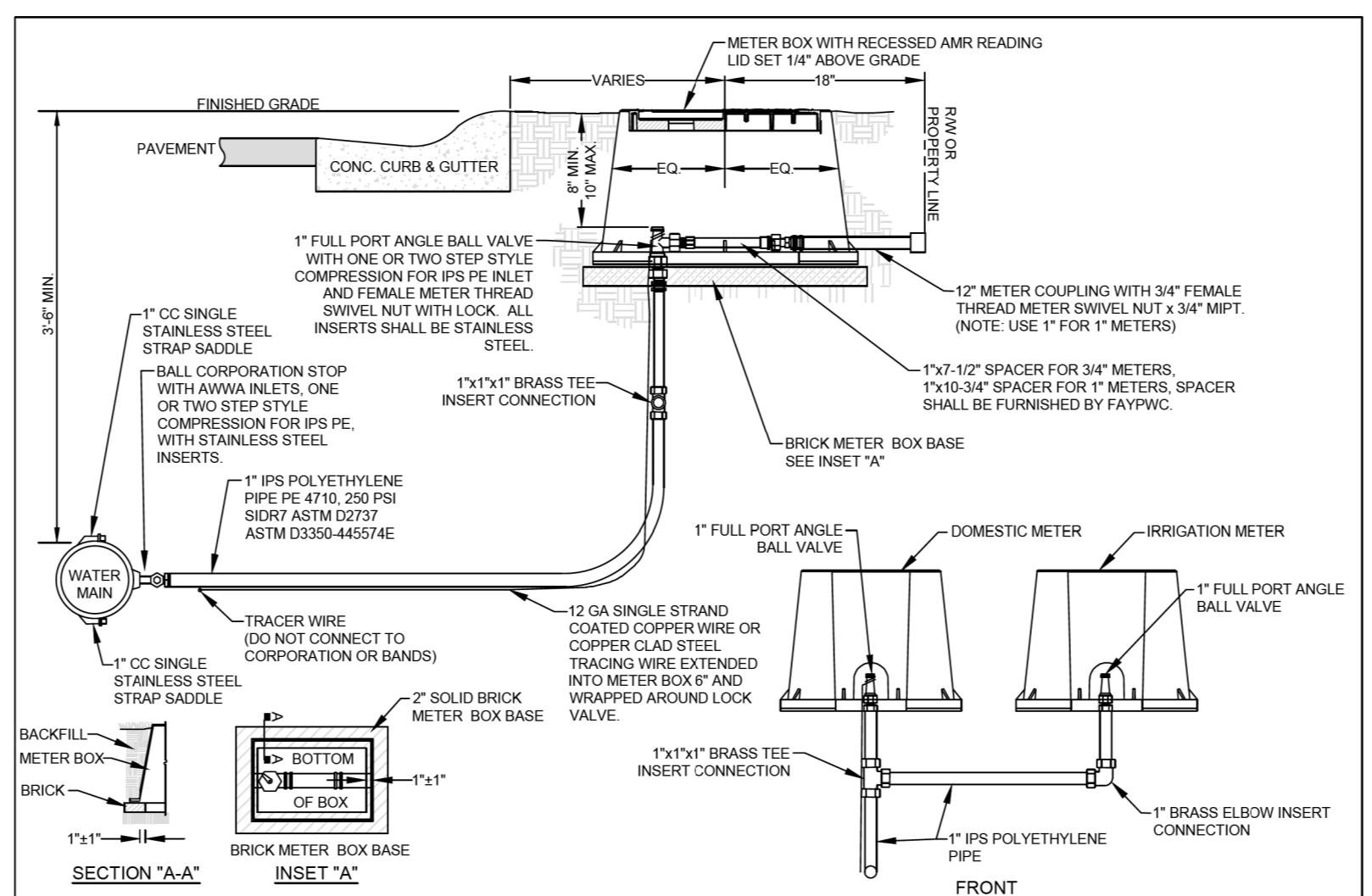
WATER UTILITY NOTES		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. W.1 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	01/01/18	ADDED NOTES 6, 8
			2	06/01/21	ADDED NOTES 1-7 AND RENUMBERED
			3	11/23	REVISED NOTES 10, 14

WATER UTILITY NOTES		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. W.1 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	01/01/18	ADDED NOTES 6, 8
			2	06/01/21	ADDED NOTES 1-7 AND RENUMBERED
			3	11/23	REVISED NOTES 10, 14

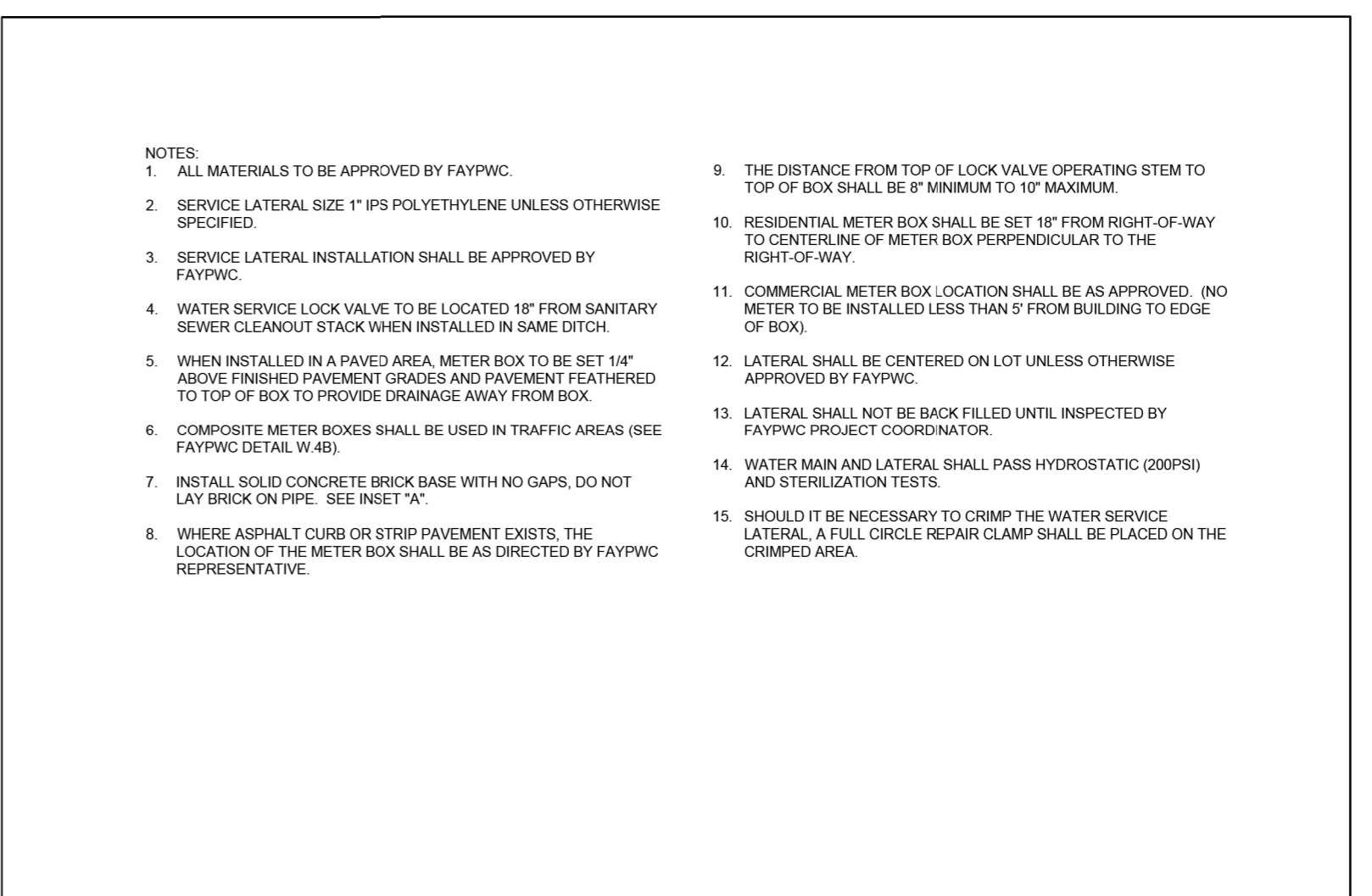
NOTE:
ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.



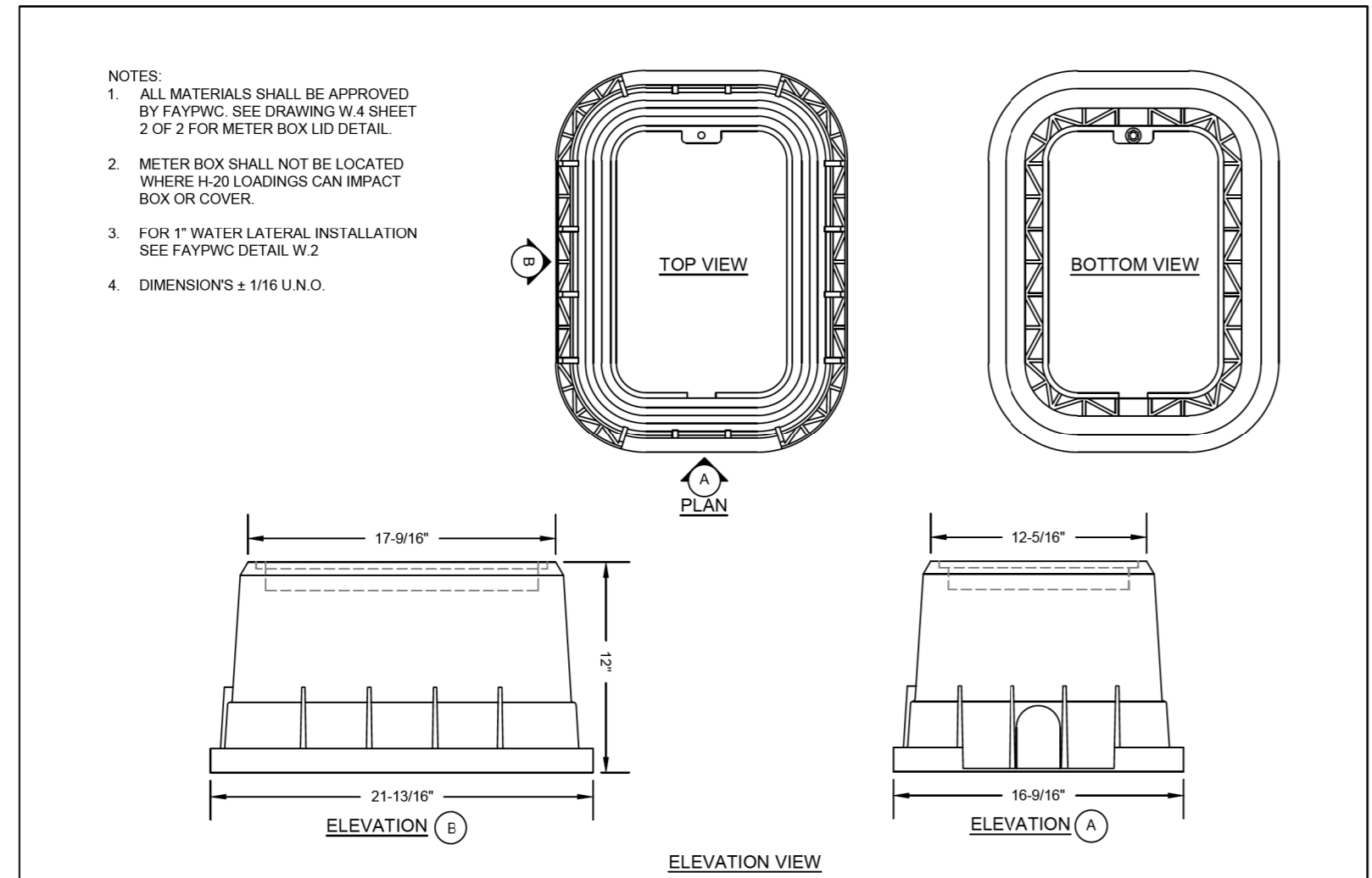
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SHEET NO. 1 OF 1	DWG. NO. W.2 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	07/06	RESIZED METER COUPLING
			2	07/13	REVISED NOTE RE: TRACER WIRE
			3	07/17	REVISED NOTES



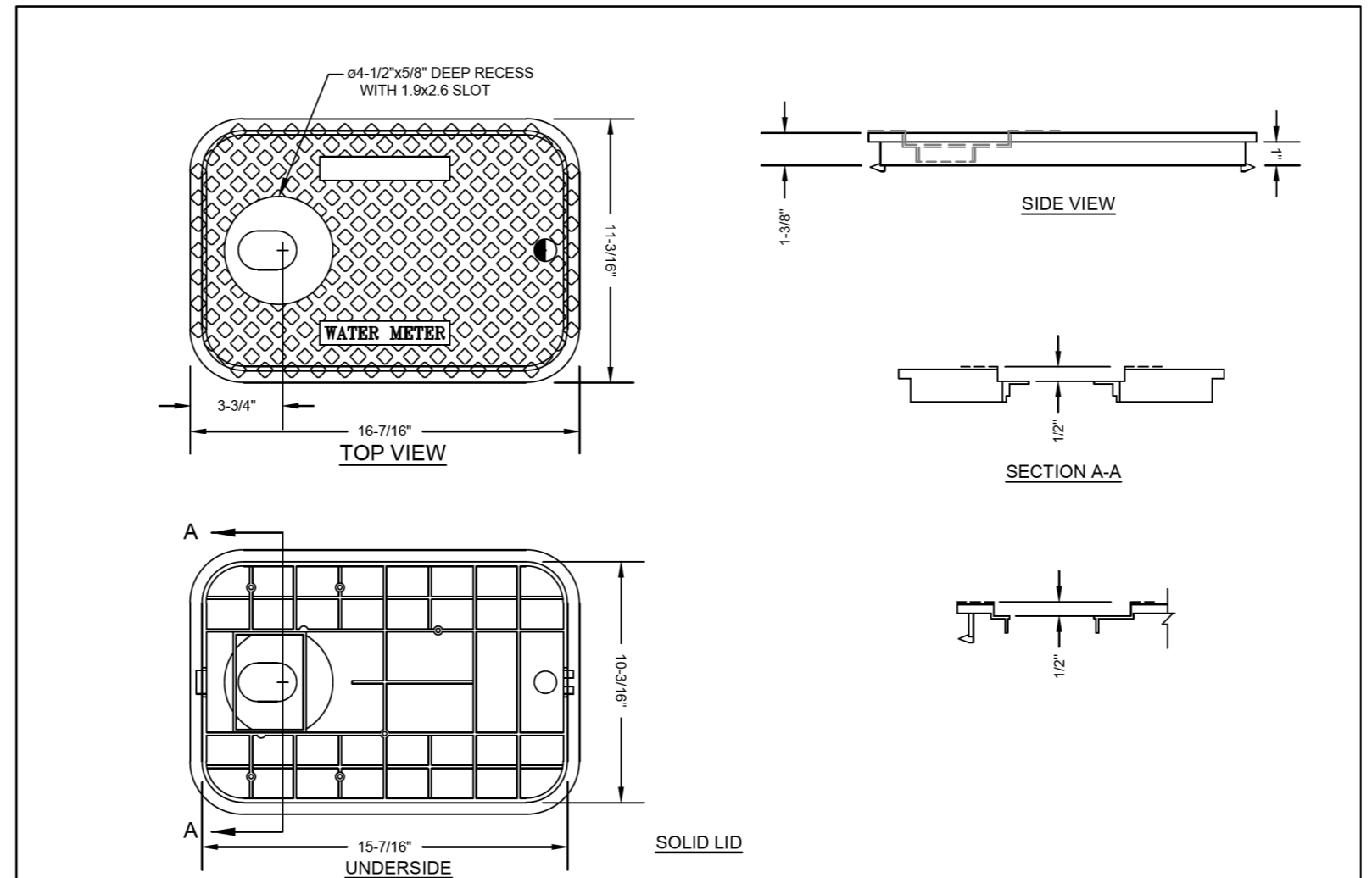
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SHEET NO. 1 OF 2	DWG. NO. W.3 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	07/06	ADDED FRONT VIEW AND MOVED NOTES TO SHEET 2
			2	07/13	ADDED NOTE RE: TRACER WIRE



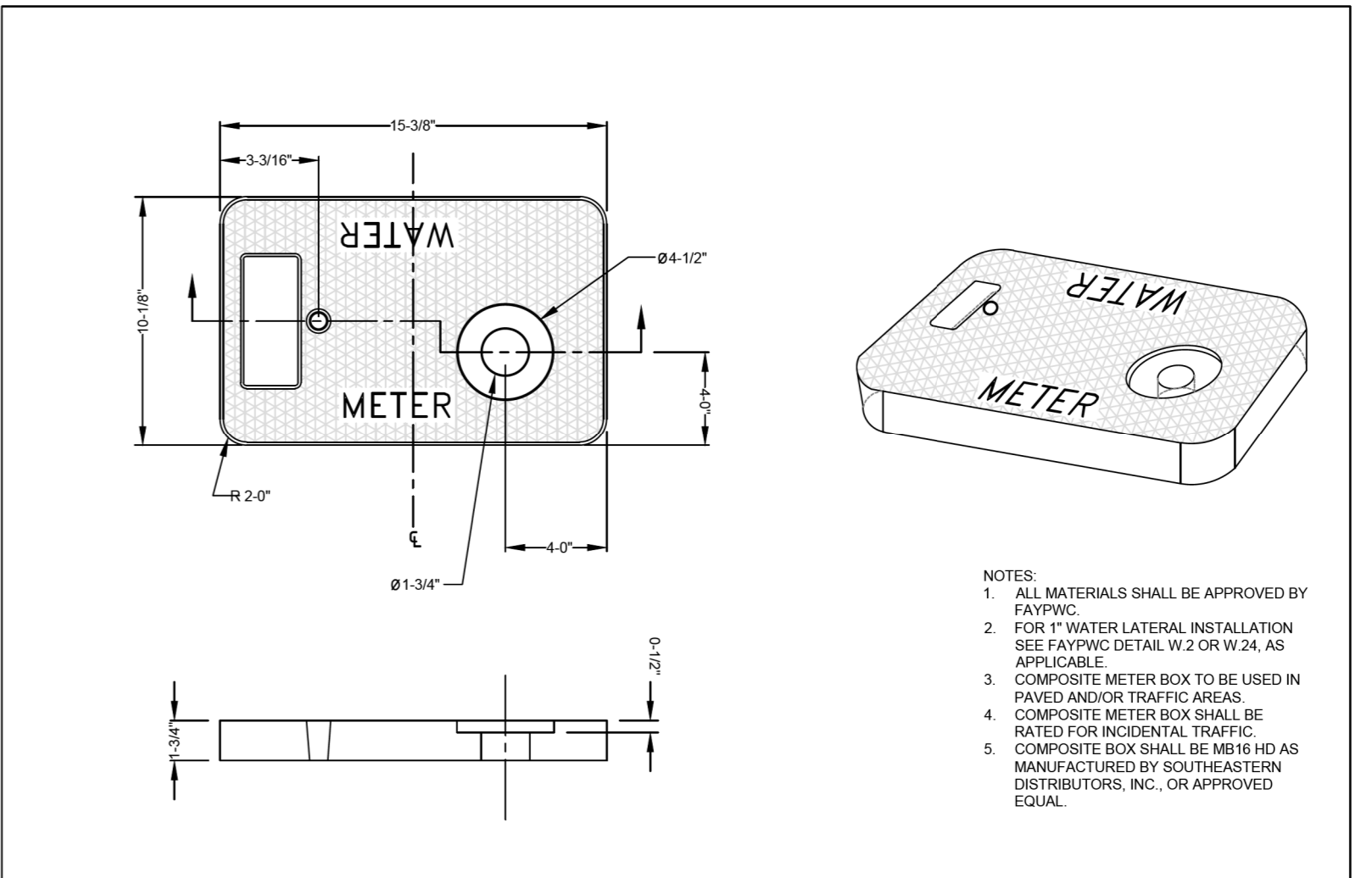
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SHEET NO. 2 OF 2	DWG. NO. W.3 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	07/06	ADDED FRONT VIEW AND MOVED NOTES TO SHEET 2
			2	02/16	UPDATED NOTES



1-INCH METER BOX DETAILS		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 2	DWG. NO. W.4 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	03/10	CHANGED BOX DIMENSIONS



1-INCH METER BOX LID		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. W.4 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	07/07	REVISED LID
			1	03/10	CHANGED BOX AND LID DIMENSIONS
			2	01/15	REVISED LID



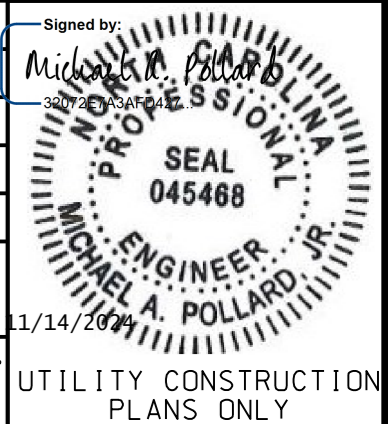
1-INCH COMPOSITE METER BOX & COVER		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 2	DWG. NO. W.4B DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	1	03/10	CHANGED BOX & LID DIMENSIONS
			2	12/15	REPLACED CI BOX w/COMPOSITE BOX

REVISIONS

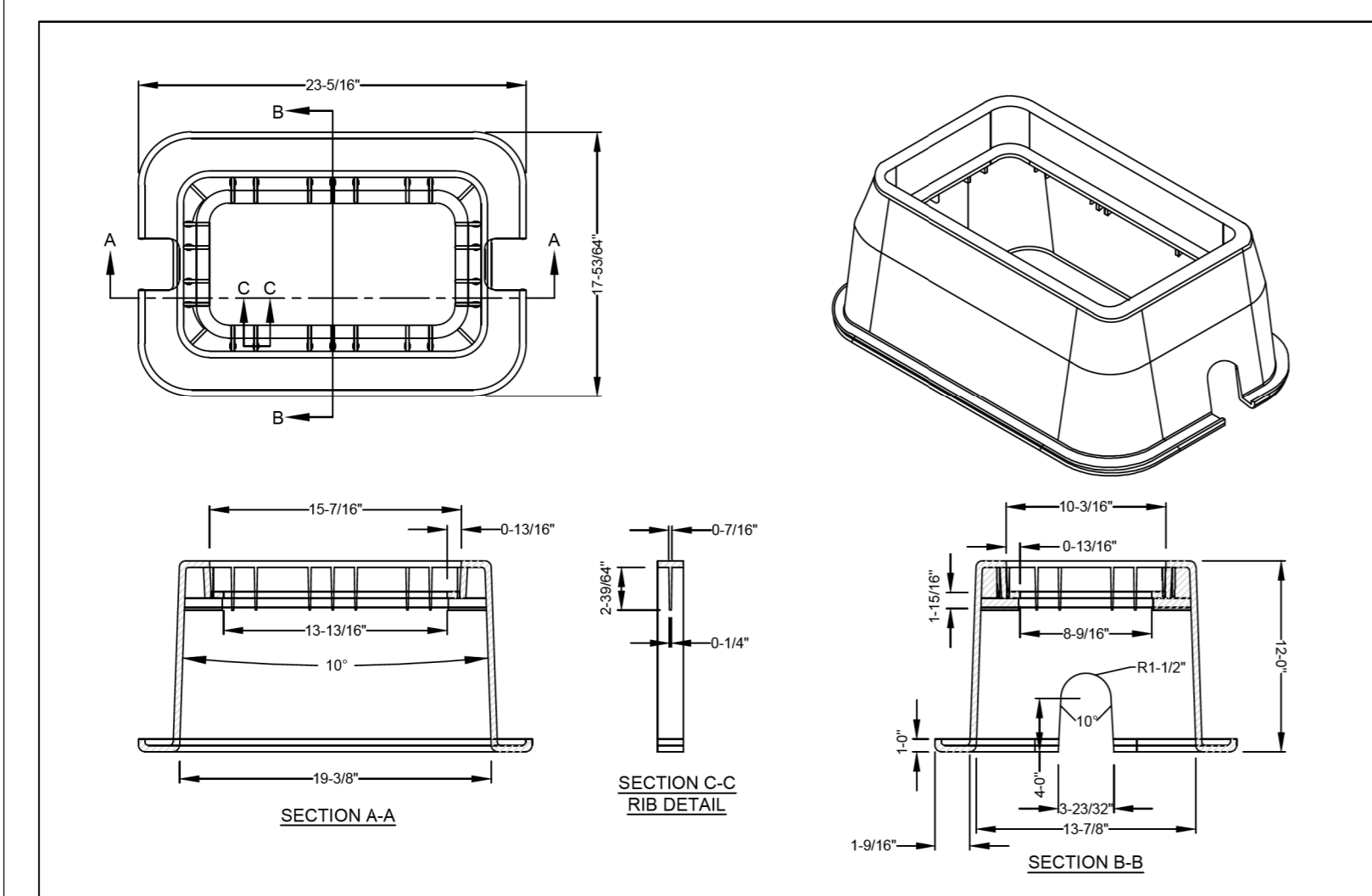
-SYSTEM: 2024.02.22, Ut_dtl_LUC03-3H.dgn
USER: JLU12525

DESIGNED BY: SSM
DRAWN BY: SSM
CHECKED BY: HMH
APPROVED BY: MAP

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

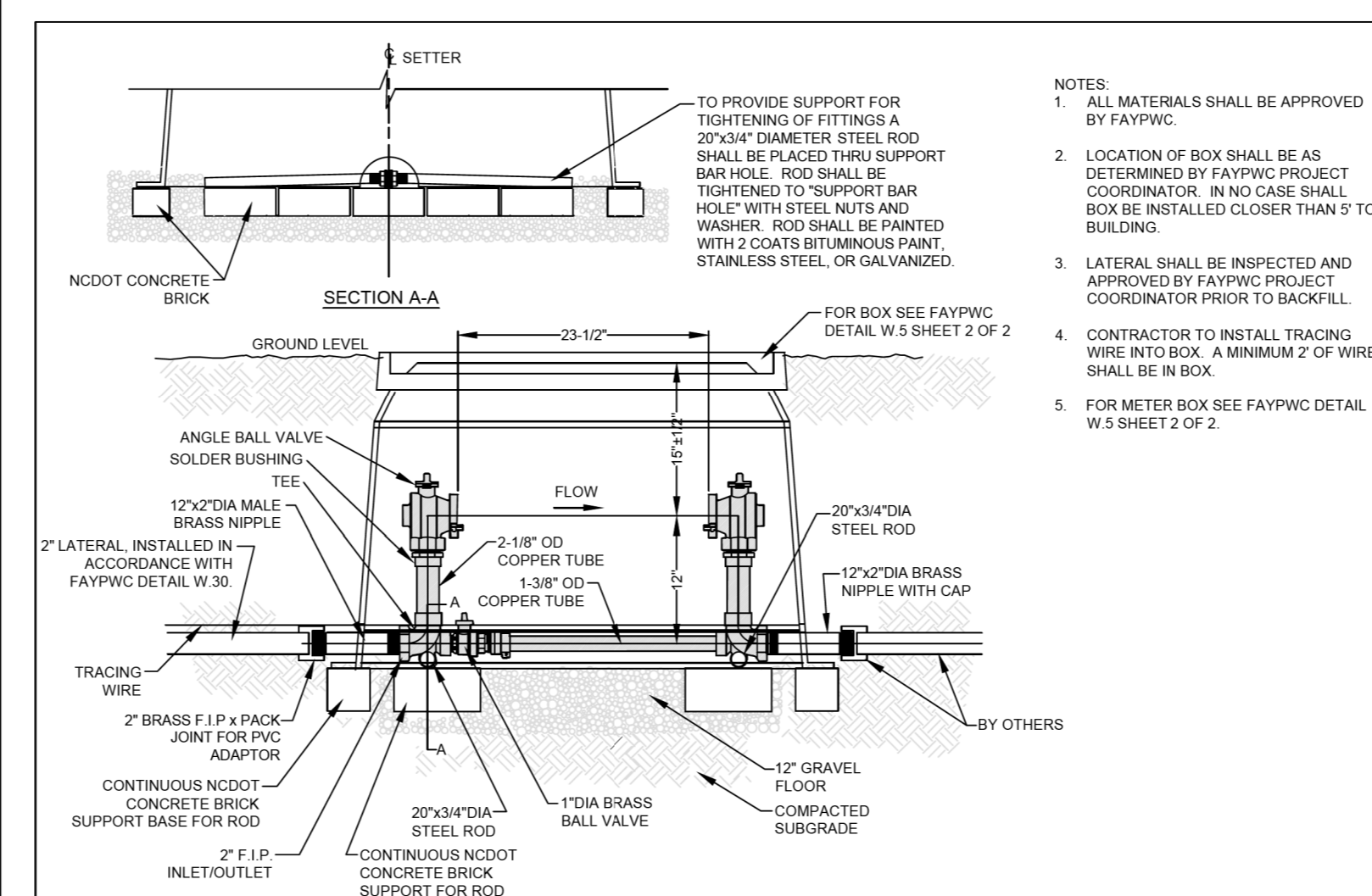


UTILITY CONSTRUCTION



1-INCH COMPOSITE METER BOX & COVER
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES DEPARTMENT

NO.	DATE	REVISION
1	12/15	REPLACED CB BOX WITH COMPOSITE BOX.

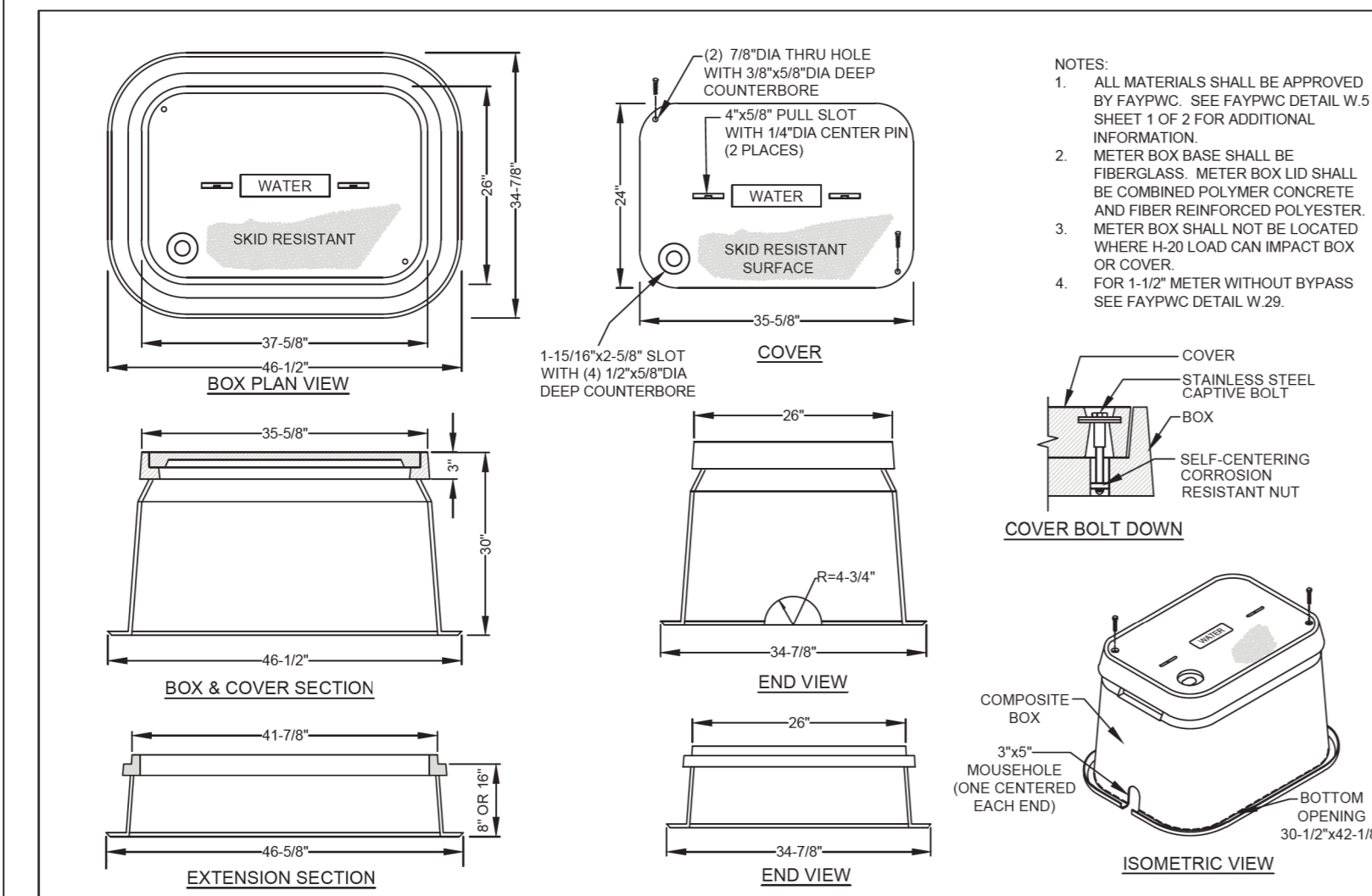


2" COPPER SETTER WITH BY-PASS
23-1/2" METER SPACING
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
1	07/13	REVISED, UPDATED NOTES
2	07/17	UPDATED NOTES

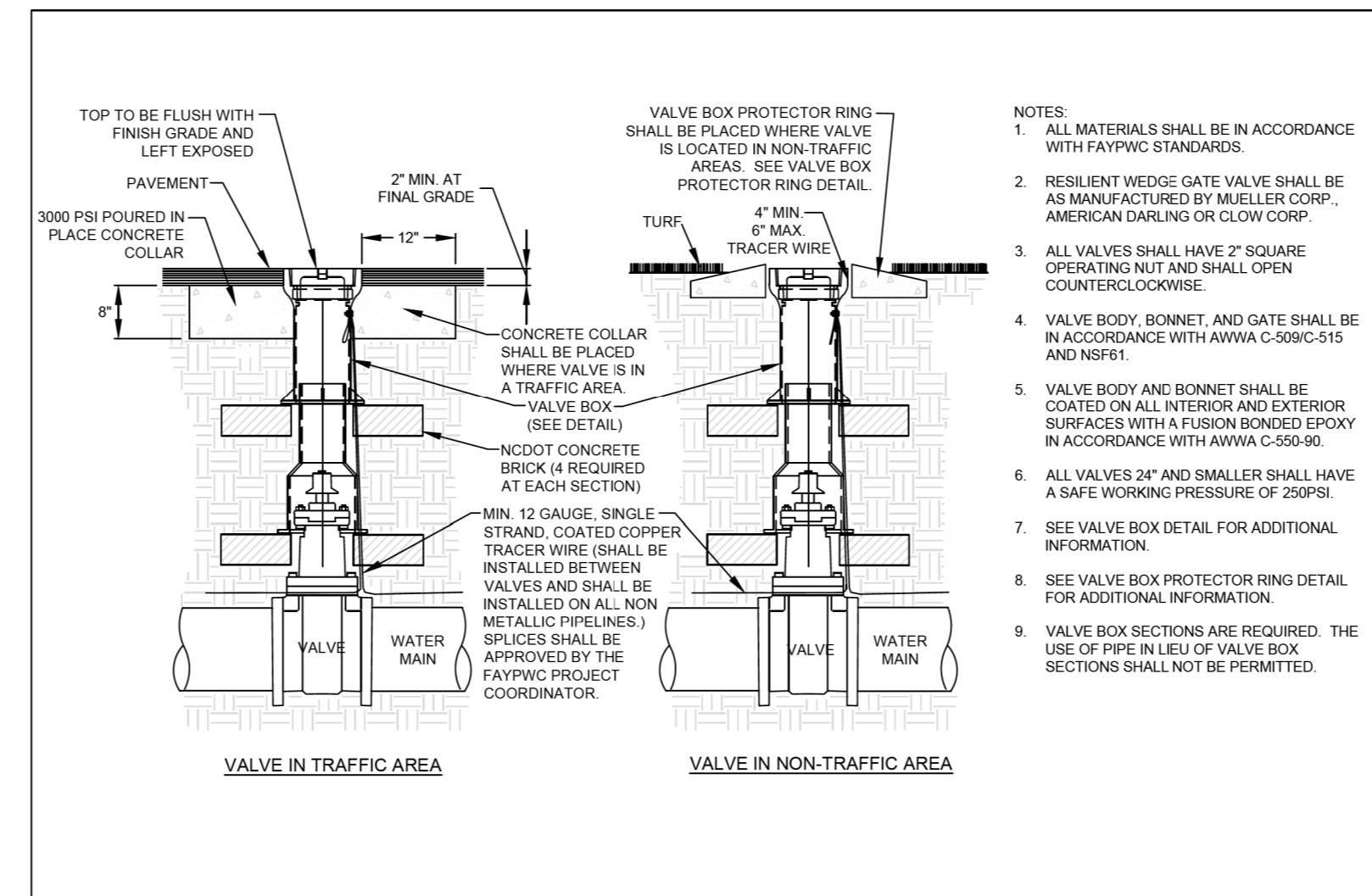
- NOTES:
1. ALL MATERIALS SHALL BE APPROVED BY FAYPWC.
2. LOCATION OF BOX SHALL BE AS DETERMINED BY FAYPWC PROJECT COORDINATOR. IN NO CASE SHALL BOX BE INSTALLED CLOSER THAN 5' TO BUILDING.
3. LATERAL SHALL BE INSPECTED AND APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO BACKFILL.
4. CONTRACTOR TO INSTALL TRACING WIRE INTO BOX. A MINIMUM 2' OF WIRE SHALL BE IN BOX.
5. FOR METER BOX SEE FAYPWC DETAIL W.5 SHEET 2 OF 2.

NOTE:
ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.



1-1/2" AND 2" BY-PASS METER BOX
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

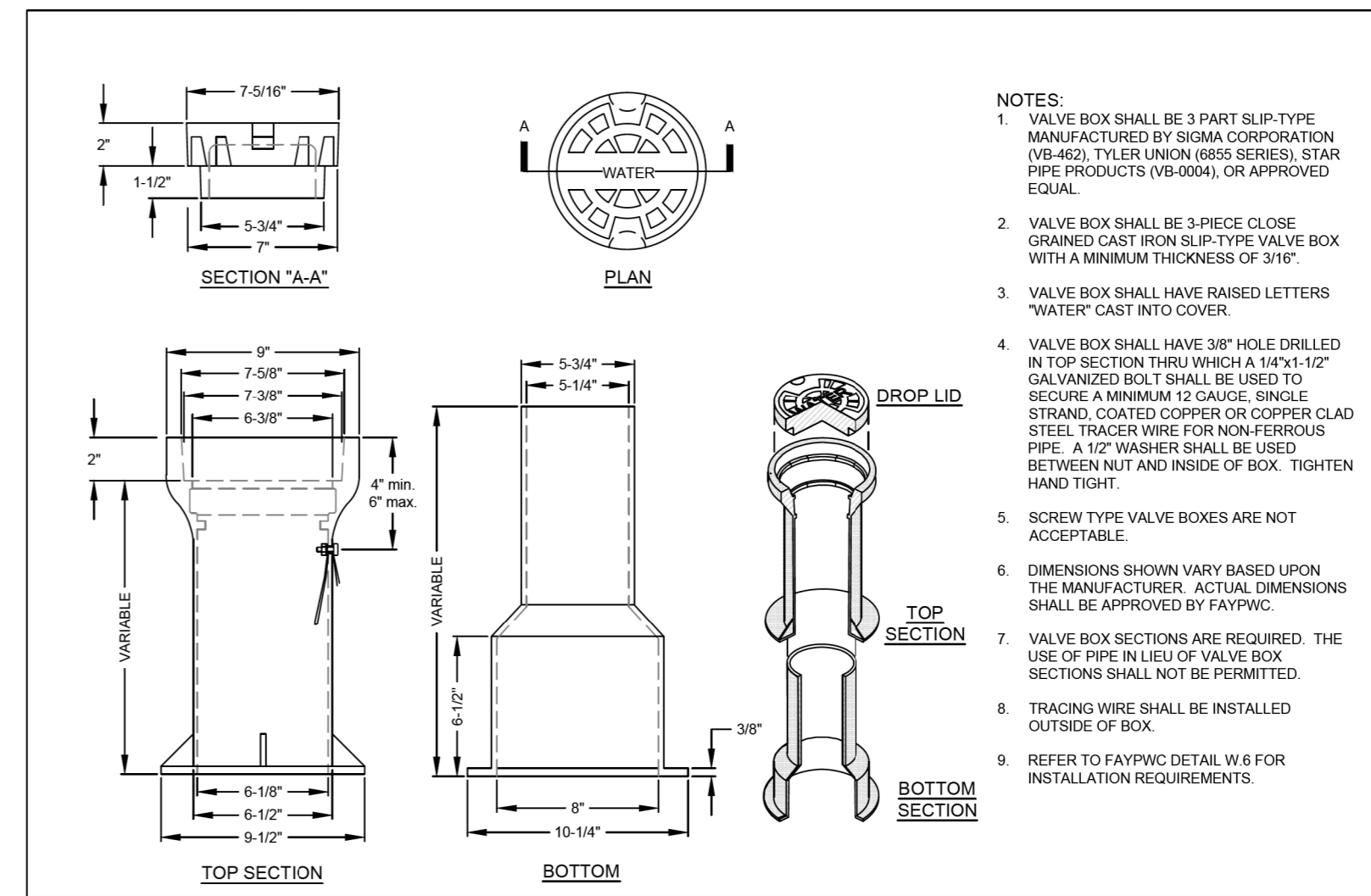
NO.	DATE	REVISION
1	12/15	REVISED LID



GATE VALVE
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
1	6/06	ADDED NOTE NO. 9
2	7/09	CLARIFIED NOTES

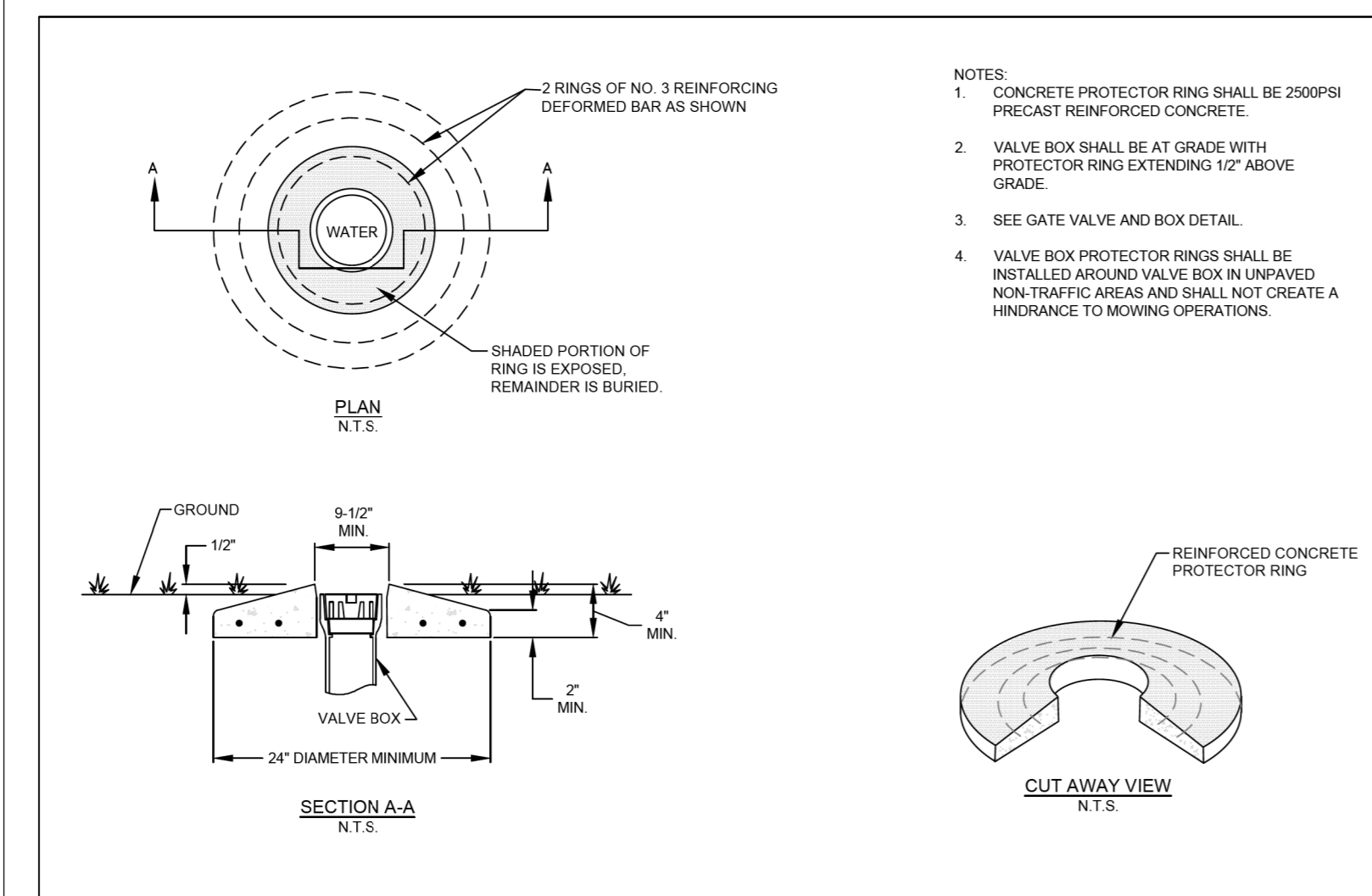
- NOTES:
1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH FAYPWC STANDARDS.
2. RESILIENT WEDGE GATE VALVE SHALL BE AS MANUFACTURED BY MUELLER CORP., AMERICAN DARLING OR CLOW CORP.
3. ALL VALVES SHALL HAVE 2" SQUARE OPERATING NUT AND SHALL OPEN COUNTERCLOCKWISE.
4. VALVE BODY, BONNET, AND GATE SHALL BE IN ACCORDANCE WITH AWWA C-509C-515 AND NSF61.
5. VALVE BODY AND BONNET SHALL BE COATED ON ALL INTERIOR AND EXTERIOR SURFACES WITH A FUSION BONDED EPOXY IN ACCORDANCE WITH AWWA C-550-90.
6. ALL VALVES 24" AND SMALLER SHALL HAVE A SAFE WORKING PRESSURE OF 250PSI.
7. SEE VALVE BOX DETAIL FOR ADDITIONAL INFORMATION.
8. SEE VALVE BOX PROTECTOR RING DETAIL FOR ADDITIONAL INFORMATION.
9. VALVE BOX SECTIONS ARE REQUIRED. THE USE OF PIPE IN LIEU OF VALVE BOX SECTIONS SHALL NOT BE PERMITTED.



VALVE BOX
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

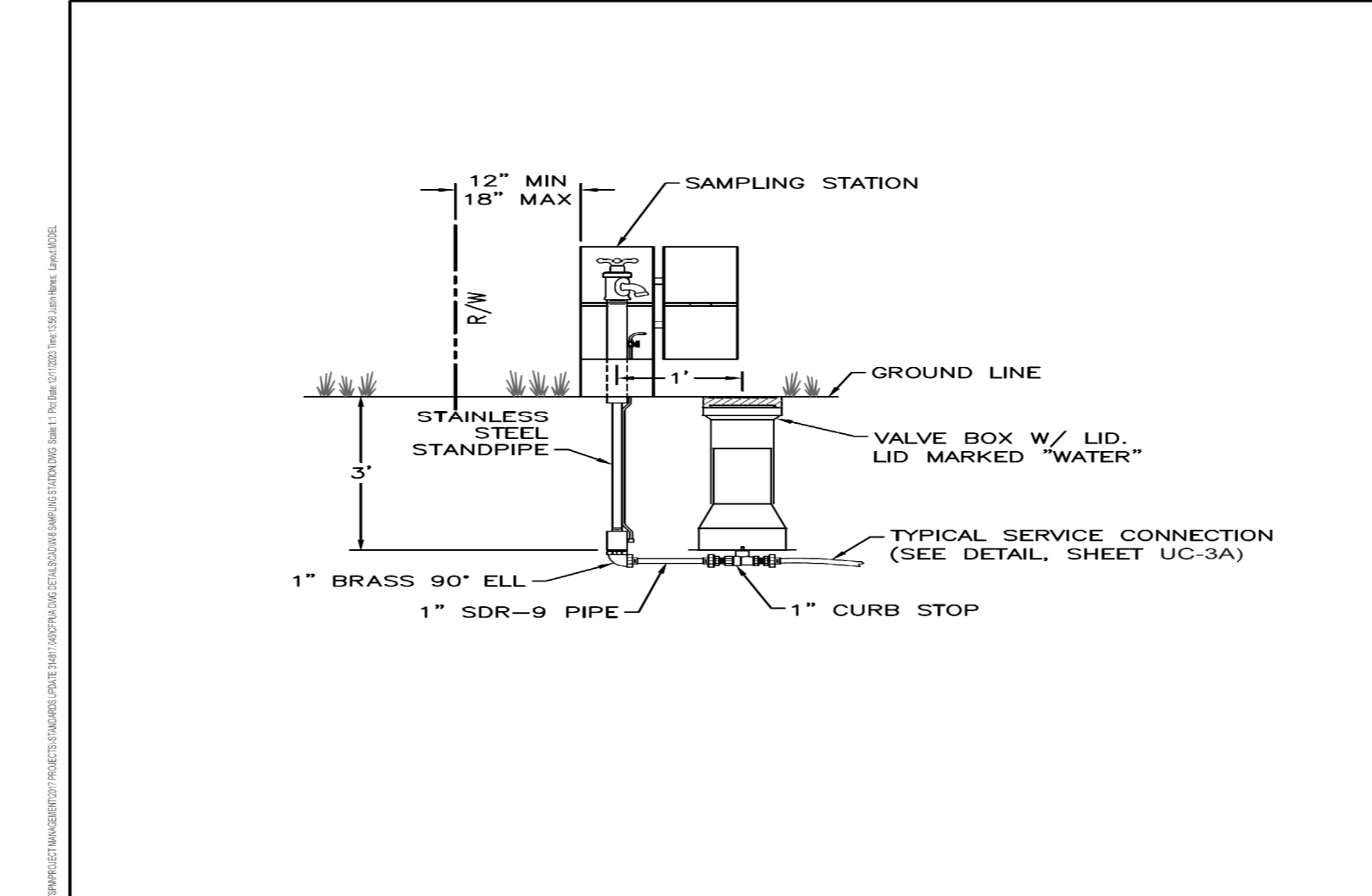
NO.	DATE	REVISION
1	07/09	ADDED NOTES 7, 8, AND CLARIFIED NOTES
2	01/14	REVISED NOTES 1, 4, 6

- NOTES:
1. VALVE BOX SHALL BE 3 PART SLIP-TYPE MANUFACTURED BY SIGMA CORPORATION (W-462), TYLER UNION (8855 SERIES), STAR PIPE PRODUCTS (V8-400A), OR APPROVED EQUAL.
2. VALVE BOX SHALL BE 3-PIECE CLOSE GRAINED CAST IRON SLIP-TYPE VALVE BOX WITH A MINIMUM THICKNESS OF 3/16".
3. VALVE BOX SHALL HAVE RAISED LETTERS "WATER" CAST INTO COVER.
4. VALVE BOX SHALL HAVE 3/8" HOLE DRILLED IN TOP SECTION THRU WHICH A 1/4"x1-1/2" GALVANIZED BOLT SHALL BE USED TO SECURE A MINIMUM 12 GAUGE, SINGLE STRAND, COATED COPPER OR COPPER CLAD STEEL TRACER WIRE FOR NON FERROUS PIPE. A 1/2" WASHER SHALL BE USED BETWEEN NUT AND INSIDE OF BOX. TIGHTEN HAND TIGHT.
5. SCREW TYPE VALVE BOXES ARE NOT ACCEPTABLE.
6. DIMENSIONS SHOWN VARY BASED UPON THE MANUFACTURER. ACTUAL DIMENSIONS SHALL BE APPROVED BY FAYPWC.
7. VALVE BOX SECTIONS ARE REQUIRED. THE USE OF PIPE IN LIEU OF VALVE BOX SECTIONS SHALL NOT BE PERMITTED.
8. TRACING WIRE SHALL BE INSTALLED OUTSIDE OF BOX.
9. REFER TO FAYPWC DETAIL W.6 FOR INSTALLATION REQUIREMENTS.



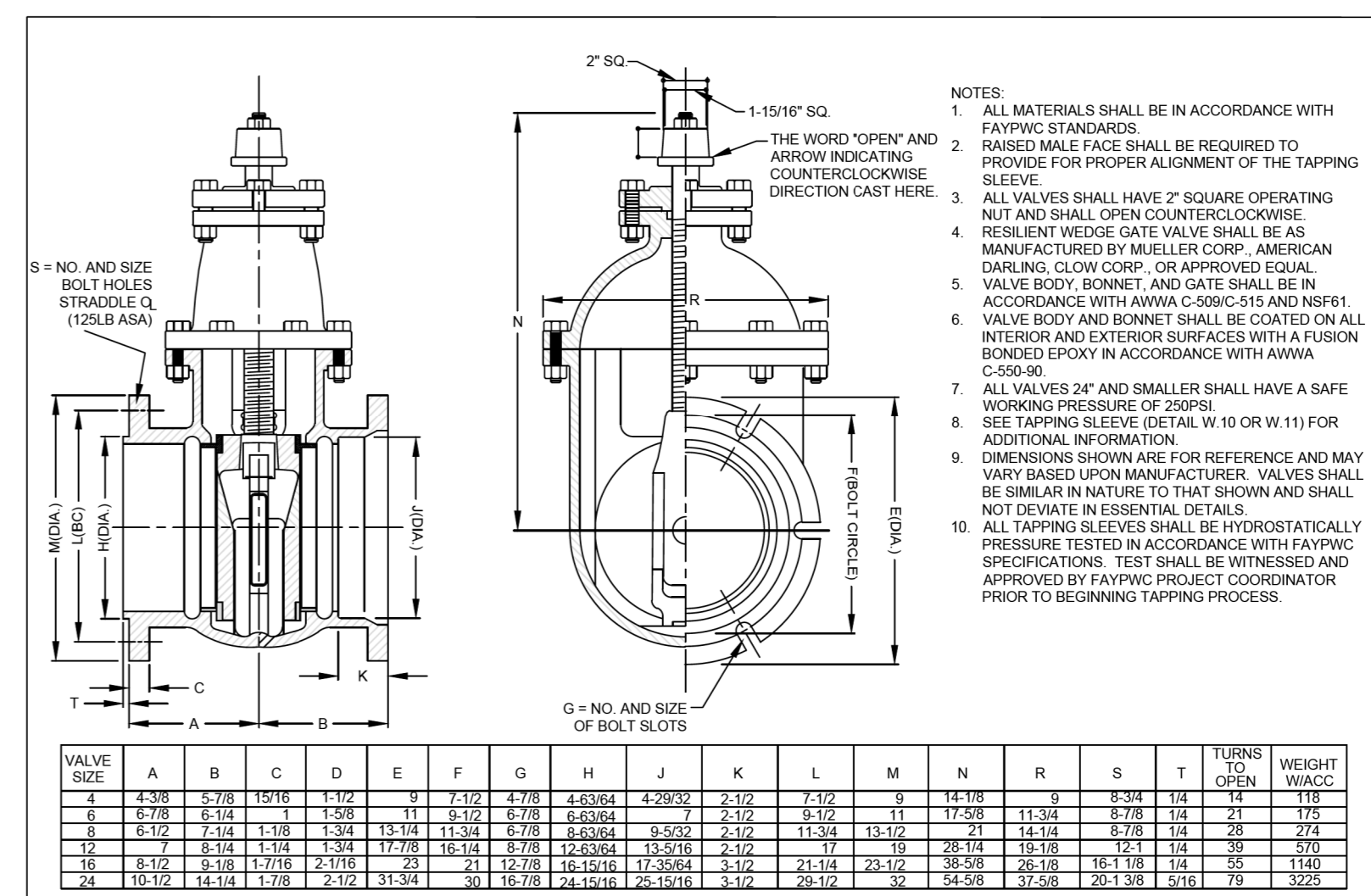
VALVE BOX PROTECTOR RING
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
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SAMPLING STATION
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
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TAPPING VALVE
N.T.S.
FAYETTEVILLE PUBLIC WORKS COMMISSION
FAYETTEVILLE, N.C.
WATER RESOURCES ENGINEERING DEPARTMENT

NO.	DATE	REVISION
1	07/09	ADDED NOTE 10, REVISED 4 AND 5
2	07/13	REVISED NOTES 4, 8, 10

VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	TURN TO OPEN	WEIGHT W/ACC
4	4-3/8	5-7/8	10-1/8	1-7/8	1-7/8	7-1/2	4-7/8	4-3/4	4-29/32	2-1/2	7-1/2	9	14-1/8	9	8-3/4	1/4	14	118
6	6-7/8	8-1/4	11	1-5/8	1-1/2	8-1/2	5-7/8	5-3/4	5-3/4	2-1/2	9-1/2	11	17-3/8	11-3/4	8-7/8	1/4	21	178
8	8-1/2	7-1/4	11-1/8	1-3/4	1-3/4	13-1/4	6-7/8	6-3/4	6-5/8	2-1/2	11-3/4	13-1/2	21	14-1/4	8-7/8	1/4	28	274
12	7	8-1/4	11-1/8	1-3/4	1-7/8	18-1/4	8-1/8	8-3/8	8-3/8	2-1/2	17	19	28-1/4	12-1/8	1/4	38	370	
16	8-1/2	8-1/8	11-7/8	2-1/8	2-1/8	21	12-7/8	16-19/16	17-35/64	3-1/2	21-1/4	23-1/2	38-5/8	28-1/8	18-1/8	1/4	55	1140
24	10-1/2	14-1/4	11-7/8	2-1/2	31-3/4	30	16-7/8	24-19/16	26-19/16	3-1/2	28-1/2	32	54-5/8	37-5/8	28-1/8	1/4	79	3225

REVISIONS

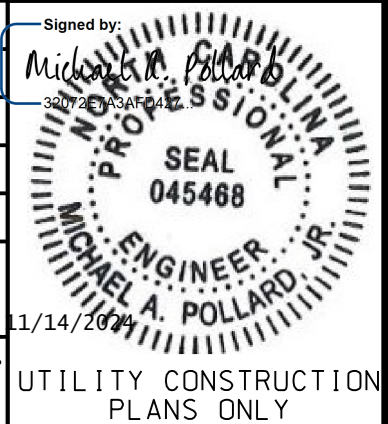
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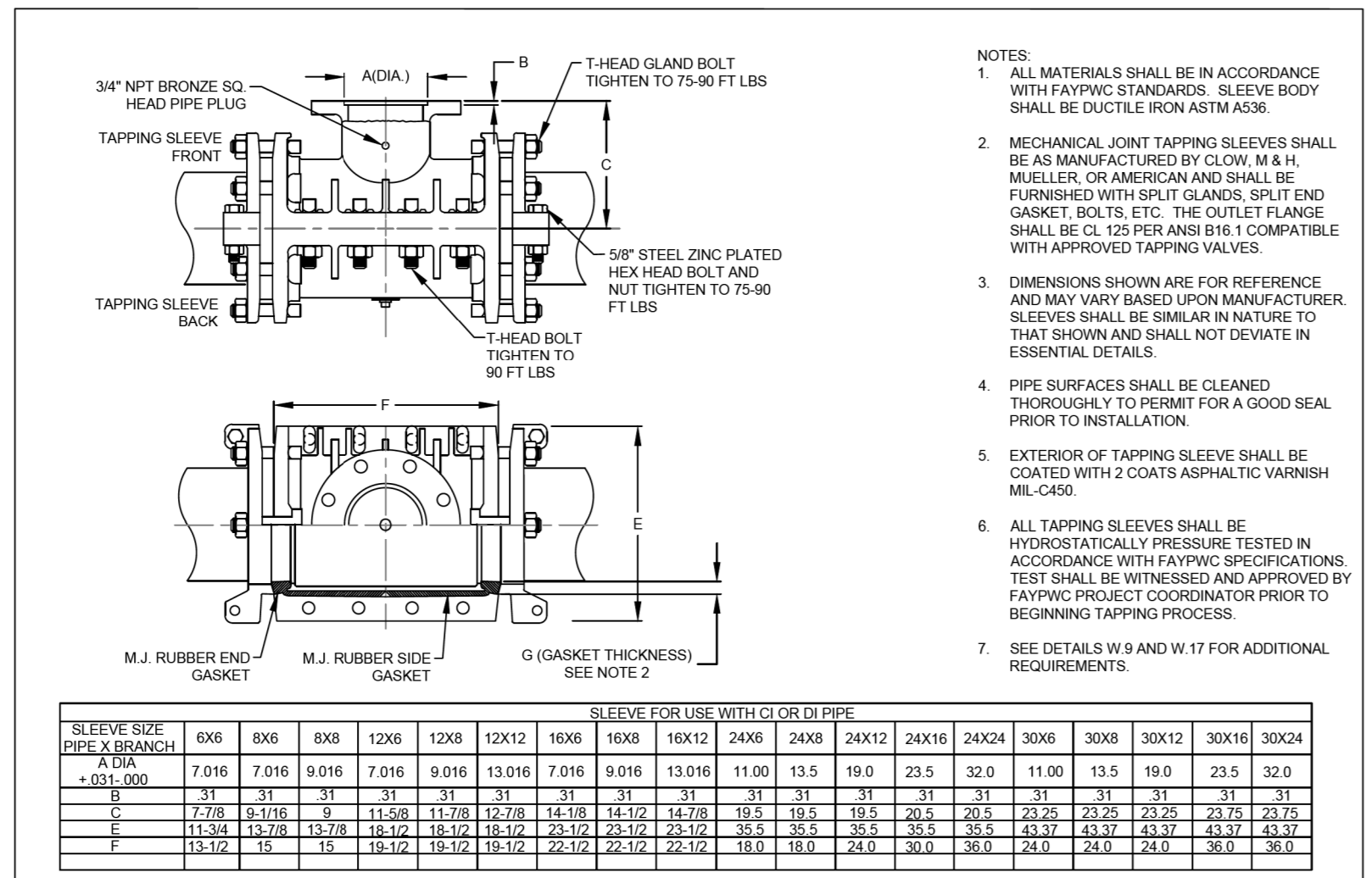
CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255

PROJECT REFERENCE NO. U-3422 SHEET NO. UC-03C DESIGNED BY: SSM DRAWN BY: SSM CHECKED BY: HMH APPROVED BY: MAP

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED



UTILITY CONSTRUCTION



- NOTES: 1. ALL MATERIALS SHALL BE IN ACCORDANCE WITH FAYPWC STANDARDS... 2. MECHANICAL JOINT TAPPING SLEEVES SHALL BE AS MANUFACTURED BY GLOW, M & H...

Table with columns for SLEEVE SIZE, DWG NO. W.10, DATE: JULY 01, 2024, and APPROVED BY: M.M.M.

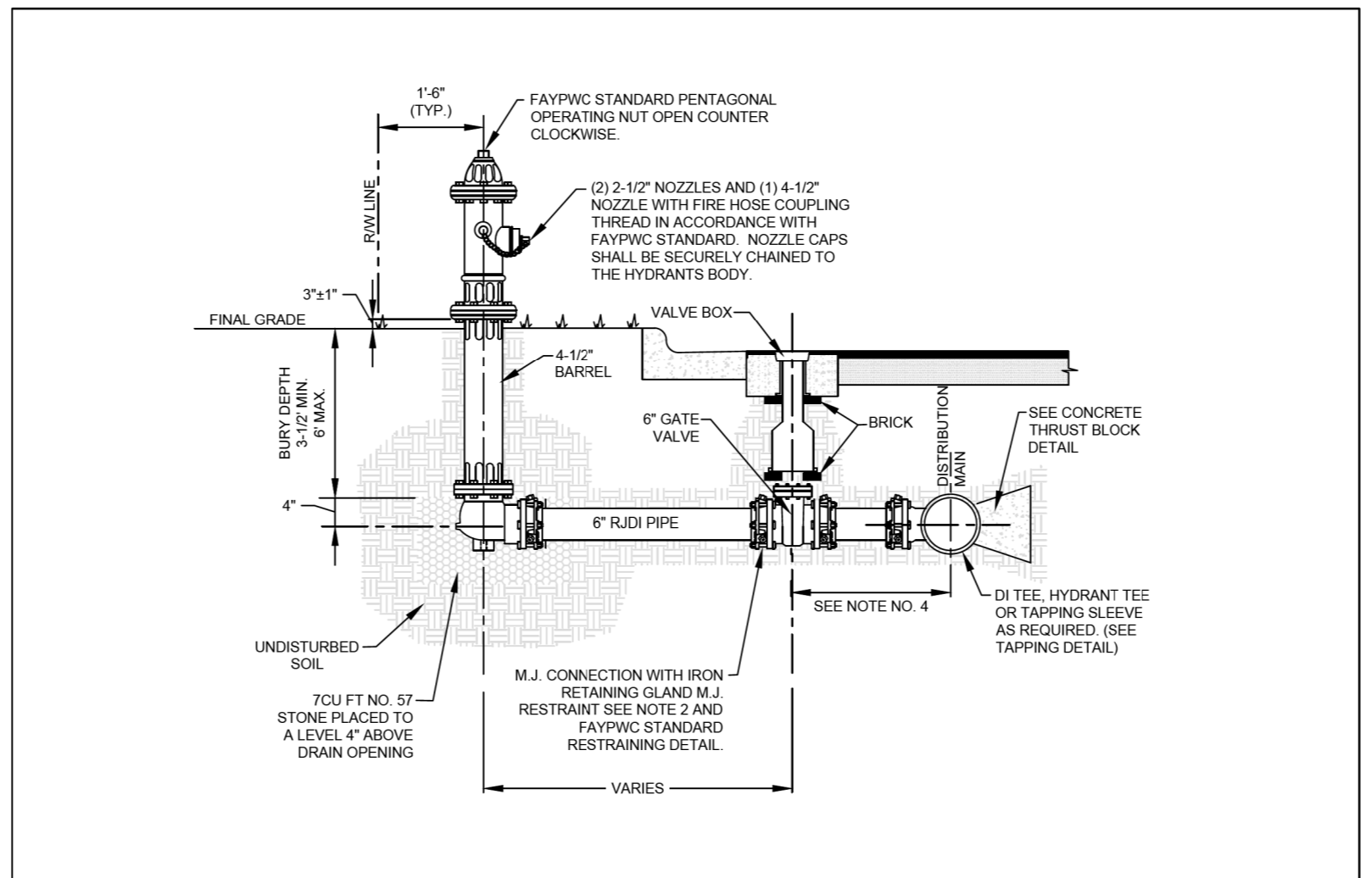


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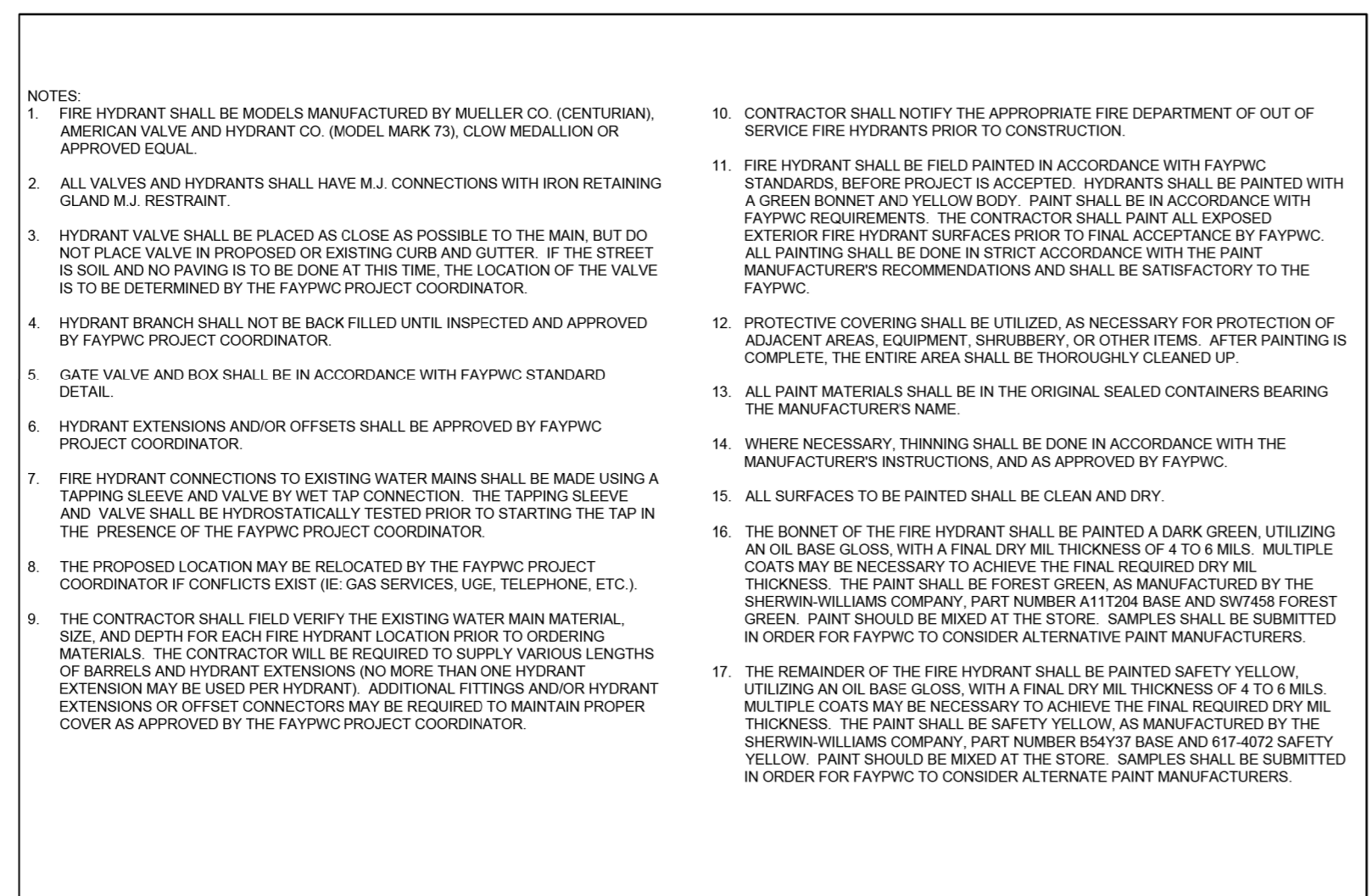


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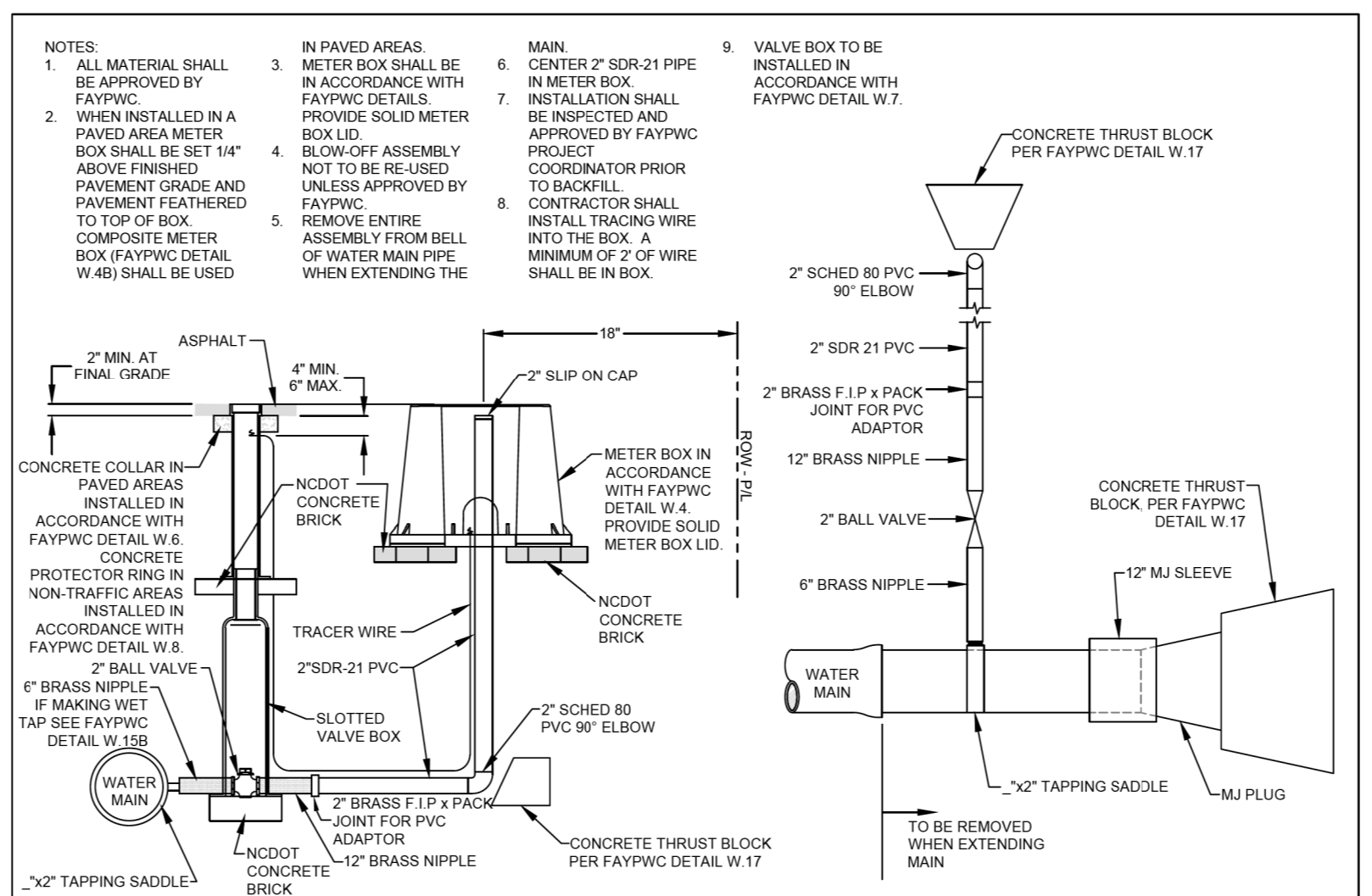


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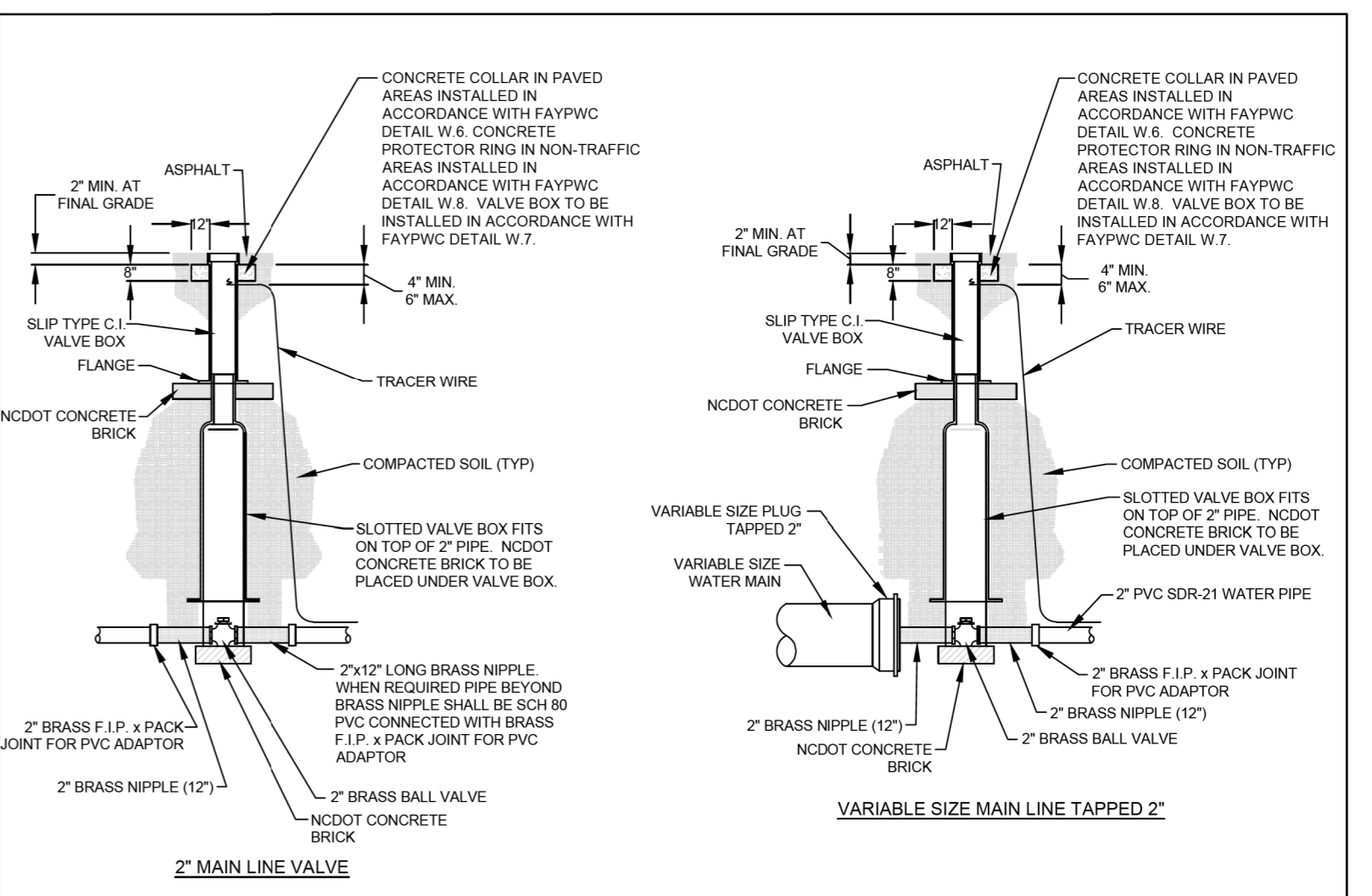


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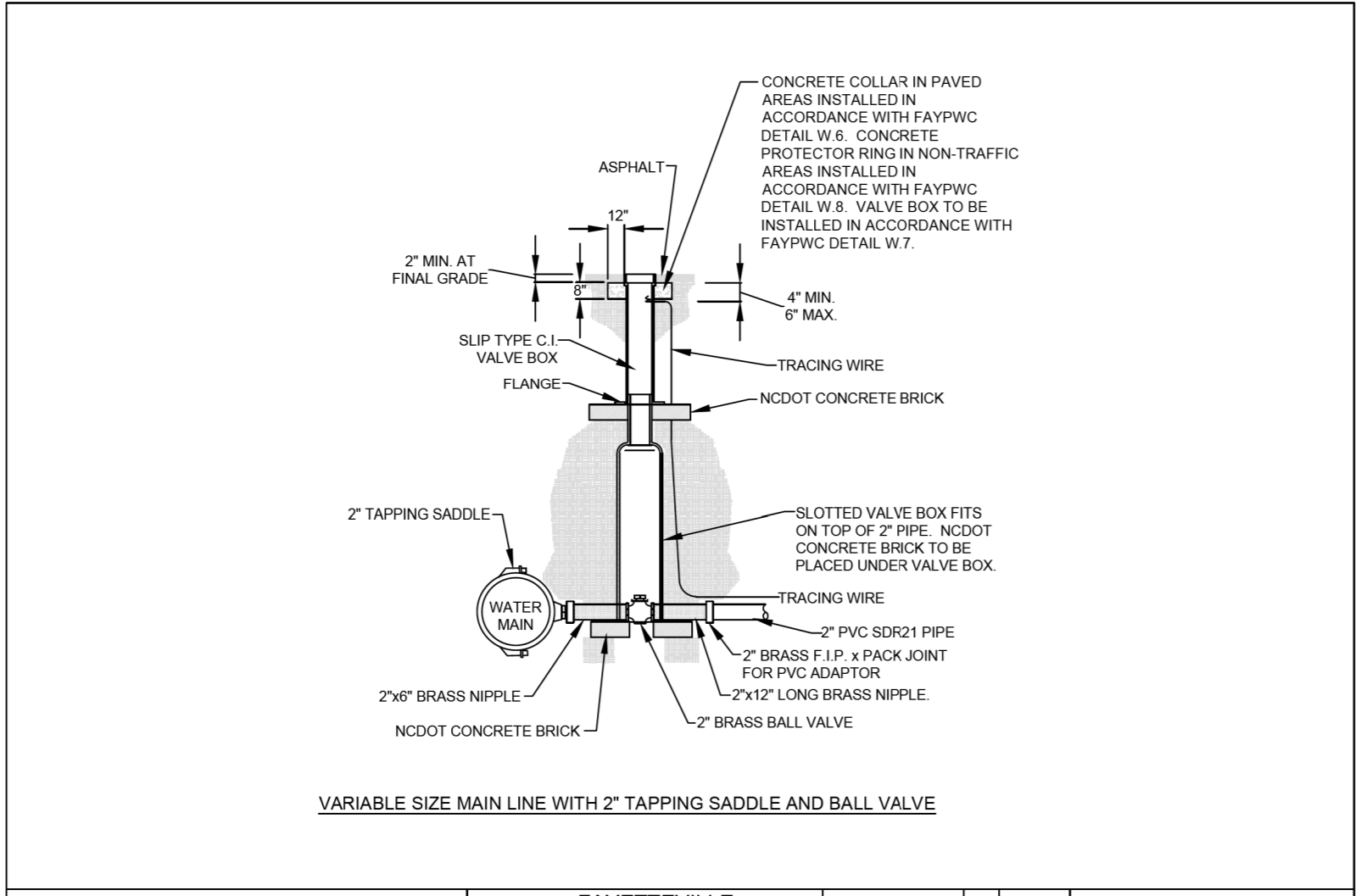


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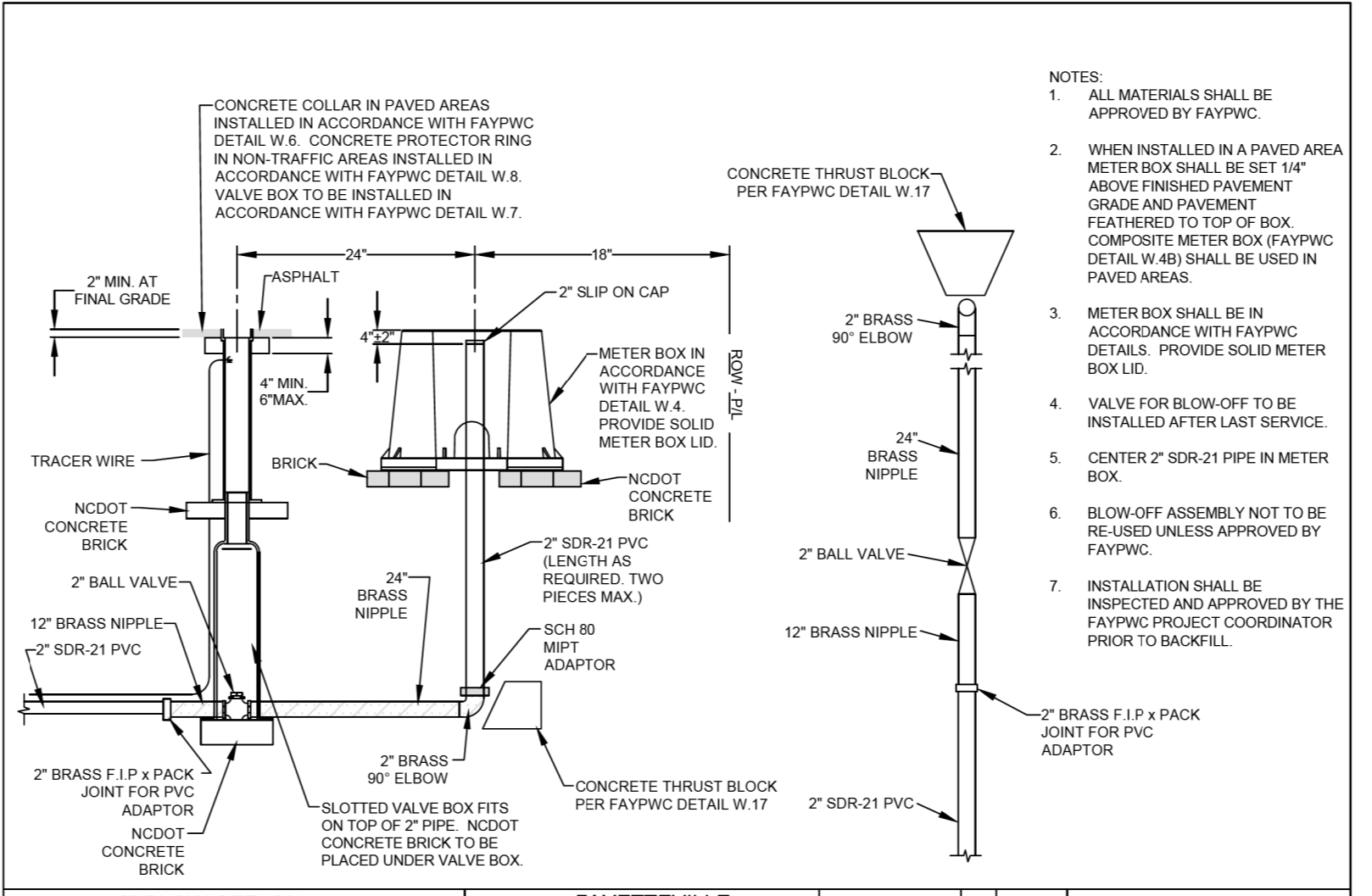


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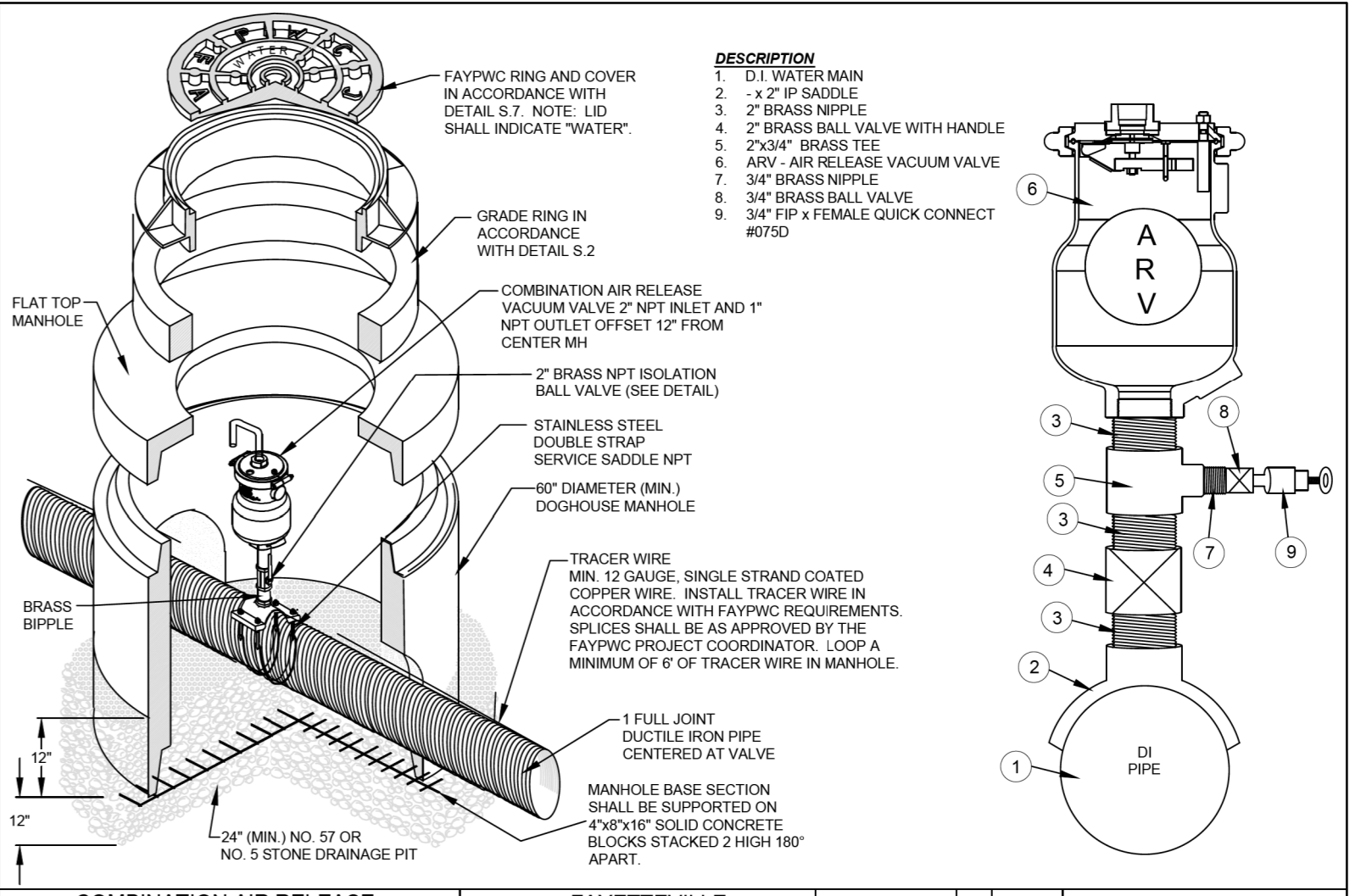


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REVISIONS

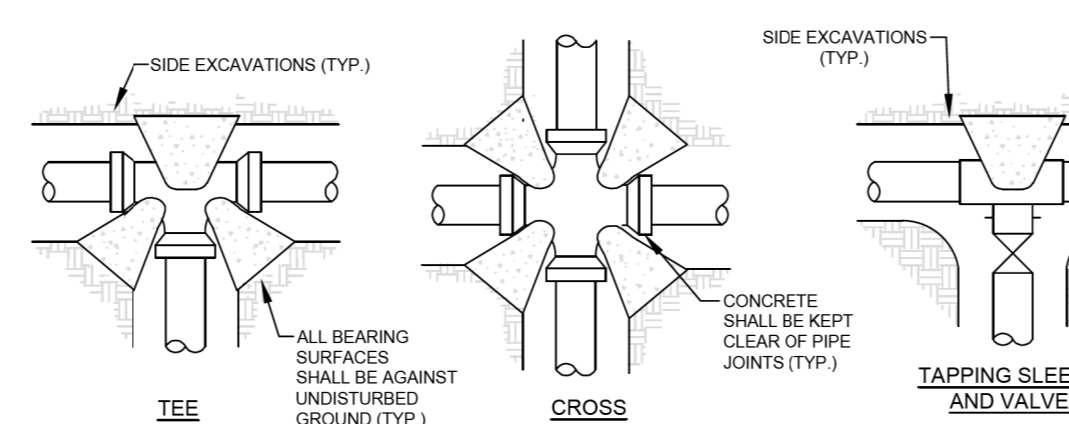
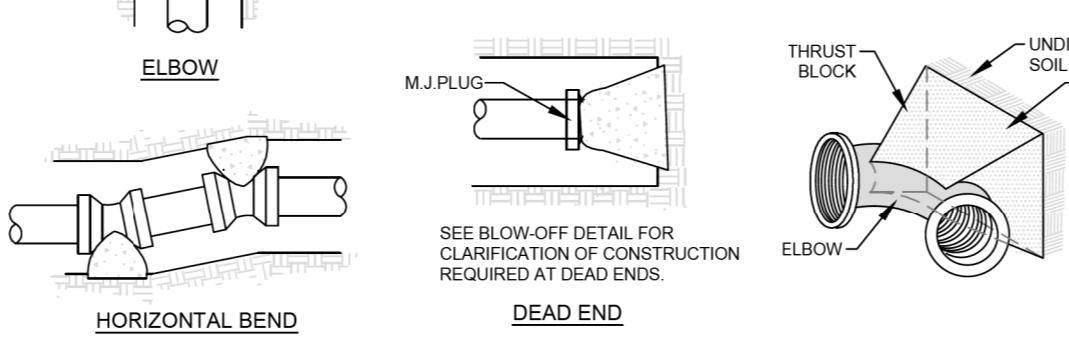
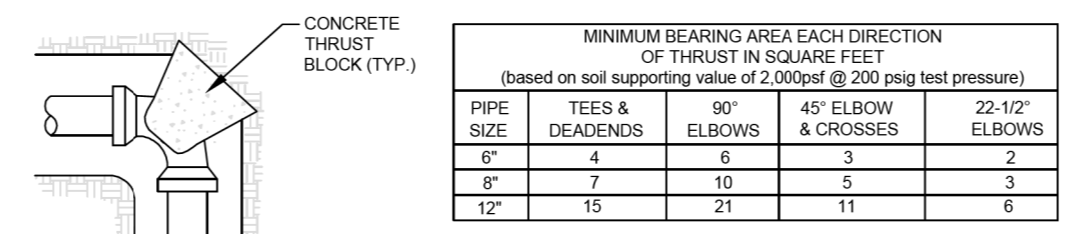
SYSTEM: 2024.07.01, ut_dtl_LUC03-3H.dgn

NOTE: ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

NOTES:

- COMBINATION AIR RELEASE VALVES SHALL BE OF THE SINGLE HOUSING STYLE THAT COMBINES THE OPERATING FEATURES OF BOTH AN AIR VACUUM AND AIR RELEASE VALVE.
- THE COMBINATION AIR RELEASE VALVE SHALL HAVE 2" NPT INLET AND 1" NPT OUTLET CONNECTIONS AND A 3/16 INCH DIAMETER ORIFICE. (OR ORIFICE SHALL BE DETERMINED BY THE ENGINEER) FOR A MAXIMUM 200PSI WORKING PRESSURE.
- ALL MATERIALS SHALL MEET THE STANDARDS AND SPECIFICATIONS OF THE FAYETTEVILLE PUBLIC WORKS COMMISSION.
- MANHOLE, FRAME, AND COVER SHALL BE IN ACCORDANCE WITH FAYPWC STANDARD DETAILS. NOTE: LID SHALL INDICATE WATER.
- 2" TAPPING SADDLE SHALL BE DUCTILE IRON WITH STAINLESS STEEL STRAPS, BOLTS, NUTS, AND WASHERS.
- SADDLES FOR PIPE SIZES 8" THRU 24" SHALL BE DOUBLE STRAP.
- ALL INTERNAL PARTS SHALL BE 316 STAINLESS STEEL.
- THE COMBINATION AIR RELEASE VALVE SHALL HAVE A SINGLE FLOAT DESIGN.
- ALL COMBINATION AIR RELEASE VALVES SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER RECOMMENDATIONS.
- ALL COMBINATION AIR RELEASE VALVE SHALL BE CRISPIN MODEL LU20, ARI 0-200, OR APPROVED EQUAL.
- COMBINATION AIR RELEASE VALVE SHALL BE CENTERED IN MANHOLE. OFFSET THE RING AND COVER TO ALLOW ACCESS.
- TOP OF WATER MAIN SHALL BE A MINIMUM 4" DEEP AT AIR RELEASE VALVE. UNLESS OTHERWISE REQUIRED DUE TO FORCE MAIN AND/OR COMBINATION AIR RELEASE VALVE SIZE.
- COMBINATION AIR RELEASE VALVE BODIES SHALL BE MADE OF STAINLESS STEEL OR REINFORCED NYLON.
- THE MANHOLE SHALL BE CAST WITH AN ANTI-MICROBIAL ADDITIVE (CON-SHIELD OR APPROVED EQUAL.)

COMBINATION AIR RELEASE VACUUM VALVE (WATER SERVICE)		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.16		DWG. BY: FAYPWC		1	01/13	ADDED NOTE 16, REVISED NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	07/16	DELETED NOTES 3, 16
SHEET NO. 2 OF 2		WATER RESOURCES ENGINEERING DEPARTMENT		W16-AIR-RELEASE-VALVE.dwg		



CONCRETE THRUST BLOCK DETAIL N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.17		DWG. BY: FAYPWC		1	09/05	REVISED TABLE
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	02/07	ADDED NOTES 9 AND 10
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT		W17-THRUSTBLOCK.dwg		

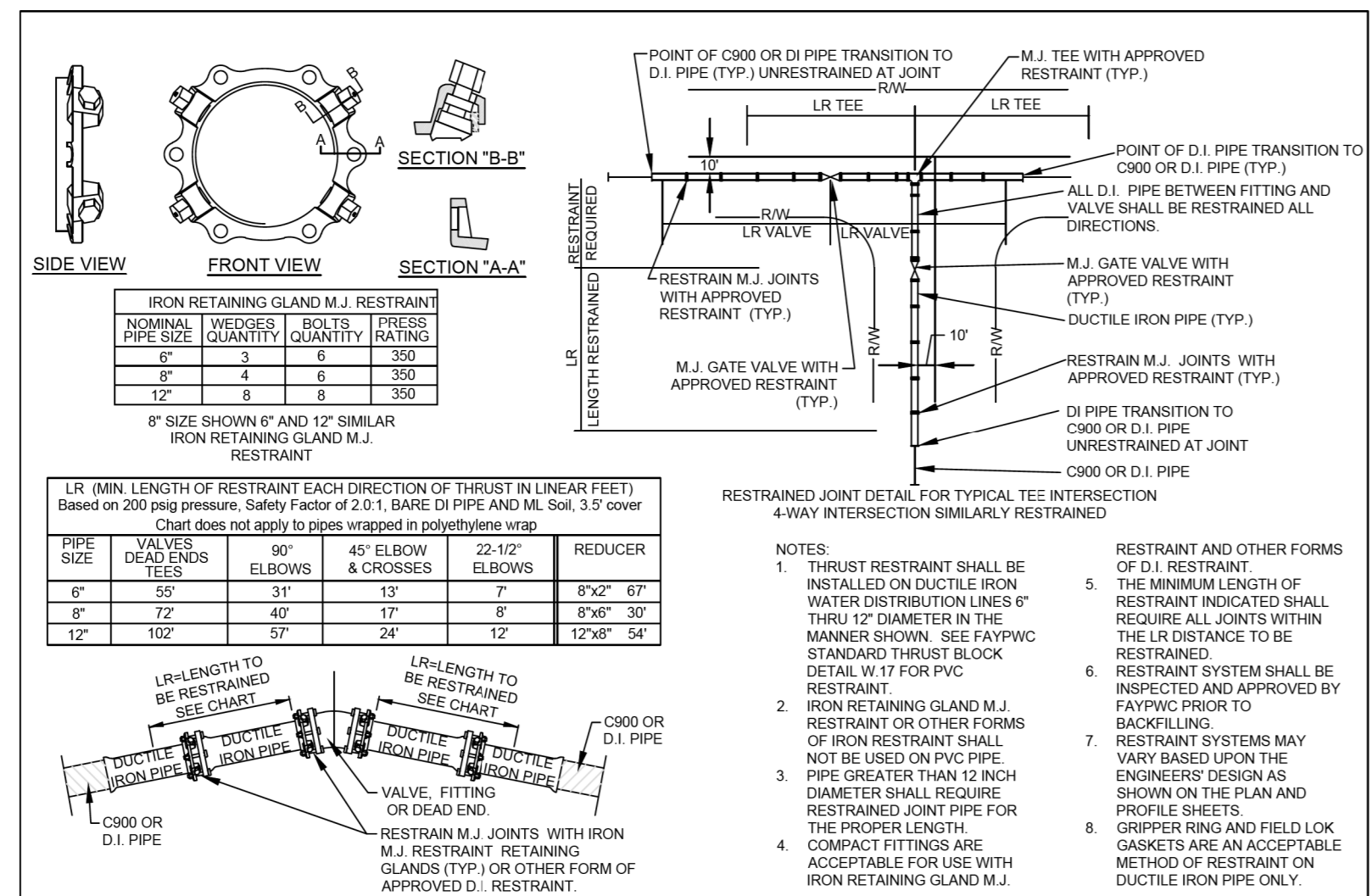
- NOTES:
- THRUST BLOCKS SHALL BE INSTALLED ON PVC WATER DISTRIBUTION LINES 6" THRU 12" DIAMETER IN THE MANNER SHOWN. SEE FAYPWC STANDARD ALTERNATE RESTRAINING DETAIL W.18 FOR ACCEPTABLE ALTERNATE RESTRAINING SYSTEMS.
 - PIPE GREATER THAN 12 INCH DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE PROPER LENGTH.
 - COMPACT FITTINGS ARE NOT ACCEPTABLE. STANDARD FITTINGS SHALL BE USED WITH CONCRETE THRUST BLOCKS.
 - THRUST BLOCKS SHALL BE INSTALLED ON SEWER FORCE MAIN IN THE MANNER SHOWN.
 - IF SAC-CRETE IS USED, MIXING MUST BE ON SITE UTILIZING A MECHANICAL MIXER.
 - NO CONCRETE SHALL BE PLACED ON BOLTS. WRAP JOINT FITTINGS WITH PLASTIC.
 - CONCRETE SHALL BE A MINIMUM 3,000PSI.
 - ALL BEARING SURFACES SHALL BE AGAINST UNDISTURBED SOIL. AND SHALL BE APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO PLACEMENT OF CONCRETE.
 - USE OF RESTRAINED JOINT DUCTILE IRON WILL BE REQUIRED IF SOIL CONDITIONS DO NOT ALLOW THE USE OF THRUST BLOCKS.
 - ALL VERTICAL BENDS SHALL BE RESTRAINED USING RESTRAINED JOINT DUCTILE IRON PIPE.

NOTE:
ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

CDM Smith
 CDM Smith Inc.
 5400 Glenwood Avenue
 Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

PROJECT REFERENCE NO.	SHEET NO.
U-3422	UC-03D
DESIGNED BY: SSM	Checked by: [Signature]
DRAWN BY: SSM	SEAL 045468
CHECKED BY: HMH	APPROVED BY: [Signature]
REVIEWED BY: MAP	DATE: 5/14/2024
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

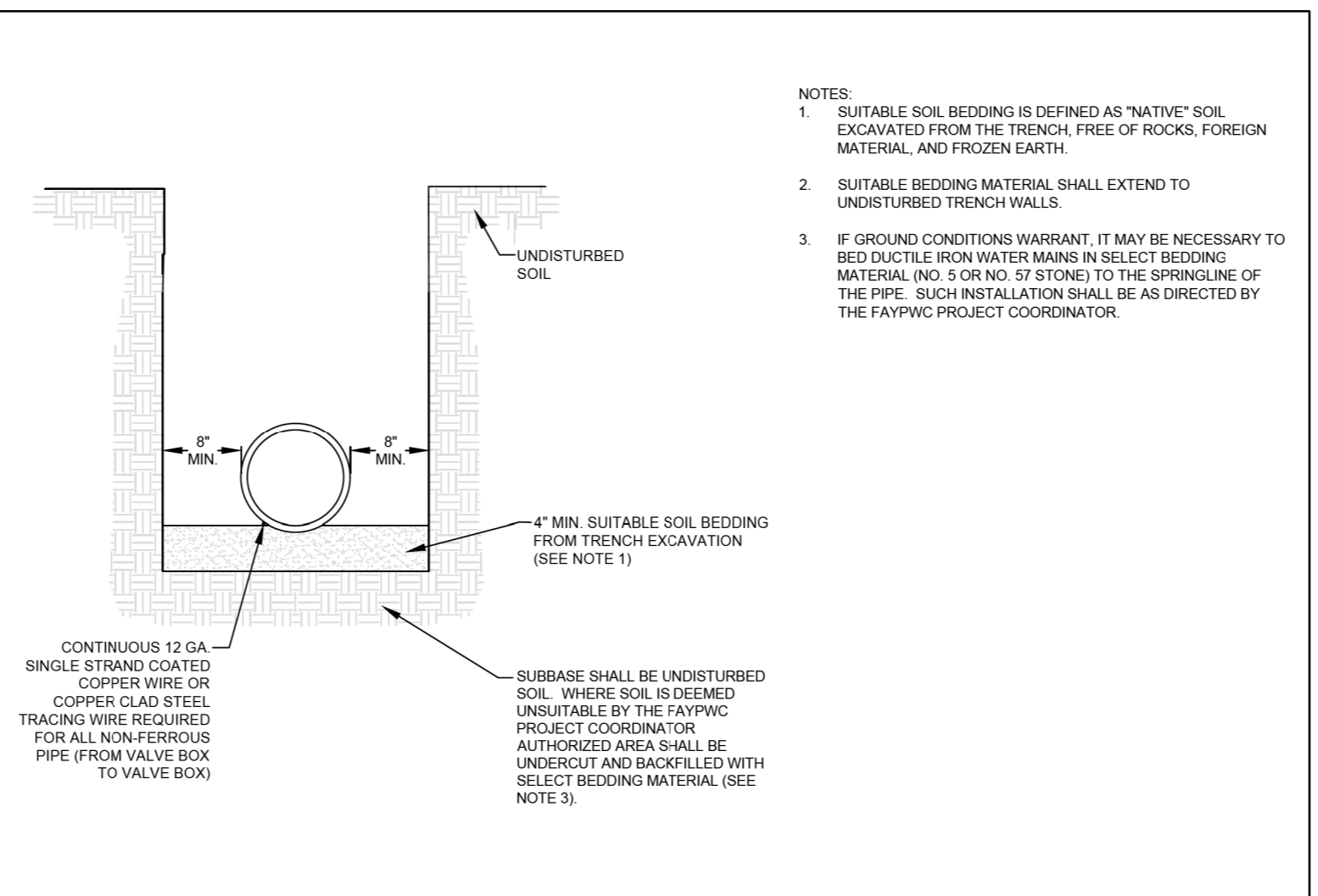


RESTRAINED JOINT DETAIL (DUCTILE IRON PIPE ONLY) N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.18		DWG. BY: FAYPWC		1	11/16/07	REVISED TABLE, ADDED NOTE 8
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		W18-RESTRAINT-DETAIL.dwg		

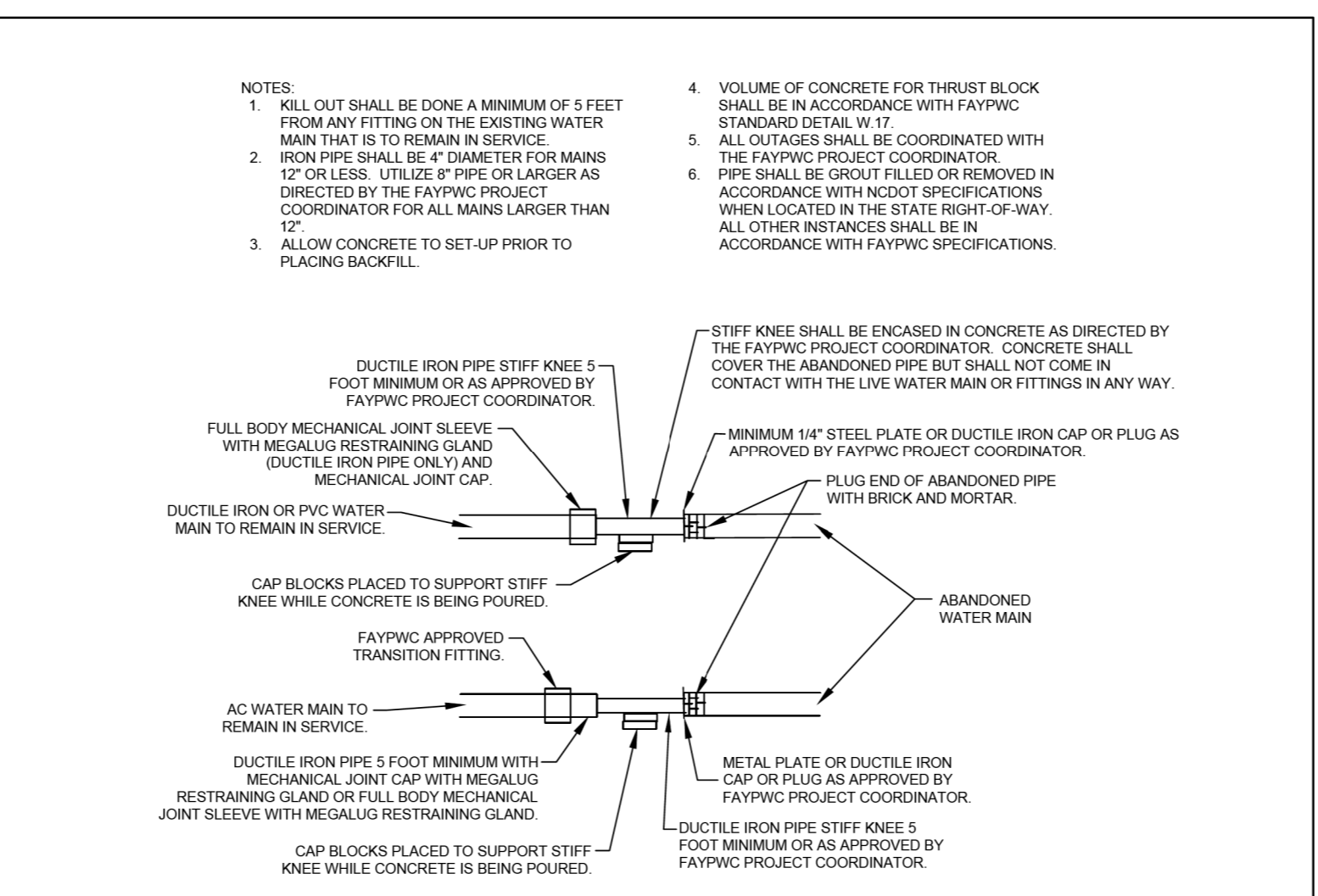
METER SIZE	MIN PIPE DIA.	SPACING BETWEEN GATE VALVES (SEE NOTE 20)	VAULT SIZE (INSIDE DIM.)
3"	4"	5'	5x10'
4"	4"	5'	5x10'
6"	6"	5'	(SEE NOTE 19) 5x10'
8"	8"	5'	6x12'

- NOTES:
- VAULTS SHALL BE PRECAST REINFORCED CONCRETE (4,000PSI). VAULT CONSTRUCTION SHALL BE CERTIFIED BY MANUFACTURER TO WITHSTAND LOADS DUE TO BACKFILLING, IN ACCORDANCE WITH ACI 318.
 - BRICK VAULTS SHALL NOT BE ACCEPTABLE.
 - NO RISERS SHALL BE ALLOWED.
 - VAULTS SHALL HAVE INSIDE DIMENSIONS AS INDICATED ON CHART.
 - VAULT SHALL BE LOCATED OUTSIDE OF PAVED TRAFFIC AREAS.
 - METER VAULT SHALL BE LOCATED WITHIN PUBLIC RIGHT-OF-WAY OR DEDICATED EASEMENT. IF IN EASEMENT, PROVIDE A MINIMUM 5' CLEARANCE AROUND VAULT.
 - CONTRACTOR SHALL PROVIDE ALL FITTINGS, PIPING, ETC. AS INDICATED.
 - THE VAULT SHALL BE LOCATED NO CLOSER THAN 9' FROM ANY STRUCTURE.
 - PIPING SHALL BE RESTRAINED JOINT DUCTILE IRON FROM TAP AT MAIN TO VAULT.
 - PIPE FITTINGS INSIDE VAULT SHALL BE FLANGED.
 - VAULT SHALL BE SET PLUMB AND LEVEL. MATCH FINISHED GRADE. AND SHALL HAVE POSITIVE DRAINAGE AWAY FROM IT.
 - INSTALL SOLID CONCRETE CAP BLOCKS AS CONTINUOUS FOOTING WITH NO GAPS.
 - FAYPWC TO INSTALL METER AND FITTINGS UPON ACCEPTANCE OF PROJECT.
 - ACCESS HATCH SHALL BE 5'4" DOUBLE DOOR CENTERED ON VAULT. SO AS TO PROVIDE CLEAR ACCESS TO METER.
 - ACCESS HATCH SHALL BE ALUMINUM MOUNTED FLUSH AND SHALL BE CAPABLE OF BEARING INCIDENTAL TRAFFIC LOADS. ALL OTHER HATCHES SHALL BE APPROVED BY FAYPWC PRIOR TO CONSTRUCTION. BOLTS, HINGES, AND HOLD OPEN ARM SHALL BE 316 STAINLESS STEEL.
 - ACCESS HATCH SHALL LATCH AUTOMATICALLY UPON CLOSURE (SLAM LOCK). HATCH SHALL BE LOCKABLE USING A KEYS. LOCKING MECHANISM INTEGRAL TO THE HATCH. HATCH MANUFACTURER SHALL PROVIDE ONE OPERATING KEY TO FAYPWC.
 - ALL LIFTING HOLES SHALL BE FILLED WITH HYDRAULIC CEMENT.
 - LATERAL AND VAULT INSTALLATION SHALL BE APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO BACKFILL.
 - LATERAL AND PIPING INSIDE OF VAULT SHALL PASS HYDROSTATIC AND STERILIZATION TESTS (200PSI).
 - IF USING 8" PIPING WITH A 6" METER, THE VAULT SHALL BE 6x12.
 - CONTRACTOR SHALL VERIFY VAULT DIMENSIONS, METER DIMENSIONS, AND PIPE LAYOUT WITH FAYPWC PRIOR TO ORDERING MATERIALS.

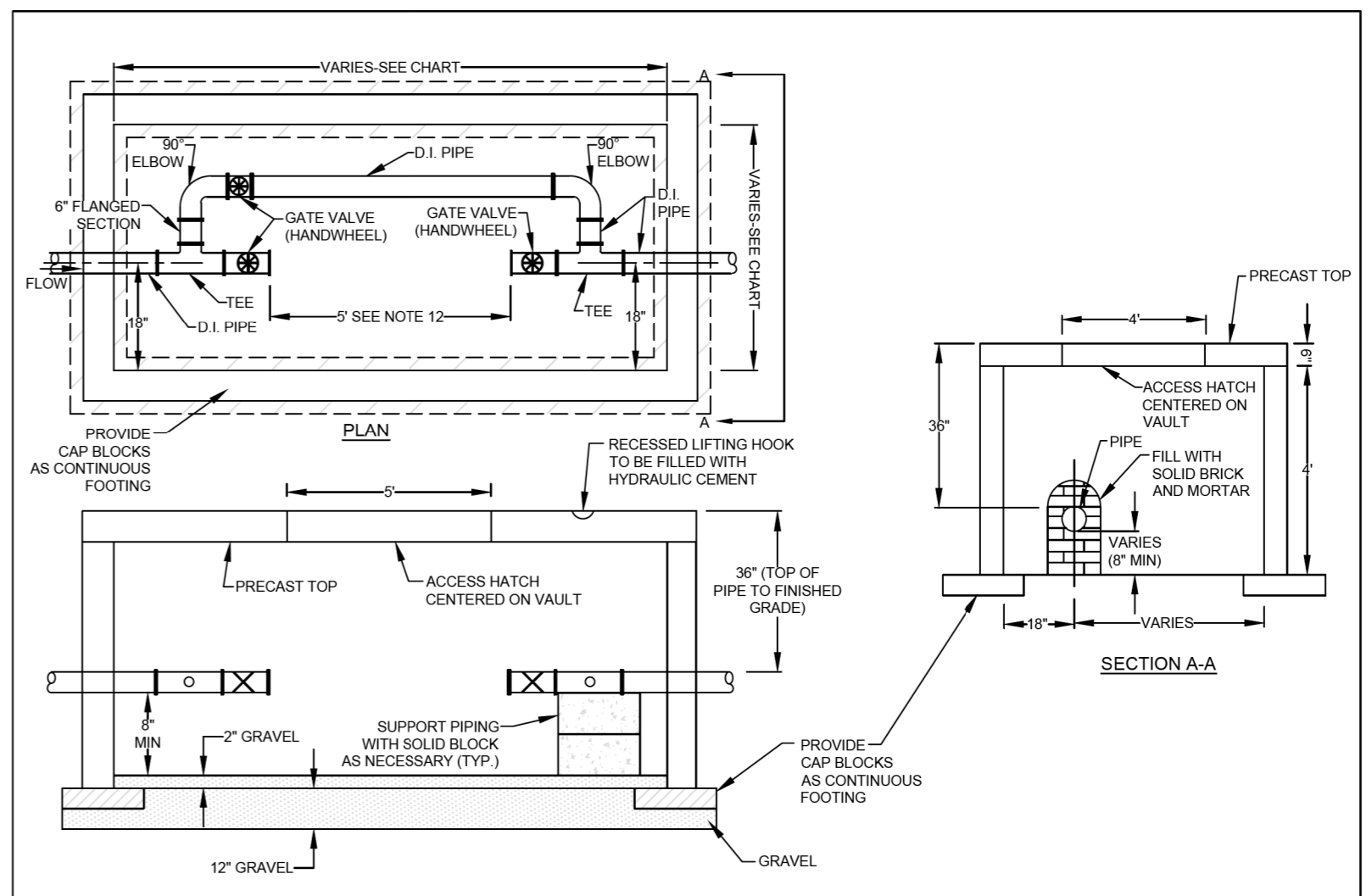
METER VAULT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.20		DWG. BY: FAYPWC		1	09/10	REVISED PIPE BURY DEPTH, NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	11/23	CLARIFIED FOOTING REQUIREMENTS
SHEET NO. 2 OF 2		WATER RESOURCES ENGINEERING DEPARTMENT		W20-METER-VAULT.dwg		



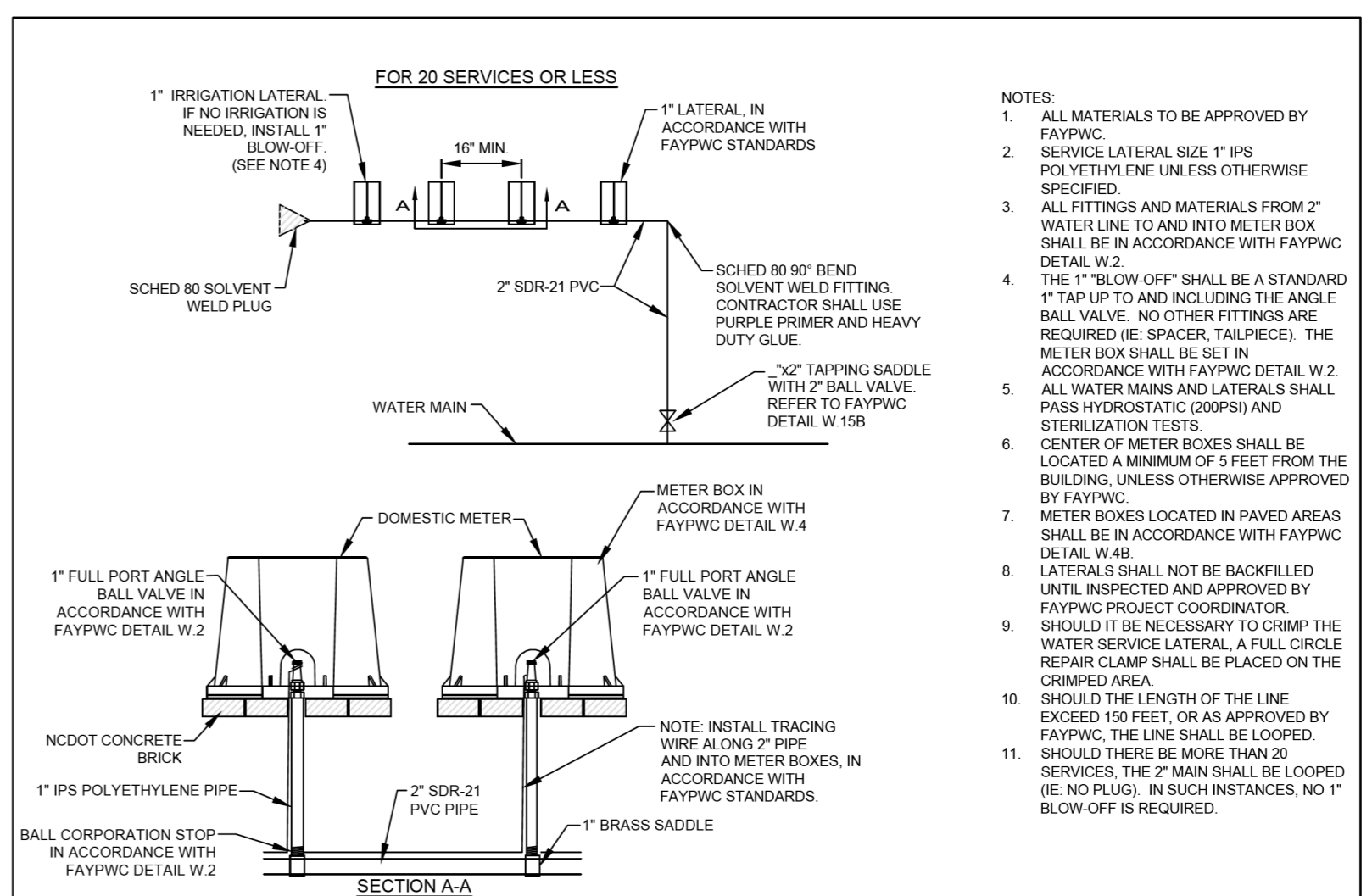
WATER MAIN BEDDING DETAIL N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.19		DWG. BY: FAYPWC		1	01/01/17	REVISED NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	07/01/13	REVISED NOTE RE TRACER WIRE
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT		W19-WATER-BEDDING3.dwg		



WATER MAIN KILL-OUT N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.22		DWG. BY: FAYPWC		1	07/16	REVISED TITLE, NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	07/17	REVISED NOTES
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT		W22-WATERMAIN-KILL-OUT.dwg		



METER VAULT N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.20		DWG. BY: FAYPWC		1	09/10	REVISED PIPE BURY DEPTH, NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	11/23	CLARIFIED FOOTING REQUIREMENTS
SHEET NO. 1 OF 2		WATER RESOURCES DEPARTMENT		W20-METER-VAULT.dwg		



WATER SERVICE DETAILS FOR MULTI-UNIT BUILDINGS		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.23		DWG. BY: FAYPWC		1	07/16	REVISED TITLE, NOTES
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		2	07/17	REVISED NOTES
SHEET NO. 1 OF 1		WATER RESOURCES ENGINEERING DEPARTMENT		W23-SERVICE-FOR-MULTI-UNIT-BUILDINGS.dwg		

REVISIONS

-SYSTEM: 0422-ut-dtl-LUC03-3H.dgn

5/14/2024

CDM Smith
 CDM Smith Inc.
 5400 Glenwood Avenue
 Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

PROJECT REFERENCE NO. U-3422
 SHEET NO. UC-03E

DESIGNED BY: SSM
 DRAWN BY: SSM
 CHECKED BY: HMH
 APPROVED BY: MAP

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

UTILITY CONSTRUCTION PLANS ONLY

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

SEAL 045468
 MICHAEL A. POLLARD, JR.
 PROFESSIONAL ENGINEER

NOTES:
 1. ALL PIPE AND FITTINGS SHALL BE APPROVED BY FAYPWC.
 2. CONTRACTOR TO COORDINATE NECESSARY OUTAGES WITH FAYPWC AND AFFECTED CUSTOMERS. MINIMUM 48 HOUR NOTICE REQUIRED.
 3. NEW WATER MAIN TO BE SWABBED WITH A CHLORINE SOLUTION AND FLUSHED PRIOR TO PLACING INTO SERVICE.
 4. ALL NEW FITTINGS AND PIPE TO BE RESTRAINED UTILIZING MEGA LUGS, GRIP-RINGS OR APPROVED EQUAL.
 5. ALL PIPE AND FITTINGS TO BE DUCTILE IRON.
 6. FAYPWC PROJECT COORDINATOR TO BE PRESENT DURING WORK.
 7. BACKFILL AND COMPACT TO CITY OF FAYETTEVILLE OR NCDOT REQUIREMENTS.
 8. PROVIDE STONE BEDDING (NO. 5 OR NO. 57 STONE) TO SUPPORT RELOCATED WATER MAIN AND/OR NEW STORM DRAIN, AS APPROVED BY FAYPWC PROJECT COORDINATOR.
 9. MJ RESTRAINTS NOT ALLOWED ON PVC PIPE.
 10. DIMENSIONS ARE GIVEN AS GENERAL GUIDANCE. EXACT DIMENSIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND AS DIRECTED BY FAYPWC.

VERTICAL RELOCATION
HORIZONTAL RELOCATION

PIPE RELOCATION DETAIL N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		NO.	DATE	REVISION
DWG. NO. W.26		DWG. BY: FAYPWC		1	07/17	REVISED NOTES, ADDED HORIZONTAL RELOCATION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		

W26-PIPE-RELOCATION-DETAIL.dwg

NOTES:
 1. ALL MATERIALS SHALL BE APPROVED BY FAYPWC.
 2. FOR USE WITH 1-1/2" OR 2" IRRIGATION METER.
 3. LOCATION OF BOX SHALL BE AS DETERMINED BY FAYPWC PROJECT COORDINATOR. IN NO CASE SHALL BOX BE INSTALLED CLOSER THAN 5' TO BUILDING.
 4. MINIMUM 5' BETWEEN THE METER AND THE BACKFLOW PREVENTER. MAXIMUM 100' FROM THE MAIN TO THE BACKFLOW PREVENTER.
 5. IF THE METER BOX IS LOCATED LESS THAN 5' AWAY FROM THE MAIN, THE 2" PIPING SHALL BE BRASS FROM THE TAP TO THE METER.
 6. WATER LATERAL SHALL BE INSPECTED AND APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO BACKFILL.
 7. INSTALLATION SHALL BE IN ACCORDANCE WITH FAYPWC STANDARDS.
 8. CONTRACTOR SHALL INSTALL TRACING WIRE INTO METER BOX. A MINIMUM OF 2' OF WIRE SHALL BE IN BOX.

2" IRRIGATION LATERAL
N.T.S.

DWG. NO. W.28		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	07/17	REVISED NOTES, ADDED SHEET 2.
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

W28-2IN-IRRIG-LAT DWG

NOTE:
 ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

NOTES:
 1. ALL MATERIALS SHALL BE APPROVED BY FAYPWC.
 2. METER BOX SHALL NOT BE LOCATED WHERE H-20 LOADINGS CAN IMPACT BOX OR COVER.
 3. FOR 2" IRRIGATION LATERAL INSTALLATION SEE FAYPWC DETAIL W.28.
 4. DIMENSIONS ± 1/16" U.O.

JUMBO METER BOX FOR IRRIGATION
N.T.S.

DWG. NO. W.29		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	07/17	ADDED SHEET 2 OF 2
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

W29-JUMBO-METERBOX-IRRIG.dwg

NOTES:
 1. ALL PIPE AND FITTINGS SHALL BE APPROVED BY FAYPWC.
 2. CONTRACTOR TO COORDINATE NECESSARY OUTAGES WITH FAYPWC AND AFFECTED CUSTOMERS. MINIMUM 48 HOUR NOTICE REQUIRED.
 3. NEW WATER MAIN TO BE SWABBED WITH A CHLORINE SOLUTION AND FLUSHED PRIOR TO PLACING INTO SERVICE.
 4. ALL NEW FITTINGS AND PIPE TO BE RESTRAINED UTILIZING MEGA LUGS, GRIP-RINGS, OR APPROVED EQUAL.
 5. ALL PIPES TO BE DUCTILE IRON.
 6. FAYPWC PROJECT COORDINATOR TO BE PRESENT DURING WORK.
 7. BACKFILL AND COMPACT IN ACCORDANCE WITH THE APPLICABLE AGENCY REQUIREMENTS.
 8. PROVIDE STONE BEDDING (NO. 5 OR NO. 57 STONE) TO SUPPORT RELOCATED WATER MAIN, AS APPROVED BY FAYPWC PROJECT COORDINATOR.
 9. MJ RESTRAINTS ARE NOT ALLOWED ON PVC PIPE.
 10. DIMENSIONS ARE GIVEN AS GENERAL GUIDANCE. EXACT DIMENSIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND AS DIRECTED BY FAYPWC.
 11. ALL MATERIALS OF CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE STANDARDS AND SPECIFICATIONS OF FAYPWC.
 12. PIPE REPAIR SHALL EXHIBIT STRAIGHT HORIZONTAL AND VERTICAL ALIGNMENT. DEFLECTIONS OF HORIZONTAL AND VERTICAL ALIGNMENT ARE NOT ACCEPTABLE.
 13. THERE SHALL BE NO MORE THAN 1/4" SPACE BETWEEN THE EXISTING WATER MAIN AND THE REPLACEMENT PIPE AT EACH END.
 14. DAMAGED SECTION SHALL BE CUT OUT WITHOUT DAMAGING THE PIPE TO REMAIN.
 15. PIPE REPAIRS ON MATERIALS OTHER THAN SHOWN, SHALL BE AS DIRECTED BY FAYPWC.
 16. THE MINIMUM LENGTH OF REPAIR SHALL BE 5 FEET, UNLESS OTHERWISE DIRECTED BY FAYPWC.

2" DOMESTIC LATERAL
N.T.S.

DWG. NO. W.30		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	07/01/17	REVISED NOTES
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

W30-2IN-DOMESTIC-LATERAL.dwg

NOTES:
 1. ALL SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS.
 2. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 3. CONSTRUCTION STAKING IS REQUIRED FOR ALL FAYPWC WATER AND SEWER UTILITY INSTALLATIONS. CUT SHEETS, SIGNATURES AND SEALED BY A P.E. SHALL BE PROVIDED TO THE FAYPWC WATER RESOURCES ENGINEERING DEPARTMENT AND THE CONTRACTOR IN ADVANCE OF CONSTRUCTION FOR FAYPWC WATER AND SEWER UTILITIES.
 4. 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.
 5. ALL NEW WATER AND SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE TESTED AND/OR OBSPECTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS PRIOR TO PLACING INTO SERVICE.
 6. CONTRACTOR SHALL COORDINATE TESTING AND INSPECTION WITH THE FAYETTEVILLE FAYPWC PROJECT COORDINATOR.
 7. ALL DUCTILE IRON PIPE IN SANITARY SEWER SERVICE SHALL HAVE AN INTERIOR LINING OF PROTECTED 401 OR BARBERS PROTECT-A-PIPE OR APPROVED EQUAL.
 8. ALL NEW MANHOLES ARE TO BE VACUUM-TESTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS.
 9. CONTRACTOR SHALL REPAIR ALL SEWER LATERALS AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY REPORT ALL SEWER MAIN AND LATERAL BREAKS TO THE FAYPWC PROJECT COORDINATOR. THE CONTRACTOR SHALL INITIATE IMMEDIATE REPAIRS IN ACCORDANCE WITH FAYPWC STANDARDS.
 10. TRANSFER OF SEWER SERVICES SHALL BE ACCOMPLISHED AS FOLLOWS:
 A. INSTALL AND TEST NEW MAINS, MANHOLES, AND LATERALS. CLEANOUTS SHALL BE INSTALLED 18" INSIDE ROW UNLESS OTHERWISE DIRECTED BY FAYPWC.
 B. CONNECT EXISTING PLUMBING TO NEW LATERAL UTILIZING THE NECESSARY FITTINGS AS DIRECTED BY FAYPWC.
 C. AFTER ALL SERVICES HAVE BEEN TRANSFERRED TO THE NEW MAIN, THE EXISTING SEWER SYSTEM SHALL BE ABANDONED IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 11. CONTRACTOR SHALL ABANDON ("KILL-OUT") ANY EXISTING SEWER SERVICES THAT WILL NOT BE UTILIZED BY UNCOVERING THE EXISTING LATERAL AT THE MAIN, OUT AND PLUG AT BOTH ENDS. REMOVE THE EXISTING CLEANOUT AND COMBINATION, AND PLUG THE TAP OR TEE AT THE MAIN. FOR LATERALS THAT CONNECT TO A MANHOLE AND ARE TO BE ABANDONED ("KILL-OUT"), THE LATERAL SHALL BE REMOVED FROM THE MANHOLE AND THE REMAINING VOID IN THE MANHOLE SHALL BE FILLED WITH BLOCK AND MORTAR.
 12. SEWER PLUGS SHALL BE INSTALLED TO ELIMINATE ANY DEBRIS OR OTHER MATERIAL FROM ENTERING THE ACTIVE SEWER SYSTEM. UPON ACCEPTANCE OF THE NEW SEWER SYSTEM, THE CONTRACTOR SHALL CLEAN THE NEW MAINS, REMOVE ALL DEBRIS, AND THEN REMOVE THE PLUG.
 13. ALL EXISTING UTILITIES IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE, IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 14. ALL WORK ON FAYPWC SEWER UTILITIES (MANS, LATERALS, ETC.) SHALL BE PERFORMED BY A LICENSED UTILITY CONTRACTOR. THE FAYETTEVILLE PUBLIC WORKS COMMISSION SHALL OBSERVE AND APPROVE ALL WORK ON FAYPWC SEWER UTILITIES. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 15. SEPARATION REQUIREMENTS:
 A. LATERAL SEPARATION OF SEWER AND WATER MAINS: WATER MAINS SHALL BE LAD AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWER MAINLATERAL, UNLESS LOCAL CONDITIONS OR BARBERS PROVIDE A 10-FOOT LATERAL SEPARATION. IN WHICH CASE:
 i. THE WATER MAIN IS LAD 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, OR
 ii. THE WATER MAIN IS LAD IN THE SAME TRENCH AS THE SEWER MAINLATERAL 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.
 B. CROSSING A WATER MAIN OVER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAINLATERAL, THE WATER MAIN SHALL BE LAD AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAINLATERAL.
 C. CROSSING A WATER MAIN UNDER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAINLATERAL, A MINIMUM OF 18 INCHES OF SEPARATION SHALL BE PROVIDED. BOTH THE WATER MAIN AND THE SEWER MAINLATERAL SHALL BE CONSTRUCTED OF DUCTILE IRON MATERIAL AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
 D. CROSSING STORM DRAINAGE LINES: A MINIMUM OF 24 INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN A SEWER MAINLATERAL CROSSING UNDER A STORM DRAINAGE LINE UNLESS DUCTILE IRON PIPE IS USED. IF DUCTILE IRON PIPE IS USED, A MINIMUM OF SIX (6) INCHES OF SEPARATION SHALL BE MAINTAINED, UNLESS OTHERWISE APPROVED BY FAYPWC.

STANDARD MANHOLE
N.T.S.

DWG. NO. S.2		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	02/07	CREATED S.2A ADDED NOTES 13-17
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

S2-STANDARD-MANHOLE.dwg

NOTES:
 1. ALL SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE INSTALLED AND TESTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS.
 2. CONTRACTOR SHALL FIELD VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO CONSTRUCTION.
 3. CONSTRUCTION STAKING IS REQUIRED FOR ALL FAYPWC WATER AND SEWER UTILITY INSTALLATIONS. CUT SHEETS, SIGNATURES AND SEALED BY A P.E. SHALL BE PROVIDED TO THE FAYPWC WATER RESOURCES ENGINEERING DEPARTMENT AND THE CONTRACTOR IN ADVANCE OF CONSTRUCTION FOR FAYPWC WATER AND SEWER UTILITIES.
 4. 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.
 5. ALL NEW WATER AND SEWER MAINS, LATERALS, AND APPURTENANCES SHALL BE TESTED AND/OR OBSPECTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS PRIOR TO PLACING INTO SERVICE.
 6. CONTRACTOR SHALL COORDINATE TESTING AND INSPECTION WITH THE FAYETTEVILLE FAYPWC PROJECT COORDINATOR.
 7. ALL DUCTILE IRON PIPE IN SANITARY SEWER SERVICE SHALL HAVE AN INTERIOR LINING OF PROTECTED 401 OR BARBERS PROTECT-A-PIPE OR APPROVED EQUAL.
 8. ALL NEW MANHOLES ARE TO BE VACUUM-TESTED IN ACCORDANCE WITH FAYETTEVILLE FAYPWC STANDARDS.
 9. CONTRACTOR SHALL REPAIR ALL SEWER LATERALS AND MAINS DAMAGED DURING CONSTRUCTION. THE CONTRACTOR SHALL IMMEDIATELY REPORT ALL SEWER MAIN AND LATERAL BREAKS TO THE FAYPWC PROJECT COORDINATOR. THE CONTRACTOR SHALL INITIATE IMMEDIATE REPAIRS IN ACCORDANCE WITH FAYPWC STANDARDS.
 10. TRANSFER OF SEWER SERVICES SHALL BE ACCOMPLISHED AS FOLLOWS:
 A. INSTALL AND TEST NEW MAINS, MANHOLES, AND LATERALS. CLEANOUTS SHALL BE INSTALLED 18" INSIDE ROW UNLESS OTHERWISE DIRECTED BY FAYPWC.
 B. CONNECT EXISTING PLUMBING TO NEW LATERAL UTILIZING THE NECESSARY FITTINGS AS DIRECTED BY FAYPWC.
 C. AFTER ALL SERVICES HAVE BEEN TRANSFERRED TO THE NEW MAIN, THE EXISTING SEWER SYSTEM SHALL BE ABANDONED IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 11. CONTRACTOR SHALL ABANDON ("KILL-OUT") ANY EXISTING SEWER SERVICES THAT WILL NOT BE UTILIZED BY UNCOVERING THE EXISTING LATERAL AT THE MAIN, OUT AND PLUG AT BOTH ENDS. REMOVE THE EXISTING CLEANOUT AND COMBINATION, AND PLUG THE TAP OR TEE AT THE MAIN. FOR LATERALS THAT CONNECT TO A MANHOLE AND ARE TO BE ABANDONED ("KILL-OUT"), THE LATERAL SHALL BE REMOVED FROM THE MANHOLE AND THE REMAINING VOID IN THE MANHOLE SHALL BE FILLED WITH BLOCK AND MORTAR.
 12. SEWER PLUGS SHALL BE INSTALLED TO ELIMINATE ANY DEBRIS OR OTHER MATERIAL FROM ENTERING THE ACTIVE SEWER SYSTEM. UPON ACCEPTANCE OF THE NEW SEWER SYSTEM, THE CONTRACTOR SHALL CLEAN THE NEW MAINS, REMOVE ALL DEBRIS, AND THEN REMOVE THE PLUG.
 13. ALL EXISTING UTILITIES IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE, IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 14. ALL WORK ON FAYPWC SEWER UTILITIES (MANS, LATERALS, ETC.) SHALL BE PERFORMED BY A LICENSED UTILITY CONTRACTOR. THE FAYETTEVILLE PUBLIC WORKS COMMISSION SHALL OBSERVE AND APPROVE ALL WORK ON FAYPWC SEWER UTILITIES. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH FAYPWC REQUIREMENTS.
 15. SEPARATION REQUIREMENTS:
 A. LATERAL SEPARATION OF SEWER AND WATER MAINS: WATER MAINS SHALL BE LAD AT LEAST 10 FEET LATERALLY FROM EXISTING OR PROPOSED SEWER MAINLATERAL, UNLESS LOCAL CONDITIONS OR BARBERS PROVIDE A 10-FOOT LATERAL SEPARATION. IN WHICH CASE:
 i. THE WATER MAIN IS LAD 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, OR
 ii. THE WATER MAIN IS LAD IN THE SAME TRENCH AS THE SEWER MAINLATERAL 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.
 B. CROSSING A WATER MAIN OVER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS OVER A SEWER MAINLATERAL, THE WATER MAIN SHALL BE LAD AT SUCH AN ELEVATION THAT THE BOTTOM OF THE WATER MAIN IS AT LEAST 18 INCHES ABOVE THE TOP OF THE SEWER MAINLATERAL.
 C. CROSSING A WATER MAIN UNDER A SEWER: WHENEVER IT IS NECESSARY FOR A WATER MAIN TO CROSS UNDER A SEWER MAINLATERAL, A MINIMUM OF 18 INCHES OF SEPARATION SHALL BE PROVIDED. BOTH THE WATER MAIN AND THE SEWER MAINLATERAL SHALL BE CONSTRUCTED OF DUCTILE IRON MATERIAL AND WITH JOINTS EQUIVALENT TO WATER MAIN STANDARDS FOR A DISTANCE OF 10 FEET ON EACH SIDE OF THE POINT OF CROSSING. A SECTION OF WATER MAIN PIPE SHALL BE CENTERED AT THE POINT OF CROSSING.
 D. CROSSING STORM DRAINAGE LINES: A MINIMUM OF 24 INCHES OF VERTICAL CLEARANCE SHALL BE MAINTAINED BETWEEN A SEWER MAINLATERAL CROSSING UNDER A STORM DRAINAGE LINE UNLESS DUCTILE IRON PIPE IS USED. IF DUCTILE IRON PIPE IS USED, A MINIMUM OF SIX (6) INCHES OF SEPARATION SHALL BE MAINTAINED, UNLESS OTHERWISE APPROVED BY FAYPWC.

PIPE REPAIR DETAIL
N.T.S.

DWG. NO. W.31		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		

W31-PIPE-REPAIR-DETAIL.dwg

GENERAL NOTES
 SANITARY SEWER UTILITY

DWG. NO. S.1		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	01/18	ADDED NOTES 5, 8
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

WATER RESOURCES ENGINEERING DEPARTMENT

NO. DATE REVISION
 2 06/21 ADDED NOTES 1-8 AND RENUMBERED
 3 11/23 REVISED NOTE 15

S1-SEWER-NOTES.dwg

NOTES:
 1. ALL PIPE AND FITTINGS SHALL BE APPROVED BY FAYPWC.
 2. CONTRACTOR TO COORDINATE NECESSARY OUTAGES WITH FAYPWC AND AFFECTED CUSTOMERS. MINIMUM 48 HOUR NOTICE REQUIRED.
 3. NEW WATER MAIN TO BE SWABBED WITH A CHLORINE SOLUTION AND FLUSHED PRIOR TO PLACING INTO SERVICE.
 4. ALL NEW FITTINGS AND PIPE TO BE RESTRAINED UTILIZING MEGA LUGS, GRIP-RINGS, OR APPROVED EQUAL.
 5. ALL PIPES TO BE DUCTILE IRON.
 6. FAYPWC PROJECT COORDINATOR TO BE PRESENT DURING WORK.
 7. BACKFILL AND COMPACT IN ACCORDANCE WITH THE APPLICABLE AGENCY REQUIREMENTS.
 8. PROVIDE STONE BEDDING (NO. 5 OR NO. 57 STONE) TO SUPPORT RELOCATED WATER MAIN, AS APPROVED BY FAYPWC PROJECT COORDINATOR.
 9. MJ RESTRAINTS ARE NOT ALLOWED ON PVC PIPE.
 10. DIMENSIONS ARE GIVEN AS GENERAL GUIDANCE. EXACT DIMENSIONS ARE SUBJECT TO CHANGE BASED ON FIELD CONDITIONS AND AS DIRECTED BY FAYPWC.

**GENERAL NOTES
 SANITARY SEWER UTILITY**

DWG. NO. S.1		DWG. BY: FAYPWC		NO.	DATE	REVISION
DATE: JULY 01, 2024		APPROVED BY: M.M.M.		1	01/18	ADDED NOTES 5, 8
FAYETTEVILLE PUBLIC WORKS COMMISSION WATER RESOURCES ENGINEERING DEPARTMENT		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.				

WATER RESOURCES ENGINEERING DEPARTMENT

NO. DATE REVISION
 2 06/21 ADDED NOTES 1-8 AND RENUMBERED
 3 11/23 REVISED NOTE 15

S1-SEWER-NOTES.dwg

REVISIONS

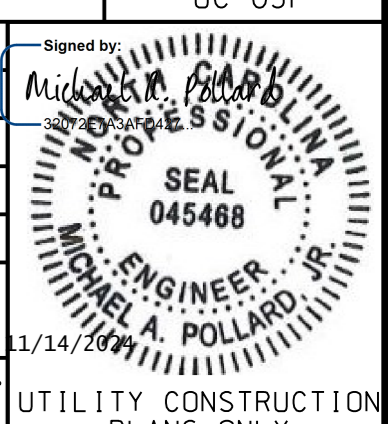
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CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

PROJECT REFERENCE NO. U-3422 SHEET NO. UC-03F DESIGNED BY: SSM DRAWN BY: SSM CHECKED BY: HMH APPROVED BY: MAP REVISIONS: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151 UTILITY CONSTRUCTION PLANS ONLY

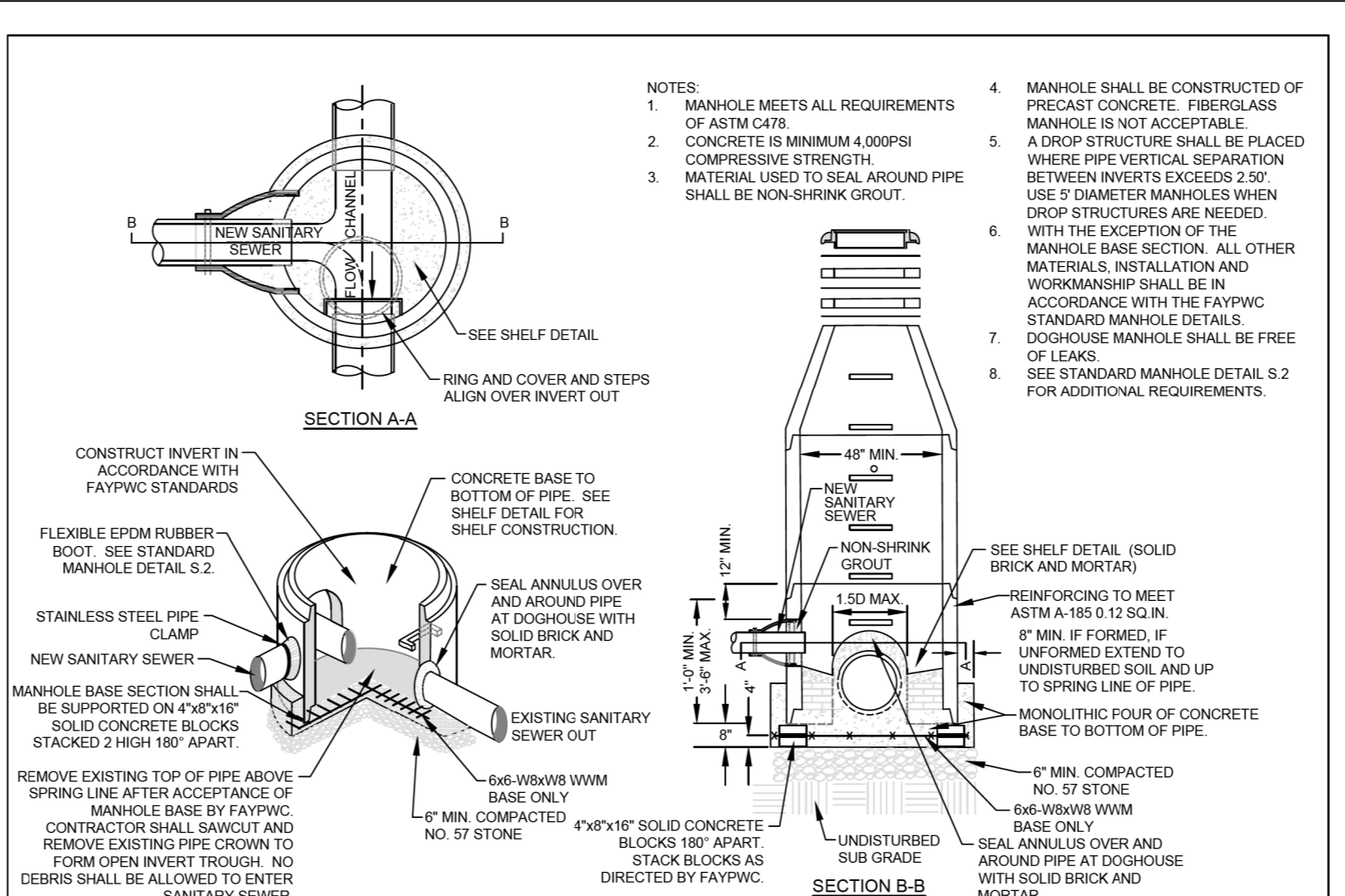


UTILITY CONSTRUCTION

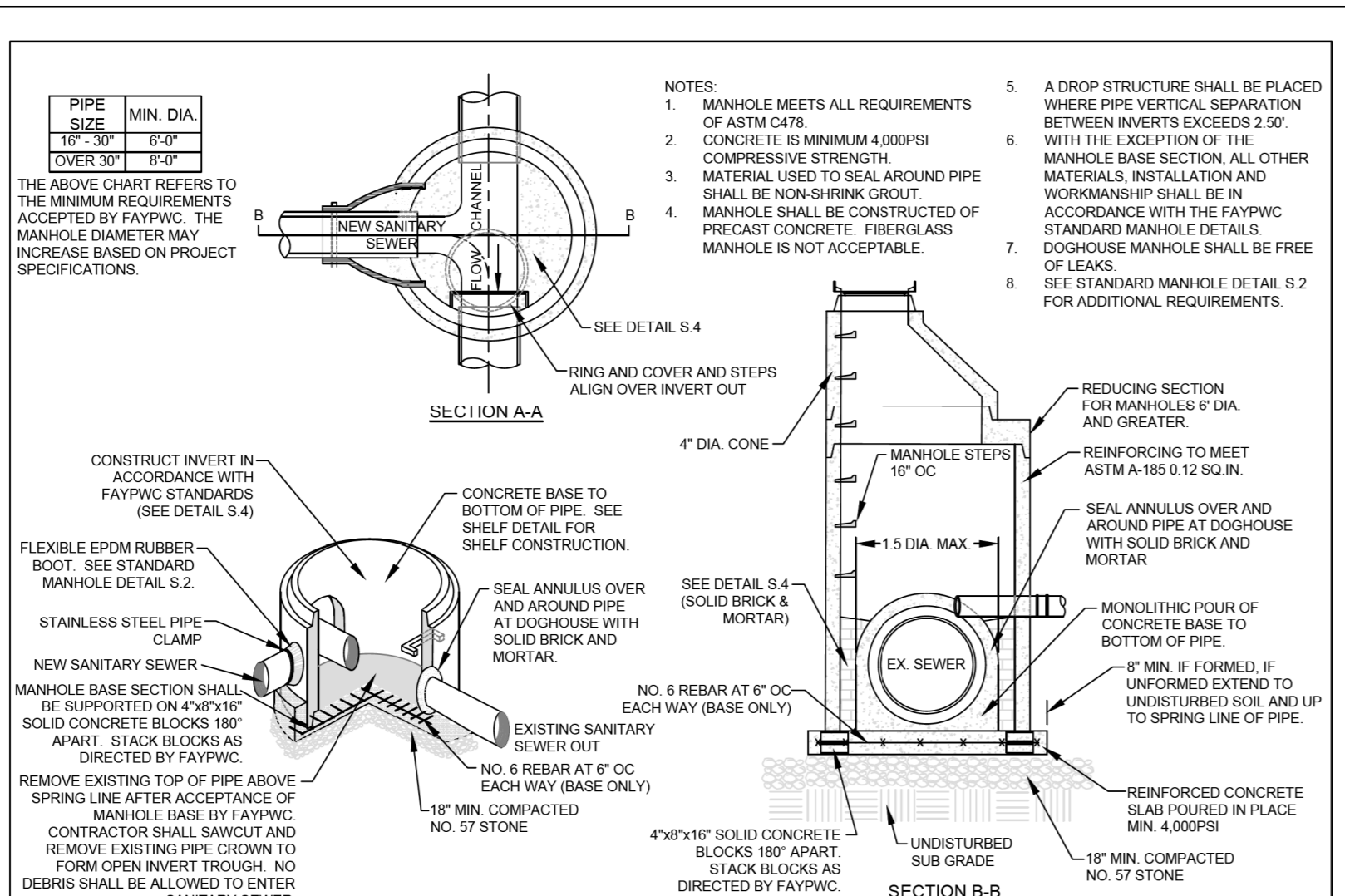
NOTE: ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

- NOTES: 1. PRECAST REINFORCED CONCRETE MANHOLES SHALL BE IN ACCORDANCE WITH ASTM C-478... 2. MINIMUM CONCRETE COMPRESSIVE STRENGTH SHALL BE 4,000PSI... 3. MANHOLES GREATER THAN 12" DEPTH SHALL HAVE MINIMUM 6" EXTENDED BASE... 4. FLEXIBLE BUTYL RESIN JOINT SEALANT SHALL BE IN ACCORDANCE WITH ASTM C990... 5. FLEXIBLE EPDM RUBBER BOOT CONNECTORS SHALL BE IN ACCORDANCE WITH ASTM C203... 6. CONNECTIONS TO EXISTING MANHOLES SHALL BE BY CORING MANHOLE AND FIELD INSTALLING A FLEXIBLE EPDM RUBBER BOOT CONNECTOR... 7. MORTAR USED FOR SEALING JOINTS AND LIFT HOLES SHALL BE QUICK SETTING, NON-SHRINK GROUT MIXED IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS... 8. MANHOLE STEPS SHALL BE IN ACCORDANCE WITH ASTM C478 AND OSHA REGULATIONS... 9. PRECAST INVERTS ARE NOT ALLOWED... 10. VERTICAL DROPS BETWEEN THE INFLOW PIPES AND OUTFLOW PIPES SHALL REQUIRE THE FOLLOWING: A. GREATER THAN 2.5' SEE DROP STRUCTURE DETAIL (MIN. 5" DIAMETER MH REQUIRED) B. LESS THAN 2.5' SEE PIPE SLIDE DETAIL... 11. AN ECCENTRIC CONE SHALL BE UTILIZED ON ALL MANHOLES, UNLESS OTHERWISE APPROVED BY FAYPWC... 12. INVERT ON PLANS IS TO MANHOLE CENTERLINE... 13. GRADE RINGS SHALL NOT BE USED FOR ABOVE GRADE ADJUSTMENTS (IE. OUTFALL AREAS)... 14. EITHER CONCRETE OR HDPE. HDPE GRADE RINGS SHALL MEET THE REQUIREMENTS OF ASTM 4786 FOR MATERIAL, QUALITY, AND PERFORMANCE... 15. THE EXTERIOR MANHOLE RISER JOINTS, INCLUDING THE JOINT AT THE CONE, SHALL BE SEALED ON THE OUTSIDE BY AN APPROVED JOINT WRAP... 16. MANHOLE BOOT FOR 4-INCH LATERALS... 17. NO MORE THAN 4, FOUR-INCH LATERALS OR 3, SIX-INCH LATERALS SHALL ENTER A 4" DIAMETER TERMINAL MANHOLE... 18. NO MORE THAN 5 LATERALS SHALL ENTER A 5" DIAMETER MANHOLE... 19. USE OF TEE-WYES ON LATERALS IS NOT ALLOWED... 20. ALL MANHOLES SHALL BE VACUUM TESTED IN ACCORDANCE WITH FAYPWC STANDARDS

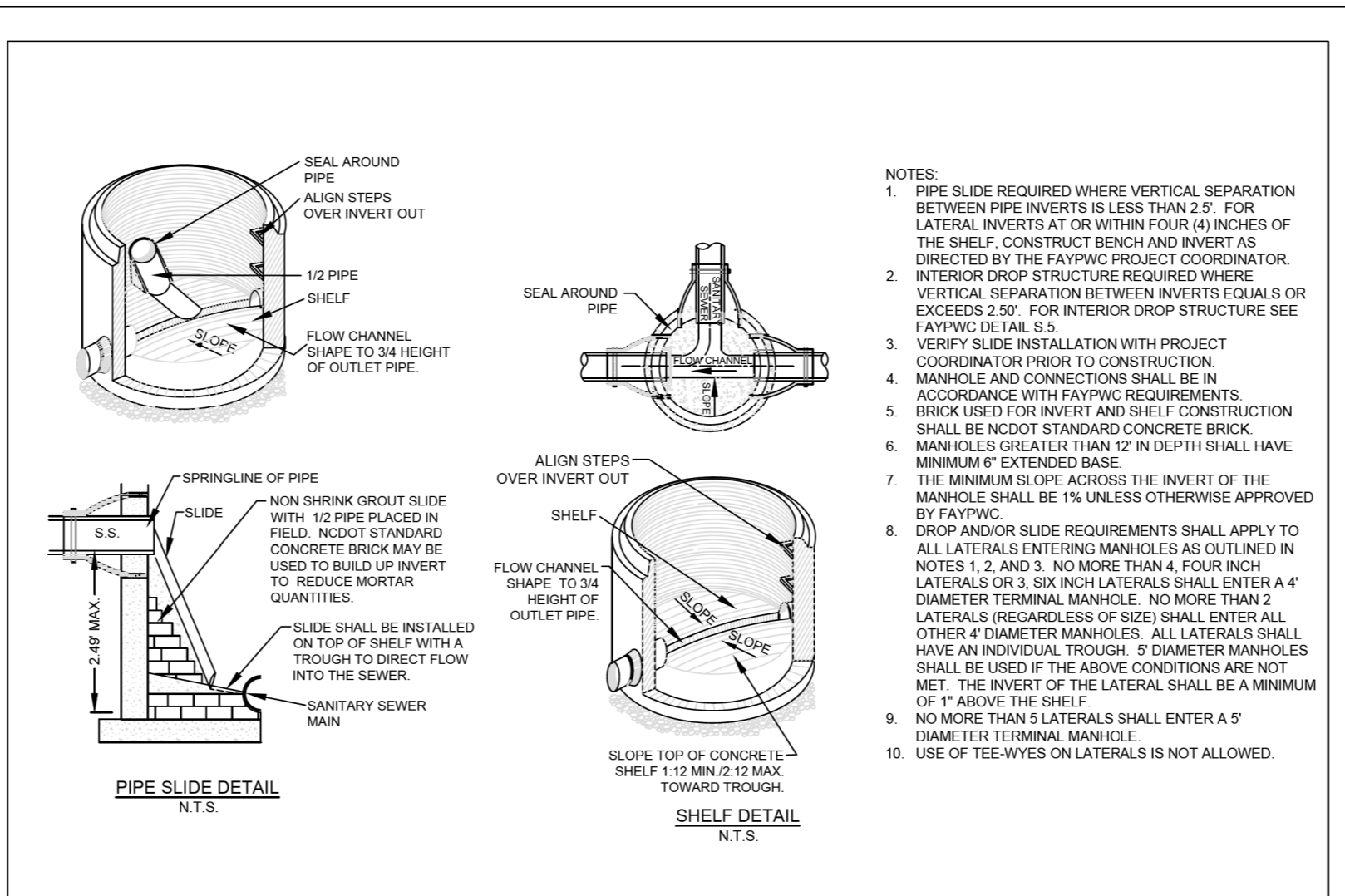
STANDARD MANHOLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 2 OF 2 DWG. NO. S.2 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



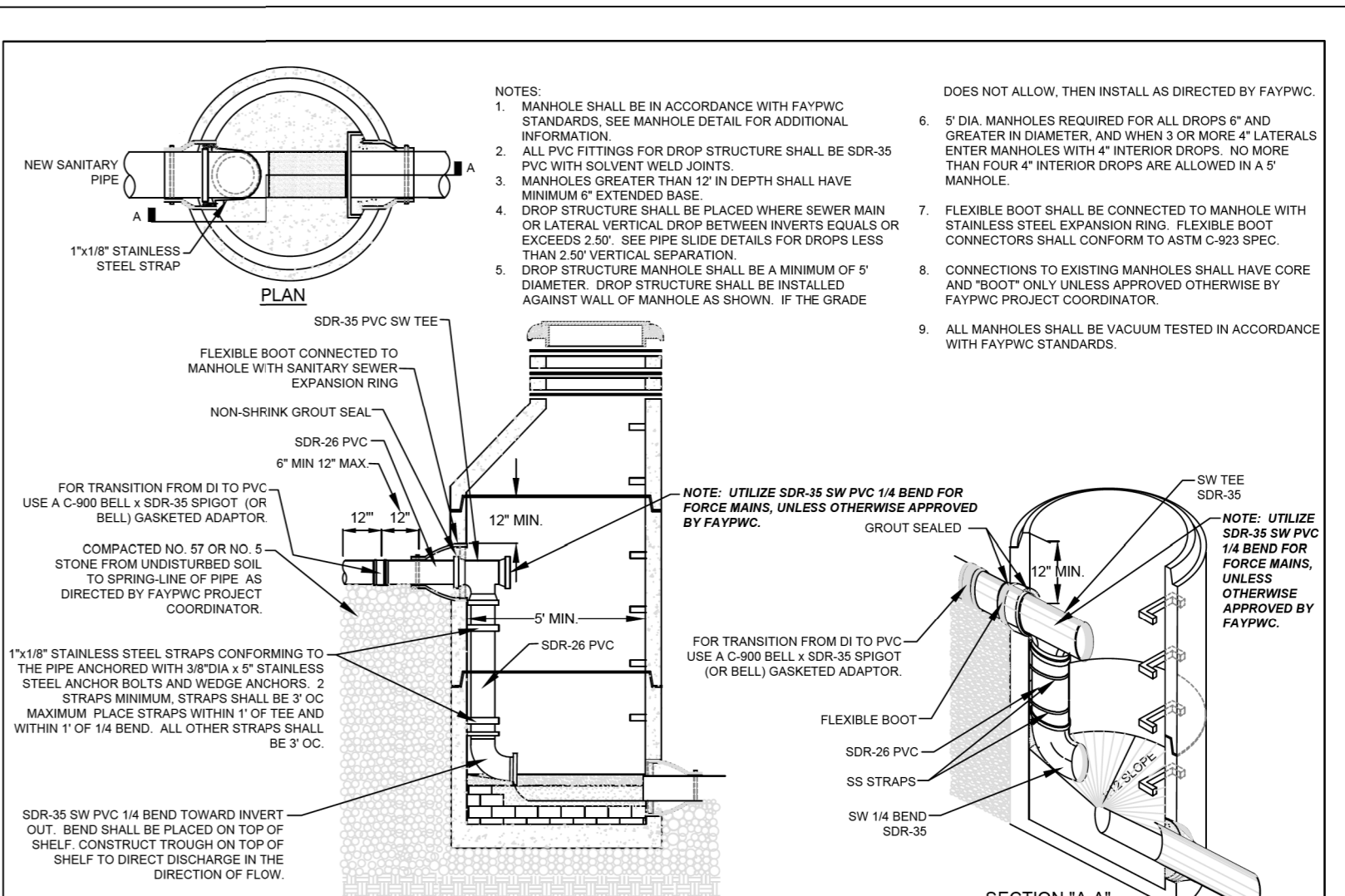
DOGHOUSE MANHOLE (MAINS 15" OR LESS) N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 2 DWG. NO. S.3 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



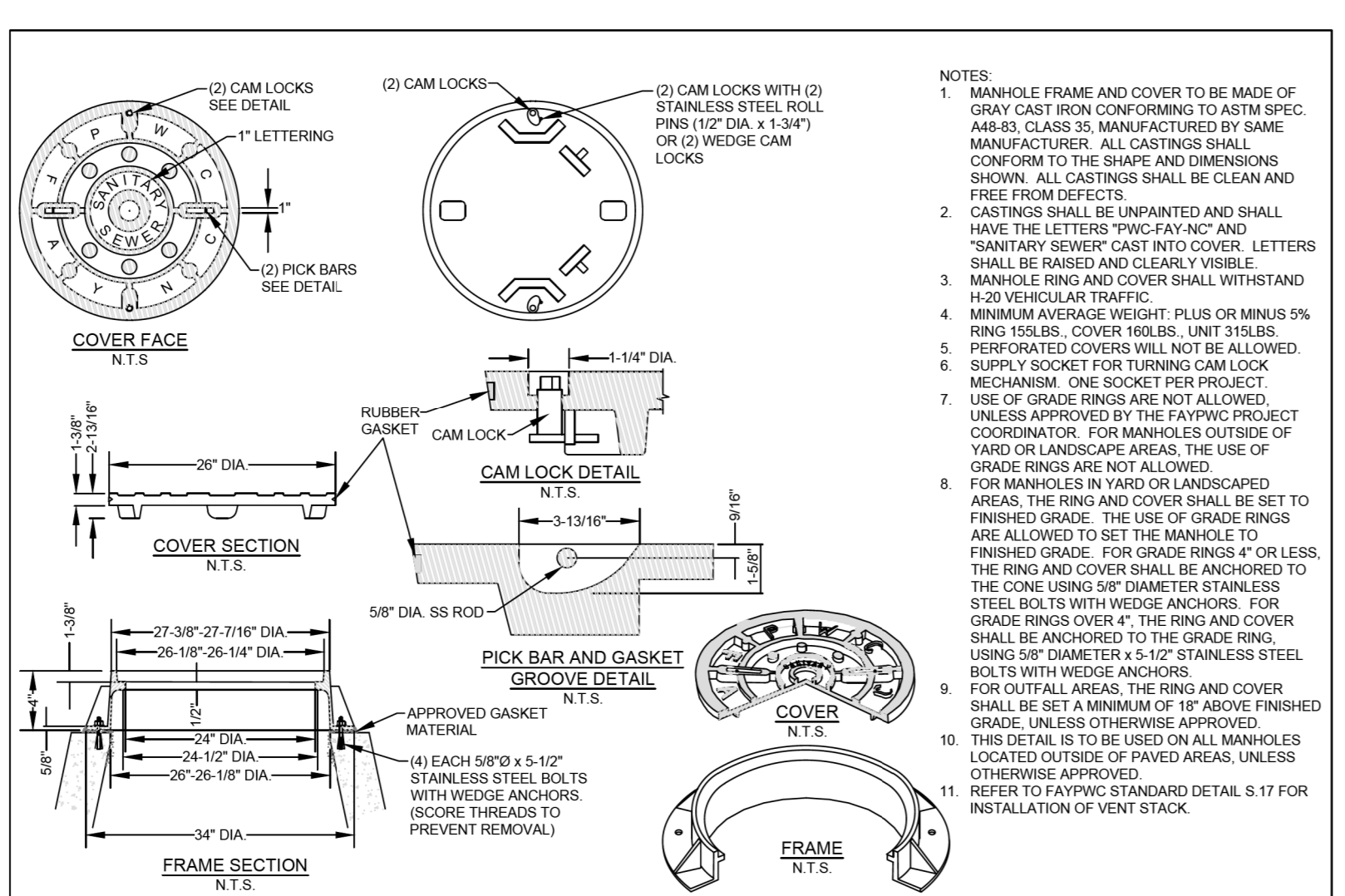
DOGHOUSE MANHOLE (MAINS 16" OR LARGER) N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 2 OF 2 DWG. NO. S.3 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



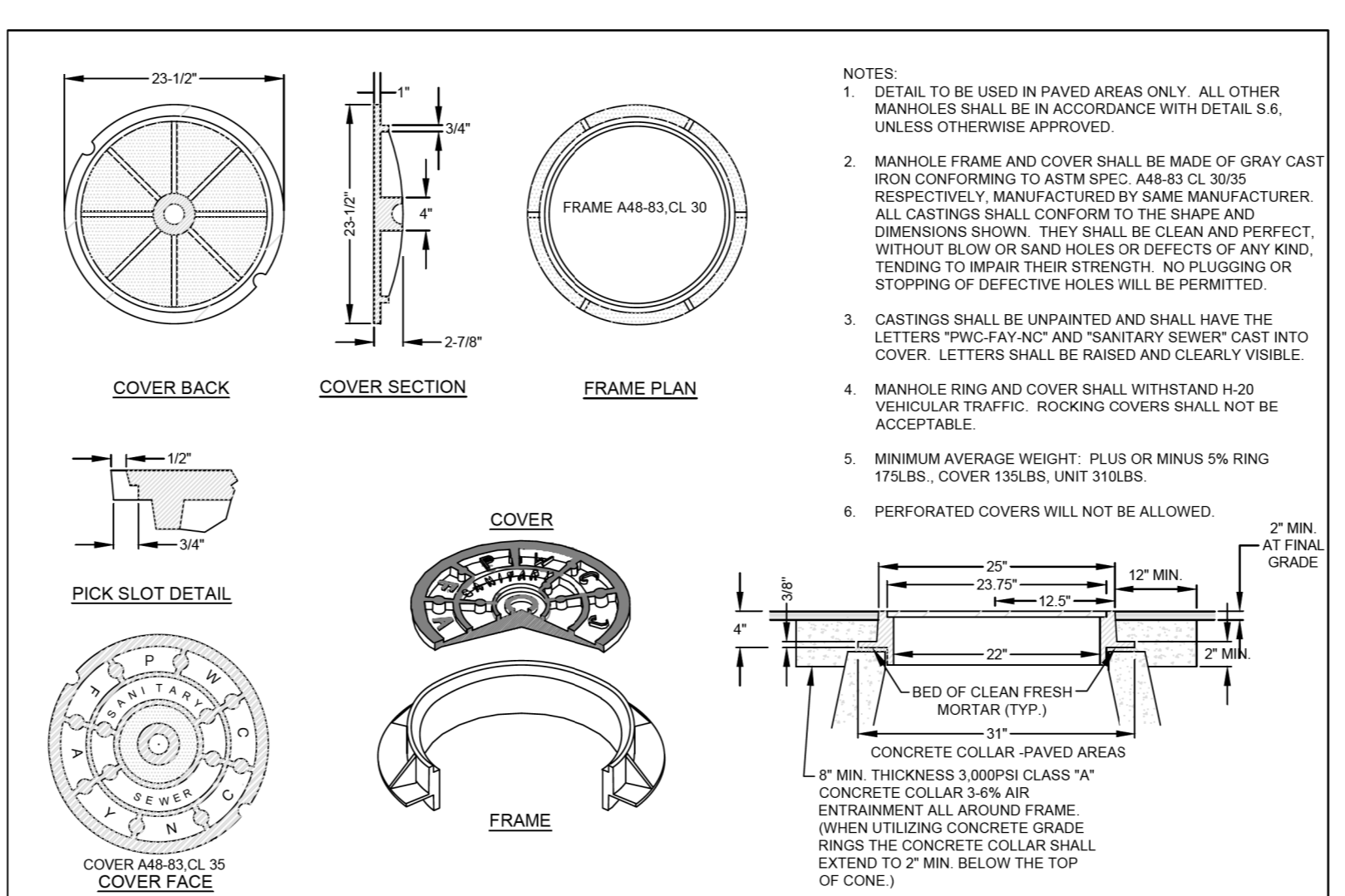
PIPE SLIDE AND SHELF DETAILS N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 1 DWG. NO. S.4 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



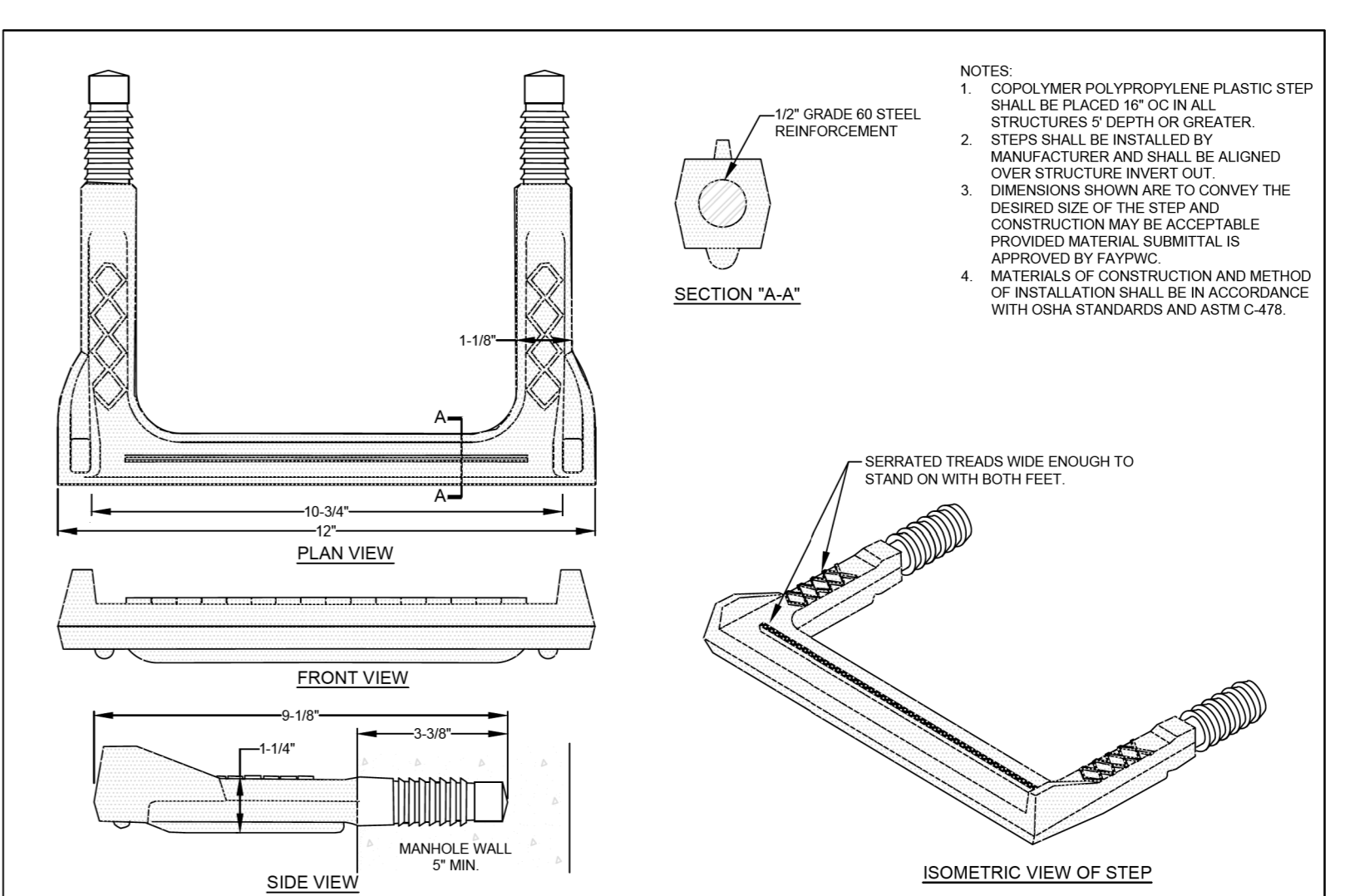
INTERIOR DROP STRUCTURE SEWER MAINS AND LATERALS N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 1 DWG. NO. S.5 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



STANDARD NON-TRAFFIC AREA MANHOLE RING AND COVER WITH WIPER GASKET AND CAM LOCK N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 1 DWG. NO. S.6 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



STANDARD TRAFFIC AREA MANHOLE RING AND COVER N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 1 DWG. NO. S.7 DATE: JULY 01, 2024 APPROVED BY: M.M.M.



STRUCTURE STEP N.T.S. FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C. WATER RESOURCES ENGINEERING DEPARTMENT SHEET NO. 1 OF 1 DWG. NO. S.8 DATE: JULY 01, 2024 APPROVED BY: M.M.M.

REVISIONS

SYSTEM: U-3422-UT-d1.LUC03-3H.dgn USER: C:\UTILES\DESIGNERS

CDM Smith
 CDM Smith Inc.
 5400 Glenwood Avenue
 Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

PROJECT REFERENCE NO. U-3422
 SHEET NO. UC-03G

DESIGNED BY: SSM
 DRAWN BY: SSM
 CHECKED BY: HMH
 APPROVED BY: MAP

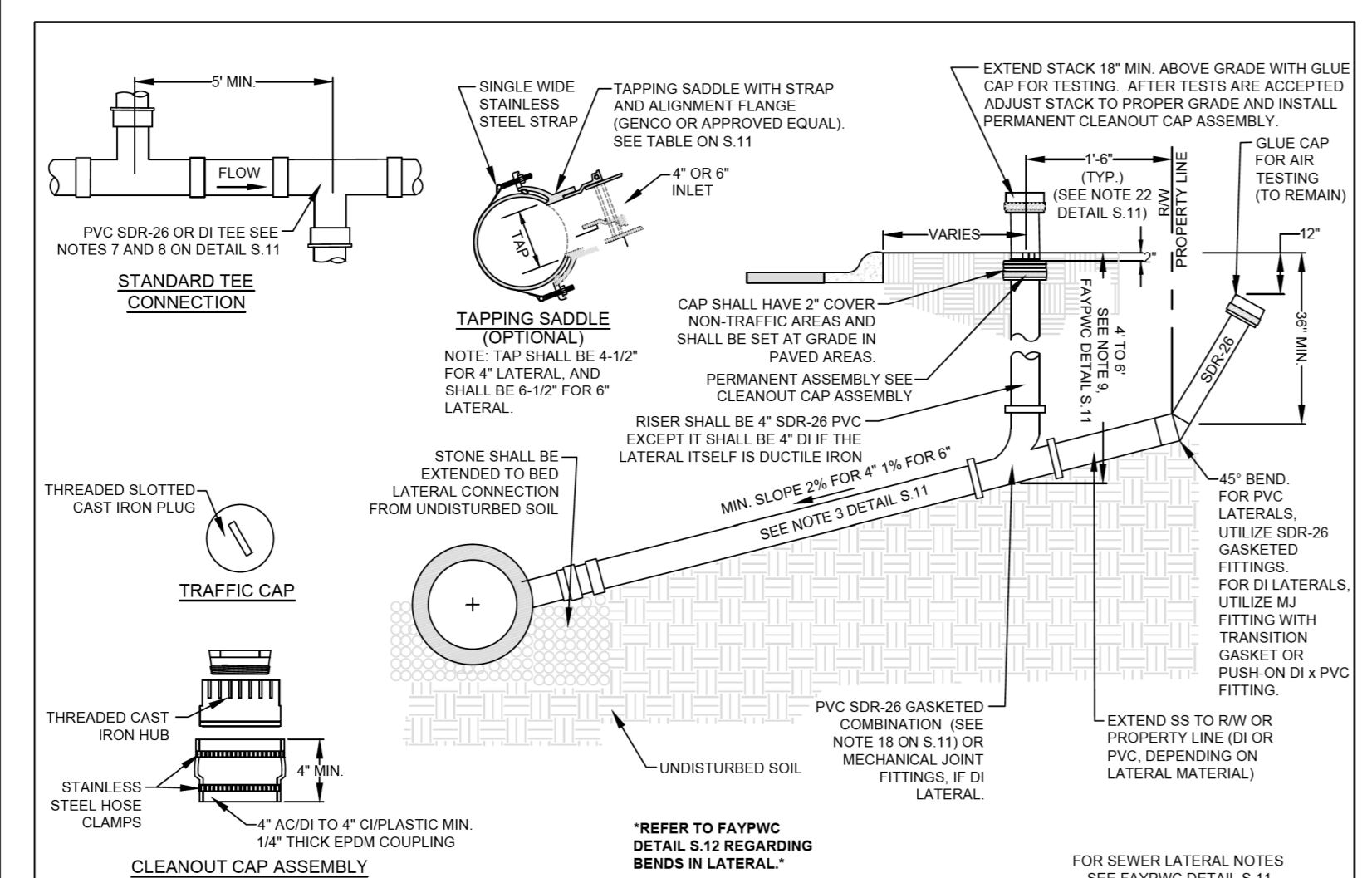
DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

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

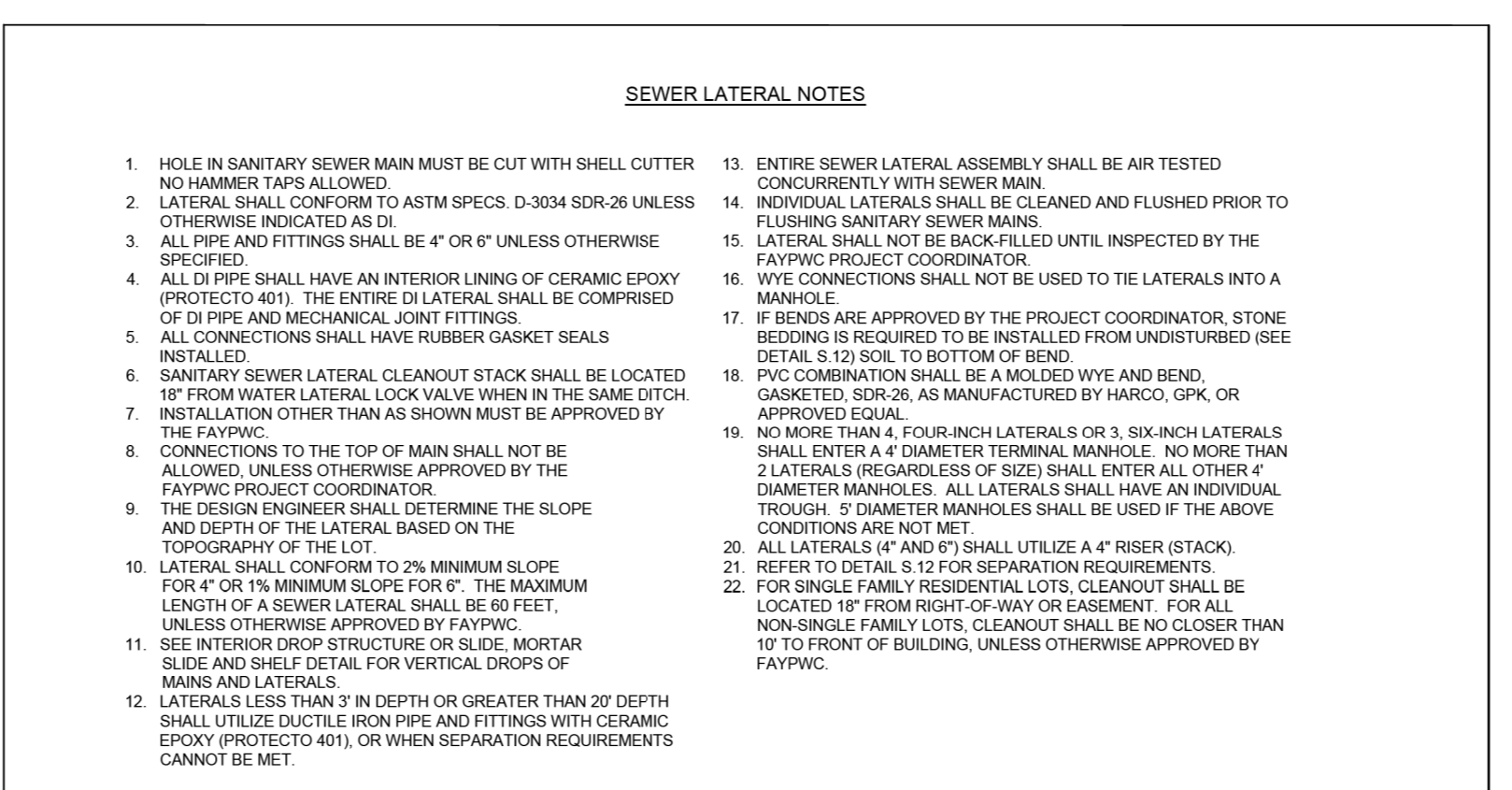
SEAL
 045468
 ENGINEER
 MICHAEL A. POLLARD
 11/14/2018

UTILITY CONSTRUCTION
 PLANS ONLY

UTILITY CONSTRUCTION



SEWER LATERAL (4-INCH AND 6-INCH) N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. S.10	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/14
	DATE: JULY 01, 2024			2	DATE 01/15
				3	DATE 07/18
				4	DATE 07/18

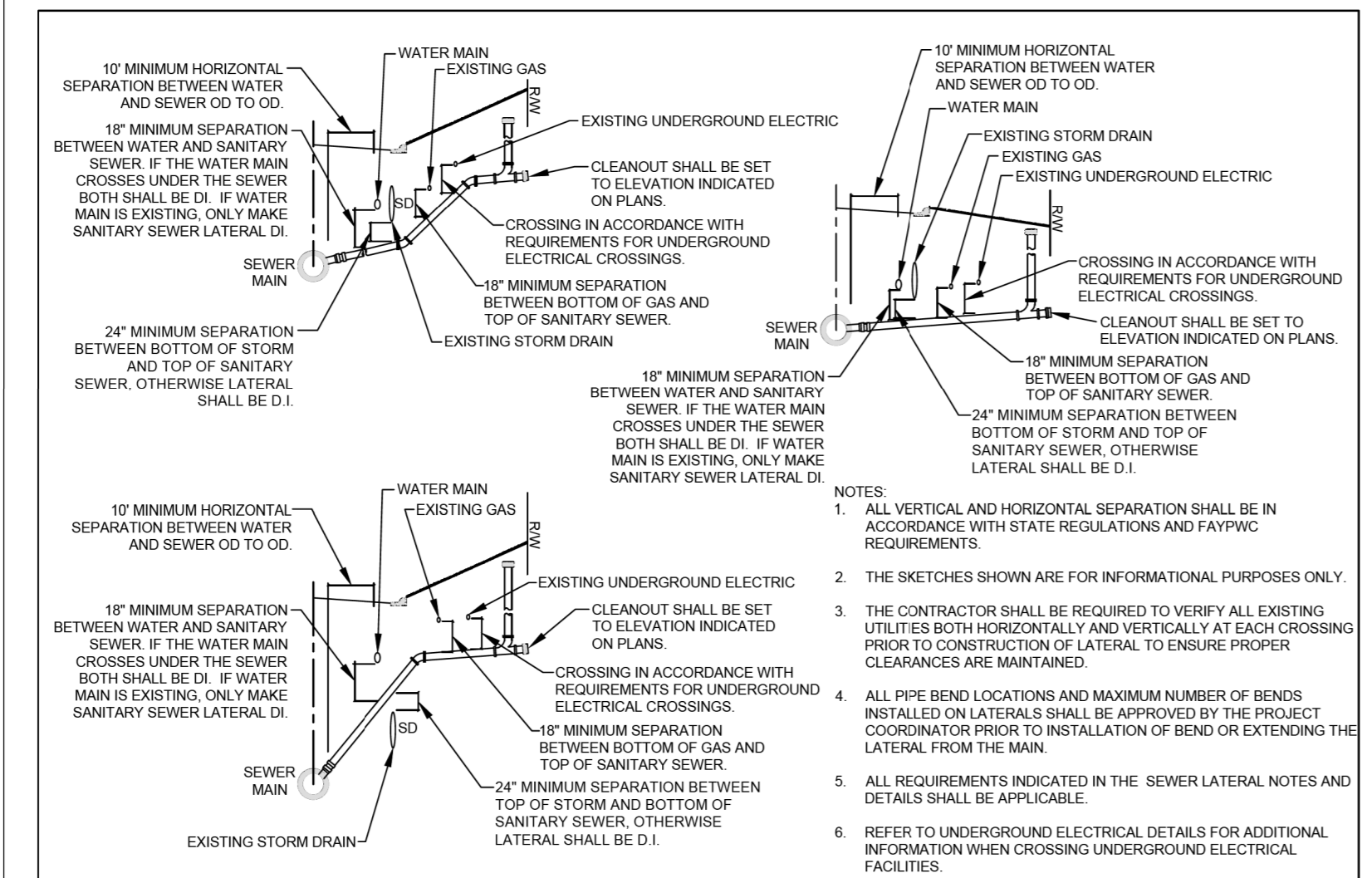


THE FOLLOWING TABLE SUMMARIZES THE MATERIALS TO BE UTILIZED FOR SEWER MAIN TO LATERAL CONNECTIONS:

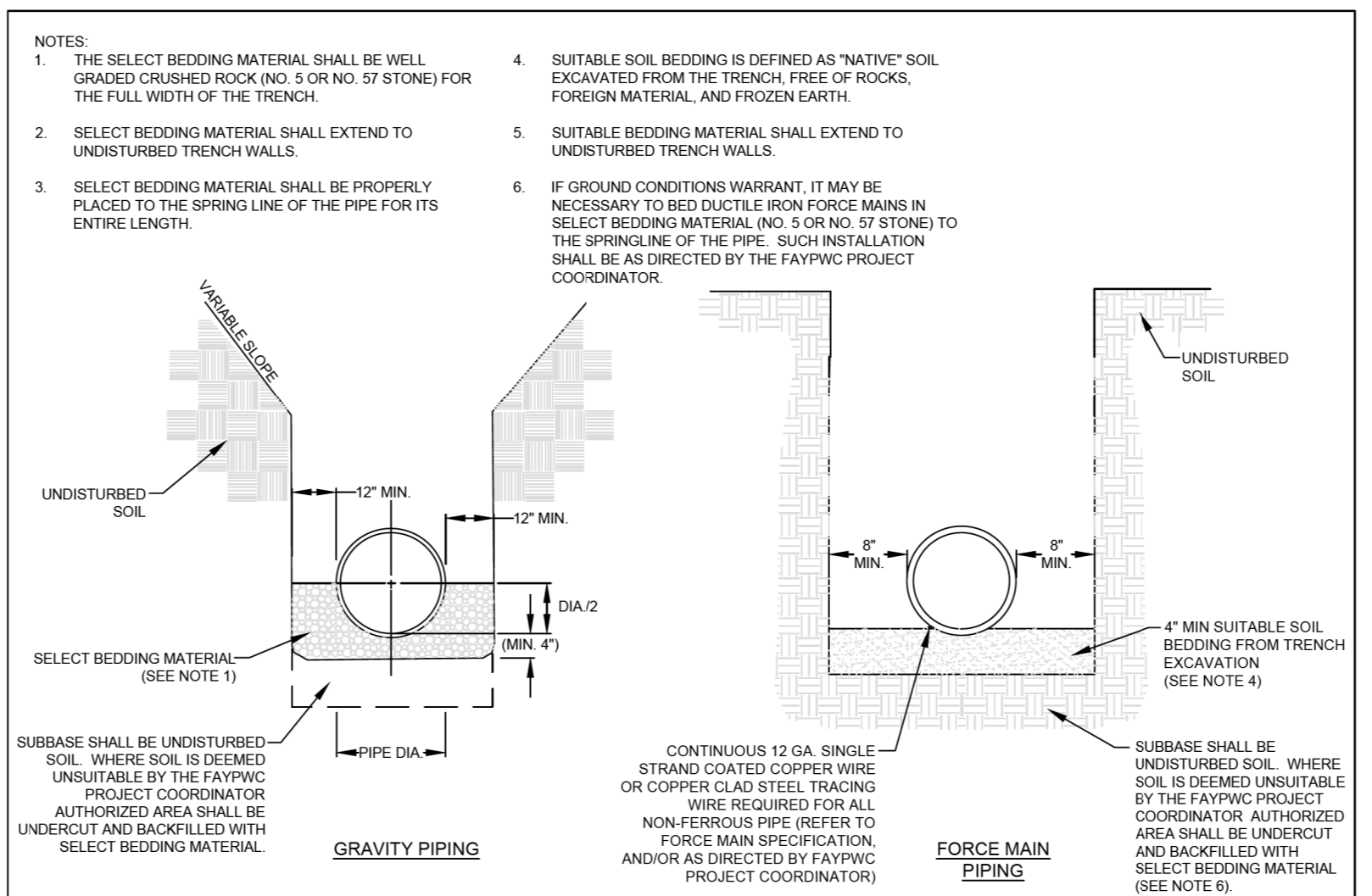
	PVC Main	DI Main
DI Lateral	DI fitting or approved saddle	MJ fitting or approved saddle
PVC Lateral	PVC fitting or approved saddle	MJ fitting with transition gasket or approved saddle

NOTE: REFER TO FAY/PMC TECHNICAL SPECIFICATIONS FOR ADDITIONAL INFORMATION.

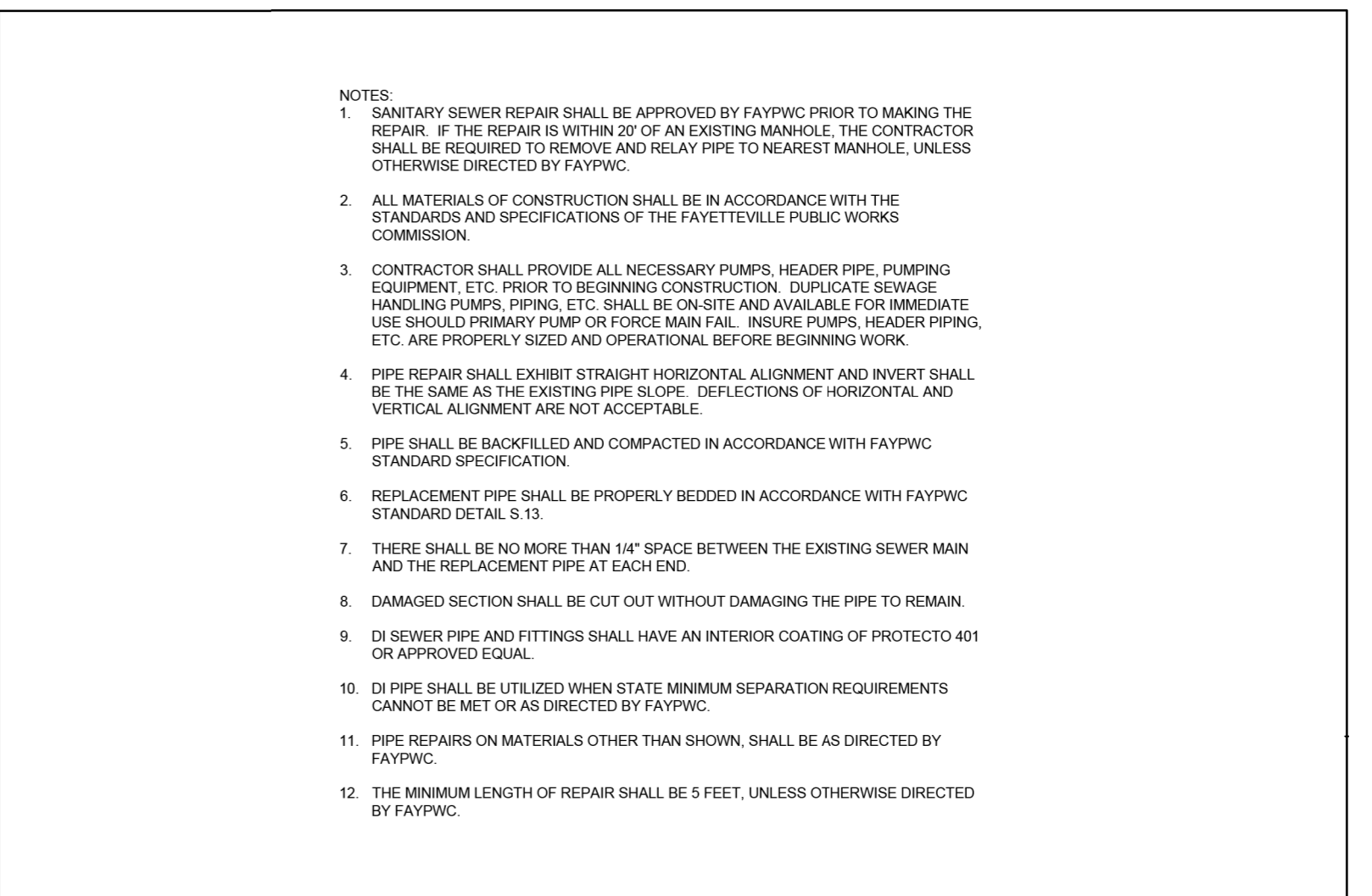
SEWER LATERAL NOTES (4-INCH AND 6-INCH)		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. S.11	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/13
	DATE: JULY 01, 2024			2	DATE 01/15
				3	DATE 07/18
				4	DATE 07/18



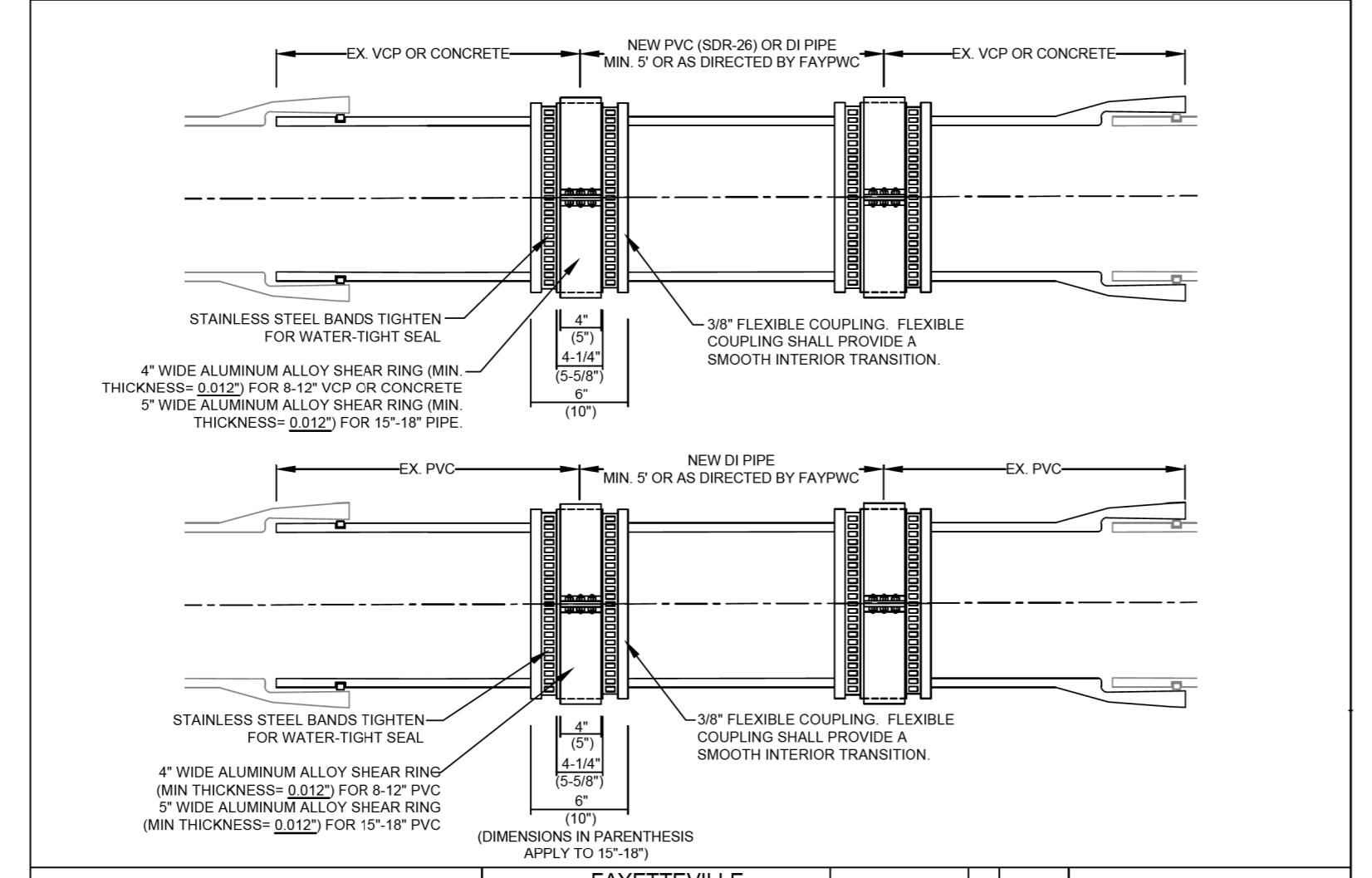
SEWER LATERAL UTILITY CONFLICT SEPARATION REQUIREMENTS N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. S.12	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 11/06
	DATE: JULY 01, 2024			2	DATE 03/10
				3	DATE 11/23



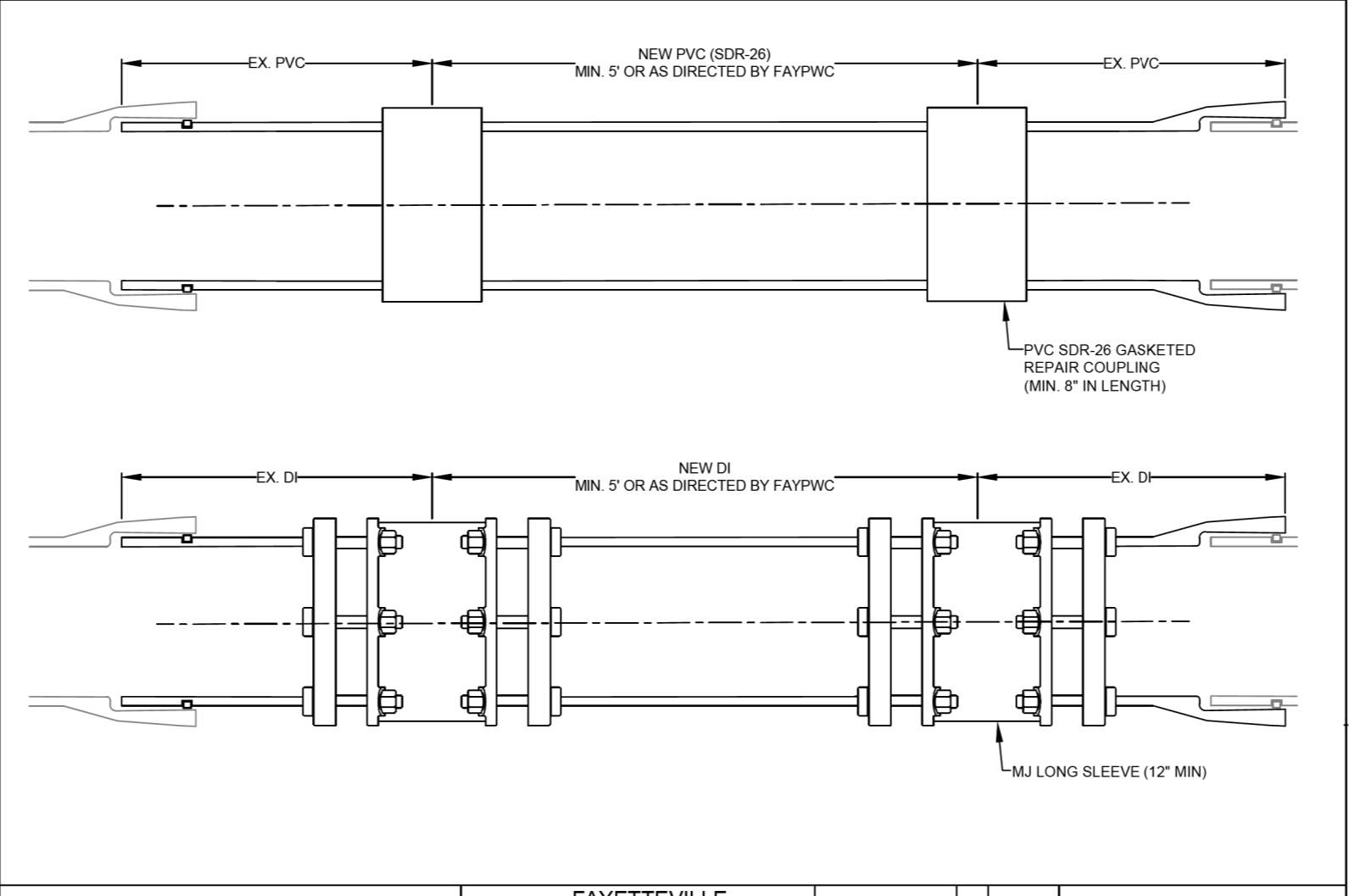
SEWER BEDDING N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. S.13	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/01/05
	DATE: JULY 01, 2024			2	DATE 01/01/16



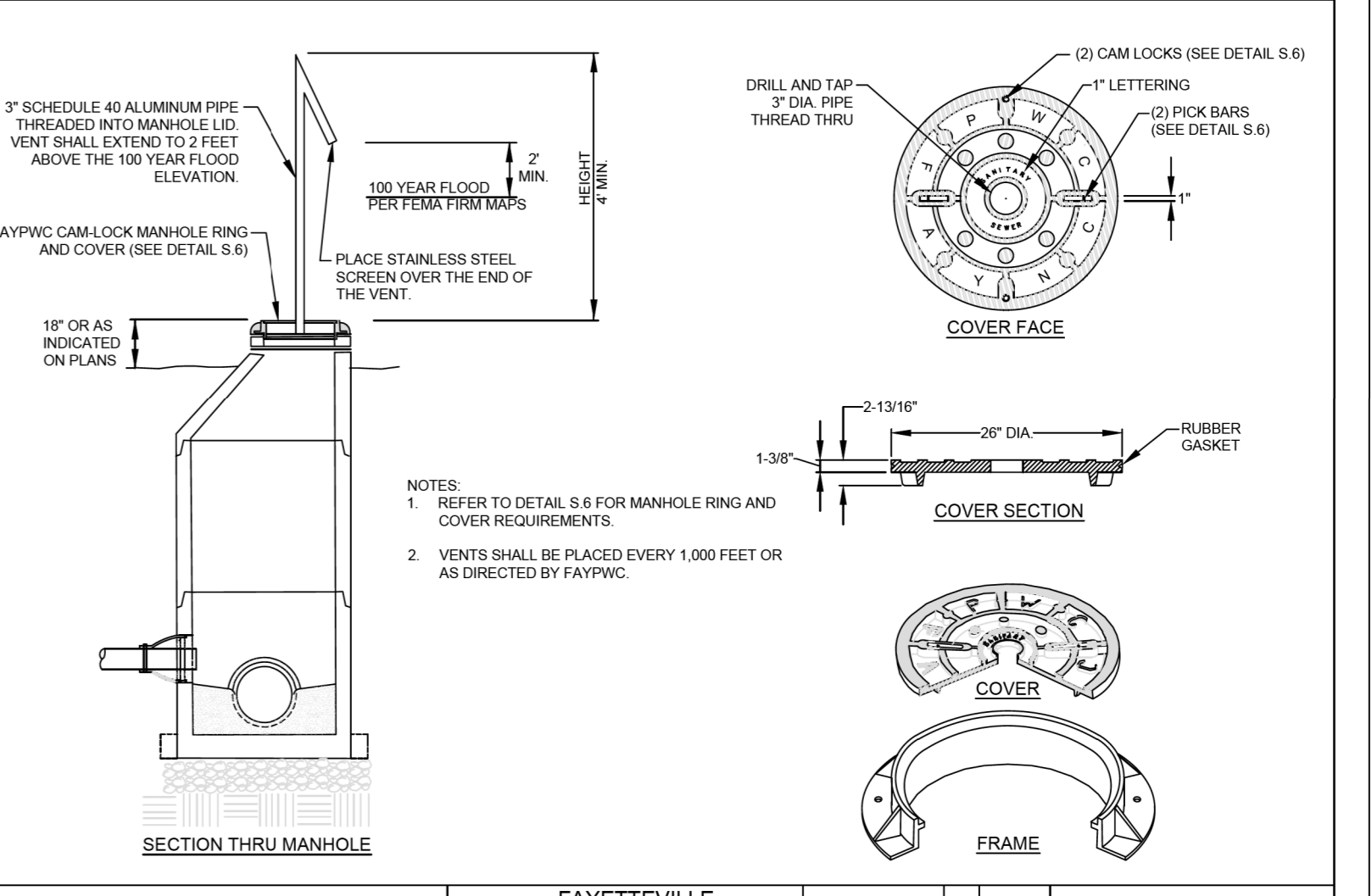
GRAVITY SANITARY SEWER PIPE REPAIR		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 3	DWG. NO. S.15	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/05
	DATE: JULY 01, 2024			2	DATE 07/11



GRAVITY SANITARY SEWER PIPE REPAIR N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 2 OF 3	DWG. NO. S.15	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/05
	DATE: JULY 01, 2024			2	DATE 07/11



GRAVITY SANITARY SEWER PIPE REPAIR N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 3 OF 3	DWG. NO. S.15	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/05
	DATE: JULY 01, 2024			2	DATE 07/11



MANHOLE VENT N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. S.17	DWG. BY: FAY/PMC	APPROVED BY: M.M.M.	NO. 1	DATE 01/05
	DATE: JULY 01, 2024			2	DATE 07/11

NOTE:

ANY REFERENCE TO FAY/PMC PROJECT COORDINATOR, PWC COORDINATOR OR FAY/PMC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.

REVISIONS

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5/14/2024

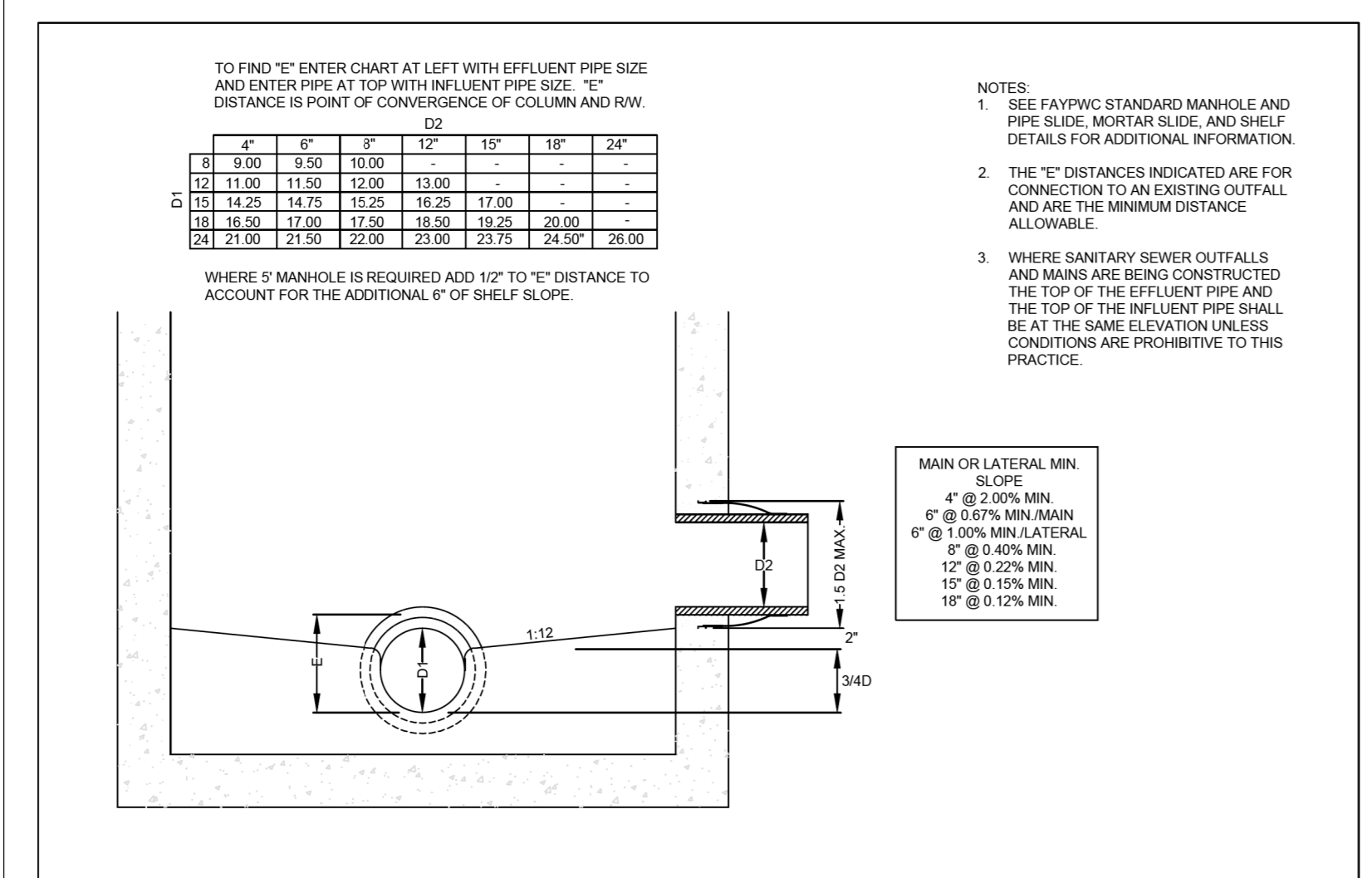


CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255

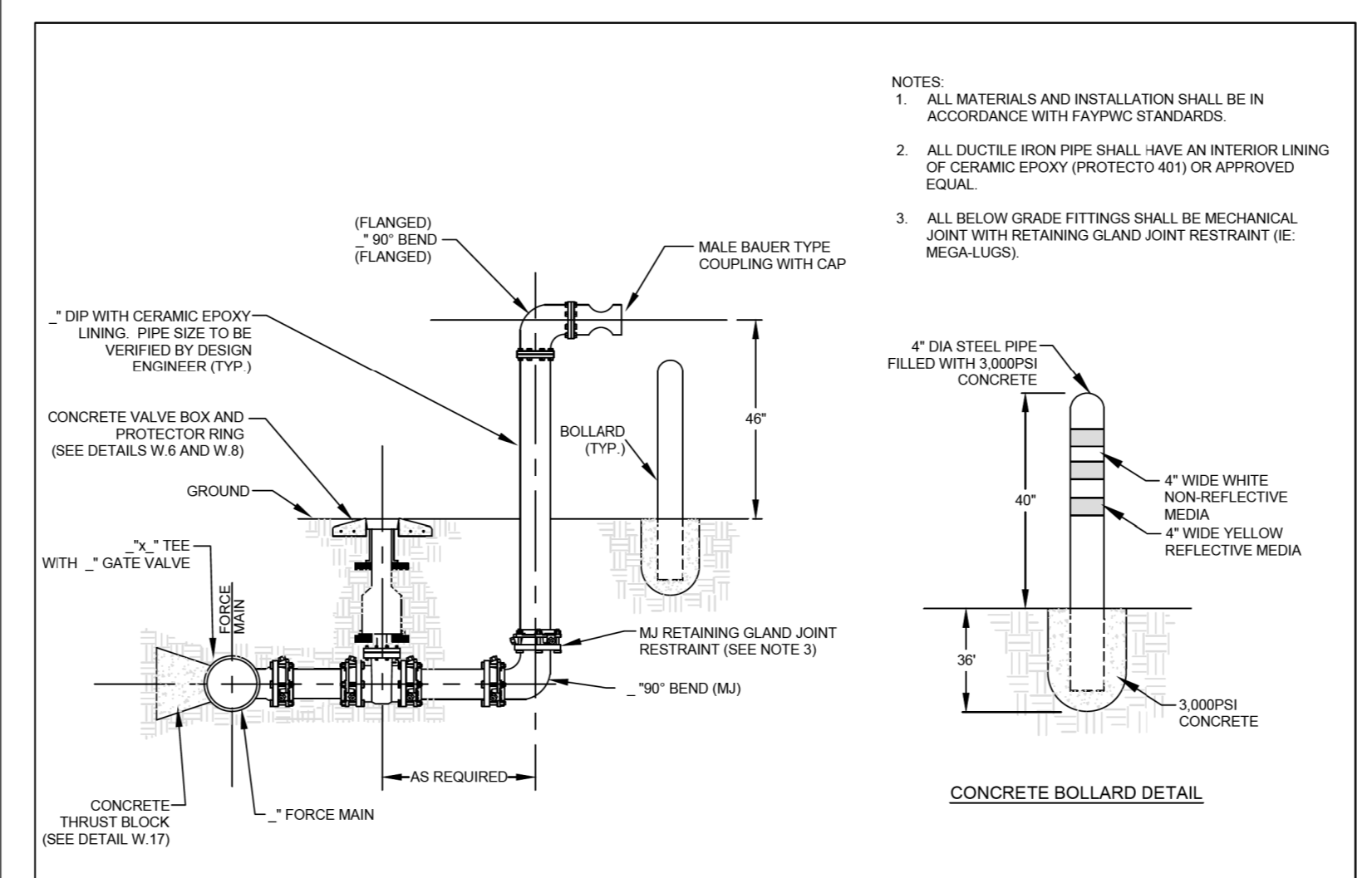
PROJECT REFERENCE NO.	U-3422	SHEET NO.	UC-03H
DESIGNED BY:	SSM	Signed by:	
DRAWN BY:	SSM	Professional Engineer Seal: 045468	
CHECKED BY:	HMH	MICHAEL A. POLLARD	
APPROVED BY:	MAP	1/14/2024	
REVISION:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION		
UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED

UTILITY CONSTRUCTION

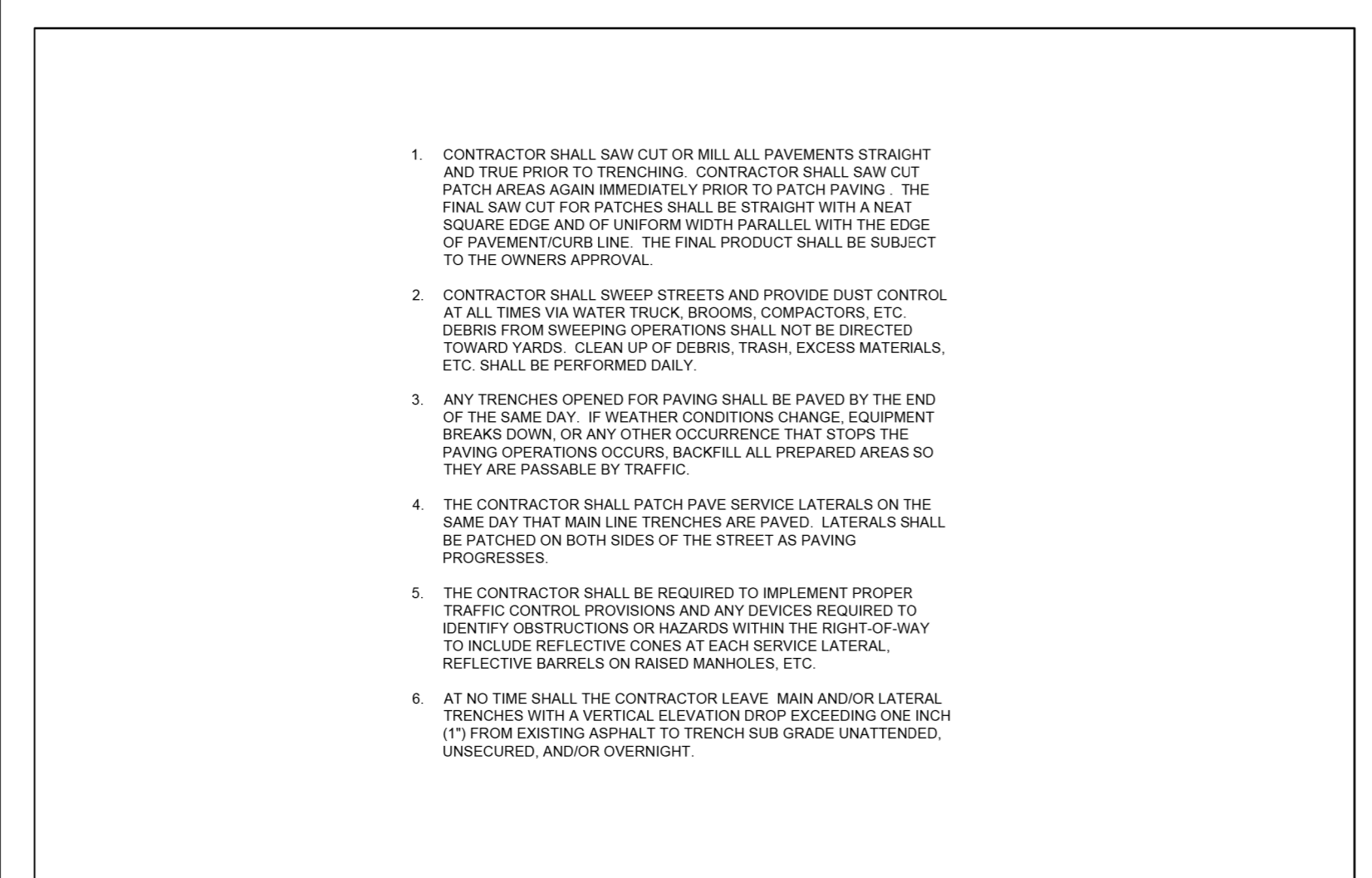


MH CONNECTION DESIGN GUIDE N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. S.18 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT			

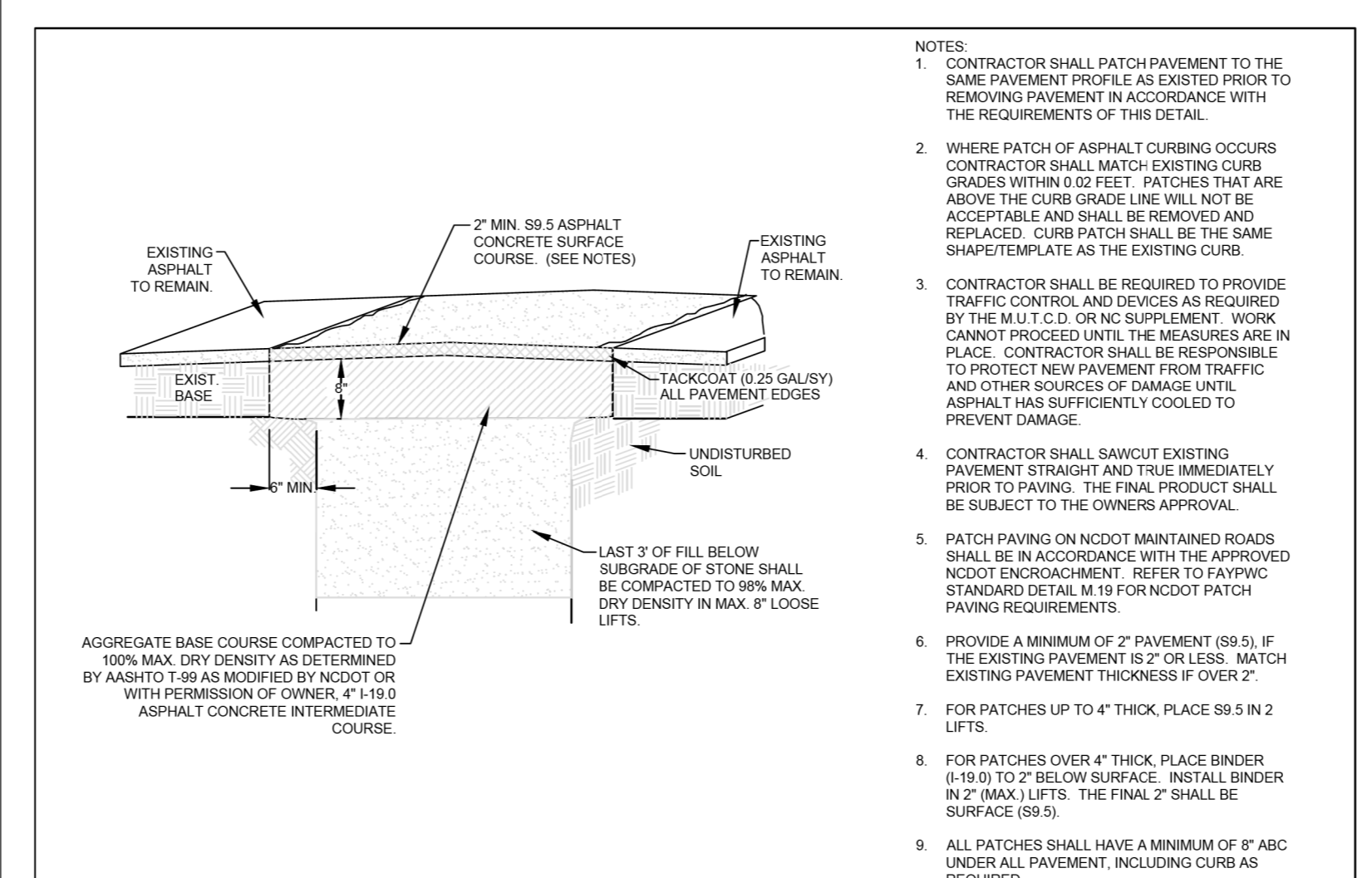


FORCE MAIN BY-PASS PUMPING ASSEMBLY N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. S.21 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT			

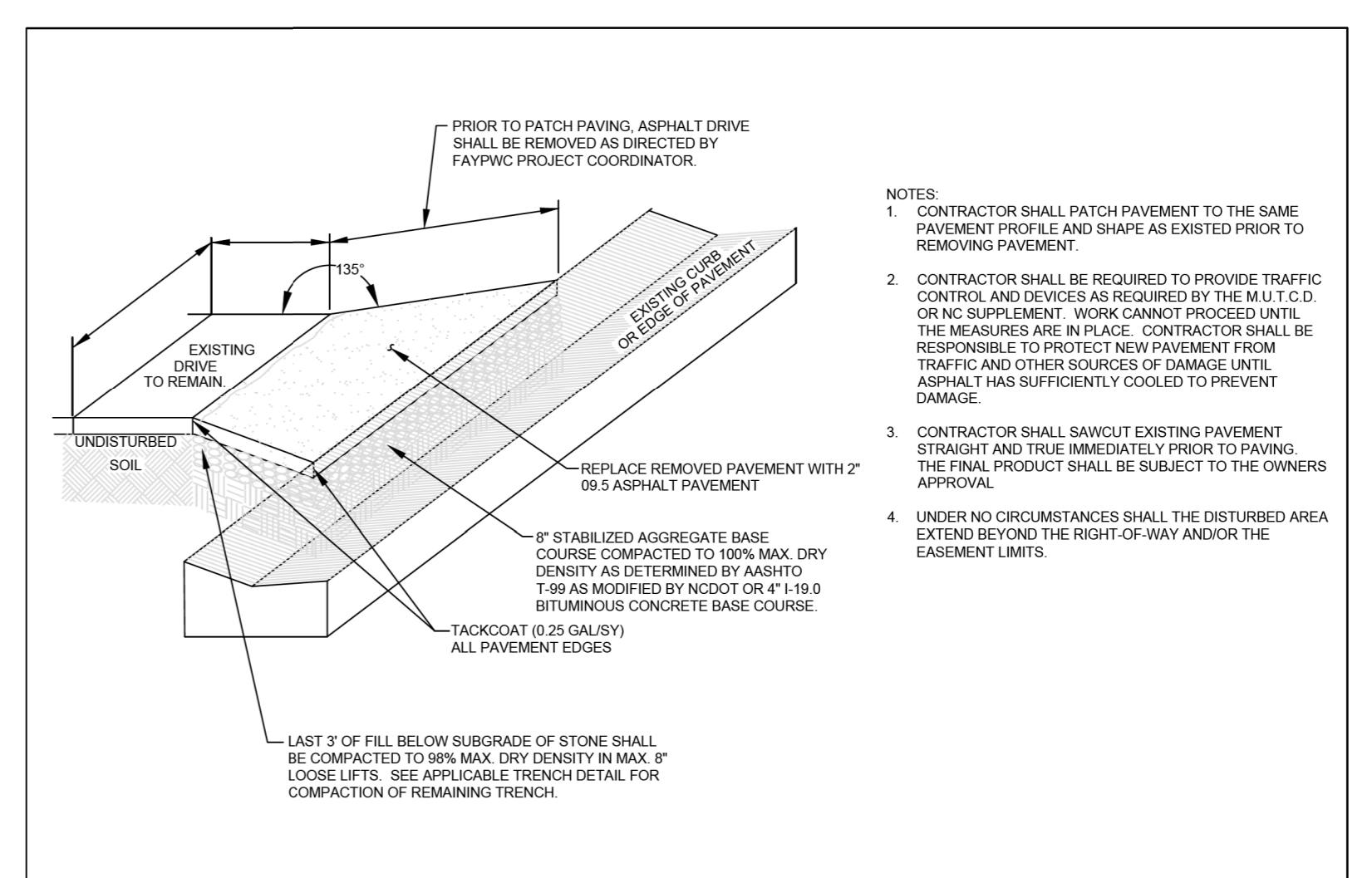
NOTE:
ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.



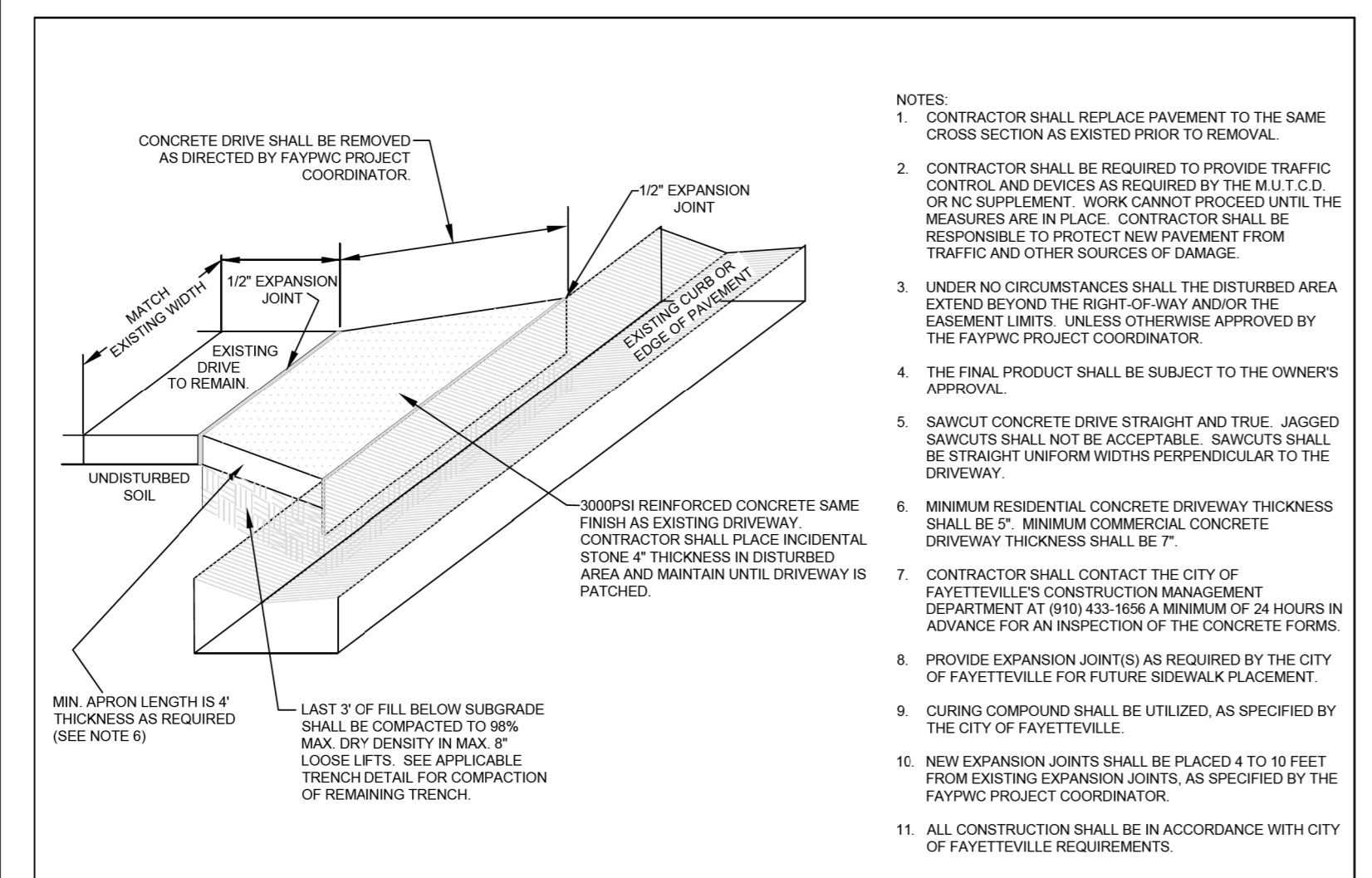
PAVEMENT REPAIR NOTES N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. M.1 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT	1	07/10	REVISED, DELETED NOTES



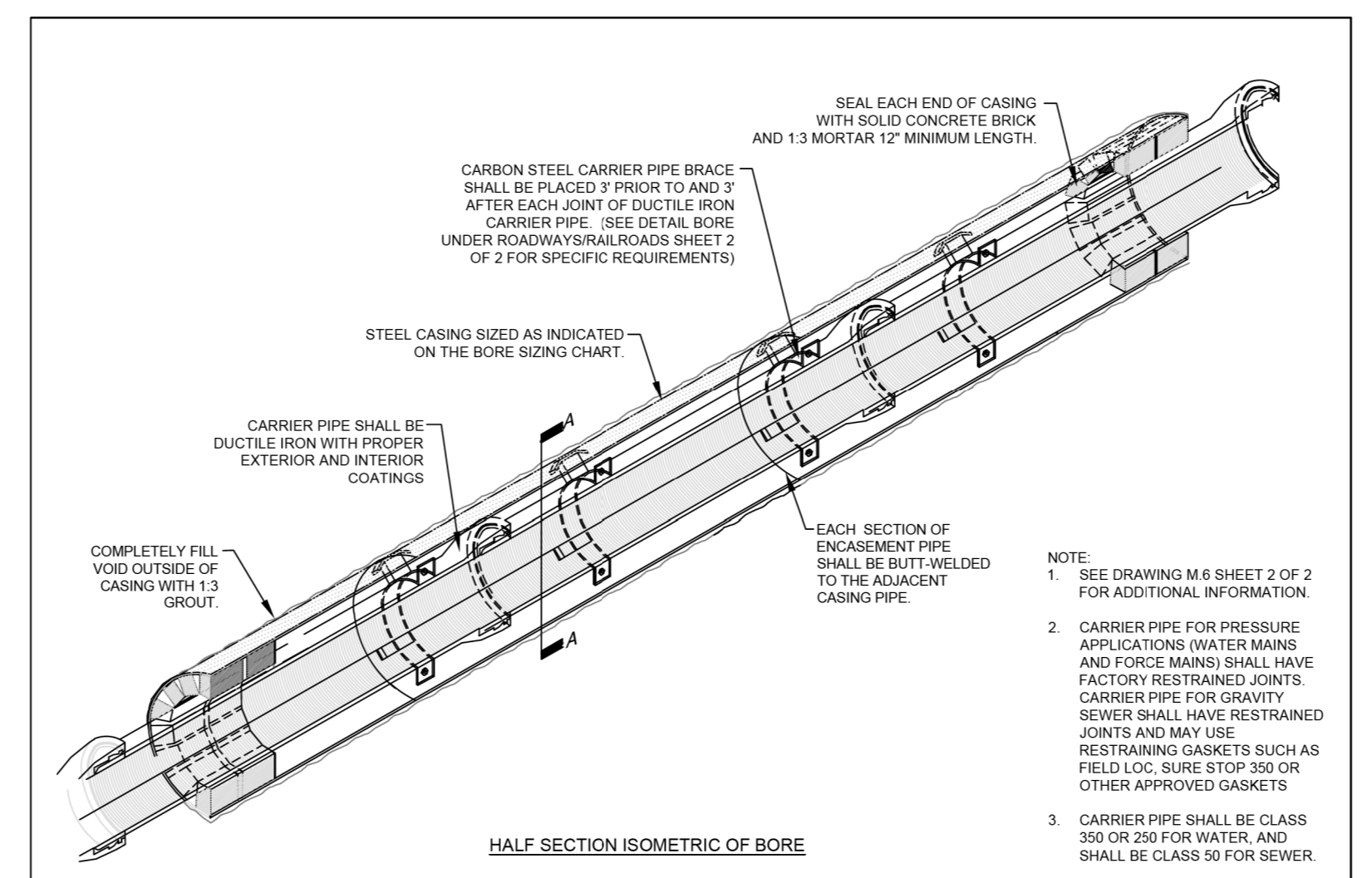
PERMANENT PAVEMENT PATCH N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. M.2 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT	1	01/07	CHANGED ASPHALT MIX
			2	08/10	REVISED, DELETED NOTES



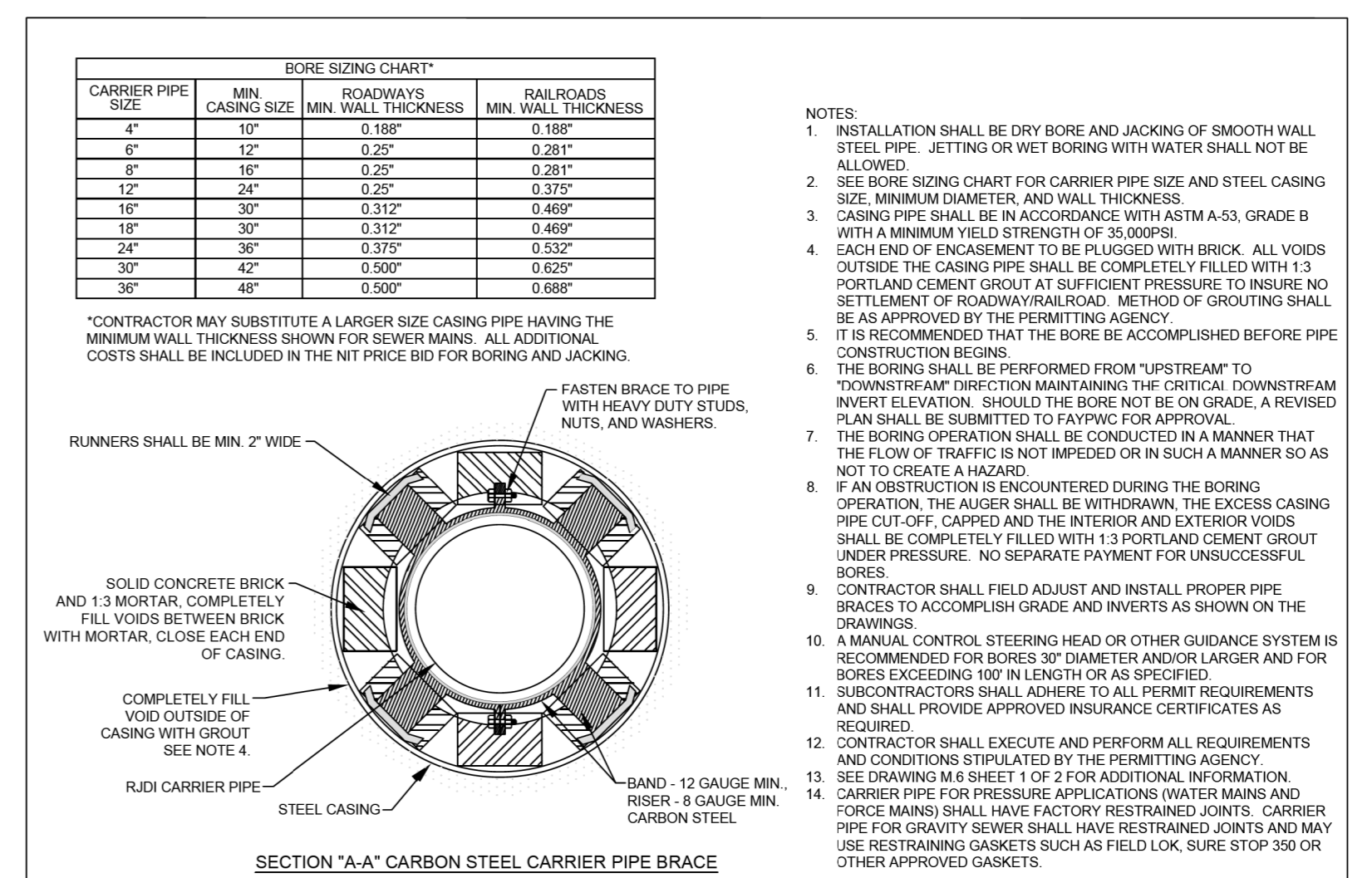
ASPHALT DRIVEWAY/PARKING LOT PATCH N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. M.4 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT	1	08/10	REVISED, DELETED NOTES



CONCRETE DRIVEWAY PATCH N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 1	DWG. NO. M.5 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT			



BORE UNDER ROADWAYS/RAILROADS N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 1 OF 2	DWG. NO. M.6 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT	1	01/05	ADDED NOTES 2 AND 3
			2	10/09	CLARIFIED RESTRAINT REQUIREMENTS



BORE UNDER ROADWAYS/RAILROADS N.T.S.		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.	NO.	DATE	REVISION
SHEET NO. 2 OF 2	DWG. NO. M.6 DATE: JULY 01, 2024	WATER RESOURCES ENGINEERING DEPARTMENT	1	02/11/04	ADDED CARRIER PIPE TO BORE SIZING CHART
			2	07/10	REVISED NOTES, SIZING CHART

REVISIONS

-SYSTEM: 0422_ut-dtl_LUC03-3h.dgn
USER: JONATHAN

DESIGNED BY: SSM
DRAWN BY: SSM
CHECKED BY: HMH
APPROVED BY: MAP

DOCUMENT NOT CONSIDERED FINAL
UNLESS ALL SIGNATURES COMPLETED

REVISOR: [Signature]
DATE: 5/14/24

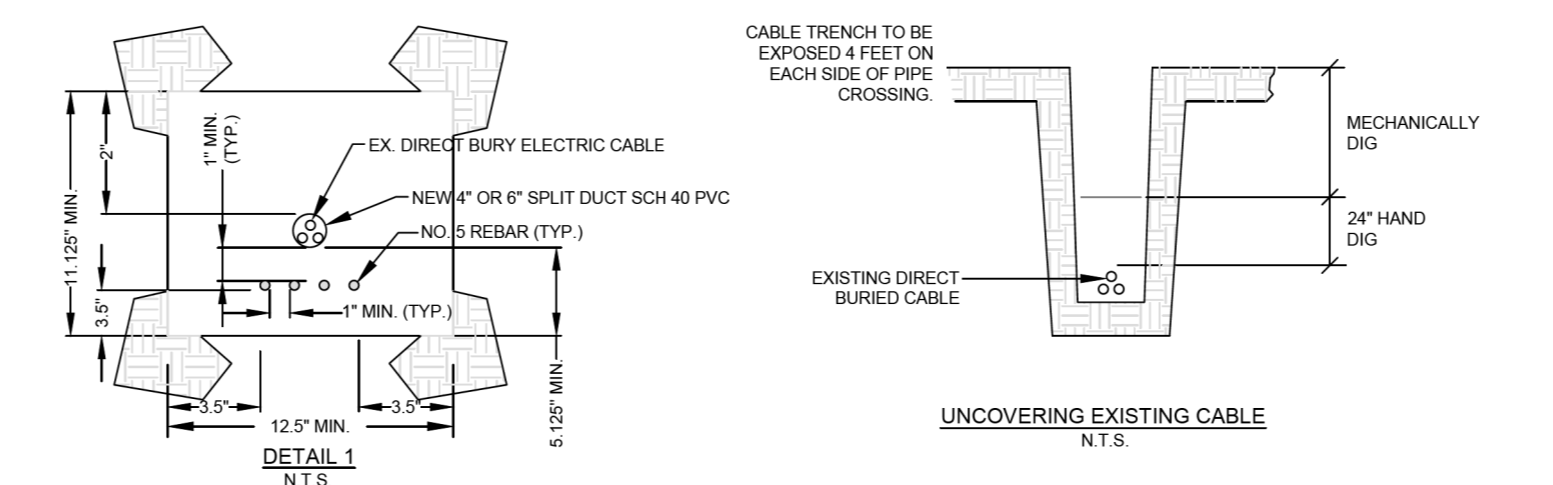
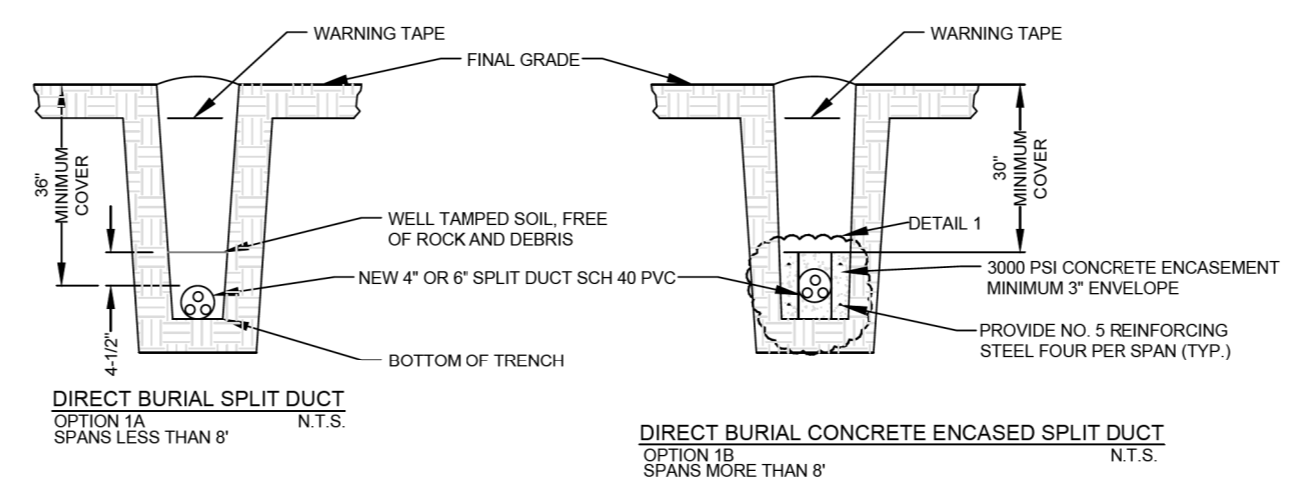
SEAL 045468
MICHAEL A. POLLARD JR.
REGISTERED PROFESSIONAL ENGINEER

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

UTILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

- BOTTOM OF TRENCH SHALL BE FREE OF LOOSE ROCK. SOLID ROCK AT BOTTOM OF TRENCH SHALL BE COVERED WITH 4 INCH LAYER OF COMPACTED SOIL. IF SOLID ROCK IS ENCOUNTERED AT A DEPTH LESS THAN SPECIFIED, CONSULT ENGINEER. IF TRENCH CROSSES FILL DIRT, BOTTOM OF TRENCH SHALL BE COMPACTED BEFORE INSTALLING ANY CABLE.
- BACKFILL SHALL BE FREE OF ROCK AND DEBRIS. TAMP THE FIRST 6 INCHES OF BACKFILL ABOVE DIRECT BURIED FEEDER CABLES. TAMP THE FIRST 6 INCHES OF BACKFILL FOR ALL OTHER CABLES. ENTIRE TRENCH DEPTH SHALL BE TAMPED FOR RESIDENTIAL SERVICE LATERALS, UNDER AREAS TO BE PAVED, AND ALL STREET CROSSINGS. TAMPED MEANS SOIL COMPACTION TO THAT OF UNDISTURBED EARTH USING ALTERNATE BACKFILL AND TAMPING. IN ALL OTHER CASES UNLESS SPECIFIED BY THE ENGINEER, BACKFILLS ABOVE THE BOTTOM TAMPED LAYER SHALL BE COMPACTED SUCH THAT WASHING AND SETTLING OF THE TRENCH SURFACE SHALL NOT OCCUR.
- REFER TO SPECIFICATIONS FOR COMPLETE INSTALLATION.
- ALL WORK SHALL BE PLANNED AND COORDINATED WITH THE AFFECTED UTILITY PROVIDER.
- ALL WORK SHALL BE PERFORMED BY OR UNDER THE DIRECT SUPERVISION OF A LICENSED ELECTRICAL CONTRACTOR.
- UTILITY PROVIDER WILL BE RESPONSIBLE FOR SECTIONALIZING AND DE-ENERGIZING THE CONDUCTOR.
- ALL AFFECTED OUTAGE CUSTOMERS SHALL BE NOTIFIED IN WRITING 48 HOURS IN ADVANCE. OUTAGE SHALL BE KEPT TO A MAXIMUM OF 2 HOURS PER HOUSEHOLD.
- ALL MATERIALS SHALL BE IN ACCORDANCE WITH N.E.C. REQUIREMENTS.
- CONTRACTOR SHALL UTILIZE ALL SAFETY PROCEDURES PER NATIONAL ELECTRIC SAFETY CODE AND O.S.H.A.
- ELECTRICAL CABLES DAMAGED DUE TO UNCOVERING CONDUCTORS, THE UTILITY PROVIDER SHALL REPAIR AT THE CONTRACTOR'S EXPENSE.

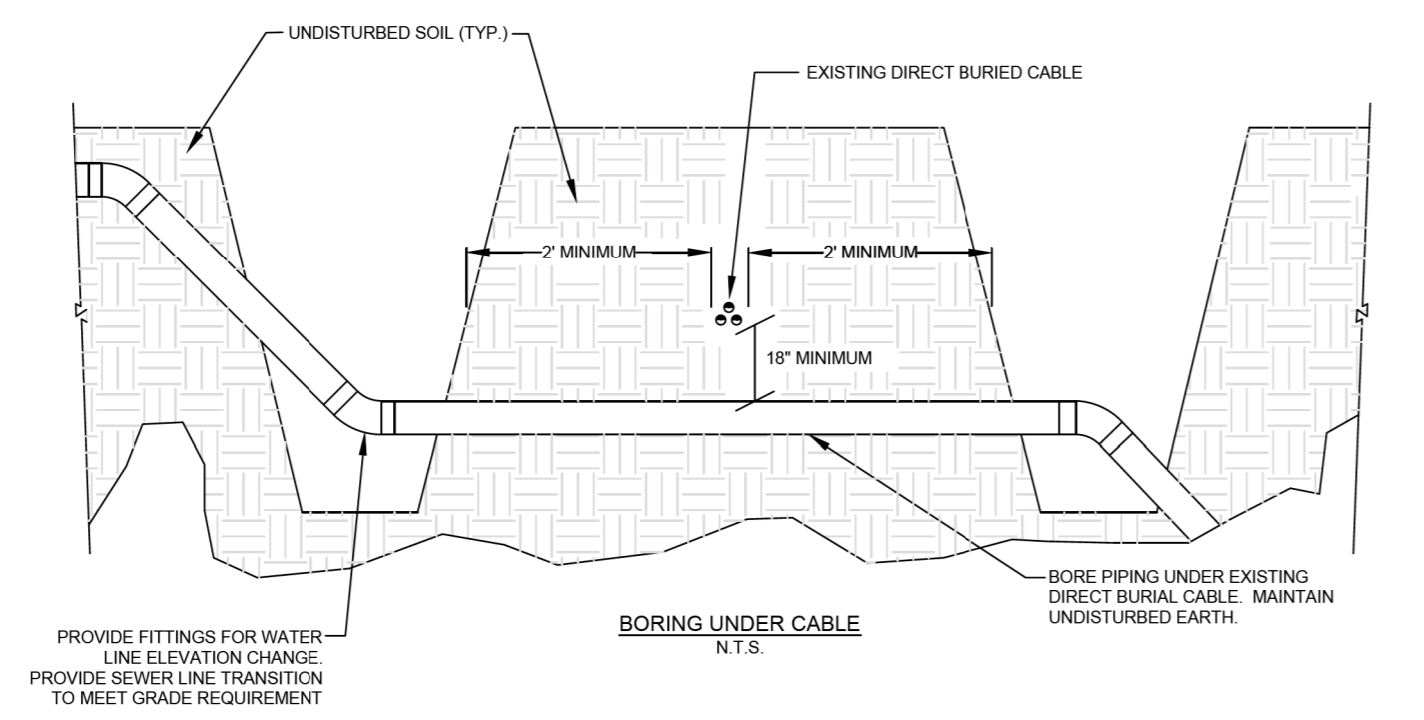


ELECTRICAL NOTES DETAIL		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. M.9 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	NO. 1	DATE: 07/23/03	REVISION: DELETED NOTE 1 AND RENUMBERED SHEET

M9-ELEC-DETAILS.dwg

UNDERGROUND ELECTRIC CABLE BURIAL AND UNCOVERING DETAIL		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. M.10 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	NO. 1	DATE: 07/23/03	REVISION: ADDED DETAIL 1, RENUMBERED SHEET

M10-ELEC-DETAILS.dwg



BORING UNDER ELECTRIC CABLE DETAIL		FAYETTEVILLE PUBLIC WORKS COMMISSION FAYETTEVILLE, N.C.		WATER RESOURCES ENGINEERING DEPARTMENT	
SHEET NO. 1 OF 1	DWG. NO. M.11 DATE: JULY 01, 2024	DWG. BY: FAYPWC APPROVED BY: M.M.M.	NO. 1	DATE: 07/23/03	REVISION: RENUMBERED SHEET

M11-ELEC-DETAILS.dwg

REVISIONS

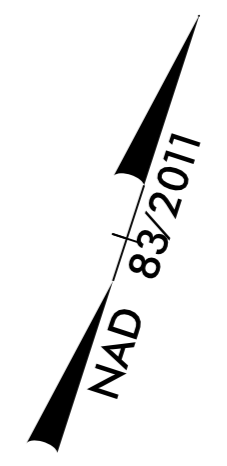
NOTE:
ANY REFERENCE TO FAYPWC PROJECT COORDINATOR, PWC COORDINATOR OR FAYPWC (FAYETTEVILLE PUBLIC WORKS COMMISSION) SHALL BE INTERPRETTED AS A REFERENCE TO THE ENGINEER.



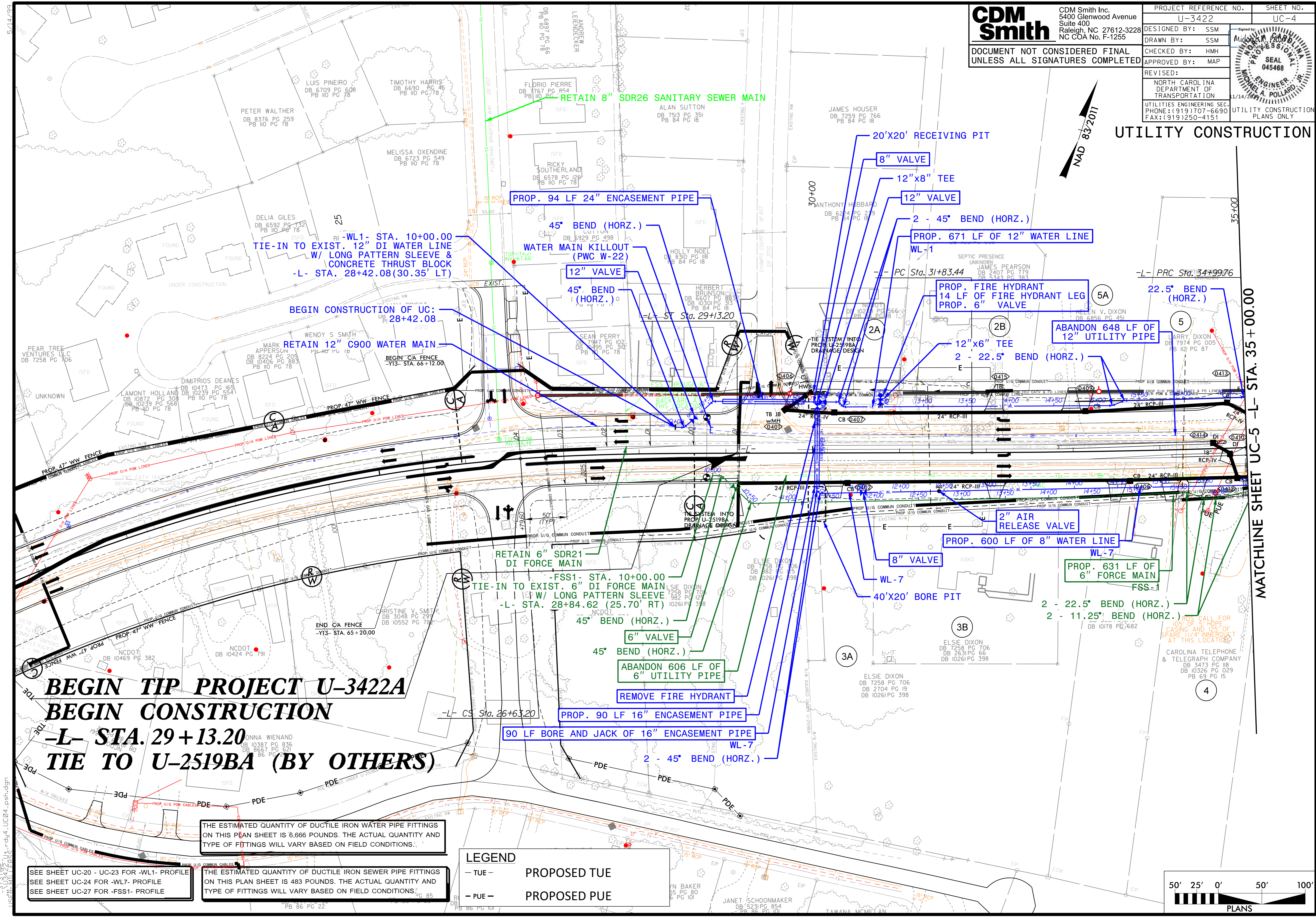
CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3228
NC COA No. F-1255

PROJECT REFERENCE NO.	U-3422	SHEET NO.	UC-4
DESIGNED BY:	SSM		
DRAWN BY:	SSM		
CHECKED BY:	HMH		
APPROVED BY:	MAP		
REVISED:			
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SECTION PHONE: (919) 707-6690 FAX: (919) 250-4151		UTILITY CONSTRUCTION PLANS ONLY	

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UNLESS ALL SIGNATURES COMPLETED



UTILITY CONSTRUCTION



-WL1- STA. 10+00.00
TIE-IN TO EXIST. 12" DI WATER LINE
W/ LONG PATTERN SLEEVE &
CONCRETE THRUST BLOCK
-L- STA. 28+42.08 (30.35' LT)

PROP. 94 LF 24" ENCASUREMENT PIPE

45° BEND (HORZ.)
WATER MAIN KILLOUT
(PWC W-22)

12" VALVE
45° BEND (HORZ.)

20'x20' RECEIVING PIT

8" VALVE

12"x8" TEE

12" VALVE

2 - 45° BEND (HORZ.)

PROP. 671 LF OF 12" WATER LINE
WL-1

PROP. FIRE HYDRANT
14 LF OF FIRE HYDRANT LEG
PROP. 6" VALVE

22.5" BEND (HORZ.)

ABANDON 648 LF OF
12" UTILITY PIPE

12"x6" TEE
2 - 22.5" BEND (HORZ.)

BEGIN CONSTRUCTION OF UC:
28+42.08

RETAIN 12" C900 WATER MAIN

BEGIN CA FENCE
-Y13- STA. 66+12.00

RETAIN 6" SDR21
DI FORCE MAIN

-FSS1- STA. 10+00.00
TIE-IN TO EXIST. 6" DI FORCE MAIN
W/ LONG PATTERN SLEEVE
-L- STA. 28+84.62 (25.70' RT)

45° BEND (HORZ.)

6" VALVE

45° BEND (HORZ.)

ABANDON 606 LF OF
6" UTILITY PIPE

REMOVE FIRE HYDRANT

PROP. 90 LF 16" ENCASUREMENT PIPE

90 LF BORE AND JACK OF 16" ENCASUREMENT PIPE

2 - 45° BEND (HORZ.)

2" AIR RELEASE VALVE

PROP. 600 LF OF 8" WATER LINE
WL-7

PROP. 631 LF OF
6" FORCE MAIN
FSS-1

2 - 22.5" BEND (HORZ.)

2 - 11.25" BEND (HORZ.)

BEGIN TIP PROJECT U-3422A
BEGIN CONSTRUCTION
-L- STA. 29+13.20
TIE TO U-2519BA (BY OTHERS)

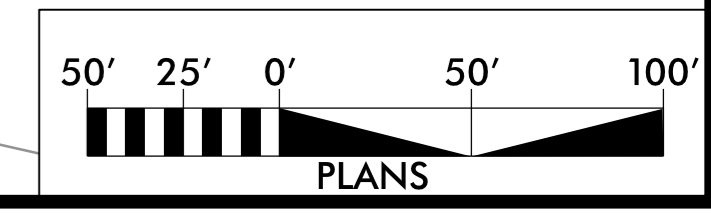
THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS
ON THIS PLAN SHEET IS 6,666 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS
ON THIS PLAN SHEET IS 483 POUNDS. THE ACTUAL QUANTITY AND
TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

LEGEND

- TUE -	PROPOSED TUE
- PUE -	PROPOSED PUE

SEE SHEET UC-20 - UC-23 FOR -WL1- PROFILE
SEE SHEET UC-24 FOR -WL7- PROFILE
SEE SHEET UC-27 FOR -FSS1- PROFILE



MATCHLINE SHEET UC-5 -L- STA. 35+00.00



CDM Smith Inc.
5400 Glenwood Avenue
Suite 400
Raleigh, NC 27612-3228
NC COA No. F-1255

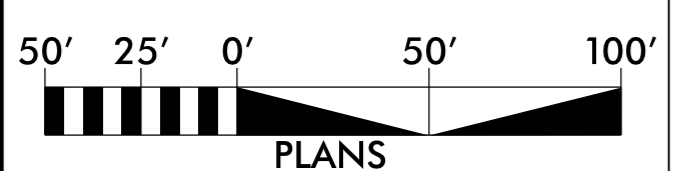
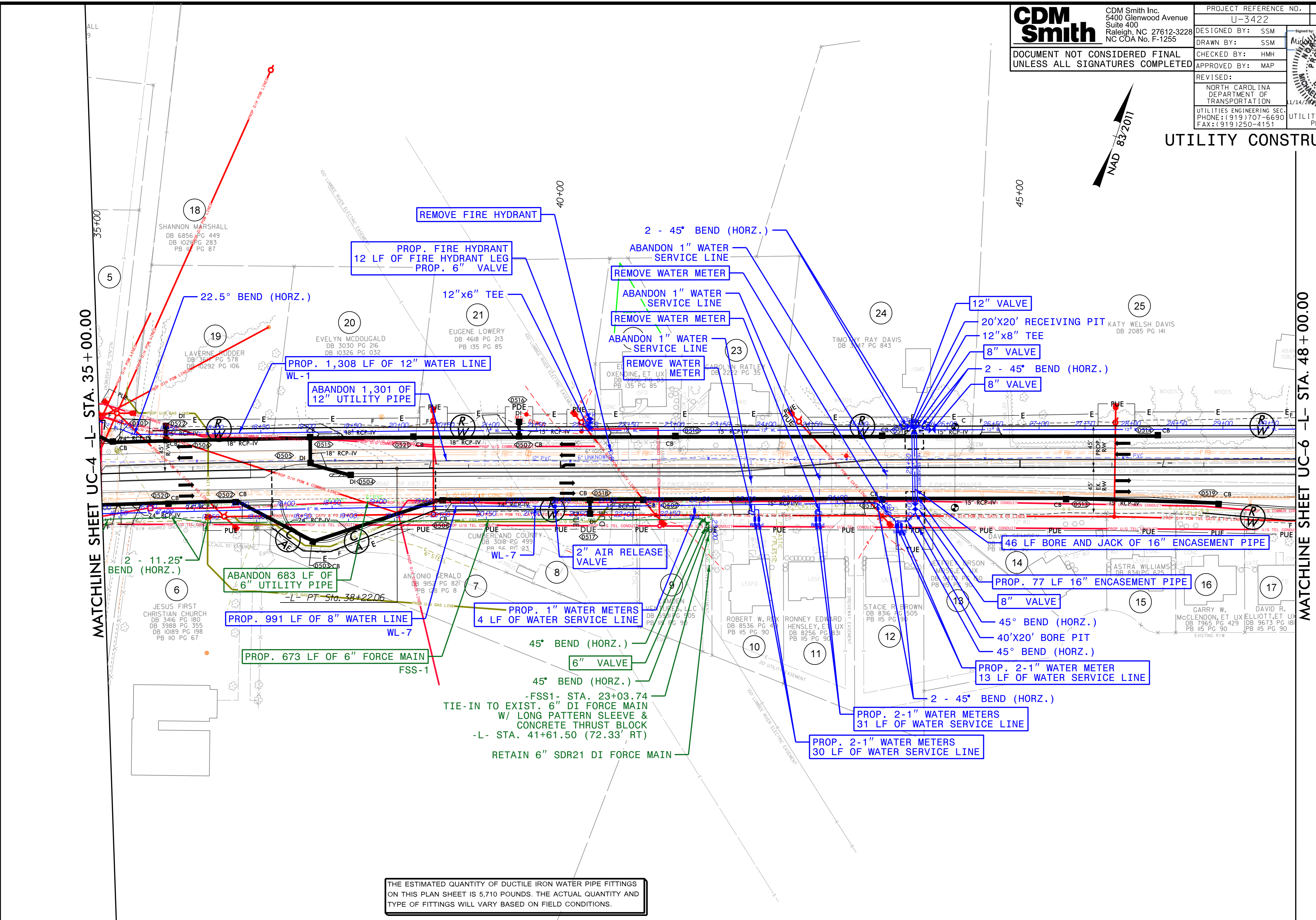
PROJECT REFERENCE NO.	U-3422	SHEET NO.	UC-5
DESIGNED BY:	SSM		
DRAWN BY:	SSM		
CHECKED BY:	HMH		
APPROVED BY:	MAP	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION 1/14/2017	
REVISER:		UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED		UTILITY CONSTRUCTION PLANS ONLY	



UTILITY CONSTRUCTION

MATCHLINE SHEET UC-4 -L- STA. 35+00.00

MATCHLINE SHEET UC-6 -L- STA. 48+00.00



SEE SHEET UC-20 - UC-23 FOR -WL1- PROFILE
SEE SHEET UC-24 FOR -WL7- PROFILE
SEE SHEET UC-27 FOR -FSS1- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 5,710 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

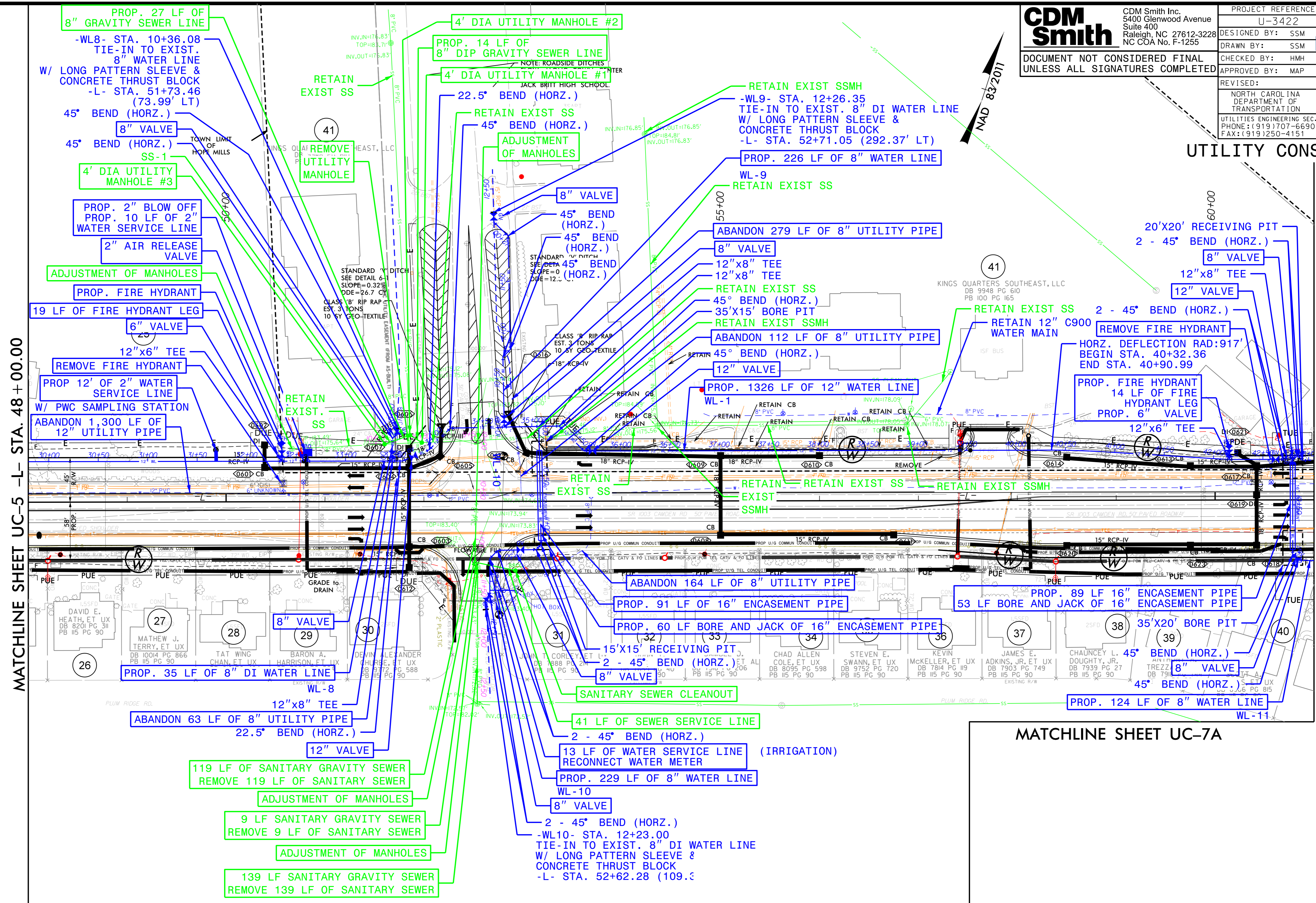
THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 633 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

-SYSTEME:\A-d\5-UC05-sh.dgn



CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255	PROJECT REFERENCE NO.	SHEET NO.
	U-3422	UC-6
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	DESIGNED BY: SSM	
	DRAWN BY: SSM	
	CHECKED BY: HMH	
	APPROVED BY: MAP	
REVISIONS:	NORTH CAROLINA DEPARTMENT OF TRANSPORTATION UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	
	UTILITY CONSTRUCTION PLANS ONLY	

UTILITY CONSTRUCTION



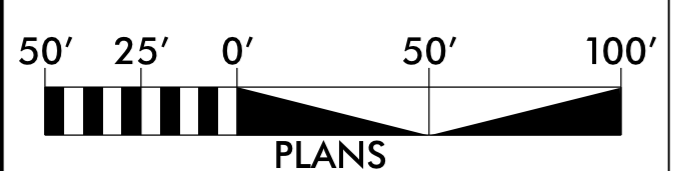
MATCHLINE SHEET UC-5 -L- STA. 48+00.00

MATCHLINE SHEET UC-7 -L- STA. 61+00.00

MATCHLINE SHEET UC-7A

SEE SHEET UC-20 - UC-23 FOR -WL1- PROFILE
 SEE SHEET UC-24 FOR -WL8- PROFILE
 SEE SHEET UC-25 FOR -WL9- PROFILE
 SEE SHEET UC-25 FOR -WL10- PROFILE
 SEE SHEET UC-25 FOR -WL11- PROFILE
 SEE SHEET UC-39 FOR -SS1- PROFILE

THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 11,248 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.



PLANS

SYSTEM: T:\a_rdu6_uc06_psh.dgn
USER: WATZ

CDM Smith
 CDM Smith Inc.
 5400 Glenwood Avenue
 Suite 400
 Raleigh, NC 27612-3228
 NC COA No. F-1255

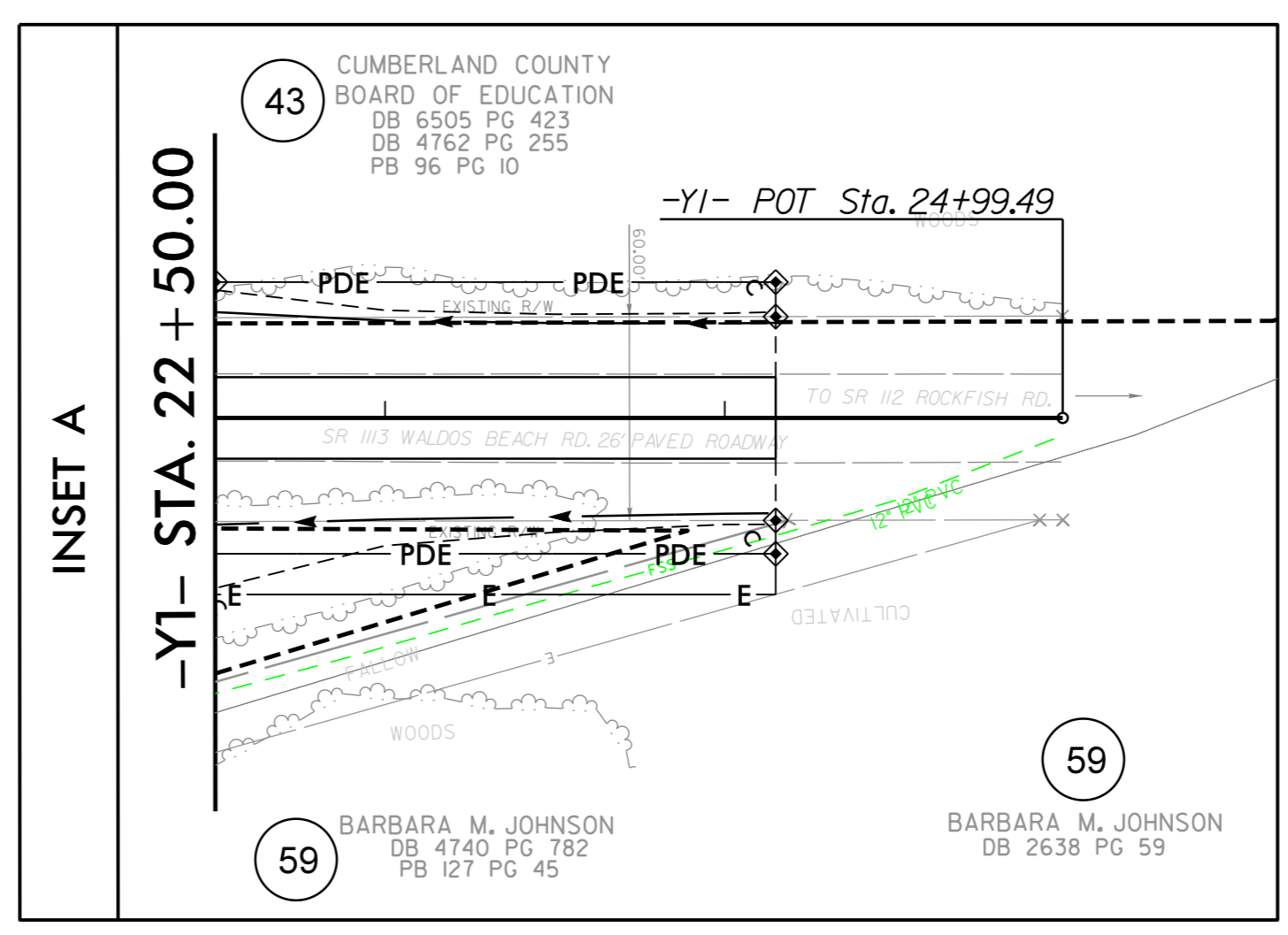
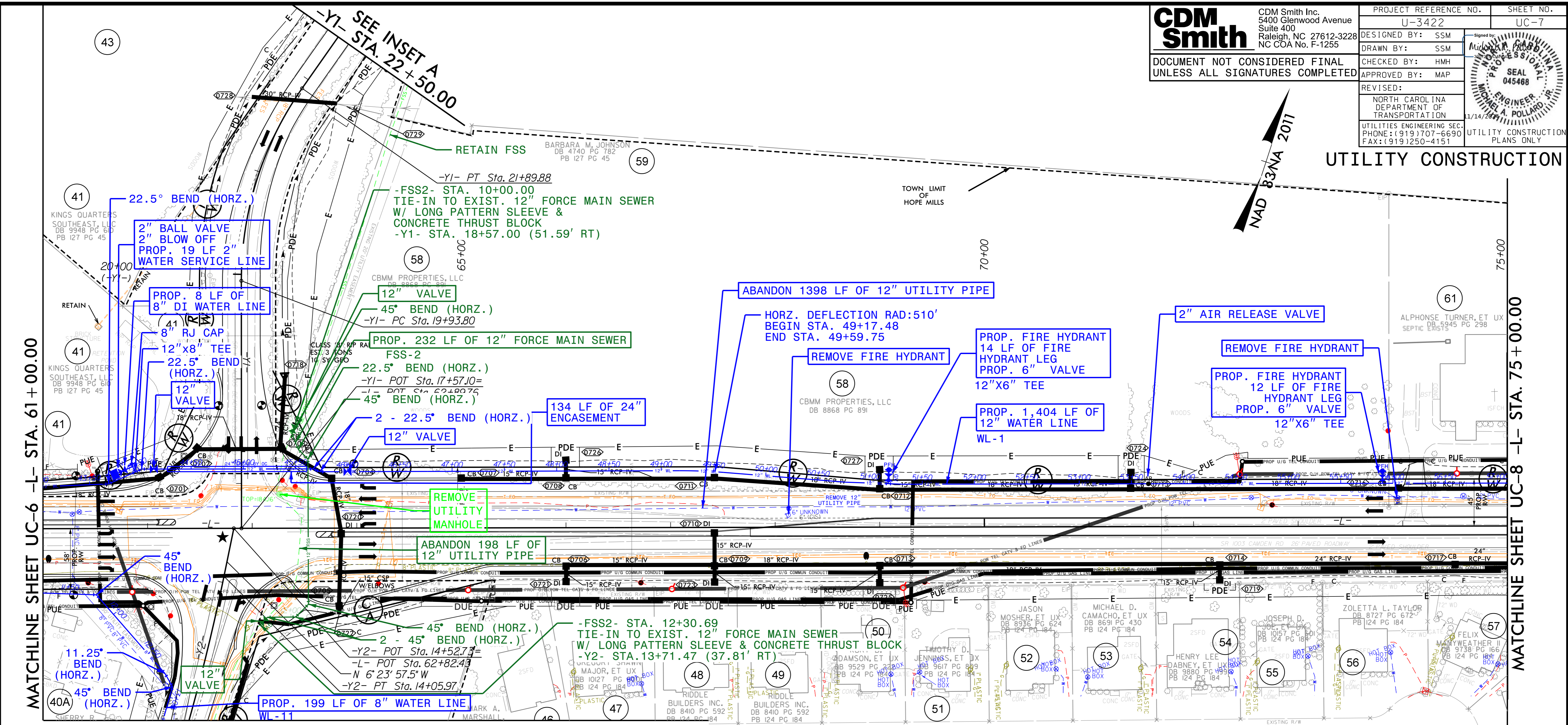
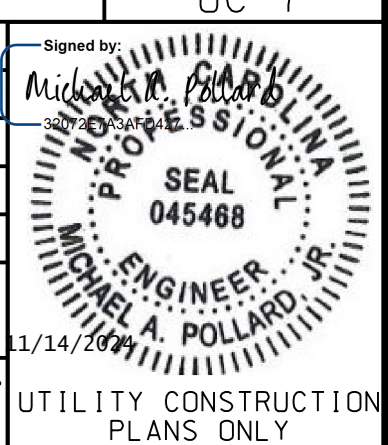
DESIGNED BY: SSM
 DRAWN BY: SSM
 CHECKED BY: HMH
 APPROVED BY: MAP

DOCUMENT NOT CONSIDERED FINAL
 UNLESS ALL SIGNATURES COMPLETED

APPROVED:
 NORTH CAROLINA
 DEPARTMENT OF
 TRANSPORTATION

UTILITIES ENGINEERING SEC.
 PHONE: (919) 707-6690
 FAX: (919) 250-4151

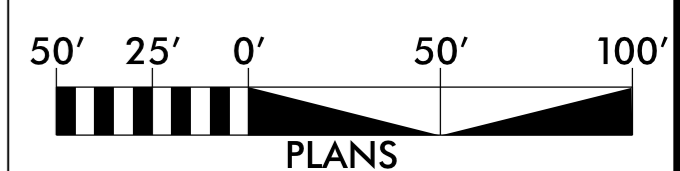
PROJECT REFERENCE NO.	SHEET NO.
U-3422	UC-7
UTILITIES ENGINEERING SEC.	UTILITY CONSTRUCTION PLANS ONLY



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 6,429 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

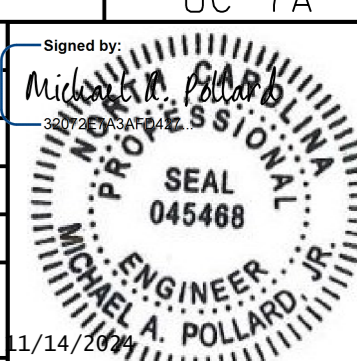
THE ESTIMATED QUANTITY OF DUCTILE IRON SEWER PIPE FITTINGS ON THIS PLAN SHEET IS 3,035 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHEET UC-20 - UC-23 FOR -WL1- PROFILE
 SEE SHEET UC-25 FOR -WL11- PROFILE
 SEE SHEET UC-27 FOR -FSS2- PROFILE



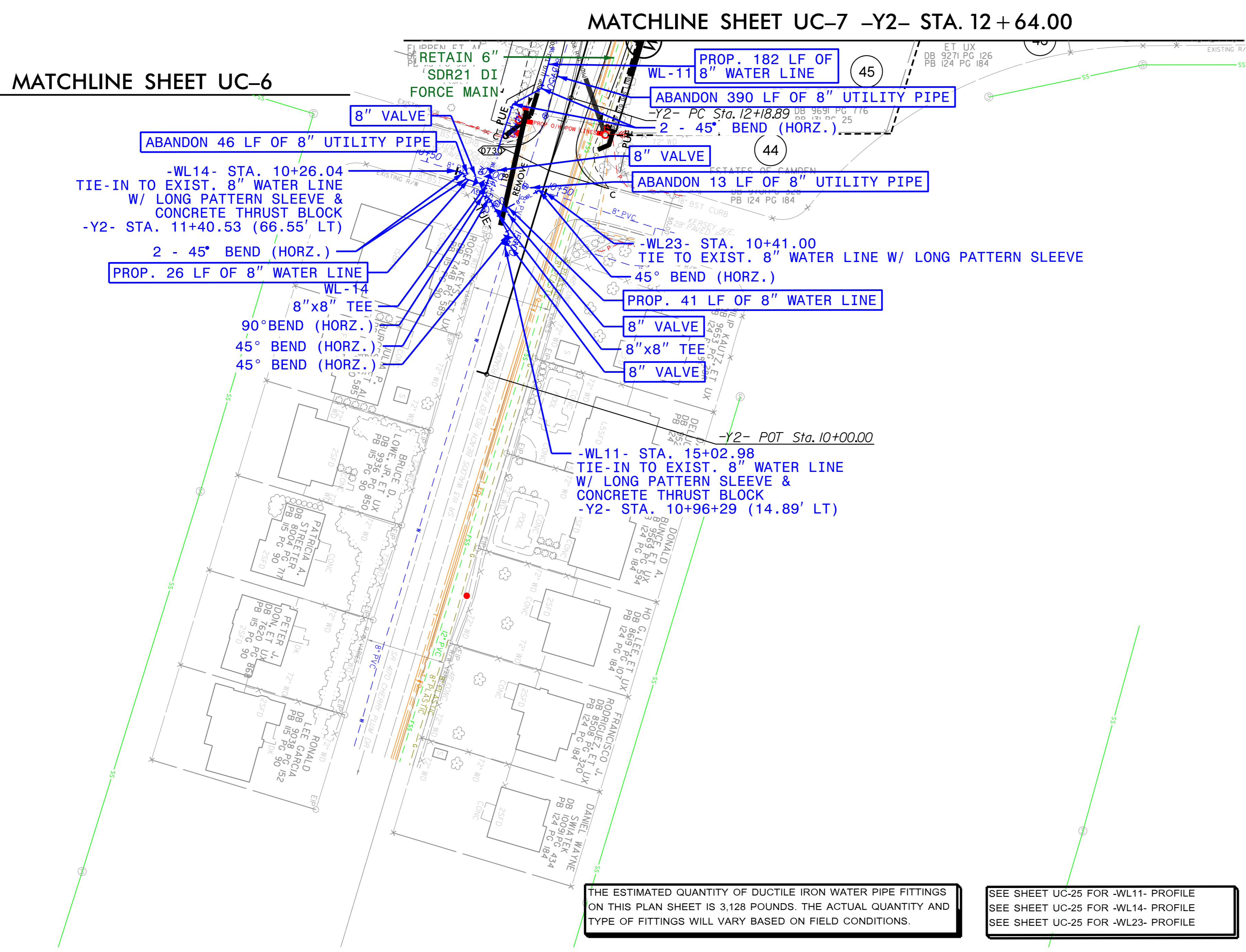
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 USER: WJZ

5/14/99

CDM Smith CDM Smith Inc. 5400 Glenwood Avenue Suite 400 Raleigh, NC 27612-3228 NC COA No. F-1255	PROJECT REFERENCE NO. U-3422	SHEET NO. UC-7A
	DESIGNED BY: SSM DRAWN BY: SSM	Checked by: HMH APPROVED BY: MAP
DOCUMENT NOT CONSIDERED FINAL UNLESS ALL SIGNATURES COMPLETED	REVISER: NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	
	UTILITIES ENGINEERING SEC. PHONE: (919) 707-6690 FAX: (919) 250-4151	

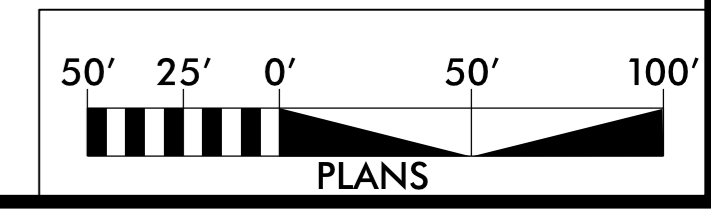
NAD 83 NA 2011

UTILITY CONSTRUCTION



THE ESTIMATED QUANTITY OF DUCTILE IRON WATER PIPE FITTINGS ON THIS PLAN SHEET IS 3,128 POUNDS. THE ACTUAL QUANTITY AND TYPE OF FITTINGS WILL VARY BASED ON FIELD CONDITIONS.

SEE SHEET UC-25 FOR -WL11- PROFILE
 SEE SHEET UC-25 FOR -WL14- PROFILE
 SEE SHEET UC-25 FOR -WL23- PROFILE



SYSTEM: I:\s\7_UC07A_psh.dgn
USER: JLF