



San Francisco Water Power Sewer

Services of the San Francisco Public Utilities Commission

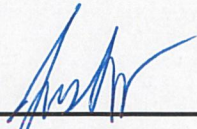
WATER ENTERPRISE

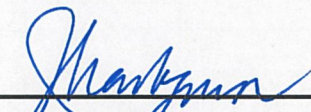
CITY DISTRIBUTION DIVISION

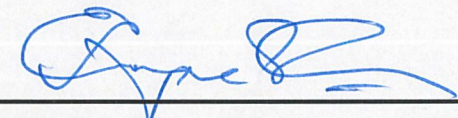
Standard Plans

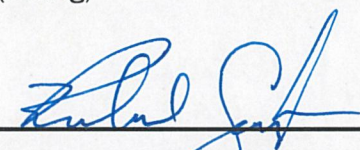
JANUARY 2020

RECOMMENDATIONS/APPROVALS

Prepared:  1/24/20
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Recommended:  1-24-2020
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Approved:  1-24-2020
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Engineering Section Manager
(Acting)

Approved:  1-24-2020
Richard Gonzales, D5 Date
Construction & Maintenance
Superintendent

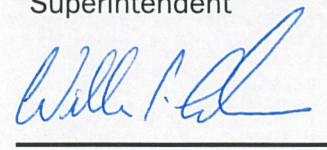
Approved:  1/24/2020
Bill Teahan, D5 Date
City Distribution Division Manager

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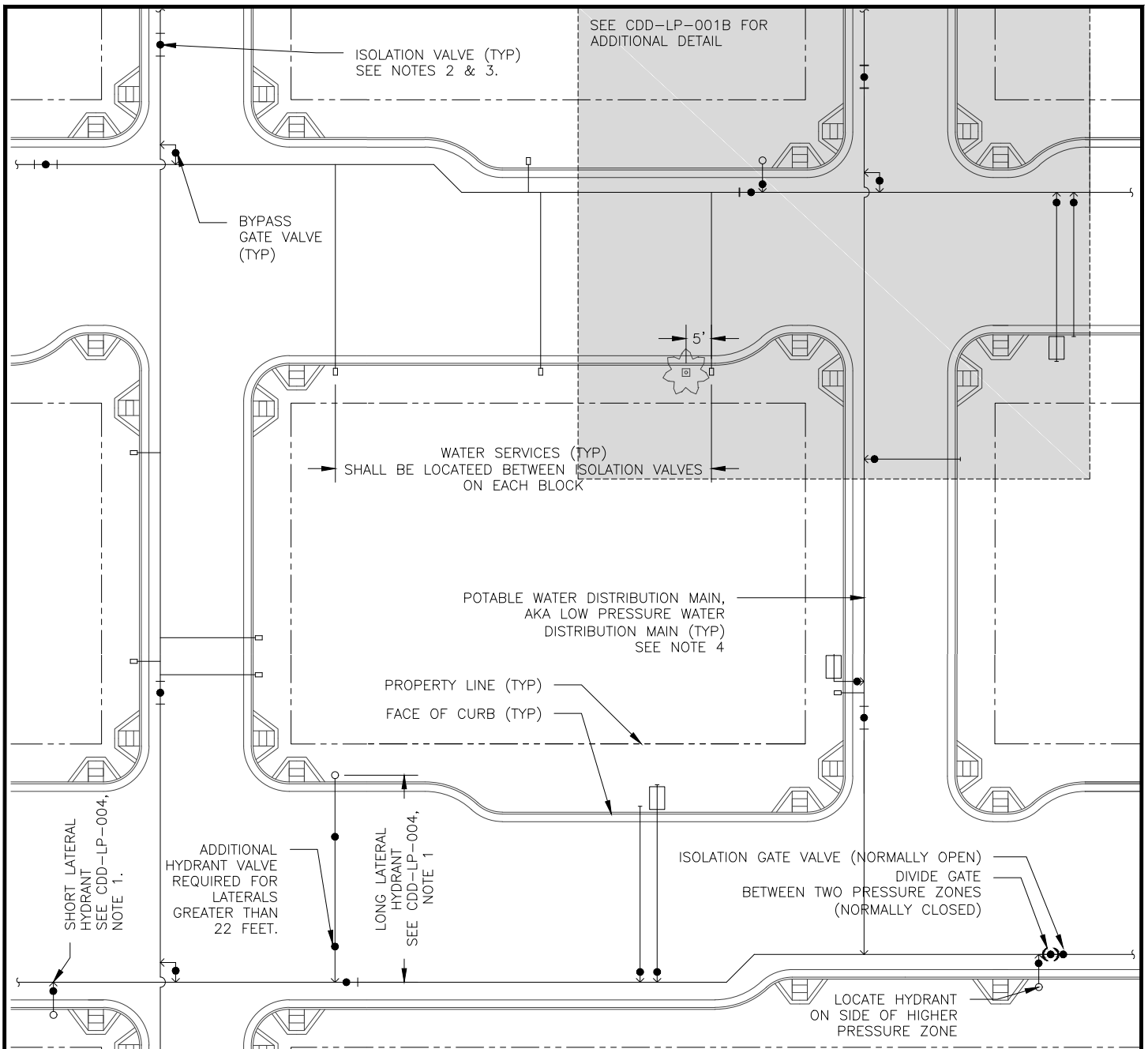
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NOTE: WATER UTILITY MATERIALS

Materials listed herein should match materials listed in current versions of City and County of San Francisco Term Contracts. In cases where the materials listed in the current term materials contracts differ from those listed herein, the materials listed in those contracts shall supersede these Standard Plans. These contracts are publicly viewable on the City of San Francisco Office of Contract Administration webpage.

Relevant City and County of San Francisco Term Contracts as of January 24, 2020 (Water Utility Materials)

CONTRACT NO.	Product
75712	Small Water Meters
75714	Water Meter Boxes/Vaults
76043	Ductile Iron Pipe & Fittings <i>Aggregate 1 – Unrestrained Joint, Flanged-Joint</i> <i>Aggregate 3 – Flexible Restrained Joint</i>
76043B	Mechanical Joint Fittings / Restraints / Couplings
76053	Ductile Iron Gate Valves and Tapping Sleeves
76175	Bronze Valves & Fittings
81135	Fire Hydrants & Materials



NOTES:

1. HYDRANT LOCATIONS ARE DETERMINED BY SFFD AND/OR FIRE CODES.
2. IN COMMERCIAL AREAS, ISOLATION VALVES SHALL BE INSTALLED NO MORE THAN 500 FEET OR ONE BLOCK CITY BLOCK APART, WHICHEVER IS MORE LIMITING.
3. IN NON-COMMERCIAL AREAS, ISOLATION VALVES SHALL BE INSTALLED NO MORE THAN 800 FEET OR ONE CITY BLOCK APART, WHICHEVER IS MORE LIMITING.
4. NEW WATER MAINS SHALL BE INSTALLED 4'-6" CLEAR FROM THE FACE OF CURB AND SHALL NOT PASS UNDER SIDEWALKS OR BULB-OUTS.
5. ALL VALVE BOXES SHALL BE A MINIMUM OF 18" CLEAR OF THE FACE OF THE GUTTER AND 6" CLEAR OF THE LIP OF THE GUTTER.

LEGEND

- AIR VALVE/BLOW OFF (AV)
- GATE VALVE (GV)
- FIRE HYDRANT (HYD)
- < TEE FITTING
- ⊥ CAP
- ⊗ BLOW OFF
- ~ TRUNCATED
- METER BOX/VAULT



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Services of the San Francisco Public Utilities Commission

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
**STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION**
POTABLE/RECYCLED WATER NEW MAIN
INSTALLATION STANDARD CONFIGURATION OVERVIEW

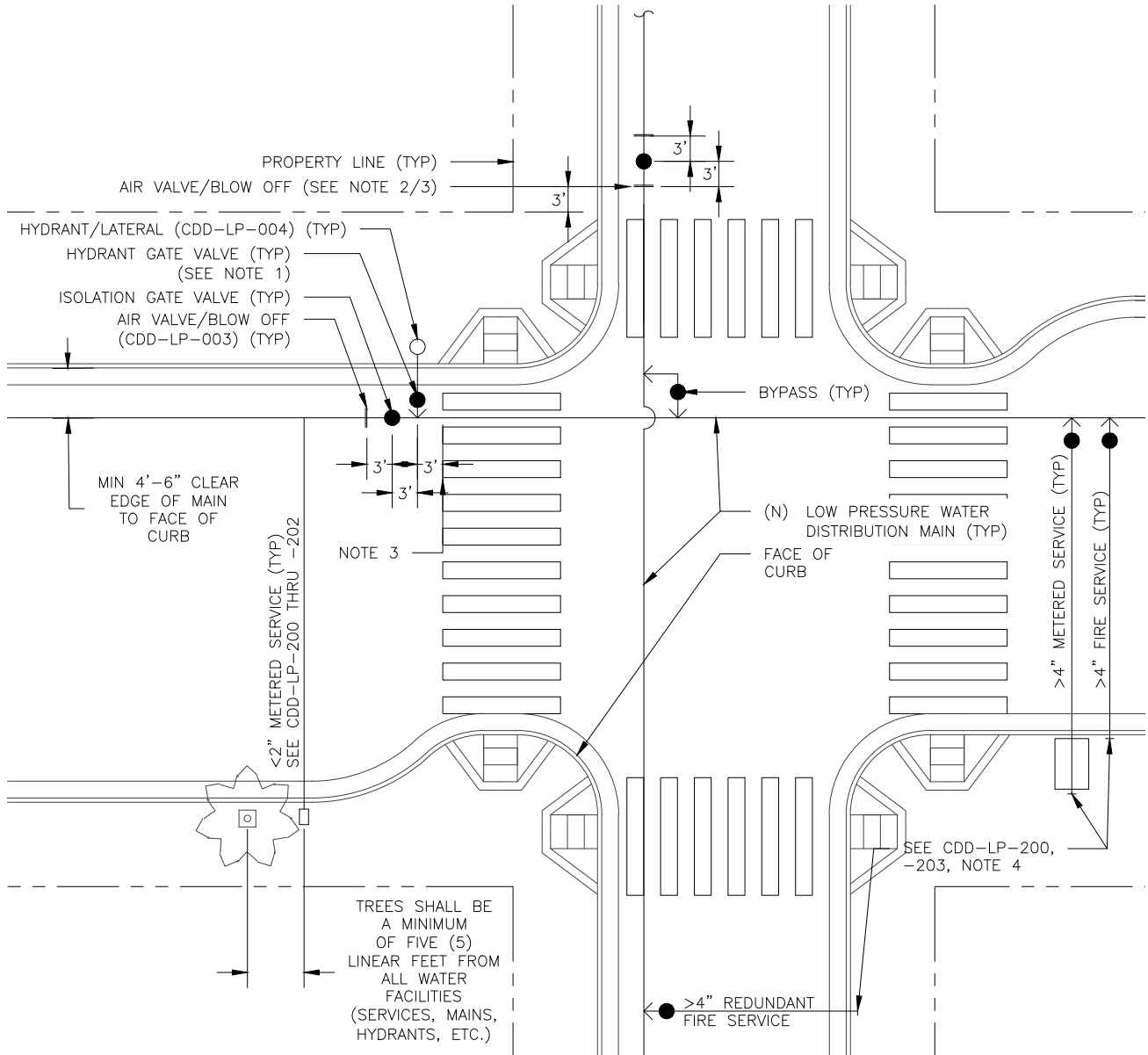
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SCALE	N.T.S.	2	CDD-LP-001A	1

NOTES:

1. ALL GATE VALVE BOXES (INCLUDING LATERAL SERVICE AND HYDRANT GATE VALVE BOXES) MUST BE SET A MINIMUM OF EIGHTEEN (18) INCHES CLEAR OF THE FACE OF CURB AND SIX (6) INCHES CLEAR OF THE LIP OF GUTTER, MEASURED FROM THE EDGE OF THE VALVE BOX CASTING.
2. IF A HYDRANT IS PRESENT THEN THE AIR VALVE/BLOW OFF CAN BE OMITTED.
3. MAINLINE VALVES AND HYDRANT LATERALS SHALL BE SET BACK A MINIMUM OF THREE (3) FEET FROM A CROSSWALK OR EXTENSION OF PROPERTY LINE, WHICHEVER IS MOST LIMITING.
4. SERVICES SHALL BE INSTALLED WITHIN THE PROPERTY FRONTAGE FOR THE PARCELS BEING SERVED. REDUNDANT FIRE SERVICES SHALL HAVE ISOLATING GATE VALVES INSTALLED ON THE MAIN BETWEEN SERVICE LATERALS

LEGEND

- AIR VALVE/BLOW OFF (AV)
- GATE VALVE (GV)
- HYDRANT (HYD.)
- < TEE FITTING
- ~ TRUNCATED
- METER BOX/VAULT

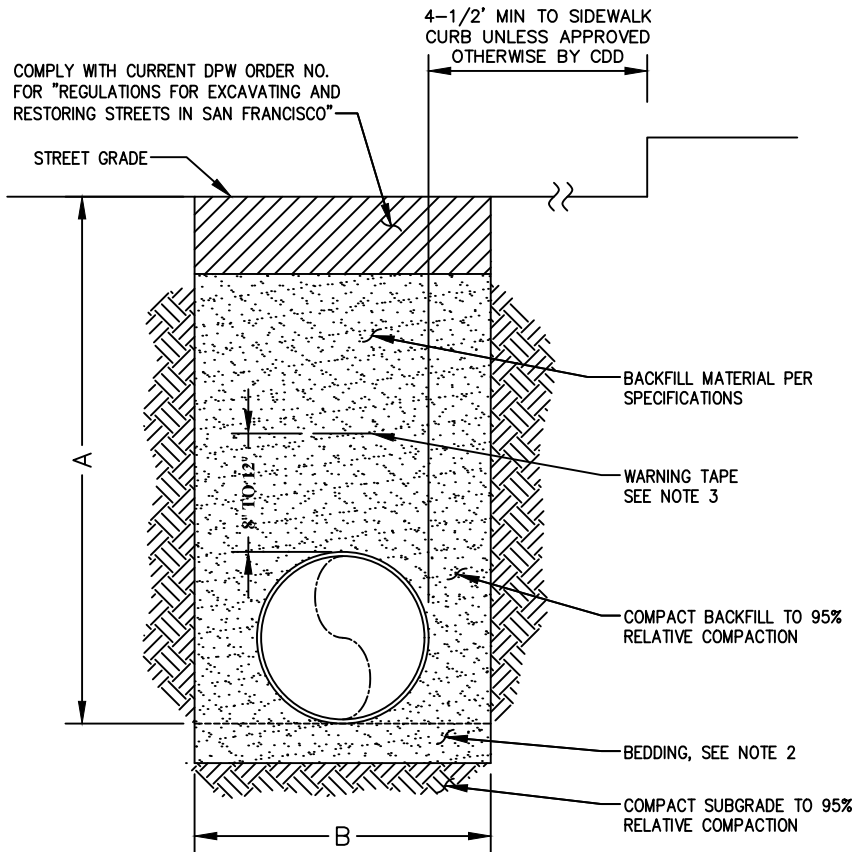


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
**STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION**
POTABLE/RECYCLED WATER NEW MAIN
INSTALLATION STANDARD CONFIG DETAIL VIEW

DATE	10/1/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-001B	2



NOMINAL PIPE DIAMETER	MINIMUM TRENCH DEPTH A	MINIMUM TRENCH WIDTH B
1", 2"	24"	12"
4", 6", 8"	36"	18"
12"	44"	24"
16"	54"	30"
20"	54"	38"
24"	55"	44"

NOTES:

- 1) MINIMUM TRENCH DEPTHS AND TRENCH WIDTHS MUST BE ADHERED TO UNLESS APPROVED OTHERWISE BY THE CITY DISTRIBUTION DIVISION.
- 2) OVEREXCAVATING FOR BEDDING IS NOT REQUIRED UNLESS:
 - A) BOTTOM OF TRENCH EXCAVATION IS IN BEDROCK, WHERE BEDDING SHALL BE 6" THICK.
 - B) FOR 20" AND 24" DIA. PIPE, WHERE BEDDING SHALL BE 4" THICK.
 - C) REQUIRED BY THE CITY REPRESENTATIVE.
 BEDDING SHALL BE THE SAME AS BACKFILL MATERIAL PER SPECIFICATIONS AND SHALL BE COMPACTED TO 95% RELATIVE COMPACTION.
- 3) WARNING TAPE SHALL BE 6" WIDE, BLUE COLORED FOR LPW AND PURPLE FOR RW, NON-DETECTABLE TYPE. INSCRIPTION MESSAGE, USING 1.5" MINIMUM HEIGHT BLACK TEXT, SPACED AT 3-FT MAXIMUM INTERVALS, SHALL READ "CAUTION: WATER LINE BELOW" FOR LPW AND "CAUTION: RECYCLED WATER LINE BELOW" FOR RW. WARNING TAPE SHALL OVERLAP 12" MINIMUM AT SPLICES.
- 4) TRENCH CONSTRUCTION SHALL CONFORM TO OSHA AND CAL OSHA.
- 5) PIPE MAY BE INSTALLED DEEPER THAN DEPTH SPECIFIED HEREIN ONLY WHEN NECESSARY TO AVOID SUBSURFACE OBSTACLES AND ONLY WHEN APPROVED BY THE CITY REPRESENTATIVE.

SUPERSEDES E-4969R



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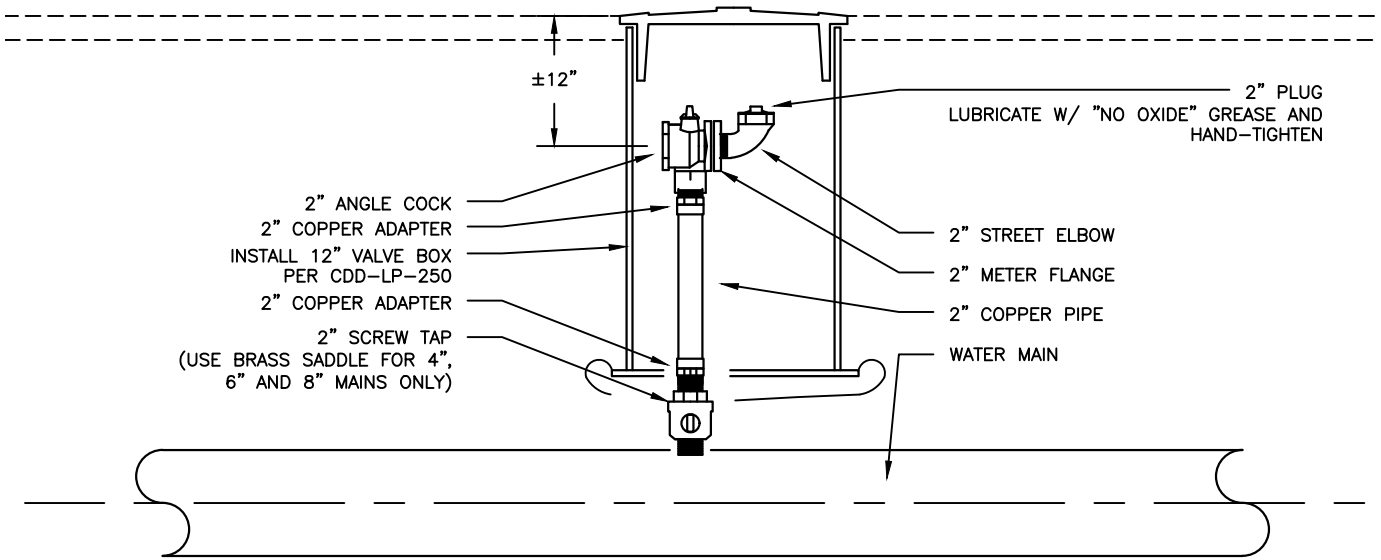
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION
POTABLE & RECYCLED WATER PIPE TRENCH**

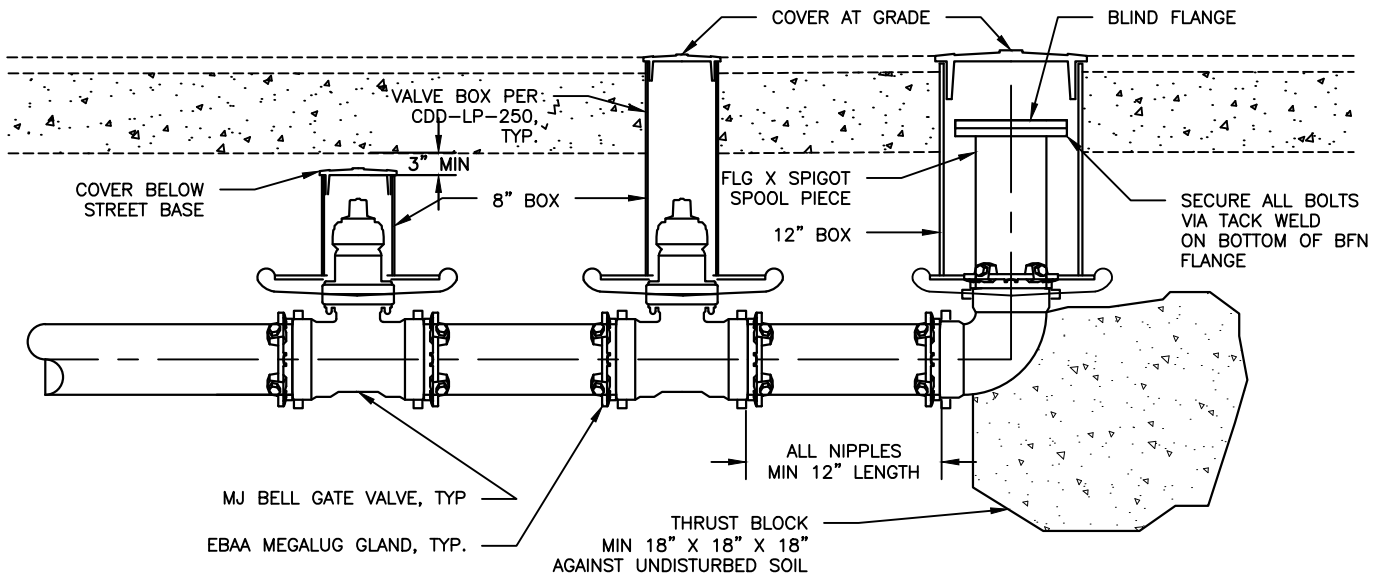
DATE	8/1/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-002	3

NOTE: ALL MATERIAL SHALL BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON PROJECT PLANS.



A 2" AIR VALVE OR BLOW OFF
- N.T.S.

NOTE: ALL MATERIAL SHALL BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR UNLESS OTHERWISE NOTED ON PROJECT PLANS.



B 4", 6" OR 8" BLOW OFF
- N.T.S.

SUPERSEDES E-4969R

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION
AIR VALVES AND BLOW OFFS**

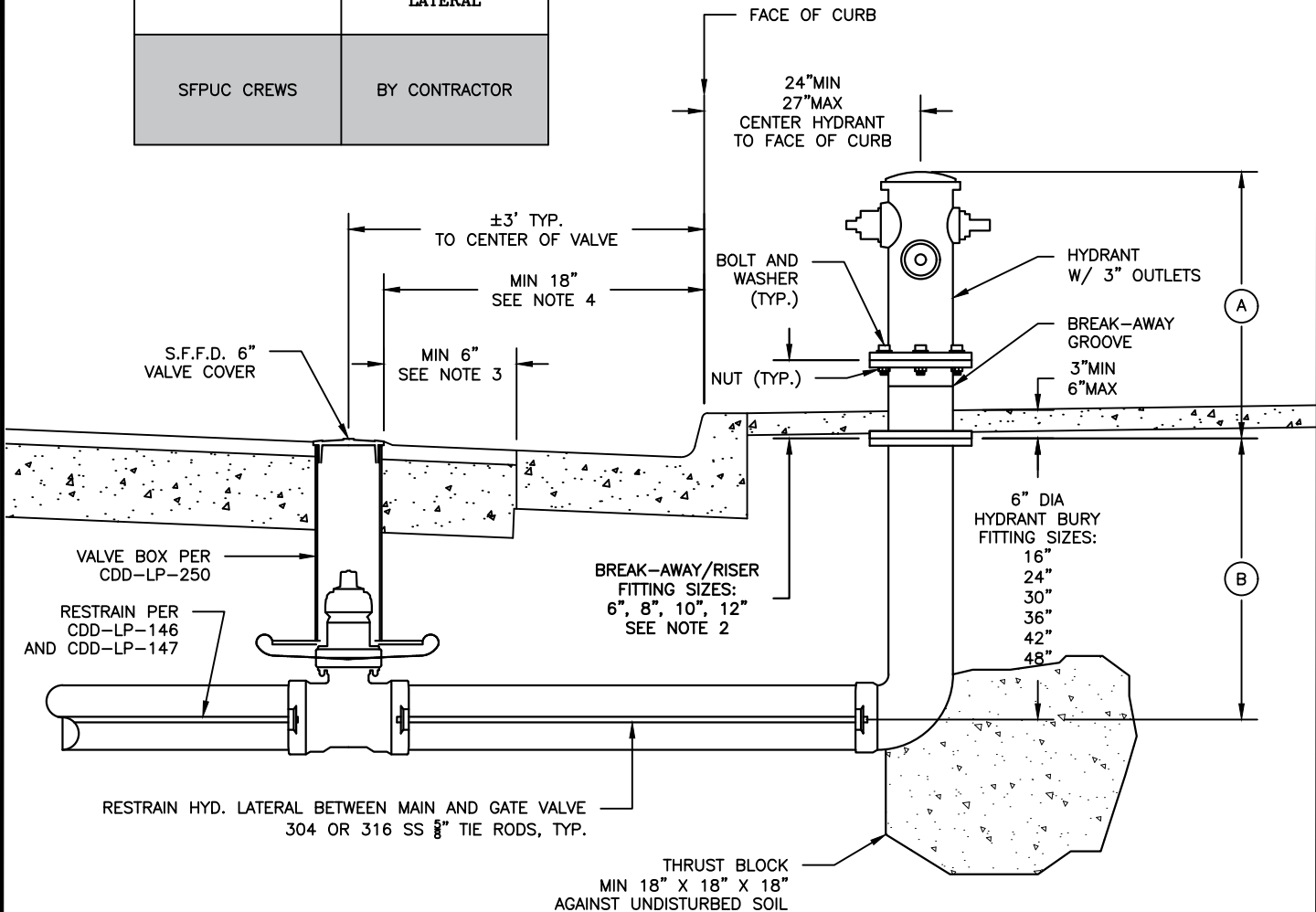


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DATE	5/16/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-003	4

INSTALLATION RESPONSIBILITY	
(A)	(B)
RISER & HYDRANT	BURY FITTING AND LATERAL
SFPUC CREWS	BY CONTRACTOR



NOTES:

- | | |
|--|---|
| <ol style="list-style-type: none"> SEE CDD-LP-146 AND -147 FOR SCHEDULE OF MATERIALS RISER AND HYDRANT FLANGE PATTERN:
6 X 3/4" DIA BOLT HOLES ON 9-7/16" BOLT CIRCLE CLEARANCE BETWEEN EDGE OF VALVE BOX COVER CASTING AND LIP OF GUTTER IS 6" WHERE GUTTER IS PRESENT. CLEARANCE BETWEEN EDGE OF VALVE BOX COVER CASTING AND FACE OF CURB IS 18" WHERE NO GUTTER IS PRESENT. A MINIMUM OF 5- FEET OF RADIAL CLEAR SPACE SHALL BE PRESENT AROUND THE OUTSIDE DIAMETER OF THE HYDRANT. NO ABOVE-GRADE OBSTRUCTIONS OR FURNISHINGS ARE PERMITTED IN THIS AREA. | <ol style="list-style-type: none"> HYDRANT NUTS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL. DIAMETER OF HYDRANT NUTS, BOLTS AND WASHERS SHALL BE 5/8". |
|--|---|

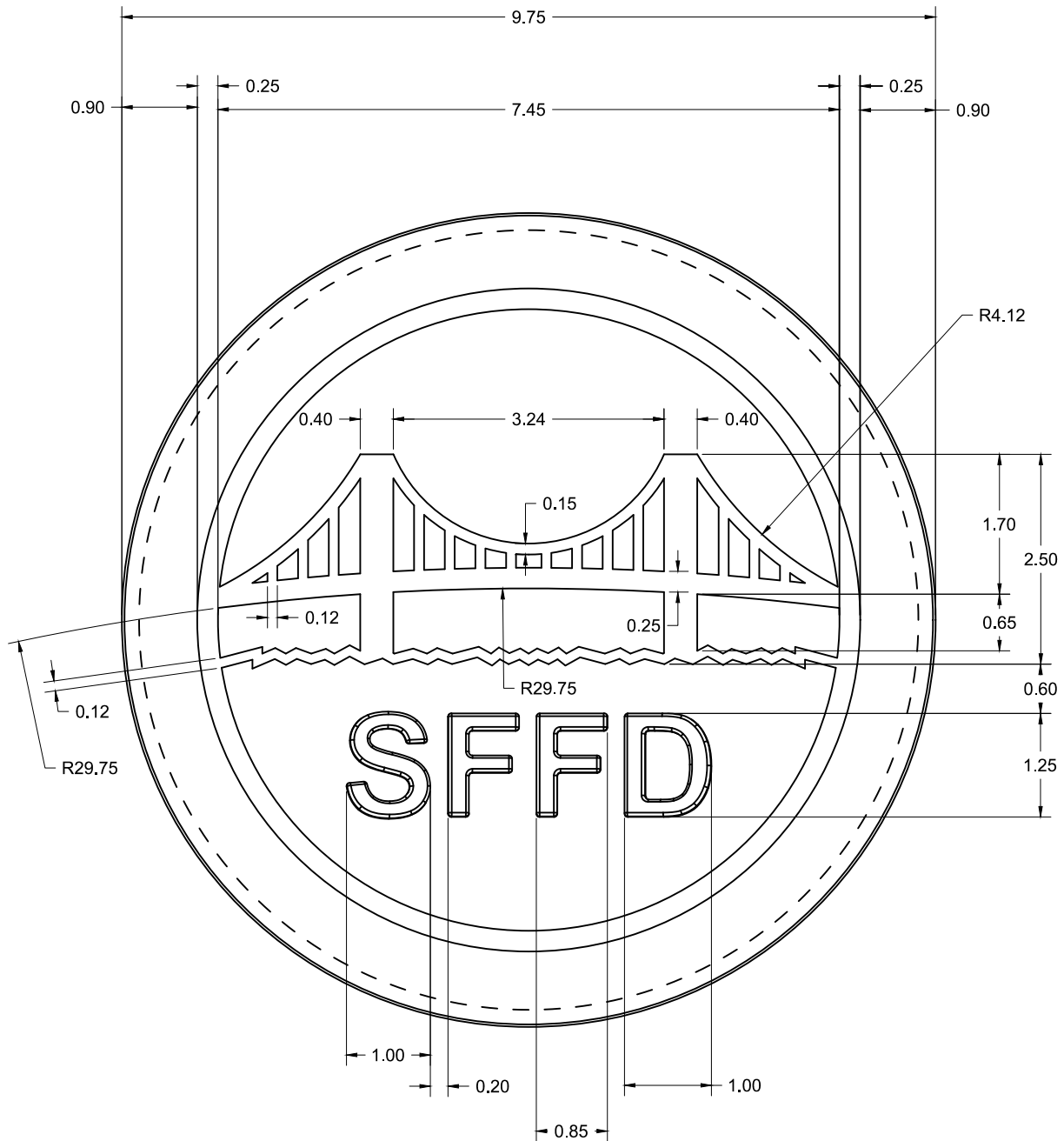
SUPERSEDES E-4969R



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS				
STANDARD PLAN FOR DUCTILE IRON PIPE MAIN INSTALLATION FIRE HYDRANT				
DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	3	CDD-LP-004A	5



WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

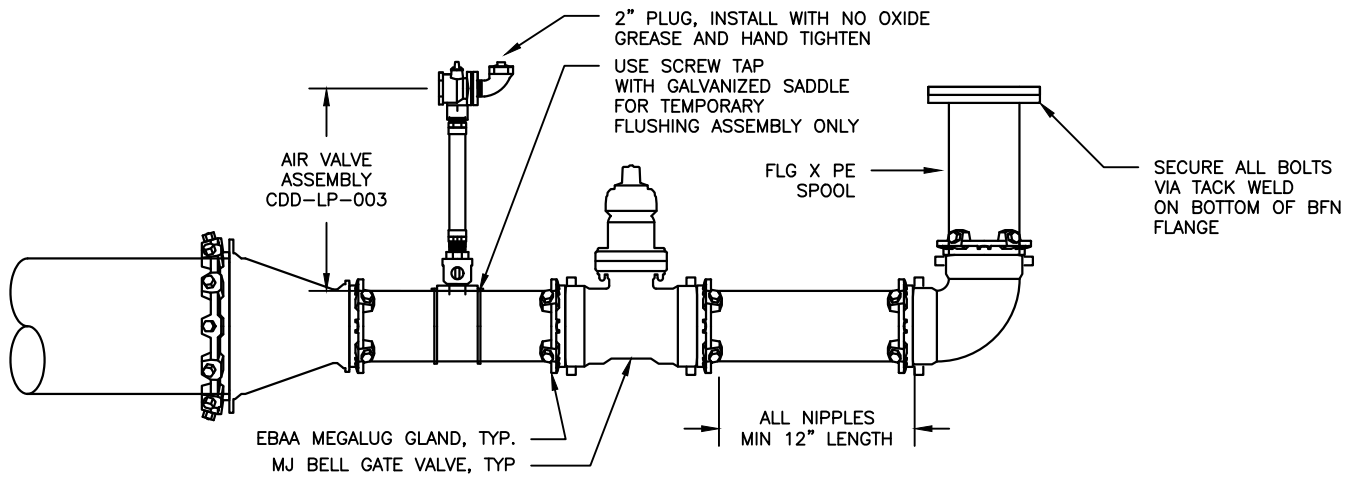
STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
 INSTALLATION
 SFFD DOME FOR LOW PRESSURE FIRE HYDRANT



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DATE	3/29/2018	REV.	0	DRAWING NO.	CDD-LP-004B	SHEET	6
SCALE	N.T.S.						



NOTES:

1. PROVIDE TEMPORARY SHORING / WOOD BLOCKING AROUND FLUSHING ASSEMBLY AS NECESSARY DURING FLUSHING ACTIVITIES.
2. ALL MATERIALS SHOWN HERE SHALL BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR EXCEPT WHERE NOTED OTHERWISE.
3. ALL 2" FITTINGS SHALL BE BRASS, WITH EXCEPTION OF GALVANIZED SADDLE.

ITEMS	MAIN SIZE		
	8"	12"	16"
MJ REDUCER	8"X4"	12"X4"	16"X6"
SADDLE GALV. BODY	4"	4"	6"
MJ GATE VALVE	4"	4"	6"
MEGALUG	8"(1); 4"(5)	12"(1);4"(5)	16"(1);6"(5)
90 MJ ELBOW	4"	4"	6"
FLG X PE PIPE	4"	4"	6"
BLIND FLG	4"	4"	6"

SUPERSEDES E-4969R



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION
4" & 6" FLUSHING ASSEMBLY

DATE 5/16/17

REV.

DRAWING NO.

SHEET

SCALE N.T.S.

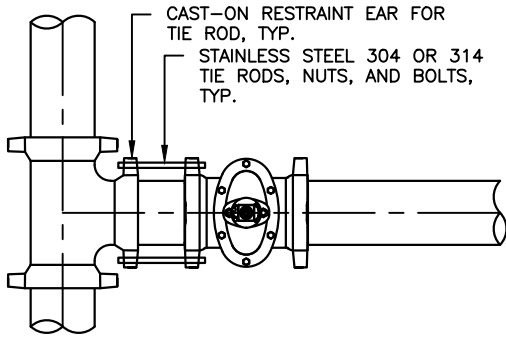
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CDD-LP-005

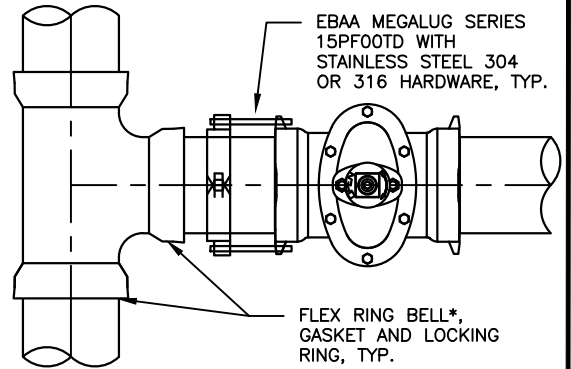
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POSITIVE RESTRAINT REQUIRED IN ADDITION TO RESTRAINT GASKET

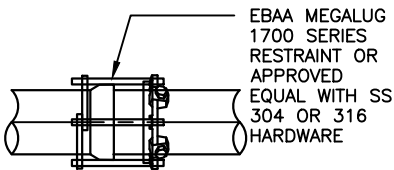
SCENARIO	DESCRIPTION	RESTRAINT REQUIRED
A	TYTON JOINT BELL TEE BRANCH TO TYTON JOINT BELL GATE VALVE WITH CAST-ON EARS	INSTALL STAINLESS STEEL TYPE 304 OR 316 $\frac{3}{4}$ " TIE RODS, NUTS, BOLTS AND WASHERS IN PRECAST EARS THROUGH FITTING AND VALVE
B.1	FLEX RING* BELL TEE BRANCH TO 12-INCH TYTON JOINT GATE VALVE WITH CAST-ON EARS	INSTALL EBAA 15PF00TD PUSH ON JOINT RESTRAINT ON GATE VALVE BELL USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
B.2	FLEX RING* BELL TEE BRANCH TO 16-INCH MJ GATE VALVE	INSTALL EBAA SERIES 1116 MEGALUG GLAND WITH STAINLESS STEEL 304 OR 316 HARDWARE ON GATE VALVE BELLS
C	PLAIN END PIPE TO TYTON BELL PIPE WITH FIELD LOK GASKET WITHIN 26' OF DEAD END, HYDRANT, OR BLOW-OFF VALVE	INSTALL EBAA SERIES 1700 RESTRAINING KIT OVER BELL AND SPIGOT OF PIPE USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
D	FLEX-RING* SPIGOT PIPE TO FLEX-RING* BELL PIPE WITHIN 26' OF DEAD END OR BLOW-OFF VALVE	USE FLEX-RING* HARDWARE PER MANUFACTURER INSTALLATION INSTRUCTIONS
E	PLAIN END PIPE TO TYTON BELL FITTING WITH FIELD LOK GASKET WITHIN 26' OF DEAD END, HYDRANT, OR BLOW-OFF VALVE	INSTALL EBAA SERIES 15PF00TD OR APPROVED EQUAL USING STAINLESS STEEL TYPE 304 OR 316 HARDWARE
F	FLEX-RING* SPIGOT PIPE TO FLEX-RING* BELL FITTING WITHIN 26' OF DEAD END OR BLOW-OFF VALVE	USE FLEX RING* HARDWARE PER MANUFACTURER INSTALLATION INSTRUCTIONS.



A SCENARIO A
- N.T.S.

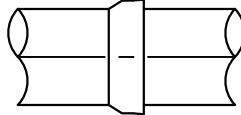


B.1 SCENARIO B.1
- N.T.S.

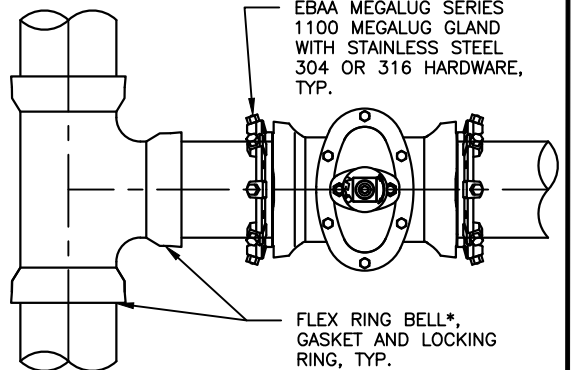


C SCENARIO C
- N.T.S.

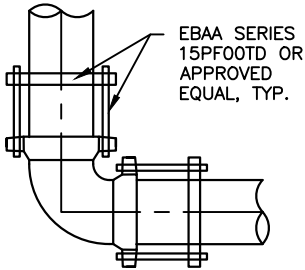
FLEX RING BELL* WITH GASKET AND LOCKING RING. FIELD FLEX RING TYPE INSTALLATIONS ARE PROHIBITED.**



D SCENARIO D
N.T.S.

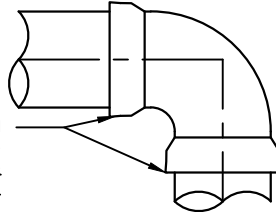


B.2 SCENARIO B.2
- N.T.S.



E SCENARIO E
- N.T.S.

FLEX RING BELL* WITH GASKET AND LOCKING RING. FIELD FLEX RING INSTALLATIONS ARE PROHIBITED**



F SCENARIO F
- N.T.S.

NOTE:
*OR TR-FLEX BELL WITH TYTON GASKET
**TR FLEX GRIPPER RINGS ARE PROHIBITED

SUPERSEDES C-964.1

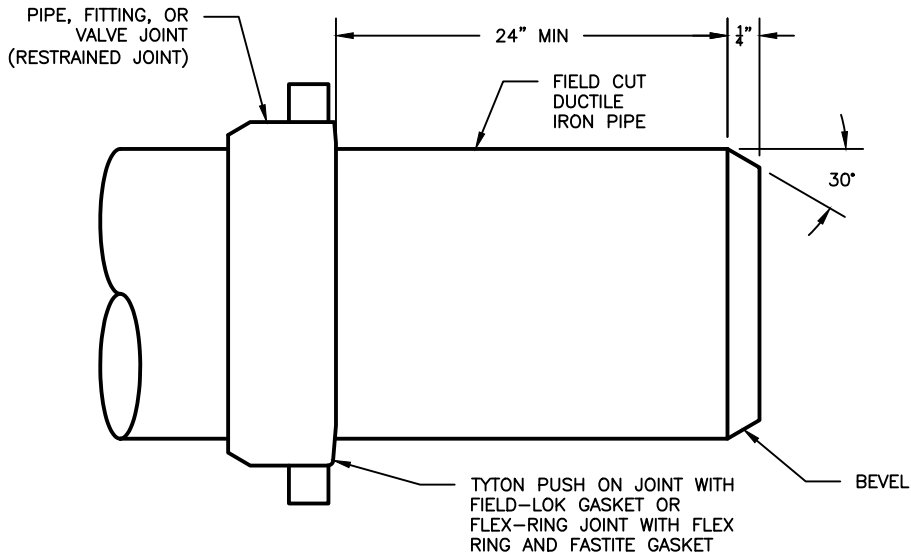


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
STANDARD PLAN FOR DUCTILE IRON PIPE MAIN INSTALLATION
POSITIVE PIPE RESTRAINT IN ADDITION TO RESTRAINT GASKETS

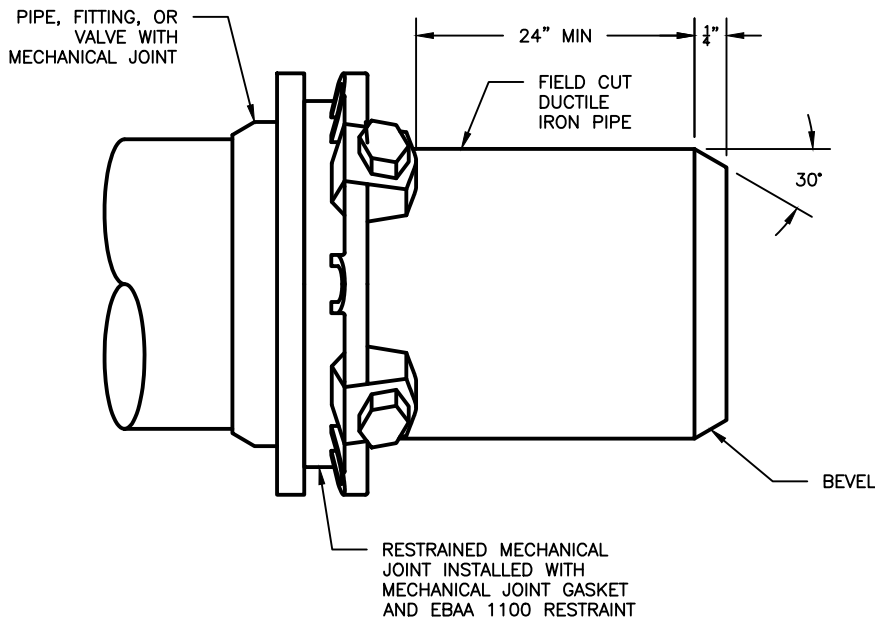
DATE	8/1/2017	REV.	1	DRAWING NO.	CDD-LP-006	SHEET	8
SCALE	N.T.S.						



A PIPE END WITH PUSH ON JOINT
- N.T.S.

NOTES:

1. CONTRACTOR SHALL INSTALL MECHANICAL JOINT CAP AT BEVEL END WITH MECHANICAL JOINT GASKET AND EBAA 1100 RESTRAINT PRIOR TO HYDROSTATIC TESTING.
2. ALL MATERIALS SHOWN HERE SHALL BE ASSEMBLED AND INSTALLED BY THE CONTRACTOR.



B PIPE END WITH MECHANICAL JOINT
- N.T.S.

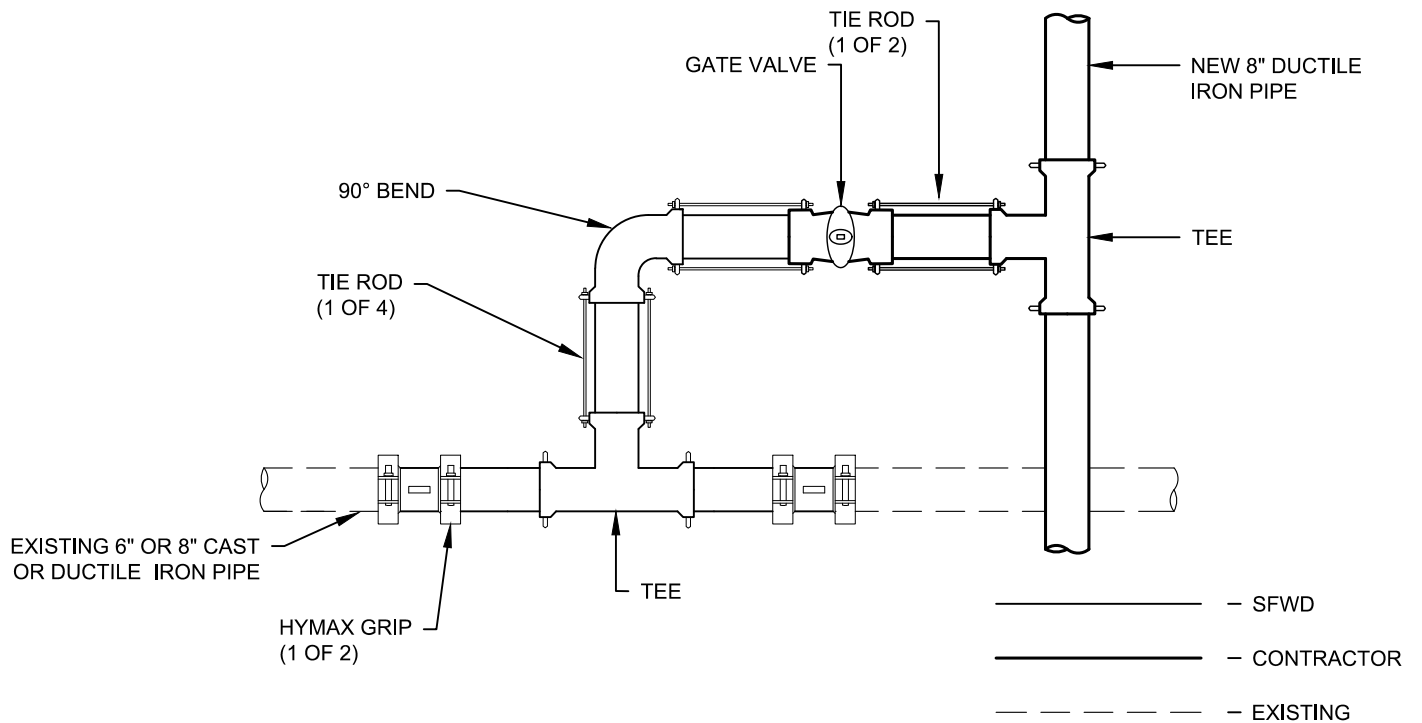


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
**STANDARD PLAN FOR DUCTILE IRON PIPE MAIN
INSTALLATION**
INSTALLATION OF PIPE END FOR SFWD
CONNECTION

DATE	09/12/2019	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-008	9



	MATERIALS	BP-8x6	BP-8x8
CONTRACTOR	TEE	8"x6" (1)	8"x8" (1)
	BOX COVER	6" (1)	8" (1)
	GATE VALVE	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)
	FIELD LOK GASKET	8" (2), 6" (3)	8" (5)
	TIE ROD	3/4" (2)	3/4" (2)
SFWD	90° BEND	6" (1)	8" (1)
	TEE	6"x6" (1)	8"x8" (1)
	HYMAX GRIP	6" (2)	8" (2)
	FIELD LOK GASKET	6" (5)	8" (5)
	TIE ROD	3/4" (4)	3/4" (4)



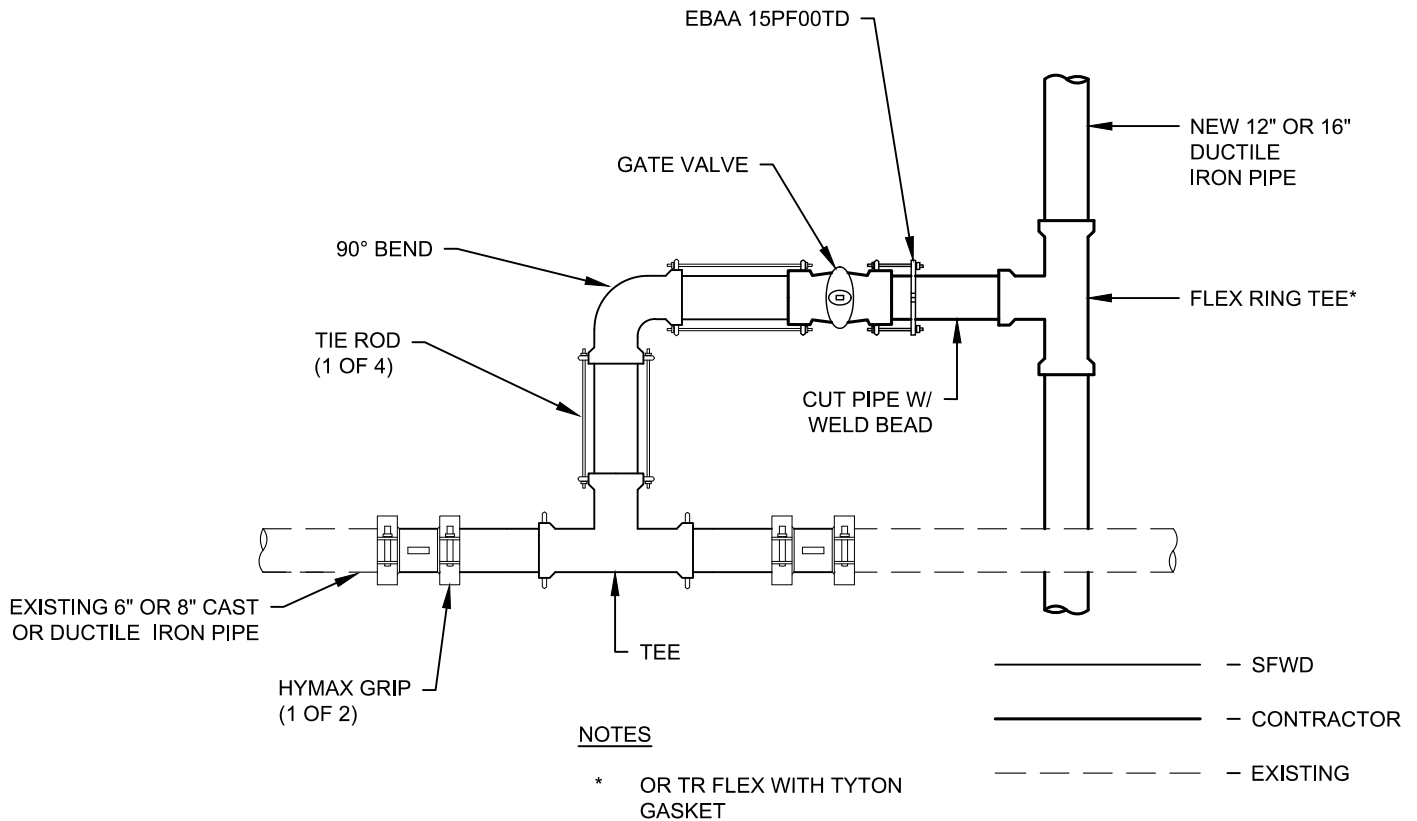
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 8" PIPE TO EXISTING 6" OR 8" PIPE

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-101	10



	MATERIALS	BP-12x6	BP-12x8	BP-16x6	BP-16x8
CONTRACTOR	FLEX RING TEE	12"x6" (1)	12"x8" (1)	16"x6" (1)	16"x8" (1)
	BOX COVER	6" (1)	8" (1)	6" (1)	8" (1)
	GATE VALVE	6" (1)	8" (1)	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	6" (2)	8" (2)	6" (2)	8" (2)
	FASTITE GASKET	6"(1), 12"(2)	8"(1), 12"(2)	6"(1), 16"(2)	8"(1), 16"(2)
	EBAA 15PF00TD	6" (1)	8" (1)	6" (1)	8" (1)
SFWD	90° BEND	6" (1)	8" (1)	6" (1)	8" (1)
	TEE	6"x6" (1)	8"x8" (1)	6"x6" (1)	8"x8" (1)
	HYMAX GRIP	6" (2)	8" (2)	6" (2)	8" (2)
	FIELD LOK GASKET	6" (5)	8" (5)	6" (5)	8" (5)
	TIE ROD	5/8" (4)	3/4" (4)	5/8" (4)	3/4" (4)



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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 12" OR 16" PIPE TO EXISTING 6" OR 8"
PIPE**

DATE JAN 2020

REV. 0

DRAWING NO.

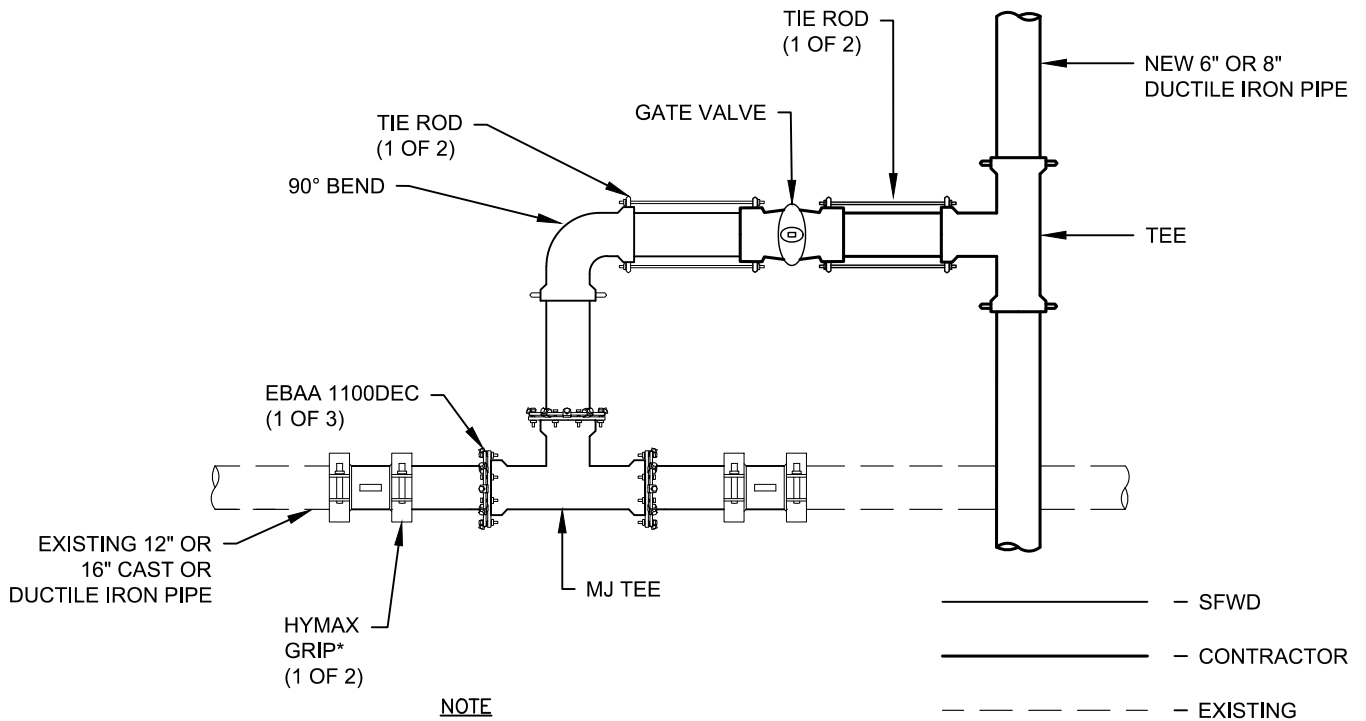
SHEET

SCALE N.T.S.

0

CDD-LP-102

11



NOTE

* OR MJ SLEEVE WITH MJ RESTRAINTS (FOR 16" ONLY)

	MATERIALS	BP-6x12	BP-8x12	BP-8x16
CONTRACTOR	TEE	6"x6" (1)	8"x8" (1)	8"x8" (1)
	GATE VALVE	6" (1)	8" (1)	8" (1)
	BOX COVER	6" (1)	8" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)	8" (1)
	FIELD LOK GASKET	6" (5)	8" (5)	8" (5)
	TIE ROD	5/8" (2)	3/4" (2)	3/4" (2)
SFWD	90° BEND	6" (1)	8" (1)	8" (1)
	MJ TEE	12"x6" (1)	12"x8" (1)	16"x8" (1)
	HYMAX GRIP	6" (2)	8" (2)	16" (2)
	FIELD LOK GASKET	6" (2)	8" (2)	8" (2)
	TIE ROD	5/8" (2)	3/4" (2)	3/4" (2)
	EBAA 1100DEC	6"(1),12"(2)	8"(1),12"(2)	8"(1),16" (2)



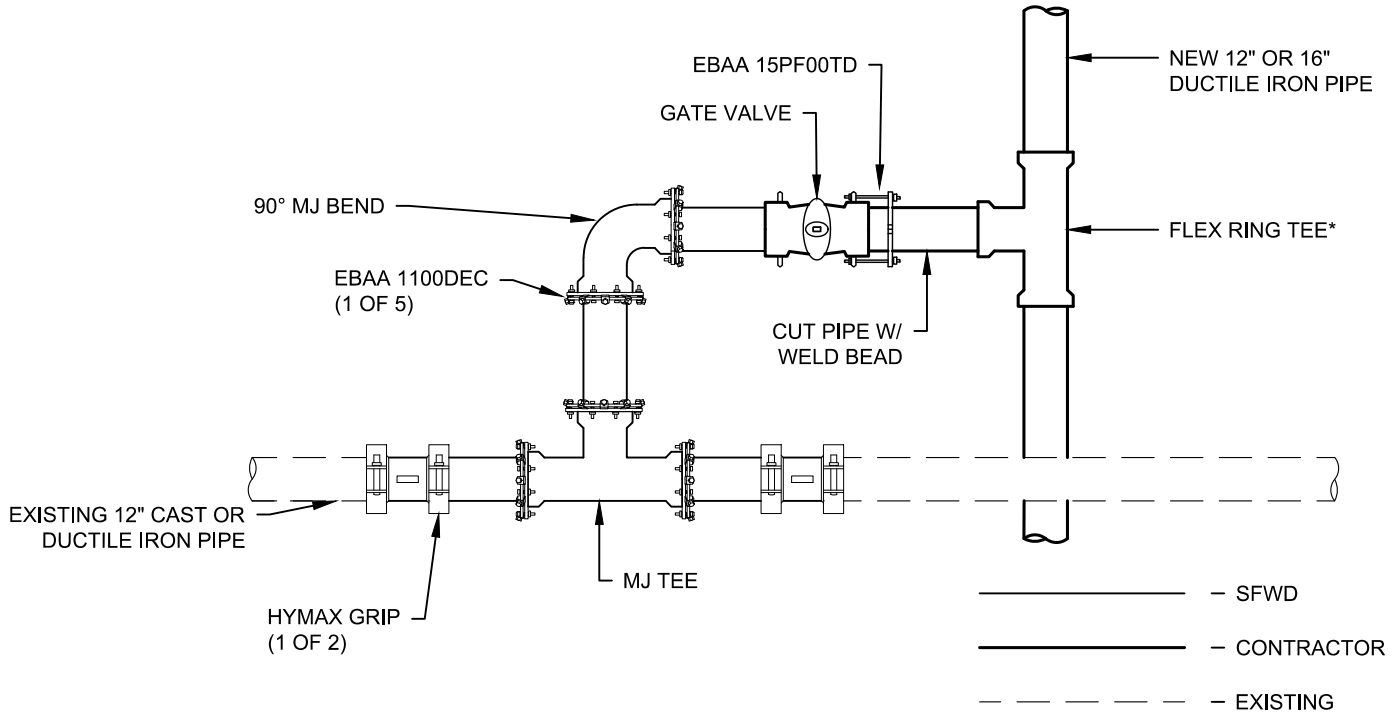
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 6" OR 8" PIPE TO EXISTING 12" OR 16"
PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-103	12



	MATERIALS	BP-12x12	BP-16x12
CONTRACTOR	FLEX RING TEE	12"x12" (1)	16"x12" (1)
	GATE VALVE	12" (1)	12" (1)
	BOX COVER	8" (1)	8" (1)
	STEEL BASE PLATE	8" (1)	8" (1)
	EBAA 15PF00TD	12" (1)	12" (1)
	FIELD LOK GASKET	12" (2)	12" (2)
	FASTITE GASKET	12" (3)	16" (2), 12" (1)
SFWD	90° MJ BEND	12" (1)	12" (1)
	MJ TEE	12"x12" (1)	16"x12" (1)
	HYMAX GRIP	12" (2)	12" (2)
	EBAA 1100DEC	12" (5)	12" (5)

NOTES

* OR TR FLEX WITH TYTON GASKET



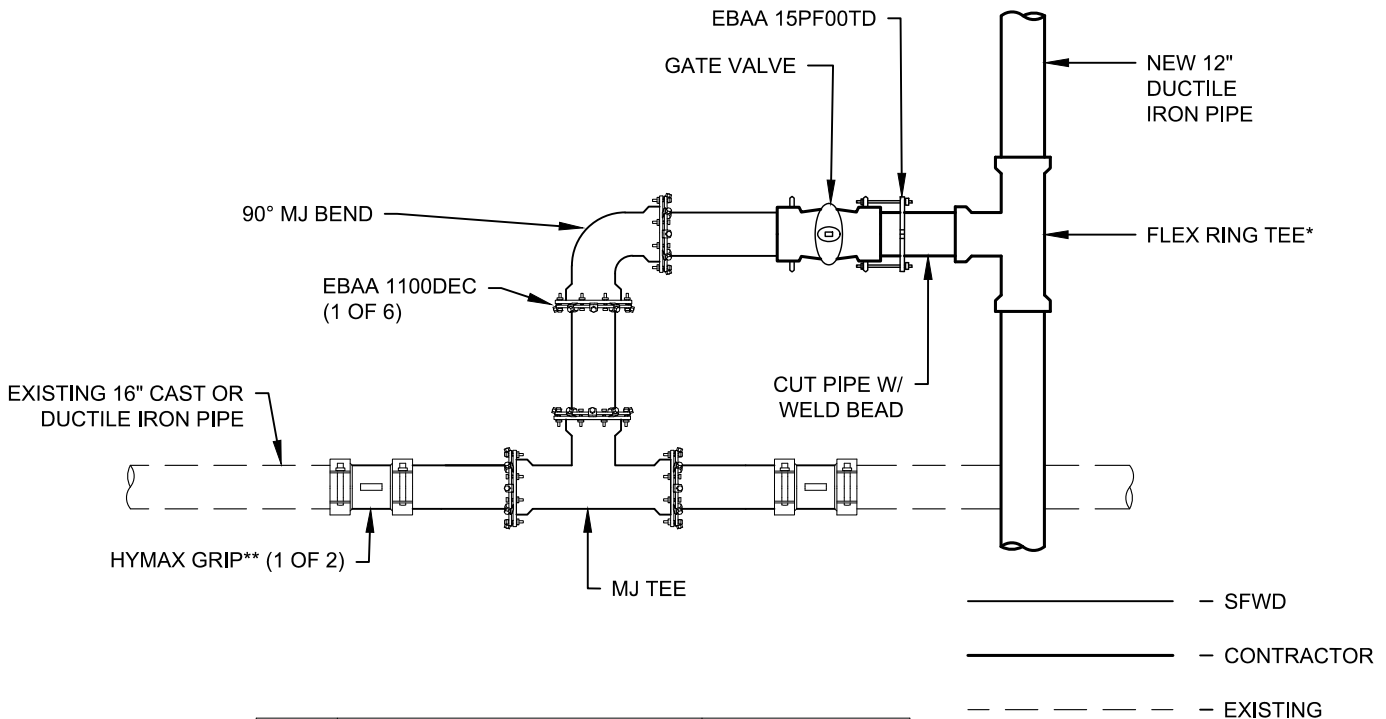
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 12" OR 16" PIPE TO EXISTING 12" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-104	13



	MATERIALS	BP-12x16
CONTRACTOR	FLEX RING TEE	12"x12" (1)
	BOX COVER	8" (1)
	GATE VALVE	12" (1)
	STEEL BASE PLATE	8" (1)
	EBAA 15PF00TD	12" (1)
	FASTITE GASKET	12" (3)
	FIELD LOK GASKET	12" (1)
	90° MJ BEND	12" (1)
SFWD	MJ TEE	16"x12" (1)
	HYMAX GRIP	16" (2)
	EBAA 1100DEC	16"(2), 12"(3)
	FIELD LOK GASKET	12" (1)

NOTE

- * OR TR FLEX WITH TYTON GASKET
- ** OR MJ SLEEVE WITH MJ RESTRAINTS



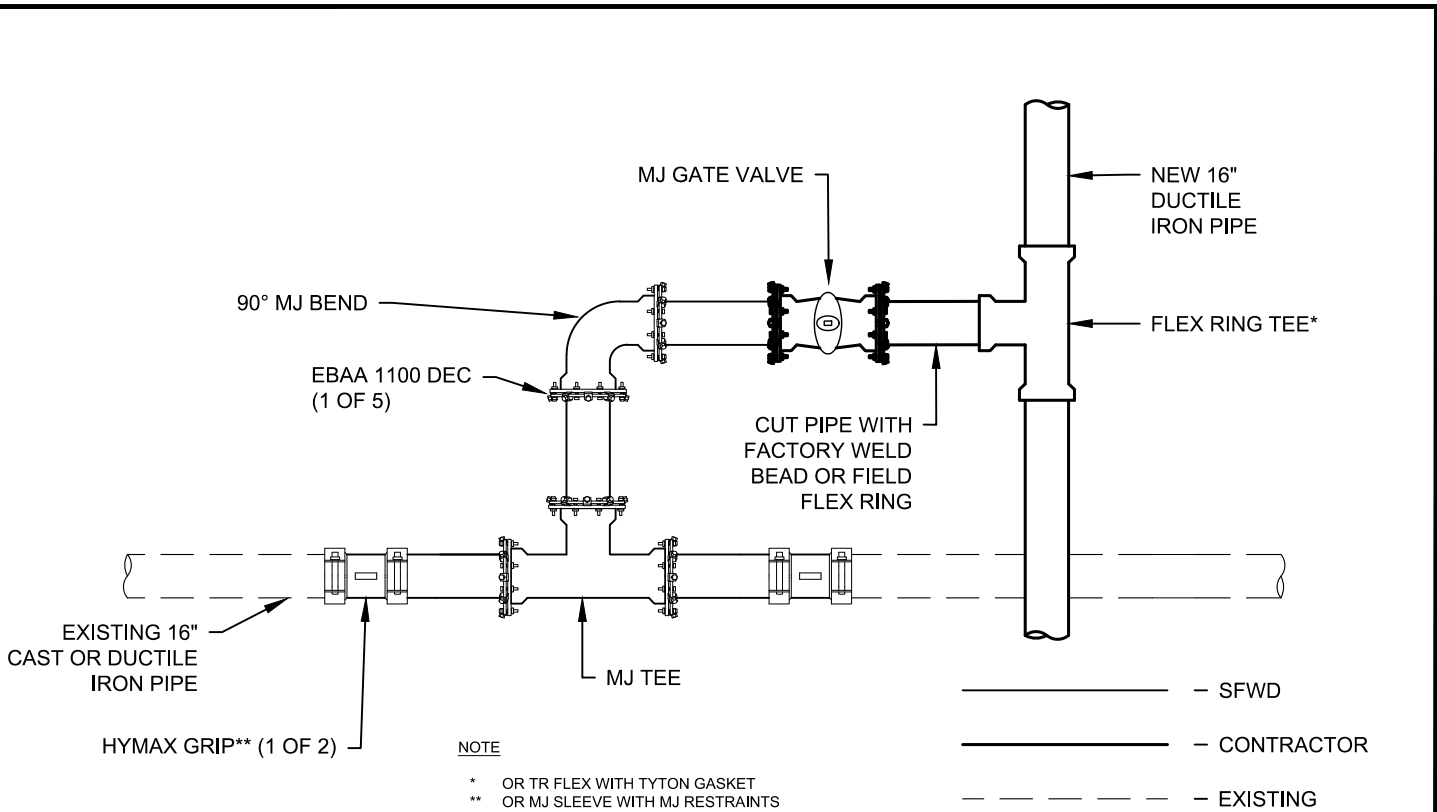
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**NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 12" PIPE TO EXISTING 16" PIPE**

DATE	1/17/2020	REV.	0	DRAWING NO.	CDD-LP-105	SHEET	14
SCALE	N.T.S.						



	MATERIALS	BP-16x16
CONTRACTOR	FLEX RING TEE	16"x16" (1)
	FIELD FLEX RING	16" (1)
	MJ GATE VALVE	16" (1)
	EBAA 1100DEC	16" (2)
	BOX COVER	8" (1)
	STEEL BASE PLATE	8" (1)
	FASTITE GASKET	16" (3)
SFWD	90° MJ BEND	16" (1)
	MJ TEE	16"x16" (1)
	HYMAX GRIP	16" (2)
	EBAA 1100DEC	16" (5)



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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW BYPASS TO EXISTING PIPE CONNECTION
FOR NEW 16" PIPE TO EXISTING 16" PIPE

DATE 1/17/2020

REV.

DRAWING NO.

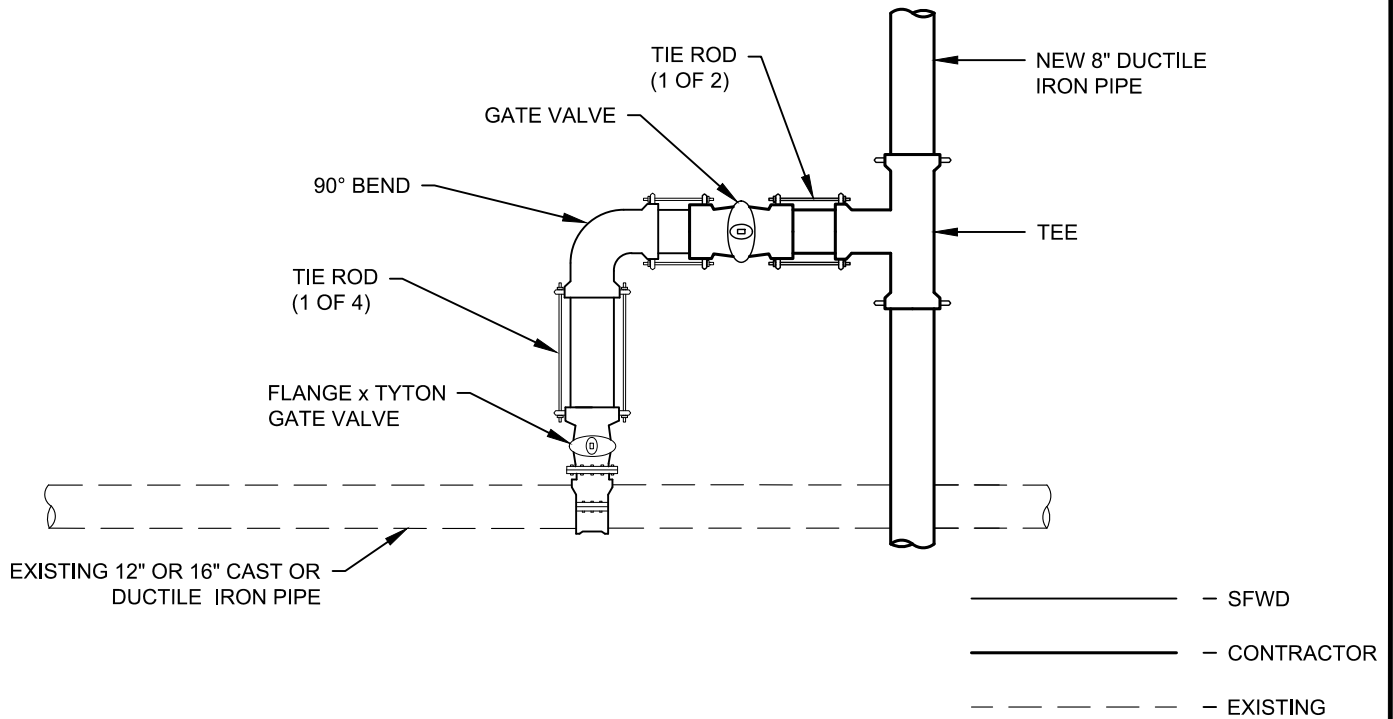
SHEET

SCALE N.T.S.

0

CDD-LP-106

15



	MATERIALS	BPT-8x12	BPT-8x16
CONTRACTOR	TEE	8"x8" (1)	8"x8" (1)
	GATE VALVE	8" (1)	8" (1)
	FIELD LOK GASKET	8" (5)	8" (5)
	BOX COVER	8" (1)	8" (1)
	STEEL BASE PLATE	8" (1)	8" (1)
	TIE ROD	3/4" (2)	3/4" (2)
SFWD	90° BEND	8" (1)	8" (1)
	FIELD LOK GASKET	8" (3)	8" (3)
	TAPPING SLEEVE	12"x8" (1)	16"x8" (1)
	FLANGExTYTON GV	8" (1)	8" (1)
	TIE ROD	3/4" (4)	3/4" (4)



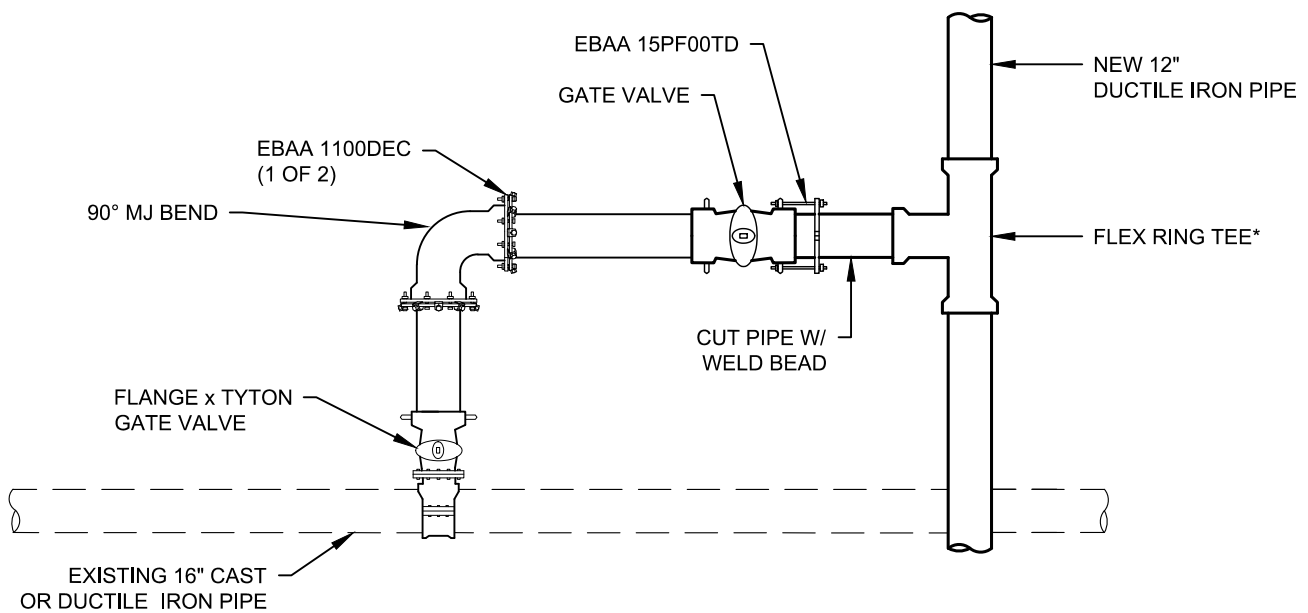
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW BYPASS TAP TO EXISTING PIPE CONNECTION
FOR NEW 8" PIPE TO EXISTING 12" OR 16" PIPE

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-107	16



- — SFWD
- — CONTRACTOR
- - - - - — EXISTING

NOTES

* OR TR FLEX WITH TYTON GASKET

	MATERIALS	BPT-12x16
CONTRACTOR	FLEX RING TEE	12"x12" (1)
	FIELD FLEX RING	12" (1)
	GATE VALVE	12" (1)
	EBAA 15PF00TD	12" (1)
	FIELD LOK GASKET	12" (2)
	BOX COVER	8" (1)
	STEEL BASE PLATE	8" (1)
	FASTITE GASKET	12"(3)
SFWD	90° BEND	12" (1)
	FIELD LOK GASKET	12" (1)
	TAPPING SLEEVE	16"x12" (1)
	FLANGExTYTON GV	12" (1)
	EBAA 1100DEC	12" (2)



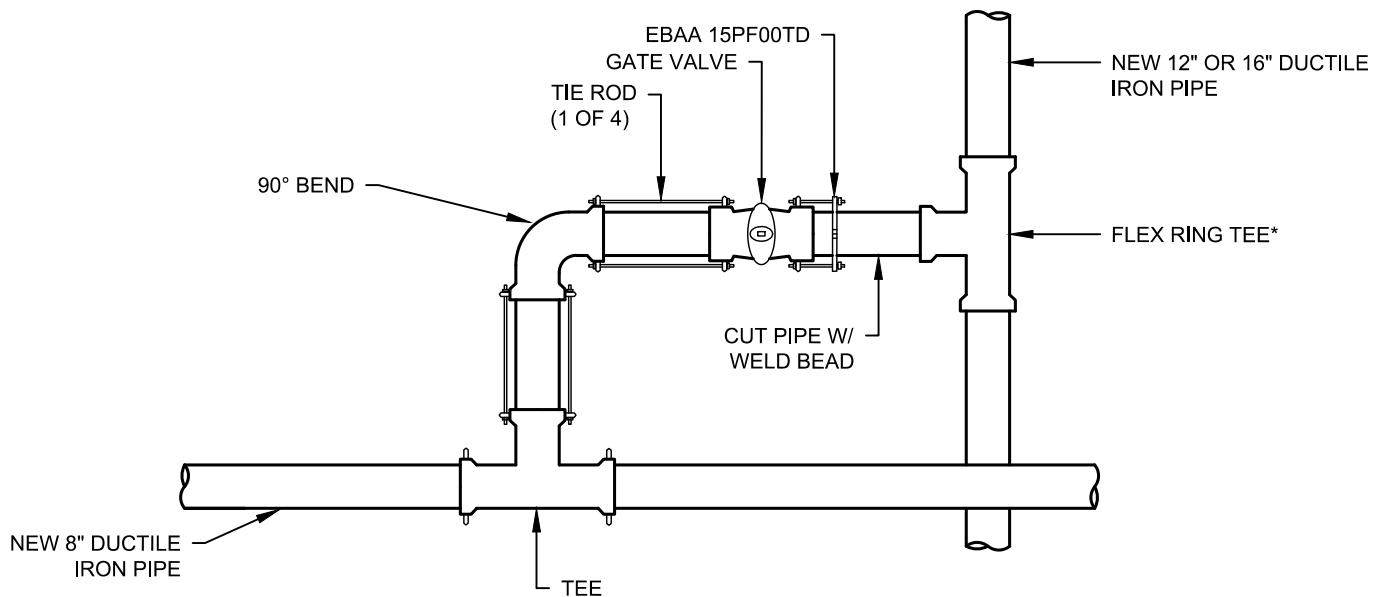
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW BYPASS TAP TO EXISTING PIPE CONNECTION
FOR NEW 12" PIPE TO EXISTING 16" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-108	17



————— — CONTRACTOR
 - - - - - — EXISTING

NOTES

* OR TR FLEX WITH TYTON GASKET

	MATERIALS	BPN-12x8	BPN-16x8
CONTRACTOR	TEE	8"x8"(1)	8"x8"(1)
	FLEX RING TEE	12"x8"(1)	16"x8"(1)
	FIELD FLEX RING	8" (1)	8" (1)
	90° BEND	8" (1)	8" (1)
	GATE VALVE	8" (1)	8" (1)
	BOX COVER	8" (1)	8" (1)
	STEEL BASE PLATE	8" (1)	8" (1)
	FIELD LOK GASKET	8"(7)	8" (7)
	FASTITE GASKET	12"(2),8"(1)	16"(2), 8"(1)
	EBAA 15PF00TD	8" (1)	8" (1)
	TIE ROD	3/4" (4)	3/4" (4)



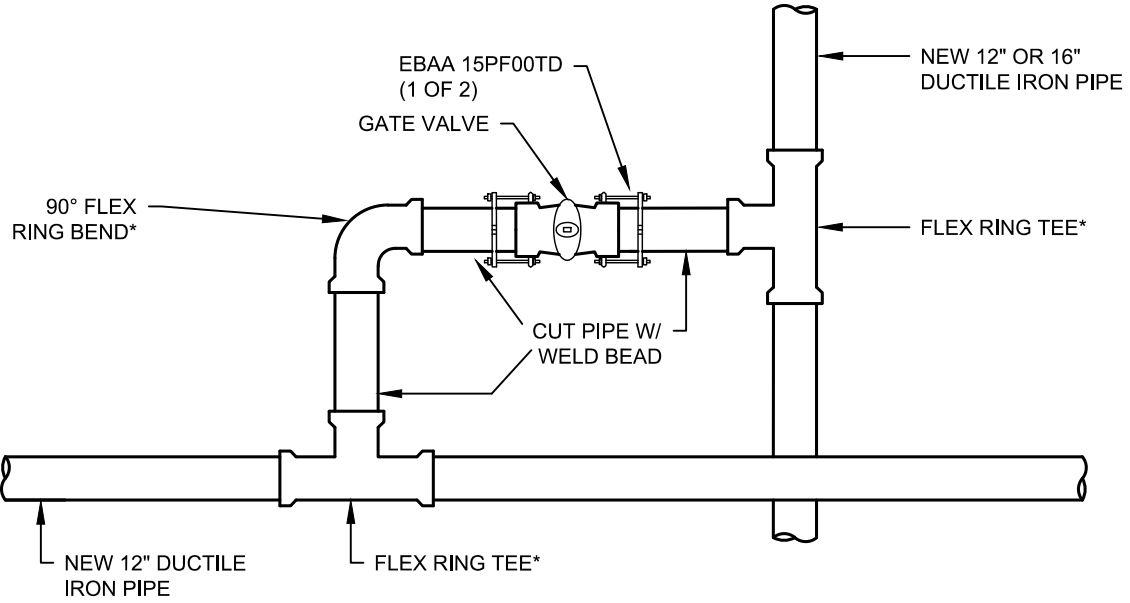
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW BYPASS TO NEW PIPE CONNECTION
 FOR NEW 12" OR 16" PIPE TO NEW 8" PIPE

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-110	19



————— — CONTRACTOR
 - - - - - — EXISTING

NOTES

* OR TR FLEX WITH TYTON GASKET

	MATERIALS	BPN-12x12	BPN-16x12
CONTRACTOR	FLEX RING TEE	12"x12" (2)	12"x12"(1) 16"x12" (1)
	FIELD FLEX RING	12" (4)	12" (4)
	90° FLEX RING BEND	12" (1)	12" (1)
	GATE VALVE	12" (1)	12" (1)
	BOX COVER	8" (1)	8" (1)
	STEEL BASE PLATE	8" (1)	8" (1)
	EBAA 15PF00TD	12" (1)	12" (1)
	FASTITE GASKET	12" (8)	12"(6), 16"(2)
	FIELD LOK GASKET	12" (2)	12"(2)



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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW BYPASS TO NEW PIPE CONNECTION
 FOR NEW 12" OR 16" PIPE TO NEW 12" PIPE**

DATE **JAN 2020**

REV. **0**

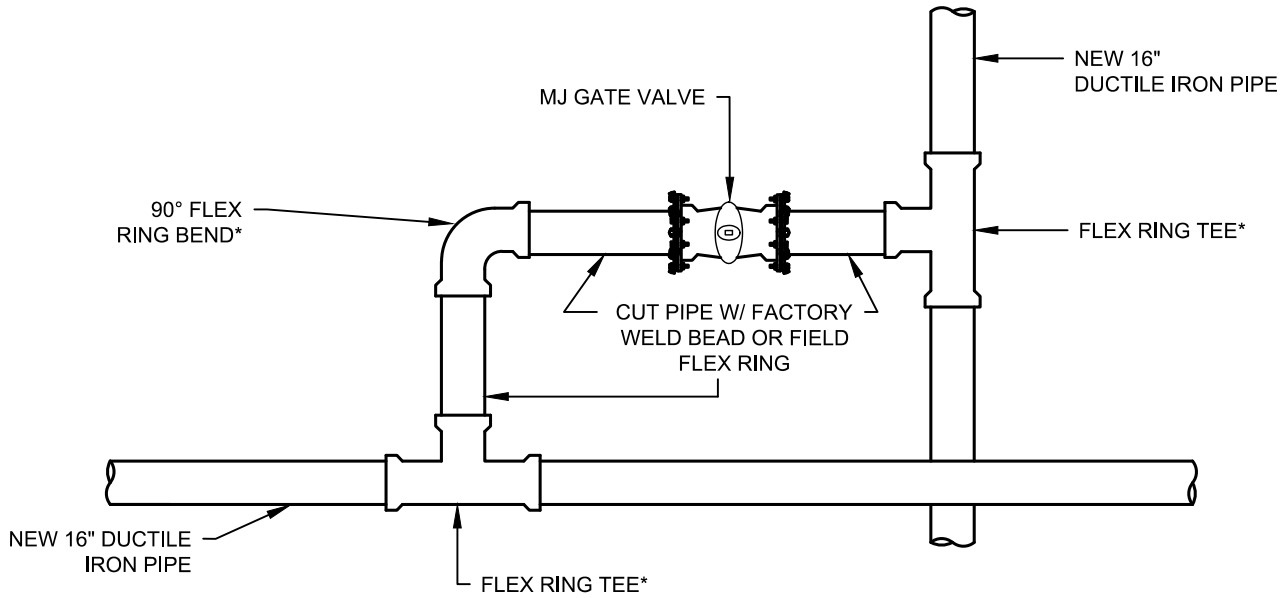
DRAWING NO.

SHEET

SCALE **N.T.S.**

CDD-LP-111

20



————— — CONTRACTOR
 - - - - - — EXISTING

	MATERIALS	BPN-16x16
CONTRACTOR	FLEX RING TEE	16"x16" (2)
	90° FLEX RING BEND	16" (1)
	BOX COVER	8" (1)
	MJ GATE VALVE	16" (1)
	STEEL BASE PLATE	8" (1)
	FASTITE GASKET	16" (8)
	EBA 1100DEC	16" (2)
	FIELD FLEX RING	16" (4)

NOTES

* OR TR FLEX WITH TYTON GASKET



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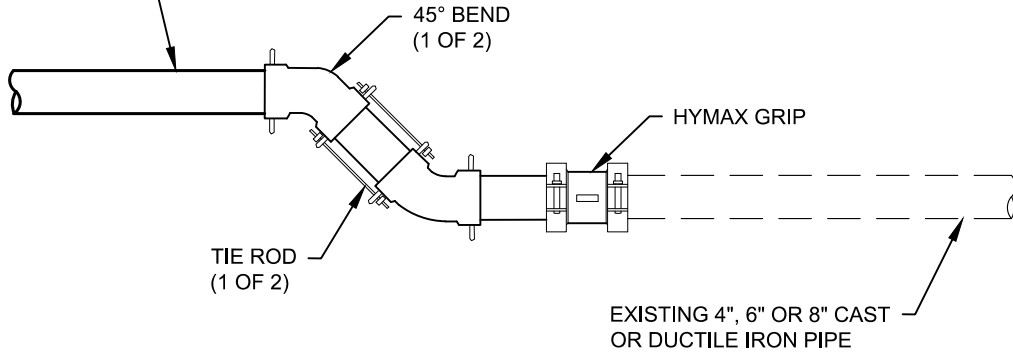
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW BYPASS TO NEW PIPE CONNECTION
 FOR NEW 16" PIPE TO NEW 16" PIPE

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-112	21

NEW 4" , 6" OR 8" DUCTILE IRON PIPE



- — SFWD
- — CONTRACTOR
- - - - - — EXISTING

	MATERIALS	PNM-4x4	PNM-6x6	PNM-8x8
SFWD	45° BEND	4" (2)	6" (2)	8" (2)
	HYMAX GRIP	4" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4" (4)	6" (4)	8" (4)



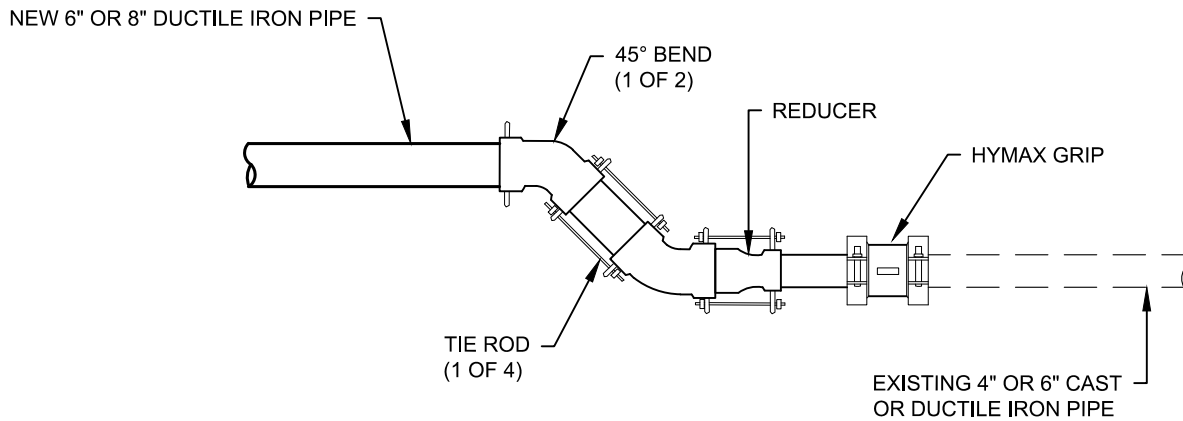
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW PARALLEL MAIN CONNECTION
FOR NEW 4", 6" OR 8" PIPE TO EXISTING 4", 6" OR
8" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-113	22



- — SFWD
- — CONTRACTOR
- - - - - — EXISTING

	MATERIALS	PNM-6x4	PNM-8x4	PNM-8x6
SFWD	45° BEND	6" (2)	8" (2)	8" (2)
	HYMAX GRIP	4" (1)	4" (1)	6" (1)
	BELLxSPIGOT REDUCER	6"x4" (1)	8"x4" (1)	8"x6" (1)
	FIELD LOK GASKET	4"(1), 6"(4)	4"(1), 8"(4)	6"(1), 8"(4)
	TIE ROD	5/8" (4)	3/4" (4)	3/4" (4)



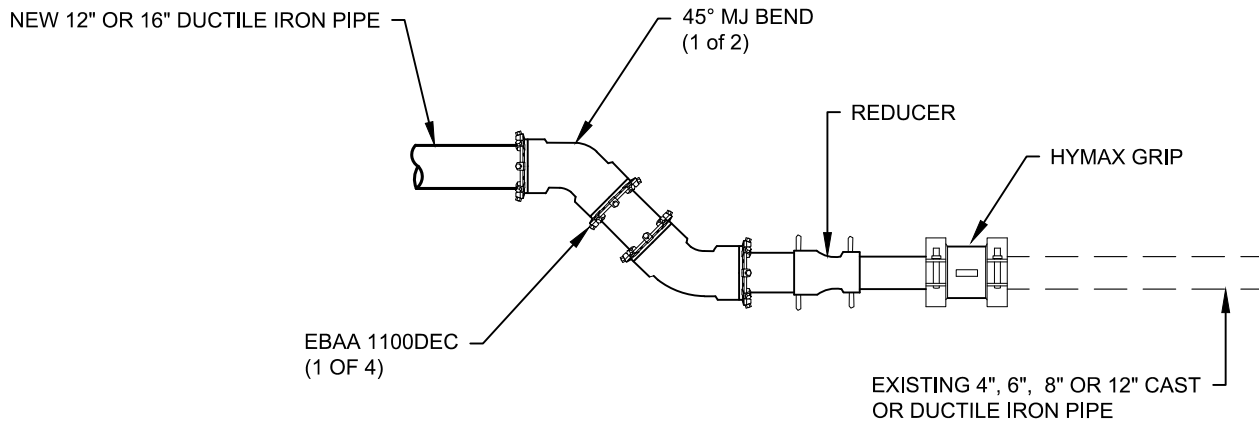
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW PARALLEL MAIN CONNECTION
FOR NEW 6" OR 8" PIPE REDUCING TO EXISTING
4" OR 6" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-114	23



- — SFWD
- — CONTRACTOR
- - - - - — EXISTING

	MATERIALS	PNM-12x4	PNM-12x6	PNM-12x8	PNM-16x6	PNM-16x8	PNM-16x12
SFWD	45° MJ BEND	12" (2)	12" (2)	12" (2)	16" (2)	16" (2)	16" (2)
	HYMAX GRIP	4" (1)	6" (1)	8" (1)	6" (1)	8" (1)	12" (1)
	BELLxBELL REDUCER	12"X4" (1)	12"X6" (1)	12"X8" (1)	16"X6" (1)	16"X8" (1)	16"X12" (1)
	FIELD LOK GASKET	4"(1), 12"(1)	6"(1), 12"(1)	8"(1), 12"(1)	6"(1), 16"(1)	16"(1), 8"(1)	16"(1), 12"(1)
	EBAA 1100DEC	12" (4)	12" (4)	12" (4)	16" (4)	16" (4)	16" (4)



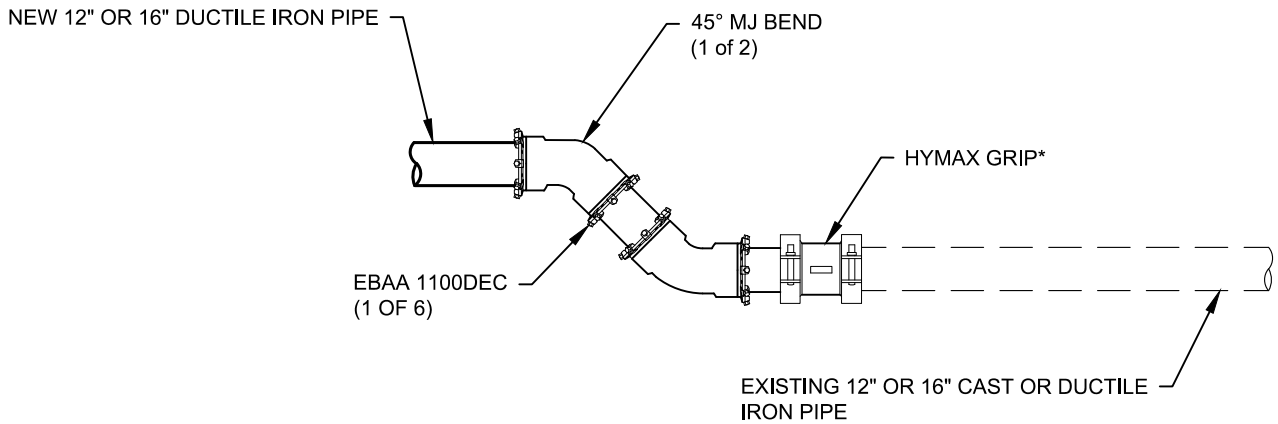
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW PARALLEL MAIN CONNECTION
FOR NEW 12" OR 16" PIPE REDUCING TO EXISTING
4", 6", 8" OR 12" PIPE**

DATE	JAN 2020	REV.	0	DRAWING NO.	CDD-LP-115	SHEET	24
SCALE	N.T.S.						



NOTE

* OR MJ SLEEVE WITH MJ RESTRAINTS (FOR 16" ONLY)

- _____ — SFWD
- _____ — CONTRACTOR
- - - - - — EXISTING

	MATERIALS	PNM-12x12	PNM-16x16
SFWD	45° MJ BEND	12" (2)	16" (2)
	HYMAX GRIP	12" (1)	16" (1)
	EBAA 1100DEC	12" (4)	16" (4)



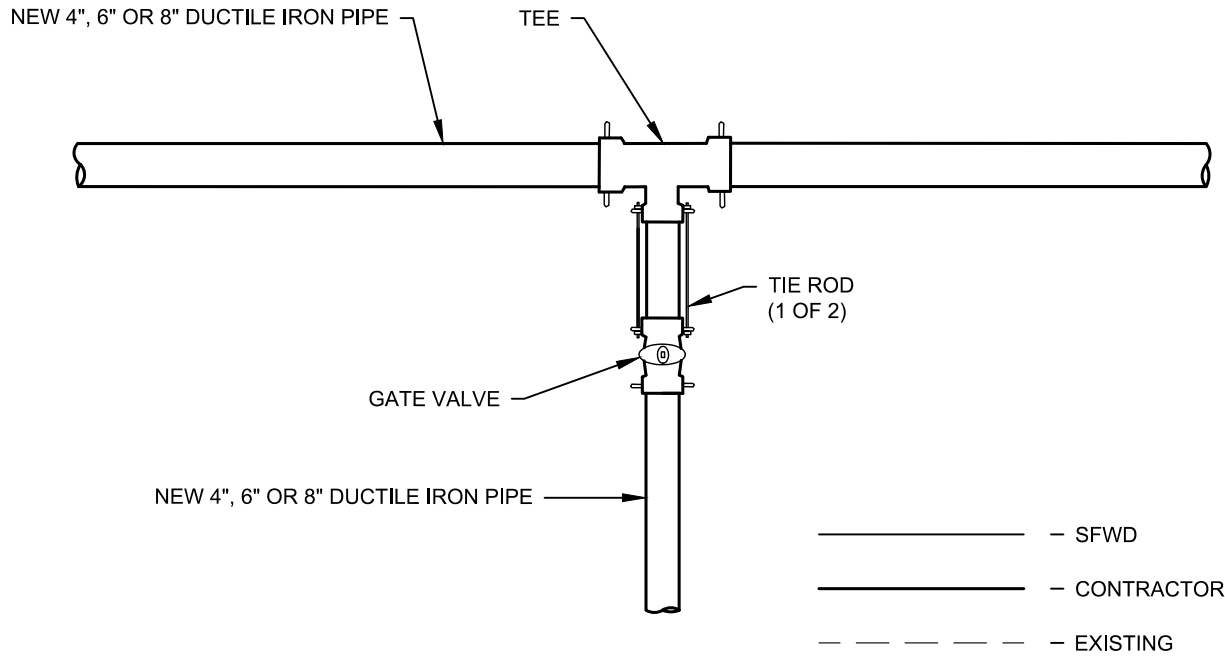
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW PARALLEL MAIN CONNECTION
FOR NEW 12" OR 16" PIPE TO EXISTING
12" OR 16" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-116	25



	MATERIALS	LAT-4x4	LAT-6x4	LAT-6x6	LAT-8x4	LAT-8x6	LAT-8x8
CONTRACTOR	TEE	4"x4" (1)	6"x4" (1)	6"x6" (1)	8"x4" (1)	8"x6" (1)	8"x8" (1)
	GATE VALVE	4" (1)	4" (1)	6" (1)	4" (1)	6" (1)	8" (1)
	BOX COVER	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4" (5)	4"(3), 6"(2)	6" (5)	4"(3), 8"(2)	6"(3), 8"(2)	8" (5)
	TIE ROD	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	3/4" (2)



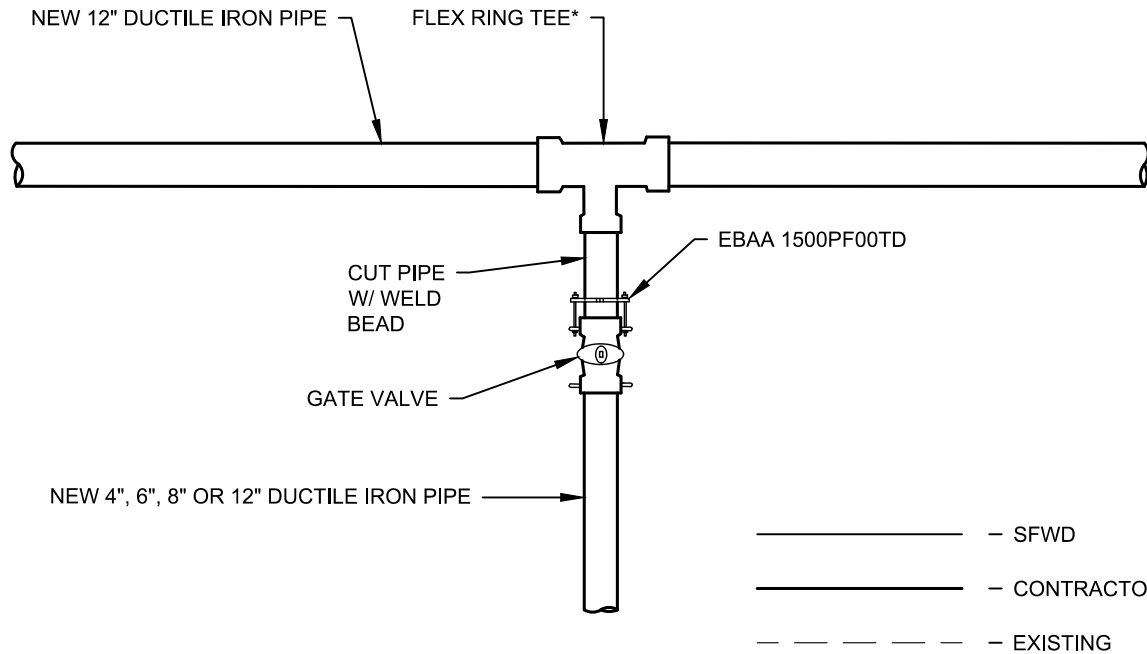
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

NEW LATERAL MAIN CONNECTION
FOR NEW 4", 6" OR 8" BRANCH TO NEW 4", 6" OR 8"
MAIN

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-117	26



	MATERIALS	LAT-12x4	LAT-12x6	LAT-12x8	LAT-12x12
CONTRACTOR	FLEX RING TEE	12"x4" (1)	12"x6" (1)	12"x8" (1)	12"x12" (1)
	GATE VALVE	4" (1)	6" (1)	8" (1)	8" (1)
	BOX COVER	6" (1)	6" (1)	8" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	6" (1)	8" (1)	8" (1)
	FASTITE GASKET	12"(2), 4"(1)	12"(2), 6"(1)	12"(2), 8"(1)	12"(3)
	FIELD LOK GASKET	4" (2)	6"(2)	8" (2)	12" (2)
	EBAA 15PF00TD	4" (2)	6" (2)	8" (2)	12" (1)

NOTES

* OR TR FLEX WITH TYTON GASKET



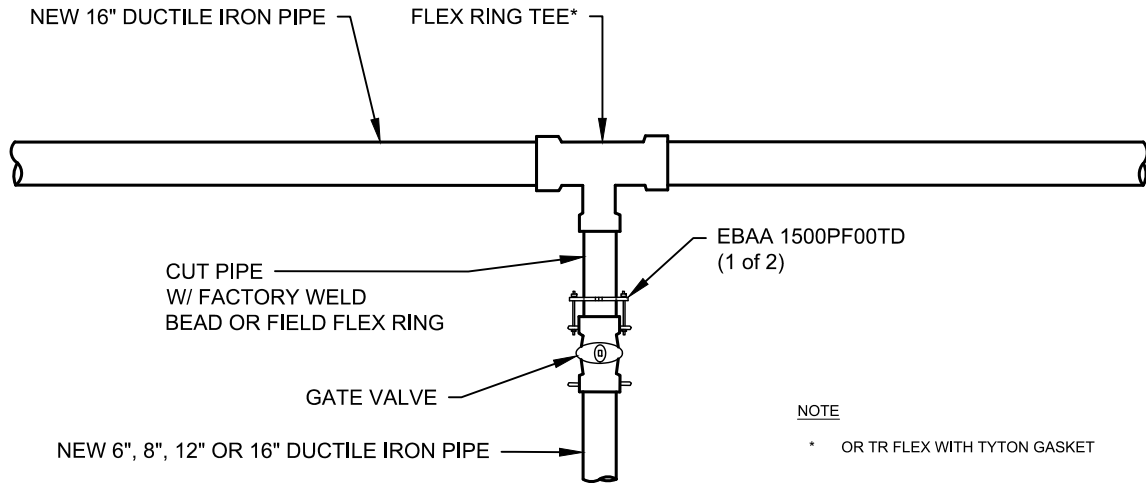
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL MAIN CONNECTION
FOR NEW 4", 6", 8" OR 12" BRANCH TO NEW 12"
MAIN**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-118	27



NOTES

* OR TR FLEX WITH TYTON GASKET

NOTE

* OR TR FLEX WITH TYTON GASKET

- — SFWD
- — CONTRACTOR
- - - - - — EXISTING

	MATERIALS	LAT-16x6	LAT-16x8	LAT-16x12	LAT-16x16
CONTRACTOR	FLEX RING TEE	16"x6" (1)	16"x8" (1)	16"x12" (1)	16"x16" (1)
	GATE VALVE	6" (1)	8" (1)	12" (1)	
	FIELD LOK GASKET	6"(2)	8"(2)	12"(2)	
	EBAA 15PF00TD	6" (1)	8" (1)	12" (1)	
	MJ GATE VALVE				16" (1)
	EBAA 1100DEC				16" (2)
	BOX COVER	6" (1)	8" (1)	8" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)	8" (1)	8" (1)
	FIELD LOK GASKET	6"(2)	8"(2)	12"(2)	16" (2)
	FASTITE GASKET	16"(2), 6"(1)	16"(2), 8"(1)	16"(2), 12"(1)	16" (3)
	FIELD FLEX RING	6" (1)	8" (1)	12" (1)	16" (1)



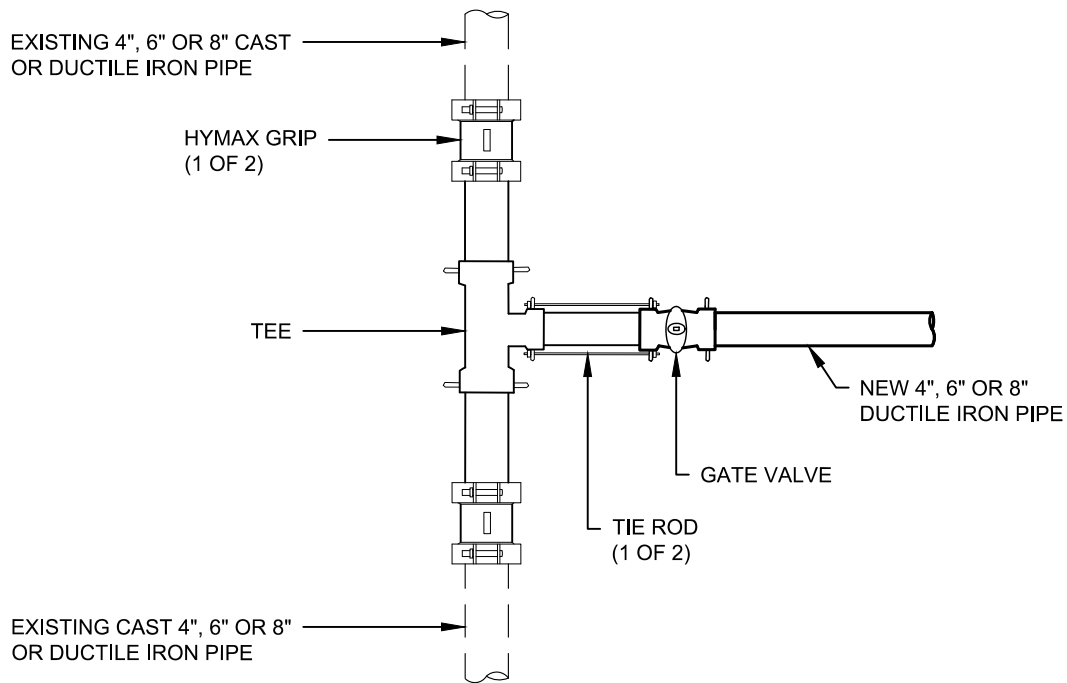
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL MAIN CONNECTION
FOR NEW 6", 8", 12" OR 16" BRANCH TO NEW 16"
MAIN**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-119	28



————— — CONTRACTOR
 - - - - - — EXISTING

	MATERIALS	MC-4x4	MC-4x6	MC-6x6	MC-4x8	MC-6x8	MC-8x8
CONTRACTOR	GATE VALVE	4" (1)	4" (1)	6" (1)	4" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4" (2)	4" (2)	6" (2)	4" (2)	6" (2)	8" (2)
	BOX COVER	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
SFWD	TEE	4"x4" (1)	6"x4" (1)	6"x6" (1)	8"x4" (1)	8"x6" (1)	8"x8" (1)
	HYMAX GRIP	4" (2)	6" (2)	6" (2)	8" (2)	8" (2)	8" (2)
	TIE ROD	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	3/4" (2)

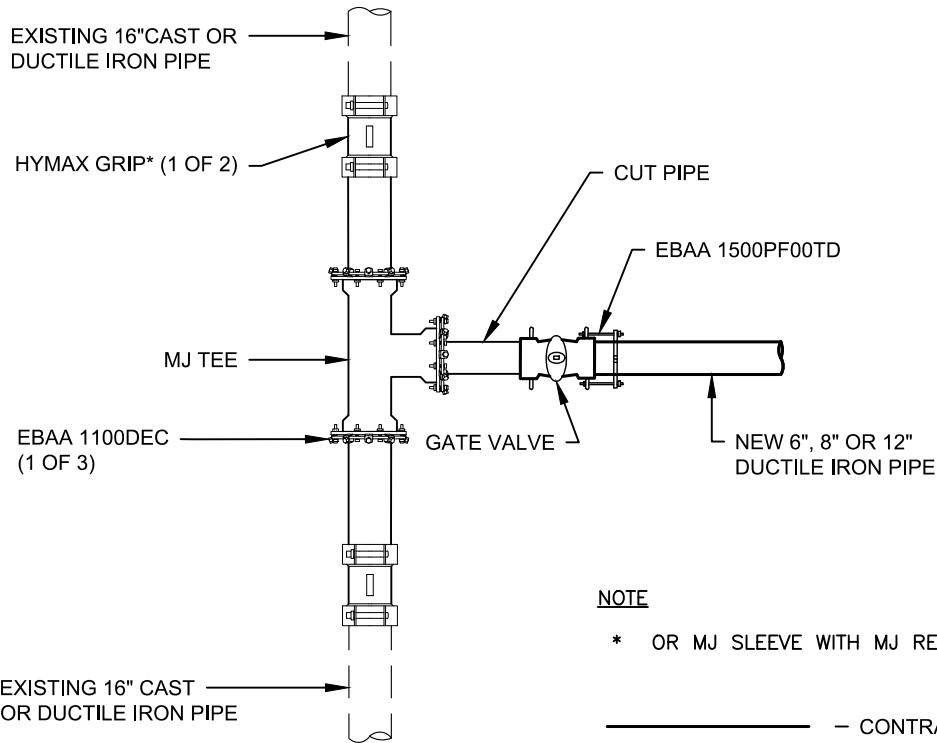


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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS
NEW LATERAL BRANCH TO EXISTING MAIN CONNECTION
FOR NEW 4", 6" OR 8" BRANCH TO EXISTING 4", 6" OR 8" MAIN

DATE	JAN 2020	REV.	0	DRAWING NO.	CDD-LP-120	SHEET	29
SCALE	N.T.S.						



NOTE

* OR MJ SLEEVE WITH MJ RESTRAINTS

————— — CONTRACTOR

- - - - - — EXISTING

	MATERIALS	MC-6x16	MC-8x16	MC-12x16	MC-16x16
CONTRACTOR	GATE VALVE	6" (1)	8" (1)	12" (1)	
	FIELD LOK GASKET	6" (2)	8" (2)	12" (2)	
	EBAA 15PF00TD	6" (1)	8" (1)	12" (1)	
	MJ GATE VALVE				16" (1)
	EBAA 1100DEC				16" (2)
	BOX COVER	6" (1)	8" (1)	8" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)	8" (1)	8" (1)
SFWD	MJ TEE	16"x6" (1)	16"x8" (1)	16"x12" (1)	16"x16" (1)
	HYMAX GRIP	16" (2)	16" (2)	16" (2)	16" (2)
	EBAA 1100DEC	16"(2), 6"(1)	16"(2), 8"(1)	16"(2), 12"(1)	16"(3)

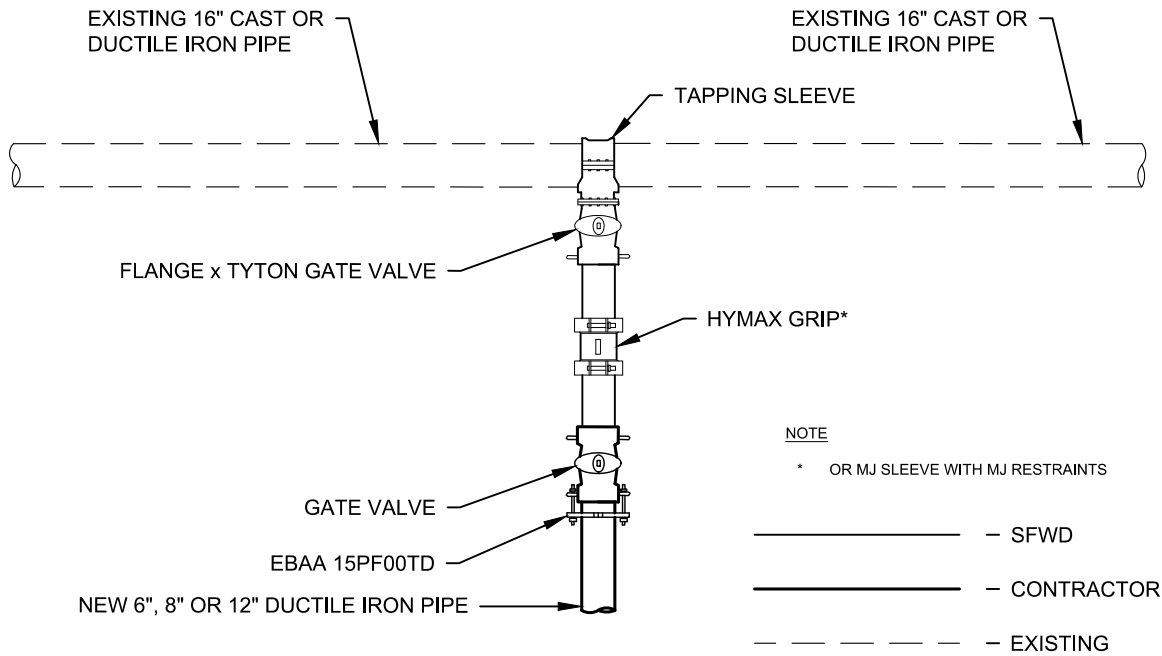


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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS
NEW LATERAL BRANCH TO EXISTING MAIN CONNECTION
FOR NEW 6", 8", 12" OR 16" BRANCH TO EXISTING 16" MAIN

DATE	1/17/2020	REV.	0	DRAWING NO.	CDD-LP-122	SHEET	31
SCALE	N.T.S.						



	MATERIALS	MCT-6x16	MCT-8x16	MCT-12x16
CONTRACTOR	GATE VALVE	6" (1)	8" (1)	12" (1)
	FIELD LOK GASKET	6" (2)	8" (2)	12" (2)
	BOX COVER	6" (1)	8" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)	8" (1)
	EBAA 15PF00TD	6" (1)	8" (1)	12" (1)
SFWD	TAPPING SLEEVE	16"x6" (1)	16"x8" (1)	16"x12" (1)
	FLANGExTYTON GATE VALVE	6" (1)	8" (1)	12" (1)
	FIELD LOK GASKET	6" (1)	8" (1)	8" (1)
	HYMAX GRIP	6" (1)	8" (1)	8" (1)



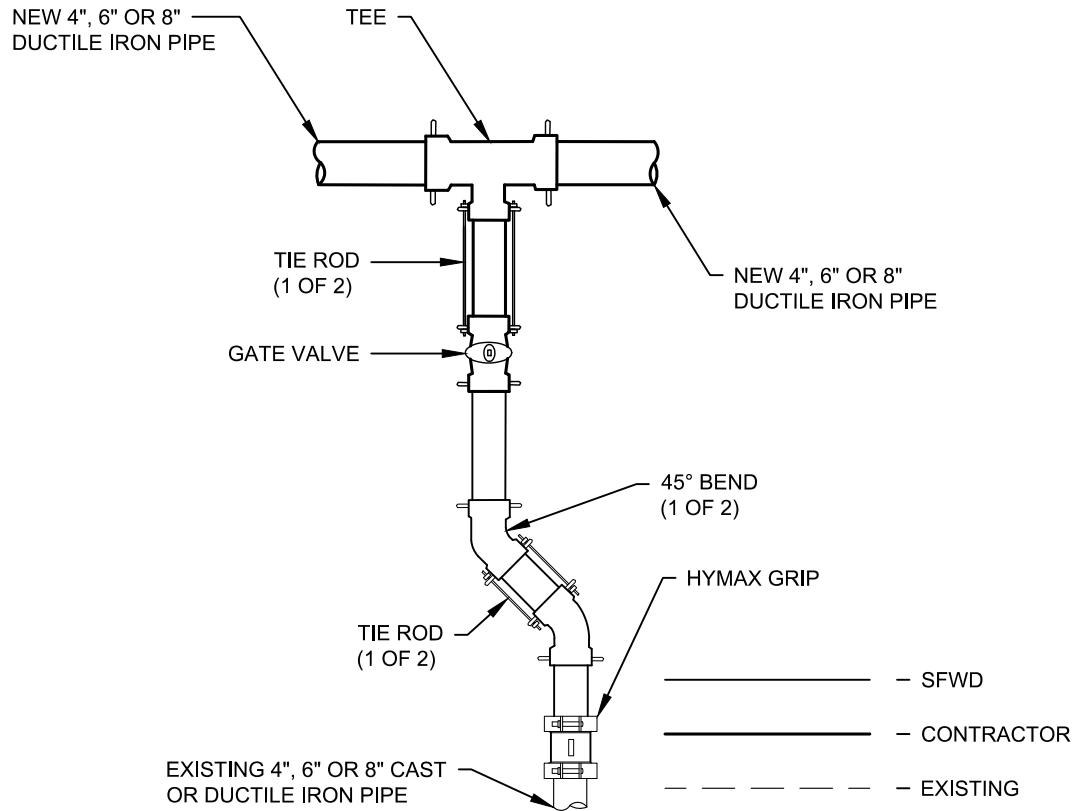
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL BRANCH TAP TO EXISTING MAIN
 FOR NEW 6", 8" OR 12" TAP TO EXISTING 16" MAIN**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-124	33



	MATERIALS	ML-4x4	ML-6x4	ML-6x6	ML-8x4	ML-8x6	ML-8x8
CONTRACTOR	TEE	4"x4" (1)	6"x4" (1)	6"x6" (1)	8"x4" (1)	8"x6" (1)	8"x8" (1)
	GATE VALVE	4" (1)	4" (1)	6" (1)	4" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4" (5)	6"(2), 4"(3)	6" (5)	8"(2), 4"(3)	8"(2), 6" (3)	8" (5)
	TIE ROD	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	3/4" (2)
	BOX COVER	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	6" (1)	6" (1)	6" (1)	6" (1)	8" (1)
SFWD	45° BEND	4" (2)	4" (2)	6" (2)	4" (2)	6" (2)	8" (2)
	HYMAX GRIP	4" (1)	4" (1)	6" (1)	4" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4" (4)	4"(4)	6" (4)	4"(4)	6"(4)	8" (4)
	TIE ROD	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	5/8" (2)	3/4" (2)

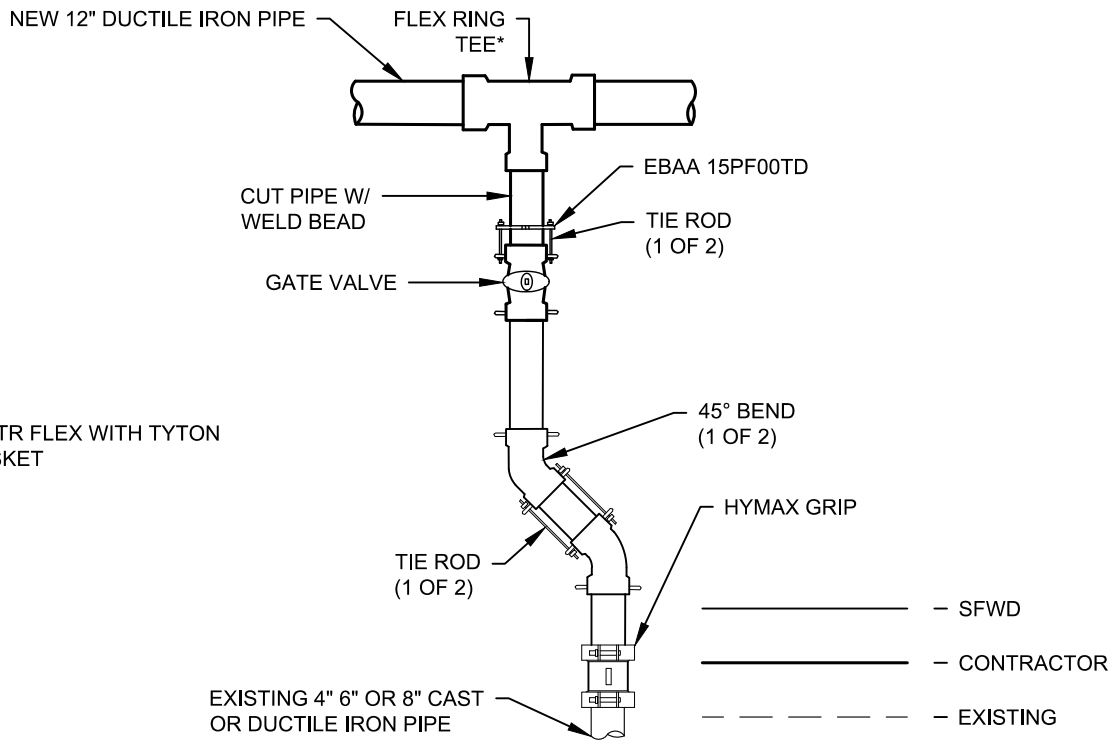


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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS
**NEW LATERAL MAIN CONNECTION TO EXISTING
 BRANCH**
 FOR NEW 4", 6" OR 8" MAIN TO 4", 6" OR 8" EXISTING
 BRANCH

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-125	34



NOTES

* OR TR FLEX WITH TYTON GASKET

	MATERIALS	ML-12x4	ML-12x6	ML-12x8
CONTRACTOR	FLEX RING TEE	12"x4" (1)	12"x6" (1)	12"x8" (1)
	GATE VALVE	4" (1)	6" (1)	8" (1)
	FASTITE GASKET	12"(2), 4"(1)	12"(2), 6"(1)	12"(2), 8"(1)
	FIELD LOK GASKET	4"(2)	6" (2)	8" (2)
	BOX COVER	6" (1)	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	6" (1)	8" (1)
	EBAA 15PF00TD	4" (1)	6" (1)	8" (1)
	45° BEND	4" (2)	6" (2)	8" (2)
SFWD	HYMAX GRIP	4" (1)	6" (1)	8" (1)
	FIELD LOK GASKET	4"(4)	6"(4)	8" (4)
	TIE ROD	5/8" (2)	5/8" (2)	3/4" (2)

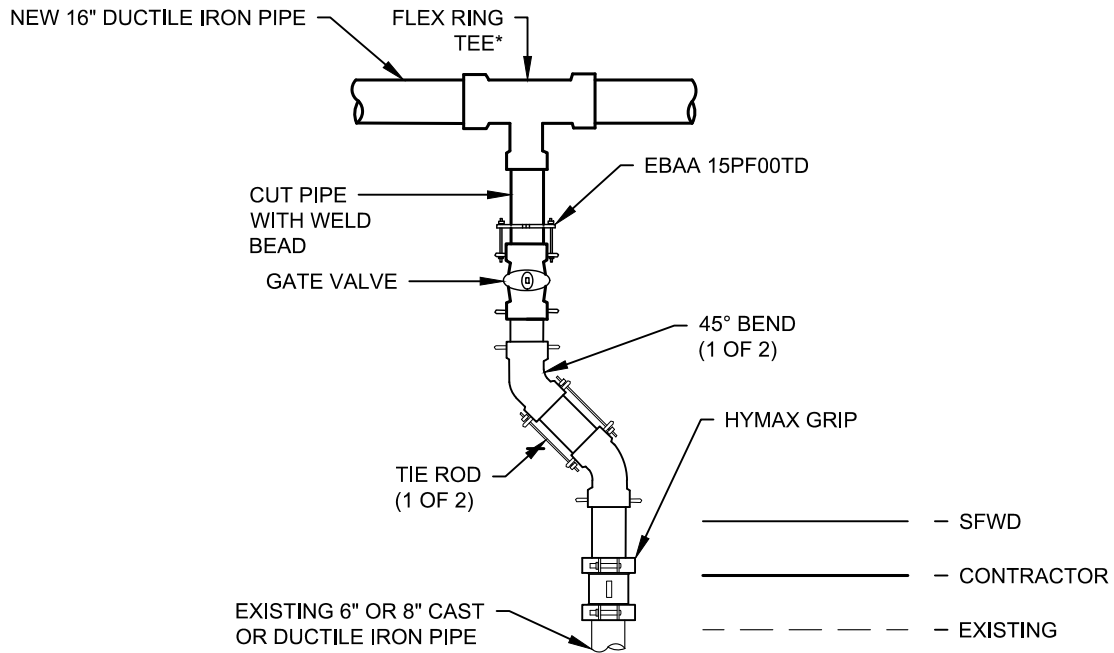


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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS
NEW LATERAL MAIN CONNECTION TO EXISTING BRANCH
FOR NEW 12" MAIN TO EXISTING 4", 6" OR 8" BRANCH

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-126	35



	MATERIALS	ML-16x6	ML-16x8
CONTRACTOR	FLEX RING TEE	16"x6" (1)	16"x8" (1)
	GATE VALVE	6" (1)	8" (1)
	FASTITE GASKET	16"(2), 6"(1)	16"(2), 8"(1)
	FIELD LOK GASKET	6" (2)	8" (2)
	BOX COVER	6" (1)	8" (1)
	STEEL BASE PLATE	6" (1)	8" (1)
	EBAA 15PF00TD	6" (1)	8" (1)
	45° BEND	6" (2)	8" (2)
SFWD	HYMAX GRIP	6" (1)	8" (1)
	FIELD LOK GASKET	6"(4)	8" (4)
	TIE ROD	5/8" (2)	3/4" (2)

NOTES

* OR TR FLEX WITH TYTON GASKET



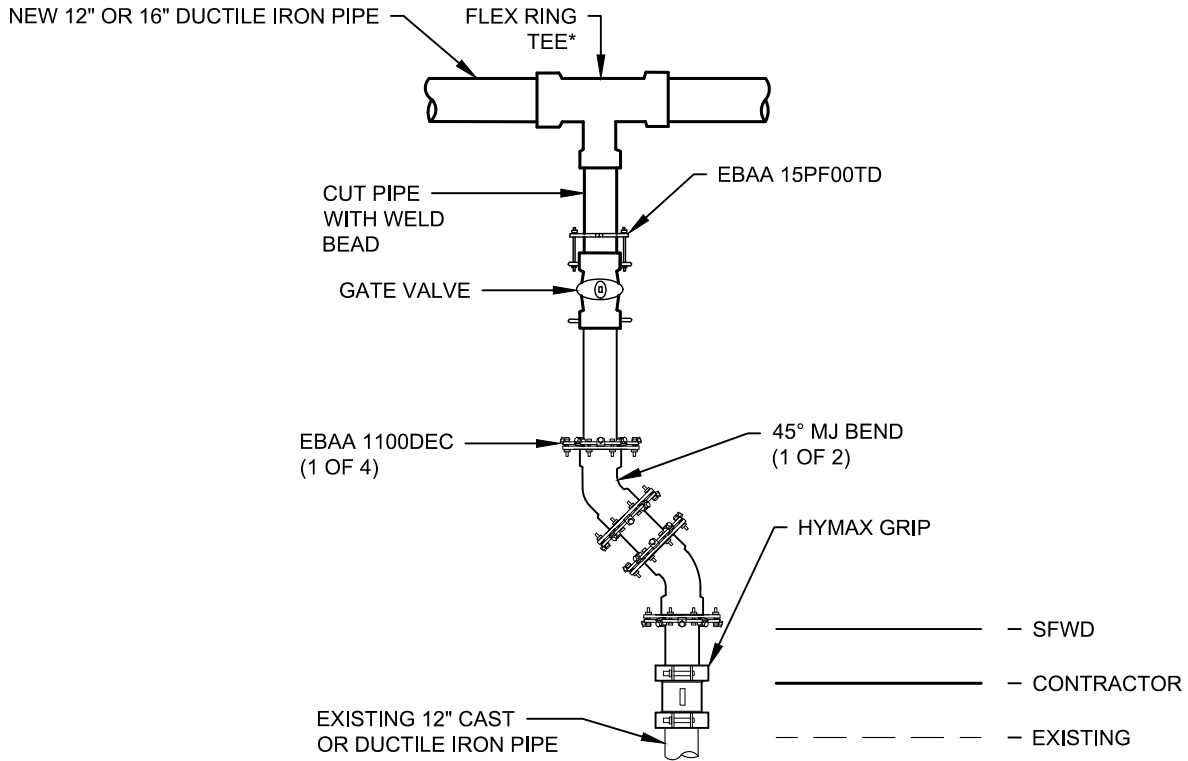
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL MAIN CONNECTION TO EXISTING
BRANCH
FOR NEW 16" MAIN TO EXISTING 6" OR 8" BRANCH**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-127	36



NOTES

* OR TR FLEX WITH TYTON GASKET

	MATERIALS	ML-12x12	ML-16x12
CONTRACTOR	FLEX RING TEE	12"x12" (1)	16"x12" (1)
	GATE VALVE	12" (1)	12" (1)
	FIELD LOK GASKET	12" (2)	12" (2)
	FASTITE GASKET	12" (3)	12" (2), 16" (1)
	BOX COVER	8" (1)	8" (1)
	STEEL BASE PLATE	8" (1)	8" (1)
	EBAA 15PF00TD	12"(1)	12"(1)
SFWD	45° MJ BEND	12" (2)	12" (2)
	HYMAX GRIP	12" (1)	12" (1)
	EBAA 1100DEC	12" (4)	12" (4)



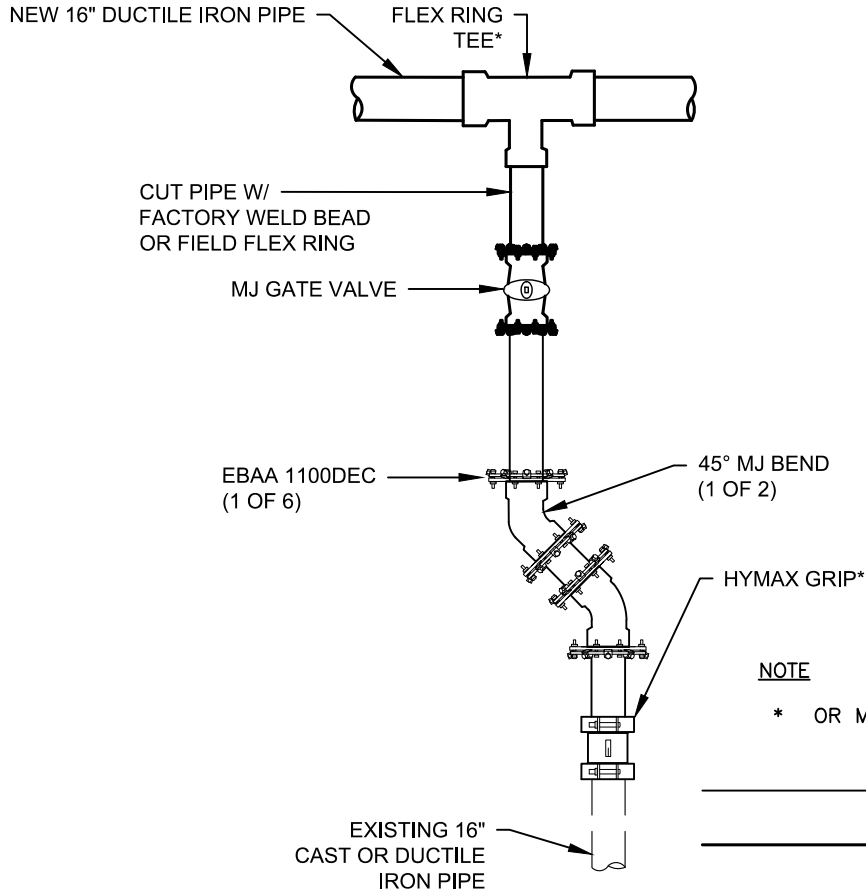
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL MAIN CONNECTION TO EXISTING BRANCH
FOR NEW 12" OR 16" MAIN TO EXISTING 12" BRANCH**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-128	37



NOTES

* OR TR FLEX WITH TYTON GASKET

NOTE

* OR MJ SLEEVE WITH MJ RESTRAINTS

- _____ — SFWD
- _____ — CONTRACTOR
- — EXISTING

	MATERIALS	ML-16x16
SFWD	45° MJ BEND	16" (2)
	HYMAX GRIP	16" (1)
	EBA 1100DEC	16" (4)
CONTRACTOR	FLEX RING TEE	16"x16" (1)
	FIELD FLEX RING	16" (1)
	MJ GATE VALVE	16" (1)
	EBA 1100DEC	16" (2)
	FASTITE GASKET	16" (3)
	BOX COVER	8" (1)
	STEEL BASE PLATE	8" (1)



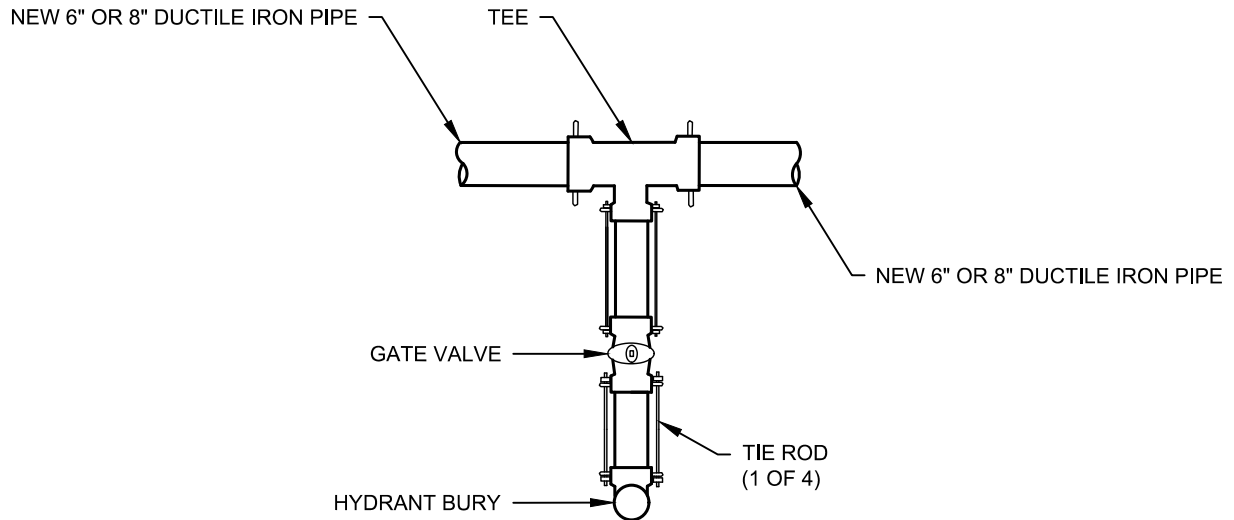
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW LATERAL MAIN CONNECTION TO EXISTING
BRANCH
FOR NEW 16" MAIN TO EXISTING 16" BRANCH**

DATE	JAN 2020	REV.	0	DRAWING NO.	CDD-LP-129	SHEET	38
SCALE	N.T.S.						



_____ — SFWD
 _____ — CONTRACTOR
 - - - - - — EXISTING

	MATERIALS	NH-6	NH-8
CONTRACTOR	TEE	6"x6" (1)	8"x6" (1)
	GATE VALVE	6" (1)	6" (1)
	HYDRANT BURY	6" (1)	6" (1)
	BOX COVER	6" (1)	6" (1)
	STEEL BASE PLATE	6" (1)	6" (1)
	FIELD LOK GASKET	6" (6)	6"(4), 8"(2)
	TIE ROD	5/8" (4)	5/8" (4)



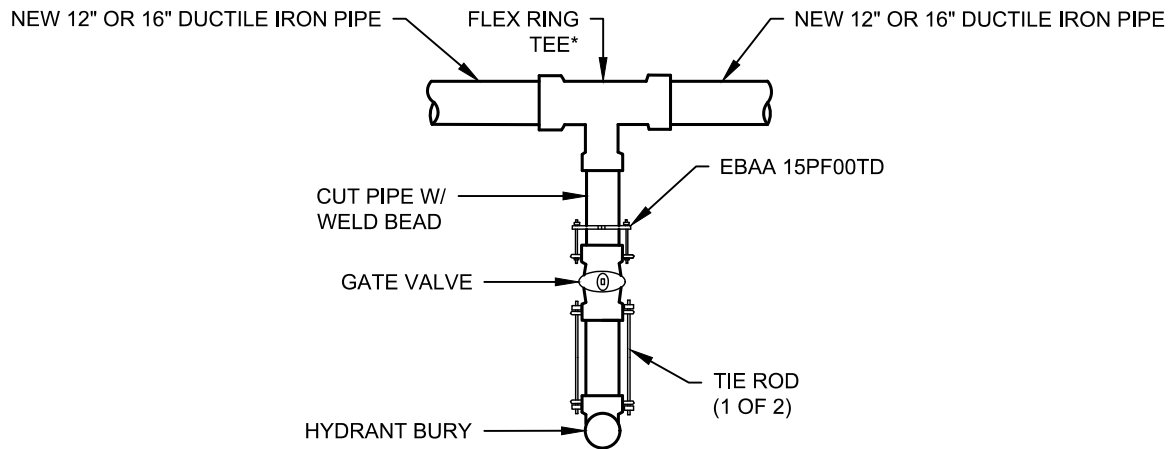
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW HYDRANT CONNECTION
 FOR 6" OR 8" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-130	39



_____ — SFWD
 _____ — CONTRACTOR
 - - - - - — EXISTING

	MATERIALS	NH-12	NH-16
CONTRACTOR	FLEX RING TEE	12"x6" (1)	16"x6" (1)
	GATE VALVE	6" (1)	6" (1)
	HYDRANT BURY	6" (1)	6" (1)
	BOX COVER	6" (1)	6" (1)
	STEEL BASE PLATE	6" (1)	6" (1)
	FASTITE GASKET	12"(2), 6"(1)	16"(2), 6"(1)
	FIELD LOK GASKET	6" (3)	6"(3)
	EBAA 15PF00TD	6" (1)	6" (1)
	TIE ROD	5/8" (2)	5/8" (2)

NOTES

* OR TR FLEX WITH TYTON GASKET



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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**NEW HYDRANT CONNECTION
FOR 12" OR 16" PIPE**

DATE	JAN 2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-131	40

NEW SERVICE INSTALLATION DRAWING DIRECTORY

METER SIZE	LATERAL SIZE	SERVICE TYPE (SEE NOTE)	REFER TO PLAN NUMBER				
			METER / POINT OF CUSTOMER CONNECTION	METER BOX / VAULT	TAP / CONNECTION AT MAIN	MATERIAL	PERMIT, EXCAVATION, INSTALLATION RESPONSIBILITIES
5/8"	1"	STD; IRR; REC;	CDD-LP-201C	CDD-LP-208 CDD-LP-213	CDD-LP-201B	CDD-LP-201A	CDD-LP-200B
3/4"		STD; IRR; REC;					
1"		STD; IRR; REC;					
1 1/2"	2"	STD; IRR; REC; COMB	CDD-LP-202C	CDD-LP-210 CDD-LP-212	CDD-LP-202B	CDD-LP-202A	CDD-LP-200B
2"							
5/8" BYPASS	2"	FIRE	CDD-LP-202D	N/A			
3"	4"	STD; IRR; REC	CDD-LP-203D	CDD-LP-217	CDD-LP-203A CDD-LP-203B	N/A	CDD-LP-200C
3" SPOOL			CDD-LP-203D-SP	CDD-LP-214			
4"			CDD-LP-203E	CDD-LP-214			
4" SPOOL			CDD-LP-203E-SP	CDD-LP-215			
5/8" BYPASS	4"	FIRE	CDD-LP-203G	N/A			
6"	6"	STD; IRR; REC	CDD-LP-203E	CDD-LP-214	CDD-LP-203A CDD-LP-203B	N/A	CDD-LP-200C
6" SPOOL			CDD-LP-203E-SP	CDD-LP-215			
5/8" BYPASS		FIRE	CDD-LP-203G	N/A			
	REDUNDANT FIRE						
5/8" BYPASS	8"	FIRE	CDD-LP-203G	N/A	CDD-LP-203A CDD-LP-203B	N/A	CDD-LP-200C
		REDUNDANT FIRE					

QUESTIONS REGARDING SERVICE LAYOUT AND INSTALLATION

CONTACT CDDENGINEERING@SF WATER.ORG

QUESTIONS REGARDING SERVICE SIZING AND APPROVALS

CONTACT SFPUC CUSTOMER SERVICE 415-551-2900

SERVICE TYPE LEGEND:

- STD = STANDARD SERVICE
- IRR = IRRIGATION SERVICE
- REC = RECYCLED SERVICE
- COMB = COMBINATION SERVICE
- FIRE = FIRE SERVICE



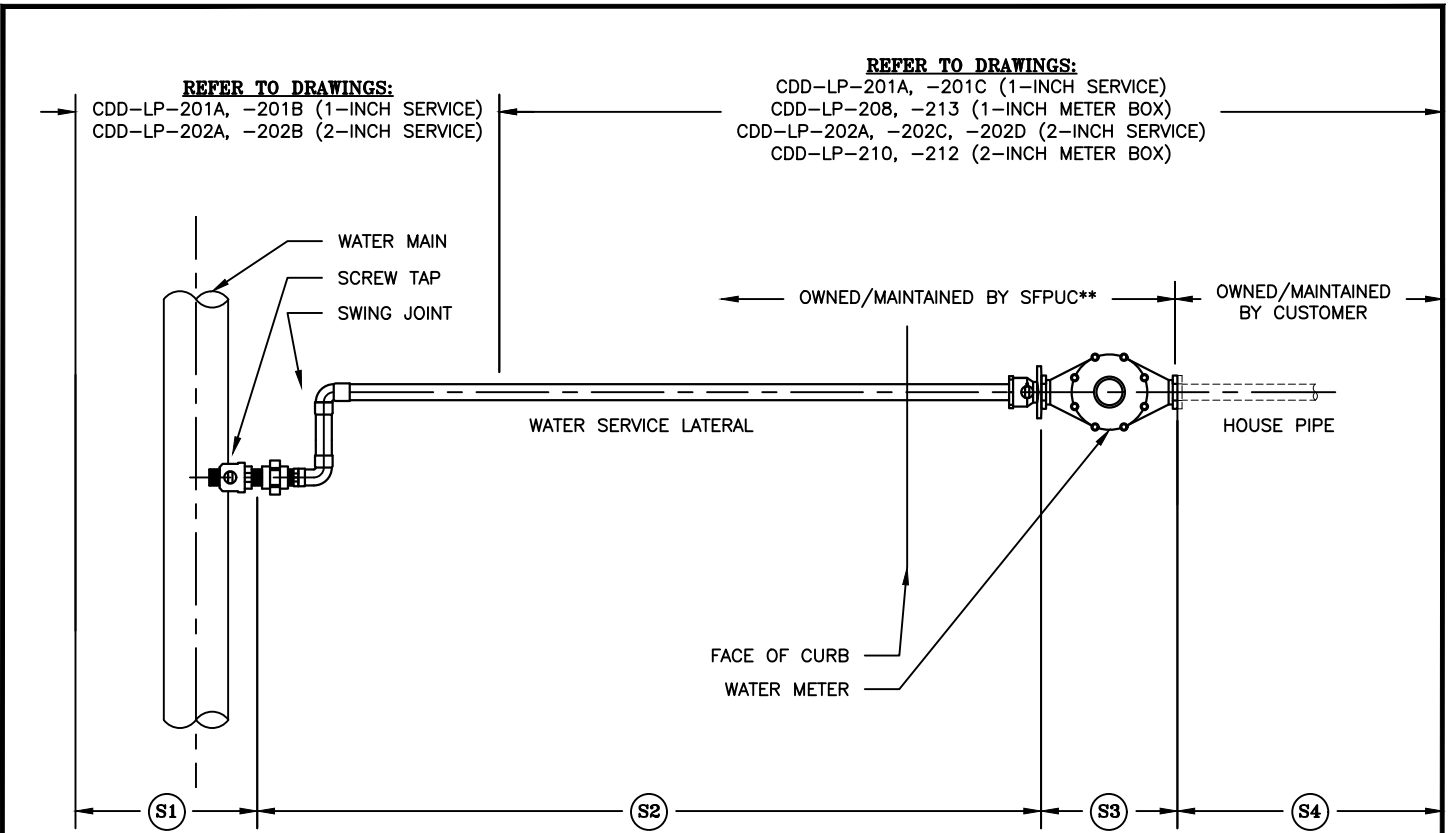
San Francisco
**Water
Power
Sewer**

Services of the San Francisco Public Utilities Commission

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS


**WATER SERVICES
NEW WATER SERVICE DRAWING DIRECTORY**

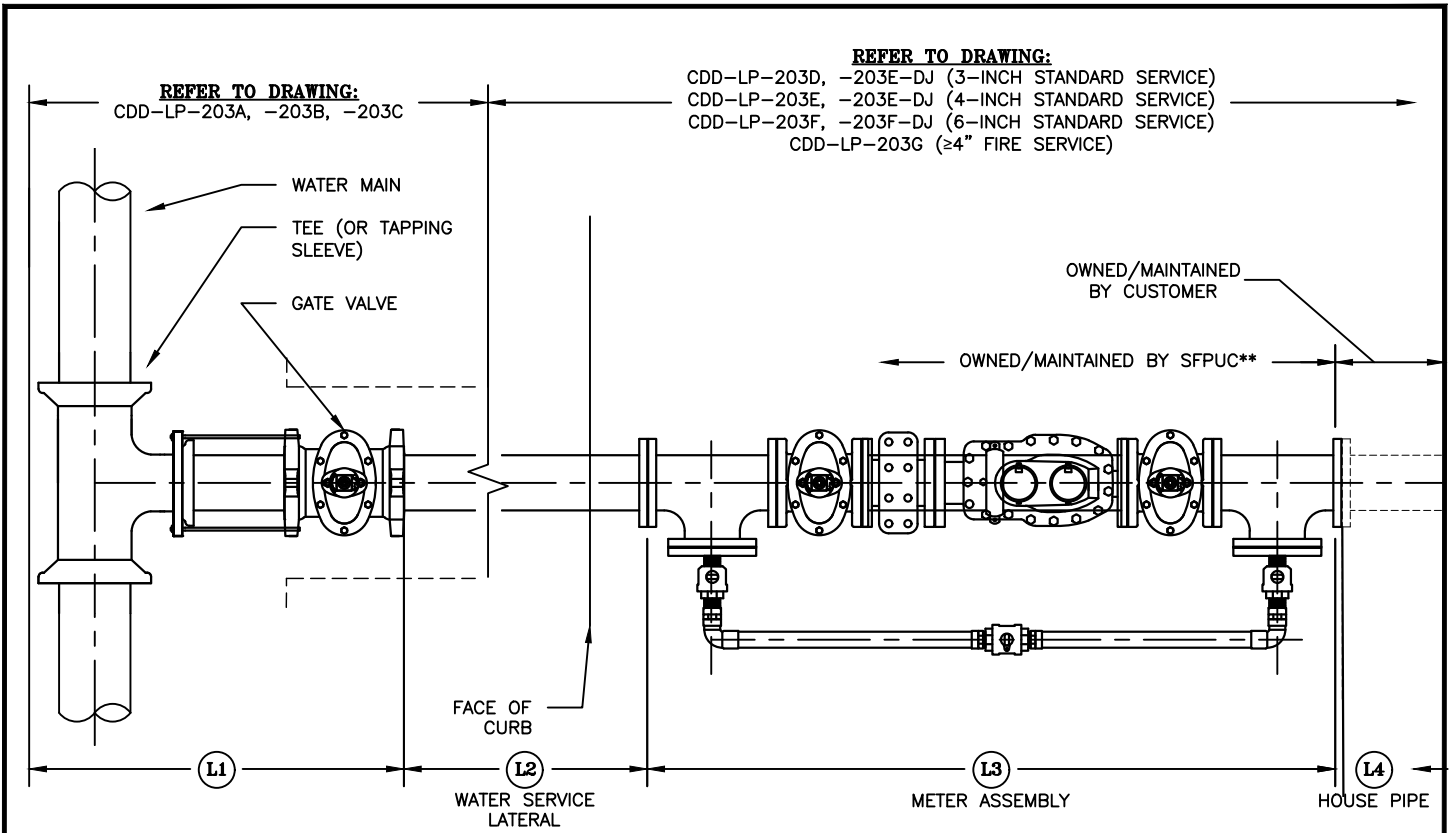
DATE	9/19/2017	REV.	1	DRAWING NO.	CDD-LP-200A	SHEET	41
SCALE	N.T.S.						



INSTALLATION RESPONSIBILITY					
PROJECT TYPE	EXCAVATION PERMITTING & PAVEMENT RESTORATION	S1	S2	S3	S4
NEW SERVICE ON EXISTING SFPUC MAIN (APPLIES TO MOST CUSTOMERS)	BY SFPUC STAFF AT COST TO CUSTOMER OR BY CUSTOMER'S CONTRACTOR	SFPUC STAFF INSTALL SCREW TAP	SFPUC STAFF INSTALL SWING JOINT AND SERVICE LATERAL	SFPUC STAFF INSTALL WATER METER AND METER BOX	CUSTOMER'S CONTRACTOR INSTALLS "HOUSE PIPE" AND CONNECTS TO SFPUC WATER METER
SERVICE RETAP/RENEWAL AS PART OF SFPUC MAIN REPLACEMENT PROGRAM	BY SFPUC CONTRACTOR	SFPUC CONTRACTOR INSTALL NEW WATER MAIN AND SCREW TAP	SFPUC STAFF CONNECT EXISTING SERVICE OR RENEWED SERVICE TO NEW SCREW TAP	IF REQUIRED SFPUC STAFF INSTALL WATER METER AND SFPUC CONTRACTOR INSTALLS METER BOX	IF REQUIRED SFPUC STAFF CONNECT EXISTING HOUSE PIPE TO NEW SFPUC WATER METER
NEW SERVICE ON NEW WATER MAIN NOT OWNED/OPERATED BY SFPUC (REDEVELOPMENT PROJECTS)	BY DEVELOPMENT CONTRACTOR	DEVELOPMENT CONTRACTOR INSTALLS NEW WATER MAIN AND SCREW TAP	DEVELOPMENT CONTRACTOR INSTALLS NEW SWING JOINT AND SERVICE LATERAL	SFPUC STAFF INSTALL SPOOL PIECE AND METER SET. DEVELOPMENT CONTRACTOR INSTALLS METER BOX	DEVELOPMENT CONTRACTOR OR CUSTOMER INSTALLS "HOUSE PIPE" FOLLOWING INSTALLATION OF SPOOL PIECE OR WATER METER BY SFPUC


**BASEMENT INSTALLATIONS EXCEPTED. SEE CDD-LP-220A AND CDD-LP-220B FOR REQUIREMENTS, OWNERSHIP AND RESPONSIBILITIES FOR BASEMENT WATER METER INSTALLATIONS

 <p>San Francisco Water Power Sewer</p> <p>Services of the San Francisco Public Utilities Commission</p>	WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS WATER SERVICES EXCAVATION, PERMITTING AND INSTALLATION RESPONSIBILITIES FOR 5/8- THRU 2- INCH WATER METERS				
	DATE	10/1/2016	REV.	DRAWING NO.	SHEET
	SCALE	N.T.S.	0	CDD-LP-200B	42



INSTALLATION RESPONSIBILITY					
PROJECT TYPE	SFPUC SERVICE LATERAL EXCAVATION PERMITTING & PAVEMENT RESTORATION	(L1)	(L2)	(L3)	(L4)
NEW SERVICE ON EXISTING SFPUC WATER MAIN (APPLIES TO MOST CUSTOMERS)	BY SFPUC STAFF AT COST TO CUSTOMER (FLAT RATE) OR BY CUSTOMER'S CONTRACTOR	SFPUC STAFF INSTALL TAPPING SLEEVE AND GATE VALVE OR TEE AND GATE VALVE	SFPUC STAFF INSTALL NEW SERVICE LATERAL	SFPUC STAFF INSTALL WATER METER AND METER VAULT	CUSTOMER'S CONTRACTOR EXCAVATES FOR AND INSTALLS "HOUSE PIPE" AND CONNECTS TO SFPUC WATER METER
SERVICE RETAP/RENEWAL AS PART OF SFPUC WATER MAIN REPLACEMENT PROGRAM	BY SFPUC CONTRACTOR	SFPUC CONTRACTOR INSTALL NEW WATER MAIN, TEE AND GATE VALVE	SFPUC STAFF CONNECT EXISTING SERVICE OR RENEWED SERVICE TO NEW GATE VALVE	IF REQUIRED, SFPUC STAFF INSTALL WATER METER AND SFPUC CONTRACTOR INSTALLS METER VAULT	IF REQUIRED, SFPUC STAFF CONNECT EXISTING HOUSE PIPE TO NEW SFPUC WATER METER
NEW SERVICE ON NEW WATER MAIN NOT OWNED/OPERATED BY SFPUC (REDEVELOPMENT PROJECTS)	BY DEVELOPMENT CONTRACTOR	DEVELOPMENT CONTRACTOR INSTALLS NEW WATER MAIN, TEE AND GATE VALVE	DEVELOPMENT CONTRACTOR INSTALLS NEW SERVICE LATERAL	SFPUC STAFF INSTALL METER ASSEMBLY OR SPOOL PIECE ASSEMBLY. DEVELOPMENT CONTRACTOR INSTALLS METER VAULT	DEVELOPMENT CONTRACTOR OR CUSTOMER INSTALLS "HOUSE PIPE" FOLLOWING INSTALLATION OF METER ASSEMBLY OR SPOOL PIECE ASSEMBLY BY SFPUC.

**BASEMENT INSTALLATIONS EXCEPTED. SEE CDD-LP-220A AND CDD-LP-220B FOR REQUIREMENTS, OWNERSHIP AND RESPONSIBILITIES FOR BASEMENT WATER METER INSTALLATIONS

 <p>San Francisco Water Power Sewer</p> <p>Services of the San Francisco Public Utilities Commission</p>	WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS WATER SERVICES EXCAVATION, PERMITTING, AND INSTALLATION RESPONSIBILITIES FOR 3- THRU 8- INCH WATER METERS				
	DATE	10/1/2016	REV.	DRAWING NO.	SHEET
	SCALE	N.T.S.	0	CDD-LP-200C	43

1" SERVICE COMPONENTS			
LABEL*	CDD COMMODITY CODE	DESC	APPROVED PART(S)**
A	048-20-4312	1" SCREW TAP VALVE, MIP X MIP	MUELLER B-20013N-1"
	047-34-0501; 047-34-0503; 047-34-0505	1" SADDLE, BRONZE STRAPS (USE ONLY FOR WATER MAINS LESS THAN OR EQUAL TO 8-INCHES IN DIAMETER)	
	047-35-2610	1" DIELECTRIC UNION, FIP X FIP	GL INDUSTRIES GL-3000NL-FIPT
C	<u>1" BRASS SWING JOINT ASSEMBLY</u> USE PARTS AS FIELD CONDITIONS WARRANT - THREE (3) ELBOWS ARE REQUIRED		
	047-31-2051	1" 90° BRASS ELBOW	MERIT XNL101-16
	047-31-2071	1" 90° BRASS ELBOW, STREET	MERIT XNL103-16
	047-32-3963 THRU -3969	1" BRASS NIPPLE, M.I.P. X M.I.P. 1" THRU 6"	MERIT 2016-200 THRU 2016-500
D (ALT. A)	047-30-8905	1" COUPLING, IPS FLARE	
D (ALT. B)	047-30-0178	1" ADAPTER, COPPER X M.I.P.	
E	047-10-8684	1" SOFT COPPER TUBE, TYPE K	
F	<u>BURIED LINE VALVE AT LIP OF GUTTER</u> REQUIRED ONLY WHEN MAIN IS ON FAR SIDE OF STREET WITH RESPECT TO METER		
	047-30-8907	1" COUPLING, IPS FLARE	
	047-30-0178	ADAPTER, COPPER X M.I.P.	
	048-20-4312	1" VALVE, MIP X MIP	
G	048-20-4288	1" ANGLE COCK, IPS FLARE	
H	<u>WATER METER TO BE SIZED BY SFPUC - CUSTOMER SERVICE BUREAU</u> <u>INSTALLED FOR DOMESTIC, IRRIGATION, AND RECYCLED WATER SERVICES</u>		
	066-81-1812; 047-30-0040	5/8" WATER METER & 5/8" X 3/4" COUPLING	BADGER RECORDALL DISC, MODEL 25
	066-81-1814; 047-30-8889	WATER METER & COUPLING, 3/4"	BADGER RECORDALL DISC, MODEL 35
	066-81-1816; 047-30-8901	WATER METER & COUPLING, 1"	BADGER RECORDALL DISC, MODEL 55
I	056-25-0925; 056-25-1600	1" METER BOX & COVER	SEE PLAN CDD-LP-206 AND CDD-LP-213 ARMORCAST P6-11921X12-SFWD

* SEE PLAN CDD-LP-201B AND CDD-LP-201C FOR PLAN AND PROFILE OF WATER SERVICE LATERAL

** APPROVED PART(S) AS LISTED IN THE CURRENT CITY AND COUNTY OF SAN FRANCISCO MATERIAL PROCUREMENT CONTRACTS

SUPERSEDES A-1240-2B



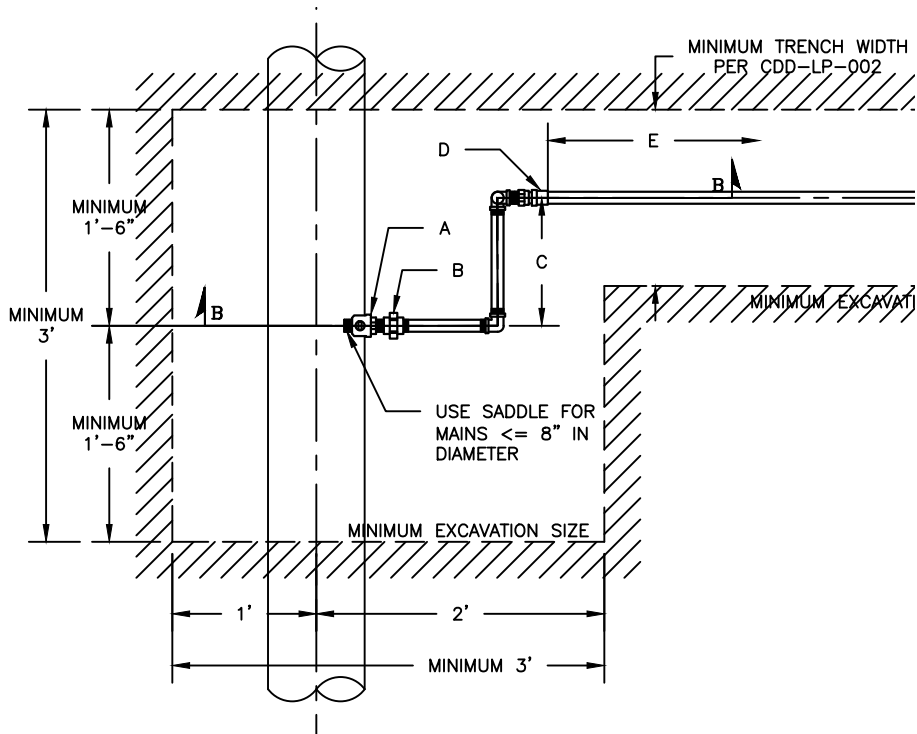
San Francisco
**Water
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Sewer**

Services of the San Francisco Public Utilities Commission

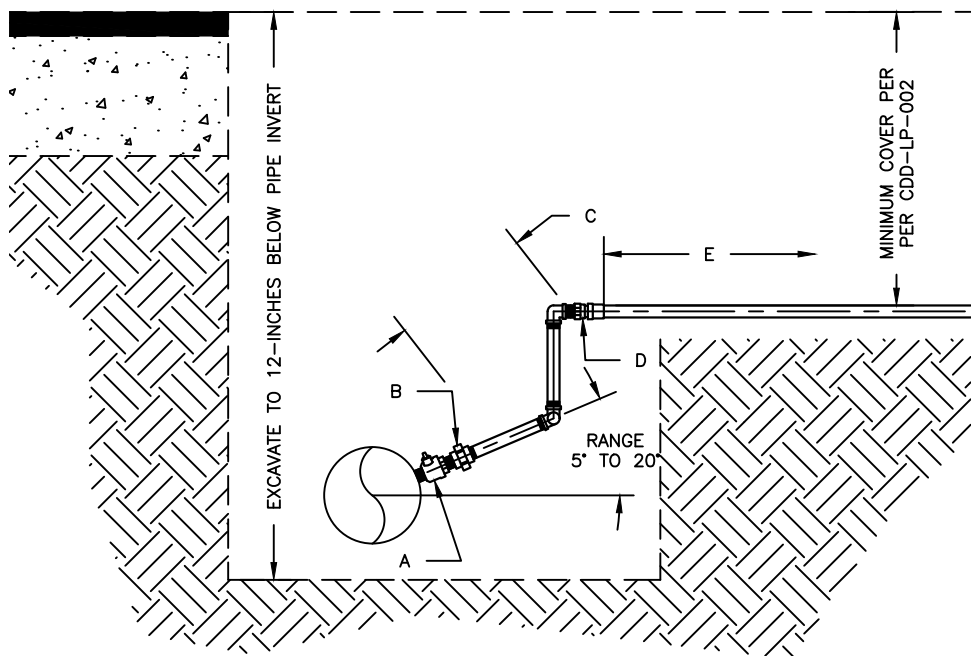
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
MATERIALS FOR 1-INCH SERVICE
CONNECTIONS

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-201A	SHEET	44
SCALE	N.T.S.						



A PLAN VIEW OF 1" SERVICE TAP
N.T.S.



B SECTION VIEW OF 1" SERVICE TAP
N.T.S.

NOTES:

1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.
4. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
5. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
6. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS"
7. FOR NEW SERVICE INSTALLATIONS ON EXISTING WATER MAINS, SADDLE SHALL BE USED FOR TAP REGARDLESS OF MAIN SIZE OR SERVICE SIZE.

SEE SHEET CDD-LP-202C FOR CONTINUATION AT CONNECTION TO CUSTOMER PROPERTY

SUPERSEDES A-1240-2B

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

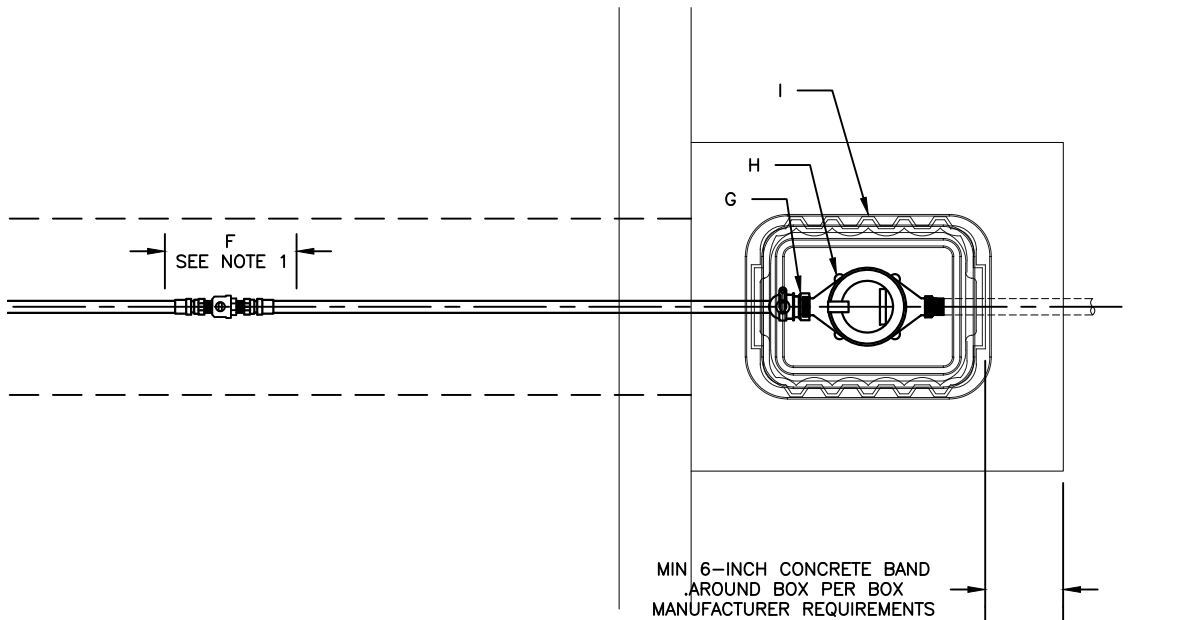
WATER SERVICES
1-INCH SERVICE LATERAL CONNECTION AT MAIN



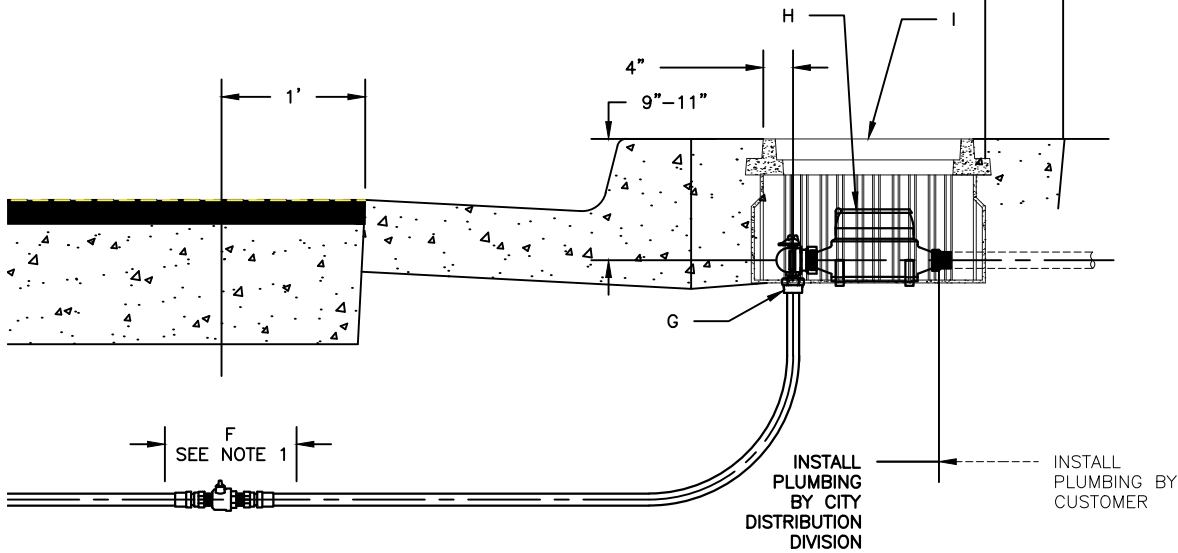
San Francisco
Water Power Sewer

Services of the San Francisco Public Utilities Commission

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-201B	SHEET	45
SCALE	N.T.S.						



A PLAN VIEW OF 1" SERVICE LATERAL AT METER
 - N.T.S.



B SECTION VIEW OF 1" SERVICE LATERAL AT METER
 - N.T.S.

NOTES:

1. FOR LONG SERVICE LATERALS ONLY (MAIN ON FAR SIDE OF STREET WITH RESPECT TO CUSTOMER), INSTALL BURIED LINE VALVE JUST OUTSIDE OF LIP OF GUTTER.

2. CUSTOMERS REQUIRING METER SET INSTALLATIONS SHALL LEAVE ENOUGH EXCAVATED SPACE IN SIDEWALK AREA TO ALLOW FOR MEASUREMENT OF METER SET ASSEMBLY AND TO PLACE THE METER ASSEMBLY IN THE GROUND WITH APPROPRIATELY-SIZED METER BOX.

SUPERSEDES A-1240-2B

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
 1-INCH SERVICE LATERAL CONNECTION AT METER



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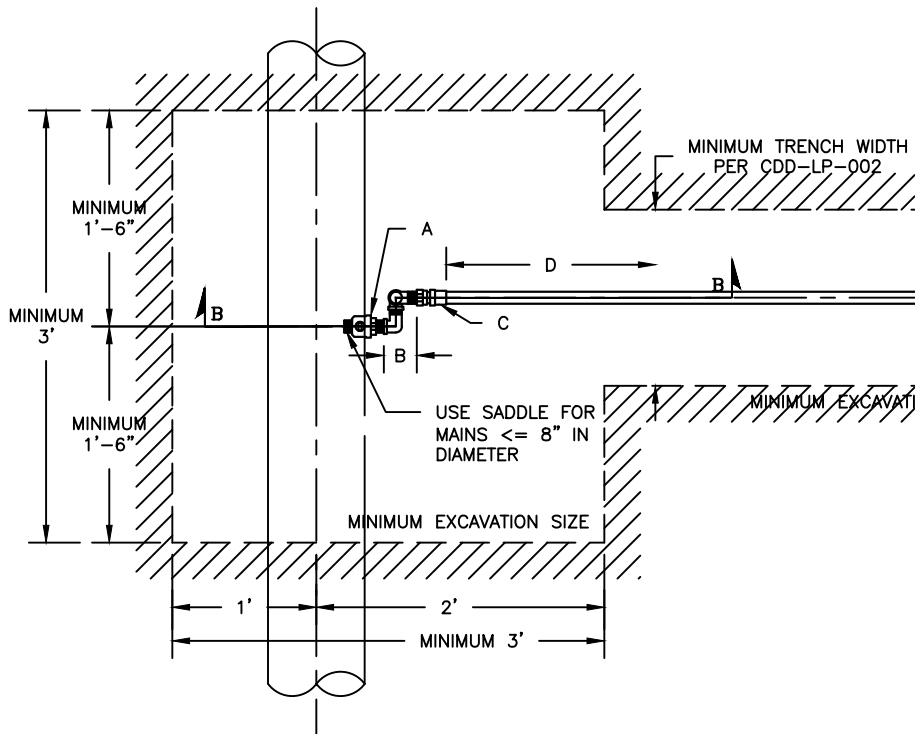
DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-201C	46

1" SERVICE COMPONENTS			
LABEL*	CDD COMMODITY CODE	DESC	APPROVED PART(S)**
A	048-20-4312	1" SCREW TAP VALVE, MIP X MIP	MUELLER B-20013N-1"
	047-34-0501; 047-34-0503; 047-34-0505	1" SADDLE, BRONZE STRAPS (USE ONLY FOR WATER MAINS LESS THAN OR EQUAL TO 8-INCHES IN DIAMETER)	
	1" BRASS SWING JOINT ASSEMBLY USE PARTS AS FIELD CONDITIONS WARRANT - THREE (3) ELBOWS ARE REQUIRED		
B	047-31-2051	1" 90° BRASS ELBOW	MERIT XNL101-16
	047-31-2071	1" 90° BRASS ELBOW, STREET	MERIT XNL103-16
	047-32-3963 THRU -3969	1" BRASS NIPPLE, M.I.P. X M.I.P. 1" THRU 6"	MERIT 2016-200 THRU 2016-500
C	047-30-8907 047-32-0362	1" ADAPTER, COMP X F.I.P. 1" STAINLESS STEEL INSERT	MUELLER H-15451N MUELLER 504835
D	047-30-8217	1" PEXA	MUNICIPEX
E	048-20-4326 047-32-0362	1" ANGLE COCK, COMP 1" STAINLESS STEEL INSERT	MUELLER B-24258N MUELLER 504835
F	<u>WATER METER TO BE SIZED BY SFPUC - CUSTOMER SERVICE BUREAU INSTALLED FOR DOMESTIC, IRRIGATION, AND RECYCLED WATER SERVICES</u>		
	066-81-1812; 047-30-0040	5/8" WATER METER & 5/8" X 3/4" COUPLING	BADGER RECORDALL DISC, MODEL 25
	066-81-1814; 047-30-8889	WATER METER & COUPLING, 3/4"	BADGER RECORDALL DISC, MODEL 35
	066-81-1816; 047-30-8901	WATER METER & COUPLING, 1"	BADGER RECORDALL DISC, MODEL 55
G	056-25-0925; 056-25-1600	1" METER BOX & COVER	SEE PLAN CDD-LP-206 AND CDD-LP-213 ARMORCAST P6-11921X12-SFWD

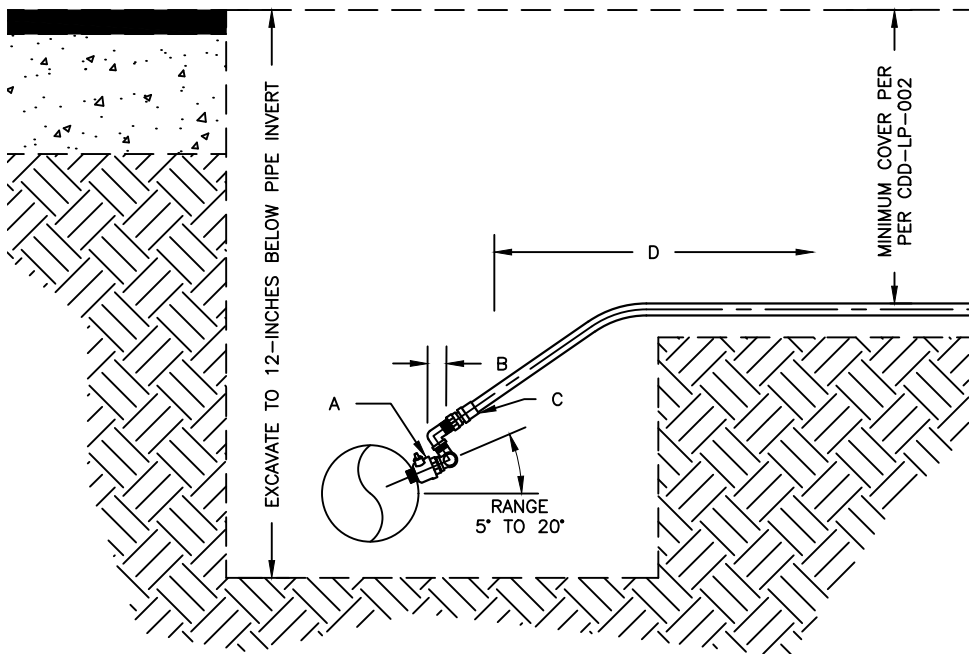
* SEE PLAN CDD-LP-201B-1 AND CDD-LP-201C-1 FOR PLAN AND PROFILE OF WATER SERVICE LATERAL

** APPROVED PART(S) AS LISTED IN THE CURRENT CITY AND COUNTY OF SAN FRANCISCO MATERIAL PROCUREMENT CONTRACTS

 <p>San Francisco Water Power Sewer</p> <p>Services of the San Francisco Public Utilities Commission</p>	WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS		
	WATER SERVICES MATERIALS FOR 1-INCH PEXA SERVICE CONNECTIONS		
	DATE	01/17/2020	REV.
SCALE	N.T.S.		CDD-LP-201D
			SHEET 47



A PLAN VIEW OF 1" SERVICE TAP
N.T.S.



B SECTION VIEW OF 1" SERVICE TAP
N.T.S.

NOTES:

1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.
4. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
5. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
6. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS" FOR NEW SERVICE INSTALLATIONS ON EXISTING WATER MAINS, SADDLE SHALL BE USED FOR TAP REGARDLESS OF MAIN SIZE OR SERVICE SIZE.
- 7.

SEE SHEET CDD-LP-202C FOR CONTINUATION AT CONNECTION TO CUSTOMER PROPERTY

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

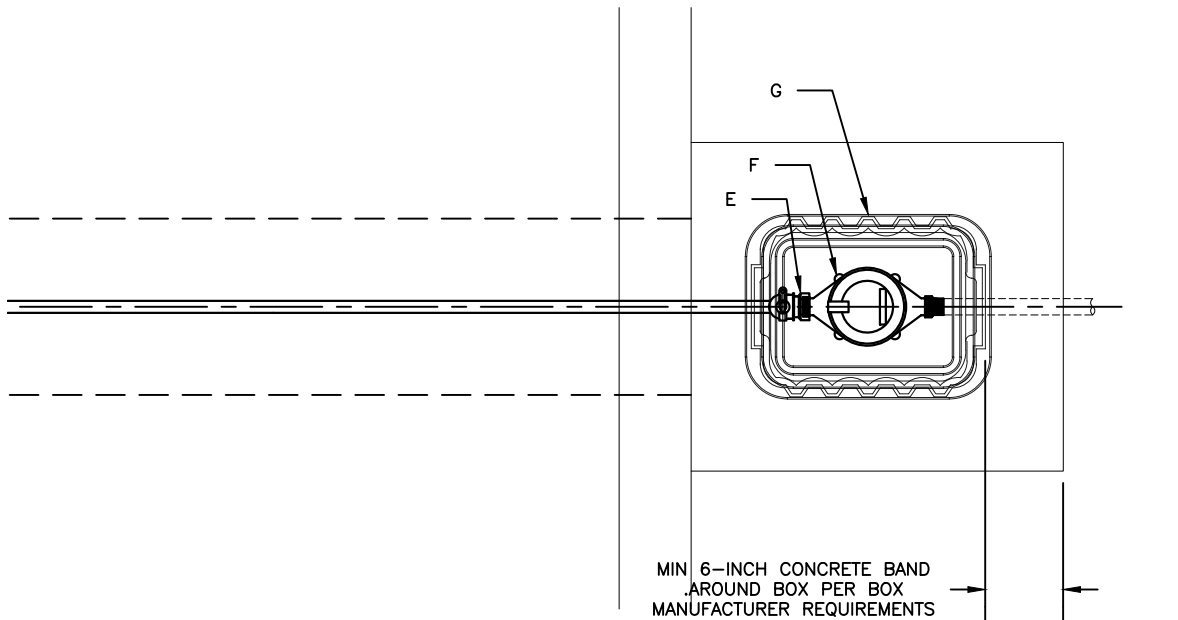
WATER SERVICES
1-INCH PEVA SERVICE LATERAL
CONNECTION AT MAIN



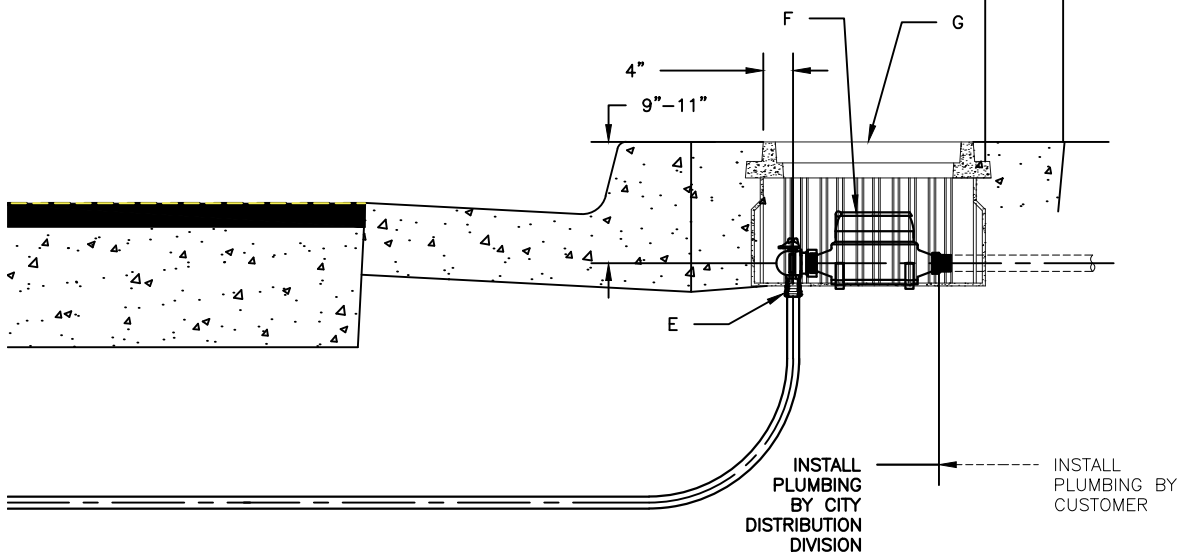
San Francisco
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Sewer**

Services of the San Francisco Public Utilities Commission

DATE	01/17/2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.		CDD-LP-201E	48



A PLAN VIEW OF 1" SERVICE LATERAL AT METER
 - N.T.S.



B SECTION VIEW OF 1" SERVICE LATERAL AT METER
 - N.T.S.

NOTES:

1. FOR LONG SERVICE LATERALS ONLY (MAIN ON FAR SIDE OF STREET WITH RESPECT TO CUSTOMER), INSTALL BURIED LINE VALVE JUST OUTSIDE OF LIP OF GUTTER.

2. CUSTOMERS REQUIRING METER SET INSTALLATIONS SHALL LEAVE ENOUGH EXCAVATED SPACE IN SIDEWALK AREA TO ALLOW FOR MEASUREMENT OF METER SET ASSEMBLY AND TO PLACE THE METER ASSEMBLY IN THE GROUND WITH APPROPRIATELY-SIZED METER BOX.



San Francisco
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Services of the San Francisco Public Utilities Commission

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS


WATER SERVICES
 1-INCH PEXA SERVICE LATERAL
 CONNECTION AT METER

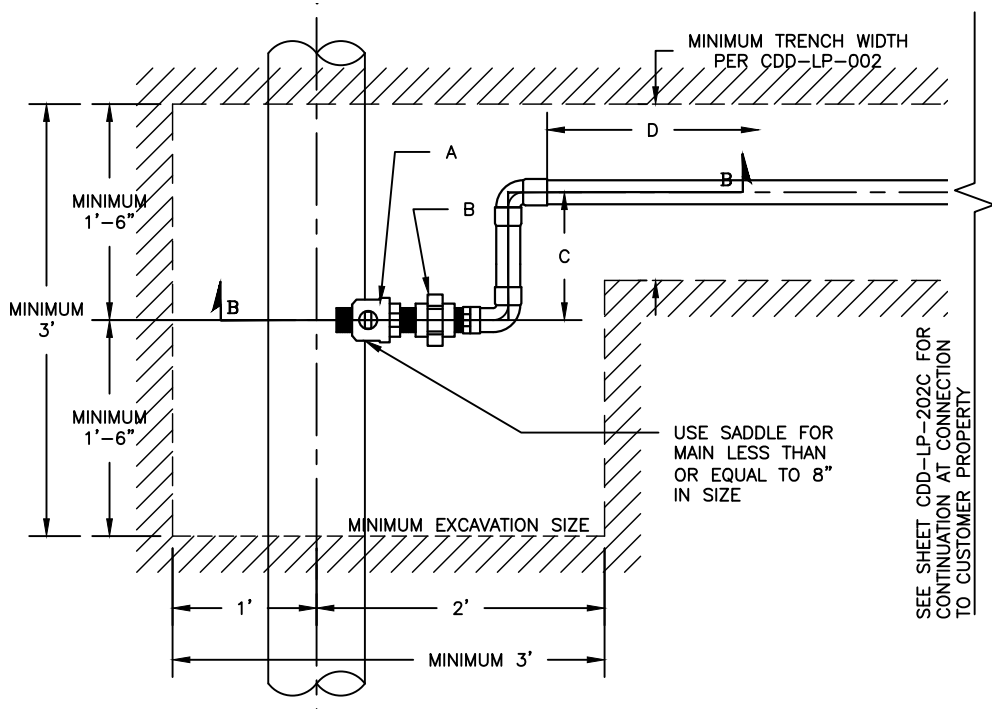
DATE	01/17/2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.		CDD-LP-201F	49

2" SERVICE COMPONENTS			
LABEL*	CDD COMMODITY CODE	DESC	APPROVED PART(S)**
A	048-20-4304	2" SCREW TAP VALVE, MIP X MIP	MUELLER B2969N-10-2"
	047-34-0502; 047-34-0504; 047-34-0506	2" SADDLE, BRONZE STRAPS (USE ONLY FOR WATER MAINS LESS THAN OR EQUAL TO 8-INCHES IN DIAMETER)	
	047-35-2612	2" DIELECTRIC UNION, FIP X FIP	GL INDUSTRIES GL-3000NL-FIPT
C	<u>2" COPPER SWING JOINT ASSEMBLY</u> USE PARTS AS FIELD CONDITIONS WARRANT - THREE (3) ELBOWS ARE REQUIRED		
	047-30-0170	2" COPPER ADAPTER X FIP	
	047-30-0172	2" COPPER ADAPTER X MIP	
	047-31-1917	2" 90° BRASS ELBOW	MERIT XNL101-32
	047-31-1920	2" 90° BRASS STREET ELBOW	MERIT XNL160-32
	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
D	047-10-9102	2" HARD COPPER (TYPE K)	
E	<u>BURIED LINE VALVE AT LIP OF GUTTER</u> REQUIRED ONLY WHEN MAIN IS ON FAR SIDE OF STREET WITH RESPECT TO METER		
	047-30-0170	2" COPPER ADAPTER X FIP	
	048-20-4304	2" LINE VALVE, MIP X MIP	MUELLER B2969N-10-2"
F	047-31-2080	2" 90° BRASS ELBOW	MERIT XNL101-32
G	047-30-0172	2" COPPER ADAPTER X MIP	
H	048-20-4275	2" ANGLE COCK, FIP X FLG	MUELLER B-24286N-2"
I	<u>WATER METER TO BE SIZED BY SFPUC - CUSTOMER SERVICE BUREAU</u> <u>INSTALLED FOR DOMESTIC, IRRIGATION, AND RECYCLED WATER SERVICES</u>		
	066-81-1818	WATER METER, 1 1/2"	BADGER RECORDALL DISC, M120
	066-81-1820	WATER METER, 2"	BADGER RECORDALL DISC, M170
J	<u>CHECK VALVE</u> <u>INSTALLED FOR COMBINATION WATER SERVICES ONLY</u>		
	047-31-8232	2" ANSI/ASME 16.5 150# FLANGE X FIP THREADS	JONES E-129-2"
	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
	048-22-1904	2" CHECK VALVE, FIP X FIP	MILWAUKEE 509 - 2"
K	<u>DEDICATED FIRE SERVICE VALVE</u>		
	047-31-8232	2" ANSI/ASME 16.5 150# FLANGE X FIP THREADS	
	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
	048-20-4304	2" LINE VALVE, MIP X MIP	MUELLER B-2969-10-2"
L	056-25-0930	2" METER BOX & COVER	SEE PLAN CDD-LP-210 AND CDD-LP-212 ARMORCAST P6-1534X12-SFWD

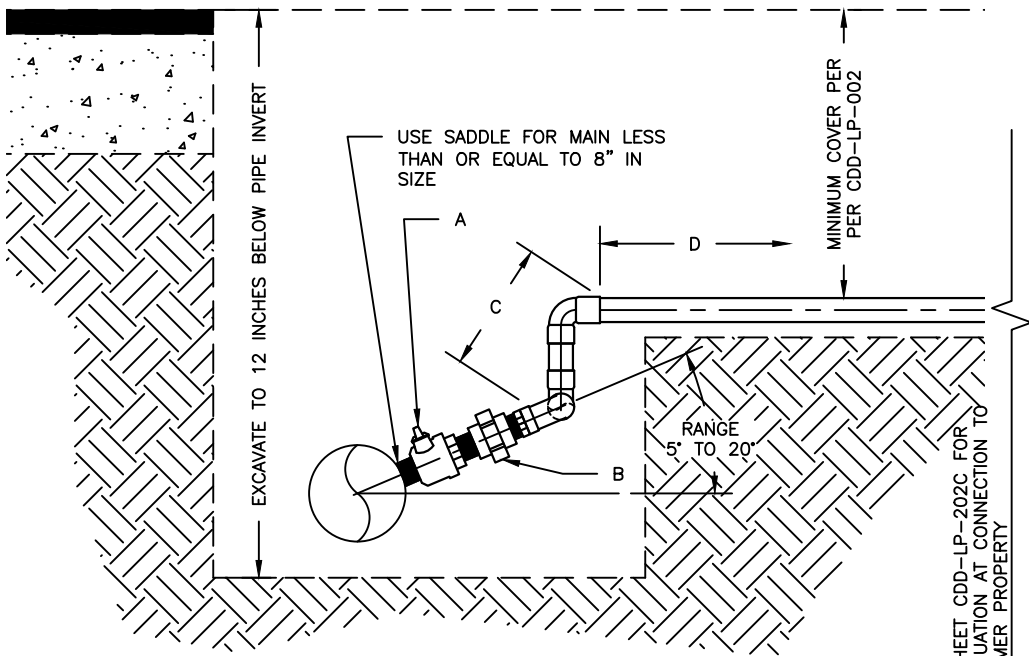
* SEE PLAN CDD-LP-202B AND CDD-LP-202C FOR PLAN AND PROFILE OF WATER SERVICE LATERAL
 ** APPROVED PART(S) AS LISTED IN THE CURRENT CITY AND COUNTY OF SAN FRANCISCO MATERIAL
 PROCUREMENT CONTRACTS

SUPERSEDES A-1240-2B

 <p>San Francisco Water Power Sewer</p> <p><small>Services of the San Francisco Public Utilities Commission</small></p>	WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS		
	WATER SERVICES MATERIALS FOR 2-INCH SERVICE CONNECTIONS		
	DATE	7/21/2017	REV.
SCALE	N.T.S.	1	CDD-LP-202A
			SHEET 50



A PLAN VIEW OF 2" SERVICE TAP
N.T.S.



B SECTIONAL VIEW OF 2" SERVICE TAP
N.T.S.

- NOTES:**
1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
 2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
 3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.
 4. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
 5. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
 6. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS" FOR NEW SERVICE INSTALLATIONS ON EXISTING WATER MAINS, SADDLE SHALL BE USED FOR TAP REGARDLESS OF MAIN SIZE OR SERVICE SIZE.
 - 7.

SEE SHEET CDD-LP-202C FOR CONTINUATION AT CONNECTION TO CUSTOMER PROPERTY

SUPERSEDES A-1240-2B



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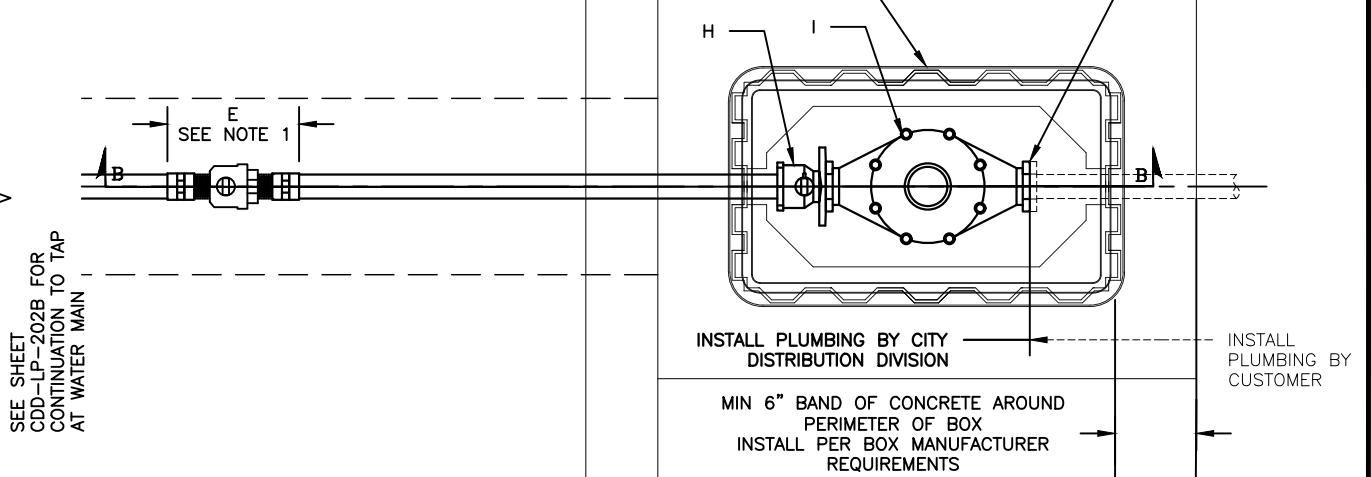
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

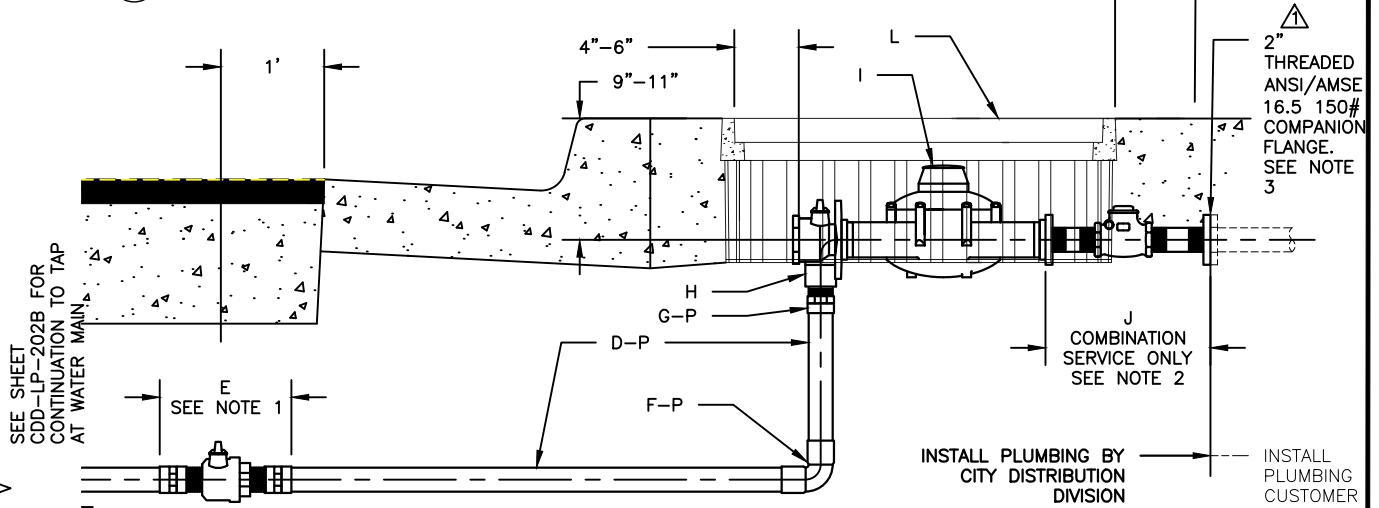
**WATER SERVICES
2-INCH SERVICE LATERAL CONNECTION AT
MAIN**

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-202B	SHEET	51
SCALE	N.T.S.						

END SFPUC SERVICE LATERAL WITH METER FLANGE FOR DOMESTIC SERVICES, FOR COMBINATION AND FIRE SERVICES, SEE NOTES 1, 2 AND 3 AND SECTION VIEW



(A) PLAN VIEW OF 2" POINT OF CONNECTION AT METER
N.T.S.



(B) SECTION VIEW OF 2" POINT OF CONNECTION AT METER
N.T.S.

NOTES:

1. FOR LONG SERVICE LATERALS ONLY (MAIN ON FAR SIDE OF STREET WITH RESPECT TO CUSTOMER), INSTALL BURIED LINE VALVE JUST OUTSIDE OF LIP OF GUTTER.

2. FOR 2-INCH COMBINATION DOMESTIC/FIRE SERVICES, A CHECK VALVE IS INSTALLED DOWNSTREAM OF THE WATER METER.

3. CUSTOMER FLANGE SHALL NOT BE INSTALLED UNTIL AFTER CITY LATERAL IS INSTALLED UP TO CITY FLANGE.

4. CUSTOMERS REQUIRING METER SET INSTALLATIONS SHALL LEAVE ENOUGH EXCAVATED SPACE IN SIDEWALK AREA TO ALLOW FOR MEASUREMENT OF METER SET ASSEMBLY AND TO PLACE THE METER ASSEMBLY IN THE GROUND WITH APPROPRIATELY-SIZED METER BOX.

SUPERSEDES A-1240-2B



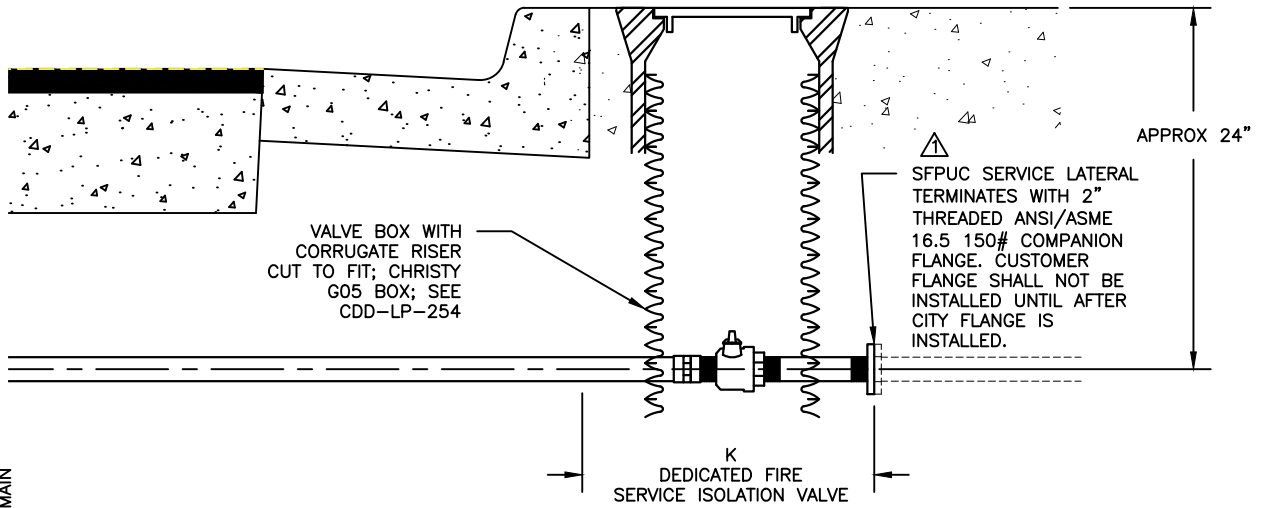
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
2-INCH SERVICE LATERAL CONNECTION AT METER
(DOMESTIC AND COMBINATION SERVICE)

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-202C	52



SEE SHEET CDD-LP-202B FOR CONTINUATION TO TAP AT WATER MAIN

(A) SECTION VIEW OF 2" FIRE SERVICE CUSTOMER POINT OF CONNECTION
N.T.S.

SUPERCEDES A-1240-2B

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
2-INCH SERVICE CONNECTION AT CURB
(DEDICATED FIRE SERVICE)



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DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-202D	53

2" SERVICE COMPONENTS			
LABEL*	CDD COMMODITY CODE	DESC	APPROVED PART(S)**
A	048-20-4304	2" SCREW TAP VALVE, MIP X MIP	MUELLER B2969N-10-2"
	047-34-0502; 047-34-0504; 047-34-0506	2" SADDLE, BRONZE STRAPS (USE ONLY FOR WATER MAINS LESS THAN OR EQUAL TO 8-INCHES IN DIAMETER)	
B	<u>2" COPPER SWING JOINT ASSEMBLY</u> USE PARTS AS FIELD CONDITIONS WARRANT - THREE (3) ELBOWS ARE REQUIRED		
	047-30-0170	2" COPPER ADAPTER X FIP	
	047-31-1917	2" 90° BRASS ELBOW	MERIT XNL101-32
	047-31-1920	2" 90° BRASS STREET ELBOW	MERIT XNL160-32
C	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
	047-35-2517 047-32-0364	2" COUPLING, COMP X COMP 2" STAINLESS STEEL INSERT	MUELLER H-15403N MUELLER 506141
D	047-10-9102	2" HARD COPPER (TYPE K)	
E	047-30-8219	2" PEXA	MINICIPEX
F	047-35-2614 047-32-0364	2" 90° ELBOW, COMP X COMP 2" STAINLESS STEEL INSERT (X2)	MUELLER H-15526N MUELLER 506141
G	047-30-9860 047-32-0364	2" ADAPTER, COMP X MIP 2" STAINLESS STEEL INSERT	MUELLER H-15428N MUELLER 506141
H	048-20-4275	2" ANGLE COCK, FIP X FLG	MUELLER B-24286N-2"
I	<u>WATER METER TO BE SIZED BY SFPUC - CUSTOMER SERVICE BUREAU</u> <u>INSTALLED FOR DOMESTIC, IRRIGATION, AND RECYCLED WATER SERVICES</u>		
	066-81-1818	WATER METER, 1 1/2"	BADGER RECORDALL DISC, M120
	066-81-1820	WATER METER, 2"	BADGER RECORDALL DISC, M170
J	056-25-0930 056-25-1602	2" METER BOX & COVER	SEE PLAN CDD-LP-210 AND CDD-LP-212 ARMORCAST P6-1534X12-SFWD
K	<u>CHECK VALVE</u> <u>INSTALLED FOR COMBINATION WATER SERVICES ONLY</u>		
	047-31-8232	2" ANSI/ASME 16.5 150# FLANGE X FIP THREADS	JONES E-129-2"
	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
	048-22-1904	2" CHECK VALVE, FIP X FIP	MILWAUKEE 509 - 2"
L	<u>DEDICATED FIRE SERVICE VALVE</u>		
	047-31-8232	2" ANSI/ASME 16.5 150# FLANGE X FIP THREADS	
	047-32-4010 THRU 047-32-4019	2" BRASS PIPE NIPPLE, MIP X MIP; CLOSE THROUGH 6" LENGTH	
	048-20-4304	2" LINE VALVE, MIP X MIP	MUELLER B-2969-10-2"

* SEE PLAN CDD-LP-202B-1 AND CDD-LP-202C-1 FOR PLAN AND PROFILE OF WATER SERVICE LATERAL

** APPROVED PART(S) AS LISTED IN THE CURRENT CITY AND COUNTY OF SAN FRANCISCO MATERIAL
PROCUREMENT CONTRACTS



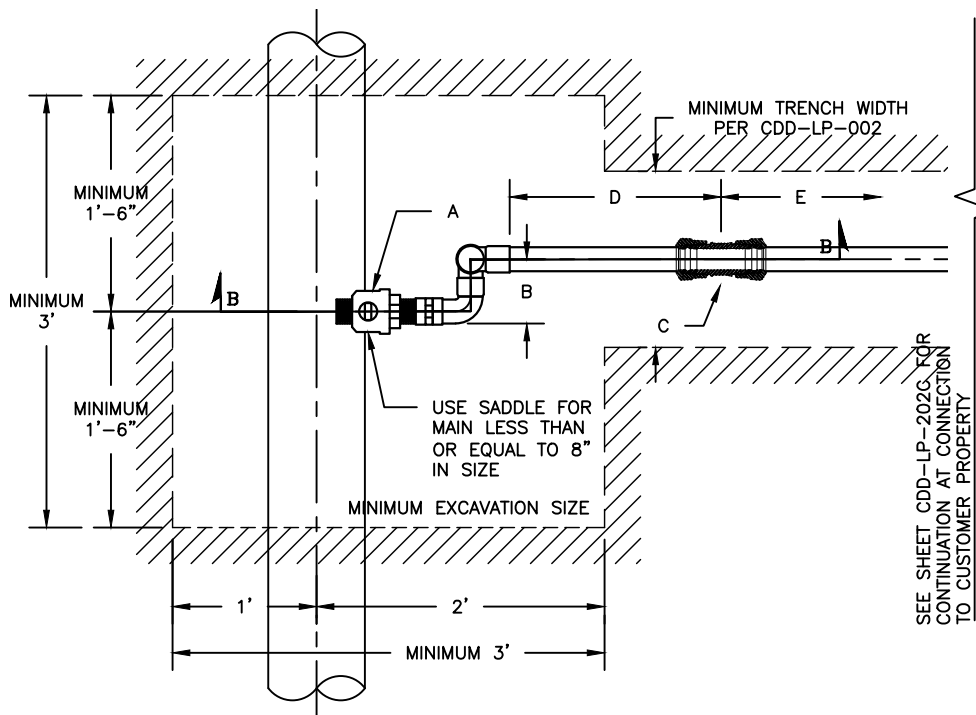
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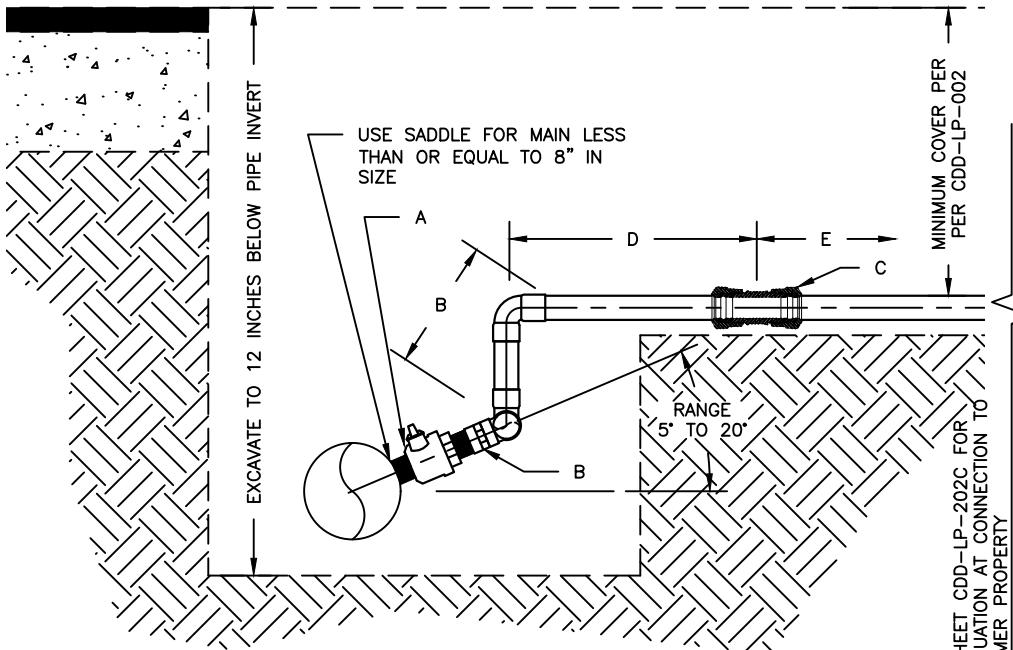
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
MATERIALS FOR 2-INCH PEXA SERVICE
CONNECTIONS

DATE	01/17/2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-202E	54



A PLAN VIEW OF 2" SERVICE TAP
N.T.S.



B SECTIONAL VIEW OF 2" SERVICE TAP
N.T.S.

NOTES:

1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.
4. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
5. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
6. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS" FOR NEW SERVICE INSTALLATIONS ON EXISTING WATER MAINS, SADDLE SHALL BE USED FOR TAP REGARDLESS OF MAIN SIZE OR SERVICE SIZE.
- 7.

SEE SHEET CDD-LP-202C FOR CONTINUATION AT CONNECTION TO CUSTOMER PROPERTY

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
2-INCH PEVA SERVICE LATERAL
CONNECTION AT MAIN



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DATE 01/17/2020

REV.

DRAWING NO.

SHEET

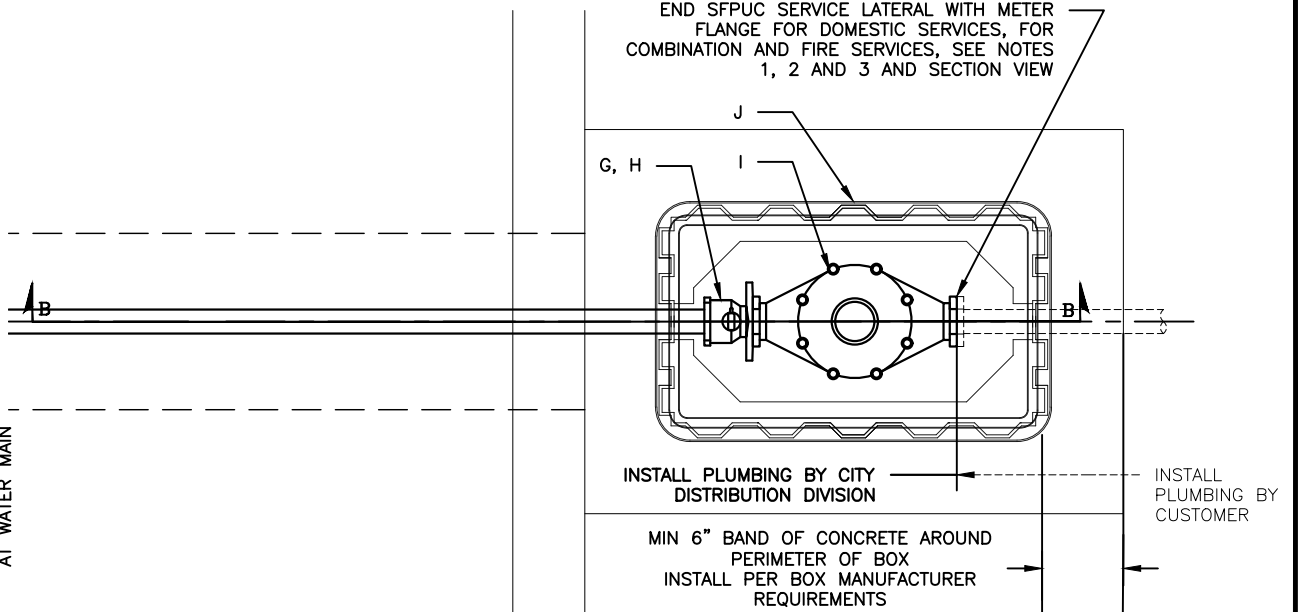
SCALE N.T.S.

CDD-LP-202F

55

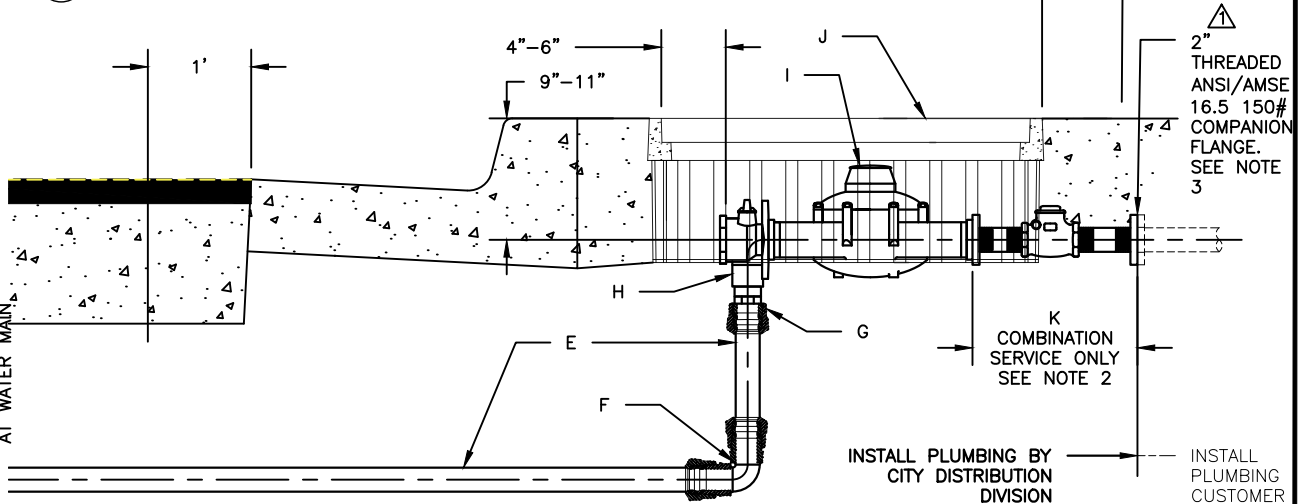
END SFPUC SERVICE LATERAL WITH METER FLANGE FOR DOMESTIC SERVICES, FOR COMBINATION AND FIRE SERVICES, SEE NOTES 1, 2 AND 3 AND SECTION VIEW

SEE SHEET CDD-LP-202B FOR CONTINUATION TO TAP AT WATER MAIN



A PLAN VIEW OF 2" POINT OF CONNECTION AT METER
N.T.S.

SEE SHEET CDD-LP-202B FOR CONTINUATION TO TAP AT WATER MAIN



B SECTION VIEW OF 2" POINT OF CONNECTION AT METER
N.T.S.

NOTES:

1. FOR 2-INCH COMBINATION DOMESTIC/FIRE SERVICES, A CHECK VALVE IS INSTALLED DOWNSTREAM OF THE WATER METER.

2. CUSTOMER FLANGE SHALL NOT BE INSTALLED UNTIL AFTER CITY LATERAL IS INSTALLED UP TO CITY FLANGE.

3. CUSTOMERS REQUIRING METER SET INSTALLATIONS SHALL LEAVE ENOUGH EXCAVATED SPACE IN SIDEWALK AREA TO ALLOW FOR MEASUREMENT OF METER SET ASSEMBLY AND TO PLACE THE METER ASSEMBLY IN THE GROUND WITH APPROPRIATELY-SIZED METER BOX.



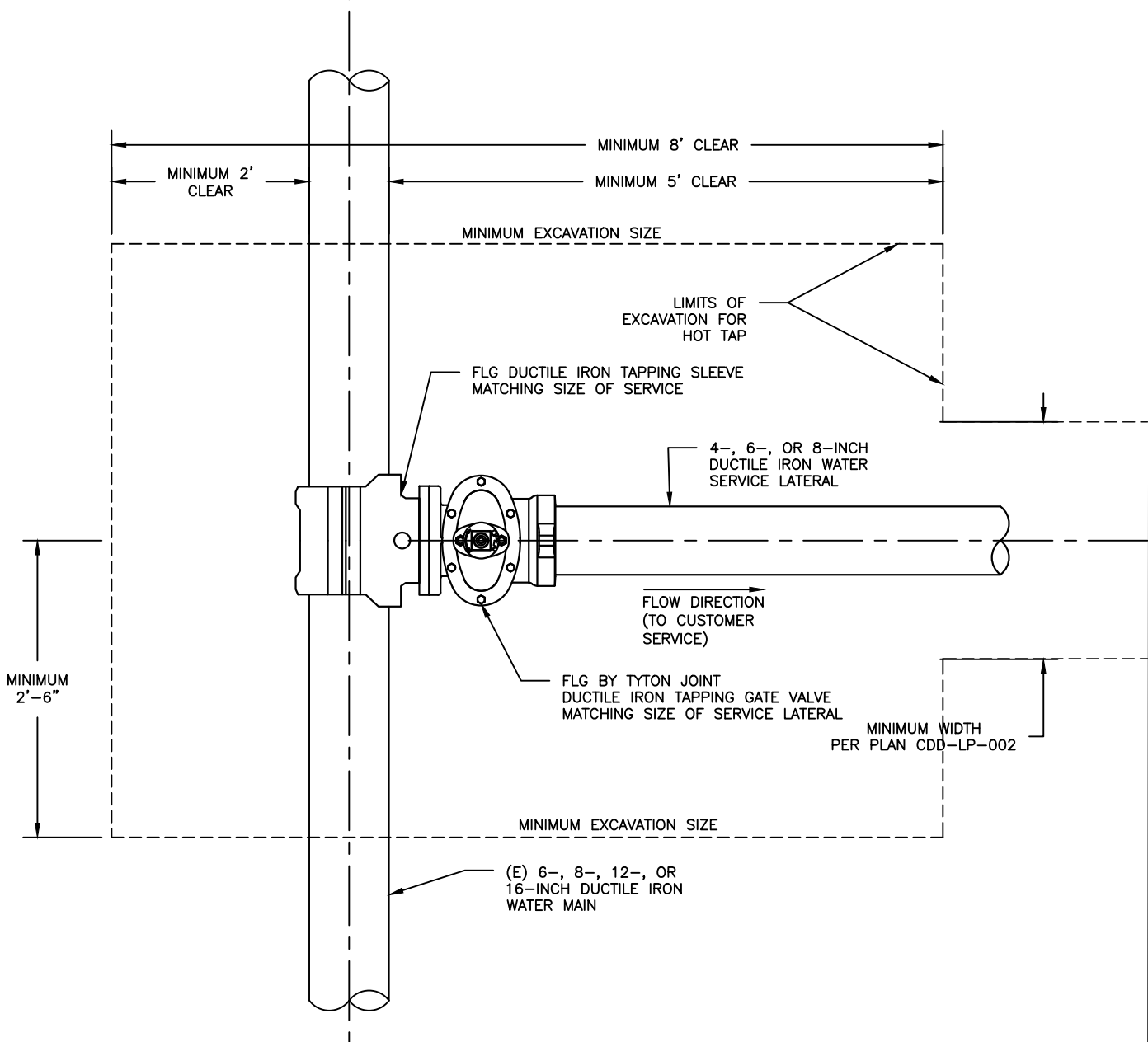
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
2-INCH PEXA SERVICE LATERAL CONNECTION AT
METER (DOMESTIC AND COMBINATION SERVICE)

DATE	01/17/2020	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.		CDD-LP-202G	56



NOTES:

1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND

AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.

4. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
5. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
6. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS"



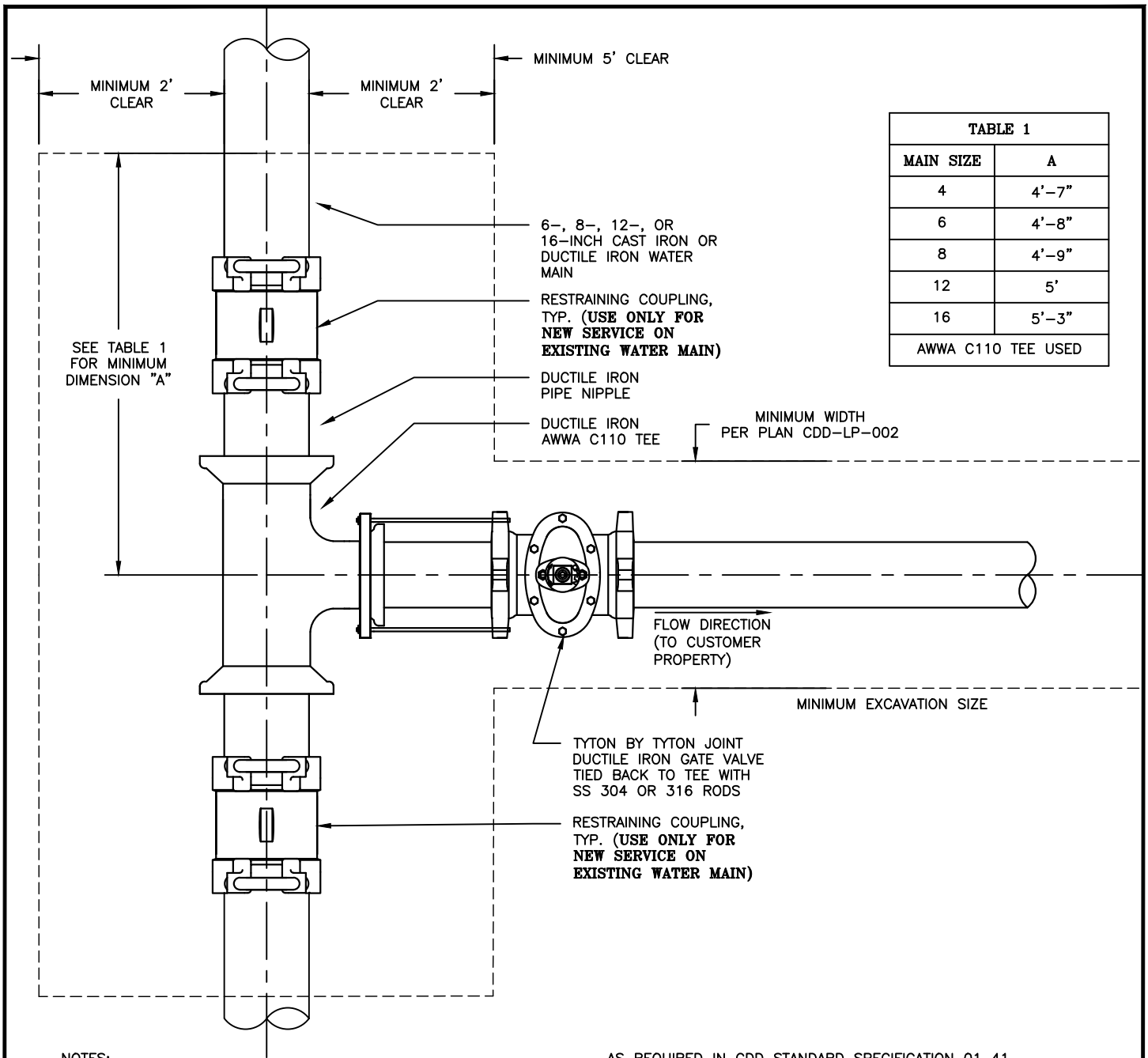
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**WATER SERVICES
HOT TAP FOR SERVICE (≥ 4" DIA.)
CONNECTION AT MAIN**

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-203A	SHEET	57
SCALE	N.T.S.						



MAIN SIZE	A
4	4'-7"
6	4'-8"
8	4'-9"
12	5'
16	5'-3"
AWWA C110 TEE USED	

SEE TABLE 1 FOR MINIMUM DIMENSION "A"

NOTES:

- ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
- SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
- EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41 28.
- WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
- WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
- ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS"



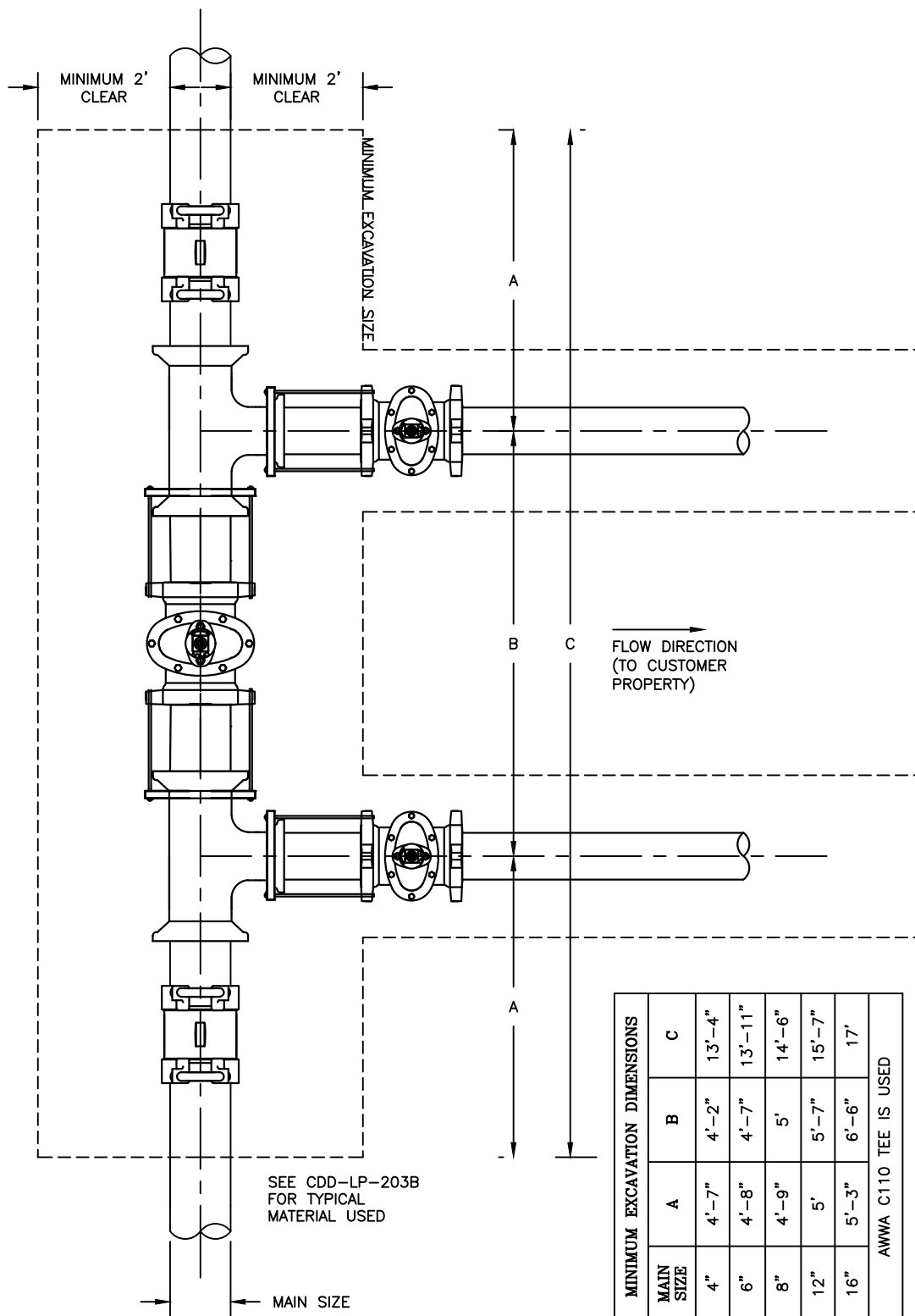
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
DROP-IN TEE FOR SERVICE (≥ 4" DIA.)
CONNECTION AT MAIN

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-203B	SHEET	58
SCALE	N.T.S.						



MINIMUM EXCAVATION DIMENSIONS			
MAIN SIZE	A	B	C
4"	4'-7"	4'-2"	13'-4"
6"	4'-8"	4'-7"	13'-11"
8"	4'-9"	5'	14'-6"
12"	5'	5'-7"	15'-7"
16"	5'-3"	6'-6"	17'
AWWA C110 TEE IS USED			

- AS REQUIRED IN CDD STANDARD SPECIFICATION 01 41
28. WATER SERVICES SHALL ONLY BE CONNECTED INTO A "DISTRIBUTION" WATER MAIN. WATER SERVICES SHALL NOT BE CONNECTED INTO A "TRANSMISSION," "FEEDER," OR "DEDICATED" WATER MAIN WITHOUT PRIOR CONSENT OF CDD.
 4. WATER SERVICES SHALL ONLY BE TAPPED INTO DOMESTIC OR RECYCLED WATER MAINS. WATER SERVICES (INCLUDING FIRE SERVICES) MAY NOT BE CONNECTED INTO AUXILIARY WATER SUPPLY SYSTEM MAINS.
 5. ALL MATERIALS INSTALLED SHALL BE COMPLIANT WITH CDD STANDARD SPECIFICATION SECTION 33 10 .00 "WATER UTILITY DISTRIBUTION PIPING MATERIALS."
 - 6.

- NOTES:
1. ALL PLUMBING WORK ON "HOT" OR "ACTIVE" WATER LINES SHALL BE PERFORMED BY CDD CREWS. CONTRACTORS ARE NOT PERMITTED TO PERFORM PLUMBING WORK OR OPERATE VALVES ON POTABLE WATER LINES OWNED AND OPERATED BY CDD.
 2. SITE CONDITIONS MAY NECESSITATE LARGER EXCAVATION DIMENSIONS FOR TAPPING AS DETERMINED BY CDD FOREMAN. CDD FOREMAN RESERVES THE RIGHT TO REQUEST A LARGER EXCAVATION AS REQUIRED TO COMPLETE WORK.
 3. EXCAVATION SHALL BE TO A DEPTH 1-FOOT BELOW THE INVERT OF THE WATER MAIN. THE WATER MAIN SHALL BE SUPPORTED WITH WOOD BLOCKING UNTIL BACKFILL AND



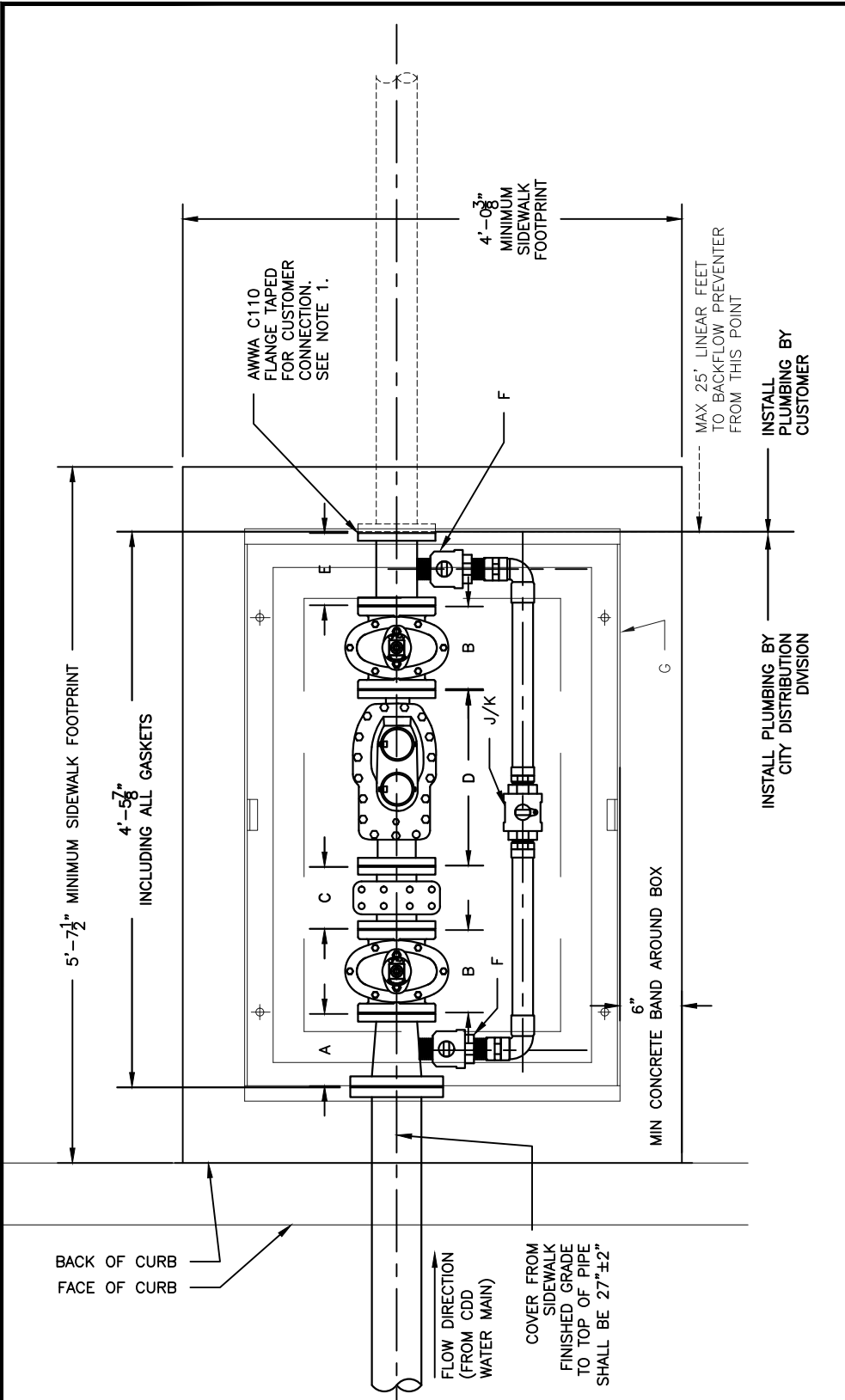
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
REDUNDANT ISOLATED FIRE SERVICE (≥ 6" DIA.) CONNECTION AT MAIN

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-203C	59



3" COMPOUND METER MAJOR COMPONENTS

PART	DESC	LAY LENGTH	COMM. CODE
A	4" X 3" FLG REDUCER WITH 2" TAP	7"	047-33-4504
B	3" FLG GATE VALVE	8"	048-22-9703
C	3" STRAINER	6"	066-81-7429
D	3" COMPOUND MTR (NEPTUNE TRU/FLO)	17"	066-81-1615
E	3" FLG SPOOL PIECE WITH 2" TAP	7"	047-30-8203
F	2" SCREW TAP	N/A	048-20-4304
G	NOMINAL 30"W X 48"L MTR VAULT	SEE CDD-LP-217	056-25-4405
J	2" LINE VALVE WITH LOCK RING	N/A	047-31-4804
K	SERVICE LOCK	N/A	053-43-2465

NOTES:

- CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFJUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.



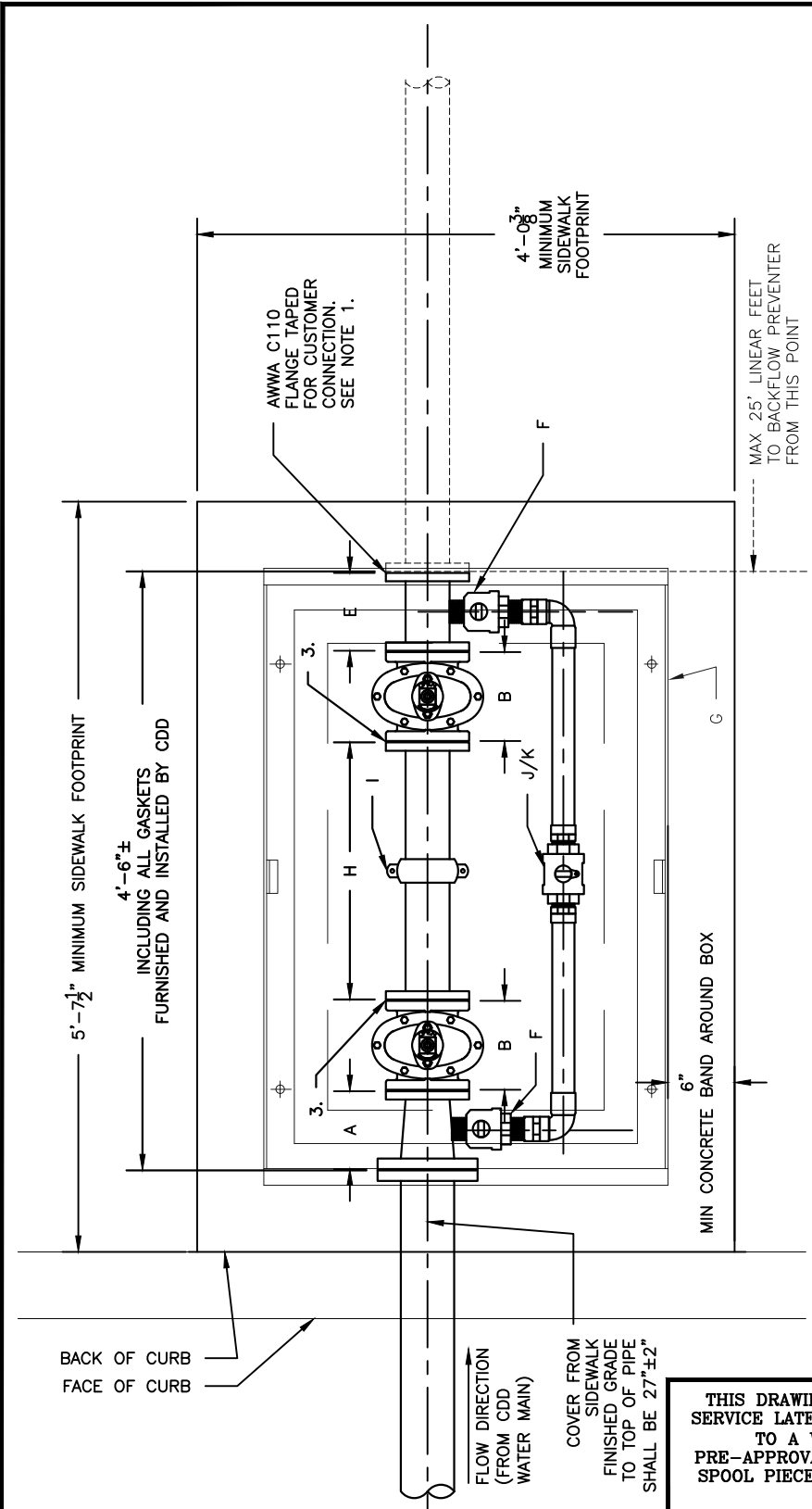
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES 3-INCH COMPOUND METER ASSEMBLY (STANDARD INSTALLATION)

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203D	SHEET	60
SCALE	N.T.S.						



3" COMPOUND METER MAJOR COMPONENTS (W SPOOL ASSEMBLY)

PART	DESC	LAY LENGTH	COMM. CODE
A	4" X 3" FLG REDUCER WITH 2" TAP	7"	047-33-4504
B	3" FLG GATE VALVE	8"	048-22-9703
C	3" STRAINER	6"	066-81-7429
D	3" COMPOUND MTR (NEPTUNE TRU/FLO)	17"	066-81-1615
E	3" FLG SPOOL PIECE WITH 2" TAP	7"	047-30-8203
F	2" SCREW TAP	N/A	048-20-4304
G	NOMINAL 36"W X 60"L MTR VAULT	SEE CDD-LP-214	056-25-4410
H	2 X 3" FLG PE SPOOL PIECE	1'-11 1/8"	NO CODE
I	3" VICTAULIC COUPLING TYPE 31	N/A	NO CODE
J	2" LINE VALVE WITH LOCK RING	N/A	048-20-4804
K	SERVICE LOCK	N/A	053-43-2465

NOTES:

- CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFPUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.
LATERAL SHALL BE STUBBED OUT 4 FT BEHIND CURB W/2" BLOW OFF FOR FLUSHING AND DISINFECTION.
- USE 3/8" THICK BIND GASKET ON EITHER SIDE OF SPOOL PIECE. USE 1/2" THICK GASKET IN ALL OTHER LOCATIONS

THIS DRAWING SHALL ONLY BE USED IN CASES WHERE A WATER SERVICE LATERAL IS BEING INSTALLED WITH A METER VAULT PRIOR TO A WATER "METER SET." THIS CONDITION REQUIRES PRE-APPROVAL FROM SFPUC-CDD ENGINEERING DIVISION AND THE SPOOL PIECE ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY CDD STAFF.

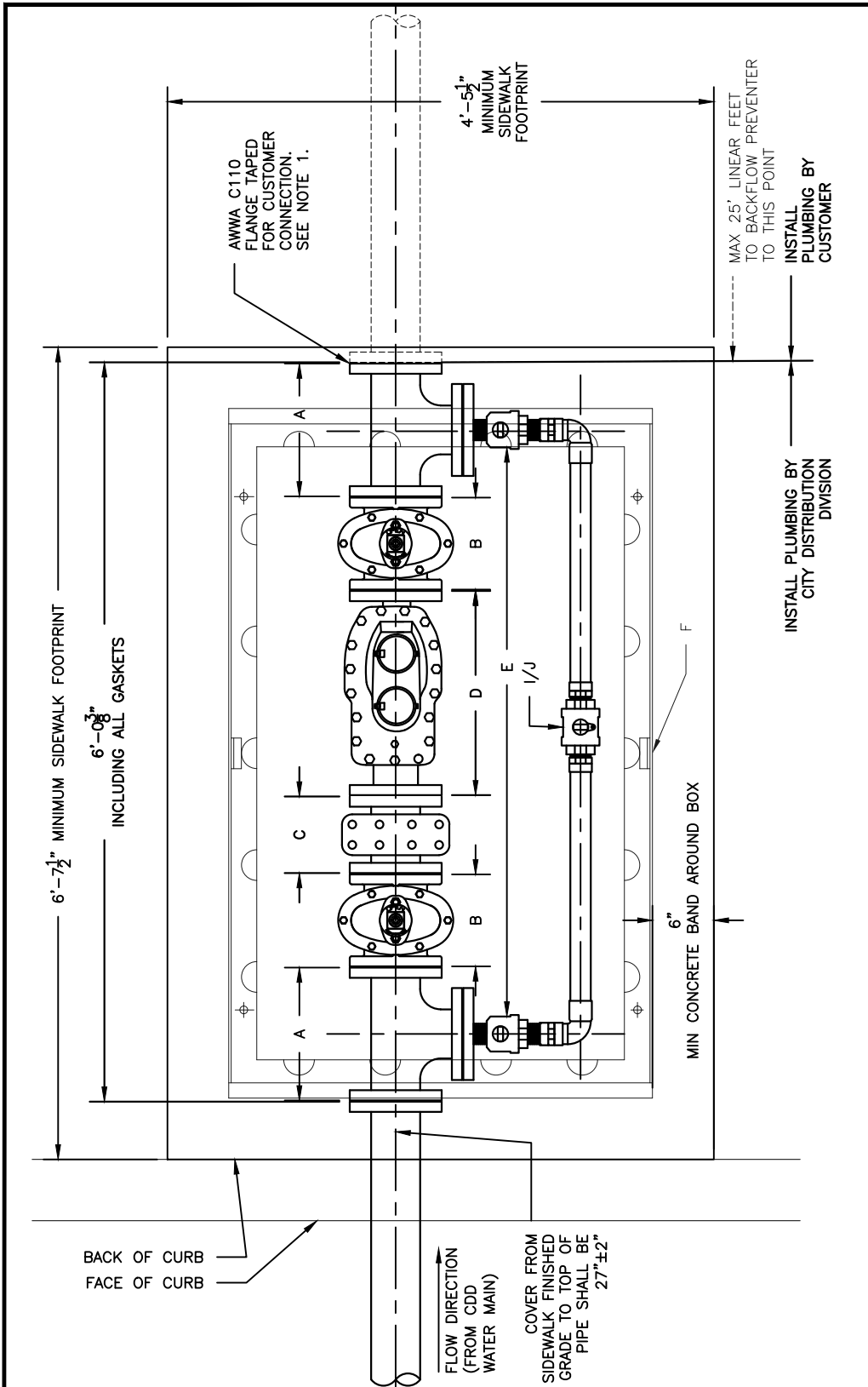


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
3-INCH COMPOUND SPOOL PIECE ASSEMBLY

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203D-SP	SHEET	61
SCALE	N.T.S.						



4" COMPOUND METER MAJOR COMPONENTS			
PART	DESC	LAY LENGTH	COMM. CODE
A	4" FLG TEE	13"	047-34-6440
B	4" FLG GATE VALVE	9"	048-22-9704
C	4" STRAINER	7-0 1/2"	066-81-7430
D	4" COMPOUND MTR (NEPTUNE TRU/FLO)	20"	066-81-1617
E	2" SCREW TAP	N/A	048-20-4304
F	NOMINAL 36"W X 60"L MTR VAULT	SEE CDD-LP-214	056-25-4410
I	2" LINE VALVE WITH LOCK RING	N/A	048-20-4804
J	SERVICE LOCK	N/A	053-43-2465

NOTES:

- CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFJUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.



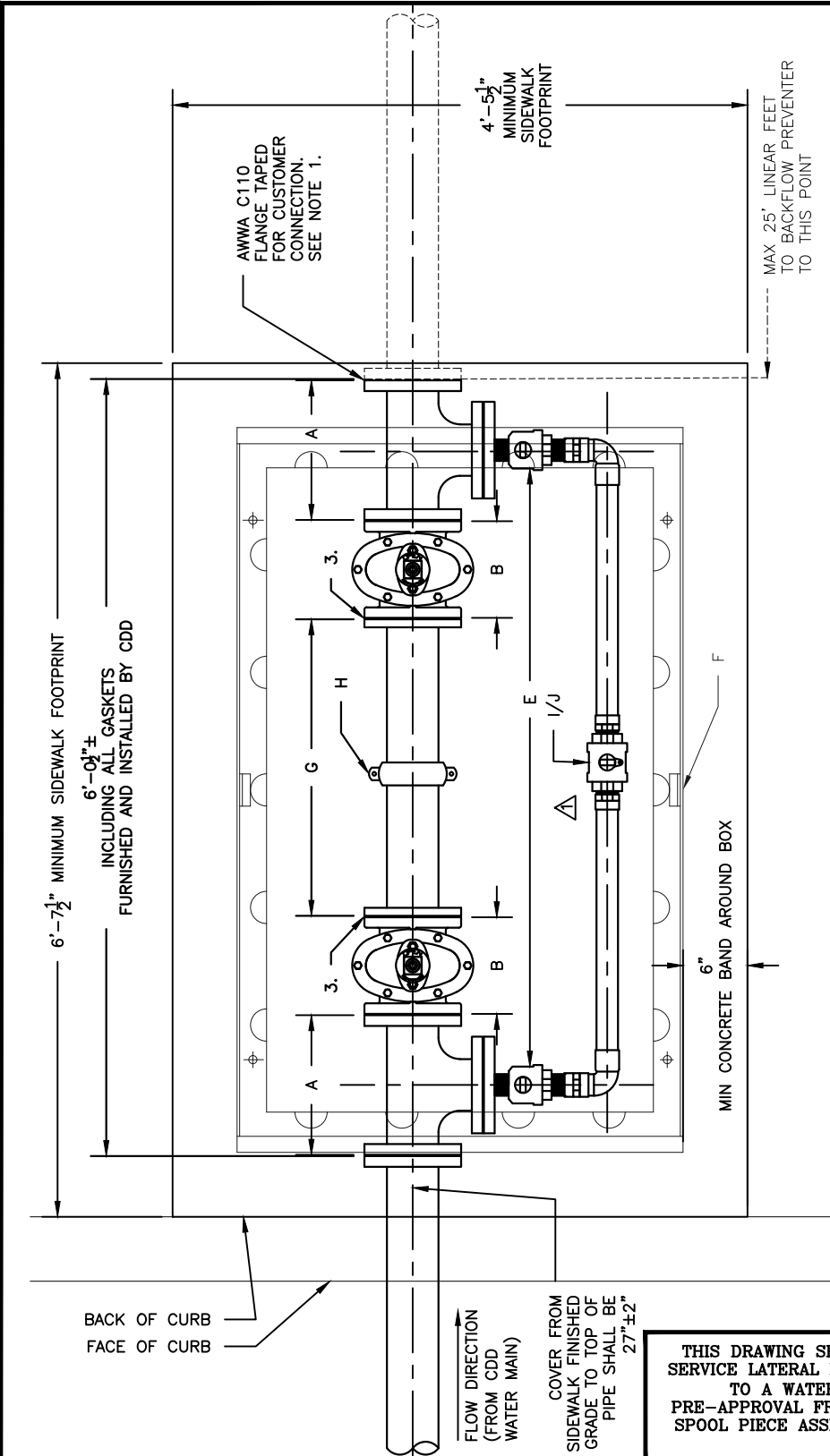
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
4-INCH COMPOUND METER ASSEMBLY
(STANDARD INSTALLATION)

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203E	SHEET	62
SCALE	N.T.S.						



4" COMPOUND METER MAJOR COMPONENTS (WITH SPOOL PIECE)

PART	DESC	LAY LENGTH	COMM. CODE
A	4" FLG TEE	13"	047-34-6440
B	4" FLG GATE VALVE	9"	048-22-9704
C	4" STRAINER	7'-0 1/2"	066-81-7430
D	4" COMPOUND MTR (NEPTUNE TRU/FLO)	20"	066-81-1617
E	2" SCREW TAP	N/A	048-20-4304
F	NOMINAL 48"W X 72"L MTR VAULT	SEE CDD-LP-215	056-25-4415
G	2 X 4" FLG X VIC GROOVE SPOOL	1'-3 3/8"	NO CODE
H	4" VICTAULIC COUPLING TYPE 31	N/A	NO CODE
I	2" LINE VALVE WITH LOCK RING	N/A	048-20-4804
J	SERVICE LOCK	N/A	053-43-2465

NOTES:

- CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFPUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.
- LATERAL SHALL BE STUBBED OUT 4 FT BEHIND CURB W/2" BLOW OFF FOR FLUSHING AND DISINFECTION.
- USE 1/8" THICK BLIND GASKET ON EITHER SIDE OF SPOOL PIECE. USE 1/4" THICK GASKET IN ALL OTHER LOCATIONS

THIS DRAWING SHALL ONLY BE USED IN CASES WHERE A WATER SERVICE LATERAL IS BEING INSTALLED WITH A METER VAULT PRIOR TO A WATER "METER SET." THIS CONDITION REQUIRES PRE-APPROVAL FROM SFPUC-CDD ENGINEERING DIVISION AND THE SPOOL PIECE ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY CDD STAFF.

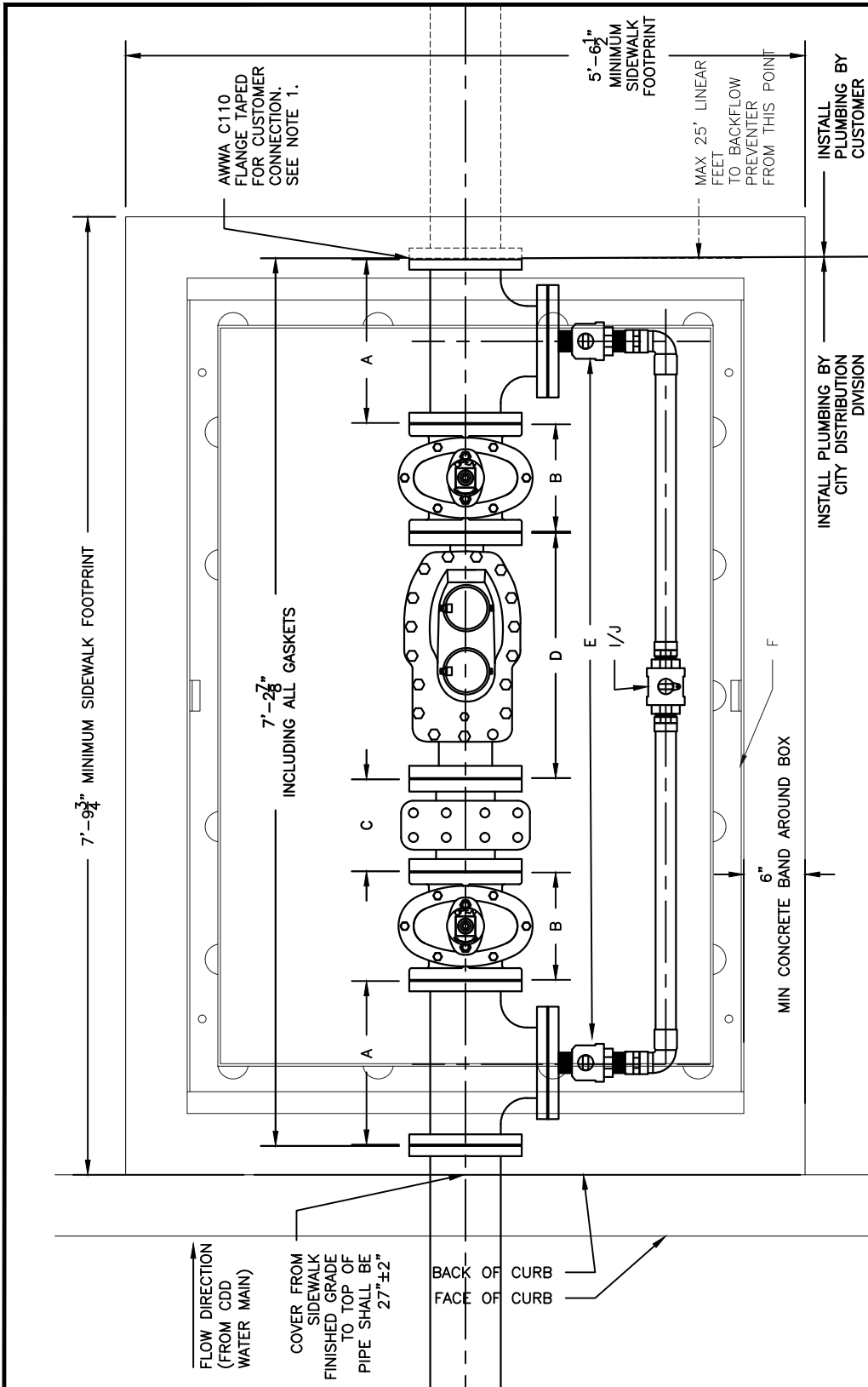


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
4-INCH COMPOUND SPOOL PIECE ASSEMBLY

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203E-SP	SHEET	63
SCALE	N.T.S.						



6" COMPOUND METER MAJOR COMPONENTS			
PART	DESC	LAY LENGTH	COMM. CODE
A	6" X 4" FLG TEE	16"	047-34-6456
B	6" FLG GATE VALVE	10 1/2"	048-22-9706
C	6" FLG STRAINER	9"	066-81-7431
D	6" COMPOUND MTR (NEPTUNE TRU/FLO)	24"	066-81-1627
E	2" SCREW TAP	N/A	048-20-4304
F	NOMINAL 48"W X 72"L MTR VAULT	SEE CDD-LP-215	056-25-4415
J	2" LINE VALVE WITH LOCK RING	N/A	048-20-4804
K	SERVICE LOCK	N/A	053-43-2465

NOTES:

1. CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFPUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.

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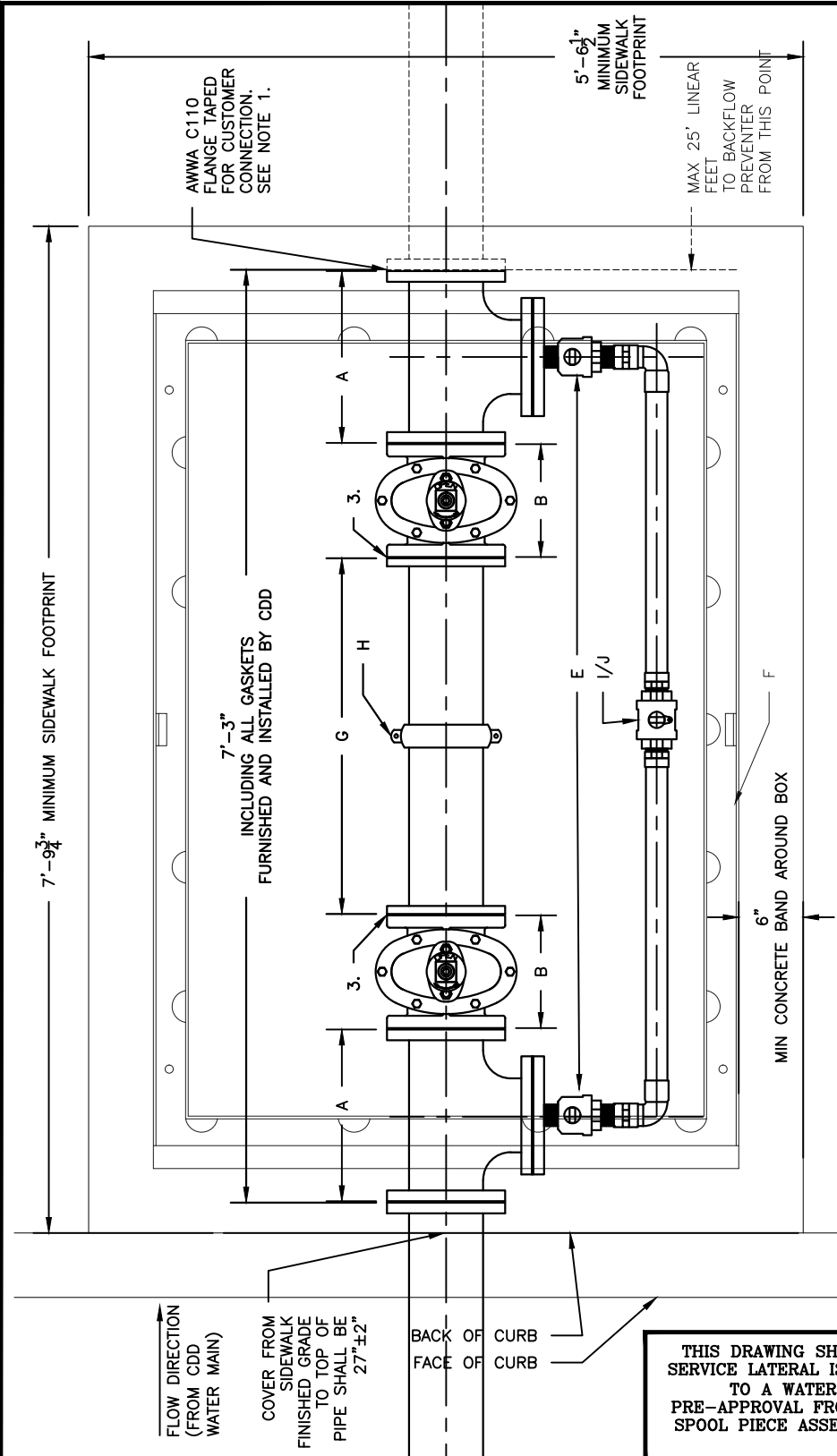
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES

6-INCH COMPOUND METER ASSEMBLY

(STANDARD INSTALLATION)

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203F	SHEET	64
SCALE	N.T.S.						



6" COMPOUND METER MAJOR COMPONENTS (WITH SPOOL PIECE)

PART	DESC	LAY LENGTH	COMM. CODE
A	6" X 4" FLG TEE	16"	047-34-6456
B	6" FLG GATE VALVE	10 1/2"	048-22-9706
C	6" FLG STRAINER	9"	066-81-7431
D	6" COMPOUND MTR (NEPTUNE TRU/FLO)	24"	066-81-1627
E	2" SCREW TAP	N/A	048-20-4034
F	NOMINAL 48"W X 96"L MTR VAULT	SEE CDD-LP-216	056-25-4420
G	6" SPOOL PIECE ASSEMBLY	2'-98"	NO CODE
H	6" VICTAULIC COUPLING TYPE 31	N/A	NO CODE
I	2" LINE VALVE WITH LOCK RING	N/A	048-20-4804
J	SERVICE LOCK	N/A	053-43-2465

NOTES:

- CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFPUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED. LATERAL SHALL BE STUBBED OUT 4 FT BEHIND CURB W/2" BLOW OFF FOR FLUSHING AND DISINFECTION.
- USE 1/4" THICK BLIND GASKET ON EITHER SIDE OF SPOOL PIECE. USE 3/8" THICK GASKET IN ALL OTHER LOCATIONS

THIS DRAWING SHALL ONLY BE USED IN CASES WHERE A WATER SERVICE LATERAL IS BEING INSTALLED WITH A METER VAULT PRIOR TO A WATER "METER SET." THIS CONDITION REQUIRES PRE-APPROVAL FROM SFPUC-CDD ENGINEERING DIVISION AND THE SPOOL PIECE ASSEMBLY SHALL BE FURNISHED AND INSTALLED BY CDD STAFF.

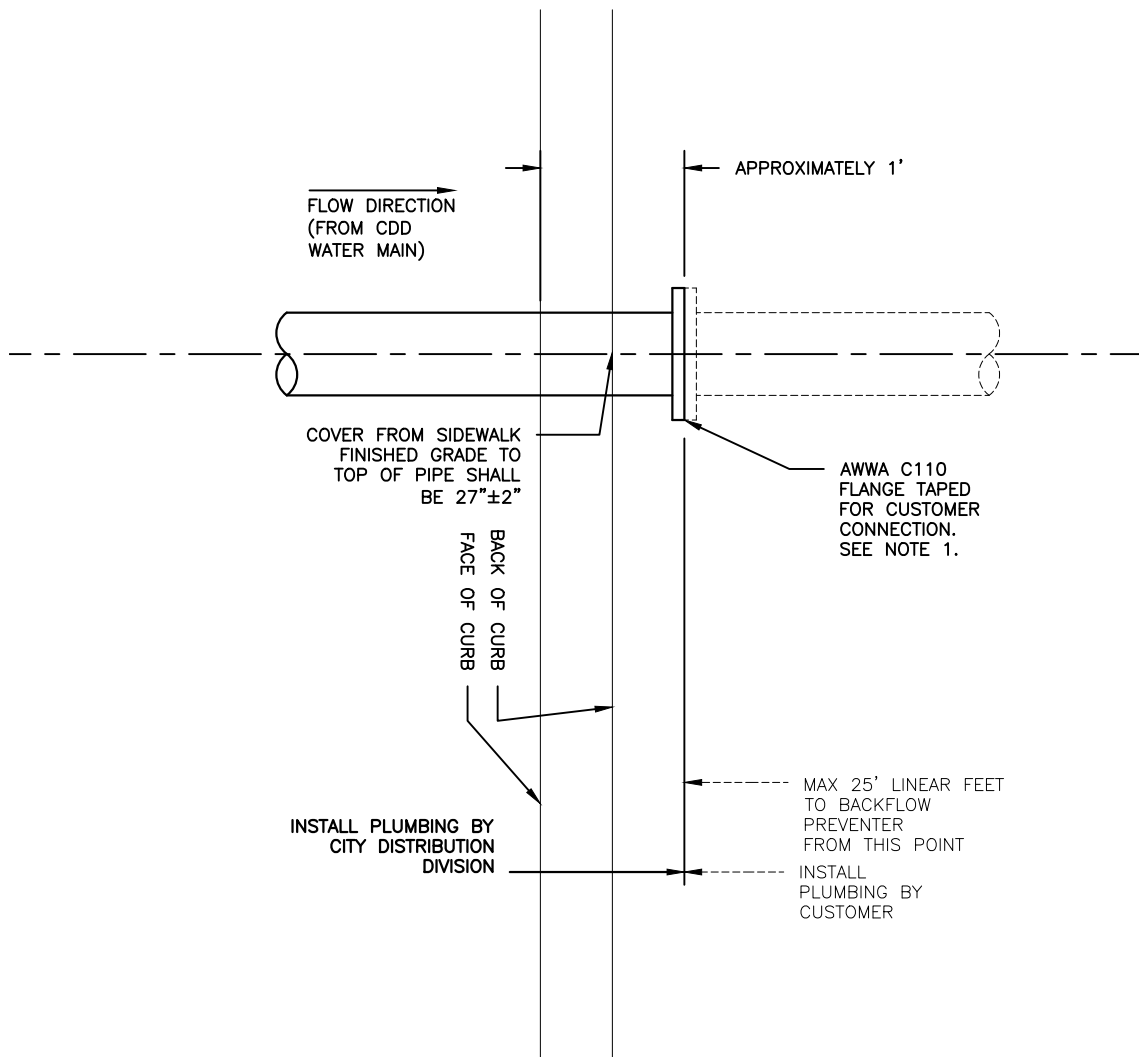


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
6-INCH COMPOUND SPOOL PIECE ASSEMBLY

DATE	3/7/2017	REV.	1	DRAWING NO.	CDD-LP-203F-SP	SHEET	65
SCALE	N.T.S.						



NOTES:

1. CUSTOMERS REQUESTING NEW SERVICE INSTALLATIONS SHALL NOT INSTALL CUSTOMER PORTION OF LATERAL ("HOUSE PIPE") PRIOR TO SFPUC PORTION OF LATERAL AND METER ASSEMBLY BEING INSTALLED.



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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
CUSTOMER POINT OF CONNECTION FOR FIRE
SERVICE ≥ 4" DIAMETER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-203G	66

NOTES FOR DRAWING CDD-LP-220B – METER INSTALLATIONS ON PRIVATE PROPERTY:

- A. SFPUC SERVICE LATERAL PIPE WILL TERMINATE ONE (1) FOOT INSIDE THE CURB LINE. THE CUSTOMER SHALL BE RESPONSIBLE FOR INSTALLATION, OWNERSHIP AND MAINTENANCE OF ALL HOUSE PIPE FROM THIS POINT, UP TO, AND DOWNSTREAM OF, BUT NOT INCLUDING, THE COMPOUND WATER METER ASSEMBLY. THE CUSTOMER SHALL BE RESPONSIBLE FOR MAKING THE CONNECTION TO THE FLANGE LEFT BY THE DEPARTMENT AT THE CURB. THE DEPARTMENT SHALL NOT BE LIABLE FOR ANY FAILURES THAT OCCUR AT THE POINT OF CONNECTION BETWEEN THE DEPARTMENT-OWNED PIPE AND THE CUSTOMER-OWNED PIPE.
- B. DEPARTMENT WILL INSTALL, OWN AND MAINTAIN THE WATER METER ASSEMBLY.
- C. THE SIZE OF THE WATER METER ASSEMBLY SHALL MATCH THE SIZE APPROVED BY THE SFPUC NEW INSTALLATIONS GROUP, AS CALCULATED BY BUILDING FIXTURE COUNT. THE SIZE OF THE LATERAL PIPE SHALL NOT BE REDUCED OR SPLIT UPSTREAM OF THE WATER METER ASSEMBLY.
- D. THE BOTTOM OF THE PIPE FLANGES AT EITHER SIDE OF THE METER ASSEMBLY MUST BE A MINIMUM OF ONE (1) FOOT AND MAXIMUM OF THREE (3) FEET ABOVE THE FINISHED FLOOR.
- E. A MINIMUM OF THREE (3) FEET OF CLEAR SPACE MUST BE PRESENT ABOVE THE METER ASSEMBLY TO ACCOMMODATE INSTALLATION AND MAINTENANCE OF THE METER ASSEMBLY.
- F. THE MINIMUM FLOOR-TO-CIELING HEIGHT OF THE ROOM IN WHICH THE DEPARTMENT METER IS INSTALLED SHALL BE NINE (9) FEET.
- G. METERS SHALL BE SET BY THE DEPARTMENT IN A HORIZONTAL ORIENTATION ONLY. THE CUSTOMER SHALL BE RESPONSIBLE FOR PROVIDING STRAIGHT SECTIONS OF PIPE A MINIMUM OF TWENTY-FOUR (24) INCHES UPSTREAM AND DOWNSTREAM OF THE METER ASSEMBLY.
- H. THE METER ASSEMBLY SHALL BE SET SUCH THAT THERE IS A MINIMUM OF ONE (1) FOOT OF CLEARANCE BETWEEN THE ASSEMBLY AND ANY WALLS OR OTHER OBSTRUCTIONS.
- I. COMPOUND METER ASSEMBLY MUST BE ACCESSIBLE TO DEPARTMENT PERSONNEL AT ALL TIMES. METER ROOM MUST BE ACCESSIBLE VIA FREIGHT ELEVATOR OR ADA RAMP THAT CAN ACCOMMODATE A 4-FOOT BY 6-FOOT MAINTENANCE CART. FOUR (4) FEET OF CLEAR, LEVEL FLOOR SPACE SHALL BE PRESENT BETWEEN THE METER ASSEMBLY AND ANY OBSTRUCTIONS TO ALLOW FOR MAINTENANCE ACTIVITIES.
- J. ONE (1) ELECTRICAL CONDUIT WITH A MINIMUM DIAMETER OF THREE-QUARTERS (¾) OF AN INCH MUST BE INSTALLED BY THE CUSTOMER TO ACCOMMODATE (AN) AMI TRANSMITTER WIRE(S) FOR EACH METER INSTALLED. THE CONDUIT SHALL NOT RUN FOR MORE THAN FOUR HUNDRED FIFTY (450) FEET FROM THE METER ASSEMBLY TO THE PROPOSED TRANSMITTER LOCATION. THE CONDUIT SHALL NOT BE SHARED WITH ANY OTHER ELECTRICAL WIRING OR COMPONENTS. THE CONDUIT AND TRANSMITTER PLACEMENT SHALL BE APPROVED BY THE DEPARTMENT. THE CONDUIT SHALL TERMINATE WITH A 4-INCH JUNCTION BOX AT EITHER END OF THE CONDUIT. THE CUSTOMER IS RESPONSIBLE FOR MAINTENANCE OF THE CONDUIT AND JUNCTION BOX.
- K. THE WIRING FOR THE AMI TRANSMITTER SHALL BE PROVIDED AND PULLED BY THE CUSTOMER. 5-FEET EXCESS WIRING SHALL BE LEFT BY THE CUSTOMER AT EITHER END OF THE CONDUIT TO ALLOW FOR CONNECTION TO THE COMPOUND METER AND AMI TRANSMITTER. WIRING SHALL BE WEST PENN WIRE 230 OR APPROVED EQUAL. WIRE SHALL BE 3 CONDUCTOR, 22 AWG NON-SHIEDED CABLE. WIRE SHALL HAVE A 300V RATING, BE TEMPERATURE RATED FROM -20°C TO +60°C, AND BE UV-RESISTANT. CONDUCTORS SHALL BE SOLID TINNED COPPER WITH 0.008-INCH THICK PVC INSULATION AND BE COLOR CODED RED, BLACK, AND WHITE. TWO SETS OF CONDUCTORS ARE REQUIRED FOR EACH COMPOUND (=>3" IN SIZE) METER ASSEMBLY INSTALLED.
- L. THE AMI TRANSMITTER SHALL BE MOUNTED IN AN ABOVE GRADE UTILITY ROOM THAT HAS AN EXTERIOR WALL OR ON THE FACADE OF THE BUILDING. THE TRANSMITTER MUST BE ACCESSIBLE FROM AN 8-FOOT A-FRAME LADDER FOR MAINTENANCE BY THE DEPARTMENT. THE TRANSMITTER SHALL BE PLACED A MINIMUM OF SIX (6) INCHES FROM ANY CONDUIT OR METALLIC PIPING AND A MINIMUM OF THREE (3) FEET FROM ANY LARGE METALLIC OBJECTS (I.E. HVAC DUCTING, STEEL DECKING, ETC.).
- M. IN CASES WHERE MULTIPLE AMI TRANSMITTERS WILL BE INSTALLED, THE TRANSMITTERS SHALL HAVE A MINIMUM EDGE-TO-EDGE SPACING OF SIX (6) INCHES.
- N. CUSTOMERS REQUESTING INSTALLATION OF A WATER METER ON PRIVATE PROPERTY MUST FORMALLY REQUEST SUCH AN INSTALLATION BY EMAILING CDDENGINEERING@SF WATER.ORG. INSTALLATION OF METERS ON PRIVATE PROPERTY WILL ONLY BE ALLOWED WHEN A STANDARD INSTALLATION OF METER IN SIDEWALK IS NOT POSSIBLE DUE TO NO SIDEWALK BEING PRESENT OR DUE TO UTILITY CONFLICTS. INSTALLATIONS OF METERS ON PRIVATE PROPERTY WILL NOT BE APPROVED FOR AESTHETIC REASONS ALONE.
- O. FOR ADDITIONAL REQUIREMENTS, PLEASE REFER TO THE DOCUMENT "SFPUC RULES AND REGULATIONS GOVERNING WATER SERVICE TO CUSTOMERS, SECTION A, RULE 2, AND SECTION A, RULE 7.



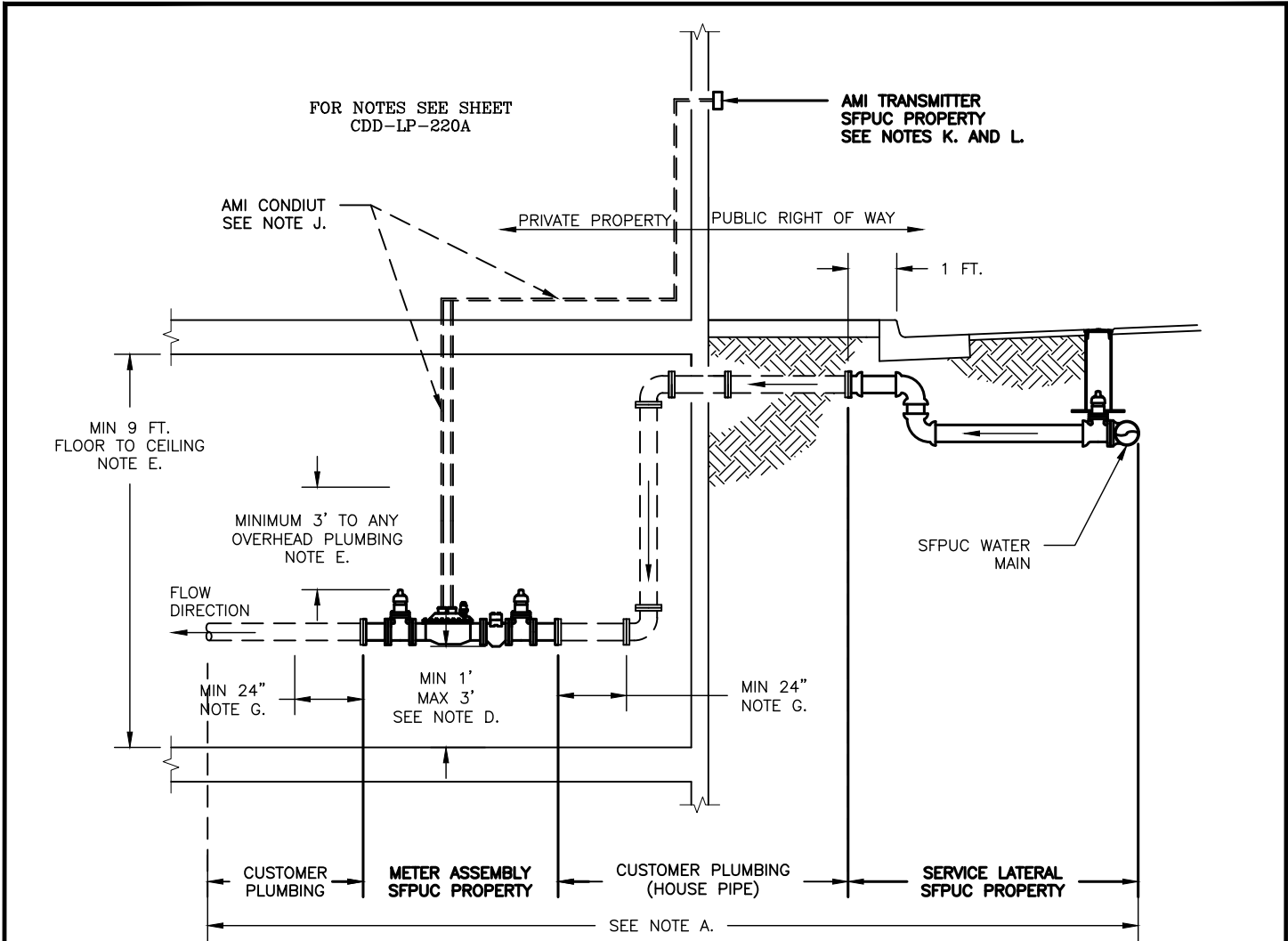
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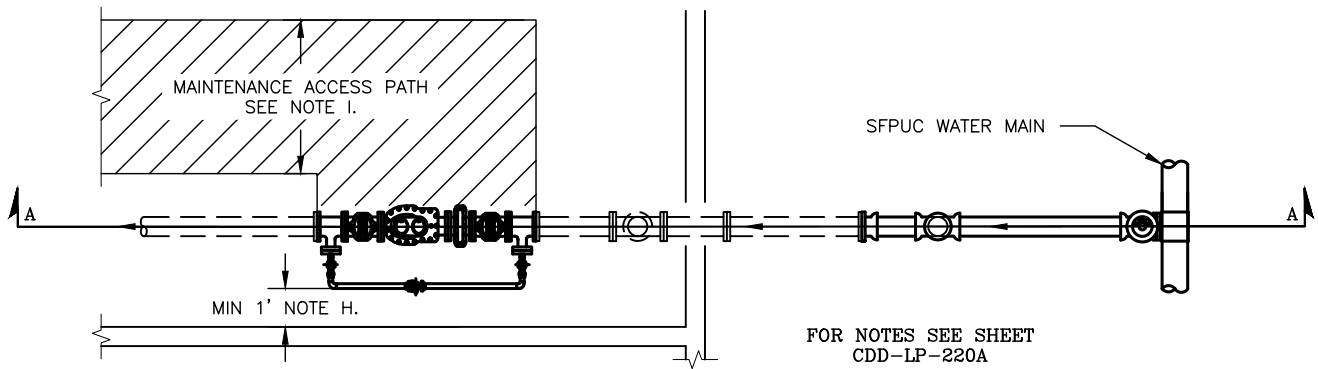
WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**WATER SERVICES
SFPUC NEW METER INSTALLATIONS
ON PRIVATE PROPERTY – NOTES**

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-220A	67



A PRIVATE PROPERTY INSTALLATION SECTION VIEW
N.T.S.



B PRIVATE PROPERTY INSTALLATIONS PLAN VIEW
N.T.S.



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
SFPUC NEW METER INSTALLATIONS ON
PRIVATE PROPERTY

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-220B	68

PROCEDURE FOR METER MANIFOLD REPLACEMENT FOR MAINTENANCE WORK (IN RESPONSE TO LEAK AND/OR WATER METER REPLACEMENT)

- A. SFPUC REPRESENTATIVE WILL COORDINATE TIME TO SHUT OFF WATER SERVICE WITH CUSTOMER.
- B. SFPUC CONTRACTOR SHALL BE RESPONSIBLE FOR OPENING PENETRATION IN BASEMENT WALL TO ACCOMMODATE SFPUC PLUMBING CREW WORK.
- C. SFPUC CREW WILL REMOVE EXISTING METER MANIFOLD & PLUMBING AT NEAREST SUITABLE UPSTREAM AND DOWNSTREAM FLANGES OR VICTAULIC JOINTS. NEAREST SUITABLE JOINT MAY BE INSIDE THE CUSTOMER'S PROPERTY (IN BASEMENT) OR OUTSIDE OF THE CUSTOMER'S PROPERTY (IN THE RIGHT OF WAY) DEPENDING ON UNIQUE SITE CONDITIONS.
- D. SFPUC CREW WILL INSTALL NEW PLUMBING AND COMPOUND WATER METER IN SUITABLE LOCATION IN BASEMENT.
- E. SFPUC CONTRACTOR SHALL BE RESPONSIBLE FOR SEALING THE ANNULAR GAP BETWEEN THE WATER SERVICE LATERAL AND BASEMENT WALL WITH NON-SHRINK GROUT OR OTHER SUITABLE MATERIAL.

DISCLAIMERS:

- 1. ALL METER INSTALLATIONS SHALL BE PURSUANT TO THE SAN FRANCISCO PUBLIC UTILITIES COMMISSION RULES AND REGULATIONS GOVERNING WATER SERVICE TO CUSTOMERS (RULES & REGS.), LATEST REVISIONS. SHOULD A DISCREPANCY ARISE BETWEEN THE RULES AND REGS. AND THIS PLAN, THE RULES AND REGS. SHALL GOVERN.

EXHIBIT A - EXISTING CONDITION

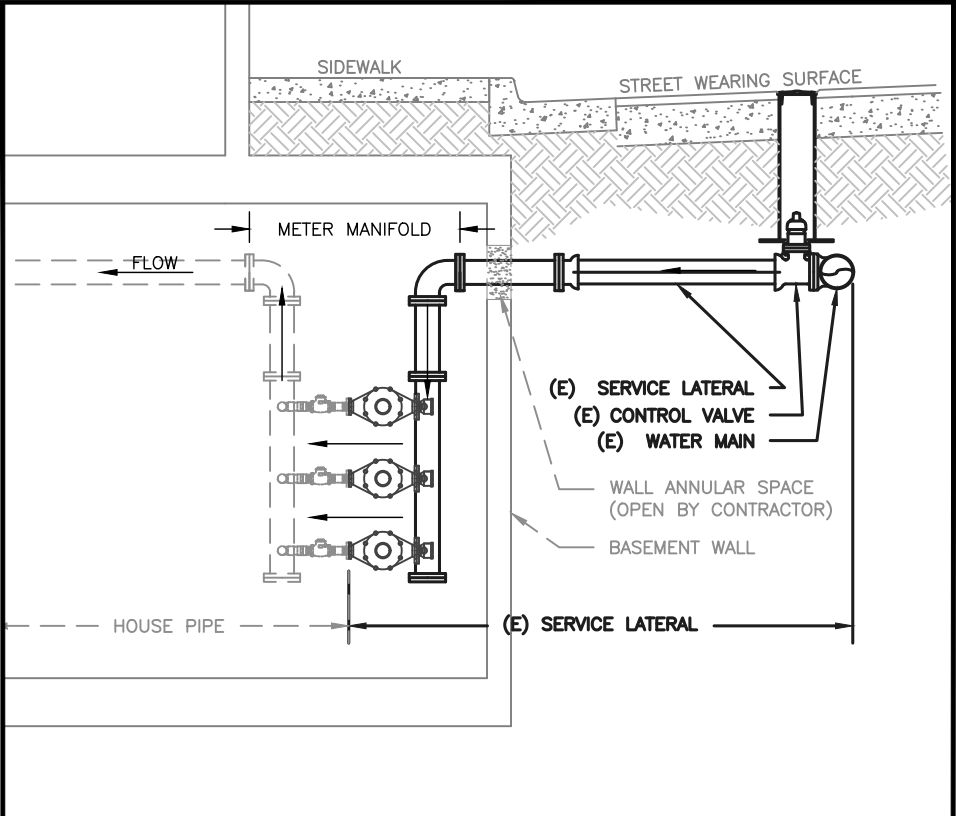
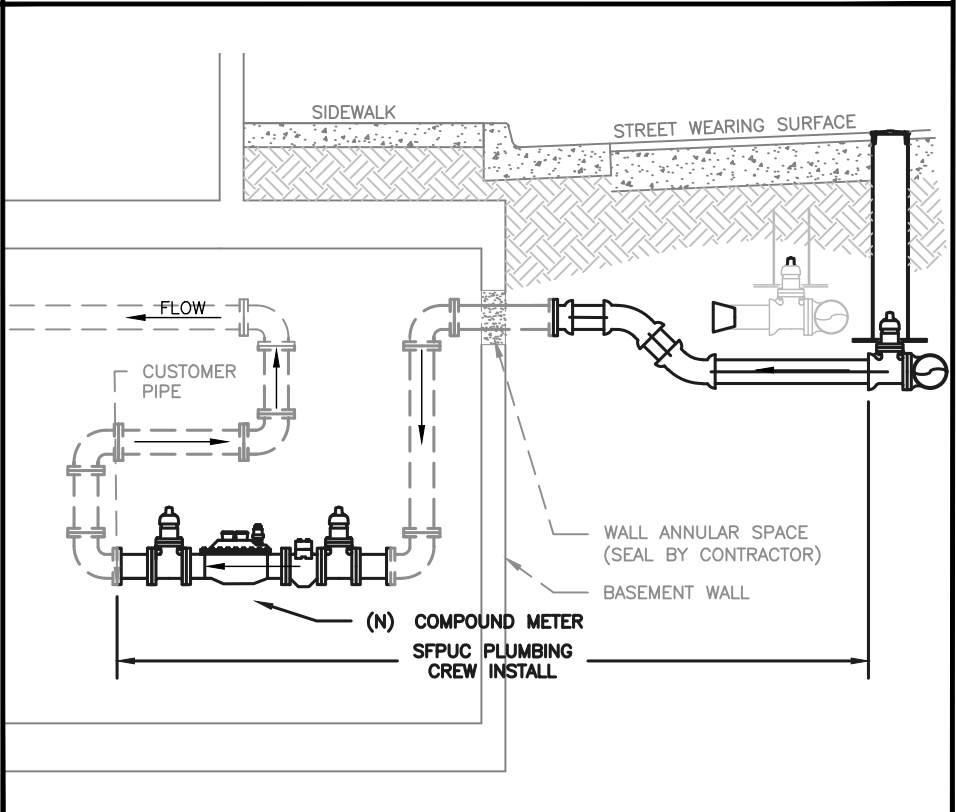


EXHIBIT B - RENEW SERVICE

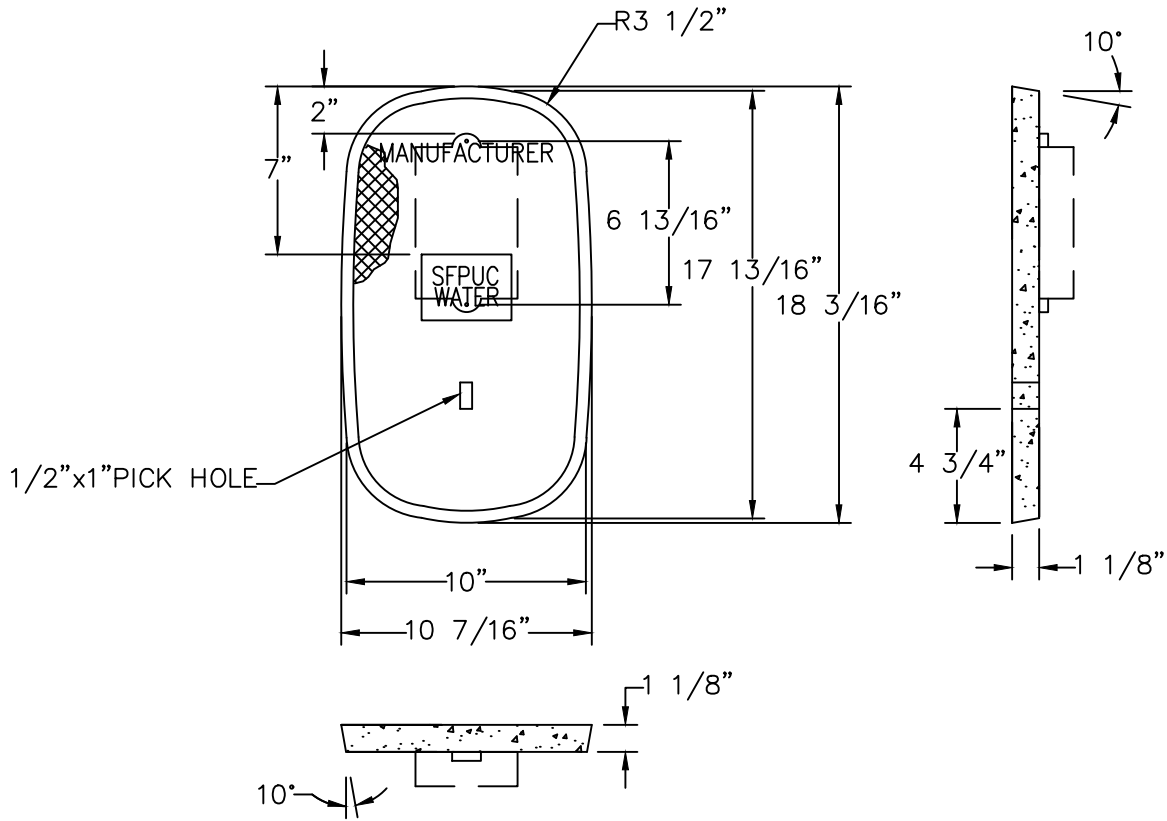
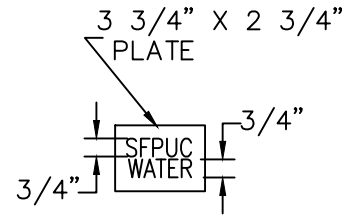
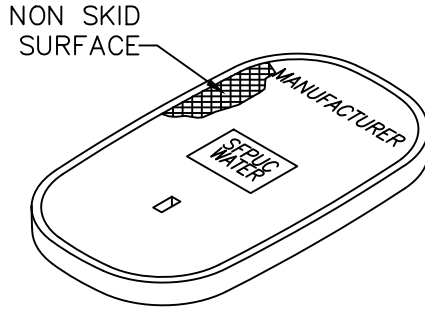


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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS
WATER SERVICES
TYPICAL METER MANIFOLD REPLACEMENT
IN SUB-SIDEWALK BASEMENT FOR CAPITAL
WATER MAIN REPLACEMENT PROJECTS

DATE	3/30/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-221-CA	69



ARMORCAST A6-0447-SFPUC OR APPROVED EQUIVALENT
REPLACEMENT PART ONLY - NOT FOR USE IN NEW METER INSTALLATIONS



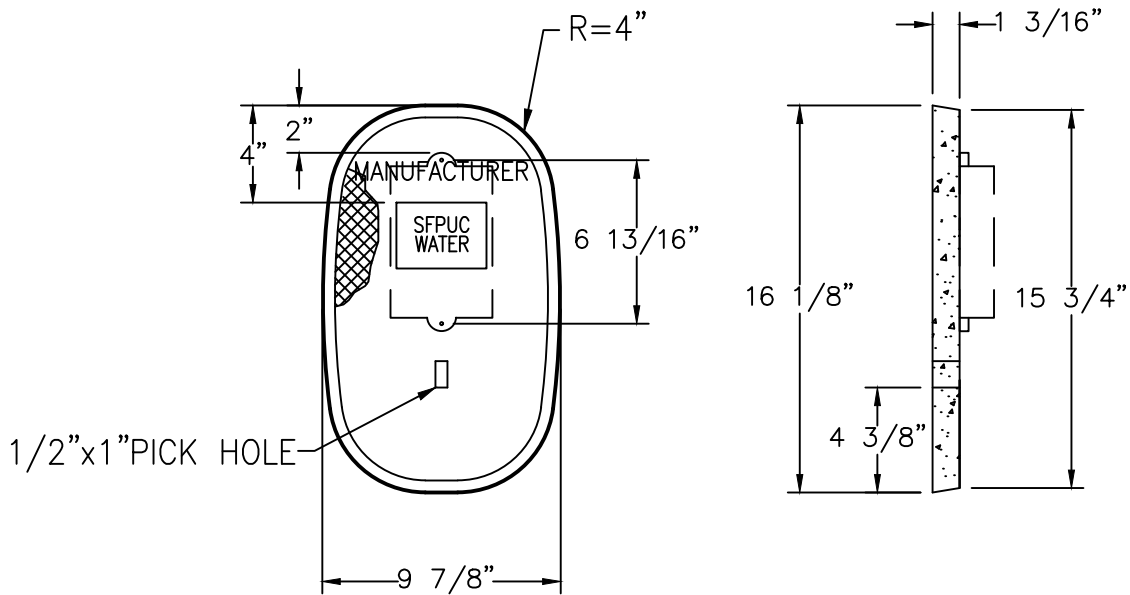
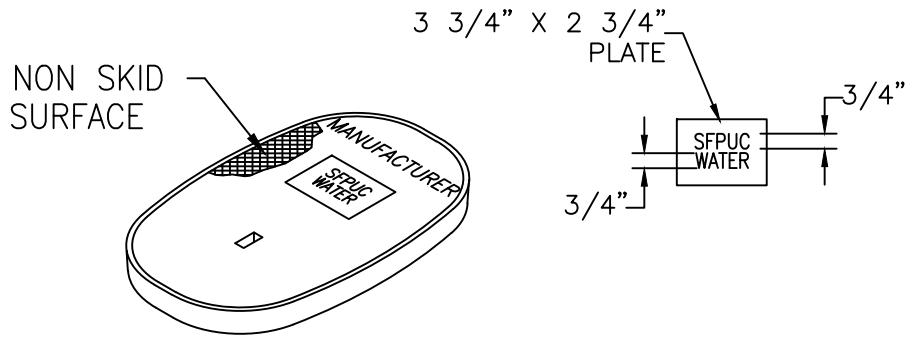
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
10"X18" RPM OVAL METER BOX COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-204	70



ARMORCAST A6-0473-SFPUC OR APPROVED EQUIVALENT
REPLACEMENT PART ONLY - NOT FOR USE IN NEW METER INSTALLATIONS



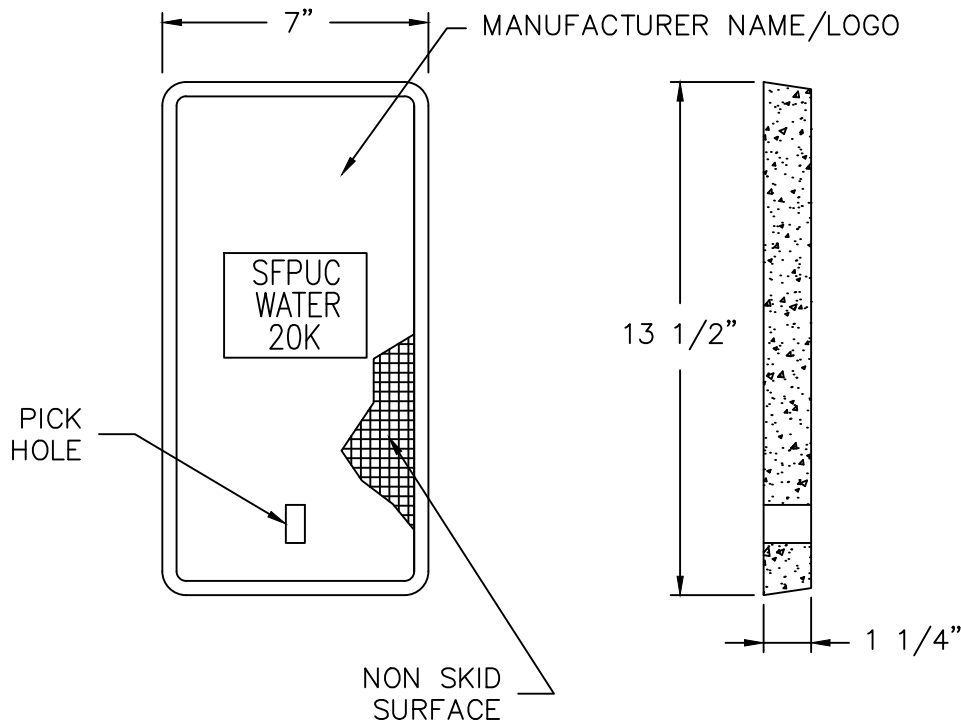
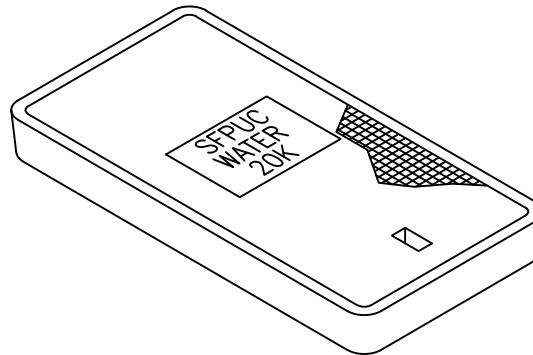
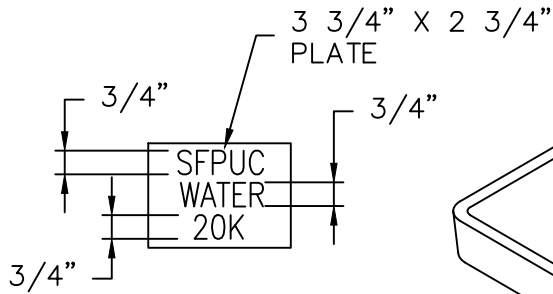
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
10"X16" POLYMER CONCRETE OVAL METER BOX
COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-205	71



ARMORCAST A6-0418T-EB-SFPUC OR APPROVED EQUIVALENT



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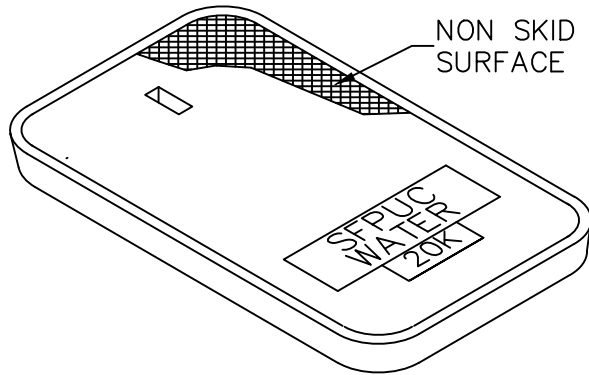
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

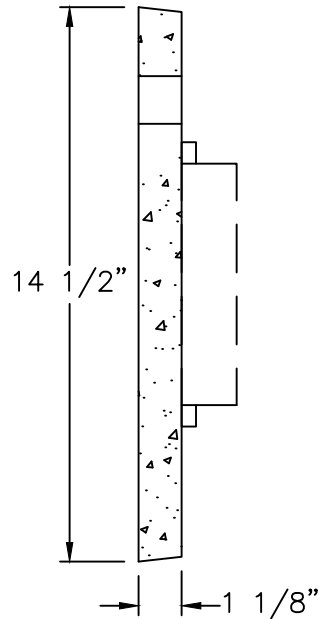
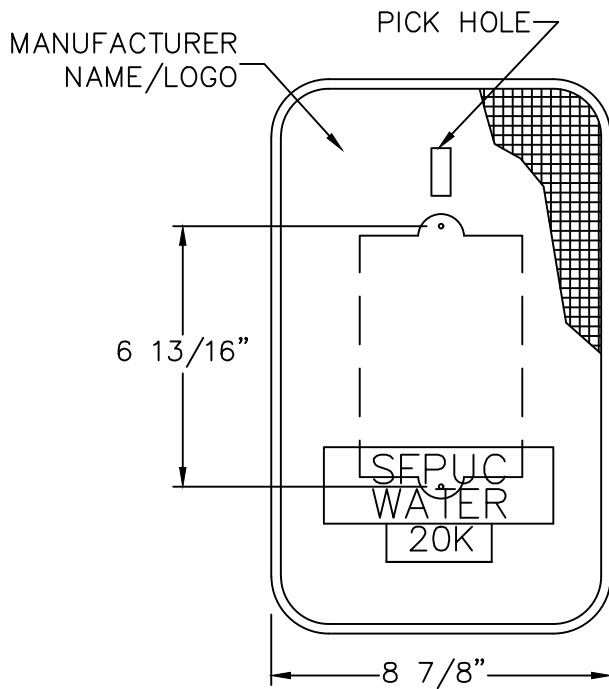
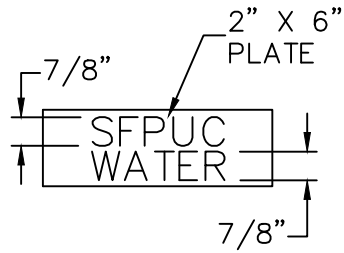
WATER SERVICES

7"X13" POLYMER CONCRETE METER BOX READ LID

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-206	72



NON SKID SURFACE



POLYMER CONCRETE COVER

ARMORCAST A6-0482T-SFPUC OR APPROVED EQUIVALENT



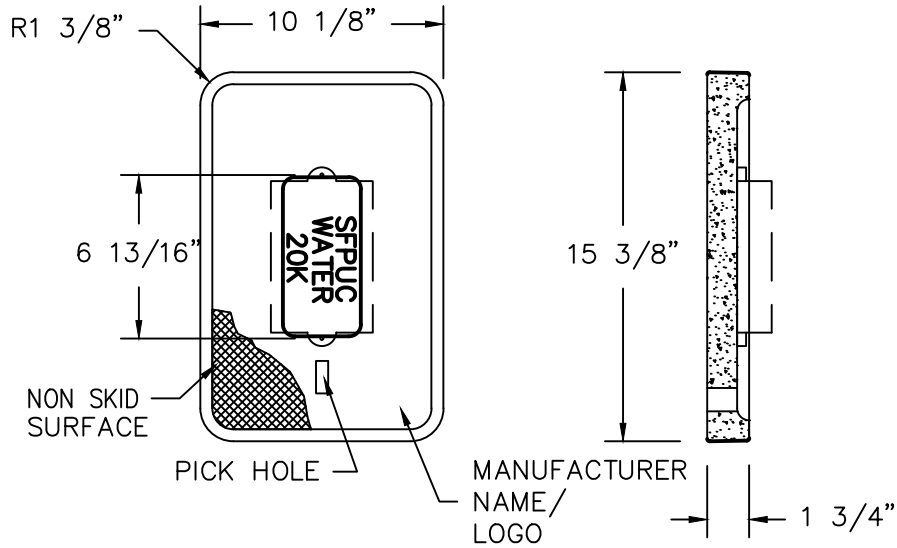
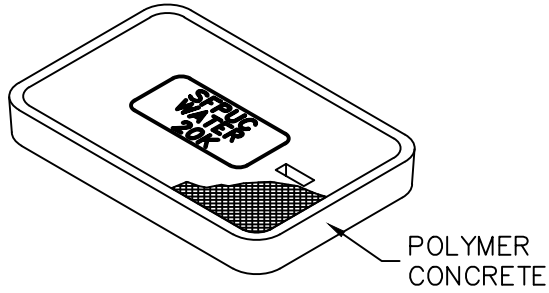
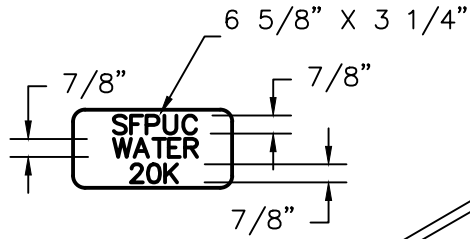
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
9"X14" POLYMER CONCRETE METER BOX READ LID

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-207	73



ARMORCAST A6-1922T-SFFUC OR APPROVED EQUIVALENT



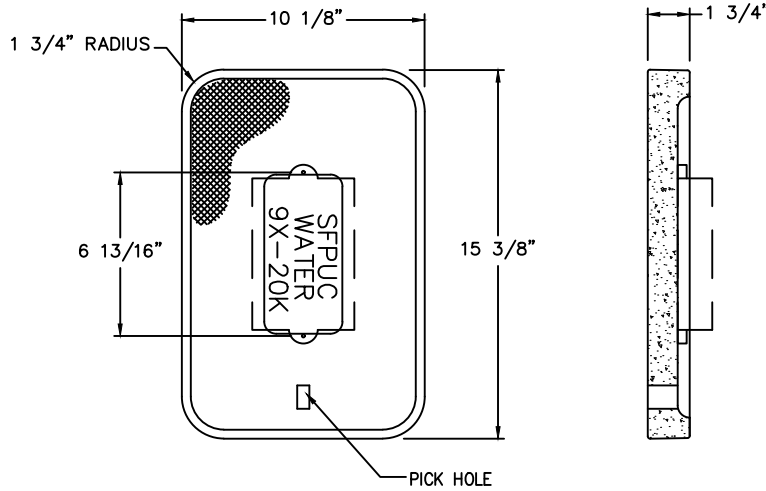
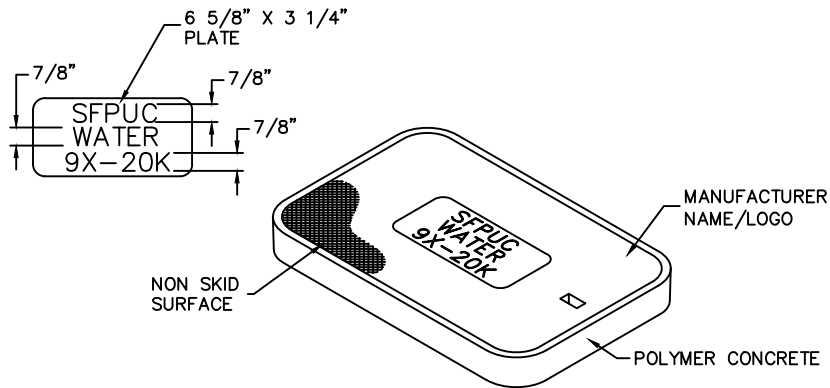
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
10"X15" POLYMER CONCRETE METER BOX COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-208	74



TOP VIEW

ARMORCAST A6-1922T-9X-SPFUC OR APPROVED EQUIVALENT
FOR REPLACEMENT ONLY - NOT FOR NEW INSTALLATION

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

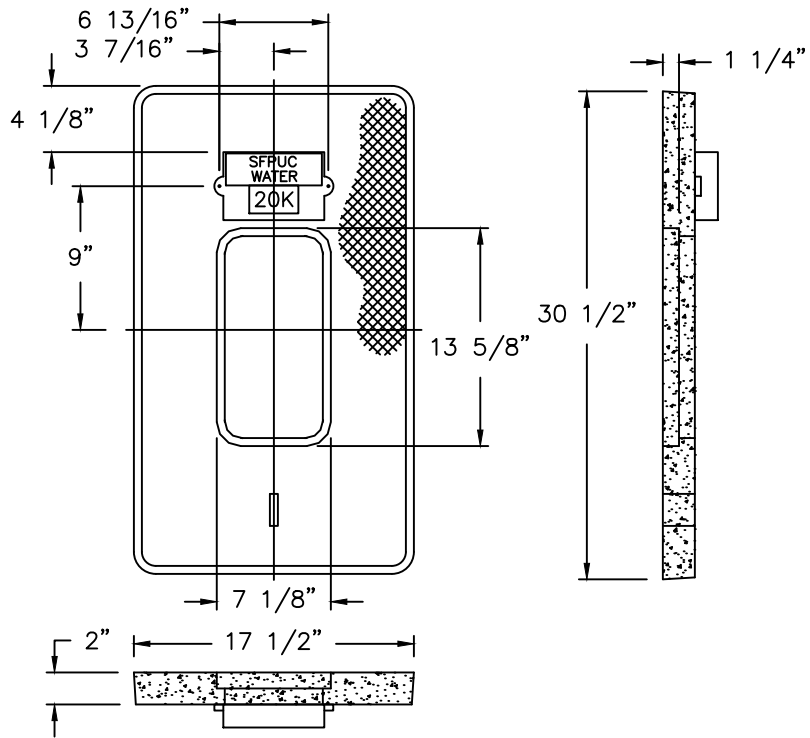
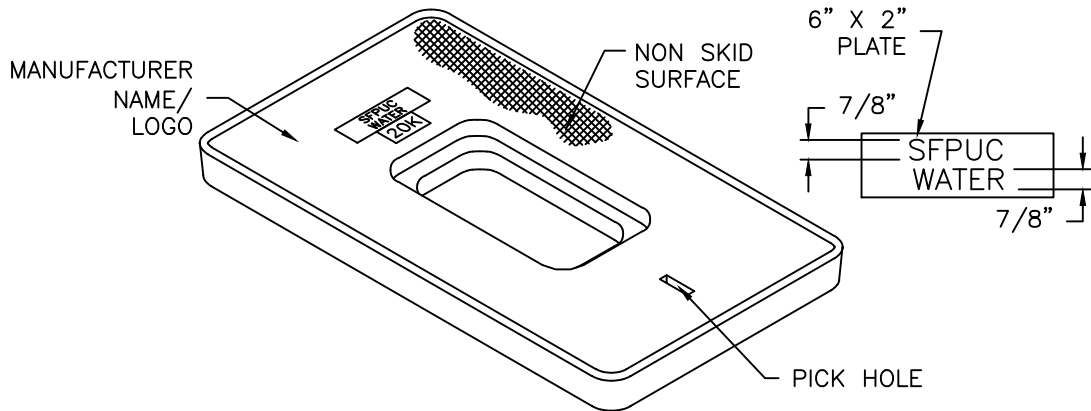


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WATER SERVICES
10"X15" POLYMER CONCRETE METER BOX COVER 9X

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-209	75



ARMORCAST A6-1947TD-EB-SPFUC OR APPROVED EQUIVALENT



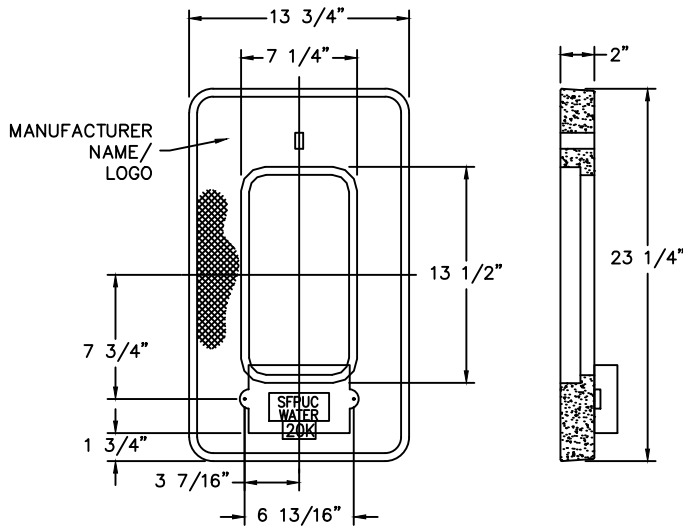
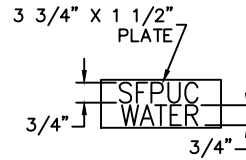
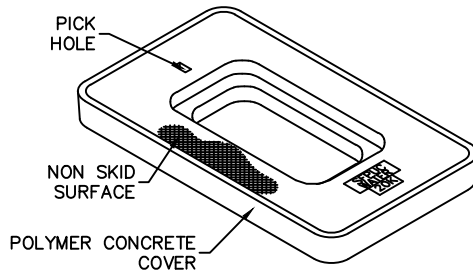
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
17"X30" POLYMER CONCRETE METER BOX COVER
WITH 7"X13" READ LID OPENING

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-210	76



ARMORCAST A6-1969DEB-SPFUC OR APPROVED EQUIVALENT



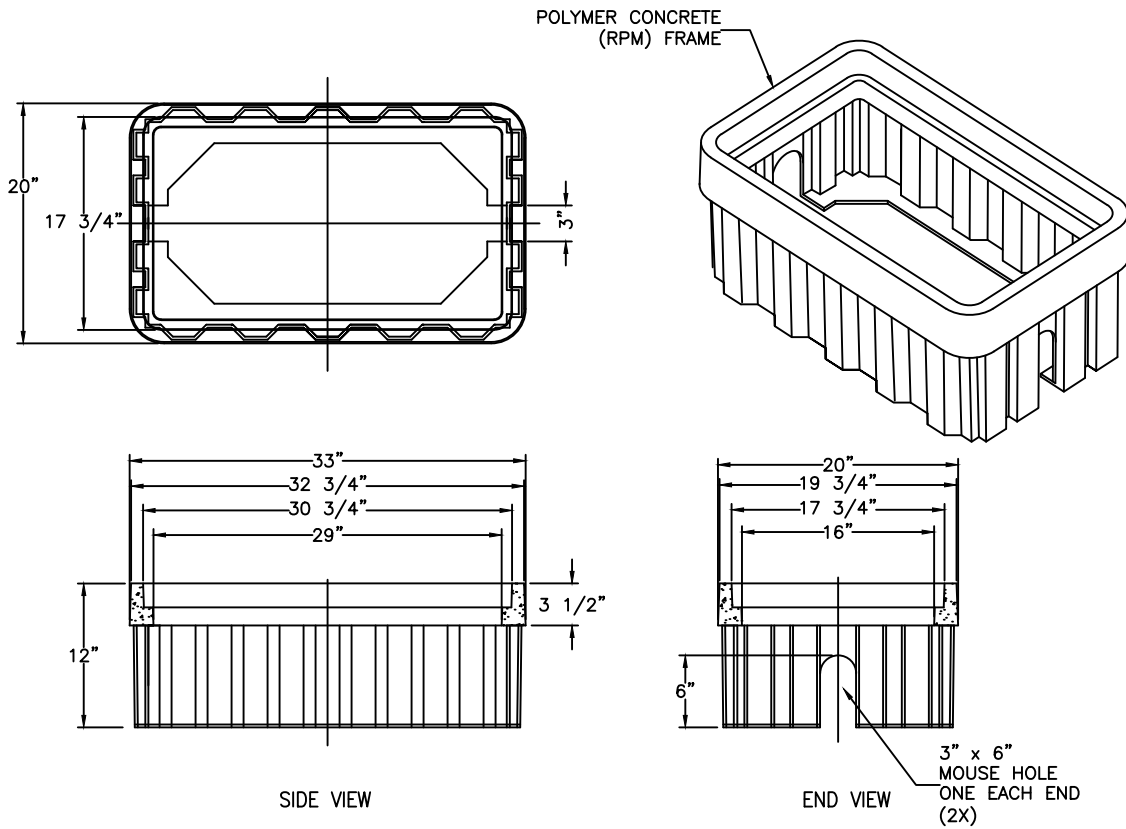
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
13"X24" POLYMER CONCRETE METER BOX COVER
WITH 7"X13" READ LID OPENING

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-211	77



ARMORCAST P6-1534X12-SFWD OR APPROVED EQUIVALENT



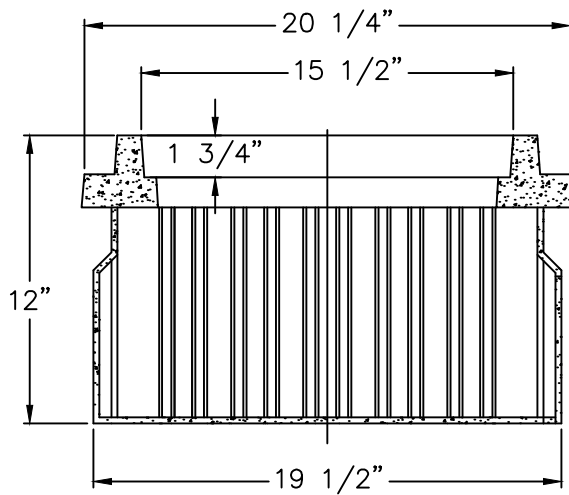
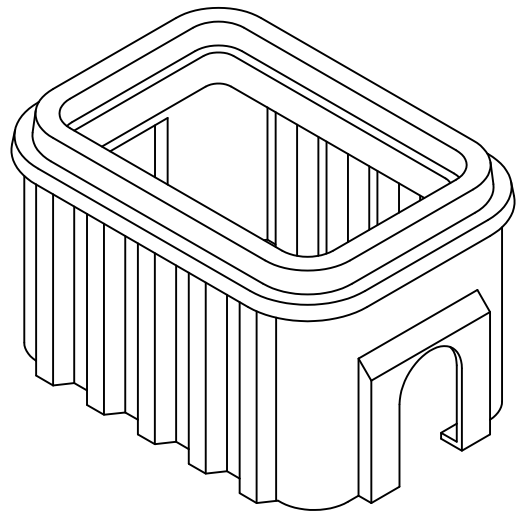
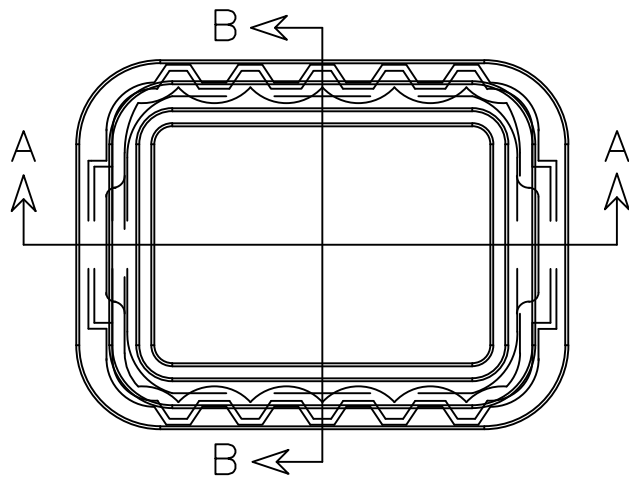
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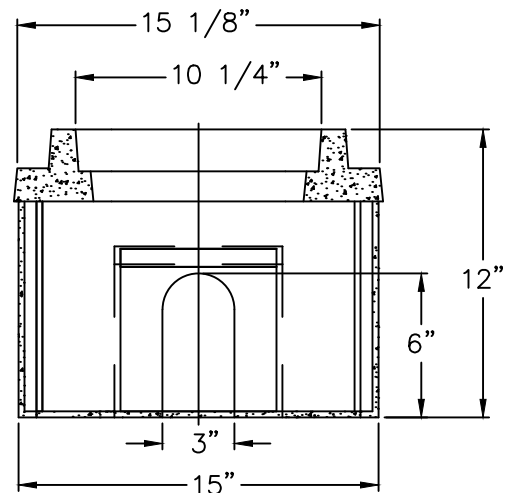
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
17"X30"X12" METER BOX

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-212	78



SECTION A-A



SECTION B-B

ARMORCAST P6-1921X12-SFWD OR APPROVED EQUIVALENT

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

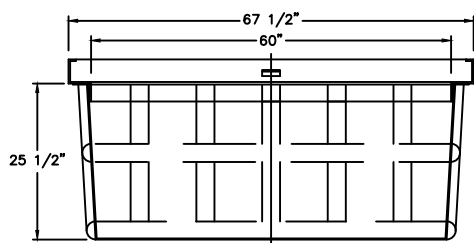
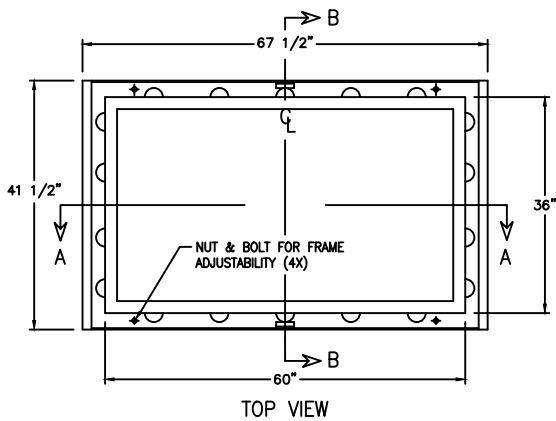
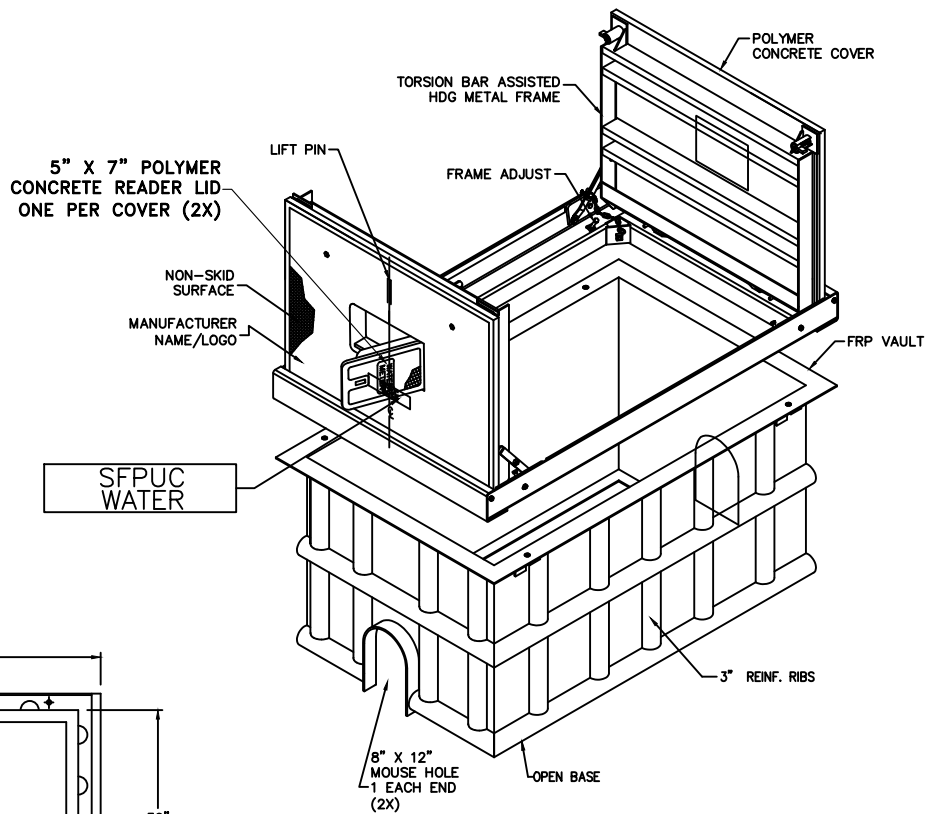


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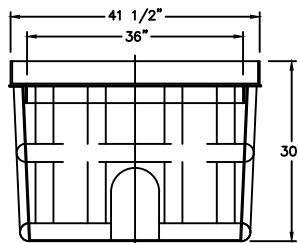
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**WATER SERVICES
10"X15"X12" METER BOX**

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-213	79



SECTION A-A



SECTION B-B

ARMORCAST A6-1436TAX30MT-SFWD OR APPROVED EQUIVALENT



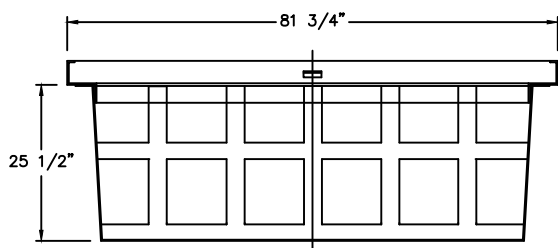
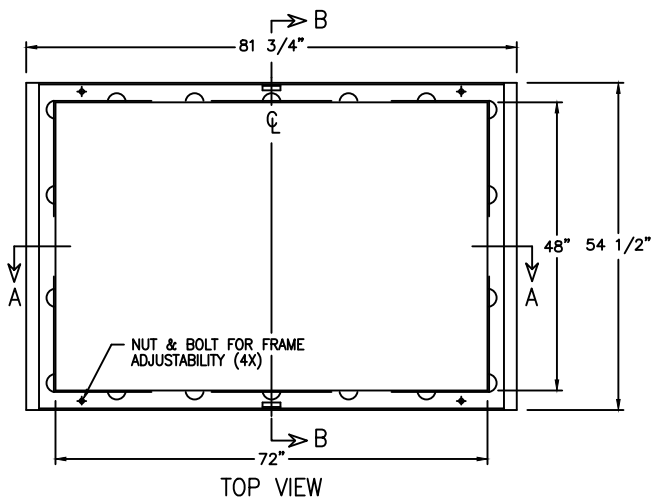
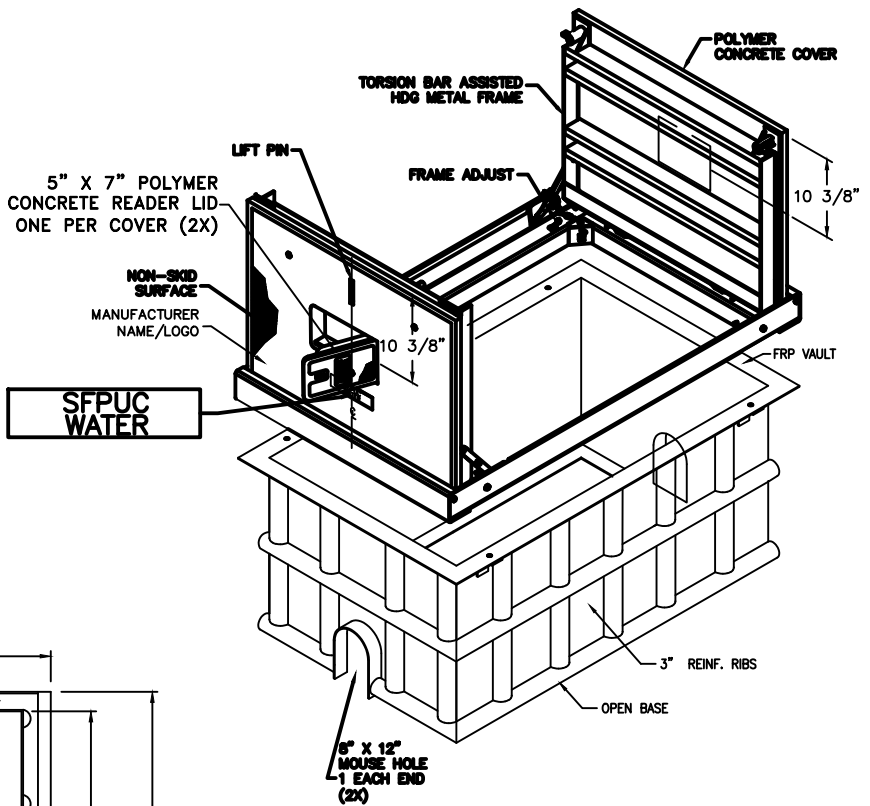
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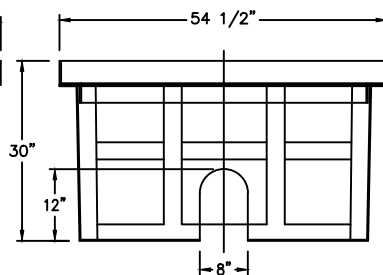
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
36"X60"X30" METER VAULT W/TORSION ASSISTED COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-214	80



SECTION A-A



SECTION B-B

ARMORCAST A6-1506TAX30MT-SFWD OR APPROVED EQUIVALENT



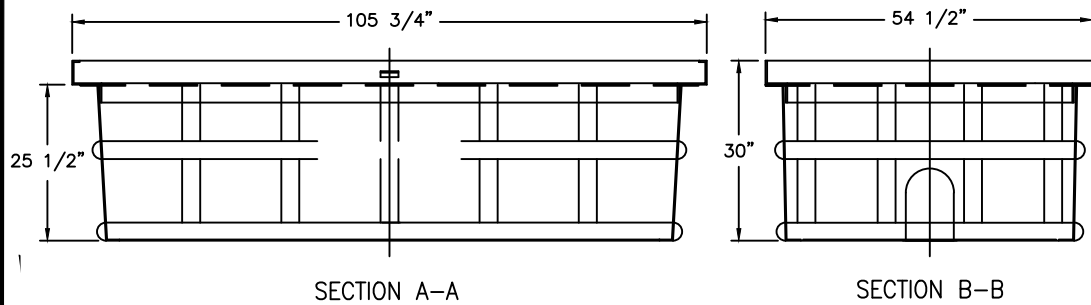
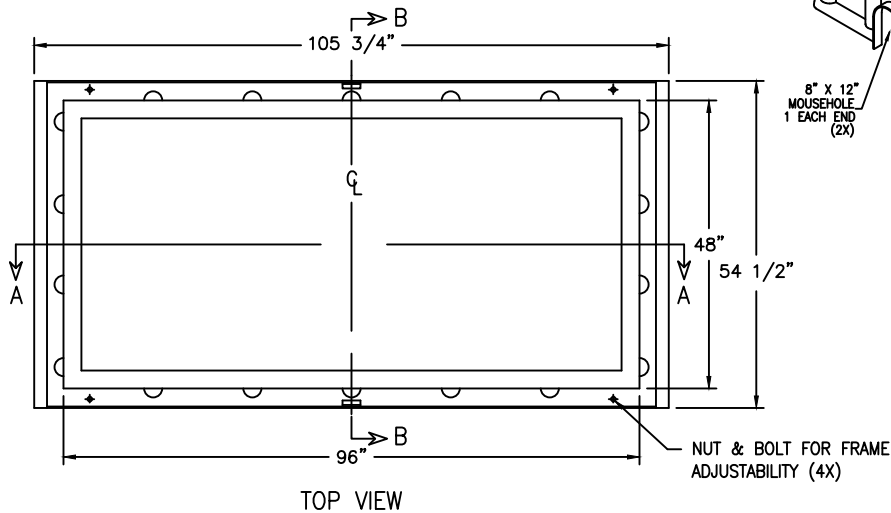
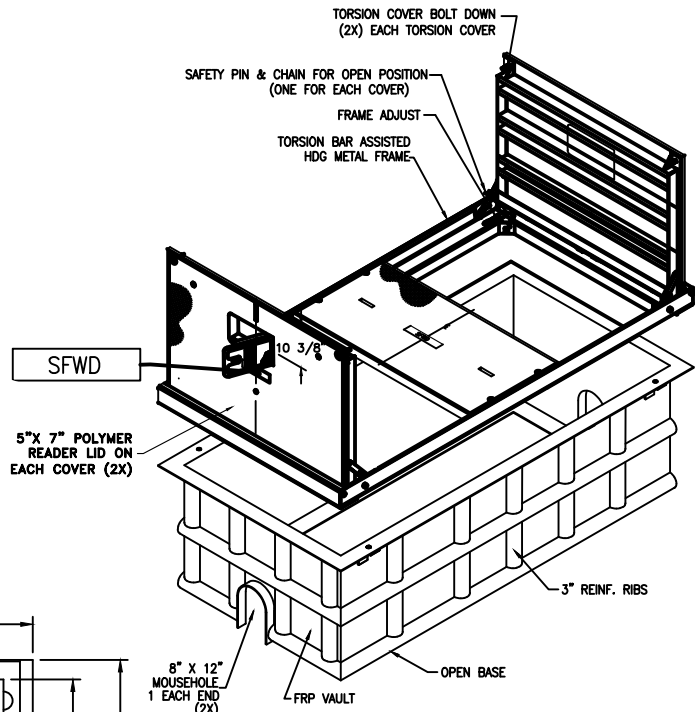
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
48"X72"X30" METER VAULT W/TORSION ASSISTED COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-215	81



ARMORCAST A6-1499TAXMT-SFWD OR APPROVED EQUIVALENT



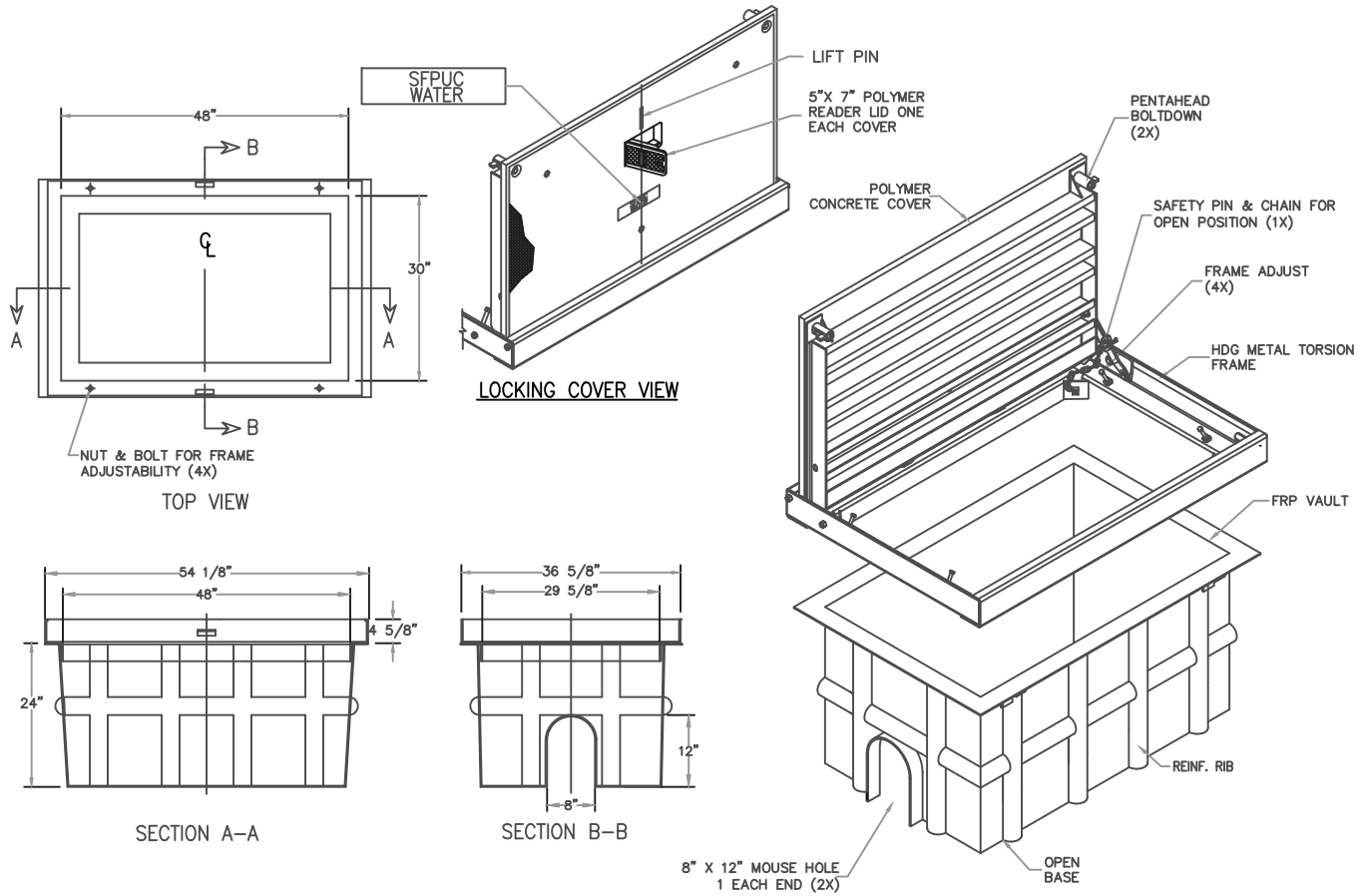
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

WATER SERVICES
48\"/>

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-216	82



ARMORCAST A6-1430TAX24MT-SFPUC OR APPROVED EQUIVALENT

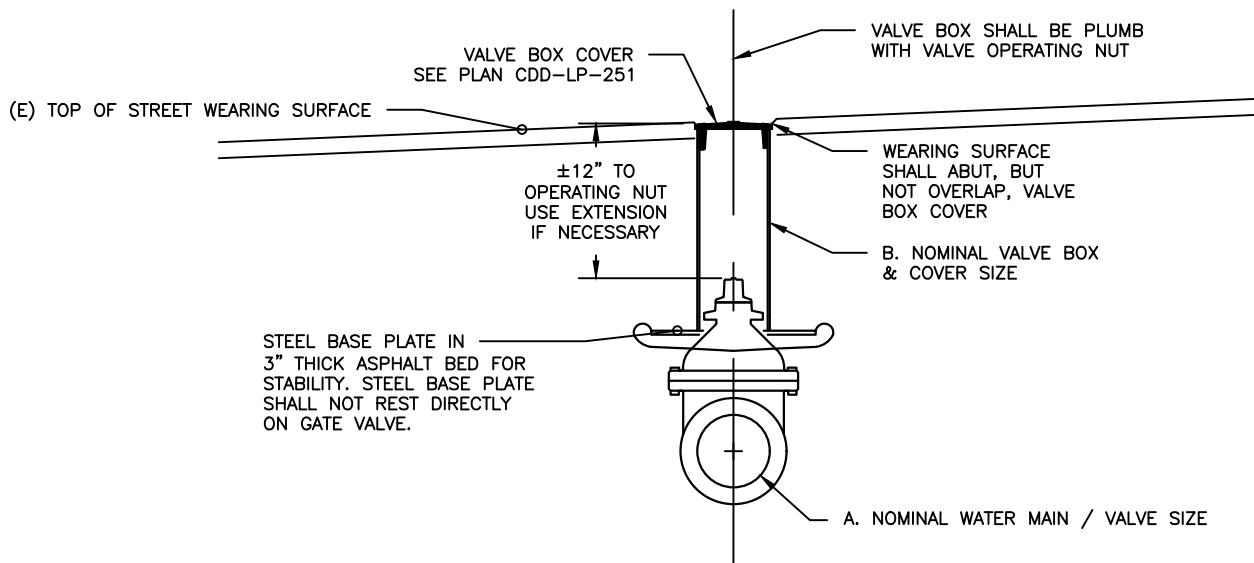


WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

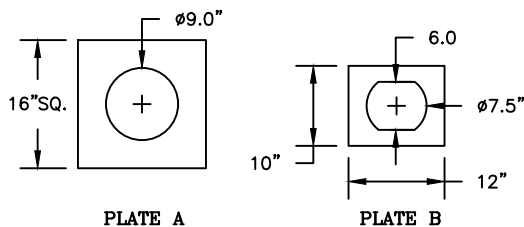
WATER SERVICES

30" X 48" X 24" TORSION ASSIST VAULT

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-217	83



VALVE BOX SIZES			
A, VALVE / MAIN SIZE	B, BOX & COVER SIZE	CDD COVER COMMODITY CODE	STEEL PLATE SIZE
2" AIR VALVE (SEE CDD-LP-003)	12"	048-20-6610	A
4" GATE VALVE	6"	048-20-6600	B
6" GATE VALVE	6"		
8" GATE VALVE	8"	048-20-6605	
12" GATE VALVE	8"		
16" GATE VALVE	8"		



STEEL PLATES ARE
1/2" THICK



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

VALVE BOXES & COVERS
STANDARD POTABLE WATER VALVE BOX
INSTALLATION

DATE 3/7/2017

REV.

DRAWING NO.

SHEET

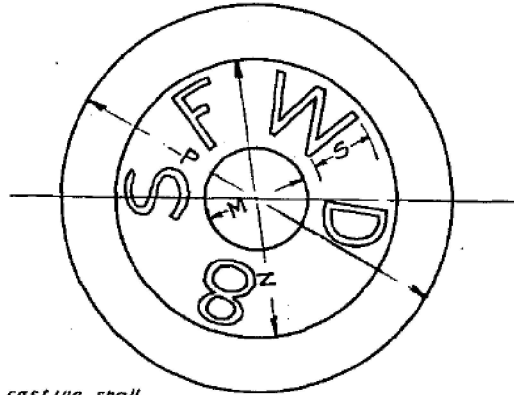
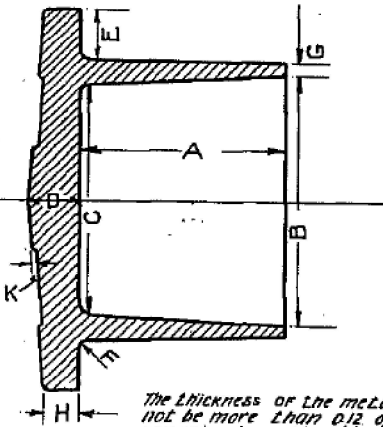
SCALE N.T.S.

0

CDD-LP-250

84

All cast iron shall be strong, tough, of even grain, and sufficiently soft to permit easy machining. All cast iron used for manufacturing of cast iron pipe fittings shall conform to the grade known as "Class A" as specified in the Standard Specifications for Gray-Iron Castings for Valves, Flanges, and Pipe Fittings, Designation A 126-70, Dated 1930 of the American Society for Testing Materials.



The thickness of the metal in the body of the casting shall not be more than 0.12 of an inch less than that specified except where the thickness is 1/4 inch or more, the variation shall not exceed 0.15 of an inch.

No casting shall be accepted, the weight of which is more than ten (10) per cent less than that specified.

When ten (10) or more castings of the same pattern are ordered, the weight to be paid for shall not be more than six (6) per cent in excess of the specified weight.

When less than ten (10) castings of the same pattern are ordered, the weight to be paid for shall not be more than ten (10) per cent in excess of the specified weight.

SIZE	MAX WT.
4	9
6	14
8	28
12	62

Weight in Pounds

SIZE	A	B	C	D	E	F	G	H	K	M	N	P	S
4	3 1/2	3	2 3/4	1	1	1/4	1/4	1/2	1/8	2	4	5 1/2	1
6	3 1/2	5	4 1/2	1	1	1/4	1/4	3/8	1/8	2	4 1/2	7 1/2	1 1/4
8	3 1/2	6 1/2	6	1 1/8	1	1/4	3/8	3/4	1/8	2	6 1/2	9 1/2	1 1/4
12	3 1/2	11	10 1/8	1 1/4	1 1/8	1/4	3/8	3/4	1/8	2	10 1/2	14	1 1/2

NOTE- All Dimensions are in inches

D&L FOUNDRY 0-700X OR APPROVED EQUIVALENT

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

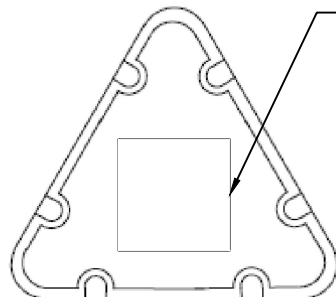
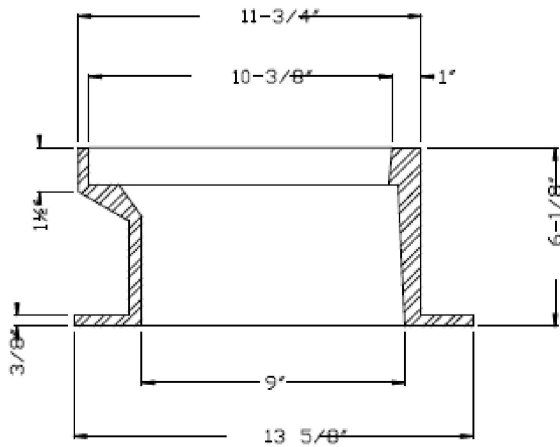
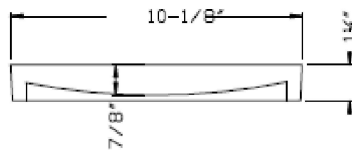
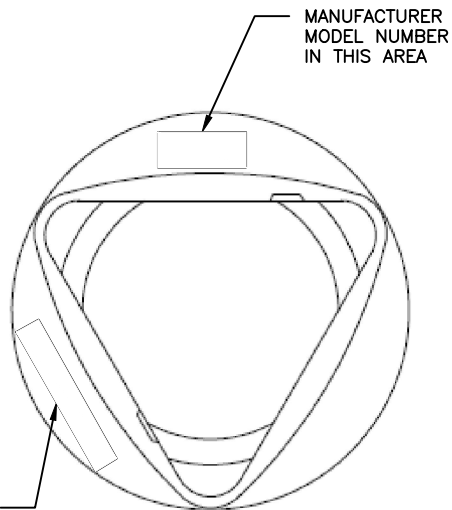


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VALVE BOXES & COVERS
STANDARD SFWD POTABLE WATER GATE COVER

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-251	SHEET	85
SCALE	N.T.S.						



MANUFACTURER LOGO/NAME MODEL NUMBER IN THIS AREA

D&L FOUNDRY M-9009 OR APPROVED EQUIVALENT

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

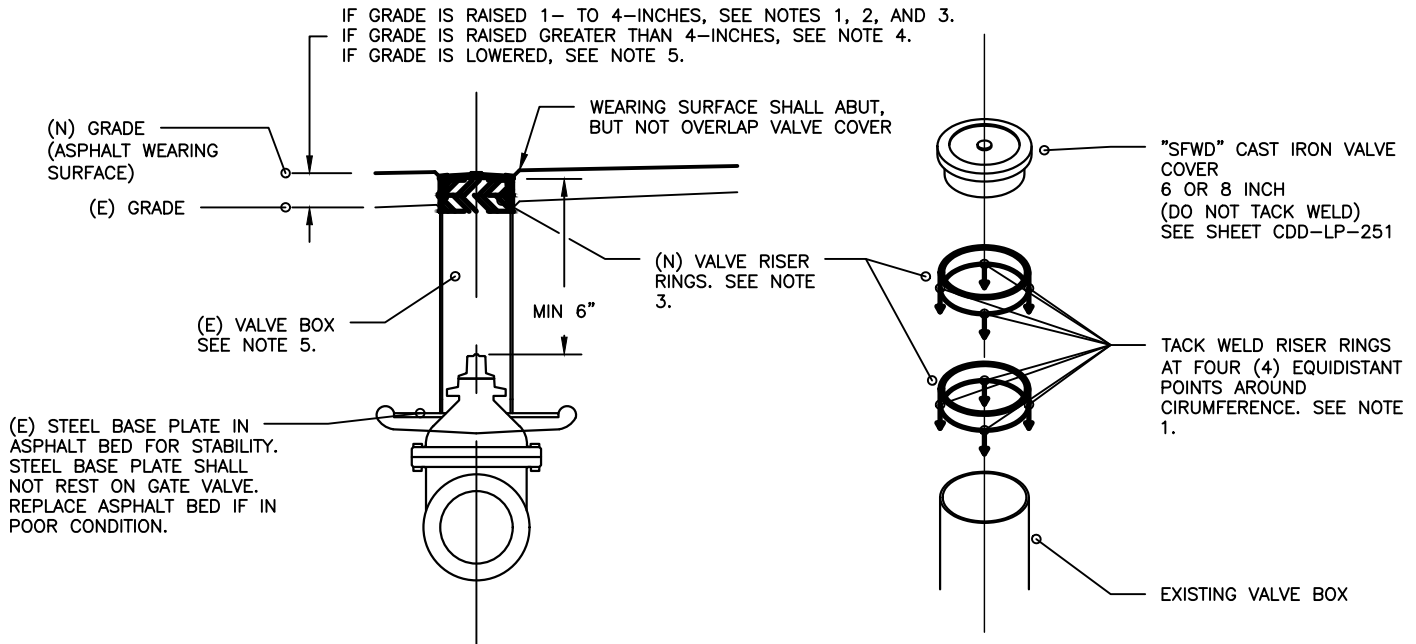


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VALVE BOXES & COVERS
STANDARD SFWD RECYCLED WATER GATE COVER

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-252	86



VALVE COVER ADJUSTMENT NOTES FOR ASPHALT WEARING SURFACES (≤ 4):

1. TO RAISE VALVE COVERS BETWEEN 1-INCH AND 4-INCHES TO (N) STREET GRADE, TACK WELD SFWD-SUPPLIED VALVE BOX RISER RINGS TO (E) VALVE BOX AS SHOWN.
2. VALVE BOX RISER RINGS ARE AVAILABLE IN THE FOLLOWING SIZES FROM THE CITY DISTRIBUTION WAREHOUSE AT 1990 NEWCOMB AVENUE.

	<u>COMMODITY CODE:</u>
2.1. 1-INCH HIGH X 6-INCH DIAMETER	047-33-9061
2.2. 2-INCH HIGH X 6-INCH DIAMETER	047-33-9062
2.3. 1-INCH HIGH X 8-INCH DIAMETER	047-33-9081
2.4. 2-INCH HIGH X 8-INCH DIAMETER	047-33-9082
3. A MAXIMUM OF TWO (2) VALVE RISER RINGS MAY BE TACK-WELDED TO AN (E) IRON VALVE BOX.
4. IF VALVE COVERS ARE BEING RAISED MORE THAN 4-INCHES TO (N) GRADE:
 - 4.1. THE (E) VALVE BOX MUST BE REMOVED AND A (N) IRON VALVE BOX MUST BE CUT TO THE APPROPRIATE SIZE AND SET IN PLACE.
 - 4.2. A NEW BELL & SPIGOT PIECE MAY BE CUT TO SUIT AND ASSEMBLED ON THE EXISTING BOX PER CDD-LP-253B.
5. IF VALVE COVERS ARE BEING LOWERED, THE (E) VALVE BOX MUST BE REMOVED, CUT OR GROUND TO THE APPROPRIATE SIZE, AND RESET IN PLACE. THE MINIMUM DISTANCE BETWEEN GATE VALVE OPERATING NUT AND VALVE COVER IS SIX (6) INCHES.
6. IF VALVE BOX IS 12-INCHES OR GREATER IN DIAMETER, VALVE ADJUSTMENT MUST BE MADE BY INSTALLING A (N) VALVE BOX CUT TO THE APPROPRIATE SIZE. VALVE BOX RISER RINGS ARE NOT AVAILABLE FOR VALVE BOXES GREATER THAN OR EQUAL TO 12-INCHES IN DIAMETER.
7. (N) ASPHALT WEARING SURFACE SHALL ENCASE THE CIRCUMFERENCE, BUT NOT BE PLACED OVER THE TOP SURFACE OF, THE SFWD VALVE COVER.



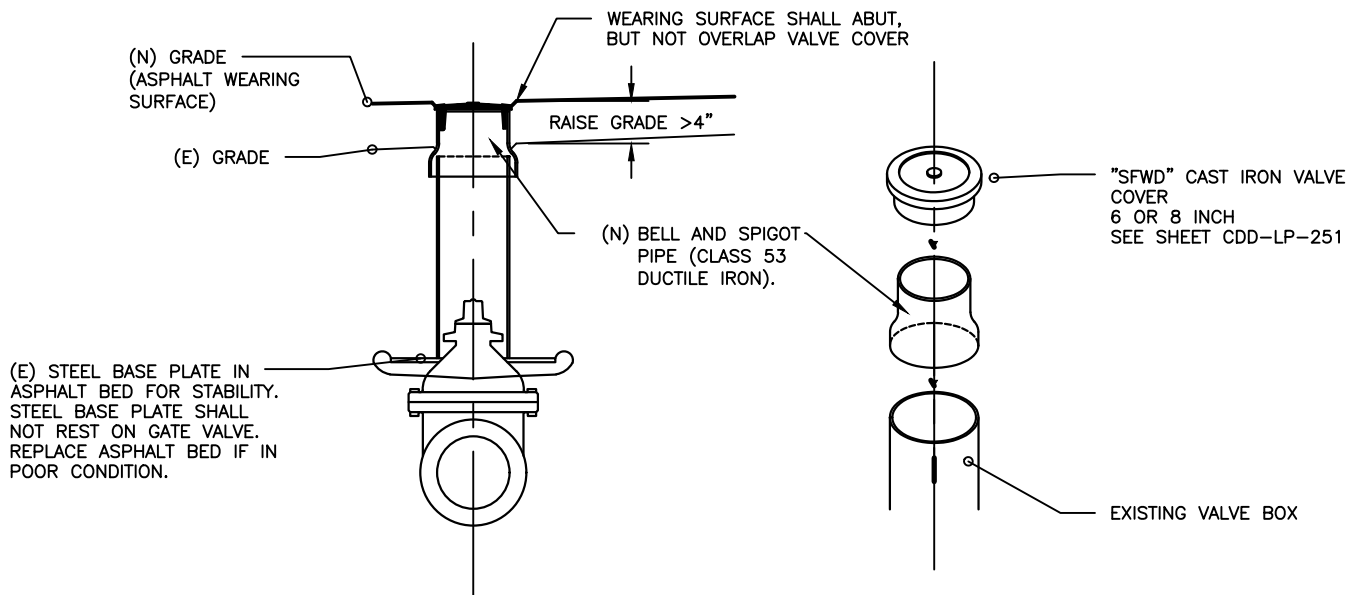
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**VALVE BOXES & COVERS
 ADJUSTMENT OF STANDARD POTABLE GATE COVER
 TO NEW PAVEMENT GRADE (≤ 4)**

DATE	7/5/2018	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-253A	87



VALVE COVER ADJUSTMENT NOTES FOR ASPHALT WEARING SURFACES (>4" GRADE CHANGE):

1. TO RAISE VALVE COVERS GREATER THAN 4 INCHES TO (N) STREET GRADE, INSTALL NEW BELL & SPIGOT PIPE CUT TO SUIT. (CLASS 53).
2. (N) ASPHALT WEARING SURFACE SHALL ENCASE THE CIRCUMFERENCE, BUT NOT BE PLACED OVER THE TOP SURFACE OF THE SFWD VALVE COVER.
3. FOR COVER ADJUSTMENTS $\leq 4"$, SEE CDD-LP-253A.



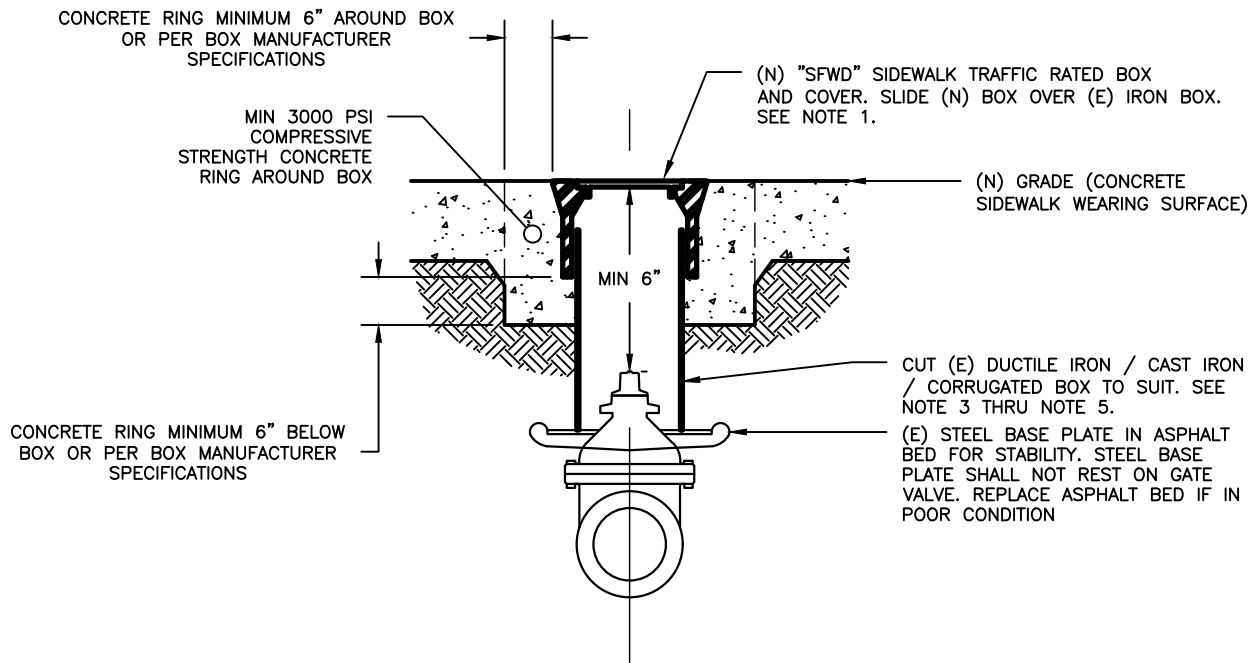
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**VALVE BOXES & COVERS
ADJUSTMENT OF STANDARD POTABLE GATE COVER
TO NEW PAVEMENT GRADE (>4")**

DATE	7/5/2018	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-253B	88



VALVE COVER ADJUSTMENT NOTES FOR SIDEWALKS:

1. SIDEWALK TRAFFIC RATED BOX SIZES ARE AS FOLLOWS. BOXES SHALL BE CHRISTY G05T OR APPROVED EQUIVALENT. BOX INSCRIPTION SHALL BE THE SAME AS THE EXISTING VALVE COVER.

<u>EXISTING VALVE BOX TYPE:</u>	<u>CHRISTY ASSEMBLY:</u>	<u>COMMODITY CODE:</u>
1.1. EXISTING 6-INCH DIAMETER BOX	G05T W/ SFWD LID	056-25-0910
	G05T W/ SFFD LID	056-25-0910
EXISTING 8-INCH DIAMETER BOX	G05T W/ SFWD LID	056-25-0910

2. BOX COVER LOCKING BOLTS SHALL **NOT** BE INSTALLED.

3. MINIMUM DISTANCE BETWEEN VALVE OPERATING NUT AND VALVE BOX COVER SHALL BE SIX (6) INCHES.

4. (E) IRON VALVE BOX SHALL BE CUT OR GROUND SUCH THAT THE CHRISTY BOX DOES NOT REST ON THE THE MODIFIED IRON VALVE BOX. TRAFFIC LOADS SHALL NOT BE TRANSFERRED TO THE IRON VALVE BOX.

5. BOXES OVER BRONZE AND / OR GALVANIZED SERVICE VALVES SHALL BE CORRUGATED PVC OR HDPE.



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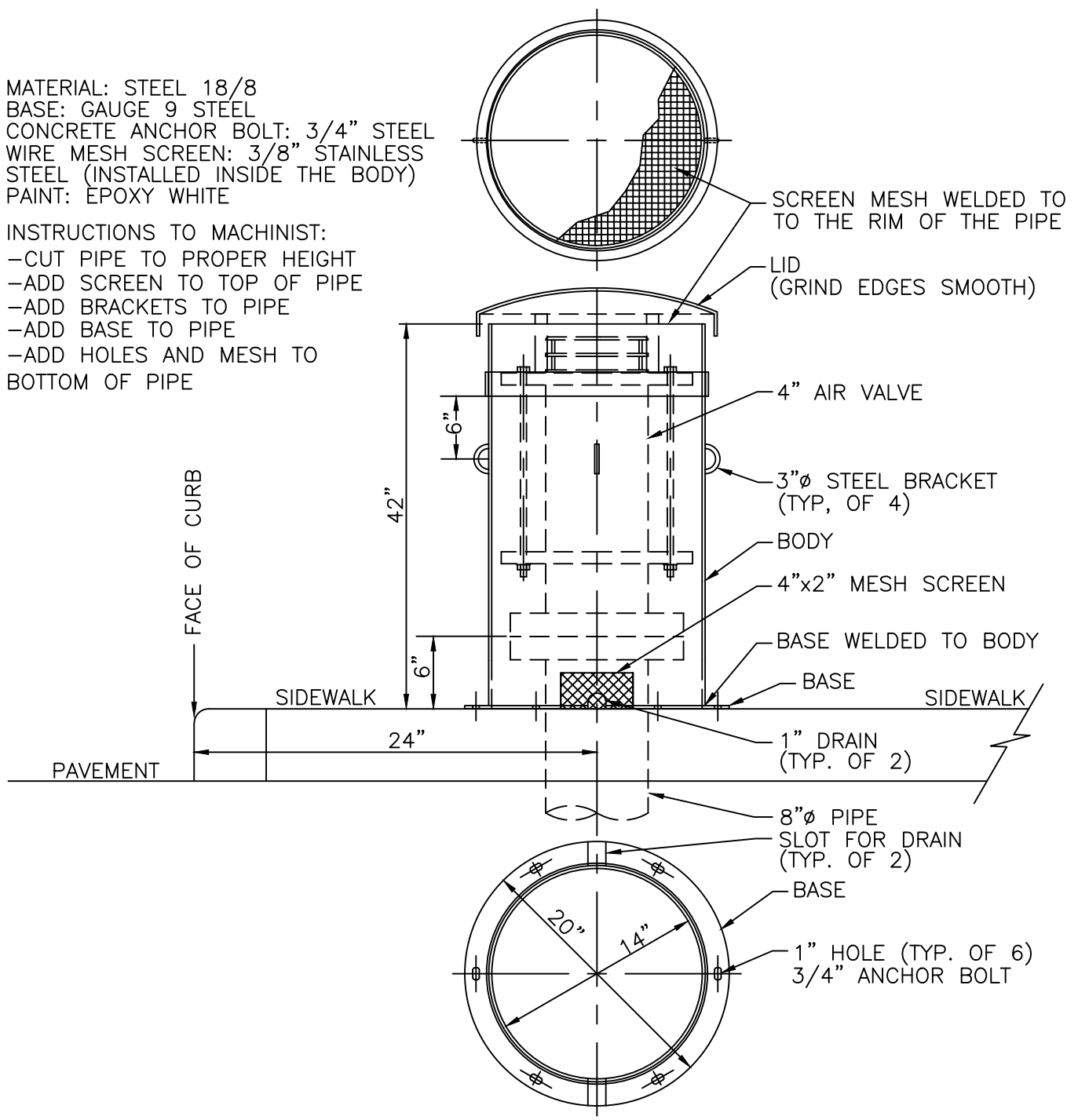
WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

**VALVE BOXES & COVERS
ADJUSTMENT OF POTABLE VALVE BOXES AND
COVERS ON WATER LATERALS TO SIDEWALK GRADE**

DATE	7/21/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-254	89

MATERIAL: STEEL 18/8
 BASE: GAUGE 9 STEEL
 CONCRETE ANCHOR BOLT: 3/4" STEEL
 WIRE MESH SCREEN: 3/8" STAINLESS
 STEEL (INSTALLED INSIDE THE BODY)
 PAINT: EPOXY WHITE

INSTRUCTIONS TO MACHINIST:
 -CUT PIPE TO PROPER HEIGHT
 -ADD SCREEN TO TOP OF PIPE
 -ADD BRACKETS TO PIPE
 -ADD BASE TO PIPE
 -ADD HOLES AND MESH TO
 BOTTOM OF PIPE



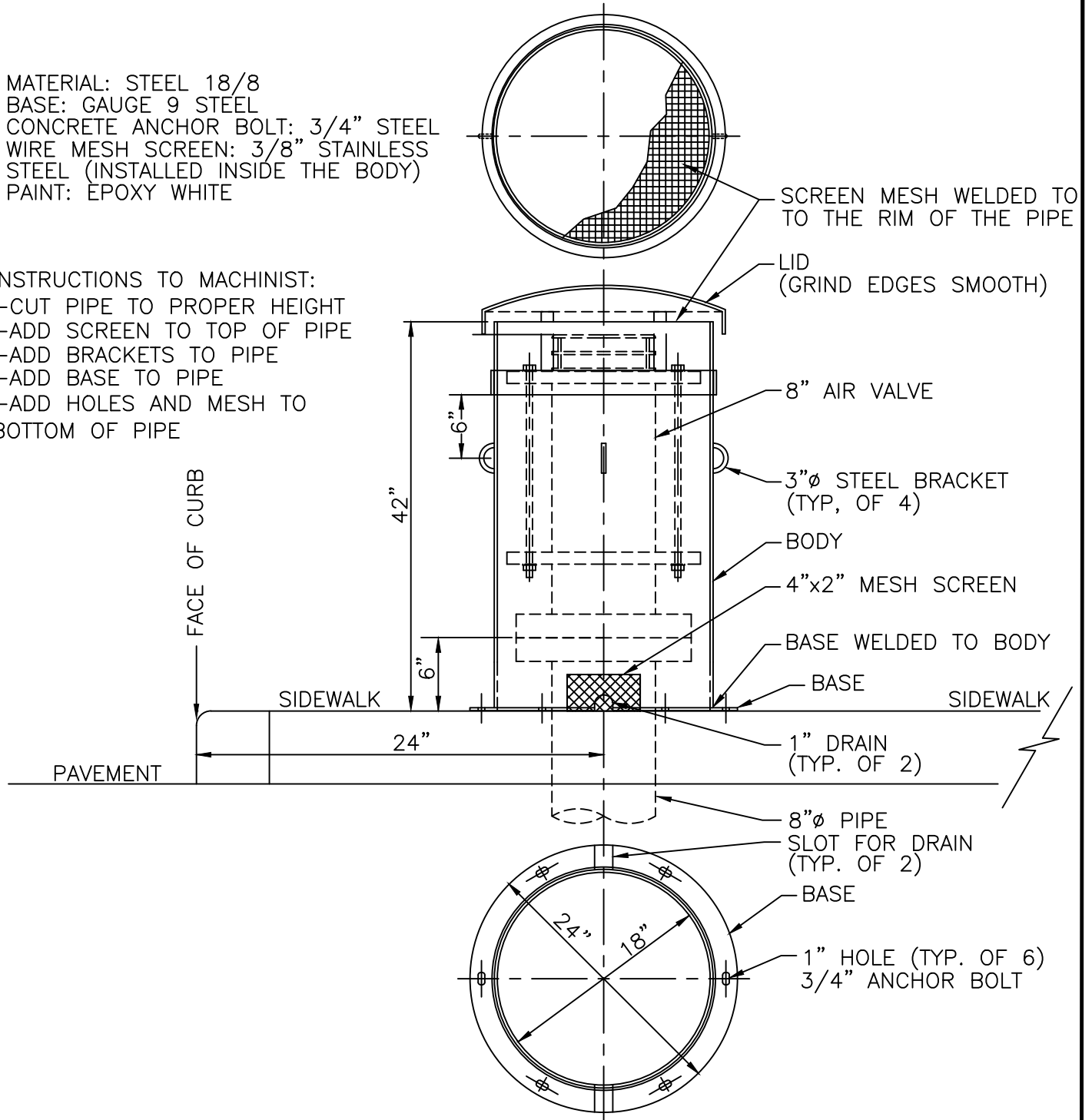
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

VALVE BOXES & COVERS
 4-IN AIR VALVE ENCLOSURE

DATE	3/7/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	1	CDD-LP-255	90

MATERIAL: STEEL 18/8
 BASE: GAUGE 9 STEEL
 CONCRETE ANCHOR BOLT: 3/4" STEEL
 WIRE MESH SCREEN: 3/8" STAINLESS
 STEEL (INSTALLED INSIDE THE BODY)
 PAINT: EPOXY WHITE

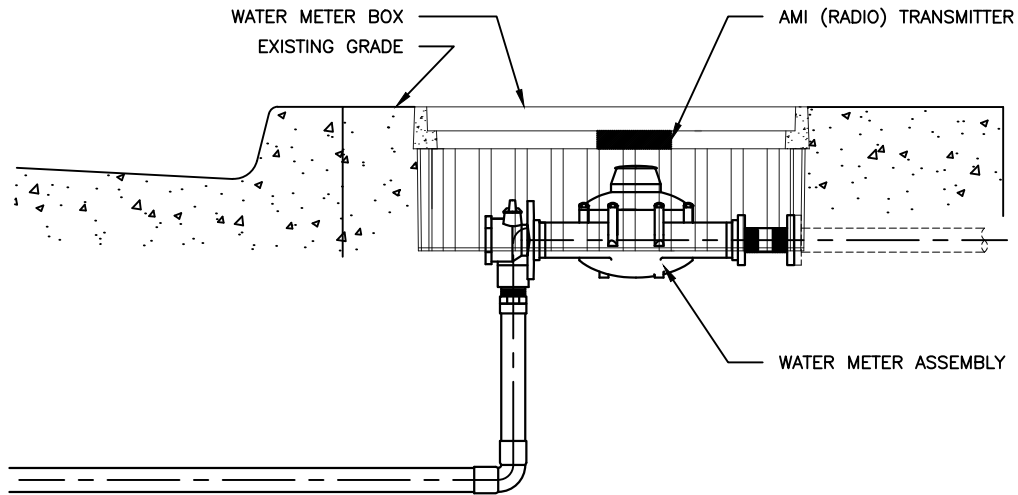
INSTRUCTIONS TO MACHINIST:
 -CUT PIPE TO PROPER HEIGHT
 -ADD SCREEN TO TOP OF PIPE
 -ADD BRACKETS TO PIPE
 -ADD BASE TO PIPE
 -ADD HOLES AND MESH TO
 BOTTOM OF PIPE



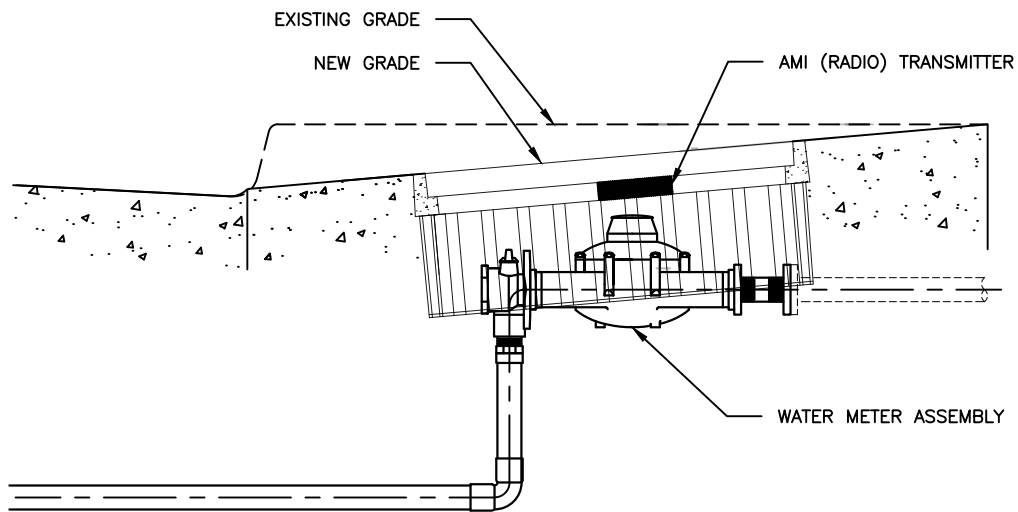
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

VALVE BOXES & COVERS
 AIR VALVE ENCLOSURE MODIFIED FOR 8-IN AIR
 VALVE

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-256	91



TYPICAL EXISTING CONDITION



TYPICAL MODIFIED CONDITION

NOTES:

1. CONCRETE AND PAVING CONTRACTORS ARE PERMITTED TO ADJUST METER BOXES TO NEW SIDEWALK GRADES ONLY WHEN THE FOLLOWING CONDITIONS ARE MET:
 - 1.1. UNDERGROUND PLUMBING, METER ASSEMBLY AND AMI (RADIO) TRANSMITTER MUST FIT ENTIRELY WITHIN THE METER BOX HOUSING IN THE NEW GRADING CONDITION. THE METER BOX LID MUST REST SNUGLY WITHIN THE METER BOX FRAME, WITHOUT PROTRUDING UP OUT OF THE BOX AND RESULTING IN TRIPPING HAZARDS.
 - 1.2. EXISTING METER BOX MUST FIT ENTIRELY WITHIN SINGLE PLANE OF CURB RAMP WING. METER BOX CANNOT BE ADJUSTED WITHIN CURB RAMP DETECTABLE TILE WARNING AREA.
 - 1.3. VERTICAL ADJUSTMENT OF METER BOXES UP TO A NEW GRADE MAY NOT RESULT IN THE UNDERGROUND METER ASSEMBLY BEING BURIED IN SOIL AND INACCESSIBLE FOR MAINTENANCE.
2. ADJUSTMENTS SHALL COMPLY WITH SFPUC ASSET PROTECTION STANDARD W2.A.II (SFWATER.ORG/APS). METER BOXES ARE NOT PERMITTED IN DETECTABLE TILE WARNING AREA.
3. IF ANY OF THE CONDITIONS STATED IN NOTES 1. AND 2. ARE NOT MET, THE METER BOX AND UNDERGROUND PLUMBING MUST BE RELOCATED BY SFPUC STAFF AT COST TO THE PROJECT SPONSOR.



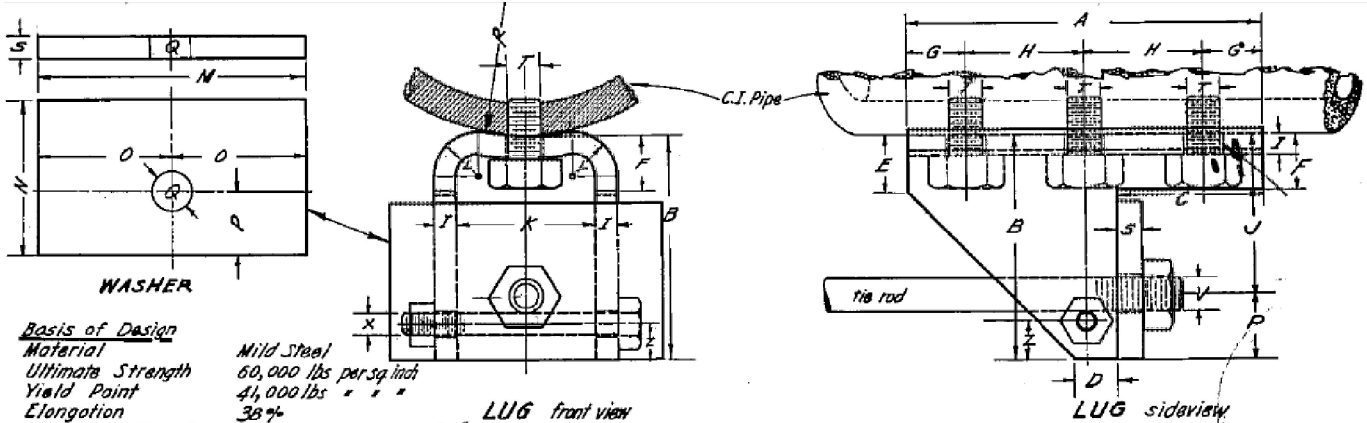
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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS

VALVE BOXES & COVERS
ADJUSTMENT OF METER BOXES TO NEW
SIDEWALK GRADE AT CURB RAMPS

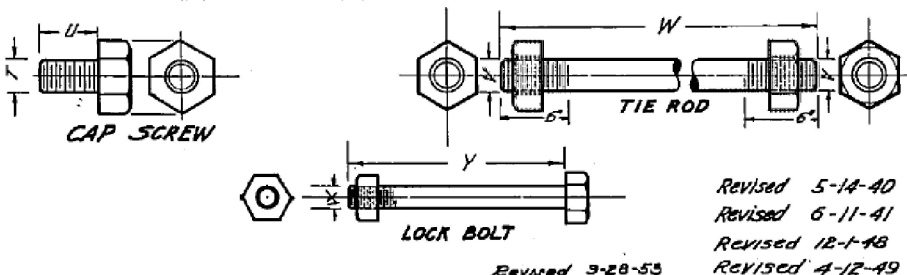
DATE	8/1/2018	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LP-257	92



Basis of Design
 Material: Mild Steel
 Ultimate Strength: 60,000 lbs per sq inch
 Yield Point: 41,000 lbs " " "
 Elongation: 38%
 Use: 100% unbalanced static pressure at 6000lbs"

SIZE	LUG													WASHER				STUD			Tie Rod		LOCK BOLT			
	A	B	C	D	E	F	G	H	I	J	K	L	R	Z	M	N	O	P	Q	S	T	U	V	W	X	Y
4	4	3 3/8	1 3/8	1/2	3/4	5/8	1 1/2	1 3/8	1/4	2 3/8	1 1/2	1/2	2.40	3/8	3	2 1/2	1 1/2	3/8	3/8	1 1/4	3/8	3/8	1/2	1 1/4	1 1/4	2 1/2
6	5	3 3/4	2 1/4	3/4	1/2	7/8	1 1/2	2 1/8	1/4	2 3/4	1 1/2	1/2	3.45	3/8	3	2 1/2	1 1/2	1 1/8	4/16	3/8	3/8	1	5/8	2 1/8	3/8	3
8	6	4 1/2	2 3/8	1 1/4	1/2	3/4	1 1/2	2 3/8	1/4	2 3/4	1 3/4	1/2	4.53	1/2	3 3/8	3 1/2	1 3/8	1 1/8	3/8	1/2	1	3/4	2 3/8	1/2	3 1/2	
12	8	4 7/8	3	1 1/4	3/4	1	1 1/2	3 1/8	3/8	3	2 1/4	3/4	6.60	1/2	4	3 1/2	2	1 7/8	1 1/8	3/8	1/2	1	2 1/4	1/2	3 3/4	
16	8	5 1/2	3 1/8	1 3/4	1	1 3/8	1 3/8	3 1/8	3/8	3 3/8	3	1	8.90	1/2	4 3/8	4	2 1/2	2 1/2	1 3/8	3/4	3/4	1 1/2	1 3/4	30	3/4	5

Note: All dimensions are in inches.



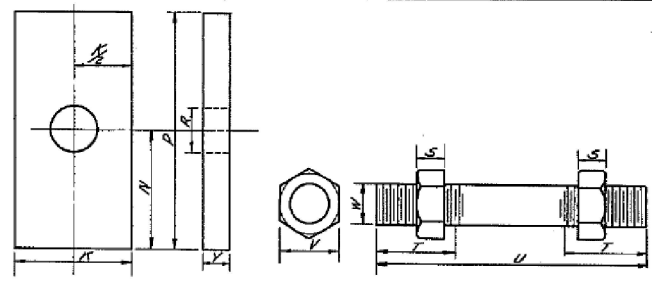
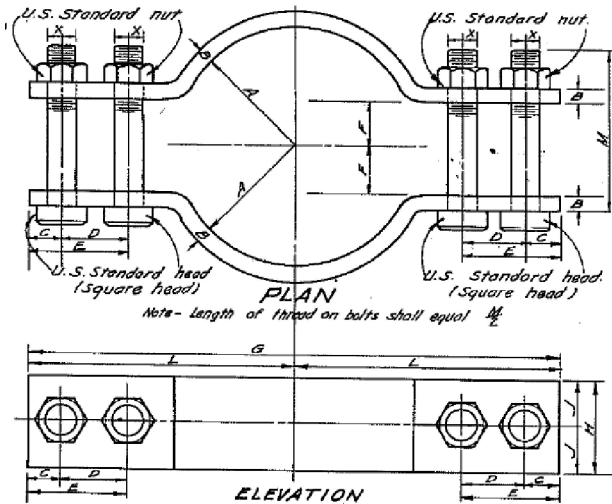
NOTE:
 LUGS, TIE RODS, BOLTS AND WASHERS SHALL BE STAINLESS STEEL
 TYPE 304 OR 316

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS



MISCELLANEOUS
 LUGS AND TIE RODS

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-301	SHEET	93
SCALE	N.T.S.						



SIZE OF BAND		DIMENSIONS				
BELL PLAN	Y	K	N	P	R	
2	3	1/2	2 1/2	2 1/2	5	4 1/2
3	4	3/4	2 1/2	2 1/2	5	4 1/2
4	6	3/4	2 1/2	2 1/2	5	4 1/2
6	8	1	2 1/2	2 1/2	5	4 1/2
10	12	1 1/4	2 1/2	2 1/2	5	4 1/2
14	16	1 1/2	2 1/2	2 1/2	5	4 1/2
16	18	1 3/4	2 1/2	2 1/2	5	4 1/2
-	2	1 1/2	2 1/2	2 1/2	5	4 1/2
8	10	1 1/4	2 1/2	2 1/2	5	4 1/2

SIZE OF BAND		DIMENSIONS					NO. OF THREADS PER INCH
BELL PLAN	S	T	U	V	W		
2	3	3/8	3	3	1 1/4	4 1/2	11
3	4	1/2	3	3	1 1/4	4 1/2	11
4	6	3/4	3	3	1 1/4	4 1/2	11
6	8	1	3	3	1 1/4	4 1/2	10
10	12	1 1/4	3	3	1 1/4	4 1/2	9
14	16	1 1/2	3	3	1 1/4	4 1/2	8
16	18	1 3/4	3	3	1 1/4	4 1/2	8
-	2	1 1/2	3	3	1 1/4	4 1/2	11
8	10	1 1/4	3	3	1 1/4	4 1/2	10

SIZE OF BAND		STEEL BANDS										BOLTS & NUTS	
BELL PLAN	A	B	C	D	E	F	G	H	J	L	M	X	NO. HOLES
2	3	1 1/2	3/4	1 1/2	1 3/4	2 1/4	7/8	1 1/4	2	1	5/8	4 1/2	4
3	4	2 1/2	3/4	1 1/2	1 3/4	2 1/4	1	1 1/4	2	1	5/8	5	4
4	6	3 1/2	3/4	1 1/2	1 3/4	2 1/4	1	1 1/4	2	1	5/8	5	4
6	8	4 1/2	3/4	1 1/2	1 3/4	2 1/4	1	1 1/4	2	1	5/8	5	4
10	12	5 1/2	1	1 1/2	1 3/4	2 1/4	1 1/4	2 1/4	2 1/2	1 1/2	1 1/2	5	4
14	16	6 1/2	1 1/4	1 1/2	1 3/4	2 1/4	1 1/4	2 1/4	2 1/2	1 1/2	1 1/2	6	4
16	18	7 1/2	1 1/2	1 1/2	1 3/4	2 1/4	1 1/4	2 1/4	2 1/2	1 1/2	1 1/2	6	4
-	2	1 1/2	3/4	1 1/2	1 3/4	2 1/4	3/4	1 1/4	2	1	5/8	4 1/2	4
8	10	2 1/2	3/4	1 1/2	1 3/4	2 1/4	1	1 1/4	2	1	5/8	5	4

GENERAL NOTES
 All dimensions are in inches. Assumptions in design: Allowable tensile strength of Bands and Washers is 15,000 lbs per square inch. Allowable tensile strength of Tie Bolts is 12,000 lbs per square inch. Maximum internal water pressure is 150 pounds per square inch. One half of total load is taken by pipe joint and earth, the balance is taken by the Tie Bolts.

Bolt holes to be drilled not punched.

Note: Bolt holes 1/8" larger than bolts.
 Bolt holes to be drilled not punched.

NOTE:
 BOLTS, NUTS, BANDS, AND WASHERS SHALL BE STAINLESS STEEL TYPE 304 OR 316



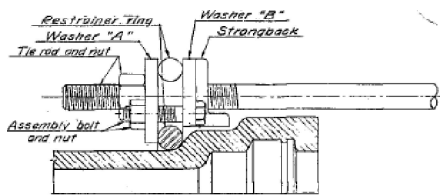
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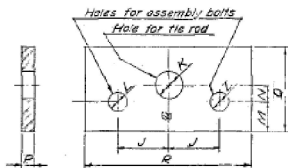
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
 PLAIN & BELL BANDS / PLATE WASHERS & TIE BOLTS

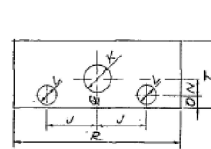
DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-302	SHEET	94
SCALE	N.T.S.						



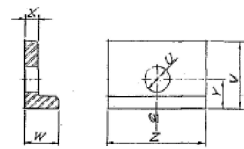
**WASHER ASSEMBLY
ON
RUBBER GASKET JOINT BELL**



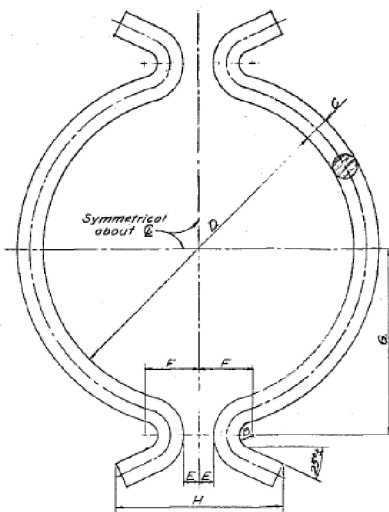
WASHER 'A'



WASHER 'B'



STRONGBACK



RESTRAINER RING

SIZE	RESTRAINING RING								WASHERS								STRONGBACK								
	B	C	D	E	F	G	H	J	K	L	M	N	O	P	Q	R	S	T	U	V	W	X	Y	Z	
4	3/8	3/4	5	1/2	1 3/8	3 3/8	5 1/2	1 1/2	1/8	9/16	3/8	7/8	1 1/2	3/8	3/8	2 1/2	5	3/8	2						
6	3/8	3/4	7 1/4	1/2	1 5/8	4 1/2	5 1/2	1 1/2	1/8	3/8	7/8	1 1/2	3/8	3/8	2 1/2	5	3/8	2							
8	3/8	3/4	9 5/8	1/2	1 5/8	5 3/8	5 1/2	1 1/2	5/16	3/8	7/8	1 1/2	3/8	3/8	2 1/2	5	3/8	2	3/4	2	1	3/8	7/8	2 3/8	
12	3/8	1/4	13 5/8	1/2	2 3/8	6 3/8	6 3/8	2 1/2	1/16	1/8	1 3/8	3/16	3/4	3/4	3 1/2	5	3/8	3	1	2	5/8	3/8	1 1/4	3 3/8	
16																									

NOTE: ALL DIMENSIONS ARE IN INCHES.

SIZE	RING AND WASHER ASSEMBLY
4	9 LBS.
6	10 LBS.
8	12 LBS. *
12	38 LBS. *
16	

* INCLUDES STRONGBACK

NOTE:

1. One assembly to consist of
 - 1 - Restrainer ring (2-Halves)
 - 2 - Washer "A"
 - 2 - Washer "B"
 - 2 - Strongback for B" and larger pipes.
 - 4 - Assembly bolts and nuts
2. Following to be furnished from warehouse.
 - a. Tie rods and nuts
 - b. Assembly bolts and nuts



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
RUBBER GASKET JOINT BELL

DATE 10/1/2016

REV. 0

DRAWING NO. CDD-LP-303

SHEET 95

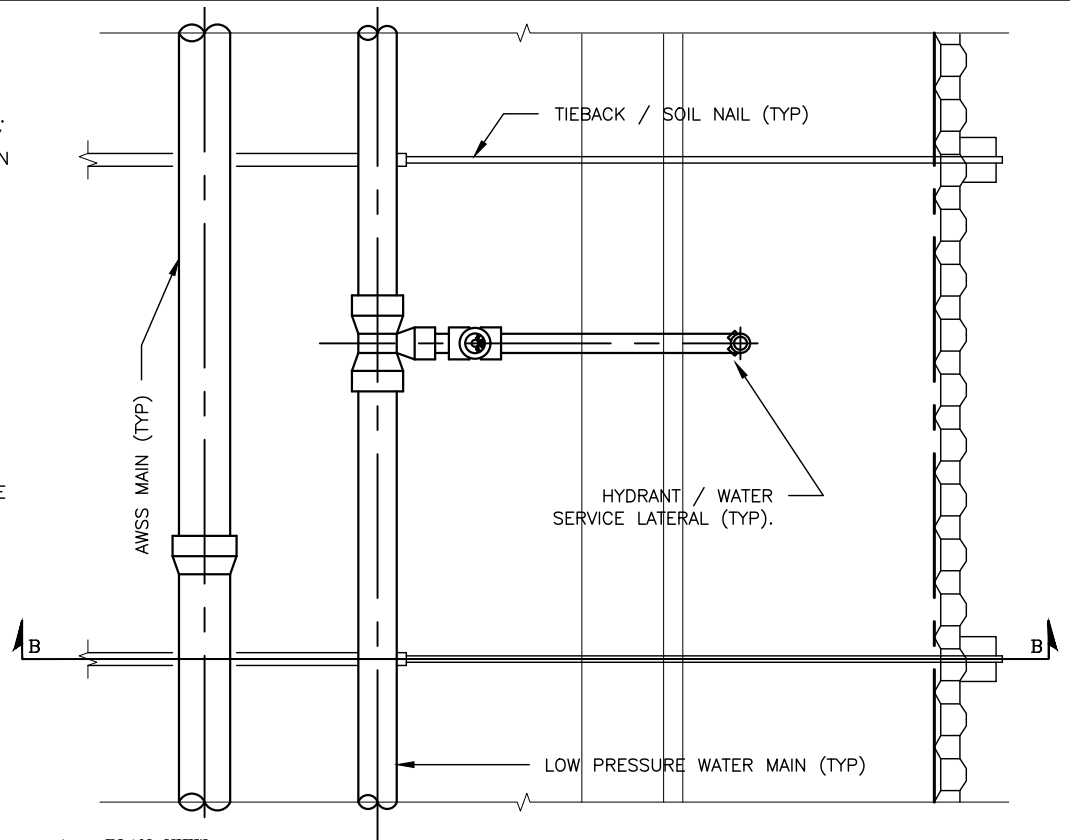
SCALE N.T.S.

CDD-LP-303

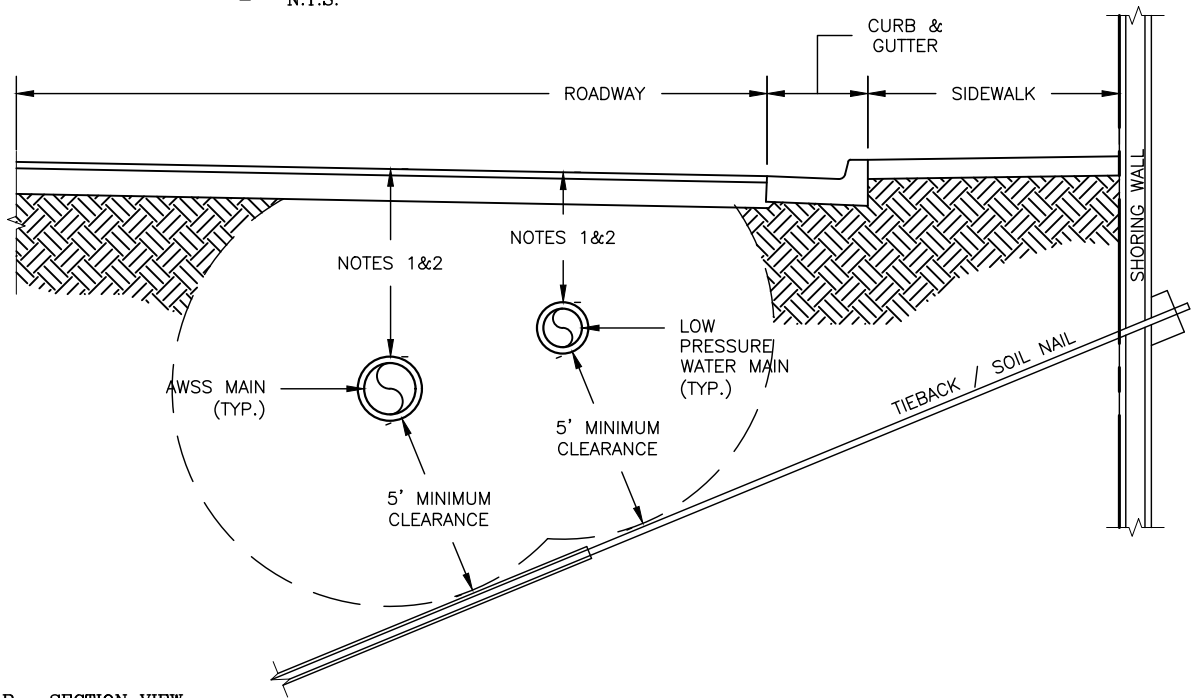
95

NOTES:

1. CDD UTILITY INFORMATION CAN BE OBTAINED BY EMAILING CDDENGINEERING@SFWATER.ORG.
2. WHEN UTILITY LOCATION AND / OR DEPTH IS NOT AVAILABLE IN RECORD DRAWINGS, POTHOLING SHALL BE PERFORMED TO VERIFY DEPTH / LOCATION.
3. SHORING / TIEBACK PERMIT SUBMITTAL SHALL SHOW PLAN AND SECTION VIEWS OF ALL CDD FACILITIES WITHIN THE TIEBACK ZONE.
4. TIEBACKS / SOIL NAILS SHALL NOT PASS WITHIN 5- FEET OF CDD FACILITIES (MEASURED FROM OUTSIDE EDGE OF FACILITY). THE DISTANCE BETWEEN THE TIEBACKS/SOIL NAILS AND CDD FACILITIES SHALL BE CALLED OUT ON THE PLANS.



A PLAN VIEW
- N.T.S.



B SECTION VIEW
- N.T.S.

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

**MISCELLANEOUS
MINIMUM CLEARANCE BETWEEN TIEBACKS AND CDD
FACILITIES**



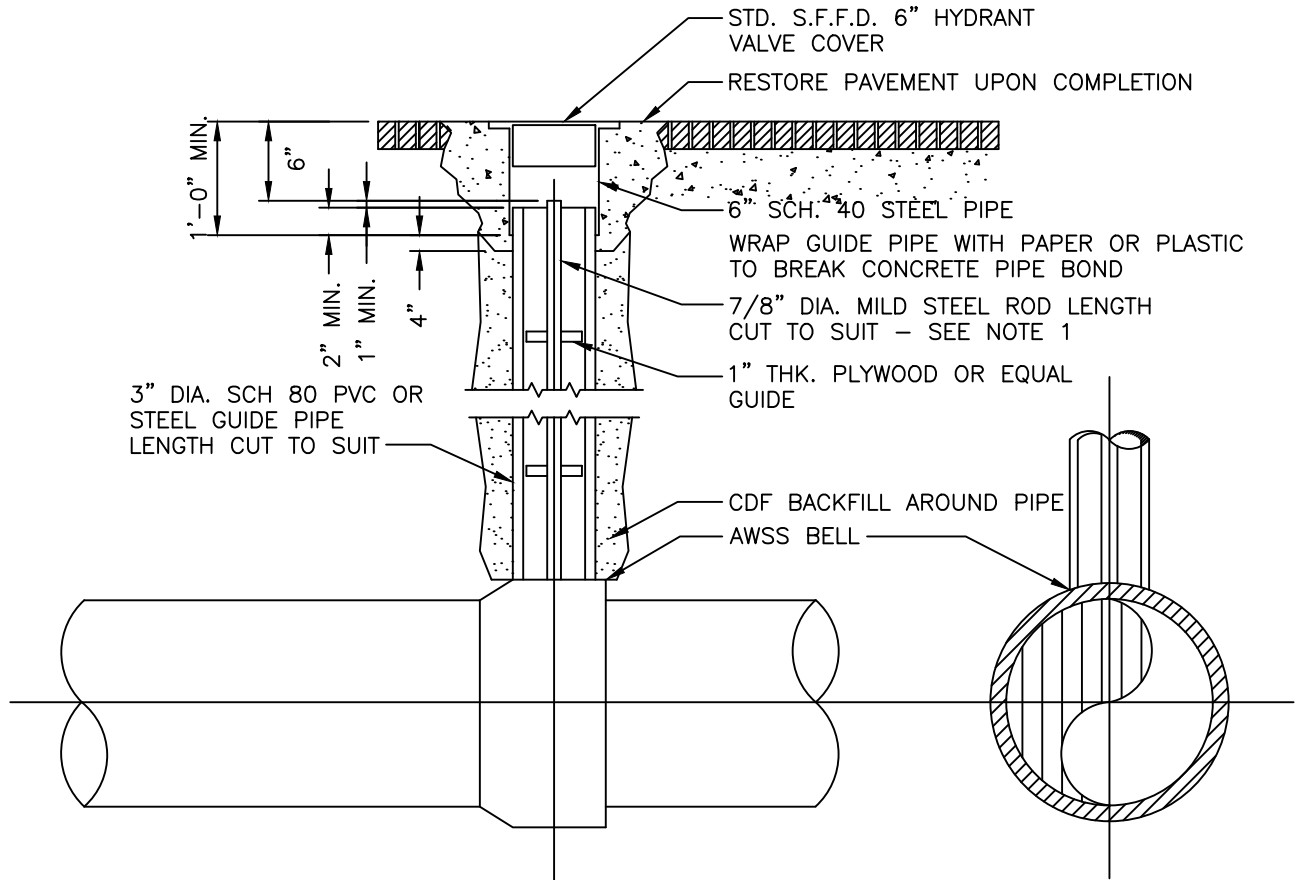
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DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LPHP-304	96

NOTES:

1. THE CONTRACTOR SHALL REPORT THE LENGTH OF THE ROD TO THE NEAREST HUNDREDTH OF A FOOT TO THE CITY.
2. PLYWOOD SHALL BE PRESS FIT TO THE 7/8"Ø STEEL ROD AND SHALL FLOAT IN THE GUIDE PIPE.
3. MONITORING HOLE COVER AND FRAME ASSEMBLIES SHALL BE RATED FOR H-20 LOADING.
4. CONTRACTOR SHALL RESTORE ROADWAY TO MATCH EXISTING UPON COMPLETION OF SURVEY WORK.



HPL-5993



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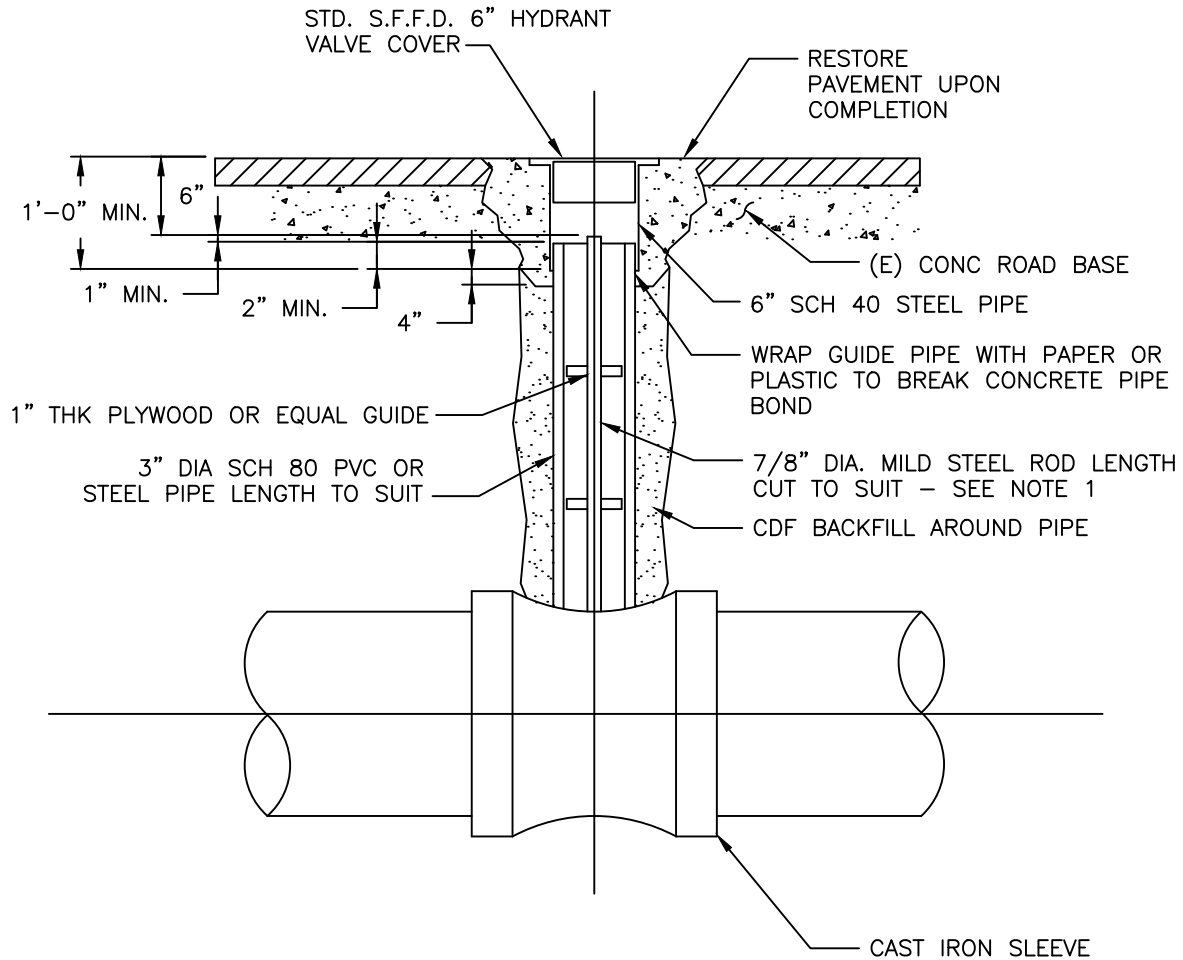
WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
AWSS MONITORING POINT FOR BELL AND SPIGOT
PIPE (HPL-5993)

DATE	10/1/2016	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-HP-401	97

NOTES:

1. THE CONTRACTOR SHALL REPORT THE LENGTH OF THE ROD TO THE NEAREST HUNDREDTH OF A FOOT TO THE CITY.
2. PLYWOOD SHALL BE A PRESS FIT TO THE 7/8"Ø STEEL ROD AND SHALL FLOAT IN THE GUIDE PIPE.
3. MONITORING HOLE COVER AND FRAME ASSEMBLIES SHALL BE RATED FOR H-20 LOADING.
4. CONTRACTOR SHALL RESTORE ROADWAY TO MATCH EXISTING UPON COMPLETION OF SURVEY WORK.



HPL-5993.1



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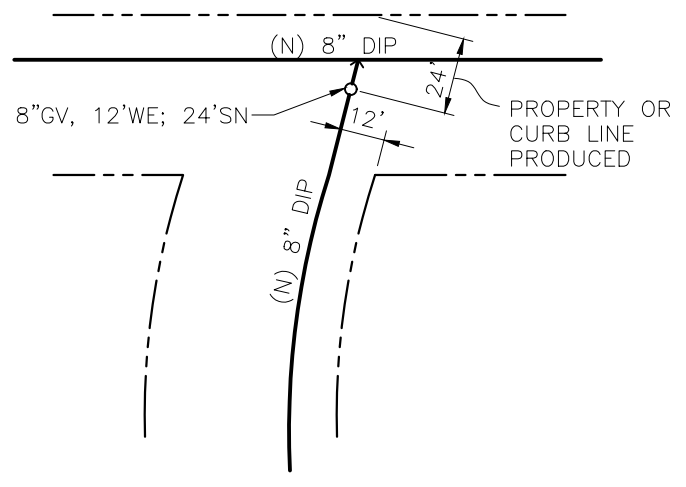
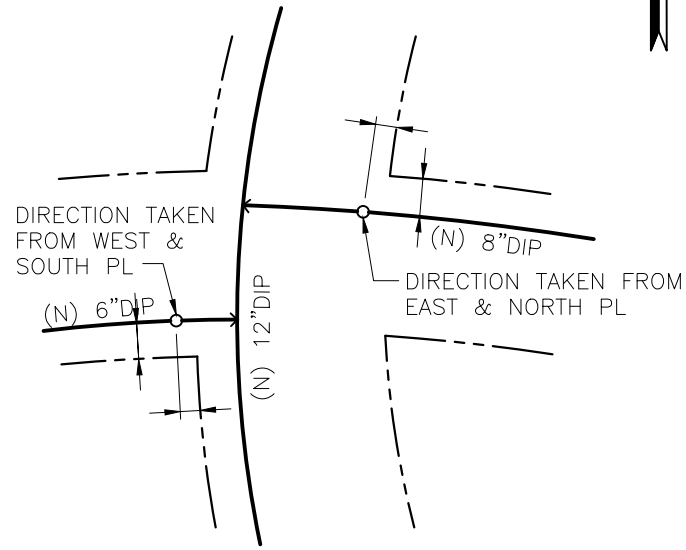
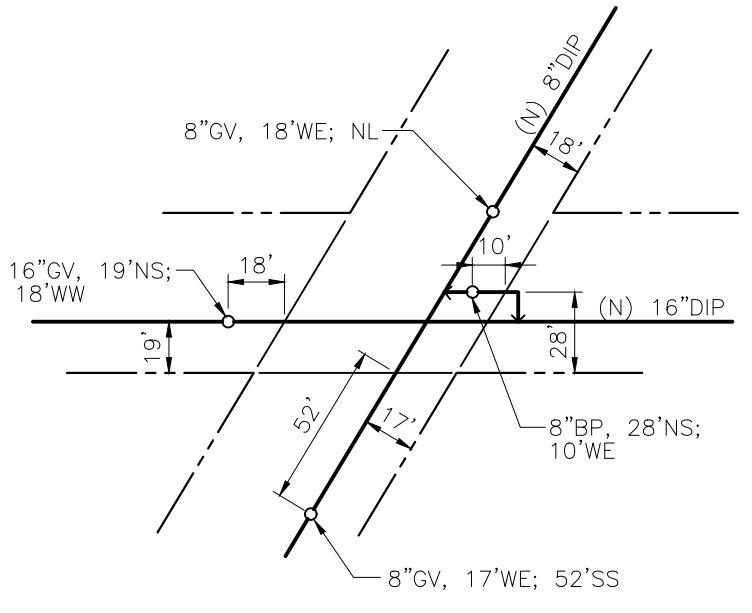
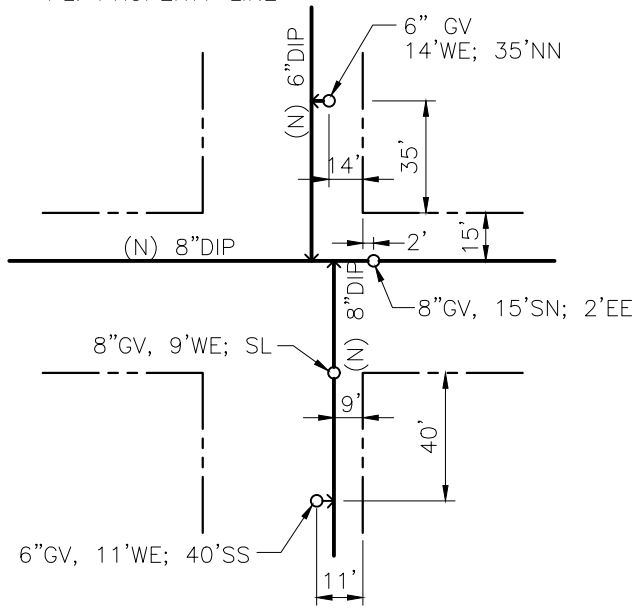
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
AWSS MONITORING POINT FOR DOUBLE SPIGOT
PIPE (HPL-5993.1)

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-HP-402	SHEET	98
SCALE	N.T.S.						

NOTE:
 PL: PROPERTY LINE



SUPERSEDES E-4969R

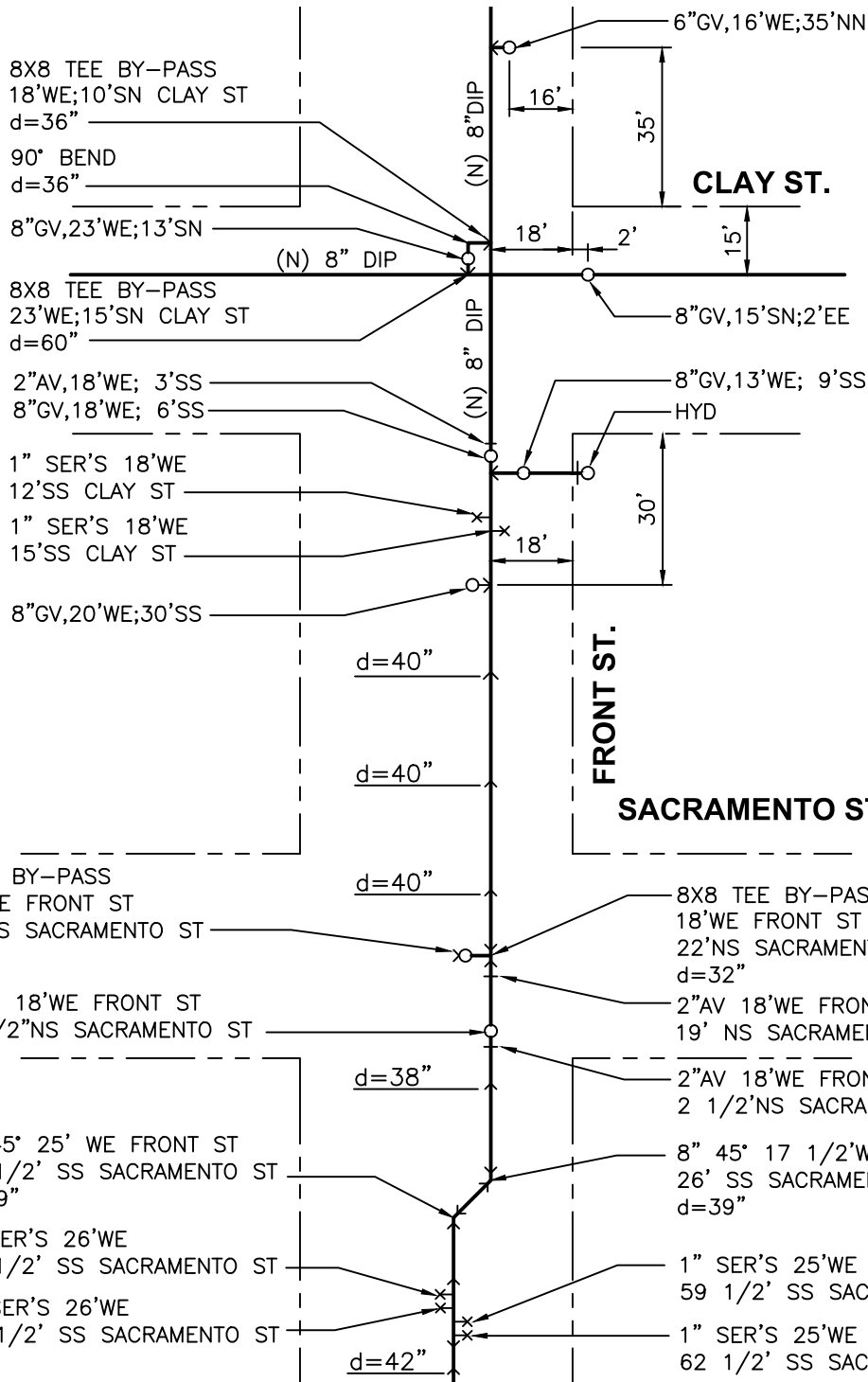


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WATER ENTERPRISE – CITY DISTRIBUTION DIVISION STANDARD PLANS
MISCELLANEOUS
 TYPICAL METHOD OF MEASURING, RECORDING AND
 IDENTIFYING MAINS SERVICES, GATE VALVES AND
 ALL APPURTENANCES

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-501	SHEET	99
SCALE	N.T.S.						



NOTE:
d=DEPTH OF TRENCH



MINIMUM INFORMATION REQ'D:

1. DIRECTION OF ALL VALVES, SERVICES, AND FITTINGS APPURTENANCES FROM PROPERTY LINES
2. DEPTH OF TRENCH AT ALL JOINTS
3. AS BUILT STAMP WITH DATE AND SIGNATURE

SUPERSEDES E-4969R

WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

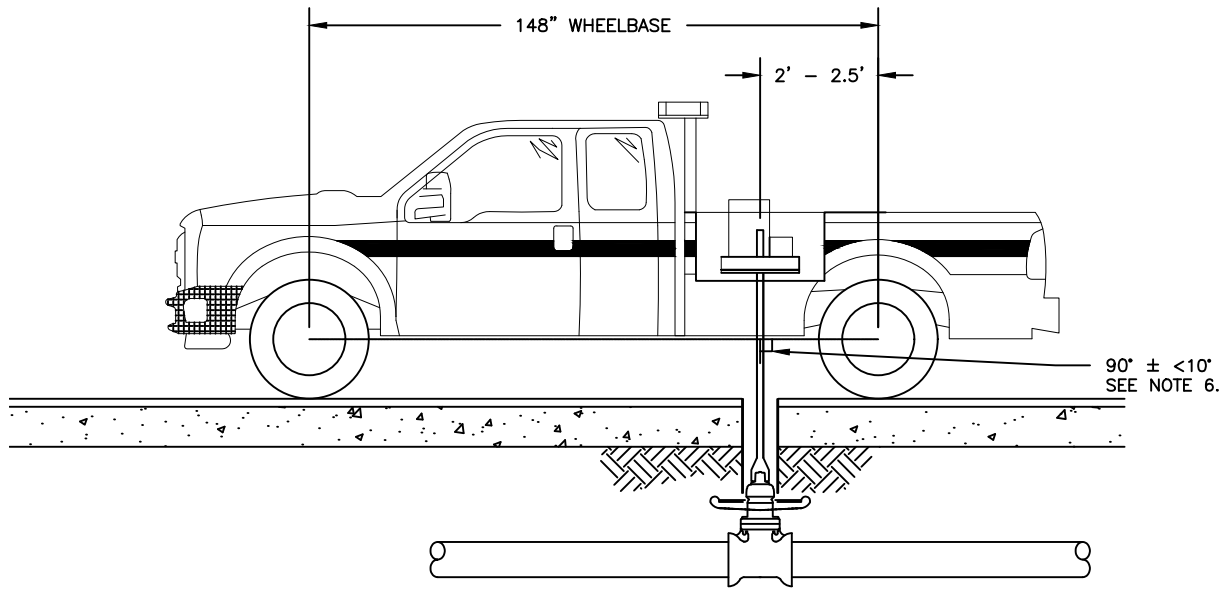


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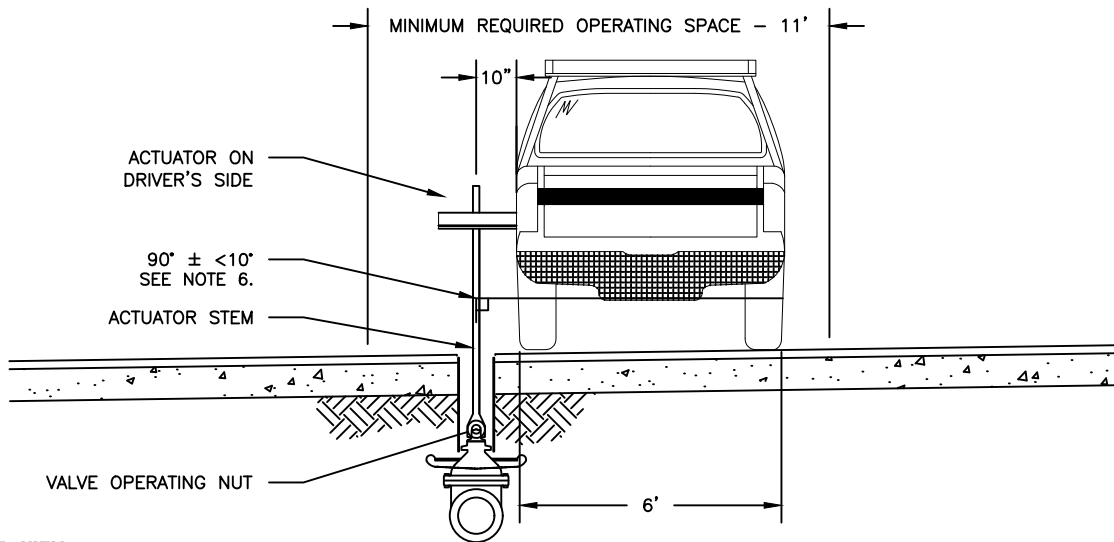
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MISCELLANEOUS
MINIMUM INFORMATION REQUIRED FOR DOMESTIC
AND RECYCLED WATER AS-BUILT DRAWINGS

DATE	10/1/2016	REV.	0	DRAWING NO.	CDD-LP-502	SHEET	100
SCALE	N.T.S.						



A DRIVERS SIDE VIEW
- N.T.S.



B REAR VIEW
- N.T.S.

NOTES:

1. GATE OPERATING TRUCK IS FORD MODEL F-350 CREW CAB SWB AS OF MARCH 2017. DIMENSIONS SHOWN HERE ARE APPROXIMATE.
2. VALVE ACTUATOR IS MODEL PACIFIC TEK PT-25E AS OF DECEMBER 2016. DIMENSIONS SHOWN HERE ARE APPROXIMATE.
3. TRUCK MUST BE ABLE TO ACCESS ALL MAINLINE POTABLE & RECYCLED WATER DISTRIBUTION OPERATING VALVES.
4. TRUCK MUST BE ABLE TO ACCESS ALL AUXILIARY WATER SUPPLY SYSTEM VALVES.
5. OPERATOR WILL STATION TRUCK SUCH THAT THE DRIVER'S SIDE OF THE VEHICLE IS ADJACENT TO THE VALVE. VALVE ACTUATING MACHINE SLIDES OUT OF TRUCK BED AS SHOWN.
6. ACTUATOR STEM MUST NOT BE MORE THAN 10 DEGREES OUT OF ALIGNMENT WITH RESPECT TO VALVE OPERATING NUT WHEN TRUCK IS POSITIONED ADJACENT TO VALVE (TRUCK WHEEL BASE / AXLE SHOULD BE WITHIN 10 DEGREES OF PERPENDICULAR WITH VALVE OPERATING NUT AXIS).



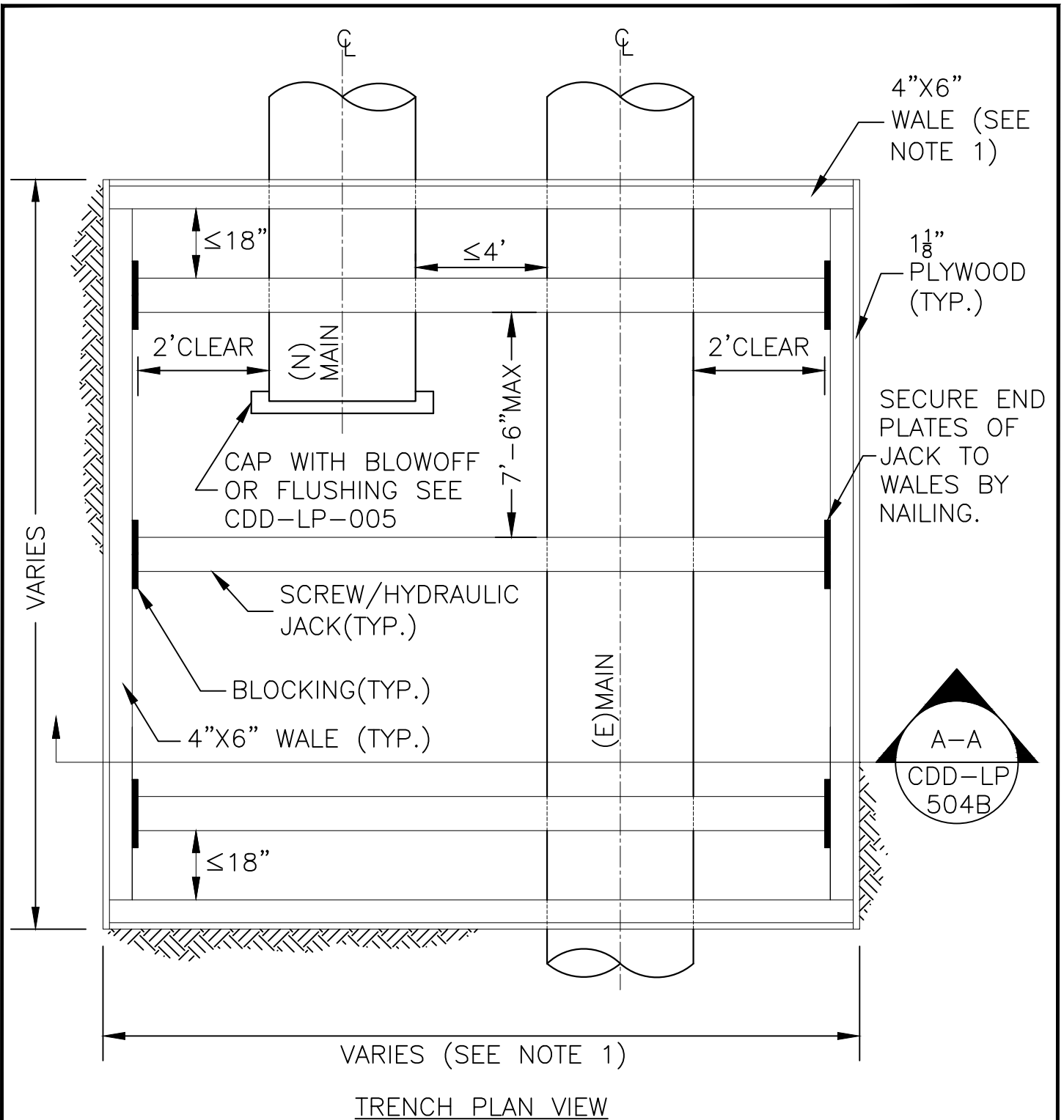
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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
MINIMUM OPERATING SPACE FOR GATE TRUCK

DATE	5/1/2017	REV.	DRAWING NO.	SHEET
SCALE	N.T.S.	0	CDD-LPHP-503	101



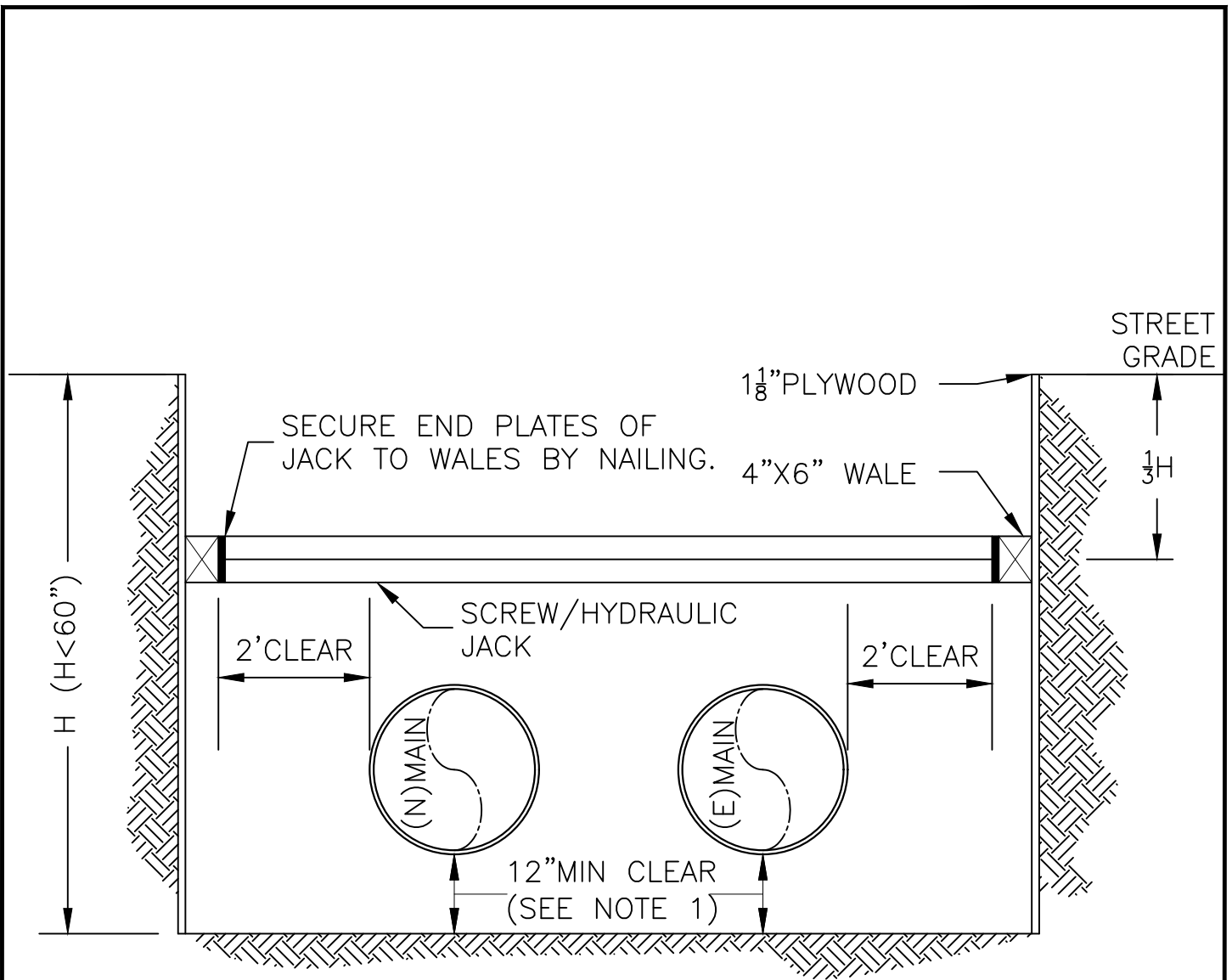
NOTES:

1) USE 4"X8" WALES IF LONGER THAN 8'.



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS			
MISCELLANEOUS			
SHORING SUPPORT FOR MAIN CONNECTION <5' DEEP (PLAN)			
DATE	10/17/2018	REV.	DRAWING NO.
SCALE	N.T.S.	0	CDD-LP-504A
			SHEET 102



SECTION
A-A

NOTES:

1) PROVIDE BLOCKING/SUPPORT FOR (N) AND (E) MAINS WITHIN TRENCHED AREA.



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WATER ENTERPRISE - CITY DISTRIBUTION DIVISION STANDARD PLANS

MISCELLANEOUS
SHORING SUPPORT FOR MAIN CONNECTION <5'
DEEP (SECTION)

DATE	10/17/2018	REV.	0	DRAWING NO.	CDD-LP-504B	SHEET	103
SCALE	N.T.S.						