



**CITY OF IMPERIAL**

**STANDARD DETAIL**

**GUIDELINE MANUAL**

# CITY OF IMPERIAL STANDARD DETAIL DRAWING INDEX SHEET

<b>100 SERIES</b>		<b>WATER</b>
<b>200 SERIES</b>		<b>SEWER</b>
<b>300 SERIES</b>		<b>STORM</b>
<b>400 SERIES</b>		<b>SURFACE IMPROVEMENTS</b>
<b>500 SERIES</b>		<b>MISCELLANEOUS</b>
<b>600 SERIES</b>		<b>ELECTRICAL</b>
<b>700 SERIES</b>		<b>FIRE</b>
<b>800 SERIES</b>		<b>LANDSCAPE</b>

RECOMMENDED FOR APPROVAL BY:



**JACKIE LOPER**  
PUBLIC SERVICES DIRECTOR

RECOMMENDED FOR APPROVAL BY:



**OTHON MORA, MCM, CBO**  
COMMUNITY DEVELOPMENT DIRECTOR

**NOTES:**

- ① ALL CITY OF IMPERIAL STANDARD DETAIL DRAWINGS SHALL BE USED IN CONJUNCTION WITH SPECIFICATIONS FOR STREET, ON-SITE AND OFF-SITE IMPROVEMENTS SUCH AS DRAINAGE, POTABLE WATER AND SANITARY SEWER.
- ② CITY OF IMPERIAL STANDARD DETAIL DRAWINGS SHALL BE REFERENCED IN ALL ON SITE AND/OR OFF-SITE IMPROVEMENT PROJECTS, DRAINAGE AND GRADING PLANS.



APPROVED BY:



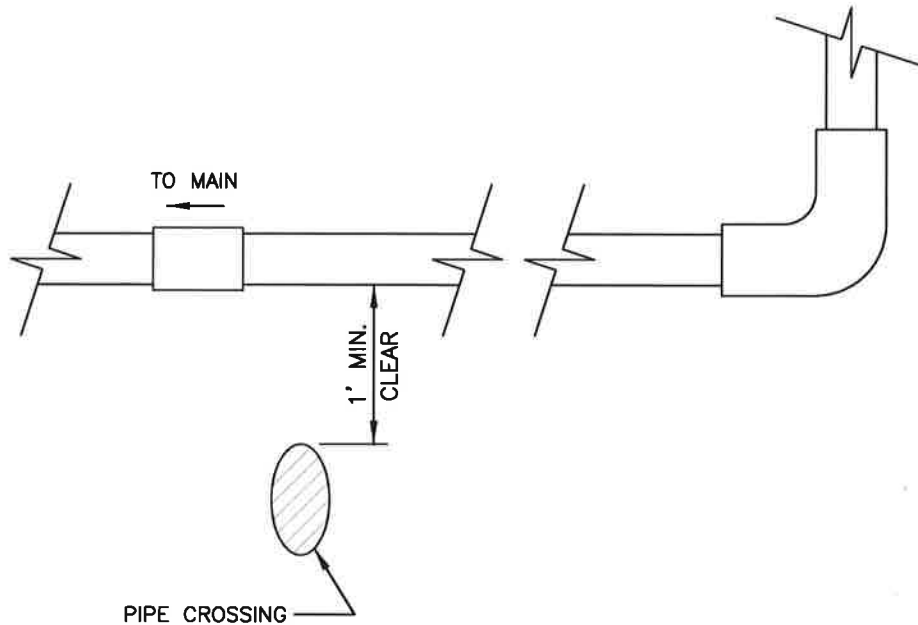
**CARLOS CORRALES P.E., P.L.S.**  
R.C.E. 55,432

PREPARED: 01/17/19      REVIEWED: 09/30/19      REVISED: 11/13/19

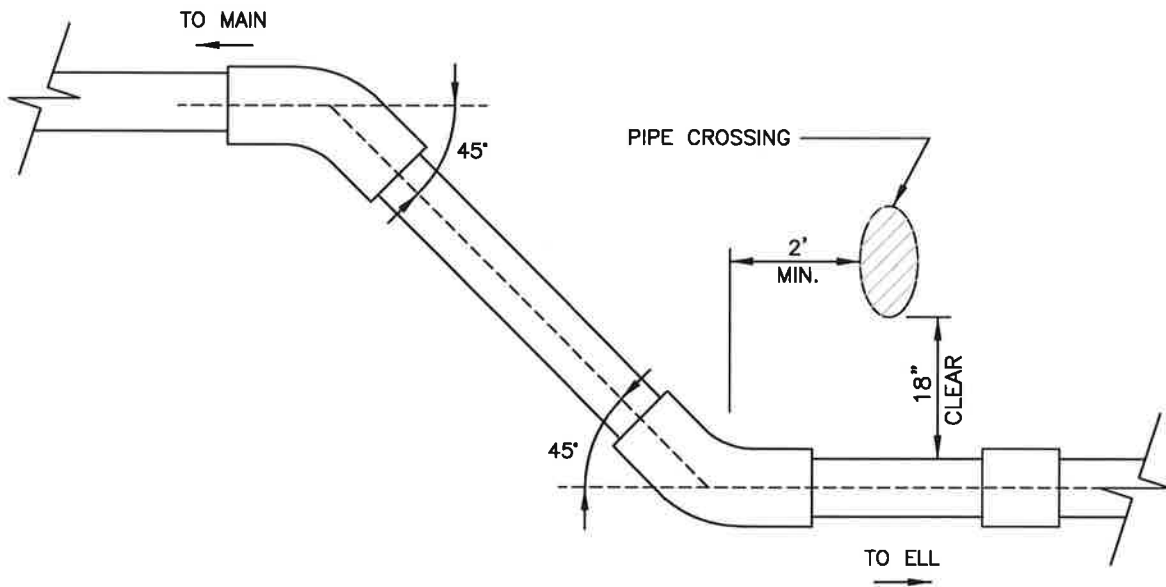
APPROVED: 11/15/19

ADOPTED BY THE CITY OF IMPERIAL ON DECEMBER 4, 2019





DETAIL 'A'



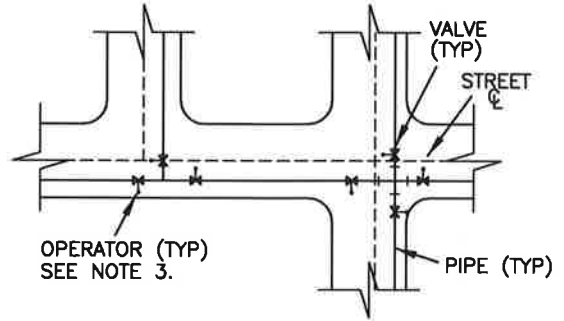
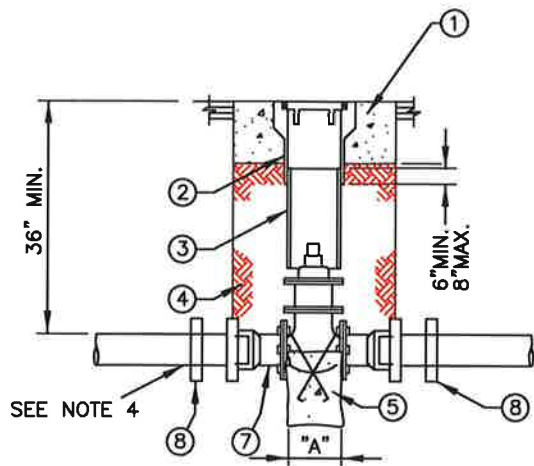
DETAIL 'B'



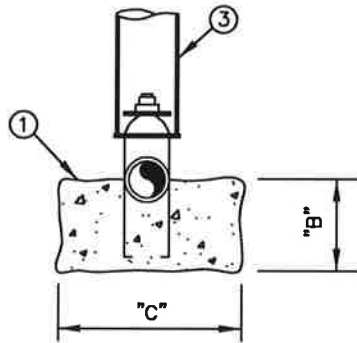
**WATER SERVICE PIPE CROSSING DETAILS**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 101	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.

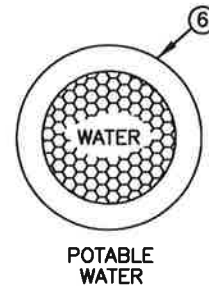


**TYP. GATE VALVE OPERATOR POSITION**



VALVE SIZE	DIMENSION	
	"A"	"B"
6"	12"	12"
8"	13"	14"
10"	14"	16"
12"	14"	18"
18"	16"	20"

DIMENSION "C" = TRENCH WIDTH PLUS 2X PIPE DIA.



**NOTES:**

1. PROVIDE VALVE STEM EXTENSION IF DEPTH TO VALVE NUT EXCEEDS 5 FEET.
2. BUTTERFLY VALVE OPERATORS SHALL BE LOCATED ON THE RIGHT SIDE OF THE VALVE LOOKING TOWARD TEE OR CROSS.
3. SEE APPROVED MATERIAL LIST.
4. USE 6'-0" SHORT LENGTHS OF PVC PIPE IN & OUT OF FITTINGS & VALVES.
5. RESTRAINT PIPE JOINTS MIN. 50 FT EACH WAY FROM VALVE

**ITEM NO. SIZE AND DESCRIPTION**

- |  |  |
|--|--|
| <ol style="list-style-type: none"> <li>①</li> <li>②</li> <li>③</li> <li>④</li> <li>⑤</li> <li>⑥</li> <li>⑦</li> <li>⑧</li> </ol> | <p>4,500 PSI CONCRETE. SEE CITY OF IMPERIAL STD. DET. NO. 508</p> <p>VALVE BOX BROOKE PRODUCTS 1-RT OR EQUAL</p> <p>8" PVC PIPE-SEWER-SDR 35</p> <p>BACKFILL WITH COMPACTED BEDDING MATERIAL</p> <p>#5 STEEL REINFORCING BARS</p> <p>VALVE COVER MARKED "WATER"</p> <p>ADAPTOR-MECH. JOINT X FLANGED (TYP. BOTH SIDES)</p> <p>JOINT RESTRAINT DEVICE</p> |
|--|--|

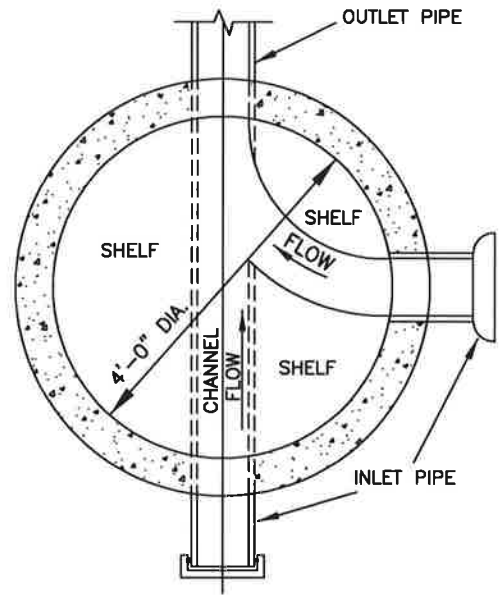
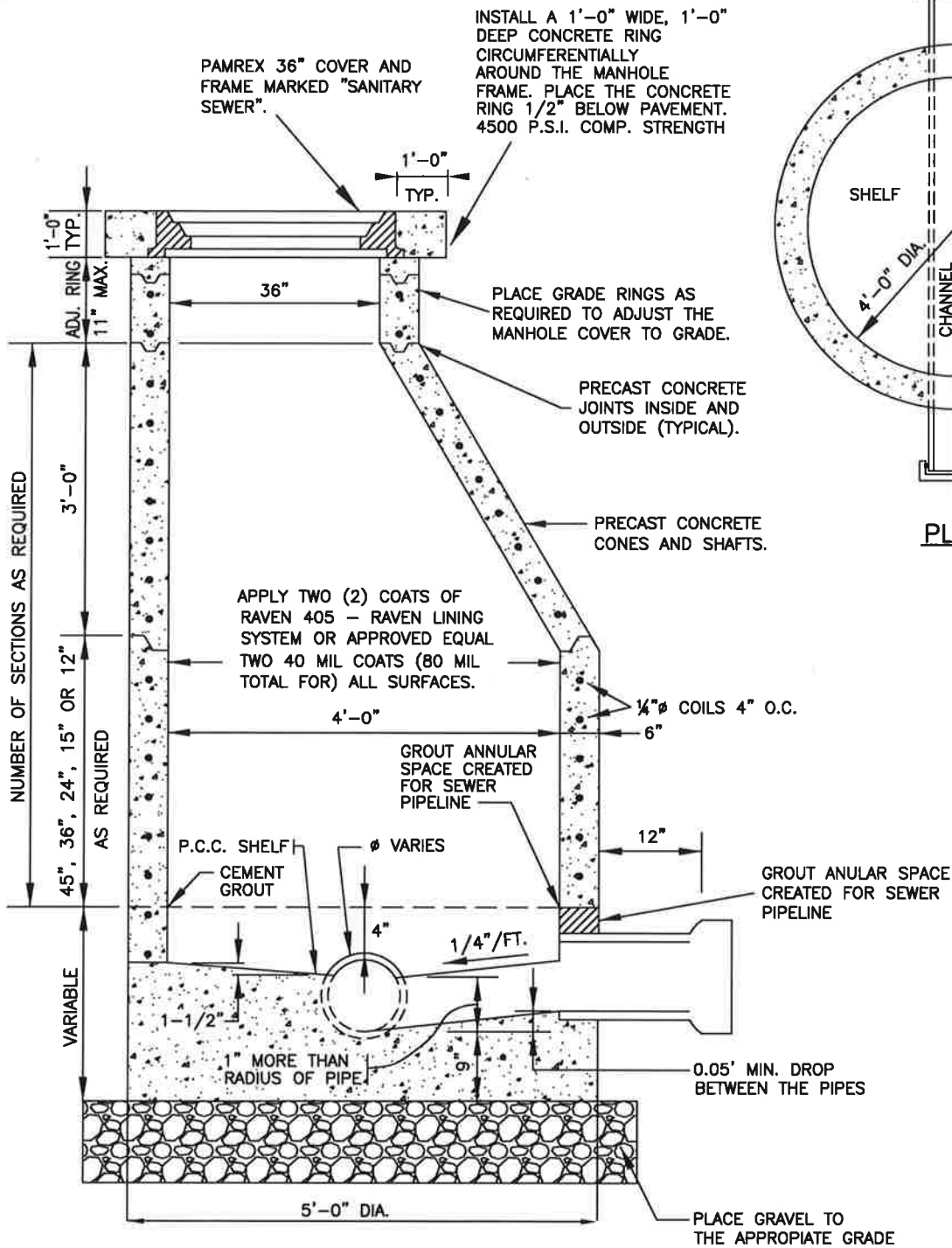


**LINE VALVE AND VALVE BOX INSTALLATION**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 102	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.





**PLAN**

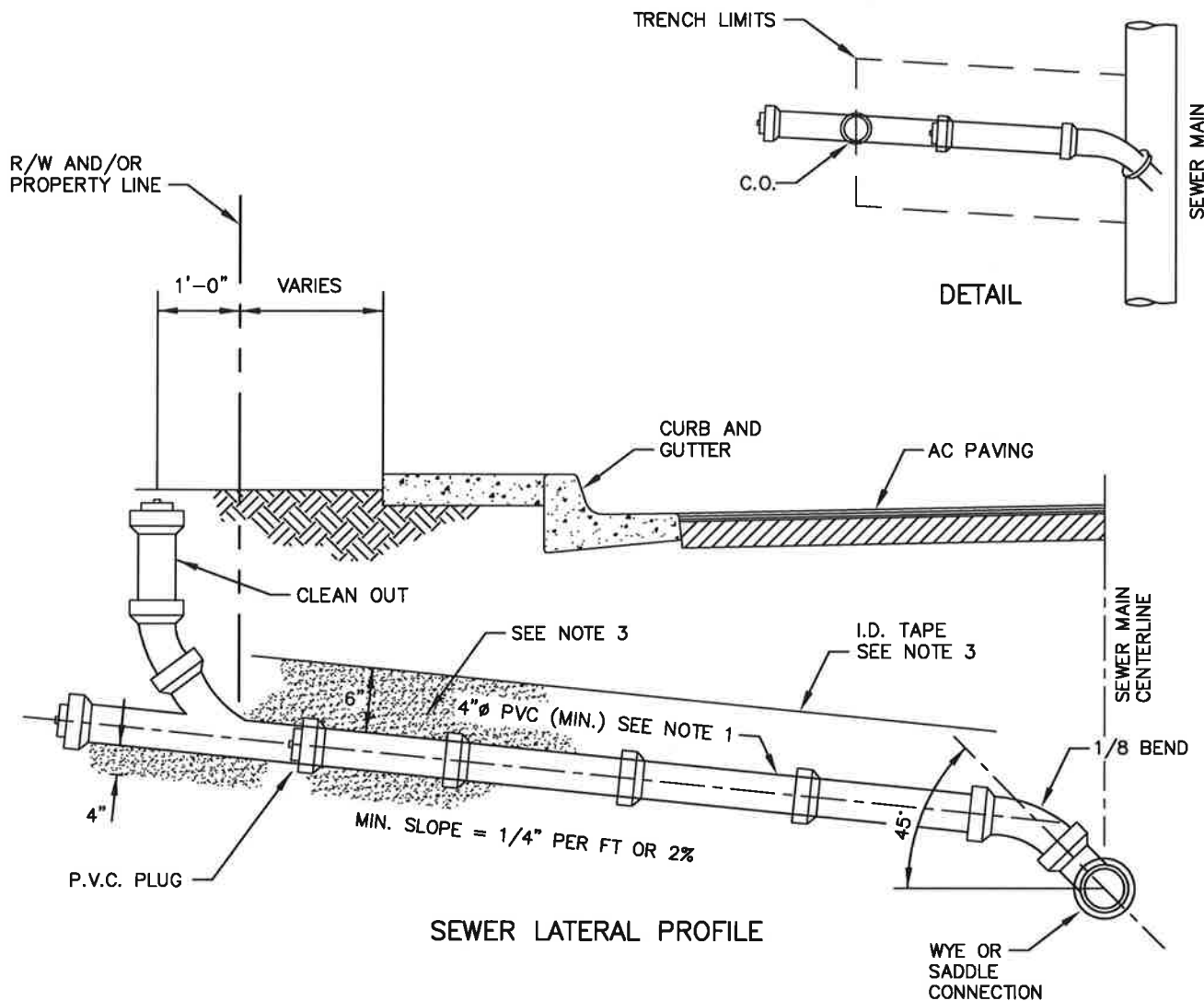
**SECTION**



**ECCENTRIC SEWER  
MANHOLE DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 200	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



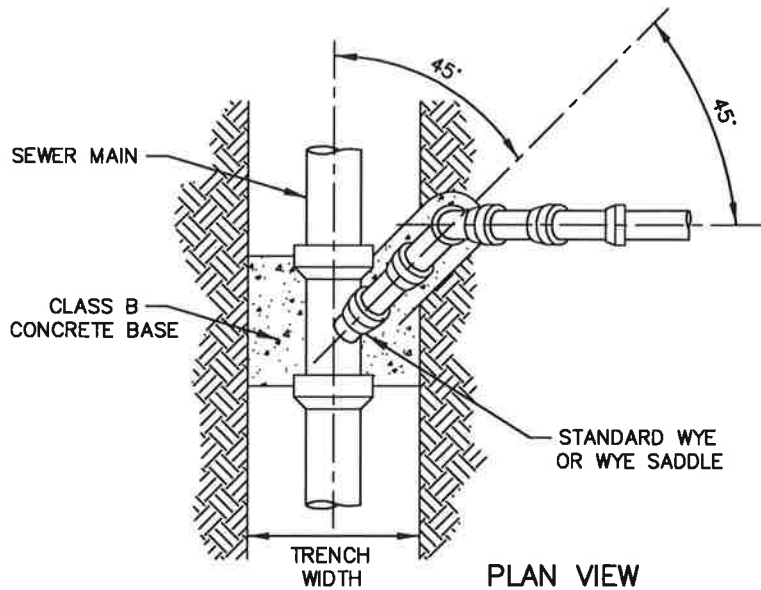
SEWER LATERAL PROFILE

NOTES:

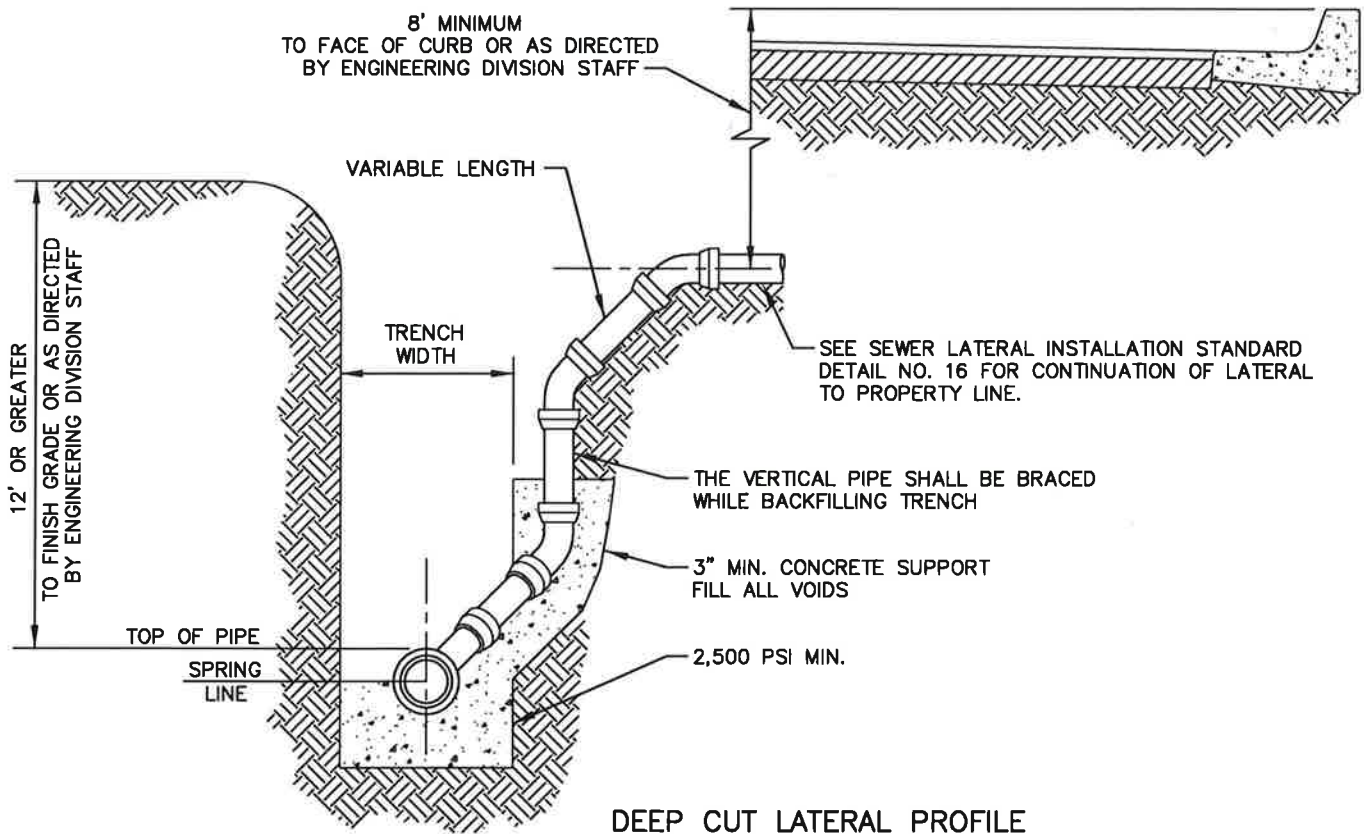
- ① LATERAL SIZE SHALL BE 4" MIN. OR AS SHOWN ON THE APPROVED PLANS.
- ② LATERAL SHALL BE INSTALLED TO PROPERTY LINE. AS SHOWN W/C.O. ON-SITE.
- ③ PLACE GRANULAR BEDDING 1'-0" OVER TOP AND 4" UNDER BOTTOM OF LATERAL. INSTALL DETECTABLE I.D. TAPE 2'-0" ABOVE TOP OF THE GRAVEL FROM THE MAIN TO THE END OF THE LATERAL.
- ④ SEE MATERIALS LIST FOR APPROVED MATERIALS.
- ⑤ SEWER LATERAL SHALL HAVE A 10'-0" MINIMUM SEPARATION FROM WATER LATERAL.
- ⑥ ALL JOINTS ON SEWER LATERAL PIPE SHALL BE BELL & SPIGOT WITH RUBBER RING.
- ⑦ LETTER "S" SHALL BE STAMPED OR CHISELED ON TOP OF CURB OVER THE LATERAL, NOT LESS THAN 1 1/2" HIGH AND 3/16" DEEP.



<b>SEWER LATERAL DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 201	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



8' MINIMUM  
TO FACE OF CURB OR AS DIRECTED  
BY ENGINEERING DIVISION STAFF



**NOTE:**

1.- ALL JOINTS ON SEWER LATERAL PIPE SHALL BE BELL AND SPIGOT WITH RUBBER RING.



**DEEP CUT SEWER  
LATERAL DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 202	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.

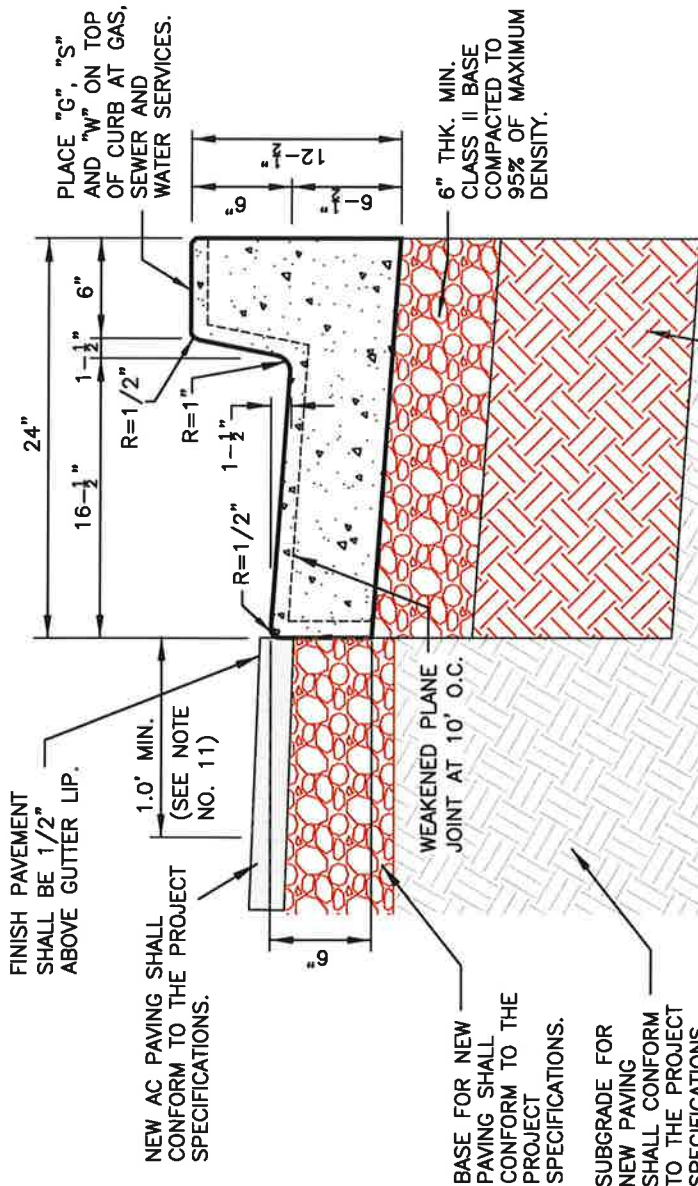




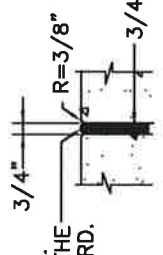


**NOTES:**

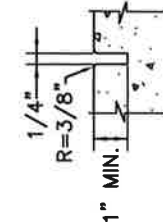
- 1.-EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO @ 40' O.C.
- 2.-PLACE WEAKENED PLANE JOINTS EVERY 10 LINEAR FEET ALONG THE CURB.
- 3.-PLACE EXPANSION JOINTS EVERY 40 FEET. EXPANSION JOINT MATERIAL TO BE COMPOSED OF 3/4" (MIN.) FIBER BOARD INSTALLED ACROSS SECTION OF CURB. THE CURB FACE AND TOP OF CURB SHALL RECEIVE A DOUBLE TROWEL FINISH.
- 4.-THE CURB EDGES SHALL BE PLACED TRUE TO LINE AND GRADE. VERTICAL ELEVATIONS SHALL NOT VARY MORE THAN ±0.01' WITH A MAXIMUM VARIANCE OF 0.02' FROM DESIGN GRADE OCCURRING IN ANY GIVEN 100 FOOT SECTION. THE HORIZONTAL CURB EDGES SHALL NOT VARY MORE THAN 1/4 INCH IN ANY GIVEN 100 FOOT SECTION.
- 5.-CURB AND GUTTER SHALL BE CLASS 3 CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS OF CURING IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER BY FIBERMESH CO., FORTA MONO, OR APPROVED EQUAL.
- 6.-CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES. HYDRO-CURE CLEAR CC-309-1W, OR APPROVED EQUAL.
- 7.-ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUALLY INSURE PUBLIC SAFETY.
- 8.-ALL EXPOSED SURFACES TO HAVE A SMOOTH TROWEL FINISH. DRY SACK FINISH WILL NOT BE ALLOWED.
- 9.-WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, MINOR FINISHING SHALL BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINT MAY BE SAWCUT.
- 10.-WIDTH OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINES UNLESS OTHERWISE INDICATED.
- 11.- WHEN OCCURS; SAWCUT, REMOVE AND REPLACE 1.0' MIN. OF EXISTING AC PAVEMENT TO INSTALL NEW PCC CURB AND GUTTER. IF THE EXISTING AC SECTION IS SMALLER THAN 3", THEN PROVIDE 3" OF NEW AC PAVEMENT AS A MINIMUM, IF THE SECTION IS GREATER THAN 3", THEN MATCH WITH EXISTING ASPHALT. IF THE EXISTING BASE IS DISTURBED OR IS ABSENT, THEN REMOVE AND REPLACE WITH 9" OF CLASS II BASE COMPACTED TO 90% OF MAX. DENSITY, AND IN THIS CASE, COMPACTION TEST WILL BE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 12.-APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



12" THK. SUBGRADE COMPACTED TO 90% OF MAXIMUM DENSITY.

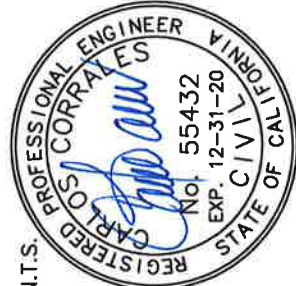


FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ALL THE WAY OF EXPOSED FIBER BOARD. ALL JOINTS AND SAND TO BE FILLED WITH SIKAFLEX JOINT SEALER.



EXPANSION JOINT N.T.S. AT 40' O.C. (TYP)

WEAKENED PLANE JOINT N.T.S. AT 10' O.C. (TYP)



**PCC CURB AND GUTTER DETAIL**

SHEET: 1 OF: 1

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 400	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.

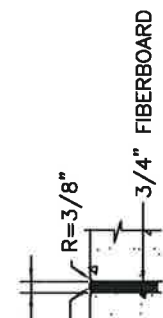
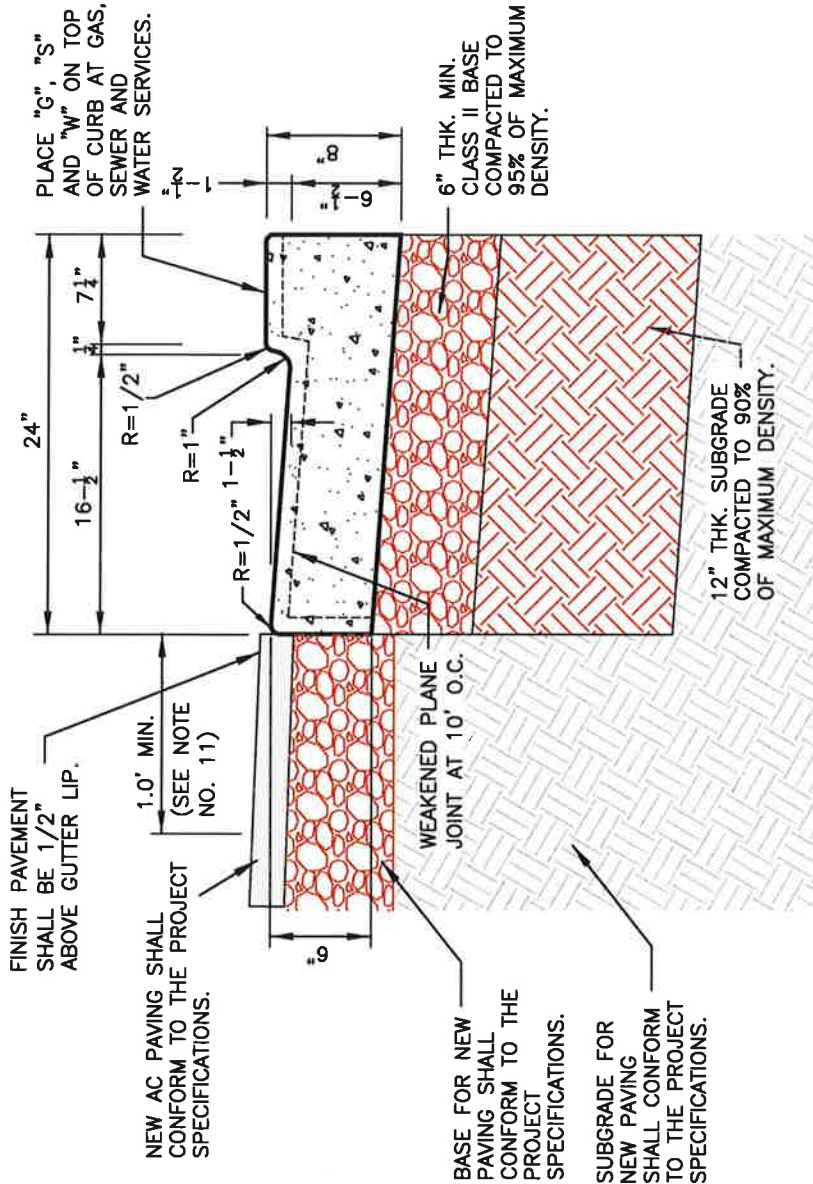
**NOTES:**

- 1.-EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO 40' O.C.
- 2.-PLACE WEAKENED PLANE JOINTS EVERY 10 LINEAR FEET ALONG THE CURB.
- 3.-PLACE EXPANSION JOINTS EVERY 40 FEET. EXPANSION JOINT MATERIAL TO BE COMPOSED OF 3/4" (MIN.) FIBER BOARD INSTALLED ACROSS SECTION OF CURB. THE CURB FACE AND TOP OF CURB SHALL RECEIVE A DOUBLE TROWEL FINISH.
- 4.-THE CURB EDGES SHALL BE PLACED TRUE TO LINE AND GRADE. VERTICAL ELEVATIONS SHALL NOT VARY MORE THAN ±0.01' WITH A MAXIMUM VARIANCE OF 0.02' FROM DESIGN GRADE OCCURRING IN ANY GIVEN 100 FOOT SECTION. THE HORIZONTAL CURB EDGES SHALL NOT VARY MORE THAN 1/4" INCH IN ANY GIVEN 100 FOOT SECTION.
- 5.-CURB AND GUTTER SHALL BE CLASS 3 CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS OF CURING IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER BY FIBERMESH CO., FORTA MONO, OR APPROVED EQUAL.
- 6.-CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES. HYDRO-CURE CLEAR CC-309-1W, OR APPROVED EQUAL.
- 7.-ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUALLY INSURE PUBLIC SAFETY.
- 8.-ALL EXPOSED SURFACES TO HAVE A SMOOTH TROWEL FINISH. DRY SACK FINISH WILL NOT BE ALLOWED.
- 9.-WHEN CURB AND GUTTER IS PLACED BY AN EXTRUSION MACHINE, MINOR FINISHING SHALL BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINT MAY BE SAWCUT.
- 10.-WIDTH OF STANDARD STREET SECTIONS SHOWN ON PLANS ARE TO CURB LINES UNLESS OTHERWISE INDICATED.
- 11.- WHEN OCCURS; SAWCUT, REMOVE AND REPLACE 1.0' MIN. OF EXISTING AC PAVEMENT TO INSTALL NEW PCC CURB AND GUTTER. IF THE EXISTING AC SECTION IS SMALLER THAN 3", THEN PROVIDE 3" OF NEW AC PAVEMENT AS A MINIMUM, IF THE SECTION IS GREATER THAN 3", THEN MATCH WITH EXISTING ASPHALT. IF THE EXISTING BASE IS DISTURBED OR IS ABSENT, THEN REMOVE AND REPLACE WITH 9" OF CLASS II BASE COMPACTED TO 90% OF MAX. DENSITY, AND IN THIS CASE, COMPACTION TEST WILL BE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 12.-APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

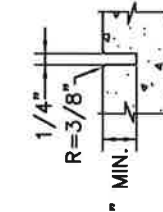
**PCC DEPRESSED CURB AND GUTTER DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 10/10/19 DRAWN: AA.  
STD. DET. NO. 400-A NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



**EXPANSION JOINT**  
AT 40' O.C. (TYP) N.T.S.



**WEAKENED PLANE JOINT**  
AT 10' O.C. (TYP) N.T.S.

FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ALL THE WAY OF EXPOSED FIBER BOARD. ALL JOINTS AND ADD SILICA SAND.

NEW AC PAVING SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

SUBGRADE FOR NEW PAVING SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

FINISH PAVEMENT SHALL BE 1/2" ABOVE GUTTER LIP.

PLACE "C", "S" AND "W" ON TOP OF CURB AT GAS, SEWER AND WATER SERVICES.

6" THK. MIN. CLASS II BASE COMPACTED TO 95% OF MAXIMUM DENSITY.

12" THK. SUBGRADE COMPACTED TO 90% OF MAXIMUM DENSITY.

WEAKENED PLANE JOINT AT 10' O.C.

NEW AC PAVING SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

SUBGRADE FOR NEW PAVING SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

FINISH PAVEMENT SHALL BE 1/2" ABOVE GUTTER LIP.

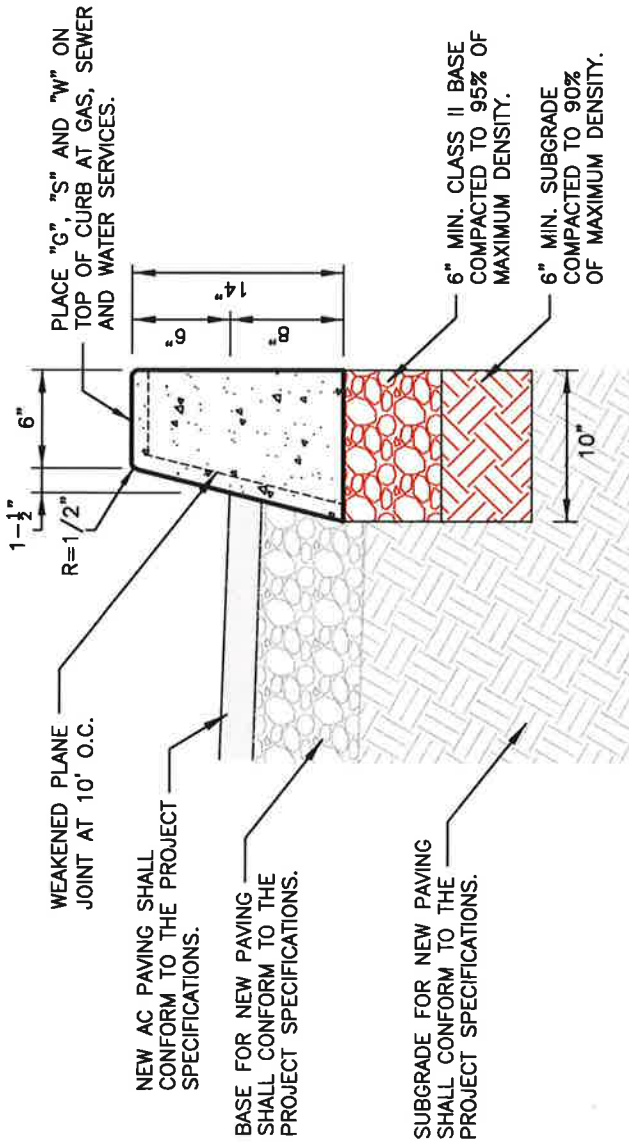
PLACE "C", "S" AND "W" ON TOP OF CURB AT GAS, SEWER AND WATER SERVICES.



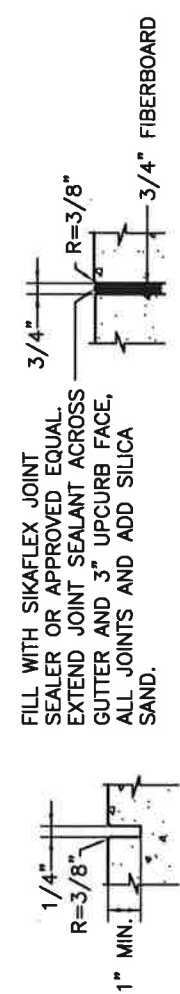


**NOTES:**

- 1.-EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO 40' O.C.
- 2.-PLACE WEAKENED PLANE JOINTS EVERY 10 LINEAR FEET ALONG THE CURB.
- 3.-PLACE EXPANSION JOINTS EVERY 40 FEET. EXPANSION JOINT MATERIAL TO BE COMPOSED OF 3/4" (MIN.) FIBER BOARD INSTALLED ACROSS SECTION OF CURB. THE CURB FACE AND TOP OF CURB SHALL RECEIVE A DOUBLE TROWEL FINISH.
- 4.-THE CURB EDGES SHALL BE PLACED TRUE TO LINE AND GRADE. VERTICAL ELEVATIONS SHALL NOT VARY MORE THAN ±0.01' WITH A MAXIMUM VARIANCE OF 0.02' FROM DESIGN GRADE OCCURRING IN ANY GIVEN 100 FOOT SECTION. THE HORIZONTAL CURB EDGES SHALL NOT VARY MORE THAN 1/4 INCH IN ANY GIVEN 100 FOOT SECTION.
- 5.-CURB AND GUTTER SHALL BE CLASS 3 CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS OF CURING IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER BY FIBERMESH CO., FORTA MONO, OR APPROVED EQUAL.
- 6.-CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES. HYDRO-CURE CLEAR CC-309-1W, OR APPROVED EQUAL.
- 7.-ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUALLY INSURE PUBLIC SAFETY.
- 8.-ALL EXPOSED SURFACES TO HAVE A SMOOTH TROWEL FINISH. DRY SACK FINISH WILL NOT BE ALLOWED.
- 9.-WHEN CURB IS PLACED BY AN EXTRUSION MACHINE, MINOR FINISHING SHALL BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINT MAY BE SAWCUT.
- 10.- WHEN OCCURS, SAWCUT, REMOVE AND REPLACE 1.0' MIN. OF EXISTING AC PAVEMENT TO INSTALL NEW PCC CURB. IF THE EXIST. AC SECTION IS SMALLER THAN 3", THEN PROVIDE 3" OF NEW AC PAVEMENT AS A MINIMUM, IF THE SECTION IS GREATER THAN 3", THEN MATCH WITH EXISTING ASPHALT. IF EXISTING BASE IS DISTURBED, THEN REMOVE AND REPLACE WITH 9" OF CLASS II BASE COMPACTED TO 90% OF MAX. DENSITY.
- 11.- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 12.-APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



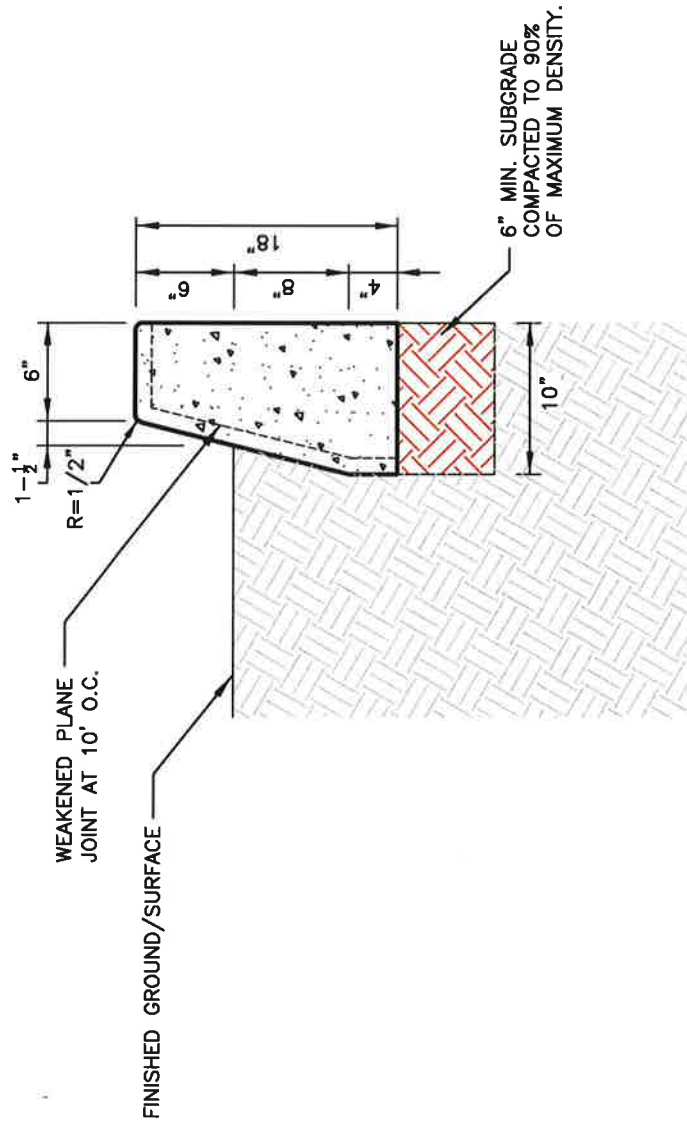
**SECTION**



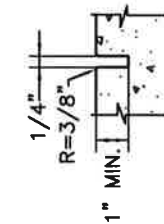
FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ACROSS GUTTER AND 3" UP CURB FACE, ALL JOINTS AND ADD SILICA SAND.



<b>PCC BARRIER CURB DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 401	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.

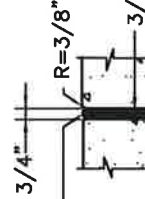


**SECTION**



FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ACROSS GUTTER AND 3" UP CURB FACE, ALL JOINTS AND ADD SILICA SAND.

**WEAKENED PLANE JOINT** N.T.S.  
AT 10' O.C. (TYP)



**EXPANSION JOINT** N.T.S.  
AT 40' O.C. (TYP)



**NOTES:**

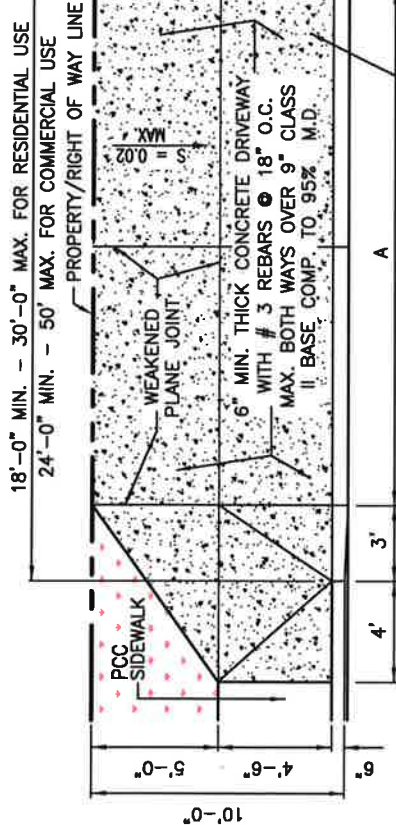
- 1.-EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO 40' O.C.
- 2.-PLACE WEAKENED PLANE JOINTS EVERY 10 LINEAR FEET ALONG THE CURB.
- 3.-PLACE EXPANSION JOINTS EVERY 40 FEET. EXPANSION JOINT MATERIAL TO BE COMPOSED OF 3/4" (MIN.) FIBER BOARD INSTALLED ACROSS SECTION OF CURB. THE CURB FACE AND TOP OF CURB SHALL RECEIVE A DOUBLE TROWEL FINISH.
- 4.-THE CURB EDGES SHALL BE PLACED TRUE TO LINE AND GRADE. VERTICAL ELEVATIONS SHALL NOT VARY MORE THAN ±0.01' WITH A MAXIMUM VARIANCE OF 0.02' FROM DESIGN GRADE OCCURRING IN ANY GIVEN 100 FOOT SECTION. THE HORIZONTAL CURB EDGES SHALL NOT VARY MORE THAN 1/4 INCH IN ANY GIVEN 100 FOOT SECTION.
- 5.-CURB AND GUTTER SHALL BE CLASS 3 CONCRETE WHICH SHALL ATTAIN A COMPRESSIVE STRENGTH OF 4,500 PSI AFTER 28 DAYS OF CURING IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBER BY FIBERMESH CO., FORTA MONO, OR APPROVED EQUAL.
- 6.-CURING COMPOUND SHALL BE SPRAYED UNIFORMLY ON EXPOSED SURFACES. HYDRO-CURE CLEAR CC-309-1W, OR APPROVED EQUAL.
- 7.-ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUALLY INSURE PUBLIC SAFETY.
- 8.-ALL EXPOSED SURFACES TO HAVE A SMOOTH TROWEL FINISH. DRY SACK FINISH WILL NOT BE ALLOWED.
- 9.-WHEN CURB IS PLACED BY AN EXTRUSION MACHINE, MINOR FINISHING SHALL BE DONE TO PROVIDE AN ACCEPTABLE FINISH AND THE WEAKENED PLANE JOINT MAY BE SAWCUT.
- 10.- WHEN OCCURS, SAWCUT, REMOVE AND REPLACE 1.0' MIN. OF EXISTING AC PAVEMENT TO INSTALL NEW PCC CURB. IF THE EXIST. AC SECTION IS SMALLER THAN 3", THEN PROVIDE 3" OF NEW AC PAVEMENT AS A MINIMUM, IF THE SECTION IS GREATER THAN 3", THEN MATCH WITH EXISTING ASPHALT. IF EXISTING BASE IS DISTURBED, THEN REMOVE AND REPLACE WITH 9" OF CLASS II BASE COMPACTED TO 90% OF MAX. DENSITY.
- 11.- **COMPACTION TEST** FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 12.-APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



**FREESTANDING CURB  
DETAIL**

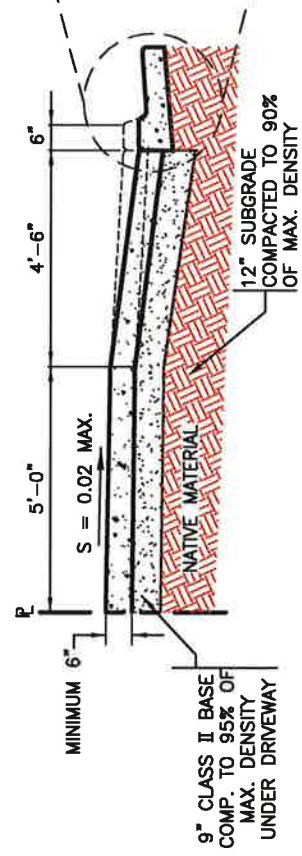
SHEET: <b>1</b>	DATE: 10/10/19	DRAWN: AA
OF: <b>1</b>	REVIEWED: J.V.	APPROVED: O.M.
IN THE CITY OF IMPERIAL, CALIFORNIA	STD. DET. NO. 402	NOT TO SCALE



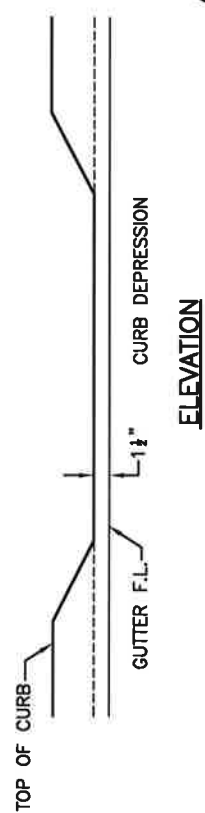


CLASS "B" 4500 PSI CONCRETE. CONCRETE SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

PLAN



SECTION



ELEVATION

NOTES:

- 1.- SUBGRADE TO BE 12" COMPACTED TO 90% OF MAXIMUM DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 2.- WEAKENED PLANE JOINTS REQUIRED ON DRIVEWAY CENTER LINE.
- 3.- WIDTH AND LOCATION AS DIRECTED BY OWNER AND APPROVED BY THE CITY ENGINEER OR HIS REPRESENTATIVE.
- 4.- ENCROACHMENT PERMIT IS REQUIRED BY THE CITY OF IMPERIAL PLANNING AND DEVELOPMENT DEPT. FOR ALL NEW DRIVEWAY APPROACHES. FOR FUTURE MAINTENANCE OF DRIVEWAY APPROACH AND SIDEWALK IS THE RESPONSIBILITY OF FRONTING LANDOWNER.
- 5.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUATELY INSURE PUBLIC SAFETY.
- 6.- 6"x6"x10/10 W.W.M. CAN BE INSTALLED INSTEAD OF #3 REBARS ON EXISTING DRIVEWAYS TO BE REPLACED. FOR RESIDENTIAL USE ONLY.
- 7.- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE AT ALL NEW DRIVEWAY APPROACHES ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 8.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

SEE CITY OF IMPERIAL STANDARD DETAILS NO. 400 AND 400-A.



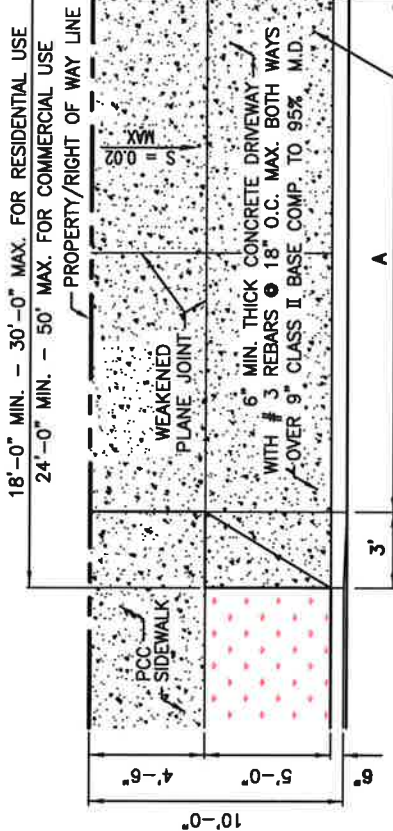
EXPANSION JOINT

AT EACH DRIVEWAY APPROACH END (TYP.) AND BACK OF DRIVEWAY WHEN APPLIES.



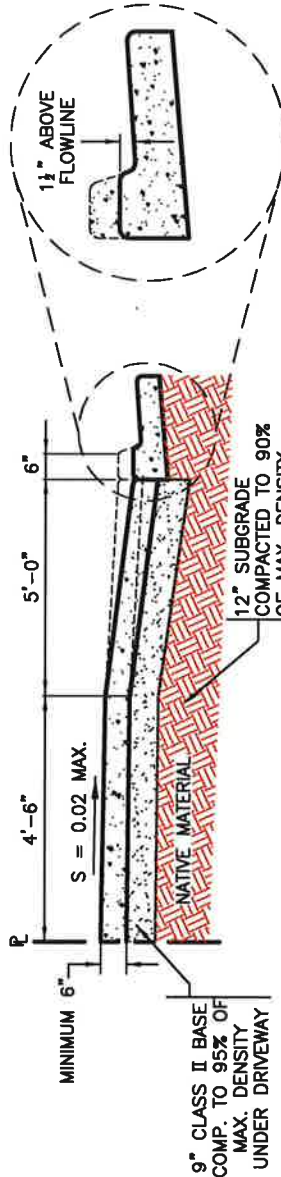
<b>PCC DRIVEWAY APPROACH DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 403	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.



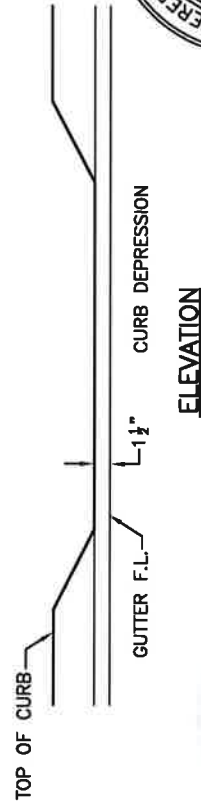


CLASS "B" 4500 PSI CONCRETE. CONCRETE SHALL CONFORM TO THE PROJECT SPECIFICATIONS.

**PLAN**



**SECTION**

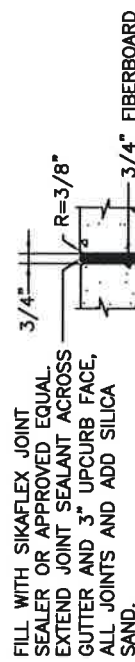


**ELEVATION**

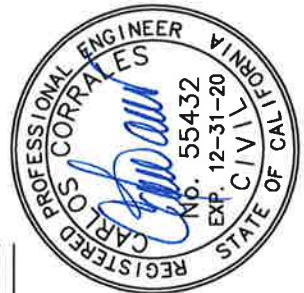
**NOTES:**

- 1.- SUBGRADE TO BE 12" COMPACTED TO 90% OF MAXIMUM DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 2.- WEAKENED PLANE JOINTS REQUIRED ON DRIVEWAY CENTER LINE.
- 3.- WIDTH AND LOCATION AS DIRECTED BY OWNER AND APPROVED BY THE CITY ENGINEER OR HIS REPRESENTATIVE.
- 4.- ENCROACHMENT PERMIT IS REQUIRED BY THE CITY OF IMPERIAL PLANNING AND DEVELOPMENT DEPT. FOR ALL NEW DRIVEWAY APPROACHES. FOR FUTURE MAINTENANCE OF DRIVEWAY APPROACH AND SIDEWALK IS THE RESPONSIBILITY OF FRONTING LANDOWNER.
- 5.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUATELY INSURE PUBLIC SAFETY.
- 6.- 6"x6"x10 W.W.M. CAN BE INSTALLED INSTEAD OF #3 REBARS ON EXISTING DRIVEWAYS TO BE REPLACED. FOR RESIDENTIAL USE ONLY.
- 7.- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE AT ALL NEW DRIVEWAY APPROACHES ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 8.-APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

SEE CITY OF IMPERIAL STANDARD DETAILS NO. 400 AND 400-A.



EXPANSION JOINT AT EACH DRIVEWAY APPROACH END (TYP). AND BACK OF DRIVEWAY WHEN APPLIES.



<b>PARKWAY PCC DRIVEWAY APPROACH DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 404	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.

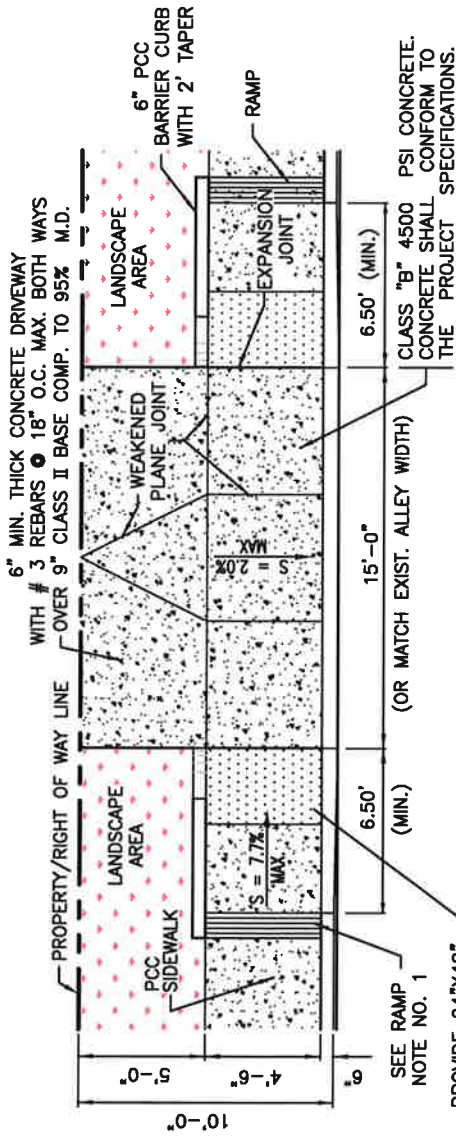


**DRIVEWAY/APPROACH NOTES:**

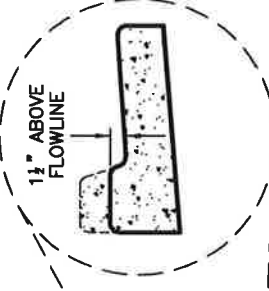
- SUBGRADE TO BE 12" COMPACTED TO 90% OF MAXIMUM DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- WEAKENED PLANE JOINTS REQUIRED AS SHOWN ON DRAWING.
- WIDTH AND LOCATION AS DIRECTED BY THE CITY ENGINEER OR HIS REPRESENTATIVE.
- ENCROACHMENT PERMIT IS REQUIRED BY THE CITY OF IMPERIAL COMMUNITY DEVELOPMENT DEPT. FOR ALL NEW DRIVEWAY APPROACHES.
- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUATELY INSURE PUBLIC SAFETY.
- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE AT ALL NEW DRIVEWAY APPROACHES ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

**RAMP NOTES:**

- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE.
- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY ENGINEER.
- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD.
- HUMIDITY TEST FOR SUBGRADE AT ALL NEW HANDICAP RAMPS ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.



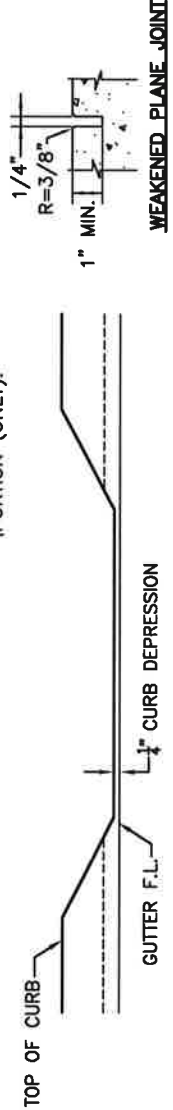
**PLAN**



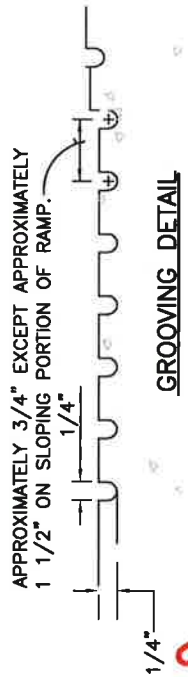
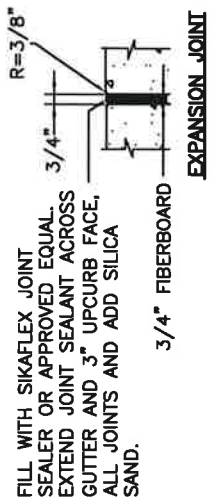
SEE CITY OF IMPERIAL STANDARD DETAILS NO. 400 AND 400-A.

6" SUBGRADE COMPACTED TO 90% OF MAX. DENSITY UNDER RAMP PORTION (ONLY).

**SECTION**



**ELEVATION**



**PCC ALLEY DRIVEWAY APPROACH DETAIL**

SHEET: 1  
OF: 1

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 10/10/19 DRAWN: A.A.  
STD. DET. NO. 405 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.

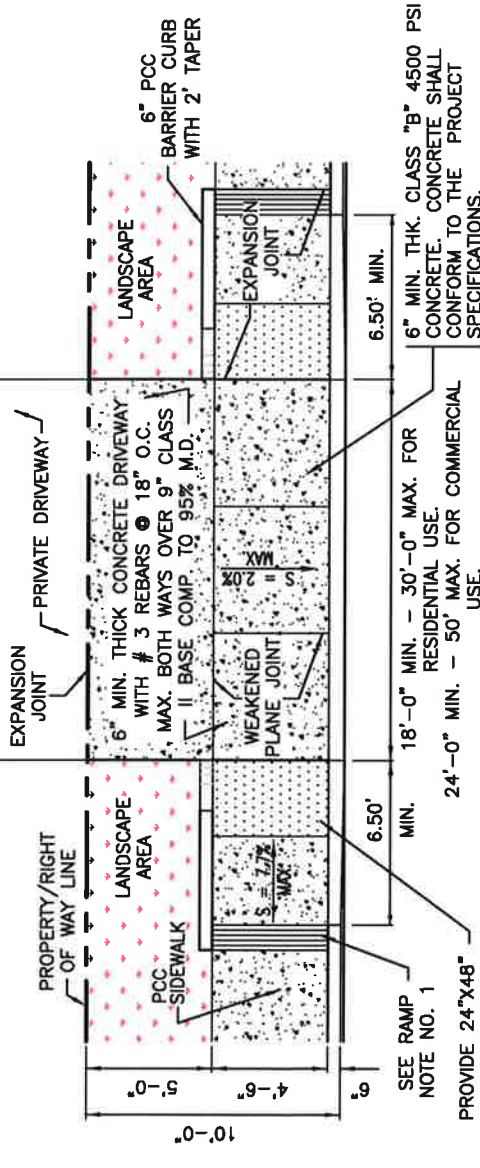


**DRIVEWAY/APPROACH NOTES:**

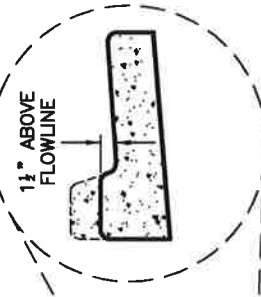
- SUBGRADE TO BE 9" COMPACTED TO 90% OF MAXIMUM DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- WEAKENED PLANE JOINTS REQUIRED AS SHOWN ON DRAWING.
- WIDTH AND LOCATION AS DIRECTED BY THE CITY ENGINEER OR HIS REPRESENTATIVE.
- ENCROACHMENT PERMIT IS REQUIRED BY THE CITY OF IMPERIAL COMMUNITY DEVELOPMENT DEPT. FOR ALL NEW DRIVEWAY APPROACHES.
- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING USE, TO ADEQUATELY INSURE PUBLIC SAFETY.
- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE AT ALL NEW DRIVEWAY APPROACHES ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

**RAMP NOTES:**

- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE.
- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY ENGINEER.
- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES TO ADEQUATELY ENSURE PUBLIC SAFETY.
- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD.
- POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- HUMIDITY TEST FOR SUBGRADE AT ALL NEW HANDICAP RAMPS ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.



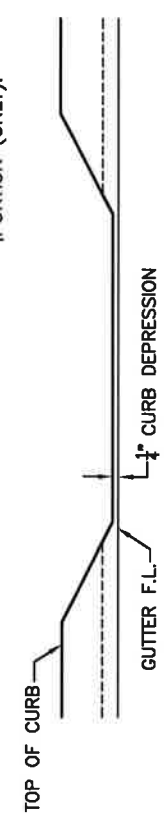
**PLAN**



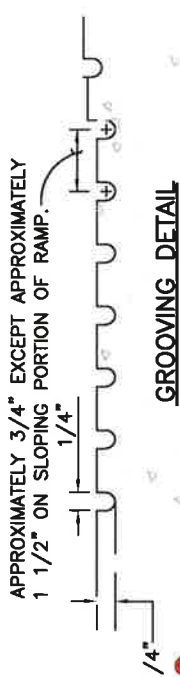
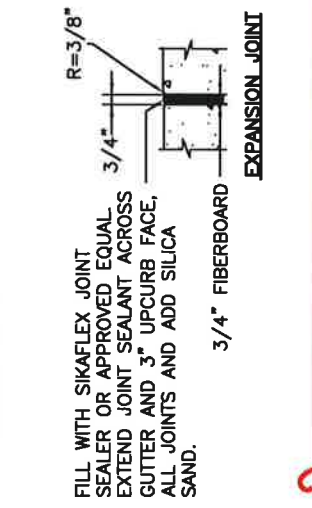
SEE CITY OF IMPERIAL STANDARD DETAILS NO. 400 AND 400-A.



**SECTION**



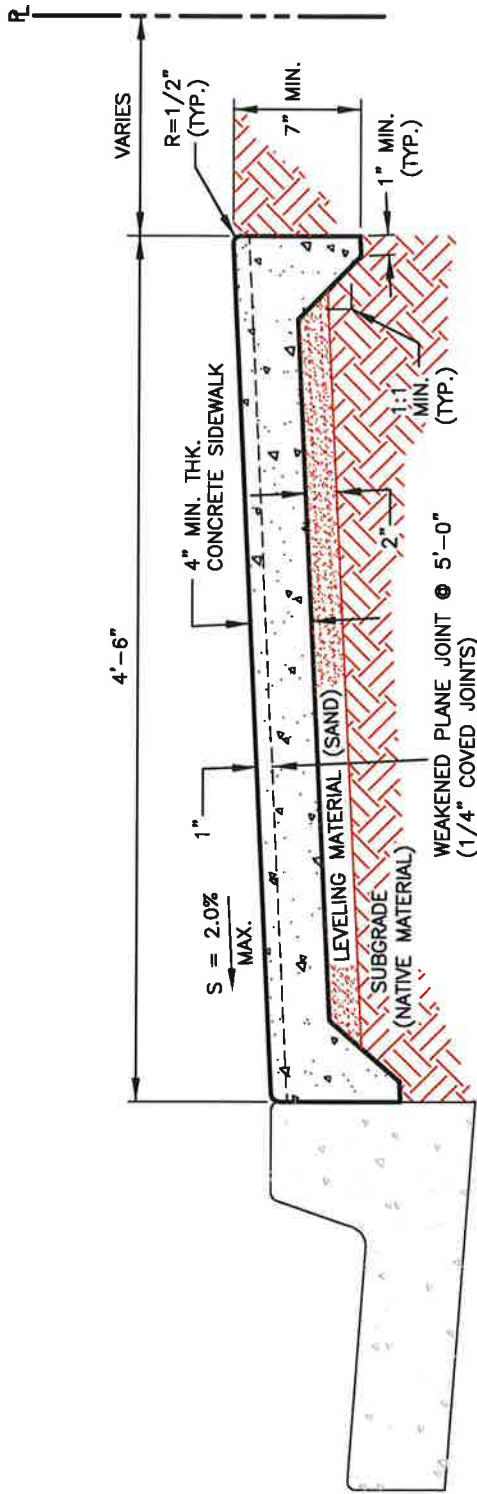
**ELEVATION**



**GROOVING DETAIL**

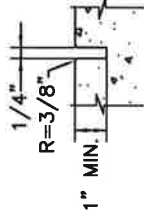
<b>PCC DRIVEWAY APPROACH / RAMP DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 406	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.





**NOTES:**

- 1.- EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO @ 40' O.C.
- 2.- SIDEWALK AND CURB SHALL NOT BE POURED MONOLITHIC.
- 3.- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 4.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 5.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUALLY ENSURE PUBLIC SAFETY.
- 6.- CONTIGUOUS SIDEWALK SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 7.- HUMIDITY TEST FOR ALL NEW SIDEWALKS ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 8.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



**WEAKENED PLANE JOINT** N.T.S.  
AT 5' O.C. (TYP)



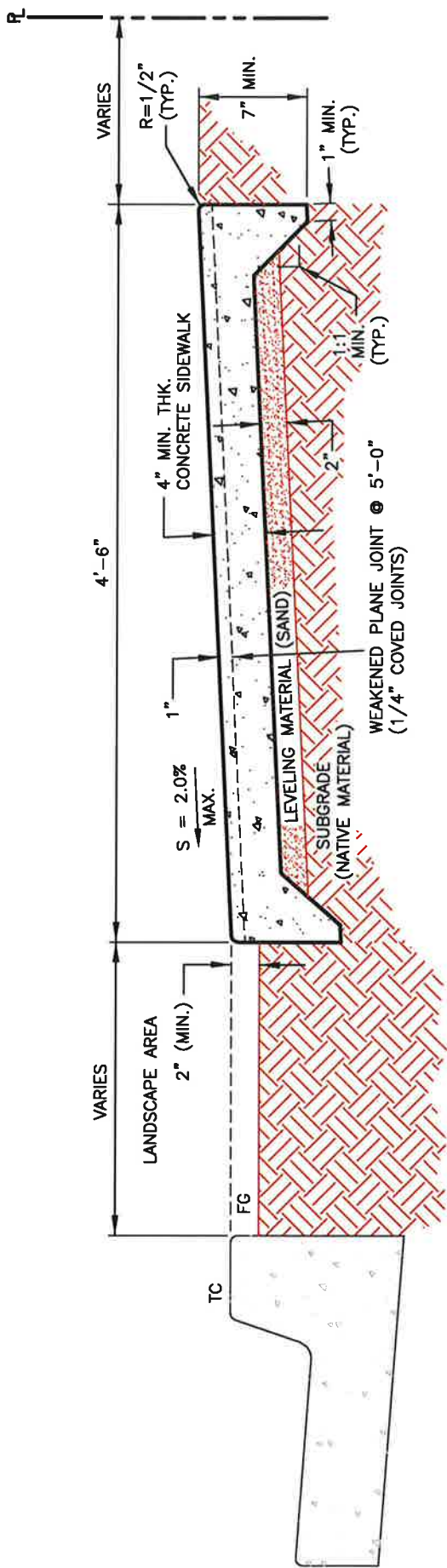
**EXPANSION JOINT** N.T.S.  
AT 40' O.C. (TYP)



**PCC CONTINUOUS  
SIDEWALK DETAIL**

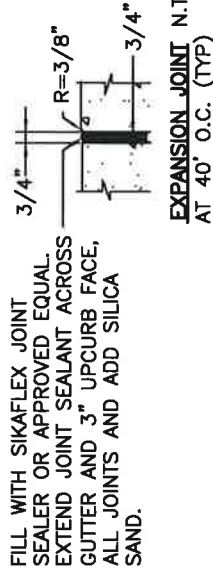
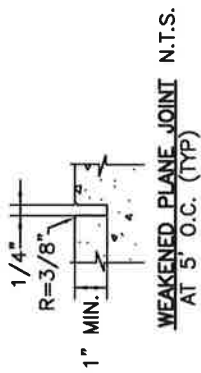
SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: AA.  
STD. DET. NO. 407 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



**NOTES:**

- 1.- EXPANSION JOINTS TO BE INSTALLED AT ALL B.C.'S, E.C.'S, CURB RETURNS AND STRUCTURES IN ADDITION TO @ 40' O.C.
- 2.- SIDEWALK AND CURB SHALL NOT BE POURED MONOLITHIC.
- 3.- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 4.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 5.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUALLY ENSURE PUBLIC SAFETY.
- 6.- CONTIGUOUS SIDEWALK SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1 - LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD.
- 7.- POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.  
HUMIDITY TEST FOR ALL NEW SIDEWALKS ARE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 8.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.

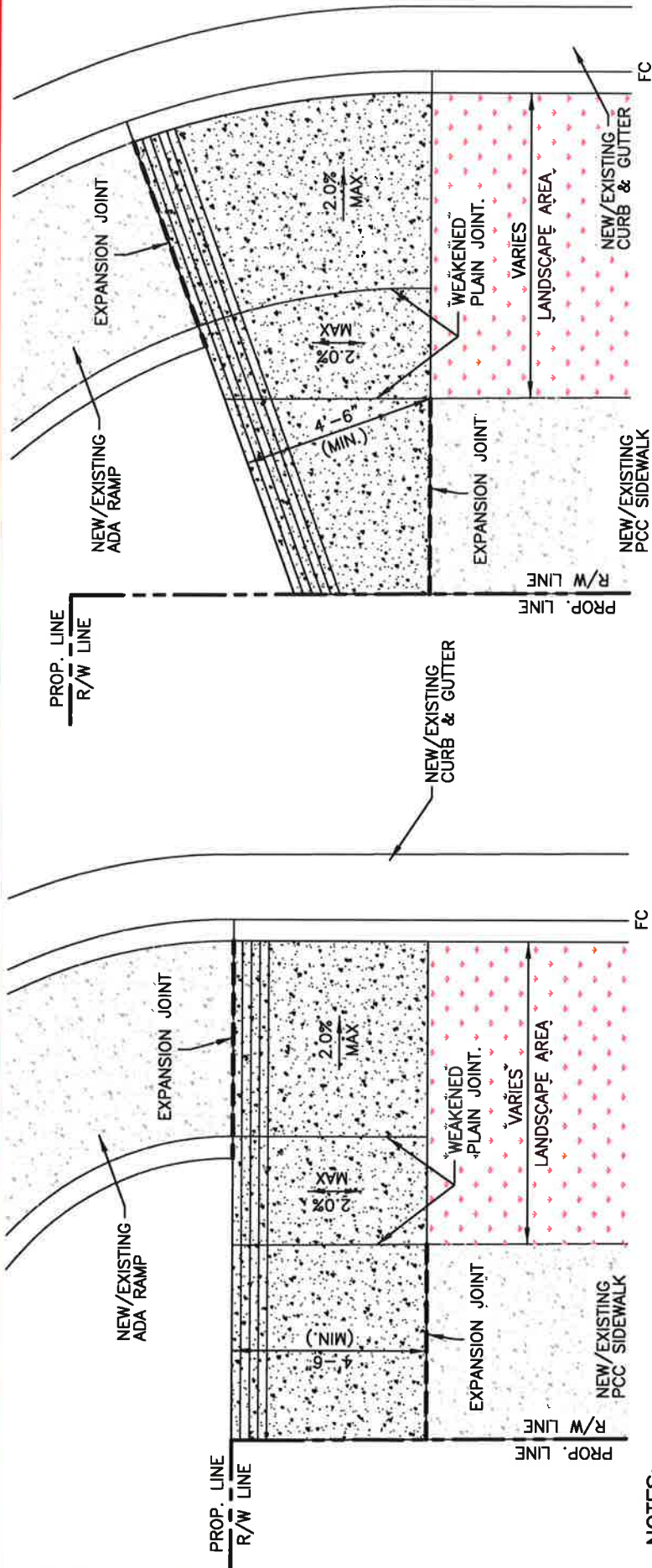


**PCC CONT. SIDEWALK  
W/LANDSCAPE DETAIL**

SHEET: **1**  
OF: **1**

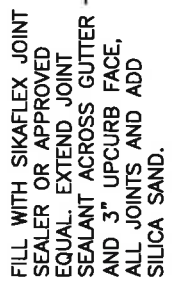
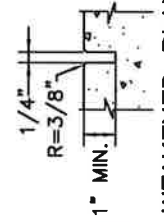
IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: AA.  
STD. DET. NO. 407-A NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.





**NOTES:**

- 1.- THE PCC SIDEWALK TAPER SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. GROOVES SHALL BE ALIGNED PARALLEL TO CROSSWALK LINES OR PARALLEL TO THE PROLONGATION OF CURBS WHEN THERE ARE NO CROSSWALK LINES.
- 2.- EXPANSION JOINTS TO BE INSTALLED AT BOTH TAPER ENDS AS SHOWN.
- 3.- PCC SIDEWALK TAPER AND CURB SHALL NOT BE POURED MONOLITHIC.
- 4.- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 5.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 6.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 7.- PCC SIDEWALK TAPER SHALL BE 4" THK. CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 8.- FOR ALL APPLICABLE CONSTRUCTION SPECIFICATIONS PLEASE SEE CITY OF IMPERIAL STD. DET. NO. 407 FOR PCC SIDEWALK.
- 9.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



**PCC SIDEWALK-RAMP  
TAPER DETAIL**

SHEET: **1**  
OF: **1**

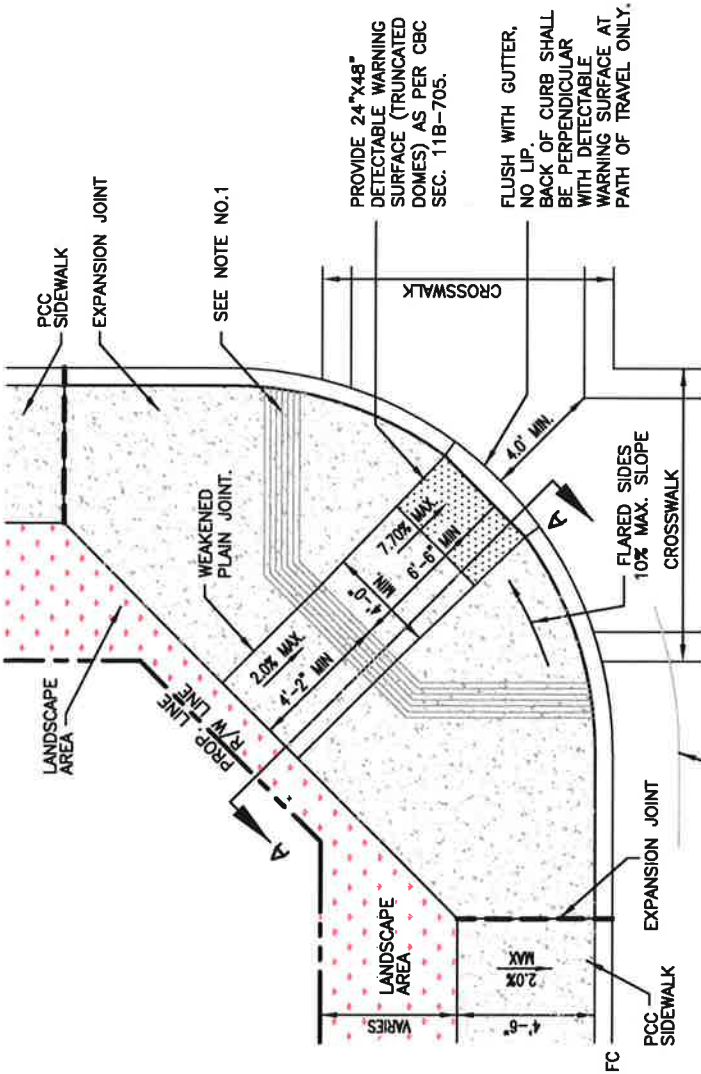
DATE: 10/10/19  
DRAWN: A.A.  
REVIEWED: J.V.  
APPROVED: O.M.

IN THE CITY OF IMPERIAL, CALIFORNIA  
STD. DET. NO. 408 NOT TO SCALE

WEAKENED PLANE JOINT N.T.S.  
EXPANSION JOINT N.T.S.

**NOTES:**

- 1.- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK EXCEPT WHEN LOCATED IN CENTER OF CURB RETURN.
- 2.- WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE TRANSVERSE BROOMED ALIGNED PARALLEL TO CROSSWALK WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL. GROOVES SHALL BE ALIGNED PARALLEL TO CROSSWALK LINES OR PARALLEL TO THE PROLONGATION OF CURBS WHEN THERE ARE NO CROSSWALK LINES.
- 3.- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK 4,500 PSI CONCRETE OVER 6" OF CLASS II AGGREGATE BASE.
- 4.- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY ENGINEER.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- 6.- HANDICAP RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- 7.- SUBGRADE TO BE 8" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 8.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 9.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 10.- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



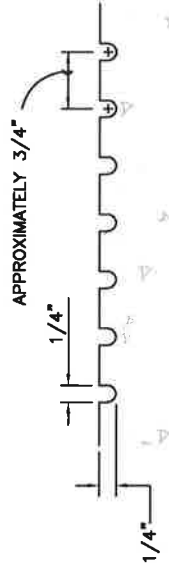
**PLAN**

FOR CURB & GUTTER  
SEE CITY OF IMPERIAL  
STD. DETAIL NO. 400.

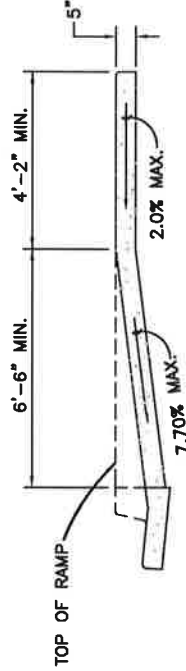


**WEAKENED PLANE JOINT**

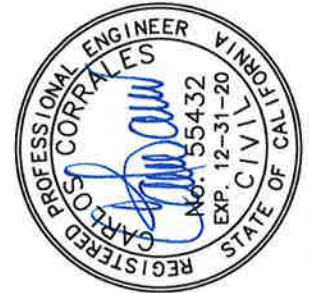
**EXPANSION JOINT**



**GROOVING DETAIL**



**SECTION A-A**

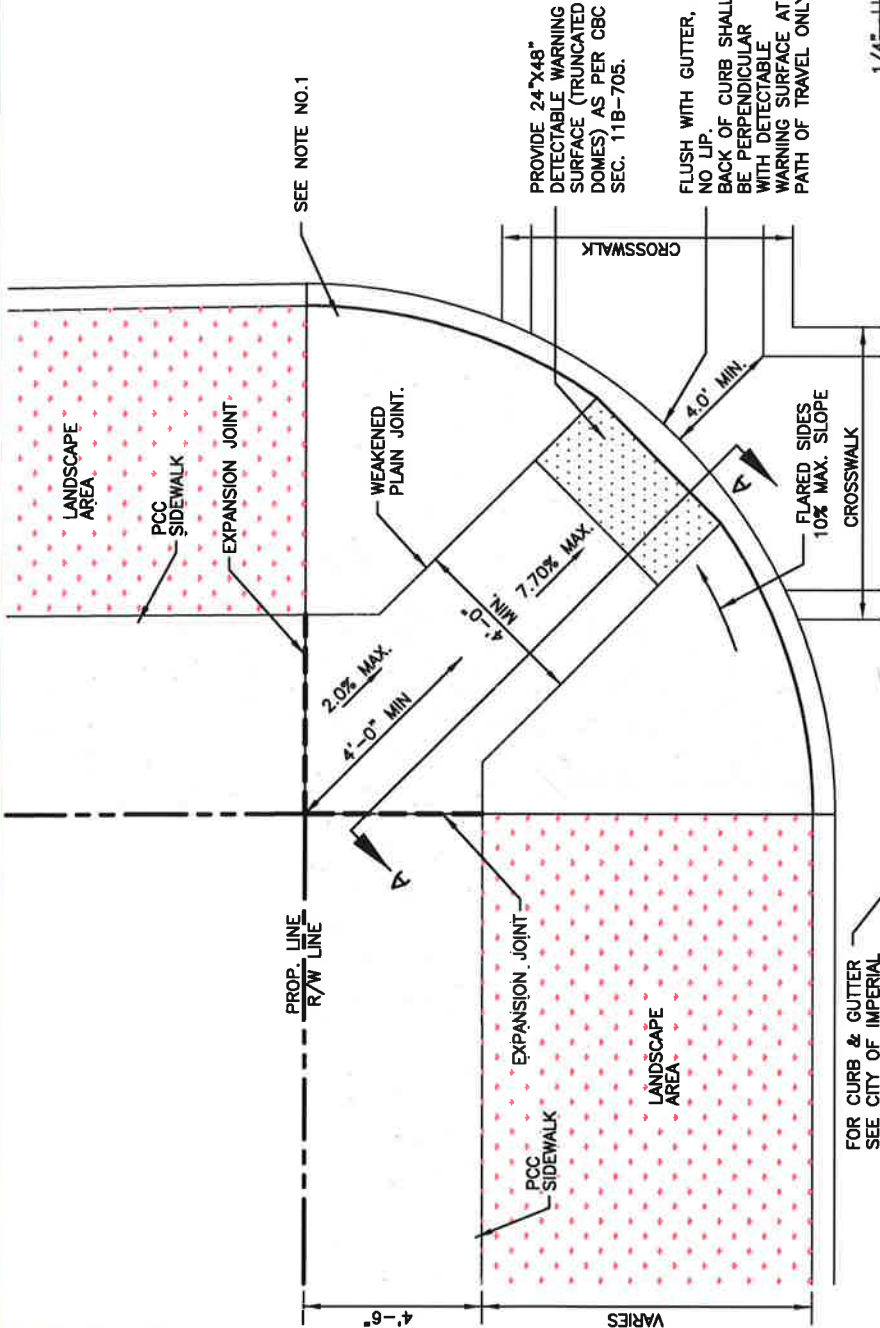


<b>TYPICAL CORNER ONE ADA RAMP DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 409	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.

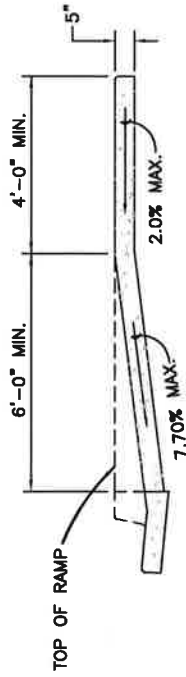


**NOTES:**

- 1.- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK EXCEPT WHEN LOCATED IN CENTER OF CURB RETURN.
- 2.- WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE TRANSVERSE BROOMED ALIGNED PARALLEL TO CROSSWALK WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.
- 3.- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- 4.- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY ENGINEER.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- 6.- HANDICAP RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- 7.- SUBGRADE TO BE 8" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 8.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 9.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 10.- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



**PLAN**

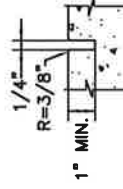


**SECTION A-A**

FOR CURB & GUTTER  
SEE CITY OF IMPERIAL  
STD. DETAIL NO. 400.

PROVIDE 24"x48"  
DETECTABLE WARNING  
SURFACE (TRUNCATED  
DOMES) AS PER CBC  
SEC. 11B-705.

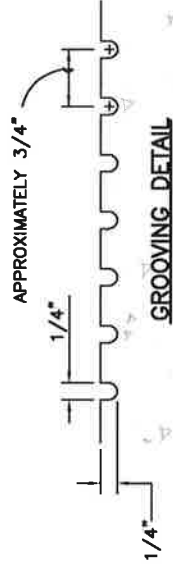
FLUSH WITH GUTTER,  
NO LIP.  
BACK OF CURB SHALL  
BE PERPENDICULAR  
WITH DETECTABLE  
WARNING SURFACE AT  
PATH OF TRAVEL ONLY.



FILL WITH SIKAFLEX JOINT  
SEALER OR APPROVED EQUAL.  
EXTEND JOINT SEALANT ACROSS  
GUTTER AND 3" UP CURB FACE,  
ALL JOINTS AND ADD SILICA  
SAND.

**WEAKENED PLANE JOINT**

**EXPANSION JOINT**



**GROOVING DETAIL**



**FULL CORNER  
ADA RAMP DETAIL**

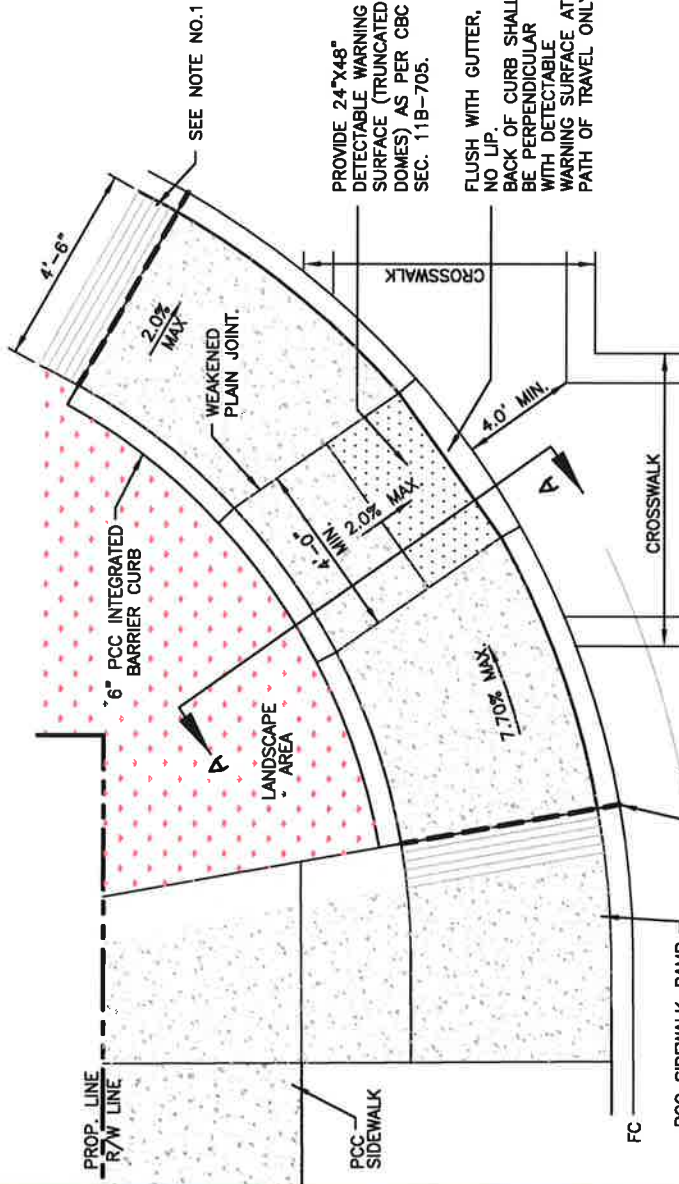
SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 10/10/19 DRAWN: AA  
STD. DET. NO. 409-A NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



**NOTES:**

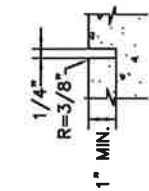
- 1.- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK EXCEPT WHEN LOCATED IN CENTER OF CURB RETURN.
- 2.- WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE TRANSVERSE BROOMED ALIGNED PARALLEL TO CROSSWALK WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL.
- 3.- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- 4.- RAMP LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- 6.- HANDICAP RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- 7.- SUBGRADE TO BE 6" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 8.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 9.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 10.- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4000 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



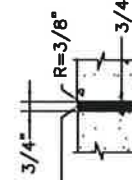
**PLAN**

FOR CURB & GUTTER SEE CITY OF IMPERIAL STD. DETAIL NO. 400.

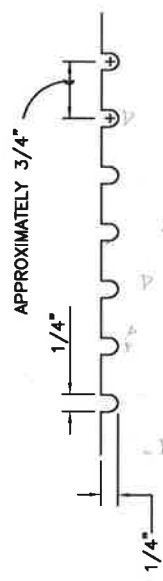
FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL EXTEND JOINT SEALANT ACROSS GUTTER AND 3" UP CURB FACE, ALL JOINTS AND ADD SILICA SAND.



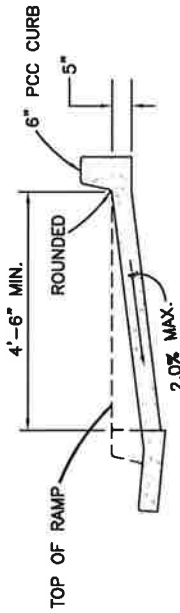
**WEAKENED PLANE JOINT**



**EXPANSION JOINT**



**GROOVING DETAIL**



**SECTION A-A**



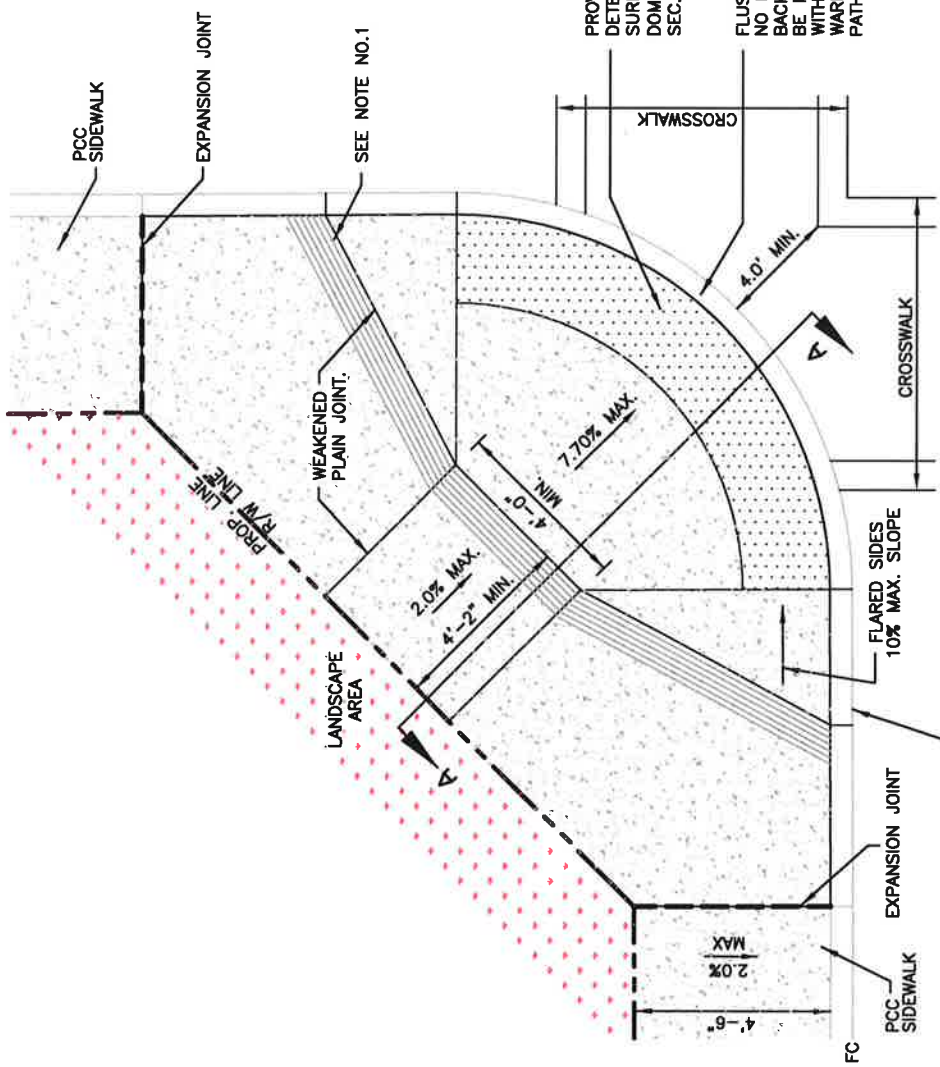
<b>ADA RAMP DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 409-B	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.





**NOTES:**

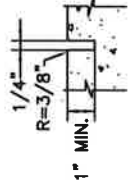
- 1.- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
- 2.- WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE TRANSVERSE BROOMED ALIGNED PARALLEL TO CROSSWALK WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL. GROOVES SHALL BE ALIGNED PARALLEL TO CROSSWALK LINES OR PARALLEL TO THE PROLONGATION OF CURBS WHEN THERE ARE NO CROSSWALK LINES.
- 3.- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- 4.- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY OF IMPERIAL ENGINEERING DIVISION STAFF.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- 6.- HANDICAP RAMP AND CURB & GUTTER SHALL NOT BE POURED MONOLITHIC.
- 7.- SUBGRADE TO BE 8" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 8.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 9.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 10.- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



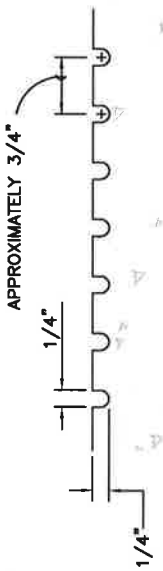
**PLAN**



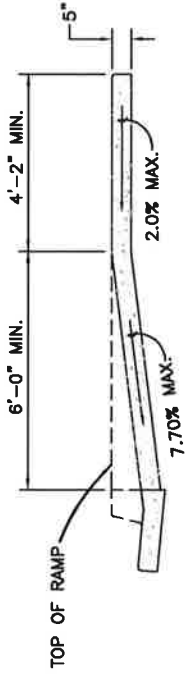
**EXPANSION JOINT**



**WEAKENED PLANE JOINT**



**GROOVING DETAIL**



**SECTION A-A**



<b>WIDE APPROACH ADA RAMP DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 409-C	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.



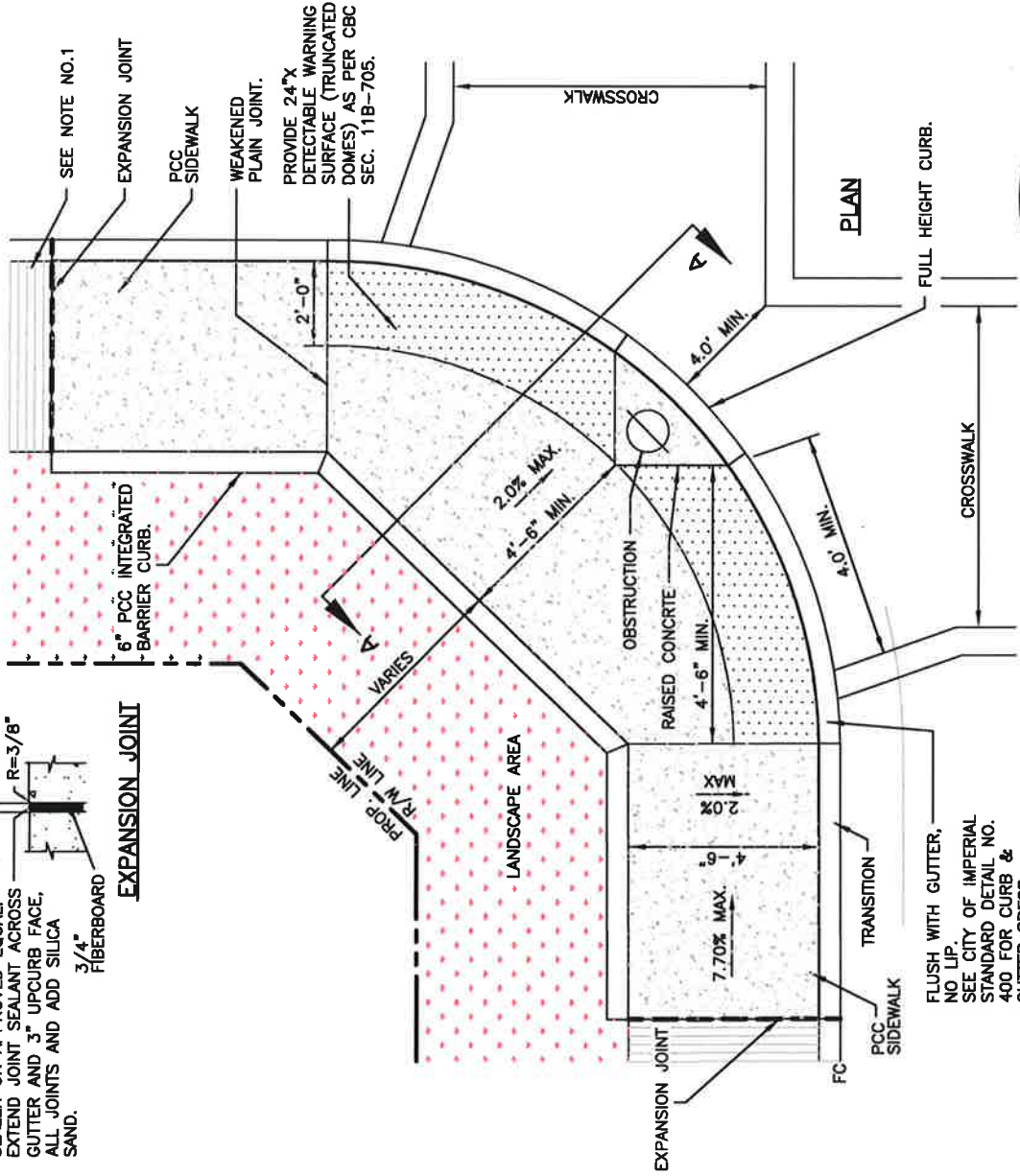
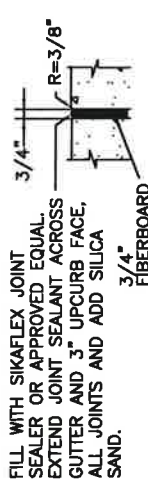
FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ACROSS GUTTER AND 3" UP CURB FACE. ALL JOINTS AND ADD SILICA SAND.

FOR CURB & GUTTER SEE CITY OF IMPERIAL STD. DETAIL NO. 400.

PROVIDE 24" X DETECTABLE WARNING SURFACE (TRUNCATED DOWMS) AS PER CBC SEC. 11B-705.

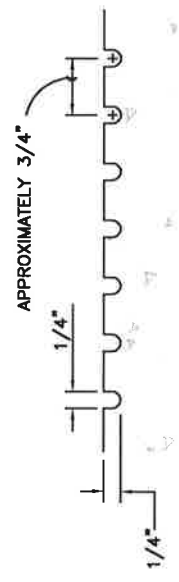
FLUSH WITH GUTTER, NO LIP. BACK OF CURB SHALL BE PERPENDICULAR WITH DETECTABLE WARNING SURFACE AT PATH OF TRAVEL ONLY.



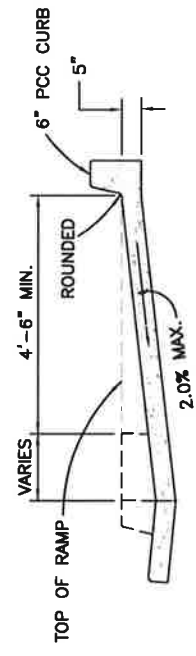


**NOTES:**

- 1.- THE RAMP SHALL HAVE A 12" WIDE BORDER WITH 1/4" GROOVES APPROXIMATELY 3/4" IN CENTER. SEE GROOVING DETAIL. THE SURFACE OF RAMP SHALL HAVE A TRANSVERSE BROOMED SURFACE TEXTURE ROUGHER THAN THE SURROUNDING SIDEWALK.
- 2.- WHEN RAMP IS LOCATED IN CENTER OF CURB RETURN, IT SHALL BE TRANSVERSE BROOMED ALIGNED PARALLEL TO CROSSWALK WITH 1/4" GROOVES APPROXIMATELY 3/4" ON CENTER. SEE GROOVING DETAIL. GROOVES SHALL BE ALIGNED PARALLEL TO CROSSWALK LINES OR PARALLEL TO THE PROLONGATION OF CURBS WHEN THERE ARE NO CROSSWALK LINES.
- 3.- ACCESS RAMP SHALL BE CONSTRUCTED WITH 5" THICK OVER 6" OF CLASS II AGGREGATE BASE.
- 4.- RAMPS LOCATED OTHER THAN SHOWN, SHALL BE APPROVED BY THE CITY OF IMPERIAL ENGINEERING DIVISION STAFF.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH RAMP ENDS.
- 6.- HANDICAP RAMP AND CURB SHALL NOT BE POURED MONOLITHIC.
- 7.- SUBGRADE TO BE 8" COMPACTED 90% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 8.- USE 2" OF SAND FOR LEVELING (FINE GRADING) GRADE.
- 9.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 10.- HANDICAP RAMP SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



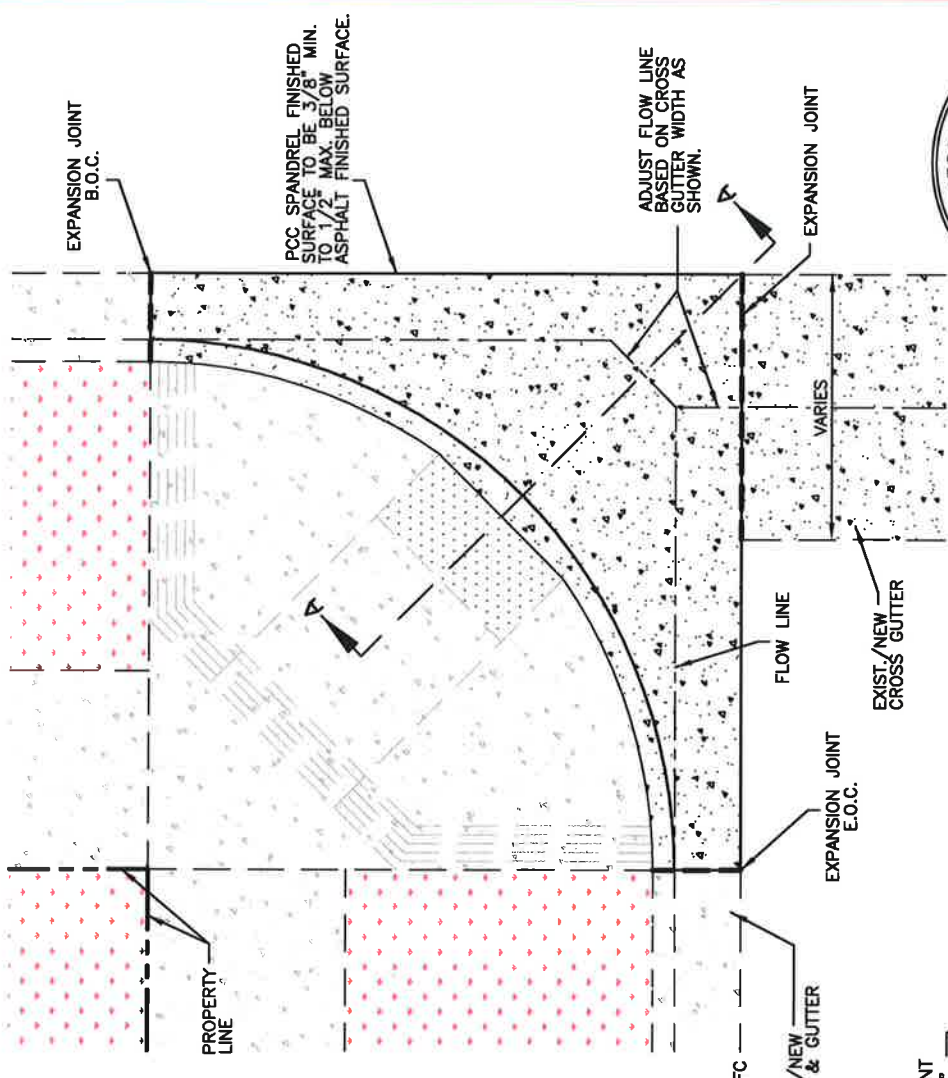
**GROOVING DETAIL**



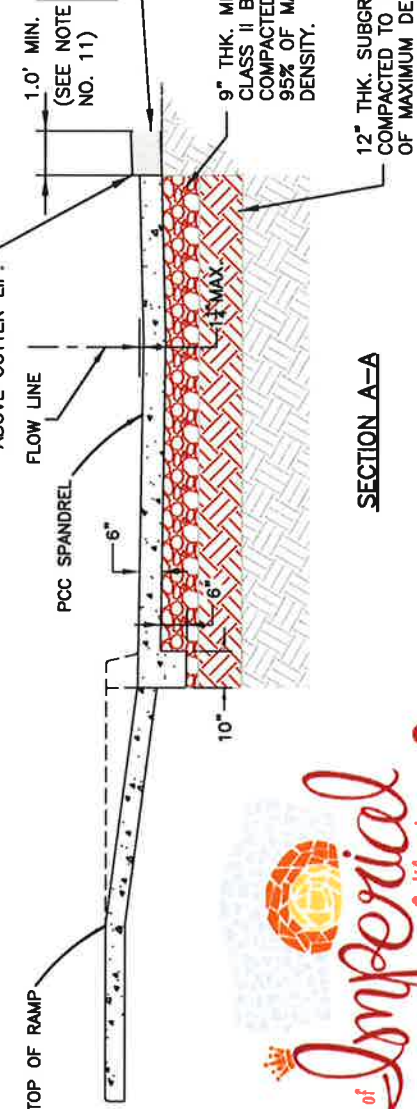
<b>OBSTRUCTED CENTER PATH ADA RAMP DETAIL</b>		SHEET: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA		OF: <b>1</b>
DATE: 10/10/19	REVIEWED: J.V.	DRAWN: A.A.
STD. DET. NO. 409-D	NOT TO SCALE	APPROVED: O.M.

**NOTES:**

- 1.- CURB RETURN SHALL BE FORMED AND POURED TOGETHER WITH PCC SPANDREL (MONOLITHIC).
- 2.- PCC SPANDREL SHALL BE CONSTRUCTED WITH 6" THICK OVER 9" OF CLASS II AGGREGATE BASE.
- 3.- PCC SPANDREL SHALL BE ALIGNED WITH EXISTING/NEW CURB AND GUTTER AND IT SHALL START AT B.O.C. AND FINISH AT E.O.C.
- 4.- PCC SPANDRELS LOCATED/COMFORMED OTHER THAN SHOWN, SHALL BE SUBMITTED FOR REVIEW AND APPROVAL BY THE CITY OF IMPERIAL ENGINEERING DIVISION STAFF.
- 5.- EXPANSION JOINTS TO BE INSTALLED AT BOTH SPANDREL ENDS AS SHOWN.
- 6.- SUBGRADE TO BE 12" COMPACTED 95% OF ASTM D1557 MAXIMUM DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 7.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 8.- PCC SPANDREL SHALL BE DOWELLED ONLY TO EXISTING CURB AND GUTTER WITH 2 (TWO) #4 REBARS CENTERED VERTICALLY AND HORIZONTALLY AT GUTTER PORTION ONLY AND KEEP A DISTANCE OF 12" BETWEEN DOWELLS, EMBEDDED 6" MIN. EACH SIDE. EPOXY COAT REQUIRED FOR DOWELLS.
- 9.- PCC SPANDREL SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1-1/2 LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 10.- WHEN OCCURS, SAWCUT, REMOVE AND REPLACE 1.0' MIN. OF EXISTING AC PAVEMENT TO INSTALL NEW PCC SPANDREL IF THE EXIST. AC SECTION IS SMALLER THAN 3", THEN PROVIDE 3" OF NEW AC PAVEMENT AS A MINIMUM. IF THE SECTION IS GREATER THAN 3", THEN MATCH WITH EXISTING ASPHALT. IF EXISTING BASE IS DISTURBED, THEN REMOVE AND REPLACE WITH 9" OF CLASS II BASE COMPACTED TO 90% OF MAX. DENSITY, AND IN THIS CASE, COMPACTION TEST WILL BE REQUIRED BY THE CITY OF IMPERIAL WITH NO EXCEPTIONS.
- 11.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.



**PLAN**



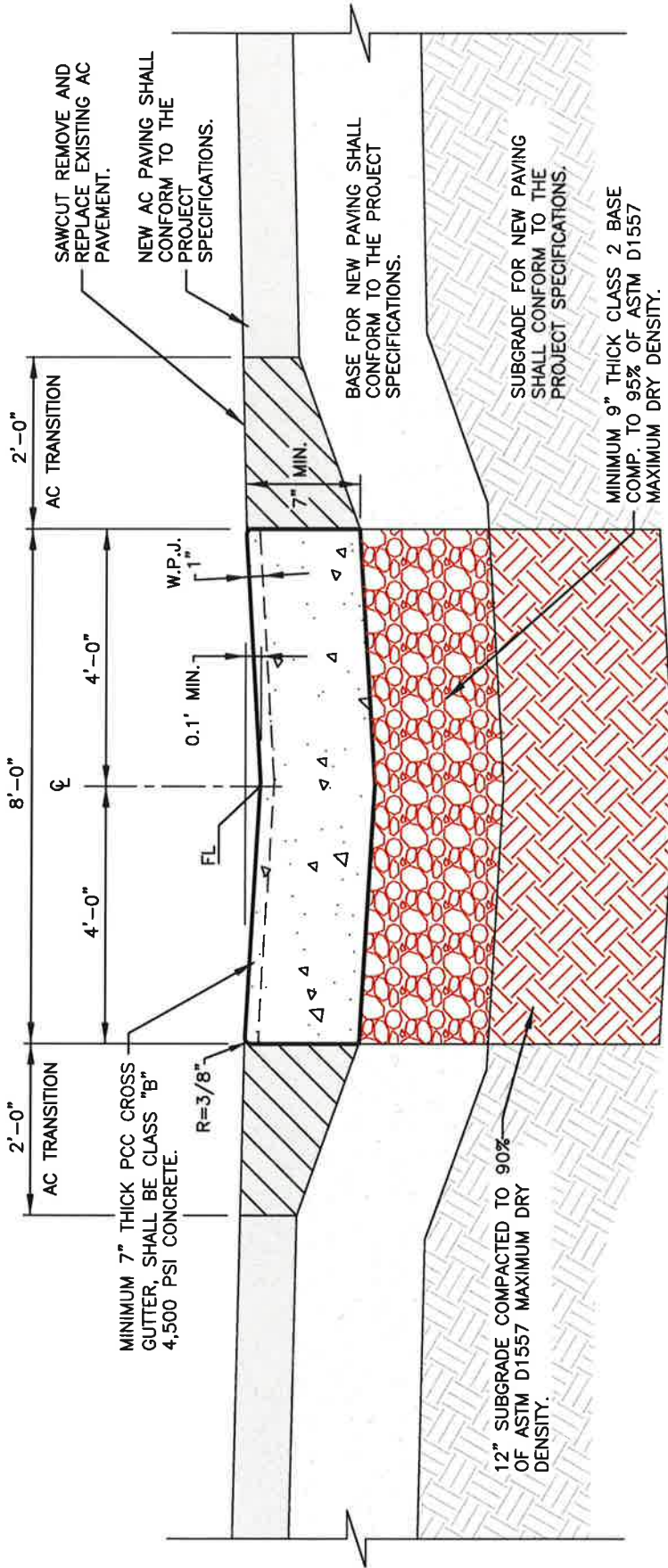
**SECTION A-A**



<b>PCC SPANDREL DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 410	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.



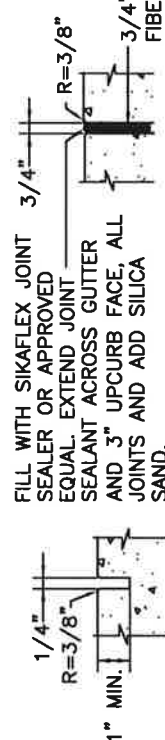




**NOTES:**

- 1.- EXPANSION JOINTS TO BE INSTALLED @ 40' O.C.
- 2.- WEAKENED PLANE JOINTS TO BE PROVIDED @ 10' O.C.
- 3.- SUBGRADE TO BE 6" THK. COMPACTED 90% OF ASTM D1557 MAX. DRY DENSITY AND MAINTAIN A MOISTURE CONTENT OF (18% ± 2%) FOR ALL LOCATIONS UNDERNEATH CONCRETE.
- 4.- ALL METAL FORM STAKES MUST HAVE PROTECTIVE DEVICES SUCH AS "MUSHROOMS" INSTALLED AT ALL TIMES DURING ITS USE, TO ADEQUATELY ENSURE PUBLIC SAFETY.
- 5.- VALLEY GUTTER SHALL BE CLASS "B" CONCRETE WHICH SHALL ATTAIN A 28-DAY COMPRESSIVE STRENGTH OF 4,500 PSI IN ACCORDANCE WITH ASTM C39/C39M-99 AND SHALL CONTAIN 1- LBS. OF POLYPROPYLENE FIBER PER CUBIC YARD. POLYPROPYLENE FIBERMESH CO., FORTA MONO, O.A.E.
- 6.- APPLY ONE COAT OF W.R. MEADOWS SEALTIGHT 1100 RESIN-BASED, WATER EMULSION CONCRETE CURING COMPOUND OVER ALL CONCRETE SURFACE.
- 7.- COMPACTION TEST FOR CLASS II BASE AND HUMIDITY TEST FOR SUBGRADE ARE REQUIRED BY THE CITY OF IMPERIAL.

**SECTION**



FILL WITH SIKAFLEX JOINT SEALER OR APPROVED EQUAL. EXTEND JOINT SEALANT ACROSS GUTTER AND 3" UP CURB FACE, ALL JOINTS AND ADD SILICA SAND.

WEAKENED PLANE JOINT N.T.S. AT 10' O.C. (TYP)  
 EXPANSION JOINT N.T.S. AT 40' O.C. (TYP)

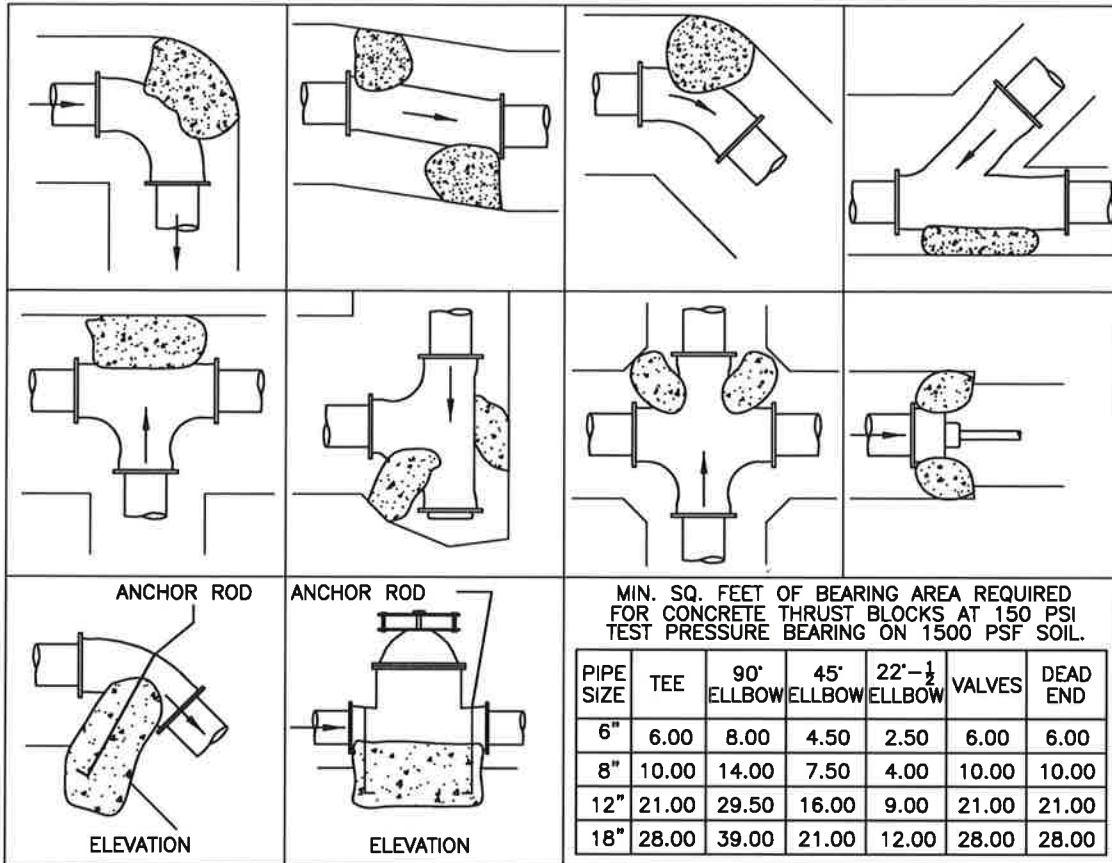
**PCC CROSS GUTTER DETAIL**

SHEET: 1  
 OF: 1

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 10/10/19 DRAWN: AA.  
 STD. DET. NO. 411 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.





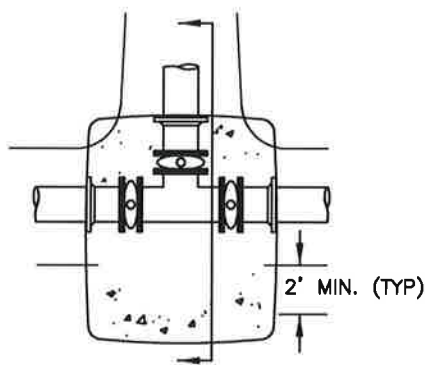


**NOTES:**

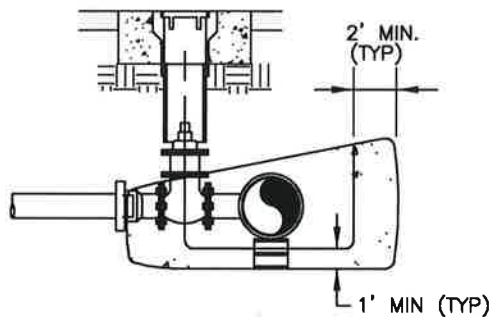
1. ALL PRESSURE PIPE TO BE INSTALLED ACCORDING TO THE DETAILS UNLESS NOTED OR DETAILED.
2. THE PORTLAND CEMENT CONCRETE USED FOR THRUST BLOCKS SHALL BE CLASS "C" 2000 PSI CONCRETE.
3. ALL ANCHOR RODS SHALL BE GALVANIZED STEEL, 1/2" DIAMETER MINIMUM, WRAPPED AROUND PIPE. MEGA-LUGS SHALL BE USED IN ADDITON TO TIE DOWN STRAPS.
4. THRUST BLOCKS SHALL BE USED FOR PLASTIC PIPES WITH A 3" DIAMETER OR LARGER AND AT THE END OF ALL MAINS.
5. FLOW DIRECTION SHOWN BY: →
6. ALL VIEWS ARE PLAN UNLESS NOTED OTHERWISE.
7. ALL CONCRETE THRUST BLOCKS TO BEAR ON UNDISTURBED SOIL IN EACH DIRECTION OF THRUST.
8. TRENCH TO BE BACKFILLED AT 90% COMPACTION TESTED RANDOMLY
9. MEGA-LUG ADAPTERS MAY BE USED IN ADDITION TO THRUST BLOCKS OF REDUCED SIZE, UPON WRITTEN APPROVAL OF THE ENGINEER. APPROVAL MUST BE OBTAINED PRIOR TO CONSTRUCTION. THRUST BLOCKS ARE REQUIRED IN ADDITION TO JOINT RESTRAINT DEVICES.
10. DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE WRAPPED PER PROJECT SPECIFICATIONS.
11. CONTRACTOR SHALL ADJUST BEARING AREA FOR SOIL CONDITIONS AND PROJECT-TEST PRESSURE AND SHALL OBTAIN APPROVAL OF BEARING AREA CALCULATIONS PRIOR TO PLACING THRUST BLOCKS.
12. SEE ALSO 'THRUST BLOCK AT TEE' AND 'TEMPORARY THRUST BLOCK'



<b>THRUST BLOCK DETAILS</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA.
STD. DET. NO. 500	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



PLAN



SECTION

### TEE WITH GATE VALVES

NOTES:

1. THE PROJECT ENGINEER HAS THE FINAL AUTHORITY IN DETERMINING THE BEARING AREA OF ALL THRUST BLOCKS, AND THE REBAR PLACEMENT.
2. BEARING AREA A & B ARE TO BE SIZED USING THE THRUST BLOCK DETAIL.
3. INSTALL SAND BAGS AROUND BUTTERFLY VALVE ACTUATOR TO ISOLATE IT FROM CONCRETE.
4. DISTURBED TRENCH AREAS CANNOT BE USED IN BEARING CALCULATIONS.

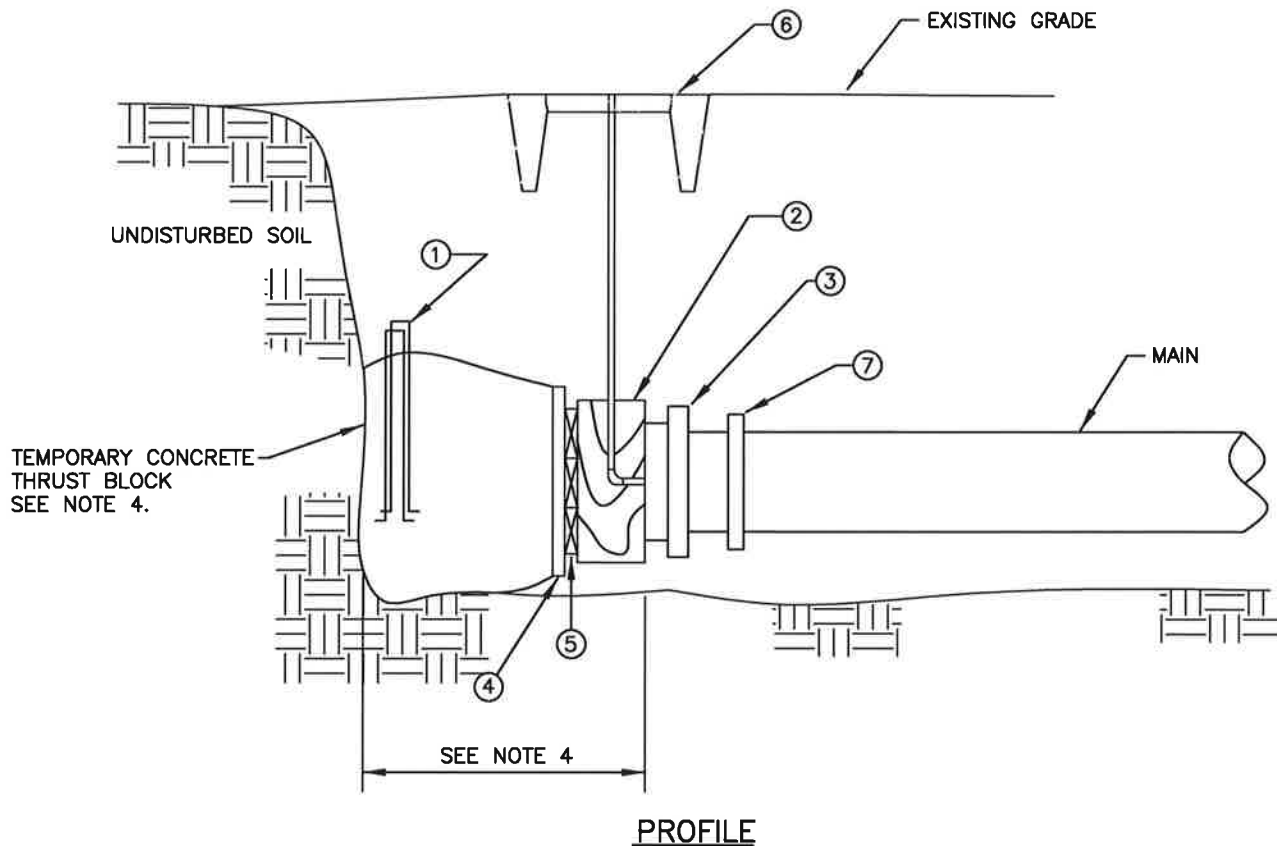


## THRUST BLOCKS AT TEE (TYP.) DETAILS

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 501	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.





**CONSTRUCTION NOTES:**

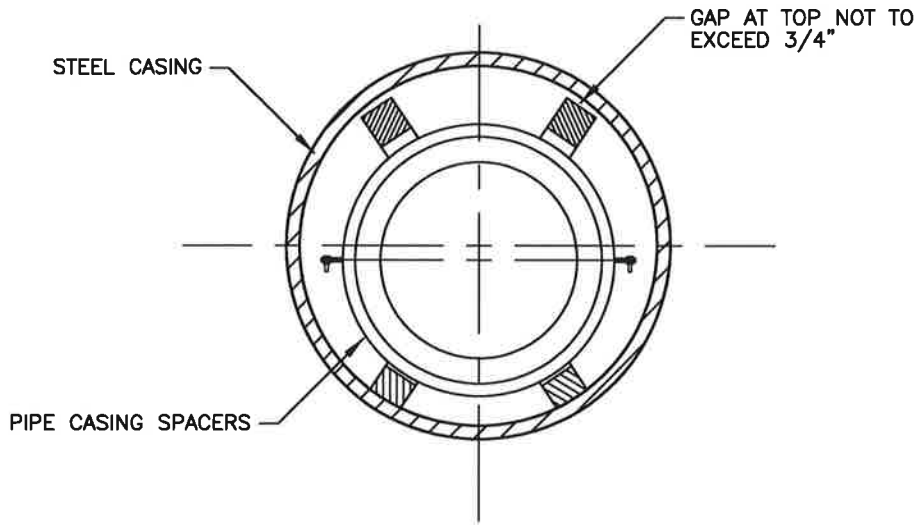
1. ALL MATERIAL TO BE NAILED OR SECURED TO MAINTAIN RIGIDITY.
2. THE LINE SHALL BE DRAINED BY THE CONTRACTOR PRIOR TO THE TIE-IN TO THE MAIN.
3. THE INTENT TO PROVIDE A BOND BREAK BETWEEN THE CONCRETE THRUST BLOCK & THE END CAP & BLOWOFF. THE CONTRACTOR MAY USE ALTERNATIVE DESIGN WITH THE APPROVAL OF THE ENGINEER.
4. THE TEMPORARY CONCRETE THRUST BLOCK SHALL BE SIZED ACCORDING TO SOIL & THRUST REQUIREMENTS. THE THRUST BLOCK SIZE SHALL NOT EXCEED 10% OF THE MAXIMUM SIZE REQUIRED.

**ITEM NO.    SIZE & DESCRIPTION**

- ①            (2) - #5 REINFORCING BARS, 18" MIN. EMBEDMENT  
(TO FACILITATE BLOCK REMOVAL)
- ②            SOLID HARD WOOD TIMBERS OR STEEL BEAM  
SPACERS (TO STRADDLE BLOW-OFF)
- ③            CAP, END-2" TAP-MECH. JOINT
- ④            3/4" PLYWOOD
- ⑤            2 X WOOD BLOCKING (TO SPAN SPACERS)
- ⑥            2" BLOWOFF (SEE DETAIL)
- ⑦            JOINT RESTRAINT DEVICE



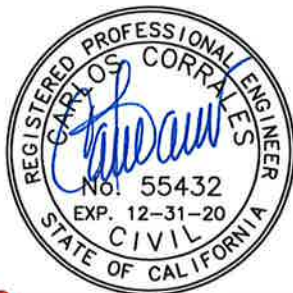
<b>TEMPORARY THRUST BLOCK DETAIL</b>		SHEET: <b>1</b> OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: A.A.
STD. DET. NO. 502	NOT TO SCALE	REVIEWED: J.V.    APPROVED: O.M.



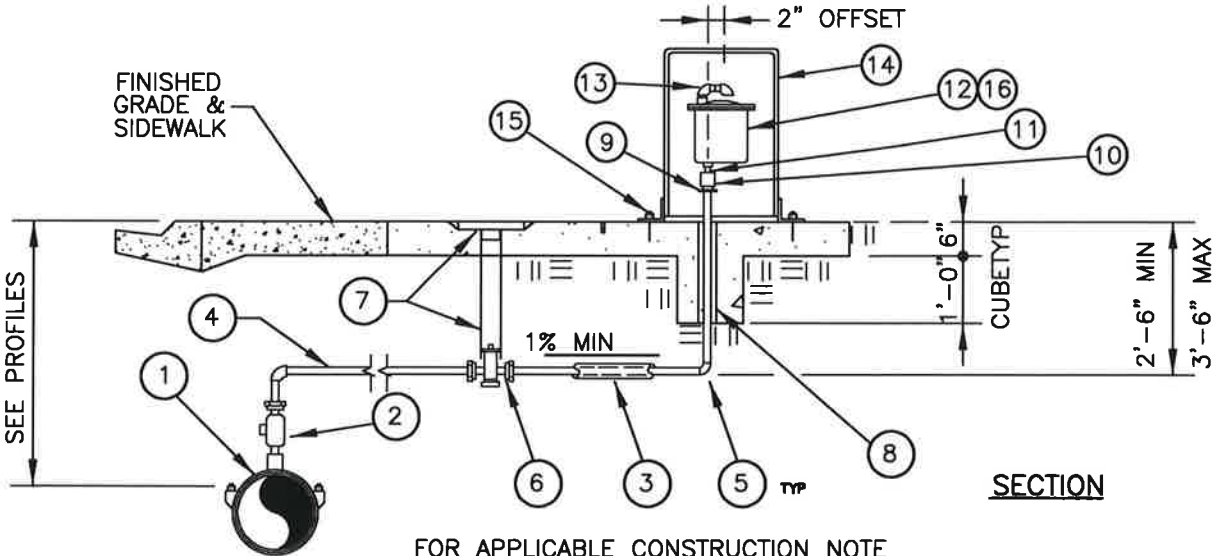
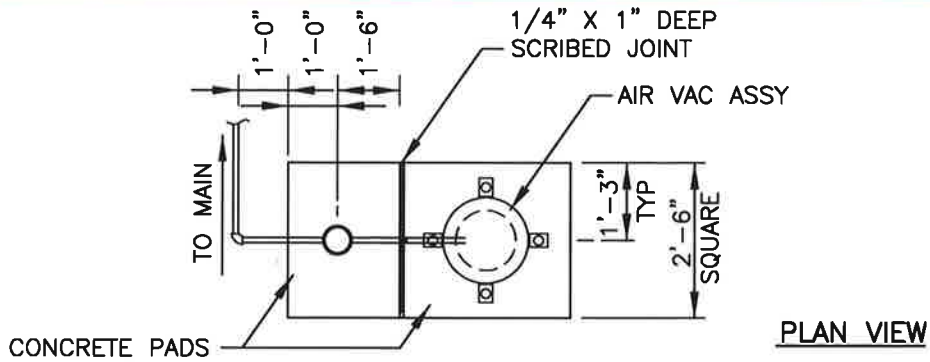
**STEEL PIPE CASING CROSS SECTION**

**NOTES:**

1. CASING SPACERS SHALL BE PER THE APPROVED MATERIAL LIST.
2. CASING SPACERS SHALL BE BOLT ON STYLE WITH A SHELL MADE IN TWO SECTIONS OF HEAVY T-304 STAINLESS STEEL. CONNECTING FLANGES SHALL BE RIBBED FOR EXTRA STRENGTH. THE SHELL SHALL BE LINED WITH A PVC LINER .090" THICK WITH 85-90 DUROMETER. ALL NUTS AND BOLTS ARE TO BE 18-8 STAINLESS STEEL. RUNNERS SHALL BE MADE OF ULTRA HIGH MOLECULAR WEIGHT POLYMER WITH INHERENT HIGH ABRASION RESISTENCE AND LOW COEFFICIENT OF FRICTION. RUNNERS SHALL BE SUPPORTED BY RISERS MADE OF HEAVY T-304 STAINLESS STEEL. THE SUPPORTS SHALL BE WELDED TO THE SHELL AND WELDS SHALL BE PASSIVATED. THE HEIGHT OF SUPPORTS AND RUNNERS COMBINED SHALL BE SUFFICIENT TO KEEP THE CARRIER PIPE AT LEAST 3/4" FROM THE CASING PIPEWALL AT ALL TIMES.
3. CASING SPACERS SHALL BE RESTRAINED POSITION TYPE.
4. SEE APPROVED MATERIALS LIST "PIPE, CASING SPACERS"



<b>STEEL CASING DETAILS</b>			SHEET: <b>1</b>
			OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA.	
STD. DET. NO. 503	NOT TO SCALE	REVIEWED: J.V.	APPROVED: O.M.



FOR APPLICABLE CONSTRUCTION NOTE  
SEE 2" COPPER SERVICE INSTALLATION.

- | ITEM # | SIZE & DESCRIPTION  | ITEM # | SIZE & DESCRIPTION   |
|--------|---|--------|--|
| ①      | SINGLE WIDE S.S. STRAP BRONZE SERVICE SADDLE 2" OUTLET THRU 12" PVC                 | ⑧      | FOAM SLEEVE - 1/2" THICK   |
| OR     |   | ⑨      | MALE ADAPTOR - SWEAT OR COMPRESSION                                |
| ①      | DUCTILE IRON TAPPED TEE W/ 2 1/2" I.P. OUTLET FOR 14" THRU 24" PVC W/NYLON BUSHING. | ⑩      | DI-ELECTRIC COUPLING 2"  |
| ②      | 1" OR 2" BRONZE CORPORATION STOP M.I.P. THREAD X COMPRESSION                        | ⑪      | BLACK IRON NIPPLE (2") X 3"  |
| OR     |   | ⑫      | AIR & VACUUM RELIEF VALVE - 2" CLA-VAL MODEL 36 OR EQUAL           |
| ②      | 1" OR 2" BRONZE CORPORATION STOP M.I.P. X FLARE NUT                                 | ⑬      | 2-PVC SCH 80 STREET ELLS W/SCREEN-2"                               |
| ③      | POLY SLEEVE 6 MIL - COLOR PER SPECS.  | ⑭      | AIR-VAC VALVE COVER PIPELINE PRODUCTS OR EQUAL                     |
| ④      | 2" COPPER TUBING TYPE K SOFT  | ⑮      | 1/2" X 3 1/2" 316 S.S. SLEEVE EXPANSION ANCHORS OR APPROVED EQUAL. |
| ⑤      | ELL 90 COPPER SWEAT OR COMPRESSION  | ⑯      | FIELD PAINT - FIRE HYDRANT   |
| ⑥      | BRONZE INLINE BALL VALVE-COMPRESSION INLETS 2"                                      |        |  |
| ⑦      | 4" SDR 35 PVC SEWER PIPE & 4" C.I. CAP FOAM SLEEVE - 1/2" THICK                     |        |  |

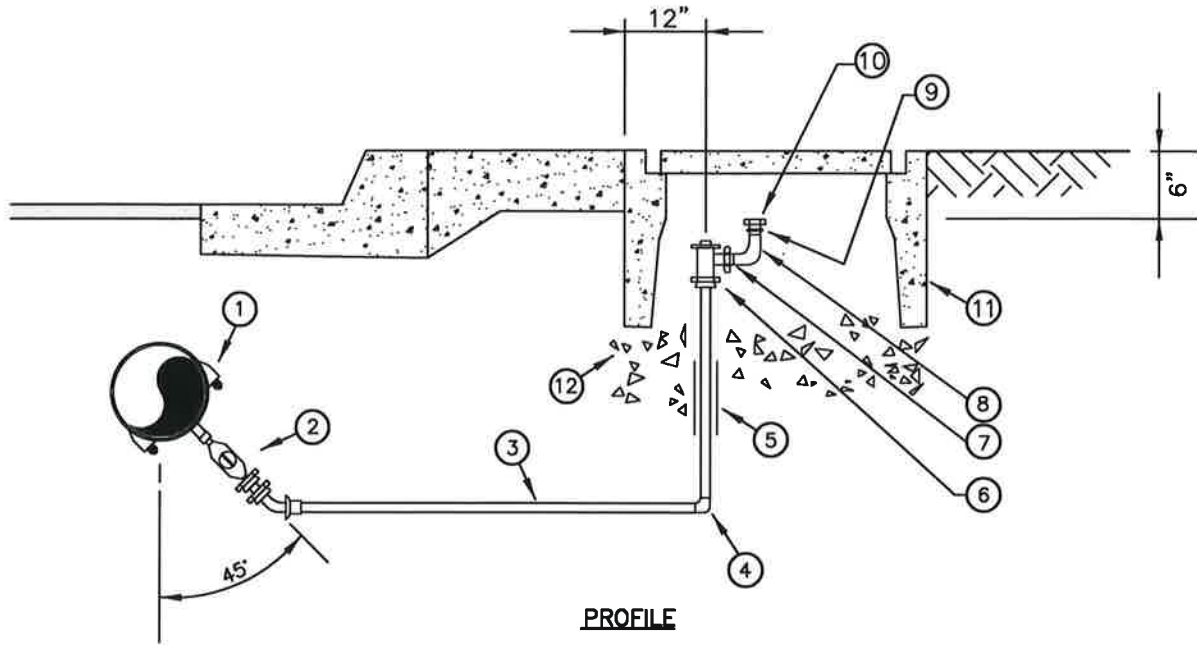


## 2" AIR VACUUM RELIEF VALVE ASSEMBLY

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 504	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



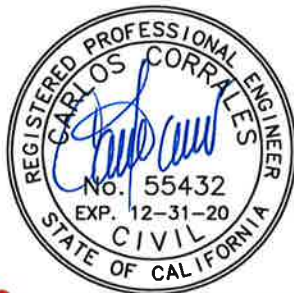


**CONSTRUCTION NOTES:**

- 1.- SERVICE SADDLE SHALL NOT BE INSTALLED WITHIN 18" OF VALVE, JOINT OR FITTING. USE SINGLE STRAP UP TO 12" MAIN SIZE. USE DUCTILE IRON TAPPED TEE FOR PVC SIZES 14" THRU 24".
- 2.- INSTALL CORPORATION STOP WITH KEY SIDEWAYS IN OPEN POSITION, AT SPRING LINE OF THE MAIN.
- 3.- SET TOP OF METER BOX FLUSH WITH SIDEWALK.
- 4.- THE CORPORATION STOP TAP SHALL BE MADE AS SPECIFIED BY THE PIPE MANUFACTURER'S INSTALLATION GUIDE. PVC TAPS SHALL BE MADE WITH PROPER SHELL CUTTER.
- 5.- SPLICES OF COPPER TUBING SHALL NOT BE ALLOWED, EXCEPT AS APPROVED BY THE ENGINEER.
- 6.- THE TOP OF THE METER BOX SHALL BE PAINTED WITH FIRE HYDRANT YELLOW.
- 7.- POLY-SLEEVE COLORS REQUIRED. BLUE = POTABLE WATER SERVICE.
- 8.- SEE APPROVED MATERIAL LIST.
- 9.- DUCTILE IRON, CAST IRON AND STEEL COMPONENTS SHALL BE COATED OR WRAPPED PER PROJECT SPECIFICATIONS.

**ITEM # SIZE & DESCRIPTION**

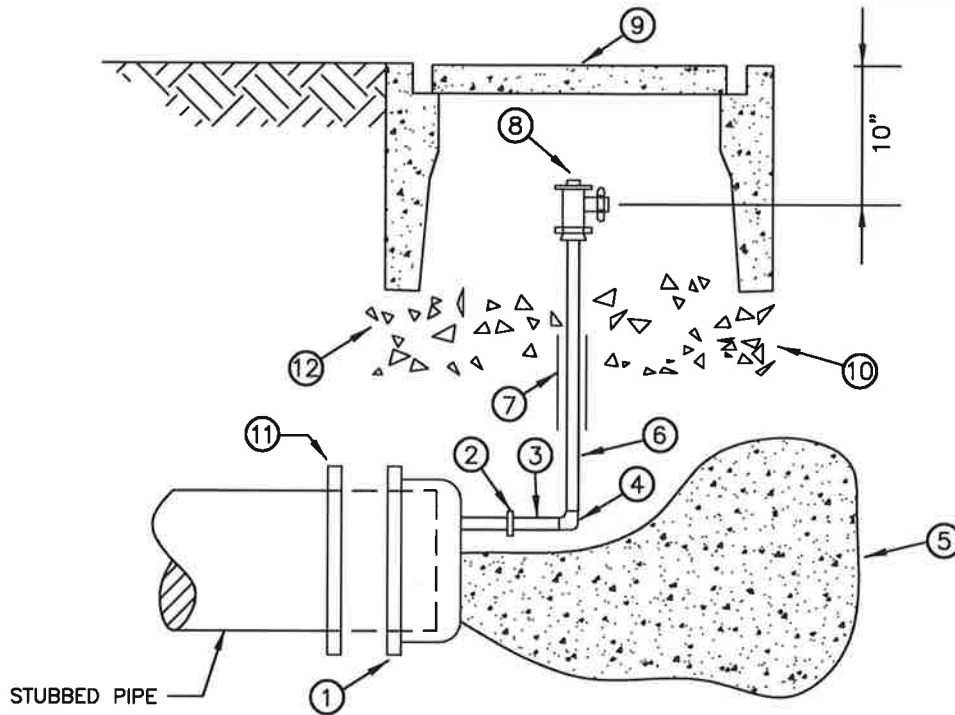
- ① SINGLE WIDE ALL BRONZE SERVICE SADDLE W/2" I.P. OUTLET THRU 12" PVC.
- ① DUCTILE IRON TAPPED TEE W/2 1/2" I.P. OUTLET FOR 14" THRU 24" PVC WITH NYLON BUSHING.
- ② 2" CORPORATION STOP - I.P. X 1/8 FLARE BEND.
- ③ 2" COPPER TUBING - K SOFT
- ④ 2" COPPER 90° ELL, SWEAT X SWEAT
- OR
- ④ 2" 90° ELL - COMPRESSION
- ⑤ 2" POLY - SLEEVE - 6 MIL
- ⑥ 2" ANGLE METER STOP - COMPRESSION X FLANGE
- OR
- ⑥ 2" ANGLE METER STOP M.I.P. X FLANGE W/ SWEAT X M.I.P. ADAPTOR
- ⑦ 2" METER FLANGE - OVAL
- ⑧ 2" BRASS STREET ELL
- ⑨ 2" X 2 1/2" ADAPTOR-MIP X MFHT-BRASS
- ⑩ 2 1/2" HYDRANT HOSE CAP
- ⑪ METER BOX INSTALLATION BROOKE PRODUCTS 33 MB-S OR EQUAL (SEE NOTES 3 & 6).
- ⑫ 6" BASE OF 3/4" ROCK.



**2" BLOWOFF ASSEMBLY  
DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA.
STD. DET. NO. 505	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



**PROFILE**

**CONSTRUCTION NOTES:**

- 1.- SET TOP OF METER BOX FLUSH WITH SIDEWALK.
- 2.- SPLICES OF COPPER TUBING SHALL NOT BE ALLOWED.
- 3.- POLY - SLEEVE COLORS REQUIRED BLUE = POTABLE WATER SERVICE.
- 4.- METER BOX TO BE PAINTED OSHA SAFETY YELLOW, 2 COATS.
- 5.- INSTALL THRUST BLOCK PER TEMPORARY THRUST BLOCK STANDARD DETAIL.
- 6.- IF BENDS ARE REQUIRED IN COPPER, USE 12" MINIMUM RADIUS.
- 7.- SEE APPROVED MATERIAL LIST.
- 8.- DO NOT PLACE CONCRETE ON COPPER OR PIPE.

**ITEM # SIZE & DESCRIPTION**

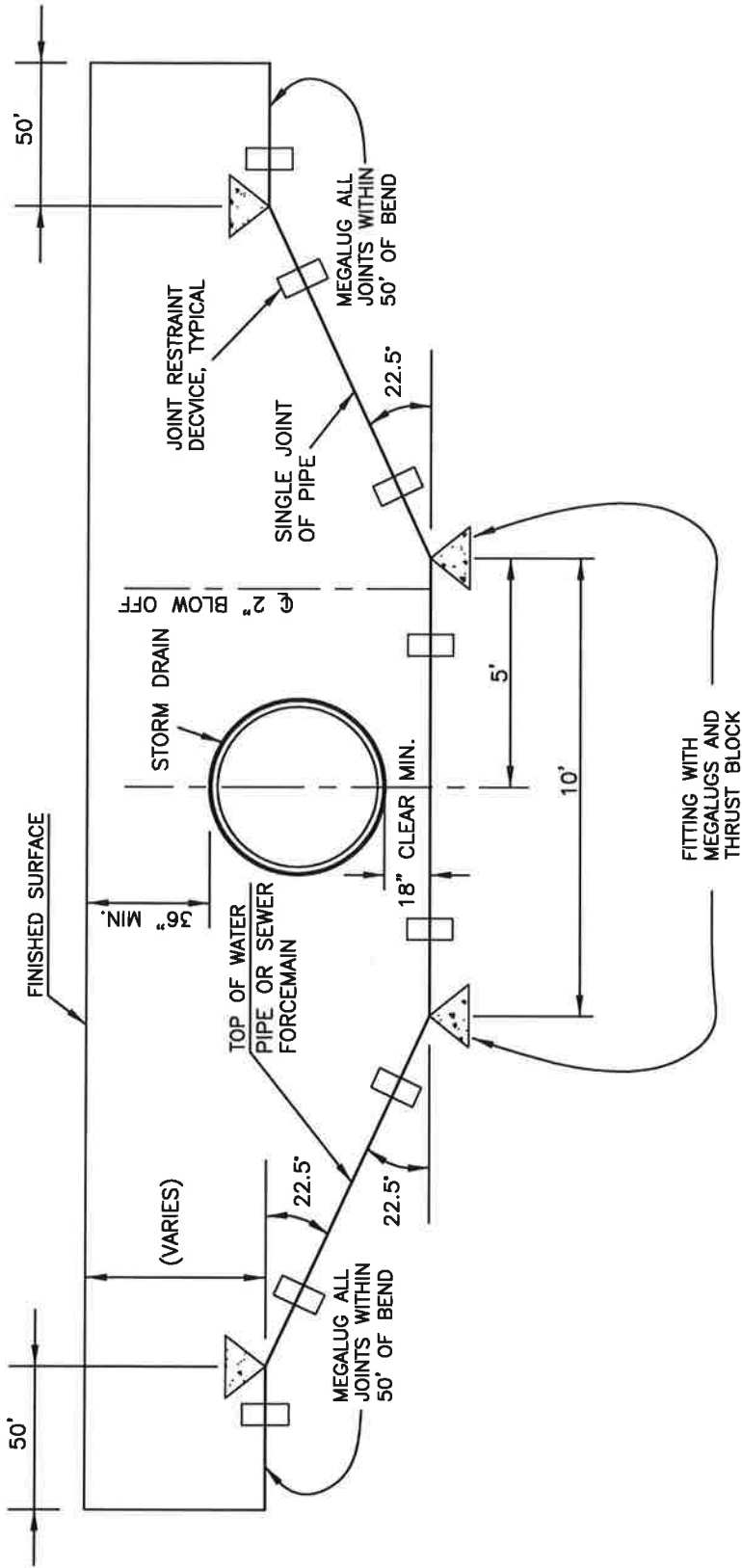
- ① TAPPED CAO, DUCTILE IRON WITH OFFSET 2" OPENING, MJ.
- ② 2" X 1" NYLON BUSHING.
- ③ 1" SWEAT X M.I.P. ADAPTOR.  
OR  
③ 1" COMPRESSION X M.I.P.
- ④ 1" COPPER 90° ELL.  
OR  
④ 1" 90° ELL - COMPRESSION
- ⑤ THRUST BLOCK
- ⑥ 1" COPPER TUBING K SOFT
- ⑦ 1" POLY-SLEEVE - 6 MIL - BLUE.
- ⑧ 1" METER STOP, ANGLE - COMPRESSION OR FLARE
- ⑨ METER BOX BROOKE PRODUCTS NO.37 OR EQUAL.
- ⑩ 6" BASE OF 3/8" ROCK.
- ⑪ JOINT RESTRAINT DEVICE.



**STUB-OUT BLOWOFF ASSEMBLY**

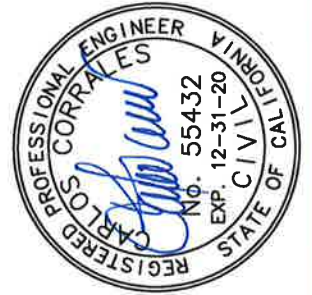
SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA.
STD. DET. NO. 506	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



**NOTES:**

1. MEGALUG ALL JOINTS WITHIN VERTICAL LOOP. MEGALUGS ARE TO BE INSTALLED FOR TWO DIRECTION THRUST.
2. BLOW OFF ASSEMBLY REQUIRED AT LOW POINT.
3. AIR RELEASE REQUIRED AT HIGH POINT.



**VERTICAL STORM LINE CROSSING**

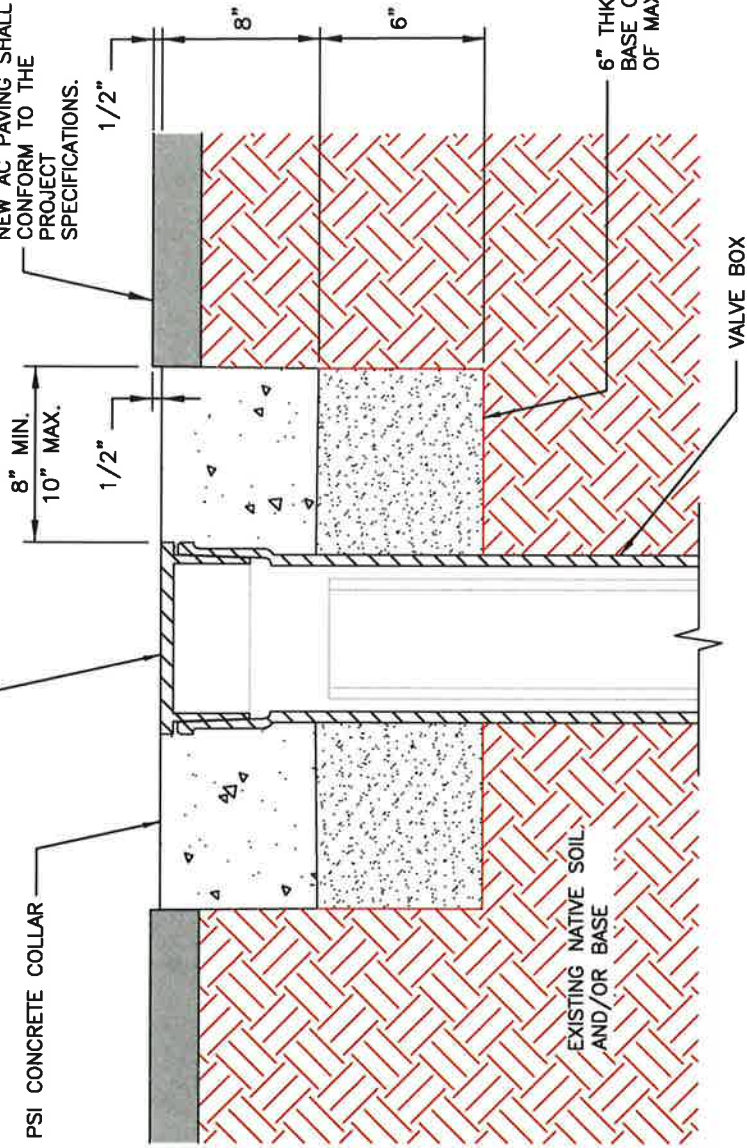
SHEET: 1	DATE: 01/17/19	DRAWN: AA
OF: 1	REVIEWED: J.V.	APPROVED: O.M.
IN THE CITY OF IMPERIAL, CALIFORNIA		
STD. DET. NO. 507 NOT TO SCALE		



CAST IRON BOX COVER MARKED WITH APPLICABLE LEGEND BASED ON THE TYPE OF SERVICE/LINE.

4000 PSI CONCRETE COLLAR

EXISTING AC PAVING/  
NEW AC PAVING SHALL  
CONFORM TO THE  
PROJECT  
SPECIFICATIONS.



EXISTING NATIVE SOIL  
AND/OR BASE

6" THK. MIN. CLASS II  
BASE COMPACTED TO 95%  
OF MAXIMUM DENSITY.

PROFILE

## PAVED AREAS



## TYPICAL VALVE BOX CONCRETE COLLAR

SHEET: OF:	1 2
DATE:	01/17/19
REVIEWED:	J.V.
NOT TO SCALE	
DRAWN:	A.A.
APPROVED:	O.M.

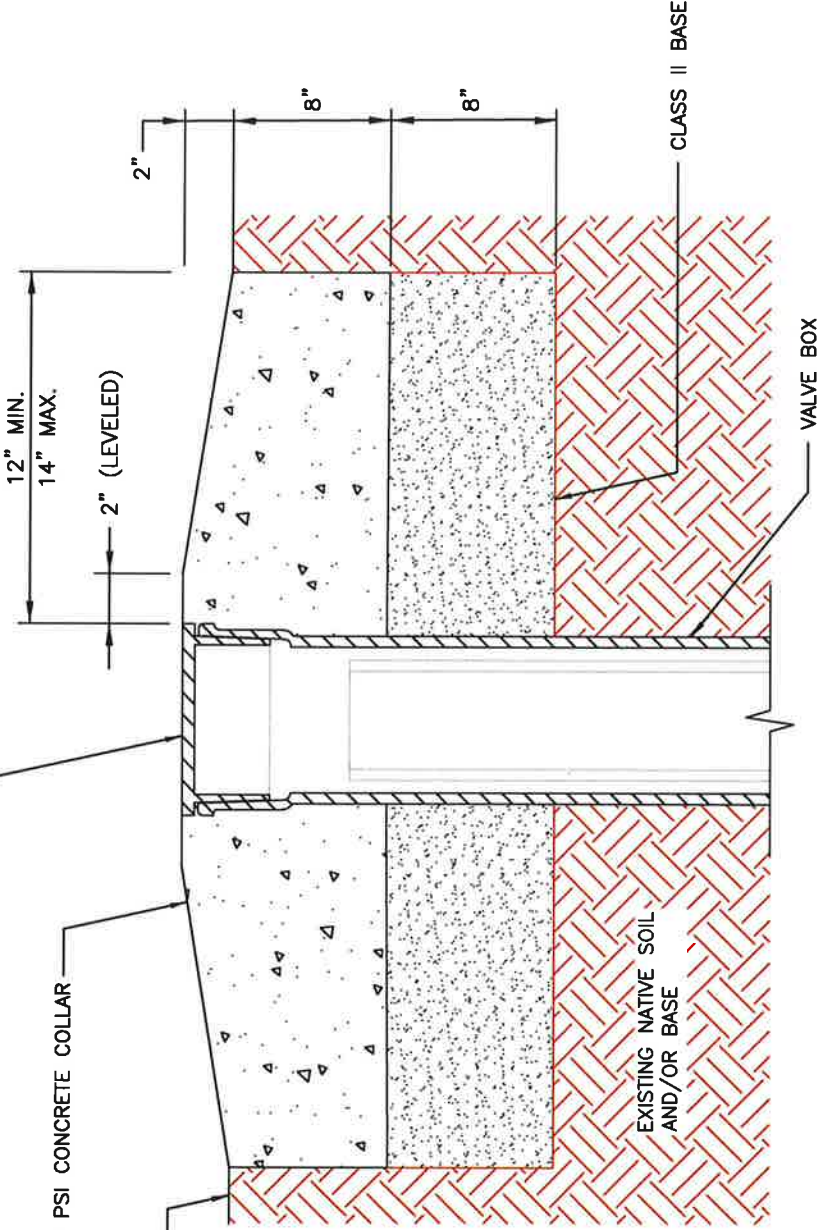
IN THE CITY OF IMPERIAL, CALIFORNIA

STD. DET. NO. 508

CAST IRON BOX COVER MARKED WITH APPLICABLE LEGEND BASED ON THE TYPE OF SERVICE/LINE.

4000 PSI CONCRETE COLLAR

FINISHED GROUND SURFACE



PROFILE

## UNPAVED AREAS



## TYPICAL VALVE BOX CONCRETE COLLAR

SHEET: 2  
OF: 2

DATE: 01/17/19  
DRAWN: AA

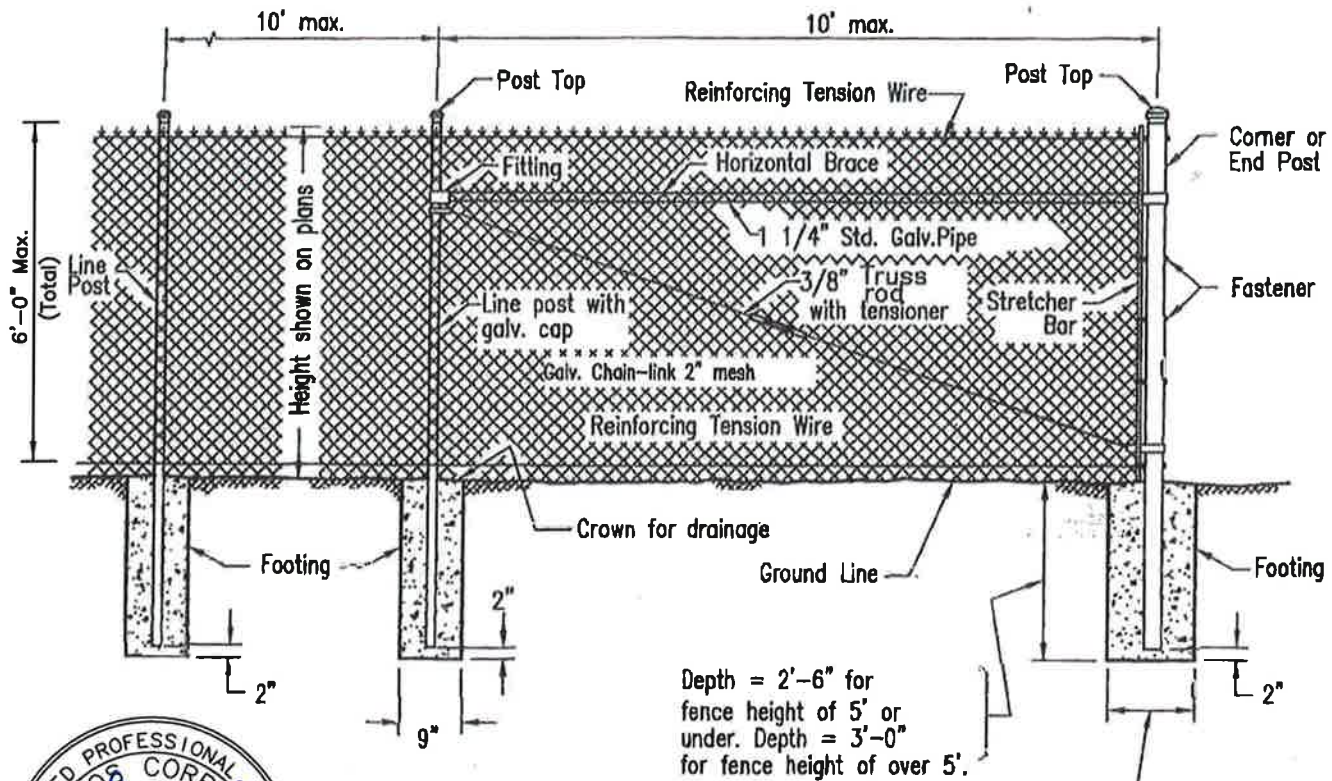
REVIEWED: J.V.

NOT TO SCALE

STD. DET. NO. 508

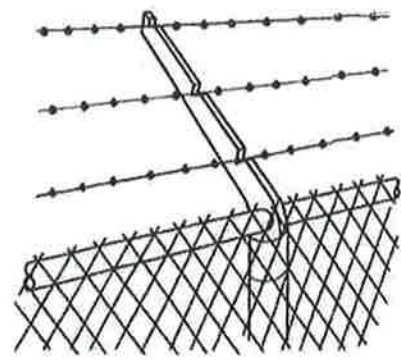
APPROVED: O.M.





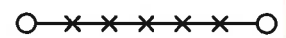
Depth = 2'-6" for fence height of 5' or under. Depth = 3'-0" for fence height of over 5'.

Diameter of footing = 4 times outside diameter of post.



EXTENSION ARM AND BARBED WIRE

LEGEND ON PLANS



**ESPECIAL NOTE:**

1. Extension arms, posts and barb wire exceeding chain link fence total height are not allowed unless prior approval and authorization for variance. City of Imperial Zoning Ordinance Sec. 24.19.400.

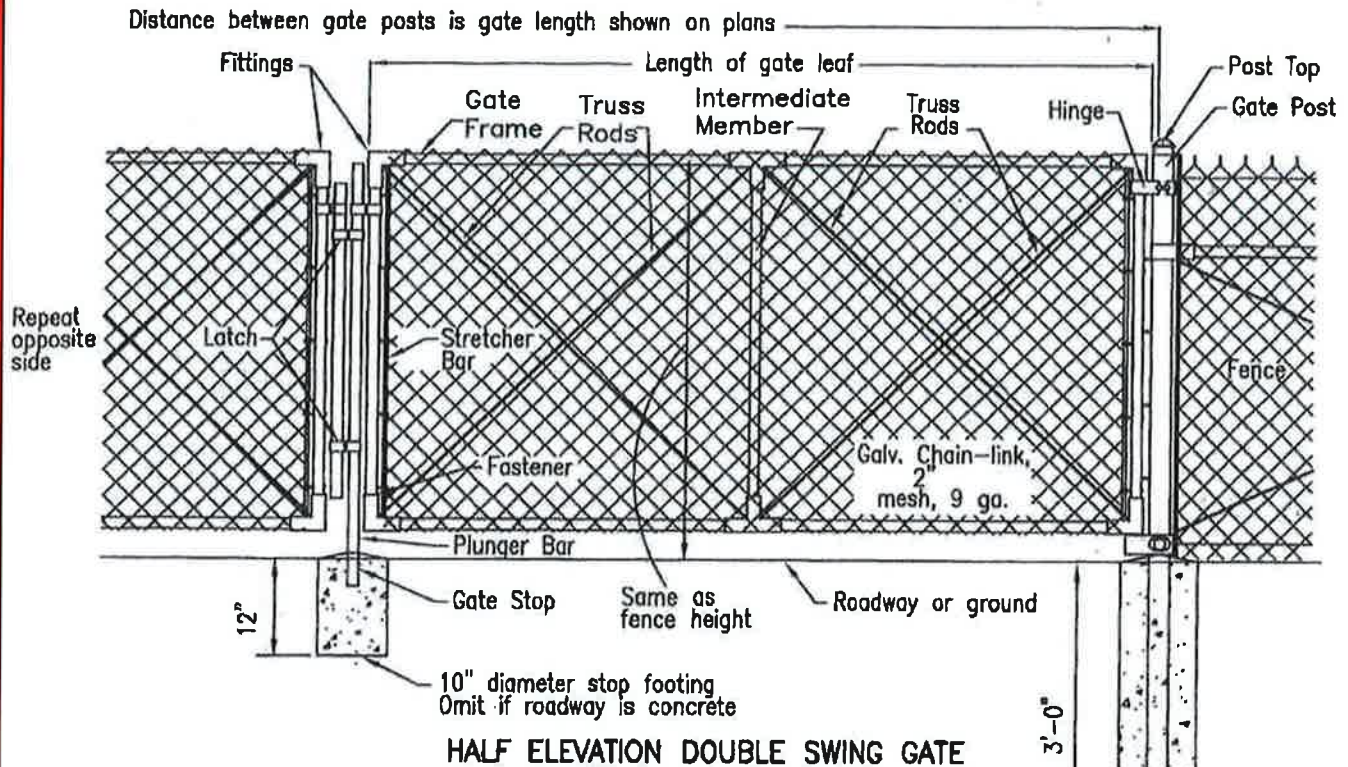
**NOTES**

1. All footings shall be 520-C-2500 concrete.
2. The following items shall be furnished and installed only when shown on the plans and/or called for in the special provisions.
  - a. Barbed Wire
  - b. Extension Arm
  - c. Top Horizontal Rail
3. Chain link fence shall conform to Section 20-6 of the Standard Specifications for Public Works Construction unless specifically noted on this drawing.
4. See Standard Drawing no. 409-Sheet 3 for additional details.



<b>CHAIN LINK FENCE DETAIL</b>		SHEET: <b>1</b>
		OF: <b>3</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 509	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.





HALF ELEVATION DOUBLE SWING GATE

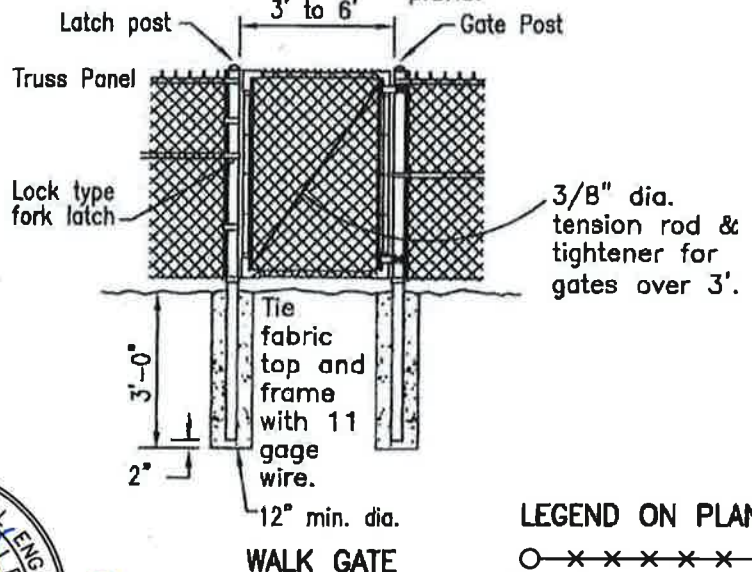
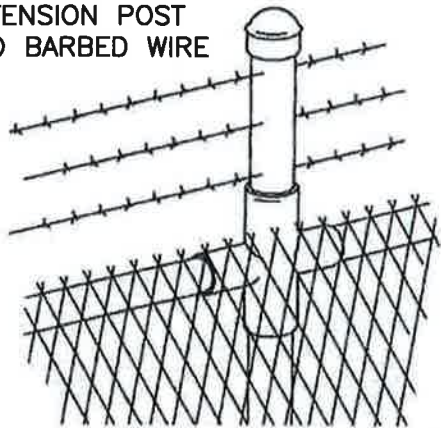
Diameter of footing = 4 times outside diameter of post.

Clear opening shown on plans.

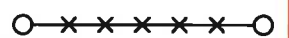
**NOTES**

1. All footings shall be 520-C-2500 concrete.
2. The following items shall be furnished and installed only when shown on the plans and/or called for in the special provisions: a. Barbed wire b. Extension post
3. Chain link fence shall conform to Section 206-6 of the Standard Specification for Public Works Construction unless specifically noted on this drawing.

**EXTENSION POST AND BARBED WIRE**



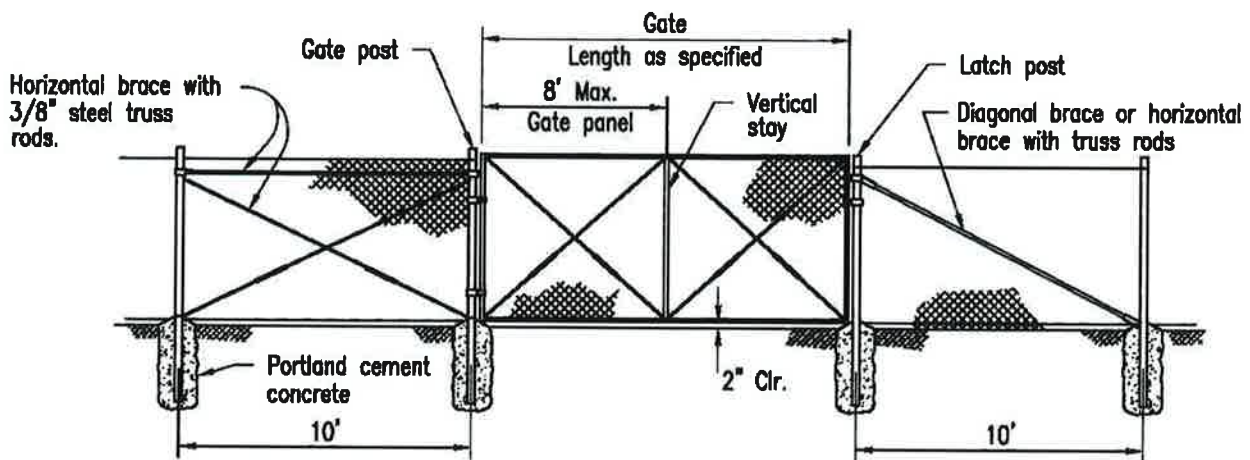
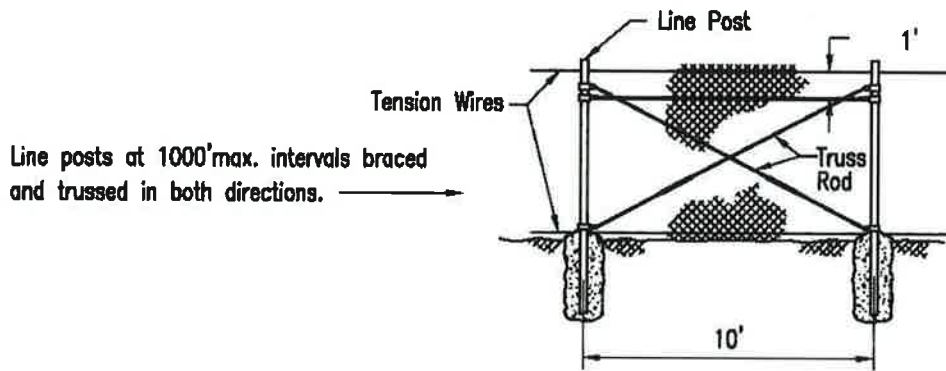
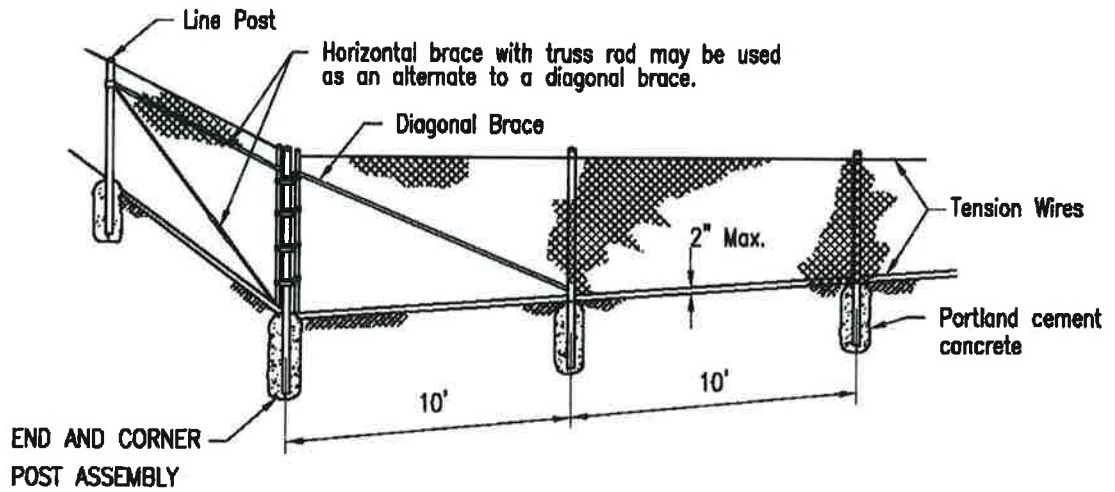
LEGEND ON PLANS



**CHAIN LINK GATE  
DETAIL**

SHEET: **2**  
OF: **3**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 509	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



GATE ASSEMBLY

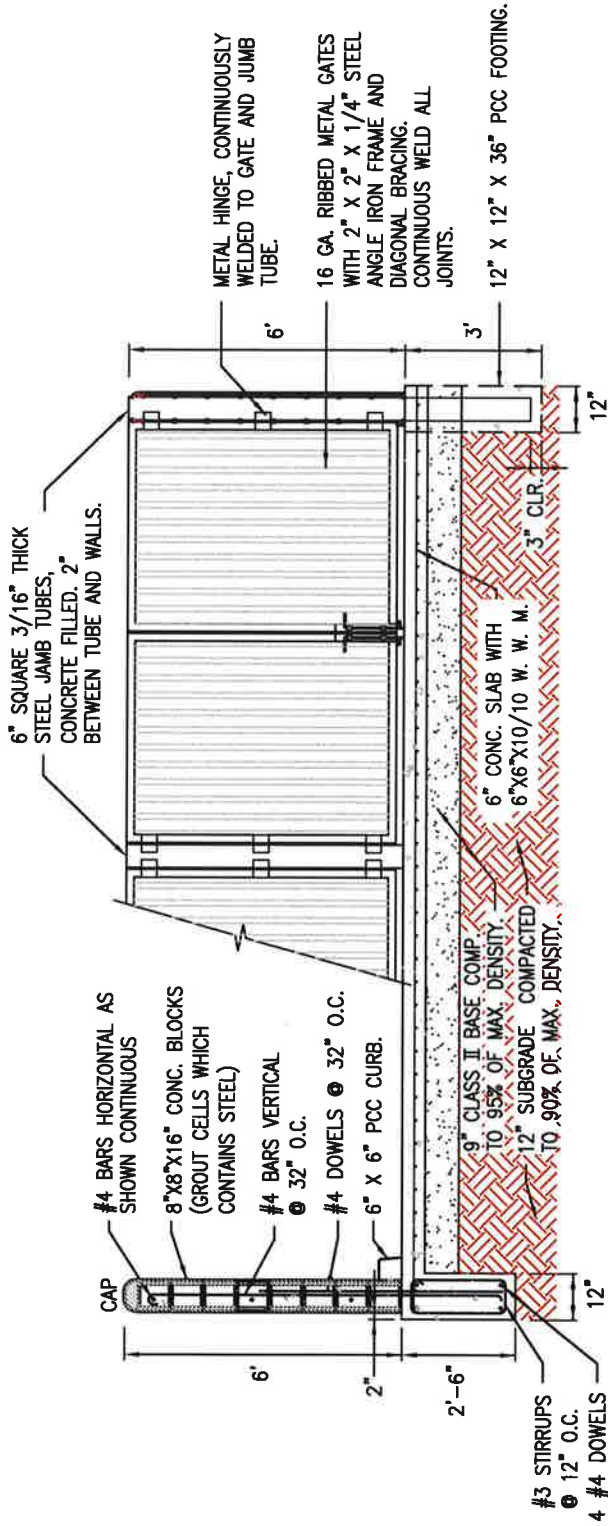
**BRACING AND ASSEMBLY  
DETAILS**

SHEET: **3**  
OF: **3**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA.
STD. DET. NO. 509	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.







## TRASH ENCLOSURE DETAIL

NOT TO SCALE

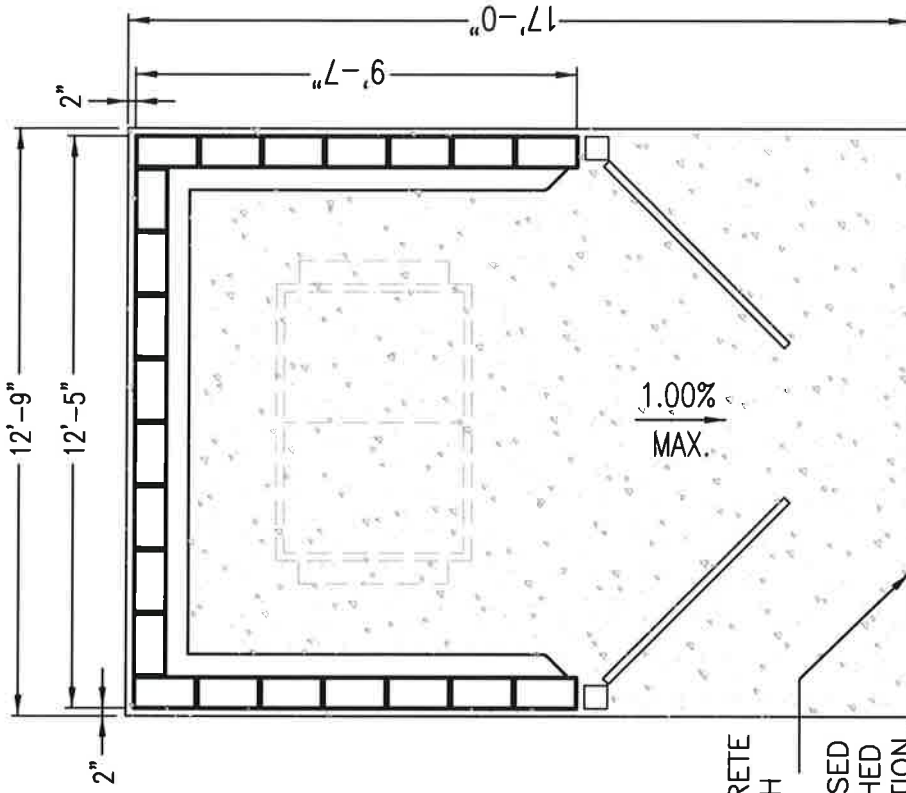


## TRASH ENCLOSURE DETAIL

SHEET: 1  
OF: 6

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: A.A.  
STD. DET. NO. 510 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.

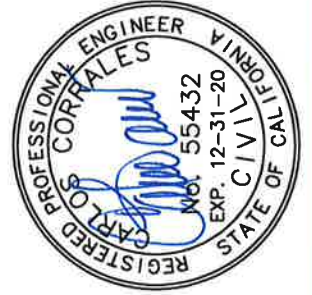




EDGE OF CONCRETE SHALL BE FLUSH WITH EXISTING AND/OR PROPOSED ADJACENT FINISHED SURFACE ELEVATION.

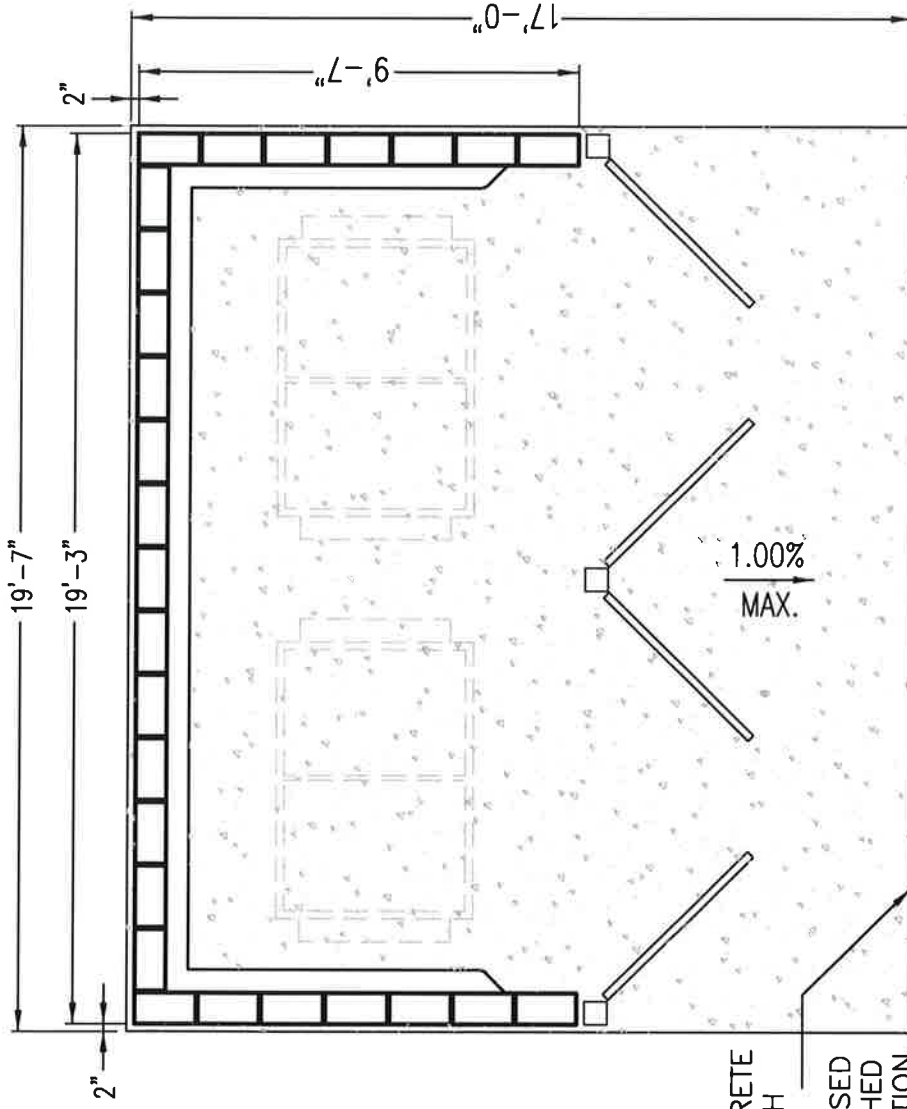
**BASIC ENCLOSURE**

NOT TO SCALE



<b>TRASH ENCLOSURE DETAIL</b>		SHEET: <b>2</b>
		OF: <b>6</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: A.A.
STD. DET. NO. 510	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.





EDGE OF CONCRETE SHALL BE FLUSH WITH EXISTING AND/OR PROPOSED ADJACENT FINISHED SURFACE ELEVATION.

## DOUBLE FEATURE ENCLOSURE

NOT TO SCALE

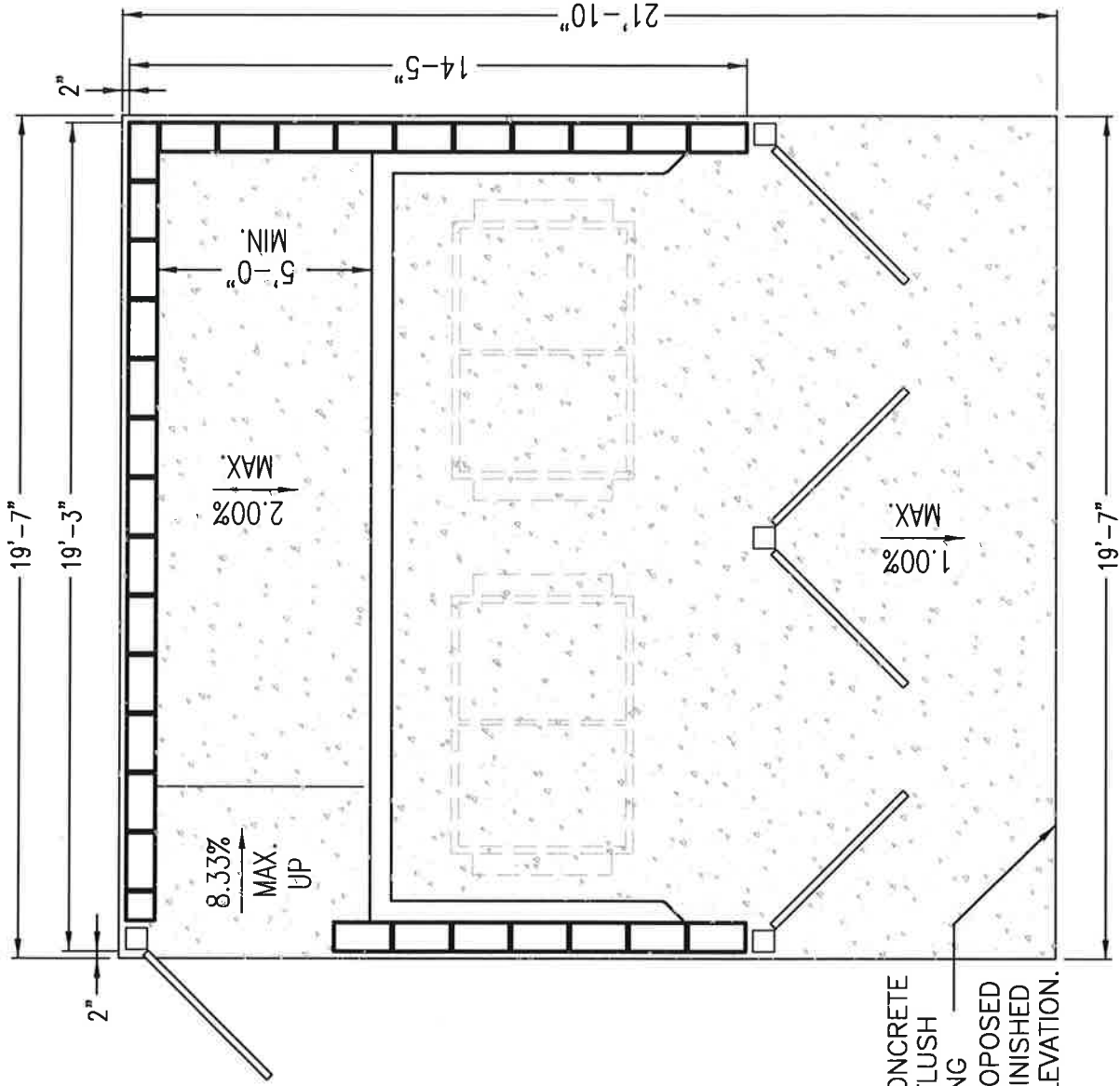


## TRASH ENCLOSURE DETAIL

SHEET: 3  
OF: 6

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: AA.  
STD. DET. NO. 510 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.





EDGE OF CONCRETE SHALL BE FLUSH WITH EXISTING AND/OR PROPOSED ADJACENT FINISHED SURFACE ELEVATION.



## FULL FEATURE ENCLOSURE GATED PEDESTRIAN ENTRANCE

NOT TO SCALE

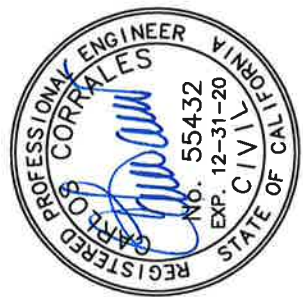
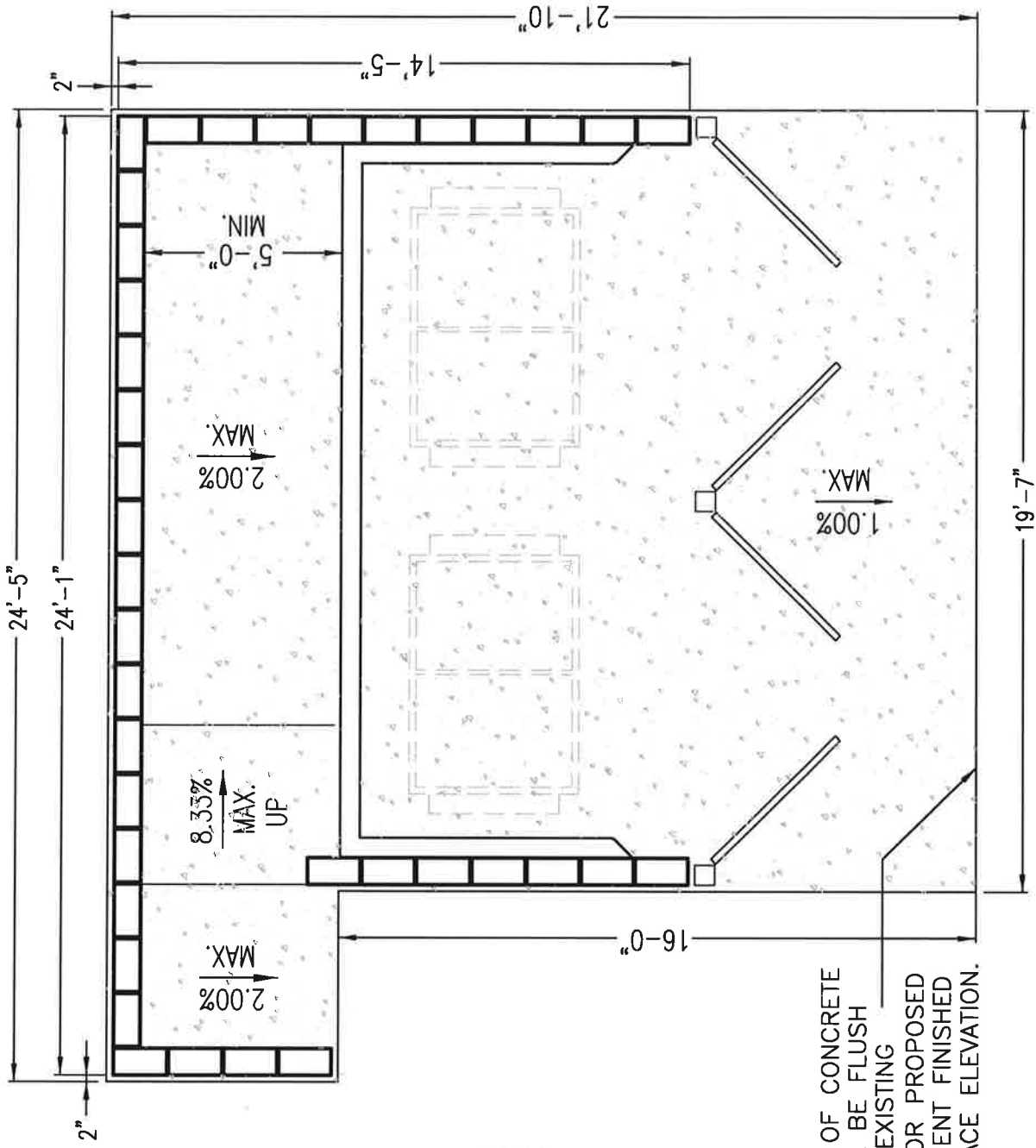
## TRASH ENCLOSURE DETAIL

SHEET: **4**  
OF: **6**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: A.A.  
STD. DET. NO. 510 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.





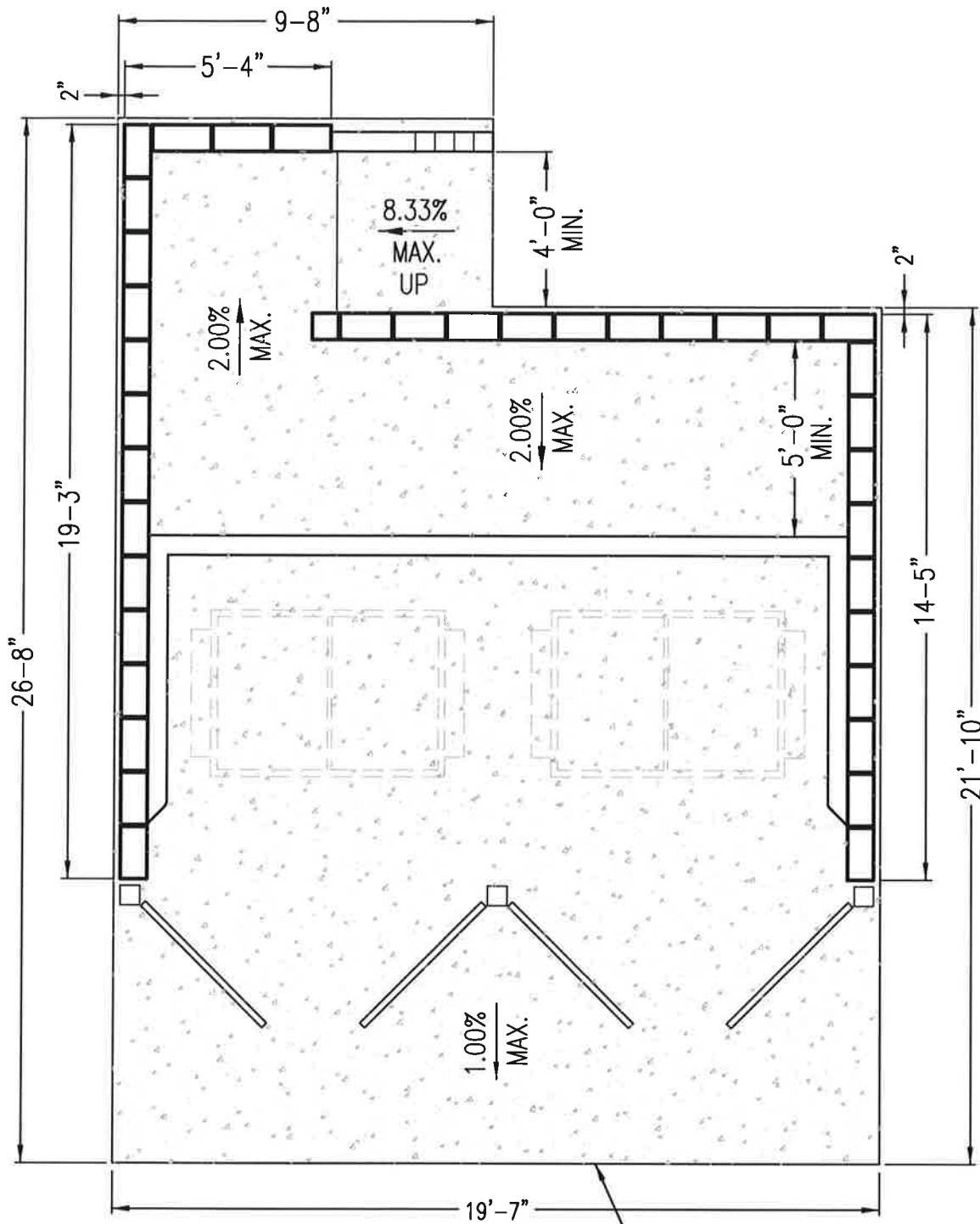


**FULL FEATURE ENCLOSURE  
GATELESS PEDESTRIAN ENTRANCE**  
NOT TO SCALE

**TRASH ENCLOSURE  
DETAIL**

SHEET: **5**  
OF: **6**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: A.A.  
STD. DET. NO. 510 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



EDGE OF CONCRETE SHALL BE FLUSH WITH EXISTING AND/OR PROPOSED ADJACENT FINISHED SURFACE ELEVATION.

## FULL FEATURE ENCLOSURE REAR GATELESS PEDESTRIAN ENTRANCE

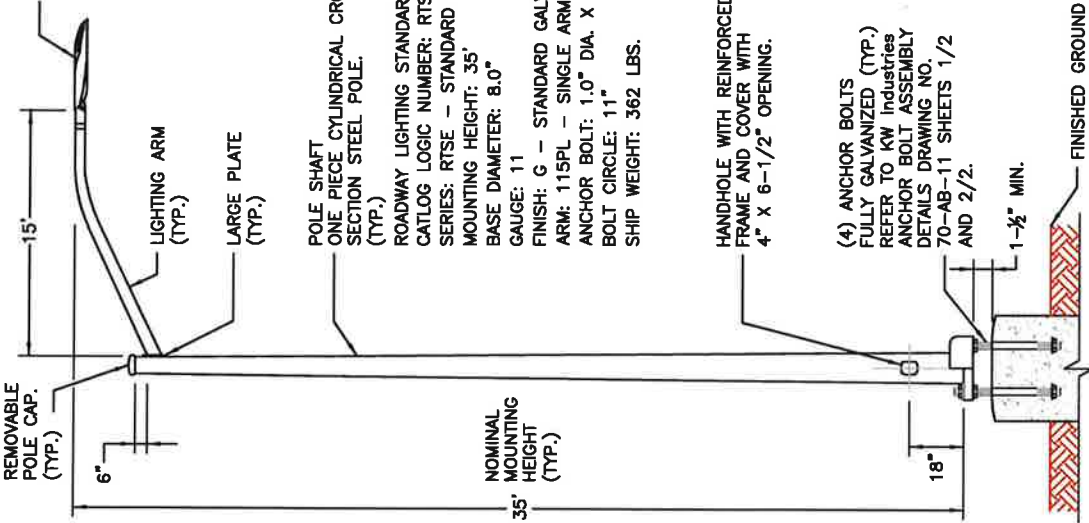
NOT TO SCALE

## TRASH ENCLOSURE DETAIL

SHEET: 6  
OF: 6

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: A.A.  
STD. DET. NO. 510 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



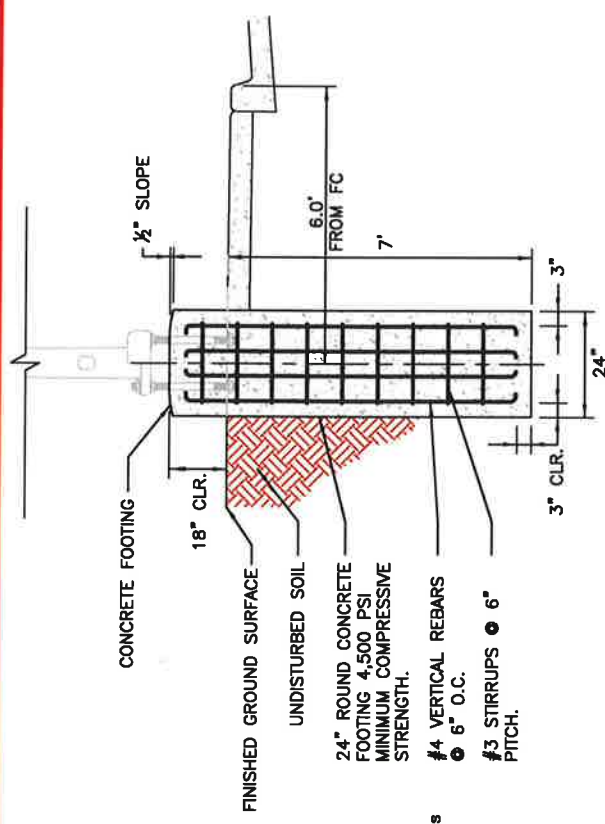


XSP SERIES LED STREET LIGHT WITH LED RATED PHOTOCELL (BY OTHERS) - IP66 DOUBLE MODULE HORIZONTAL/VERTICAL TENON MOUNT - TYPE II SHORT, BY CREE CATALOG LOGIC NUMBER:  
 150W HPS = BXSPCHT3MEE40K-ULSVNQ7 (92W 7900 Lumens) FOR INSTALLATION ALONG STREET.  
 250W HSP = BXSPCHT3MEF40K-ULSVNQ9 (139W) FOR INSTALLATION AT ALL INTERSECTIONS.

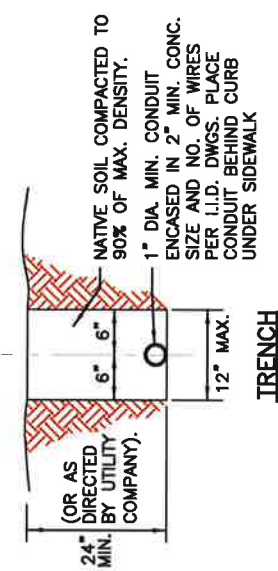
ROADWAY LIGHTING STANDAR WITH TAPERED UPSWEEP ARM, By KW Industries  
 CATALOG LOGIC NUMBER: RTSE35-8.0-11-G-115PL  
 SERIES: RTSE - STANDARD WITH TAPERED UPSWEEP LUMINARIE ARM  
 MOUNTING HEIGHT: 35'  
 BASE DIAMETER: 8.0"  
 GAUGE: 11  
 FINISH: G - STANDARD GALVANIZED  
 ARM: 115PL - SINGLE ARM LUMINARIE  
 ANCHOR BOLT: 1.0" DIA. X 40"  
 BOLT CIRCLE: 11"  
 SHIP WEIGHT: 362 LBS.

(4) ANCHOR BOLTS FULLY GALVANIZED (TYP.) REFER TO KW Industries ANCHOR BOLT ASSEMBLY DETAILS DRAWING NO. 70-AB-11 SHEETS 1/2 AND 2/2.  
 1-1/2" MIN.  
 FINISHED GROUND SURFACE.

**ELEVATION**



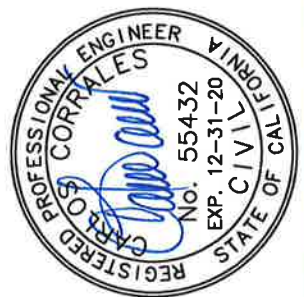
**FOUNDATION**



**TRENCH**

CONDUIT SIZE AS REQUIRED (1" MIN.) SEE TRENCH DETAIL  
 #4 BARE SINGLE STRAND CONDUIT WIRE (MECH.GRD. TO POLE) EXTEND 18" ABOVE FOUNDATION.

NOTE: INSTALL MIDWET FUSE HOLDER AND SLOW BLOW 6.0 AMP. FUSE ON EACH UNDERGROUND CONDUCTOR.

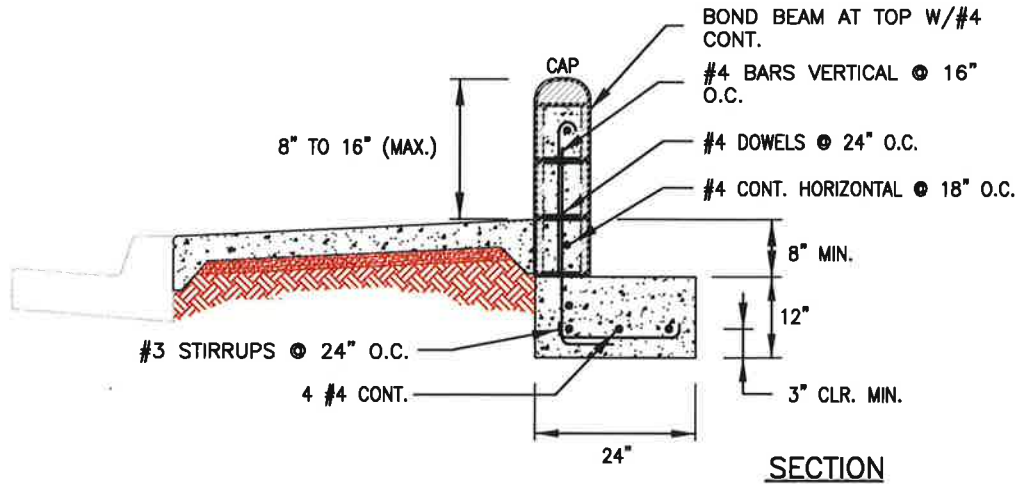


**STREET LIGHT DETAIL**

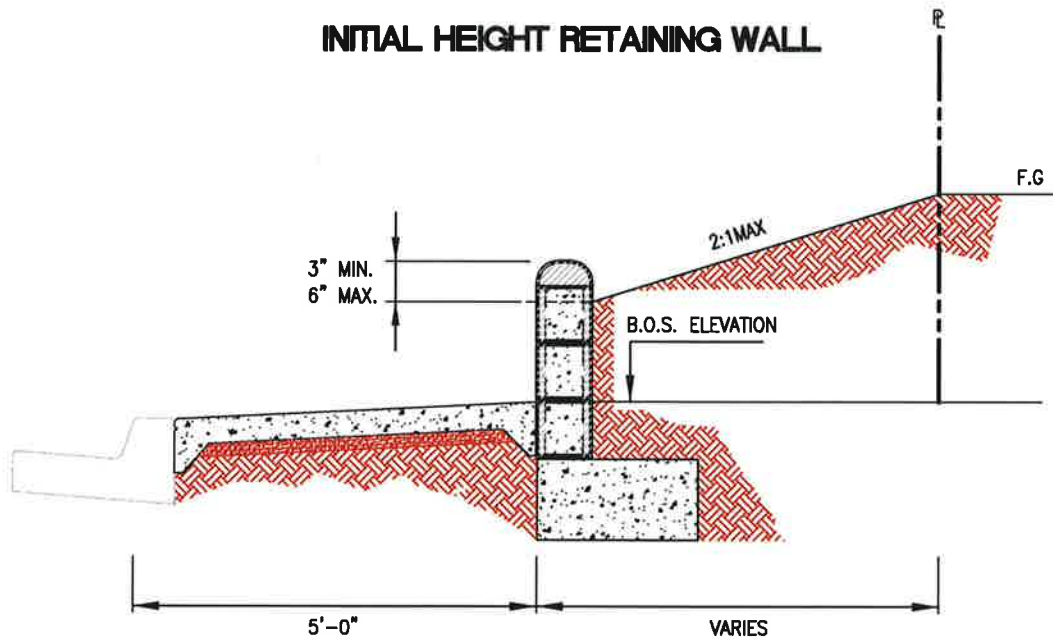
SHEET: **1**  
 OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 01/17/19 DRAWN: AA.  
 STD. DET. NO. 511 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.





**INITIAL HEIGHT RETAINING WALL**



**NOTES:**

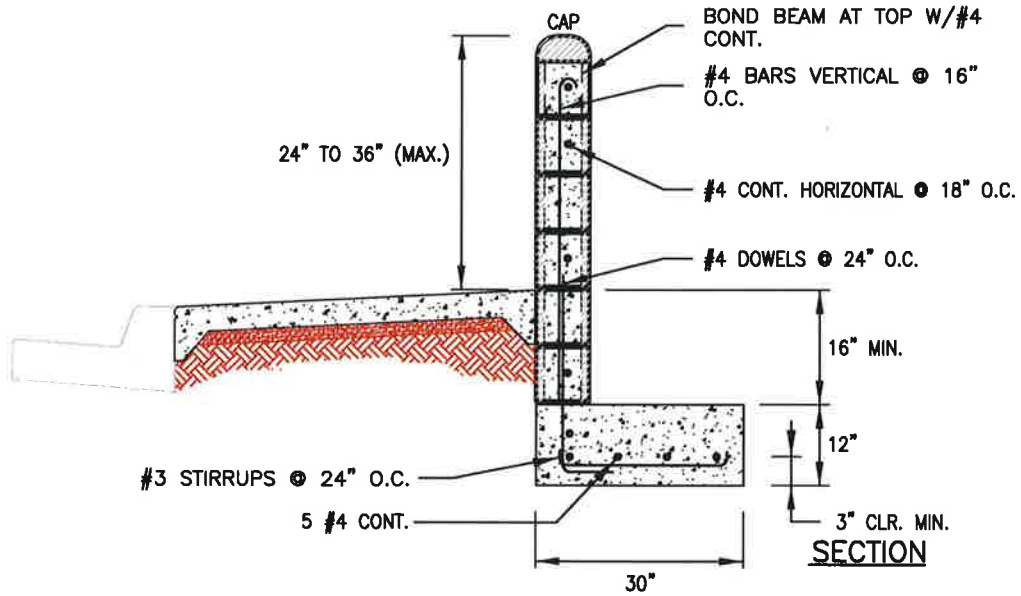
1. 8"x8"x16" CONC. BLOCK WALL (SOLID GROUT).
2. INSTALL BLOCK WALL IN 8" INCREMENTS.
3. ALL OTHER CONDITIONS DIFFERING OR EXCEEDING THIS STANDARD DETAIL WILL REQUIRE ENGINEERING CALCULATIONS AND WILL BE SUBJECT TO REVIEW AND APPROVAL.
4. APPLY ONE COAT OF HENRY 107 ASPHALT EMULSION SEALER (OR APP. EQ.) TO ALL SURFACE IN CONTACT WITH SOIL.



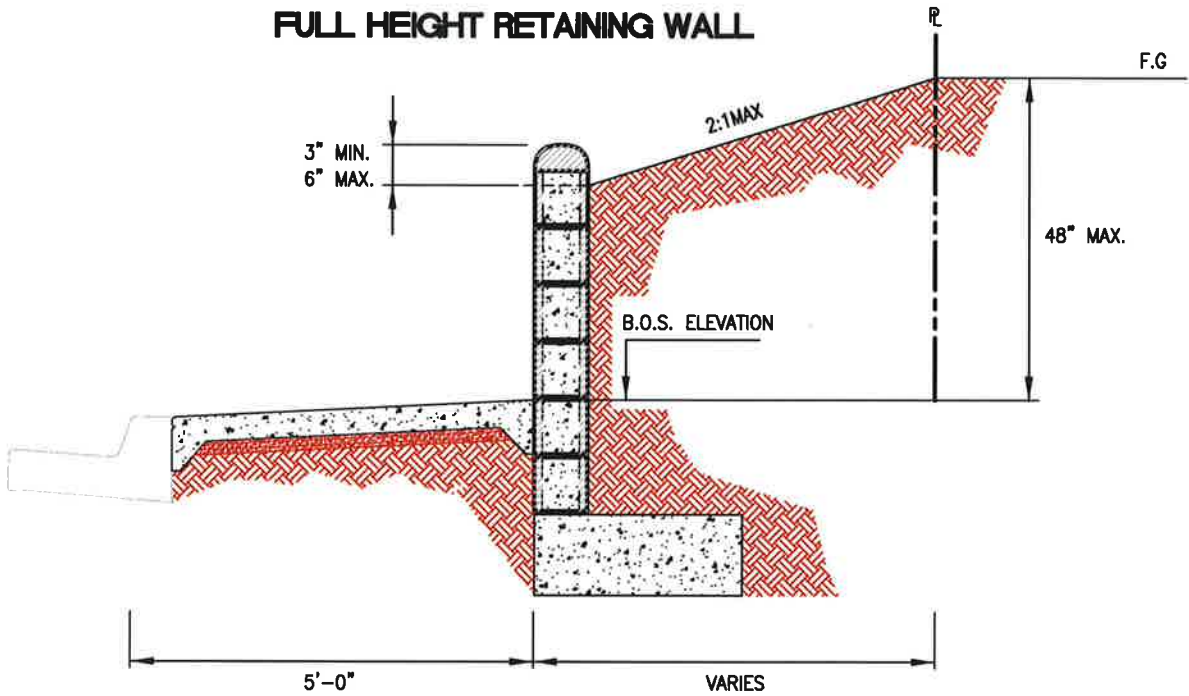
**MASONRY RETAINING WALL DETAIL**

SHEET: **1**  
 OF: **2**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 501	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



**FULL HEIGHT RETAINING WALL**



**NOTES:**

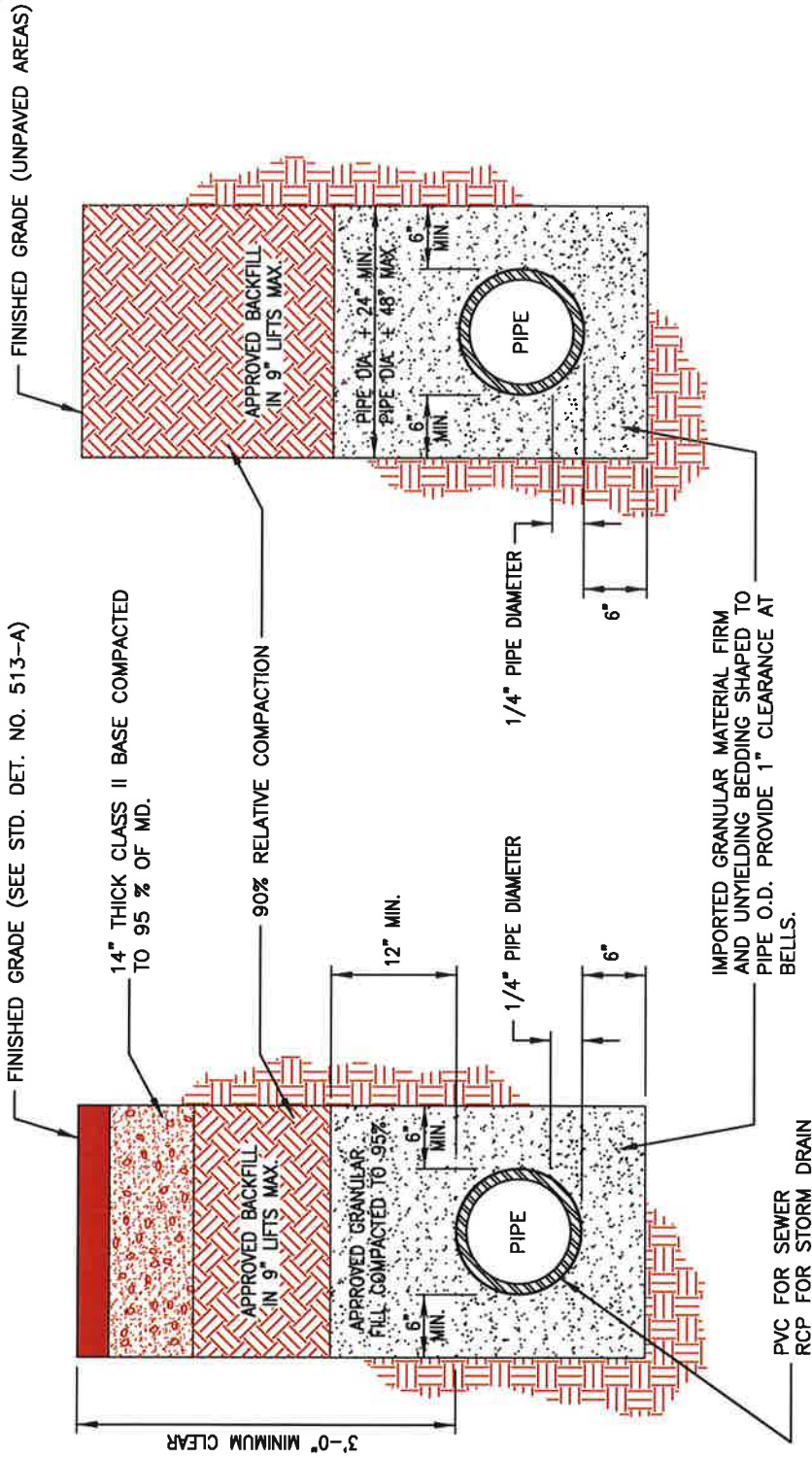
1. 8"x8"x16" CONC. BLOCK WALL (SOLID GROUT).
2. INSTALL BLOCK WALL IN 8" INCREMENTS.
3. ALL OTHER CONDITIONS DIFFERING OR EXCEEDING THIS STANDARD DETAIL WILL REQUIRE ENGINEERING CALCULATIONS AND WILL BE SUBJECT TO REVIEW AND APPROVAL.
4. APPLY ONE COAT OF HENRY 107 ASPHALT EMULSION SEALER (OR APP. EQ.) TO ALL SURFACE IN CONTACT WITH SOIL.



**MASONRY RETAINING WALL DETAIL**

SHEET: **2**  
OF: **2**

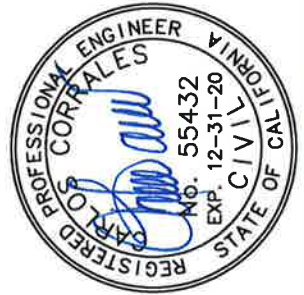
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 01/17/19	DRAWN: AA
STD. DET. NO. 501	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



**NOTES:**

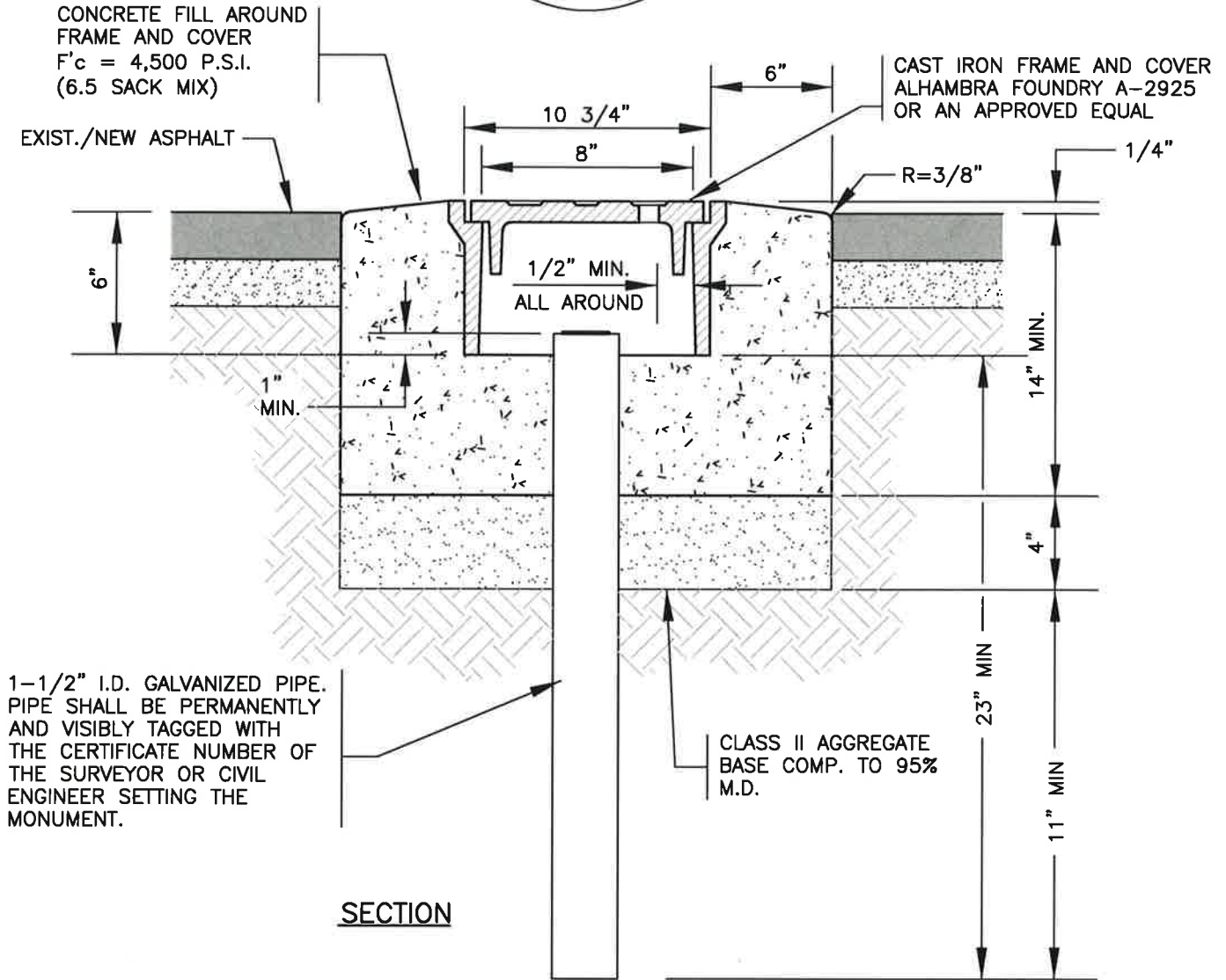
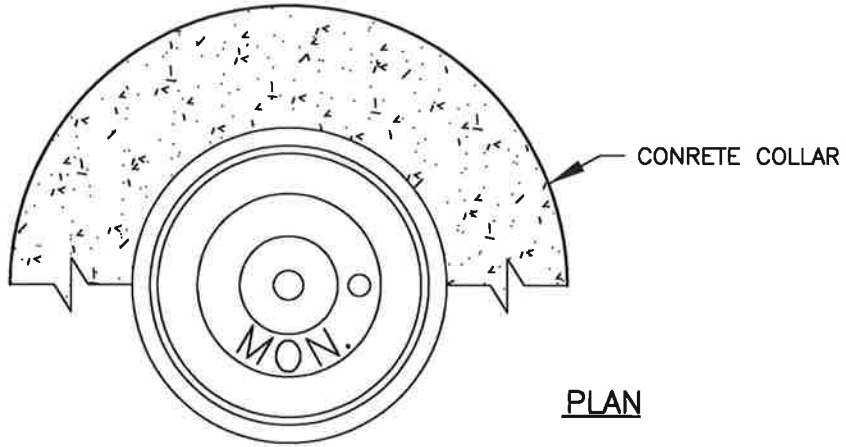
- 1.- FOR TRENCH RESURFACING ON IMPROVED STREETS SEE CITY OF IMPERIAL STANDARD DETAIL NO. 514.
- 2.- PIPE BEDDING AND APPROVED BACKFILL MATERIAL SHALL BE AS DETERMINED BY THE ENGINEERING DIVISION AND THE PUBLIC SERVICES DEPARTMENT AND IS SUBJECT TO MODIFICATION AND APPROVAL BY THE COMMUNITY DEVELOPMENT DIRECTOR.
- 3.- WHERE AN APPROVED GEOGRID OR FABRIC EXISTS IN THE BASE OR ASPHALT MATERIAL, A MINIMUM OVERLAP OF 1 FOOT SHALL BE MADE OR ALTERNATELY FULL TRENCH BACKFILL RESTORATION USING EITHER A 2 SACK CEMENT SLURRY OR CLASS 2 AGGREGATE BASE MATERIAL SHALL BE REQUIRED.

**PROFILE**



<b>UTILITY TRENCH DETAIL</b>		SHEET: <b>1</b>
		OF: <b>1</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: A.A.
STD. DET. NO. 513	NOT TO SCALE	REVIEWED: J.V.
		APPROVED: O.M.

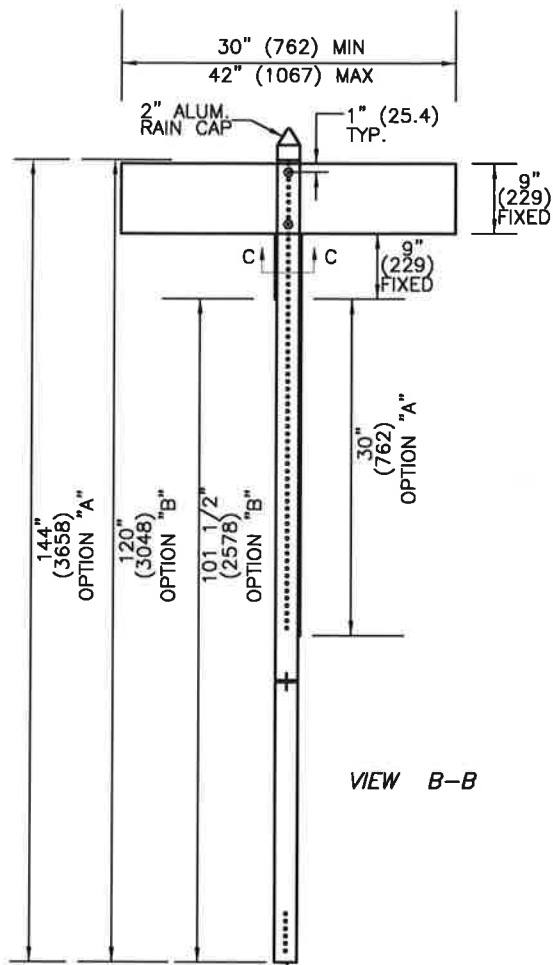




**MONUMENT WELL  
DETAIL**

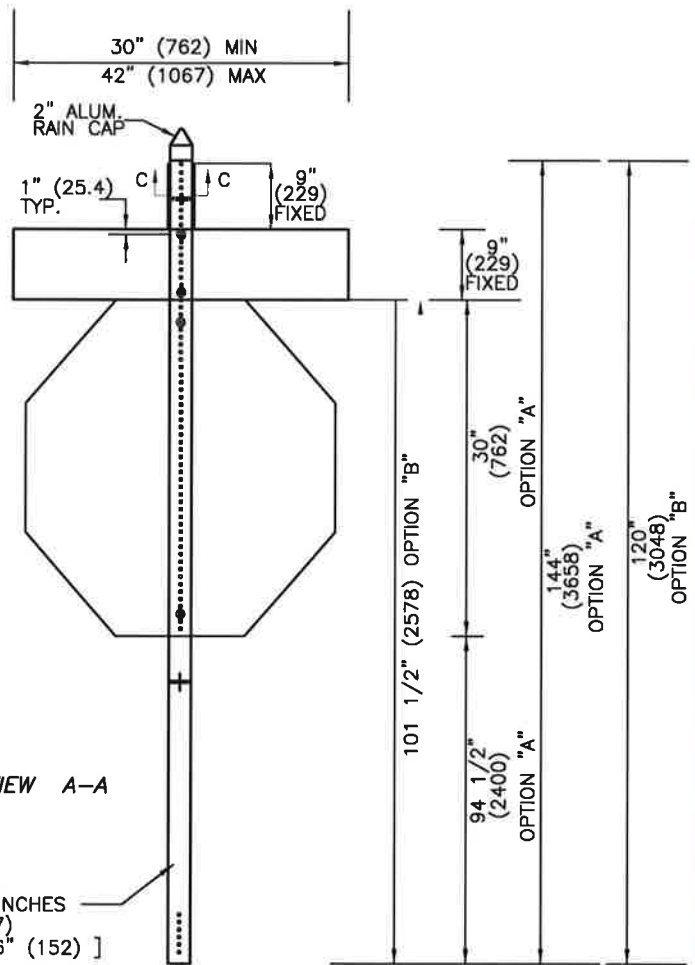
SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA.
STD. DET. NO. 515	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.



VIEW B-B

OPTION "A"  
 2"x2"x12 GA. (51X51X2.66)  
 STEEL TUBE WITH SELECTED PUNCHES  
 (4 SIDES PUNCH TOP 48" (1219)  
 AND 4 SIDES PUNCH BOTTOM 6" (152) )



VIEW A-A

OPTION "B"  
 2"x2"x12 GA. (51X51X2.66)  
 STEEL TUBE WITH SELECTED PUNCHES  
 [4 SIDES PUNCH TOP 18" (457)  
 AND 4 SIDES PUNCH BOTTOM 6" (152) ]



## STREET SIGN INSTALLATION DETAIL

SHEET: **1**  
 OF: **2**

IN THE CITY OF IMPERIAL, CALIFORNIA

DATE: 08/27/19

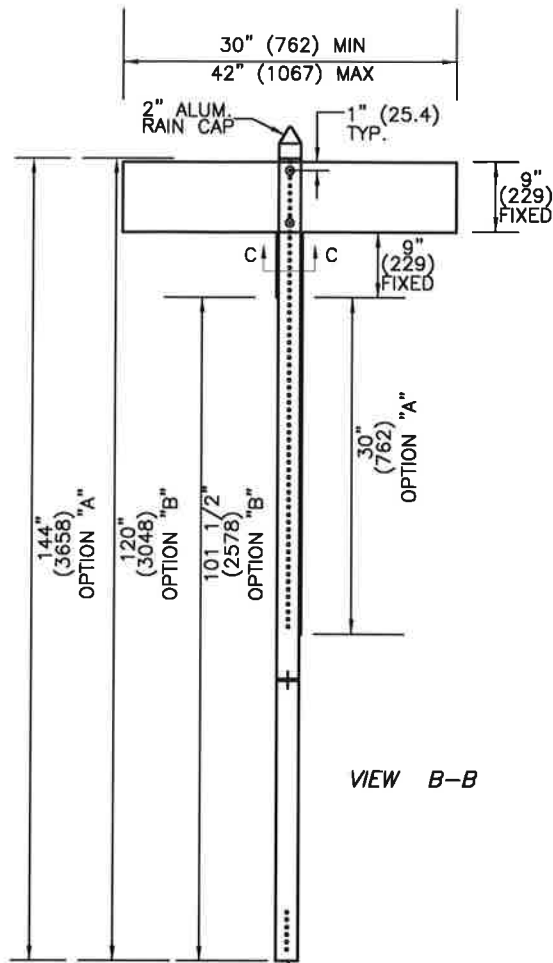
DRAWN: AA

STD. DET. NO. 516

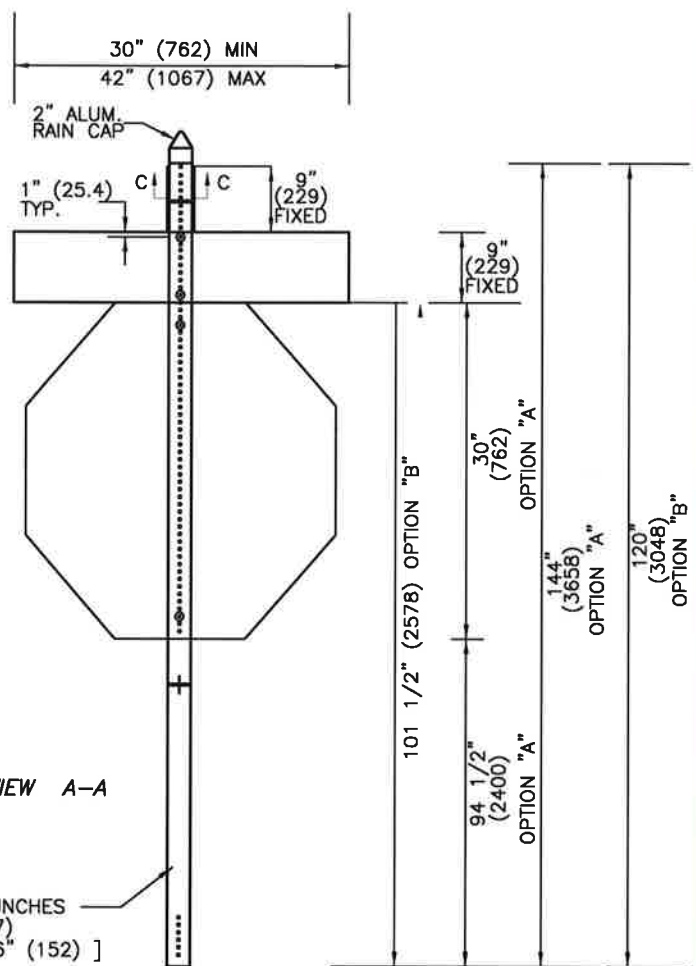
NOT TO SCALE

REVIEWED: J.V.

APPROVED: O.M.



OPTION "A"  
 2"x2"x12 GA. (51X51X2.66)  
 STEEL TUBE WITH SELECTED PUNCHES  
 (4 SIDES PUNCH TOP 48" (1219)  
 AND 4 SIDES PUNCH BOTTOM 6" (152) )

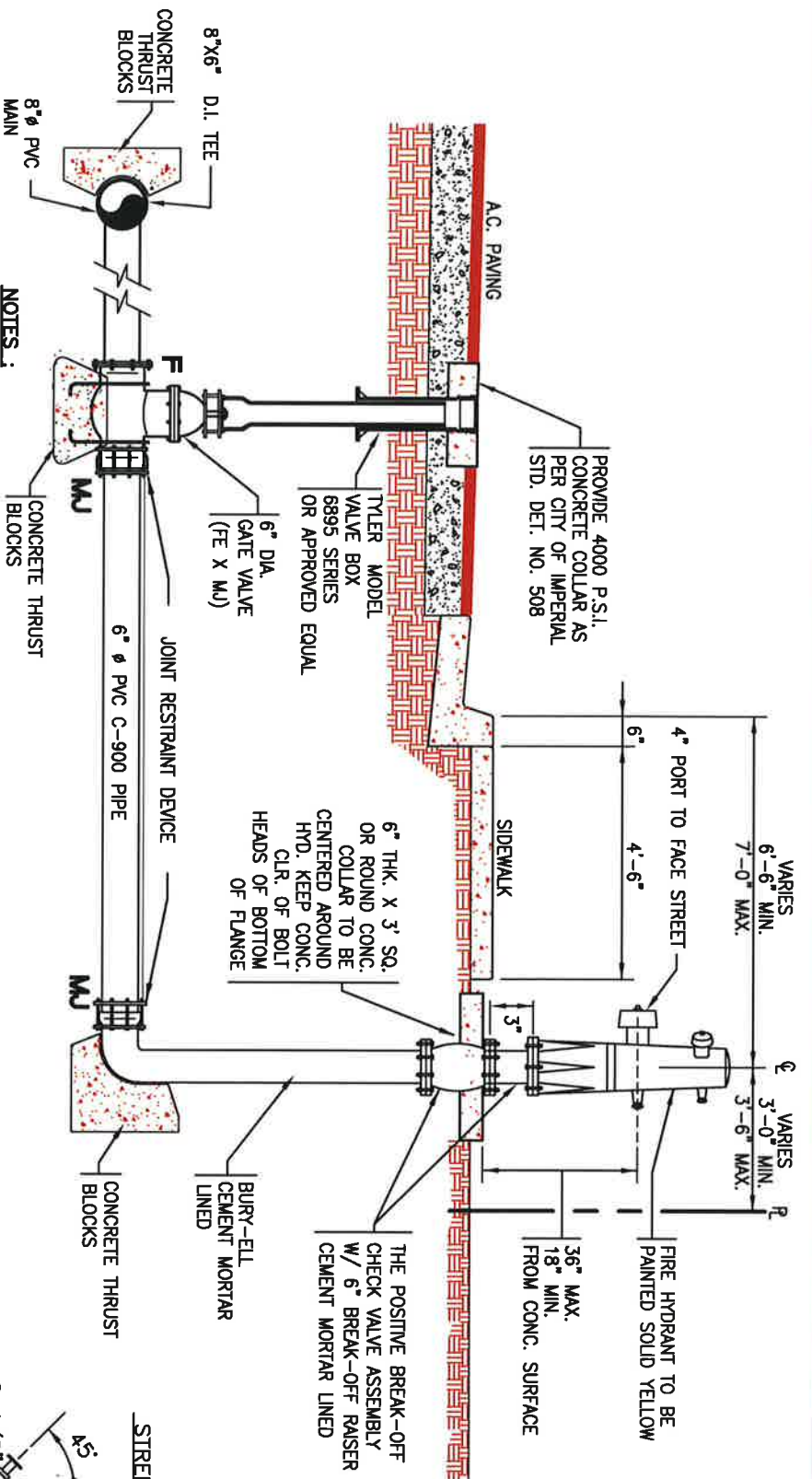


OPTION "B"  
 2"x2"x12 GA. (51X51X2.66)  
 STEEL TUBE WITH SELECTED PUNCHES  
 [ 4 SIDES PUNCH TOP 18" (457)  
 AND 4 SIDES PUNCH BOTTOM 6" (152) ]

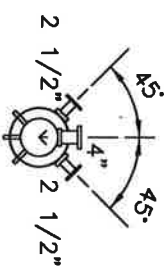


<b>STREET SIGN INSTALLATION DETAIL</b>		SHEET: <b>1</b>
		OF: <b>2</b>
IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 08/27/19	DRAWN: AA
STD. DET. NO. 516	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.





- NOTES:**
1. NO VERTICAL OBJECTS WITHIN 6 FEET OF FIRE HYDRANT
  2. FIRE HYDRANT: 1 - 4" & 2 - 2-1/2" JAMES JONES MODEL J-3765 OR APPROVED EQUAL
  3. ALL BOLTS AT FLANGE/FLANGE CONNECTIONS SHALL BE STAINLESS STEEL
  4. HYDRANT TRENCH BACKFILL SHALL BE TESTED FOR DENSITY NO LESS THAN ONCE EACH HYDRANT
  5. TRACER WIRE 12 GA INSULATED, INSTALLED ON TOP OF PIPE, AND BROUGHT UP TO FIRE HYDRANT
  6. INSTALL RETROREFLECTIVE BLUE RAISED MARKER 1" MIN. TO 2" MAX. OFFSET FROM STREET CENTERLINE PERPENDICULARLY ALIGNED WITH FIRE HYDRANT.



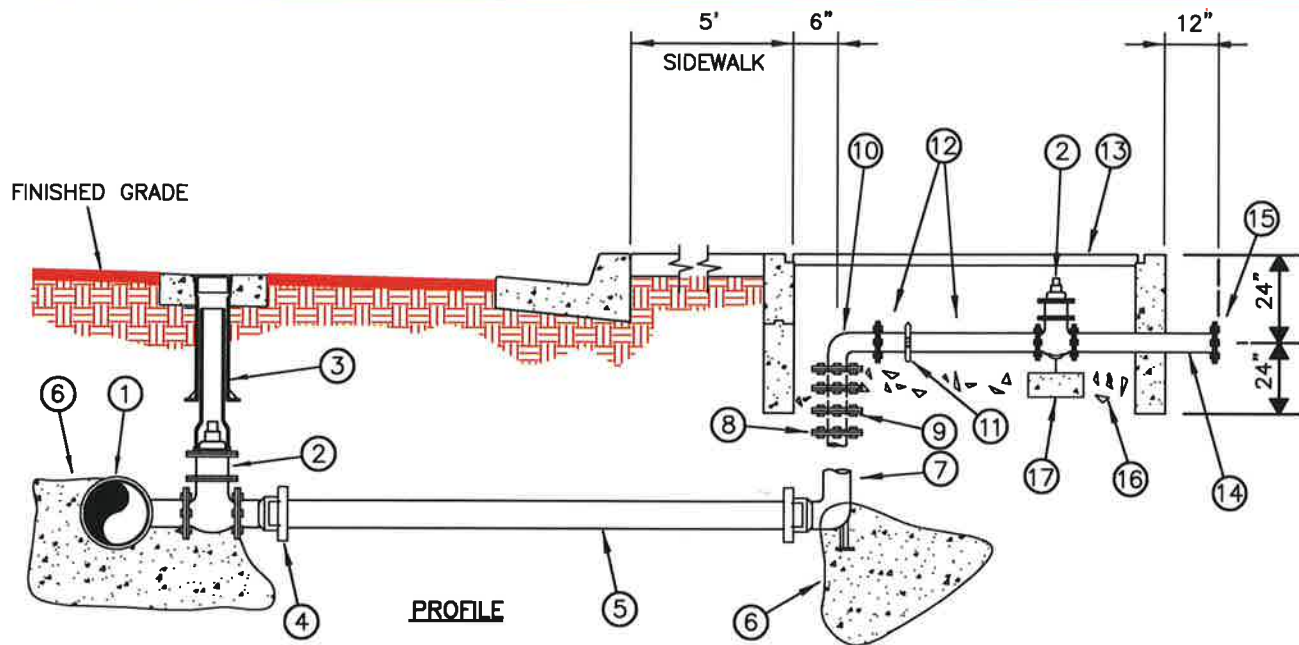
**PLAN VIEW**



**FIRE HYDRANT ASSEMBLY  
INSTALLATION DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA DATE: 10/10/19 DRAWN: A.A.  
STD. DET. NO. 700 NOT TO SCALE REVIEWED: J.V. APPROVED: O.M.



**ITEM # SIZE & DESCRIPTION**

- ① CAST OR DUCTILE IRON TEE.
- ② GATE VALVE – RS FLANGED.
- ③ VALVE BOX INSTALLATION – SEE CITY OF IMPERIAL STD. DETAIL NO. 102.
- ④ ADAPTOR – RINGTITE X FLANGED.
- ⑤ 6" PIPE – CLASS 150, C900 PVC.
- ⑥ CONCRETE THRUST BLOCK
- ⑦ 6" HYDRANT BURY ELL, STANDARD RADIUS
- ⑧ ADAPTOR – 6 TO 8 HOLE CAST IRON
- ⑨ 6" .250" WALL STEEL PIPE CML & C WITH WELDED FLANGES.
- ⑩ ELL – 6"
- ⑪ VICTAULIC COUPLING.
- ⑫ SPOOL 1/4" X 4" LONG (TYP 2 PLACES) (EPOXY LINED & COATED) FLG X VIC.
- ⑬ WATER VAULT – BROOKE PRODUCTS NO. 724 – A OR EQUAL.
- ⑭ SPOOL 1/4" X 2' CONCRETE WALL EPOXY LINED & COATED.
- ⑮ BLIND FLANGE.
- ⑯ 6" BASE OF 3/8" ROCK.
- ⑰ 12" X 12" X 6" THK CONC PAD w/ PIPE SUPPORT.

**NOTE:**

PACK WITH NON – SHRINK GROUT WHERE PIPING PROTRUDES THROUGH VAULT WALL.



**6" FIRE SERVICE  
INSTALLATION DETAIL**

SHEET: **1**  
OF: **1**

IN THE CITY OF IMPERIAL, CALIFORNIA	DATE: 10/10/19	DRAWN: AA
STD. DET. NO. 701	NOT TO SCALE	REVIEWED: J.V. APPROVED: O.M.