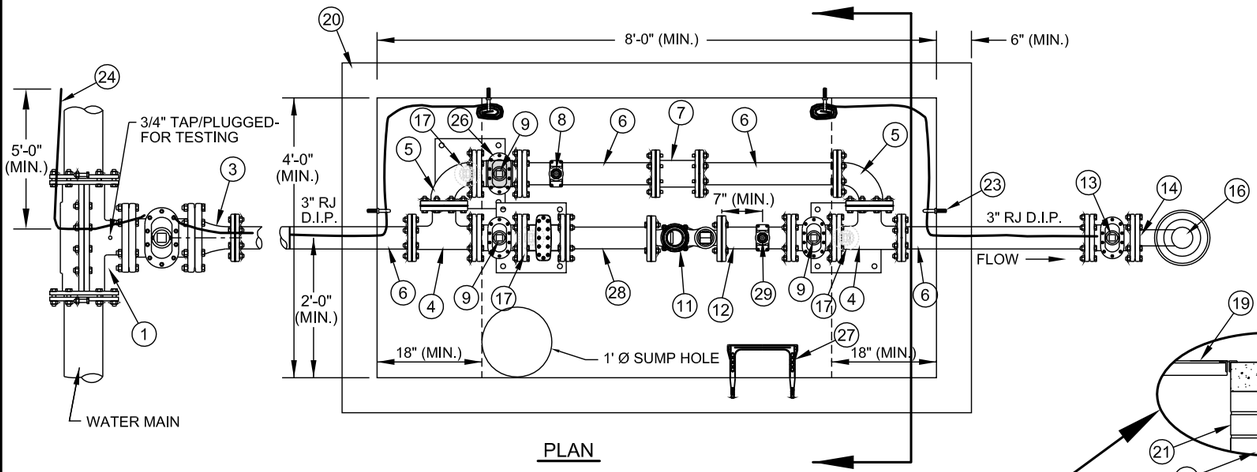
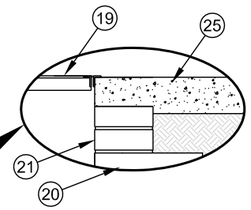
NOTES:

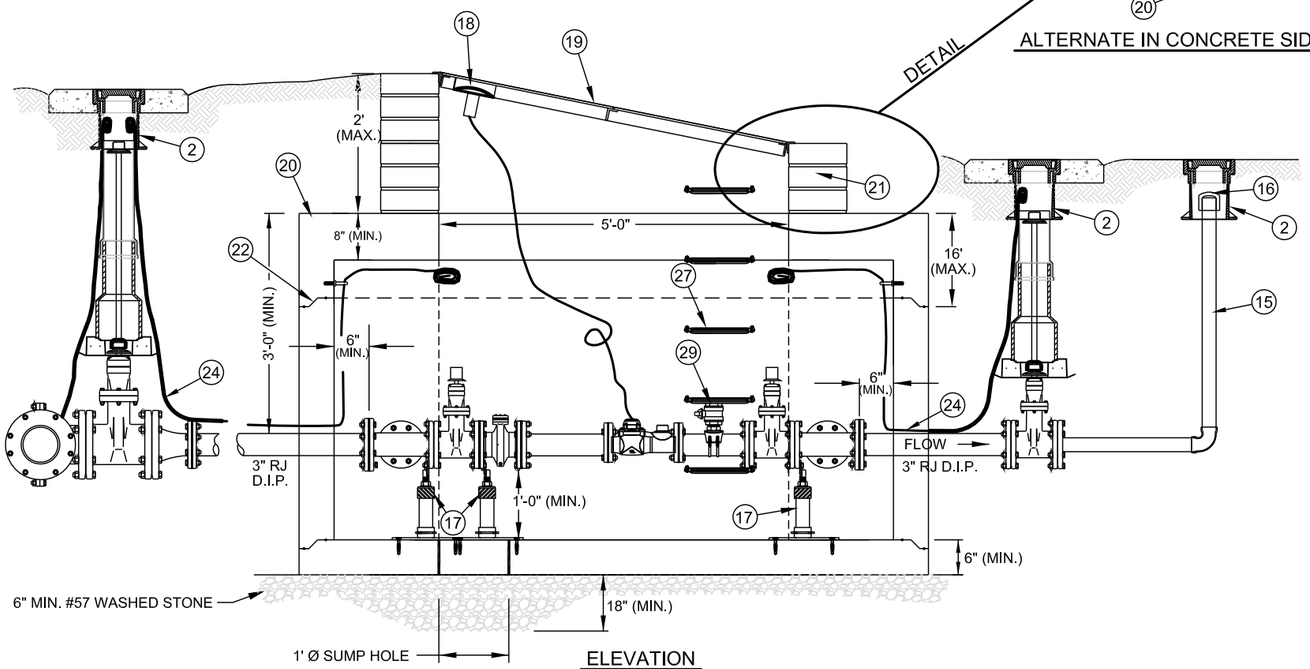
A. ALL FLANGE HARDWARE (BOLT/WASHER/NUT) SHALL BE STAINLESS STEEL - TYPE 304 WITH ANTI-SEIZE COMPOUND.
B. ALL PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON FROM TAP TO PROPERTY LINE VALVE.
C. METER CONFIGURATION AND LENGTH MAY VARY DUE TO BRAND - VERIFY LENGTH TO DETERMINE MINIMUM VAULT LENGTH.
D. VAULT SHALL BE SIZED AS NEEDED FOR PIPE (8.0' x 4' 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)
O. SERVICE AND VAULT MAY BE ROTATED 90° WHEN NEEDED, DUE TO LIMITED SITE / SPACE RESTRICTIONS.



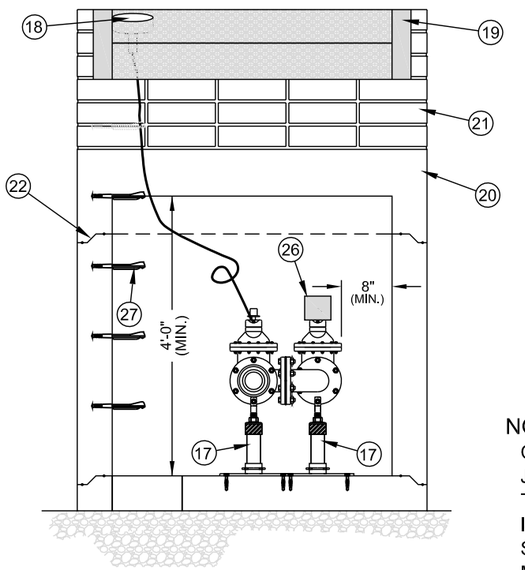
PLAN



ALTERNATE IN CONCRETE SIDEWALK



ELEVATION



SECTION VIEW

NOTES:

CUSTOMER / APPLICANT MUST PROVIDE JUSTIFICATION WHEN REQUESTING A TURBINE WATER METER. PRIOR APPROVAL IS REQUIRED FROM THE CUSTOMER SERVICE MANAGER FOR ALL TURBINE METERS. OTHERWISE, A COMPOUND METER IS REQUIRED.

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 TURBINE METER ASSEMBLY W/AMR TRANSMITTERS. METER CONFIGURATION MAY VARY DUE TO BRAND SUPPLIED.
12	DUCTILE IRON PIPE SPOOL (FL x FL) - L = 12" (MIN SPECIAL CL 53)
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), HDPE (DR 9) WITH STANDARD VALVE BOX/CONCRETE PAD
16	2" THREADED COUPLING (SCH 80 - G.S.F.)
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 - 8.0 FT x 4 FT x 4 FT (MIN)
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 SOLID COPPER TRACER WIRE - WITH BLUE INSULATION (30 MLLS-HDPE) - 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
28	DUCTILE IRON PIPE SPOOL (FL x FL) - L = 15" (MIN SPECIAL CL 53)
29	2" BALL CORPORATION STOP (TAPPER THREAD x FNPT) WITH TAP. SADDLE.

NO SCALE

STANDARD NO. ZZ

VERSION NO. 1.0

VERSION DATE 11.14.2011

3 - inch TURBINE WATER METER AND PRECAST CONCRETE VAULT

CHARLOTTE-MECKLENBURG UTILITIES

STANDARD DETAILS

WATER

CHARLOTTE