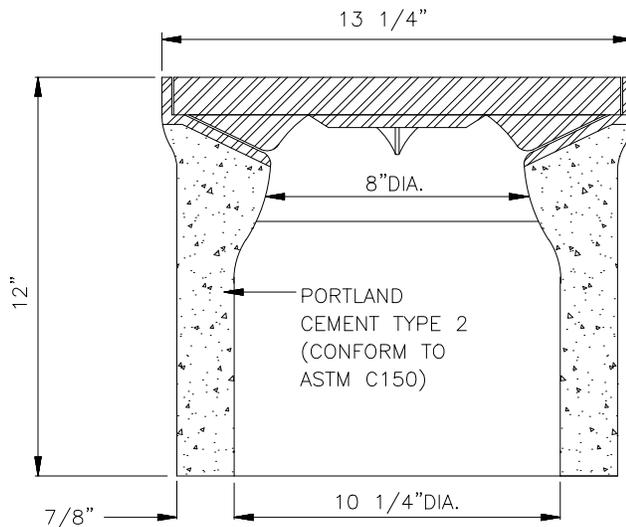


SET WEIGHT	
FRAME	61 lbs
LID	15 lbs
<b>TOTAL</b>	<b>76 lbs</b>

**PLAN VIEW**



**SECTION A-A**

**NOTES:**

1. ALL METALLIC MATERIALS SHALL BE CAST IRON OR DUCTILE IRON
2. FRAME AND LID SHALL HAVE CAST SEAT AND SIDE TO ASSURE CLOSE FIT.
3. CASTING SHALL BE DIPPED IN BLACK BITUMINOUS PAINT.
4. FOR INSTALLATION, SEE DETAIL DRAWING I-17 OR I-46.
5. FRAME AND LID SHALL EXCEED H-20 WHEEL LOADING.
6. APPROVED MODELS:
  - SBTT LID CVWD WATER & SBTT FRAME W/CONCRETE AS MANUFACTURED BY SOUTH BAY FOUNDRY
  - V4-T LID AND VALVE BOX AS MANUFACTURED BY J&R CONCRETE PRODUCTS.
  - 4TT CVWD LID & 4TT VALVE BOX AS . MANUFACTURED BY BROOKS PRODUCTS.

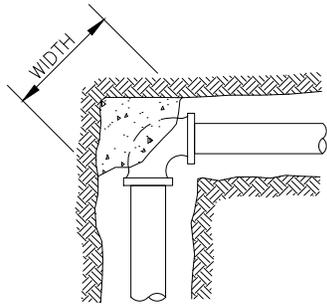


COACHELLA VALLEY WATER DISTRICT

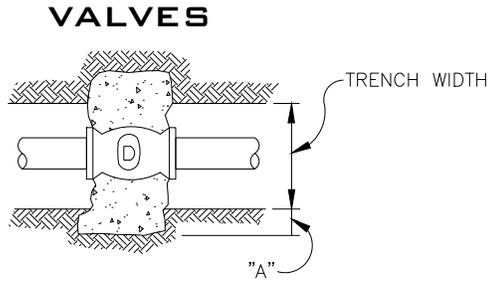
**DETAIL OF IRRIGATION  
VALVE OPERATOR WELL CAP  
AND FRAME**

APPROVAL DATE: DRAFT 09/18

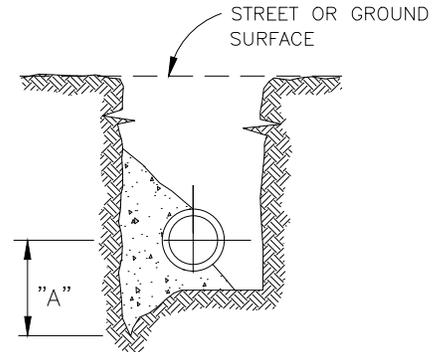
DRAWING NUMBER: I-18



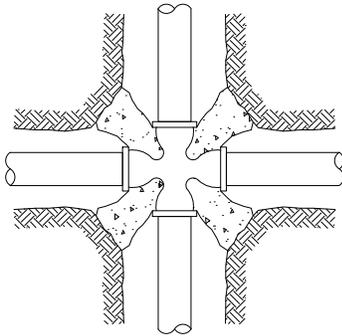
**BEND**



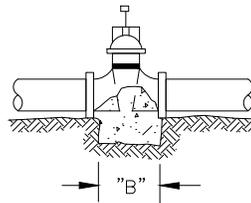
**PLAN**



**TYPICAL SECTION**



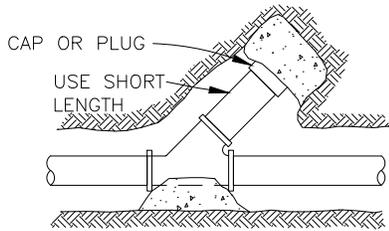
**CROSS**



**ELEVATION**

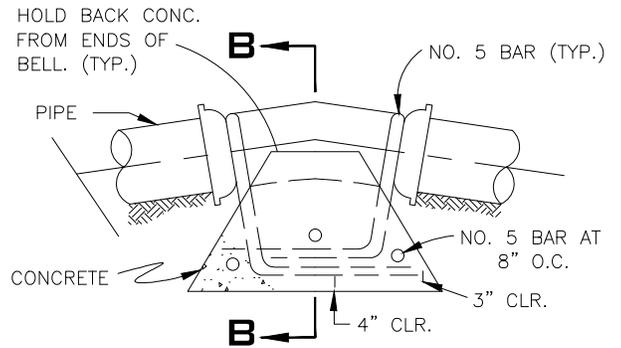
SECTION:  
 6" FOR 6"-8" PIPE  
 A= 12" FOR 12" PIPE  
 18" FOR 18" PIPE

B= TO CLEAR BELLS  
 OR FLANGES

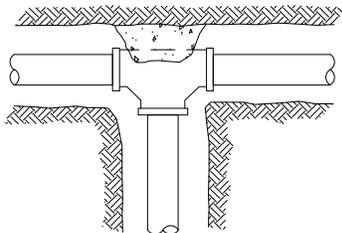


**WYE**

(SHOWN WITH BRANCH CLOSED)



**SECTIONAL ELEVATION**



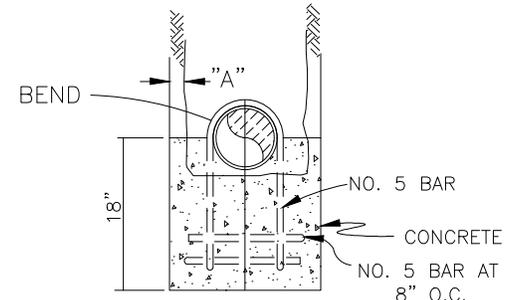
**TEE**

**NOTES:**

BEARING AREA FOR THRUST BLOCKS SHALL  
 DEPEND ON PRESSURE AND PIPE SIZE.

FOR BEARING AREAS SEE DETAIL DRAWING I-20

CONCRETE THRUST BLOCKS SHALL BE  
 CONSTRUCTED OF 420-B-2000 CONCRETE.



**SECTION B-B  
 VERTICAL ANCHOR BLOCK**

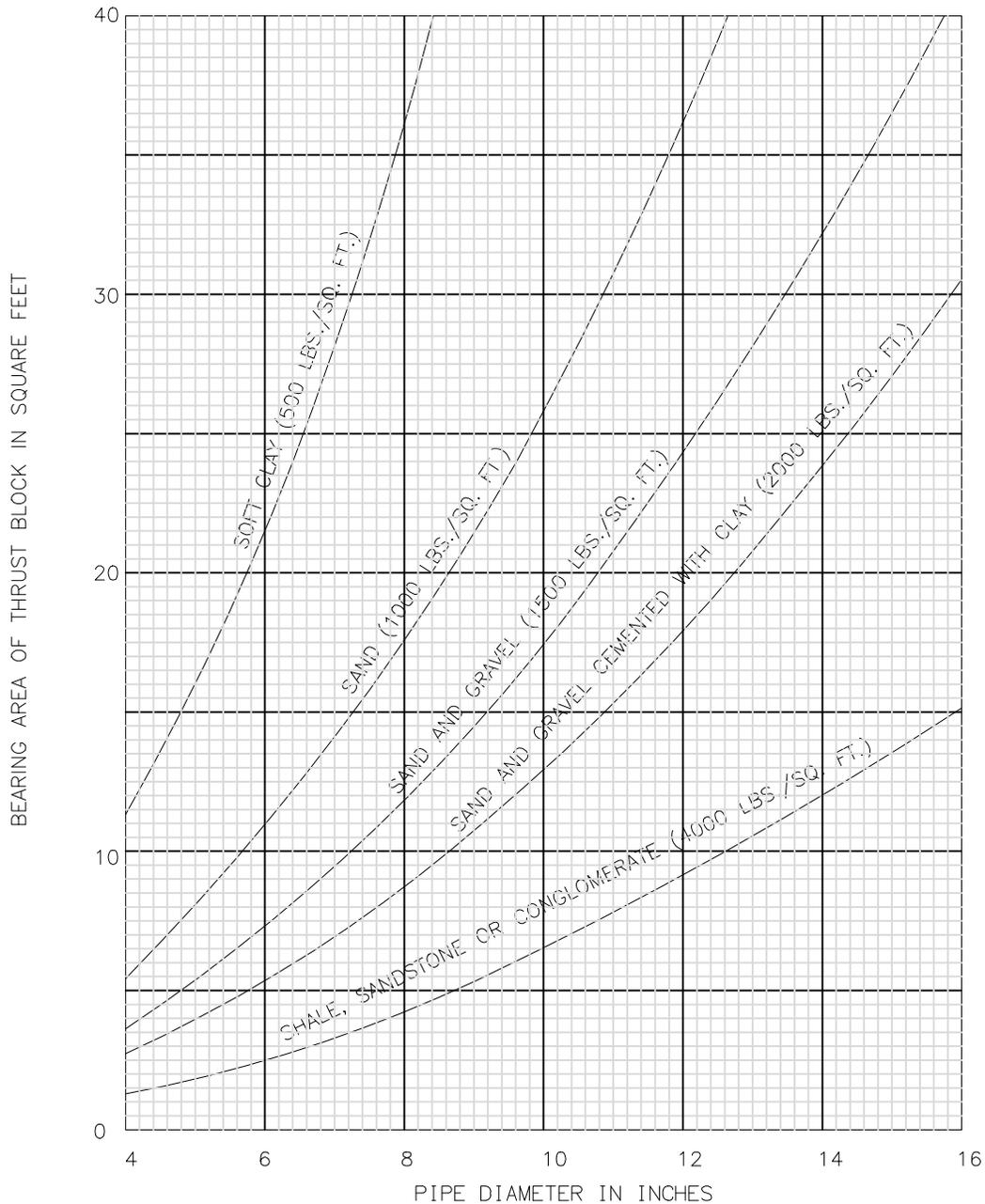


COACHELLA VALLEY WATER DISTRICT

**TYPICAL  
 TRENCH BACK-FILL DETAILS**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: W-1/S-3



**NOTES:**

1. BASED ON A 225 PSI TEST PRESSURE AND BEARING VALUES OF DRY SOILS.
2. VALUES FROM CURVES ARE FOR TEES AND DEAD ENDS I.E. STRAIGHT LINE THRUST.  
 FOR 90° BENDS: 1.4 X VALUE FROM CURVE.  
 FOR 45° BENDS: 0.8 X " " "  
 FOR 22-1/2° 0.4 X " " "
3. FOR CONDITIONS NOT COVERED BY CURVES, THRUST DEVICES MUST BE APPROVED BY THE ENGINEER.
4. FOR LOCATION OF THRUST BLOCKS SEE DETAIL DRAWING I-19.
5. CONCRETE THRUST BLOCKS SHALL BE CONSTRUCTED OF 420-B-2000 CONCRETE.

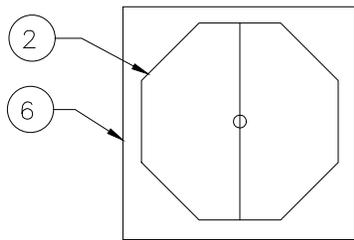


COACHELLA VALLEY WATER DISTRICT

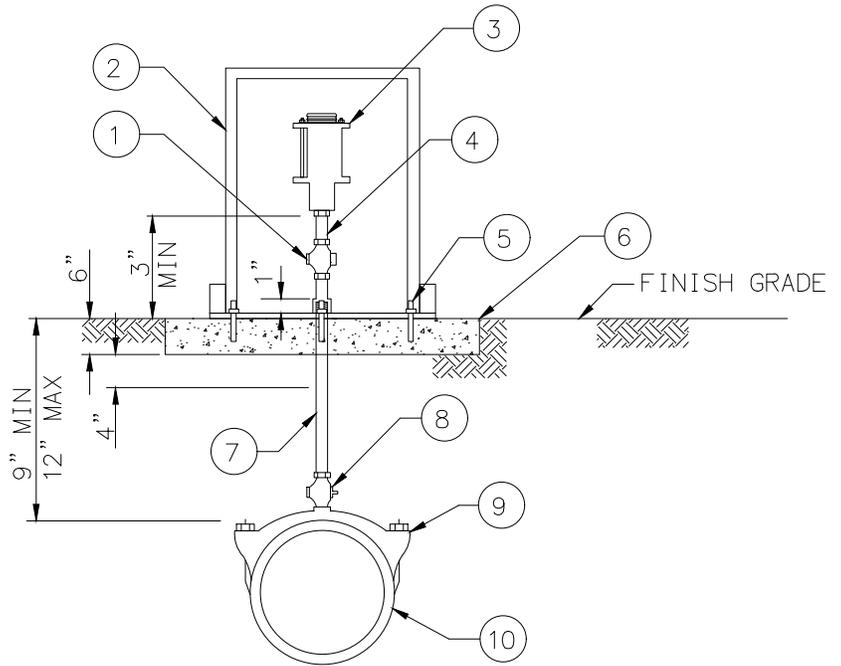
**DETAIL OF IRRIGATION  
THRUST BLOCK BEARINGS  
AREAS**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-20



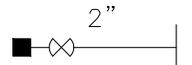
**PLAN VIEW**



**SECTION VIEW**

**NOTES:**

- 1) REFER TO SECTION 33 12 19-8 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON I-22A OR I-22B
- 4) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



LEGEND ON PLANS

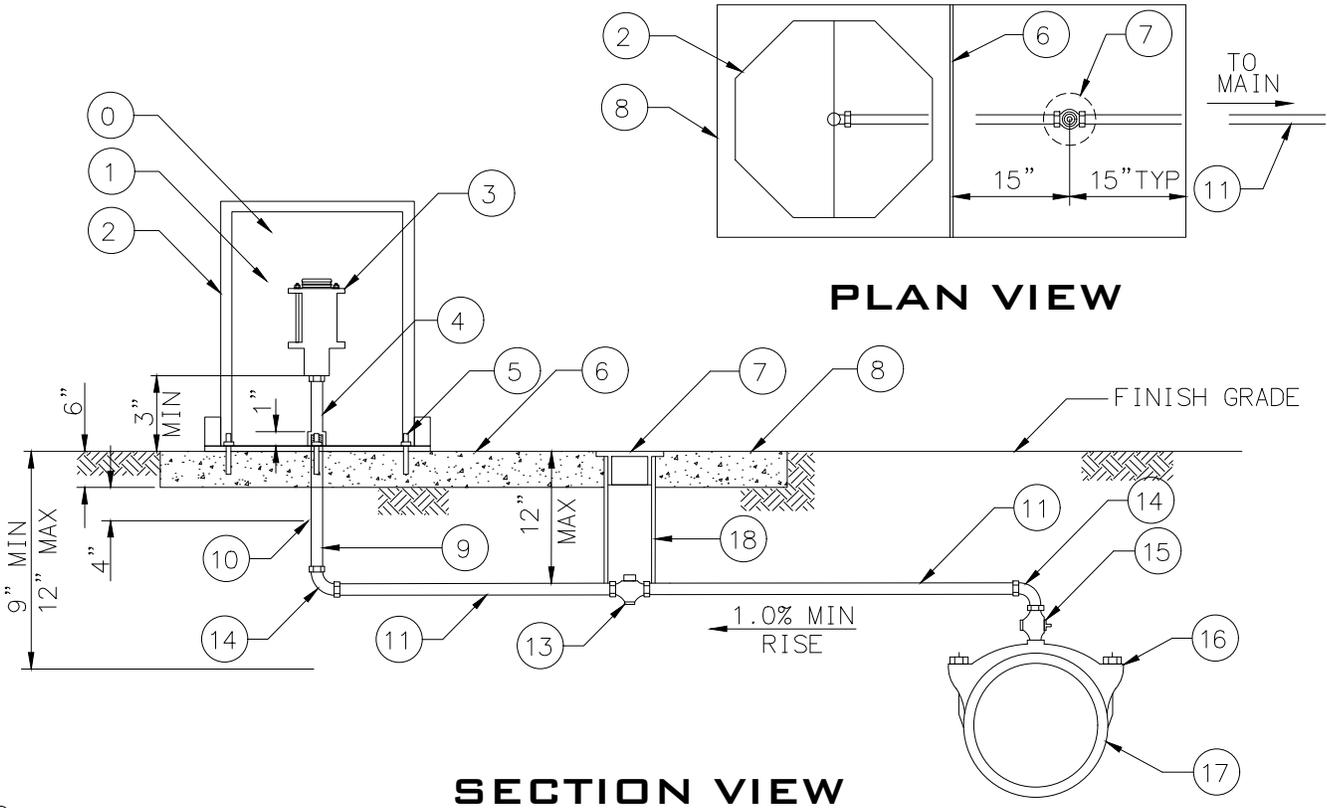
ITEM NO.	SIZE AND DESCRIPTION	ITEM NO.	SIZE AND DESCRIPTION
1	2" COMP BALL VALVE W/ TEE HEAD	6	2'-6" X 2'-6" X 6" THICK CONCRETE SLAB
2	VALVE ENCLOSURE	7	2" X REQ'D LENGTH BRONZE NIPPLE MIPT X MIPT
3	2" AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE	8	2" BRONZE MIPT X MIPT CORPORATION STOP
4	2" X REQ'D LENGTH PVC SCH 80 PIPE FIPT X FIPT	9	PIPE O.D. SIZE X 2" SERVICE SADDLE.
5	1/2" X 3" STAINLESS STEEL DROP-IN ANCHORS 6 EA	10	IRRIGATION MAIN



**COACHELLA VALLEY WATER DISTRICT**  
**DETAILS OF IRRIGATION PIPE**  
**2" AUTOMATIC COMBINATION**  
**AIR RELEASE & AIR/VACUUM**  
**VALVE INSTALLATIONS**

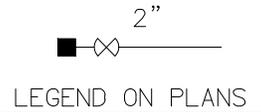
APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-21A



**NOTES:**

- 1) REFER TO SECTION TC-7 OF THE SPECIFICATIONS
- 2) NO DIPS OR LOW SPOTS WILL BE ALLOWED IN PIPING INSTALLATION
- 3) LOCATE ENCLOSURE AS SHOWN ON I-22A OR I-22B
- 4) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST



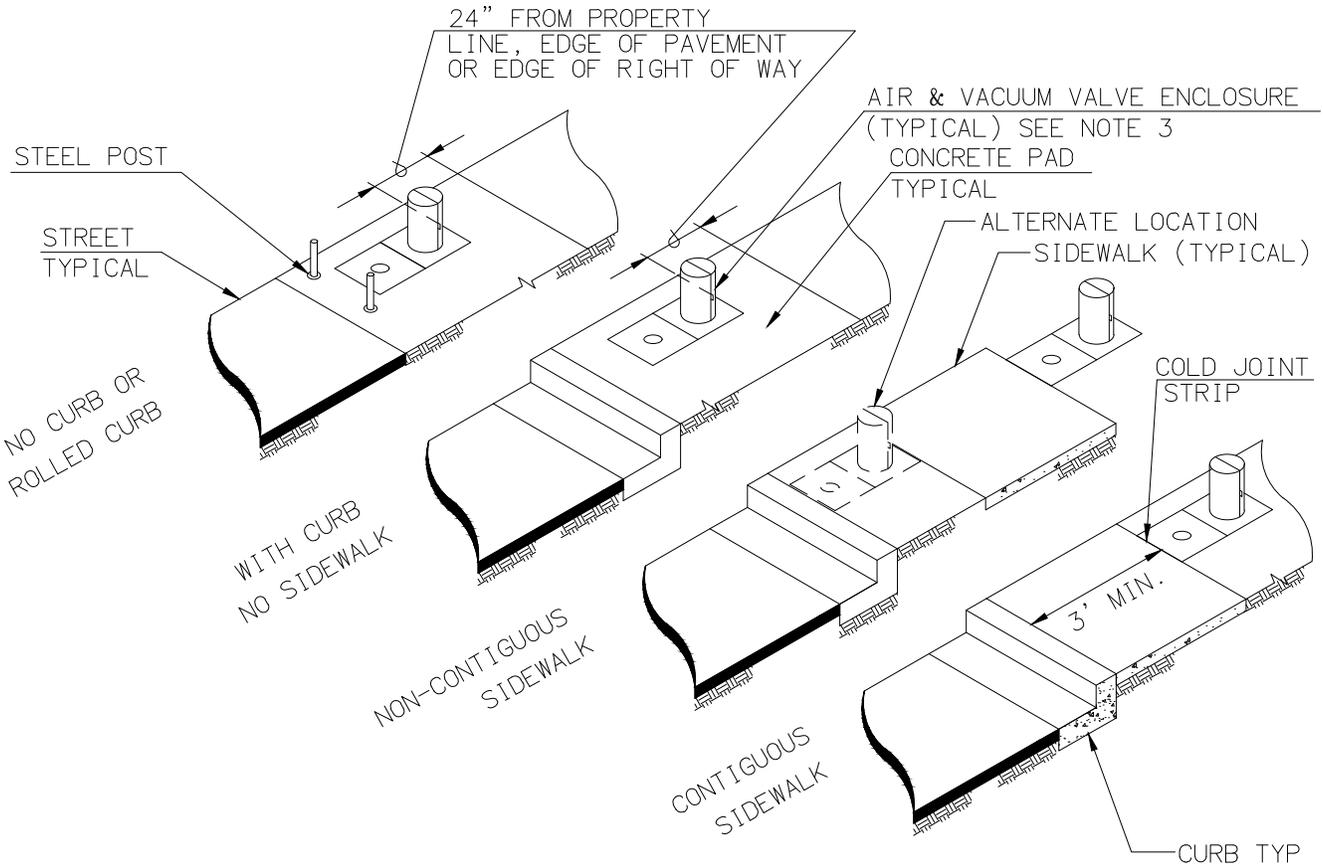
ITEM NO.	SIZE AND DESCRIPTION	ITEM NO.	SIZE AND DESCRIPTION
0	2" PVC SCH 80 CLOSE NIPPLE & 2 SCH 80 STREET ELLS & INSECT SCREEN	9	2" X REQ'D LENGTH BRONZE NIPPLE MIPT X MIPT
1	1/4" X 2" BRONZE NIPPLE, MIPT X MIPT W/1/4" BRONZE BALLVALVE W/LEVER HANDLE	10	2" X 1/2" BLACK FOAM SLEEVE
2	VALVE ENCLOSURE	11	2" X REQUIRED LENGTH COPPER PIPE TYPE "K" RIGID OR SOFT
3	2" AUTOMATIC COMBINATION AIR RELEASE & AIR/VACUUM VALVE	12	NOT USED
4	2" X REQ'D LENGTH PVC SCH 80 PIPE FIPT X FIPT	13	2" COMP BALL VALVE W/ TEE HEAD
5	1/2" X 3" STAINLESS STEEL DROP-IN ANCHORS 6 EA	14	2" 90° BRONZE FIPT X COMP ELL
6	1/4" X 1" DEEP WEAKENED PLANE JOINT	15	2" BRONZE MIPT X MIPT CORPORATION STOP
7	SEE DETAIL DRAWING I-18.	16	SIZE X 2" SERVICE SADDLE.
8	5' X 2' - 6" X 6" THICK CONCRETE SLAB	17	IRRIGATION MAIN
		18	8-INCH C-900 PVC



**COACHELLA VALLEY WATER DISTRICT  
 DETAILS OF IRRIGATION PIPE  
 2" AUTOMATIC COMBINATION  
 AIR RELEASE & AIR/VACUUM  
 VALVE INSTALLATIONS**

**APPROVAL DATE: DRAFT 09/18**

**DRAWING NUMBER: I-21**



NOTES:

- 1) REFER TO SECTION OF THE SPECIFICATIONS
- 2) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER
- 3) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF ENCLOSURE
- 4) THE ENCLOSURE SHALL BE DESERT TAN AS MANUFACTURED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 5) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 6) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

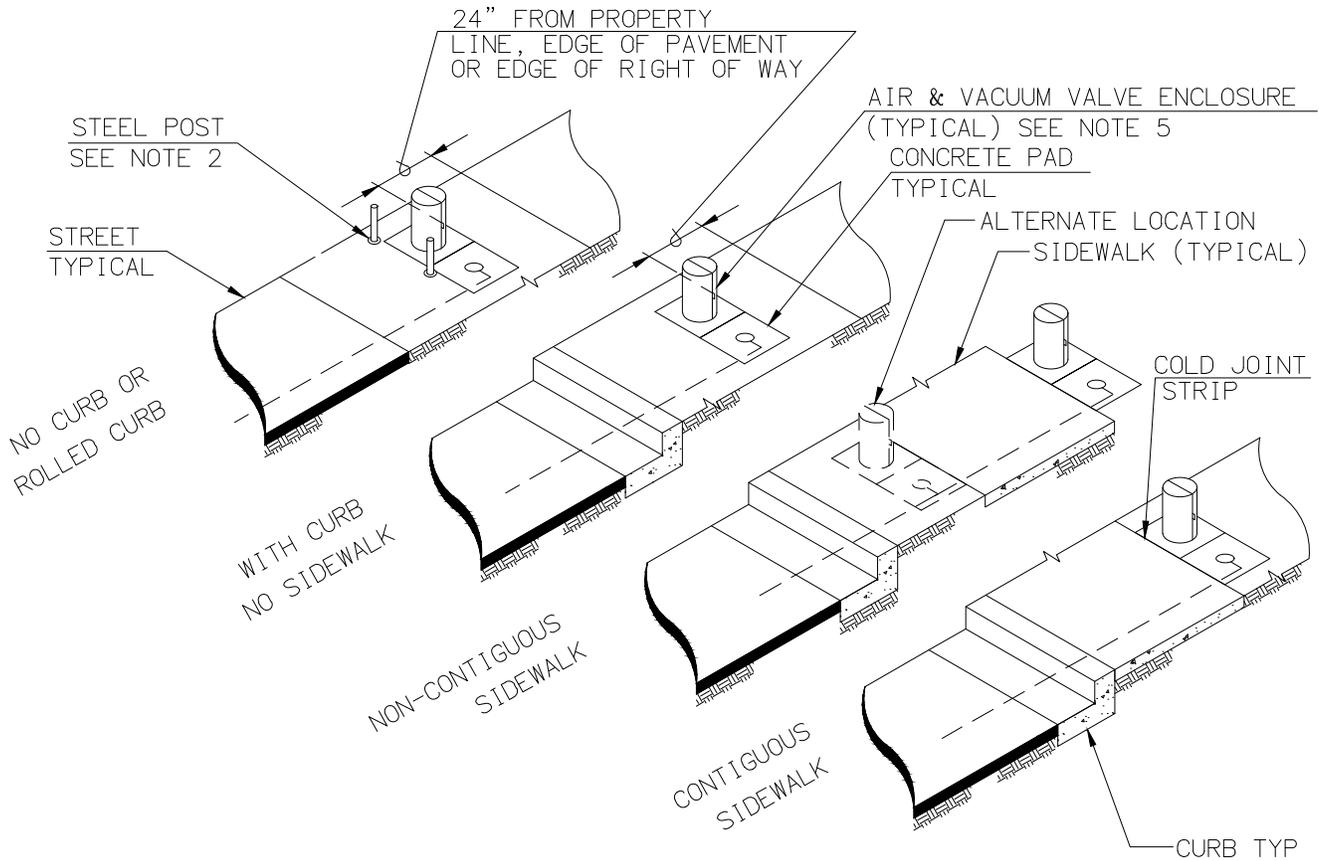
INDICATE SIZE  
 LEGEND ON PLANS



COACHELLA VALLEY WATER DISTRICT  
**DETAIL OF IRRIGATION  
 COMBINATION  
 AIR & VACUUM VALVE  
 ENCLOSURE LOCATIONS**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-22A



NOTES:

- 1) THIS CONFIGURATION IS ALTERNATIVE AND CAN ONLY BE USED AS SHOWN ON PLANS OR AS DIRECTED BY ENGINEER
- 2) COMBINATION AIR RELEASE & AIR/VACUUM TO BE CONSTRUCTED AS SHOWN ON I-21 WITH THE ADDITION OF A 90° BRONZE COMPRESSION ELL LOCATED UNDER CONCRETE SLAB ADJACENT TO BALL VALVE
- 3) REFER TO SECTION TC-7 OF THE SPECIFICATIONS
- 4) PROTECTION POSTS SHALL BE INSTALLED AS CALLED FOR ON THE PLANS OR AS DIRECTED BY THE ENGINEER
- 5) AN EASEMENT MAY BE NEEDED DEPENDING ON LOCATION OF ENCLOSURE
- 6) THE ENCLOSURE SHALL BE DESERT TAN AS MANUFACTURED IN ACCORDANCE WITH THE APPROVED MATERIALS LIST
- 7) IF THE CONCRETE SLAB IS TO BE INSTALLED ADJACENT TO A CONCRETE SIDEWALK A COLD JOINT STRIP SHALL BE INSTALLED
- 8) MATERIALS SHALL BE SELECTED FROM THE APPROVED MATERIALS LIST

INDICATE SIZE  
  
 LEGEND ON PLANS



COACHELLA VALLEY WATER DISTRICT

**DETAIL OF IRRIGATION  
 COMBINATION/ALTERNATIVE  
 AIR VACUUM VALVE ENCLOSURE**

APPROVAL DATE: DRAFT 09/18

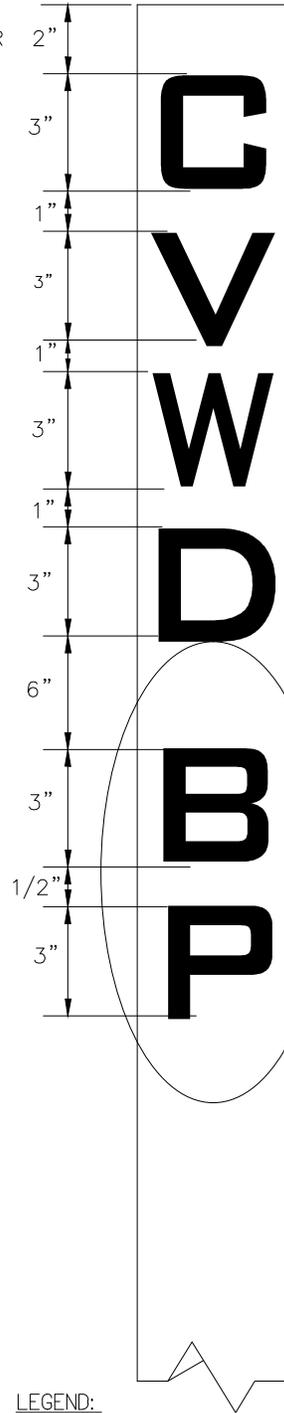
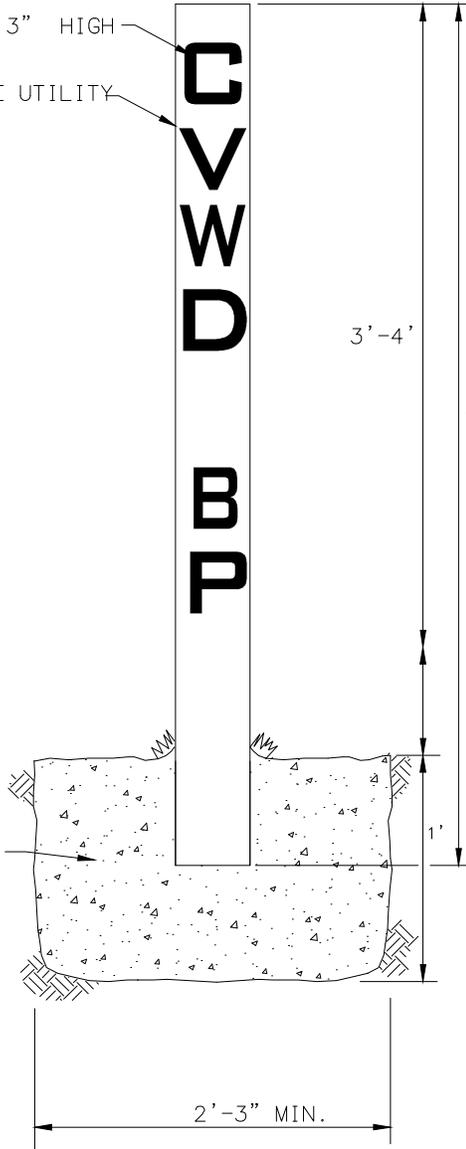
DRAWING NUMBER: I-22B

CARSONITE UTILITY MARKER  
TO BE WHITE

BLACK LETTERS 3" HIGH

CARSONITE UTILITY  
MARKER

420-C-2000  
CONCRETE



LEGEND:

- A.V. = AIR-VAC RELIEF VALVE
- R/W S.C. = RIGHT OF WAY STORM CHANNEL
- W.L. = WATER LINE
- G.V. = GATE VALVE
- P.R. = PRESSURE REGULATOR
- L.V. = LINE VALVE
- M.H. = MANHOLE
- C.P.T.S. = CATHODIC PROTECTION TEST STATION
- B.P. = BURIED PIPE
- P.V. = PLUG VALVE



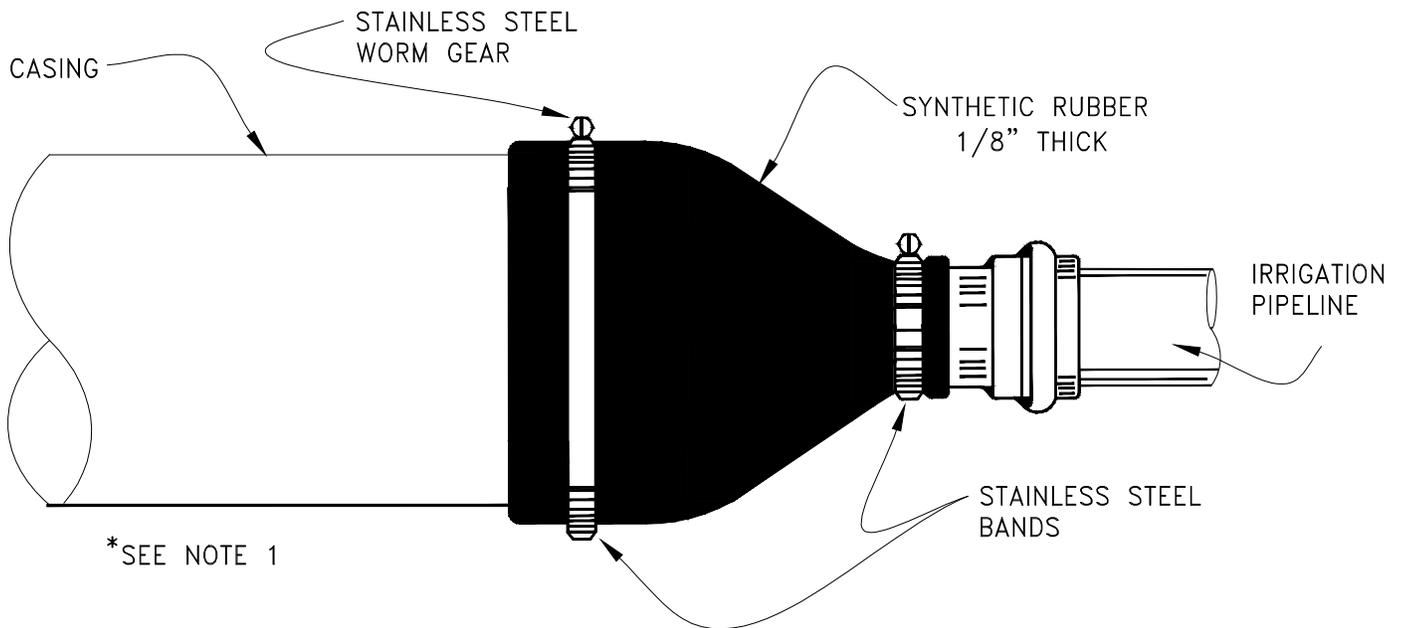
COACHELLA VALLEY WATER DISTRICT

**DETAIL OF IRRIGATION  
CARSONITE UTILITY MARKER**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-27

# MOGEL W WRAP-AROUND, SPLIT STYLE



## CALPICO INC. MODEL W END SEALS OR CVWD APPROVED MATERIALS LIST

1.\*NOTE: FOR CASING  
DETAIL REFER TO  
CVWD I-40



COACHELLA VALLEY WATER DISTRICT

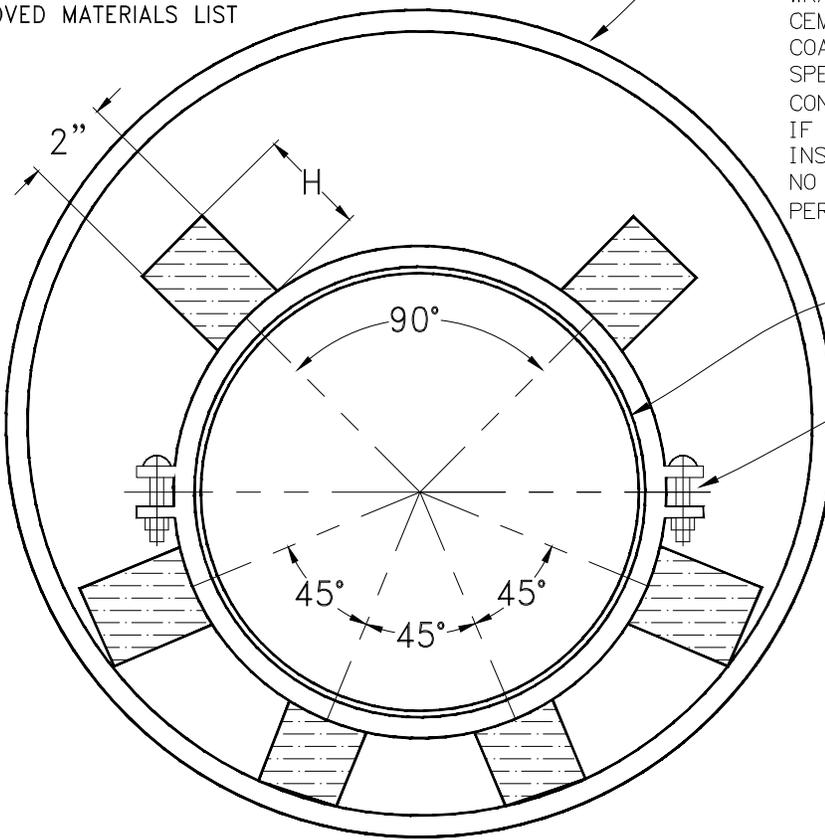
IRRIGATION STANDARD END SEALS  
FOR CASING IRRIGATION PIPELINE

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-40A

STAINLESS STEEL CASING INSULATOR  
 MODEL M SERIES SPACERS OR CVWD  
 APPROVED MATERIALS LIST

STEEL CASING SHALL BE ASPHALT COATED &  
 WRAPPED PER SECTION 207-10.4.5,  
 CEMENT MORTAR LINING AND ASPHALT  
 COATING AND WRAPPING OF THE STANDARD  
 SPECIFICATION FOR PUBLIC WORKS  
 CONSTRUCTION (EXTERIOR SURFACE ONLY)  
 IF JACKING IS UTILIZED FOR CASING  
 INSTALLATION.  
 NO COATING SHALL BE APPLIED.  
 PER SECTION 306-2.1/203 (SSPW)



IRRIGATION PIPELINE

BOLTING FLANGES

**\*SEE NOTE 1**

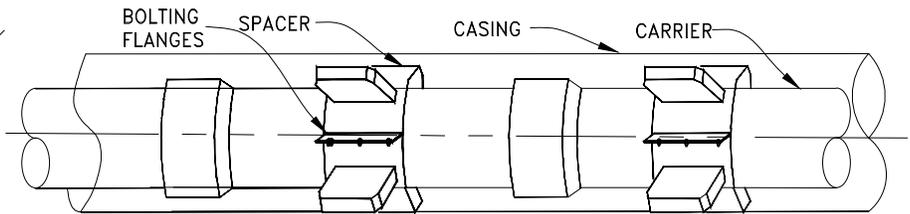
**NOTES: CASING SPACERS**

1. STAINLESS STEEL
2. NON-CENTERING CONFIGURATION
3. 2.00 INCH WIDE RUNNERS
4. H SHALL PROVIDE FOR A MINIMUM OF 1" CLEARANCE ABOVE THE MECHANICAL PIPE JOINT RESTRAINT SYSTEM.

**STEEL CASING:**

1. NO SPIRAL WELD CASING ALLOWED
2. ALL JOINTS WITHIN CASING SHALL BE FULLY RESTRAINED.
3. EXTERIOR SURFACE OF CASING SHALL BE ASPHALT COATED AND WRAPPED PER APPLICABLE PROVISION OF SECTION 207-10.4.5, CEMENT MOTAR LINING AND ASPHALT COATING AND WRAPPING, OF THE STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION.
4. IF JACKING IS UTILIZED NO COATING TO BE APPLIED TO CASING.

NOMINAL PIPE DIAMETER	CASING DIAMETER	CASING WALL THICKNESS (BORES LONGER THAN 150')	CASING WALL THICKNESS (BORES 150' LENGTH & SHORTER)
12"	24"	.375	.250
18"	36"	.500	.375
24"	42"	.750	.500
30"	54"	.750	.500
36"	66"	.750	.750
42"	72"	.750	.750



1.\*NOTE: CASING ENDS SHALL BE SEALED WITH CALPICO INC. MODEL W, END SEAL PER CVWD DETAIL I-40A.

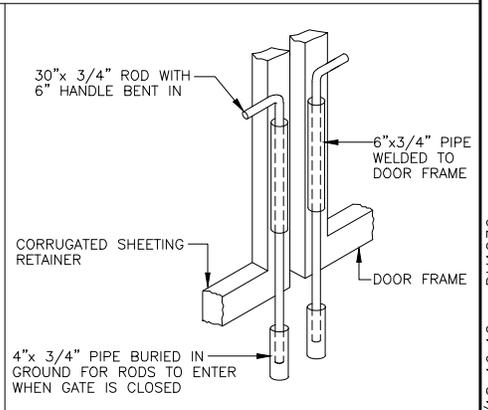
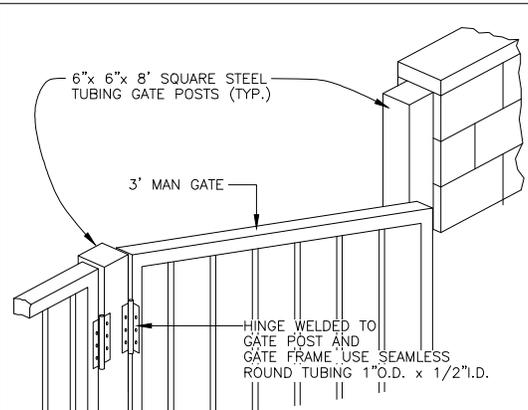
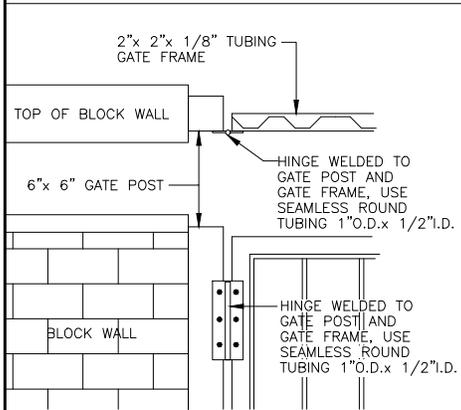
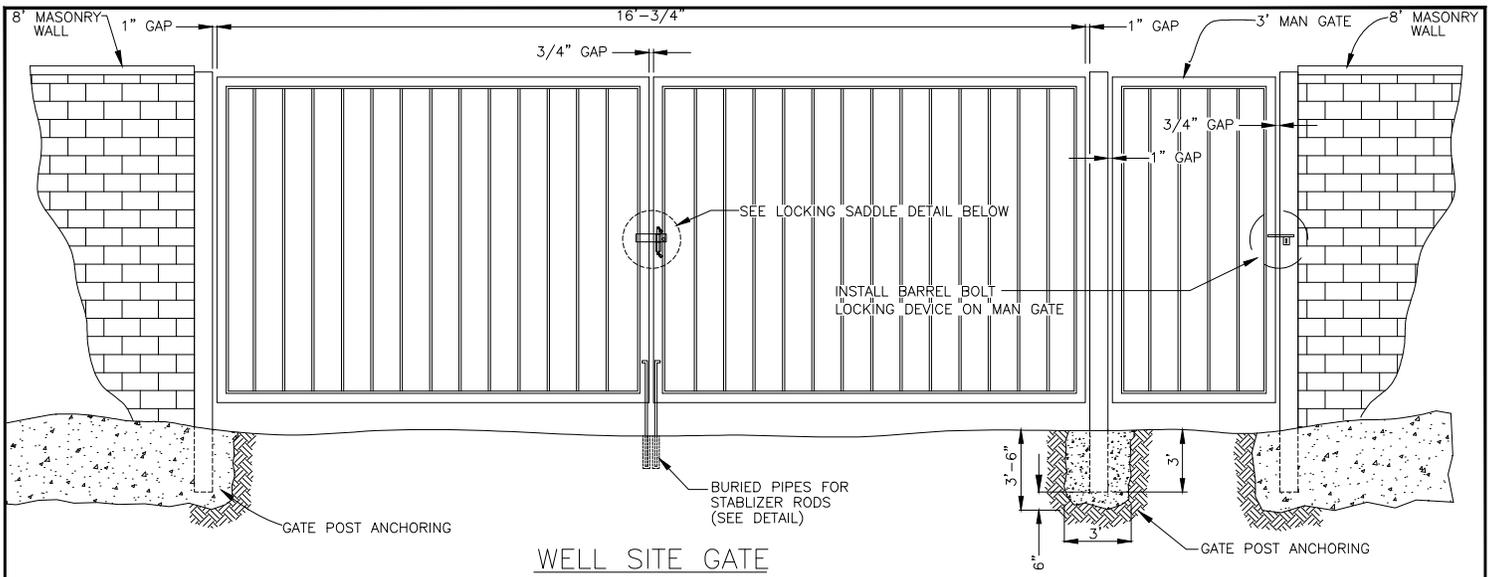


COACHELLA VALLEY WATER DISTRICT

**STANDARD CASING FOR IRRIGATION PIPELINE**

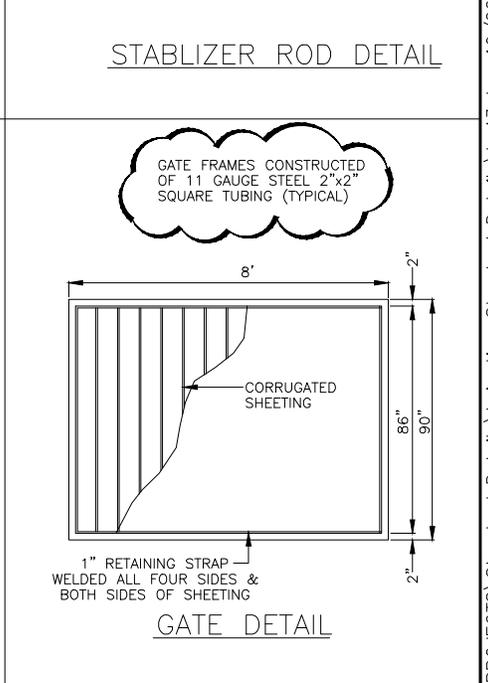
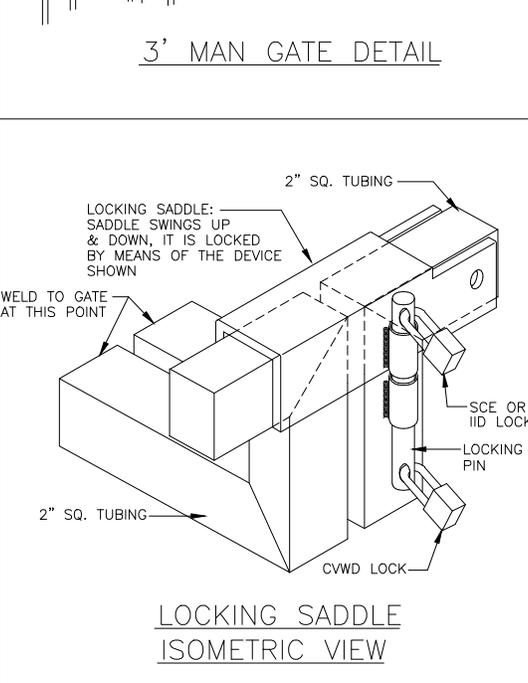
APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-40



NOTES:

- GATES TO OPEN INTO THE WELL SITE
- GATES TO BE PAINTED AN APPROVED COLOR BY C.V.W.D.
- ALL HINGES TO BE 6 x 6 HEAVY DUTY (69002) MANUFACTURED BY PATTONS CORP. OR APPROVED EQUAL



COACHELLA VALLEY WATER DISTRICT

**IRRIGATION STANDARD FOR  
EASEMENT GATES & DETAILS**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-43

AS REQUIRED, 16' MIN.

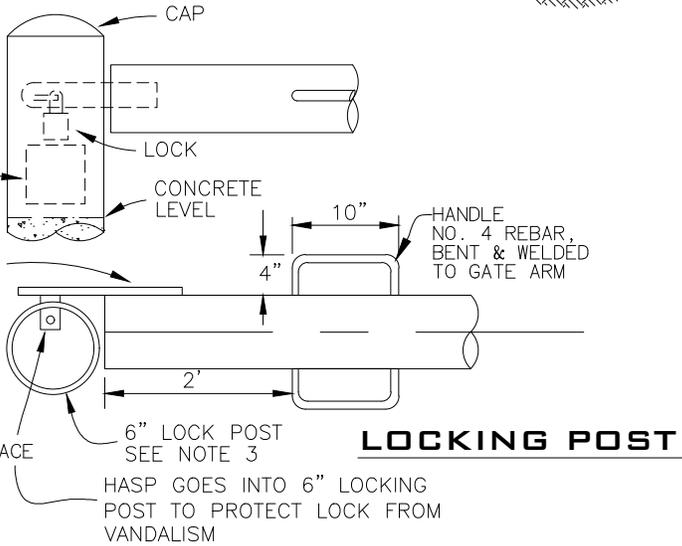
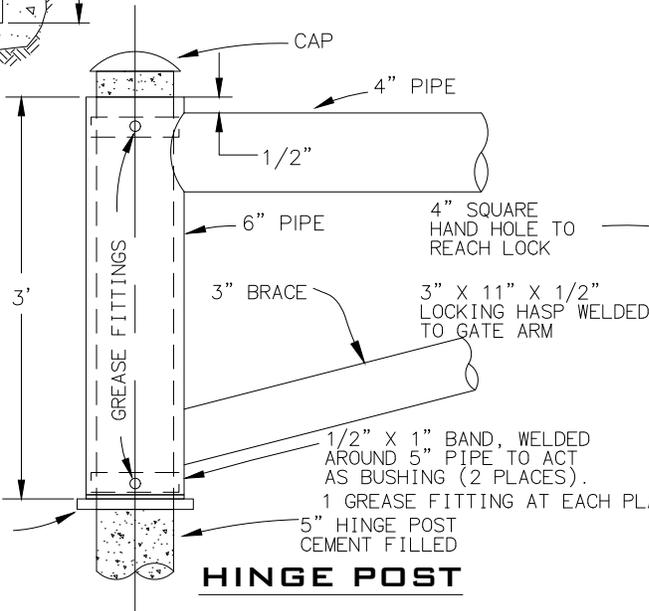
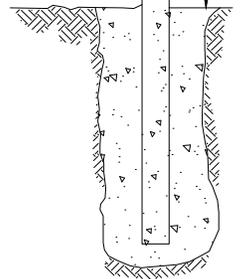
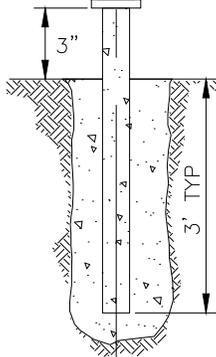
8'-6"

3'-3"

**PIPE GATE ASSEMBLY**

**GENERAL NOTES:**

1. ALL PIPE TO BE AS SHOWN W/ 1/4" THICK WALLS UNLESS OTHERWISE INDICATED AND SURFACED W/ A FIELD APPLIED GALVANIZED COATING
2. SET 5" HINGE POST (AS SHOWN), 6" DIA. GATE POST SLIDES OVER 5" DIA. CONCRETE FILLED HINGE POST. 5" DIA. HINGE POST CAP IS WELDED TO IT AFTER THE HINGE POST IS SET AND GATE IS HUNG
3. SET LOCK POST TO MATCH GATE LATCH (AS SHOWN) AND FILL LOCK POST W/ CONCRETE TO JUST BELOW SLOT, TO MAINTAIN SPACE FOR LOCK, WELD CAP TO TOP OF LOCK POST.



**HINGE POST**

**LOCKING POST**



COACHELLA VALLEY WATER DISTRICT

**STANDARD PIPE GATE ASSEMBLY**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-44

NOTE:  
ALL EXPOSED STEEL, CI, DI, OR METAL  
SHALL BE WRAPPED IN 8 MIL PE.

CAST IRON LID (C.V.W.D. IRR.)  
PAINTED "WHITE"  
TRAFFIC LID PER I-18.

SET COVER OF VALVE BOX  
FLUSH WITH CONCRETE

VALVE BOX LOWER  
SECTION

PLACE CONCRETE AGAINST  
UNDISTURBED EARTH

MARKER POST  
SEE DRAWING I-27

36" MAX.  
18" MIN

3'-0"

36" DIA CONC. 6" THICK

FINISH GRADE

COMPACTED BACKFILL

8" C-900 PVC

EXTENSION ROD REQ'D W/2"  
OPERATING NUT 1'-0" BELOW  
GRADE WHEN VALVE IS OVER  
4'-0" BELOW GRADE.

PLUG VALVE

WRAP IN 8 MIL POLYETHYLENE

PLACE CONCRETE AGAINST  
UNDISTURBED EARTH

6" MIN.

1'-0"

SECTION B-B



COACHELLA VALLEY WATER DISTRICT

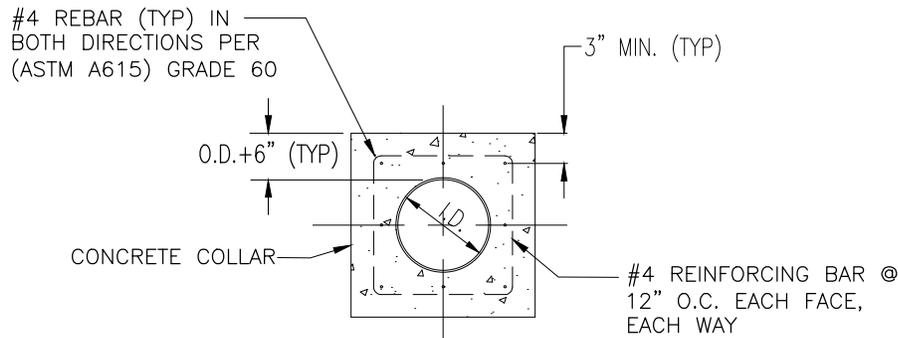
IRRIGATION STANDARD FOR  
BURIED PLUG VALVE BOX  
UNIMPROVED AREA

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-46

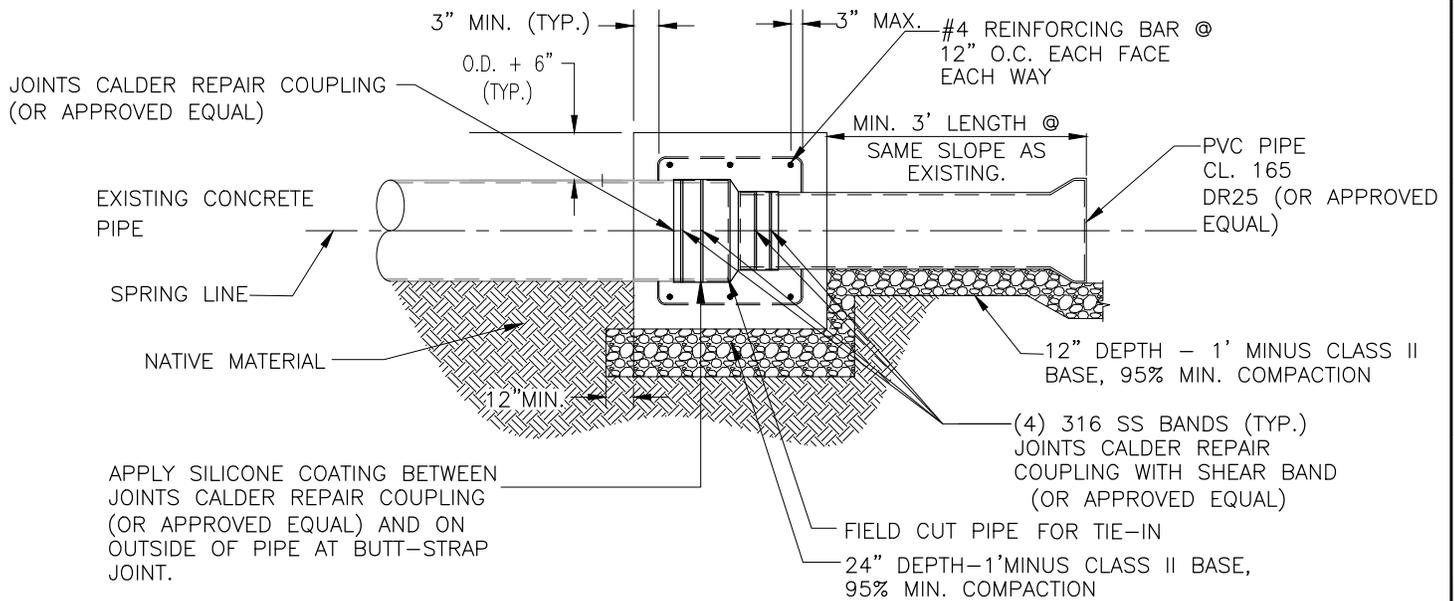
# CONNECTOR NOTES

1. CONCRETE SHALL BE CLASS 560-C 3250 UNLESS OTHERWISE SPECIFIED.
2. CONCRETE SHALL CONFORM TO ASTM C150, TYPE II LOW ALKALI.
3. CONTRACTOR TO VERIFY OUTSIDE DIAMETER (O.D.) AND INSIDE DIAMETER (I.D.) OF EXISTING PIPE PRIOR TO CONSTRUCTION, AND NOTIFY DISTRICT IF A DEVIATION EXISTS WITH EITHER DIAMETER.
4. CONTRACTOR TO CLEAN THE EXISTING CONCRETE PIPE AND APPLY A SILICONE COATING ON OUTSIDE OF PIPE AT BUTT-STRAP JOINT.
5. CONTRACTOR TO REMORTAR THE 3 UPSTREAM AND DOWNSTREAM PIPE JOINTS AT EACH TIE-IN POINT.
6. MAXIMUM PIPELINE DIAMETER SIZE CHANGE CAN BE 6 INCHES.
7. CONTRACTOR SHALL SCHEDULE ALL CONCRETE POURS 24 HOURS IN ADVANCE WITH THE INSPECTION DEPARTMENT. ANY CONCRETE POURS COMPLETED WITHOUT INSPECTORS ON SITE MAY BE SUBJECT TO REJECTION.
8. FOR PIPELINES 12" IN DIAMETER OR SMALLER, CONNECT EXISTING CONCRETE PIPE WITH JOINTS PRODUCT OR APPROVED EQUAL. NO CONCRETE COLLAR IS REQUIRED WITH CVWD APPROVAL.
9. SEE SPEC SECTION 33 11 13.30
10. IF CONNECTION IS WITHIN 10' OF ROAD SHOULDER. REPLACEMENT OF EXISTING PIPE SHALL EXTEND TO ADJACENT SIDE OF ROADWAY.
11. CONTRACTOR SHALL HAND DIG AND EXPOSE EXISTING PIPE TO SPRING LINE AND INSPECT UPSTREAM & DOWNSTREAM PIPE JOINTS AT EACH TIE-IN CONNECTION FOR THE FOLLOWING DISTANCES:
  - EXISTING 3' STICKS-3 PIPE JOINTS
  - EXISTING 6' & 9' STICKS-1 PIPE JOINT



## SECTION

N.T.S.



## PLAN VIEW

N.T.S.

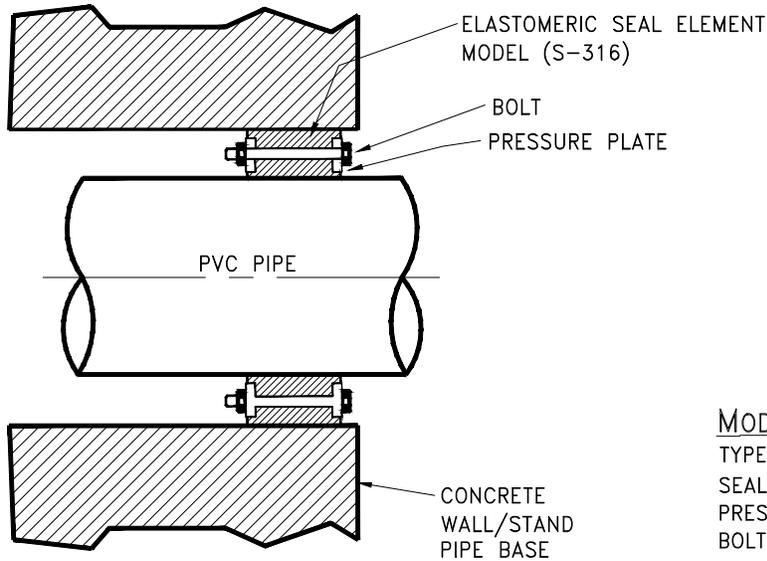


COACHELLA VALLEY WATER DISTRICT

### FIELD PIPE CONNECTOR DETAIL

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-48



**MODEL S-316" LINK-SEAL MODULAR SEALS**

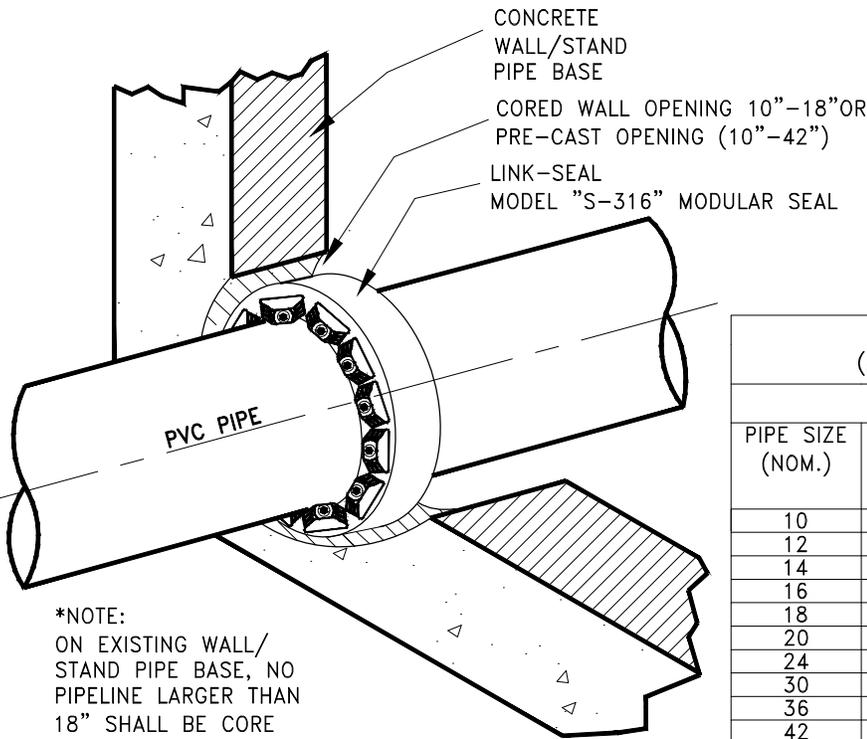
TYPE: STAINLESS

SEAL ELEMENT: EPDM (BLACK) OR EPDM (BLUE)

PRESSURE PLATES: REINFORCED NYLON POLYMER

BOLTS & NUTS: 316 STAINLESS STEEL

TEMP. RANGE: -40 TO + 250°F (-40 TO +121°C)\*



\*NOTE:  
ON EXISTING WALL/  
STAND PIPE BASE, NO  
PIPELINE LARGER THAN  
18" SHALL BE CORE  
DRILLED.

LINK-SEAL MODULAR SEAL SIZING CHART (AWWA-C900, AWWA-C905, PVC WATER PIPE)				
CAST OR CORE BIT DRILLED HOLE				
PIPE SIZE (NOM.)	ACTUAL O.D. (INCHES)	HOLE I.D.	LINK-SEAL SIZE	LINKS PER SEAL
10	11.100	14.000	LS-410-S-316	15
12	13.200	16.000	LS-400-S-316	12
14	15.300	18.000	LS-360-S-316	24
16	17.400	20.000	LS-360-S-316	27
18	19.500	22.000	LS-360-S-316	30
20	21.600	26.000	LS-525-S-316	19
24	25.800	28.000	LS-425-S-316	23
30	32.000	36.000	LS-575-S-316	34
36	38.300	43.000	LS-500-S-316	33
42	44.500	49.000	LS-525-S-316	38

**1 PIPELINE CONNECTION**  
A-1

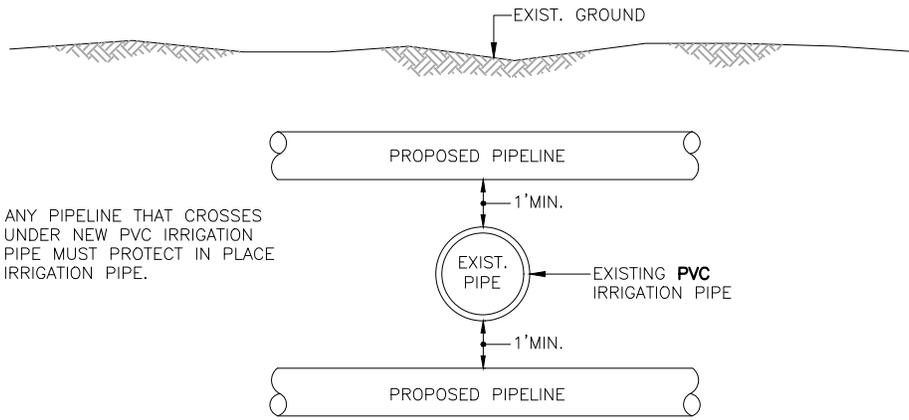


COACHELLA VALLEY WATER DISTRICT

**LINK-SEAL PIPELINE  
CONNECTOR DETAIL**

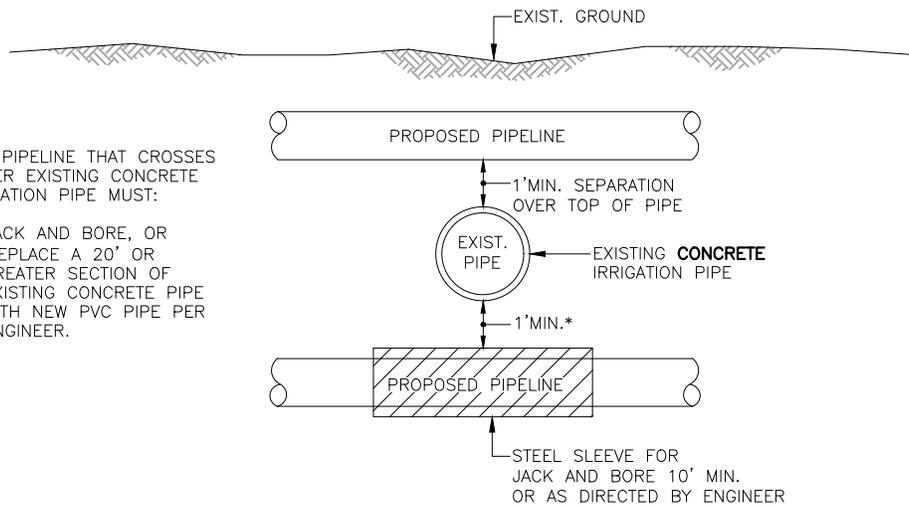
APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-49



ANY PIPELINE THAT CROSSES UNDER NEW PVC IRRIGATION PIPE MUST PROTECT IN PLACE IRRIGATION PIPE.

**PROPOSED PVC IRRIGATION PIPE**

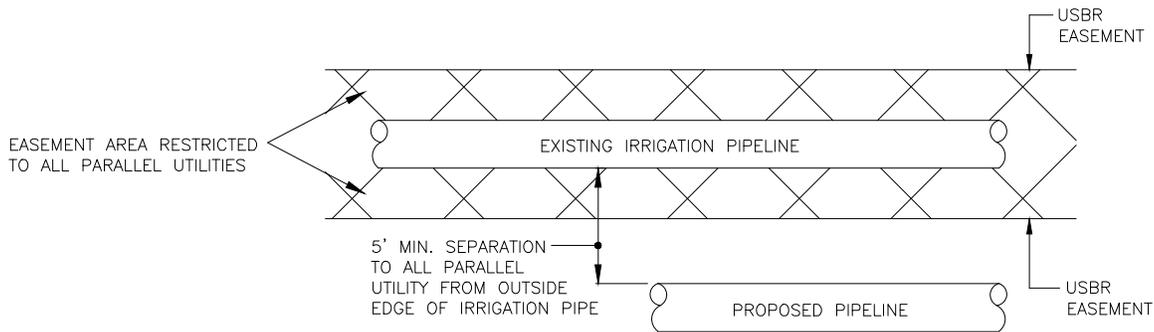


\*ANY PIPELINE THAT CROSSES UNDER EXISTING CONCRETE IRRIGATION PIPE MUST:

1. JACK AND BORE, OR
2. REPLACE A 20' OR GREATER SECTION OF EXISTING CONCRETE PIPE WITH NEW PVC PIPE PER ENGINEER.

\*\*BOTH METHODS MUST RETAIN 1' SEPARATION FROM BOTTOM OF CONCRETE IRRIGATION PIPE

**EXISTING CONCRETE IRRIGATION PIPE**



**PARALLEL UTILITY PLAN VIEW**



COACHELLA VALLEY WATER DISTRICT

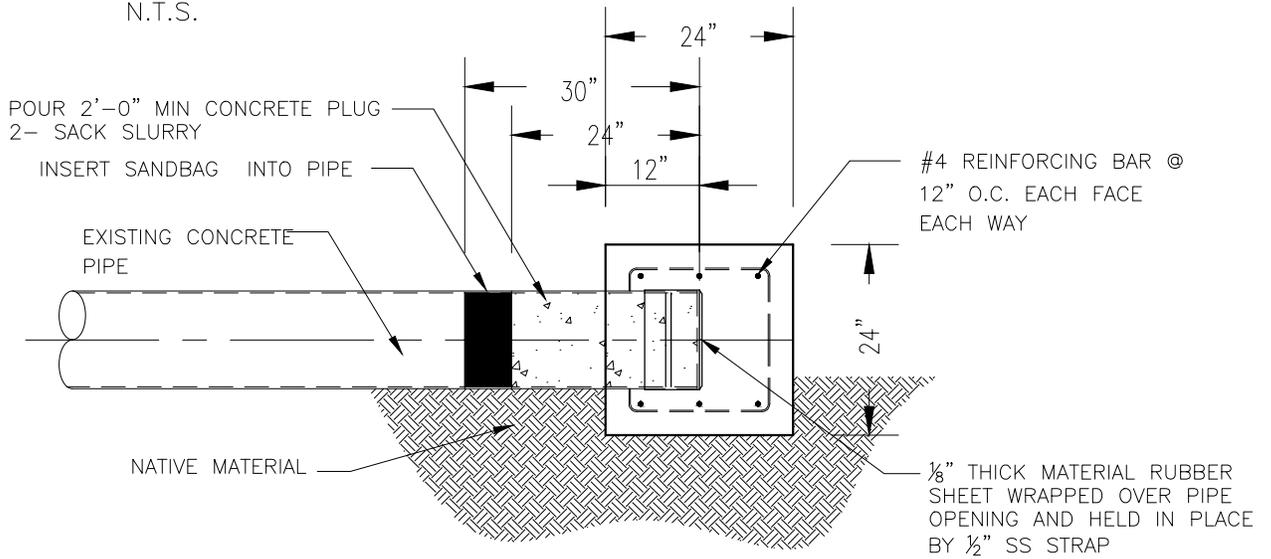
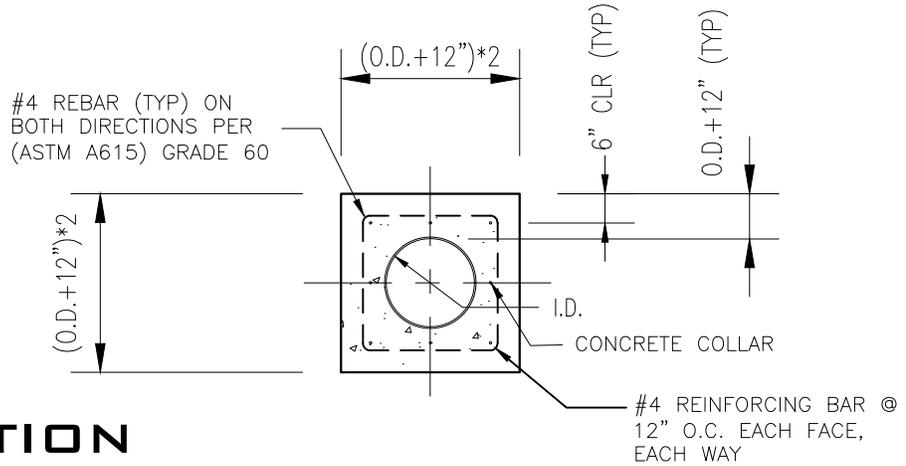
**VERTICAL AND PARALLEL PIPELINE SEPARATIONS FOR IRRIGATION**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-50

## CONNECTOR NOTES

1. CONCRETE SHALL BE CLASS 560-C 3250 UNLESS OTHERWISE SPECIFIED.
2. CONCRETE SHALL CONFORM TO ASTM C150, TYPE II LOW ALKALI.
3. CONTRACTOR TO VERIFY OUTSIDE DIAMETER (O.D.) AND INSIDE DIAMETER (I.D.) OF EXISTING PIPE PRIOR TO CONSTRUCTION. AND NOTIFY DISTRICT IF A DEVIATION EXISTS WITH EITHER DIAMETER
4. CONTRACTOR TO CLEAN THE EXISTING CONCRETE PIPE AND APPLY A SILICON FOR SEALING PURPOSES.
5. CONTRACTOR TO REMORTAR THE UPSTREAM AND DOWNSTREAM PIPE JOINTS AT EACH TIE -IN POINT.
6. MAXIMUM PIPELINE SIZE CHANGE CAN BE 6 INCHES.



## PIPE CAP DETAIL



COACHELLA VALLEY WATER DISTRICT

**PIPE CAP DETAIL**

APPROVAL DATE: DRAFT 09/18

DRAWING NUMBER: I-51