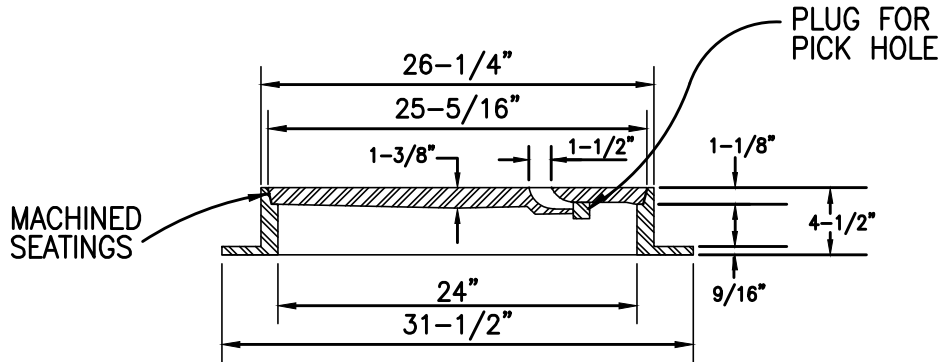


## PLAN



### NOTES:

1. MANHOLE FRAME AND COVER SHALL BE AS MANUFACTURED BY PHOENIX IRON WORKS, OAKLAND, NO. P-1090 OR APPROVED EQUIVALENT.
2. FOR MANHOLES LOCATED IN SIDEWALK AREAS USE PHOENIX NO. P-1067 FRAME AND COVER OR APPROVED EQUIVALENT.
3. MINIMUM WEIGHT OF FRAME IS 138 LBS.  
MINIMUM WEIGHT OF COVER IS 130 LBS.

**MONTARA WATER &  
SANITARY DISTRICT**

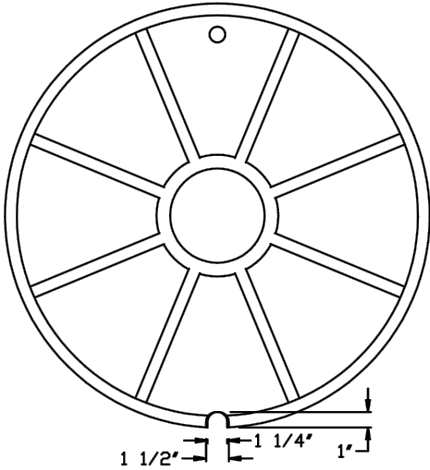
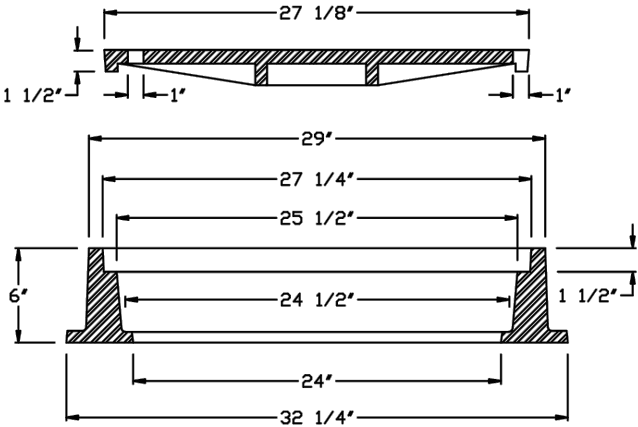
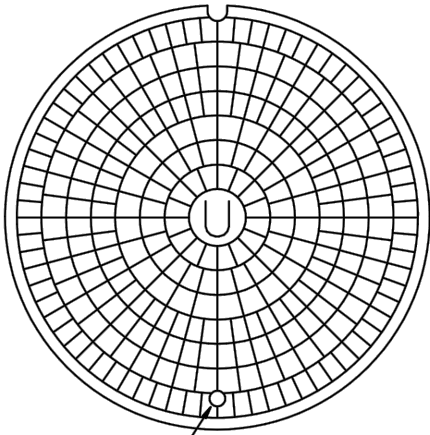
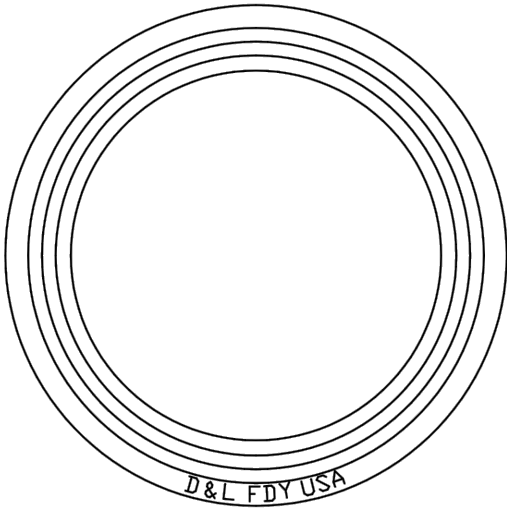
STANDARD MANHOLE  
FRAME AND COVER

2017

SD 1.0

# A-1015

# Manhole Ring and Cover



Alternate Cover Markings:  
S  
D  
or as specified

CAST IRON to conform to ASTM A-48, CLASS 35B H-20 Wheel Loading	<b>D&amp;L No. A-1015</b>		
	Est. Ring weight	455 lbs.	
Designation A-1015	Date of Drawing MAR 1994	Prepared by D&L Supply	Scale 1" = 9 3/4" Sheet Number 1 Total Sheets 1

- NOTES:
1. USE MARKING "S".
  2. ALTERNATE VENDORS MUST PROVIDE PROOF OF CALTRANS APPROVAL.
  3. COVER MAY BE REQUIRED TO BE SEALED OR BOLT-DOWN AT THE DISTRICT'S REQUEST.

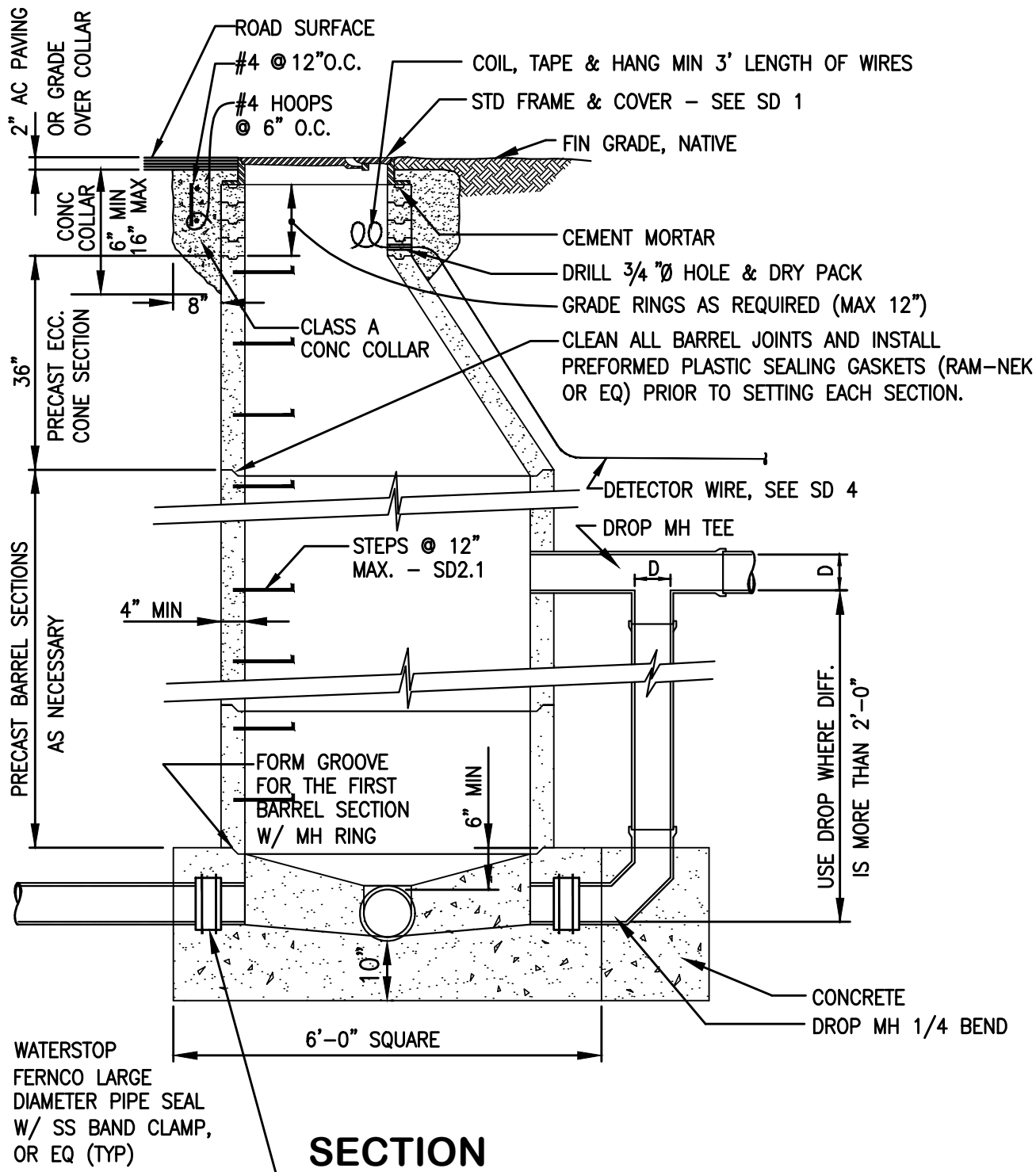
**MONTARA WATER & SANITARY DISTRICT**

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**HEAVY DUTY MANHOLE FRAME AND COVER**

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2017		SD 1.1
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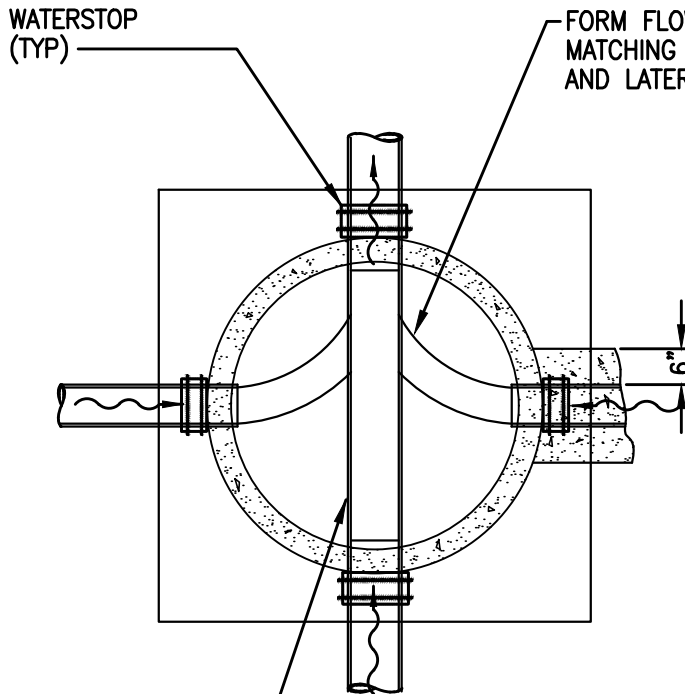
**SECTION**

FOR NOTES AND DETAILS NOT SHOWN SEE STD DETAIL SD 2.1

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
STANDARD SEWER MANHOLE		
2017		SD 2.0

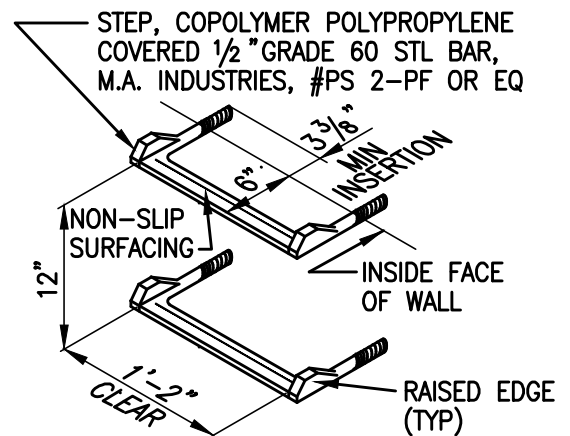
**NOTES**

1. MANHOLE BASE SHALL BE CLASS A (6-sack) CONCRETE AND SHALL BE POURED AGAINST CRUSHED ROCK BEDDING.
2. PRECAST CONCRETE CONE, BARREL AND GRADE RINGS SHALL CONFORM TO A.S.T.M. Spec C-478, EXCEPT THAT TYPE II Modified PORTLAND CEMENT SHALL BE USED.
3. STEPS SHALL BE POLYPROPYLENE REINFORCED WITH 1/2" GRADE 60 STEEL BAR AS DETAILED BELOW, #PS 2-PF AS MANUFACTURED BY M.A. INDUSTRIES OR EQ.
4. FRAME AND COVER MAY BE ADJUSTED TO GRADE LEVEL EITHER BEFORE OR AFTER PAVING, BUT FINAL GRADE SHALL CONFORM TO ADJACENT FINISH PAVEMENT GRADE WITHIN 1/8".
5. ECCENTRIC CONE SECTION SHALL BE POSITIONED AS DIRECTED BY THE DISTRICT.
6. WHERE FRAME AND COVER IS SET AFTER PAVING, THE CONCRETE COLLAR SHALL BE BROUGHT TO FINISH GRADE AND THE EXPOSED CONCRETE SURFACE SHALL BE COLORED WITH LAMPBLACK.
7. RECESS IN MANHOLE BASE SHALL BE FORMED WITH AN APPROVED METAL FORMING RING TO RECEIVE PRECAST MANHOLE JOINT. PREFORMED PLASTIC SEAL GASKET SHALL BE INSTALLED BEFORE PLACING FIRST BARREL SECTION.
8. PRECAST MANHOLE BASES ARE NOT ALLOWED.



LAY PVC PIPE THRU MANHOLE WHERE POSSIBLE AND SAWCUT TO FORM SMOOTH CHANNELS STUB ALL PIPE 1" INTO MH (TYP)

**PLAN AT MH BOTTOM**



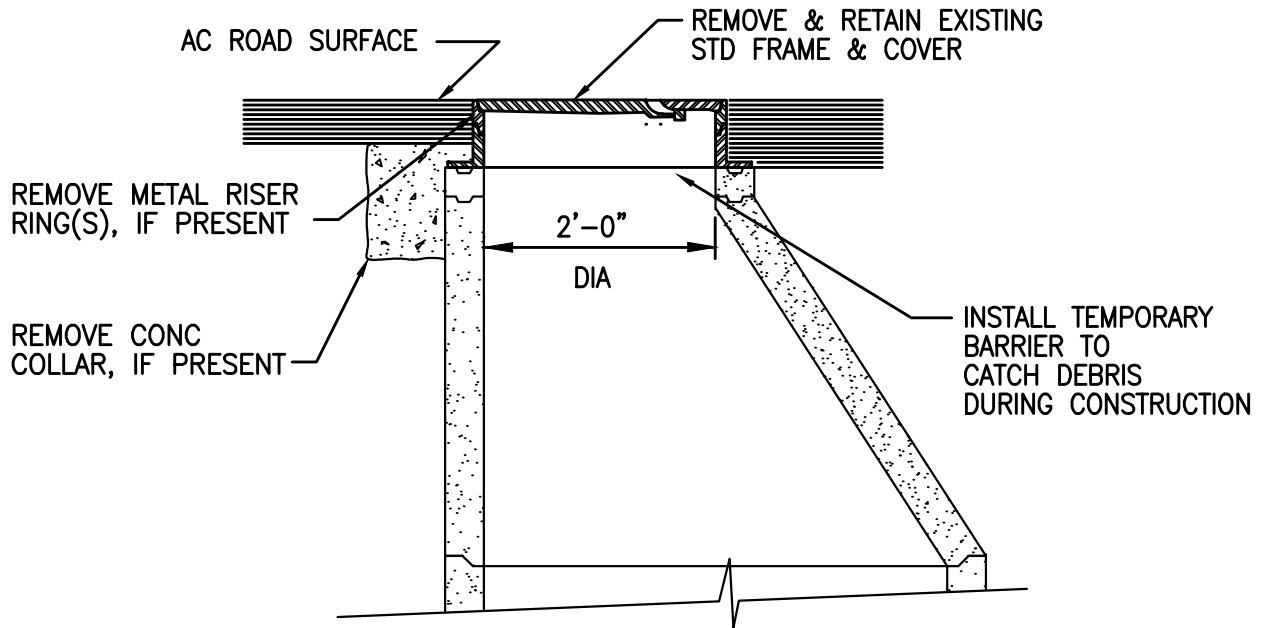
**MANHOLE STEPS**

**MONTARA WATER & SANITARY DISTRICT**

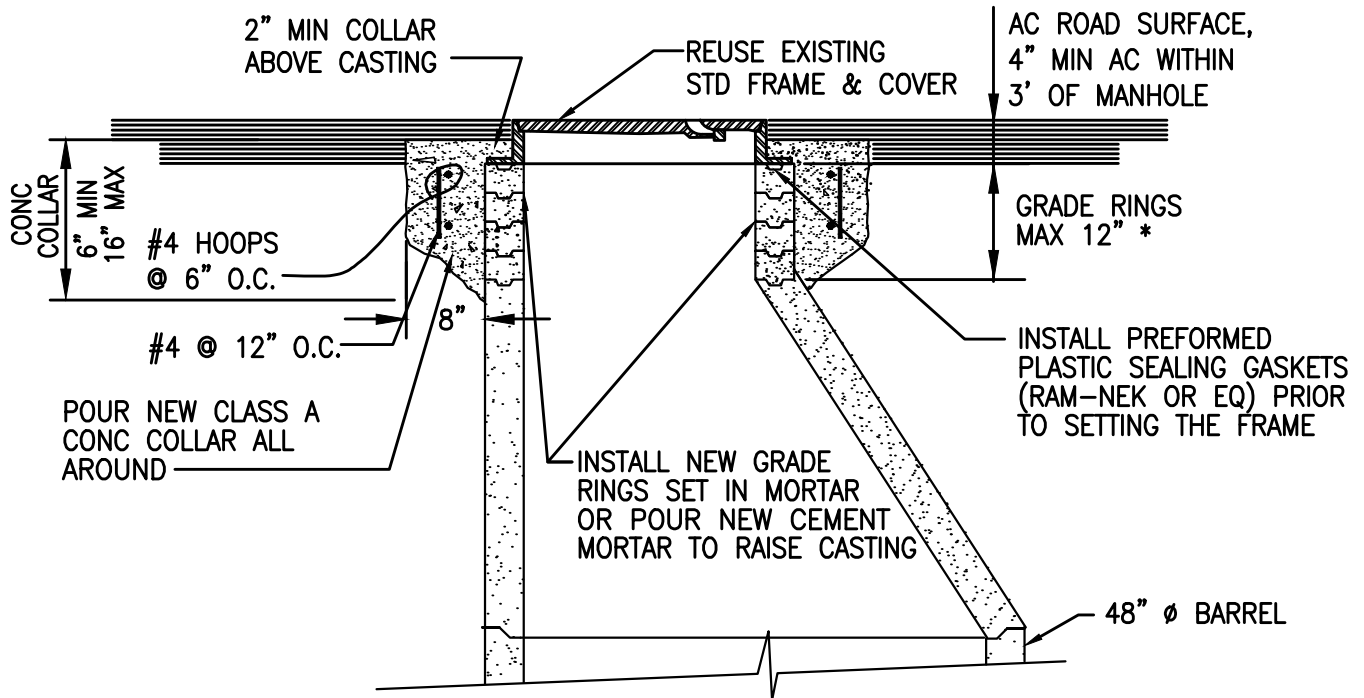
STANDARD SEWER MANHOLE

2017

SD 2.1



## EXISTING CONDITION



## RAISED RING CONDITION

\* IF GRADE RINGS EXCEED 12"  
REMOVE CONE AND INSTALL  
NEW 48" DIAMETER BARREL  
SECTION, REINSTALL CONE

# MONTARA WATER & SANITARY DISTRICT

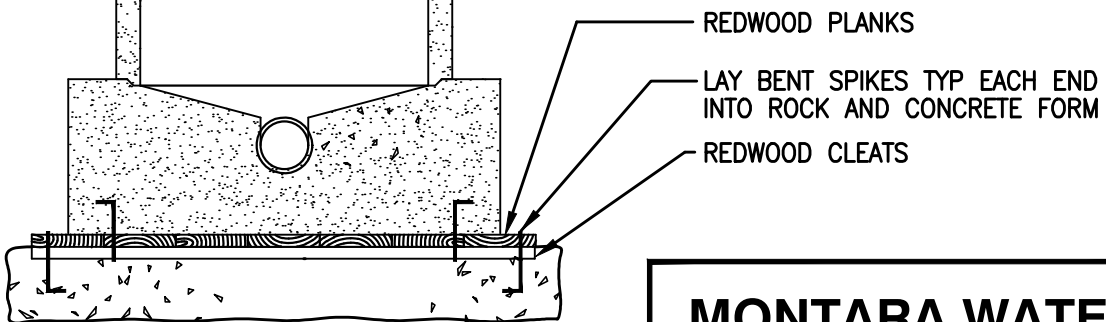
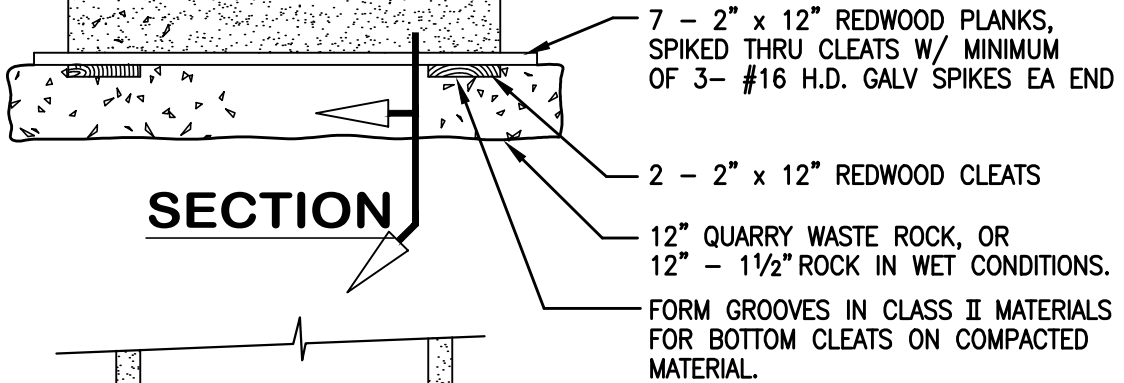
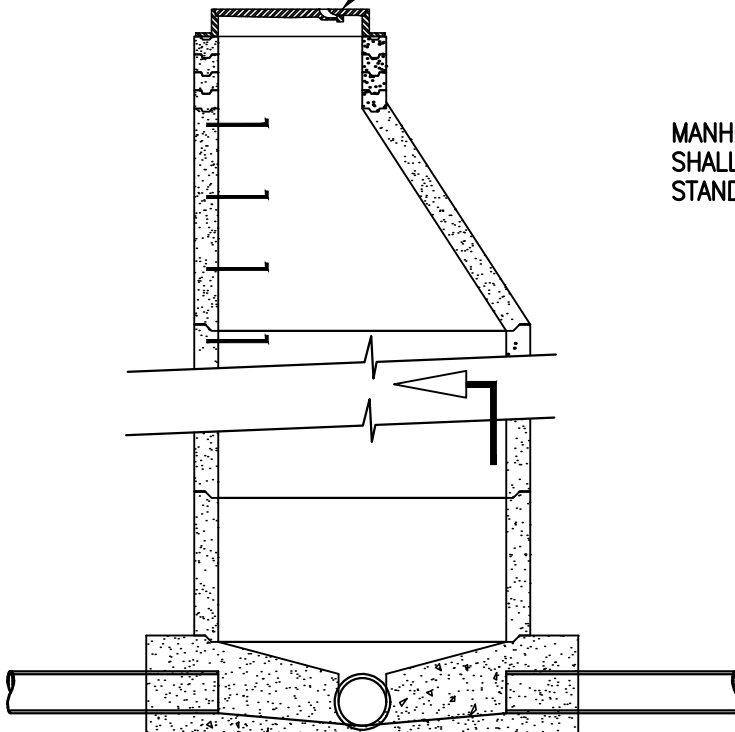
MANHOLE REPAIR  
TO RAISE FRAME AND COVER

2017

SD 2.2

STD FRAME & COVER

MANHOLE BASE, CONE AND BARREL  
SHALL BE CONSTRUCTED PER  
STANDARD DETAIL SD 2.0

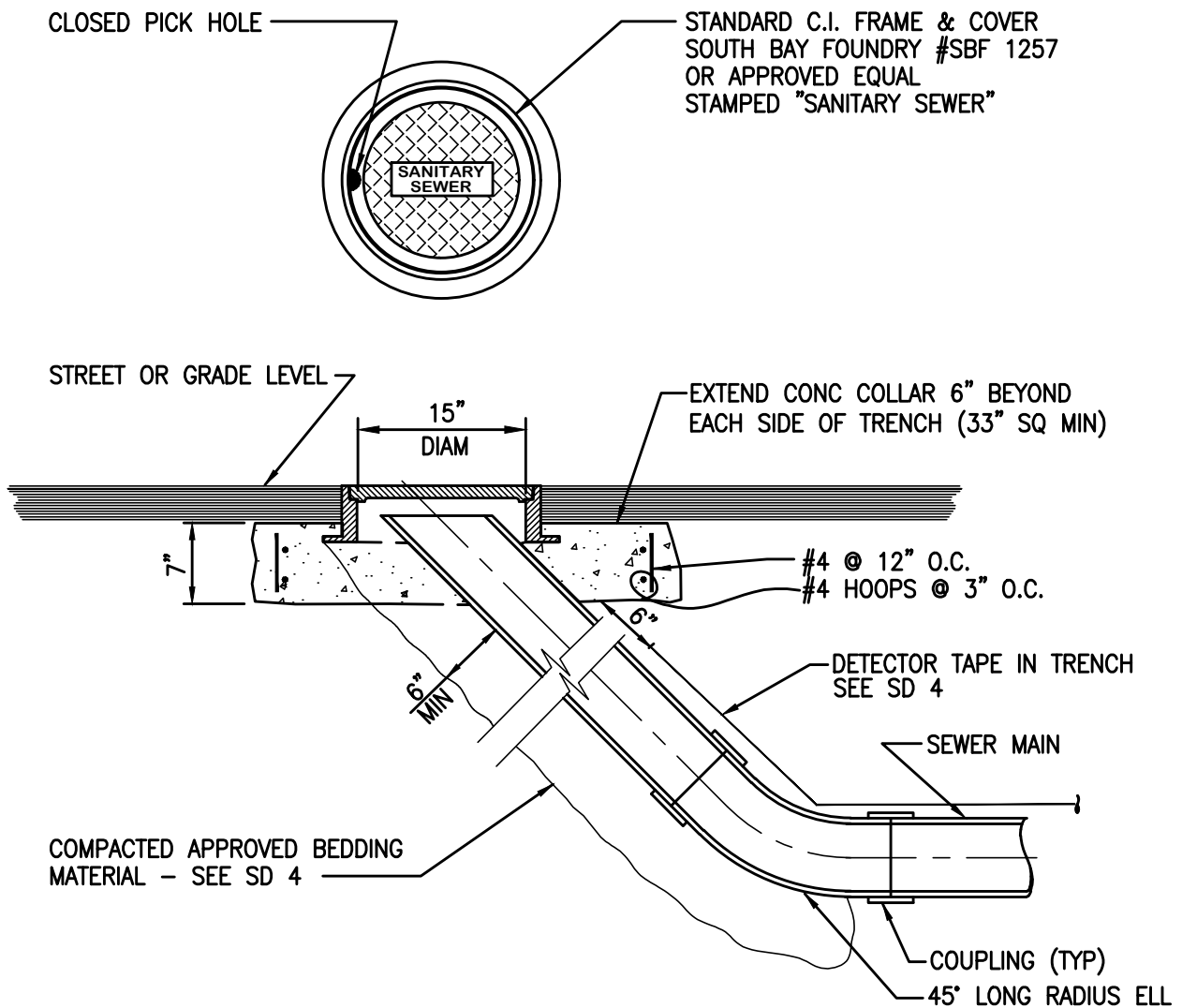


# MONTARA WATER & SANITARY DISTRICT

MANHOLE BASE  
IN BAY MUD

2017

SD 2.3



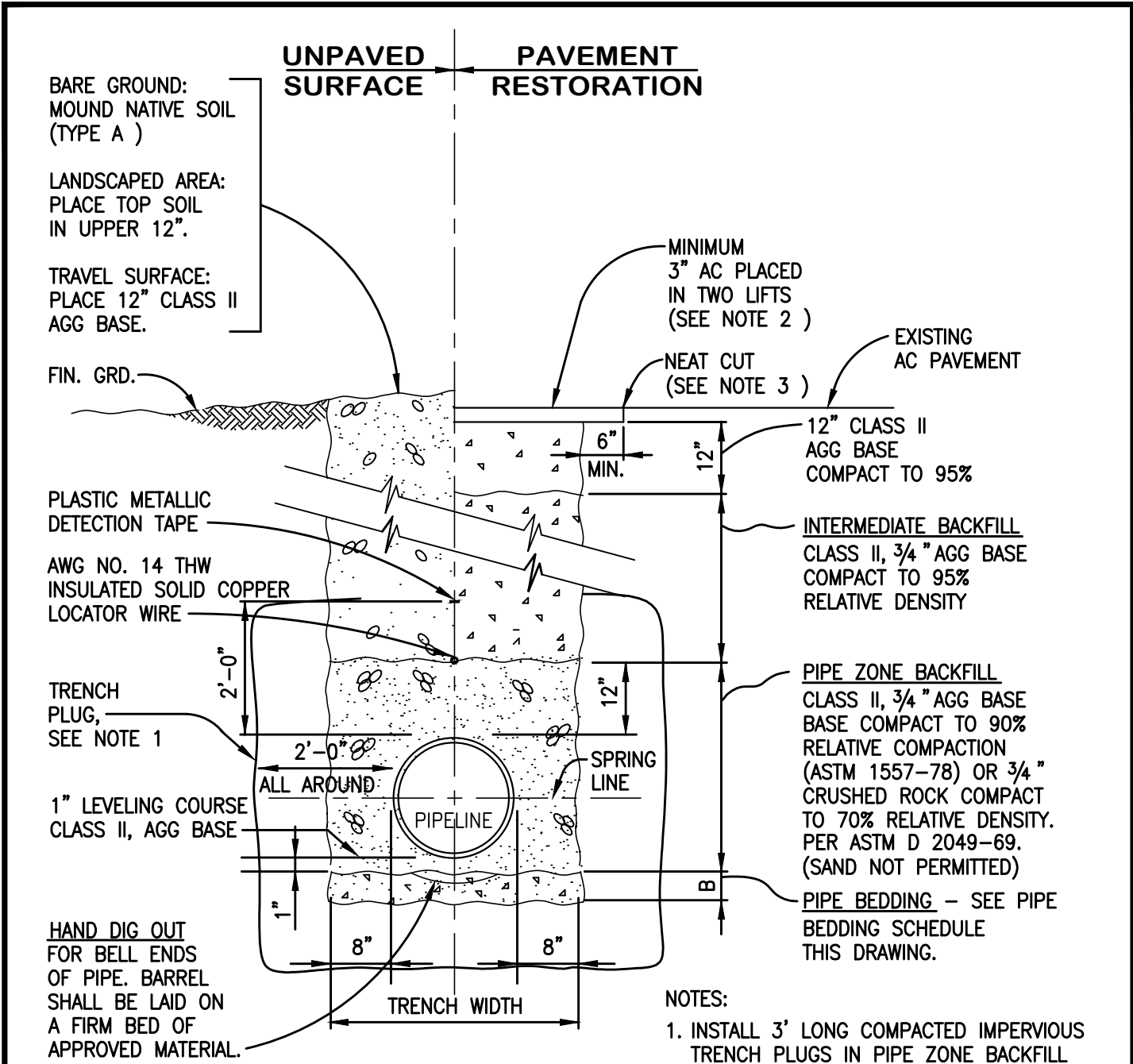
## STANDARD ROD HOLE

**MONTARA WATER &  
SANITARY DISTRICT**

STANDARD 6 INCH  
RODDING INLET

2014

SD 3



**PIPE BEDDING DETAIL**

- NOTES:
1. INSTALL 3' LONG COMPACTED IMPERVIOUS TRENCH PLUGS IN PIPE ZONE BACKFILL AND PIPE BEDDING AT 100' INTERVALS.
  2. ASPHALT THICKNESS SHALL CONFORM TO THE REQUIREMENTS OF THE AGENCY WITH JURISDICTION OVER STREET.
  3. CONSULT LOCAL JURISDICTION FOR ASPHALT CUTTING REQUIREMENTS.

PIPE BEDDING SCHEDULE		
TRENCH MATERIAL	BEDDING DEPTH - B	BEDDING MATERIAL
SOIL - DRY	6"	3/4" CRUSHED ROCK OR CLASS II, AGG BASE
SOIL W/ WATER	12"	1 1/2" CRUSHED ROCK
ROCK OR HARD PAN - DRY	6"	3/4" CRUSHED ROCK OR CLASS II AGG BASE
ROCK OR HARD PAN W/ WATER	6"	1 1/2" CRUSHED ROCK
BAY MUD	SEE BAY MUD TRENCH DETAIL DRAWING SD 4.1	

**MONTARA WATER & SANITARY DISTRICT**

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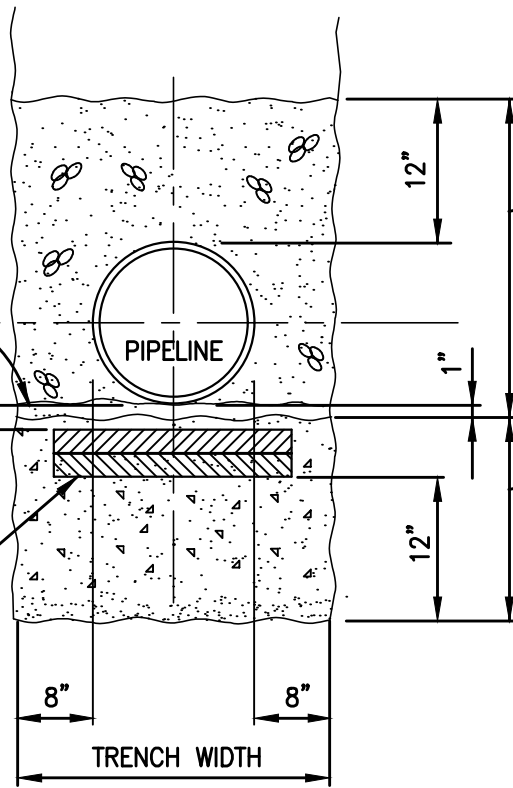
TYPICAL TRENCH SECTION

2017		SD 4.0
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1" LEVELING COURSE  
CLASS II, AGG BASE

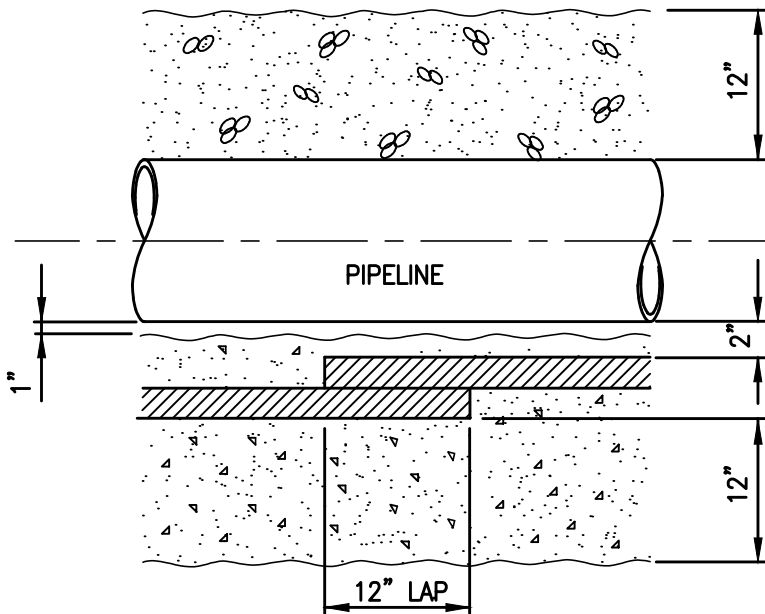
2" x 12" REDWOOD  
PLANKS UNDER PIPE  
LAP 12" EA. END.



PIPE ZONE BACKFILL  
CLASS II, 3/4" AGG  
BASE COMPACT TO 90%  
RELATIVE COMPACTION  
(ASTM 1557-78) OR 3/4"   
CRUSHED ROCK COMPACT  
TO 70% RELATIVE DENSITY.  
PER ASTM D 2049-69.

PIPE BEDDING  
1 1/2" CRUSHED ROCK  
COMPACT TO 90%  
RELATIVE DENSITY.

**SECTION**



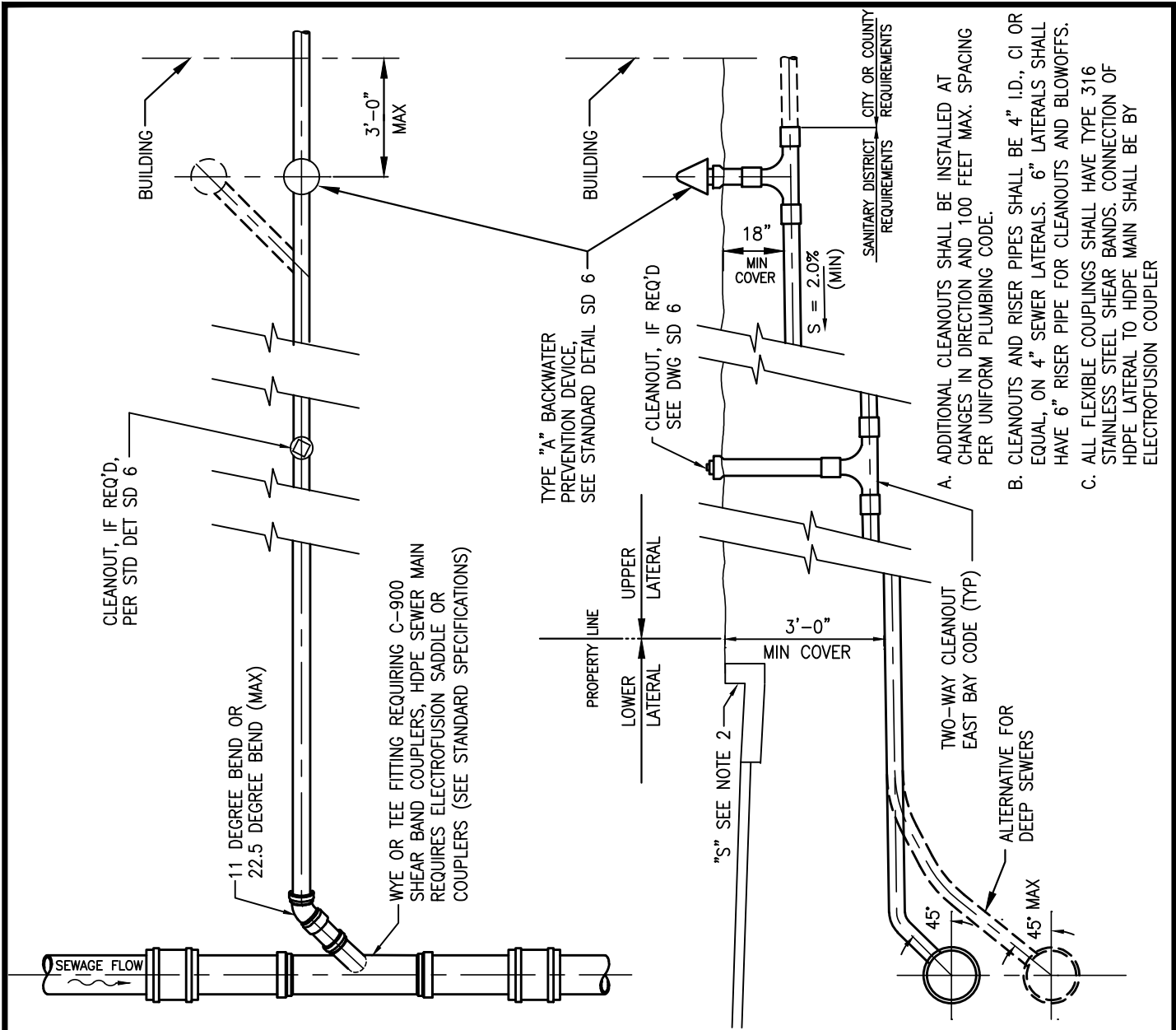
**ELEVATION**

**MONTARA WATER &  
SANITARY DISTRICT**

BAY MUD TRENCH  
DETAIL

2017

SD 4.1



- A. ADDITIONAL CLEANOUTS SHALL BE INSTALLED AT CHANGES IN DIRECTION AND 100 FEET MAX. SPACING PER UNIFORM PLUMBING CODE.
- B. CLEANOUTS AND RISER PIPES SHALL BE 4" I.D., CI OR EQUAL, ON 4" SEWER LATERALS. 6" LATERALS SHALL HAVE 6" RISER PIPE FOR CLEANOUTS AND BLOWOFFS.
- C. ALL FLEXIBLE COUPLINGS SHALL HAVE TYPE 316 STAINLESS STEEL SHEAR BANDS. CONNECTION OF HDPE LATERAL TO HDPE MAIN SHALL BE BY ELECTROFUSION COUPLER

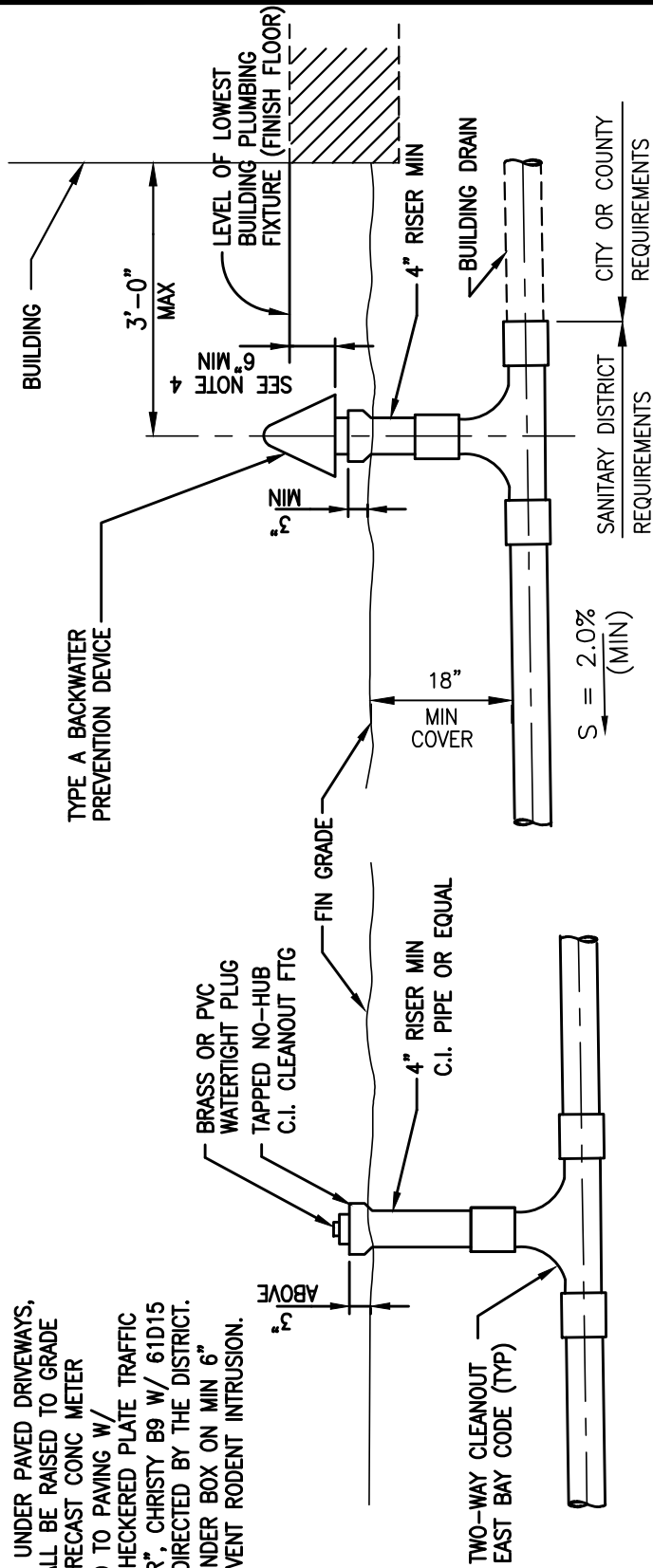
**NOTES:**

1. WHEN A LATERAL SEWER IS INSTALLED IN ADVANCE OF THE BUILDING SEWER, IT SHALL BE TERMINATED AT OR NEAR THE PROPERTY LINE. THE END OF THE LATERAL SHALL BE MARKED WITH A 4" x 4" REDWOOD STAKE, PAINTED GREEN, FROM THE TOP OF THE PIPE TO A MINIMUM OF 6" ABOVE THE FINISHED GROUND SURFACE.
2. WHERE CONCRETE CURBS AND GUTTERS EXIST OR ARE TO BE A PART OF AN IMPROVEMENT, EACH SIDE SEWER SHALL BE PERMANENTLY LOCATED BY IMPRINTING OR CHISELING AN "S" ( 3" size) IN THE FACE OF THE CURB VERTICALLY ABOVE THE SEWER PIPE.
3. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE DISTRICT. PIPE BEDDING 3" AROUND PIPE ON PRIVATE PROPERTY MAY BE SAND WHERE REQUIRED BY COUNTY BUILDING PERMIT.
4. TYPE A BACKWATER PREVENTION DEVICE (CONTRA COSTA RELIEF VALVE, ALSO KNOWN AS MUSHROOM CAP) SHALL BE INSTALLED ON A 4" MINIMUM RISER PIPE NOT MORE THAN 2' FROM BUILDING WALL, PER STANDARD DETAIL SD6.
5. TYPE A BACKWATER PREVENTION DEVICE MAY BE INSTALLED TO LEFT OR RIGHT SIDE OF LATERAL IN GARAGE OR STEP AREAS.
6. LATERAL TRENCHES IN AREA OF PUBLIC STREET CURB, GUTTER AND SIDEWALK SHALL BE COMPACTED THE SAME AS TYPICAL TRENCH DETAIL SD 4. AREAS AROUND NEW CONCRETE CLEAN-OUT BOXES SHALL BE SOILS TESTED TO 90% COMPACTED. CONTRACTOR IS TO USE WHATEVER MEANS NECESSARY TO ACHIEVE 90% COMPACTION.

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
<b>TYPICAL SIDE SEWER DETAILS</b>		
2017		SD 5

**CLEANOUT BOXES IF REQUIRED:**

CLEANOUTS LOCATED UNDER PAVED DRIVEWAYS, WALKWAYS, ETC. SHALL BE RAISED TO GRADE AND INSTALLED IN PRECAST CONC METER BOXES FLUSH FITTED TO PAVING W/ GALVANIZED STEEL CHECKERED PLATE TRAFFIC LIDS MARKED "SEWER", CHRISTY B9 W/ 61D15 LID, OR EQUAL, AS DIRECTED BY THE DISTRICT. PLACE WIRE MESH UNDER BOX ON MIN 6" DRAIN ROCK TO PREVENT RODENT INTRUSION.



**STANDARD CLEANOUT**

**TYPE A BACKWATER PREVENTION DEVICE**

**DEVICE**

**NOTES:**

1. A STANDARD 4" C.I. CLEANOUT IS THE MINIMUM DISTRICT REQUIREMENT.
2. A BACKWATER PREVENTION DEVICE IS REQUIRED AND SHALL BE INSTALLED ON ALL SIDE SEWERS.
3. A TYPE "A" BACKWATER PREVENTION DEVICE SHALL BE INSTALLED IN A LOCATION WHERE SEWAGE CAN OVERFLOW ON THE SURROUNDING AREA WITHOUT DAMAGE TO PROPERTY.
4. IF THE DIFFERENCE IN ELEVATION OF THE LOWEST FIXTURE AND THE TYPE "A" BACKWATER PREVENTION DEVICE IS LESS THAN SIX (6) INCHES, A BACKWATER CHECK VALVE SHALL BE INSTALLED AS SHOWN IN STANDARD DETAIL SD 7.
5. ALL FLEXIBLE COUPLINGS SHALL HAVE TYPE 316 STAINLESS STEEL SHEAR BANDS.
6. CLEANOUT AT PROPERTY LINE MAY BE DELETED WITH APPROVAL OF DISTRICT ENGINEER.

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
STANDARD CLEANOUT AND BACKWATER PREVENTION DEVICE		
2017		SD 6

TYPE A BACKWATER PREVENTION DEVICE,  
SEE STANDARD DETAIL SD 6

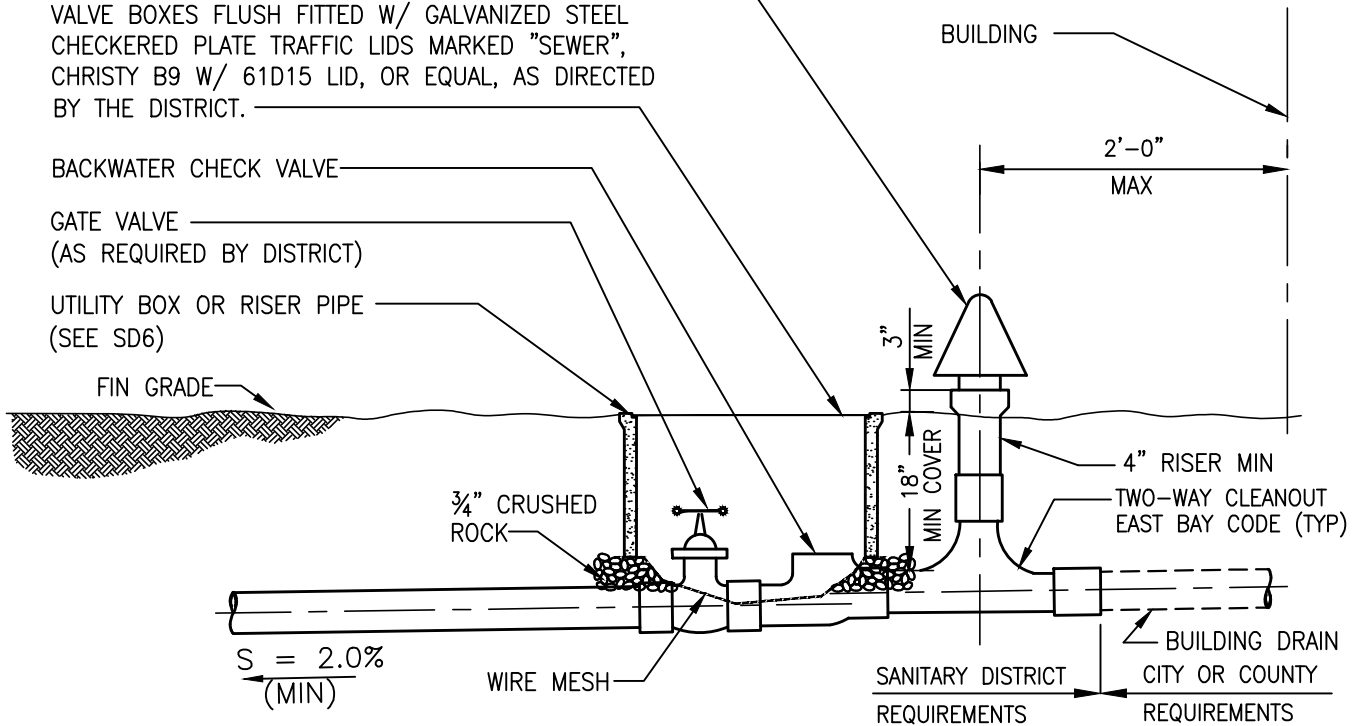
VALVES SHALL BE INSTALLED IN PRECAST CONCRETE VALVE BOXES FLUSH FITTED W/ GALVANIZED STEEL CHECKERED PLATE TRAFFIC LIDS MARKED "SEWER", CHRISTY B9 W/ 61D15 LID, OR EQUAL, AS DIRECTED BY THE DISTRICT.

BACKWATER CHECK VALVE

GATE VALVE  
(AS REQUIRED BY DISTRICT)

UTILITY BOX OR RISER PIPE  
(SEE SD6)

FIN GRADE



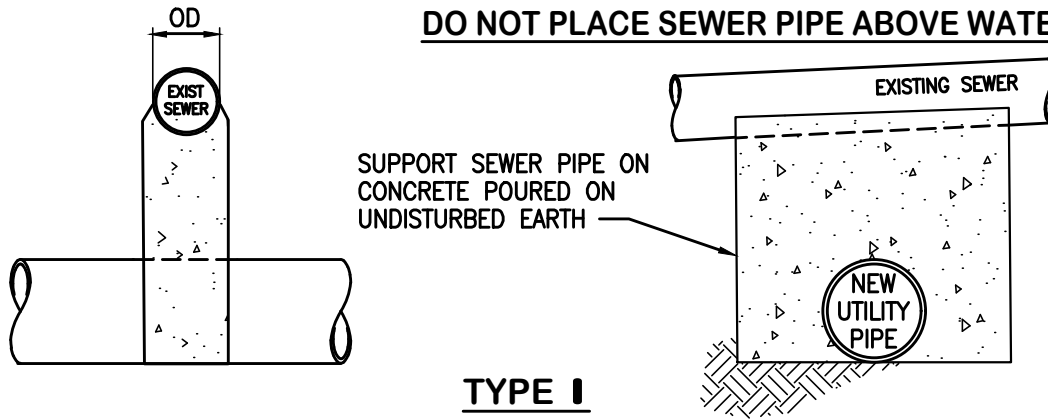
# MONTARA WATER & SANITARY DISTRICT

## BACKWATER CHECK VALVE AND SHUTOFF SYSTEM

2017

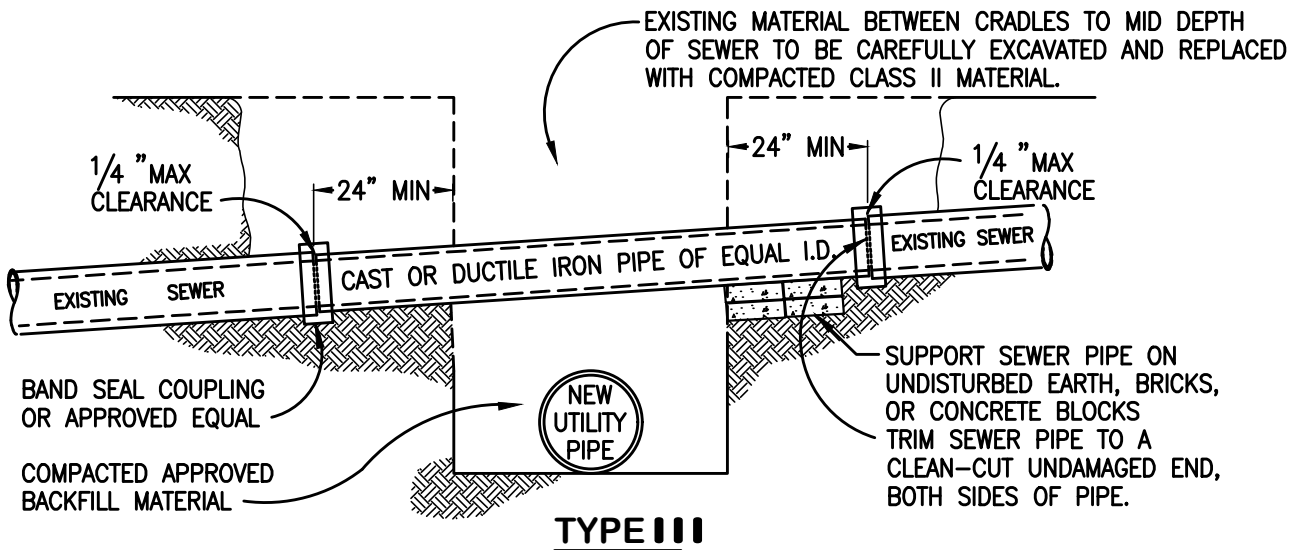
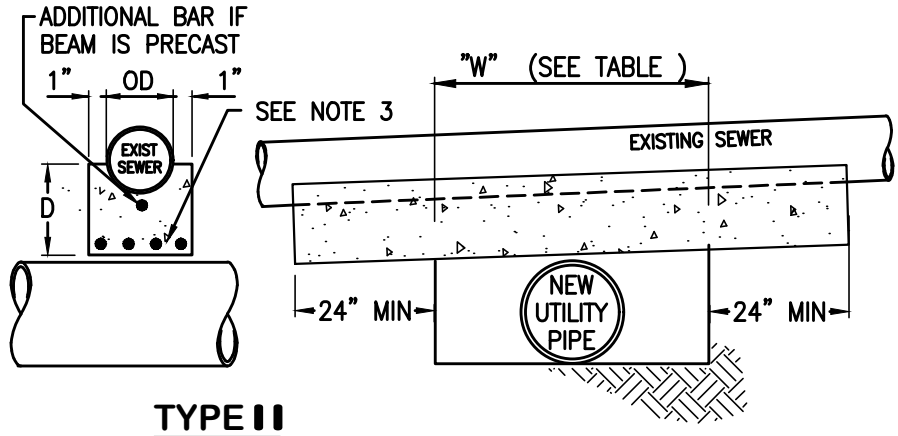
SD 7

**DO NOT PLACE SEWER PIPE ABOVE WATER PIPE**



**DIMENSIONS OF REINFORCED CONCRETE BEAM**

W	DEPTH OF COVER TO SEWER			
	0' - 8'-0"		8'-0" - 16'-0"	
	D	BAR No.	D	BAR No.
4'	8"	4	8"	4
5'	8"	4	9"	5
6'	8 1/2"	5	10 1/2"	5
7'	9"	5	11 1/2"	6
8'	10"	5	12 1/2"	6
9'	11"	6	13 1/2"	6
10'	12"	6	15"	7



**NOTES:**

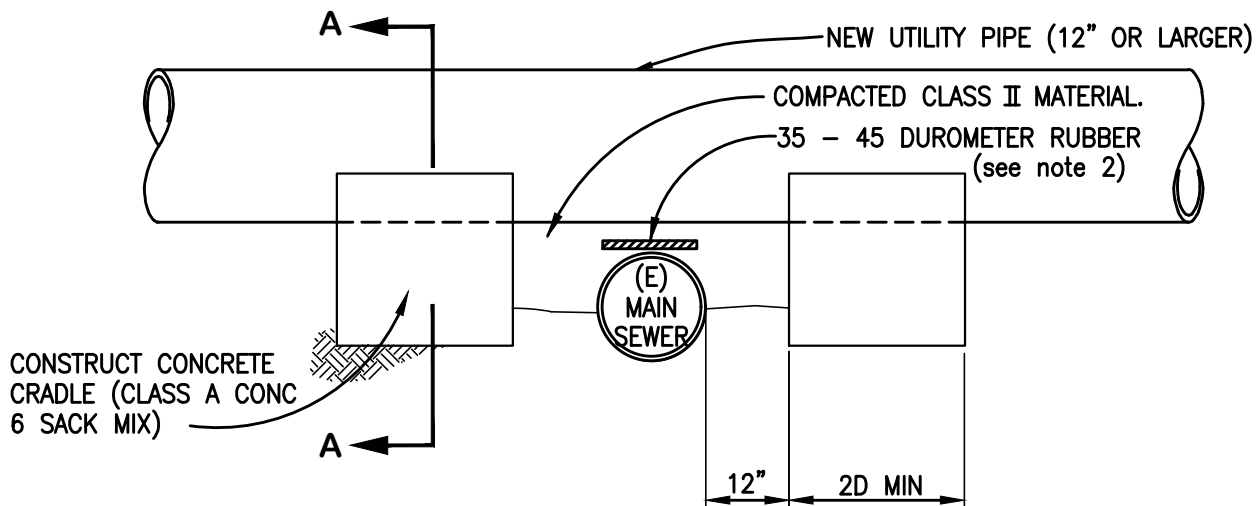
- SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE IS INSTALLED BELOW AN EXISTING MAIN SEWER. TYPE I, TYPE II OR TYPE III MAY BE USED AT THE CONTRACTOR'S OPTION, UNLESS OTHERWISE SHOWN ON THE PLANS OR DIRECTED BY THE DISTRICT.
- WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS INSTALL A 4" x 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.
- MAX SPACING OF REINFORCING STEEL TO BE 4" CENTER-CENTER.
- CONCRETE TO BE CLASS A ( 6 sack mix )
- BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE DISTRICT.
- IF UTILITY IS A WATER MAIN, SEE SD 10.1

**MONTARA WATER & SANITARY DISTRICT**

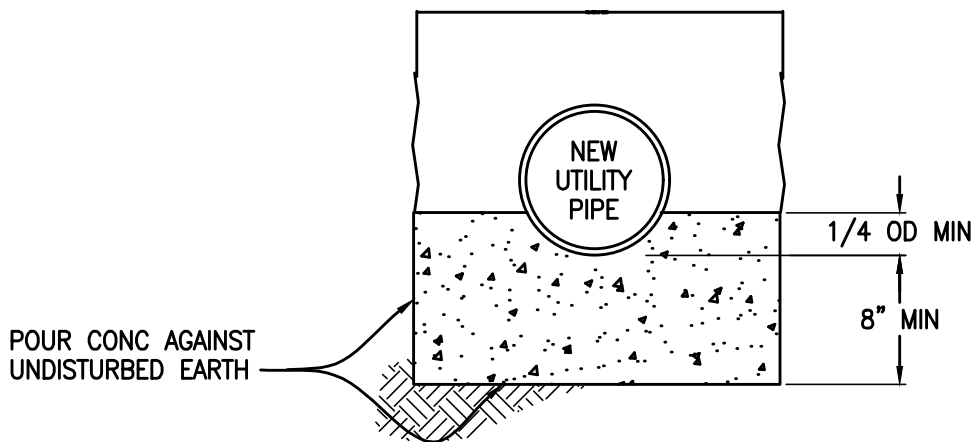
**MAIN SEWER PROTECTION ABOVE UTILITY CROSSING**

2017

SD 8



**MAIN SEWER**

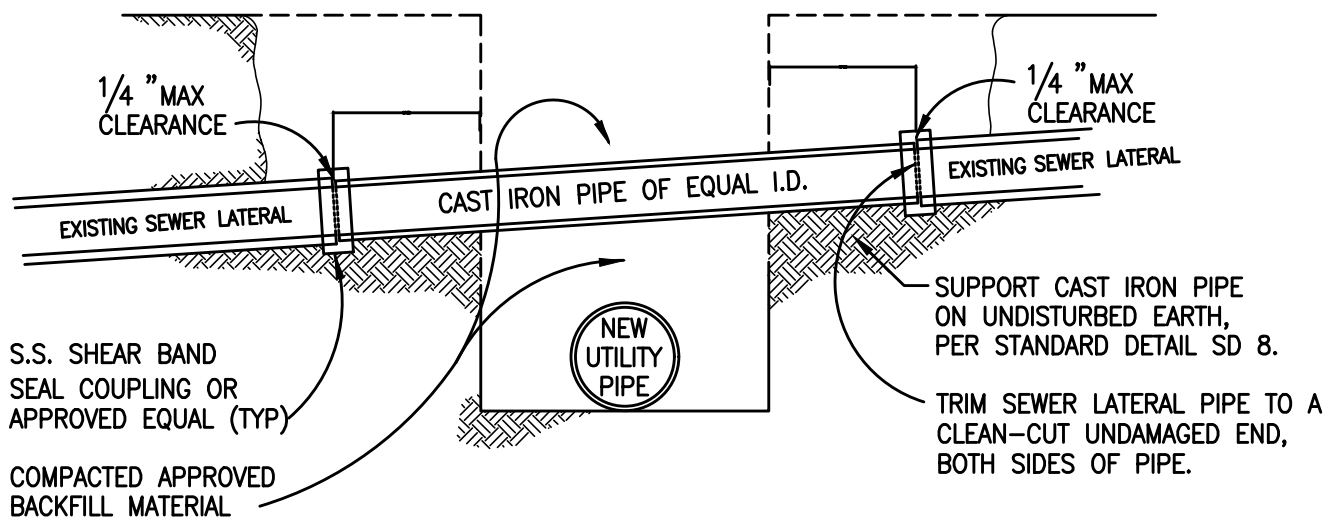


**SECTION A-A**

**NOTES:**

1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, 12" OR LARGER, IS INSTALLED ABOVE AN EXISTING MAIN SEWER AND THE CLEARANCE IS LESS THAN 12".
2. WHEN THE OUTSIDE DIAMETER OF THE PIPES ARE WITHIN 1" OF THE OTHER THERE SHALL BE A 4" x 4" PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.
3. EXISTING MATERIAL BETWEEN CRADLES TO MID DEPTH OF SEWER TO BE CAREFULLY EXCAVATED AND REPLACED WITH COMPACTED CLASS II MATERIAL.
4. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY DISTRICT.

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
MAIN SEWER PROTECTION BELOW UTILITY CROSSING		
2017		SD 9



**NOTES:**

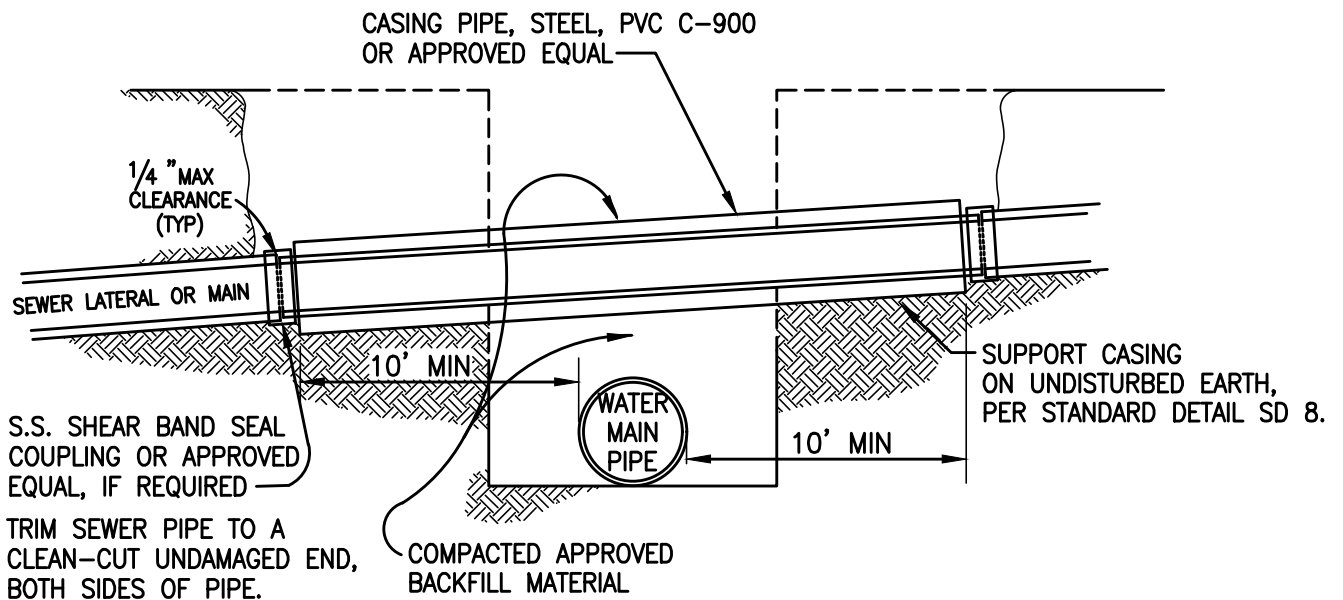
1. SEWER PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED WHEN A NEW UTILITY PIPE, 12" OR LARGER, IS INSTALLED BELOW AN EXISTING SEWER LATERAL.
2. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY DISTRICT.
3. WHEN THE OUTSIDE DIAMETER OF THE PIPES ARE WITHIN 1" OF THE OTHER THERE SHALL BE A 4" x 4" PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.
4. IF UTILITY IS A WATER MAIN, SEE SD 10.1

**MONTARA WATER & SANITARY DISTRICT**

**SEWER LATERAL PROTECTION ABOVE UTILITY CROSSING**

2017

SD 10.0



**NOTES:**

1. SEWER CASING PROTECTION, AS DETAILED HEREON, SHALL BE PROVIDED FOR ALL SEWER PIPES, MAIN OR LATERAL, INSTALLED OVER WATER MAINS.
2. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY DISTRICT.
3. WHEN THE OUTSIDE DIAMETER OF THE WATER PIPE AND CASING ARE WITHIN 1" OF THE OTHER THERE SHALL BE A 4" x 4" PAD OF 35-45 DUROMETER RUBBER PLACED SNUGLY BETWEEN PIPES.
4. CASING LENGTH MUST EXTEND 10' BEYOND EITHER SIDE OF THE WATER MAIN.

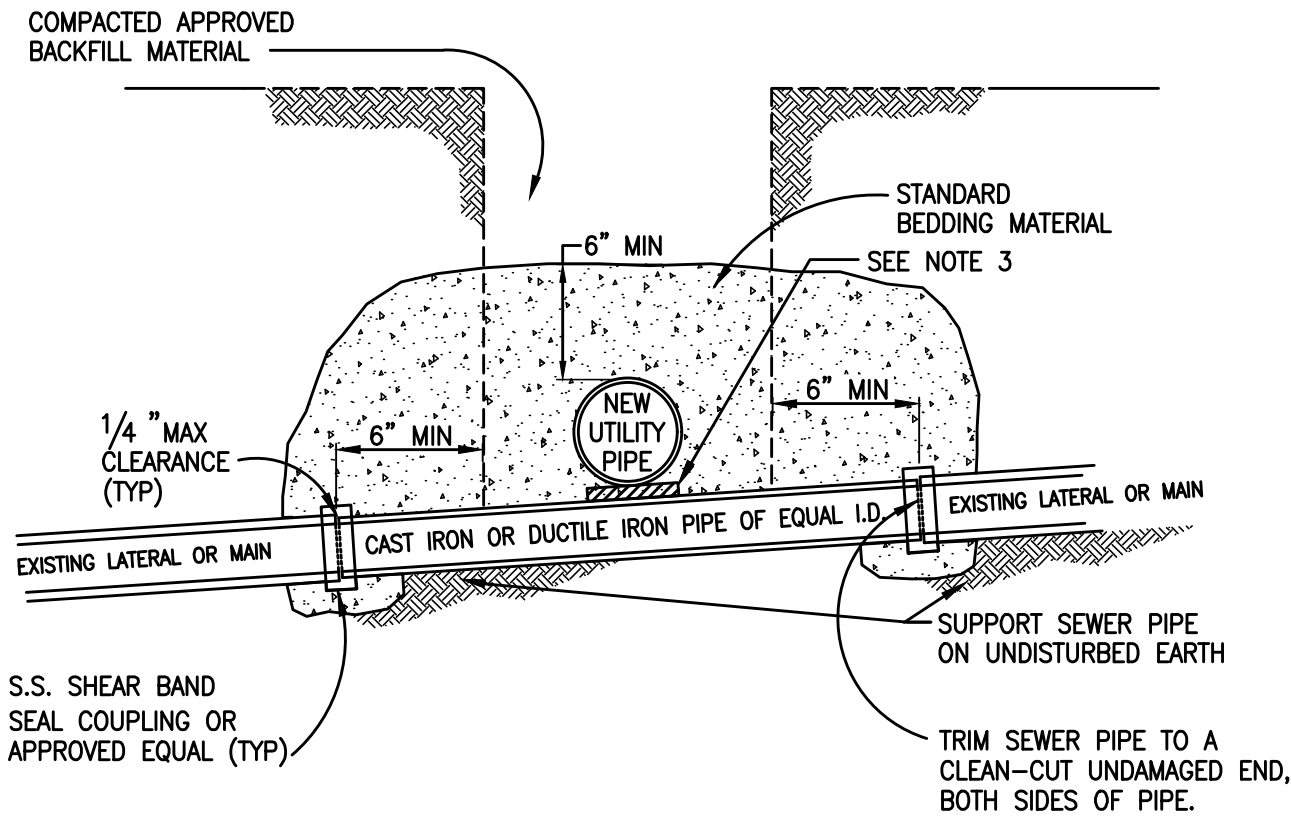
**MONTARA WATER &  
SANITARY DISTRICT**

SEWER PIPE CASING  
ABOVE WATER MAIN CROSSING

2017

SD 10.1

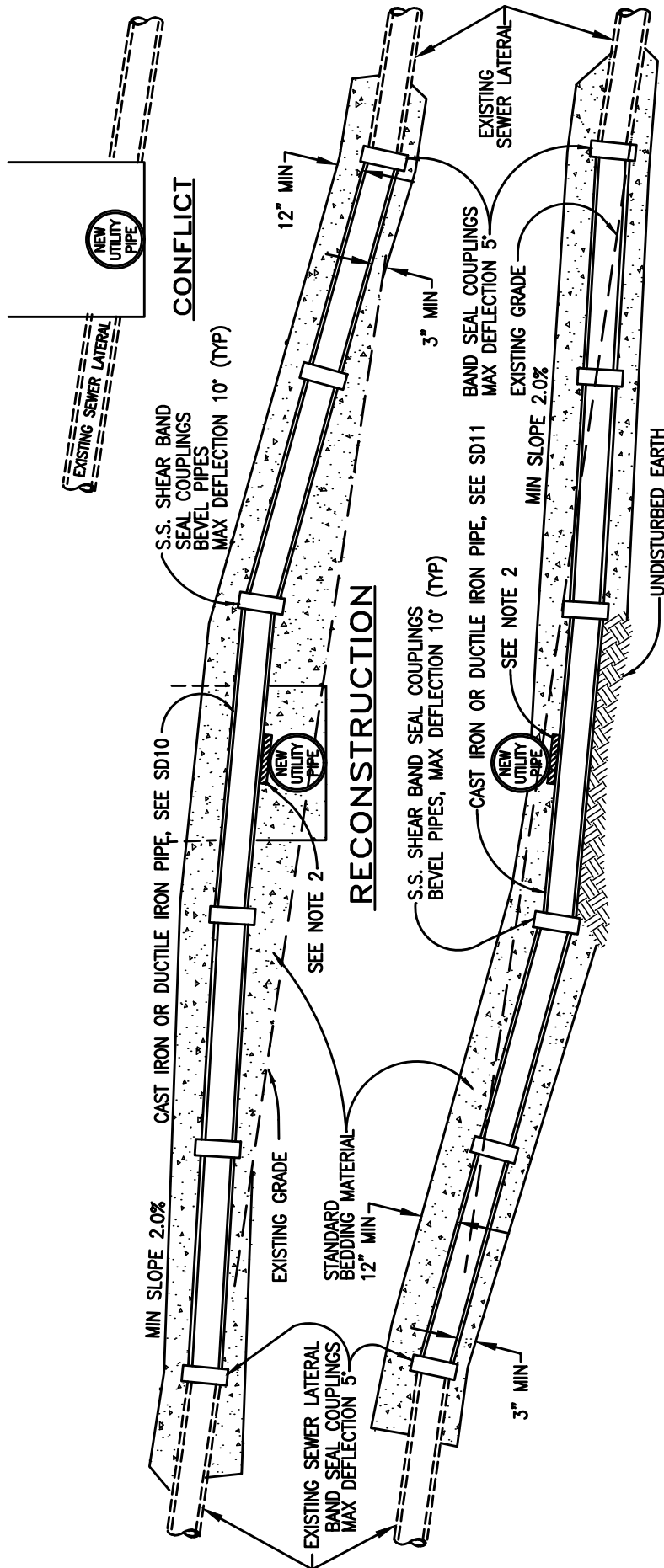




**NOTES:**

1. SEWER PROTECTION, AND REPLACEMENT OF PIPE SECTION IF DAMAGED, AS DETAILED HEREON, SHALL BE PROVIDED WHEN ANY NEW UTILITY PIPE IS INSTALLED ABOVE AN EXISTING SEWER PIPE AND THE CLEARANCE IS LESS THAN 12".
2. BACKFILL SHALL NOT BE PLACED UNTIL PIPE INSTALLATION HAS BEEN INSPECTED AND APPROVED BY THE DISTRICT.
3. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS, INSTALL A 4" x 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
SEWER PIPE PROTECTION BELOW UTILITY CROSSING		
2014		SD 11



## RECONSTRUCTION

**NOTES:**

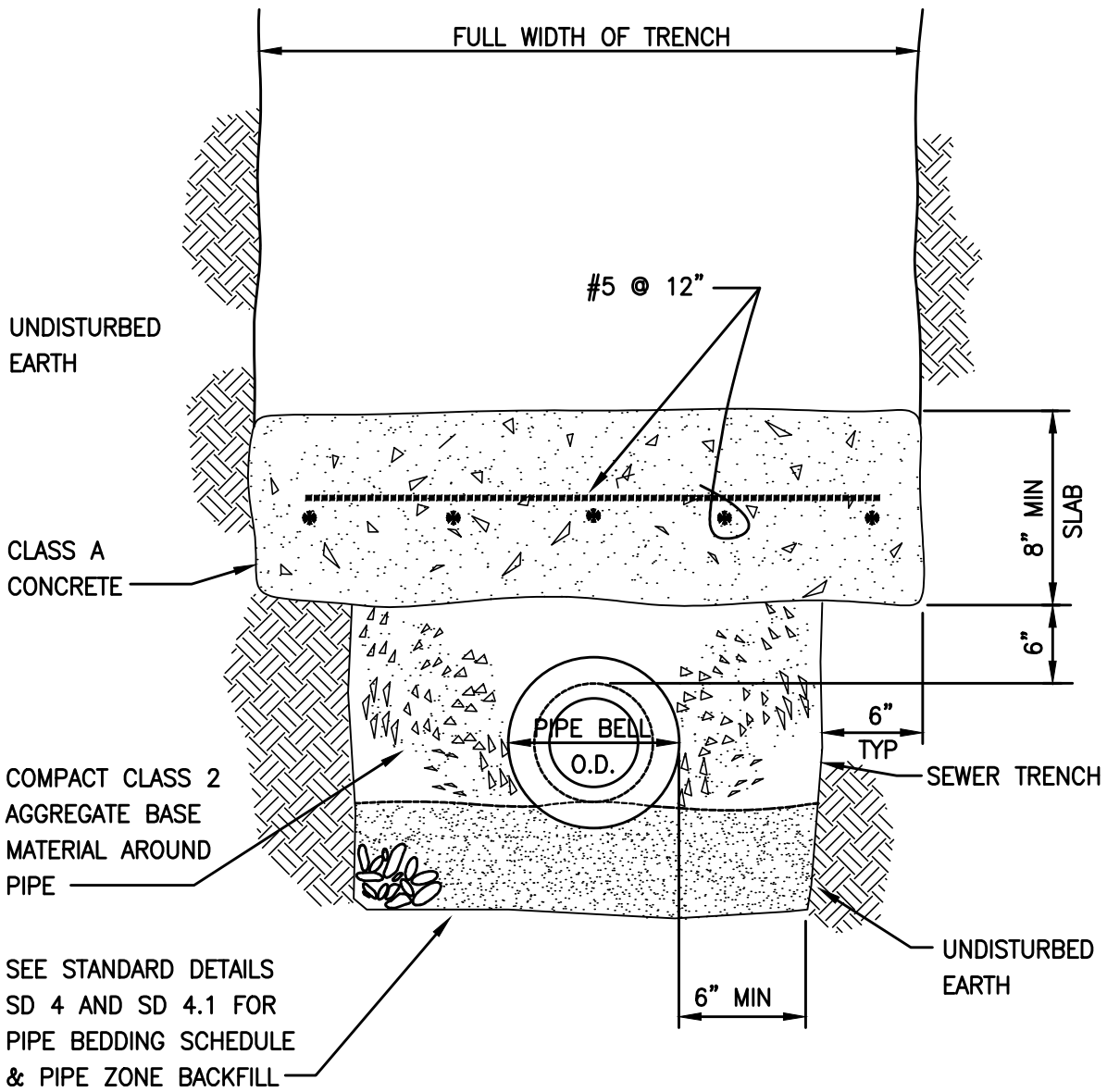
1. WHEN ANY NEW UTILITY PIPE OR CONDUIT CONFLICTS WITH AN EXISTING SEWER LINE GRADE, THE UTILITY PIPE OR CONDUIT SHALL BE RAISED OR LOWERED, IF POSSIBLE, TO MISS THE SEWER LINE. IF IT IS NOT POSSIBLE TO MOVE THE UTILITY LINE, WRITTEN PERMISSION SHALL BE OBTAINED FROM THE SANITARY DISTRICT, AND THE SEWER LINE SHALL BE RECONSTRUCTED IN ACCORDANCE WITH ONE OF THE DETAILS ABOVE AND THE STANDARD SPECIFICATIONS OF THE DISTRICT.
2. WHEN THE CLEARANCE BETWEEN THE PIPES IS 1" OR LESS, INSTALL A 4" x 4" PAD OF 35-45 DUROMETER RUBBER SNUGLY FIT BETWEEN THE PIPES.
3. MINIMUM SLOPE OF LESS THAN 2.0% MAY BE USED ON PIPES 8" AND LARGER WITH DISTRICT APPROVAL.
4. IF SEWER IS OVER A WATER MAIN, INSTALL CASING, SEE SD10.1.

# MONTARA WATER & SANITARY DISTRICT

## SEWER LATERAL RECONSTRUCTION AT UTILITY CROSSING

2017

SD 12

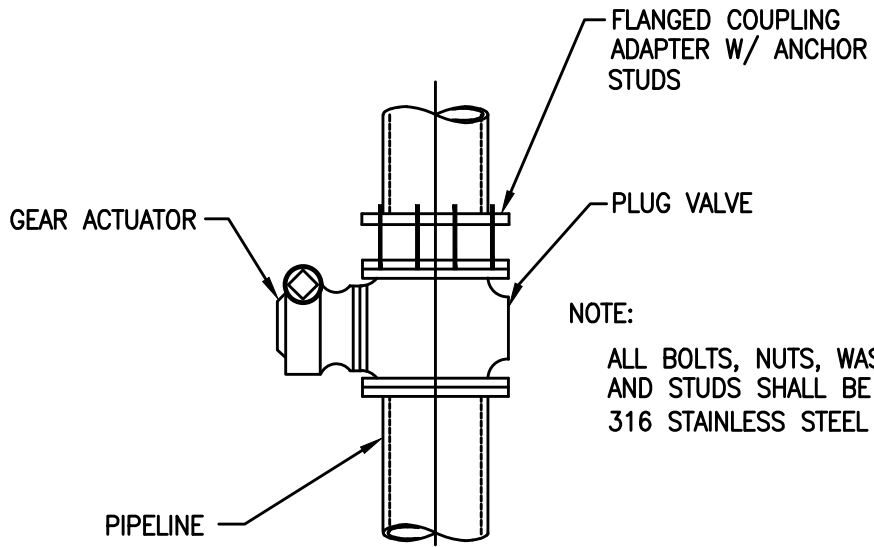


# MONTARA WATER & SANITARY DISTRICT

## STANDARD CONCRETE PIPE PROTECTION

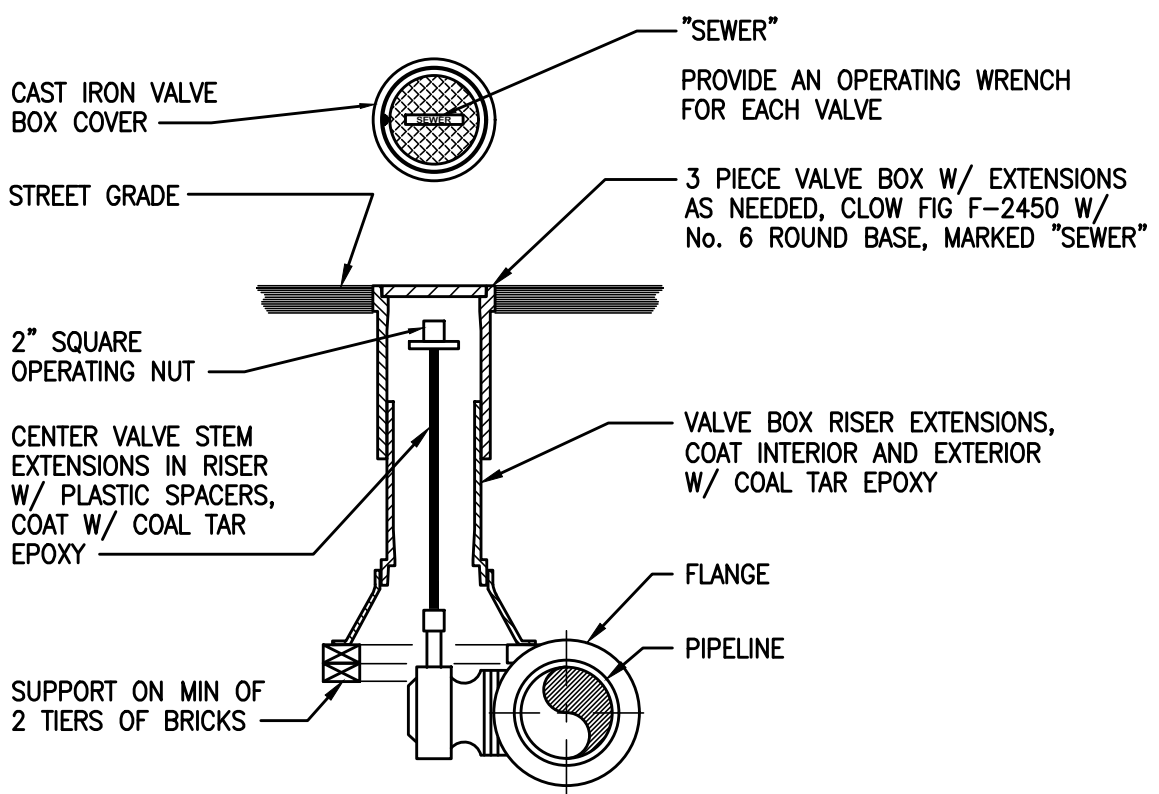
2017

SD 13



NOTE:  
ALL BOLTS, NUTS, WASHERS  
AND STUDS SHALL BE TYPE  
316 STAINLESS STEEL

**PLAN VIEW**

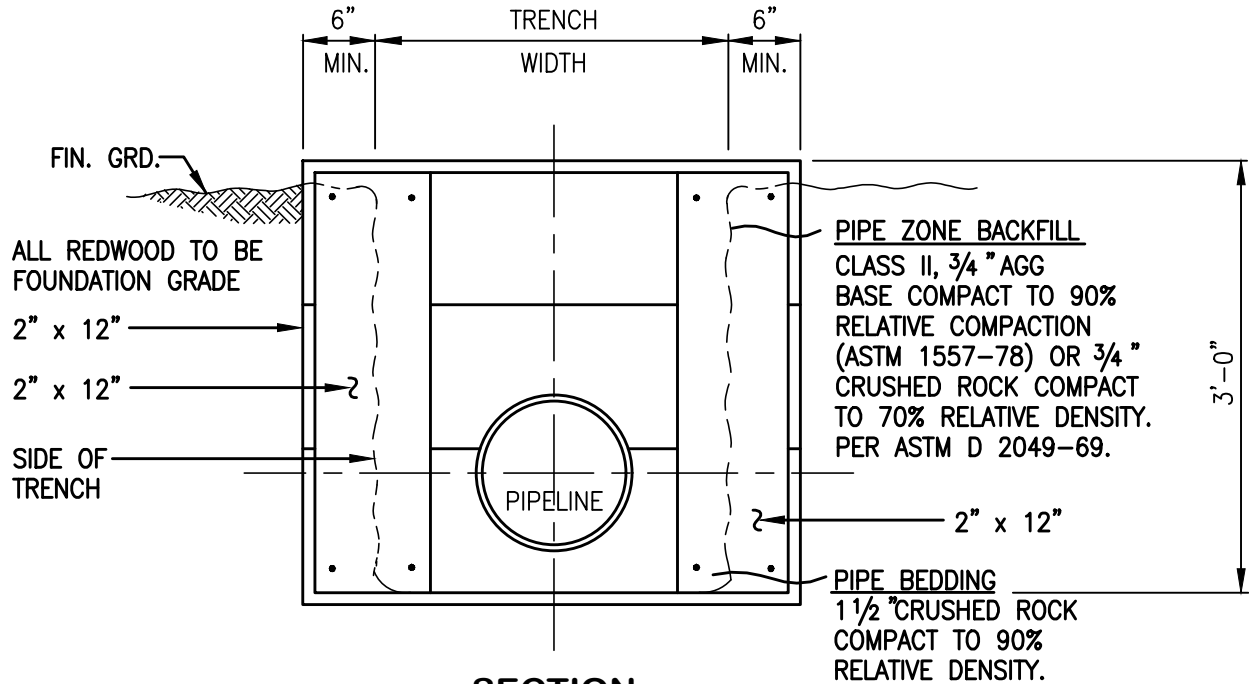


PROVIDE AN OPERATING WRENCH  
FOR EACH VALVE

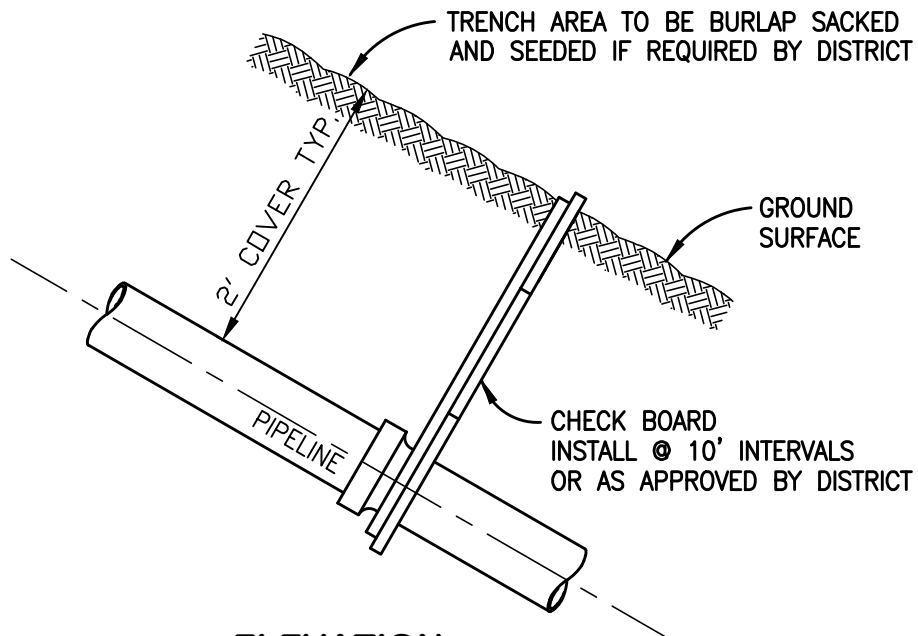
NOTE:  
ALL BURIED VALVES, GEAR  
ACTUATORS, FLEX COUPLINGS  
AND HARNESSES SHALL BE  
COATED AND WRAPPED PER  
SPECIFICATIONS.

**SECTION**

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
FORCE MAIN VALVE		
2017		SD 14



**SECTION**



**ELEVATION**

**NOTES:**

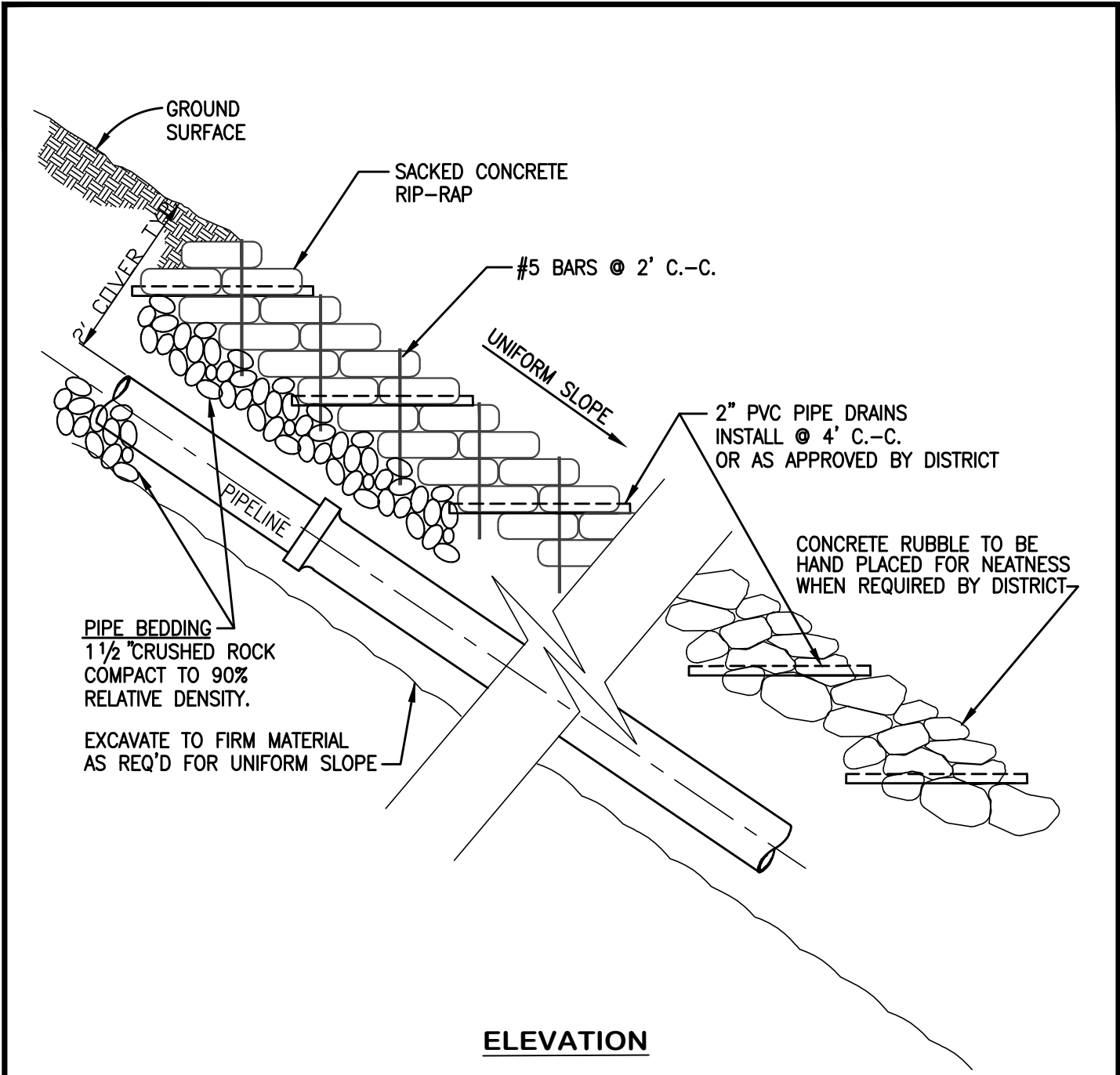
1. CHECK BOARDS TO BE PLACED ON ALL SLOPES GREATER THAN 50% OR WHERE REQUIRED BY THE DISTRICT.
2. ALL SLOPES 50% OR GREATER SHALL HAVE CLASS 150 C.I. BELL & SPIGOT PIPE.
3. CHECK BOARD MAY BE SUBSTITUTED WITH COMPACTED BASE ROCK (CLASS 2) MIXED WITH BENTONITE IF APPROVED BY THE DISTRICT ENGINEER.
4. MAY BE REQUIRED ON PIPEBURST MAINS AND LATERALS

**MONTARA WATER & SANITARY DISTRICT**

**STANDARD REDWOOD CHECK BOARD**

2017

SD 15

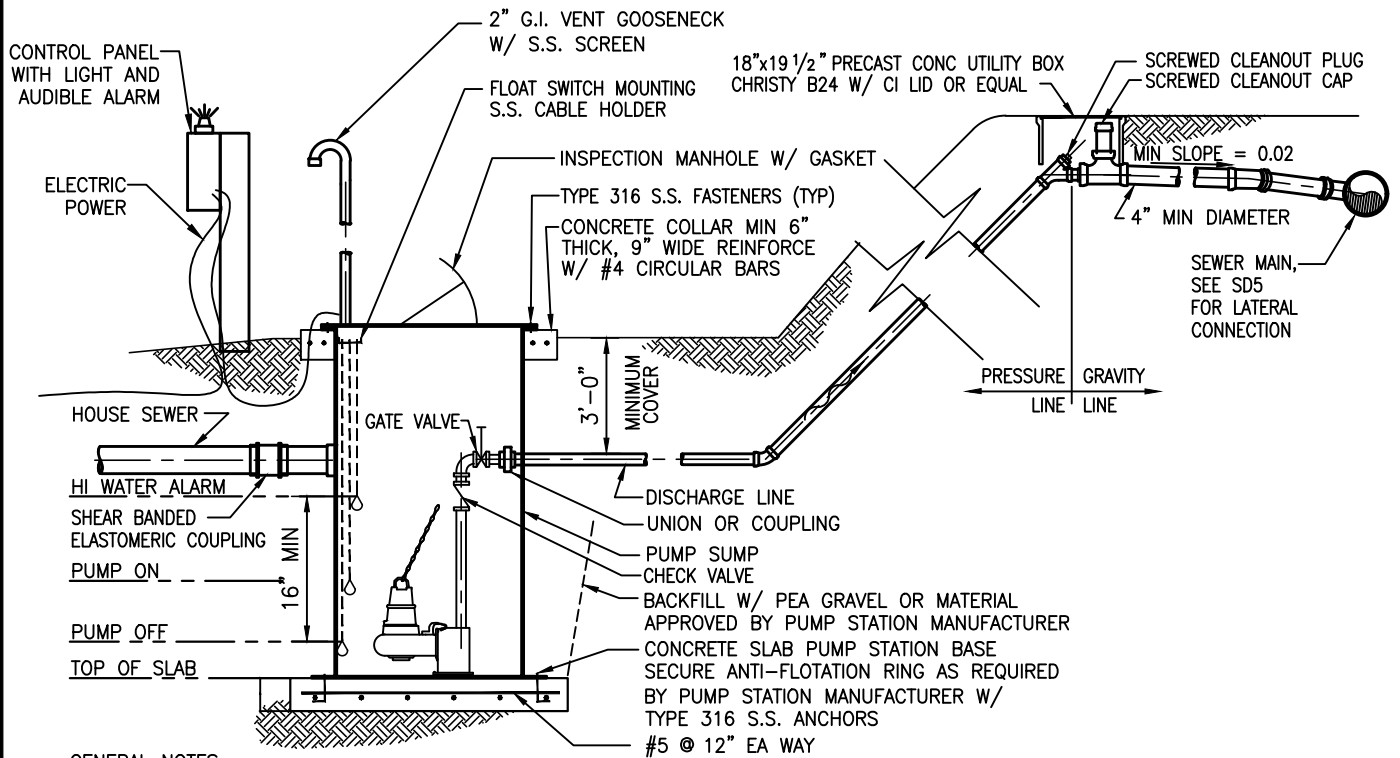


**ELEVATION**

**NOTES:**

1. CHECK BOARDS TO BE PLACED ON ALL SLOPES GREATER THAN 50% OR WHERE REQUIRED BY THE DISTRICT. SEE SD 15.
2. ALL SLOPES 50% OR GREATER SHALL HAVE CLASS 150 C.I. BELL & SPIGOT PIPE.

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
STANDARD RIP-RAP INSTALLATION		
2017		SD 16



**GENERAL NOTES:**

THE MINIMUM REQUIREMENTS FOR A RESIDENTIAL SEWAGE PUMPING SYSTEM CONNECTING A SINGLE RESIDENCE OR EQUIVALENT TO THE DISTRICT'S SYSTEM ARE SPECIFIED BELOW. THE DISTRICT ACCEPTS NO RESPONSIBILITY FOR THE DESIGN, OPERATION OR MAINTENANCE OF SUCH PRIVATELY OWNED AND OPERATED SYSTEMS. ALL WORK SHALL COMPLY WITH THE UNIFORM PLUMBING AND BUILDING CODES.

**MANUFACTURERS:**

ALL EQUIPMENT AND ACCESSORIES SHALL BE INDUSTRY STANDARD MANUFACTURED ITEMS AND THOSE COMING IN DIRECT CONTACT WITH SEWAGE SHALL BE SPECIFICALLY MANUFACTURED FOR SEWAGE USE.

**PUMPS:**

PUMPS SHALL BE SUBMERSIBLE SOLIDS HANDLING OR GRINDER TYPE SEWAGE PUMPS. PUMP MOTORS FOR RESIDENTIAL SERVICE SHALL BE EXPLOSION PROOF OR MEET CLASS 1, DIVISION 2 REQUIREMENTS PER NEC. ALL COMMERCIAL INSTALLATIONS SHALL CONSIST OF DUPLEX EXPLOSION PROOF PUMPS EACH RATED FOR TOTAL LOADING. ALL PUMP MOTORS SHALL BE UL LISTED.

**PUMP SUMP:**

THE PUMP SUMP SHALL BE CONSTRUCTED OUT OF NON-CORROSIVE MATERIAL OF SUITABLE STRENGTH TO WITHSTAND HYDRAULIC AND EARTH LOADS. THE PUMP SUMP SHALL BE A MINIMUM 36" DEEP WITH A MINIMUM CAPACITY OF 200 GALLONS AND SHALL BE PROVIDED WITH A FOUR (4) INCH MINIMUM INLET. IN ANY CASE THE INLET I.D. SHALL BE EQUAL TO OR GREATER THAN THE BUILDING PLUMBING STUB. THE TOP OF THE PUMP SUMP SHALL BE SECURELY ANCHORED TO THE PUMP SUMP BY BOLTS, AND ALL JOINTS BETWEEN THE COMPONENT PARTS SHALL BE SEALED WITH A WATERPROOF MASTIC.

**ELECTRIC POWER SERVICE:**

THE POWER REQUIREMENTS SHALL BE AS RECOMMENDED BY PACIFIC GAS AND ELECTRIC COMPANY.

**ELECTRICAL WORK AND CONTROLS:**

ALL ELECTRICAL WIRING AND INSTALLED CABLING, CONDUIT AND CONTROLS SHALL MEET NEC CLASS 1, DIVISION 2 REQUIREMENTS AND CONFORM TO THE REQUIREMENTS OF THE CITY OR COUNTY. THE ELECTRICAL CONTROLS SHALL PROVIDE ADEQUATE PROTECTION FOR MOTOR AND EQUIPMENT. THE ELECTRICAL CONTROL PANEL SHALL MEET NEC AND UL STANDARDS FOR SAFETY. OUTDOOR PANELS SHALL BE WEATHER TIGHT NEMA 4X. INDOOR PANELS SHALL BE NEMA 1.

**FLOAT SWITCH ASSEMBLY AND HIGH-WATER ALARM:**

A VISIBLE RED LIGHT AND AUDIBLE HIGH WATER ALARM SHALL BE PROVIDED. THE HIGH WATER ALARM SHALL BE ACTIVATED BY A DEDICATED FLOAT AND SHALL HAVE BATTERY BACKUP. ALL FLOAT SWITCHES SHALL HAVE GAS-TIGHT MOUNTINGS.

**VENT FOR PUMP SUMP:**

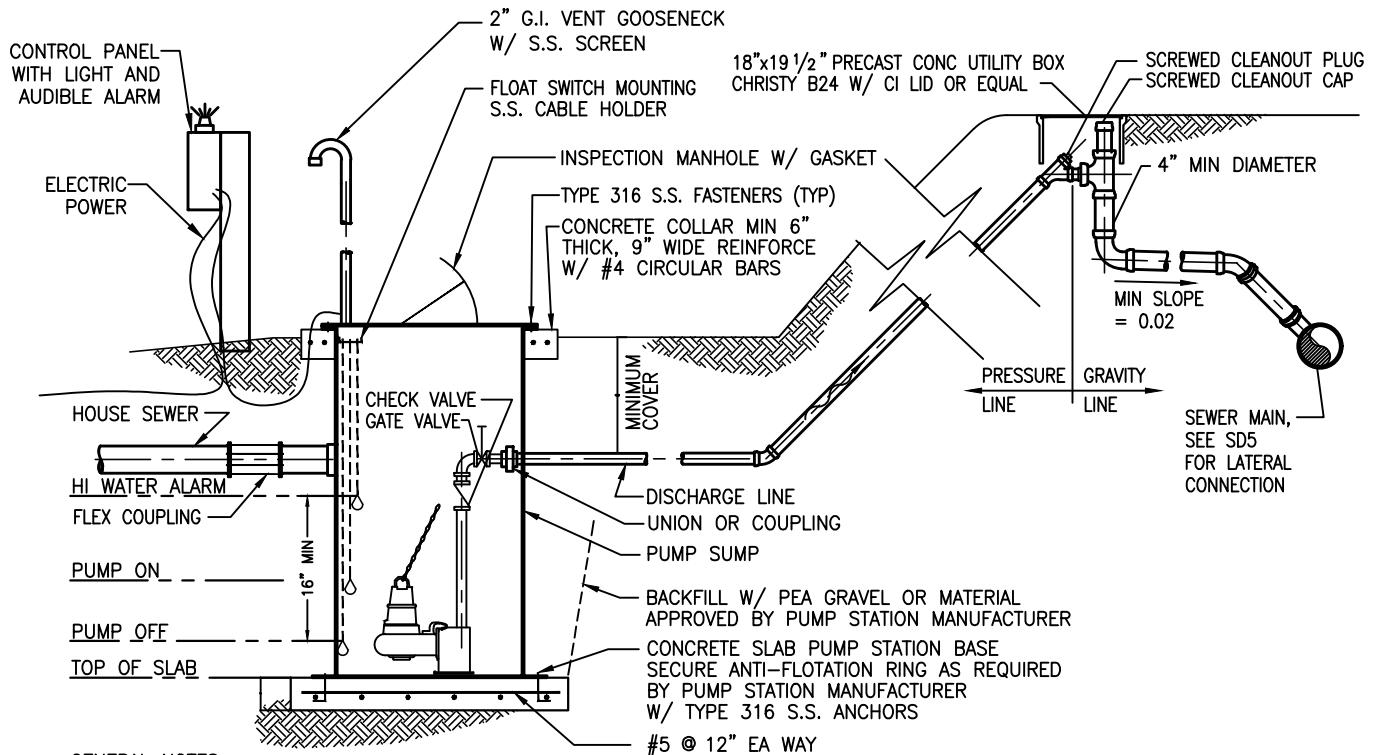
WHERE SYSTEM IS LOCATED WITHIN THE DWELLING, A VENT TWO (2) INCHES OR LARGER SHALL BE PROVIDED. WHERE SYSTEM IS LOCATED OUTSIDE THE DWELLING, A TWO (2) INCH OR LARGER VENT SHALL BE EXTENDED TO A POINT TEN (10) FEET ABOVE THE PUMP SUMP COVER.

**DISCHARGE LINE:**

THE PRESSURE PORTION OF THE DISCHARGE LINE SHALL INCLUDE A CHECK VALVE, GATE VALVE AND FLEXIBLE COUPLINGS AND SHALL BE A MINIMUM 1/2" DIAMETER LARGER THAN THE PUMP DISCHARGE. ALL PIPE, VALVES AND COUPLINGS SHALL CONFORM TO THE STANDARD SPECIFICATIONS. THE GRAVITY PORTION OF THE DISCHARGE LINE SHALL BE FOUR (4) INCH MINIMUM DIAMETER PIPE, SHALL MEET THE DISTRICT REQUIREMENT FOR SIDE SEWERS AND SHALL PROVIDE A MINIMUM TWELVE (12) INCH VERTICAL DROP AT THE JUNCTION WITH THE PRESSURE LINE.

**SHALLOW SEWER MAIN CONNECTION**

<b>MONTARA WATER &amp; SANITARY DISTRICT</b>		
<b>RESIDENTIAL SEWERAGE PUMPING SYSTEM</b>		
2017		SD 17.0



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**ELECTRIC POWER SERVICE:**

THE PUMP SYSTEM POWER REQUIREMENTS SHALL BE PROVIDED AS RECOMMENDED BY PUMP SYSTEM MANUFACTURER.

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**DEEP SEWER MAIN CONNECTION**

**MONTARA WATER & SANITARY DISTRICT**

**RESIDENTIAL SEWERAGE PUMPING SYSTEM**

2017

SD 17.1