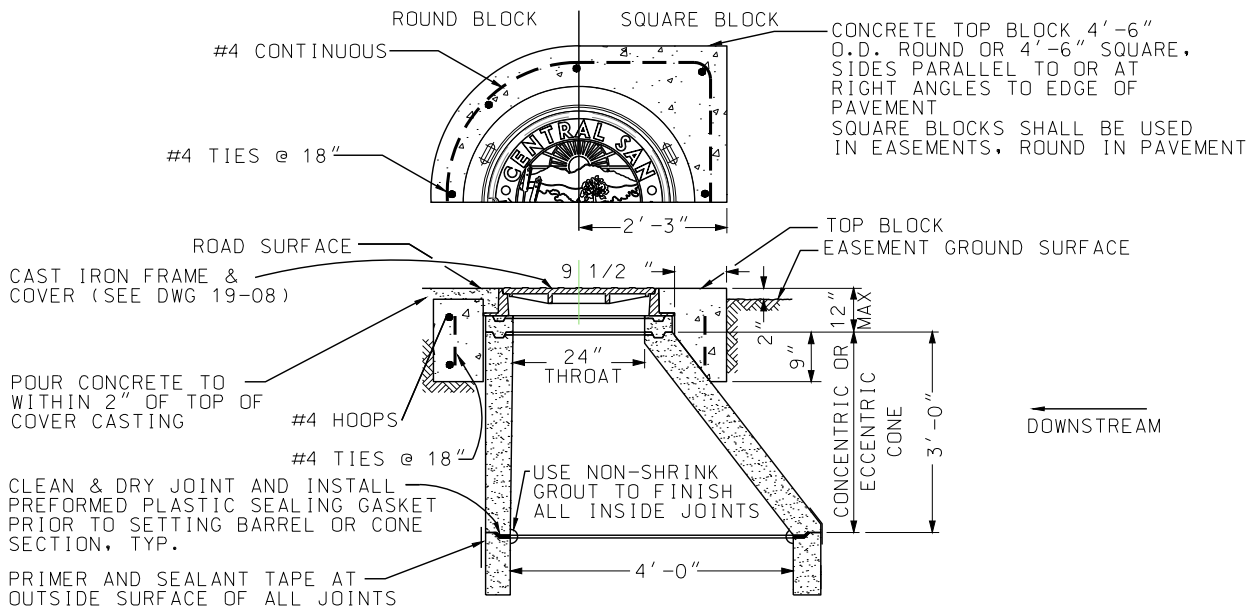


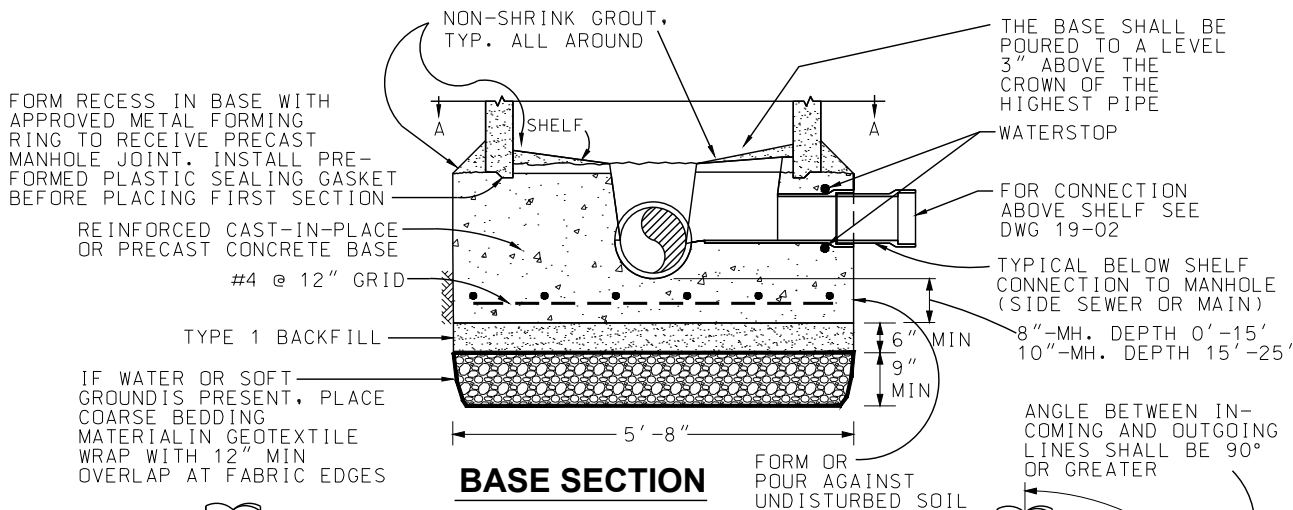
# Part VII. Standard Drawings

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

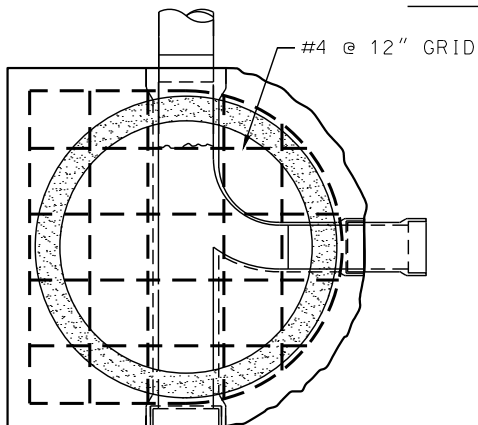
## STANDARD MAIN MANHOLE



**UPPER MANHOLE SECTION**



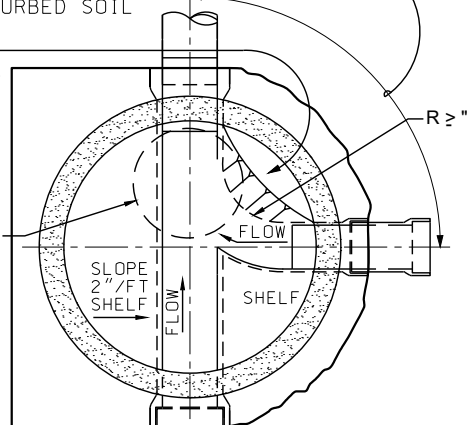
**BASE SECTION**



**BASE REINF. DETAIL**  
(CAST-IN-PLACE)

SCULPT INSIDE OF BEND TO FACILITATE ROUTING CLEANING EQUIPMENT THROUGH BEND.

TYPICAL ECCENTRIC CONE ORIENTATION



**BASE SECTION A-A**

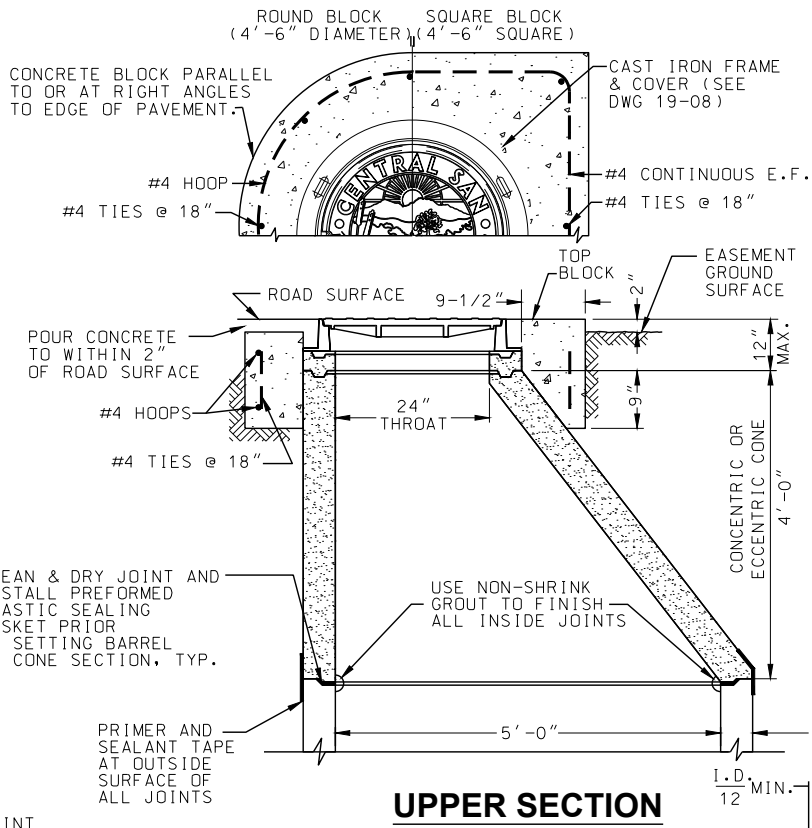
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## STANDARD TRUNK MANHOLE

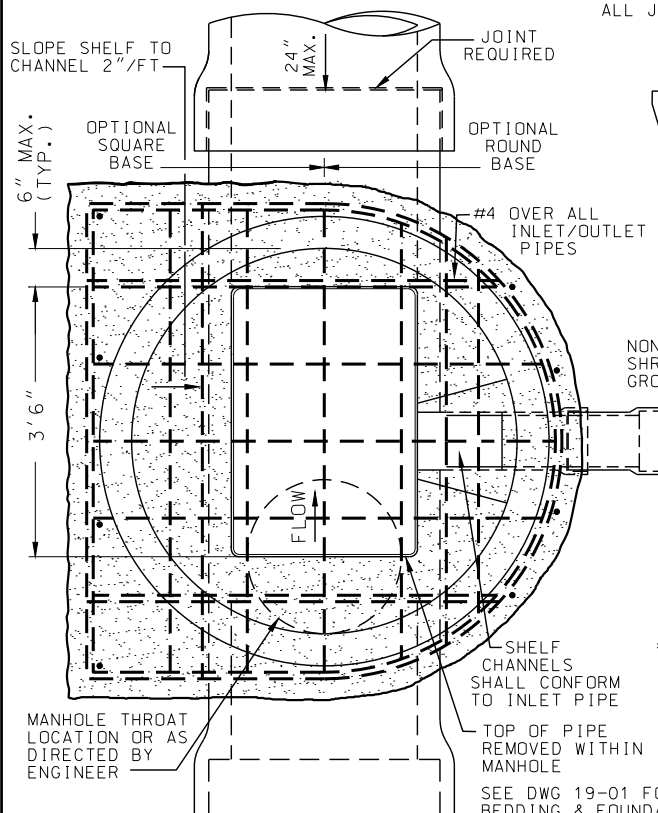
**FOR 15" TO 45" LINES**

**NOTES:**

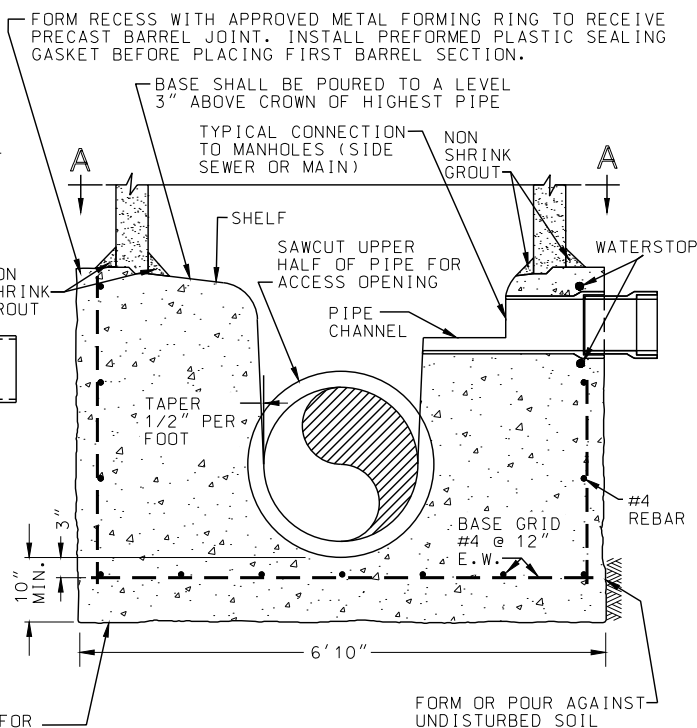
1. LAY PIPE THRU MH WHEN POSSIBLE OR FORM CHANNEL TO MAINTAIN PIPE SECTION. TRUNK SEWER PIPES ENTERING OR LEAVING THE MH BASE SHALL HAVE A STANDARD JOINT LOCATED 12" TO 24" FROM THE BASE.
2. ALL STEEL REINF. SHALL HAVE 3" MINIMUM CONCRETE COVER.
3. SQUARE TOP BLOCKS SHALL BE USED IN EASEMENTS.
4. ROUND TOP BLOCKS SHALL BE USED IN STREETS.
5. FOR CONNECTION OF MAIN OR SIDE SEWERS BELOW SHELF, SEE DWG-1.
6. MUST USE FOR SSMHs GREATER THEN 20' FROM RIM TO LOWEST INVERT ELEVATION OF OUTGOING SEWER PIPE.
7. MAXIMUM DEPTH IS 30' FROM RIM TO LOWEST INVERT ELEVATION OF OUTGOING SEWER PIPE.



**UPPER SECTION**



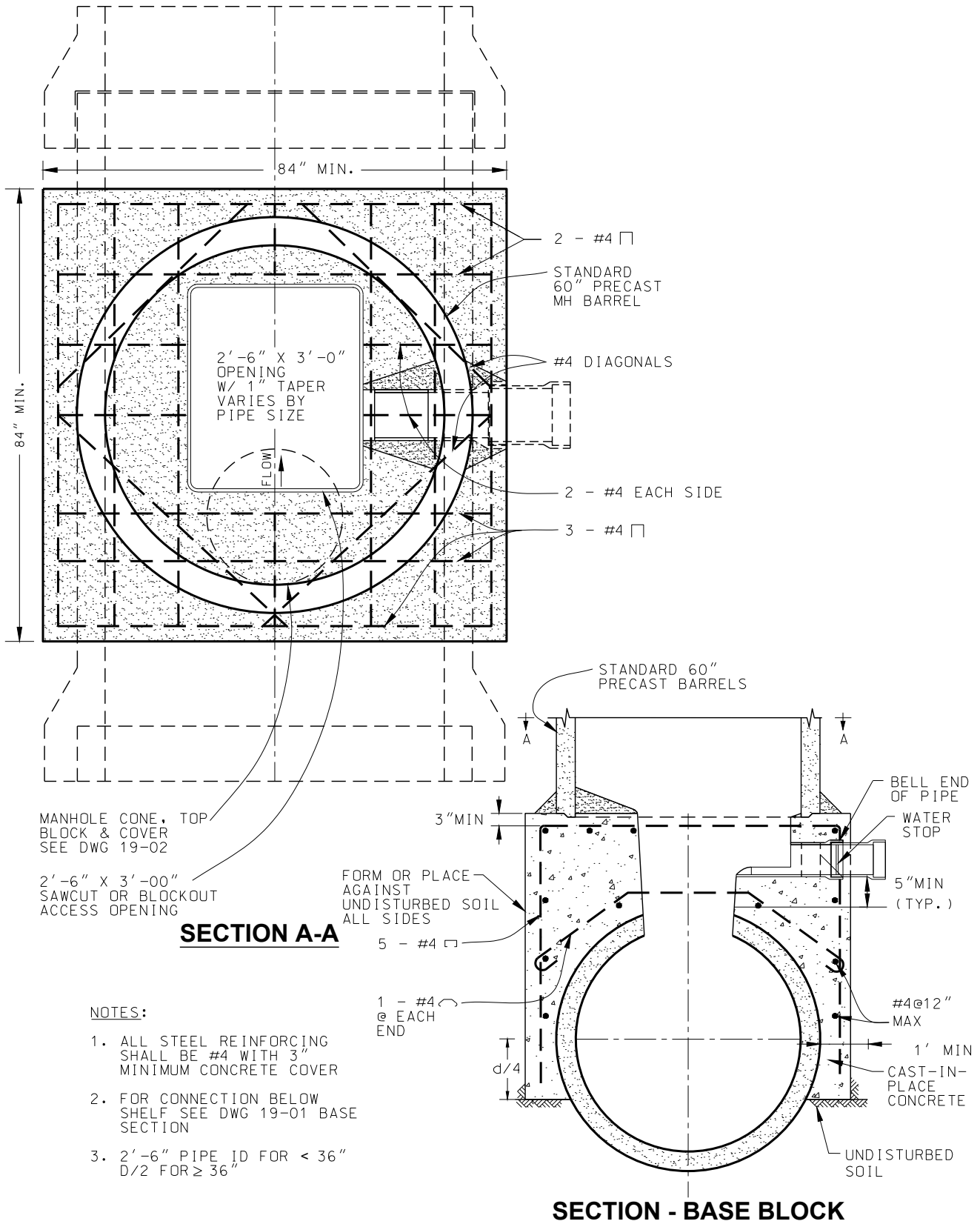
**BASE SECTION A-A**



**BASE SECTION**

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## SPECIAL TRUNK MANHOLE (VARIANCE REQUIRED)



MANHOLE CONE, TOP  
BLOCK & COVER  
SEE DWG 19-02

2'-6" X 3'-0"  
SAWCUT OR BLOCKOUT  
ACCESS OPENING

### SECTION A-A

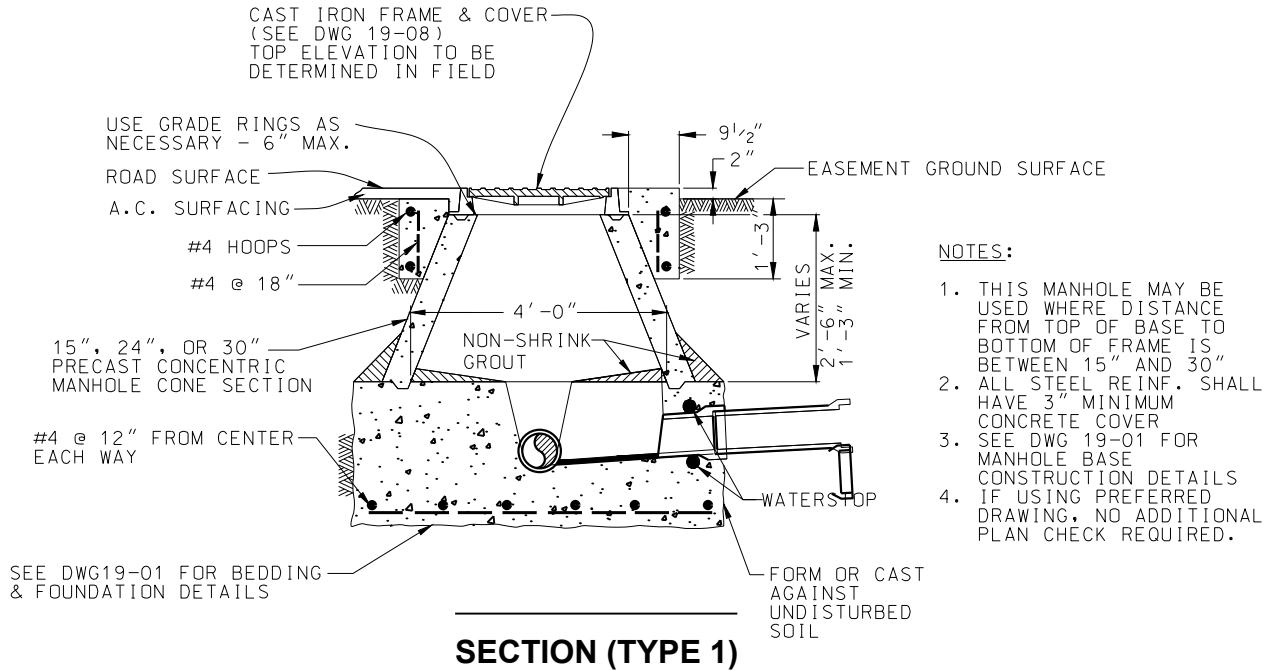
**NOTES:**

1. ALL STEEL REINFORCING SHALL BE #4 WITH 3" MINIMUM CONCRETE COVER
2. FOR CONNECTION BELOW SHELF SEE DWG 19-01 BASE SECTION
3. 2'-6" PIPE ID FOR < 36" D/2 FOR ≥ 36"

18-May-2020 K:\Projects\standardSpecs\sys19-03\_SpecialTrunkManhole.dwg

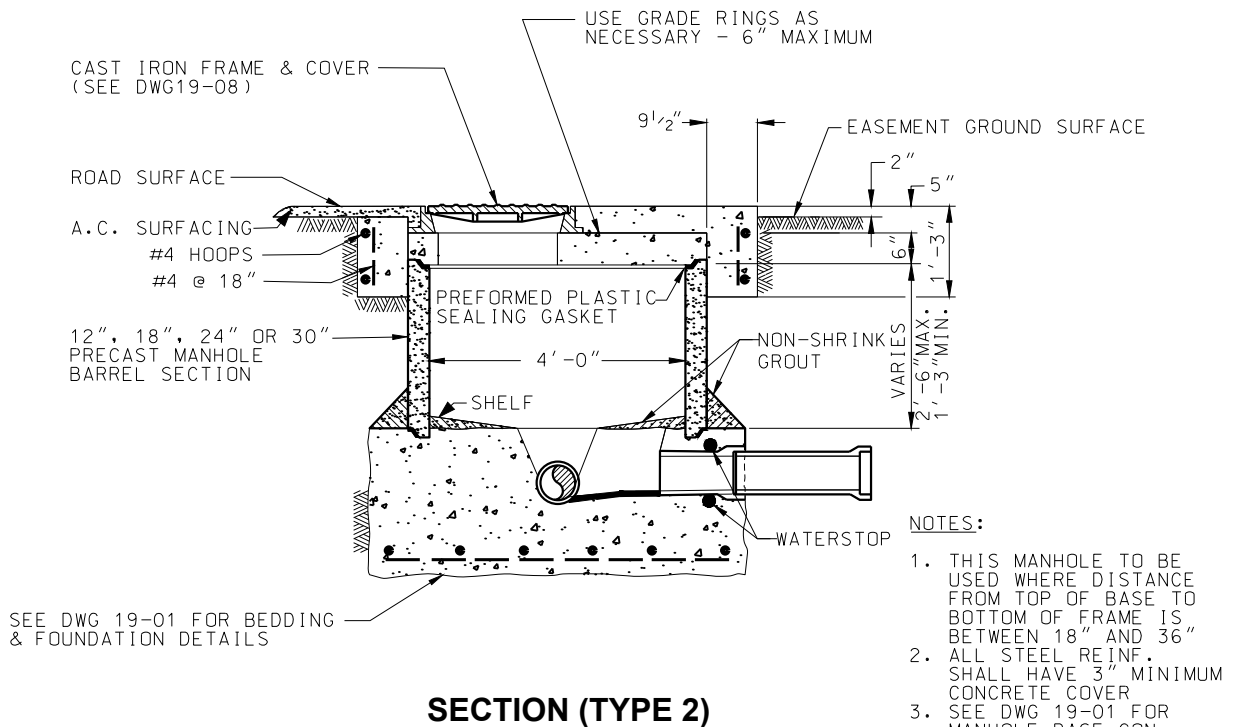
**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**SHALLOW MANHOLE: TYPE 1 & 2**  
**(VARIANCE REQUIRED)**



**NOTES:**

1. THIS MANHOLE MAY BE USED WHERE DISTANCE FROM TOP OF BASE TO BOTTOM OF FRAME IS BETWEEN 15" AND 30"
2. ALL STEEL REINF. SHALL HAVE 3" MINIMUM CONCRETE COVER
3. SEE DWG 19-01 FOR MANHOLE BASE CONSTRUCTION DETAILS
4. IF USING PREFERRED DRAWING, NO ADDITIONAL PLAN CHECK REQUIRED.

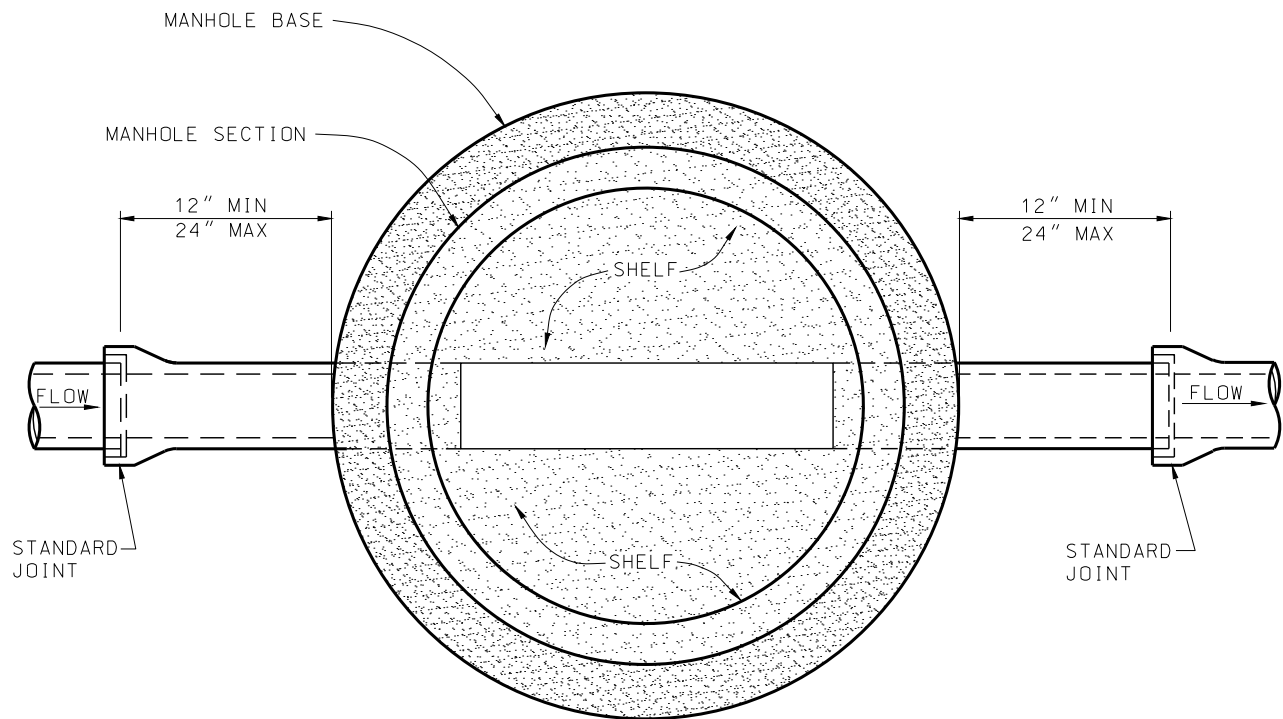


**NOTES:**

1. THIS MANHOLE TO BE USED WHERE DISTANCE FROM TOP OF BASE TO BOTTOM OF FRAME IS BETWEEN 18" AND 36"
2. ALL STEEL REINF. SHALL HAVE 3" MINIMUM CONCRETE COVER
3. SEE DWG 19-01 FOR MANHOLE BASE CONSTRUCTION DETAILS
4. IF USING FLAT TOP, ADDITIONAL APPROVAL AND PLAN CHECK REQUIRED.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

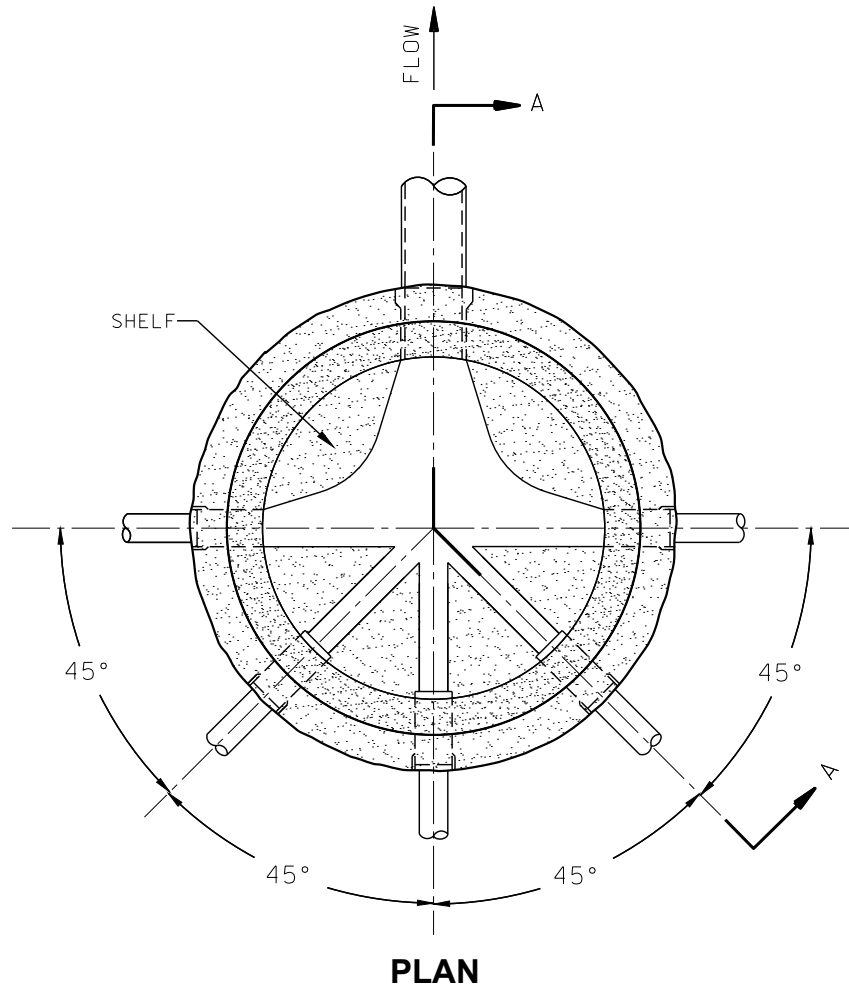
## MANHOLE BASE: PIPE JOINT REQUIREMENTS FOR THROUGH PIPES



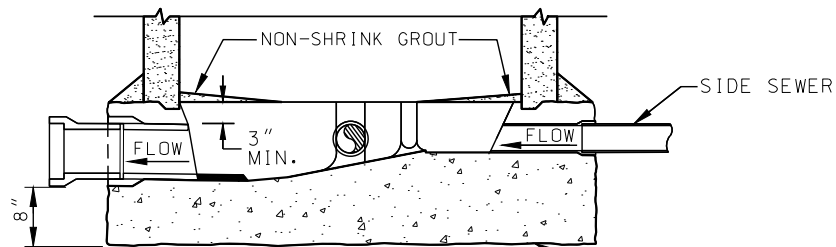
NOTE: 1. JOINT LOCATIONS APPLICABLE TO ALL INCOMING AND OUTGOING PIPELINES, EXCEPT THAT THE 24" MAXIMUM DIMENSION SHALL NOT APPLY TO PVC PIPE LAID THROUGH A MANHOLE.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**MANHOLE BASE: SPECIAL DETAIL**  
**FOR LINES TERMINATING IN A CUL-DE-SAC**



**PLAN**



**SECTION A-A**

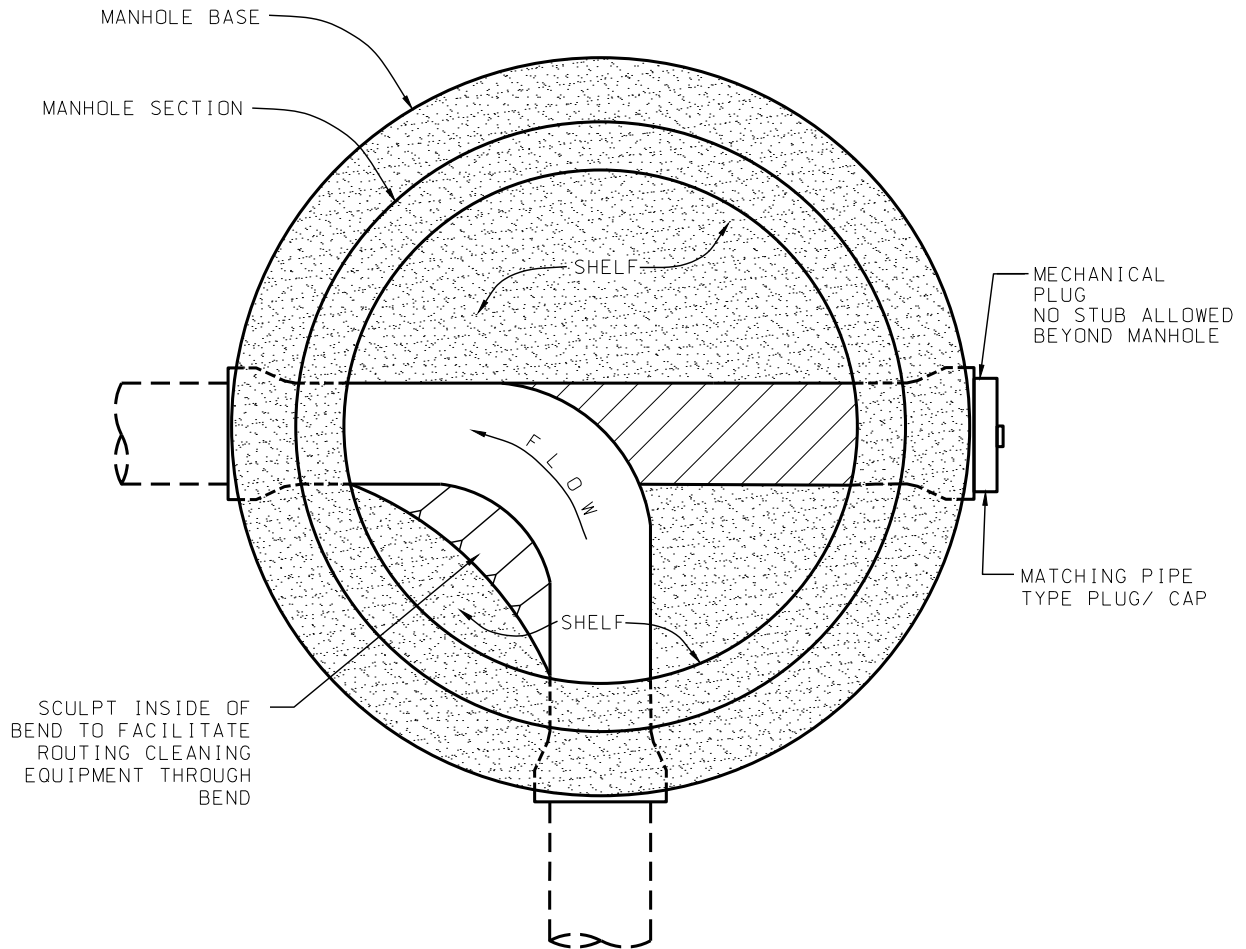
SEE DWG 19-01 FOR  
MANHOLE BASE, BEDDING  
& FOUNDATION DETAILS.

**NOTES:**

1. NO LATERAL CONNECTIONS SHALL BE MADE IN DOWNSTREAM HALF OF MANHOLE.
2. MAXIMUM NUMBER OF SIDE SEWERS ALLOWED = 5.
3. TOP OF SIDE SEWERS SHALL BE NO LOWER THAN TOP OF OUTLET PIPE.
4. SEE DWG 20-05 FOR REQUIRED JOINT LOCATIONS.
5. PIPE CONNECTION INTEGRALLY CAST INTO THE PRECAST BASE BY THE MANUFACTURE.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MANHOLE BASE: FUTURE CONNECTION

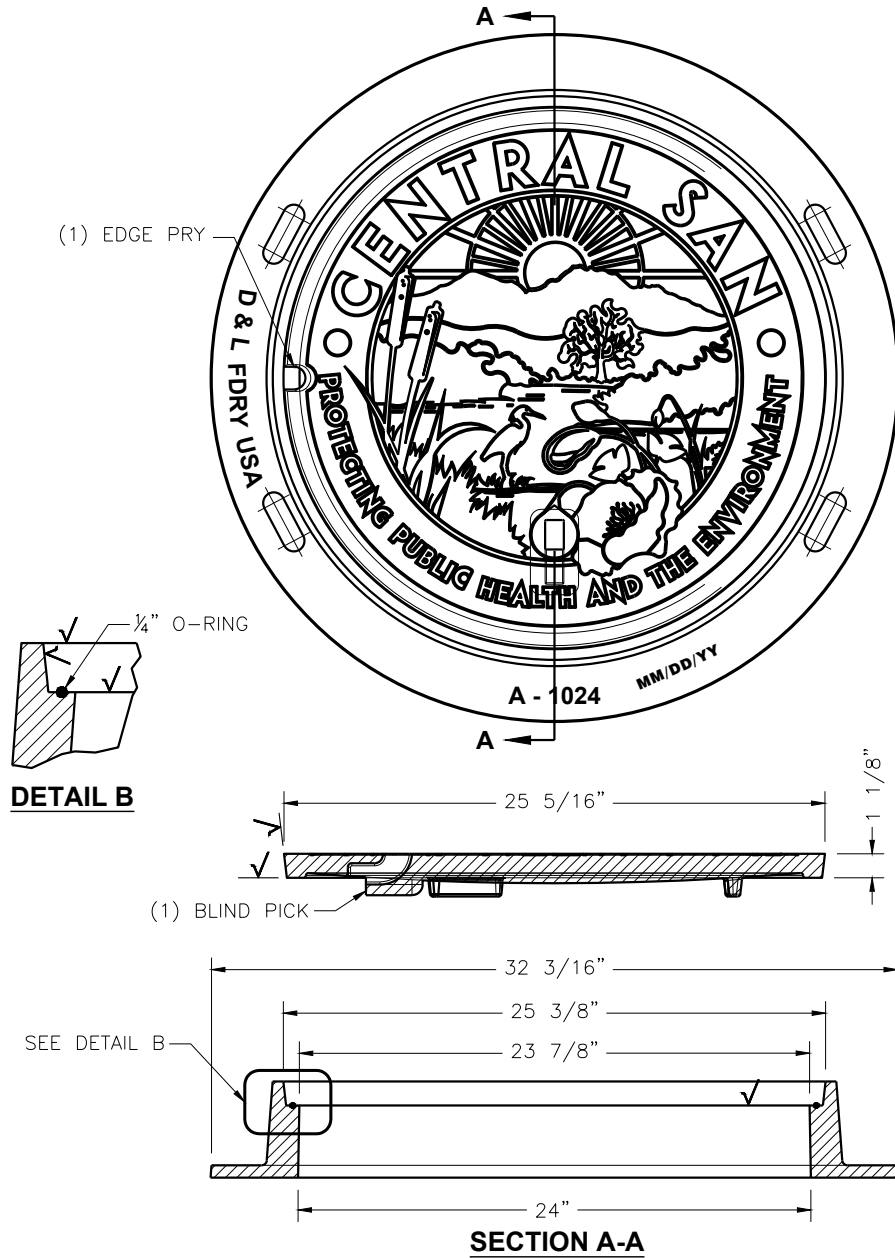


**MANHOLE BASE DETAIL**



**CENTRAL CONTRA COSTA SANITARY DISTRICT**  
**MARTINEZ, CALIFORNIA**

**STANDARD MANHOLE FRAME & COVER**



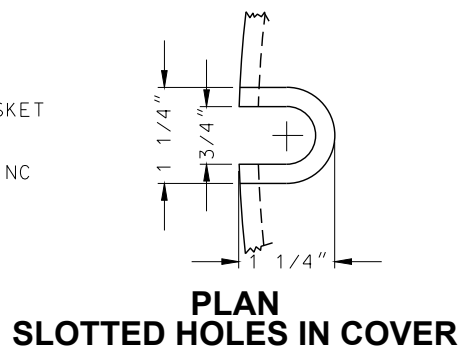
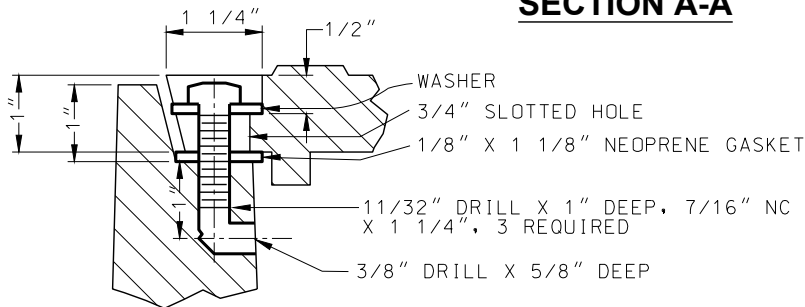
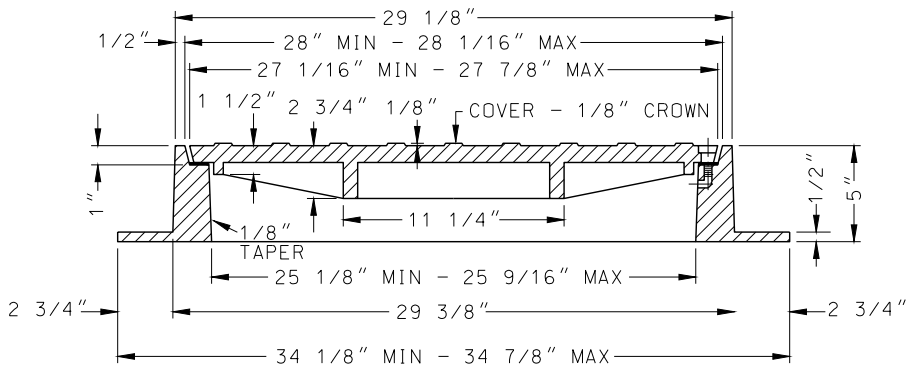
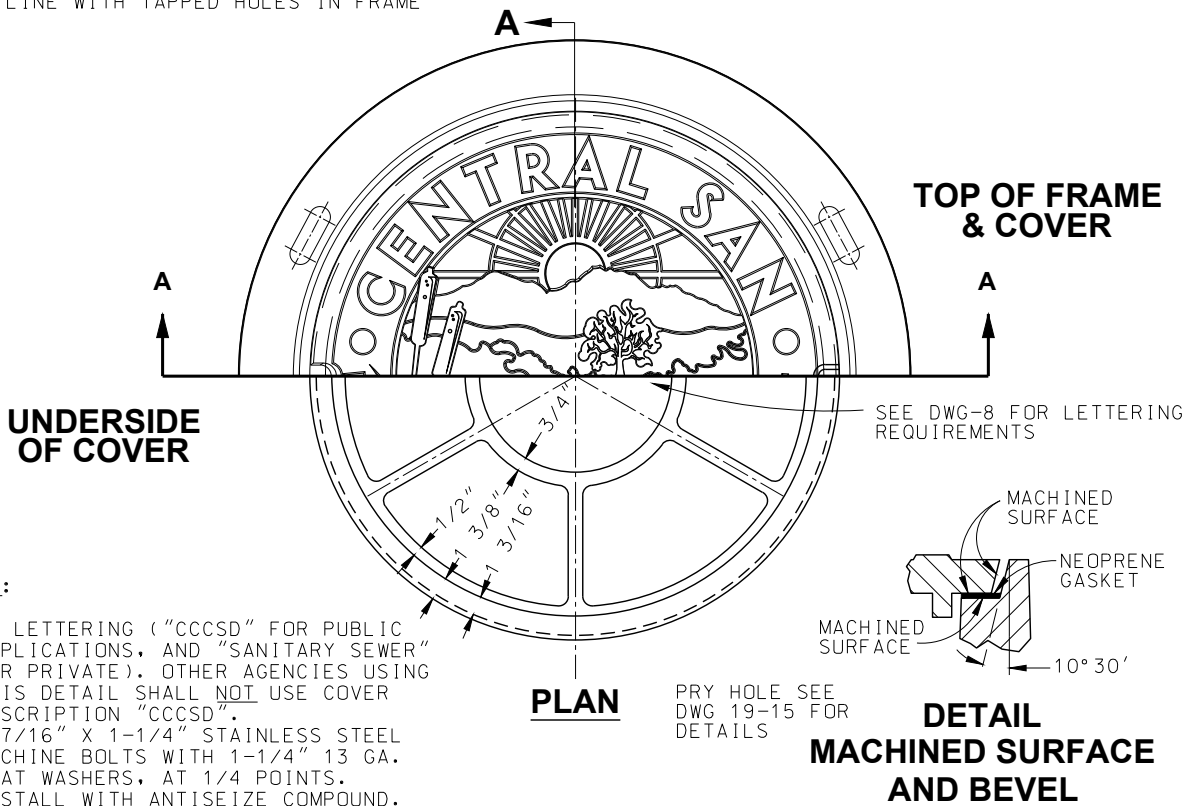
NOTES:

1. COVER SHALL BE DESIGNED FOR H-20 HIGHWAY LOADING.
2. PICK HOLE SHALL BE OPEN AND FIT A STANDARD PICK.
3. PRY HOLE SHALL BE LOCATED AT BOTTOM CENTER OF THE MANHOLE COVER AS SHOWN.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## BOLT - DOWN MANHOLE FRAME & COVER

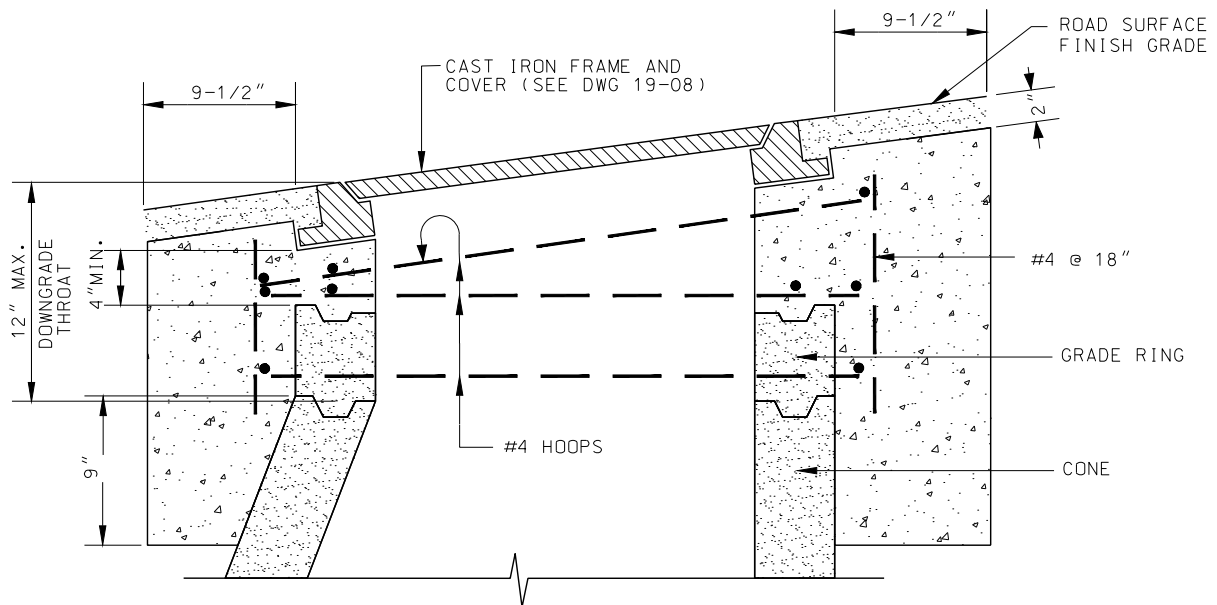
SCORE TOP EDGE OF FRAME RADIALLY  
IN LINE WITH TAPPED HOLES IN FRAME



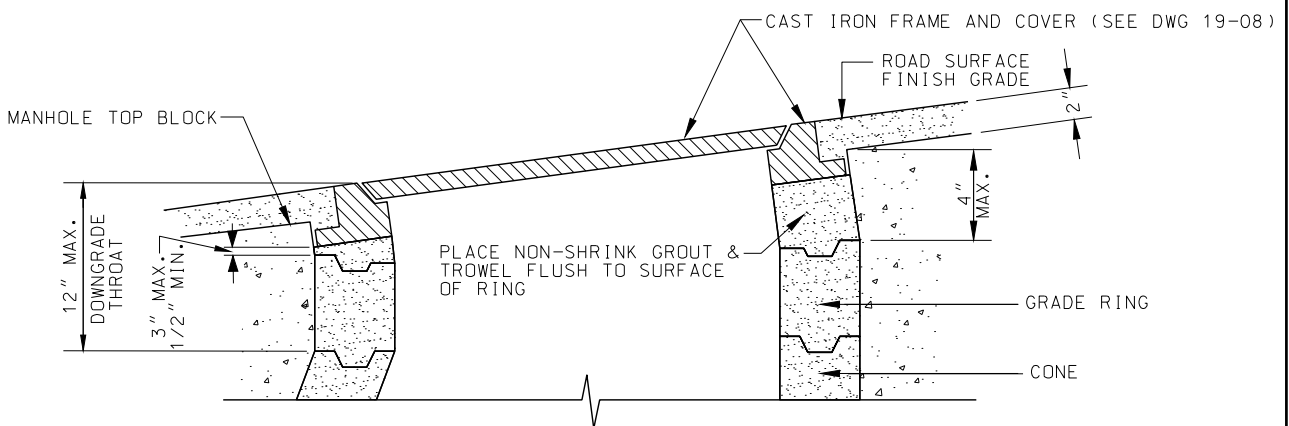
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MANHOLE ADJUSTMENT TO FINISH GRADE

### PAVED AREAS



### GREATER THAN 13% GRADE



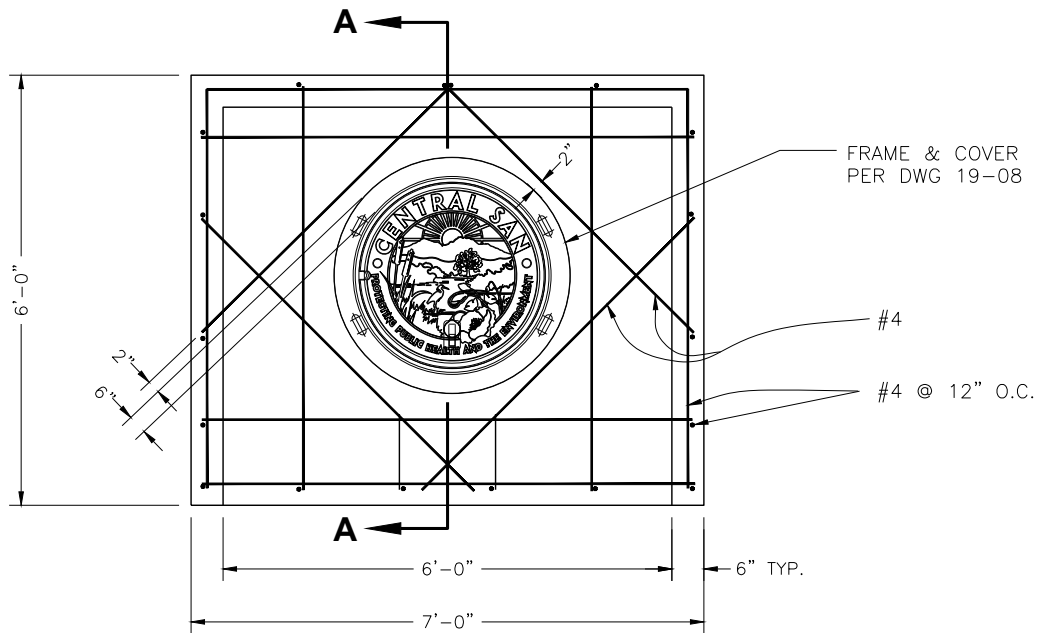
**NOTE:**

1. SEE DWG 19-01 FOR TOP BLOCK DETAILS

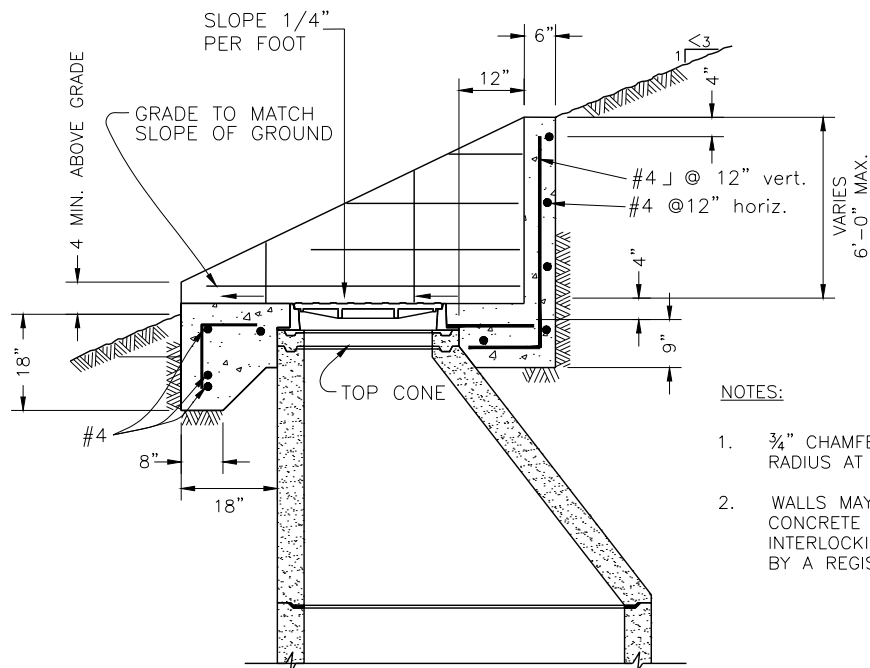
### 13% GRADE OR LESS

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MANHOLE PROTECTION WALL & TOP BLOCK (REQUIRED FOR CROSS SLOPE STEEPER THAN 3:1)



**PLAN**



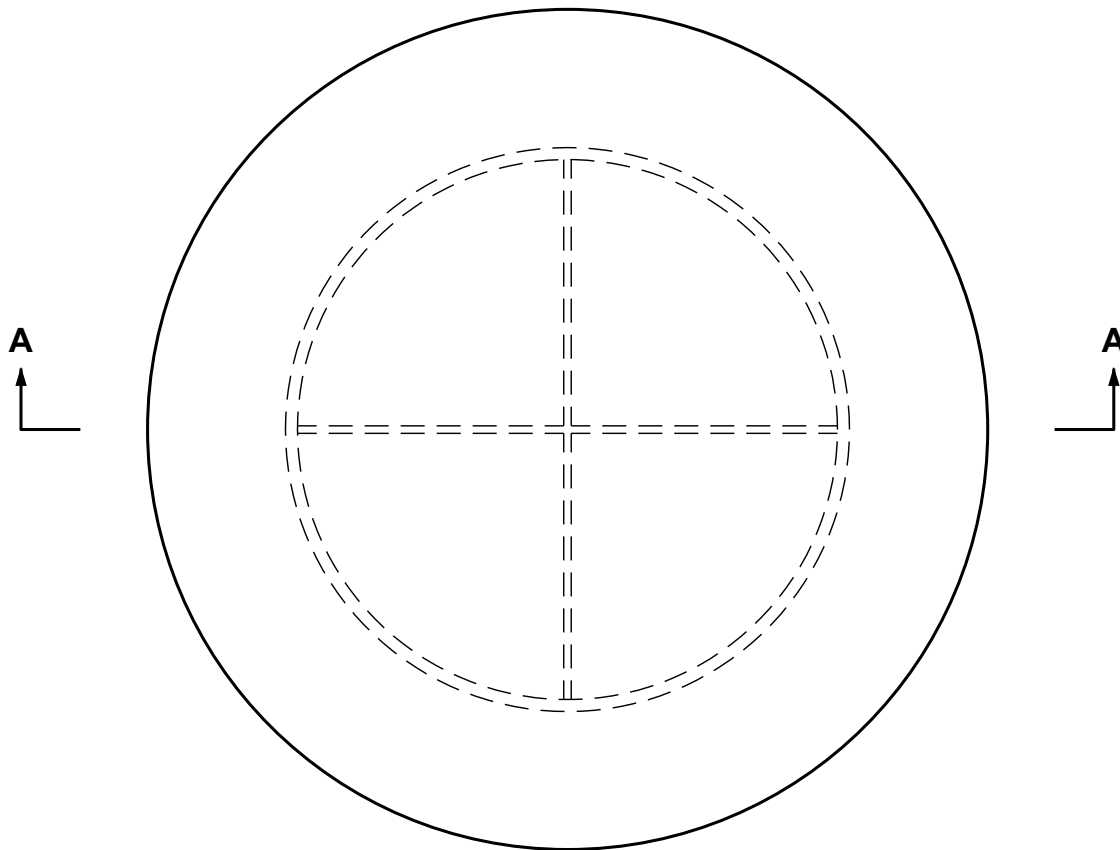
**NOTES:**

1.  $\frac{3}{4}$ " CHAMFER OR ROUND WITH  $\frac{3}{4}$ " RADIUS AT ALL EXPOSED CORNERS.
2. WALLS MAY BE CONSTRUCTED USING CONCRETE MASONRY UNITS OR INTERLOCKING UNITS IF DESIGNED BY A REGISTERED ENGINEER.

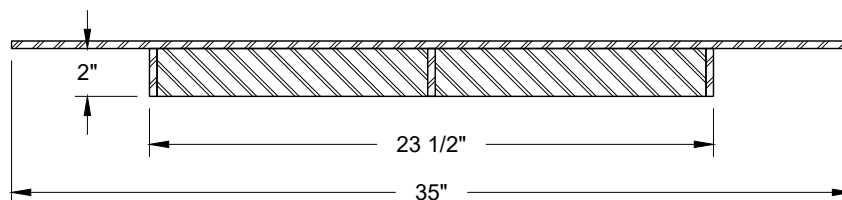
**SECTION A-A**

**CENTRAL CONTRA COSTA SANITARY DISTRICT**  
**MARTINEZ, CALIFORNIA**

**TEMPORARY: MANHOLE COVER**



**PLAN**



**SECTION A-A**

**NOTE:**

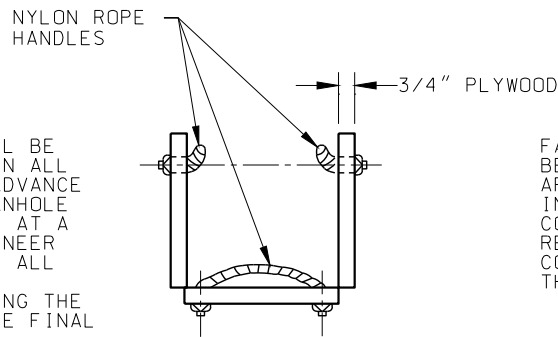
1. FABRICATE FROM 5/16" STEEL PLATE USING 1/4" FILLET WELDS TO BOTH SIDES OF EACH JOINT.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## TEMPORARY: MANHOLE FALSE BOTTOM

### INSTALLATION

FALSE MANHOLE BOTTOM SHALL BE FURNISHED AND INSTALLED IN ALL MANHOLES CONSTRUCTED IN ADVANCE OF PAVING. THESE FALSE MANHOLE BOTTOMS WILL BE INSTALLED AT A TIME DIRECTED BY THE ENGINEER BUT WILL USUALLY BE AFTER ALL WORK IS COMPLETED ON THE WASTEWATER SYSTEM INCLUDING THE AIR TEST, BUT PRIOR TO THE FINAL INSPECTION.

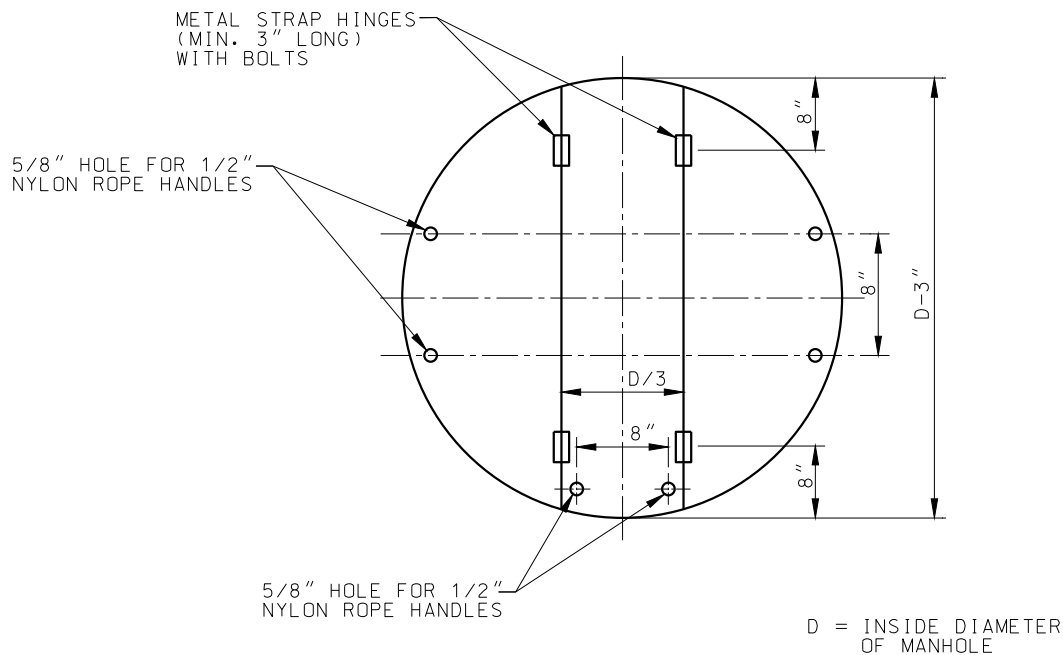


### REMOVAL

FALSE MANHOLE BOTTOM SHALL BE REMOVED AFTER THE FINAL APPURTENANCE ADJUSTMENT INSPECTION. THE PAVING CONTRACTOR AND OWNER'S REPRESENTATIVE WILL COORDINATE THE REMOVAL OF THE FALSE MANHOLE BOTTOMS.

### INSTALLATION AND REMOVAL POSITION

NOT TO SCALE



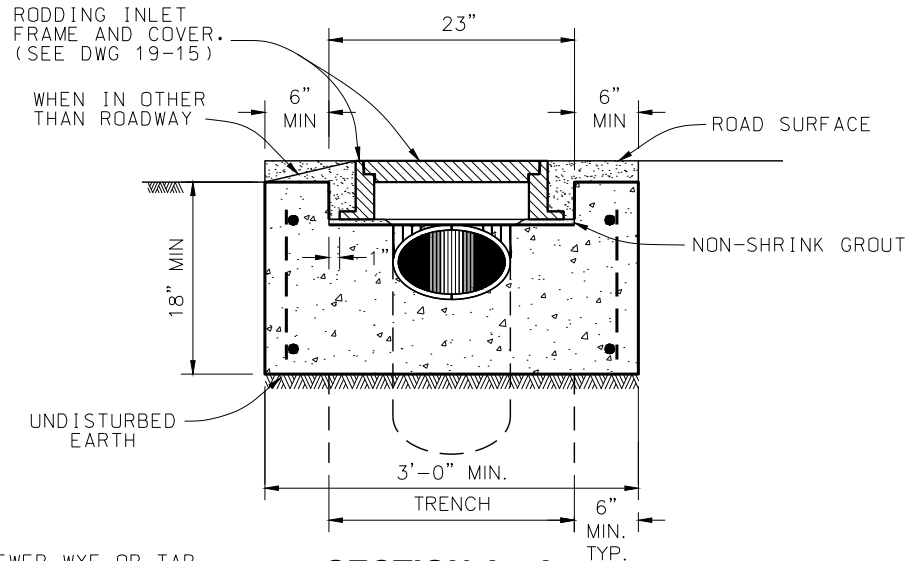
D = INSIDE DIAMETER OF MANHOLE

### PLAN VIEW

NOT TO SCALE

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

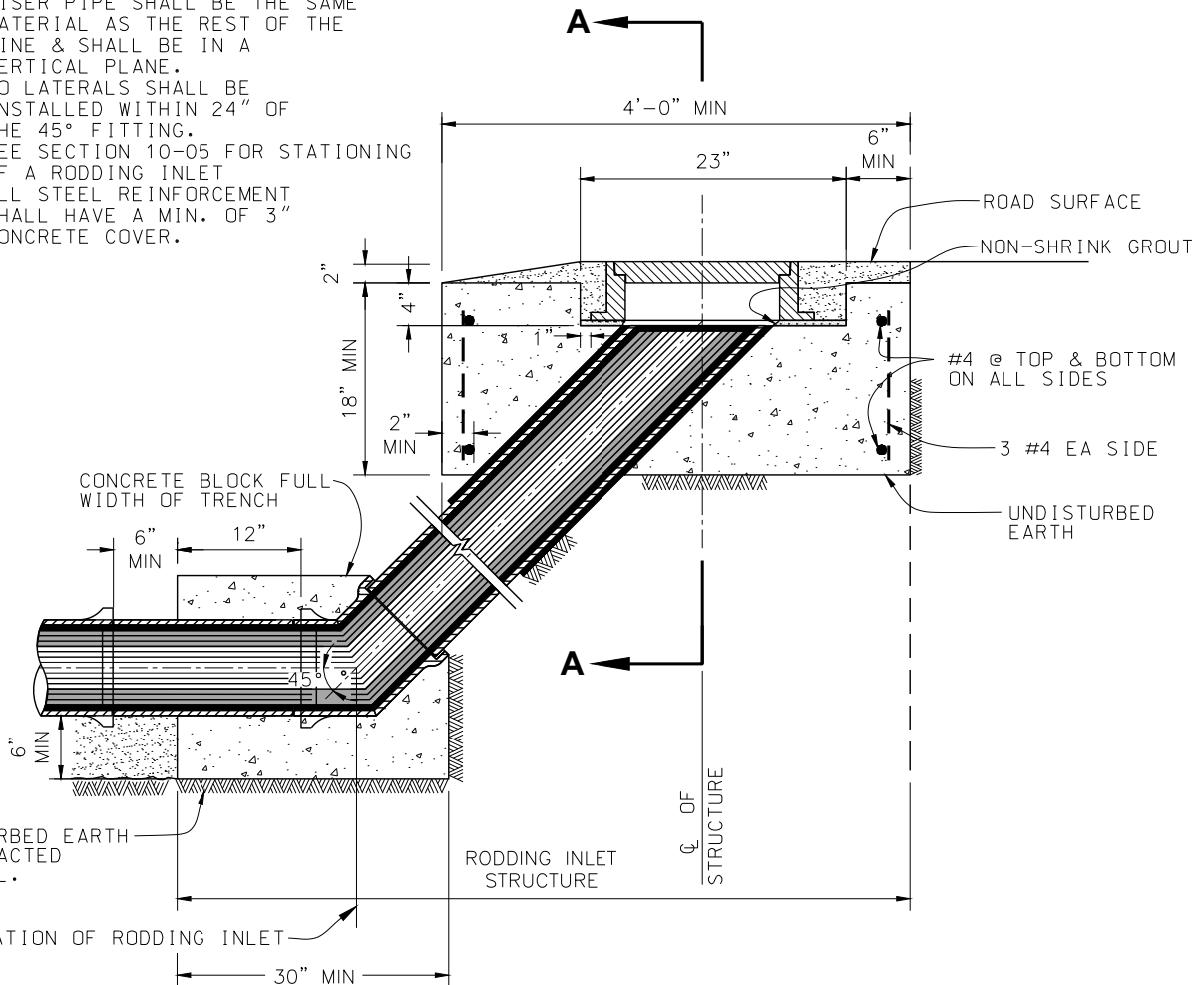
## RODDING INLET



**NOTES:**

1. NO SIDE SEWER WYE OR TAP CONNECTIONS WILL BE PERMITTED IN RISER PIPE.
2. RISER PIPE SHALL BE THE SAME MATERIAL AS THE REST OF THE LINE & SHALL BE IN A VERTICAL PLANE.
3. NO LATERALS SHALL BE INSTALLED WITHIN 24" OF THE 45° FITTING.
4. SEE SECTION 10-05 FOR STATIONING OF A RODDING INLET
5. ALL STEEL REINFORCEMENT SHALL HAVE A MIN. OF 3" CONCRETE COVER.

### SECTION A - A

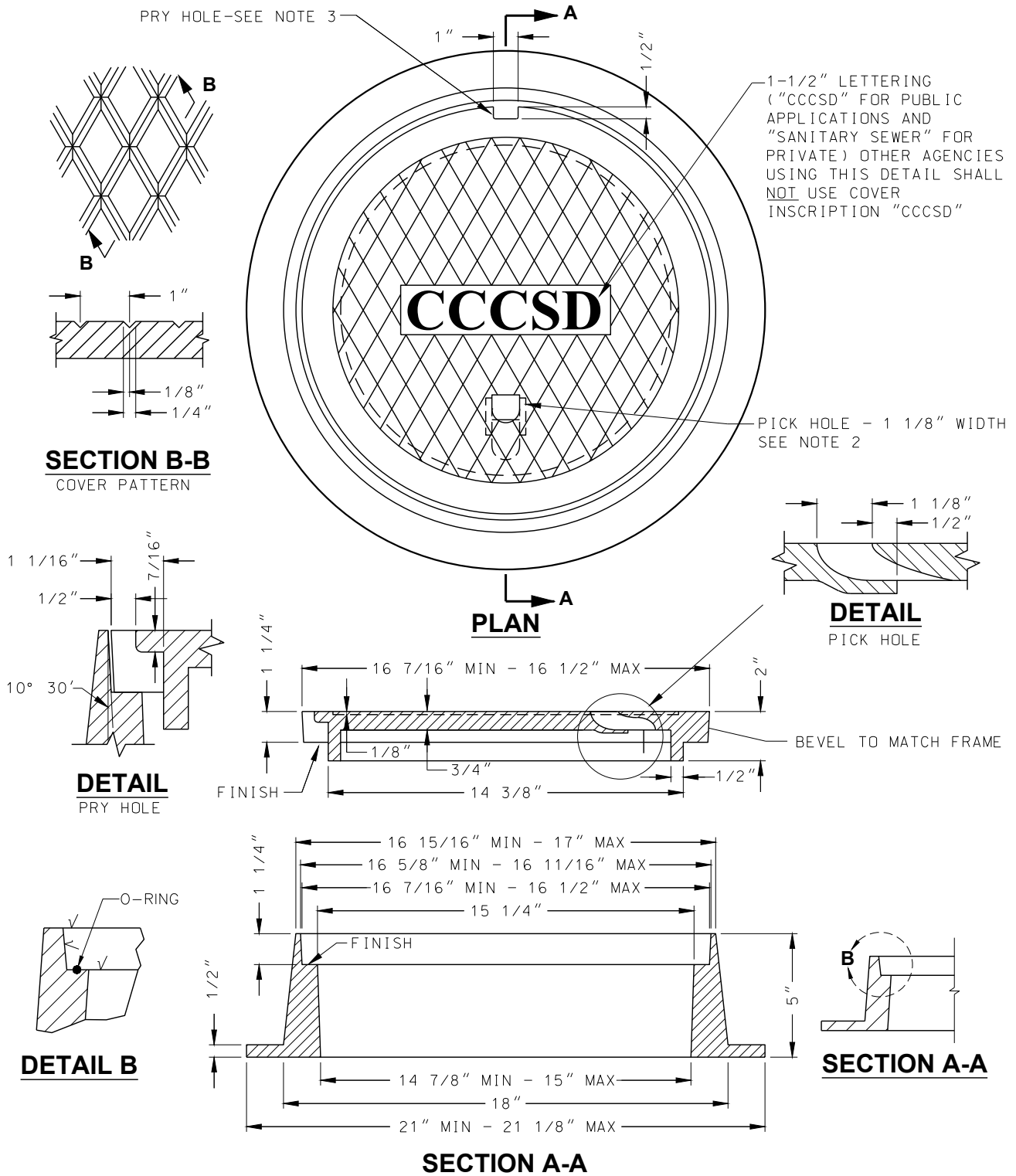


### VERTICAL SECTION

18-May-2020 K:\Projects\standardSpecs\sys19-14\_RoddingInlet.dwg

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## RODDING INLET FRAME & COVER



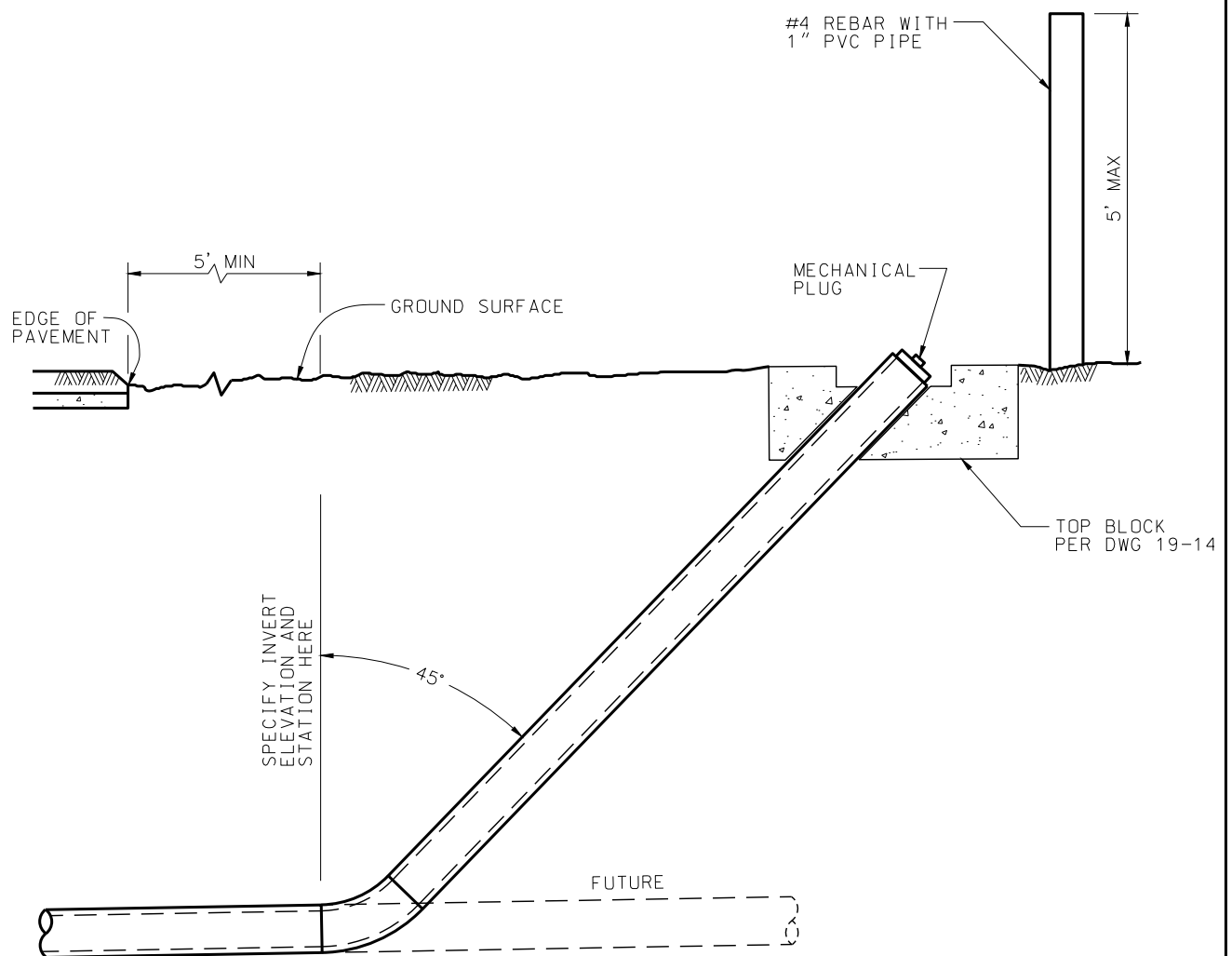
**NOTES:**

1. COVER SHALL BE DESIGNED FOR H-20 HIGHWAY LOADING.
2. PICK HOLE SHALL BE OPEN AND FIT A STANDARD PICK.
3. PRY HOLE SHALL BE LOCATED AT TOP CENTER OF THE RODDING INLET COVER AS SHOWN.



# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

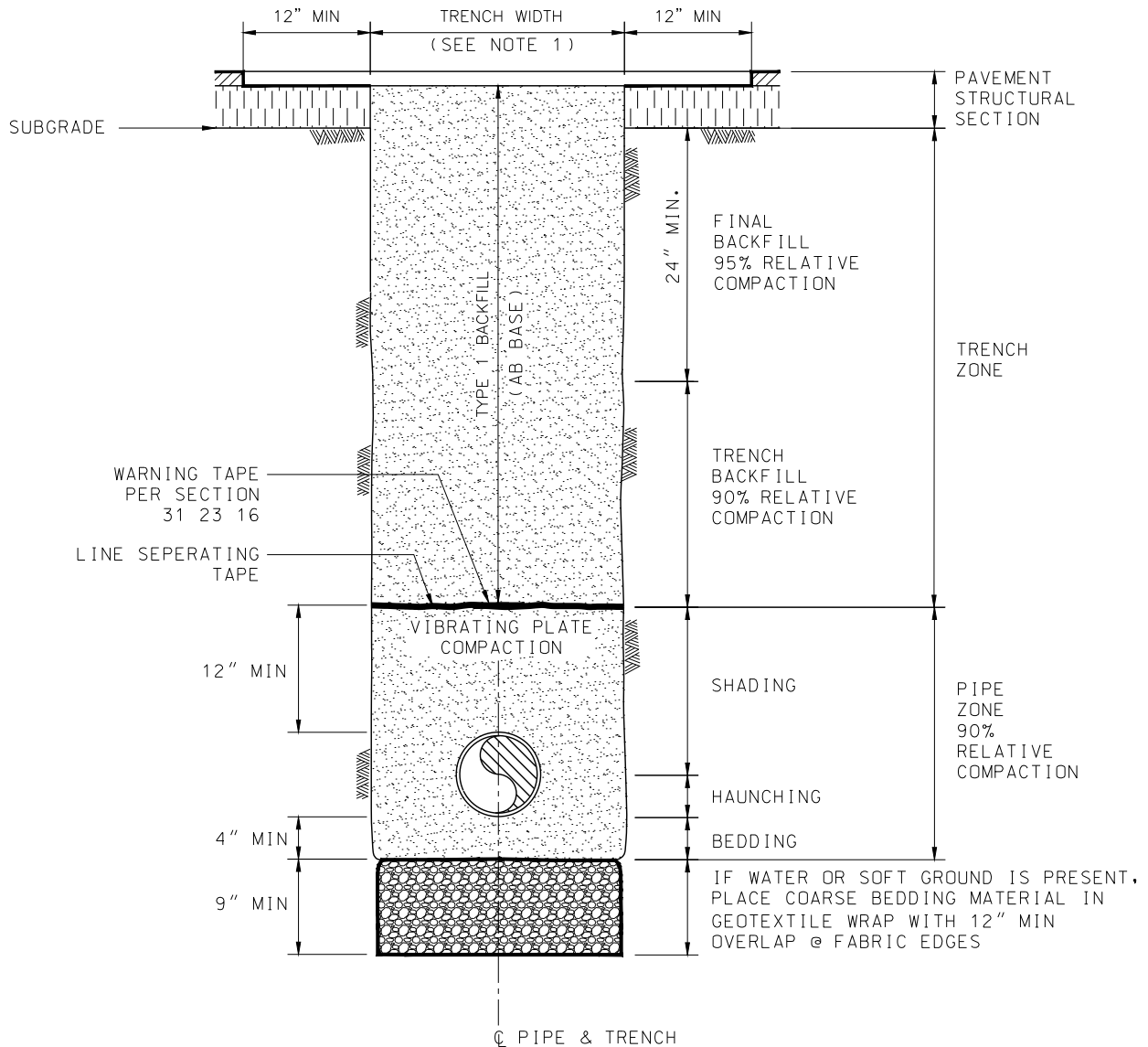
## TEMPORARY: ACCESS STRUCTURE (FOR CLEANING AND TESTING OF SANITARY SEWER MAINS TO BE EXTENDED IN THE FUTURE)



**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**TRENCH STRUCTURAL DETAIL 1 FOR EXISTING  
PAVED STREET AND PARKING AREA**

**TRENCH SECTION IN EXISTING PAVED STREETS & PARKING AREAS  
(PUBLIC & PRIVATE)**



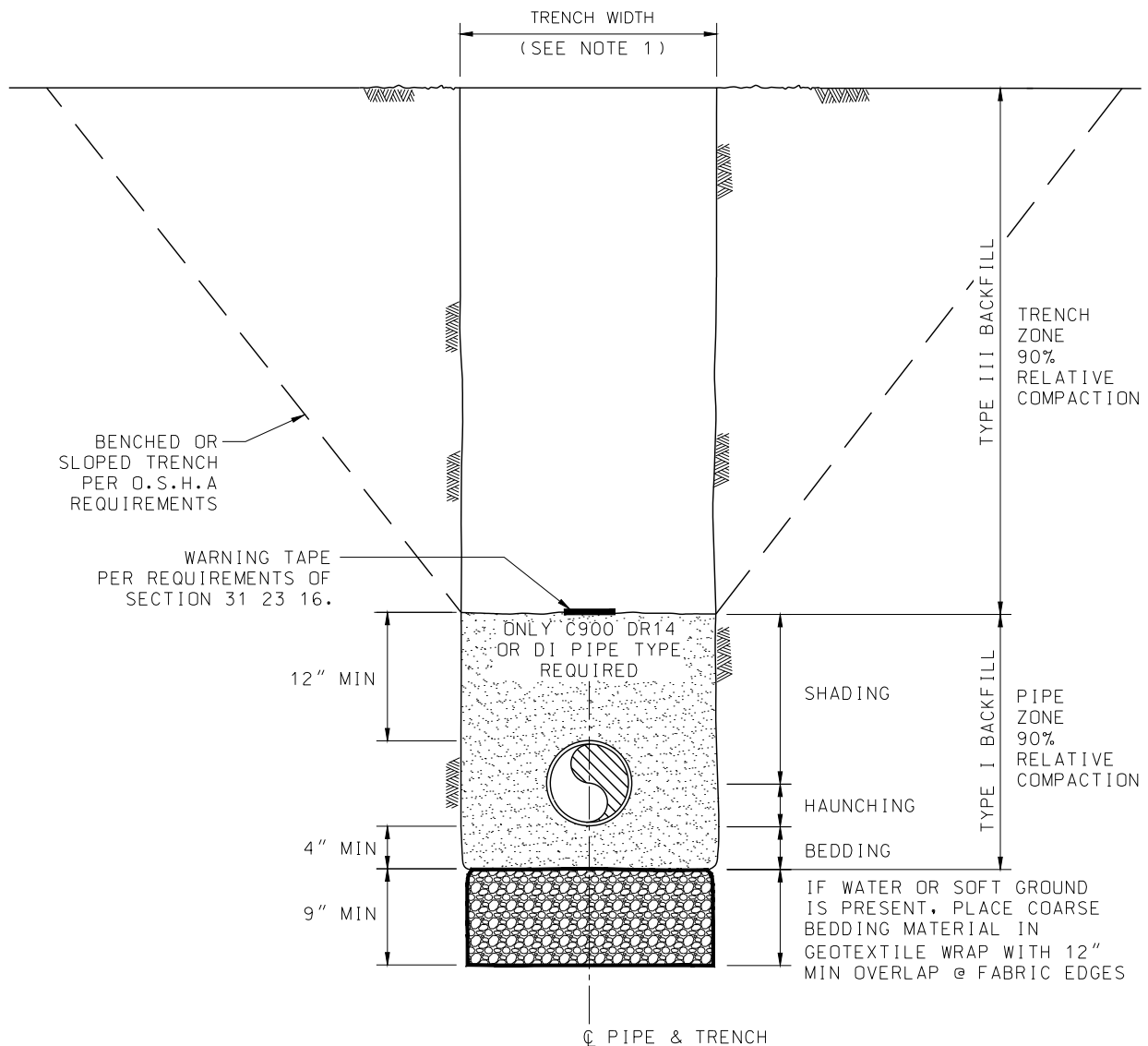
**NOTES:**

1. TRENCH WIDTH, PIPE BEDDING & BACKFILL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS AND PROVISIONS OF SECTION 32 23 16 OF THESE SPECIFICATIONS.
2. THESE ARE MINIMUM REQUIREMENTS. IF OTHER JURISDICTIONAL AGENCY REQUIREMENTS EXCEED THOSE SHOWN, THE GREATER REQUIREMENTS SHALL BE MET.
3. 100% AB REQUIRED FOR SIDEWALK OR DRIVEWAY.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**TRENCH STRUCTURAL DETAIL 2 FOR UNPAVED AREA**

**TRENCH SECTION IN UNPAVED AREAS  
(OFF ROAD EASEMENT OR FUTURE STREETS)**



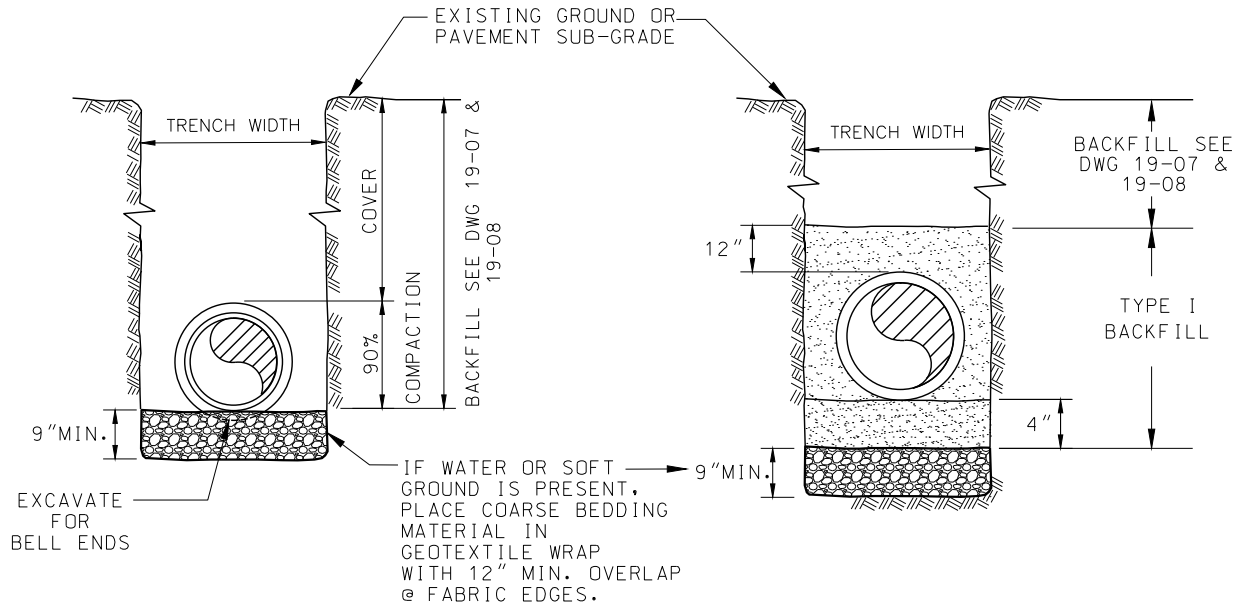
**NOTES:**

1. TRENCH WIDTH, PIPE BEDDING & BACKFILL SHALL CONFORM TO THE APPLICABLE REQUIREMENTS AND PROVISIONS OF SECTION 31 23 16 OF THESE SPECIFICATIONS.
2. THESE ARE MINIMUM REQUIREMENTS. IF OTHER JURISDICTIONAL AGENCY REQUIREMENTS EXCEED THOSE SHOWN, THE GREATER REQUIREMENTS SHALL BE MET.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

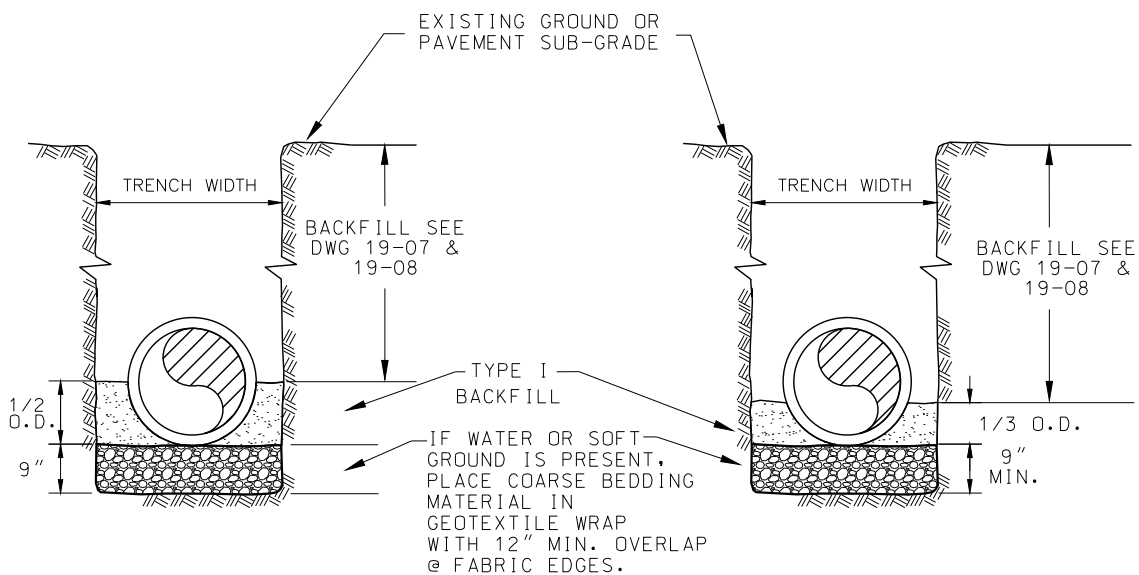
**STANDARD TRUNK SEWER TRENCH DETAILS**

**FOR 12" AND LARGER PIPE**



**FOR D.I. PIPE INSTALLATIONS ONLY**  
**(N.T.S.)**

**FOR ALL V.C., P.V.C. PIPE INSTALLATIONS**  
**(N.T.S.)**



**FOR R.C. AND STEEL PIPE INSTALLATIONS UP TO 42"**  
**(N.T.S.)**

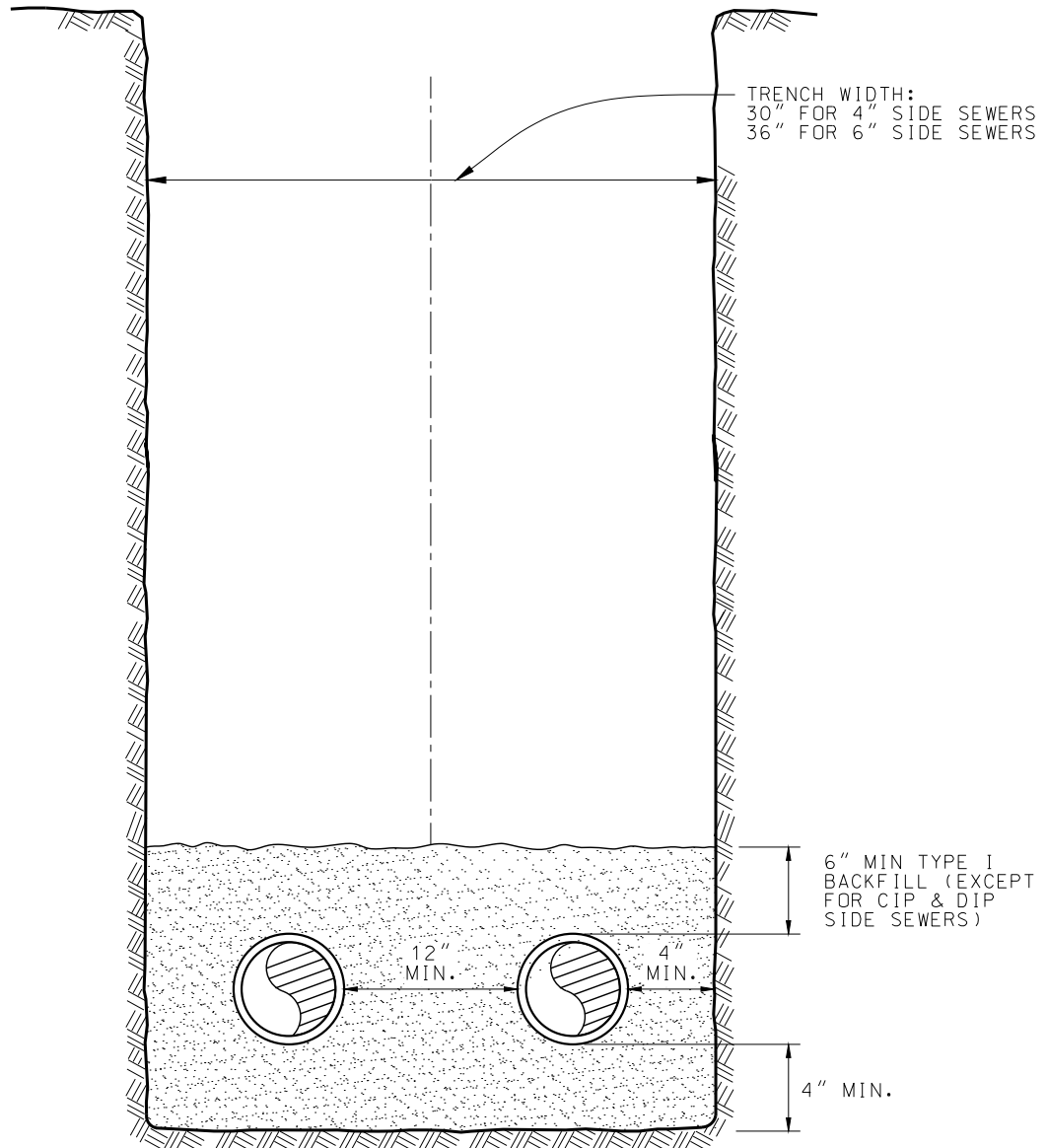
**FOR R.C. PIPE INSTALLATIONS 48" AND LARGER**  
**(N.T.S.)**

**NOTES:** 1. PIPE BEDDING AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 31 23 16.  
2. WARNING TAPE REQUIRED AT TOP OF THE PIPE ZONE.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**SHARED TRENCH DETAIL FOR SIDE SEWERS**

**TWO SIDE SEWERS IN ONE TRENCH  
(SPECIAL APPROVAL REQUIRED)**

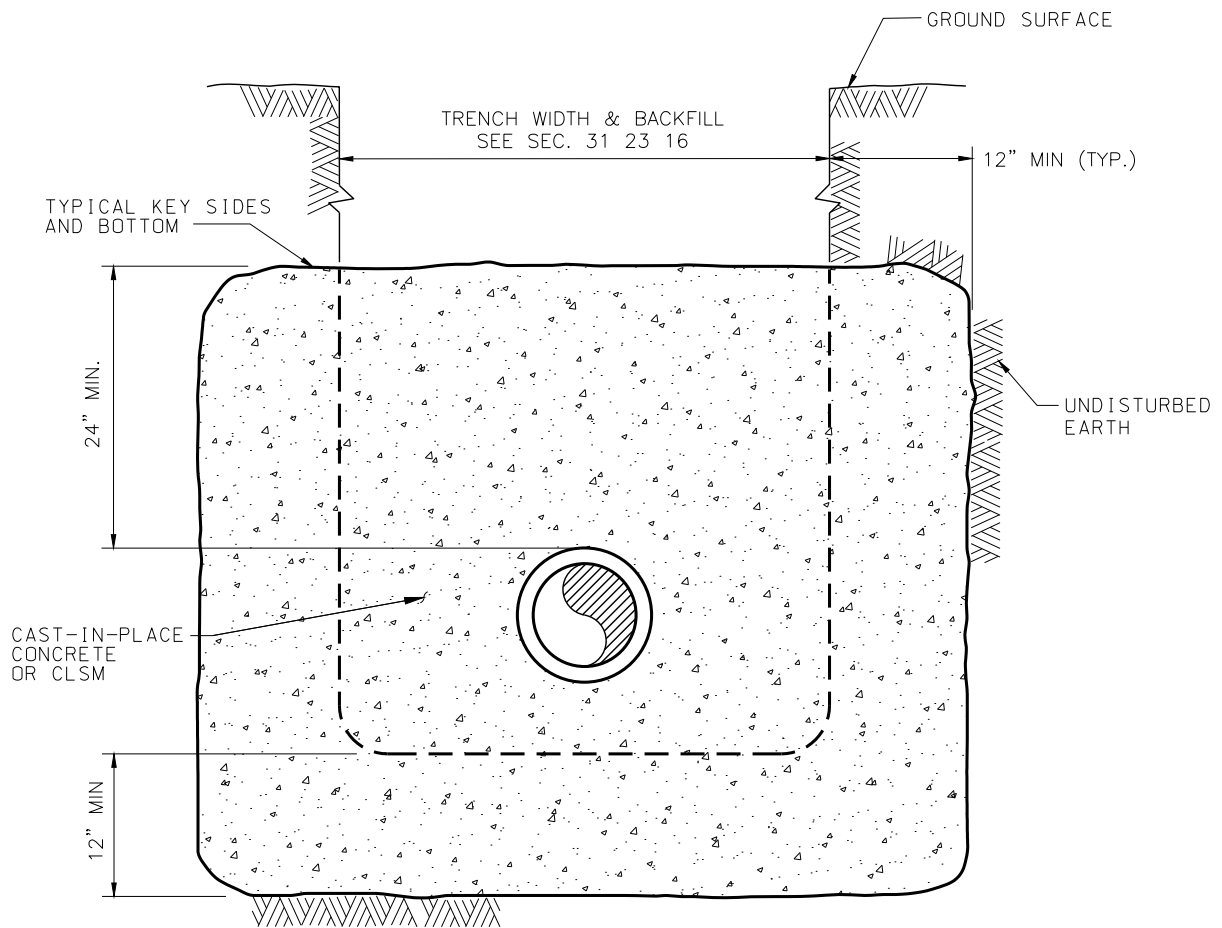


**NOTES:**

1. TRENCH WIDTH, PIPE BEDDING AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 31 23 16.
2. IN THE EVENT THAT SIDE SEWERS ARE TO BE CONNECTED TO A VC MAIN BY TAPPING, SUCH TAPS SHALL BE BE SPACED A MINIMUM OF 5 FEET APART.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**TRENCH DAMS**  
**LOCATED AS SHOWN ON THE PLANS  
OR AS DIRECTED BY THE ENGINEER**



**SECTION**

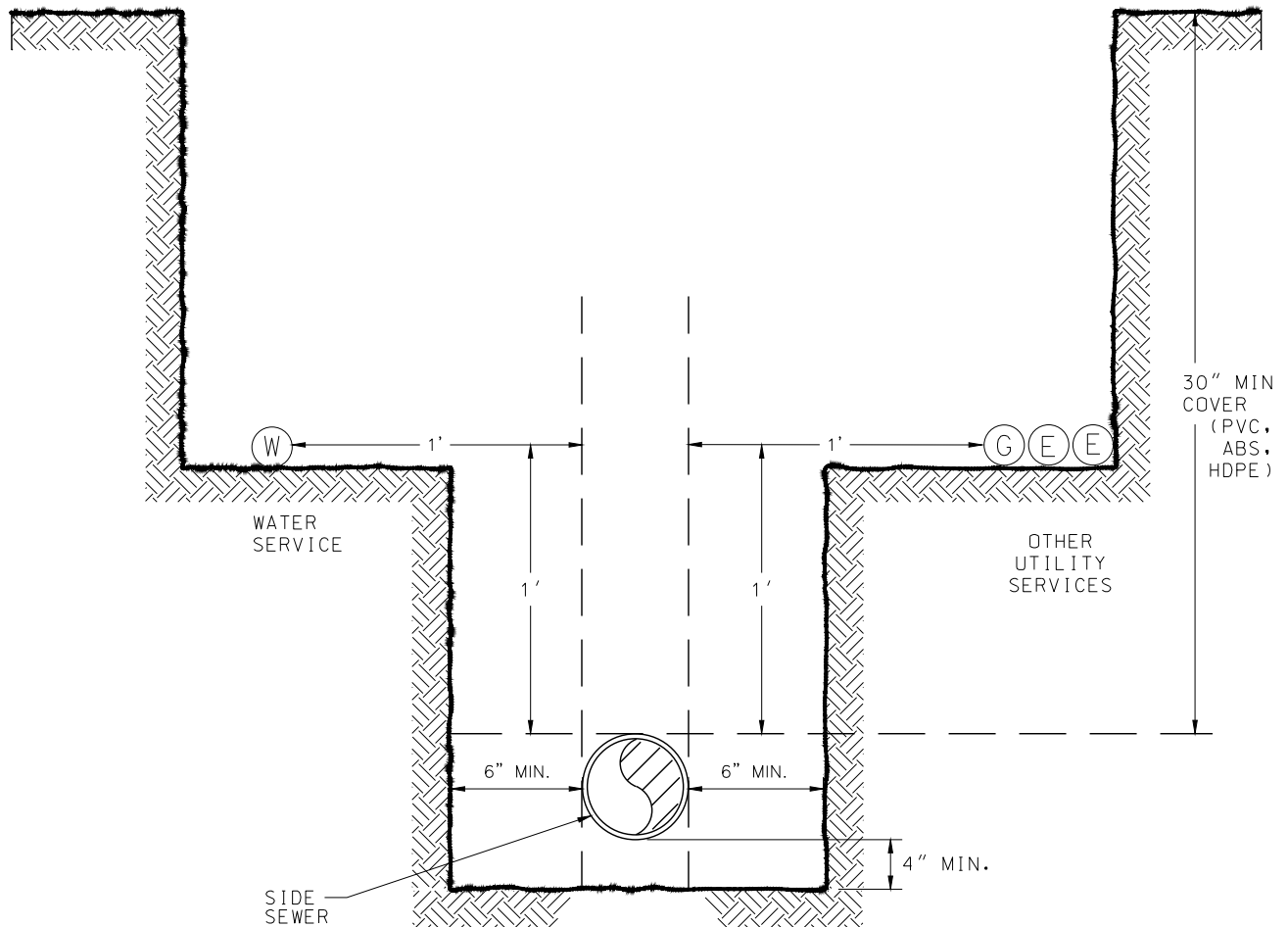
**NOTES:**

1. SEE SECTIONS 03 30 00 AND 03 34 13 FOR CAST-IN-PLACE CONCRETE & CLSM REQUIREMENTS.
2. TRENCH DAM TO HAVE 12" MIN. THICKNESS (ALONG TRENCH).

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**JOINT UTILITY TRENCH SEPARATION DETAIL**

**SIDE SEWER AND OTHER UTILITIES  
IN SAME TRENCH**



NOTES:

1. PIPE BEDDING AND BACKFILL SHALL CONFORM TO THE REQUIREMENTS OF SECTION 31 23 16.
2. REFER TO SECTION 4-08 FOR PIPE COVER REQUIREMENTS.
3. THESE ARE MINIMUM REQUIREMENTS. CONTRACTOR SHALL CONTACT UTILITY AGENCIES TO CONFIRM REQUIRED SEPARATION REQUIREMENTS.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CRITERIA FOR THE SEPARATION OF WATER MAIN AND SANITARY SEWERS

(REFERENCE: CALIFORNIA DOHS GUIDANCE  
MEMO NO. 2003-02)

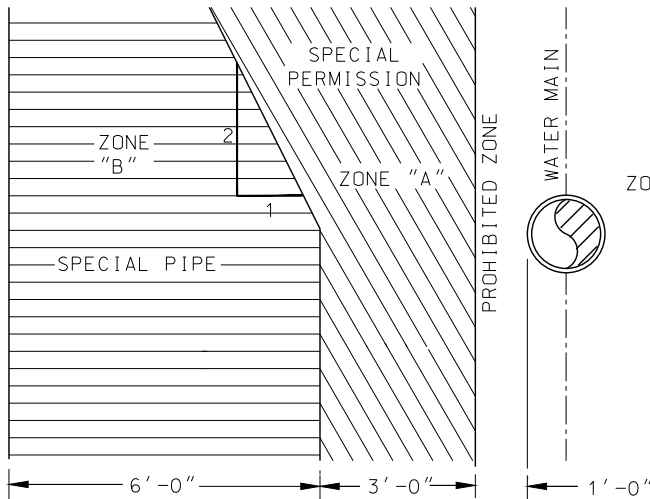
ZONE "A": SEWER LINES NOT PERMITTED  
WITHOUT APPROVAL OF WATER AGENCY

ZONE "B": PERMITTED MATERIALS  
-VC PIPE WITH COMPRESSION JOINTS  
-PVC PIPE WITH RUBBER RING JOINTS  
(ATSM 3034)  
-CI OR DI PIPE WITH COMP. JOINTS  
-RC PRESSURE PIPE WITH COMP. JOINTS  
-HDPE PIPE WITH FUSION WELDED  
JOINTS (AWWA C906-99)  
-SPIRALLY-REINFORCED HDPE PIPE WITH  
GASKETED JOINTS (ASTM F-984)

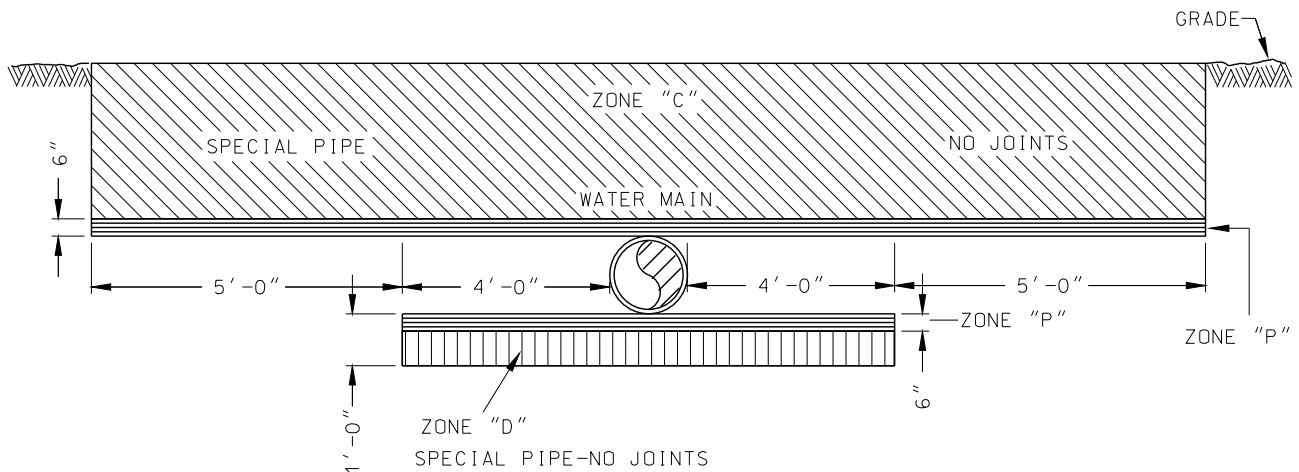
ZONE "C": PERMITTED MATERIALS  
-DI PIPE WITH HOT DIP BITUMINOUS  
COATING  
-C-900 PVC (DR 14). CONTINUOUS SECTION  
CENTERED OVER PIPE BEING CROSSED  
-RC PRESSURE PIPE. CONTINUOUS  
SECTION CENTERED OVER PIPE BEING  
CROSSED  
-ANY SEWER PIPE WITHIN A CONTINUOUS  
SLEEVE  
-HDPE PIPE WITH FUSION WELDED  
JOINTS (AWWA C906-99)

ZONE "D": PERMITTED MATERIALS  
-DI PIPE WITH HOT DIP BITUMINOUS  
COATING AND MECHANICAL JOINTS  
-HDPE PIPE WITH FUSION-WELDED  
JOINTS (AWWA C906-99)  
-C-900 PVC (DR 14) CONTINUOUS SECTION  
CENTERED OVER PIPE BEING CROSSED  
-RC PRESSURE PIPE CONTINUOUS SECTION  
CENTERED OVER PIPE BEING CROSSED  
-ANY SEWER PIPE WITHIN A CONTINUOUS  
SLEEVE

ZONE "P": NOT PERMITTED



### PARALLEL CONSTRUCTION

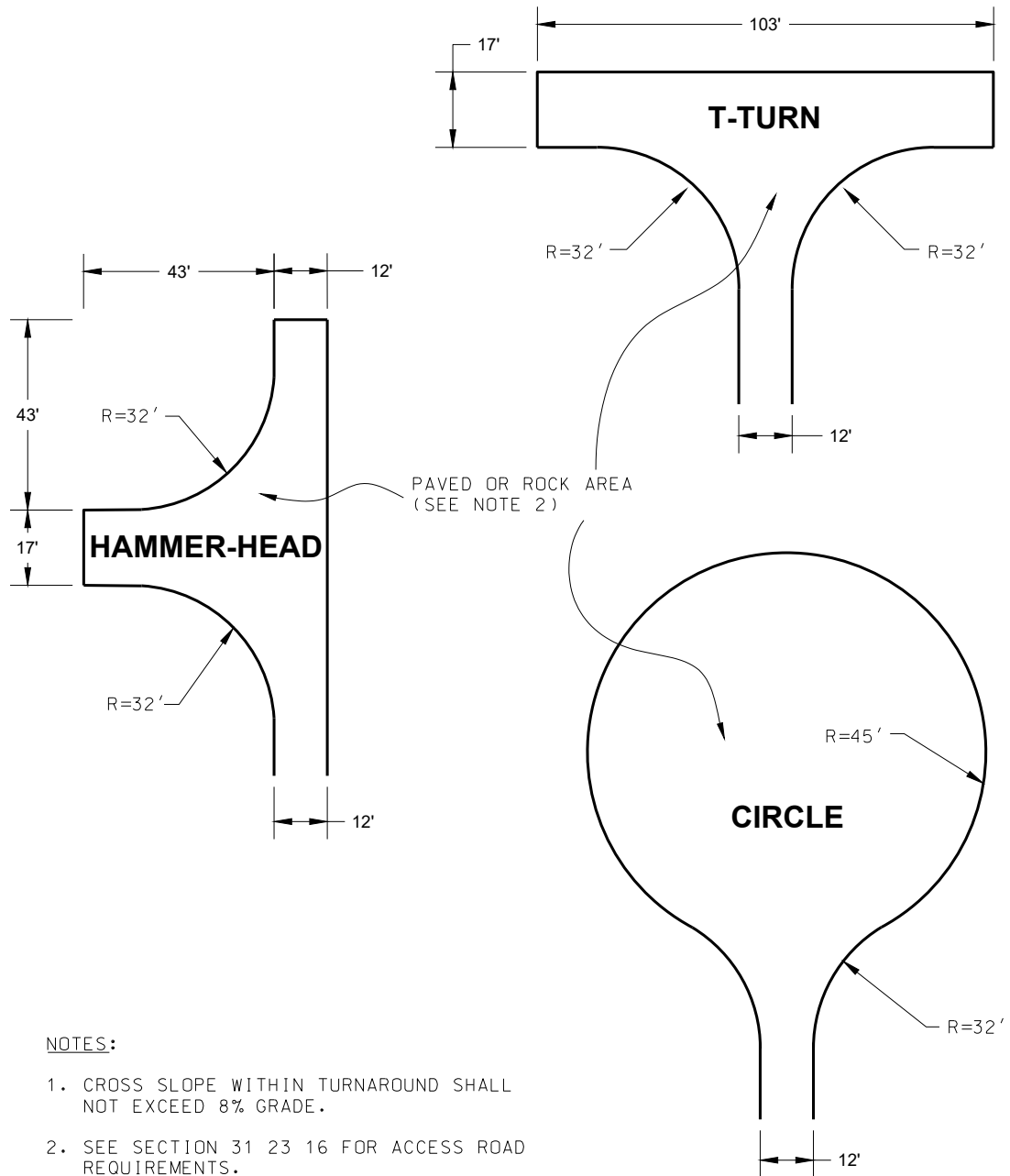


### CROSSING



# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## ALL-WEATHER ACCESS ROAD TURNAROUNDS

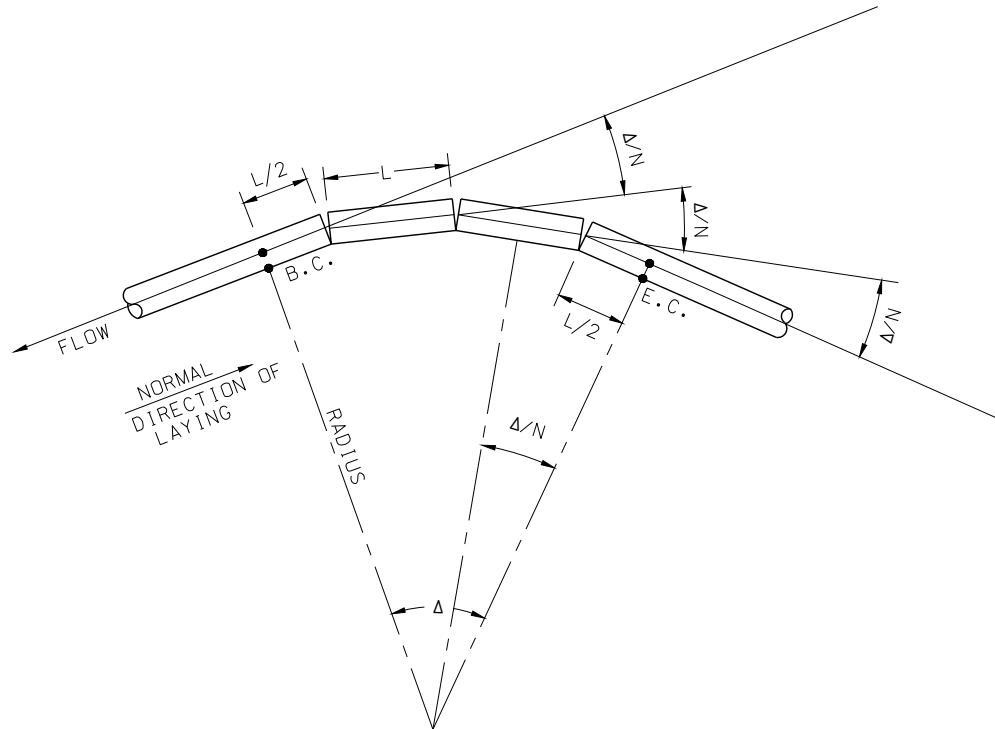


**NOTES:**

1. CROSS SLOPE WITHIN TURNAROUND SHALL NOT EXCEED 8% GRADE.
2. SEE SECTION 31 23 16 FOR ACCESS ROAD REQUIREMENTS.
3. ALL DIMENSIONS ARE MINIMUM REQUIREMENTS.

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**LAYOUT OF CURVED ALIGNMENT**  
**USING STRAIGHT PIPE SEGMENTS WITH**  
**JOINT DEFLECTIONS OR FITTINGS**



**PLAN**

(FITTINGS REMOVED FOR CLARITY)

THE LAYING LENGTH (L), RADIUS (R), AND INCLUDED ANGLE (Δ) ARE COMPUTED BY THE EQUATIONS:

$$L = 2 \times R \times \tan(\Delta/2N)$$

$$R = L / (2 \times \tan(\Delta/2N))$$

$$\Delta = 2 \times N \times \tan^{-1}(L/2R)$$

WHERE:

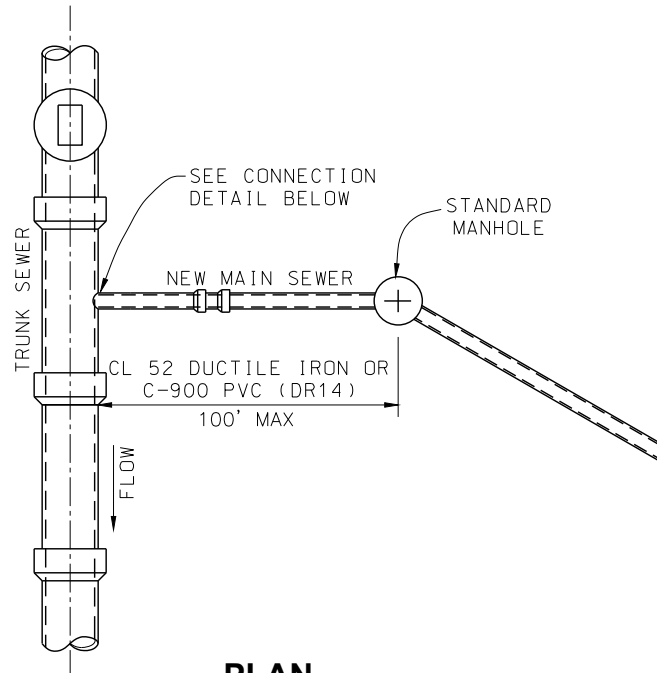
- R = RADIUS OF CURVATURE, FEET
- L = LAID LENGTH OF EACH PIPE SEGMENT MEASURED ALONG THE CENTERLINE, FEET
- Δ = TOTAL DEFLECTION ANGLE OF CURVE, DEGREES
- N = NUMBER OF DEFLECTED JOINTS
- Δ/N = TOTAL DEFLECTION AT EACH JOINT, DEGREES

NOTE: "L" SHALL BE EQUAL TO OR GREATER THAN 5 FEET.

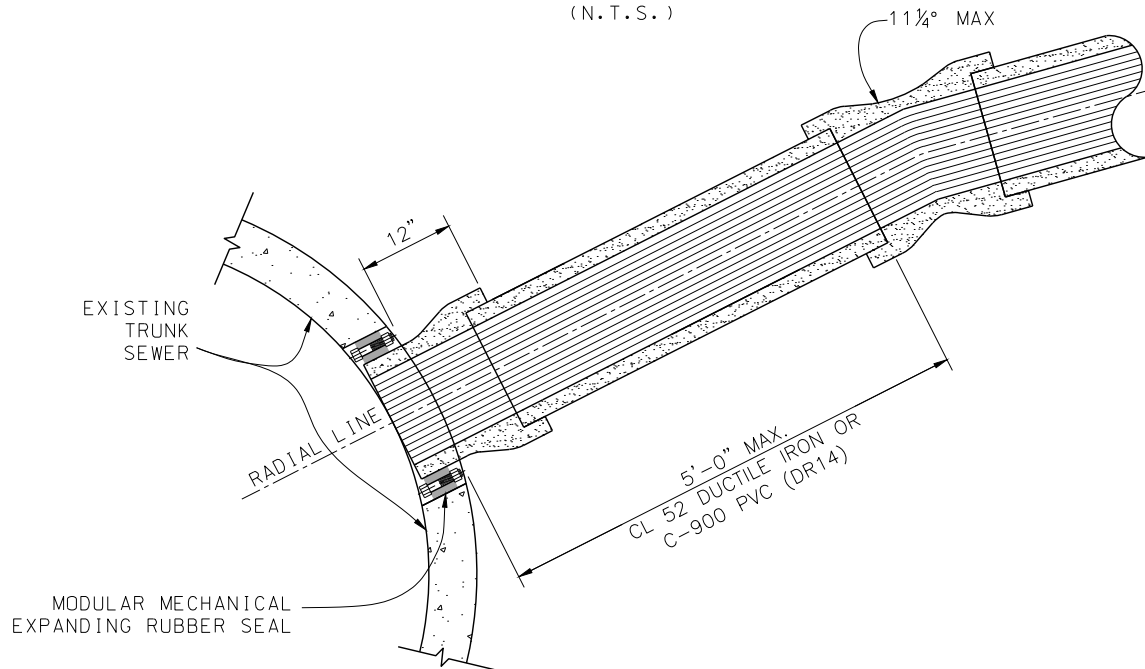
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MAIN SEWER CONNECTION TO TRUNK SEWERS

**48" AND LARGER  
(SPECIAL APPROVAL REQUIRED)**



**PLAN**  
(N.T.S.)



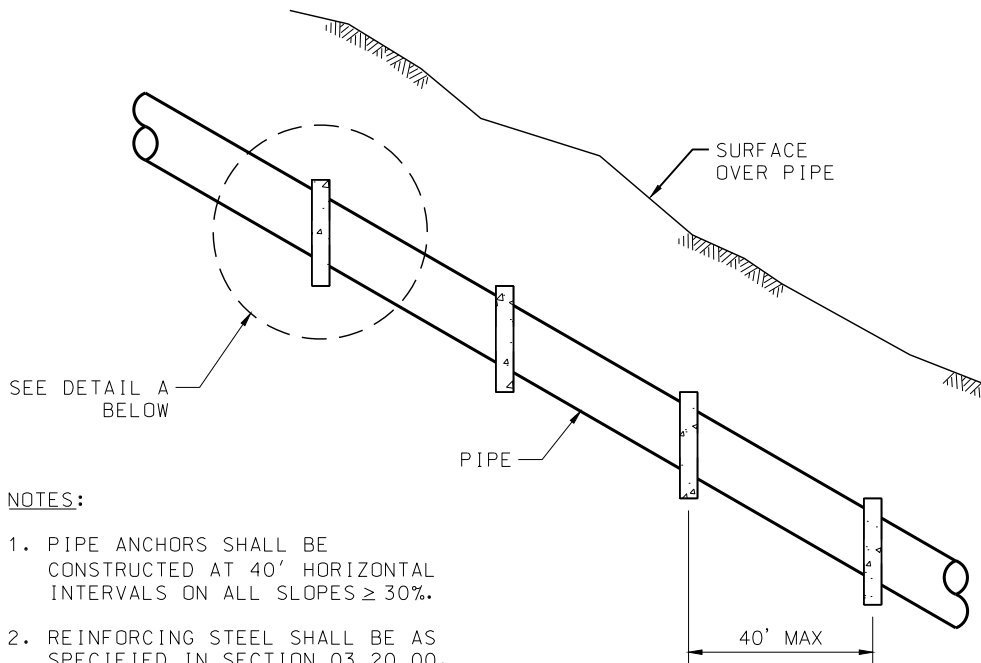
**NOTES:**

1. TAP SHALL BE CORE DRILLED, RECOVER CORED PLUG.
2. USE CLSM BACKFILL WITHIN 5' OF TRUNK.

### CONNECTION DETAIL

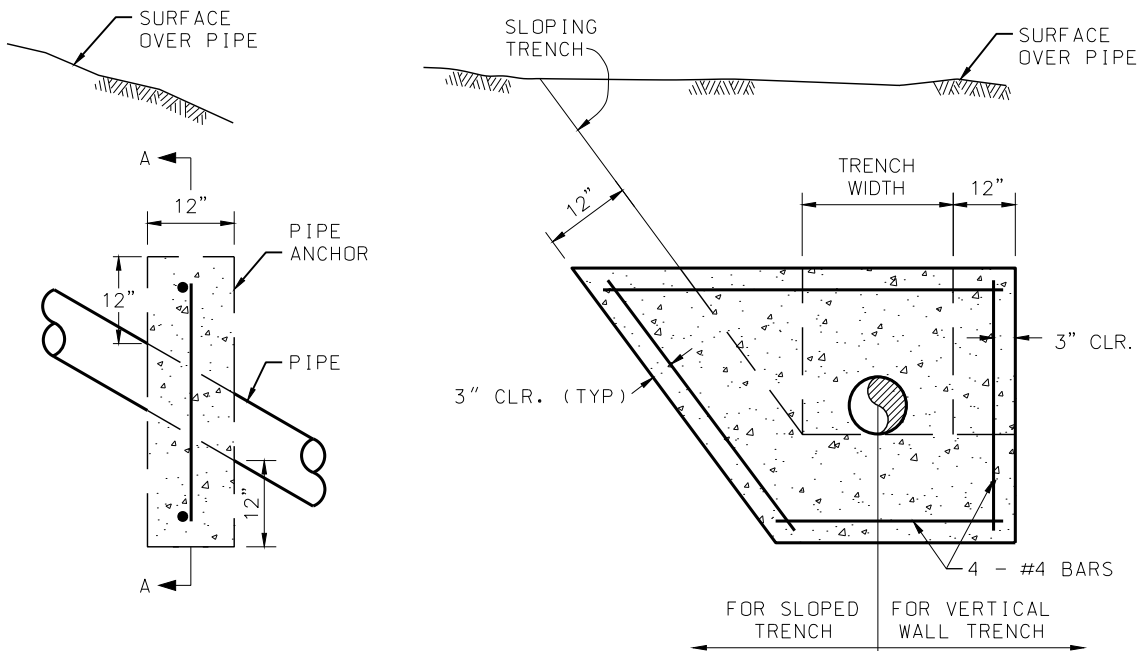
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## PIPE ANCHOR DETAIL



**NOTES:**

1. PIPE ANCHORS SHALL BE CONSTRUCTED AT 40' HORIZONTAL INTERVALS ON ALL SLOPES  $\geq$  30%.
2. REINFORCING STEEL SHALL BE AS SPECIFIED IN SECTION 03 20 00.
3. ANCHORS SHALL BE CAST-IN-PLACE CONCRETE PER SECTION 03 30 00.

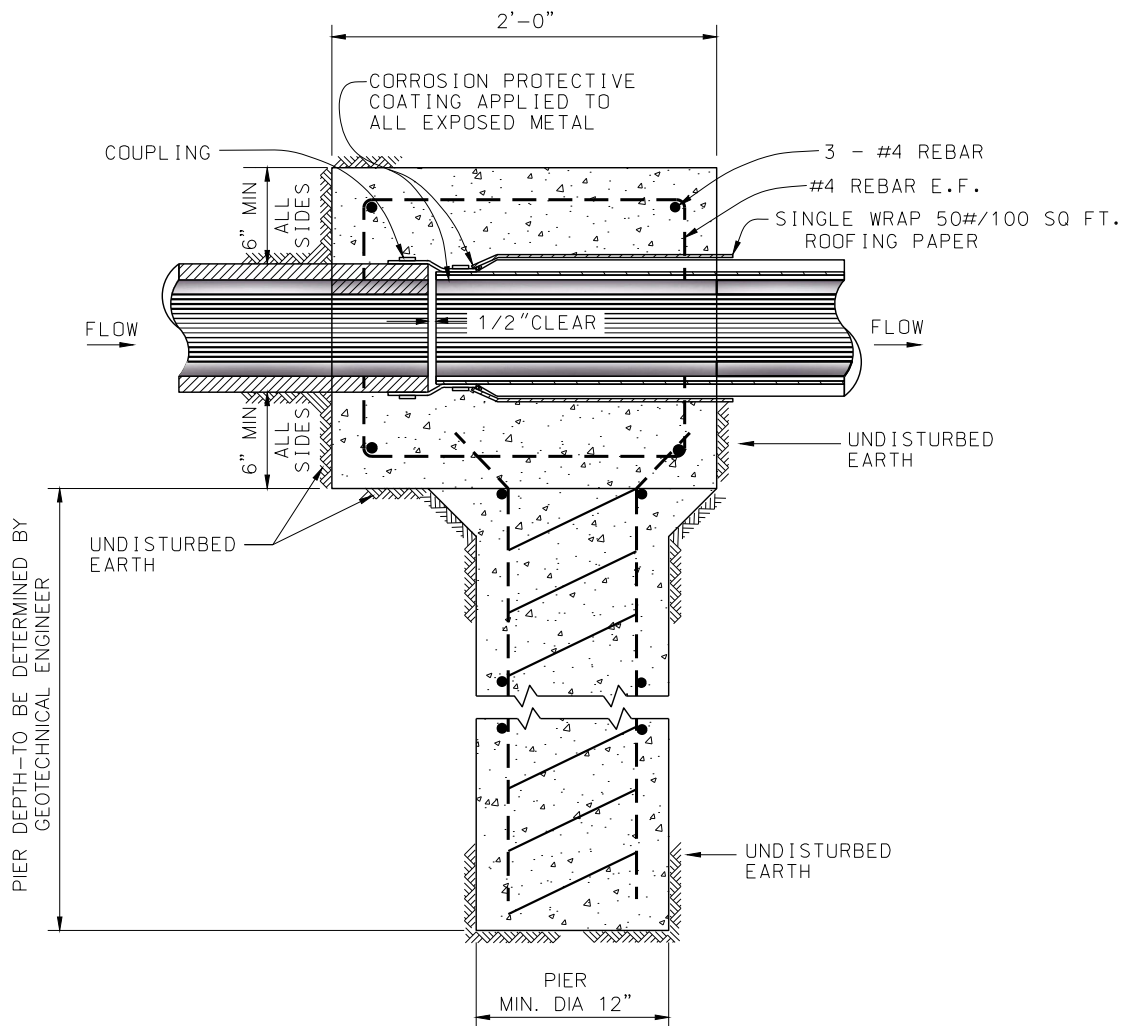


**DETAIL A**

**SECTION A-A**

**CENTRAL CONTRA COSTA SANITARY DISTRICT  
MARTINEZ, CALIFORNIA**

**JUNCTION SUPPORT  
EXPANSION BLOCK  
(SPECIAL APPROVAL REQUIRED)**



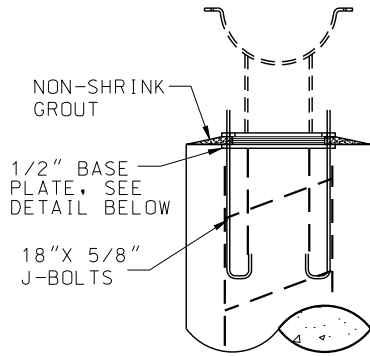
**VERTICAL SECTION**

**NOTES:**

1. ENGINEERED DESIGN FOR PIER REINFORCEMENT SHALL BE SUBMITTED TO CCCSD.
2. ALL STEEL REINFORCEMENT SHALL HAVE 3" MINIMUM CONCRETE COVER.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CONCRETE PIER SUPPORT FOR USE WHERE HEIGHT IS 1 TO 20 FEET (SPECIAL APPROVAL REQUIRED)

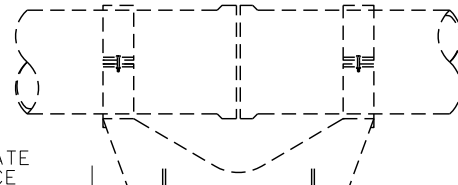


**90 DEGREE  
ROTATED SECTION**

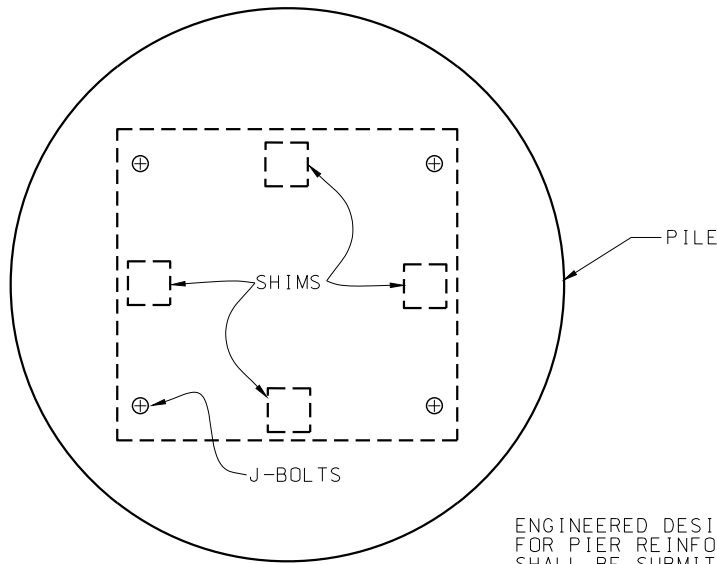
**NOTE:**

SET A36 STEEL BASE PLATE TO PROVIDE 2" CLEARANCE FOR FIELD ADJUSTMENTS OF PIPE SADDLE TO GRADE. METAL SHIMS FOR ADJUSTMENT SHALL BE 3" MINIMUM WIDE AND PLACED AS SHOWN IN BASE PLATE PLAN.

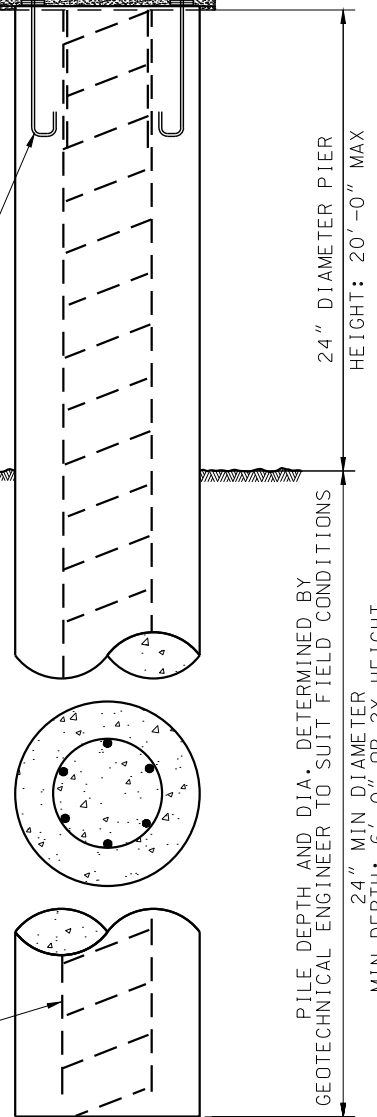
FILL ENTIRE VOID BETWEEN BASE PLATE AND PIPE SADDLE WITH NON-SHRINK GROUT



18" X 5/8" J-BOLTS



**BASE PLATE PLAN**



24" DIAMETER PIER  
HEIGHT: 20'-0" MAX

PILE DEPTH AND DIA. DETERMINED BY  
GEOTECHNICAL ENGINEER TO SUIT FIELD CONDITIONS

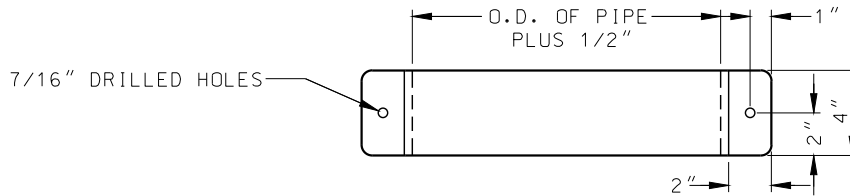
24" MIN DIAMETER  
MIN DEPTH: 6'-0" OR 2X HEIGHT  
5'-0" MIN BELOW CREEK BED IN CREEK AREAS

ENGINEERED DESIGN FOR PIER REINFORCEMENT SHALL BE SUBMITTED TO CCCSD

**VERTICAL SECTION**

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## PIPE SADDLE FOR USE ON CONCRETE PIER SUPPORT AND TRESTLE BENT



**TOP VIEW OF CLAMP**

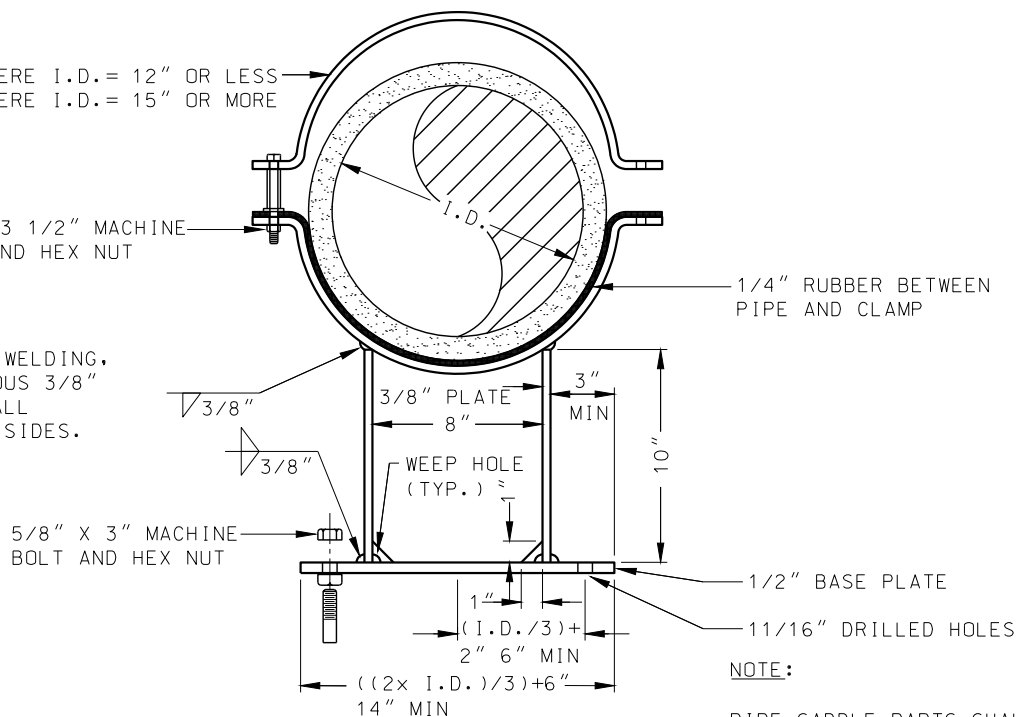
3/8" PLATE WHERE I.D. = 12" OR LESS  
1/2" PLATE WHERE I.D. = 15" OR MORE

3/8" X 3 1/2" MACHINE  
SCREW AND HEX NUT

1/4" RUBBER BETWEEN  
PIPE AND CLAMP

**NOTE:**

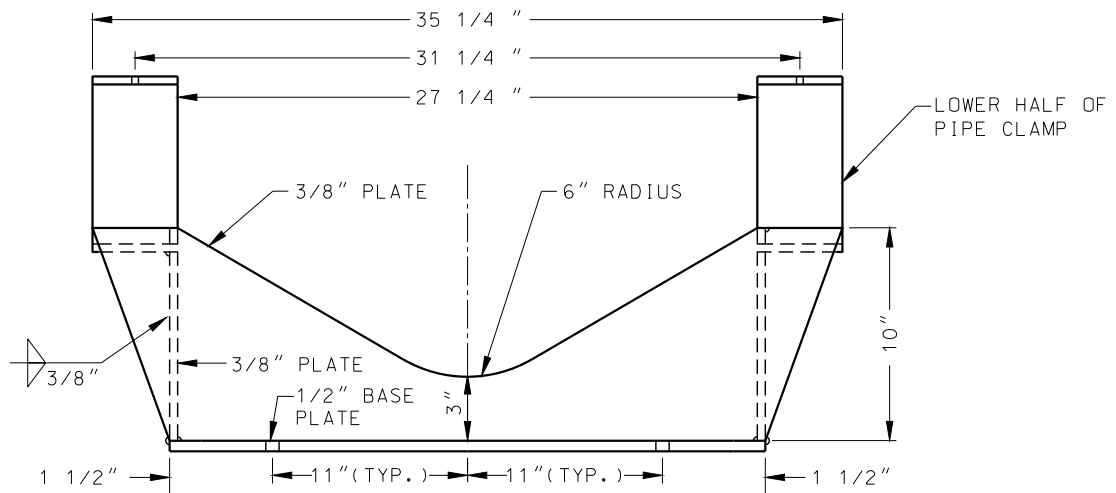
FABRICATE BY WELDING,  
WITH CONTINUOUS 3/8"  
FILLET WELD, ALL  
JOINTS, BOTH SIDES.



**NOTE:**

PIPE SADDLE PARTS SHALL  
BE A36 STEEL, HOT-DIP  
GALVANIZED AFTER FABRICATION.

**END VIEW**



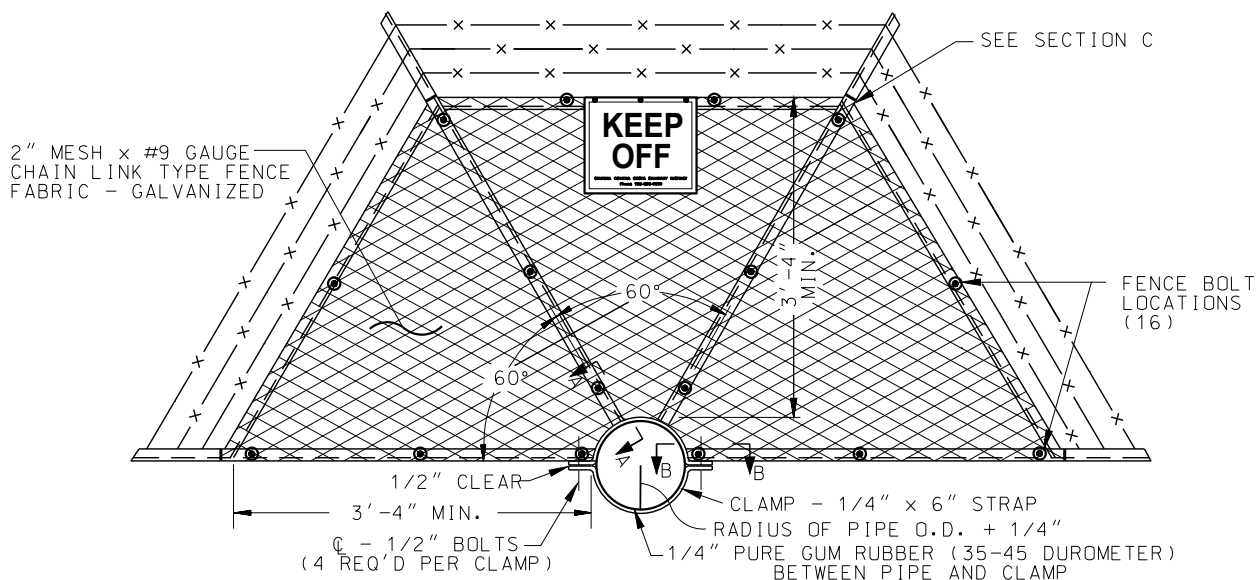
**SIDE VIEW**

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

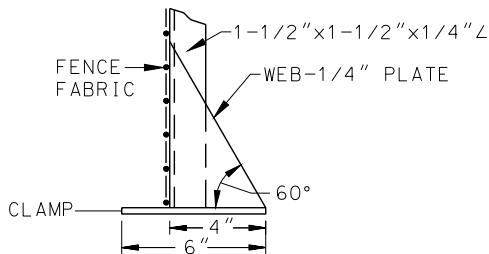
## GUARD FENCE FOR CREEK CROSSING

**NOTES:**

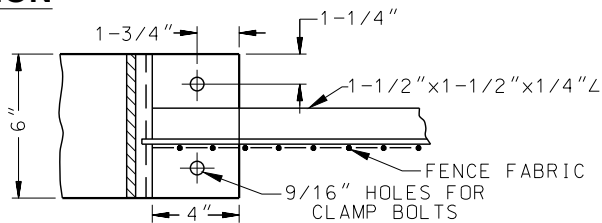
1. ALL GUARD FENCE PARTS SHALL BE HOT-DIPPED GALVANIZED AFTER FABRICATION.
2. EACH GUARD FENCE SHALL HAVE A 12" x 14" 20 GAUGE MINIMUM SIGN PERMANENTLY ATTACHED IN LOCATION SHOWN (FURNISHED BY CCCSD).



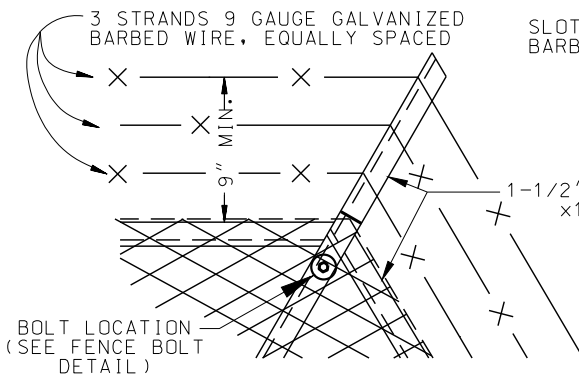
**ELEVATION**



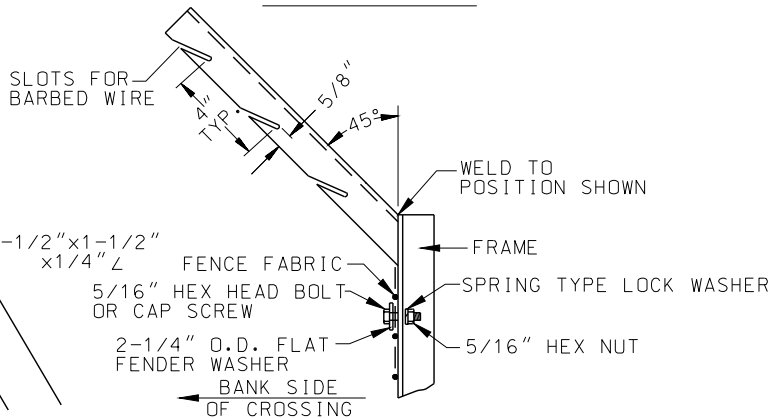
**SECTION A-A**



**SECTION B-B**



**SECTION C**



**FENCE BOLT & WIRE ATTACHMENT DETAIL**

(16 MIN. BOLT ASSEMBLIES REQUIRED)  
PLACED AS SHOWN

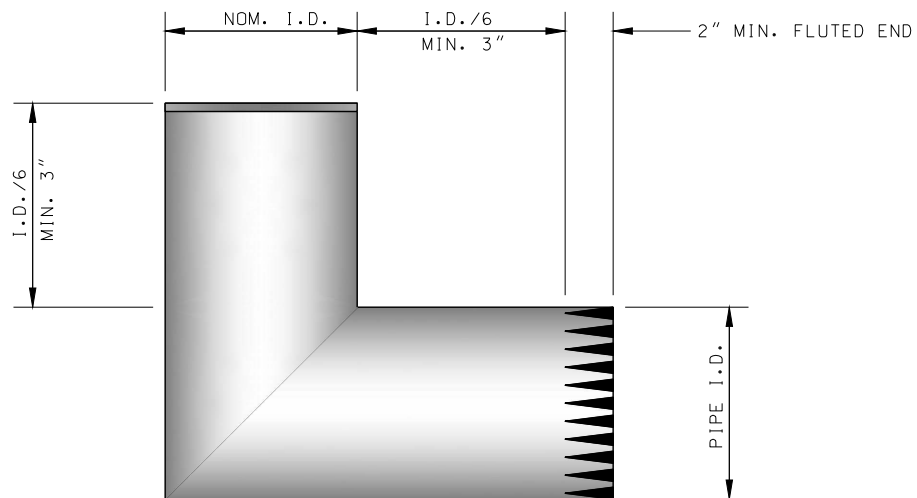
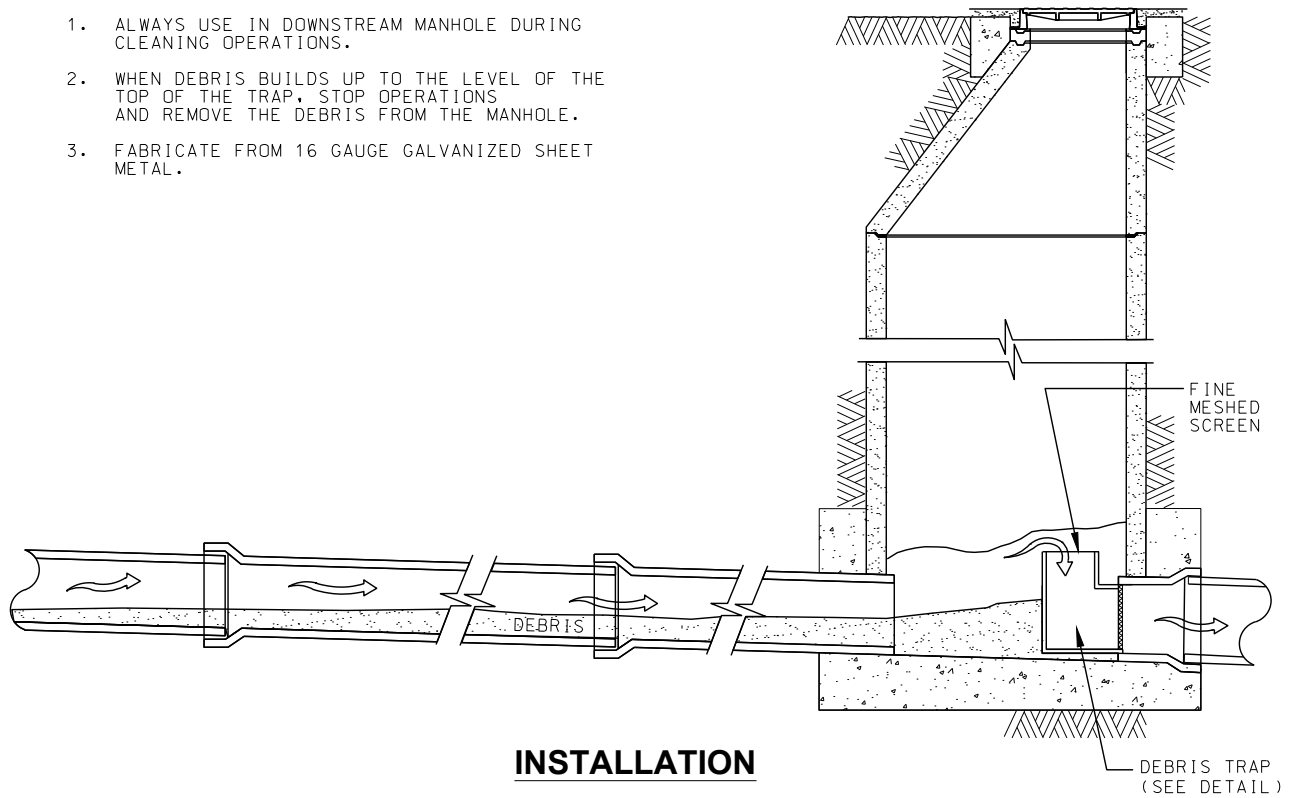


# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## DEBRIS TRAP FOR CLEANING PURPOSES

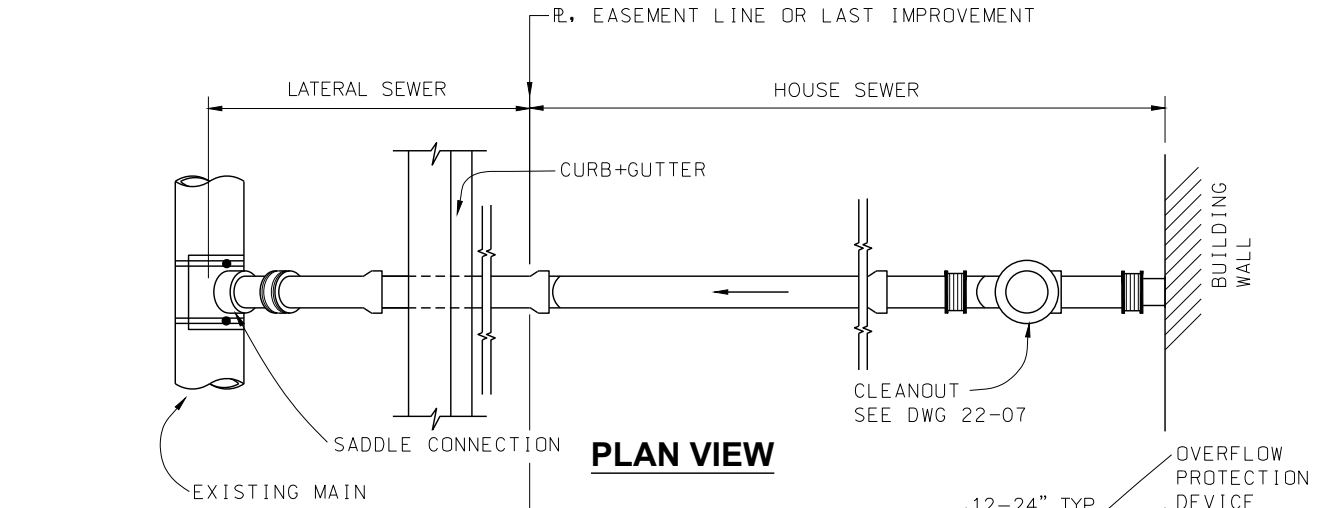
**NOTES:**

1. ALWAYS USE IN DOWNSTREAM MANHOLE DURING CLEANING OPERATIONS.
2. WHEN DEBRIS BUILDS UP TO THE LEVEL OF THE TOP OF THE TRAP, STOP OPERATIONS AND REMOVE THE DEBRIS FROM THE MANHOLE.
3. FABRICATE FROM 16 GAUGE GALVANIZED SHEET METAL.

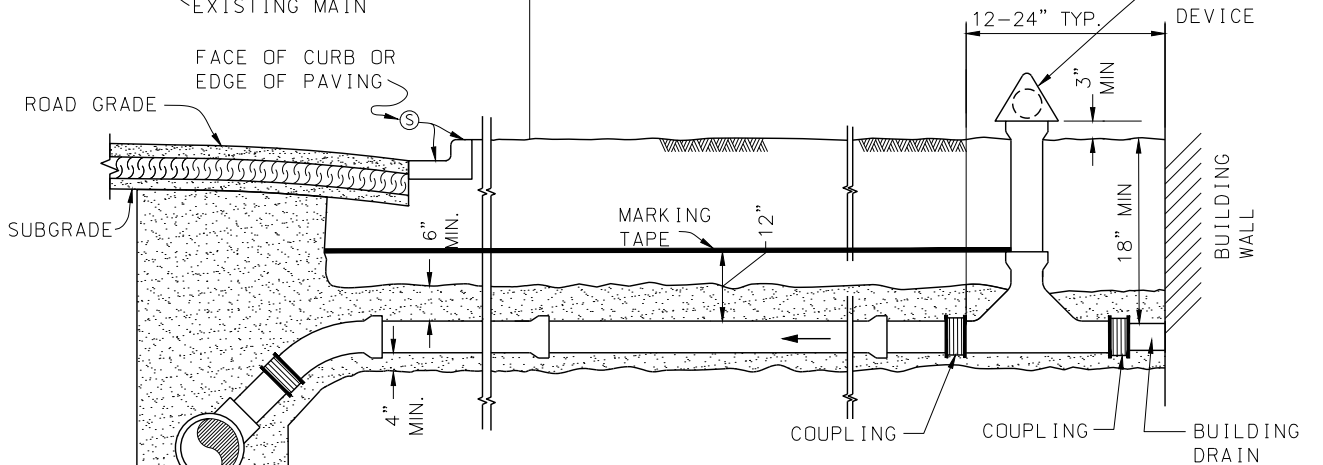


# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

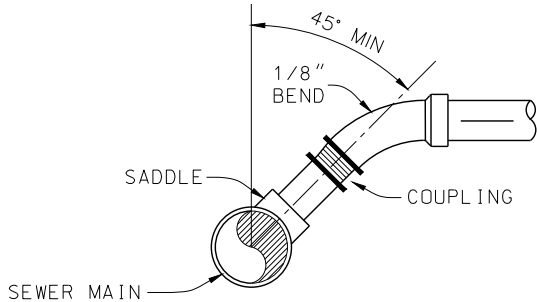
## SIDE SEWER LAYOUT (CONNECTION TO EXISTING MAIN)



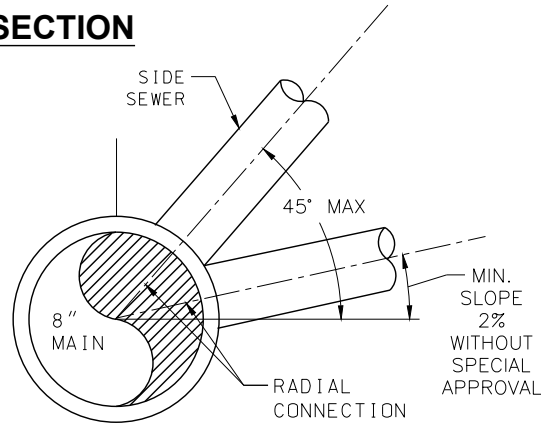
**PLAN VIEW**



**LONGITUDINAL SECTION**



**SADDLE CONNECTION DETAIL**



**CONNECTION AT MAIN**

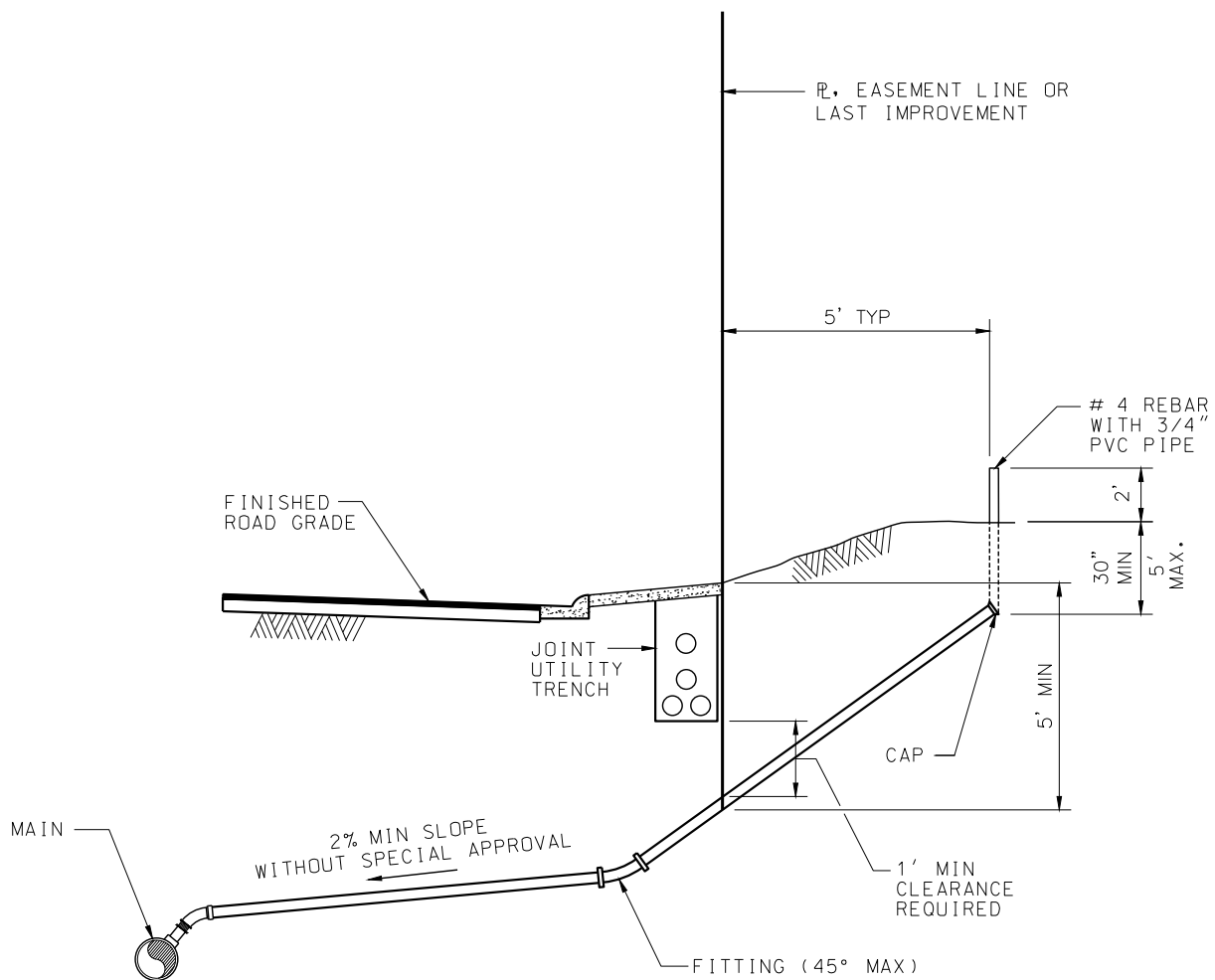
**NOTES:**

1. WHEN A LATERAL SEWER IS INSTALLED IN ADVANCE OF THE BUILDING SEWER, IT SHALL BE TERMINATED WITH A CAP OR PLUG 5' PAST THE PROPERTY LINE, EASEMENT LINE OR LAST IMPROVEMENT AND THE CONTRACTOR SHALL MARK THE LOCATION OF THE CAPPED/PLUGGED END WITH A 2X4 PRESSURE TREATED STAKE PAINTED GREEN.
2. REFER TO SECTION 31 23 16 FOR BEDDING AND BACKFILL REQUIREMENTS.

18-May-2020 K:\Projects\standard\Specs\cois\sys22-01\_SideSewerLayoutConnectionToExistingMain.dwg

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## SIDE SEWER LAYOUT (CONNECTION TO NEW MAIN)



**NOTES:**

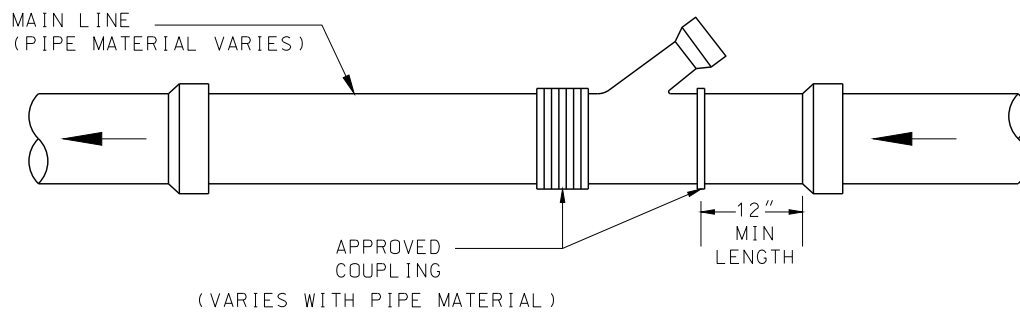
1. REFER TO SECTION 31 23 16 FOR BEDDING AND BACKFILL REQUIREMENTS.
2. MINIMUM COVER FROM THE POINT OF CONNECTION TO THE BUILDING WASTE PLUMBING (WITHIN TWO FEET OF THE FOUNDATION) SHALL BE 18 INCHES, COVER REQUIREMENTS FROM THE PROPERTY LINE TO A POINT WITHIN 8 FEET OF THE BUILDING WASTE SHALL BE IN CONFORMANCE WITH SECTION 4.

18-May-2020 K:\Projects\standard\Specs\cois\22-02\_SideSewerLayoutConnectionToNewMain.dwg

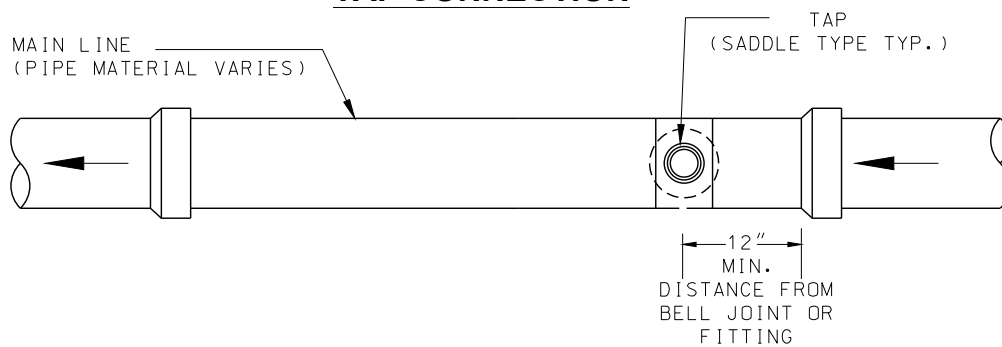
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## TAP AND WYE CONNECTION TO EXISTING MAIN

### WYE CONNECTION



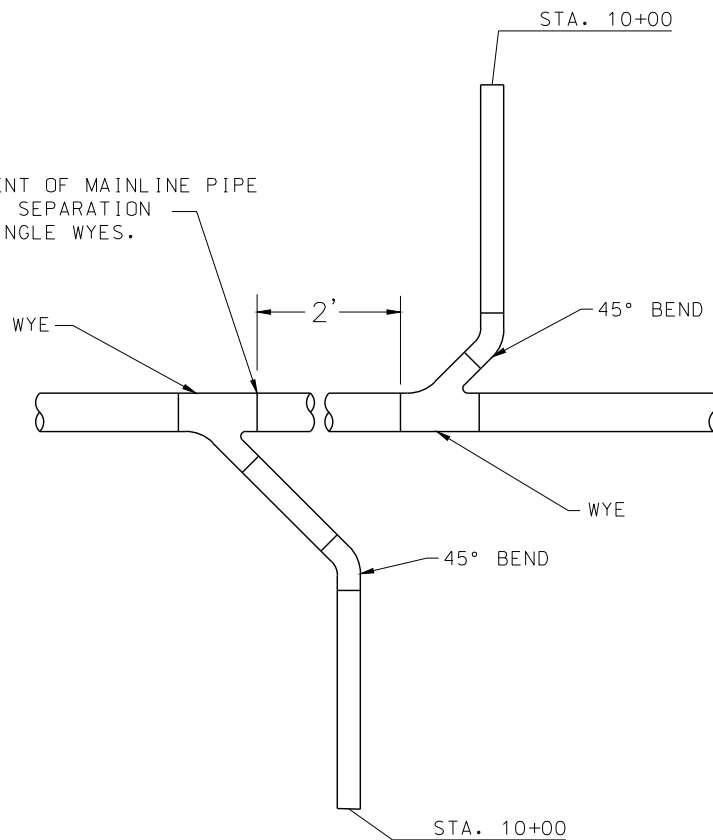
### TAP CONNECTION



# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MINIMUM LAYOUT OF WYES ALONG MAIN

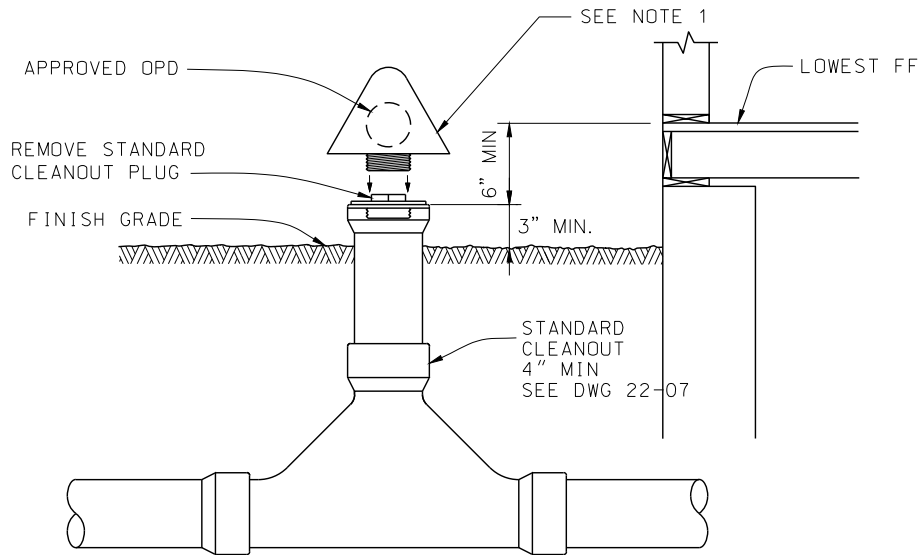
PROVIDE STRAIGHT SEGMENT OF MAINLINE PIPE  
TO ACHIEVE, MINIMUM 2' SEPARATION  
REQUIRED IN-BETWEEN SINGLE WYES.



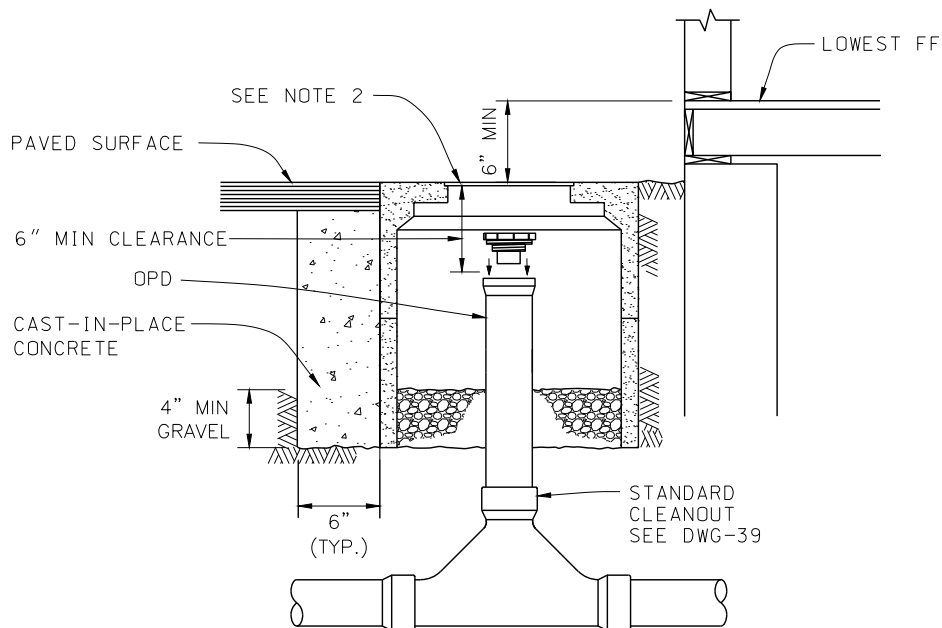
### SINGLE WYE CONNECTION NTS

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## OVERFLOW PROTECTION DEVICES



**(TYPE 1)**



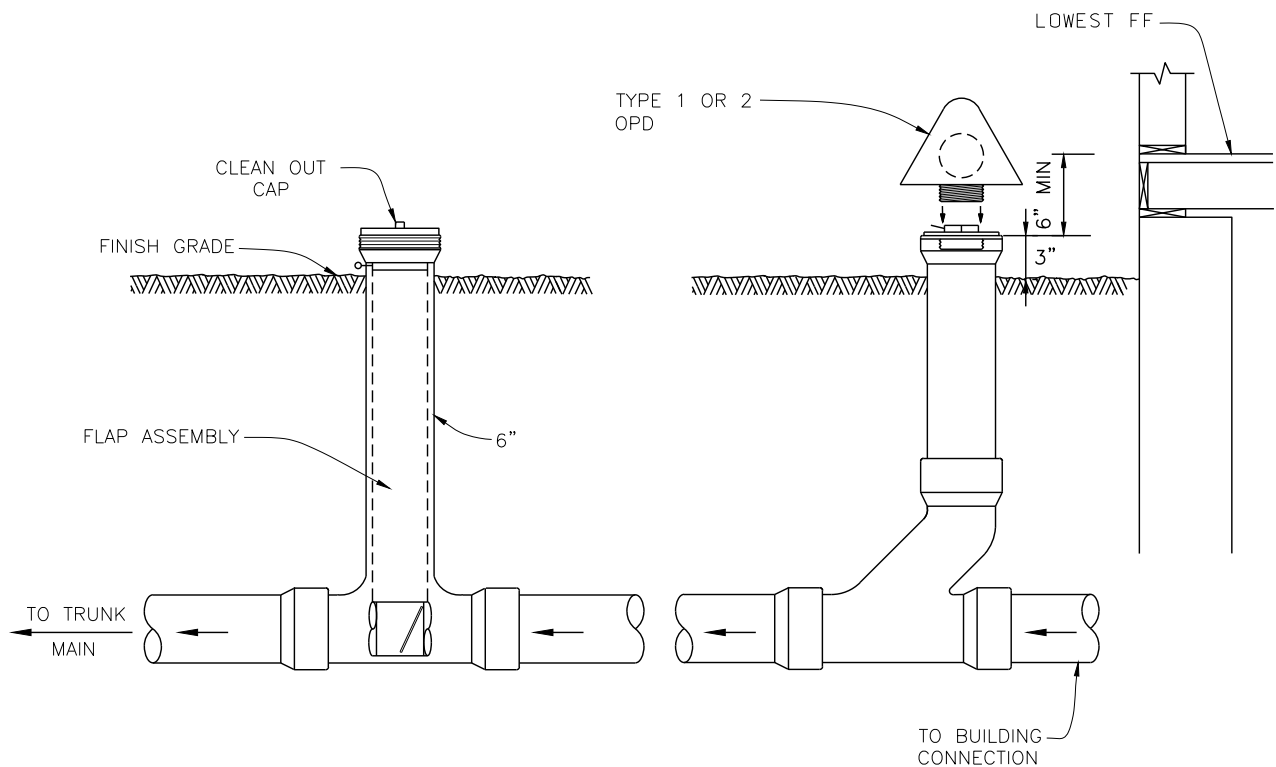
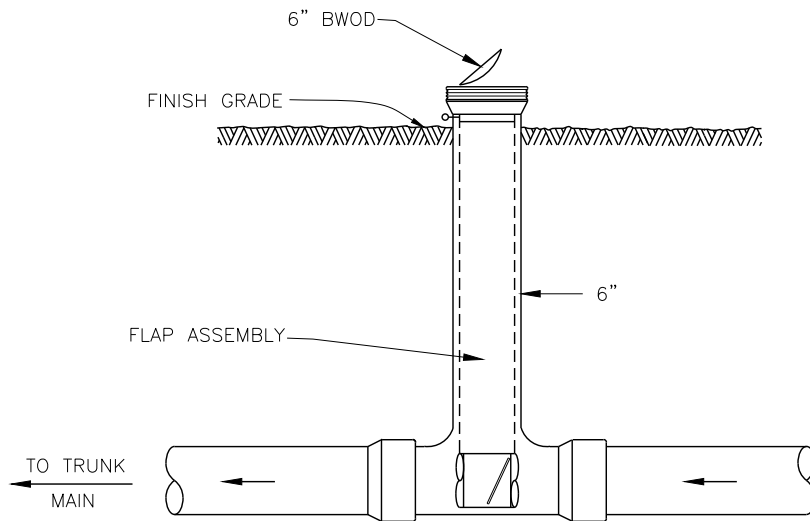
**(TYPE 2)**

**NOTES:**

1. AN OVERFLOW PROTECTION DEVICE, PER CCCSD'S APPROVED MATERIALS LIST, IS REQUIRED ON ALL SIDE SEWERS. SPECIFIC LOCATION SHALL BE DETERMINED BY THE CONTRACTOR AND THE PROPERTY OWNER.
2. SEE APPROVED MATERIALS LIST FOR TRAFFIC AND NON-TRAFFIC AREA PRECAST UTILITY BOXES AND GRATED LIDS.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CLEAN CHECK PROTECTION DEVICE



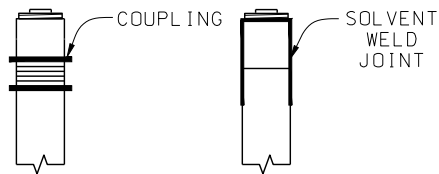
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CLEANOUT RISERS

**NOTES:**

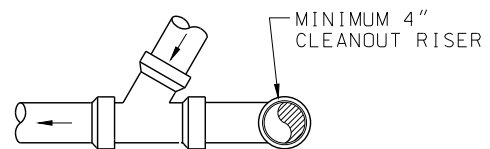
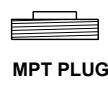
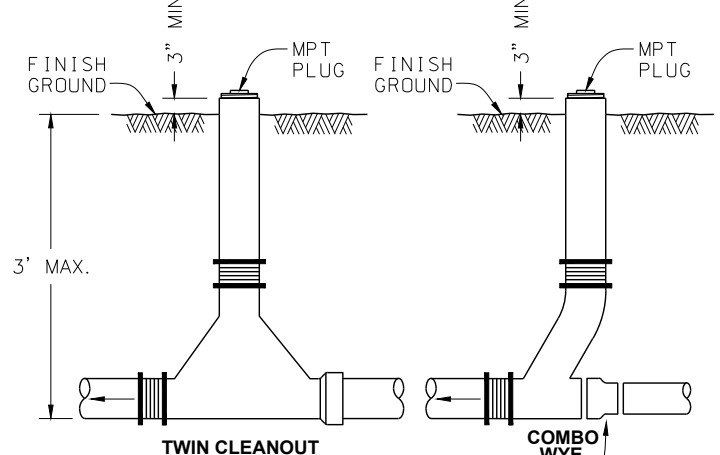
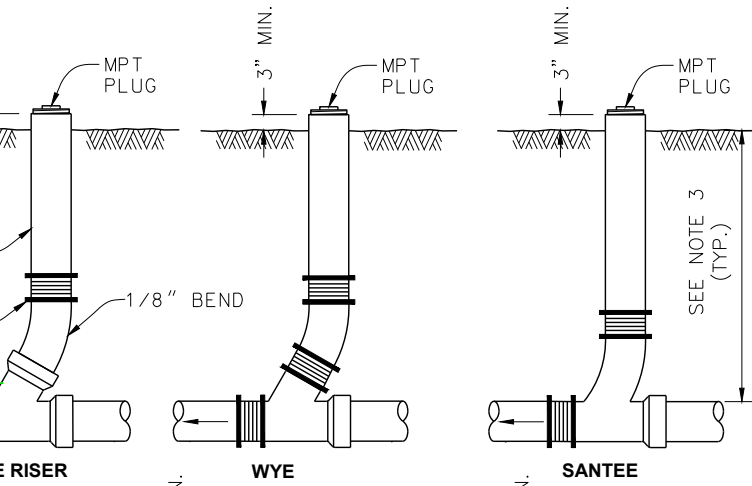
1. CLEANOUT SHALL BE THE SAME SIZE AS THE SIDE SEWER. SEE DWG 22-05 FOR OVERFLOW PROTECTION DEVICE DETAILS.
2. CLEANOUT RISER PIPE SIZE SHALL MATCH CLEANOUT SIZE.
3. MAXIMUM DEPTH 36"

**ANGLE POINT RISER**



SPIGOT/HUB SP x FPT      SLIP SP x FPT

### PLUG CONNECTION DETAIL

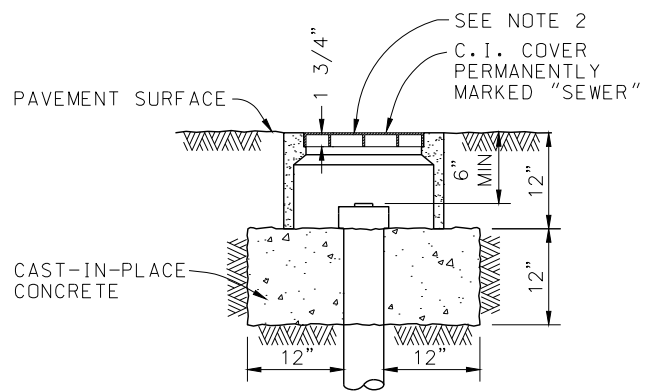


### ANGLE POINT CLEANOUT

PLAN VIEW

**NOTES:**

1. ANGLE POINT CLEANOUT REQUIRED IF SIDE SEWER DEFLECTIONS EQUALS OR EXCEEDS 90°.
2. SEE APPROVED MATERIALS LIST FOR TRAFFIC AND NON-TRAFFIC AREA PRECAST UTILITY BOXES AND GRATED LIDS.
3. 6" SEWER LINES REQUIRE 6" CLEANOUTS



### CLEANOUT RISER IN PAVED AREA

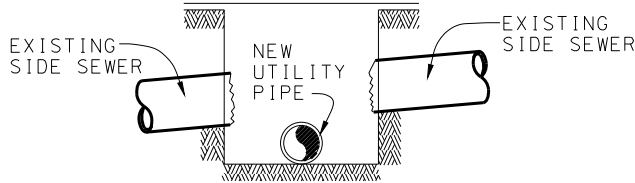
18-May-2020 K:\Projects\standard\Specs\sys122-07\_CleanoutRisers.dwg



# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

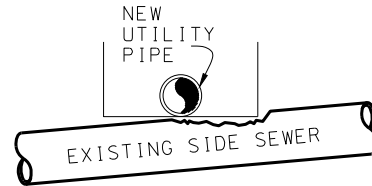
## SIDE SEWER REPAIRS

### SIDE SEWER BREAK NO CONFLICT IN GRADE



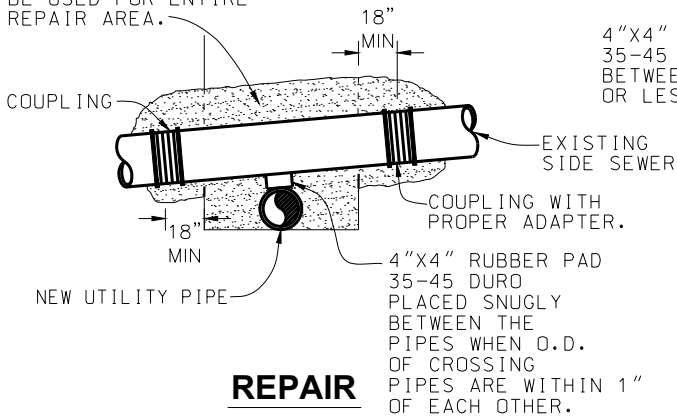
#### BREAK

### SIDE SEWER BREAK NO CONFLICT IN GRADE



#### BREAK

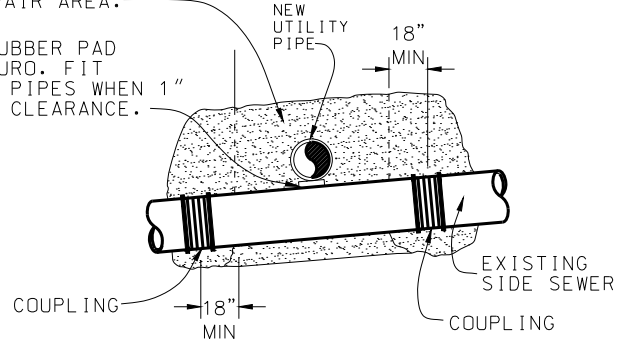
TYPE 1 BACKFILL SHALL BE USED FOR ENTIRE REPAIR AREA.



#### REPAIR

TYPE 1 BACKFILL SHALL BE USED FOR ENTIRE REPAIR AREA.

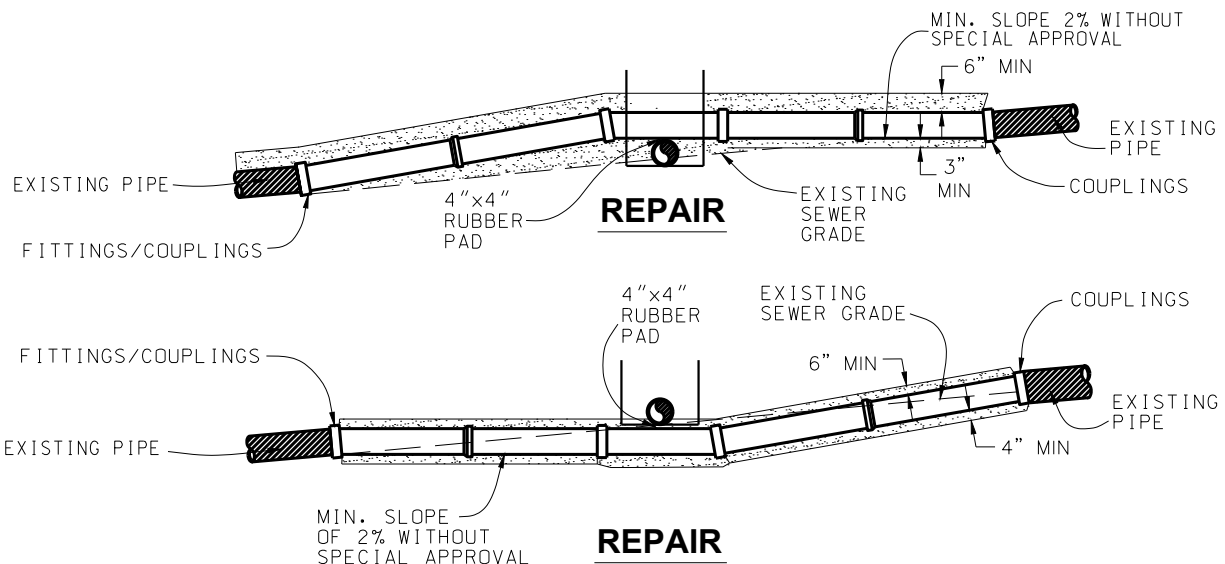
4"X4" RUBBER PAD 35-45 DURO. FIT BETWEEN PIPES WHEN 1" OR LESS CLEARANCE.



#### REPAIR

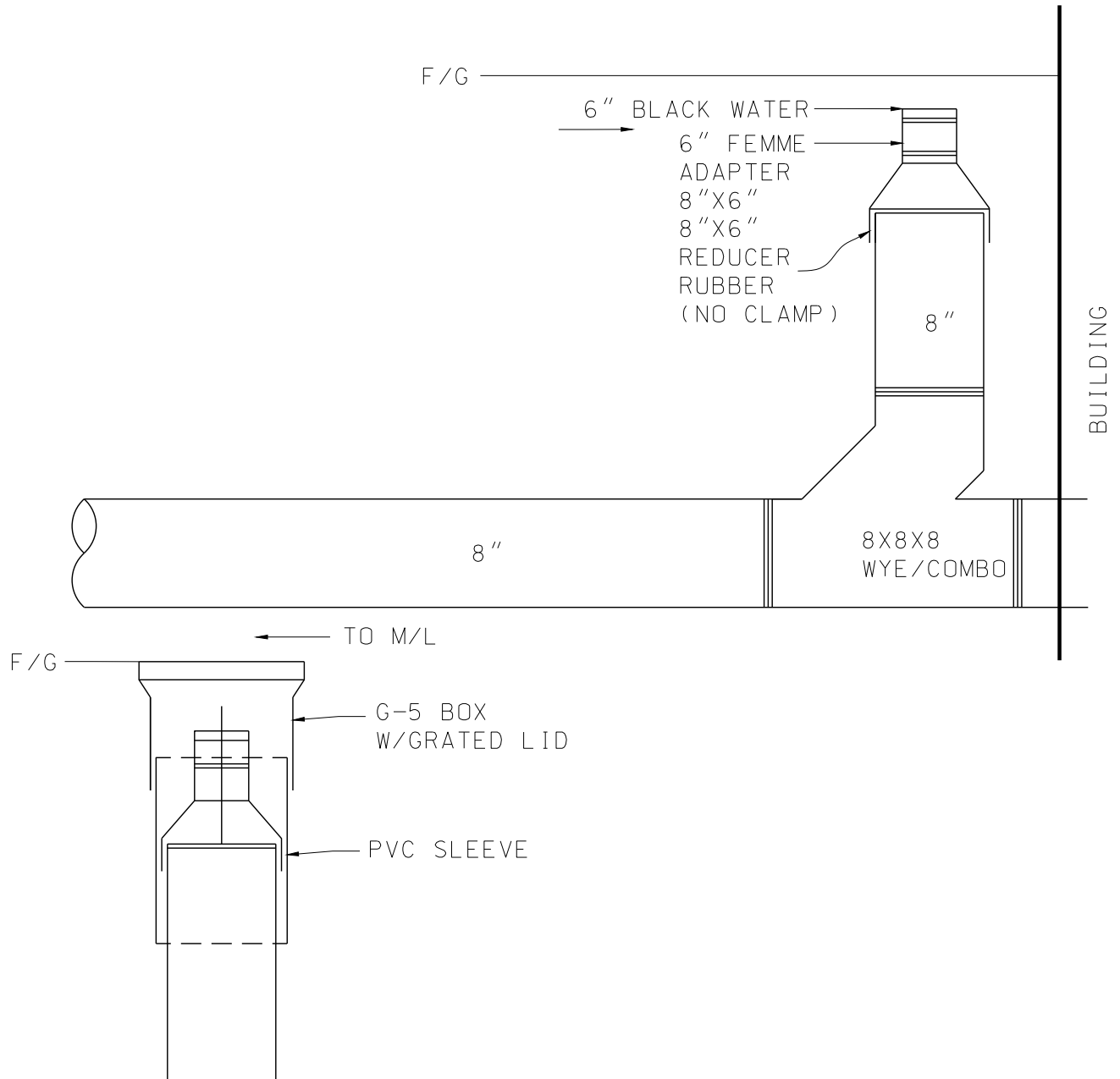
- NOTES:**
- REFER TO SECTION 33 31 16 LATERALS AND BUILDING SEWERS FOR SIDE SEWER DETAILS.
  - ALL EXCAVATIONS FOR REPAIRS SHALL BE EQUAL TO THE REQUIRED TRENCH WIDTH PLUS 18" ON EACH SIDE.

### SIDE SEWER WITH CONFLICT IN GRADE



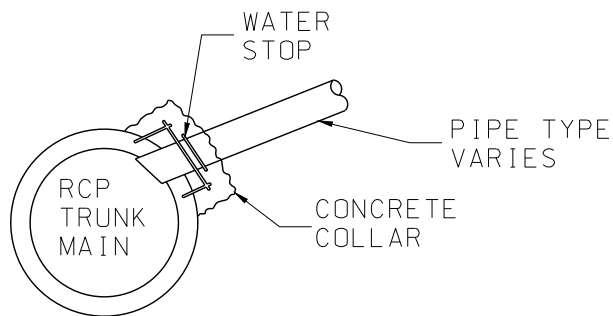
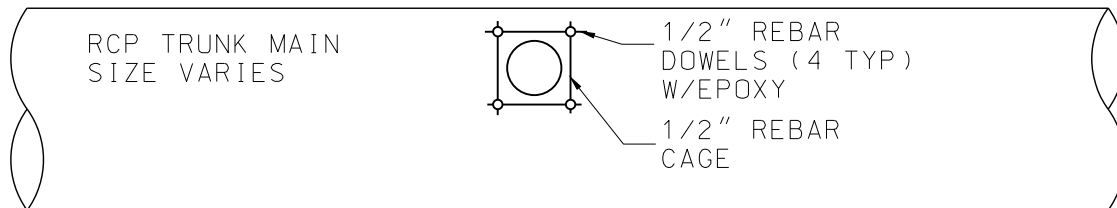
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CLEANOUT MODIFICATION FOR 8" LATERAL



**CENTRAL CONTRA COSTA SANITARY DISTRICT**  
**MARTINEZ, CALIFORNIA**

**SIDE SEWER TAP TO RCP TRUNK SEWER**  
**(VARIANCE REQUIRED)**

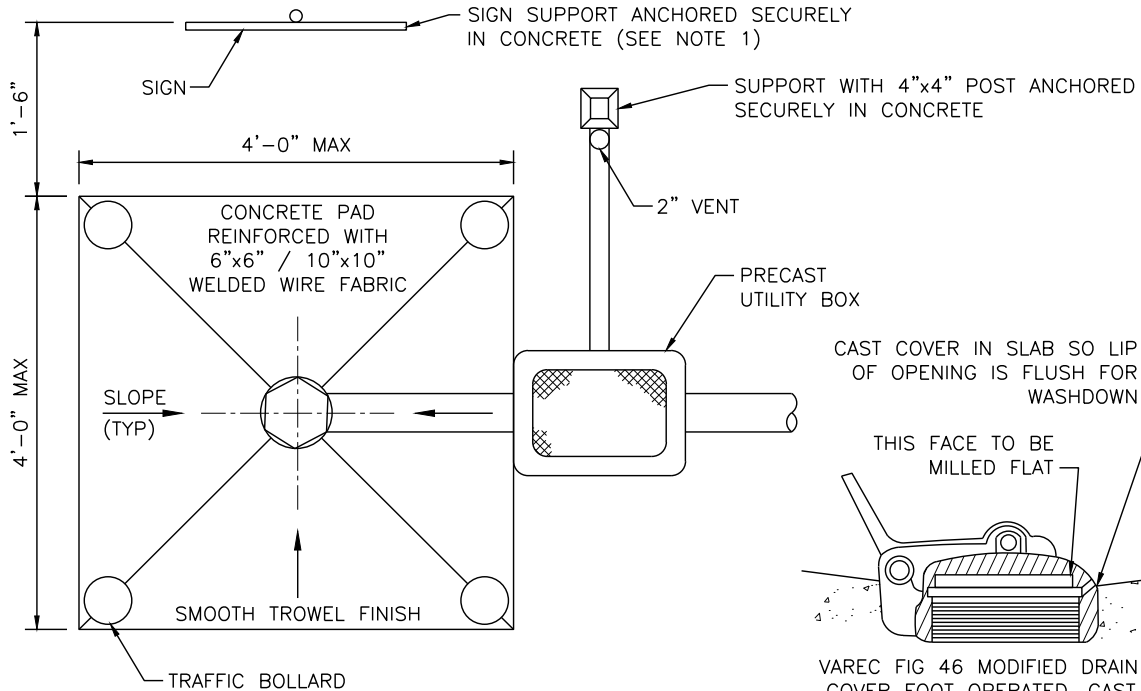


**NOTES:**

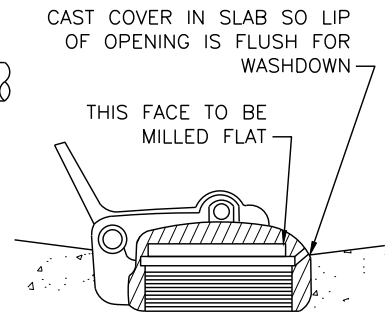
- CORE DRILL ONLY
- EPOXY REBAR DOWELS INTO PIPE
- WATER STOP IS REQUIRED

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## RV/TRAILER HOLDING TANK DISPOSAL FACILITY

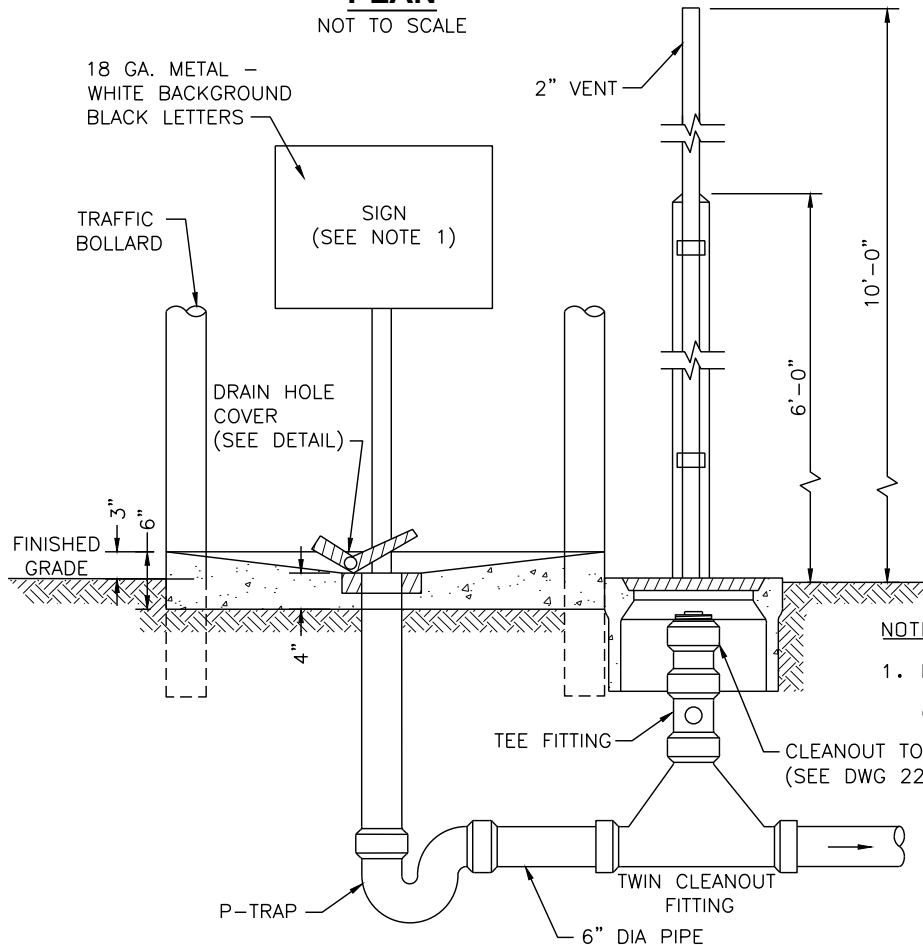


**PLAN**  
NOT TO SCALE



### **DRAIN HOLE COVER DETAIL**

NOT TO SCALE



NOTE:

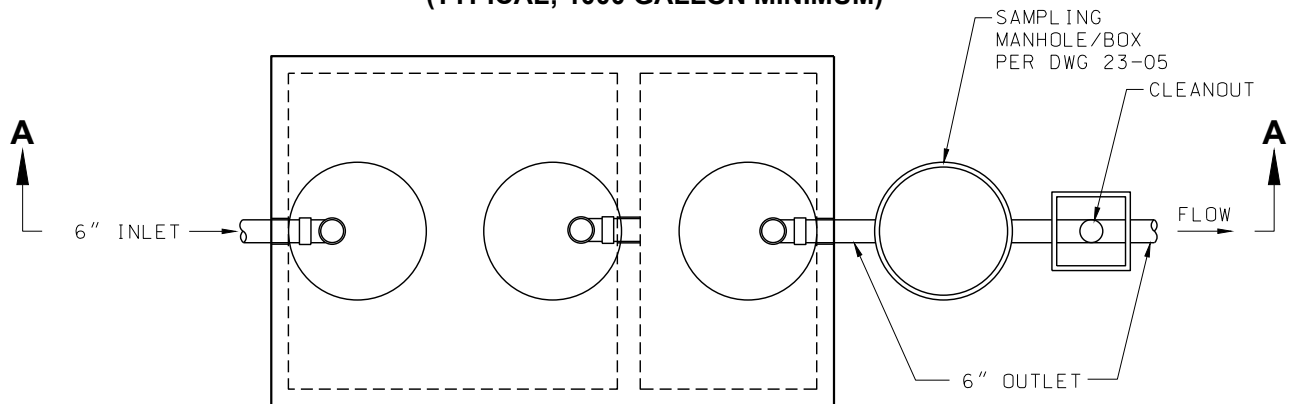
1. REQUIREMENTS FOR SIGN TO BE ESTABLISHED BY CCCSD PRIOR TO INSTALLATION.

### **ELEVATION**

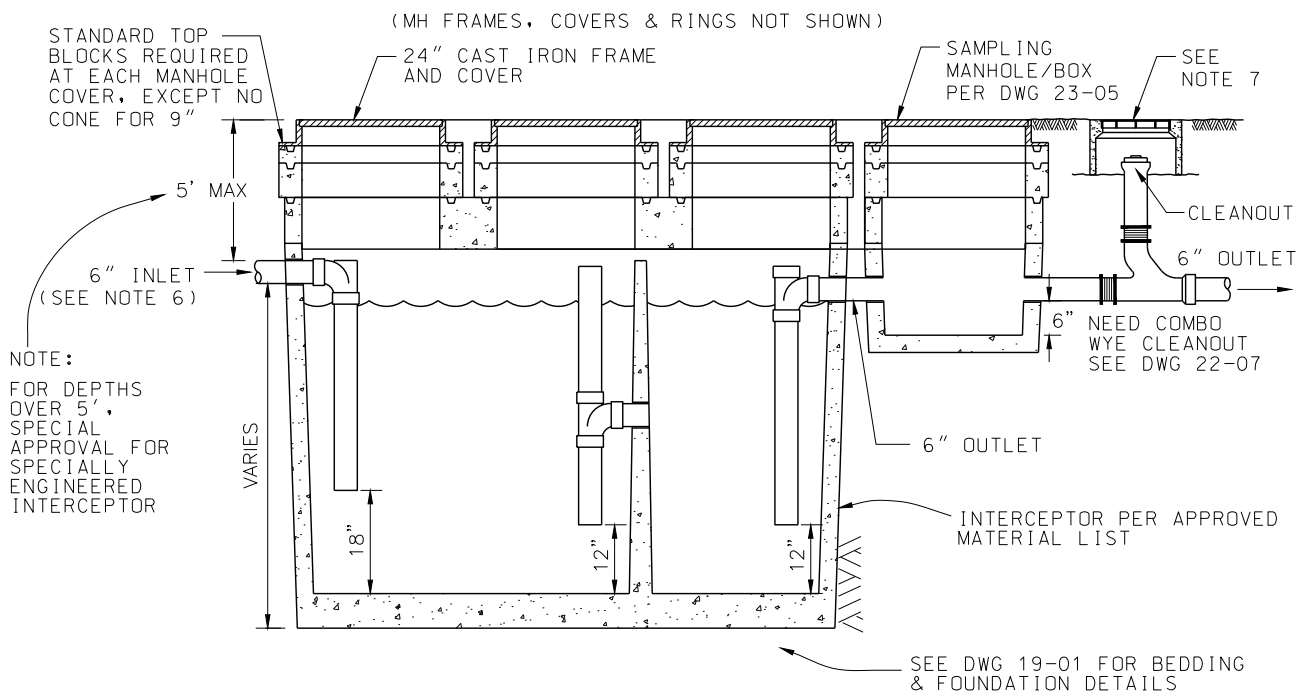
NOT TO SCALE

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## GREASE INTERCEPTOR (TYPICAL; 1000 GALLON MINIMUM)



**PLAN VIEW**



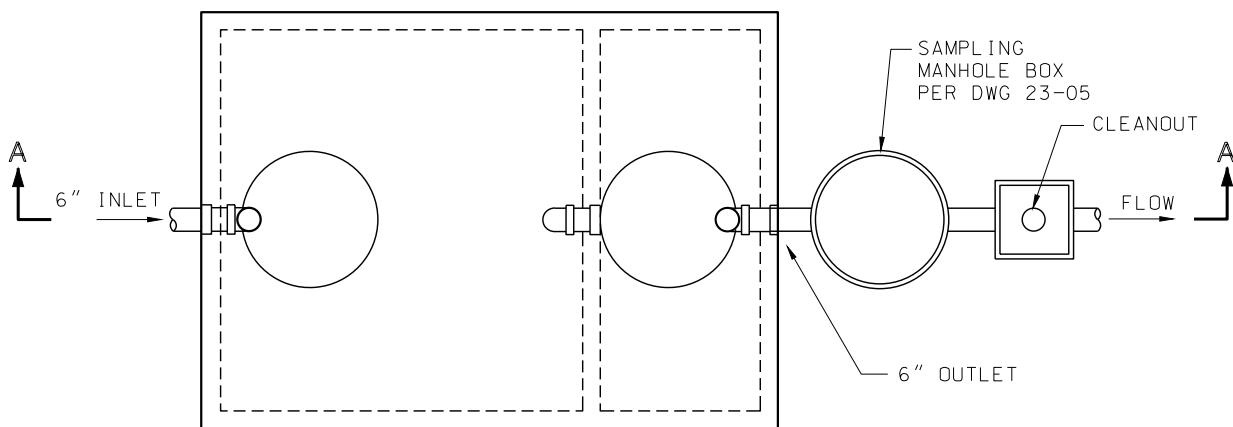
**SECTION A-A**

**NOTES:**

1. INTERCEPTOR SHALL BE PLACED ON A MINIMUM OF 6" TYPE I BEDDING MATERIAL, COMPACTED TO 95% RC.
2. ALL ELEVATIONS SHALL BE APPROVED BY CCCSD PRIOR TO INSTALLATION.
3. GREASE INTERCEPTORS ARE NOT INTENDED FOR THE INTRODUCTION OF DOMESTIC SEWAGE. LOCATION AND TRIBUTARY DISCHARGE SOURCES SHALL BE APPROVED BY CCCSD PRIOR TO INSTALLATION.
4. INTERCEPTOR LOCATED IN AN AREA SUBJECT TO TRAFFIC MUST BE H-20 TRAFFIC RATED. NON-PRECAST INTERCEPTORS ACCEPTED UPON SPECIAL APPROVAL.
5. ALL INLET AND OUTLET PIPES SHALL BE 6" DIAMETER.
6. THE USE OF CAST IRON SOIL PIPE FOR GREASE INTERCEPTOR APPLICATIONS IS PROHIBITED.
7. SEE APPROVED MATERIALS LIST FOR TRAFFIC AND NON-TRAFFIC AREA PRECAST UTILITY BOXES AND GRATED LIDS. SEE DWG 19-08 & 19-09 FOR COVER REQUIREMENTS.

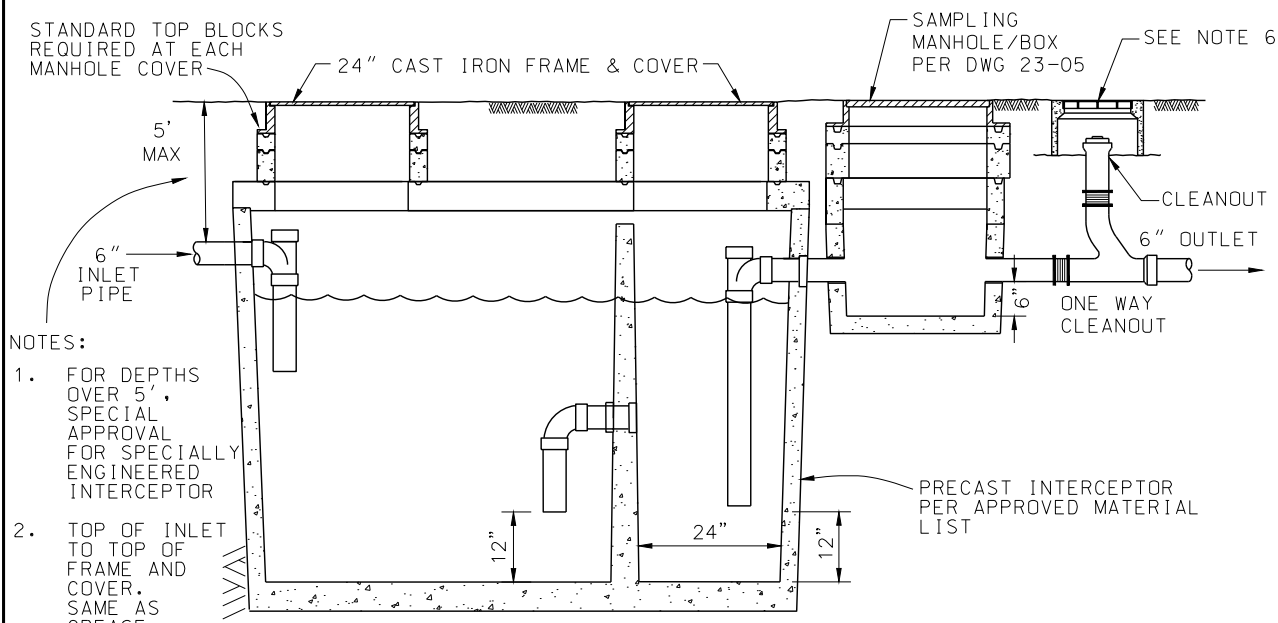
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## SAND-OIL INTERCEPTOR (TYPICAL; 320 GALLON MINIMUM)



**PLAN VIEW**

(MH FRAMES, COVERS & RINGS NOT SHOWN)



- NOTES:**
1. FOR DEPTHS OVER 5', SPECIAL APPROVAL FOR SPECIALLY ENGINEERED INTERCEPTOR
  2. TOP OF INLET TO TOP OF FRAME AND COVER, SAME AS GREASE INTERCEPTOR

**SECTION A-A**

**NOTES:**

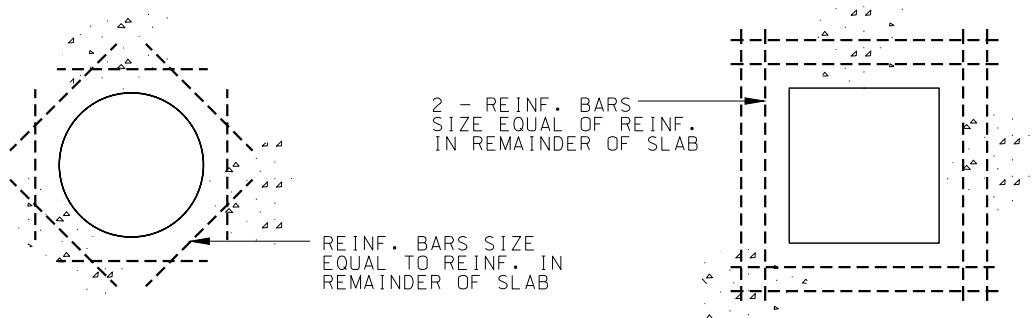
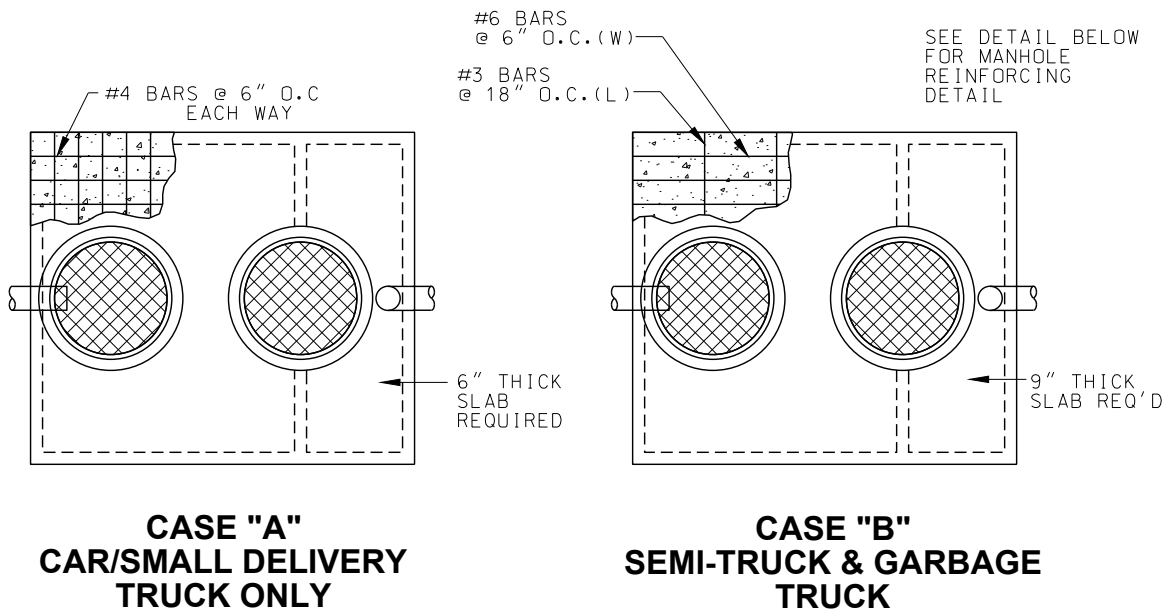
1. INTERCEPTOR SHALL BE PLACED ON A MINIMUM OF 6" TYPE I BEDDING MATERIAL, COMPACTED TO 95% RC.
2. ALL ELEVATIONS SHALL BE APPROVED BY CCCSD PRIOR TO INSTALLATION.
3. SAND-OIL INTERCEPTORS ARE NOT INTENDED FOR THE INTRODUCTION OF DOMESTIC SEWAGE. LOCATION AND TRIBUTARY DISCHARGE SOURCES SHALL BE APPROVED BY CCCSD PRIOR TO INSTALLATION.
4. INTERCEPTOR LOCATED IN AN AREA SUBJECT TO TRAFFIC MUST BE H-20 TRAFFIC RATED. NON-PRECAST INTERCEPTORS ACCEPTED UPON SPECIAL APPROVAL.
5. ALL INLET AND OUTLET PIPES SHALL BE 6" DIAMETER.
6. SEE APPROVED MATERIALS LIST FOR TRAFFIC AND NON-TRAFFIC AREA PRECAST UTILITY BOXES AND GRATED LIDS. SEE DWG 19-08 & 19-09 FOR COVER REQUIREMENTS.

12-May-2022 K:\Projects\standard\Spec\colis\sys23-03\_SandOilInterceptor.dwg

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## CONCRETE TRAFFIC SLABS FOR GREASE INTERCEPTORS OR SAND - OIL INTERCEPTORS

(REQUIRED FOR NON-TRAFFIC RATED INTERCEPTORS)



### MANHOLE AREA REINFORCING DETAILS

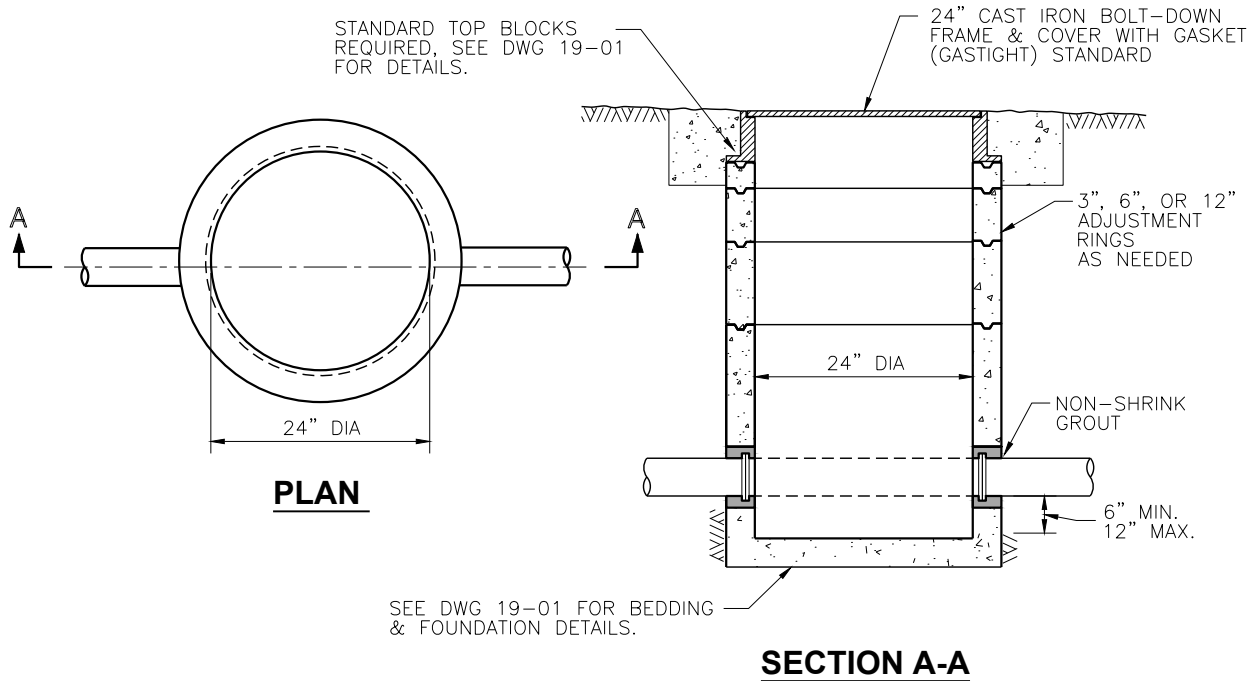
**CENTRAL CONTRA COSTA SANITARY DISTRICT**  
**MARTINEZ, CALIFORNIA**

**PRECAST SAMPLING STRUCTURES**

(SEE APPROVED MATERIALS LIST)

**SAMPLING MANHOLE**

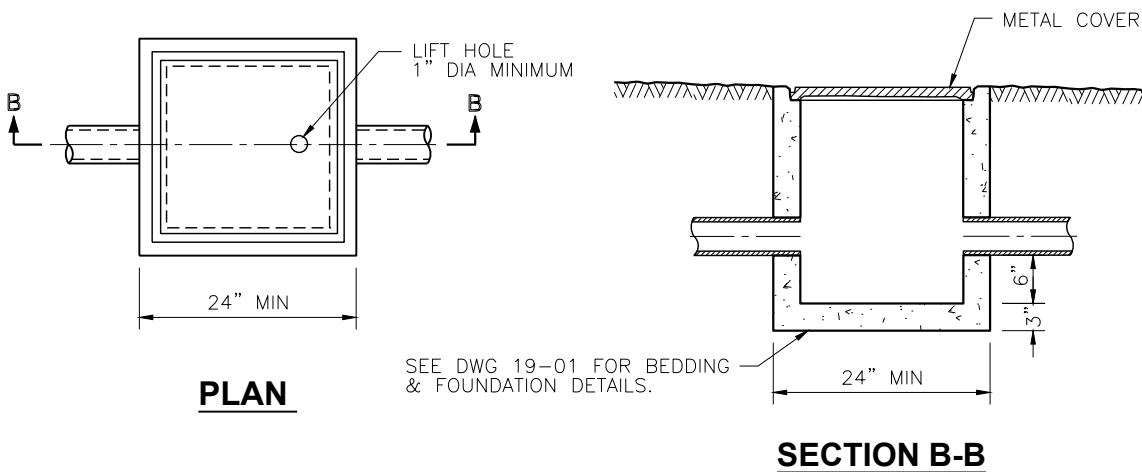
(OUTSIDE)



NOTE: 1. CAST IRON COVER SHALL READ "SANITARY SEWER".

**SAMPLING BOX**

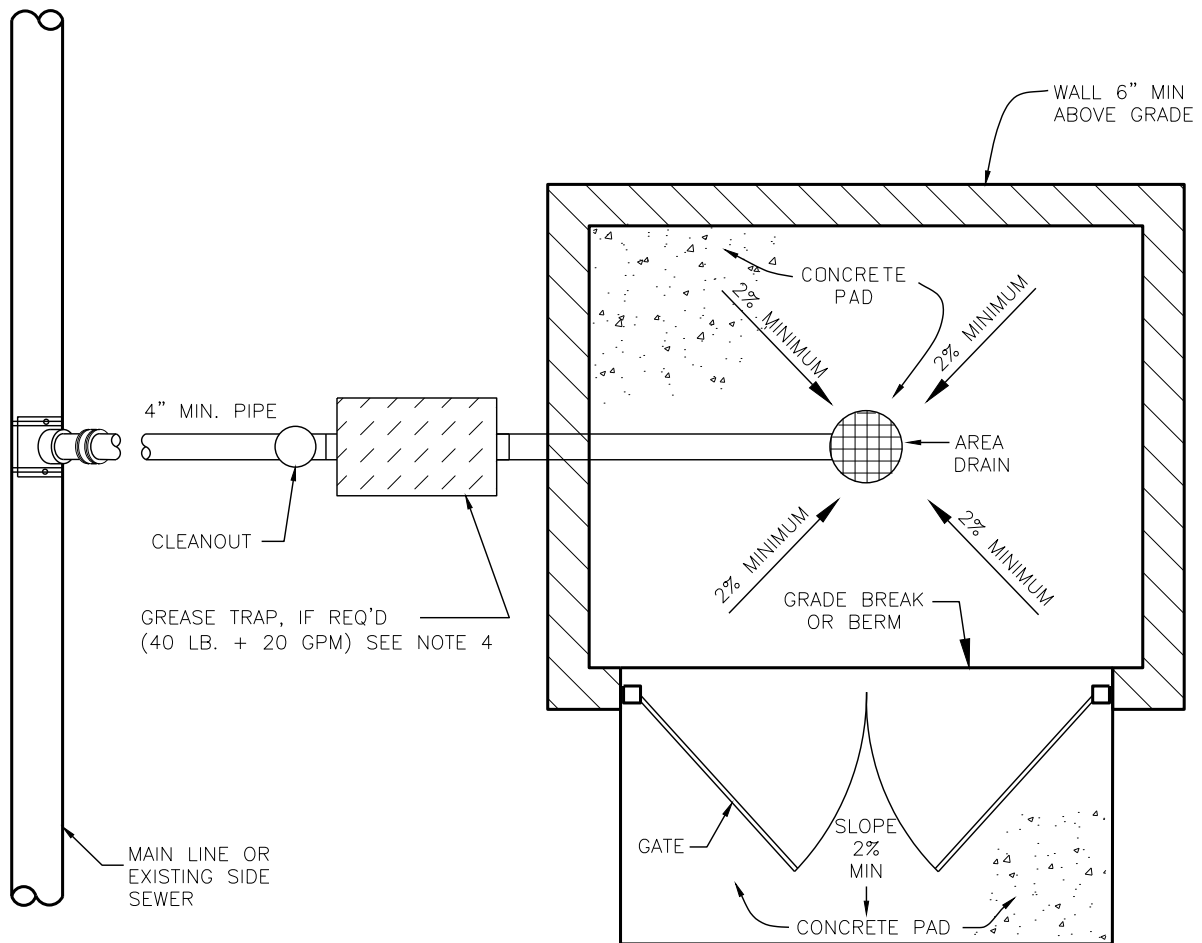
(INSIDE ONLY)





# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## TRASH ENCLOSURE DETAIL (TYPICAL)

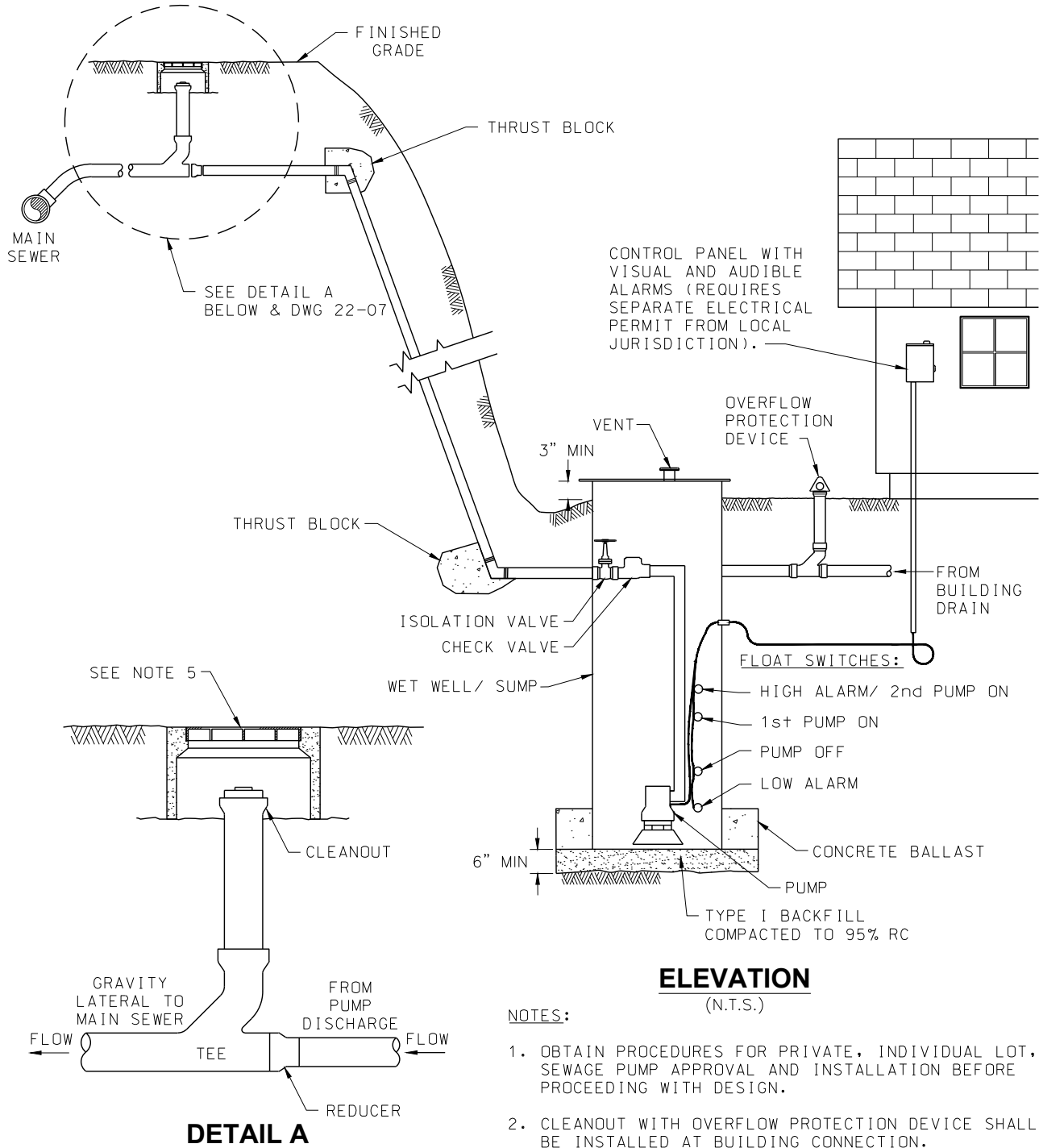


**NOTES:**

1. ROOF REQUIRED OVER ENTIRE ENCLOSURE WITH DOWNSPOUTS DIRECTED AWAY FROM ENCLOSURE.
2. A P-TRAP SHALL BE INSTALLED IMMEDIATELY DOWNSTREAM OF AREA DRAIN IF NO GREASE TRAP REQUIRED.
3. GREASE TRAP SHALL BE INSTALLED IF TRASH ENCLOSURE SERVES ANY COMMERCIAL FOOD SERVICE USE & AS DETERMINED BY ENVIRONMENTAL COMPLIANCE FOR ALL OTHER APPLICATIONS.
4. ALL PIPING TO BE 4" MIN. SIZE INCLUDING INLET/OUTLET OF GREASE TRAP.
5. LOCATION OF GREASE TRAP & C/O VARIES WITH APPLICATION.
6. IF INSTALLED OUTSIDE PF ENCLOSURE, TRAFFIC RATED LID IS REQUIRED.
7. MAY ALSO BE CONNECTED TO GREASE INTERCEPTOR

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## INDIVIDUAL LOT PUMPING SYSTEM (CCCSD REVIEW AND APPROVAL REQUIRED)



### ELEVATION (N.T.S.)

**NOTES:**

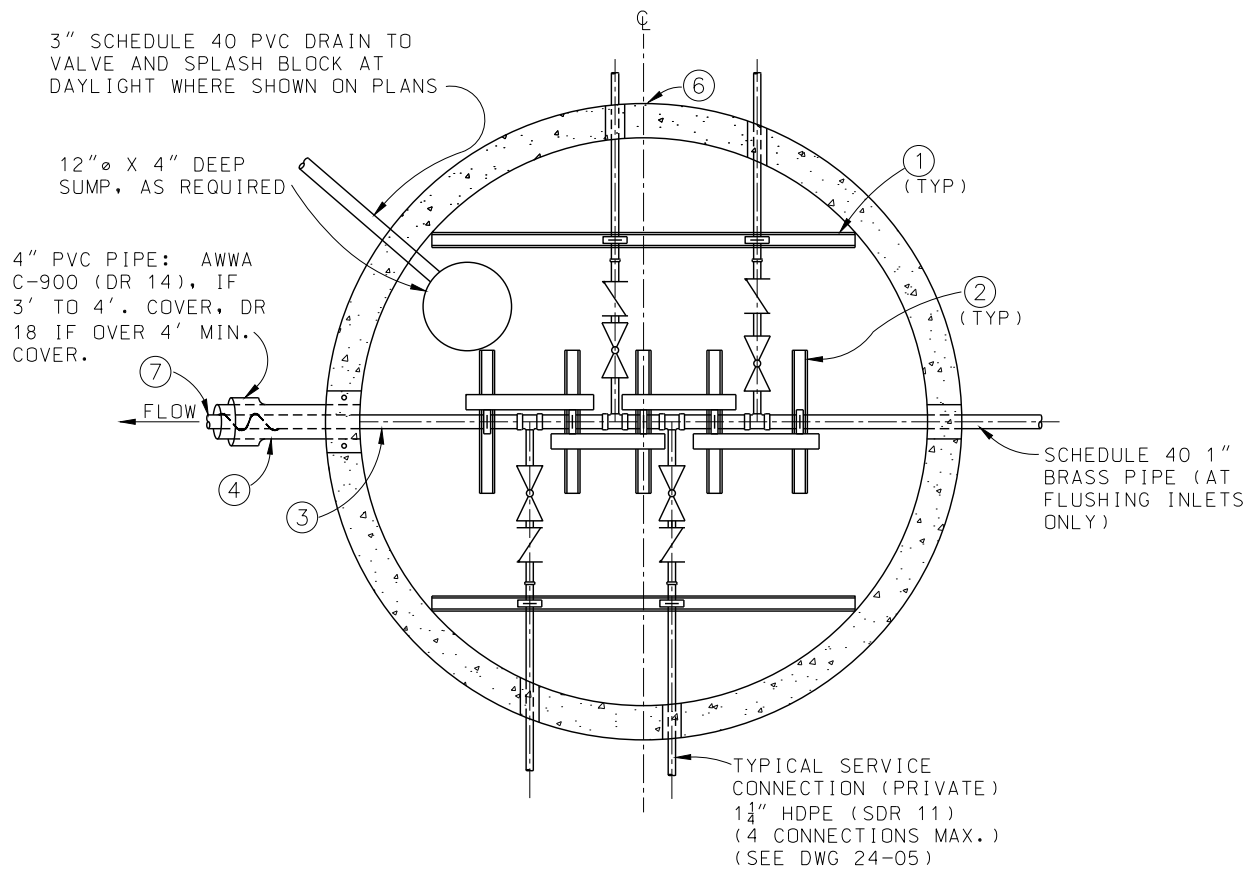
1. OBTAIN PROCEDURES FOR PRIVATE, INDIVIDUAL LOT, SEWAGE PUMP APPROVAL AND INSTALLATION BEFORE PROCEEDING WITH DESIGN.
2. CLEANOUT WITH OVERFLOW PROTECTION DEVICE SHALL BE INSTALLED AT BUILDING CONNECTION.
3. PUMP INSTALLATION SHALL BE IN ACCORDANCE WITH SECTION 33 32 26.
4. SEE SECTION 31 23 16 FOR BEDDING AND BACKFILL REQUIREMENTS.
5. SEE APPROVED MATERIALS LIST FOR TRAFFIC AND NON-TRAFFIC AREA PRECAST UTILITY BOXES AND GRATED LIDS.

**NOTES:**

1. TEE SHALL BE WYE, SANITARY TEE, OR COMBO WYE.
2. FOR COMMERCIAL PROPERTIES, 6-INCH TEE, CLEANOUT, AND GRAVITY LINE IS REQUIRED.
3. SOLVENT WELD TYPE JOINTS SHALL BE USED FOR PVC PIPES.

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MULTIPLE-USER, LOW-PRESSURE SEWER SYSTEM MANHOLE



### PLAN

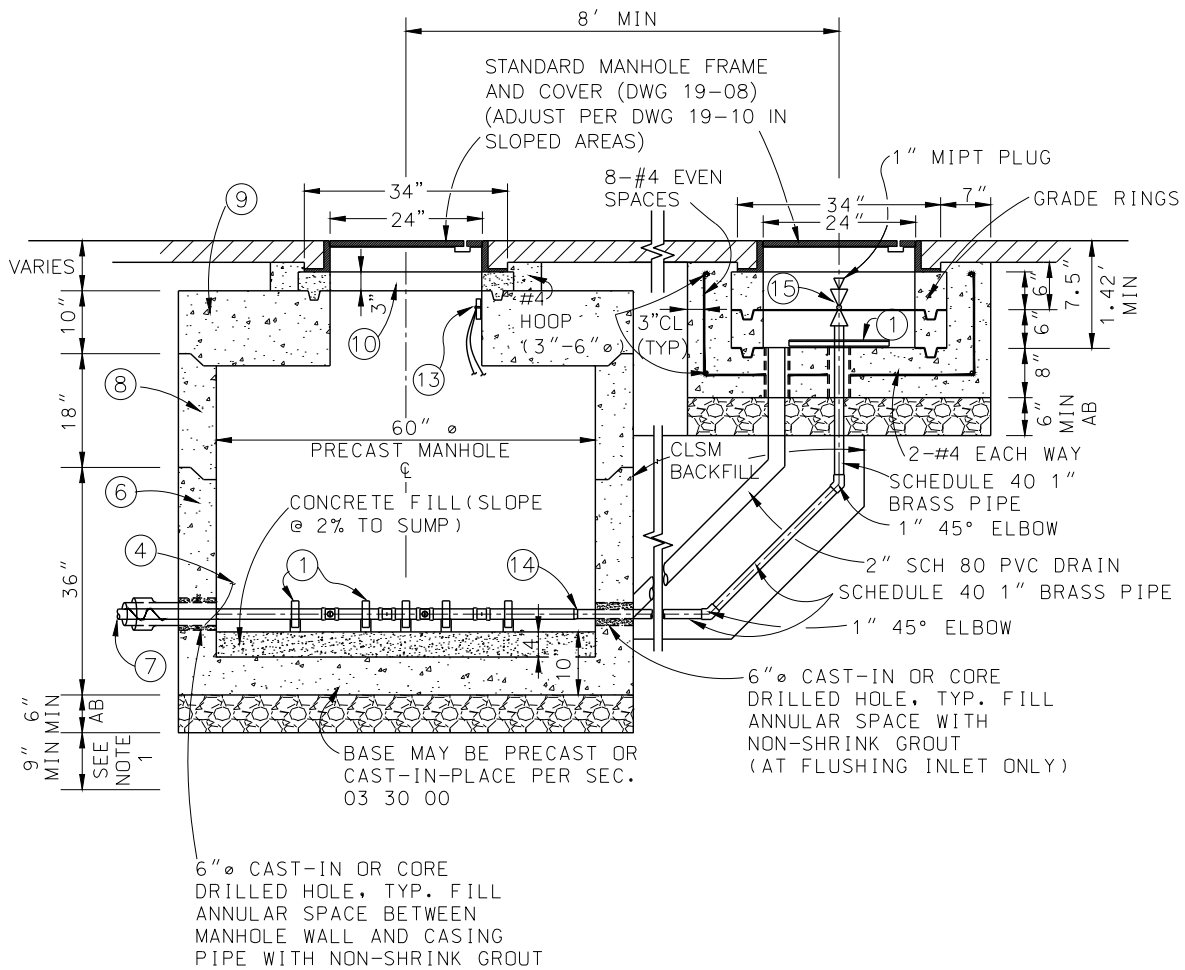
NOT TO SCALE

**NOTE:**

1. (XX) REFERS TO SPEC 33 31 26 MATERIAL LIST

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MULTIPLE-USER, LOW-PRESSURE SEWER SYSTEM FLUSHING INLET



### SANITARY SEWER FORCE MANHOLE AND FLUSHING MANHOLE

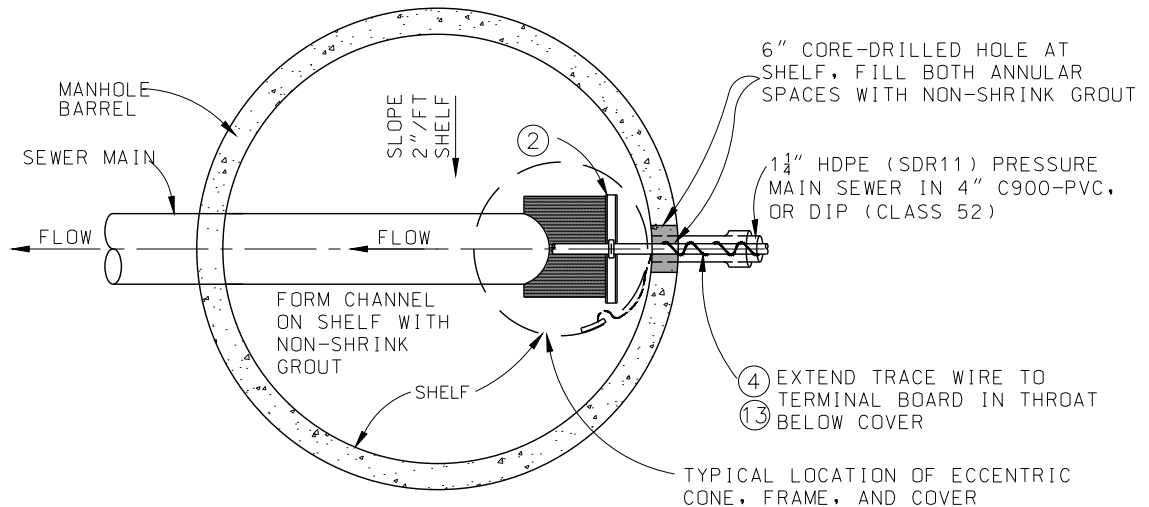
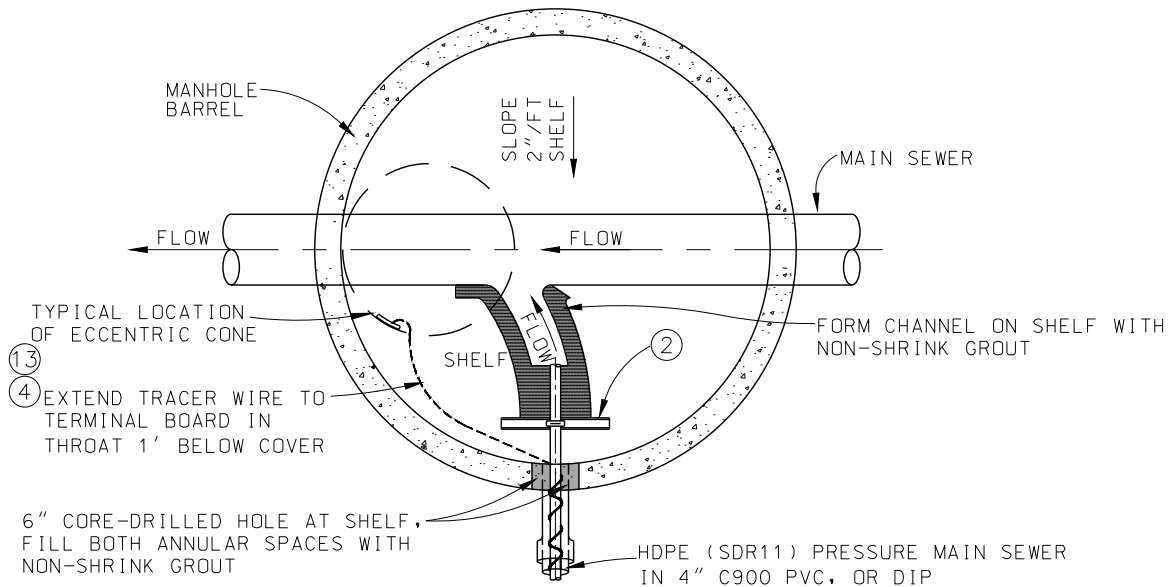
NOT TO SCALE

**NOTES:**

1. IF WATER OR SOFT GROUND IS PRESENT, PLACE COARSE BEDDING MATERIAL IN GEOTEXTILE WRAP (12" OVERLAP AT FABRIC ENDS)
2. (XX) REFERS TO SPEC 33 31 26 MATERIAL LIST

# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MULTIPLE-USER, LOW-PRESSURE SEWER SYSTEM CONNECTION AT GRAVITY MANHOLE



**NOTES:**

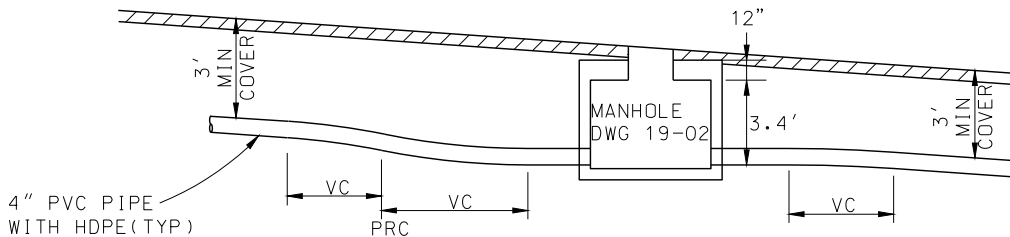
1. STANDARD MANHOLE DETAILS ARE SHOWN ON DWG 19-01
2. (XX) REFERS TO SPEC 33 31 26 MATERIAL LIST

### CONNECTION MANHOLE

NOT TO SCALE

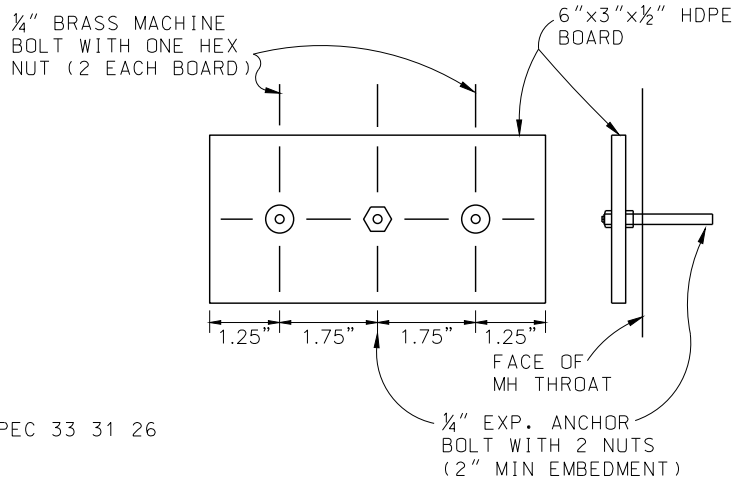
# CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

## MULTIPLE-USER, LOW-PRESSURE SEWER SYSTEM MISCELLANEOUS DETAILS



### TYPICAL PROFILE AT MANHOLE

NOT TO SCALE

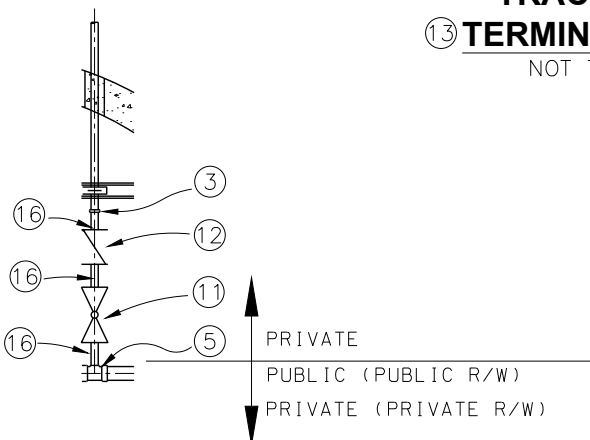


**NOTE:**

1. (XX) REFERS TO SPEC 33 31 26 MATERIAL LIST

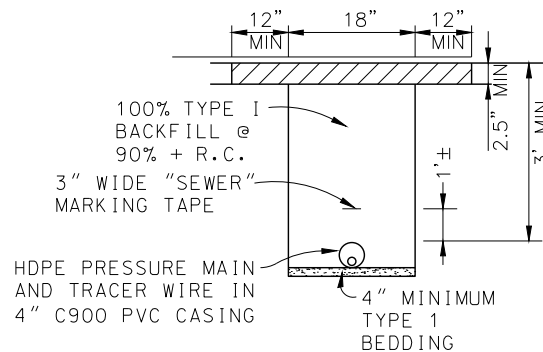
### TRACER WIRE TERMINAL BOARD

NOT TO SCALE



### TYPICAL SERVICE CONNECTION DETAIL

NOT TO SCALE



### TRENCH DETAIL

NOT TO SCALE