-4405B

PROJECT

STATE OF NORTH CAROLINA OF HIGHWAYS

T.I.P. NO.

SHEET NO.

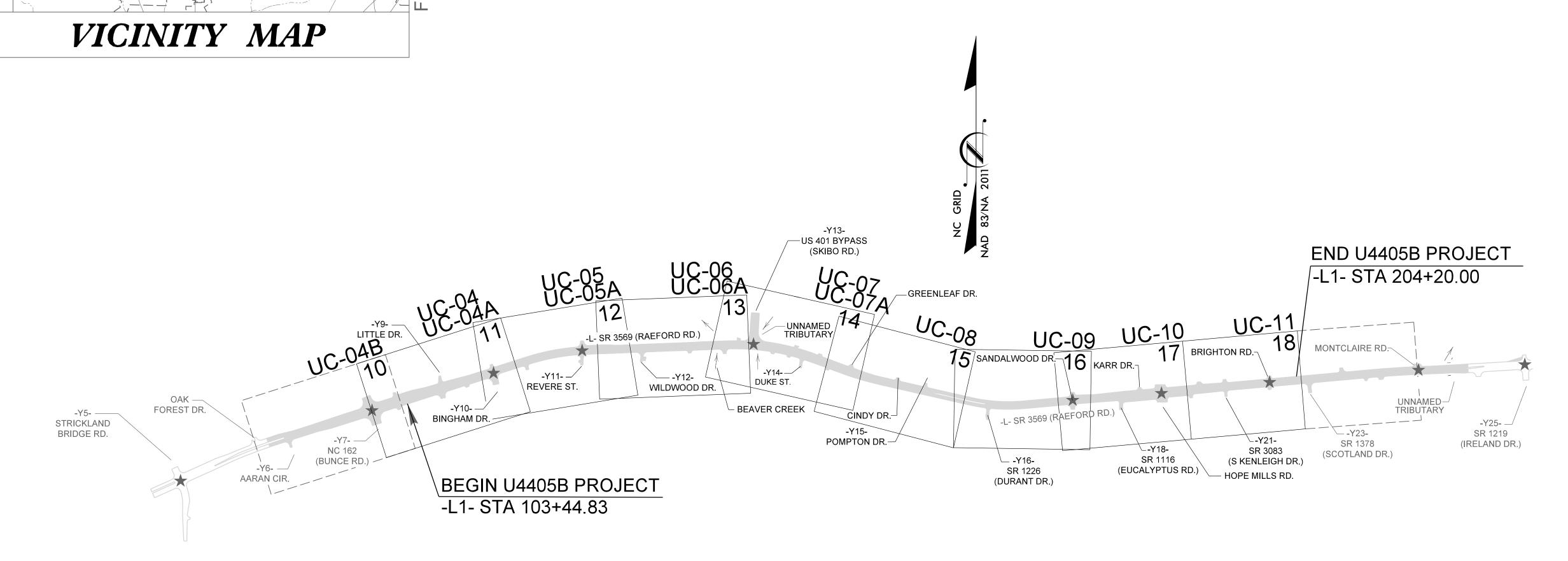
U-4405B

UC-01

# UTILITY CONSTRUCTION PLANS CUMBERLAND COUNTY

LOCATION: US 401 FROM BUNCE ROAD TO EAST OF BRIGHTON ROAD IN FAYETTEVILLE

TYPE OF WORK: RELOCATION OF WATER AND SEWER



NO UTILITY RELOCATION

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

## GRAPHIC SCALES **PLANS** 50 25 0 PROFILE (HORIZONTAL) PROFILE (VERTICAL)

#### INDEX OF SHEETS

SHEET NO. UC-3 THRU UC-3B UC-3C THRU UC-3L UC-4 THRU UC-11 *UC–12 THRU UC–19* 

**DESCRIPTION** TITLE SHEET UTILITY SYMBOLOGY **NOTES DETAILS** UTILITY CONSTRUCTION SHEETS

PROFILE SHEETS

## WATER AND SEWER OWNERS ON PROJECT

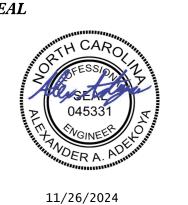
(1) WATER: FAYETTEVILLE PWC (2) SANITARY SEWER: FAYETTEVILLE PWC

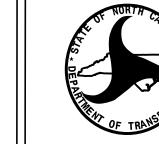


AN / ARDURRA COMPANY 720 CORPORATE CENTER DRIVE, RALEIGH, NC 27607 (919)782-0495 | NCBELS #F-0374

ALEX ADEKOYA, PE PROJECT ENGINEER

KAMI SCHWARTZ PROJECT DESIGN ENGINEER





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

NABIL HAMDAN TEVIN ASAMOAH TANGA SAMPSON

UTILITIES REGIONAL ENGINEER UTILITIES ENGINEER

REGIONAL UTILITIES COORDINATOR TYRON STALLINGS UTILITIES COORDINATOR

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UC-02 U-4405B

# STATE OF NORTH CAROLINA

## UTILITIES PLAN SHEET SYMBOLS

## PROPOSED WATER SYMBOLS

## Water Line (Sized as Shown) 11⅓ 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)	12" SS ——————————————————————————————————
Force Main Sewer Line (Sized as Shown)	12" FSS
Manhole (Sized per Note)	
Sewer Pump Station ·····PS(SS)	

## PROPOSED MISCELLANOUS UTILITIES SYMBOLS

Power Pole ····································	Thrust Block
elephone Pole	Air Release Valve
Joint Use Pole ····································	Utility Vault
Telephone Pedestal ····································	Concrete Pier
Jtility Line by Others (Type as Shown)	Steel Pier
renchless Installation	Plan Note
Encasement by Open Cut	Pay Item Note Pay ITEM
Encasement	PAY ITEM

## EXISTING UTILITIES SYMBOLS

Dawan Dala	<b>↓</b>	*Underground Device Line	
Power Pole ·····		*Underground Power Line	
Telephone Pole	-•-	*Underground Telephone Cable	Т
Joint Use Pole		*Underground Telephone Conduit	ТС ———
Utility Pole	•	*Underground Fiber Optics Telephone Cable —	Т F0
Utility Pole with Base	•	*Underground TV Cable	
H-Frame Pole	•—•	*Underground Fiber Optics TV Cable ······	TV F0
Power Transmission Line Tower		*Underground Gas Pipeline	G
Water Manhole	$\odot$	Aboveground Gas Pipeline	A/G Gas
Power Manhole		*Underground Water Line	w ————
Telephone Manhole		Aboveground Water Line	A/G Water
Sanitary Sewer Manhole		*Underground Gravity Sanitary Sewer Line —	ss
Hand Hole for Cable	H <sub>H</sub>	Aboveground Gravity Sanitary Sewer Line —	A/G Sanitary Sewer
Power Transformer		*Underground SS Forced Main Line	FSS
Telephone Pedestal	T	Underground Unknown Utility Line	?UTL
CATV Pedestal		SUE Test Hole ·······	
Gas Valve	$\Diamond$	Water Meter $\Box$	
Gas Meter		Water Valve ····································	
Located Miscellaneous Utility Object	$\odot$	Fire Hydrant ····································	
Abandoned According to Utility Records	AATUR	Sanitary Sewer Cleanout ⊕	
End of Information	E.O.I.		

(Type as Shown)

^For Existing Utilities	
Utility Line Drawn from Record	
Designated Utility Line	

## **UTILITY CONSTRUCTION**

### **GENERAL NOTES:**

- 1. THE PROPOSED UTILITY CONSTRUCTION
  SHALL MEET THE APPLICABLE REQUIREMENTS
  OF THE NC DEPARTMENT OF
  TRANSPORTATION'S "STANDARD
  SPECIFICATIONS FOR ROADS AND
  STRUCTURES" DATED JANUARY 2024 AND THE
  SPECIAL PROVISIONS TO NCDOT
  SPECIFICATION DIVISION 15.
- 2. FAYETTEVILLE PWC OWNS AND OPERATES
  THE EXISTING WATER AND SEWER UTILITIES
  EXCEPT FOR THE WATER UTILITIES
  IDENTIFIED AS AQUA AMERICA.
- 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.SHOWN LOCATION OF EXISTING UTILITIES ARE APPROXIMATE. CONTRACTOR SHLL BE RESPONSIBLE FOR FIELD VERIFYING EXACT LOCATION, ORIENTATION, AND ELEVATION UTILITIES PRIOR TO EXCAVATION.

- 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.
- 14.ALL EXISTING WATER SERVICES TO BE
  ABANDONED SHALL BE CUT AND CRIMPED AT
  THE ENDS WHERE THE LINE IS EXPOSED.
  CONFIRM SERVICE IS TO BE ABANDONED WITH
  PWC PRIOR TO CUTTING.

### 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. 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 CONTRACT SPECIAL PROVISIONS AND 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. 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.
- 8.WHERE VALVES TO BE ABANDONED REMOVE LID, TURN VALVE OFF & BACKFILL AND COMPACT



DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED DESIGNED BY: AAA

DRAWN BY: DM

CHECKED BY: RA

APPROVED BY: BRO

REVISED:

NORTH CAROLINA
DEPARTMENT OF
TRANSPORTATION

UTILITIES ENGINEERING SEC.

DIAMONE (010) 707 CC00

PLANS ONLY

UTILITY CONSTRUCTION

- 9. 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.
- 10. ALL EXISTING VALVES, AIR RELEASE
  VALVES, FIRE HYDRANTS AND MANHOLE RING
  AND COVERS TO BE REMOVED SHALL BE
  RETURNED TO PWC
- 11. SEE PROFILE SHEETS FOR REFERENCE TO PIPE MATERIALS AND VALVE TYPES.
- 12. TEMPORARY SHORING LOCATIONS FOR THE UC PLANS ARE LISTED IN THE TABLE BELOW:

TEMPORARY SHORING LOCATION TABLE							
Shoring Location No.	Begin Station & Offset	End Station & Offset	Estimated Average Height (ft)	Estimated Maximum Height (ft)	Shoring Location Type	Square Footage (ft)	Trench Length (ft)
	134+33.75 -L-, 41.97'	134+33.75 -L-, 52.97'			Bore (Receiving)		
No. 4	Left	Left	4.25	4.55	Adjacent to Roadway	170	10
	135+62.47 -L-, 74.20'	135+62.49 -L-, 84.20'			Bore (Receiving)		
No. 5	Right	Right	10	10	Adjacent to Roadway	400	10
	151+84.63 -L-, 21.29'	153+10.00 -L-, 46.14'			Roadway (Longitudinal		
No. 6	Right	Right	6	8	Trench)	1560	125
	183+80.36 -L-, 57.70'	184+30.36 -L-, 57.70'			Roadway (Longitudinal		
No. 7	Right	Right	4.5	4.75	Trench)	495	50
	187+94.38 -L-, 59.94'	188+60.72 -L-, 90.74'			Roadway (Longitudinal		
No. 8	Right	Right	5	5	Trench)	1300	125
	190+60.99 -L-, 61.16'	190+61.05 -L-, 71.16'			Bore (Receiving)		
No. 9	Right	Right	15	15.75	Adjacent to Roadway	600	10
	190+60.30 -L-, 65.72	190+59.92 -L-, 95.72			Bore (Jacking) Adjacent		
No. 10	Right	Right	15.5	16.25	to Roadway	1860	40

- 13. CONTRACTOR SHALL FURNISH AND INSTALL METERS AND WATER SERVICE LINES PER THE MATERIALS SHOWN ON PWC STANDARD DETAILS. REFER TO PWC STD DETAILS W.23, W.24 & 25.
- 14. CONTRACTOR SHALL INSTALL NEW METER BOXES FOR ALL METERS TO BE RELOCCATED PRIOR TO SWITCHING SERVICE TO THE NEW LINES.
- 15. THE MATERIALS AND SPECIFICATIONS
  NOTED IN THE PWC STANDARD DETAILS. THIS
  APPLIES TO ALL WATER AND SEWER
  CONSTRUCTION INCLUDING FIRE HYDRANTS,
  WATER METERS, WATER SERVICE LINES AND
  SEWER LATERALS.
- 16. WATER METERS ARE NOT TO BE INSTALLED IN PAVED AREAS IF POSSIBLE
- 17.CONTRACTOR TO VERIFY VALVE LOCATIONS
  AND AVAILABLE CLEARANCE PRIOR TO
  PLACEMENT. CONTACT THE ENGINEER IF
  VALVE NEEDS TO BE FIELD FIT.

**UC-04B UTILITY NOTES:** 

1.OPERATE EXISTING IN LINE VALVES EV-20, EV-20A & EV-22 TO FACILITATE SHUTDOWNS FOR WL-14.

#### **UC-04 UTILITY NOTES:**

1.FULLY GROUT MIN. 60 LF OF 24" EXIST. MAIN. PLUG EACH END OF ABANDONED MAIN PER KILLOUT DETAIL W-22.

2.KILL OUT OF LINE SIDE OF TAPPING SLEEVE FOR WL-14 SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXISTING ALIGNMENT (SEE SHEET UC-6).

3.INSTALL AND HAVE OPERATIONAL THE FOLLOWING SEGMENTS: WL-14 TO ITS LAST IN LINE VALVE, WL-15, WL-17 AND CROSS LINES AT BINGHAM DRIVE, REVERE STREET AND WILDWOOD DRIVE. TRANSFER ALL EXISTING SERVICES TO WL-14 AND WL-17. SEE ADDITIONAL SEQUENCING FOR WL-15 ON UC-05 UTILITY NOTES AND WL-17 ON UC-06 AND UC-07 UTILITY NOTES.

4.KILL OUT OF LINE SIDE OF TAPPING SLEEVE FOR WL-14 SHALL BE COORDINATED WITH CUT IN CONSTRUCTION (SLEEVE IN) OF WL-14 TO EXISTING 24" MAIN (SEE SHEET UC-6). KILL OUT SHALL BE PERFORMED UNDER PLANNED SHUTDOWN OF EXISTING 24" MAIN AND SHALL BE PERFORMED BETWEEN 600 P.M. AND 6:00 A.M. ON SUNDAY. EXISTING 24" MAIN SHALL BE BACK IN OPERATION SO WATER SERVICE TO PARCELS 107, 112, 113 AND 115 ARE NOT IMPACTED DURING NORMAL BUSINESS HOURS. ADHERE TO PWC'S PROCEDURES FOR SHUTDOWN. EXISTING VALVES EV-22, EV-28, EV-31 AND EV-28A SHALL FACILITATE SHUTDOWN. AFTER COMPLETION OF KILLOUTS AND CUT IN CONSTRUCTION, RESUME OPERATION OF EXISTING 24" WATER MAIN BY RE-OPENING EV-22 AND EV-31.

5.RECONNECTION OF EXISTING 24" MAIN ON BINGHAM DRIVE SHALL BE BY PLANNED SHUTDOWN. EXISTING VALVES TO FACILITATE SHUTDOWN INCLUDE EV-23A AND EV-23B. LAY BACK 20 LF OF RESTRAINED JOINT DUCTILE IRON PIPE AND RECONNECT TO EXISTING MAIN USING FULL BODY MJ SLEEVE WITH RESTRAINING GLANDS. RECONNECTION SHALL BE PÉRFORMED BETWEEN 9:00 P.M. AND 6:00 A.M. ONLY ON A WEEKNIGHT.

#### UC-05 UTILITY NOTES:

1.CONNECTION OF WL-15 TO EXISTING WATER MAIN SHALL BE UNDER PLANNED SHUTDOWN. EXISTING VALVE EV-28 AND EV-28A SHALL FACILITATE SERVICE INTERRUPTION. REMOVE PLUG AND CONNECT TO EXISTING MAIN USING FULL BODY MJ SLEEVE AND RESTRAINING GLANDS. WL-15 SHALL BE INSTALLED AND OPERATIONAL TO MAINTAIN SERVICE TO THE NORTH SIDE. AFTER WL-14 IS OPERATIONAL FACILITATE KILL OUT OF THE 24" MAIN ON THE SOUTH SIDE.

2.PURSUANT TO TRAFFIC CONTROL REQUIREMENTS, NO WORK ON THE SOUTH SIDE SHALL BE IN PROGRESS WHILE INSTALLING WL-15 AND CONNECTING IT TO THE EXISTING MAIN ON THE NORTH SIDE. CONTRACTOR SHALL NOT BE PERFORMING WATER MAIN INSTALLATION LONGITUDINALLY TO THE ROAD ON BOTH SIDES.

#### **UC-06 UTILITY NOTES:**

1.INSTALL WL-14 AND HAVE IT OPERATIONAL TO ITS LAST IN LINE VALVE (APPROX. STAT 31+75). ALL EXISTING METERS THAT OVERLAP THESE RELOCATION SEGMENTS SHALL BE SWITCHED OVER TO THESE NEW SEGMENTS. ALL CROSS-LINES FOR WL-14 SHALL BE FULLY RESTRAINED THROUGH BRANCH VALVES. BINGHAM DRIVE, WL-15, WL-15A AND WILDWOOD DRIVE RECONNECTIONS SHALL BE COMPLETED AND OPERATIONAL CONCURRENT WITH WL-14 INSTALLATION. EXISTING BRANCH VALVES FOR THESE CROSS LINES SHALL BE PERMANENTLY CLOSED AND PROPERLY ABANDONED. SEE UC-05 UTILITY NOTES FOR ADDITIONAL SEQUENCING PROVISIONS FOR WL-15 THAT SHALL BE PERFORMED BEFORE SHUTDOWN TO CONNECT WL-14 BACK TO EXISTING MAIN.

2.PRIOR TO SHUTTING DOWN 24" MAIN TO FACILITATE KILL OUT OF EXISTING 24" MAIN AT WL-14 TAPPING SLEEVE AND CUT IN CONSTRUCTION FOR WL-14 TIE BACK TO EXISTING 24" MAIN, INSTALL WL-16 AND HAVE IT OPERATIONAL. RECONNECT ALL SERVICES TO WL-16. SEE UC-06 UTILITY NOTES FOR ADDITIONAL SEQUECING PROVISIONS FOR WL-16 THAT SHALL BE PERFORMED BEFORE SHUTDOWN FOR WL-14.

3.BORE AND JACK FOR WL-15A SHALL BE INSTALLED AHEAD OF WL-14 SO BORE PIT WILL NOT BE IN CONFLICT WITH WL-14. BORE INSTALLATION IS ANTICIPATED TO BE IN CONFLICT WITH EXISTING SEWER. INSTALL TEMPORARY DOGHOUSE SSMH FOR RECEIVING SEWAGE BYPASS. READY SEWER BYPASS TO MAINTAIN SEWER SERVICE. UPON COMPLETION OF ENCASEMENT INSTALLATION AND THREADING OF 8-INCH MAIN, COMPLETE SEWER REPLACEMENT AS SHOWN ON UC-06A WHILE SEWER FLOW IS UNDER BYPASS. SEE ADDITIONAL PROVISIONS ON UC-06A UTILITY NOTES.

4.PROTECT WORK AREA TO MAINTAIN INGRESS/EGRESS TO BUSINESS AND STORE FRONT PARKING.

5.REMOVE INSITU MATERIAL COMPLETELY FOR 2" WATER MAIN ACROSS PARCEL 140 DUE TO POTENTIAL OF PRIOR CONTAMINATION. MINIMUM TRENCH WIDTH FOR INSITU MATERIAL AND SELECT BACKFILL SHALL BE 2 FEET WIDE BY 4 FEET DEEP.

6.TEMPORARY SHORING IF REQUIRED FOR BUILDING FOUNDATION PROTECTION OR MAINTENANCE OF TRAFFIC WILL BE PAID AS TEMPORARY SHORING IN SQUARE FEET

7.METER RECONNECTION NOTES FOR PARCEL NO. 136:

- A.PROVIDE 1" TAP AND BLOW OFF PER PWC STD DETAIL W.23
- B. RECONNECT TO CUSTOMER'S EXIST. 3-1" PVC WATER LATERALS. FIELD COORDIANTE WATER SERVICE PIPING ROUTE.
- C.RECONNECT PROPOSED IRRIGATION METER TO CUSTOMERS EXISTING RPZ. FIELD COORDINATE IRRIGATION PIPING TO ENCLOSURE.

## UTILITY CONSTRUCTION

**UC-06A UTILITY NOTES:** 

1.ABANDON AND PLUG EXISTING 8" OPENING IN EXISTING SSMH ON 42"DIAMETER OUTFALL AFTER PROPOSED SEWER IS OPERATIONAL.

2.PROPOSED DOGHOUSE SSMH SHALL BE INSTALLED ON THE 8" EXISTING SEWER LINE FOR TEMPORARY SEWAGE BYPASS. IT SHALL BE OPERATIONAL PRIOR TO INITIATING BORE AND JACK AND SETTING PROPOSED 5' DIAMETER UPSTREAM SSMH. PROPOSED DOGHOUSE SSMH FOR TEMPORARY BYPASS PUMPING SHALL BE ABANDONED AFTER NEW SEWER IS OPERATIONAL AND BYPASS PUMPING CAN BE DISCONTINUED.

3.PROPOSED SSMH SHALL BE 5' DIA. RECONNECT EXISTING DI AT SAME SLOPE USING DI COUPLING RATED FOR SEWER SERVICE.

4.CONNECTION TO EXISTING SSMH ON EXISTING 8"OUTFALL BEHIND GAS STATION SHALL BE BY FIELD CORE. CORE SHALL BE NEAT AND EQUIPPED WITH BOOTED CONNECTION.

5.LOCATE ELECTRICAL CIRCUITRY TO LIGHTS ON PARCEL 138 PRIOR TO SEWER INSTALLATION. ALL CIRCUITRY SHALL BE PROTECTED. ANY DAMAGE SHALL BE REPAIRED AND SHALL MEET LOCAL ELECTRICAL REQUIREMENTS.

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

7.CONTRACTOR SHALL VERIFY SEWER SERVICE DEPTH AND LOCATION PRIOR TO ORDERING MATERIALS.

8.CONTRACTOR SHALL REPLACE EXISTING CLEAN OUT AND SEWER SEVICE LINE AT SAME DEPTH AND SLOPE.

9.CONTRACTOR SHALL REMOVE EXISTING CLEAN OUT AND EXISTING SEWER SERVICE TO PROPOSED CLEAN OUT LOCATION. CONTRACTOR SHALL GROUT FILL EXISTING SERVICE CORE IN MANHOLE WITH NON-SHRINK GROUT.

#### UC-07 UTILITY NOTES:

CONNECTION OF WL-16 TO EXISTING 8" SHALL BE PERFORMED UNDER PLANNED 1. CONNECTION OF WL-16 TO EXISTING 8" SHALL BE PERFORMED UNDER PLANNED SERVICE INTERRUPTION. LENGTH OF BURIED PIPE BETWEEN DEAD END PLUG AND EV-33A IS LESS THAN 95 LF FOR ESTIMATED BURIAL DEPTH OF 3 FEET. EXISTING VALVE EV-33A, EV-33B AND EXISTING HYDRANT BETWEEN THESE TWO VALVES SHALL FACILITATE SHUTDOWN TO REMOVE EXISTING DEAD-END PLUG AND TO INSTALL PROPOSED 8" RJ GATE VALVE AND MINIMUM OF THREE JOINTS OF PROPOSED PIPE. PROPOSED VALVE AND MINIMUM OF THREE JOINTS OF PIPE INSTALLATION SHALL BE PERFORMED DURING NON-BUSINESS HOURS (BETWEEN 10:00 P.M. AND 6:00 A.M.). COORDINATE WITH UTILITY OWNER'S PROJECT COORDINATOR. EV-33A AND EV-33B SHALL BE TEMPORARILY CLOSED AND EXISTING HYDRANT SHALL BE UTILIZED TO REDUCE PRESSURE SO EXISTING 8" PLUG CAN BE SAFELY REMOVED AND CONNECTION CAN BE MADE. REFERENCE UTILITY OWNER'S DETAIL M.15.

2.AFTER INSTALLATION OF 8" RJ GATE VALVE AND MINIMUM OF 60 LF OF PIPE, COORDINATE WITH UTILITY OWNER'S PROJECT COORDINATOR TO RESTORE OPERATION OF EV-33B. MAINTAIN CLOSURE OF EV-33A UNTIL WATER MAIN LENGTH EXCEEDS 125 LF FROM NEW 8" RJ VALVE. AT THAT POINT, DISINFECT EXISTING MAIN BETWEEN EV-33A AND NEW VALVE AND PERFORM BACTERIOLOGICAL TESTING BEFORE PLACING IT BACK IN OPERATION. UTILIZE EXISTING 2" BLOW ASSEMBLY TO FILEST EXISTING AND RESUME. FLUSH EXISTING MAIN. MAINTAIN CLOSURE OF NEW 8" RI GATE VALVE AND RESUME OPERATION OF EV-33A AND CONTINUE INSTALLATION OF WL-16.

3.AFTER EXISTING SEGMENT BETWEEN EV-33A AND NEW VALVE HAS BEEN PLACED BACK IN SERVICE, ABANDON EXISTING 2" TAP AND REMOVE BLOW ASSEMBLY.

4.WL-16 SHALL BE IN OPERATION BEFORE CUT IN CONSTRUCTION TO CONNECT WL-14 TO EXISTING 24"MAIN. SEE UC-06 UTILITY NOTES FOR ADDITIONAL SEQUENCE PROVISIONS.

5.ADHERE TO NCDOT TRAFFIC CONTROL PROVISIONS. WL-16 INSTALLATION SHALL BE COORDINATED SO THAT IT IS PERFORMED WHEN LONGITUDINAL WORK ON THE SOUTH SIDE OF RAEFORD ROAD IS NOT OCCURRING.

6.COORDINATE WITH UTILITY OWNER'S PROJECT COORDINATOR FOR EXISTING VALVES TO FACILITATE TEMPORARY SHUT DOWN.

7.PROPOSED 8" GATE VALVE SHALL BE CUT IN AND MIN. 40 LF OF 8" PVC PIPE SHALL BE REMOVED AND REPLACED WITH RESTRAINED JOINT DIP AND SLEEVED BACK TO EXISTING PVC ON THE SOUTH SIDE OF RAEFORD ROAD. LAYING BACK OF THE MIN. 40 LF OF RESTRAINED JOINT DIP IS ANTICIPATED TO OVERLAP WITH EXISTING SERVICE OF WAFFLE HOUSE. WORK SHALL BE PERFORMED UNDER SERVICE INTERRUPTION OF WAFFLE HOUSE. WORK SHALL BE PERFORMED UNDER SERVICE INTERRUPTION USING EV-31 AND EV-35, AND IT SHALL BE PERFORMED BETWEEN 9:00 P.M. AND 6:00 A.M. TO HAVE MINIMUM IMPACT ON ADJACENT BUSINESSES. SERVICE INTERRUPTION SHALL BE CONSISTENT WITH UTILITY OWNER'S REQUIREMENTS. THIS WORK SHALL BE PERFORMED AND COMPLETED PRIOR TO BEGINNING WORK ON EXTENSION OF EXISTING 84" CMP AND TRENCHLESS 72" STORM CROSSINGS. COORDINATE PLANNED OUTAGE WITH UTILITY OWNER'S PROJECT COORDINATOR. IF CONTRACTOR ANTICIPATES OUTAGE WILL BE LONGER THAN 8 HOURS TO COMPLETE WORK, CONTRACTOR SHALL PROVIDE TEMPORARY WATER SERVICE TO ALL IMPACTED BUSINESSES WITHIN ESTIMATED OUTAGE SEGMENT INCLUDING PARCELS 156, 157 AND 158. I AYOUT OF TEMPORARY WATER MAIN HAS NOT BEEN SHOWN. BUT ALL 158. LAYOUT OF TEMPORARY WATER MAIN HAS NOT BEEN SHOWN, BUT ALL BUSINESS DRIVEWAYS SHALL NOT BE IMPACTED BY A TEMPORARY WATER MAIN. BUSINESS DRIVES SHALL BE MAINTAINED AND REMAIN OPEN.

8.NEW RESTRAINED CUT IN VALVE AND EXISTING 8" TAPPING VALVE AT 8" CONNECTION TO EXISTING 24" MAIN SHALL BE UTILIZED TO ISOLATE EXISTING 8" FOR DRAINAGE WORK.

9.WL-18 SHALL BE INSTALLED AND OPERATIONAL PRIOR TO EXTENDING 84" CULVERTS AND INSTALLING 72". WL-18 WILL BE REQUIRED TO BACK FEED CUSTOMERS WHEN ISOLATING EXISTING 8" MAIN AS DEFINED IN NOTE 8 (ABOVE).

10.FULLY GROUT MIN. 60 LF OF 24" EXIST. MAIN AT DESIGNATED LOCATIONS. PLUG EACH END OF ABANDONED MAIN PER PWC DETAIL W-22.

11.KILL OUT OF LINE SIDE OF TAPPING SLEEVE SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR LAYING BACK NEW 24" MAIN INTO EXISTING ALIGNMENT (SEE SHEET UC-07).



DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

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SHEET NO.

ITIES ENGINEERING SE TILITY CONSTRUCTION PLANS ONLY

UTILITY CONSTRUCTION

PROJECT REFERENCE NO.

#### **UC-07 UTILITY NOTES:**

EV-33 AND EV-45 (SEE UC-10).

INSTALLATION SCHEDULES DO NOT OVERLAP.

12.INSTALLATION OF WL-17 AND INTERRUPTION OF EXISTING 24"ON NORTH SIDE THAT CROSSES OVER EXISTING TWIN 84"CMPS AND PROPOSED 72"TRENCHLESS CROSSING SHALL BE CLOSELY COORDINATED WITH INSTALLATION OF CULVERT IMPROVEMENTS. WL-17 SHALL BE INSTALLED FOLLOWING THE COMPLETION OF THE 84"CMP EXTENSIONS AND THE TRENCHLESS CROSSING OF THE 72"DRAINAGE PIPE SO AS TO NOT CONFLICT WITH THE DRAINAGE WORK. WL-20R1 AND THE 8"AND 2"TEMPORARY WATER LINES SHALL BE OPERATIONAL PRIOR TO INTIATING ANY WORK ON THE EXISTING 84"CMPS AND THE 72"TRENCHLESS CROSSING. THE DRAINAGE WORK MAY REQUIRE THE EXISTING 24"MAIN BETWEEN SKIBO ROAD AND HOPE MILLS ROAD TO BE SHUTDOWN AS A PORTION OF THIS SEGMENT OF THE EXISTING 24"MAIN IS VERY CLOSE TO EXCAVATION LIMITS. EXISTING VALVE SPACING DOES NOT ALLOW ANY SHORTER RUN TO BE ISOLATED THAN THAT BETWEEN SKIBO AND HOPE MILLS ROAD. SEE SEQUENCE ON UC-8 AND UC-10 UTILITY NOTES FOR ADDITIONAL DETAILS. IF ANY PORTION OF THE EXISTING 24"MAIN THAT IS LOCATED ABOVE THE EXISTING CMPS AND POTENTIALLY WITHIN EXCAVATION LIMITS OF THE CONCRETE COLLARS FOR THE EXTENSIONS OF THE 84"CMPS, THEN REMOVE AND REPLACE WITH RESTRAINED JOINT 24"DUCTILE MAIN BETWEEN THE PROPOSED TAPPING SLEEVE FOR WL-17 AND THE EXISTING 24"X24"X24"X24"TEE JUST INSIDE THE RADIUS OF THE INTERSECTION OF SKIBO ROAD AND RAEFORD ROAD; AND INSTALL 24"X24"X24"RI TEE AND RI 24"BRANCH VALVE TO FACILITATE WL-17 AS OPPOSED TO THE TAPPING SLEEVE AND VALVE. 12.INSTALLATION OF WL-17 AND INTERRUPTION OF EXISTING 24"ON NORTH SIDE

13.ABANDONMENT OR KILL-OUT OF EXISTING 24" MAIN THAT CROSSES RAEFORD ROAD AND THAT IS LOCATED BETWEEN EV-33 AND CUT IN FOR WL-17 SHALL BE PERFORMED UNDER SERVICE INTERRUPTION AND SEQUENCED ONCE WL-17 IS PERFORMED UNDER SERVICE INTERRUPTION AND SEQUENCED ONCE WL-17 IS OPERATIONAL. EV-33, EV-31, PROPOSED VALVE ON WL-14 AT STA. 32+75, PROPOSED VALVE ON WL-20R1 AT STA. 154+51.95 AND PROPOSED VALVE ON WL-17 AT STA. 0+00 SHALL FACILIATE SHUTDOWN. EXISTING 24" WATER MAIN IS FULLY RESTRAINED AT DESIGNATED KILL-OUT LOCATION, BOTH ON THE ACTIVE AND KILL-OUT SIDES OF THIS LOCATION. INSTALL RJ PLUG AND KICKER PER KILLOUT DETAIL. COORDINATE THIS KILL-OUT WITH KILL-OUT OF EXISTING 24"BETWEEN TAPPING SLEEVE AND VALVE ON WL-20R1 AND WL-19 CONNECTION TO EXISTING 24"MAIN ON HOPE MILLS ROAD, UNLESS INSTALLATION OF WL-17 AND DRAINAGE IMPROVEMENTS FOR CULVERT UPGRADES HAS LONGER TIME FRAME OR INSTALLATION SCHEDLILES DO NOT OVERLAP

VALVE TO FACILITATE WL-17 AS OPPOSED TO THE TAPPING SLEEVE AND VALVE. EXISTING VALVES TO ISOLATE THIS SEGMENT OF THE 24"MAIN ARE EV-31, EV-32,

14.CONNECTION OF WL-17 INTO EXISTING 24"MAIN ALONG SKIBO ROAD SHALL BE PERFORMED BY A SERVICE INTERRUPTION USING EV-33 AND EV-33C. INSTALL AND HAVE WL-17 OPERATIONAL TO LAST IN LINE VALVE AT APPROX. STATION 3+65. DUE TO LONG VALVE SPACING TO EV-33C ON 24" MAIN UP SKIBO ROAD, WORK SHALL BE PERFORMED DURING TEMPROARY SERVICE INTERRUPTIONS BETWEEN 9:00 P.M. AND 6:00 A.M. TO AVOID TRAFFIC CONGESTION. PROVIDE TRAFFIC RATED PLATING FOR NEW VALVE AND TIE IN EXCAVATION UNLESS EXCAVATIONS ARE DRIVABLE AT THE END OF EACH WORKING NIGHT. ADHERE TO CUT IN CONSTRUCTION REQUIREMENTS AND COORDINATE VALVE PLACEMENT WITH UTILITY OWNER'S PROJECT COORDINATOR. LAY BACK INTO EXISTING MAIN A MINIMUM OF 20 LF WITH 24"RESTRAINED JOINT PIPE.

15.WL-18 INSTALLATION SHALL BEGIN AT STA. 0+00 AND CONTINUE TOWARDS HOPE MILLS ROAD. ADHERE TO CUT IN CONSTRUCTION FOR CONNECTION TO EXISTING MAINS AT STA. 0+00 AND ITS TERMINUS, APPROX. STA. 33+50. CONNECTION TO EXISTING MAIN AT STA. 0+00 SHALL BE UNDER SERVICE INTERRUPTION SCHEDULED BETWEEN 9:00 P.M. AND 6:00 A.M. TO MINIMIZE SERVICE INTERRUPTION TO IMPACTED BUSINESSES. PERFORM EXISTING MAIN ALTERATION ON DUKE STREET DURING THE PLANNED OUTAGE FOR THE CONNECTION OF WL-18 TO EXISTING TERMINUS OF 8"MAIN. ISOLATE EXISTING MAINS BY TEMPORARY CLOSURE OF EV-35, EV-35A AND EV-35B. PARCELS 164, 165 AND 166 ARE SERVED FROM THE REAR AND FROM DAIRY STREET. AFTER COMPLETION OF ALTERATION OF EXISTING MAIN ON DUKE STREET, RE-OPEN EV-35B. MAINTAIN CLOSURE OF EV-35 AND EV-35A UNTIL NEW WATER MAIN LENGTH FOR WL-18 EXCEEDS 125 LF FROM NEW 8" RJ VALVE. AT THAT POINT, RE-OPEN EV-35 AND EV-35A AND KEEP NEW VALVE AT WL-18 STA. 0+00 CLOSED UNTIL PHASING IN OPERATION OF WL-18 AS IT CONTINUES TOWARD HOPE MILLS

#### **UC-08 UTILITY NOTES:**

1.FULLY GROUT MIN. 60 LF OF 24" EXIST MAIN. PLUG EACH END OF ABANDONED MAIN PER KILLOUT DETAIL W-22.

2.KILL OUT OF LINE SIDE OF TAPPING SLEEVE FOR WL-20R1 SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR DRAINAGE IMPROVEMENTS AS DEFINED IN NOTE 8 ON UC-10 UTILITY NOTES.

3.SEE UC-10 SEQUENCE NOTES FOR WL-20R1 (NOTE 1.C) ON SHEET UC-3B.

4.PROVIDE TEMPORARY WATER LINE TO MAINTAIN WATER SERVICES BETWEEN RAEFORD ROAD AND GREENLEAF DRIVE DURING 24" SHUTDOWNS. TEMPORARY 8"MAIN SHALL BE CONNECTED TO EXISTING HYDRANT TO MAINTAIN ADEQUATE FIRE FLOW. PROVIDE 2"TEMPORARY WATER MAIN OFF 8"TEMPORARY WATER MAIN TO SERVE ACTIVE METERS (PARCELS 160 AND 162). COORDINATE UTILITY OWNER PROJECT COORDINATOR TO OPEN AND CLOSE EXISTING BRANCH VALVE ON GREENLEAF AS NEEDED DURING 24"MAIN SHUTDOWNS. TEMPORARY WATER SYSTEM SHALL REMAIN IN PLACE UNTIL RELOCATION WATER MAIN BETWEEN SKIBO AND HOPE MILLS ROAD AND KILL OUTS ARE COMPLETED.

5.COMPLETE CROSS-LINE RECONNECTION AT DURANT DRIVE FOR WL-18 AND WL-20R1 CONCURRENT WITH KILLOUT OF EXISTING 24" MAIN BETWEEN TAPPING SLEEVE AND VALVE FOR WL-20R1 AND CONNECTION OF WL-19 TO EXISTING 24"MAIN IN HOPE MILLS ROAD. RECONNECTIONS SHALL ADHERE TO CUT IN CONSTRUCTION REQUIREMENTS TO RETAIN EXISTING AND ENCASED 8"PVC UNDER RAEFORD RÕAD.

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#### UC-08 UTILITY NOTES:

1.FULLY GROUT MIN. 60 LF OF 24" EXIST MAIN. PLUG EACH END OF ABANDONED MAIN PER KILLOUT DETAIL W-22.

2.KILL OUT OF LINE SIDE OF TAPPING SLEEVE FOR WL-20R1 SHALL BE COORDINATED WITH 24" MAIN SHUTDOWN FOR DRAINAGE IMPROVEMENTS AS DEFINED IN NOTE 8 ON UC-10 UTILITY NOTES.

3.SEE SEQUENCE NOTES (NOTE 1.C) ON UC-10 UTILITY NOTES FOR WL-20R1.

4.PROVIDE TEMPORARY WATER LINE TO MAINTAIN WATER SERVICES BETWEEN RAEFORD ROAD AND GREENLEAF DRIVE DURING 24" SHUTDOWNS. TEMPORARY 8"MAIN SHALL BE CONNECTED TO EXISTING HYDRANT TO MAINTAIN ADEQUATE FIRE FLOW. PROVIDE 2"TEMPORARY WATER MAIN OFF 8"TEMPORARY WATER MAIN TO SERVE ACTIVE METERS (PARCELS 160 AND 162). COORDINATE UTILITY OWNER PROJECT COORDINATOR TO OPEN AND CLOSE EXISTING BRANCH VALVE ON GREENLEAF AS NEEDED DURING 24"MAIN SHUTDOWNS. TEMPORARY WATER SYSTEM SHALL REMAIN IN PLACE UNTIL RELOCATION WATER MAIN BETWEEN SKIBO AND HOPE MILLS ROAD AND KILL OUTS ARE COMPLETED.

5.COMPLETE CROSS-LINE RECONNECTION AT DURANT DRIVE FOR WL-18 AND WL-20R1 CONCURRENT WITH KILLOUT OF EXISTING 24" MAIN BETWEEN TAPPING SLEEVE AND VALVE FOR WL-20R1 AND CONNECTION OF WL-19 TO EXISTING 24" MAIN IN HOPE MILLS ROAD. RECONNECTIONS SHALL ADHERE TO CUT IN CONSTRUCTION REQUIREMENTS TO RETAIN EXISTING AND ENCASED 8"PVC UNDER RAEFORD ROAD.

#### **UC-09 UTILITY NOTES:**

1.INSTALL WL-18 AND HAVE IT OPERATIONAL UP TO STA. 19+00 INCLUSIVE OF THE BRANCH FOR THE RECONNECTION OF THE EXISTING MAIN ON DURANT DRIVE. RESTRAIN TEE AND BRANCH VALVE FOR THE RECONNECTION. RECONNECT EXISTING BRANCH MAIN ON DURANT DRIVE UNDER PLANNED SERVICE INTERRUPTION AND ADHERE TO CUT IN CONSTRUCTION REQUIREMENTS. PERFORM RECONNECTION OF DURANT DRIVE CROSS-LINE CONCURRENT WITH RECONNECTION OF THE EXISTING 8" MAIN TO WL-20R1. THIS SEQUENCE WILL MINIMIZE INTERRUPTION OF SERVICE ON DURANT DRIVE AND ALLOW THE EXISTING 8"PVC CROSS-LINE UNDER RAEFORD ROAD TO BE RETAINED. DURING CONSTRUCTION OF WL-18 CONTRACTOR TO CONTACT PWC ELECTRIC TO ARRANGE HOLDING OF THE POWER POLE IF REQUIRED.

#### **UC-10 UTILITY NOTES:**

1. CLOSE VALVES EV-47A, EV-47 AND EV-48 TO FACILITATE CONNECTION OF PROPOSED WL-18 TO THE EXISTING 8" WATER LINE AT EUCALYPTUS ROAD AND MAKE WL-18 FULLY OPERATIONAL. ALL EXISTING SERVICES SHALL BE TRANSFERRED TO WL-18.

2. MAINTAIN VALVE CLOSURES OF EV-47A, EV-47 AND EV-48 TO MAKE WL-19 OPERATIONAL BETWEEN THE CONNECTION TO EXISTING 8" MAIN AT FRED ANDERSON AND THE IN-LINE VALVE AT APPROX. STA. 1+60 SHALL BE OPERATIONAL. ALL EXISTING SERVICES AND EXSITING BRANCH MAINS ALONG THIS SEGMENT SHALL BE TRANSFERRED TO THIS PORTION OF WL-19.

3.WL-20R1 SHALL BE INSTALLED AND OPERATIONAL UP TO STA. 38+81. ALL EXISTING BRANCH MAINS AND EXISTING SERVICES THAT ARE ON THE SAME SIDE OF RAEFORD ROAD AS THE EXISTING 24"MAIN AND THAT ARE CONNECTED TO 8"ON SOUTH SIDE OF RAEFORD ROAD SHALL BE TRANSFERRED AND CONNECTED TO WL-20R1. ALTERNATIVELY, CONTRACTOR CAN TEMPORARILY TRANSFER THESE EXISTING SERVICES TO THE EXISTING 24" MAIN TO PROVIDE FLEXIBILITY IN SEQUENCING THE INSTALLATION OF WL-20R1 WITH RELOCATION AND STORM DRAINAGE WORK ON THE NORTH SIDE. NO SEPARATE PAYMENT FOR THE "TEMPORARY"TRANSFER OF THESE SERVICES SHALL BE PROVIDED.

4.ADHERE TO NCDOT TRAFFIC CONTROL PROVISIONS. WL-20R1 INSTALLATION SHALL BE COORDINATED SO THAT IT IS CONSTRUCTED WHEN THERE IS NO LONGITUDINAL WORK ON THE SOUTH SIDE OF RAEFORD ROAD OCCURRING. IF CONTRACTOR ELECTS TO INSTALL WL-20R1 INSTALLATION AS DEFINED IN NOTE 3 ABOVE, NO RELOCATION WORK ON THE SOUTH SIDE CAN PERFORMED UNTIL ALL WORK ON WL-20R1 IS COMPLETED. COORDINATE WITH THE DEPARTMENT TO IMPLEMENT ANY ADDITIONAL TRAFFIC CONTROL MEASURES THAT MAY BE REQUIRED FOR INSTALLATION OF WL-20R1 DURING THE SOUTHSIDE PHASING.

## UTILITY CONSTRUCTION

#### **UC-10 UTILITY NOTES:**

5.RECONNECTION OF THE GLENSFORD DRIVE CROSS-LINE SHALL BE BY SERVICE INTERRUPTION AND COMPLY WITH CUT IN CONSTRUCTION REQUIREMENTS. WL-20R1 SHALL BE OPERATIONAL PRIOR TO RECONNECTING THE CROSS-LINE. ITS BRANCH FOR THE RECONNECTION OF THIS EXISTING CROSS-LINE SHALL BE RESTRAINED. RECONNECT THE EXISTING CROSS-LINE BY ISOLATING THE SEGMENT BETWEEN RAEFORD ROAD AND BELFORD ROAD TRAFFIC CIRCLE USING EV-46 AND OR EV-46A AND THE EXISTING IN LINE VALVE AT THE TRAFFIC CIRCLE. OUTAGE SHALL BE PLANNED BETWEEN 9:00 P.M. AND 6:00 A.M. TO MINIMIMZE IMPACT TO EXISTING SERVICES ALONG THIS SEGMENT IN NOTE 2 ABOVE. RECONNECTION OF GLENSFORD DRIVE TO WL-20R1 SHALL BE PERFORMED JUST PRIOR TO TAPPING CONNNECTION OF WL-19 TO EXISTING 24"IN HOPE MILLS ROAD. CLOSE AND KILLOUT OF EV-46.

6.ADHERE TO FOLLOWING CONSTRUCTION SEQUENCE FOR TAP OF EXISTING 24"WITHIN HOPE MILLS ROAD:

A.INSTALL WL-18A, WL-19 BETWEEN INSTALLED PORTION AS DEFINED IN NOTE 2. (STA. 1+60) AND 24" VALVE AND PROPOSED 24"CROSSING UNDER RAEFORD ROAD (WL BETWEEN WL-20R1 AND WL-19) AND HAVE THESE MAINS OPERATIONAL.

B.INSTALL WL-20R2 BETWEEN STA. 0+00 AND IN LINE VALVE NEAR STA. 11+53, HAVE IT OPERATIONAL AND ALL CROSS-LINE CONNECTIONS AND METERS TRANSFERRED. WORK ON THIS SEGMENT SHALL ADHERE TO TRAFFIC CONTROL PROVISIONS AND BE PERFORMED WHEN NO OTHER WORK LONGITUDINAL TO THE SOUTH SIDE IS OCCURRING. INSTALLATION OF WL-20R2 AS NOTED SHALL BE NECESSARY TO MAINTAIN EXISTING SERVICES FOR ALDI AND OTHER BUSINESSES SINCE EXISTING 12" BETWEEN EV-50A (SHEET UC-11) AND INTERSECTION OF GLENSFORD DRIVE AND RAEFORD ROAD WILL HAVE TO BE ISOLATED.

C.EV-47A AND NEW VALVE-47 SHALL BE RE-OPENED TO ALLOW BACKFEEDING OF THE EXISTING 24" MAIN THAT SERVES PORTIONS OUT TO HOPE MILLS WHILE ITS CONNECTION TO THE 24"MAIN ON THE NORTH SIDE IS ISOLATED TO FACILITATE RECONNECTION.

7.EXISTING MAIN BETWEEN NEW VALVE-47 AND APPROX. STA. 0+22 ON WL-18 SHALL BE INSTALLED UNDER SERVICE INTERRUPTION THROUGH VALVE CLOSURE CONSISTING OF EV-47A, NEW VALVE-47 AND EV-48.

8.WL-19 CONNECTION TO EXISTING 24"MAIN WITHIN HOPE MILLS ROAD SHALL BE PERFORMED BY CLOSURE OF EV-45 AND EV-50A (SHEET UC-11). CLOSE EXISTING 24"VALVE NEAR ROADWAY LIMITS AND TAP THE EXISTING MAIN. WORK SHALL BE PERFORMED BETWEEN 9:00 P.M. AND 6:00 A.M. TO AVOID TRAFFIC CONGESTION.

9.COORDINATE KILLOUT OF EXISTING 24"WATER MAIN BETWEEN WL-20R1 TAPPING SLEEVE AND VALVE AND WL-19 TAPPING SLEEVE AND VALVE ON EXISTING 24"MAIN CONCURRENTLY.

10.COORDINATE TO REPLACE 2-1" METERS AT PARCEL 25A (CVS PHARMACY) AND RECONNECT TO WL-19.

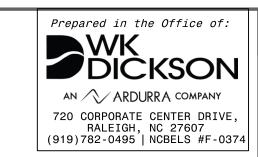
11.REMOVE AND REPLACE EXISTING SEWER IN KARR DRIVE AS SHOWN WITH DUCTILE IRON PRIOR TO INSTALLATION OF WL-20R1.

#### UC-11 UTILITY NOTES:

1.SEE UC-10 UTILITY NOTE 1 FOR SEQUENCE OF WL-19 AND WL-20R2 BETWEEN STA. 0+00 AND STA. 11+45.

2.BUILDOUT WL-20R2 TO PROPOSED 30"x30"x12"TEE AT APPROXIMATE STA 11+53. TAP THE EXISTING 12"WL AND CONNECT THE EXISTING 12"TO THE NEW TEE. TRANSFER ALL IMPACTED METERS TO THIS SEGMENT OF WL-20R2. ABANDON REMAINING EXISTING 12"WATER WEST OF CONNECTION POINT.

3.BUILD OUT WL-19 FROM TAPPING SLEEVE TO IN LINE VALVE NEAR STA. 9+60 (SEE SHEET UC-11). ONCE READY FOR ABANDONMENT, PERFORM KILL-OUT ON THE LINE SIDE OF THE EXISTING 6" LINE OF THE TAPPING SLEEVE CONNECTION FOR WL-19 (STA. 9+60) AND THE EXISTING 12"ON THE NORTH SIDE BETWEEN EV-50 AND EV-50B (NEAR INTERSECTION OF MONTCLAIR AND RAEFORD). KILL OUT OF THIS EXISTING 6" WATER MAIN BETWEEN WL-19 TAPPING SLEEVE AND EXISTING 12"MAIN ON NORTH SIDE WILL INVOLVE PERMANENTLY CLOSING EV-50, EV-50A AND EV-50C AND TEMPORARILY CLOSING EV-50D TO AVOID BACKFEEDING FROM FRED ANDERSON DURING KILL-OUT PROCEDURE.



DOCUMENT NOT CONSIDERED FINAL UNTIL ALL SIGNATURES ARE COMPLETED

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UTILITY CONSTRUCTION

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 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,

STAINED CLOTHING, CLOGGED SCREENS, ETC.
WATER MAINS AND LATERALS SHALL BE INSTALLED UTILIZING A FAYPWC APPROVED CUT-SHEET INDICATING INSTALLATION DEPTH.
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 TIE NEW WATER LATERAL TO EXISTING DOMESTIC SERVICE UTILIZING BRASS FITTINGS. SAME METER NUMBER SHALL BE INSTALLED ON SAME ADDRESS AND/OR CUSTOMER. BLOW OFF SERVICE AT HOSE BIBB ON HOUSE ONLY AFTER METER HAS BEEN
- C. AFTER ALL SERVICES ARE TRANSFERRED TO THE NEW SYSTEM, SHUT OFF VALVE ON EXISTING SYSTEM AND ABANDON EXISTING MAINS IN ACCORDANCE WITH D. CONTRACTOR SHALL SUPPLY NEW METER BOXES AND DISPOSE OF EXISTING METER BOXES.
- WHEN MAIN IS NOT TO BE ABANDONED, CONTRACTOR SHALL UNCOVER OLD CORPORATION AT MAIN, CLOSE AND PLUG CORPORATION TO ABANDON OLD
- SERVICE. CONTRACTOR SHALL ABANDON ("KILL-OUT") ANY EXISTING WATER SERVICES THAT WILL NOT BE UTILIZED BY CUTTING THE SERVICE AT THE MAIN, PLUGGING THE CORPORATION, AND TURNING OFF THE CORPORATION. AT THE METER BOX, THE ABANDONED SERVICE IS TO BE CUT OR CRIMPED, AND BURIED A MINIMUM OF 3 FEET BELOW GRADE.
- ALL EXISTING UTILITIES IMPACTED BY CONSTRUCTION SHALL BE ADJUSTED TO FINISHED GRADE, IN ACCORDANCE WITH FAYPWC REQUIREMENTS. 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

WATER UTILITY NOTES

9. SEPARATION REQUIREMENTS:

CLEARANCE SHALL BE MAINTAINED BETWEEN A WATER LINE CROSSING OVER
A STORM DRAINAGE LINES 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. 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-FEET ON EACH SIDE OF THE CROSSING.

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 PENDING WORK AND THE EXISTING UTILITIES SHALL BE IDENTIFIED AND A PLAN FOR RESOLVING ANY CONFLICTS SHALL BE PRESENTED. THE PURPOSE OF THIS COORDINATION MEETING IS TO ENSURE THAT THE CONTRACTOR HAS A GOOD UNDERSTANDING OF THE REQUIREMENTS RELATED TO THE PENDING OUTAGE, VERIFY THAT THERE ARE NO UTILITY 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 NECESSARY TO ENSURE THAT THE FAYETTEVILLE PUBLIC WORKS COMMISSION HAS CONFIDENCE THAT THE WORK CAN BE ACCOMPLISHED WITHIN THE GIVEN TIME PERIOD. SHOULD, FOR ANY REASON, THE FAYETTEVILLE PUBLIC WORKS COMMISSION DEEM THAT THE CONTRACTOR IS NOT PREPARED FOR THE PROPOSED OUTAGE, THE OUTAGE NOTIFICATIONS WILL NOT BE DISTRIBUTED AND THE OUTAGE SHALL BE POSTPONED A MINIMUM OF TWO (2) WEEKS. THE FAYETTEVILLE PUBLIC WORKS COMMISSION WILL PROVIDE WRITTEN NOTIFICATION TO THE CONTRACTOR OF THIS DECISION. NO ADDITIONAL CONTRACT

ONCE THE WATER OUTAGE NOTIFICATIONS HAVE BEEN ISSUED, A FOLLOW-UP COORDINATION MEETING WITH THE FAYPWC PROJECT COORDINATOR AND PROJECT ENGINEER SHALL BE HELD A MINIMUM OF 24 HOURS PRIOR TO THE SCHEDULED OUTAGE. THE PURPOSE OF THIS MEETING IS TO VERIFY THAT THE CONTRACTOR IS PREPARED TO PROCEED WITH THE OUTAGE, AND THAT ALL EQUIPMENT, MATERIALS, TOOLS, AND ALL OTHER INCIDENTALS ARE ON THE PROJECT SITE AND FUNCTIONING IF FOR ANY REASON THE FAYETTEVILLE PUBLIC WORKS COMMISSION DEEMS THAT THE CONTRACTOR IS NOT PREPARED, THE OUTAGE SHALL BE POSTPONED AND ALL CUSTOMERS IMMEDIATELY NOTIFIED OF THE CANCELLATION. THE OUTAGE SHALL BE POSTPONED A MINIMUM OF TWO (2) WEEKS. NO ADDITIONAL CONTRACT TIME WILL BE GRANTED FOR THIS DELAY.

DWG. NO. W.4 DWG. BY: FAYPWC

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

TIME WILL BE GRANTED FOR THIS DELAY.

WATER OUTAGES: THE CONTRACTOR SHALL SCHEDULE A COORDINATION MEETING WITH THE PWC PROJECT COORDINATOR AND PROJECT ENGINEER A MINIMUM

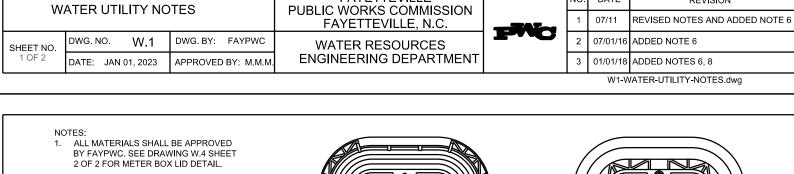
THE CONTRACTOR SHALL COMPLETE THE REQUIRED WORK AND RESTORE WATER SERVICE WITHIN THE GIVEN TIME PERIOD FOR THE OUTAGE. IF THE FAYPWC PROJECT ENGINEER A MINIMUM SERVICE WITHIN THE GIVEN TIME PERIOD FOR THE OUTAGE. IF THE FAYPWC PROJECT RDINATOR DETERMINES THAT THE CONTRACTOR WILL NOT RESTORE WATER SERVICE 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 RESERVE THE RIGHT TO CANCEL OR POSTPONE THE OUTAGE AT ANY GIVEN TIME, IF

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

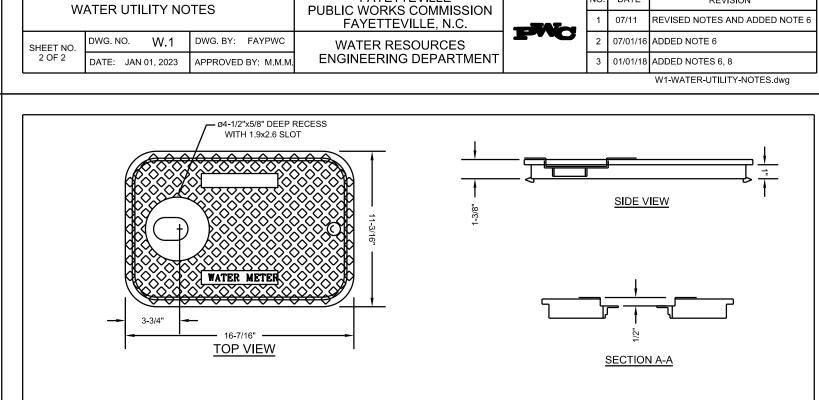
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PRUJECT REFERENCE NU.		SHEET NU.
U-4405B		UC-03C
DESIGNED BY: AAA		A A A A A A A A A A A A A A A A A A A
DRAWN BY: DM		RTH CAROLLIA
CHECKED BY: RA		O DEESSION 2
APPROVED BY: BRO	P	045331 T
REVISED:		A CAGINEES LO
NORTH CAROLINA DEPARTMENT OF TRANSPORTATION	, and the second	11/26/2024
UTILITIES ENGINEERING SEC. PHONE: (919)707-6690 FAX: (919)250-4151	UTILI	TY CONSTRUCTION PLANS ONLY

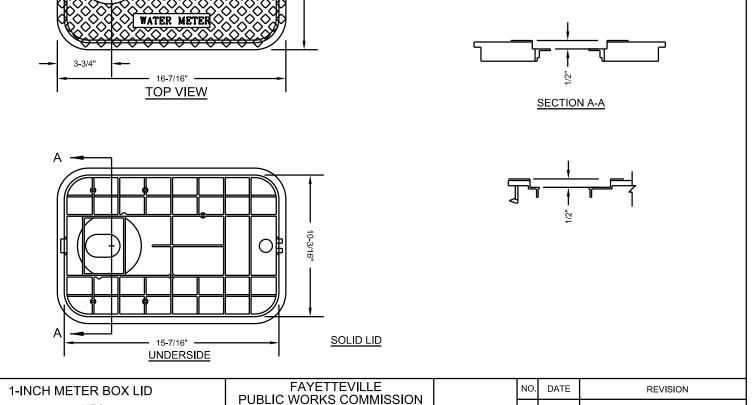
UTILITY CONSTRUCTION



**FAYETTEVILLE** 



**FAYETTEVILLE** 



FAYETTEVILLE, N.C.

WATER RESOURCES

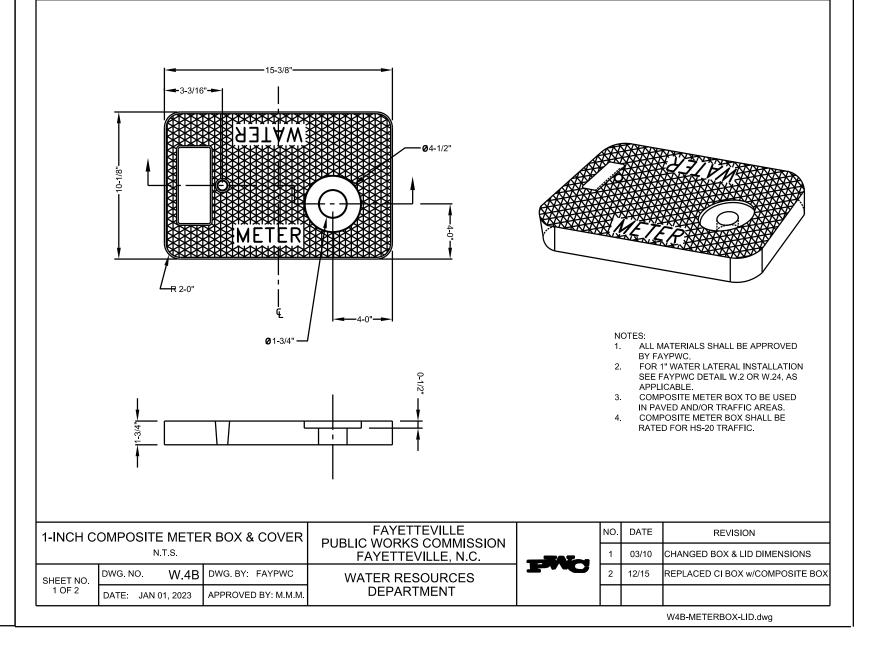
ENGINEERING DEPARTMENT

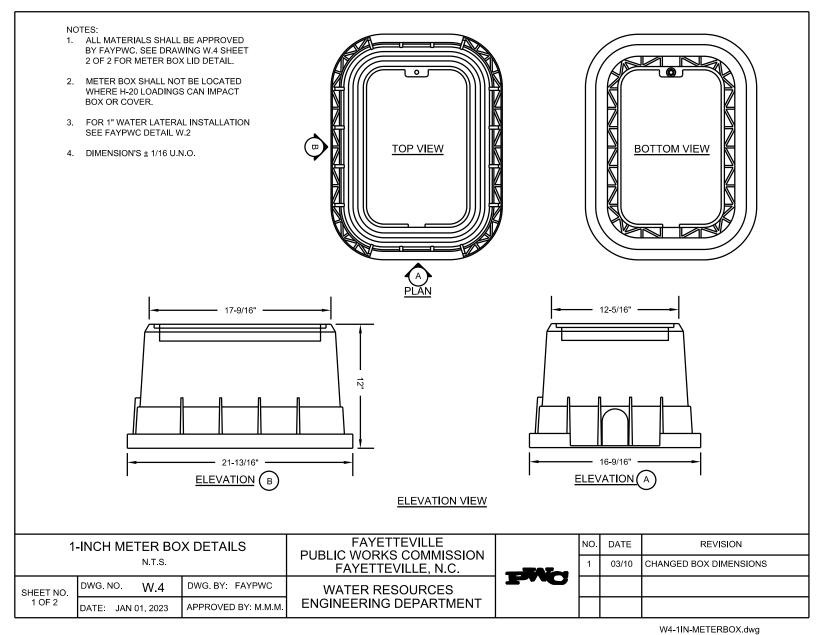
07/07 REVISED LID

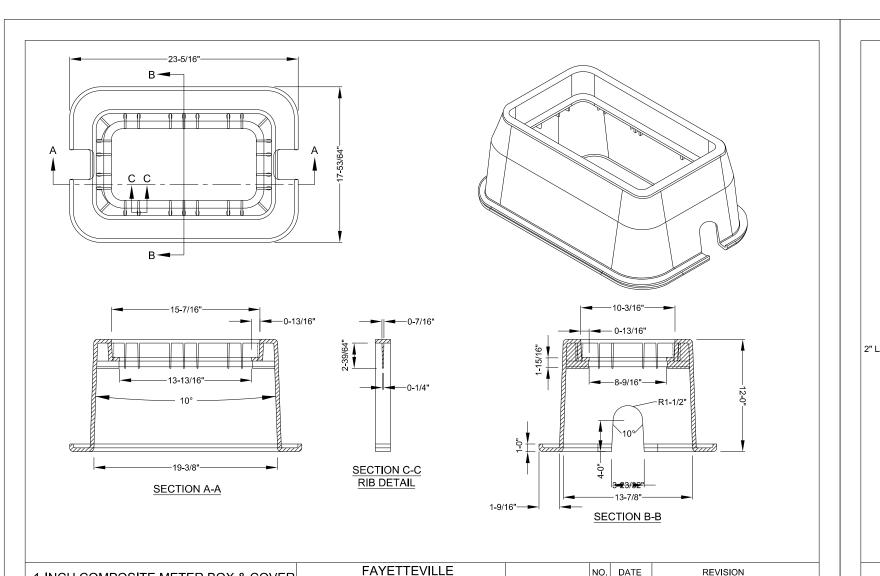
01/15 REVISED LID

03/10 CHANGED BOX AND LID DIMENSIONS

W4-1IN-METERBOX.dwg







PUBLIC WORKS COMMISSION

FAYETTEVILLE, N.C.

WATER RESOURCES

DEPARTMENT

1-INCH COMPOSITE METER BOX & COVER

2 OF 2

DWG NO. W.4B DWG BY: FAYPWC

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

REVISION

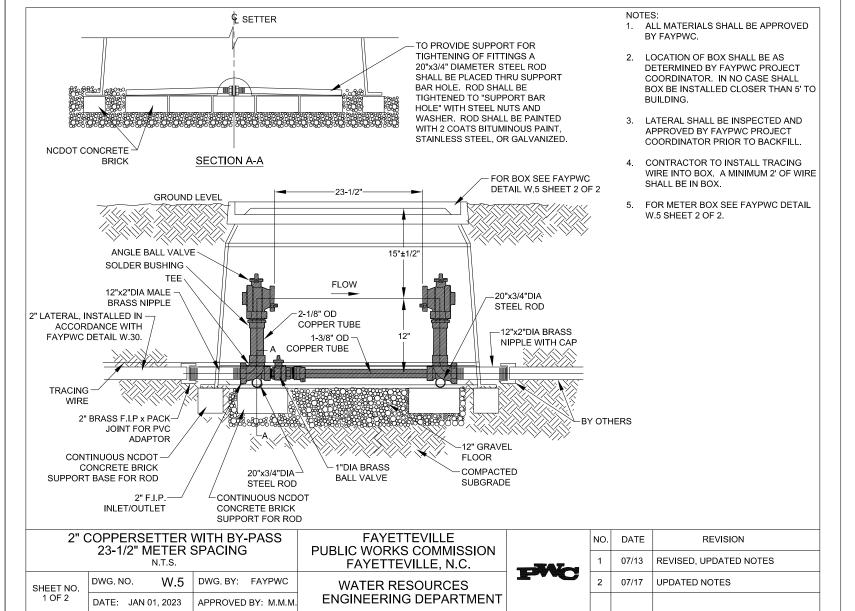
W4B-METERBOX-LID.dwg

REPLACED CI BOX WITH

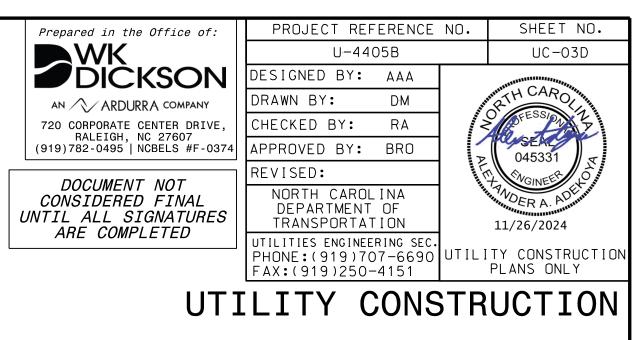
COMPOSITE BOX

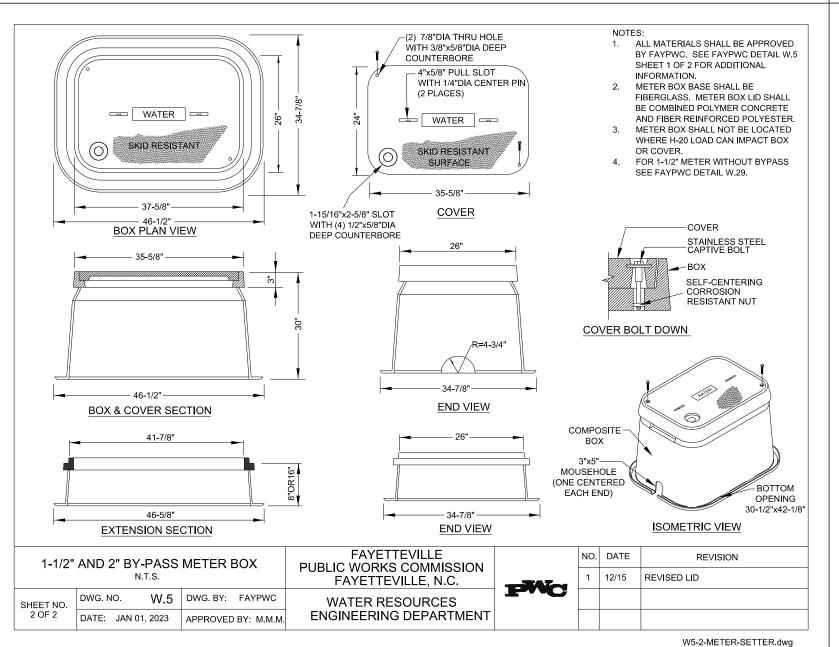
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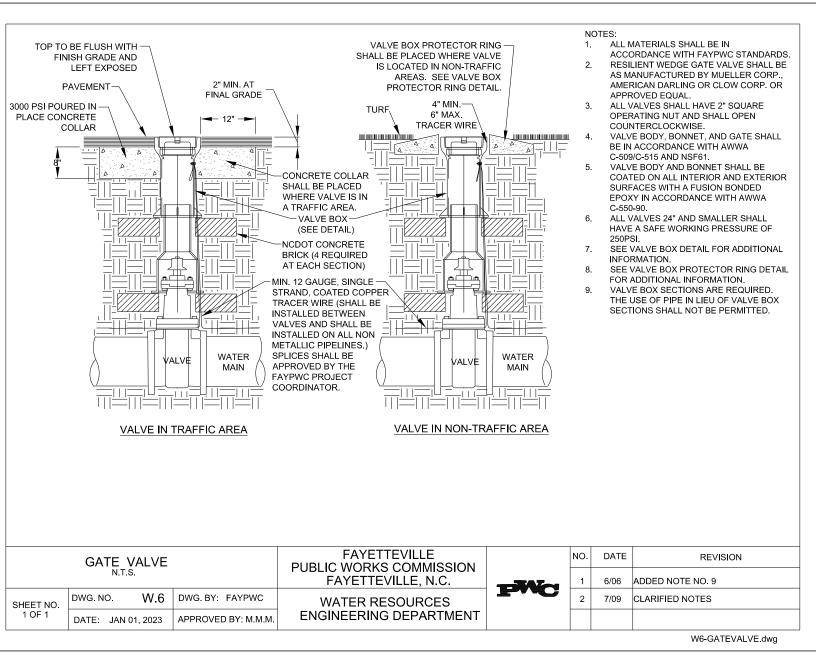
12/15

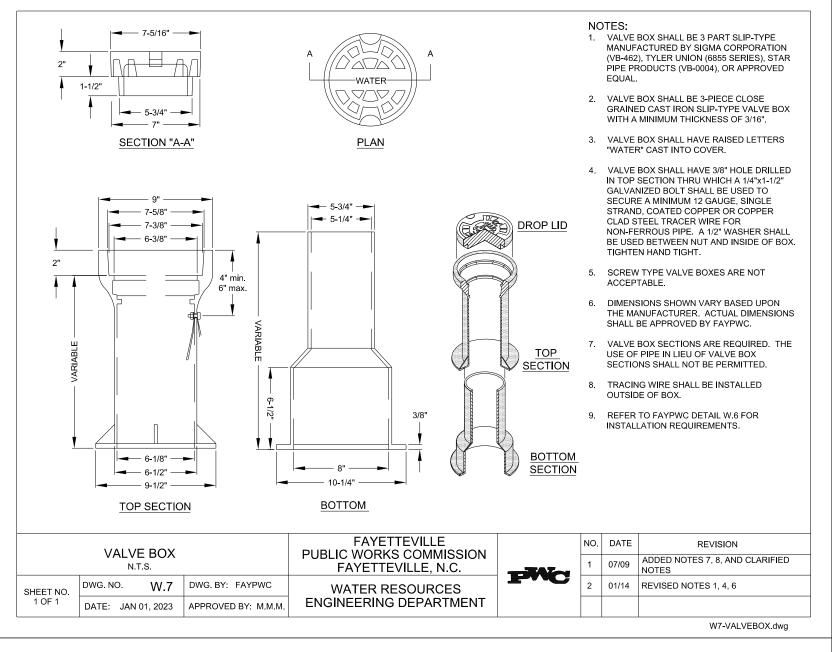


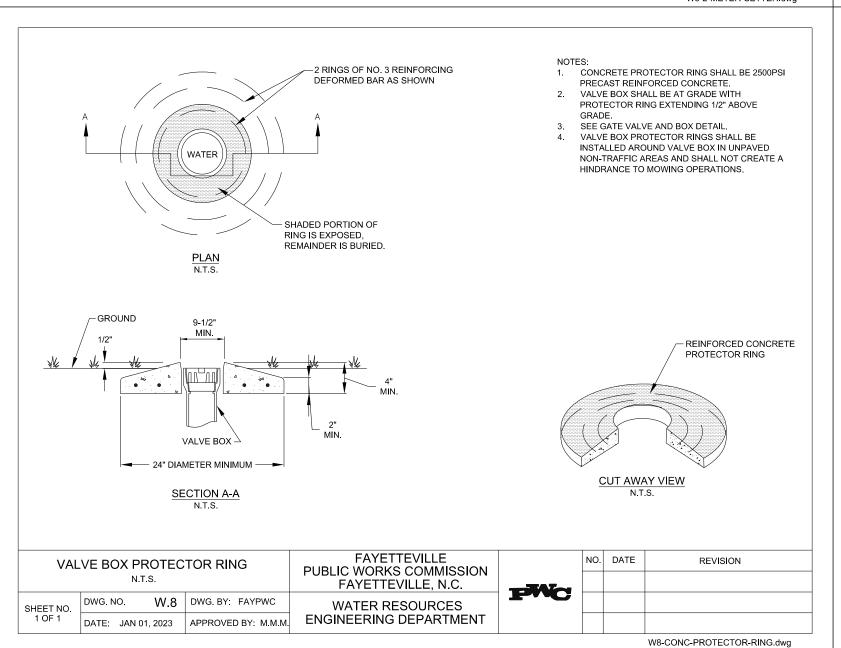
W5-2-METER-SETTER.dwg

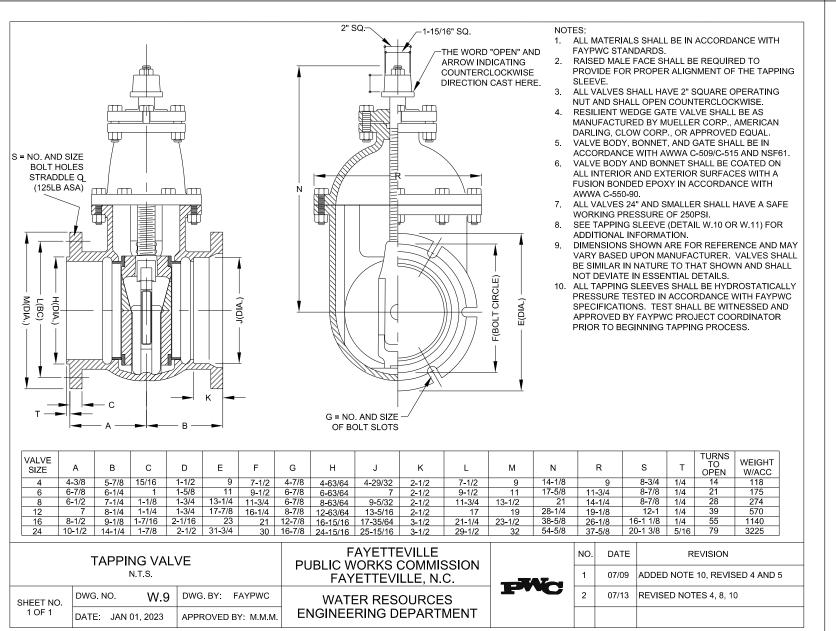


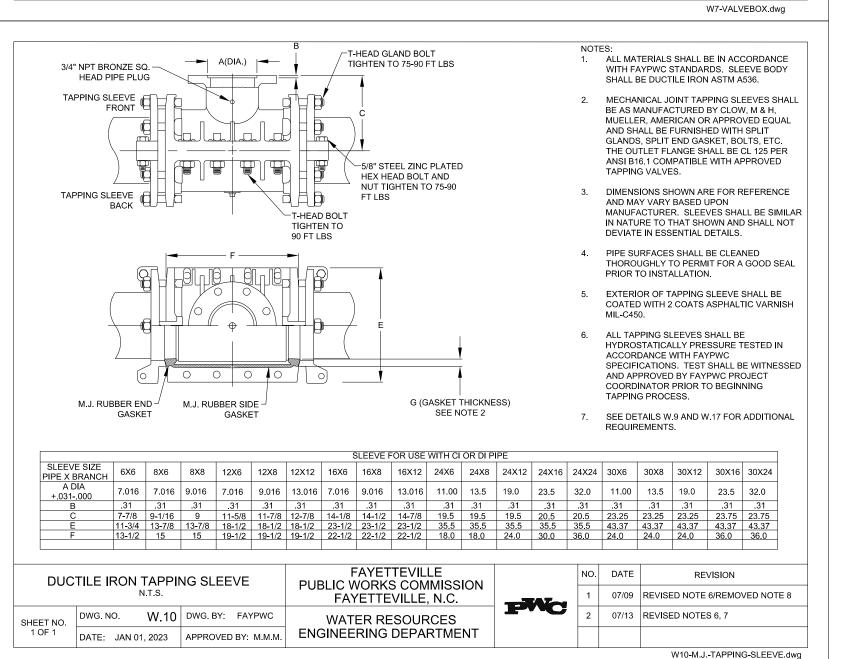












APPROVED EQUAL.

GLAND M.J. RESTRAINT.

PROJECT COORDINATOR.

BY FAYPWC PROJECT COORDINATOR

ALL VALVES AND HYDRANTS SHALL HAVE M.J. CONNECTIONS WITH IRON RETAINING

HYDRANT VALVE SHALL BE PLACED AS CLOSE AS POSSIBLE TO THE MAIN, BUT DO NOT PLACE VALVE IN PROPOSED OR EXISTING CURB AND GUTTER. IF THE STREET

IS SOIL AND NO PAVING IS TO BE DONE AT THIS TIME. THE LOCATION OF THE VALVE

HYDRANT BRANCH SHALL NOT BE BACK FILLED UNTIL INSPECTED AND APPROVED

FIRE HYDRANT CONNECTIONS TO EXISTING WATER MAINS SHALL BE MADE USING A

TAPPING SLEEVE AND VALVE BY WET TAP CONNECTION. THE TAPPING SLEEVE AND VALVE SHALL BE HYDROSTATICALLY TESTED PRIOR TO STARTING THE TAP IN

COORDINATOR IF CONFLICTS EXIST (IE: GAS SERVICES, UGE, TELEPHONE, ETC.).

MATERIALS. THE CONTRACTOR WILL BE REQUIRED TO SUPPLY VARIOUS LENGTHS

EXTENSION MAY BE USED PER HYDRANT). ADDITIONAL FITTINGS AND/OR HYDRANT

EXTENSIONS OR OFFSET CONNECTORS MAY BE REQUIRED TO MAINTAIN PROPER

GATE VALVE AND BOX SHALL BE IN ACCORDANCE WITH FAYPWC STANDARD

HYDRANT EXTENSIONS AND/OR OFFSETS SHALL BE APPROVED BY FAYPWC

THE PROPOSED LOCATION MAY BE RELOCATED BY THE FAYPWC PROJECT

THE CONTRACTOR SHALL FIELD VERIFY THE EXISTING WATER MAIN MATERIAL.

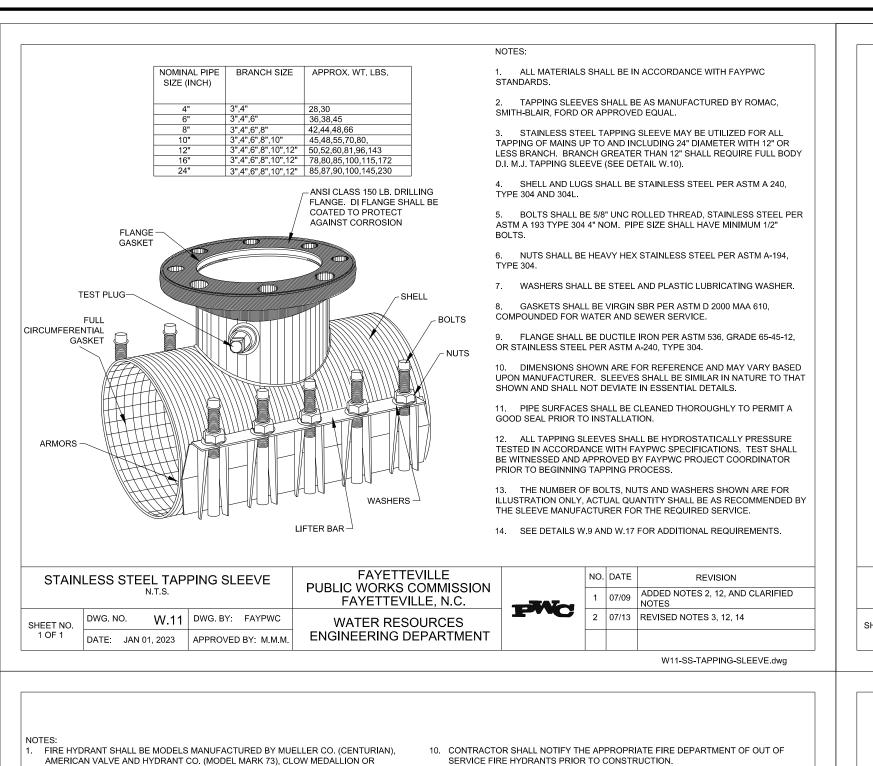
SIZE, AND DEPTH FOR EACH FIRE HYDRANT LOCATION PRIOR TO ORDERING

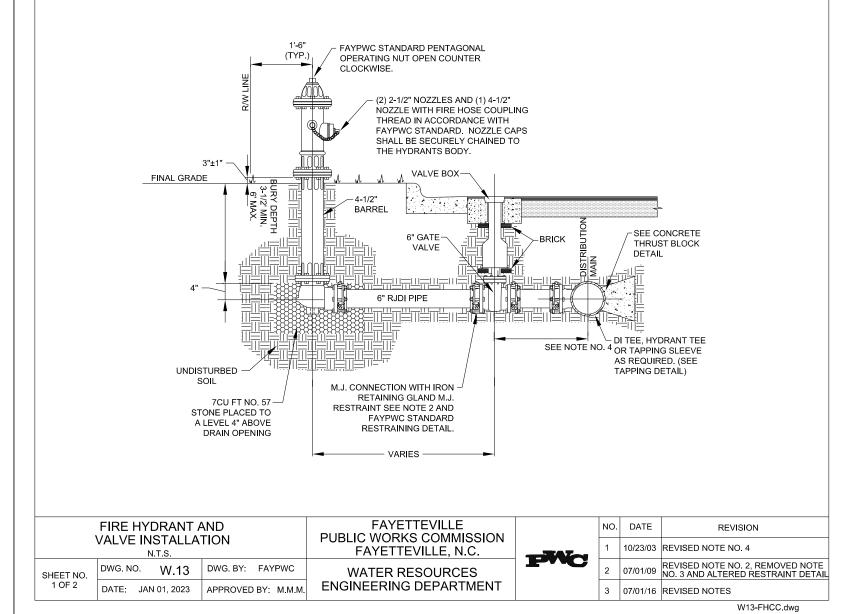
OF BARRELS AND HYDRANT EXTENSIONS (NO MORE THAN ONE HYDRANT

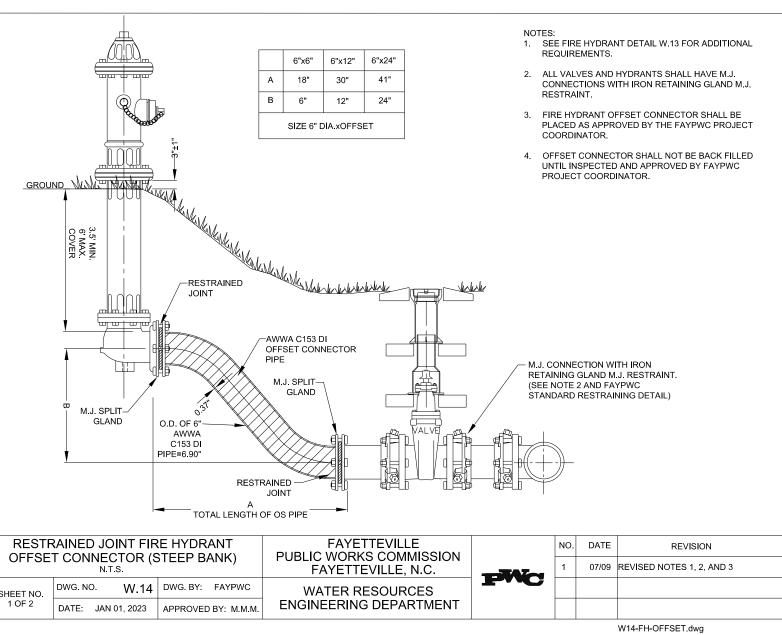
COVER AS APPROVED BY THE FAYPWC PROJECT COORDINATOR.

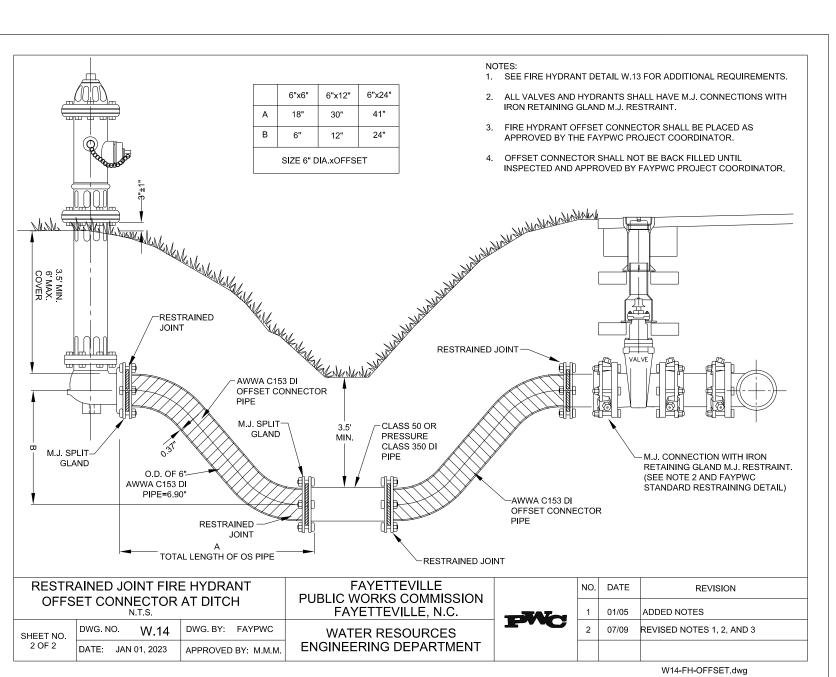
IS TO BE DETERMINED BY THE PWC PROJECT COORDINATOR

THE PRESENCE OF THE FAYPWC PROJECT COORDINATOR.









PROJECT REFERENCE NO.

DΜ

R∙A

UTILITY CONSTRUCTION

U-4405B

ESIGNED BY: AAA

NORTH CAROLINA

DEPARTMENT OF

TRANSPORTATION

FAX:(919)250-4151

TILITIES ENGINEERING SEC PHONE: (919)707-6690

DRAWN BY:

EVISED:

(919)782-0495 NCBELS #F-0374 APPROVED BY: BRO

CHECKED BY:

Prepared in the Office of:

**DICKSON** 

AN ARDURRA COMPANY

720 CORPORATE CENTER DRIVE,

RALEIGH, NC 27607

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ARE COMPLETED

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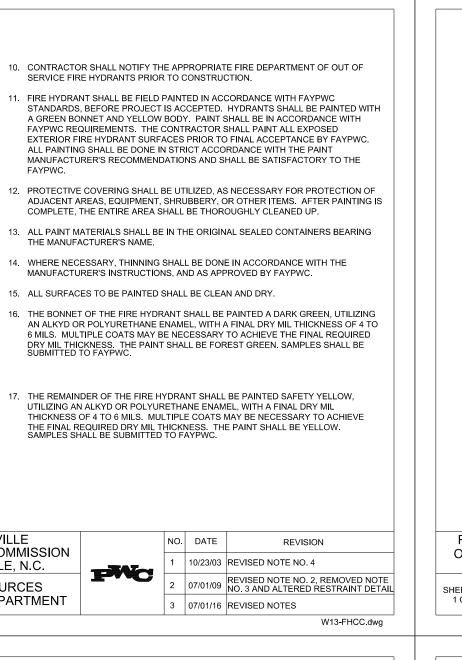
SHEET NO.

UC-03E

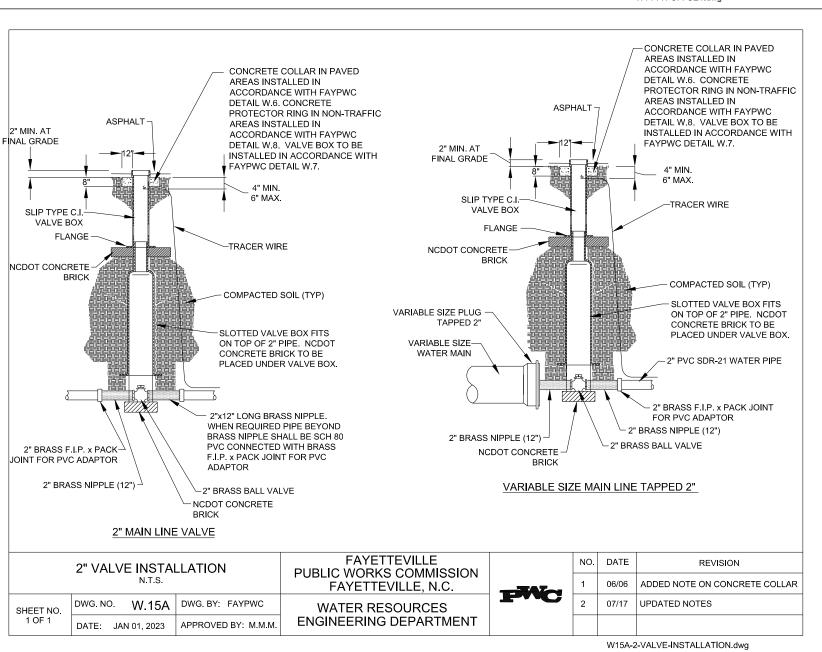
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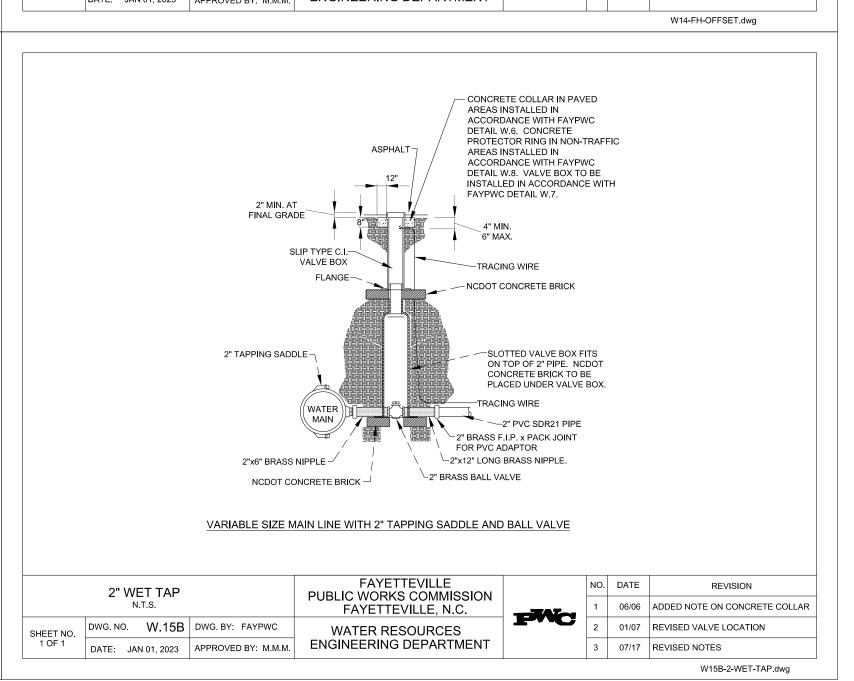
UTILITY CONSTRUCTIO

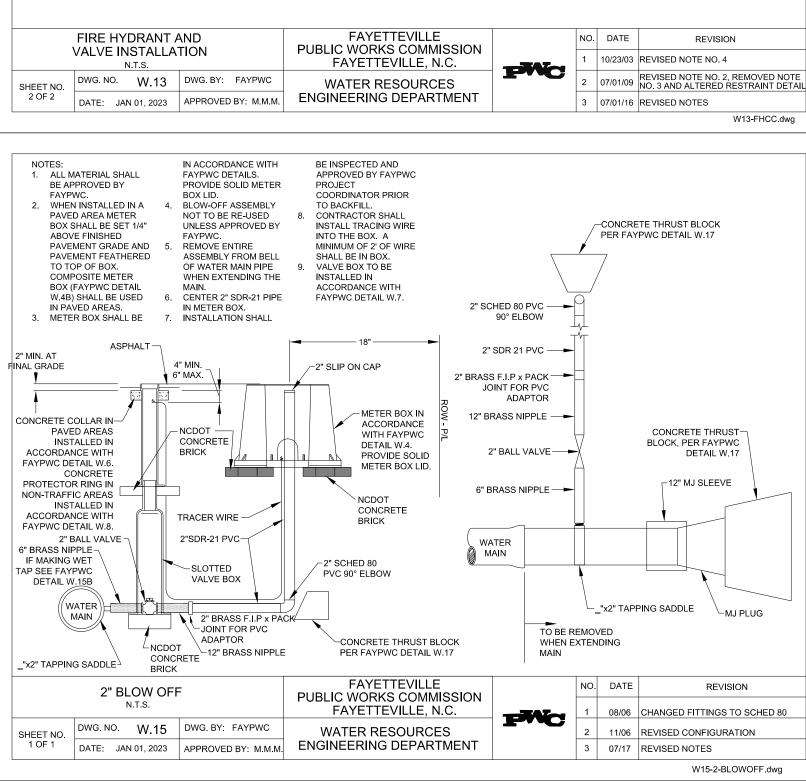
PLANS ONLY

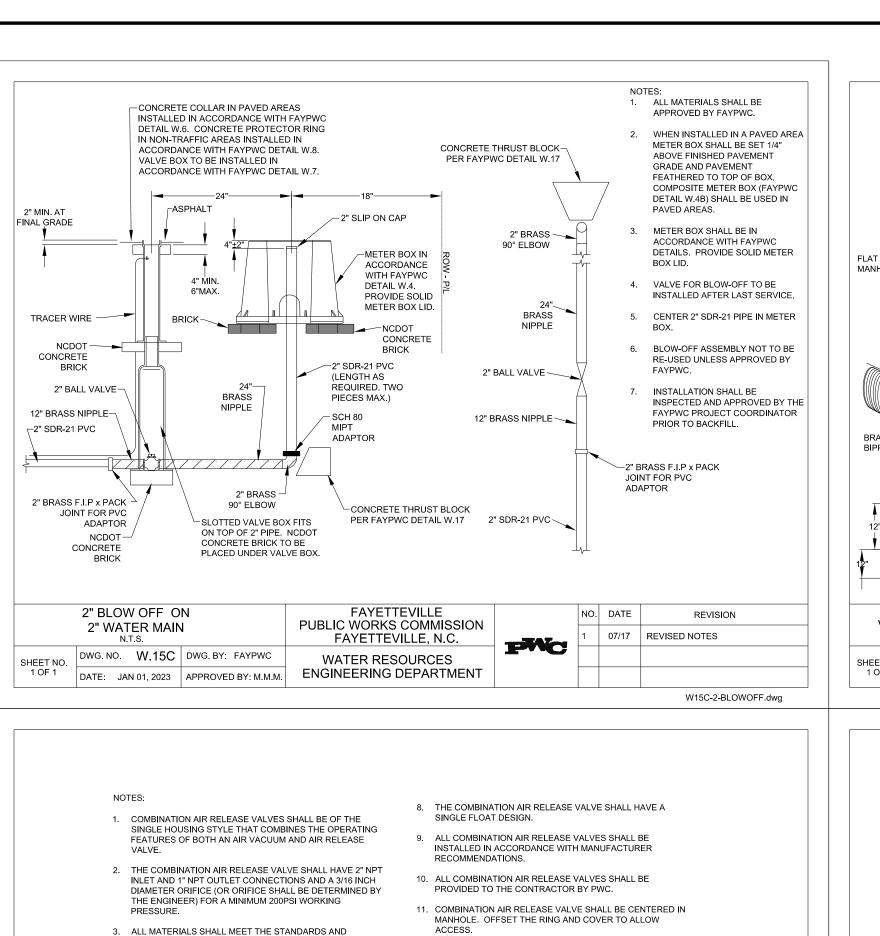


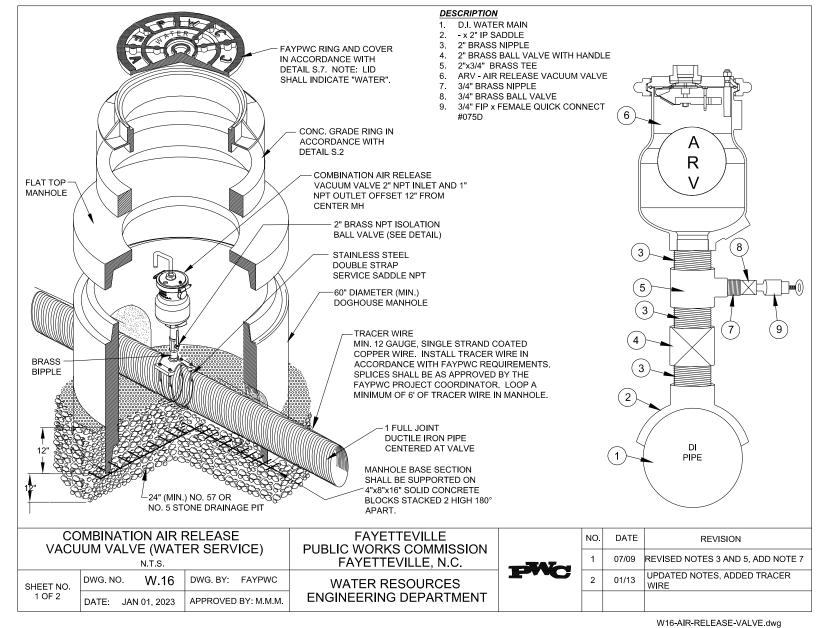
15. ALL SURFACES TO BE PAINTED SHALL BE CLEAN AND DRY.











MINIMUM BEARING AREA EACH DIRECTION

OF THRUST IN SQUARE FEET

90° 45° ELBOW

BLOCK

SIDE EXCAVATIONS -

- CONCRETE

SHALL BE KEPT

JOINTS (TYP.)

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FAYETTEVILLE, N.C.

WATER RESOURCES

**ENGINEERING DEPARTMENT** 

CLEAR OF PIPE

ELBOWS

TAPPING SLEEVE

AND VALVE

NO. DATE

ELBOWS & CROSSES

(based on soil supporting value of 2,000psf @ 200 psig test pressure)

SEE BLOW-OFF DETAIL FOR

REQUIRED AT DEAD ENDS.

DEAD END

CLARIFICATION OF CONSTRUCTION

BLOCK (TYP.)

**ELBOW** 

HORIZONTAL BEND

-SIDE EXCAVATIONS (TYP.)

CONCRETE THRUST BLOCK DETAIL

DWG NO. W 17 DWG BY: FAYPWC

DATE: JAN 01, 2023 APPROVED BY: M.M.M.

N.T.S.

-ALL BEARING

SHALL BE AGAINST

GROUND (TYP.)

THRUST BLOCKS SHALL BE

INSTALLED ON PVC WATER

ACCEPTABLE ALTERNATE

PIPE GREATER THAN 12 INCH

COMPACT FITTINGS ARE NOT

THRUST BLOCKS SHALL BE

THE MANNER SHOWN.

ACCEPTABLE. STANDARD FITTINGS

INSTALLED ON SEWER FORCE MAIN IN

BE ON SITE UTILIZING A MECHANICAL

SHALL BE USED WITH CONCRETE

5. IF SAC-CRETE IS USED, MIXING MUST

6. NO CONCRETE SHALL BE PLACED ON

7. CONCRETE SHALL BE A MINIMUM

8. ALL BEARING SURFACES SHALL BE

PLACEMENT OF CONCRETE.

AGAINST UNDISTURBED SOIL AND

PROJECT COORDINATOR PRIOR TO

USE OF RESTRAINED JOINT DUCTILE

CONDITIONS DO NOT ALLOW THE USE

THRUST BLOCKS ARE DESIGNED

IRON WILL BE REQUIRED IF SOIL

ALL VERTICAL BENDS SHALL BE

JOINT DUCTILE IRON PIPE

BASED ON A TYPE 3 TRENCH, SANDY

SILT SOIL WITH A MINIMUM 3,000 PSF

FACTOR OF 2. THE REQUIRED TEST.

EXPECTED PRESSURE IN THE PIPE.

02/07 ADDED NOTES 9 AND 10

3 07/13 ADDED TAPPING SLEEVE AND

VALVE DETAIL

PRESSURE OF 200 PSI IS THE MAXIMUM

SHALL BE APPROVED BY FAYPWO

BOLTS. WRAP JOINT FITTINGS WITH

DIAMETER SHALL REQUIRE RESTRAINT JOINT PIPE FOR THE

RESTRAINING SYSTEMS.

PROPER LENGTH

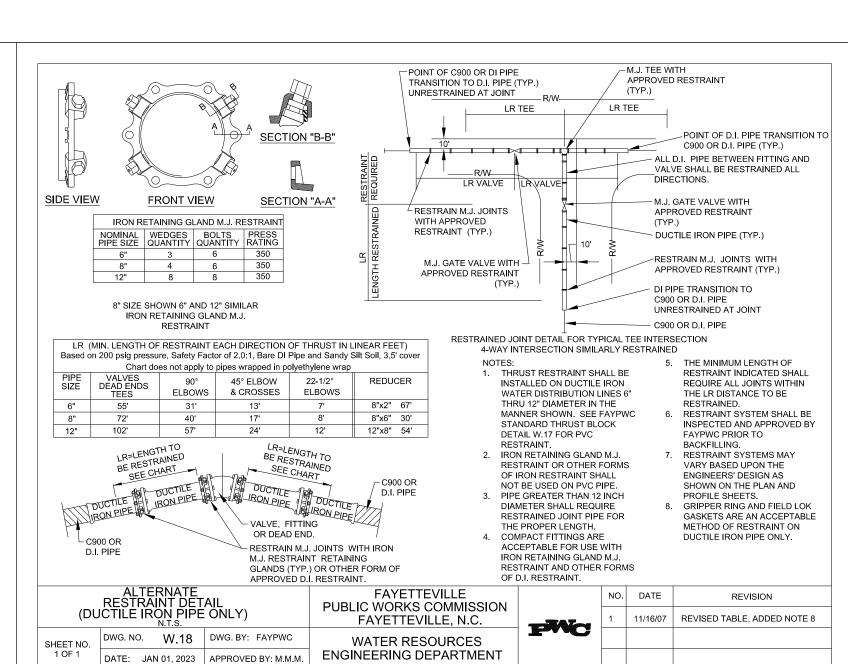
THRUST BLOCKING.

DISTRIBUTION LINES 6" THRU 12"

RESTRAINING DETAIL W.18 FOR

DIAMETER IN THE MANNER SHOWN.

SEE FAYPWC STANDARD ALTERNATE



PROJECT REFERENCE NO.

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RA

UTILITY CONSTRUCTION

U-4405B

ESIGNED BY: AAA

APPROVED BY: BRO

NORTH CAROLINA

DEPARTMENT OF

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TILITIES ENGINEERING SEC

PHONE: (919)707-6690

FAX:(919)250-4151

DRAWN BY:

EVISED:

W18-RESTRAINT-DETAIL.dwg

CHECKED BY:

Prepared in the Office of:

**DICKSON** 

AN ARDURRA COMPANY

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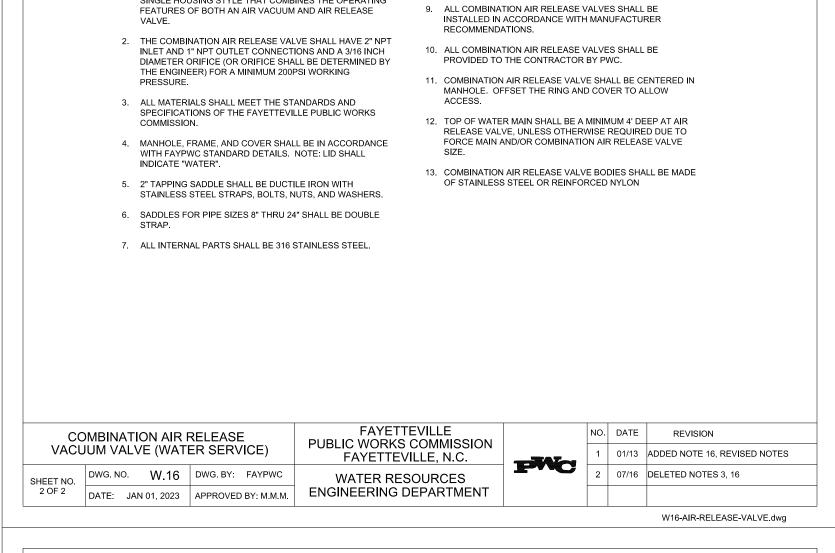
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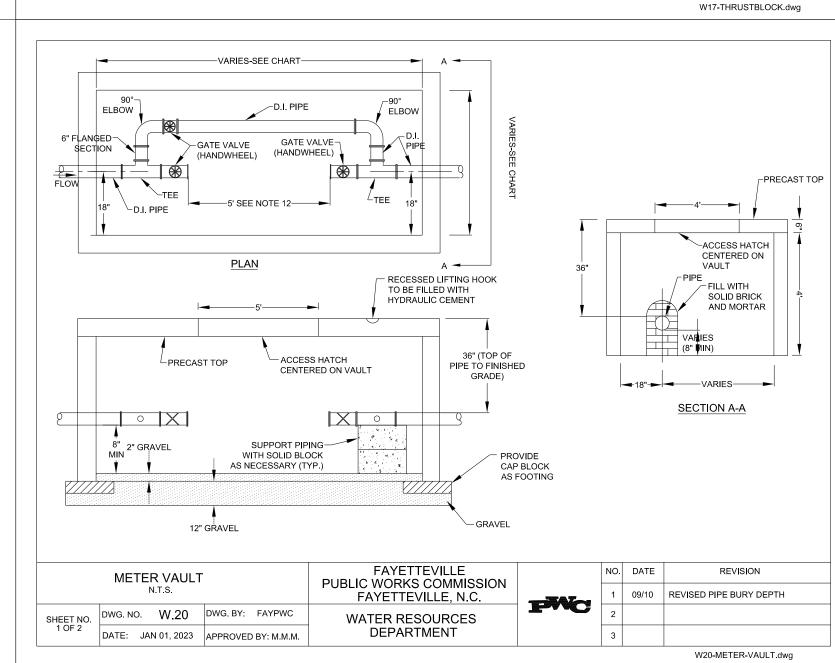
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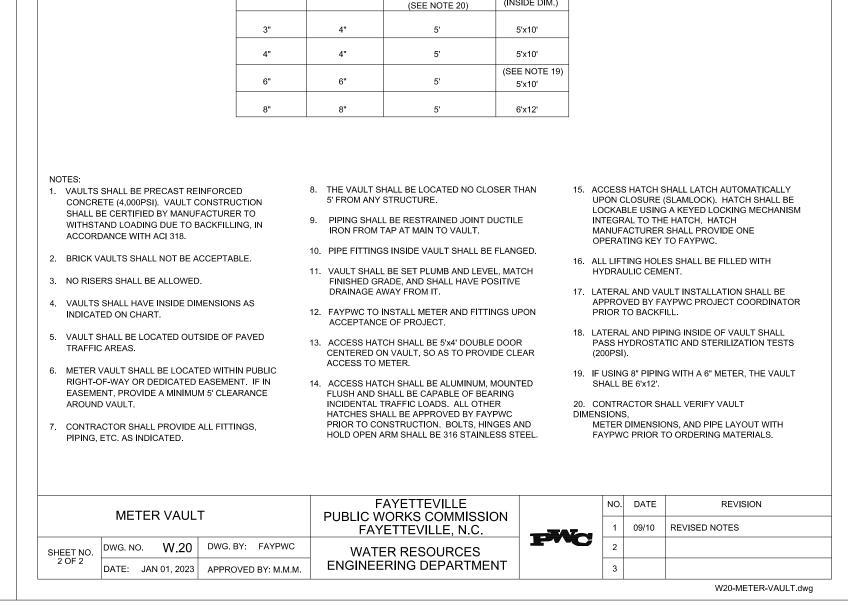
11/26/2024

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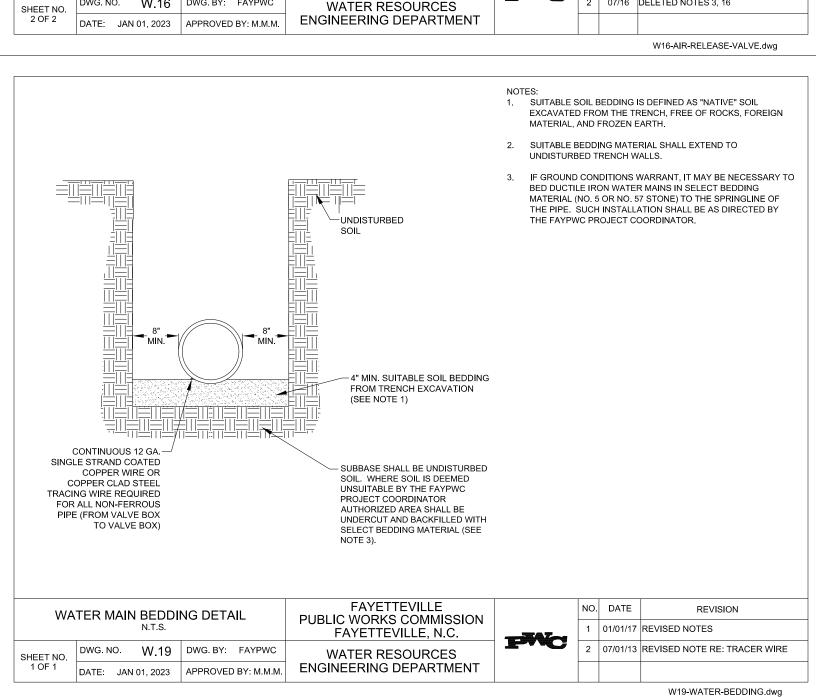
SPACING BETWEEN

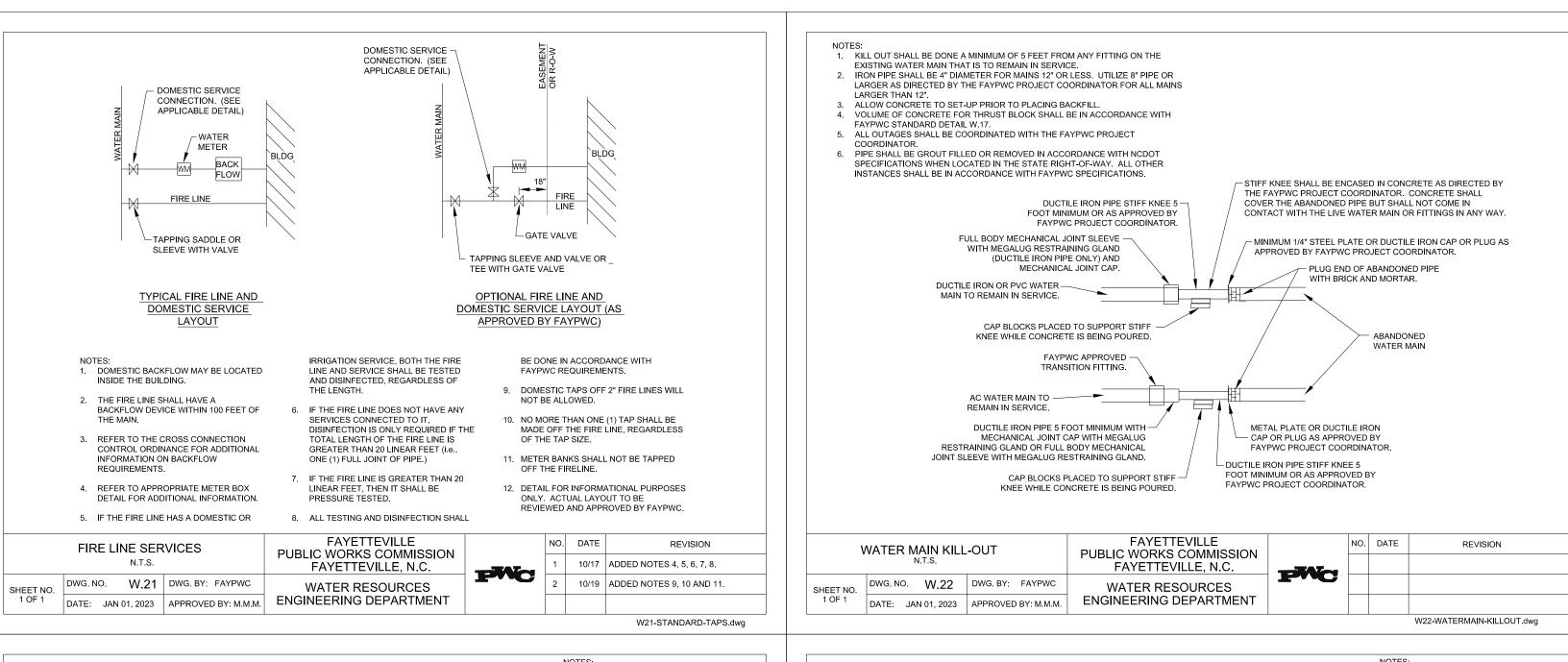
GATE VALVES

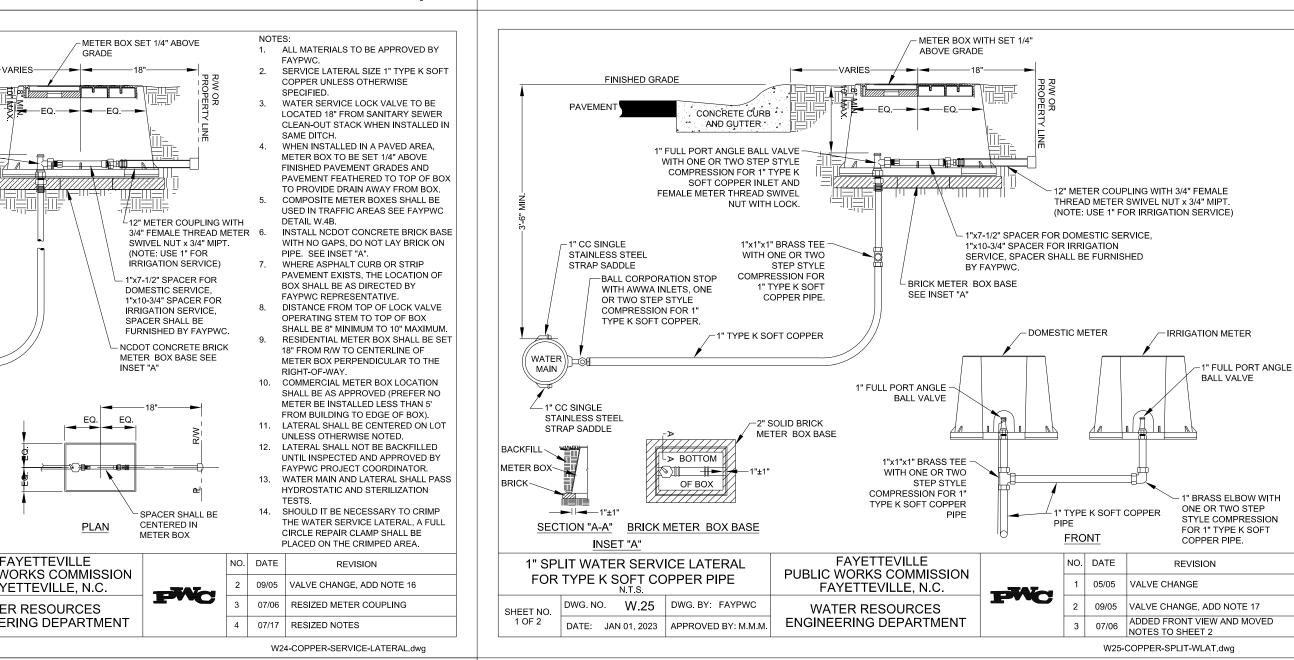
METER SIZE

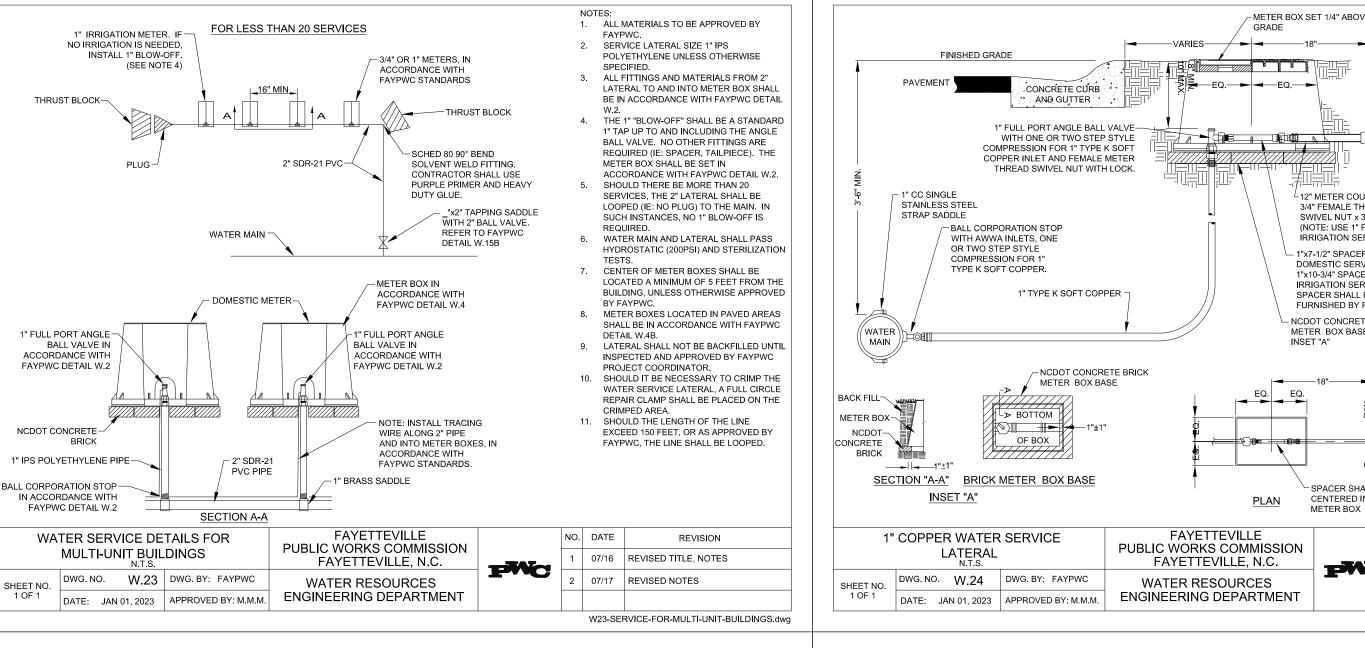
MIN PIPE DIA

VAULT SIZE









1 07/06 ADDED FRONT VIEW AND MOVED

W25-COPPER-SPLIT-WLAT.dwa

NOTES TO SHEET 2

07/17 REVISED NOTES

8. DISTANCE FROM TOP OF LOCK VALVE

9. RESIDENTIAL METER BOX SHALL BE SET 18"

MINIMUM TO 10" MAXIMUM.

OTHERWISE NOTED.

FAYETTEVILLE

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PUBLIC WORKS COMMISSION

WATER RESOURCES

PROJECT COORDINATOR.

OPERATING STEM TO TOP OF BOX SHALL BE 8"

BOX PERPENDICULAR TO THE RIGHT-OF-WAY.

AS APPROVED (PREFER NO METER BE INSTALLED

LESS THAN 5' FROM BUILDING TO EDGE OF BOX).

10. COMMERCIAL METER BOX LOCATION SHALL BE

11. LATERAL SHALL BE CENTERED ON LOT UNLESS

12. LATERAL SHALL NOT BE BACKFILLED UNTIL

13. WATER MAIN AND LATERAL SHALL PASS

14. SHOULD IT BE NECESSARY TO CRIMP THE

INSPECTED AND APPROVED BY FAYPWC

HYDROSTATIC AND STERILIZATION TESTS

WATER SERVICE LATERAL, A FULL CIRCLE

REPAIR CLAMP SHALL BE PLACED ON THE

ALL MATERIALS TO BE APPROVED BY FAYPWC.

2. SERVICE LATERAL SIZE 1" TYPE K SOFT COPPER

3. WATER SERVICE LOCK VALVE TO BE LOCATED 18"

FROM SANITARY SEWER CLEANOUT STACK

4. WHEN INSTALLED IN A PAVED AREA. METER BOX

TO BE SET 1/4" ABOVE FINISHED PAVEMENT

BOX TO PROVIDE DRAIN AWAY FROM BOX.

5. COMPOSITE METER BOXES SHALL BE USED IN

TRAFFIC AREAS (SEE PWC DETAIL W.4B)

7. WHERE ASPHALT CURB OR STRIP PAVEMENT

DIRECTED BY FAYPWC REPRESENTATIVE.

2 OF 2 DATE: JAN 01, 2023 APPROVED BY: M.M.M. ENGINEERING DEPARTMENT

NOTES FOR

1" SPLIT WATER SERVICE LATERAL FOR

TYPE K SOFT COPPER PIPE

DWG. NO. W.25 DWG. BY: FAYPWC

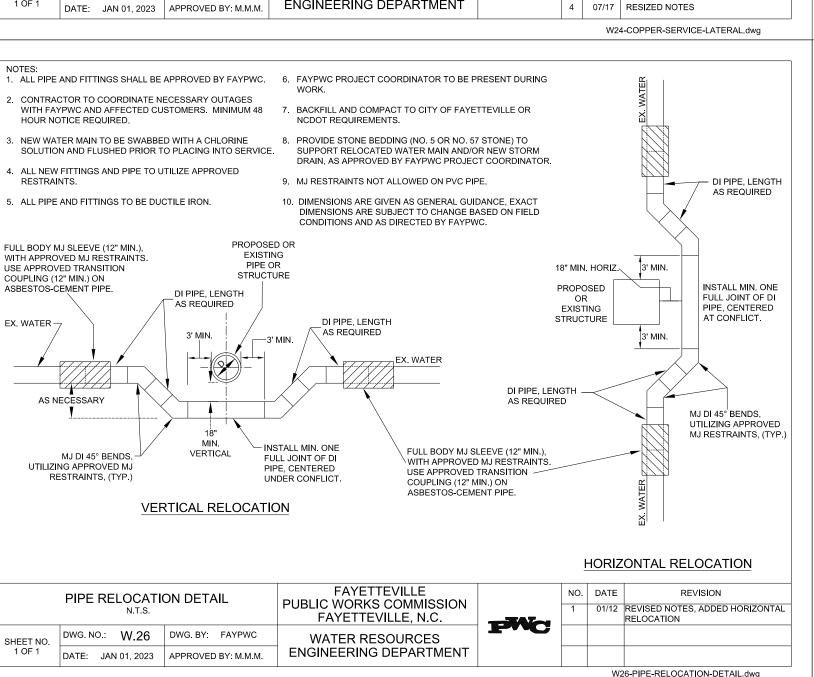
6. INSTALL NCDOT CONCRETE BRICK BASE WITH NO

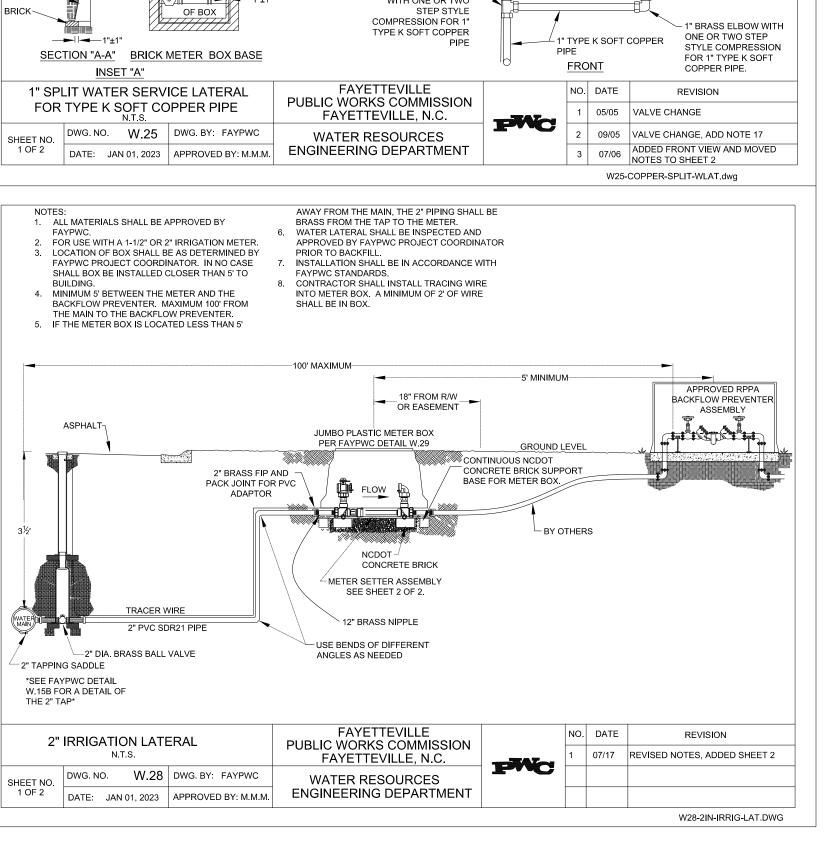
GAPS, DO NOT LAY BRICK ON PIPE. SEE INSET

GRADES AND PAVEMENT FEATHERED TO TOP OF

PIPE UNLESS OTHERWISE SPECIFIED.

WHEN INSTALLED IN SAME DITCH





PROJECT REFERENCE NO.

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UTILITY CONSTRUCTION

U-4405B

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SHEET NO.

UC-03G

11/26/2024

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