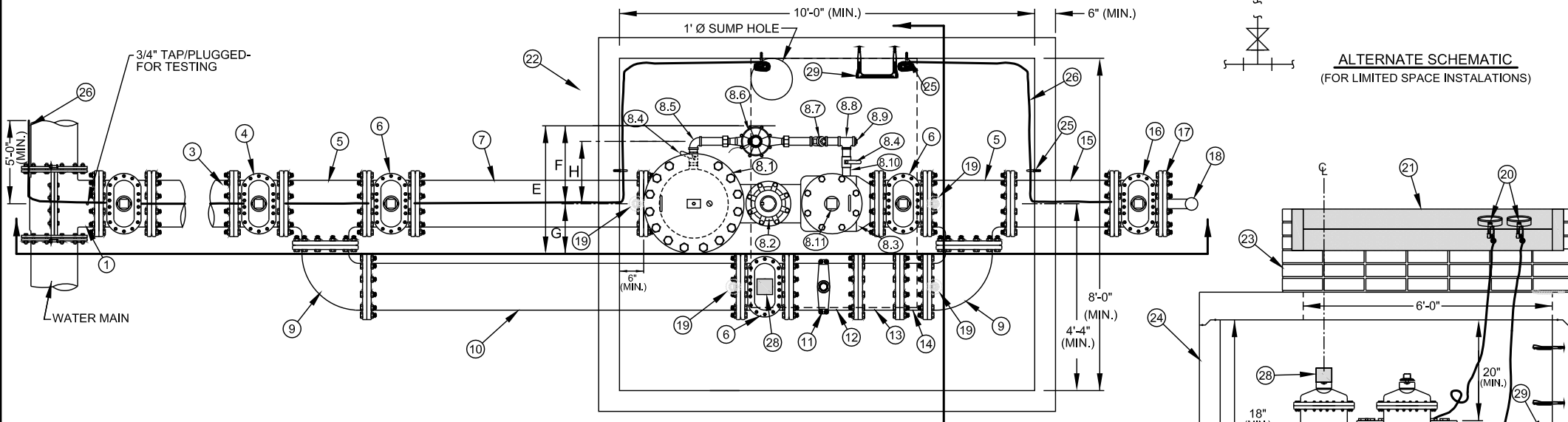
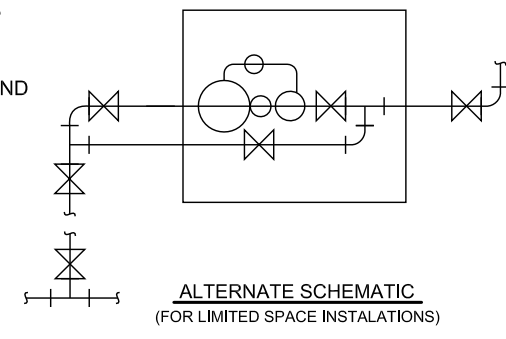


NOTES:

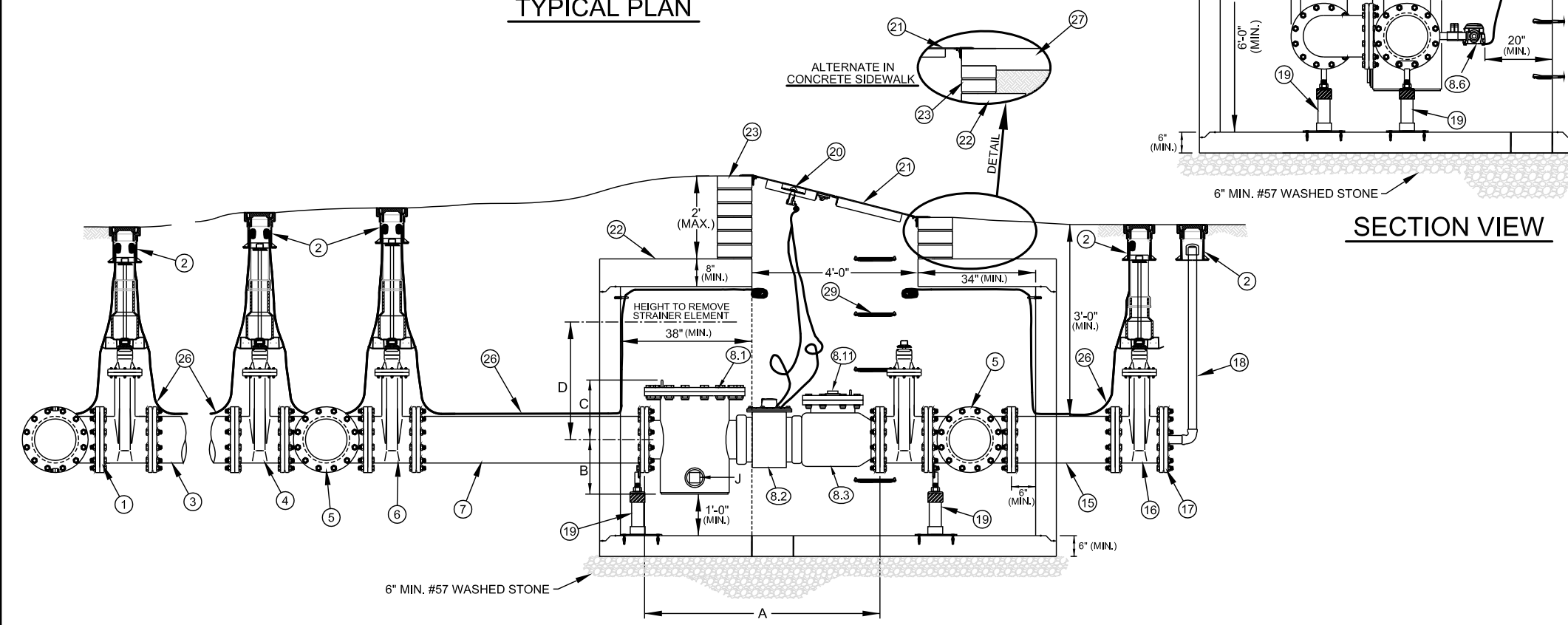
- A. ALL FLANGE HARDWARE (BOLT/WASHER/NUT) SHALL BE STAINLESS STEEL - TYPE 304 WITH ANTI-SEIZE COMPOUND.
- B. ALL PIPE SHALL BE RESTRAINED JOINT DUCTILE IRON FROM TAP TO PROPERTY LINE VALVE.
- C. METER CONFIGURATION AND LENGTH / WIDTH MAY VARY DUE TO BRAND - VERIFY DIMENSIONS TO DETERMINE MINIMUM VAULT SIZE.
- D. VAULT SHALL BE SIZED AS NEEDED FOR MINIMUM CLEARANCE AS SHOWN 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 CONNECTERS (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. 16



TYPICAL PLAN



**ALTERNATE SCHEMATIC
(FOR LIMITED SPACE INSTALLATIONS)**



TYPICAL ELEVATION

DIMENSION B - H VARY SLIGHTLY - AS DETERMINED BY MANUFACTURER.

METER SIZE	A	B	C	D	E	F	G	H	8.11	J
12"	68"	15 3/4"	17 1/4"	34 1/16"	36 1/4"	22 1/2"	13 3/4"	18"	3"	3"

NO. DESCRIPTION

- 1 12" OUTLET TAPPING SLEEVE AND 12" FL x MJ TAPPING VALVE ON EXISTING MAIN. 12" MECHANICAL JOINT OUTLET TEE AND 10" MJ GATE VALVE ON NEW MAIN
- 2 STANDARD VALVE BOX ASSEMBLY (TYPICAL) - ALL VALVES
- 3 12" DUCTILE IRON PIPE - RESTRAINED
- 4 12" MJ x FL DUCTILE IRON ADAPTER ON SHORT SIDE SERVICE (NOT SHOWN), 12" MJ x FL GATE VALVE ON LONG SIDE SERVICE (SHOWN)
- 5 12" ALL FLANGE DUCTILE IRON TEE
- 6 12" ALL FLANGE GATE VALVE
- 7 12" ALL FLANGE DUCTILE IRON PIPE SPOOL - L = 66" (MIN.) (SPECIAL CLASS 53)
- 8 12" FMCT METER ASSEMBLY (FLANGE x FLANGE)
 - (8.1) STRAINER
 - (8.2) METER WITH AMR / TRANSMITTER
 - (8.3) CHECK VALVE
 - (8.4) 2" BRASS BALL VALVE WITH HANDLE (FNPT x FNPT)
 - (8.5) 2" BRASS 90° BEND (FNPT x FNPT)
 - (8.6) 2" METER (2 BOLT METER FL - EACH END) WITH AMR / TRANSMITTER
 - (8.7) 2" BRONZE CHECK VALVE (FNPT x FNPT)
 - (8.8) 2" BRONZE TEE (FNPT x FNPT x FNPT)
 - (8.9) 2" SQUARE HEAD BRONZE PLUG (MNPT)
 - (8.10) 2" RED BRASS PIPE NIPPLES (TYP - AS READ) - (MNPT x MNPT)
 - (8.11) 2" (MIN.) SQUARE HEAD BRASS PLUG (MNPT)
- 9 12" DUCTILE IRON 90° BEND FLANGE x FLANGE
- 10 12" DUCTILE IRON PIPE - FLANGE x FLANGE SPOOL - L = 108" (MIN.) (SPECIAL CLASS 53)
- 11 12" x 1 1/2" SERVICE SADDLE WITH 1 1/2" BALL CORPORATION STOP - CC - TAPER TREAD
- 12 12" DUCTILE IRON PIPE - FLANGE x PE - L = 26" (MIN.) (SPECIAL CLASS 53)
- 13 12" MECHANICAL JOINT DUCTILE IRON LONG PATTERN SOLID SLEEVE WITH RESTRAINED JOINT
- 14 12" DUCTILE IRON PIPE - FLANGE x PE - L = 14" (MIN.) (SPECIAL CLASS 53)
- 15 12" DUCTILE IRON PIPE - FLANGE x PE - L = 30" (MIN.) (SPECIAL CLASS 53)
- 16 12" MECHANICAL JOINT (RJ) GATE VALVE - OPEN LEFT AT PROPERTY LINE
- 17 12" MECHANICAL JOINT PLUG WITH 2" TAP (FNPT)
- 18 2" TEMPORARY BLOW OFF ASSEMBLY (GALV. STEEL (SCH 80), RED BRASS (SCH 40), HDPE (DR9) OR DIP - END WITH THREADED COUPLING)
- 19 GALV. STEEL OR S.S. ADJUSTABLE FLANGE PIPE SUPPORT (NUMBER REQ'D = 4) (WITH STAINLESS STEEL ADHESIVE ANCHORS)
- 20 AMR TRANSMITTERS (ERT)
- 21 4 FT x 6 FT ACCESS DOOR - SEE STD. DETAIL
- 22 PRECAST REINFORCED CONCRETE VAULT - 8 FT x 10 FT x 6 FT (MIN.) SEE NOTES C AND D.
- 23 MINIMUM OF (3) STD. SOLID CONCRETE BRICK COURSES UNDER ACCESS DOOR FRAME - MAX. 2 FT.
- 24 JOINT REQUIRED AT FLAT TOP SECTION
- 25 3/8" DIA. GALV. STEEL EYE BOLT (EPOXY ADHESIVE ANCHOR) - TYPICAL
- 26 AWG #12 GAUGE COPPER TRACER WIRE (THWN) - WITH BLUE INSULATION-TERMINATE WITH 24" EXCESS WIRE (COILED) AT EYE BOLT AND VALVE BOX (TYPICAL)
- 27 CAST IN PLACE CONCRETE SIDEWALK - BRICKWORK SHALL NOT EXTEND TO SURFACE. ACCESS DOOR FRAME SHALL REST ON SIDEWALK.
- 28 VALVE LOCK (FURNISHED BY CMUD) - LOCK VALVE CLOSED.
- 29 PLASTIC STEP - 12" OR 16" O.C. VERTICAL SPACING.

NO SCALE

STANDARD NO. Q

VERSION NO. 1.0
VERSION DATE 02.02.2011

**12-INCH FIRE METER COMPOUND TYPE (FMCT)
WATER METER AND PRECAST CONCRETE VAULT**

**CHARLOTTE-MECKLENBURG UTILITIES
STANDARD DETAILS
WATER**

