SECTION 6

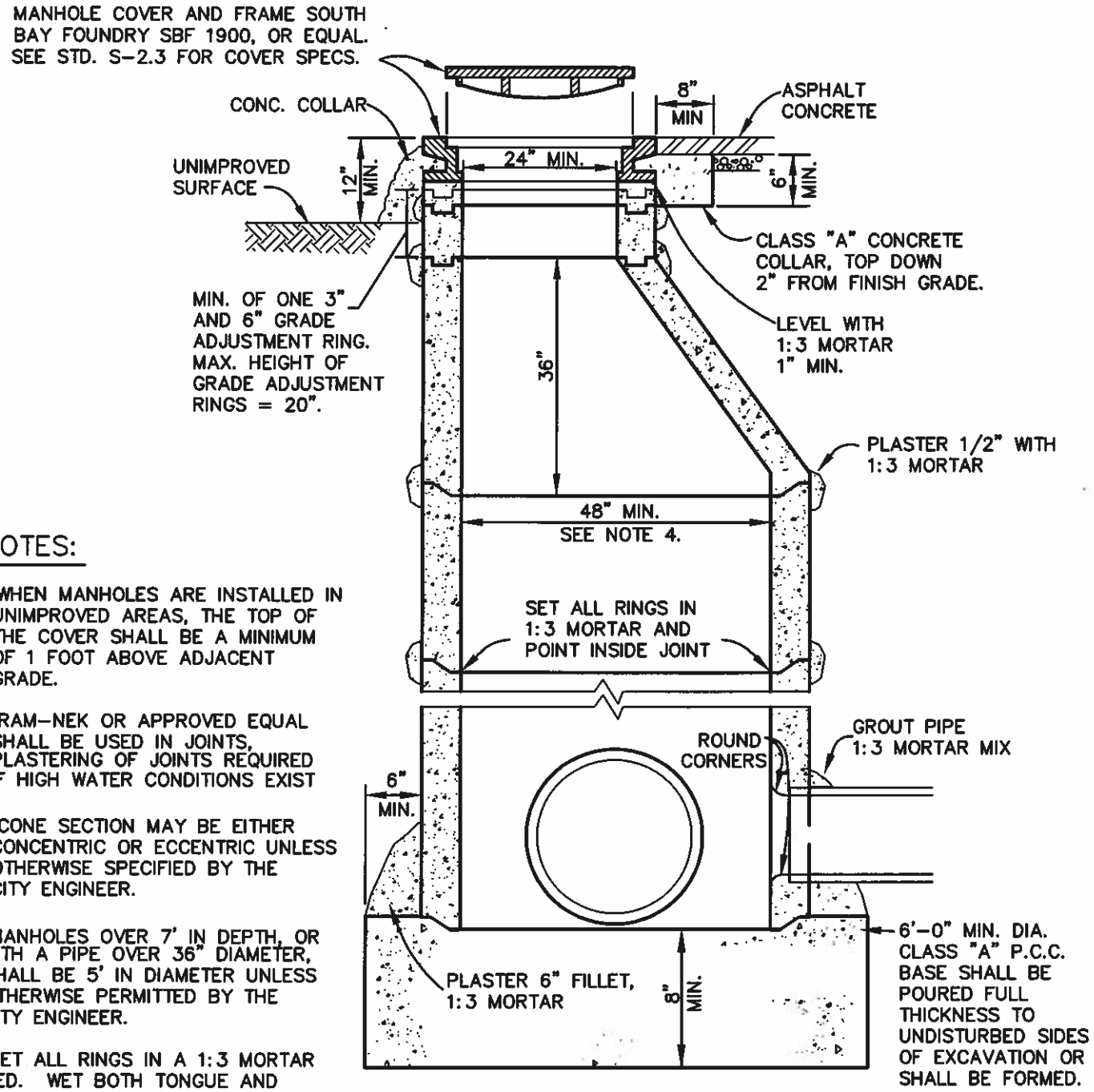
STORM DRAIN STANDARDS

SD-1.1 Storm Drain Manhole
SD-1.2 Standard Precast Concrete Storm Drain Manhole Reducer Slab

SD-2.1 Curb Opening Catch Basins
SD-2.2 Precast Catch Basin Hood
SD-2.3 Storm Drain Gallery
SD-2.4 Temporary Redwood Box Field Drain

SD-3.1 Typical Storm Drain Outfall Detail

SD-4.1 Sidewalk Drain



NOTES:

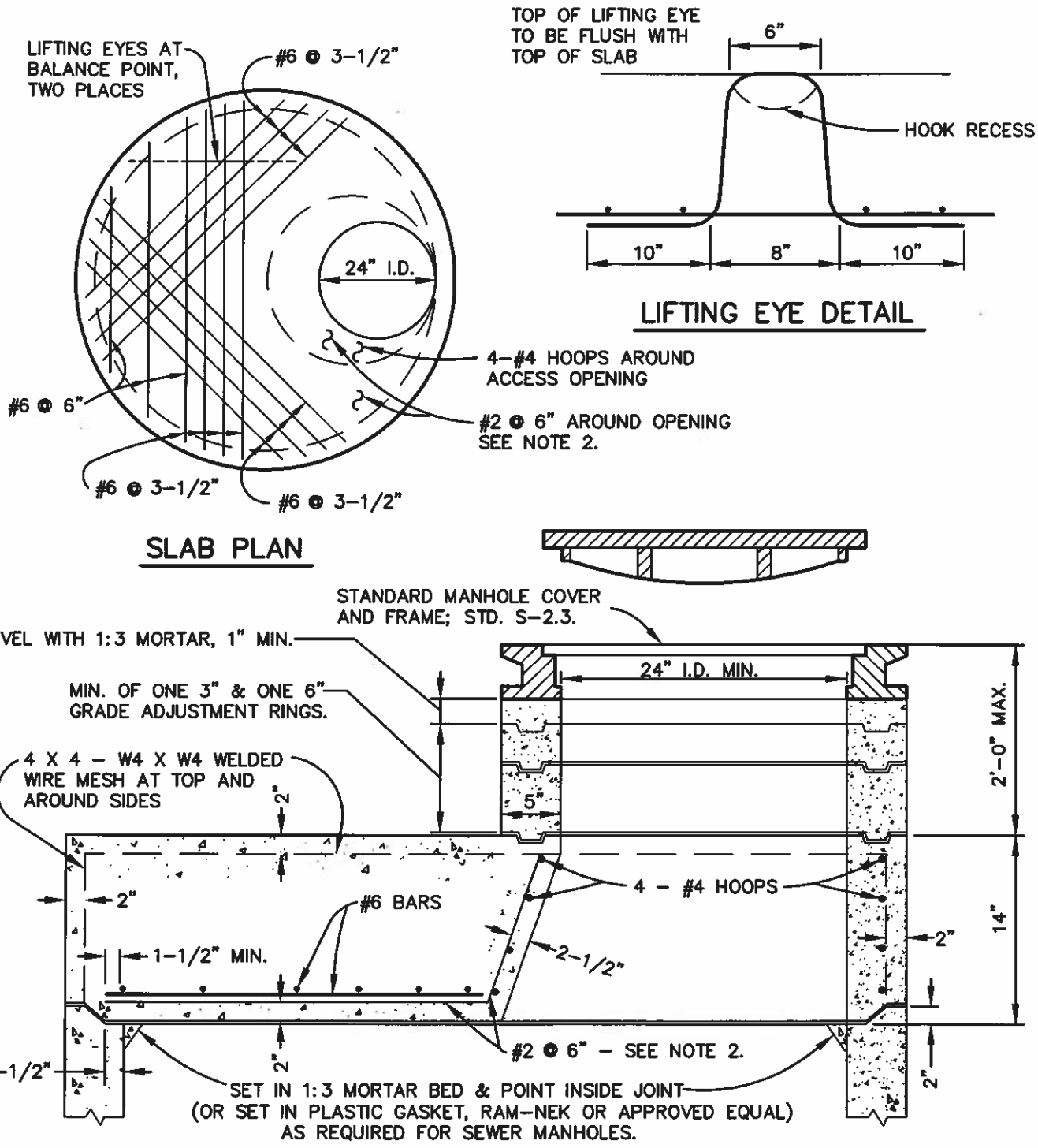
1. WHEN MANHOLES ARE INSTALLED IN UNIMPROVED AREAS, THE TOP OF THE COVER SHALL BE A MINIMUM OF 1 FOOT ABOVE ADJACENT GRADE.
2. RAM-NEK OR APPROVED EQUAL SHALL BE USED IN JOINTS, PLASTERING OF JOINTS REQUIRED IF HIGH WATER CONDITIONS EXIST
3. CONE SECTION MAY BE EITHER CONCENTRIC OR ECCENTRIC UNLESS OTHERWISE SPECIFIED BY THE CITY ENGINEER.
4. MANHOLES OVER 7' IN DEPTH, OR WITH A PIPE OVER 36" DIAMETER, SHALL BE 5' IN DIAMETER UNLESS OTHERWISE PERMITTED BY THE CITY ENGINEER.
5. SET ALL RINGS IN A 1:3 MORTAR BED. WET BOTH TONGUE AND GROOVE BEFORE APPLYING MORTAR AND SETTING RING. WIPE INSIDE OF JOINTS SMOOTH AND PLASTER OUTSIDE OF JOINT WITH 1/2" LAYER OF MORTAR.
6. CONSTRUCT ALL FLOW CHANNELS OF PIPE WHEREVER POSSIBLE. AFTER BASE IS POURED, BREAK OUT TOP HALF OF PIPE FLUSH WITH INSIDE FACE OF M.H. WALL AND CONSTRUCT U-SHAPED CHANNEL. MAKE ELEVATION CHANGES GRADUALLY AND DIRECTIONAL CHANGES WITH SMOOTH CURVES. SET RING BASE IN MORTAR.
7. ALL SECTIONS OF MANHOLE MUST BE OF IDENTICAL MAKE AND MANUFACTURER.

SEBASTOPOL CALIFORNIA PUBLIC WORKS

STORM DRAIN MANHOLE

STD. NO. SD-1.1

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998

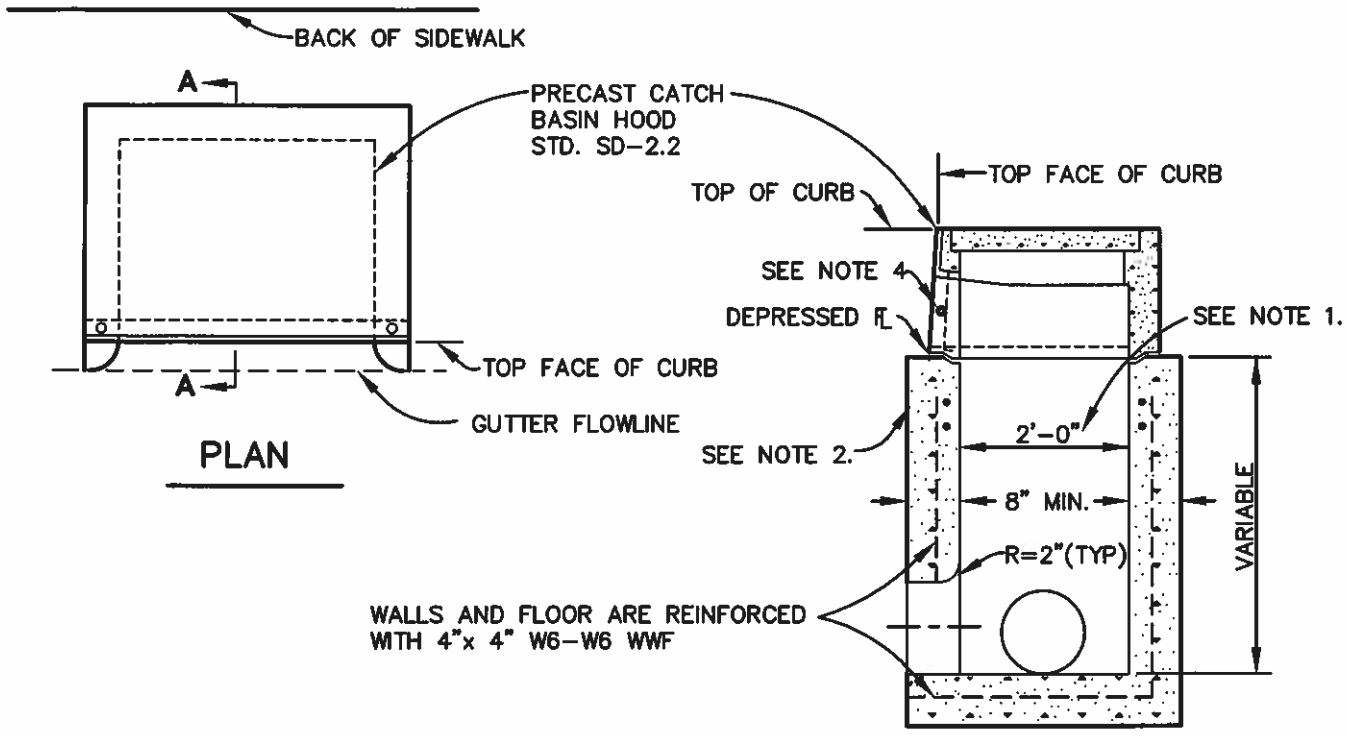


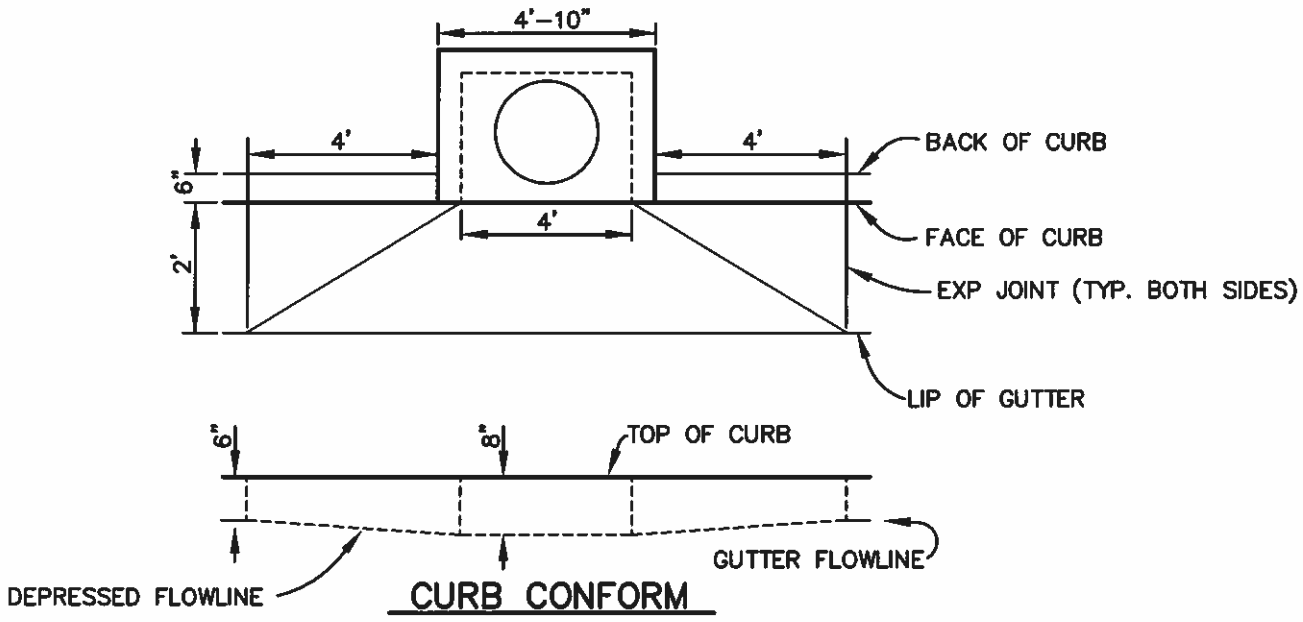
NOTES:

1. FOR DETAILS OF BASE AND BARREL SECTIONS, SEE CITY STD. SD-1.1.

2. #2 BARS BENT UP AND SPACED 6" O.C. AROUND 24" OPENING. HORIZONTAL LEGS TO FAN OUT EQUALLY SPACED, TO 2-1/2" CLEAR AT EDGE OF SLAB.

SEBASTOPOL CALIFORNIA PUBLIC WORKS	STANDARD PRECAST CONCRETE STORM DRAIN MANHOLE REDUCER SLAB				STD. NO. SD-1.2
SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998	





NOTES:

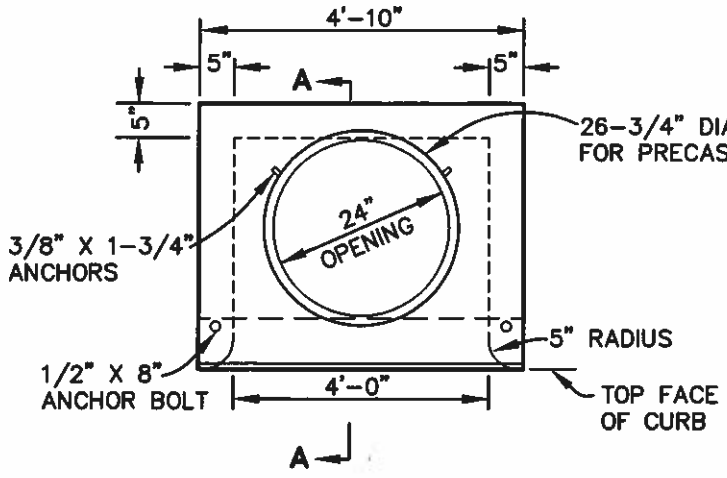
1. IF PIPE INTO OR OUT OF THE CATCH BASIN IS LARGER THAN 24", UNIT SHALL BE TAILOR MADE BY SUPPLIER.
2. APPROVED ALTERNATES FOR CURB INLET BASE SECTIONS: SANTA ROSA CAST PRODUCTS BASE SECTION MODEL 4A.
3. ALL HOOD, BASE, AND PIPE CONNECTIONS SHALL BE GROUTED.
4. 3/4" GALVANIZED STEEL GUARD ROD MUST BE INSTALLED AT CENTER OF OPENINGS IN EXCESS OF 9" INCHES IN LENGTH.

SEBASTOPOL CALIFORNIA PUBLIC WORKS

CURB OPENING CATCH BASINS

STD. NO. SD-2.1

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998



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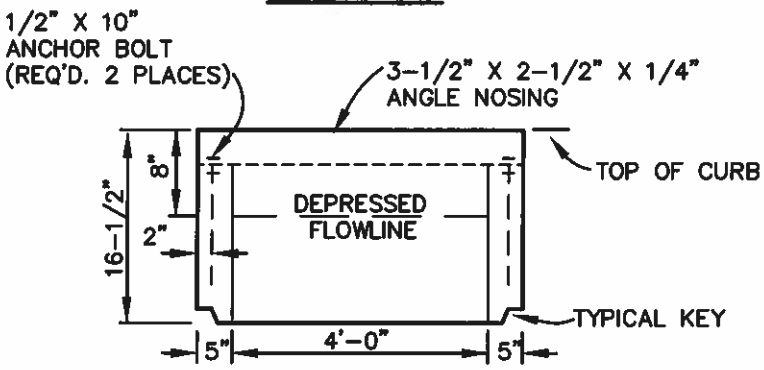
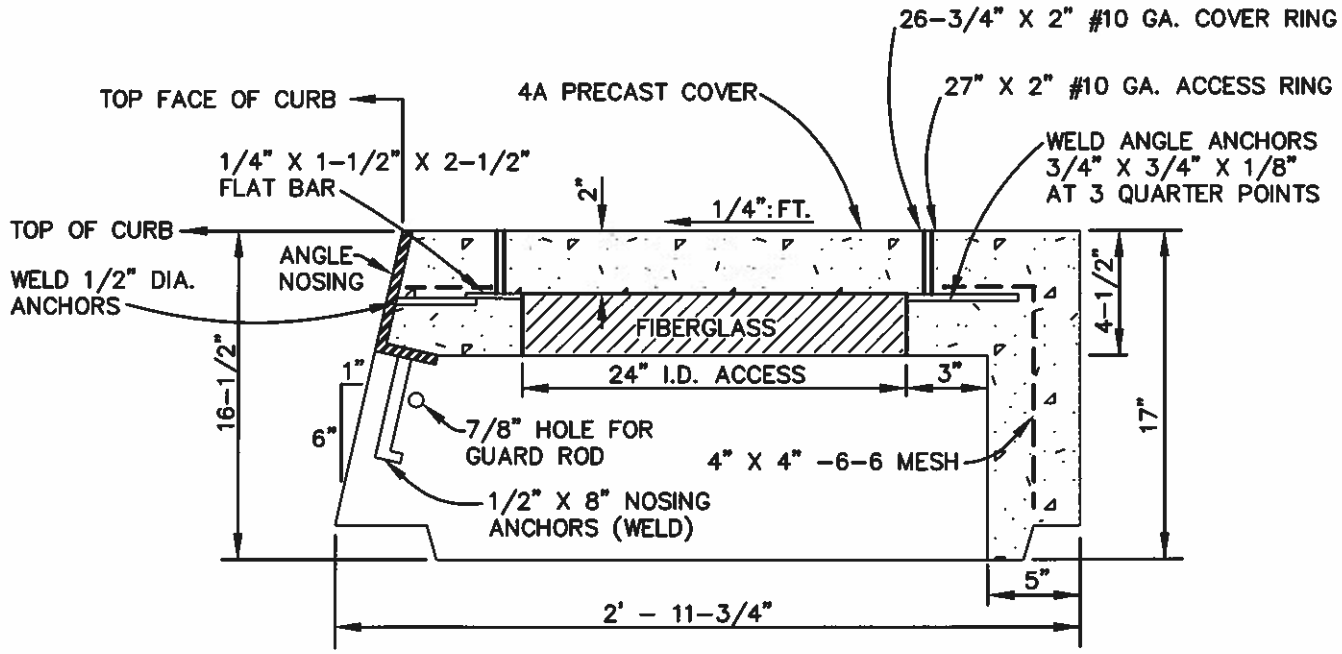


ELEVATION

NOTES:

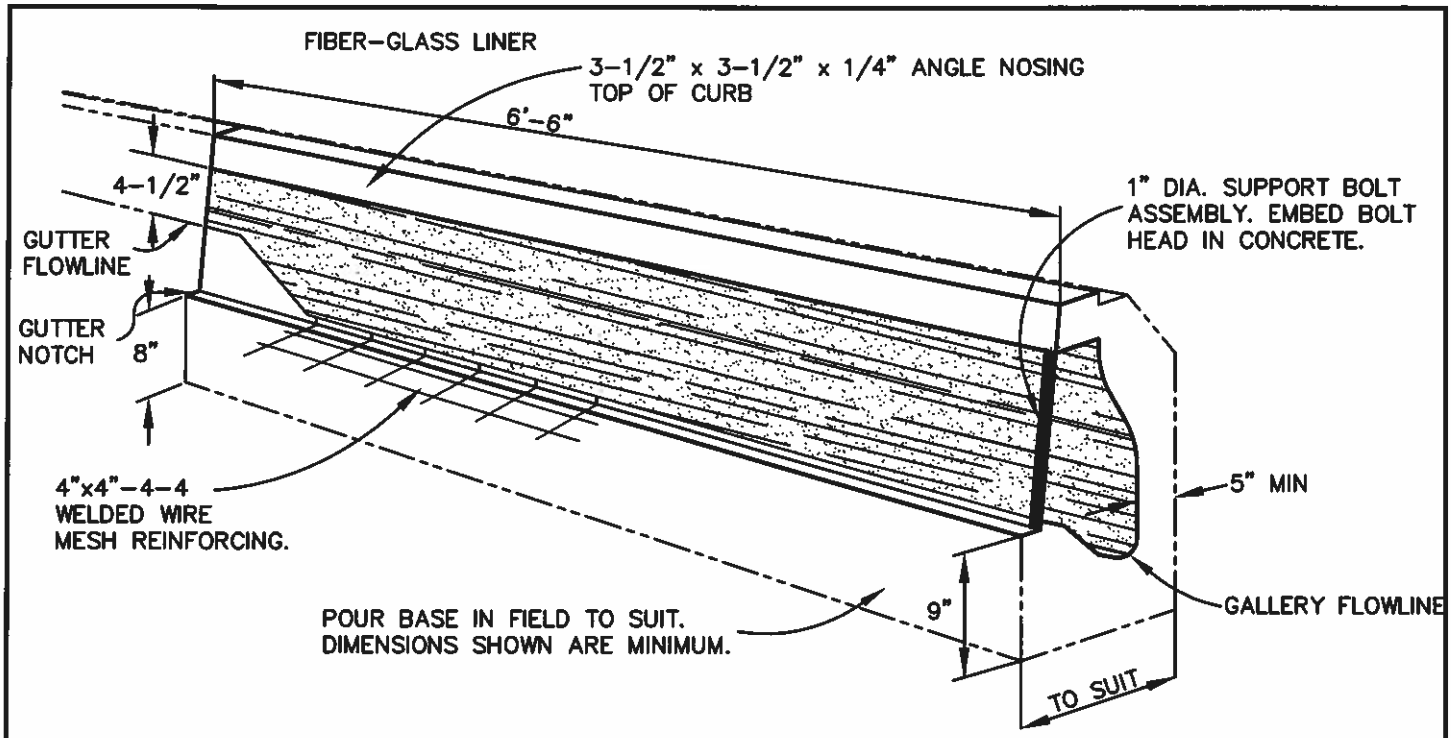
1. ALL METAL PARTS SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM A123.
2. CONCRETE SHALL TEST 3000 PSI AT 28 DAYS.
3. ALL REINFORCING SHALL BE 2" X 6" – 6-10 MESH.
4. WEIGHT OF UNIT COMPLETE = 1000± LBS. COVER ONLY = 60± LBS.
5. 3/4" GALVANIZED STEEL GUARD ROD FOR OPENINGS IN EXCESS OF 9".
6. BASE MAY BE PRECAST OR CAST IN PLACE TO SUIT.
7. MAXIMUM UPSTREAM GUTTER SLOPE WITHOUT GALLERY IS 6%.

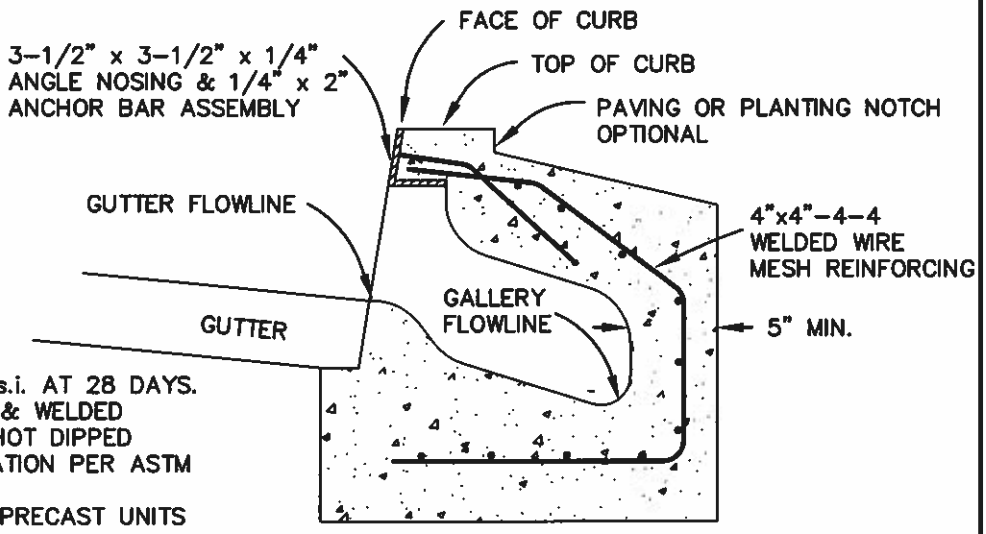


SECTION A–A

APPROVED ALTERNATES:
SANTA ROSA CAST PRODUCTS MODEL 4A
W SRJC CICO COVER.

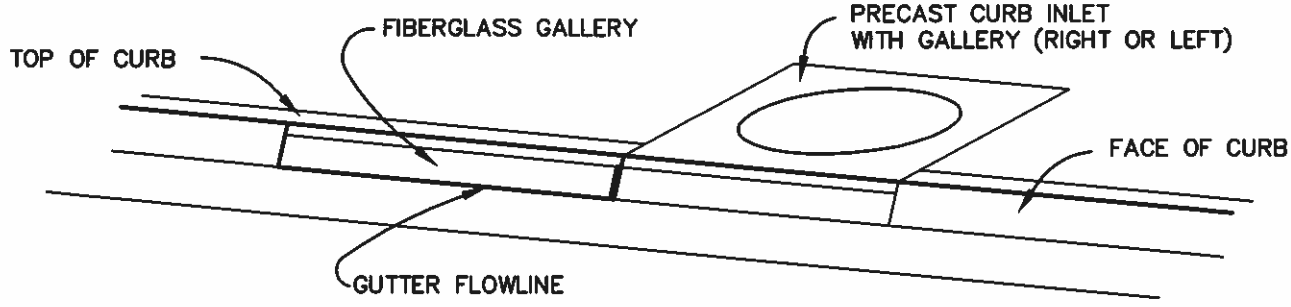
SEBASTOPOL CALIFORNIA PUBLIC WORKS	PRECAST CATCH BASIN HOOD				STD. NO. SD-2.2
	SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998





NOTES:

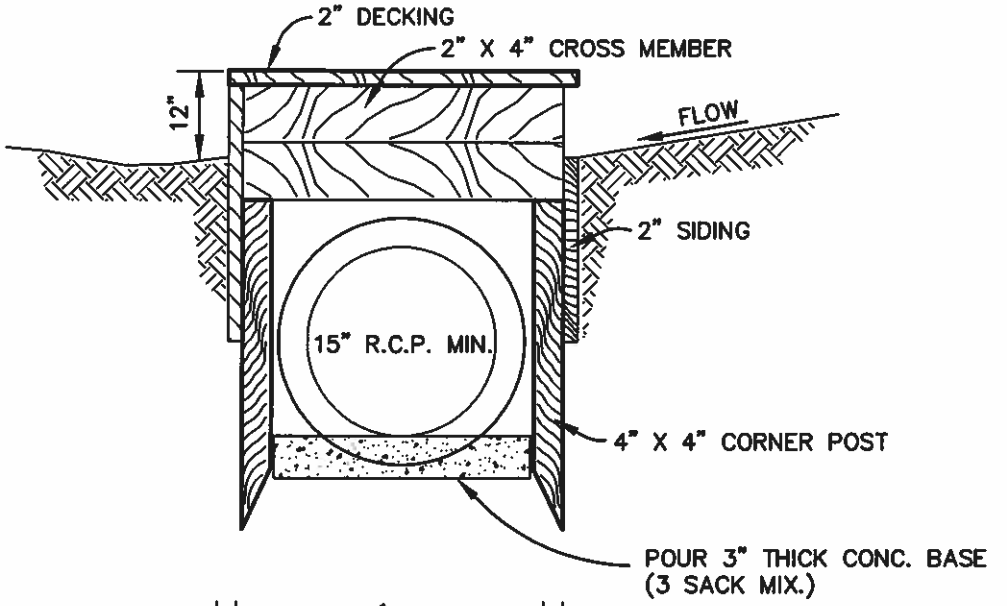
1. CONCRETE SHALL BE 3000p.s.i. AT 28 DAYS.
2. NOSING ASSEMBLY (ANGLED & WELDED ANCHOR BARS) SHALL BE HOT DIPPED GALVANIZED AFTER FABRICATION PER ASTM SPEC. A123-59.
3. EITHER CAST-IN-PLACE OR PRECAST UNITS ARE ACCEPTABLE.

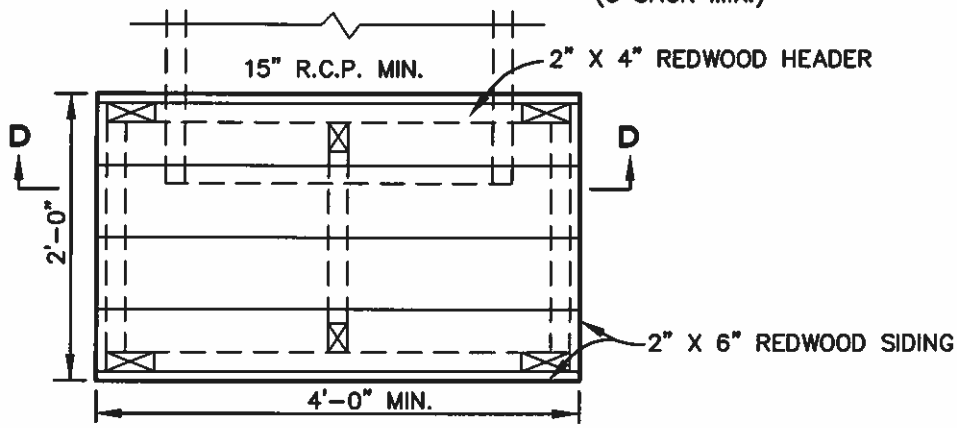


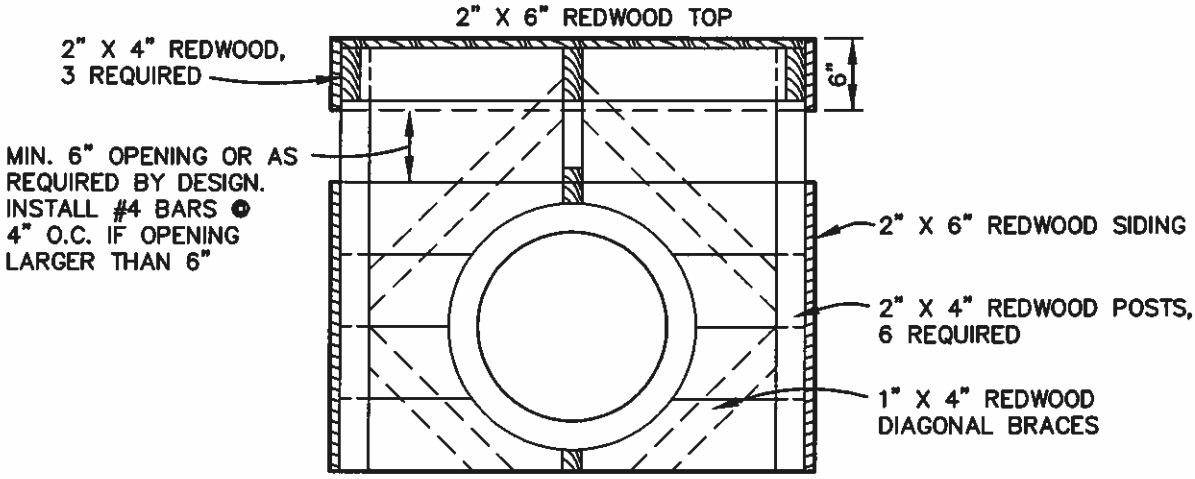
STORM DRAIN GALLERY

STD. NO. SD-2.3

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998







SECTION D–D

NOTES:

1 ALL WOOD SHALL BE CONSTRUCTION HEART REDWOOD OR BETTER.

2 HOT DIPPED GALVANIZED NAILS SHALL BE USED THROUGHOUT.

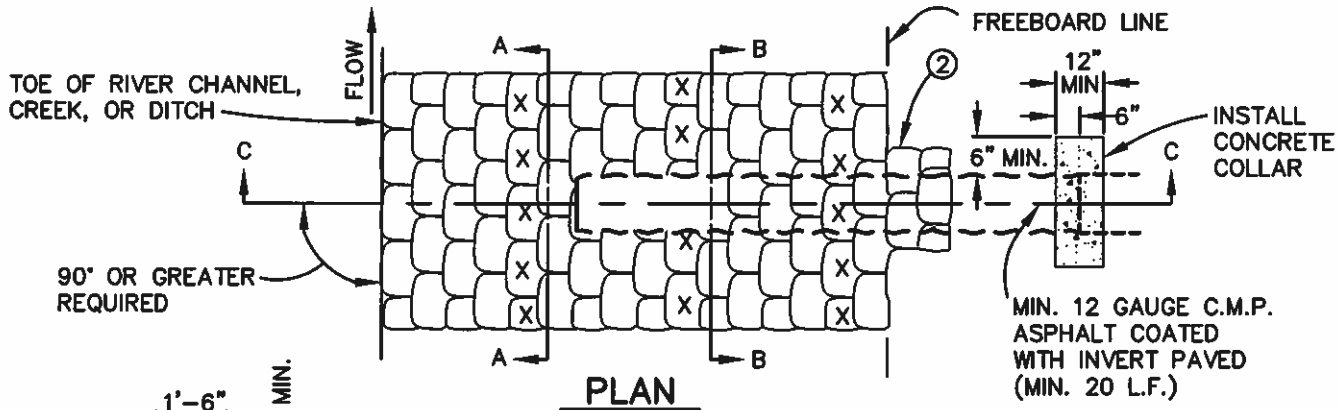
2 THIS DETAIL IS TO BE USED IF THE DURATION OF USE IS LESS THAN 2 YEARS. USE A CONCRETE STRUCTURE IF LONGER DURATION.

BEAR STOP CAL PUBLIC WORKS

TEMPORARY REDWOOD BOX FIELD DRAIN

STD. NO. SD-2.4

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998



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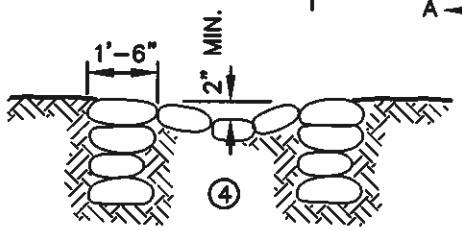
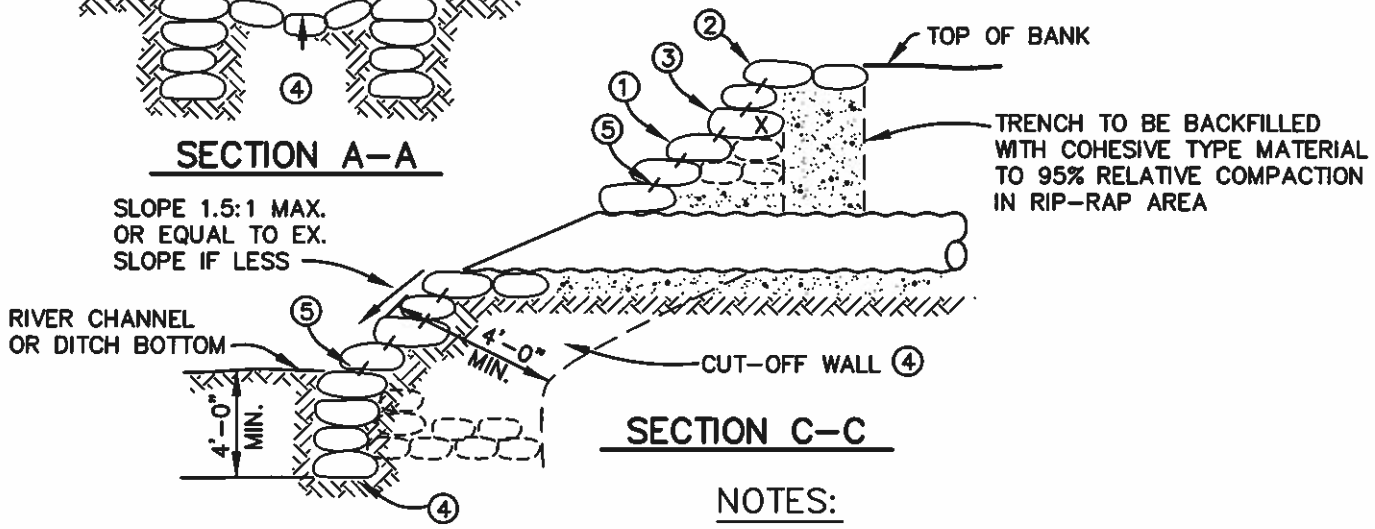
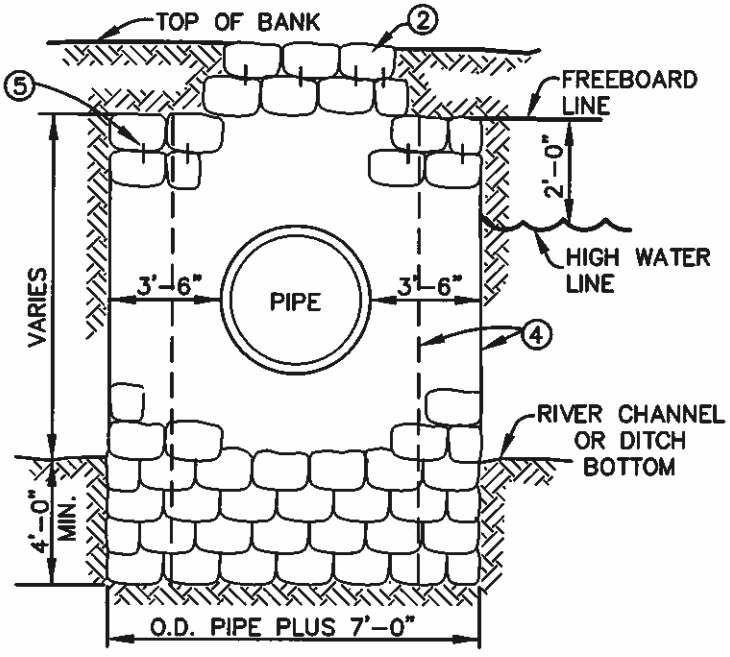


SECTION A–A



SECTION C–C



SECTION B–B

NOTES:

1. FACE OF RIP–RAP TO BE COINCIDENT WITH EXISTING (OR FUTURE DESIGN) SIDE SLOPE OF CHANNEL.
2. CARRY RIP–RAP TO TOP OF BANK IN TRENCH EXCAVATION ABOVE FREEBOARD.
3. SACK CONCRETE RIP–RAP PLACED ON UNDISTURBED SOIL. ANY OVER EXCAVATION MUST BE FILLED WITH SACKS, NO EARTH BACKFILL WILL BE PERMITTED. (EVERY FIFTH COURSE TO BE A HEADER COURSE. ⊗)
4. INSTALL CUT–OFF WALL UPSTREAM & DOWNSTREAM TO AN ELEVATION WHICH IS EQUAL TO THE FREEBOARD ELEVATION OR TOP OF PIPE, WHICH EVER IS HIGHER, & ACROSS THE BOTTOM WITH 4.0 MINIMUM DEPTH.
5. IN ALL TOP COURSES AND THROUGHOUT, IF SIDE SLOPE IS STEEPER THAN 1:1 AND/OR HIGHER THAN 10 FEET, DRIVE ONE #4 REINFORCING BAR 18" LONG THROUGH EACH SACK. DO NOT LEAVE ENDS OF BARS EXPOSED, NOR DRIVE INTO DIRT.
6. OUTFALLS TO BE APPROVED BY FISH AND GAME AND FLOOD CONTROL AS APPROPRIATE.
7. SCWA STANDARD DETAIL MAY BE USED AS AN ALTERNATIVE WITH APPROVAL FROM THE CITY ENGINEER.

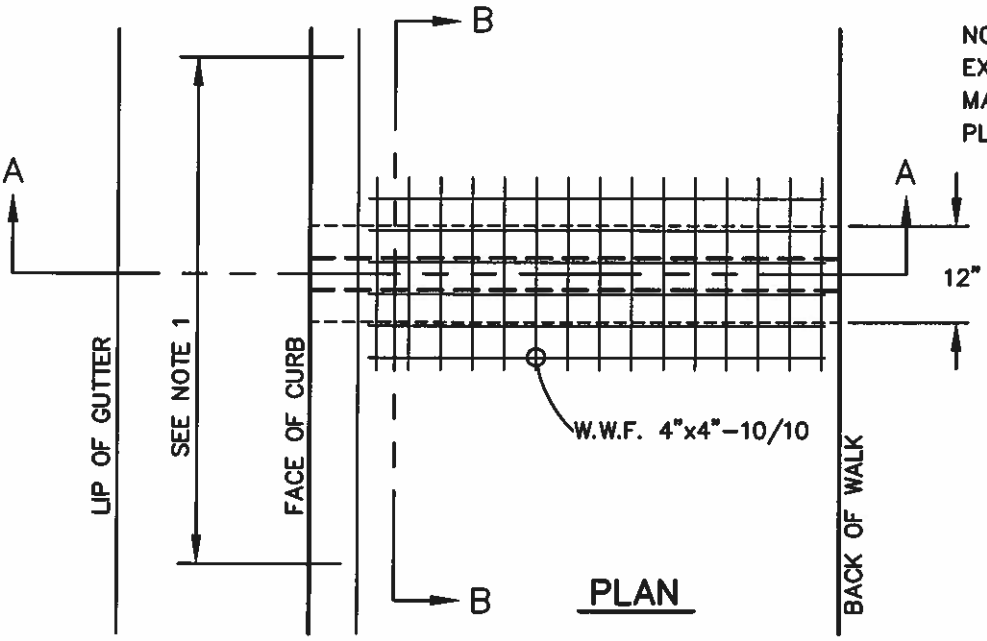
SEBASTOPOL CALIFORNIA PUBLIC WORKS

TYPICAL STORM DRAIN OUTFALL DETAIL

STD. NO. **SD-3.1**

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998

NOTE: IF SIDEWALK IS EXISTING, A 12" SECTION MAY BE SAW CUT TO PLACE 3" P.V.C. & W.W.F.



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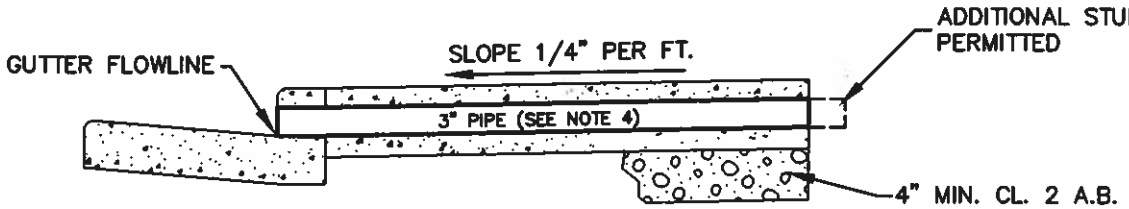
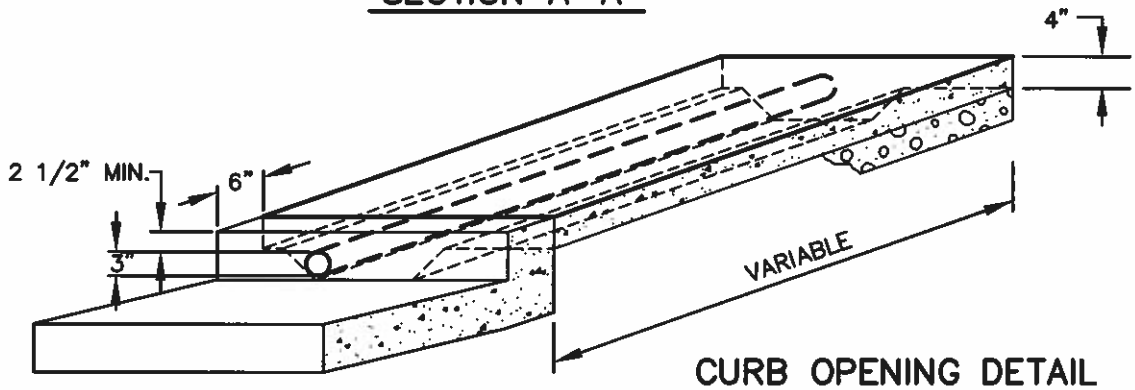


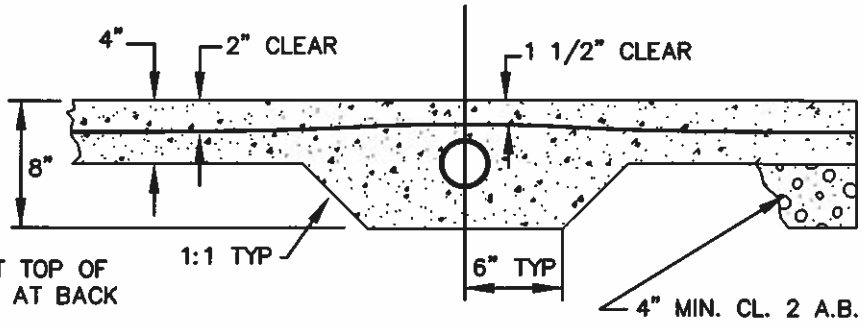
SECTION A–A



CURB OPENING DETAIL

NOTES:

1. WIRE MESH SHALL BE 2' WIDE. LENGTH SHALL EQUAL SIDEWALK WIDTH MINUS 4". IF SIDEWALK EXISTING, SEE NOTE ABOVE.
2. ON SITE DRAINAGE AND LOCATION OF CURB OUTLETS SHALL BE BY THE OWNER TO THE SATISFACTION OF THE CITY ENGINEER.
3. DRAIN PIPE SHALL BE INSTALLED SO THAT TOP OF PIPE IS 2 1/2" MIN. BELOW FINISH GRADE AT BACK OF SIDEWALK
4. SIDEWALK DRAIN TO BE 3" SCH 40 HEAVY WALL RIGID POLYVINYL CHLORIDE PIPE OR APPROVED SUBSTITUTE.



SECTION B–B

SEBASTOPOL CALIFORNIA PUBLIC WORKS

SIDEWALK DRAIN

STD. NO. SD-4.1

SCALE: NONE	DRAWN: MGA	CHK: SAL	APPVD: PHK	DATE: JULY 1998