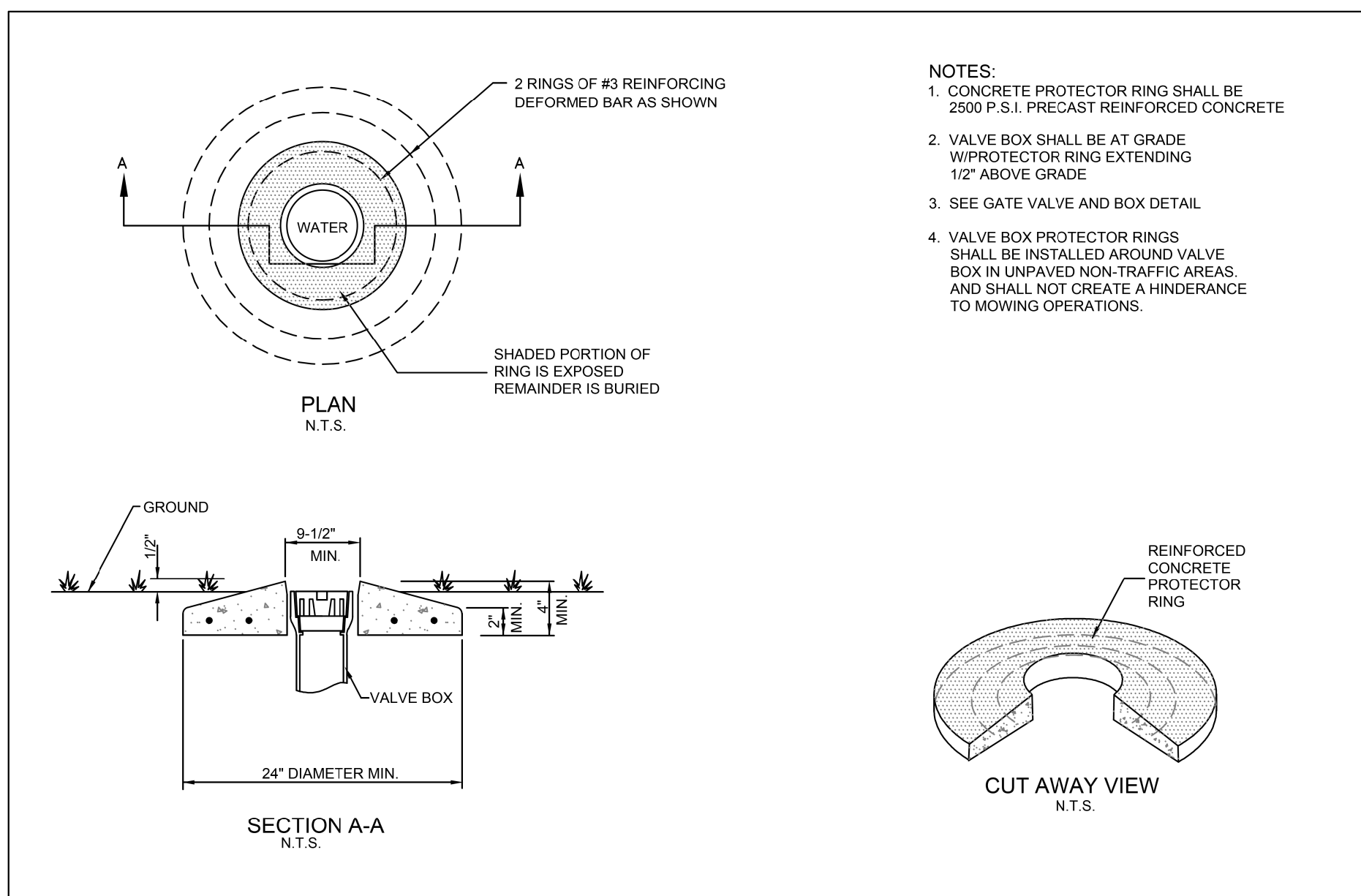


UTILITY CONSTRUCTION



**PLAN**  
N.T.S.

**SECTION A-A**  
N.T.S.

**CUT AWAY VIEW**  
N.T.S.

**VALVE BOX PROTECTOR RING**  
N.T.S.

**PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.

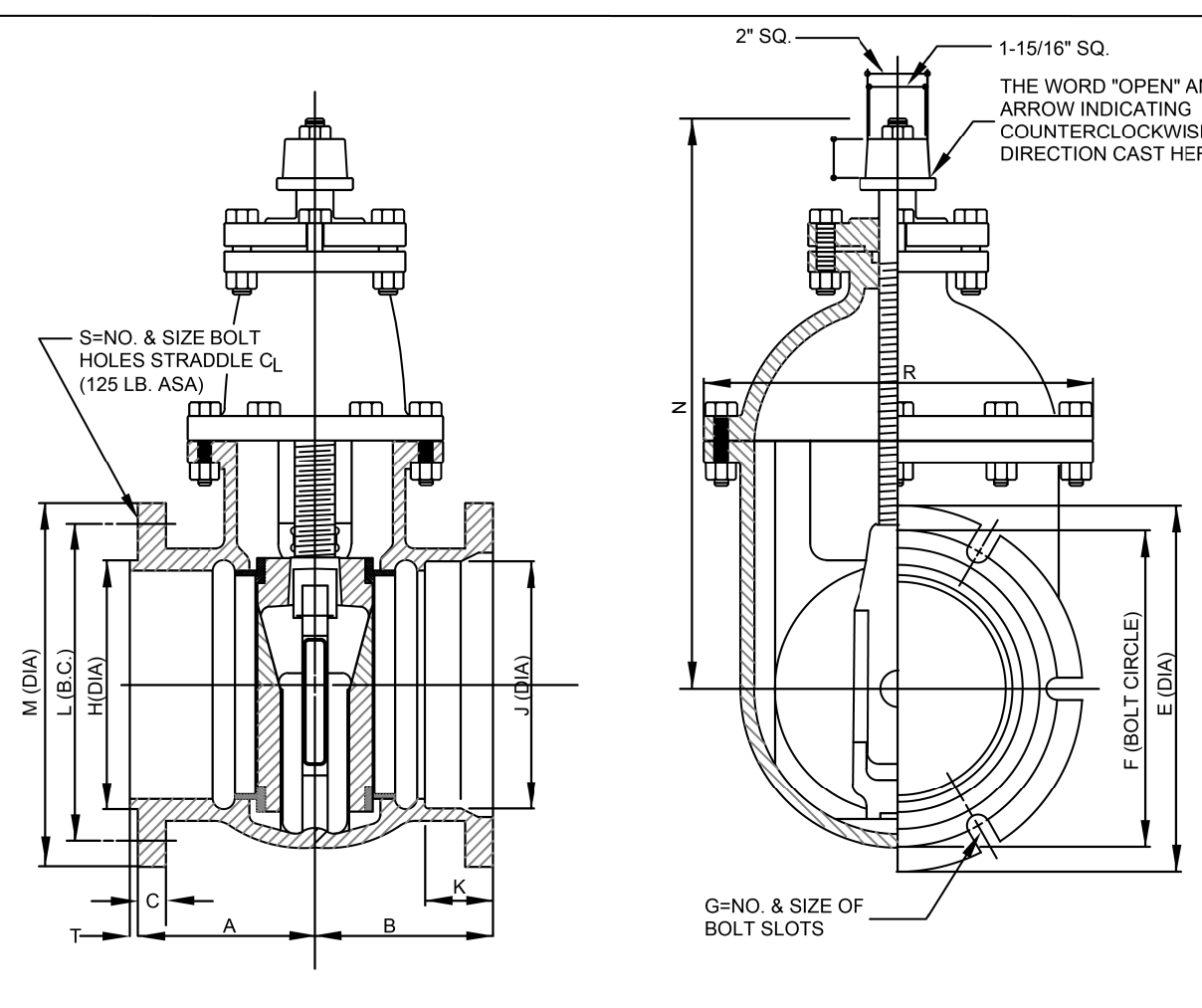
**WATER RESOURCES**  
ENGINEERING DEPARTMENT

NO. DATE REVISION

1 7/09 ADDED NOTE 10, REVISED 4 & 5

2 7/13 REVISED NOTES 4, 8, 10

2015-W8 CONC PROTECTOR RING.dwg



**TAPPING VALVE**  
N.T.S.

**PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.

**WATER RESOURCES**  
ENGINEERING DEPARTMENT

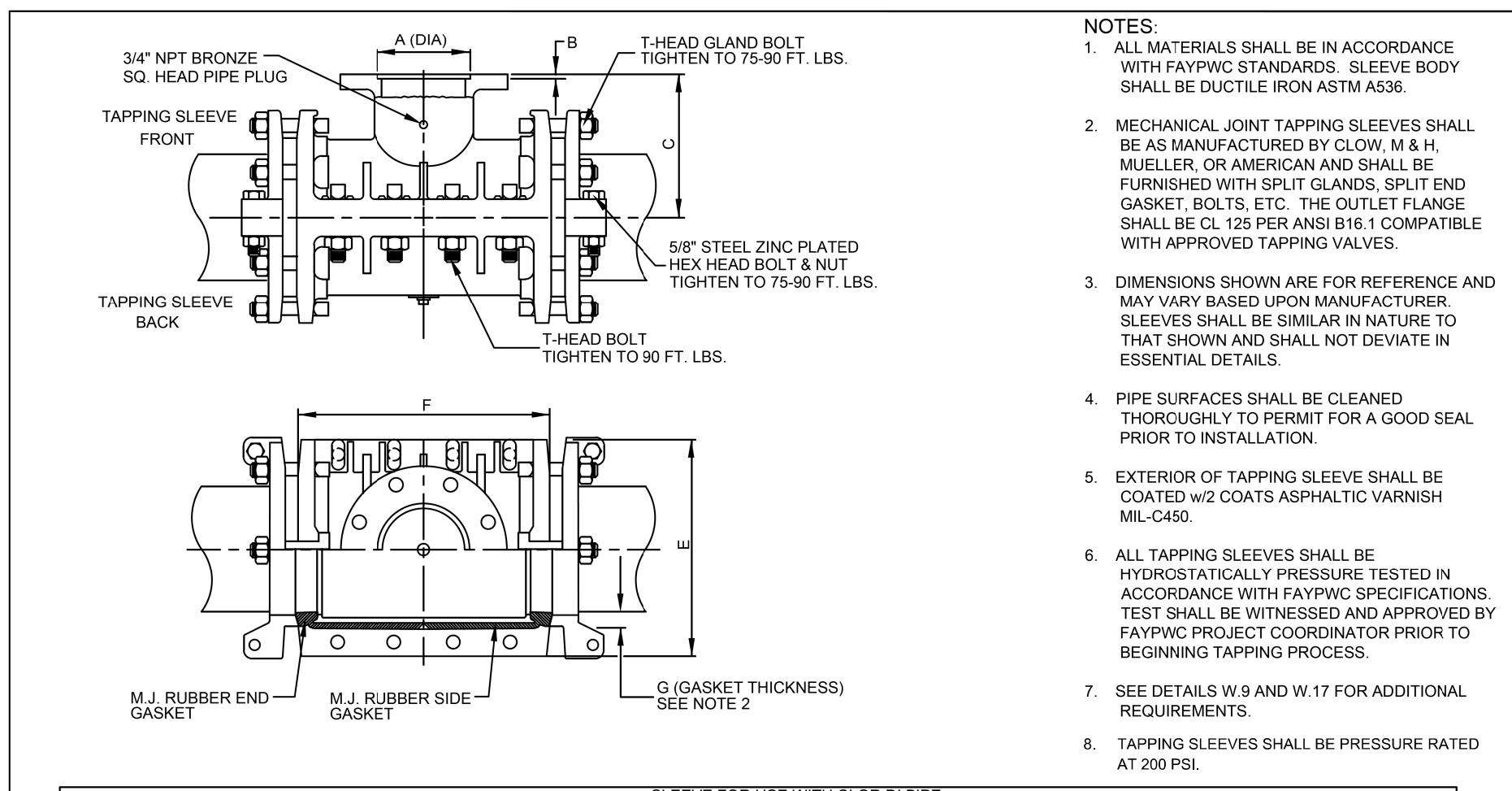
NO. DATE REVISION

1 7/09 ADDED NOTE 10, REVISED 4 & 5

2 7/13 REVISED NOTES 4, 8, 10

2015-W9 M.J. TAPPING VALVE.dwg

VALVE SIZE	A	B	C	D	E	F	G	H	J	K	L	M	N	R	S	T	TURNS TO OPEN	WEIGHT W/ACC
4	4-3/8	5-7/8	15/16	1-1/2	9	7-1/2	4-7/8	4-63/64	4-29/32	2-1/2	7-1/2	9	14-1/8	9	8-3/4	1/4	14	175
6	6-7/8	6-1/4	1	1-5/8	11	9-1/2	6-7/8	6-63/64	7	2-1/2	9-1/2	11	17-5/8	11-3/4	8-7/8	1/4	21	275
8	8-1/2	7-1/4	1-1/8	1-3/4	13-1/4	11-3/4	8-7/8	8-63/64	8-5/32	2-1/2	11-3/4	13-1/2	21	14-1/4	8-7/8	1/4	28	275
12	7	8-1/4	1-1/4	1-3/4	17-7/8	16-1/4	9-7/8	12-63/64	13-5/16	2-1/2	17	19	28-1/4	19-1/8	12-1	1/4	39	370
16	8-1/2	9-1/8	1-7/16	2-1/16	23	21	12-7/8	16-15/16	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	1-7/8	2-1/2	31-3/4	30	16-7/8	24-15/16	125-15/16	3-1/2	28-1/2	32	54-5/8	37-5/8	20-1-3/8	5/16	79	3225



**DUCTILE IRON TAPPING SLEEVE**  
N.T.S.

**PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.

**WATER RESOURCES**  
ENGINEERING DEPARTMENT

NO. DATE REVISION

1 7/09 REVISED NOTE 6/REMOVED NOTE 8

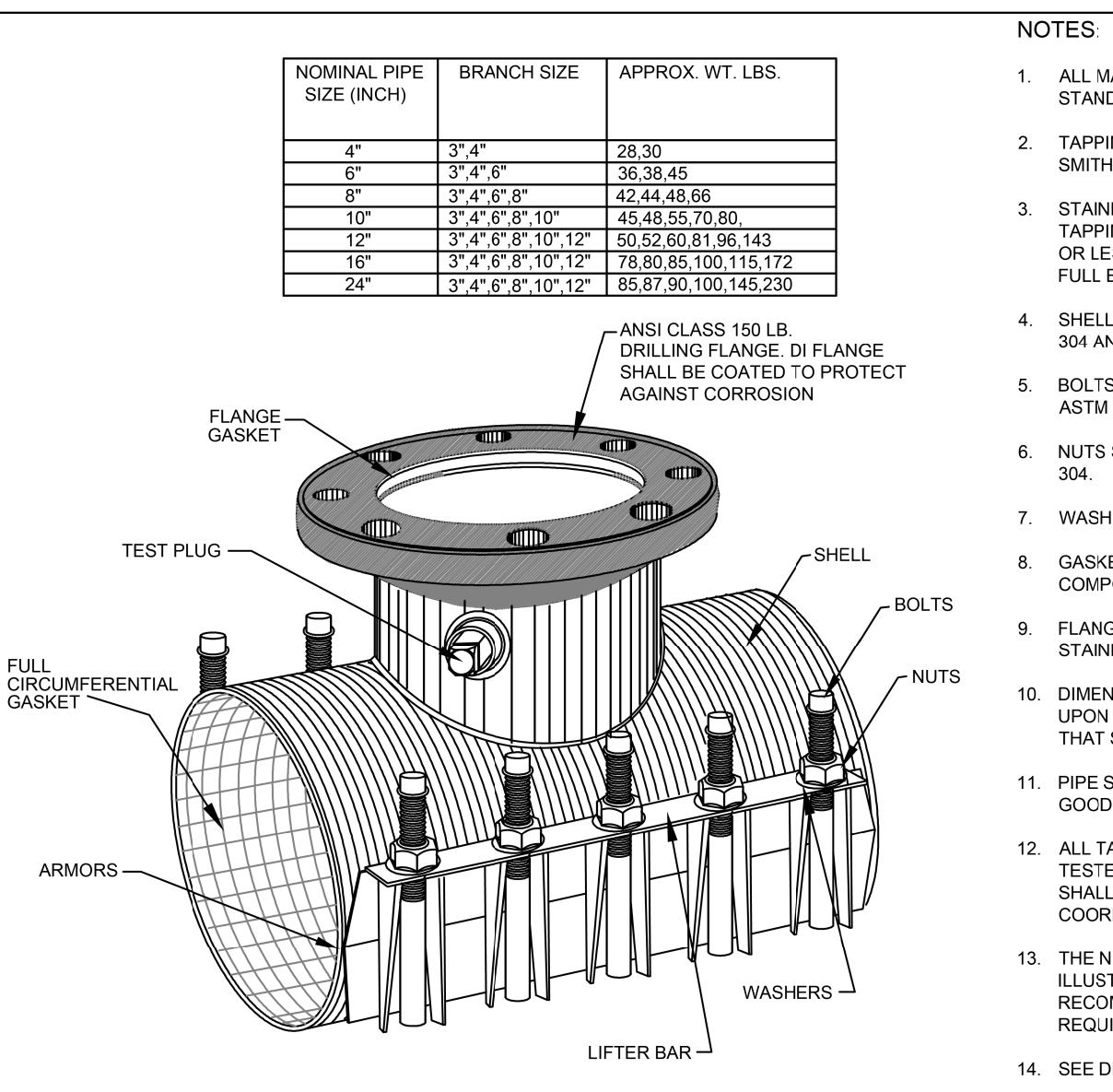
2 7/13 REVISED NOTES 6, 7

2015-W10 TAPPING SLEEVE.dwg

**NOTES:**

- ALL MATERIALS SHALL BE IN ACCORDANCE WITH FAYPWC STANDARDS. SLEEVE BODY SHALL BE DUCTILE IRON ASTM A536.
- MECHANICAL JOINT TAPPING SLEEVES SHALL BE AS MANUFACTURED BY CLOW, M & H, MUELLER, OR AMERICAN AND SHALL BE FURNISHED WITH SPLIT GLANDS, SPLIT END GASKET, BOLTS, ETC. THE OUTLET FLANGE SHALL BE CL 125 PER ANSI B16.1 COMPATIBLE WITH APPROVED TAPPING VALVES.
- DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. SLEEVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.
- PIPE SURFACES SHALL BE CLEANED THOROUGHLY TO PERMIT FOR A GOOD SEAL PRIOR TO INSTALLATION.
- EXTERIOR OF TAPPING SLEEVE SHALL BE COATED w/2 COATS ASPHALTIC VARNISH MIL-C450.
- ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH FAYPWC SPECIFICATIONS. TEST SHALL BE WITNESSED AND APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.
- SEE DETAILS W.9 AND W.17 FOR ADDITIONAL REQUIREMENTS.
- TAPPING SLEEVES SHALL BE PRESSURE RATED AT 200 PSI.

SLEEVE SIZE	6X6	8X8	12X8	12X8	12X12	16X8	16X8	16X12	24X6	24X8	24X12	24X16	24X24	30X6	30X8	30X12	30X16	30X24	
A DIA +0.031, -0.000	7.016	7.016	9.016	9.016	13.016	7.016	9.016	13.016	11.00	13.5	19.0	23.5	32.0	11.00	13.5	19.0	23.5	32.0	
B	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31	31
C	7-7/8	9-1/16	9	11-5/8	11-7/8	12-7/8	14-1/8	14-1/2	14-7/8	19.5	19.5	19.5	20.5	23.25	23.25	23.25	23.75	23.75	
E	11-3/4	13-7/8	13-7/8	18-1/2	18-1/2	23-1/2	23-1/2	23-1/2	35.5	35.5	35.5	35.5	35.5	43.37	43.37	43.37	43.37	43.37	
F	13-1/2	15	15	19-1/2	19-1/2	22-1/2	22-1/2	22-1/2	18.0	18.0	24.0	30.0	36.0	24.0	24.0	24.0	36.0	36.0	



**STAINLESS STEEL TAPPING SLEEVE**  
N.T.S.

**PUBLIC WORKS COMMISSION**  
FAYETTEVILLE, N.C.

**WATER RESOURCES**  
ENGINEERING DEPARTMENT

NO. DATE REVISION

1 7/09 ADDED NOTES 2, 12 & CLARIFIED NOTES

2 7/13 REVISED NOTES 3, 12, 14

2015-W11 SSTAPPING SLEEVE.dwg

**NOTES:**

- ALL MATERIALS SHALL BE IN ACCORDANCE WITH FAYPWC STANDARDS.
- TAPPING SLEEVES SHALL BE AS MANUFACTURED BY ROMAC, SMITH-BLAIR, OR APPROVED EQUAL.
- STAINLESS STEEL TAPPING SLEEVE MAY BE UTILIZED FOR ALL TAPPING OF MAINS UP TO AND INCLUDING 24" DIAMETER WITH 12" OR LESS BRANCH. BRANCH GREATER THAN 12" SHALL REQUIRE FULL BODY D.I. M.J. TAPPING SLEEVE (SEE DETAIL W.10).
- SHELL AND LUGS SHALL BE STAINLESS STEEL PER ASTM A 240, TYPE 304 AND 304L.
- BOLTS SHALL BE 5/8" UNC ROLLED THREAD, STAINLESS STEEL PER ASTM A 193 TYPE 304 4" NOM. PIPE SIZE SHALL HAVE MIN. 1/2" BOLTS.
- NUTS SHALL BE HEAVY HEX STAINLESS STEEL PER ASTM A-194, TYPE 304.
- WASHERS SHALL BE STEEL AND PLASTIC LUBRICATING WASHER.
- GASKETS SHALL BE VIRGIN SBR PER ASTM D 2000 MAA 610, COMPOUNDED FOR WATER AND SEWER SERVICE.
- FLANGE SHALL BE DUCTILE IRON PER ASTM 536, GRADE 65-45-12, OR STAINLESS STEEL PER ASTM A-240, TYPE 304.
- DIMENSIONS SHOWN ARE FOR REFERENCE AND MAY VARY BASED UPON MANUFACTURER. SLEEVES SHALL BE SIMILAR IN NATURE TO THAT SHOWN AND SHALL NOT DEVIATE IN ESSENTIAL DETAILS.
- PIPE SURFACES SHALL BE CLEANED THOROUGHLY TO PERMIT A GOOD SEAL PRIOR TO INSTALLATION.
- ALL TAPPING SLEEVES SHALL BE HYDROSTATICALLY PRESSURE TESTED IN ACCORDANCE WITH FAYPWC SPECIFICATIONS. TEST SHALL BE WITNESSED AND APPROVED BY FAYPWC PROJECT COORDINATOR PRIOR TO BEGINNING TAPPING PROCESS.
- THE NUMBER OF BOLTS, NUTS AND WASHERS SHOWN ARE FOR ILLUSTRATION ONLY. ACTUAL QUANTITY SHALL BE AS RECOMMENDED BY THE SLEEVE MANUFACTURER FOR THE REQUIRED SERVICE.
- SEE DETAILS W.9 AND W.17 FOR ADDITIONAL REQUIREMENTS.
- TAPPING SLEEVES SHALL BE PRESSURE RATED AT 200 PSI.

NOMINAL PIPE SIZE (INCH)	BRANCH SIZE	APPROX. WT. LBS.
4"	3" 4"	28.30
6"	3" 4" 5"	38.39.45
8"	3" 4" 6" 8"	42.44.48.66
10"	3" 4" 6" 8" 10"	45.48.55.70.80
12"	3" 4" 6" 8" 10" 12"	50.52.60.81.96.143
16"	3" 4" 6" 8" 10" 12"	78.80.85.100.115.172
24"	3" 4" 6" 8" 10" 12"	85.87.90.100.145.230