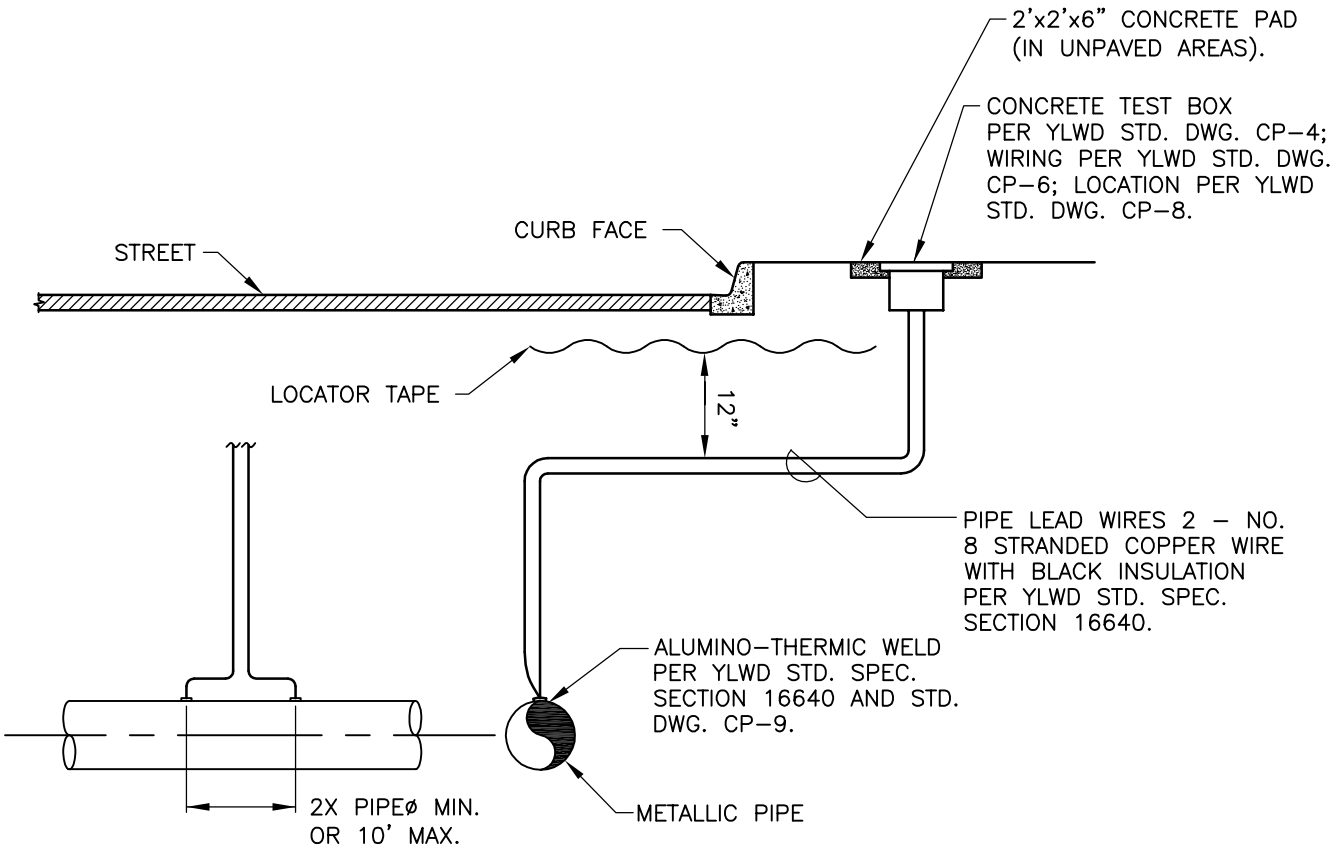
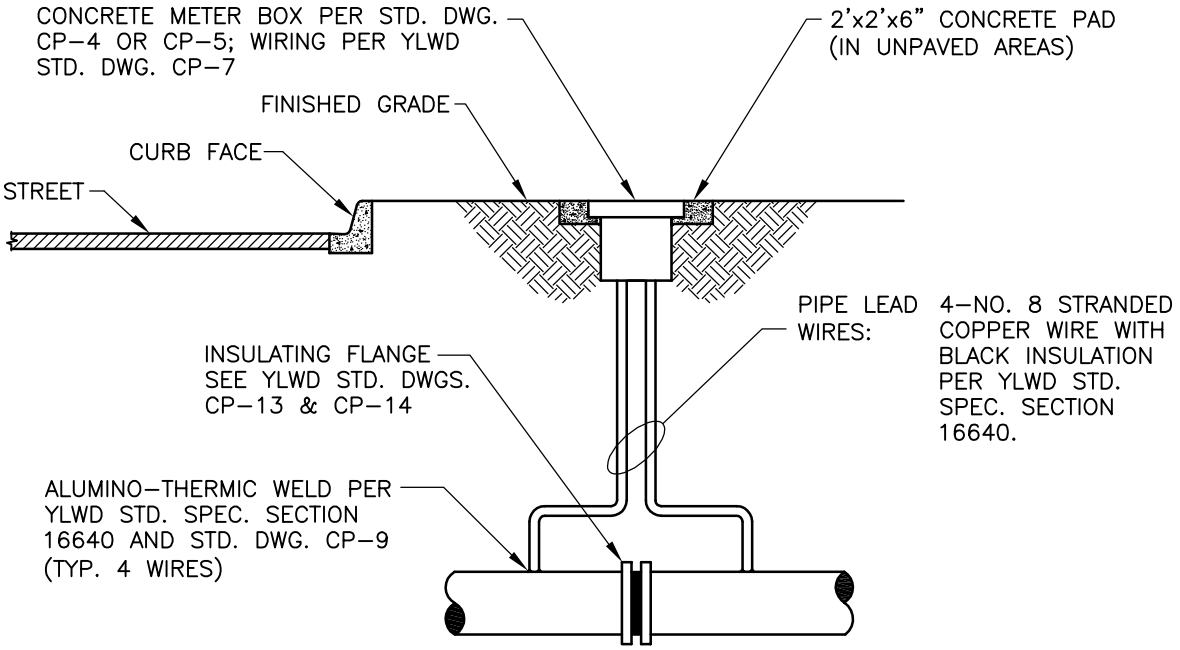
CATHODIC PROTECTION STANDARD DRAWINGS
TABLE OF CONTENTS



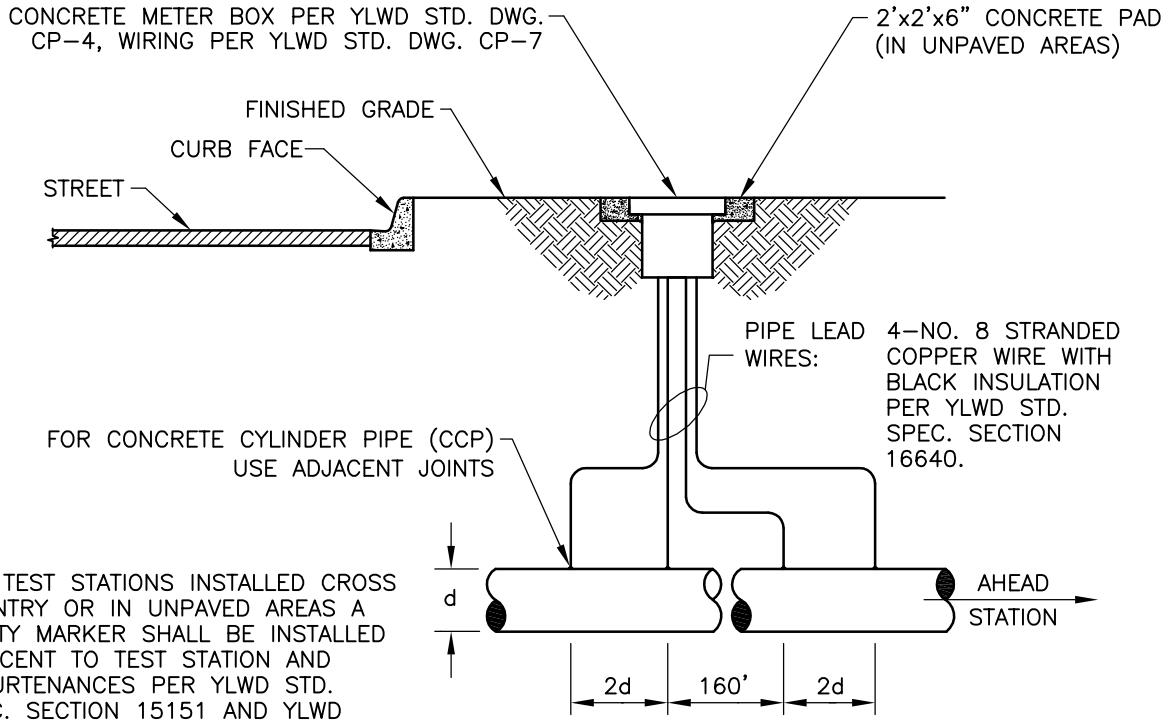
NOTES:

1. FOR TEST STATIONS INSTALLED CROSS COUNTRY OR IN UNPAVED AREAS, A UTILITY MARKER SHALL BE INSTALLED ADJACENT TO TEST STATION AND APPURTENANCES PER YLWD STD. SPEC. SECTION 15151 AND YLWD STD. DWG. G-1.
2. FOR TEST STATION LOCATIONS ON PIPES IN STREETS, SEE YLWD STD. DWG. CP-8.
3. WIRES SHALL BE WELDED TO TOP (HORIZONTAL) SURFACE OF PIPE.

APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT TWO WIRE TEST STATION	STD. DWG. CP-1 SHEET 1 OF 1



INSULATOR TEST STATION

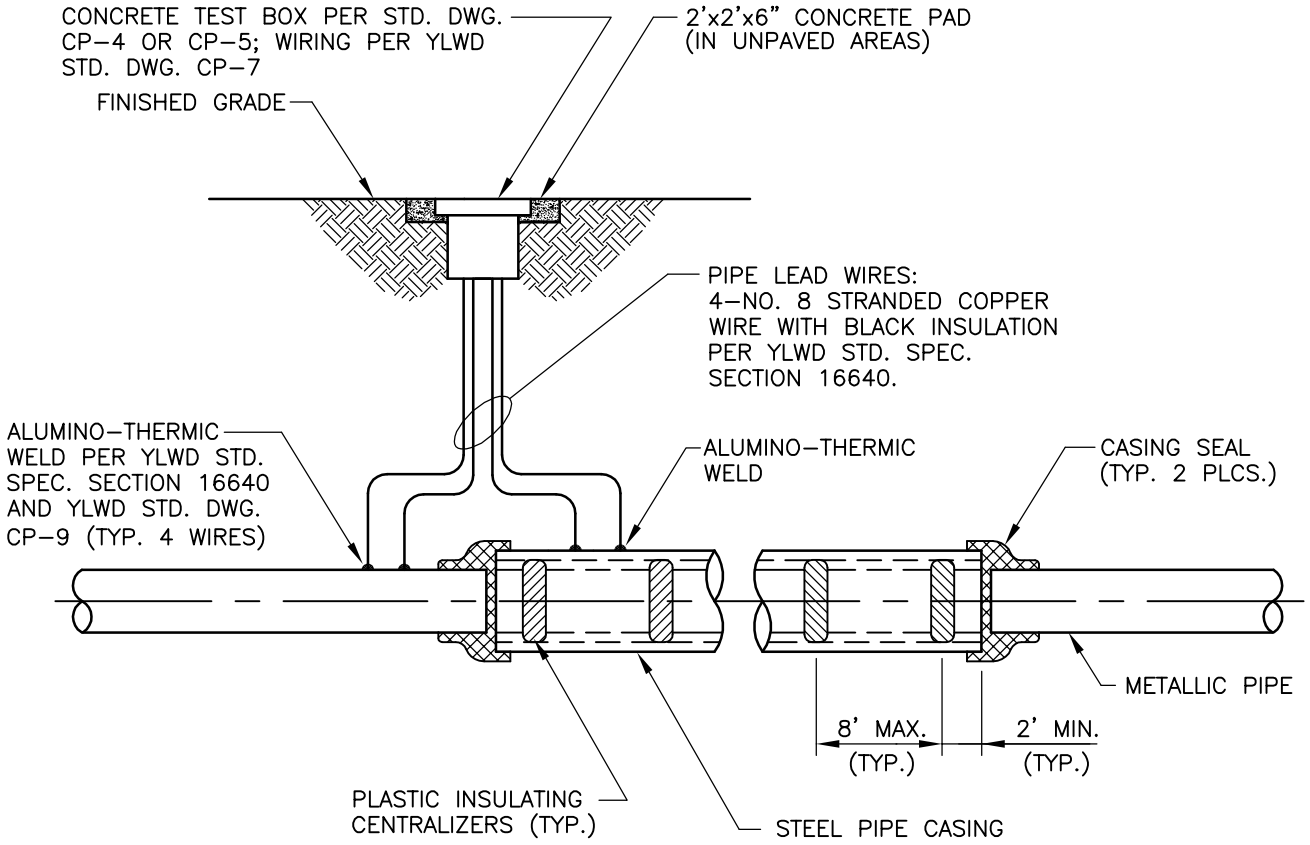


FOUR WIRE TEST STATION

NOTES:

1. FOR TEST STATIONS INSTALLED CROSS COUNTRY OR IN UNPAVED AREAS A UTILITY MARKER SHALL BE INSTALLED ADJACENT TO TEST STATION AND APPURTENANCES PER YLWD STD. SPEC. SECTION 15151 AND YLWD STD. DWG. G–1.
2. FOR TEST STATIONS ON PIPES IN STREET, SEE YLWD STD. DWG. CP–8.

APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT FOUR WIRE & INSULATOR TEST STATION	STD. DWG. CP-2 SHEET 1 OF 1

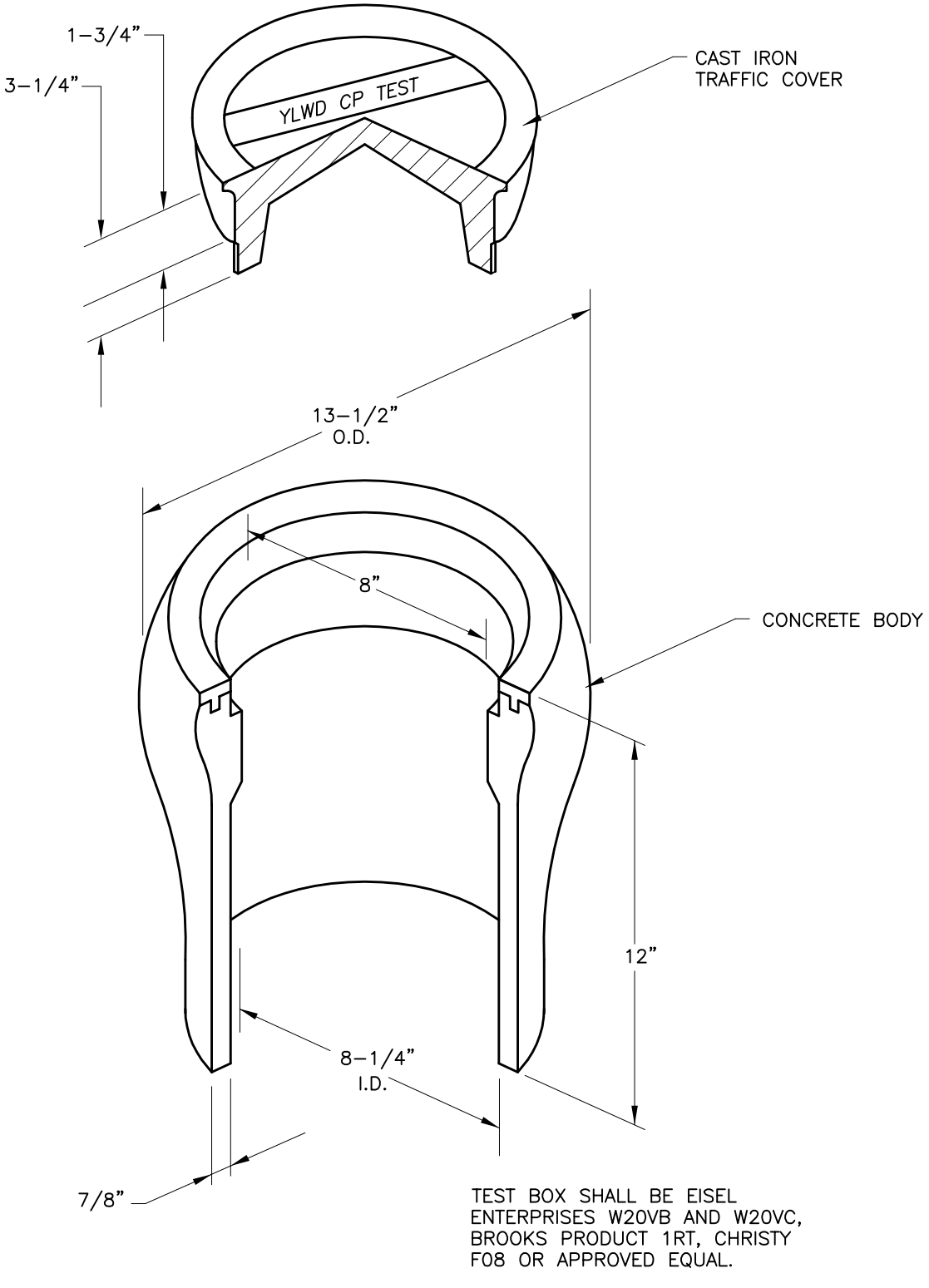


NOTES:

1. FOR TEST STATIONS INSTALLED CROSS COUNTRY OR IN UNPAVED AREAS A UTILITY MARKER SHALL BE INSTALLED ADJACENT TO TEST STATION AND APPURTENANCES PER YLWD STD. SPEC. SECTION 15151 AND YLWD STD. DWG. G–1.

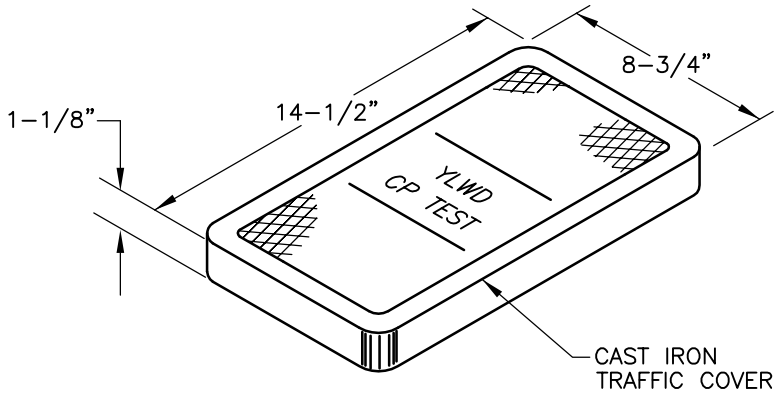
2. FOR TEST STATIONS ON PIPES IN STREET, SEE YLWD STD. DWG. CP–8.

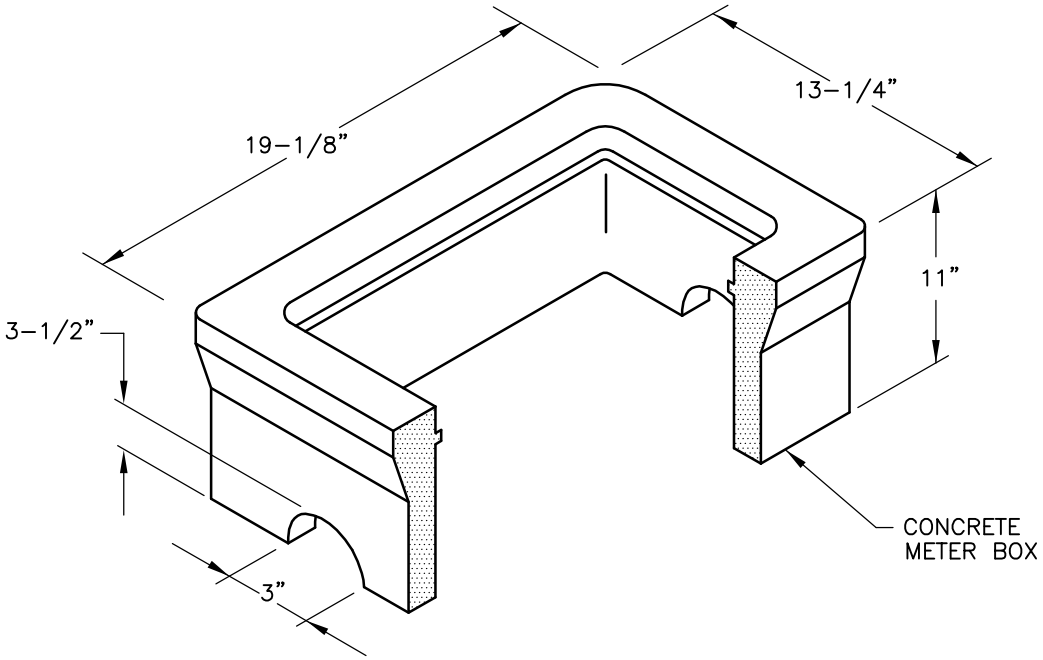
APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT CASING TEST STATION	STD. DWG. CP-3 SHEET 1 OF 1



TEST BOX SHALL BE EISEL ENTERPRISES W20VB AND W20VC, BROOKS PRODUCT 1RT, CHRISTY F08 OR APPROVED EQUAL.

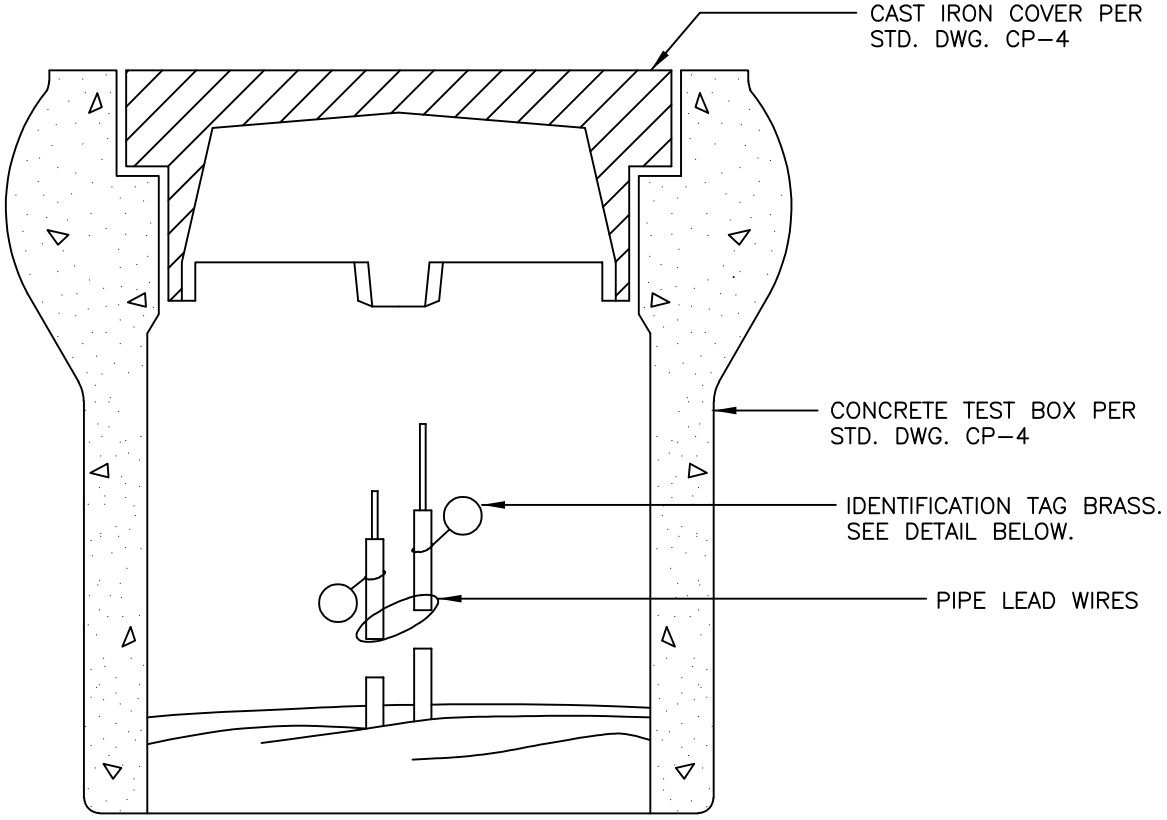
APPROVED BY ENGINEERING MANAGER	YL W	YORBA LINDA WATER DISTRICT	STD. DWG. CP-4
DATE: 3/2019		CONCRETE CATHODIC PROTECTION TEST BOX	
SCALE: NTS			SHEET 1 OF 1



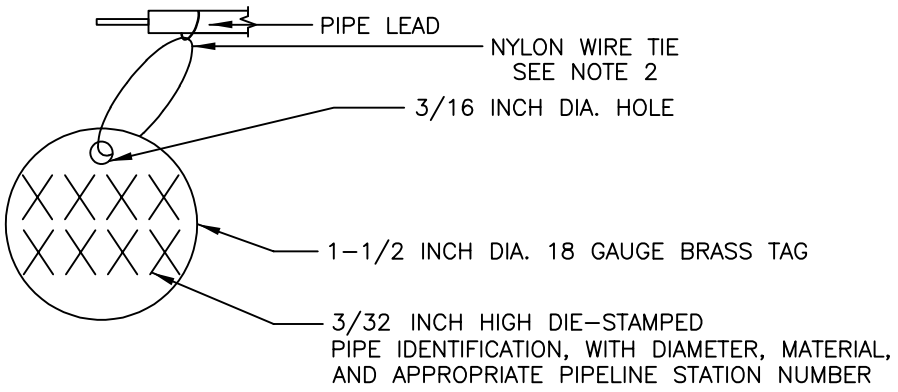


COVER WEIGHT: 13 LBS.
BODY WEIGHT: 68 LBS.

APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT CONCRETE METER BOX	STD. DWG. CP-5 SHEET 1 OF 1



WIRING DIAGRAM

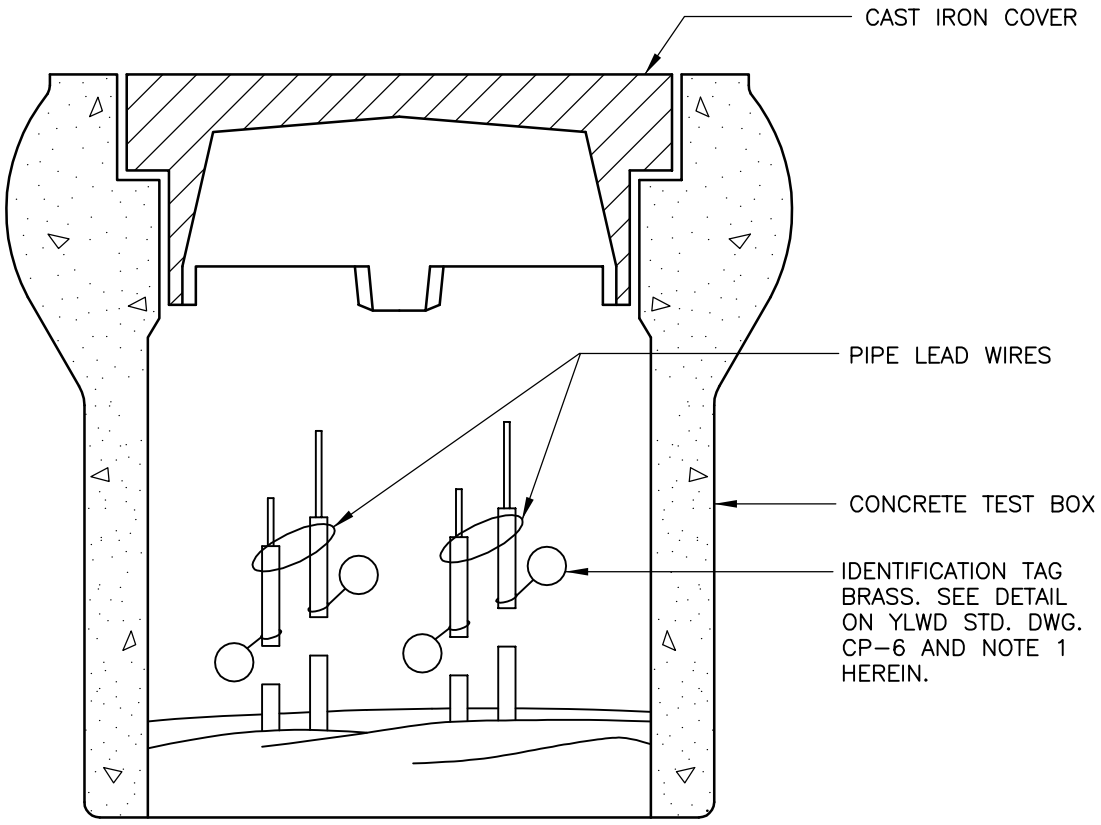


BRASS IDENTIFICATION TAG

NOTES:

1. LEAVE SUFFICIENT SLACK (3 FT. MIN.) IN LEAD WIRE COILED WITHIN TEST BOX.
2. TWO TIES REQUIRED, ONE TO SECURE TO BRASS TAG TO CABLE, AND ONE TO ALLOW COMPLETE ROTATIONAL FREEDOM WITHOUT BINDING.

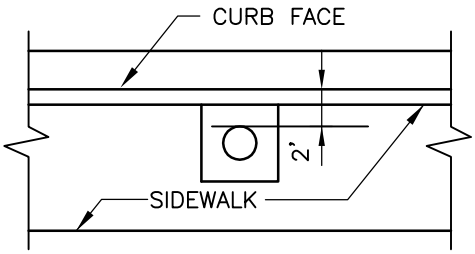
APPROVED BY ENGINEERING MANAGER	YL W	YORBA LINDA WATER DISTRICT	STD. DWG.
DATE: 10/2024		WIRING DIAGRAM - TWO WIRE TEST BOX	CP-6
SCALE: NTS			SHEET 1 OF 1



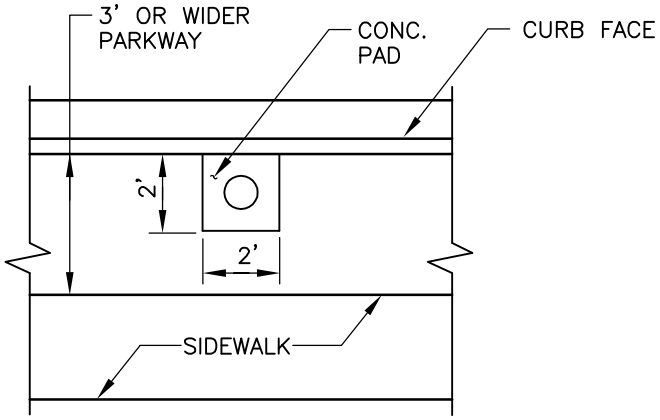
NOTES:

1. LEAD WIRES SHALL BE IDENTIFIED BY
   A) PIPE DIAMETER
   B) PIPE MATERIAL
   C) APPROPRIATE PIPELINE STATION NUMBER
2. LEAD WIRES, IN CASING TEST BOX, SHALL BE IDENTIFIED WITH A (P) FOR PIPE AND (C) FOR CASING.
3. LEAD WIRES FOR INSULATOR TEST BOXES SHALL ALSO BE IDENTIFIED BY SIDE OF INSULATING FLANGE AS N & S (NORTH & SOUTH) OR E & W (EAST & WEST).
4. LEAVE SUFFICIENT SLACK (3 FT. MIN.) IN LEAD WIRES COILED WITHIN TEST BOX.

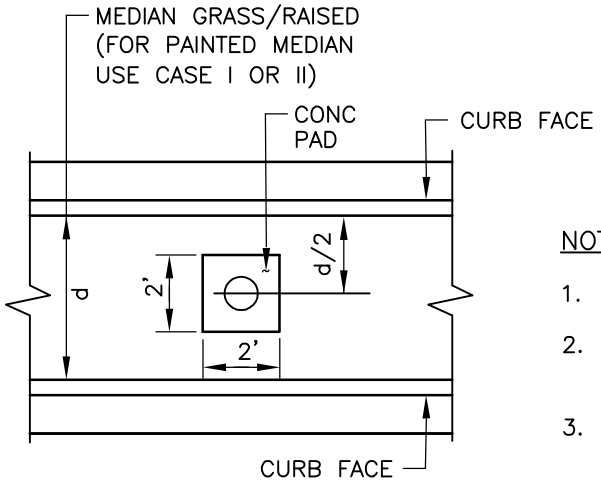
APPROVED BY ENGINEERING MANAGER		YORBA LINDA WATER DISTRICT	STD. DWG.
DATE 7/2016	YLW	WIRING DIAGRAM 4 WIRE, CASING & INSULATOR TEST BOX	CP-7
			SHEET 1 OF 1



CASE I – SIDEWALK ADJACENT TO CURB



CASE II – SIDEWALK NOT ADJACENT TO CURB

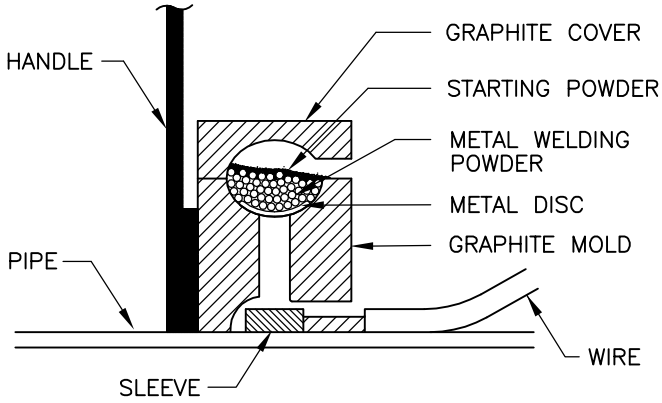


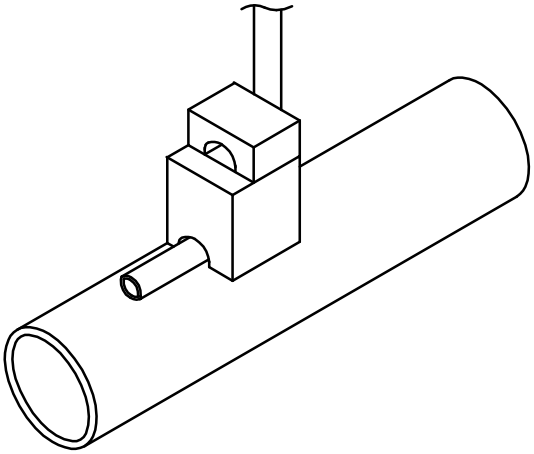
CASE III – CENTER MEDIAN

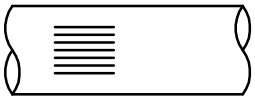
NOTES:

1. USE CASE I OR II FOR PIPE CLOSE TO THE CURB.
2. USE CASE III FOR PIPE CLOSE TO THE CENTER MEDIAN WHERE MEDIAN IS RAISED AND d > 10'–0".
3. IF DIFFERENT FROM THESE THREE CASES, DISTRICT'S REPRESENTATIVE SHALL DETERMINE THE TEST STATION LOCATION.

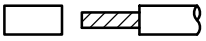
APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT TEST STATION LOCATION PLAN	STD. DWG. CP-8 SHEET 1 OF 1



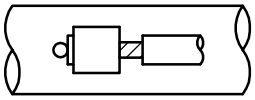




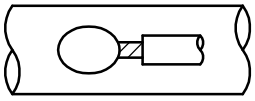
STEP 1. FILE STRUCTURE CONNECTION AREA (3"x3") TO BARE SHINY METAL AND CLEAN.



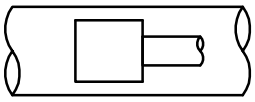
STEP 2. STRIP INSULATION FROM WIRE. ATTACH SLEEVE (REQUIRED ON NO. 10 AWG WIRE & SMALLER).



STEP 3. HOLD MOLD FIRMLY WITH OPENING AWAY FROM OPERATOR AND IGNITE WITH FLINT GUN.



STEP 4. REMOVE SLAG FROM CONNECTION AND PEEN WELD FOR SOUNDNESS.



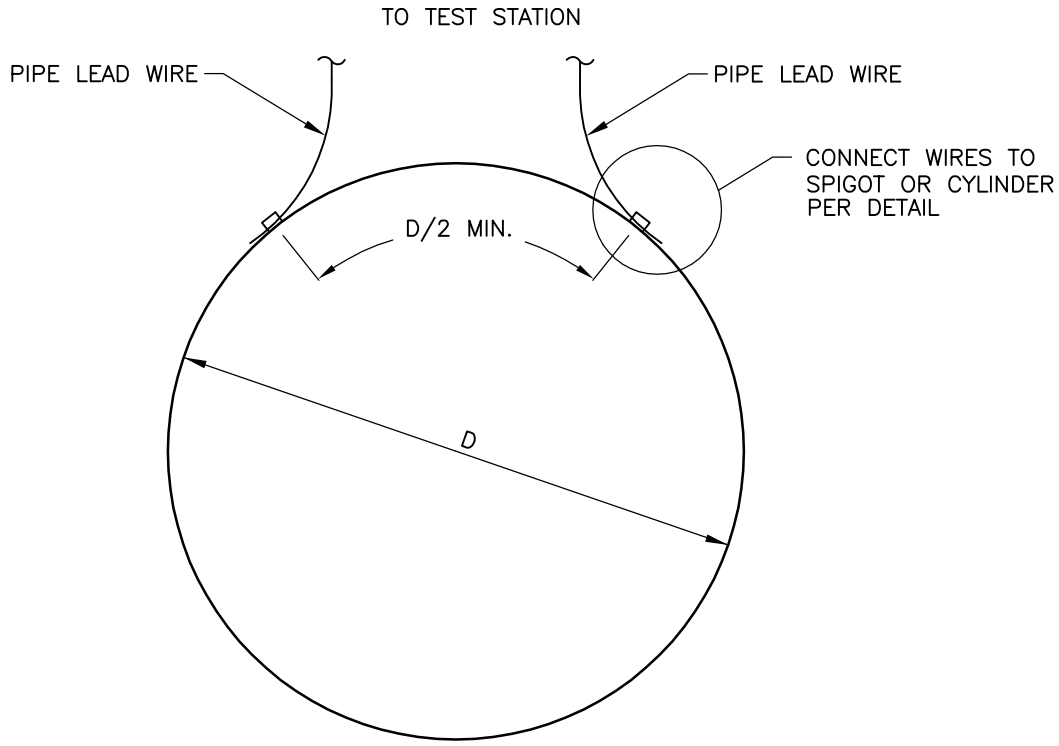
STEP 5. COVER CONNECTION AND EXPOSED STRUCTURE SURFACE WITH A BITUMINOUS COATING COMPOUND. PLACE PLASTIC SHIELD CAP FIRMLY OVER CONNECTION.

STEP 6. REPAIR PIPE COATING.

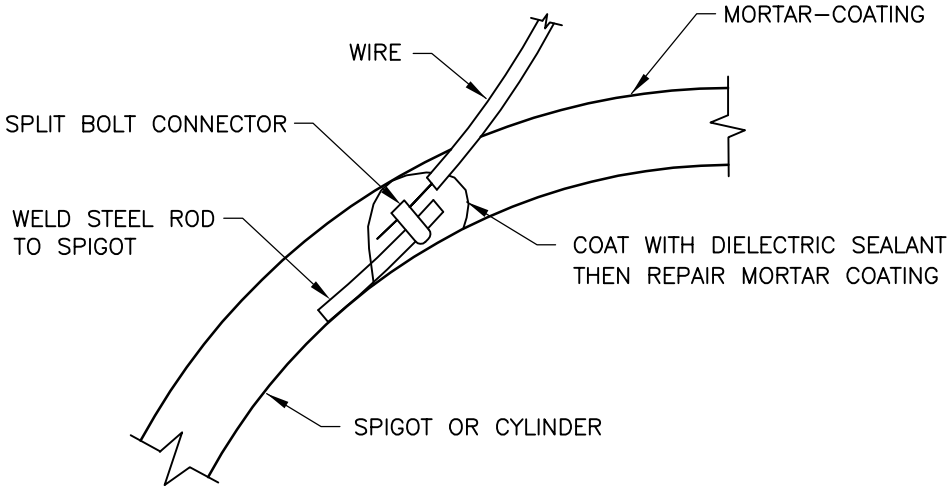
NOTES:

1. ALL WIRE WELDS SHALL BE APART AT MINIMUM 6 IN. CIR. AND 12 IN ALONG PIPE LENGTH.
2. STANDARD WELD CARTRIDGES SHALL BE USED FOR STEEL SURFACES. FOR DUCTILE IRON AND CAST IRON, USE XF–19 ALLOY OR EQUIVALENT.
3. WELDER SHOWN IS FOR HORIZONTAL SURFACES. FOR VERTICAL SURFACES, SIDE WELDER IS REQUIRED.
4. THERMIC WELD MOLD FIXTURES MAY HAVE TO BE MODIFIED TO FIT BETWEEN PRETENSION RODS OR TO THE BELL RING.

APPROVED BY ENGINEERING MANAGER		YORBA LINDA WATER DISTRICT	STD. DWG.
DATE 7/2016	YLW	ALUMINO-THERMIC WELD	CP-9
			SHEET 1 OF 1



SECTION AT SPIGOT OR CYLINDER

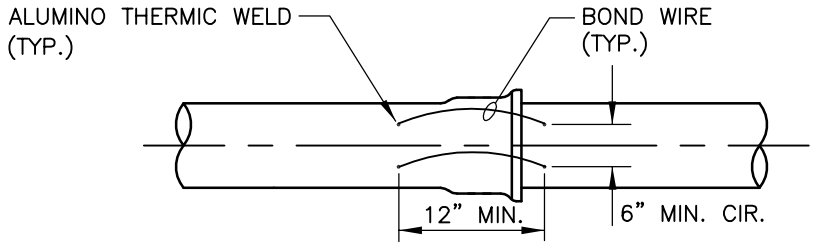


DETAIL

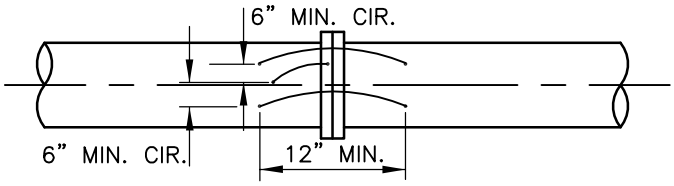
NOTE:

1. EXPOSE CYLINDER CAREFULLY SO AS NOT TO DAMAGE CYLINDER OR PRETENSION BARS.

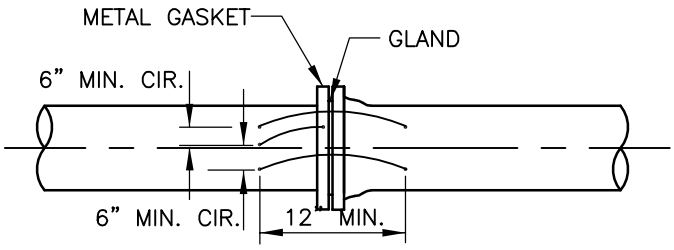
APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT TEST WIRE CONNECTION - STEEL BAR ALTERNATE	STD. DWG. CP-9A SHEET 1 OF 1



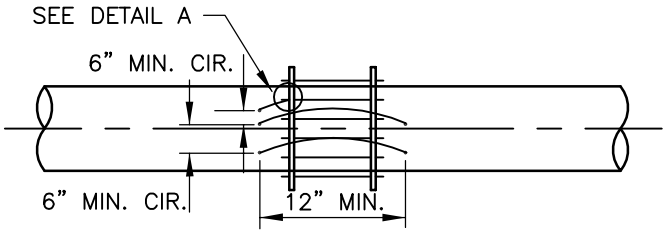
BELL AND SPIGOT PIPE JOINT



FLANGED PIPE JOINT



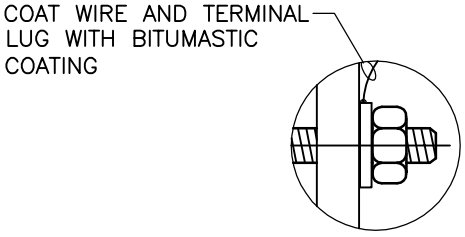
MECHANICAL PIPE JOINT



FLEXIBLE COUPLING PIPE JOINT

NOTES:

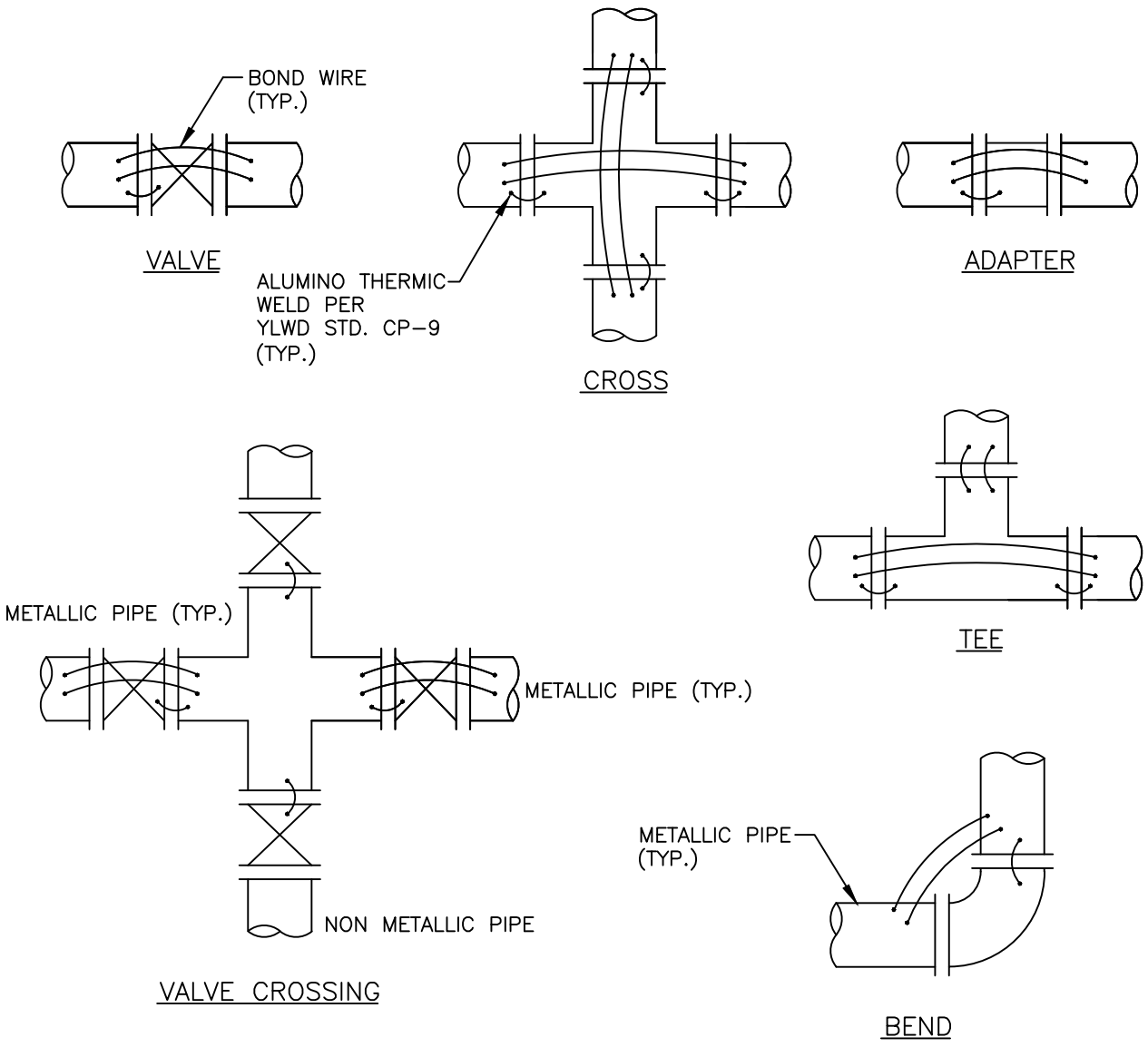
1. ALL WIRE WELDS SHALL BE 6" APART MIN.
2. BOND WIRES SHALL NOT BE INSTALLED ACROSS INSULATING JOINTS.
3. COAT WELD PER SPECIFICATIONS.
4. THREE BOND WIRES ARE REQUIRED FOR PIPE DIAMETERS 18" OR LARGER.
5. ENCASE FLEXIBLE COUPLING IN 8 MIL POLYETHYLENE WRAP.



DETAIL A

WIRE CONNECTION TO FLANGE BOLT

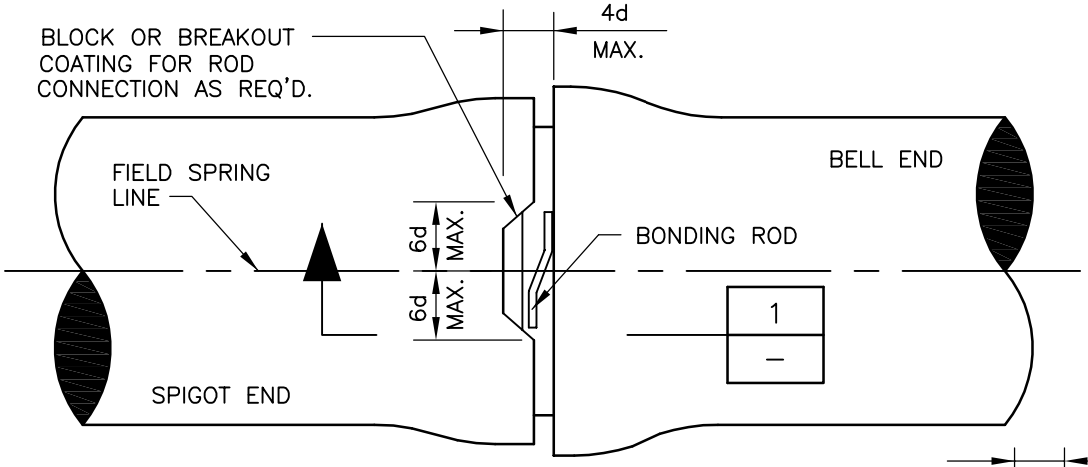
APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT PIPE JOINT BONDING FOR INLINE PIPE JOINTS	STD. DWG. CP-10 SHEET 1 OF 1



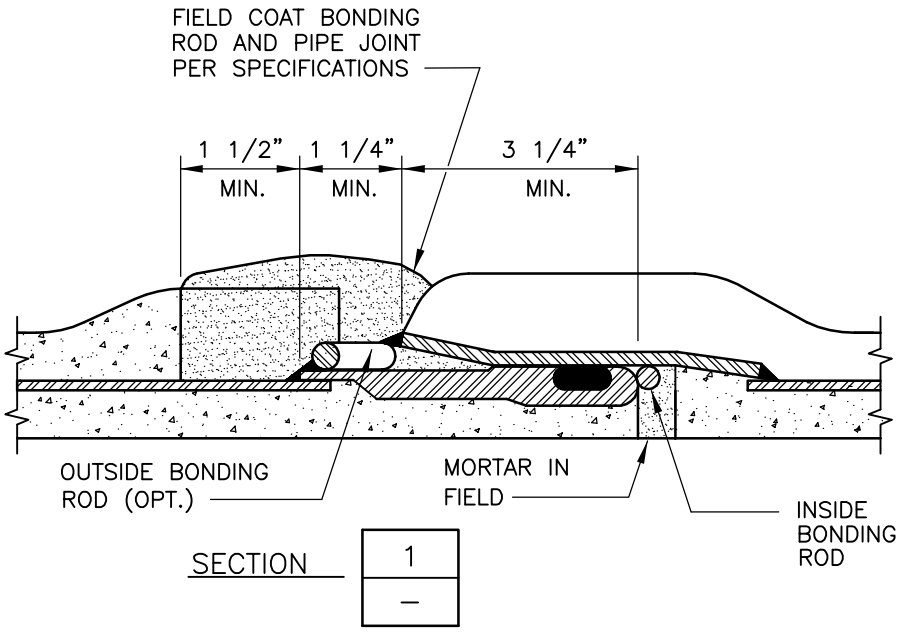
NOTES:

1. ALL BOND WIRES SHALL BE NO. 8 AWG. STRANDED COPPER WIRE WITH HMW/PE INSULATION.
2. ALL WIRE CONNECTIONS SHALL BE MADE BY THE ALUMINO–THERMIC WELD PROCESS. COAT WELD PER SPECIFICATIONS.
3. THREE BOND WIRES ARE REQUIRED FOR PIPE DIAMETERS 18" OR LARGER.
4. ALL WIRE WELDS SHALL BE APART AT MINIMUM OF 6" CIR. AND 12" ALONG PIPE LENGTH.
5. BOND WIRES SHALL NOT BE INSTALLED ACROSS INSULATING JOINTS.

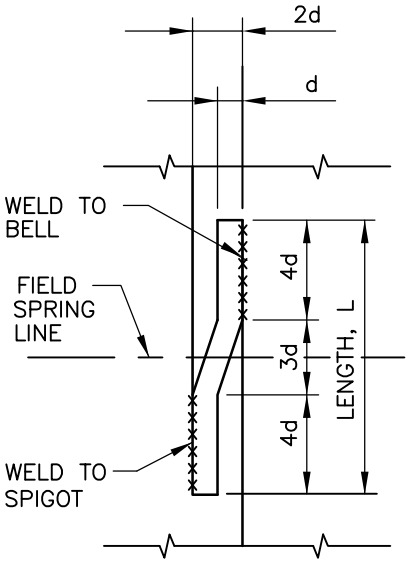
APPROVED BY ENGINEERING MANAGER	YL W	YORBA LINDA WATER DISTRICT	STD. DWG.
DATE: 10/2022		PIPE JOINT BONDING FOR PIPE FITTINGS	CP-11
SCALE: NTS			SHEET 1 OF 1



SIDE VIEW



SECTION 1/—



BONDING ROD

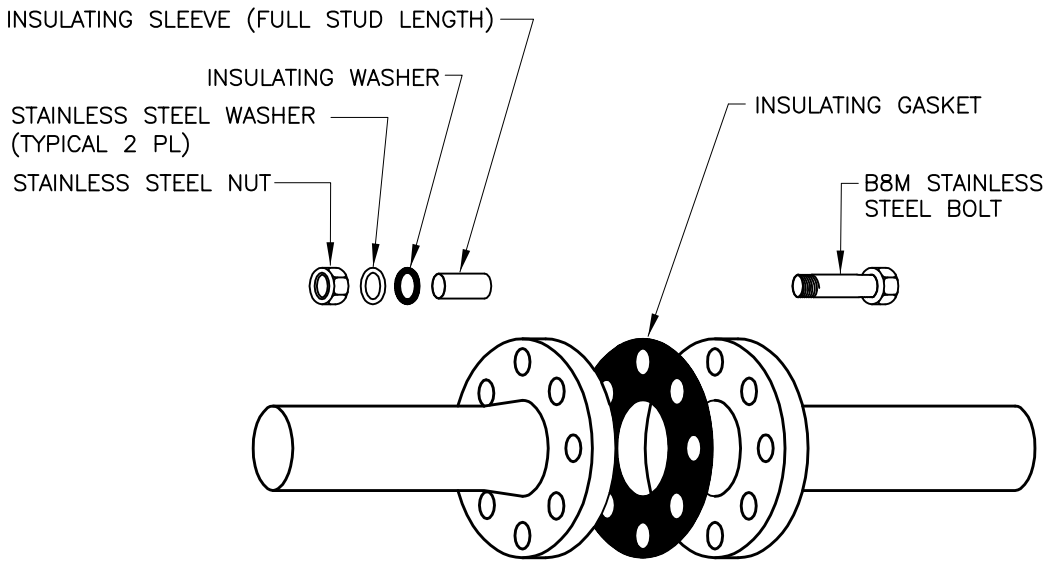
BONDING ROD DETAIL

PIPE DIA	UNDER 27"	27" AND LARGER
d	0.25"	0.50"
L	3.75"	5.50"
NO. OF RODS PER JOINT	2	3

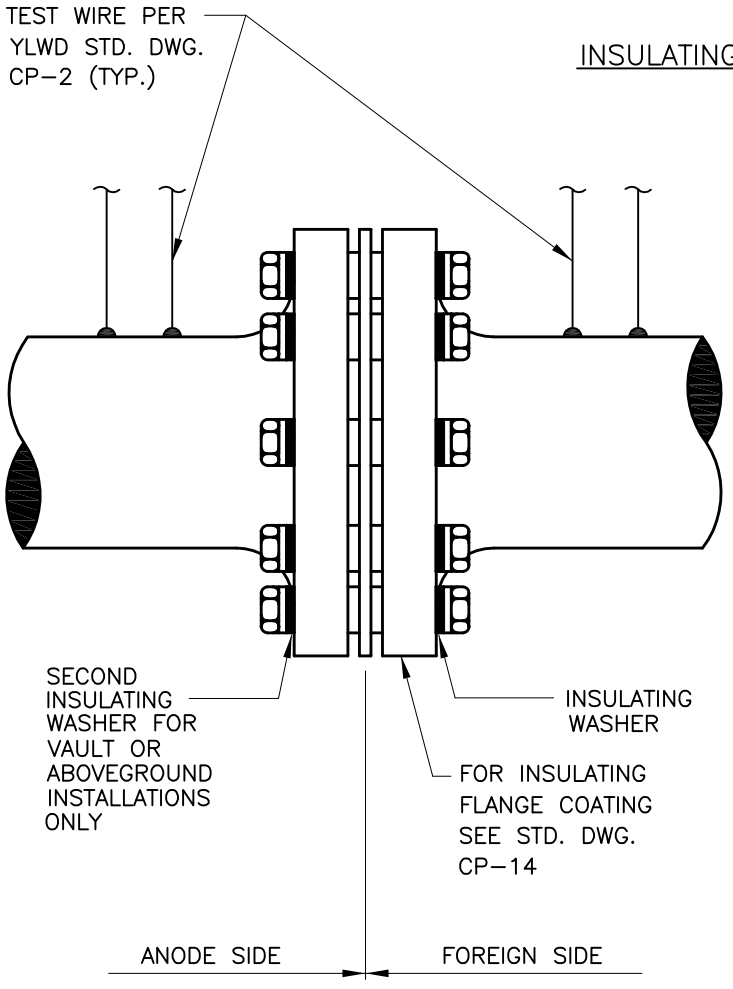
NOTE:

1. ALL PIPE JOINTS SHALL BE BONDED, EXCEPT FOR WELDED JOINTS.

APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT JOINT BONDING - CML&C STEEL PIPE	STD. DWG. CP-12 SHEET 1 OF 1



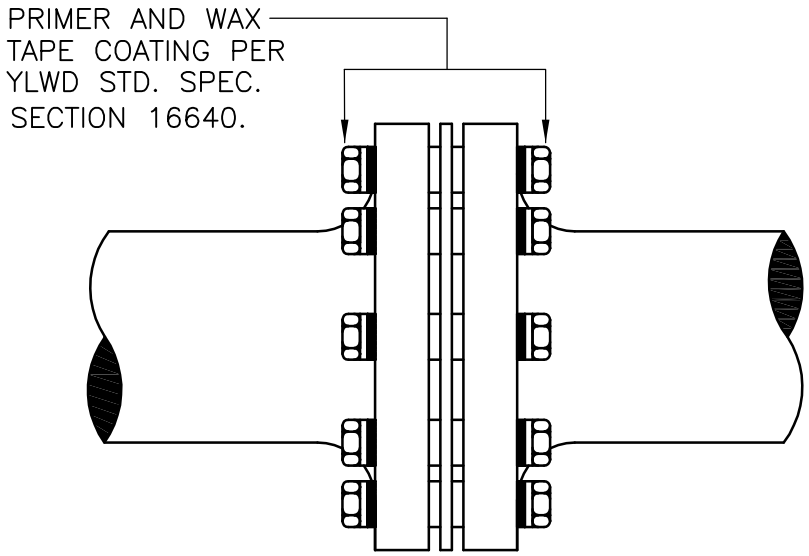
INSULATING FLANGE KIT



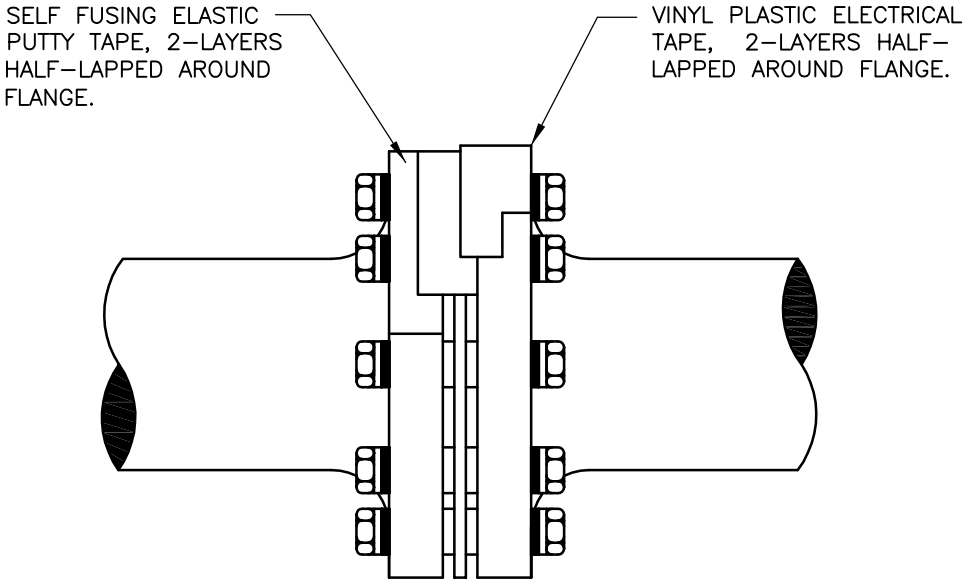
NOTES:

1. HARDWARE QUANTITIES IN INSULATING FLANGE KIT WILL VARY BASED ON GASKET PATTERN AND PIPE SIZE.
2. FOR BELOW GROUND INSTALLATIONS, INSTALL SINGLE-WASHER KITS WITH THE INSULATING WASHERS ONLY ON THE FOREIGN SIDE OF THE FLANGES.
3. A CATHODIC PROTECTION BONDING TEST STATION SHALL BE INSTALLED AT EACH BURIED FLANGE INSULATION PER YLWD SPEC SECTION 16640.

APPROVED BY ENGINEERING MANAGER	YL W	YORBA LINDA WATER DISTRICT	STD. DWG.
DATE: 3/2019		INSULATING FLANGE KIT ASSEMBLY	CP-13
SCALE: NTS			SHEET 1 OF 1



BURIED INSULATING FLANGE COATING



ABOVE GROUND INSULATING FLANGE COATING

APPROVED BY ENGINEERING MANAGER DATE 7/2016	YL W	YORBA LINDA WATER DISTRICT INSULATING FLANGE COATING ABOVE GRADE & BURIED	STD. DWG. CP-14 SHEET 1 OF 1