1. ACCEPTABLE PIPE MATERIALS:

WASTEWATER MAINS (8"–60"),	PVC SOLID WALL SDR 26 PER ASTM D–3034 HDPE, HIGH DENSITY POLYETHYLENE (DR17 MINIMUM) FUSIBLE PVC SOLID WALL PIPE (SCHEDULE 80, DR25 MINIMUM) PVC SOLID WALL PIPE (C900) VCP, VITRIFIED CLAY PIPE (EXTRA STRENGTH) – ONLY 18" AND LARGER (WHEN APPROVED BY CITY ENGINEER)
WASTEWATER CONNECTIONS/ LATERALS (4" OR 6"):	ABS SOLID WALL PIPE SDR 23.5 ASTM D–2751 ABS SOLID WALL PIPE SDR 26 ASTM D–2751 ABS SOLID WALL PIPE (DWV SCHEDULE 40) PVC SOLID WALL PIPE SDR 23.5 ASTM D–3034 PVC SOLID WALL PIPE SDR 26 ASTM D–3034 FUSIBLE PVC SOLID WALL PIPE (SCHEDULE 80, DR25 MINIMUM) HDPE DR26 MINIMUM

2. THE CITY OF REDDING MAY REQUIRE THE USE OF FUSED (PVC OR HDPE) PIPE IN AREAS OF HIGH GROUNDWATER, SHALLOW COVER OR UNSTABLE GROUND CONDITIONS.

3. THE LARGEST PIPELINE THAT CAN BE TAPPED FOR A SEWER CONNECTION LATERAL IS 15 INCH UNLESS APPROVED BY THE CITY ENGINEER.

4. PRIOR TO ACCEPTANCE OF THE SEWER, THE PIPELINES SHALL BE PROPERLY CLEANED OF ALL DEBRIS, AIR PRESSURE TESTED PER STANDARD SPECIFICATIONS SECTION 306–7.8.2.4, AND MANDRELLED (WHEN APPLICABLE) BY THE CONTRACTOR; AND THEN TELEVIEWED. PROPER CLEANING TECHNIQUES AND DEVICES SHALL BE UTILIZED TO ENSURE NO DEBRIS, SAND, GRAVEL OR SILT WILL ENTER THE EXISTING CITY SEWER SYSTEM.

5. THE DOWNSTREAM END OF ALL NEW PIPELINES WHICH ARE NOT ACTIVE IN SERVICE SHALL BE PLUGGED UNTIL THE SEWER IS ACCEPTED BY THE CITY.

6. MANDREL TESTING SHALL BE REQUIRED FOR ALL PLASTIC PIPE PER STANDARD SPECIFICATIONS SECTION 306–1.2.12.

7. PRIOR TO ACCEPTANCE, ALL MANHOLES CONSTRUCTED OR REHABILITATED SHALL SUCCESSFULLY PASS A VACUUM TEST PER CITY OF REDDING CONSTRUCTION STANDARD PAGE 300.10.

8. MINIMUM DEPTH OF COVER:

   A. 5.0 FEET OVER SEWER MAIN
   B. 4.5 FEET OVER SEWER CONNECTIONS/LATERALS AT PROPERTY LINE (PER PAGE 301.00 & 622.00)

9. THE MINIMUM RADIUS CURVATURE FOR SEWER MAINS SHALL BE 1.5 TIMES THE MANUFACTURER'S RECOMMENDATION. ALL CURVATURE OF FLEXIBLE PIPE SHALL BE MADE BY BENDING THE PIPE. NO DEFLECTION OF THE PIPE JOINTS SHALL BE ALLOWED. SHARPER CURVES MAY BE OBTAINED BY USING 3° COUPLINGS (18" MINIMUM BETWEEN COUPLINGS).

10. SEWER TAPS ON LIVE SEWER MAINS SHALL BE PERFORMED BY THE CITY. CONTACT THE CITY PUBLIC WORKS INSPECTION TO SCHEDULE THE TAP. PHONE: 225–4170.

11. WATER STOPS SHALL BE M&H, FERNCO, OR EQUAL, IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS.

12. NON–METALLIC PIPE SHALL HAVE LOCATING WIRE AND WARNING TAPE PER PAGE 608.00.

13. ALL HDPE, PVC AND FPVC PIPE INTERIOR SHALL BE LIGHT GREEN OR GRAY IN COLOR.

14. PIPE SHALL MARKED "SEWER" ON THE EXTERIOR OR HAVE A GREEN STRIPE COEXTRUDED INTO THE PIPE MATERIAL.

DWG DATE: 7/85		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
9	12/18	EDIT NOTES	
8	3/18	EDIT NOTES	APPROVED BY
7	1/18	EDIT NOTE	
6	10/16	EDIT NOTE	
5	7/13	EDIT NOTES	
4	4/06	EDIT NOTES	1/10/19
MARK	DATE	REVISION	CITY ENGINEER

SANITARY SEWER CONSTRUCTION CRITERIA

\STRUCTION STANDARDS\DWG\300\30000.DWG, 300.00 PDF, 12/18/2018 9:18:08 AM, DANIELS, Adobe PDF

1. EACH MANHOLE SHALL BE VACUUM TESTED IN THE PRESENCE OF THE CITY INSPECTOR FOR ACCEPTANCE PRIOR TO FINAL PAVING AND AFTER ALL BACKFILLING AND COMPACTION IS COMPLETED. INDUSTRY STANDARDS RECOMMEND THAT THE MANHOLES BE PRE-TESTED IMMEDIATELY AFTER ASSEMBLY AND PRIOR TO BACKFILLING. SUCH PRE-TESTING IS FOR THE CONTRACTOR'S CONVENIENCE AND NEED NOT BE IN THE PRESENCE OF THE INSPECTOR.

2. ALL TESTING EQUIPMENT AND LABOR SHALL BE PROVIDED BY THE CONTRACTOR.

3. ALL PIPES ENTERING THE MANHOLE SHALL BE PLUGGED, TAKING CARE TO SECURELY BRACE THE PLUGS FROM BEING DRAWN INTO THE MANHOLE.

4. THE TEST HEAD SHALL BE PLACED AT THE INSIDE OF THE TOP OF THE CONE SECTION AND THE SEAL INFLATED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATION.

5. A VACUUM OF 10 INCHES OF MERCURY SHALL BE DRAWN AND THE VACUUM PUMP SHUT OFF. WITH THE VALVES CLOSED, THE TIME SHALL BE MEASURED FOR THE VACUUM TO DROP TO NINE INCHES. THE MANHOLE SHALL PASS IF THE TIME IS GREATER THAN 60 SECONDS FOR 48" DIAMETER MANHOLES, 75 SECONDS FOR 60" DIAMETER MANHOLES, AND 90 SECONDS FOR 72" DIAMETER MANHOLES.

6. IF THE MANHOLE FAILS THE INITIAL TEST, NECESSARY REPAIRS SHALL BE MADE WITH A NON-SHRINK GROUT OR EPOXY. RETESTING SHALL PROCEED UNTIL A SATISFACTORY TEST IS OBTAINED. NO GROUT SHALL BE PLACED IN THE HORIZONTAL JOINTS BEFORE TESTING.

DWG DATE: 1/98		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION	
2 1	3/18 7/13	EDIT NOTE 6 UPDATE	APPROVED BY 3/19/18 CITY ENGINEER	SPECIFICATIONS FOR VACUUM TESTING OF MANHOLES
MARK	DATE	REVISION		

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\30010.DWG, 8.5X11PDF, 2/23/2018 2:34:11 PM, DANIELS

1. DESIGN OF SEWER LINES SHALL BE BASED UPON AN AVERAGE DAILY FLOW OF 300 GALLONS PER HOUSEHOLD EQUIVALENT PER DAY PLUS 1,500 GALLONS PER ACRE PER DAY FOR STORM WATER AND GROUNDWATER INFILTRATION. PEAKING FACTORS APPLIED TO DRY WEATHER FLOWS SHALL BE 3.25 FOR RESIDENTIAL AND 1.70 FOR NON–RESIDENTIAL SERVICES.

2. MAINS AND COLLECTOR SEWER LINES SHALL BE DESIGNED WITH A MINIMUM MANNING COEFFICIENT OF N=0.013.

3. THE MINIMUM SLOPE ALLOWED FOR SEWER PIPELINES SHALL BE:

8"	s=0.0040
10"	s=0.0030
12"	s=0.0025

   THE MAXIMUM LENGTH OF ANY DEAD END PIPELINE SHALL BE 250 FEET, OR LESS; SHALL HAVE A MINIMUM SLOPE OF s=.0040; AND SHALL HAVE NO MORE THAN FOUR SERVICE CONNECTIONS.

4. MINIMUM GRADES SHALL NOT BE LESS THAN THOSE REQUIRED TO PRODUCE A VELOCITY OF TWO (2.0) FEET PER SECOND WHEN THE SEWER SIZE SELECTED IS FLOWING FULL OR HALF FULL. PIPE SIZES SHALL NOT BE ARBITRARILY INCREASED IN ORDER TO TAKE ADVANTAGE OF A FLATTER GRADE.

5. THE MINIMUM SIZE SEWER MAIN SHALL BE 8–INCH.

6. MINIMUM DEPTH OF COVER:

   A. 5.0 FEET OVER SEWER MAIN
   B. 4.5 FEET OVER SEWER CONNECTIONS/LATERALS AT PROPERTY LINE (STANDARD PAGE 301.00)

7. MANHOLE SPACING:

A.	MAINLINE SEWERS 8 TO 12 INCH	:	500 FEET MAXIMUM
B.	TRUNKLINE SEWERS 15 TO 30 INCH	:	700 FEET MAXIMUM
C.	INTERCEPTOR SEWERS 36 INCH AND LARGER	:	800 FEET MAXIMUM
D.	INTERCEPTOR AT ALL ANGLE POINTS IN HORIZONTAL AND VERTICAL ALIGNMENT		

8. INSIDE DROP MANHOLES WILL ONLY BE PERMITTED WHEN APPROVED BY THE CITY ENGINEER PER 362.00 OUTSIDE DROP MANHOLES WILL NOT BE PERMITED.

9. MAXIMUM DEPTH OF COVER:

   SEWER MAINS SHALL NOT BE DESIGNED WITH COVER EXCEEDING 15 FEET FROM FINISH SURFACE GRADE, UNLESS SPECIAL PERMISSION IS RECEIVED FROM THE CITY ENGINEER.

10. NO PRIVATE FORCE MAINS WILL BE ALLOWED IN THE CITY RIGHT–OF–WAY UNLESS PERMISSION IS RECEIVED FROM THE CITY ENGINEER.

11. HORIZONTAL AND VERTICAL CURVATURE SHALL BE ONE–HALF OF THE MAXIMUM DEFLECTION RECOMMENDED BY THE MANUFACTURER.

DWG DATE: 7/85	SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION

MARK	DATE	REVISION
6	3/18	EDIT NOTE 8
5	7/13	EDIT NOTES
4	4/06	EDIT NOTES

APPROVED BY

3/19/18

CITY ENGINEER

SANITARY SEWER DESIGN CRITERIA

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\30020.DWG, 8.5X11PDF, 3/19/2018 8:31:52 AM, DANIELS

1. PVC SEWER PIPE AND FITTINGS FOR GRAVITY SEWERS SHALL BE MADE FROM ALL NEW, RIGID, UNPLASTICIZED POLYVINYL CHLORIDE IN ACCORDANCE WITH ASTM STANDARD SPECIFICATION D 3034 WITH A WALL THICKNESS OF AT LEAST SDR 26. SDR VALUES AND PVC MATERIAL REQUIREMENTS SHALL BE PER SECTION 207-17 OF THE STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK). JOINTS SHALL CONSIST OF AN INTEGRAL BELL AND RUBBER RING ELASTOMERIC SEAL (GASKETS) MEETING THE REQUIREMENTS OF ASTM D 3212 AND ASTM F 477. THE PIPE AND FITTINGS SHALL BE ASSEMBLED WITH THE PIPE MANUFACTURER'S RECOMMENDED LUBRICANT.

2. ALL PIPE SHALL HAVE A "HOME" MARK TO INDICATE FULL PENETRATION OF THE SPIGOT WHEN THE JOINT IS MADE.

3. SPECIFIC APPROVAL IS REQUIRED FOR USE OF SEWER PIPELINES FOR WHICH COMMERCIAL OR INDUSTRIAL AREAS ARE TRIBUTARY.

4. ALL PVC PIPELINES ENTERING OR LEAVING A CONCRETE STRUCTURE SHALL HAVE A FERNCO, PRESS-SEAL, OR EQUAL, WATER STOP FIRMLY CLAMPED AROUND THE PIPE EXTERIOR AND CAST INTO THE STRUCTURE BASE OR NEAR THE STRUCTURE WALL CENTER AS A WATER STOP.

5. INSTALLATION, BEDDING, AND BACKFILL REQUIREMENTS FOR PVC SEWER PIPE SHALL BE IN ACCORDANCE WITH ASTM D 2321 AS MODIFIED BY CITY OF REDDING STANDARD PAGE 610.00.

6. PRIOR TO ACCEPTANCE OF THE SEWER, THE PIPELINES SHALL BE AIR PRESSURE TESTED PER STANDARD SPECIFICATIONS SECTION 306-1.4.4

7. AFTER PIPE INSTALLATION AND PLACEMENT AND COMPACTION OF BACKFILL, BUT PRIOR TO PLACEMENT OF PAVEMENT, ALL PIPELINES SHALL BE CLEANED AND THEN SEPARATELY MANDRELLED TO MEASURE FOR OBSTRUCTIONS. OBSTRUCTIONS SHALL INCLUDE, BUT NOT BE LIMITED TO DEFLECTIONS, JOINT OFFSETS, AND SEWER CONNECTIONS/LATERAL PIPE INTRUSIONS. A CONTRACTOR-SUPPLIED RIGID MANDREL MEETING THE REQUIREMENTS OF THE GREEKBOOK SECTION 306-1.2.12 WITH AN EFFECTIVE CIRCULAR CROSS-SECTION HAVING A DIAMETER OF AT LEAST 95 PERCENT OF THE MAXIMUM AVERAGE INSIDE DIAMETER, PER ASTM 3034, SHALL BE PULLED THROUGH THE PIPE BY HAND NOT SOONER THAN 30 DAYS AFTER COMPLETION OF PLACEMENT AND DENSIFICATION OF BACKFILL. THE MINIMUM EFFECTIVE LENGTH OF THE MANDREL SHALL BE EQUAL TO ITS NOMINAL DIAMETER. OBSTRUCTIONS DUE TO DEFLECTION SHALL BE CORRECTED BY REPLACEMENT OF THE OVER-DEFLECTED PIPE; RE-ROUNDING IN PLACE WILL NOT BE ALLOWED.

8. IF A SECTION OF PIPELINE FAILS TO MEET THE MANDREL TEST AND IS REPAIRED AND FAILS A SECOND TIME, IT SHALL BE REPLACED WITH AN APPROVED RIGID OR SEMI-RIGID PIPE MATERIAL AND CONNECTED WITH FLEXIBLE RUBBER COUPLINGS WITH STAINLESS STEEL CLAMPS.

9. PVC PLASTIC SEWER PIPELINE MAY BE MANDREL TESTED AGAIN BEFORE THE TWELFTH MONTH FOLLOWING ACCEPTANCE AT THE DISCRETION OF THE MUNICIPAL UTILITIES DEPARTMENT. THE CONTRACTOR SHALL REPAIR ANY OBSTRUCTIONS CAUSED BY EXCESS DEFLECTION.

10. ALL MANDREL TESTING SHALL BE WITNESSED BY THE CITY INSPECTOR AND BE CONDUCTED BY THE CONTRACTOR'S FORCES AND AT THE CONTRACTOR'S EXPENSE.

DWG DATE: 8/92		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
6	3/18	EDIT NOTE 3	APPROVED BY
5	1/18	ADD NOTE 6	
4	7/13	UPDATE	
3	4/06	UPDATE	3/19/18
MARK	DATE	REVISION	CITY ENGINEER

POLYVINYL CHLORIDE (PVC) SEWER PIPE

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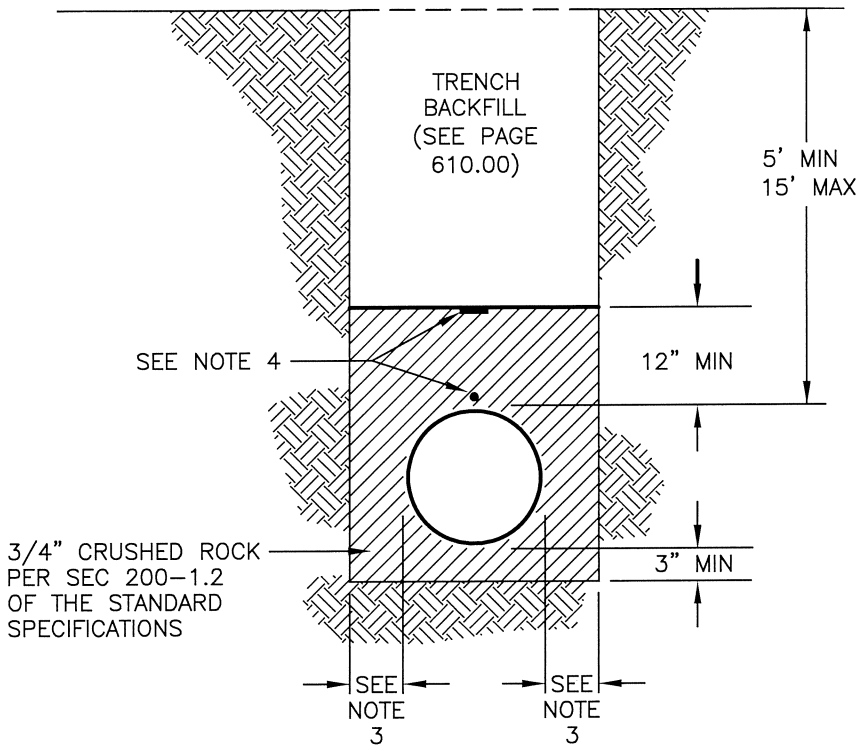
FLEXIBLE

PVC SDR 26 (8 INCH–15 INCH)



NOTES:

1. ALL PLASTIC SEWER MAINS SHALL BE AIR PRESSURE TESTED AND MANDREL TESTED WITH 5% MAX DEFLECTION PRIOR TO TELEVIEWING. THE CONTRACTOR SHALL REPAIR ANY SEWER MAIN OBSTRUCTION.
2. SEWER CONNECTIONS/LATERALS SHALL HAVE THE SAME BEDDING REQUIREMENTS AS SEWER MAINS.
3. TRENCH WIDTH ON EACH SIDE OF THE PIPE SHALL BE A MINIMUM OF EITHER FOUR (4) INCHES OR THE PIPE MANUFACTURER'S RECOMMENDED MINIMUM, WHICHEVER IS GREATER, AND A MAXIMUM OF 18 INCHES.
4. △6 NON–METALLIC PIPE SHALL HAVE LOCATING WIRE AND WARNING TAPE PER PAGE 608.00.

DWG DATE: 7/92		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
7	1/18	EDIT NOTE 1	APPROVED BY
6	8/16	EDIT NOTE	
5	7/13	ADD 608.00	
4	4/06	EDIT NOTES	1/26/18
MARK	DATE	REVISION	CITY ENGINEER

BEDDING FOR PLASTIC SEWER PIPE

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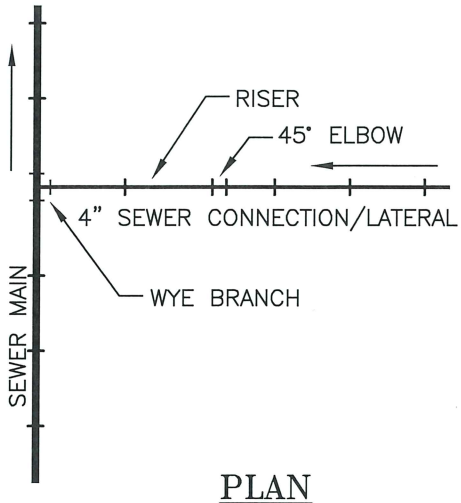
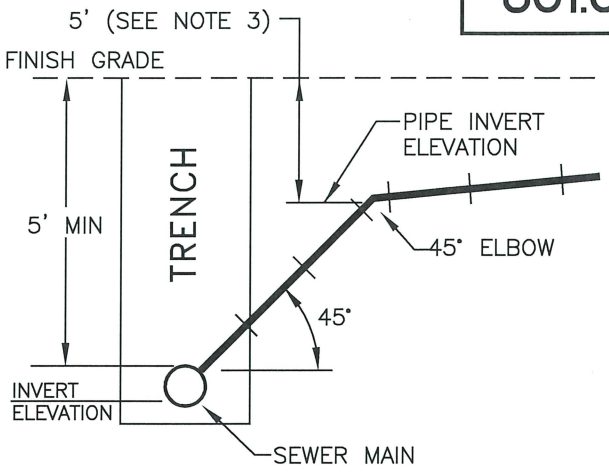


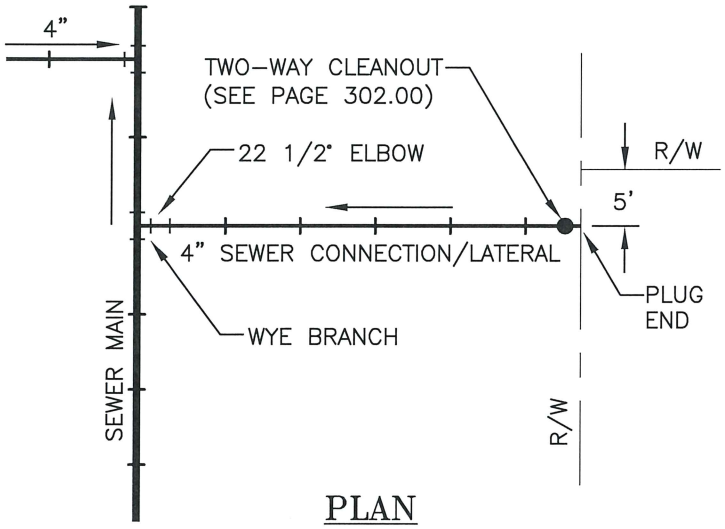
PLAN



ELEVATION

TYPICAL RISER CONNECTION

(SEE NOTE 2)



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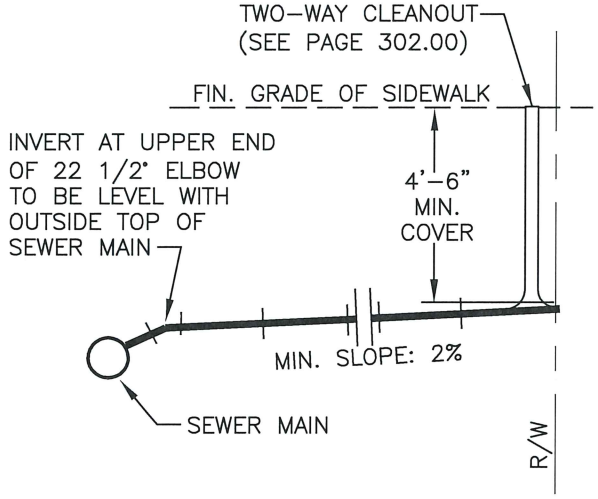

ELEVATION

TYPICAL HOUSE CONNECTION

NOTES:

1. 90° TAPS ARE ACCEPTABLE.
2. RISERS SHALL BE INSTALLED WHEN DEPTH OF SEWER MAIN EXCEEDS 6 FT.
3. VERTICAL INSTALLATIONS (STOVEPIPING) WILL NOT BE ALLOWED.
4. WHERE SEWER MAIN IS IN AN EASEMENT, INSTALL A TEE BRANCH AND PLUG.
5. PLACE 1/2" OR 5/8" PLASTIC CONDUIT (SCRAP) UPRIGHT AT PROPERTY LINE OVER END OF SEWER CONNECTION/LATERAL.
6. SEWER TAPS ON LIVE SEWER MAINS SHALL BE PERFORMED BY CITY OF REDDING CREW ONLY. CONTACT THE CITY INSPECTOR TO SCHEDULE TAP.
7. STAMP "S" INTO CURB AT LOCATION OF LATERAL.

DWG DATE: 12/91		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
10 9 8	3/18 7/13 4/06	2 WAY CO NAME CHG ADD CLEANOUT	APPROVED BY 3/19/18 CITY ENGINEER
MARK	DATE	REVISION	TYPICAL SANITARY SEWER LATERAL

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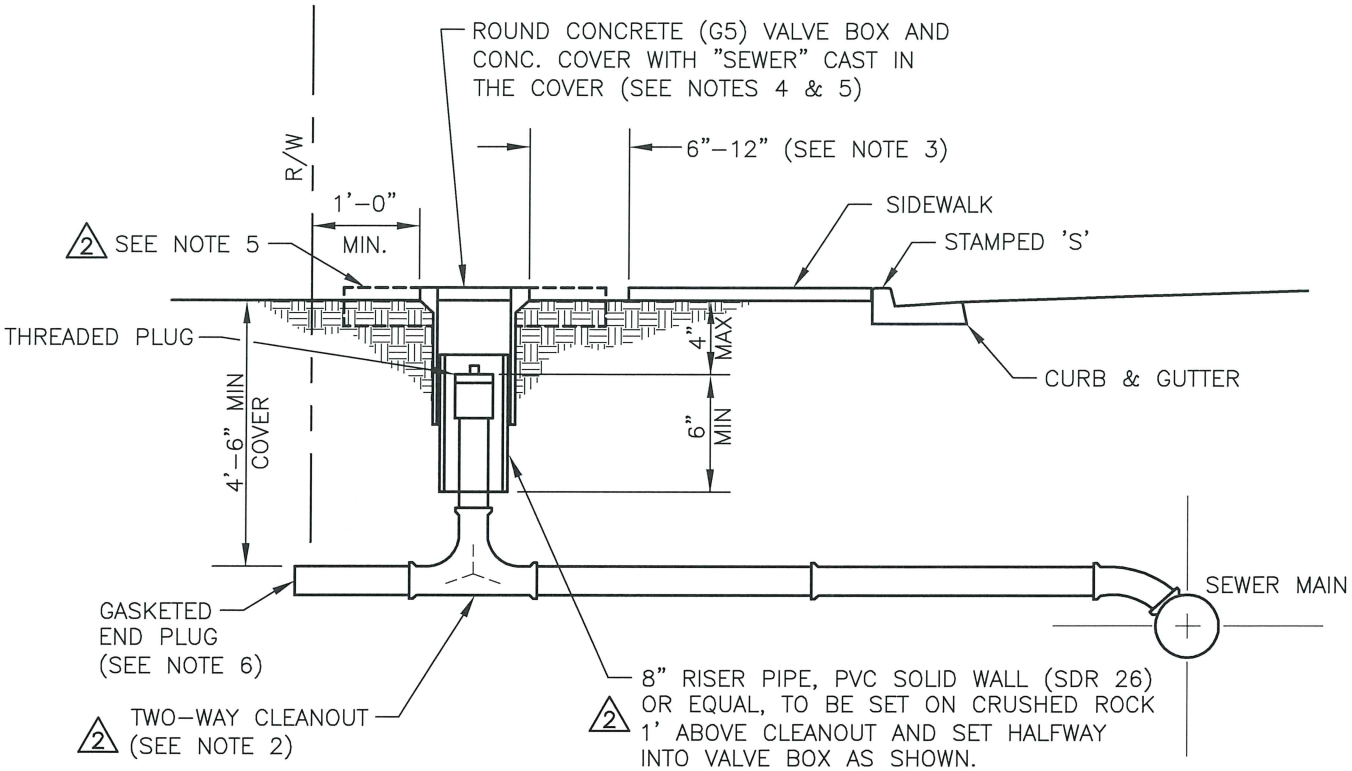

NOTES:

1. THIS STANDARD SHALL BE REQUIRED ON ALL NEW RESIDENTIAL CONSTRUCTION.
2. TWO–WAY CLEANOUT.
3. WHERE CONCRETE DRIVEWAY OR SIDEWALK SHALL EXIST, LATERAL CLEANOUT SHALL BE PLACED AT THE BACK OF CONCRETE WITH 6"–12" CLEARANCE BETWEEN CONCRETE AND CLEANOUT BOX. FOR ALL OTHER SITUATIONS, CLEANOUT SHALL BE PLACED 1' OFF THE PROPERTY LINE OR AS SHOWN ON THE PLANS APPROVED BY THE CITY ENGINEER.
4. WHERE LATERAL CLEANOUT IS LOCATED IN DRIVEWAYS OR OTHER AREAS SUBJECT TO VEHICULAR TRAFFIC, SET CLEANOUT BOX (G5) FLUSH TO FINISH GRADE, AND USE A CI TRAFFIC RATED COVER.
5. WHERE CLEANOUT IS SUBJECT TO VEHICULAR TRAFFIC AND NOT SET IN CONCRETE DRIVEWAY, POUR A 28" DIA. X 12" THICK CONCRETE COLLAR AROUND VALVE BOX.
6. ONCE THE NEW SEWER MAIN AND LATERALS HAVE BEEN TESTED, ACCEPTED, AND APPROVED TO BE PUT ON–LINE, CONTRACTOR SHALL CONNECT THE BUILDING LATERAL TO THE NEW CLEANOUT.

DWG DATE: 4/06		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
2	3/18	REVISE NOTES & CLEANOUT	APPROVED BY 3/19/18 CITY ENGINEER
1	7/13	REVISE STD	LATERAL CLEANOUT
MARK	DATE	REVISION	

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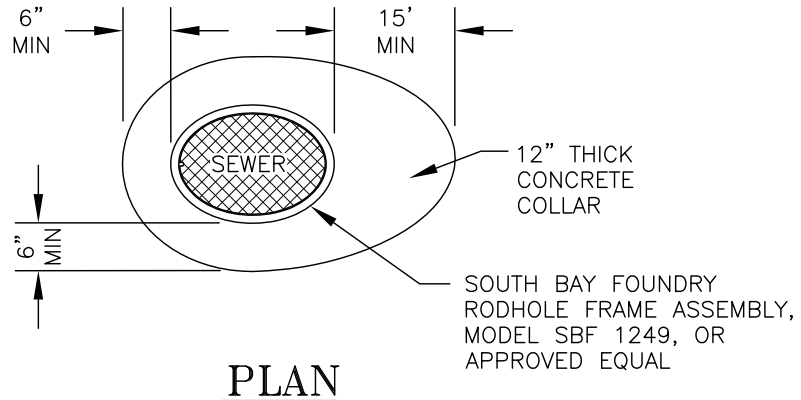
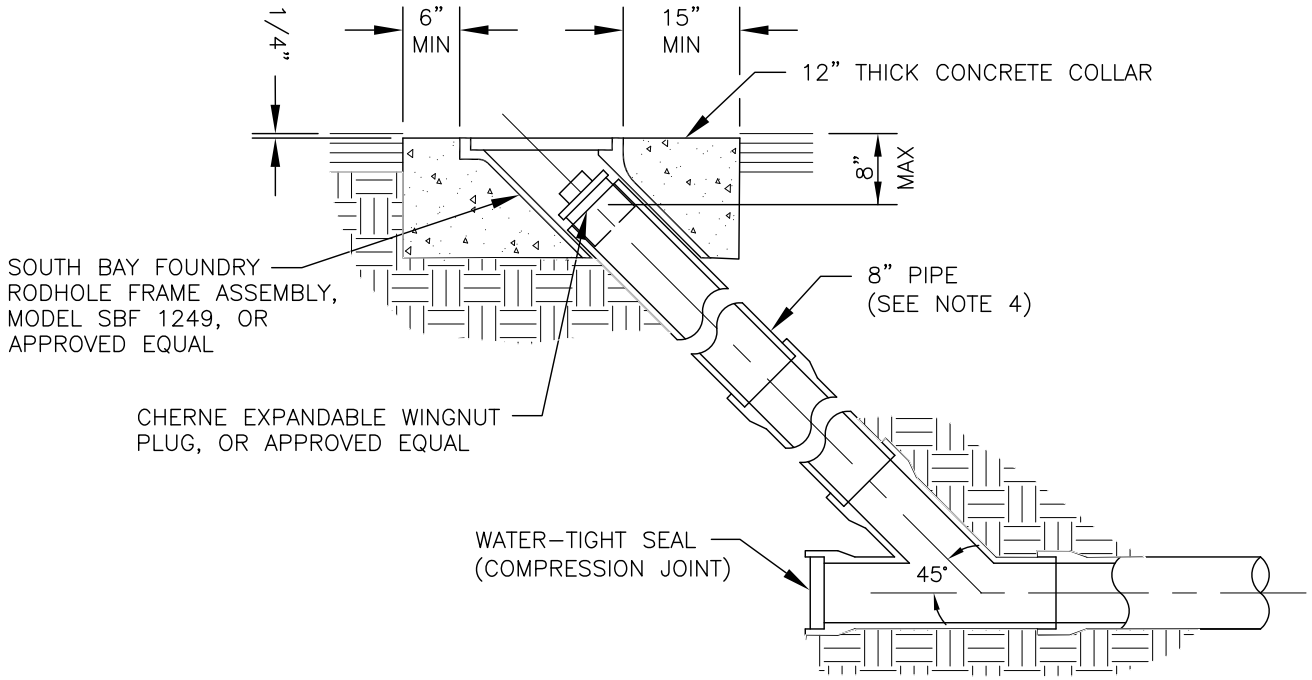


PLAN



SECTION

NOTES:

1. ALL WORK SHALL CONFORM TO THE CITY OF REDDING CONSTRUCTION STANDARDS AND STANDARD SPECIFICATIONS FOR PUBLIC WORKS CONSTRUCTION (GREENBOOK).
2. ALL INSTALLATIONS SHALL BE 8" UNLESS APPROVED OTHERWISE BY THE CITY ENGINEER.
3. 1/8th BEND MAY BE USED IN PLACE OF WYE WITH APPROVAL OF THE CITY ENGINEER.
4. CONCRETE COLLAR AROUND RODHOLE FRAME SHALL BE OVAL TO MATCH FRAME ASSEMBLY.

DWG DATE: 7/11		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
4 3	7/13 2/03	CHANGE STD NEW STD	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	SEWER MAIN TERMINATION

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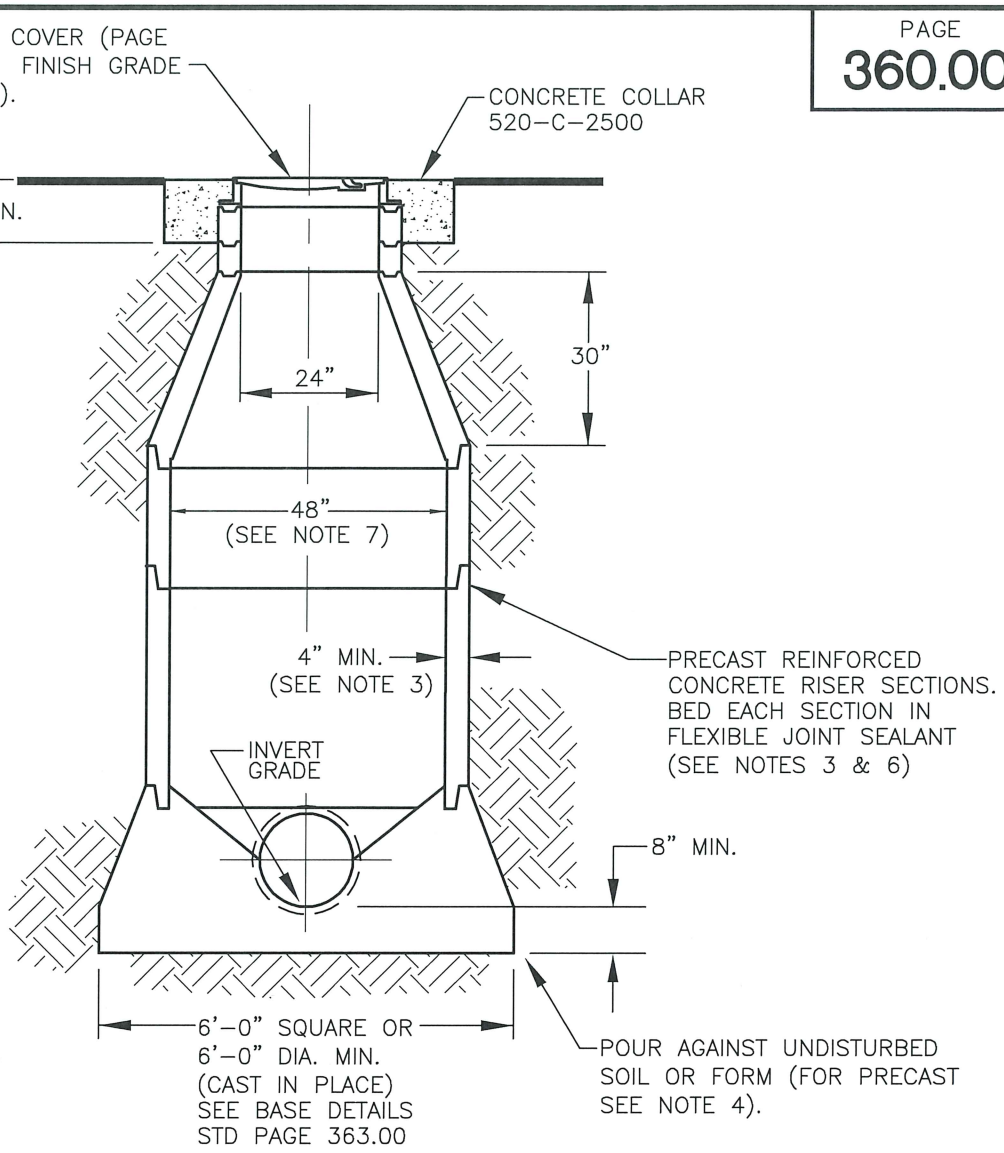

NOTES:

1. WHERE MANHOLES ARE NOT LOCATED IN STREETS OR TRAVELED WAY PLACE TOP OF MANHOLE 12" TO 24" ABOVE EXISTING GROUND PER PAGE 365.00 UNLESS OTHERWISE SHOWN ON PLANS.
2. ALL CONCRETE USED IN MANHOLE SHALL BE PER PAGE 100.00.
3. PRECAST REINFORCED CONCRETE MANHOLE SEGMENTS SHALL CONFORM TO ASTM DESIGNATION: C478-70 (4" MIN. WALL THICKNESS). ALL SECTIONS SHALL HAVE TONGUE AND GROOVE JOINTS.
4. PRECAST CONCRETE BASES MANUFACTURED BY COOK CONC. PRODUCTS, TEICHERT AGGREGATE, OR EQUAL MAY BE USED IN LIEU OF POURED IN-PLACE BASES (SEE PAGE 363.00).
5. ECCENTRIC TYPE CONCRETE CONE SECTIONS SHALL BE INSTALLED IN PLACE OF CONCENTRIC CONES WHEN DIRECTED BY THE ENGINEER. WHEN ECCENTRIC CONE SECTION IS INSTALLED, THE VERTICAL WALL SHALL BE INSTALLED DOWNSTREAM.
6. ALL SEGMENTS SHALL BE BEDDED IN FLEXIBLE JOINT SEALANT:
   - A DOUBLE BEAD SHALL BE USED IF SEALANT IS 3/4-INCH OR 1-INCH DIAMETER.
   - A SINGLE BEAD SHALL BE USED IF THE SEALANT IS 1 1/4-INCH OR GREATER DIAMETER.
7. 6'-0" MANHOLES ARE TO BE CONSTRUCTED AT THOSE LOCATIONS WHERE PIPE SIZE IS 30" OR LARGER IN DIAMETER.
8. WHEN CLAY PIPE IS INSTALLED, THE PIPE SECTION SHALL NOT EXTEND MORE THAN 12" FROM SIDE OF MANHOLE.
9. WHEN ABS OR PVC PIPE IS USED, THE BARREL OF THE PIPE SHALL BE PRE-PRIMED WITH SOLVENT AND SPRINKLED WITH SAND IN ORDER TO PROVIDE A WATERTIGHT SEAL BETWEEN THE PIPE AND CONCRETE. THIS REQUIREMENT IS IN ADDITION TO THE USE OF THE WATERSTOP.
10. PIPE MAY BE LAID THROUGH A LINE MANHOLE EXCEPT WHEN A GRADE OR LINE CHANGE OCCURS. MINIMUM DROP THROUGH ALL OTHER MANHOLES SHALL BE THE DIFFERENCE IN DIAMETERS OF THE UPSTREAM AND DOWNSTREAM PIPES OR 0.20 FT., WHICH EVER IS GREATER.
11. BACKFILL SHALL BE CLASS 'A' IN STREET R/W AND CLASS 'B' IN ALL OTHER LOCATIONS. COMPACTION PER PAGE 610.00 & PAGE 705.00.

DWG DATE: 1/98		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
12	3/18	12" COLLAR	APPROVED BY
11	1/18	EDIT NOTE	
10	8/16	EDIT NOTE	
9	7/13	REVISE NOTES	
8	4/06	ADD NOTE	
7	2/03	NAME CHG	3/20/18
MARK	DATE	REVISION	CITY ENGINEER

TYPE 1 4 FT. SEWER MANHOLE

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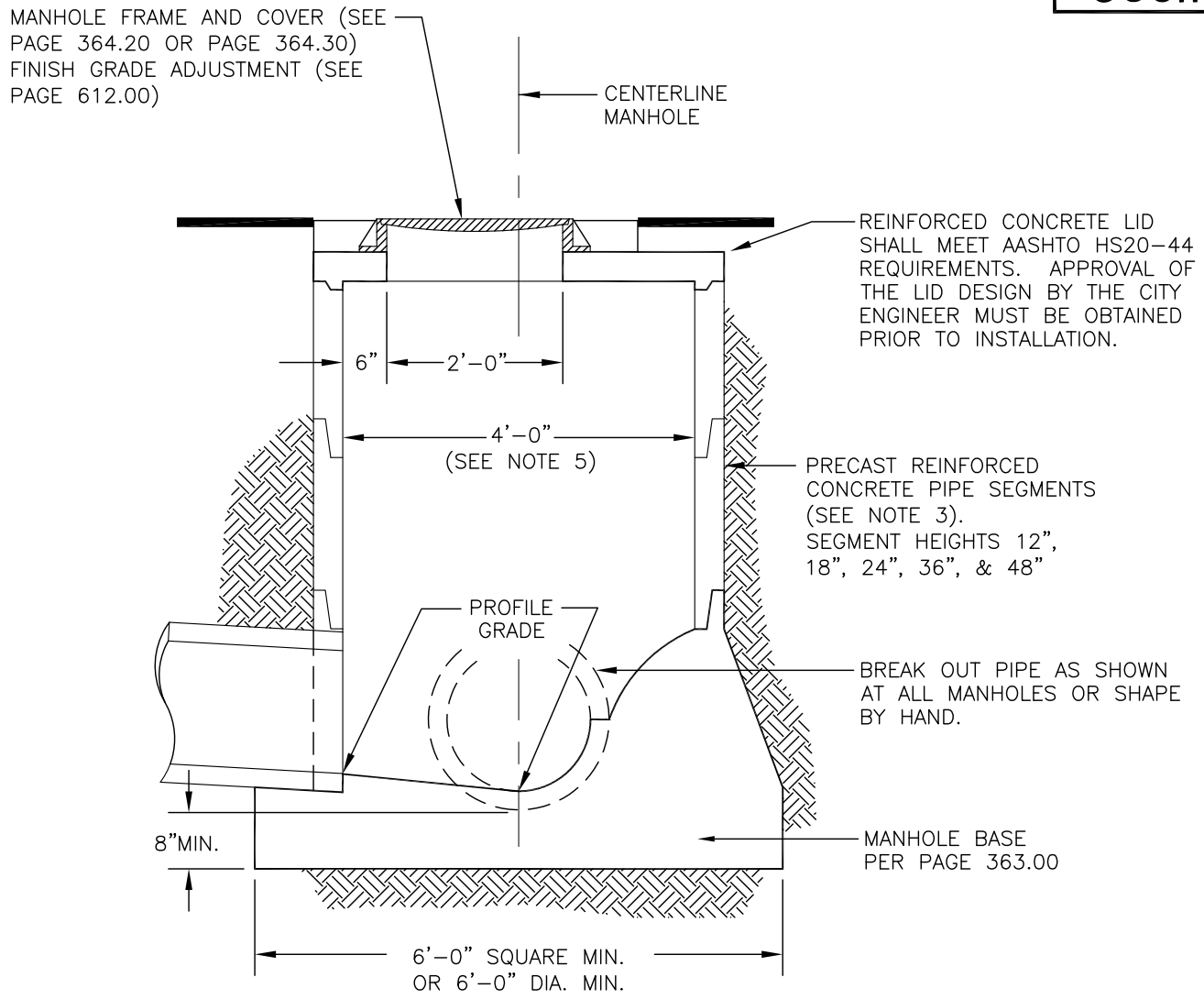


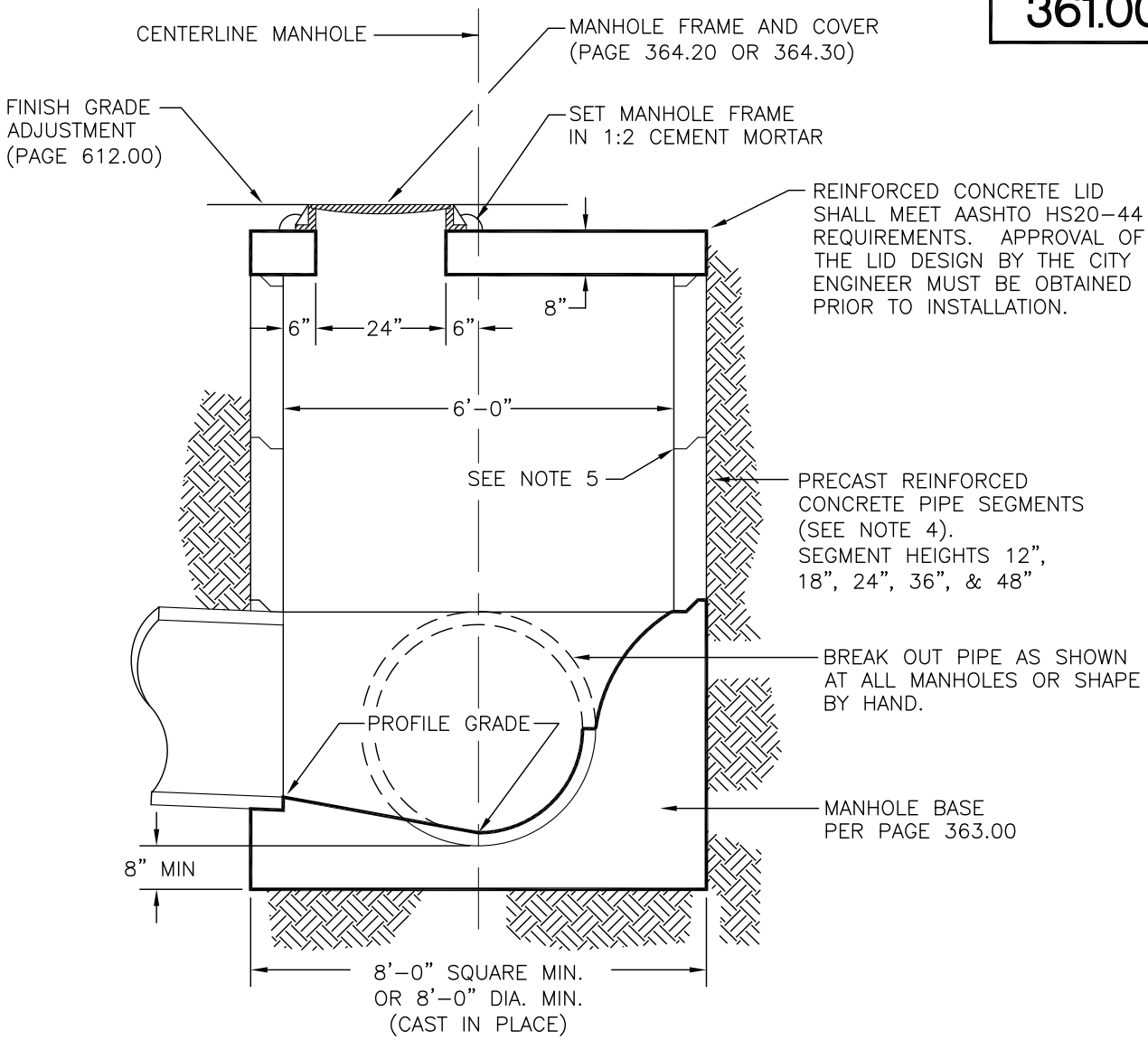
NOTES:

1. ALL CONCRETE USED IN MANHOLE BASE SHALL BE PER PAGE 100.00.
2. PIPE MAY BE LAID THROUGH A "LINE" MANHOLE EXCEPT WHERE A GRADE CHANGE OCCURS. MINIMUM DROP THROUGH ALL OTHER MANHOLES SHALL BE THE DIFFERENCE IN DIAMETER IN THE UPSTREAM AND DOWNSTREAM PIPES OR 0.20 FT., WHICHEVER IS GREATER.
3. PRECAST REINFORCED CONCRETE MANHOLE SECTION SHALL CONFORM TO ASTM DESIGNATION C478 (6" MIN. WALL THICKNESS). ALL SECTIONS SHALL HAVE TONGUE AND GROOVE JOINTS.
4. ALL MANHOLE SEGMENTS SHALL BE BEDDED IN FLEXIBLE JOINT SEALANT (KENT–SEAL OR EQUAL).
   - A DOUBLE BEAD SHALL BE USED IF SEALANT IS 3/4–INCH OR 1–INCH IN DIAMETER.
   - A SINGLE BEAD IF SEALANT IS 1 1/4–INCH OR GREATER IN DIAMETER.
5. 6'–0" MANHOLES ARE TO BE CONSTRUCTED AT THOSE LOCATIONS WHERE PIPE SIZE IS 30" OR LARGER IN DIAMETER.
6. WHERE MANHOLES ARE NOT LOCATED IN STREETS, PLACE TOP OF MANHOLE COVER 12" TO 24" ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN ON PLANS.
7. BACKFILL SHALL BE CLASS 'A' IN STREET R/W AND CLASS 'C' IN ALL OTHER LOCATIONS. COMPACTION REQUIREMENTS PER PAGE 610.00 & PAGE 705.00.

DWG DATE: 12/91		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
6 5 4	7/13 4/06 2/03	REVISE NOTES ADD NOTE NAME CHG	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	

TYPE 2 4 FT. SEWER MANHOLE

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36010.DWG, 8.5X11PDF, 10/10/2013 2:34:55 PM, bettesl

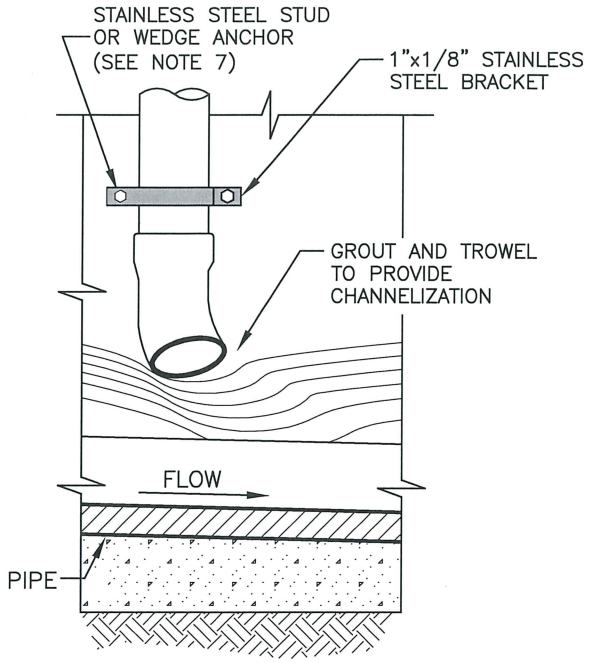


NOTES:

1. WHERE MANHOLES ARE NOT LOCATED IN STREETS, PLACE TOP OF MANHOLE COVER 12" TO 24" ABOVE FINISHED GRADE UNLESS OTHERWISE SHOWN ON PLANS.
2. ALL CONCRETE USED IN MANHOLE BASE SHALL BE PER PAGE 100.00.
3. PIPE MAY BE LAID THROUGH A "LINE" MANHOLE EXCEPT WHERE A GRADE CHANGE OCCURS. MINIMUM DROP THROUGH ALL OTHER MANHOLES SHALL BE THE DIFFERENCE IN THE UPSTREAM PIPES AND DOWNSTREAM PIPE OR 0.17 FT. WHICHEVER IS GREATER.
4. PRECAST REINFORCED CONCRETE MANHOLE SECTIONS SHALL CONFORM TO ASTM DESIGNATION C478 (6" MIN. WALL THICKNESS). ALL SECTIONS SHALL HAVE TONGUE AND GROOVE JOINTS.
5. ALL MANHOLE SEGMENTS SHALL BE BEDDED IN FLEXIBLE JOINT SEALANT (KENT-SEAL OR EQUAL).
   - A DOUBLE BEAD SHALL BE USED IF SEALANT IS 3/4-INCH OR 1-INCH IN DIAMETER.
   - A SINGLE BEAD IF SEALANT IS 1 1/4-INCH OR GREATER IN DIAMETER.
6. 6'-0" MANHOLES ARE TO BE CONSTRUCTED AT THOSE LOCATIONS WHERE PIPE SIZE IS 30" OR LARGER IN DIAMETER.
7. BACKFILL SHALL BE CLASS 'A' IN STREET R/W AND CLASS 'C' IN ALL OTHER LOCATIONS. COMPACTION REQUIREMENTS PER PAGE 610.00 & PAGE 705.00.

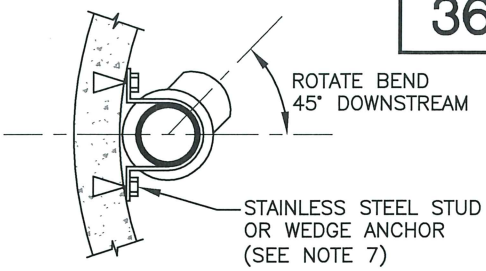
DWG DATE: 4/91		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
4 3	7/13 2/03	UPDATE EDIT NOTES	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	STANDARD 6 FT. SEWER MANHOLE

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36100.DWG, 8.5X11PDF, 10/10/2013 2:35:04 PM, bettesl

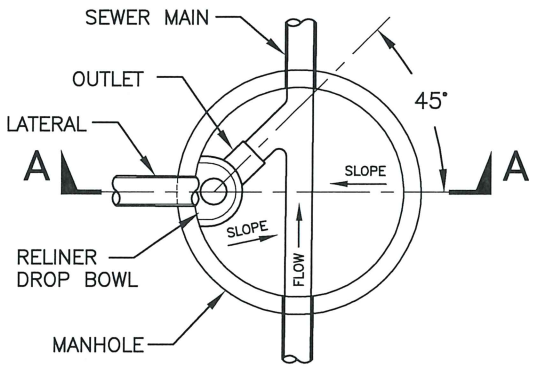


SECTION D–D

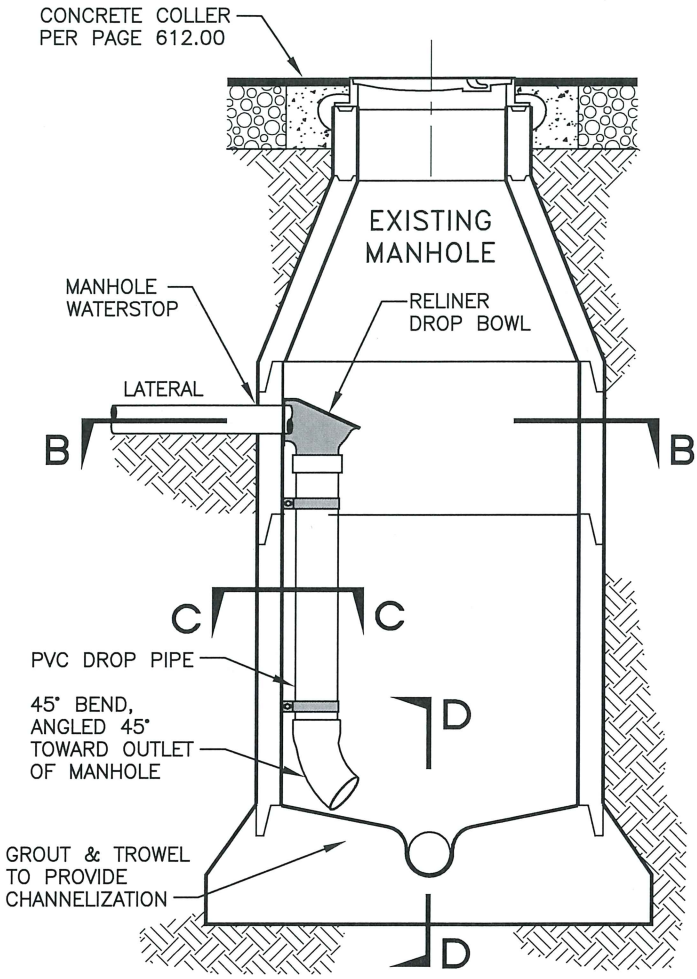
RELINER DROP BOWL
MOUNTING POSITION



SECTION C–C



SECTION B–B



SECTION A–A

NOTES:

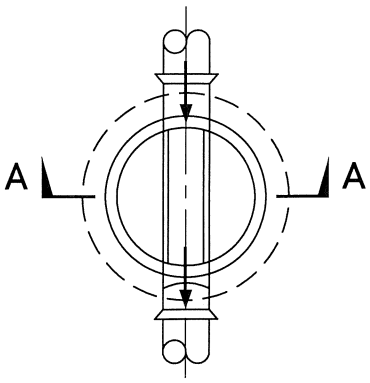
1. INSIDE DROP MANHOLES ALLOWED WHEN THE GRADE DIFFERENCE IS 6 FT. OR MORE ON EXISTING FACILITIES AND WITH SPECIAL APPROVAL BY THE CITY ENGINEER.
2. THIS TYPE OF DROP MANHOLE CONSTRUCTION MAY BE UTILIZED ONLY WHEN 8 INCH OR SMALLER PIPE IS USED.
3. VERTICAL PIPE SHALL BE 6 INCH FOR BOTH 6 INCH AND 8 INCH INCOMING LINES. VERTICAL PIPE MAY BE 4 INCH WHEN INCOMING LINE IS 4 INCH.
4. ABS SCH 40 DWV PIPE SHALL BE USED IN THE DROP SECTION OF THE MANHOLE.
5. 1"x1/8" STAINLESS STEEL BRACKETS SHALL BE USED TO SECURE VERTICAL PIPES WITHIN THE MANHOLE, WITH A MINIMUM OF ONE BRACKET PER JOINT OF PIPE AND A MINIMUM OF TWO BRACKETS PER MANHOLE INSTALLATION.
6. BACKFILL SHALL BE CLASS 'A' IN STREET R/W AND CLASS 'B' IN ALL OTHER LOCATIONS. COMPACTION REQUIREMENTS PER PAGE 610.00 & PAGE 705.00.
7. ALL HOLES DRILLED INTO CONCRETE FOR MOUNTING BRACKETS SHALL BE SEALED WITH WATER TIGHT EPOXY.

DWG DATE: 12/91		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
9	3/18	ADD COLLAR	APPROVED BY
8	1/18	UPDATE	
7	7/13	UPDATE	
6	4/06	EDIT NOTES	
5	2/03	NAME CHG	
MARK	DATE	REVISION	CITY ENGINEER 3/19/18

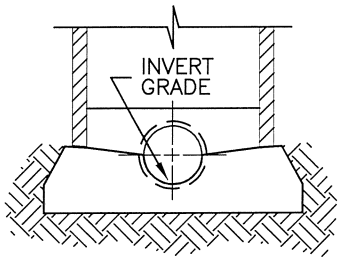
4 FT. INSIDE DROP MANHOLE

EXISTING MANHOLE ONLY

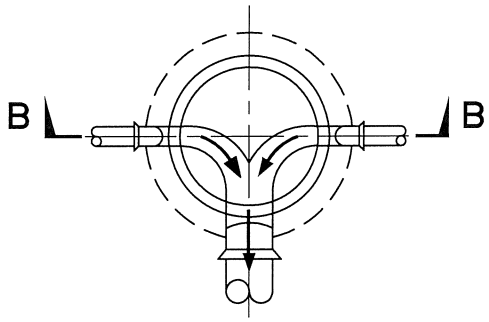
P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36200.DWG, 8.5X11PDF, 2/26/2018 9:06:21 AM, DANIELS



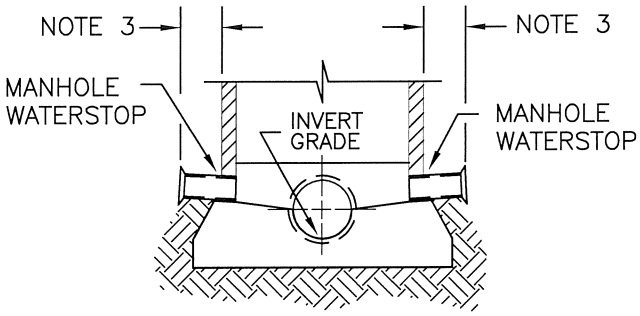
PLAN A



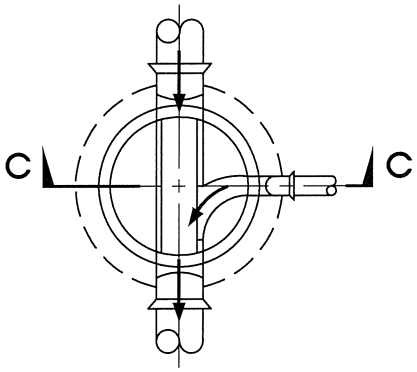
SECTION A–A



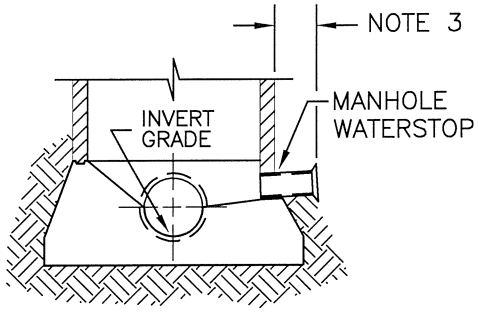
PLAN B



SECTION B–B



PLAN C



SECTION C–C

NOTES:

1. ALL CONCRETE USED IN MANHOLE SHALL BE PER PAGE 100.00.
2. PIPE MAY BE LAID THROUGH A LINE MANHOLE EXCEPT WHEN A GRADE OR LINE CHANGE OCCURS. MINIMUM DROP THROUGH ALL OTHER MANHOLES SHALL BE THE DIFFERENCE IN DIAMETERS OF THE UPSTREAM AND DOWNSTREAM PIPES OR 0.20 FT., WHICHEVER IS GREATER.
3. WHEN CLAY PIPE IS INSTALLED, PIPE SECTION SHALL NOT EXTEND MORE THAN 12" FROM SIDE OF MANHOLE.
4. WHEN ABS OR PVC PIPE IS USED, THE BARREL OF THE PIPE SHALL BE PRE–PRIMED WITH SOLVENT AND SPRINKLED WITH SAND IN ORDER TO PROVIDE A WATERTIGHT SEAL BETWEEN THE PIPE AND CONCRETE. THIS REQUIREMENT IS IN ADDITION TO THE USE OF THE WATERSTOP.
5. PRECAST CONCRETE BASES MANUFACTURED BY COOK CONCRETE PRODUCTS, OR TEICHERT AGGREGATE, OR EQUAL MAY BE USED IN LIEU OF POURED IN–PLACE BASES.

DWG DATE: 1/98		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION	
2 1	1/18 7/13	NOTES UPDATE	APPROVED BY 1/26/18 CITY ENGINEER	MANHOLE BASE DETAIL
MARK	DATE	REVISION		

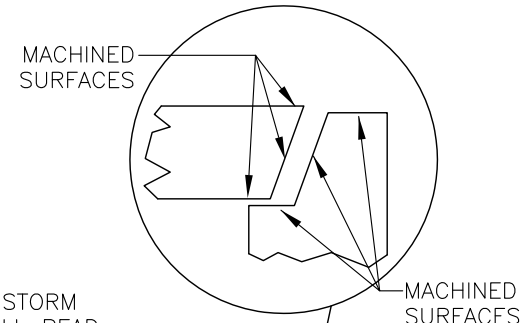
P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36300.DWG, 8.5X11PDF, 1/26/2018 8:14:55 AM, DANIELS

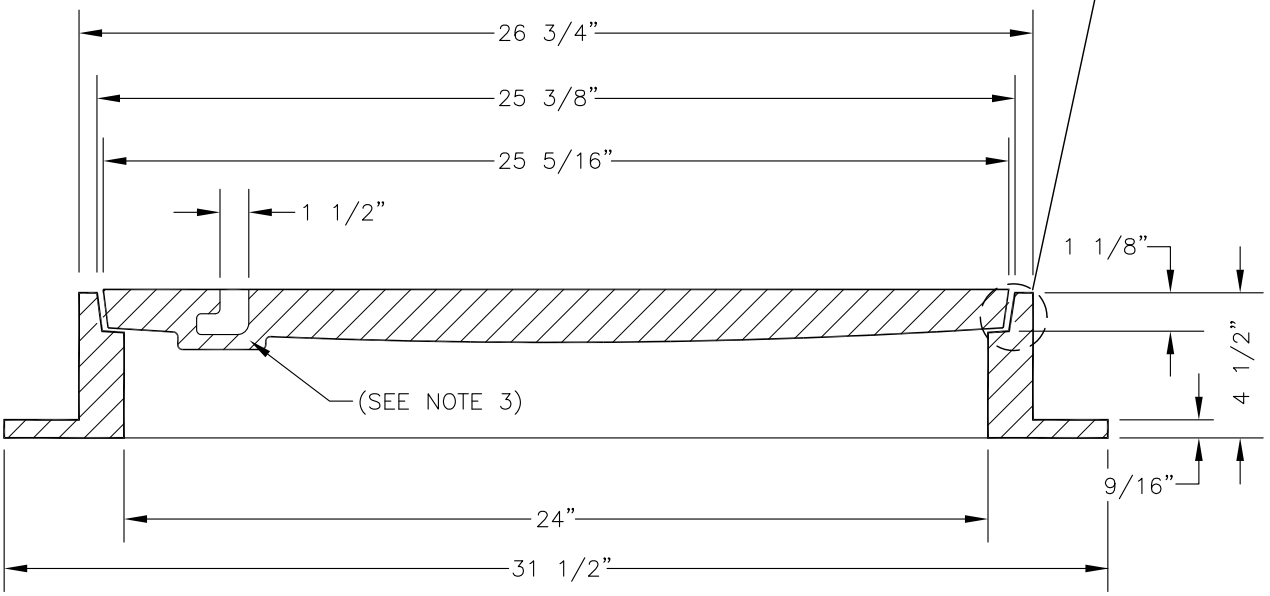
ACCEPTABLE MANUFACTURERS

DOMESTIC MANUFACTURER ONLY
CONTACT CITY OF REDDING
(530) 224-6068

MARKINGS ON ALL STORM DRAIN COVERS SHALL READ "SANITARY SEWER"

TOP OF COVER





COVER SECTION

NOTES:

1. FRAME AND COVER FULLY MACHINED ON SURFACES AS SHOWN TO PROVIDE NO-ROCK, NO-STICK FIT.
2. STANDARD COVER MARKINGS AVAILABLE: "SANITARY SEWER". CASTING SHALL BE ORDERED WITH THE APPROPRIATE MARKING.
3. CASTING SHALL BE FURNISHED WITH CLOSED PICKHOLES.
4. ALL PARTS OF ACCEPTABLE ASSEMBLIES SHALL BE INTERCHANGEABLE.

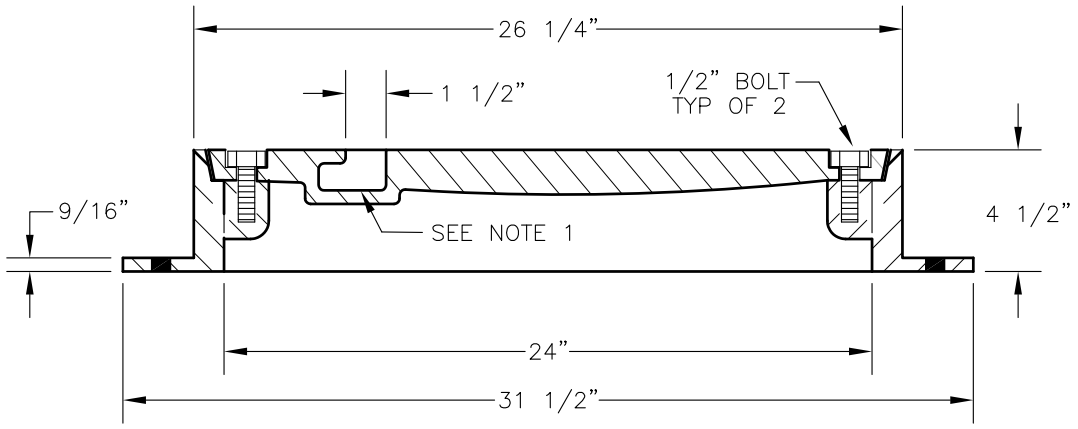
DWG DATE: 1/92		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION	
8	7/13	UPDATE	APPROVED BY	24 INCH SEWER MANHOLE COVER ASSEMBLY
7	7/13	EDIT NOTES	10/9/13	
6	2/03	DECOR. COVER	CITY ENGINEER	(STREET TYPE)
MARK	DATE	REVISION		

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36420.DWG, 8.5X11PDF, 10/10/2013 2:35:29 PM, bettesl

ACCEPTABLE MANUFACTURERS

DOMESTIC MANUFACTURER ONLY
CONTACT CITY OF REDDING
(530) 224-6068

TOP OF COVER



COVER SECTION

NOTES:
1. CASTING SHALL BE FURNISHED WITH CLOSED PICK HOLES.
2. ALL PARTS OF ACCEPTABLE ASSEMBLIES SHALL BE INTERCHANGEABLE.

DWG DATE: 1/93		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
4	7/13	UPDATE	APPROVED BY 10/9/13 CITY ENGINEER
3	7/13	EDIT NOTES	SEWER MANHOLE COVER ASSEMBLY- BOLT DOWN
2	2/03	DECOR. COVER	
MARK	DATE	REVISION	

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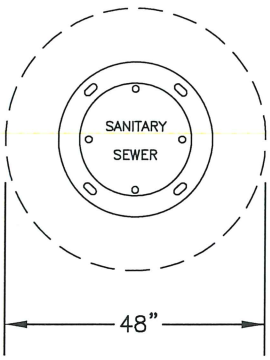
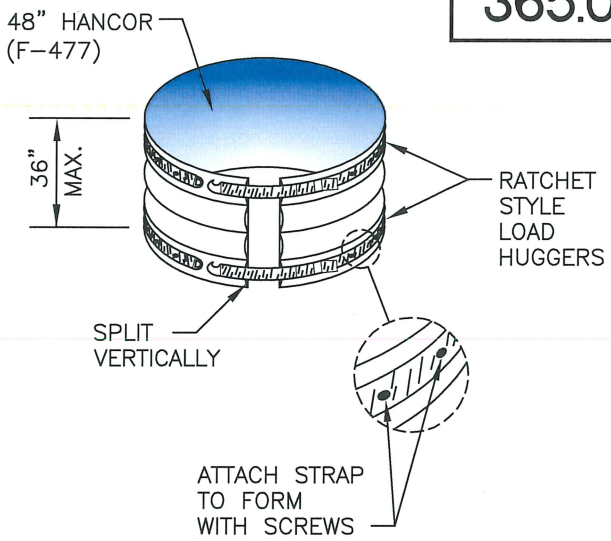
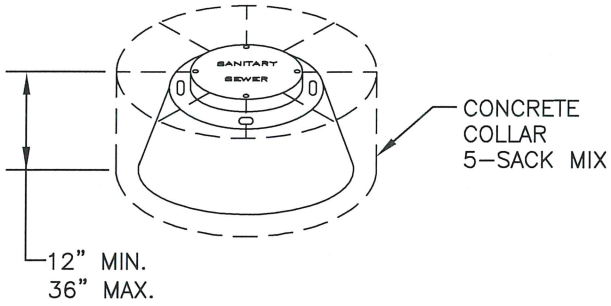
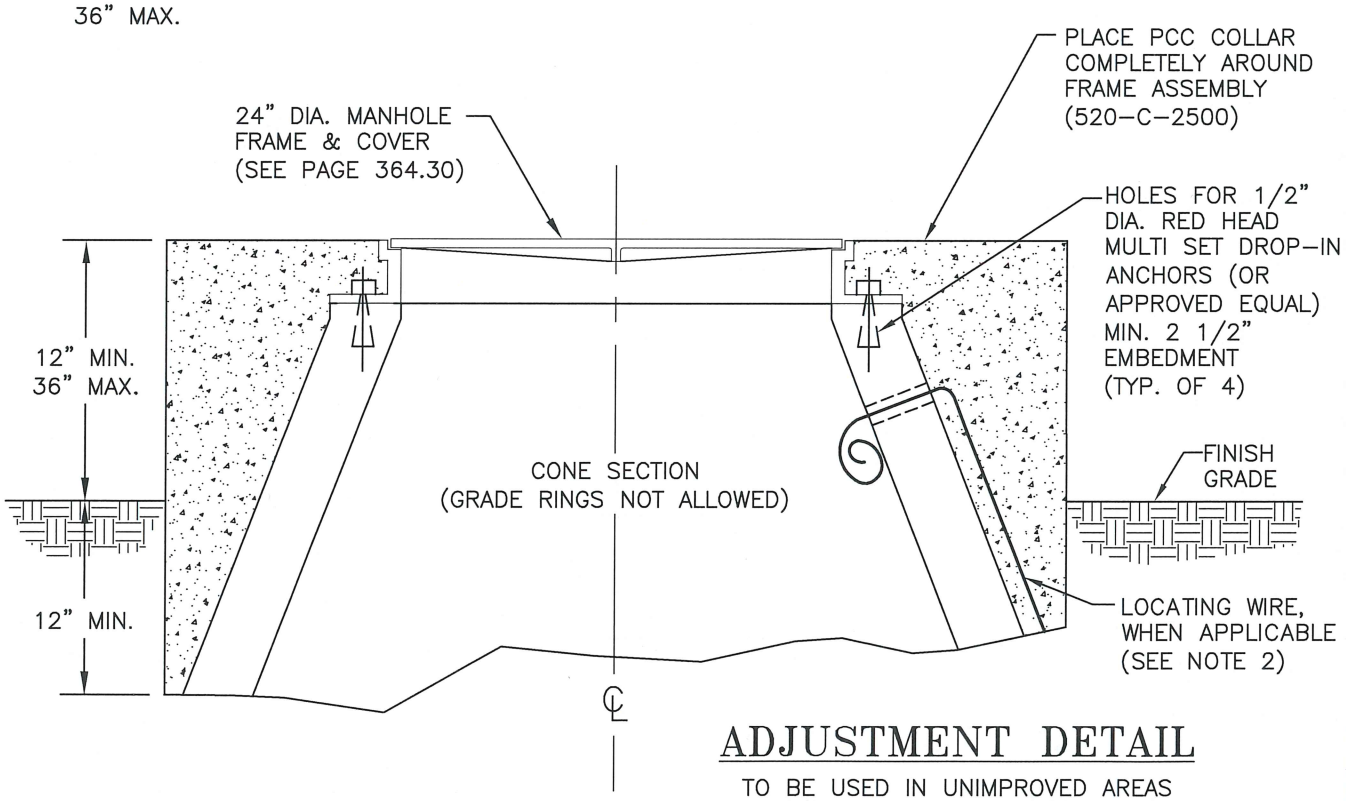






CONCRETE BUNKER FORM



ADJUSTMENT DETAIL

TO BE USED IN UNIMPROVED AREAS
(SHOWING REQUIRED FRAME ASSEMBLY ANCHORAGE)

NOTE:

1. FOR SEWER MANHOLE CONSTRUCTION, SEE PAGE 360.00.
2. WHEN MANHOLE IS PART OF A NON-METALLIC PIPE NETWORK, LOCATING WIRE PER PAGE 608.00 SHALL BE MAINTAINED. CORE 1"ø HOLE THRU MANHOLE AS NECESSARY TO MAINTAIN REQUIREMENT FOR EXCESS WIRE TO BE WITHIN 6"-12" OF THE FINISHED GRADE.

DWG DATE: 4/06		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
2 1	3/18 7/13	12" DIM UPDATE	APPROVED BY 3/20/18 CITY ENGINEER
MARK	DATE	REVISION	SEWER MANHOLE ADJUSTMENT DETAILS -UNIMPROVED AREAS-

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\36500.DWG, 8.5X11PDF, 3/20/2018 9:47:05 AM, DANIELS

REQUIREMENT:

1. SAND AND OIL INTERCEPTORS (ALSO REFERRED TO AS SOIs OR OIL/WATER SEPARATORS) ARE REQUIRED FOR INDUSTRIAL AND COMMERCIAL ESTABLISHMENTS WHERE IT IS NECESSARY TO CAPTURE SOLIDS (SAND, SILT, SEDIMENT, SLUDGE ETC.) AND/OR FLOATABLE MATERIAL (OIL, GREASE ETC.).

2. THIS STANDARD APPLIES TO ALL NEW CONSTRUCTION, TENANT IMPROVEMENTS, REMODELS, AND EXISTING SYSTEMS WHICH ARE IN NEED OF AN UPGRADE.

3. SOIs WILL BE SIZED FROM INFORMATION SUBMITTED BY THE INDUSTRY, INDUSTRIAL WASTE SURVEY INFORMATION, OR BY CITY FIELD INSPECTION DATA.

4. STORMWATER MUST NOT ENTER THE WASH AREA. A ROOF IS REQUIRED OVER OUTDOOR WASH AREAS.

SIZING CRITERIA:

5. PARAMETERS—THE PARAMETERS FOR SIZING SOI UNITS ARE HYDRAULIC LOADING, RETENTION TIME, AND STORAGE FACTOR FOR ONE OR MORE FIXTURES OR INDUSTRIAL APPLICATIONS.

6. SIZING FORMULA—THE SIZE OF THE SOI WILL BE DETERMINED BY USE OF THE FOLLOWING FORMULA:

NUMBER OF UNITS WASHED PER HOUR*	X	WASTE FLOW RATE**	X	RETENTION TIME***	X	STORAGE FACTOR****	=	INTERCEPTOR SIZE (LIQUID CAPACITY)

* NUMBER OF UNITS WASHED PER HOUR (I.E., AUTOS, ENGINES, PARTS, ETC.)

** WASTE FLOW RATE—GALLONS PER UNIT CLEANED (FOR INTERMITTENT USE), OR GALLONS PER HOUR (FOR CONSTANT USE)

*** RETENTION TIME 2.0 HOURS

**** STORAGE FACTORS—VEHICLE/EQUIPMENT/PARTS, ETC. WASHING

A.	SELF SERVICE/PUBLIC	1.5 HOURS
B.	EMPLOYEE OPERATED AUTOMATED/COMMERCIAL	2.0 HOURS
C.	OTHER INDUSTRIAL/COMMERCIAL APPLICATIONS	2.0 HOURS

7. THE MINIMUM SIZE SOI ALLOWED BY THE CITY IS 100 GALLONS.

DWG DATE: 2/03		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
3 2	7/13 2/03	UPDATE REDRAWN	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	SAND AND OIL INTERCEPTORS (SOI)

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\38000.DWG, 38000 1 OF 2.PDF, 10/10/2013 2:36:01 PM, bettesl

DESIGN:

8. ALL NEW CONSTRUCTION AND UPGRADES SHALL BE CONSTRUCTED TO INCLUDE A SAMPLE MONITORING STATION.

9. THE USE OF ALTERNATE PRETREATMENT SYSTEMS IN CONJUNCTION WITH OR IN LEIU OF AN SOI UNIT MUST BE APPROVED BY THE CITY'S INDUSTRIAL WASTE DIVISION. DESIGN SPECS MUST BE SUBMITTED WITH THE APPLICATION PAPERWORK OR THE PLUMBING PLANS.

10. IF AN EXISTING SOI IS UNDERSIZED AND IS STRUCTURALLY SOUND AND INSTALLED PROPERLY, A BUSINESS OR OWNER MAY INSTALL AN ADDITIONAL SOI IN SERIES WITH THE EXISTING SOI TO SATISFY THE TOTAL SIZE CAPACITY REQUIRED.

11. SANITARY TEES MUST BE INSTALLED AT THE INLET AND OUTLET OF EACH INTERCEPTOR. THE SANITARY TEE SHALL BE INSTALLED SO THE TOP OPENING OF THE SANITARY TEE IS VISIBLE AND ACCESSIBLE FROM THE MANHOLE LIDS.

12. THE SOI SHALL BE INSTALLED AS SHALLOW AS POSSIBLE. THE BOTTOM OF THE SOI SHALL NOT BE GREATER THAN 15 FEET BELOW GRADE TO FACILITATE ROUTINE PUMPING OR EXCEED THE TANK MANUFACTURER'S DESIGN CRITERIA FOR MAXIMUM EARTH COVER (TOP OF TANK TO GRADE).

13. NO MORE THAN 24 INCHES OF GRADE RINGS SHALL BE USED IN AN INTERCEPTOR INSTALLATION. ALL FLEXIBLE JOINT SEALS OF RISERS AND COVER RINGS, AND ALL GROUT OF INTERNAL PLUMBING SHALL BE THE RESPONSIBILITY OF THE OWNER/OPERATOR AND/OR CONTRACTOR. AN ECCENTRIC CONCRETE CONE OR REDUCING TOP (36 INCH TO 24 INCH MANHOLE OR 48 INCH TO 24 INCH MANHOLE) SHALL BE USED IF THE TOP OF THE OGI IS GREATER THAN 24 INCHES BELOW FINISHED GRADE. (SEE CITY OF REDDING DESIGN SPECIFICATION PAGES 360.00, 360.10 AND 612.00.)

14. MANHOLE COVERS FOR SOIs SHALL NOT BE THE BOLT–DOWN TYPE.

15. ALL SOIs SHALL BE PROPERLY INSTALLED AND MAINTAINED. ALL INTERNAL PLUMBING OF PROPER DESIGN AND LENGTH SHALL BE IN PLACE AT ALL TIMES. SOIs ARE REQUIRED TO BE PUMPED WHEN 25% OF THE INTERNAL CAPACITY IS OCCUPIED BY OILS, GREASE AND/OR SOLIDS. PUMPING IS TYPICALLY REQUIRED EVERY 12 MONTHS DEPENDING ON USE. INTERCEPTOR PUMPING IS THE RESPONSIBILITY OF THE BUSINESS OPERATOR UNLESS OTHER AGREEMENTS HAVE BEEN MADE BETWEEN THE BUSINESS OPERATOR AND PROPERTY OWNER OR PROPERTY MANAGER. AT NO TIME IS THE CITY OF REDDING RESPONSIBLE FOR MAINTENANCE OF A PRIVATE SAND AND OIL INTERCEPTOR.

16. GRATED OPENINGS ARE NOT ALLOWED OVER THE SOI. TRENCH DRAINS AND DROP INLETS MUST BE SEPARATE FROM THE SOI TANK.

17. SOIs AND HYDROMECHANICAL SEPARATORS WILL BE INSPECTED BY THE CITY OF REDDING TO ENSURE PROPER INSTALLATION AND MAINTENANCE

18. SLUDGE AND OTHER WASTE HAULING MANIFESTS MUST BE RETAINED FOR A MINIMUM OF 3 YEARS.

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REQUIREMENT:

1. OIL AND GREASE INTERCEPTORS (ALSO REFERRED TO AS GRAVITY GREASE INTERCEPTORS, OR OGIs) ARE REQUIRED AT COMMERCIAL AND INDUSTRIAL FOOD AND BEVERAGE FACILITIES WHERE IT IS NECESSARY TO CAPTURE GREASE, OIL AND FOOD SOLIDS BEFORE WASTEWATER ENTERS THE CITY SANITARY SEWER SYSTEM.

2. THIS STANDARD APPLIES TO ALL NEW CONSTRUCTION, TENANT IMPROVEMENTS, REMODELS, AND EXISTING SYSTEMS WHICH ARE IN NEED OF AN UPGRADE. OGIs MUST BE INSTALLED OUTDOORS OR IN A LOCATION OUTSIDE OF THE FOOD PREPARATION AREA.

3. OGIs WILL BE SIZED FROM INFORMATION SUBMITTED ON THE FOOD FACILITY WASTEWATER DISCHARGE SURVEY/APPLICATION 2. SIZING CRITERIA WILL FOLLOW CALIFORNIA PLUMBING CODE CHAPTER 10. GRAVITY GREASE INTERCEPTORS SHALL HAVE A MINIMUM RETENTION TIME OF 30 MINUTES AND BE A MINIMUM SIZE OF 500 GALLONS.

SIZING CRITERIA:

DRAINAGE FIXTURE UNITS (DFUs)	OIL AND GREASE INTERCEPTOR (OGI OR GRAVITY GREASE INTERCEPTOR) IN GALLONS
≤8	500
21	750
35	1000
90	1250
172	1500
216	2000
307	2500
342	3000
428	4000
576	5000
720	7500

4. THE MINIMUM SIZE OGI ALLOWED BY THE CITY IS 500 GALLONS. FOR VERY LARGE FACILITIES, THE SIZE WILL BE ESTABLISHED ON A CASE BY CASE BASIS. FOR OGIs LARGER THAN 3,000 GALLONS, MULTIPLE OGIs SHALL BE INSTALLED IN SERIES TO FACILITATE COMPLETE PUMPING REQUIRED FOR MAINTENANCE (I.E., TWO 2,500 GALLON OGIs MUST BE USED FOR 5,000 GALLON CAPACITY).

DWG DATE: 2/03		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
3 2	7/13 2/03	UPDATE REDRAWN	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	OIL AND GREASE INTERCEPTORS (OGI)

P:_STANDARDS\CONSTRUCTION STANDARDS\DWG\300\38010.DWG, 38010 1 OF 2.PDF, 10/10/2013 2:36:20 PM, bettesl

DESIGN:

5. ALL NEW CONSTRUCTION AND UPGRADES SHALL BE CONSTRUCTED TO INCLUDE A SAMPLE MONITORING STATION.

6. ALL FOOD WASTES SHOULD BE SCREENED AND DISPOSED IN SOLID WASTE. GARBAGE GRINDERS ARE STRONGLY DISCOURAGED. IF A GARBAGE GRINDER IS INSTALLED, IT MUST BE PLUMBED TO THE GREASE INTERCEPTOR.

7. IF AN EXISTING OGI IS UNDERSIZED AND IS STRUCTURALLY SOUND AND INSTALLED PROPERLY, A BUSINESS OR OWNER MAY INSTALL AN ADDITIONAL OGI IN SERIES WITH THE EXISTING OGI TO SATISFY THE TOTAL CAPACITY REQUIREMENT.

8. SANITARY TEES MUST BE INSTALLED AT THE INLET AND OUTLET OF EACH INTERCEPTOR. THE SANITARY TEE SHALL BE INSTALLED SO THE TOP OPENING OF THE SANITARY TEE IS VISIBLE AND ACCESSIBLE FROM THE MANHOLE LIDS.

9. THE OGI SHALL BE INSTALLED AS SHALLOW AS POSSIBLE. THE BOTTOM OF THE OGI SHALL NOT BE GREATER THAN 15 FEET BELOW GRADE TO FACILITATE ROUTINE PUMPING OR EXCEED THE TANK MANUFACTURER'S DESIGN CRITERIA FOR MAXIMUM EARTH COVER (TOP OF TANK TO GRADE).

10. NO MORE THAN 24 INCHES OF GRADE RINGS SHALL BE USED IN AN INTERCEPTOR INSTALLATION. ALL FLEXIBLE JOINT SEALS OF RISERS AND COVER RINGS, AND ALL GROUT OF INTERNAL PLUMBING SHALL BE THE RESPONSIBLITY OF THE OWNER/OPERATOR AND/OR CONTRACTOR. AN ECCENTRIC CONCRETE CONE OR REDUCING TOP (36 INCH TO 24 INCH MANHOLE OR 48 INCH TO 24 INCH MANHOLE) SHALL BE USED IF THE TOP OF THE OGI IS GREATER THAN 24 INCHES BELOW FINISHED GRADE. (SEE CITY OF REDDING DESIGN SPECIFICATION PAGES 360.00, 360.10 AND 612.00.)

11. MANHOLE COVERS FOR OGIs SHALL NOT BE THE BOLT–DOWN TYPE.

12. ALL OGIs SHALL BE PROPERLY INSTALLED AND MAINTAINED. ALL INTERNAL PLUMBING OF PROPER DESIGN AND LENGTH SHALL BE IN PLACE AT ALL TIMES. OGIs ARE REQUIRED TO BE PUMPED WHEN 25% OF THE INTERNAL CPACITY IS OCCUPIED BY OILS, GREASE AND/OR SOLIDS. PUMPING IS TYPICALLY REQUIRED EVERY 3 MONTHS DEPENDING ON USE. INTERCEPTOR PUMPING IS THE RESPONSIBLITY OF THE BUSINESS OPERATOR UNLESS OTHER AGREEMENTS HAVE BEEN MADE BETWEEN THE BUSINESS OPERATOR AND PROPERTY OWNER OR PROPERTY MANAGER. AT NO TIME IS THE CITY OF REDDING RESPONSIBLE FOR MAINTENANCE OF A PRIVATE OIL AND GREASE INTERCEPTOR.

13. HYRDOMECHANICAL GREASE INTERCEPTORS (FORMERLY REFERRED TO AS GREASE TRAPS) OR OTHER PRE–MANUFACTURED DEVICES WILL ONLY BE ALLOWED WHERE SPACE OR OTHER DESIGN CONSTRAINTS PROHIBIT THE INSTALLATION OF A GRAVITY GREASE INTERCEPTOR. DESIGN SPECS MUST BE SUBMITTED WITH THE APPLICATION PAPERWORK OR THE PLUMBING PLANS.

14. OGIs AND HYDROMECHANICAL GREASE INTERCEPTORS WILL BE INSPECTED BY THE CITY OF REDDING TO ENSURE PROPER INSTALLATION AND MAINTENANCE.

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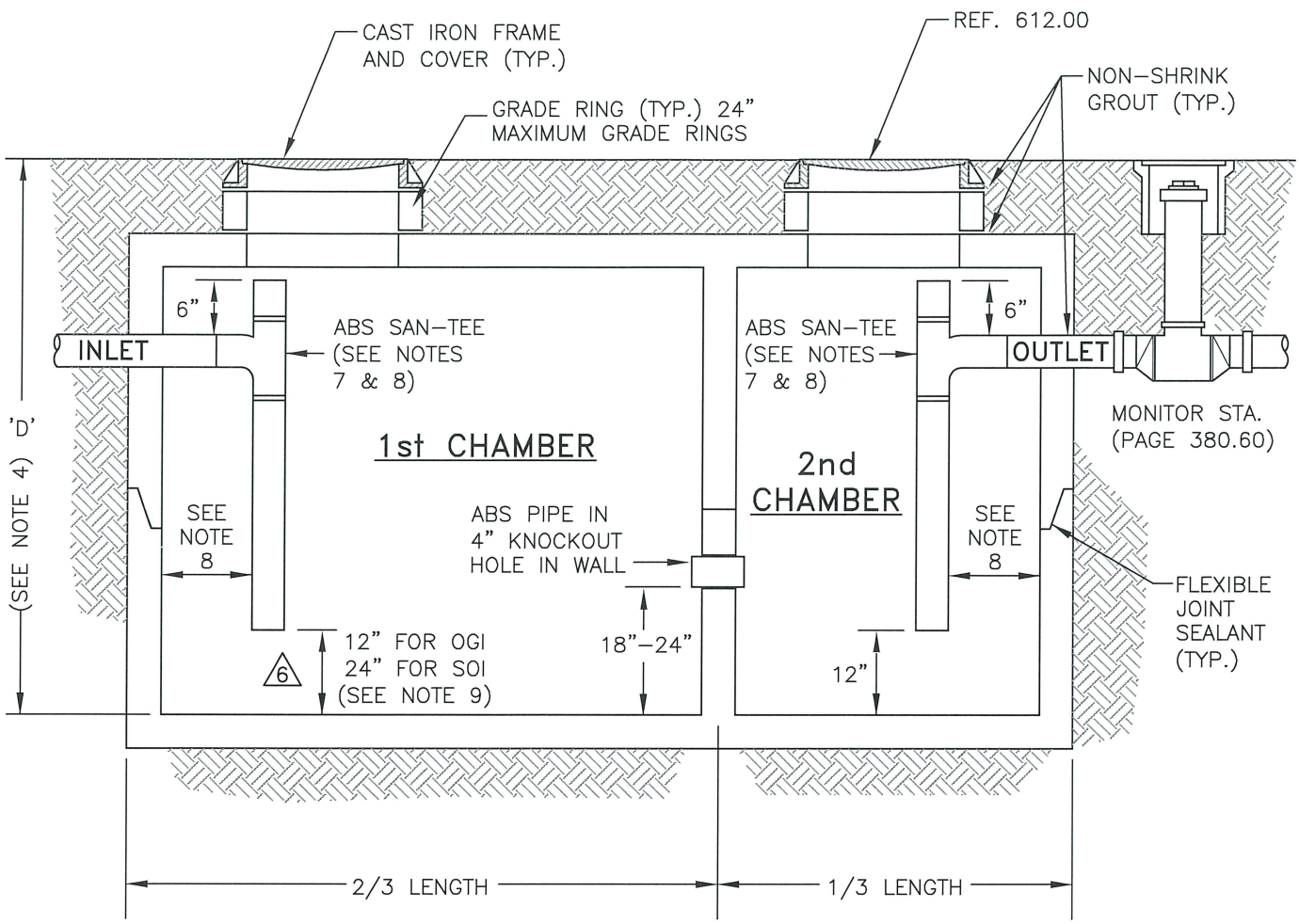

NOTES:

1. TANK SHALL HAVE A MINIMUM WALL THICKNESS OF 3".
2. SYSTEMS THAT MAY BE EXPOSED TO TRAFFIC AND/OR PARKING ON OR NEAR THE TANKS OR THE ACCESS COVERS SHALL BE DESIGNED TO AASHTO HS20-44 LOADING.
3. BACKFILL SHALL BE CLASS 'A' IN STREET R/W AND CLASS 'B' IN ALL OTHER LOCATIONS PER PAGE 610.00 AND PER TANK MANUFACTURER'S BEDDING RECOMMENDATIONS.
4. DISTANCE BETWEEN GRADE AND BOTTOM OF TANK 'D' SHALL NOT EXCEED 15 FEET OR EXCEED THE TANK MANUFACTURER'S CRITERIA FOR MAXIMUM EARTH COVER (TOP OF TANK TO GRADE).
5. ECCENTRIC MANHOLE CONE OR REDUCING TOP (36" TO 24" OR 48" TO 24") SHALL BE USED WHEN THE TOP OF TANK TO GRADE IS GREATER THAN 24" (SEE PAGES 360.00 AND 360.10).
6. IF ECCENTRIC CONES ARE INSTALLED, THE VERTICAL WALL SHALL BE OVER THE INLET AND OUTLET ENDS OF THE TANK.
7. INLET AND OUTLET PLUMBING SHALL BE SECURED WITH NON-SHRINK GROUT. SAN-TEES SHALL BE GLUED TO THE INLET AND OUTLET PLUMBING.
8. ABS SAN-TEES SHALL BE ALIGNED WITH EDGE OF ACCESS COVER TO ALLOW CLEANING.
9. OIL AND GREASE INTERCEPTOR (OGI) SHALL HAVE 12" CLEARANCE BELOW INLET SAN-TEE

△6 SAND AND OIL INTERCEPTOR (SOI) SHALL HAVE 24" CLEARANCE BELOW INLET SAN-TEE

DWG DATE: 6/92		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
6	3/18	ADD NOTE	APPROVED BY
5	8/16	EDIT NOTE	
4	7/13	REVISE NOTES	3/19/18
3	2/03	NEW COM. STD	
MARK	DATE	REVISION	CITY ENGINEER

SAND & OIL AND OIL & GREASE INTERCEPTOR

SOI AND OGI

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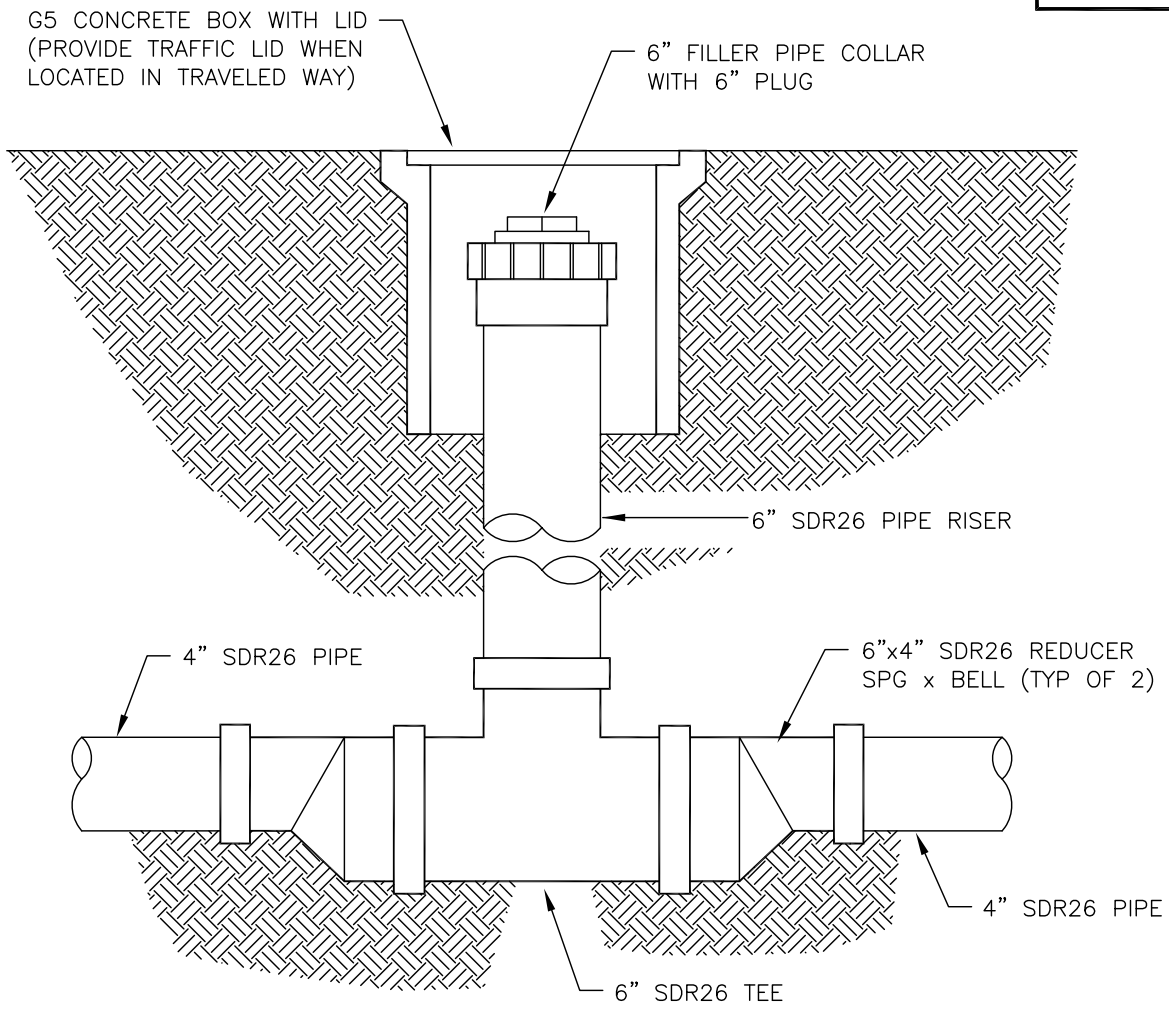

PARTS LIST

6" SDR26 TEE	1 EA
6"x4" SDR26 REDUCER (SPG x BELL)	2 EA
6" FILLER PIPE COLLAR	1 EA
6" PLUG	1 EA
G5 CONCRETE BOX	1 EA
G5 SEWER LID (IF REQUIRED)	1 EA
4" ABS COUPLING	1 EA
4" ABS x SDR BUSHING	1 EA

NOTE:

1. MONITOR STATION MUST BE INSTALLED LEVEL.

DWG DATE: 7/92		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
5 4	7/13 4/06	UPDATE REV. PARTS	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	INTERCEPTOR MONITOR STATION

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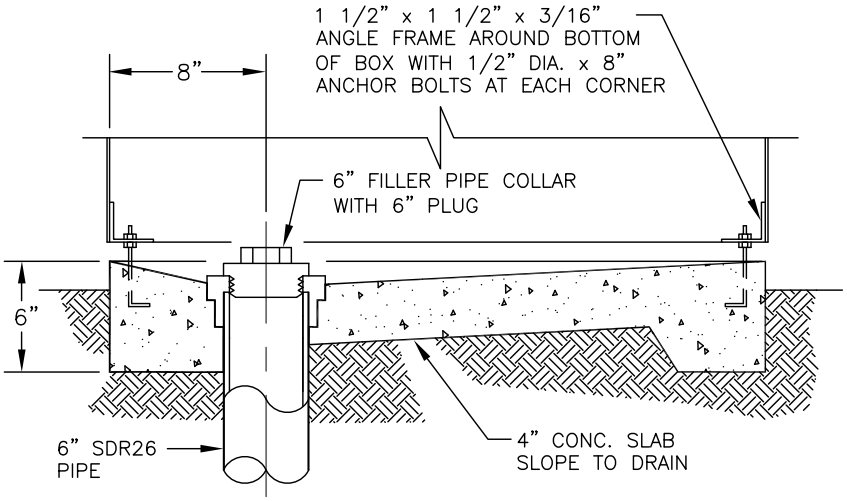
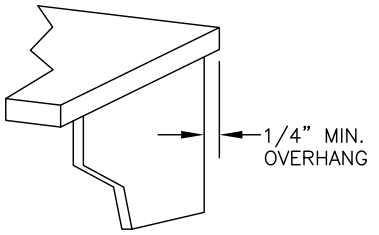
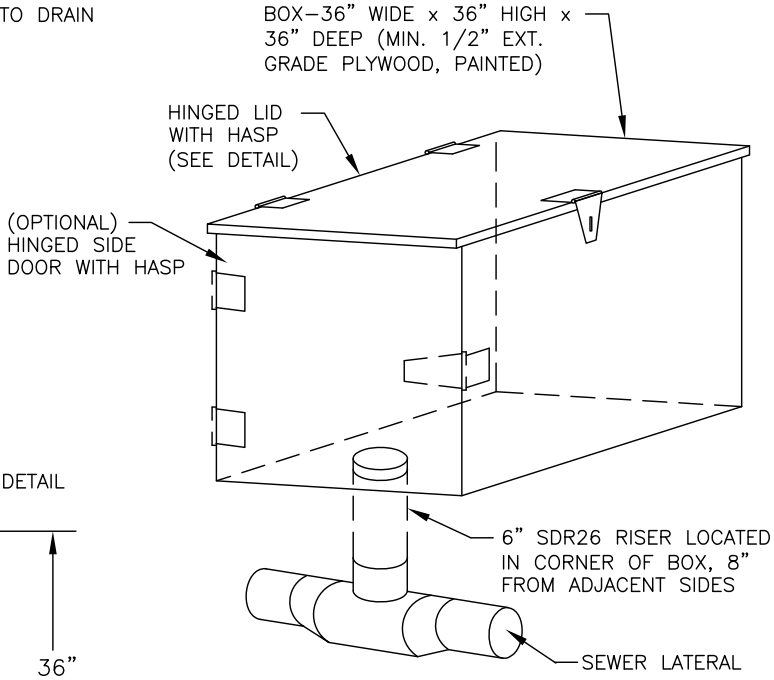


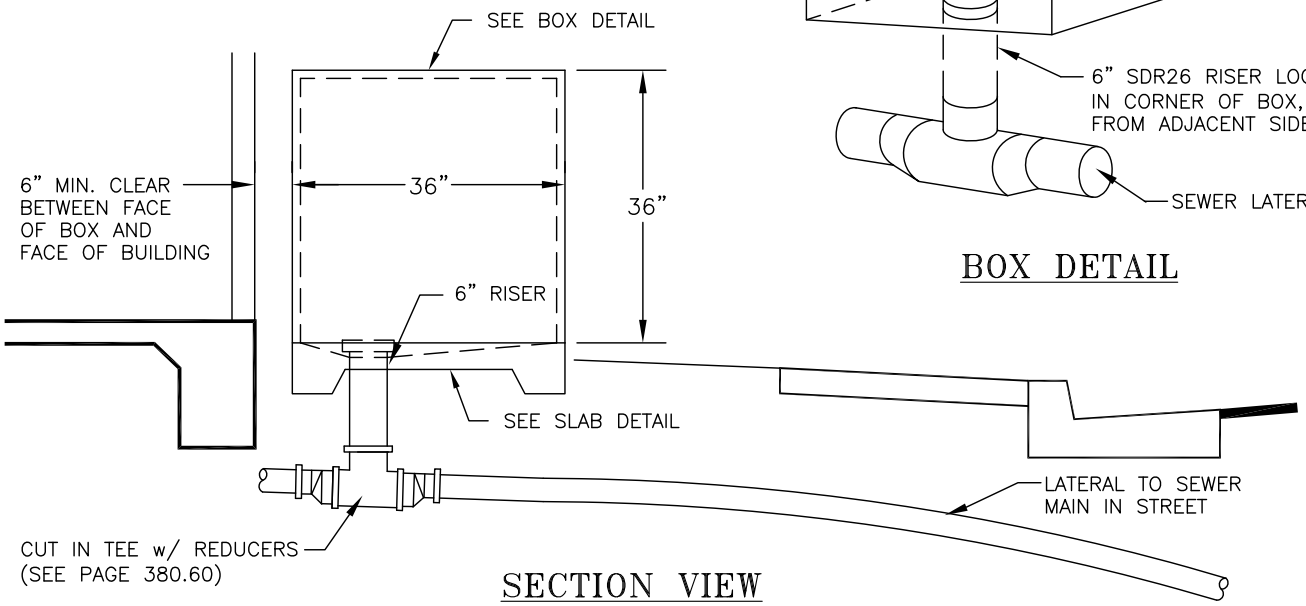
SLAB DETAIL



LID DETAIL



BOX DETAIL



SECTION VIEW

NOTE:

1. BOX LOCATED ON PRIVATE PROPERTY SHALL BE IN AN AREA THAT ALLOWS 24 HR. ACCESS BY CITY OF REDDING PERSONNEL

DWG DATE: 3/88		SCALE: NTS	CITY OF REDDING • PUBLIC WORKS DEPARTMENT • ENGINEERING DIVISION
4 3	7/13 4/06	UPDATE REV. PARTS	APPROVED BY 10/9/13 CITY ENGINEER
MARK	DATE	REVISION	ABOVE GRADE WASTEWATER MONITORING STATION

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