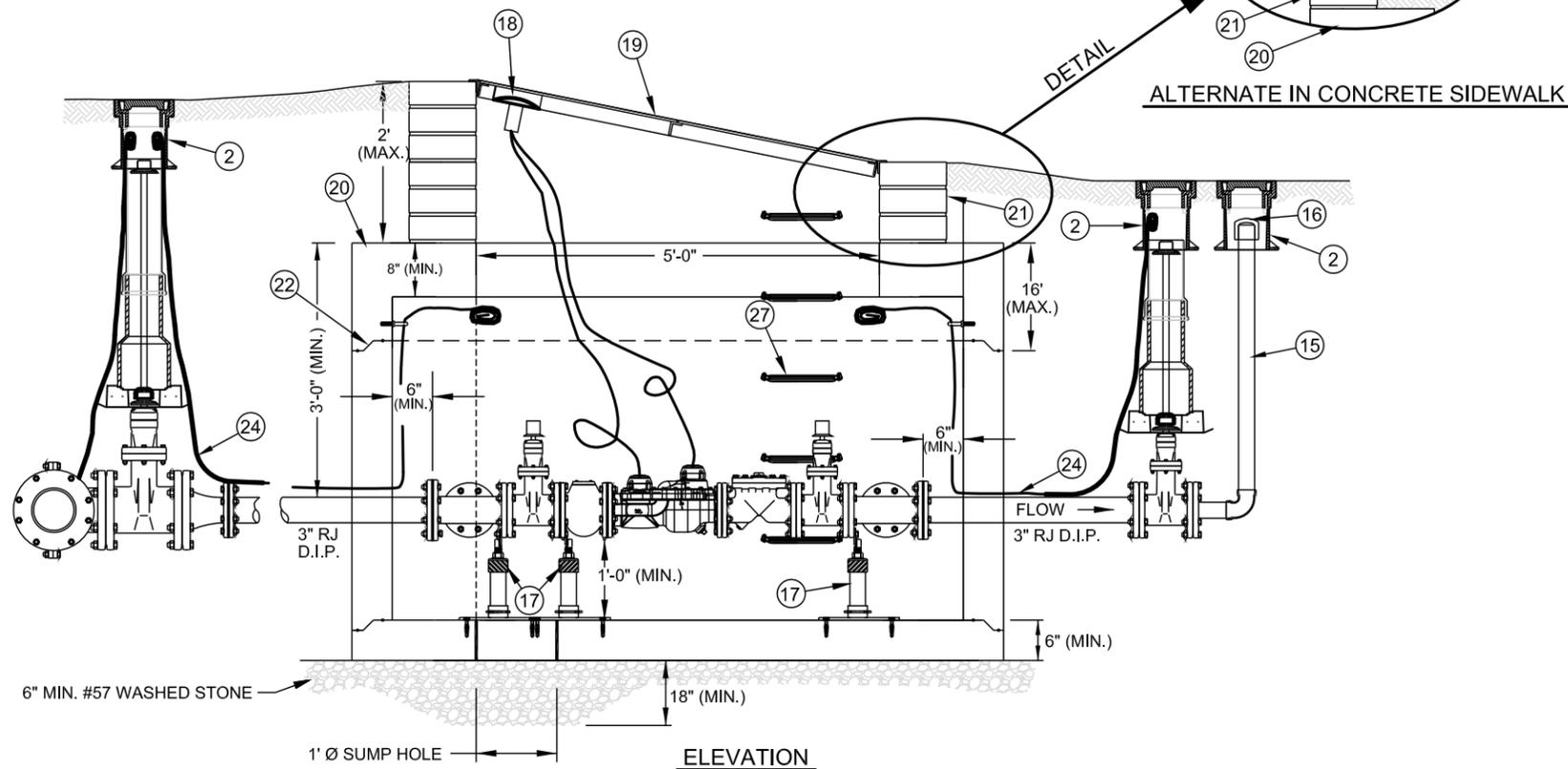
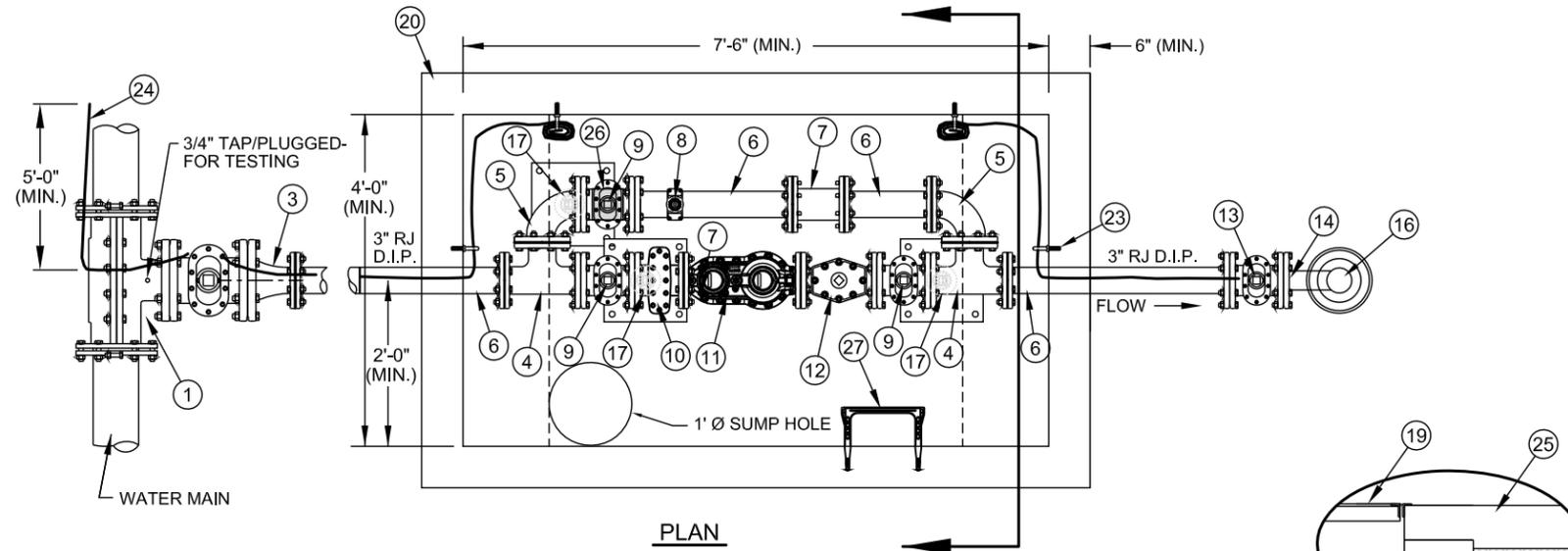


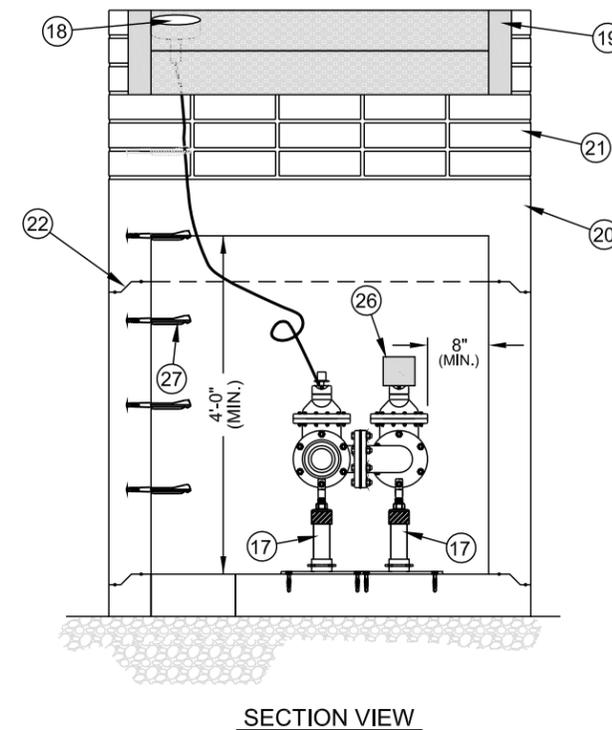
**NOTES:**

- A. ALL FLANGE HARDWARE (BOLT/WASHER/NUT) SHALL BE STAINLESS STEEL - TYPE 304 WITH ANTI-SEIZE COMPOUND.
- B. ALL PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON FROM TAP TO PROPERTY LINE VALVE.
- C. METER CONFIGURATION AND LENGTH MAY VARY DUE TO BRAND - VERIFY LENGTH TO DETERMINE MINIMUM VAULT LENGTH.
- D. VAULT SHALL BE SIZED AS NEEDED FOR PIPE (7.5'x4' MINIMUM) AND RATED FOR NCDOT HS-20 LOADING - SUBMIT SHOP DRAWINGS / P.E. SEALED FOR REVIEW.
- E. ALL CONCRETE SHALL BE MINIMUM 4000 PSI COMPRESSIVE STRENGTH.
- F. DESIGN SHALL CONFORM TO ASTM C858 - SPECIFICATIONS FOR "UNDERGROUND PRECAST CONCRETE UTILITY STRUCTURE"
- G. STEEL REINFORCING DESIGN SHALL CONFORM TO ASTM C857
- H. REBARS SHALL BE GRADE 60 PER ASTM A615
- I. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185
- J. DIAGONAL REINFORCING SHALL BE ADDED AT ALL OPENINGS
- K. PIPE PENETRATIONS SHALL BE SEALED WITH FLEXIBLE CONNECTORS (MANHOLE BOOTS) OR WITH 8-INCHES OF BRICK & MORTAR (AND 1/2 INCH THICK CONSTRUCTION EXPANSION MATERIAL)
- L. FRAME TO BE FLUSH WITH GROUND OR CONCRETE SIDEWALK, GROUND SHALL SLOPE AWAY FROM VAULT.
- M. ALL JOINTS SHALL BE MADE WATERTIGHT USING 2 RINGS OF BUTYL RUBBER JOINT MASTIC.
- N. ALL VALVES SHALL BE OPEN RIGHT - CLOCKWISE, EXCEPT NO. 13



**NO. DESCRIPTION**

- 1 4" TAPPING SLEEVE AND 4" FLANGE x MJ TAPPING VALVE ON EXISTING MAIN. 3" MJ TEE AND 3" MJ GATE VALVE ON NEW MAIN.
- 2 STANDARD VALVE BOX ASSEMBLY (TYP.) - ALL VALVES
- 3 4" x 3" REDUCER (RJ) REQUIRED ON EXISTING MAIN INSTALLATIONS. (REDUCER NOT REQUIRED ON NEW MAIN INSTALLATIONS)
- 4 FLANGE DUCTILE IRON TEE WITH ADJUSTABLE FLANGE SUPPORT
- 5 FLANGE DUCTILE IRON 90°-BEND
- 6 FLANGE x PLAIN END DUCTILE IRON PIPE (MIN. SPECIAL CLASS 53)
- 7 MJ LONG PATTERN SOLID SLEEVE WITH RESTRAINED JOINTS
- 8 3/4" BALL CORPORATION STOP WITH TAPPING SADDLE
- 9 FLANGE GATE VALVE; WITH 2" OPERATING NUT - OPEN RIGHT AND WITH ADJUSTABLE FLANGE SUPPORT ON BYPASS VALVE
- 10 FLANGE STRAINER
- 11 FLANGE COMPOUND METER ASSEMBLY W/AMR TRANSMITTERS. METER CONFIGURATION MAY VARY DUE TO BRAND SUPPLIED.
- 12 FLANGE CHECK VALVE W/BLIND FLANGE-2" TAP/THREADED BRASS PLUG
- 13 MECHANICAL JOINT (RJ) GATE VALVE-2" OPERATING NUT - OPEN LEFT @ PROPERTY LINE.
- 14 MECHANICAL JOINT PLUG WITH 2" TAP
- 15 2" PIPE GALVANIZED STEEL (SCH 80), RED BRASS (SCH 40), HDPE (DR 9) OR DIP WITH STANDARD VALVE BOX/CONCRETE PAD
- 16 2" THREADED COUPLING
- 17 ADJUSTABLE FLANGE SUPPORTS (3 REQUIRED)
- 18 AMR TRANSMITTERS
- 19 4' x 5' DOUBLE-LEAF ACCESS DOOR. SEE STANDARD DETAIL.
- 20 PRECAST REINFORCED CONCRETE VAULT
- 21 MINIMUM OF (3) STANDARD SOLID CONCRETE BRICK COURSES UNDER ACCESS DOOR FRAME, MAXIMUM 2FT.
- 22 JOINT REQUIRED AT FLAT TOP SECTION.
- 23 3/8" DIA. GALV. STEEL EYE BOLT (ADHESIVE ANCHOR) - TYPICAL
- 24 AWG #12 GAUGE COPPER TRACER WIRE (THWN) - WITH BLUE INSULATION - TERMINATE WITH 24" EXCESS WIRE (COILED) @ EYE BOLT AND VALVE BOX (TYPICAL).
- 25 CAST IN PLACE CONCRETE SIDEWALK - BRICKWORK SHALL NOT EXTEND TO SURFACE. ACCESS DOOR FRAME SHALL REST ON SIDEWALK.
- 26 VALVE LOCK (FURNISHED BY CMUD) - LOCK VALVE CLOSED
- 27 PLASTIC STEP - 12" OR 16" O.C. VERTICAL SPACING



NO SCALE

STANDARD NO. E

VERSION NO. 1.1  
VERSION DATE 05.13.2011

**3 - inch COMPOUND WATER METER AND PRECAST CONCRETE VAULT**

CHARLOTTE-MECKLENBURG UTILITIES  
STANDARD DETAILS  
WATER

