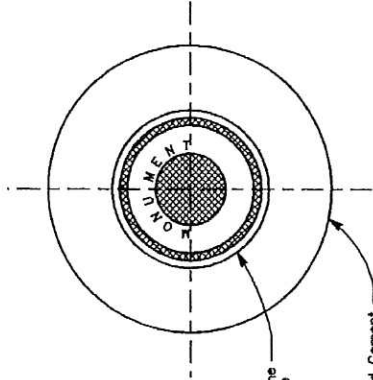


APPENDIX D

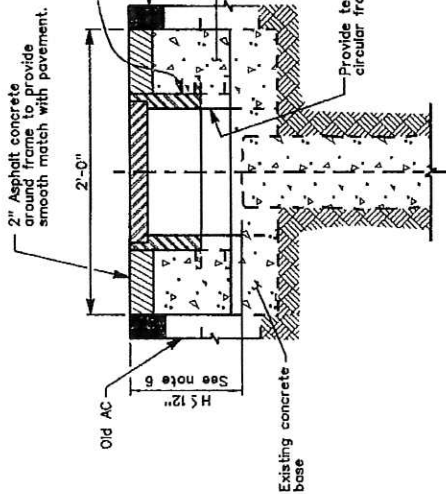
CONTRA COSTA COUNTY STANDARD PLANS

M. Augustin
 PUBLIC WORKS DIRECTOR
 PLANS APPROVAL DATE: 3/7/06
 PROFESSIONAL ENGINEER
 MAURICE M. SHU
 No. 23204
 Exp. 12/31/05
 CIVIL
 STATE OF CALIFORNIA



Metal cover and frame (Schematic only)-See Note 2.

2" diameter Portland Cement Concrete jacket covered with 2" of asphalt concrete-See Note 1.



FRAME ADJUSTMENT DETAIL

2" Asphalt concrete around frame to provide smooth match with pavement.

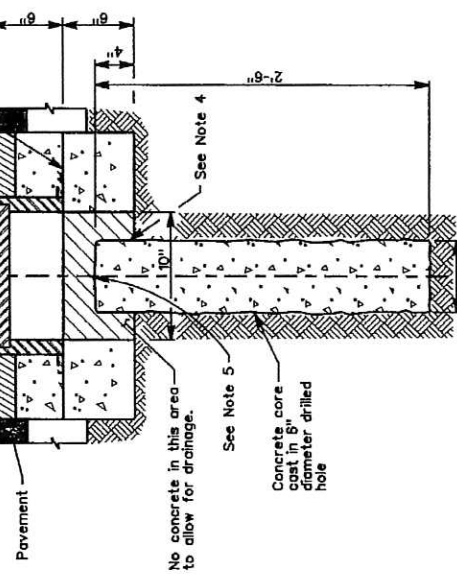
Use new frame and cover. Set to new grade after completion of new AC.

Remove existing concrete collar above casting joint and replace See Note 3.

Provide temporary circular framework

2" Asphalt concrete around frame to provide smooth match with pavement.

2" diameter Portland Cement Concrete jacket covered with 2" of asphalt concrete-See Note 1.



NEW INSTALLATION DETAIL

NOTES:

1. Portland cement concrete for jacket and core shall be Class 2 (590 lb. PC per cubic yard) with 3/4" maximum aggregate max-medium grading.
2. Approved covers and frames are those manufactured by Chrisp Casting, Part No. 9277M or 9279 or approved equivalent. Covers shall be designed for a 15000 lb. wheel load.
3. 30# felt or 1/4" layer of sand to create a "cold joint"
4. 6" diameter collar formed with 30# felt.
5. Solid brass marker (1 1/8" diameter top and 7/8" x 2" shank) with distinctive punch and R.E. or L.S. number.
6. When "H" exceeds 12", a complete reconstruction of monument is required.

NO.	DATE	REVISION DESCRIPTION	BY
2-02	2-02	Supersedes Standard Plan CA40 dated 11-99	P.W.
7-02	7-02	Concrete Spec. Revision	HH
1-05	1-05	Var. Revisions, especially adjustments	LC

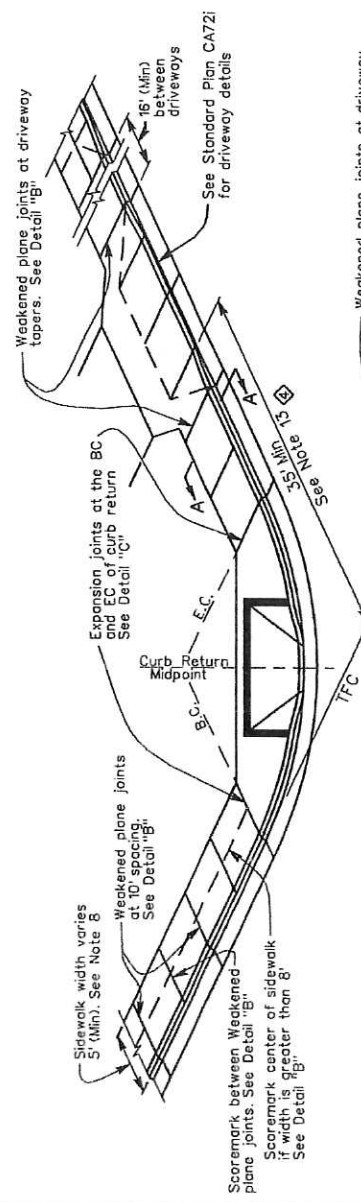
COUNTY OF CONTRA COSTA
 PUBLIC WORKS DEPARTMENT
 MARTINEZ, CALIFORNIA
 STANDARD PLAN

STREET SURVEY MONUMENT

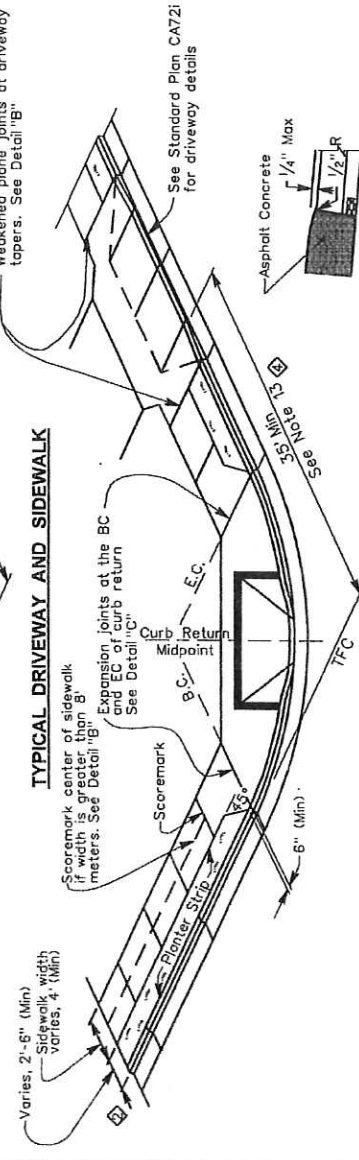
SCALE: NO. SCALE DATE: 2-02
 DRAWN BY: L.COSTA PLAN NO. CA40i
 CHECKED BY: R. Ziemmer

M. Hussey
 DIRECTOR
 PUBLIC WORKS DEPARTMENT
 6/12/07
 PLANS APPROVAL DATE
 MAURICE M. SHU
 CIVIL ENGINEER
 No. 23204
 Exp. 12/31/07
 REGISTERED PROFESSIONAL ENGINEER
 STATE OF CALIFORNIA

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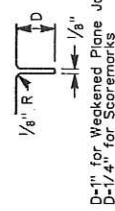


TYPICAL DRIVEWAY AND SIDEWALK

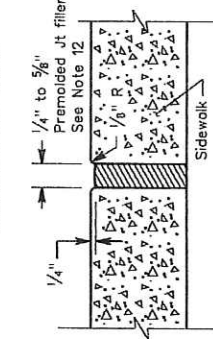


TYPICAL SEPARATED SIDEWALK

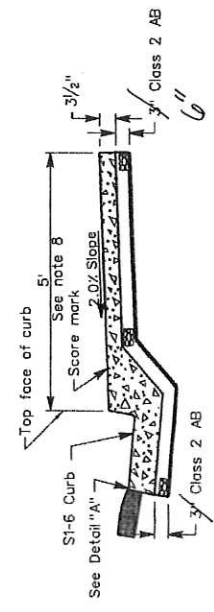
DETAIL A
Gutter Lip Paving



DETAIL B
Scoremarks and Weakened Plane Joints



DETAIL C
Expansion Joint



CURB AND SIDEWALK
- TYPICAL SECTION A-A

NOTES:

- Class 3 Portland Cement Concrete (505 lb PC per cubic yard, 1" maximum aggregate) shall be used for all construction detailed on this plan. New curb and adjoining sidewalk shall be constructed monolithically.
- Transverse scoremarks shall be made at 10' intervals on the sidewalk (including the portion in the driveway area) and a longitudinal scoremark shall be made along the centerline of any sidewalk which is 8' or more in width. Weakened plane joints shall be provided at 10' intervals in curb and sidewalk (including the portion in the driveway area). See Detail "B" and "Typical Sidewalk Details".
- Curb reference stakes shall not be offset more than 3" from the back of curb or more than 2" from the back of the sidewalk.
- Where there is a planter strip between the sidewalk and the curb, the curb in a driveway depression shall be constructed monolithically with the driveway.
- When the street slopes away from a curb, the gutter slope shall match the cross slope of the street.
- Paving at the gutter lip shall conform to "Detail A" except when the street slopes away from the curb, the paving shall match the gutter lip.
- Meter boxes, poles, and fire hydrants locations shall conform to locations shown on Standard Plan CU60i.
- Minimum sidewalk widths are 5'-0" for residential; 6'-6" for multiple zoned; 10'-0" for retail business and commercial areas; 8'-0" in retail and commercial areas where right of way is limited.
- A 3" layer of Class 2 aggregate bases or subbase shall be placed under all curb and sidewalk sections unless otherwise noted.
- Expansion joint "Detail C" shall be installed at the BC and EC of all returns and the back of sidewalk at driveways.
- See Standard Plan CA71i for curb details.
- Premolded joint filler material for expansion joints shall conform to Section 51-112C "Premolded Expansion Fillers," of the State Standard Specifications.
- 35' is the minimum offset on low volume, low speed residential streets. For higher volume, higher speed roads, the 35' dimension shall increase to comply with Topic 405 "Intersection Design Standards", 405.1 Sight Distance of the California Department of Transportation, Highway Design Manual.

STANDARD PLAN			
COUNTY OF CONTRA COSTA PUBLIC WORKS DEPARTMENT MARTINEZ, CALIFORNIA			
STANDARD SIDEWALK DETAILS			
NO.	DATE	REVISION DESCRIPTION	BY
2-02		Supersedes Standard Plan CA70 dated 11-99	P.W.
6-02		Revised Dimension	HH
7-02		Concrete Spec. Revision	HH
4-07		Driveway Location	MH
4-07		Change in plan reference number	HH

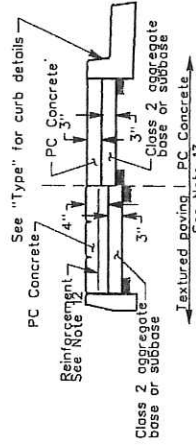
SCALE: NO. SCALE
 DRAWN BY: H. HUSSEY
 CHECKED BY: M. HOLLINGSWORTH
 DATE: 4-07
 PLAN NO. CA70i

STD. PLAN CA711

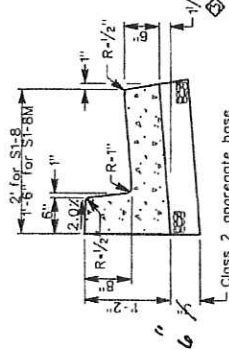
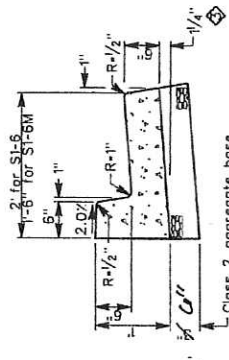
Professional Engineer
MAURICE M. SHU
 No. 23204
 State of California
 CIVIL
 Exp. 12/31/05

Public Works Director
11/27/2002
 PLANS APPROVAL DATE

The County of Contra Costa or its officers or agents warrant that the design and construction of the work shown on this plan shall conform to all applicable laws, codes, regulations, and standards of electronic copies of this plan sheet.

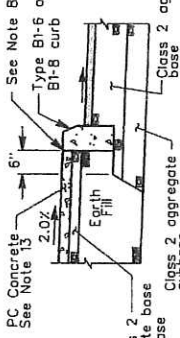


TYPICAL MEDIAN PAVING DETAIL

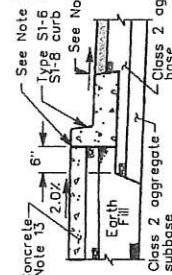


TYPE S1-5 & S1-6M

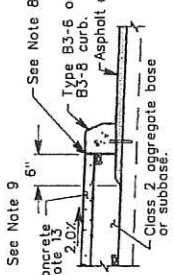
TYPE S1-8 & S1-8M



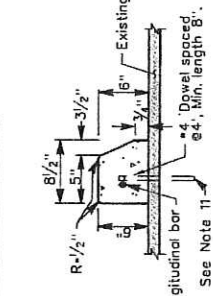
TYPE A TRAFFIC MEDIAN



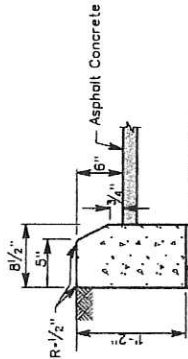
TYPE B TRAFFIC MEDIAN



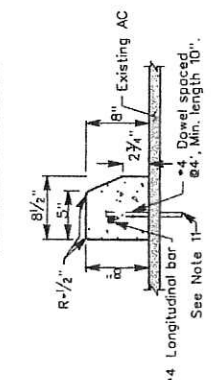
TYPE C TRAFFIC MEDIAN



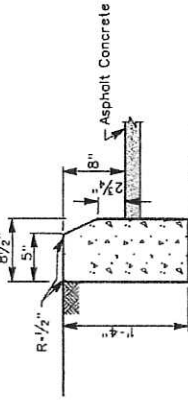
TYPE B3-6 CURB



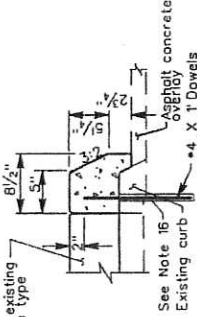
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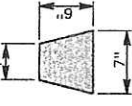
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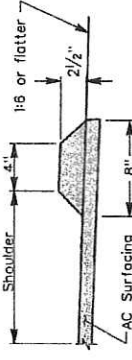
TYPE B1-8 CURB



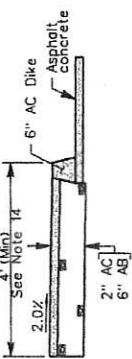
MODIFIED TYPE B3-8 CURB



MODIFIED 6" AC DIKE



6" AC DIKE



2 3/8" AC DIKE



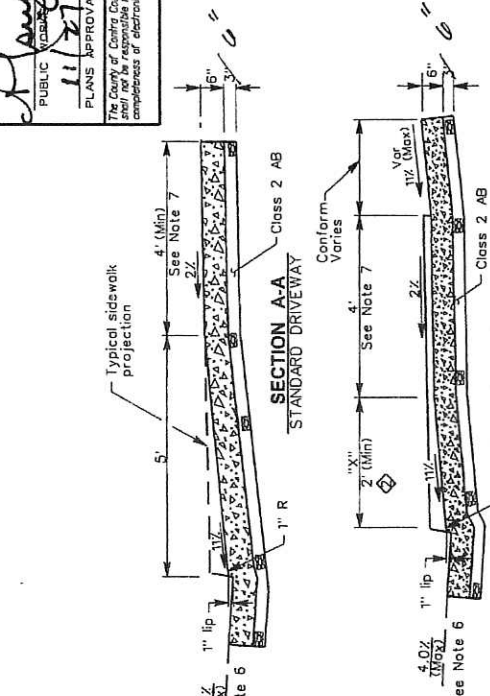
- NOTES:**
- Class 3 Portland Cement Concrete (505 lb. PC per cu. yard) shall be used for all concrete construction detailed on this plan.
 - Weakened plane joints shall be provided at 10' intervals on all curbs. See Standard Plan CA701, "Detail B".
 - Curb reference stakes shall not be offset more than 3' from the back of the curb.
 - Curb removed for driveway construction shall be sawcut at the weakened plane joint or scoremark nearest to the full width of the driveway the entire curb shall be removed between the cut lines.
 - The curb in the depression at the driveway shall be constructed monolithically with the driveway.
 - When the street slopes away from the curb, the gutter slope shall match the cross slope of the street.
 - Paving at the gutter lip shall conform to "Standard Plan CA701 Detail A", except that where the street slopes away from the curb, the paving shall match the gutter lip.
 - Curb may be constructed monolithically with the median paving, in which case a scoremark conforming to Standard Plan CA701 "Detail B" shall be provided along the back of the curb.
 - Type "B3" curb shall be used only when placed on existing or overlaid pavement.
 - A 3' curb of Class 2 aggregate base or subbase shall be placed under Type "B1" curb unless otherwise noted.
 - Place dowels in 1" diameter drilled hole filled with 1:1 sand grout. Omit dowels when curb is extruded.
 - Reinforcement shall be #4 bars at 18" OC each way or 6" x 6", 8" x 8", 10 gage welded wire fabric.
 - Median paving may be "textured" as specified by the Public Works Department. See "Typical Median Paving Detail".
 - Width of asphalt concrete path shall be a minimum of 4' measured from top face of curb.
 - All new curb which conforms to existing facilities shall be detailed as per Standard Plan CA741.
 - Dowels shall be placed in a 1" diameter drilled hole filled with 1:1 sand cement grout.

COUNTY OF CONTRA COSTA PUBLIC WORKS DEPARTMENT MARTINEZ, CALIFORNIA STANDARD PLAN		
MEDIAN, CURB AND AC DIKE DETAILS		
2-02	Supersedes Standard Plan CA71 P.W. dated 11-99	HH
7-02	Concrete Spec. Revision	HH
11-02	Corrected Dimension	
NO.	DATE	REVISION DESCRIPTION
		BY: H. HUSSEY
		CHECKED BY: H. HUSSEY
	SCALE: NO. SCALE	DATE: 11-02
	PLAN NO.	CA711

REGISTERED PROFESSIONAL ENGINEER
 MAURICE M. SHIU
 No. 23204
 Exp. 12/31/05
 CIVIL
 STATE OF CALIFORNIA

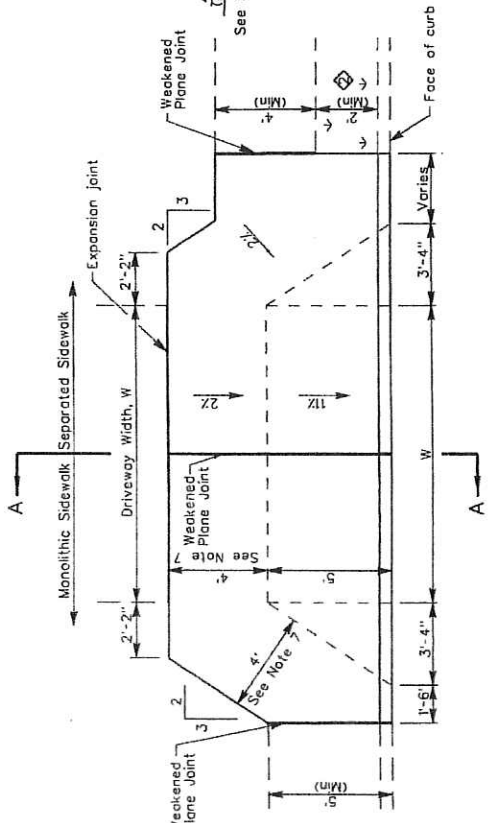
PUBLIC WORKS DIRECTOR
 11/27/2002
 PLANS APPROVAL DATE

The County of Contra Costa or its officers or agents shall be responsible for the accuracy and completeness of electronic copies of this plan sheet.

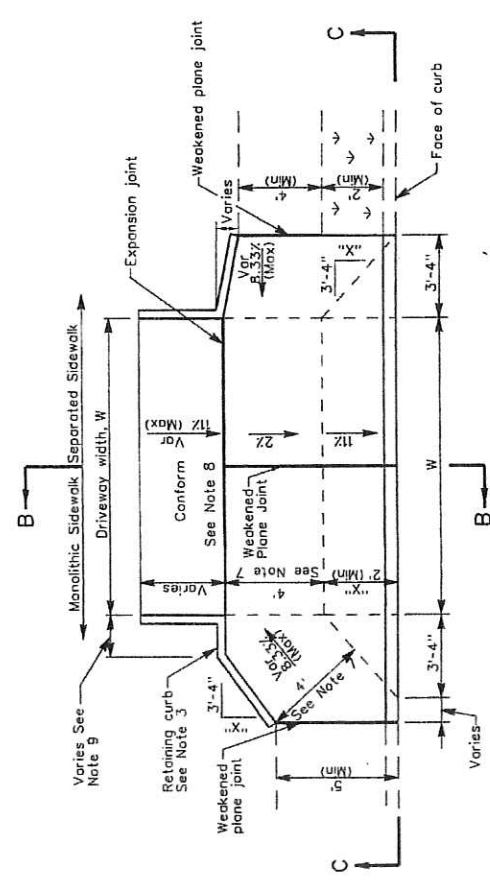


NOTES:
 See Note 4

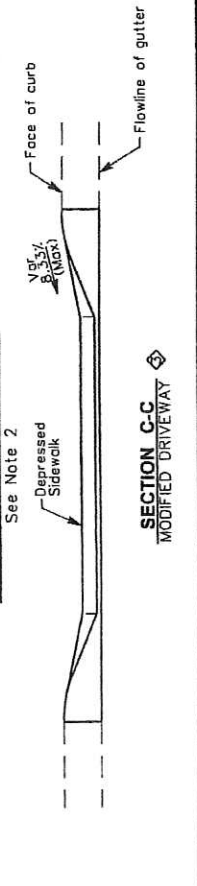
1. New depressed curb and driveway ramps shall be constructed monolithically.
2. The modified driveway may be used when approved by the Public Works Department. "x" shall be as large as possible.
3. Retaining curbs and driveway conforms as required by the Public Works Department.
4. For depressed driveways (section B-B) the sidewalk shall be a minimum of 3/4" (1"x-2") above the gutter flowline grade. Depth of gutter flows shall be calculated and compared to proposed depressed sidewalk elevations during design.
5. See Standard Plan CA70i for weakened plane joint expansion joint, and scoremark details.
6. If pavement cross slope exceeds 4.0%, the modified driveway shall be used with the slope of the driveway ramp reduced such that the difference in slope of the driveway ramp and the slope of a line between the gutter and a point on the roadway ramp slope, not the gutter slope. Other dimensions shall be modified as approved by the Public Works Department.
7. Minimum width of clear passage shall be 4' with a 2% cross slope. Where right of way restrictions, natural barriers or other restrictions create an unreasonable hardship, the clear width may be reduced to 3' with a 2% cross slope, with approval of the Public Works Department.
8. Acquisition of construction easement may be necessary where right of way is limited to construct conform.
9. Dimension is 18" for a sidewalk width of 4', 23" for a sidewalk width of 5', and 14" for a sidewalk width of 3'.



STANDARD DRIVEWAY RAMP



MODIFIED DRIVEWAY RAMP
 See Note 2



SECTION C-C
 MODIFIED DRIVEWAY

COUNTY OF CONTRA COSTA
 PUBLIC WORKS DEPARTMENT
 MARTINEZ, CALIFORNIA

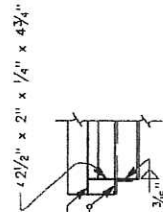
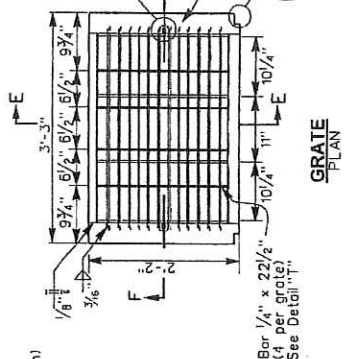
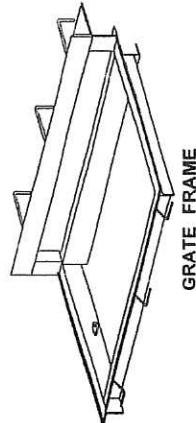
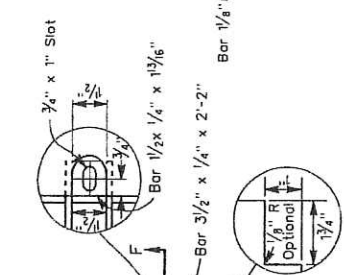
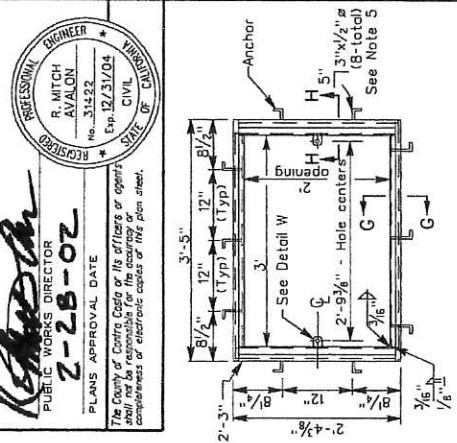
STANDARD PLAN

DRIVEWAY RAMP DETAILS

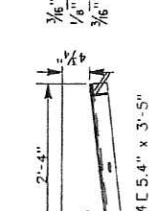
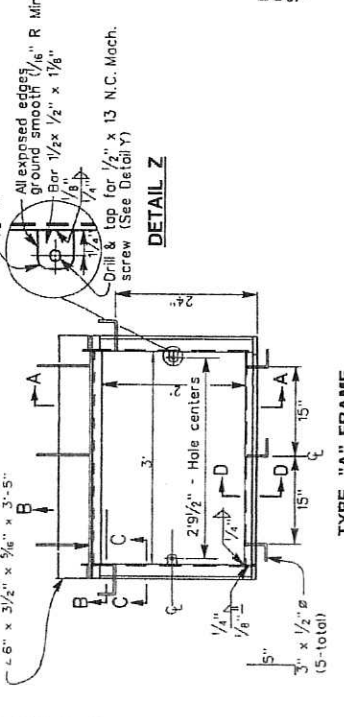
SCALE: NO. SCALE DATE: 2-02
 DRAWN BY: H. HUSSEY PLAN NO. CA72i
 CHECKED BY: J. HOLMSTADT

NO.	DATE	REVISION DESCRIPTION	BY
2-02		Supersedes Standard Plan CA72 dated 11-99	P.W.
5-02		Revised Dimension 3' to 2' & linework	HH
8-02		Added Section C-C	P.W.

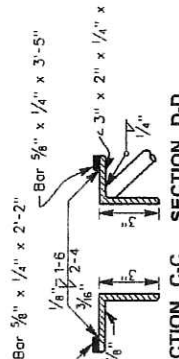
PUBLIC WORKS DIRECTOR
Z-Z-B-02
 PLANS APPROVAL DATE
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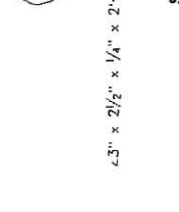
SECTION B-B



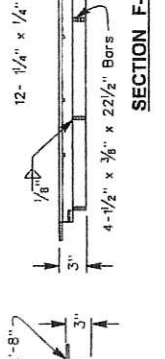
SECTION A-A



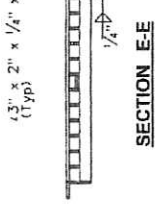
SECTION C-C



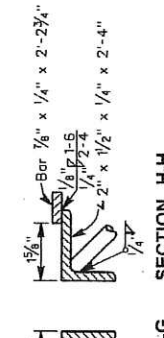
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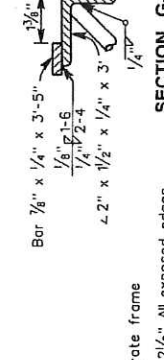
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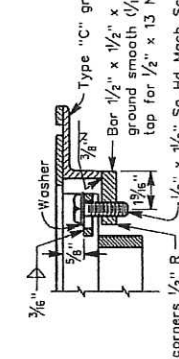
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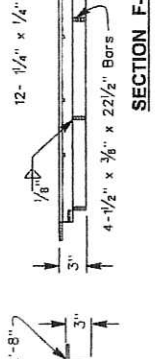
SECTION G-G



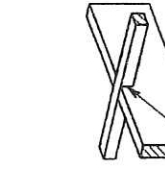
SECTION H-H



DETAIL W



DETAIL Y



DETAIL T

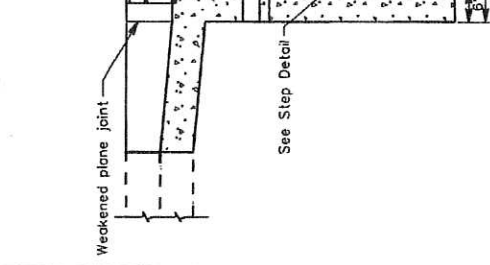
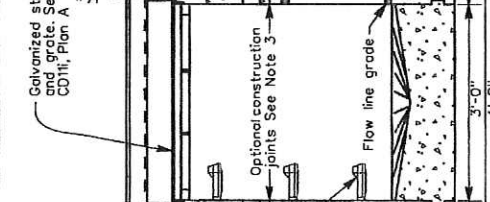
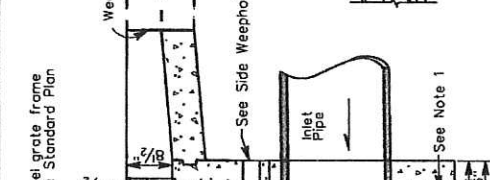
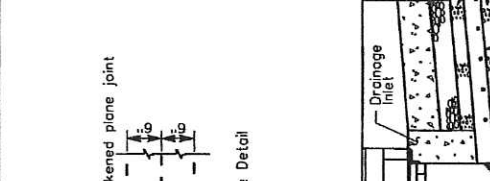
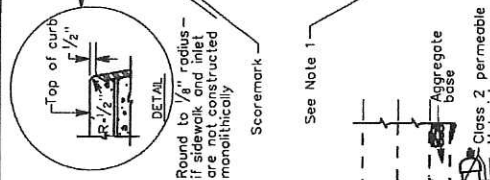
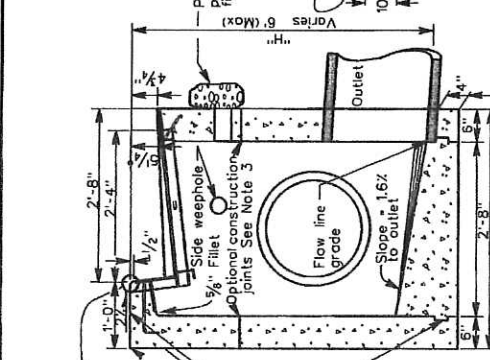
- NOTES:**
1. All materials, fabrication, galvanizing, and surface treatment shall be in accordance with Sections 75 and 95 of the State Standard Specifications.
 2. Frames and covers shall fit together without rocking.
 3. Fabricator shall supply fastening screws with frames.
 4. Weights: Type "A" grate frame 88 lbs., Grate 86 lbs.,
 5. 1/2" x 5/4" Nelson-Type studs may be used in lieu of 1/2" x 5" x 3" anchors.

COUNTY OF CONTRA COSTA	
PUBLIC WORKS DEPARTMENT	
MARTINEZ, CALIFORNIA	
STANDARD PLAN	
INLET FRAME AND GRATE	
SCALE: NO. SCALE	DATE: 2-02
DRAWN BY: H. HUSSEY	PLAN NO. CD11i
CHECKED BY: M. HOLMSTROM	

NO.	DATE	REVISION DESCRIPTION	BY
2-02		Supersedes Standard Plan CD11 dated 11-99	

PROFESSIONAL ENGINEER
MAURICE M. SHU
 No. 23204
 Exp. 12/31/09
 STATE OF CALIFORNIA
 CIVIL

Maurice M. Shu
 PUBLIC WORKS DIRECTOR
 PLANS APPROVAL DATE: 3/21/08
 The County of Contra Costa or its officers or agents accept the responsibility of electronic copies of this plan sheet.



SECTION OF TYPE "A" OPENING
 ON PRECAST MANHOLE BARREL REFER TO STANDARD PLAN CD30i OR CD32i

SECTION OF TYPE "A" OPENING
 ON MANHOLE BASE REFER TO STANDARD PLAN CD3i

SECTION B-B
 NO SCALE
 GRATE NOT SHOWN

SIDE WEEPHOLE DETAIL
 NO SCALE

SECTION A-A
 NO SCALE

SECTION B-B
 NO SCALE

STEP DETAIL
 NO SCALE

- NOTES:**
- Construction joints are optional where shown, other locations are subject to the approval of the Public Works Department. Key dimensions $\frac{3}{4}$ " X $\frac{1}{2}$ ".
 - When dimension "H" exceeds 6", use a manhole base with a type "A" inlet top.
 - Construction joints shown are permitted when top portion of inlet is to be constructed monolithically with curb and sidewalk, in which case the following shall apply:
 - Concrete above construction joint shall be Class 3 (3005 lbs. PCC per cubic yard).
 - Concrete below construction joint shall be Class 2 (3590 lbs. PCC per cubic yard).
 - Concrete joint shall be located at pavement subgrade.
 - When inlet is constructed as a single unit, all concrete shall be Class 2.
 - Weephole elevation varies depending on the depth of the adjoining pavement section. It shall be at, or slightly below, the pavement section subgrade elevation with a minimum depth of 15" below the curb inlet flowline. The side weephole detail shall be used at all "sump" locations. Edge drains or side weephole detail at other locations may be required as shown on the construction plans or by the Public Works Department. See Standard Plan CD08i for edge drain details. Where the side weephole detail or edge drains are not required, these weepholes shall conform to the front weephole details shown on this plan.
 - See Standard Plan CA70i for weakened plane joint detail.
 - Step shall be steel reinforced polypropylene plastic, Santa Rosa Cast Products Co. Dwg. No. PS2-PF or equivalent. Steps to be cast in place or press fitted into provided holes as per manufacturer. Install steps with lowest rung 12" maximum above the floor and highest rung not more than 6" below top of inlet. The spacing between steps shall not exceed 18" and shall be uniform throughout the length of the wall. Place steps in the wall without an opening. Steps shall not be installed on back wall. No steps required where distance from floor of inlet to top of grate is 4' or less.
 - All inlets shall have an "anti-pollution" plastic marker attached to the inlet as directed by the Inspector or Resident Engineer. The marker shall be applied using the appropriate adhesives. PCC surfaces shall be mechanically cleaned just prior to attaching the marker. The marker and adhesive may be furnished by the Public Works Department, check your permit conditions or contact Special Provisions.

COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
 MARTINEZ, CALIFORNIA
 STANDARD PLAN

TYPE "A" INLET

DATE: 4-08
 DRAWN BY: HUSSEY
 CHECKED BY: M. WELLSWORTH

NO. DATE REVISION DESCRIPTION

2-02	Supersedes Standard Plan CD20 dated 11-99
4-02	Revised Details & Notes
7-02	Concrete Spec. Revision
4-08	Revised Note

DETAIL FOR STEEP CURB SLOPE

When curb grade upstream is 5% or greater, depress upstream edge of grate to 10".

DIMENSION "A" (in)	
UPSTREAM CURB GRADE "A" UPSTREAM	24
27 and less	24
30	36
33	36
36	48
39	48
42	72
45	72
48	84
51	84
54	96
57	96
60 and greater	120

PLAN
 NO SCALE
 GRATE NOT SHOWN

See "DETAIL FOR STEEP CURB SLOPE"

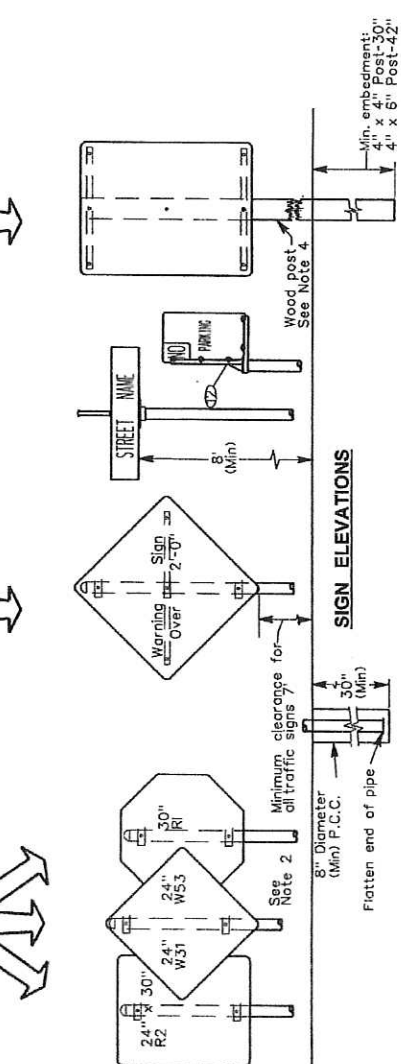
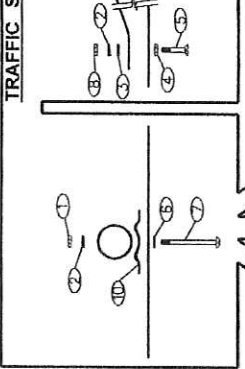
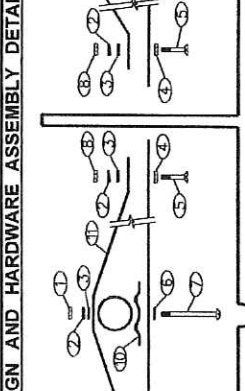
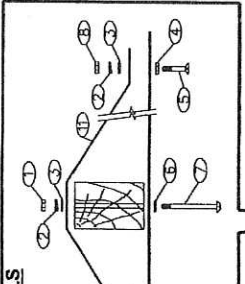
RECORDS ENGINEER
 MAURICE M. SHU
 No. 23204
 Exp. 12/31/07
 CIVIL
 STATE OF CALIFORNIA

PUBLIC WORKS DIRECTOR
 6/13/87
 PLANS APPROVAL DATE

The County of Contra Costa or its officers or agents shall not be responsible for the accuracy or completeness of electronic copies of this plan sheet.

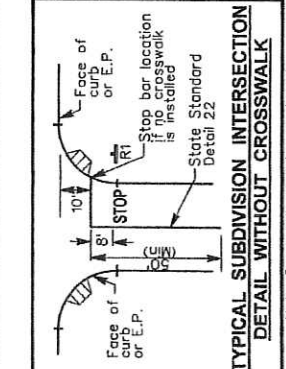
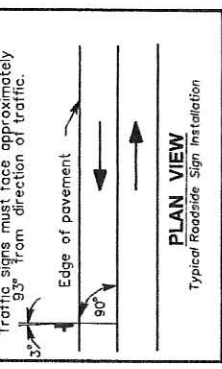
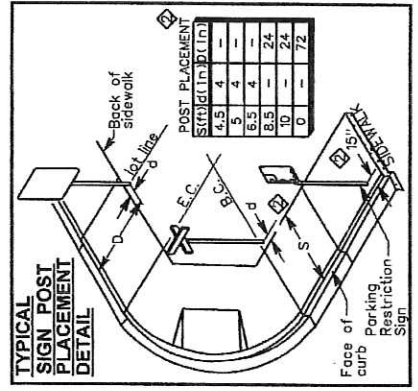
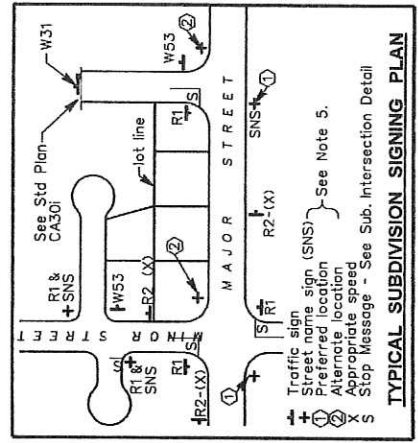
HARDWARE SCHEDULE

7" nut (galv.)
Lock washer (galv.)
Flat washer (galv.)
Finishing washer (nickle plated)
1/4" x 1" brass flathead bolt
Fiber washer
2" x 3/2" button head bolt (galv.)
1/4" brass nut
2" x 5/2" button head bolt (galv.)
Standard sign saddle (galv.)
Standard sign back brace (galv.)
Standard cast aluminum "L" bracket



NOTES:

- Street name and traffic signs shall conform to the current Contra Costa County Ordinance Specifications.
- All sign support posts shall be 2 3/4" O.D. galvanized iron pipe except where otherwise noted. (Unistrut or "Ulti-mate" square sign post systems approved for highway sign use by the FHWA are an acceptable substitution.)
- Posts supporting street name signs and traffic signs, shall not be painted.
- Wood posts shall be used in rural locations only and shall conform to Section 56 of current State Standard Specifications for grade, pipe and preservative treatment.
 - Use 4" x 6" wood post with size R7 sign.
 - Use 4" x 6" wood post with only W53 or 42" R2 sign. A hole must be drilled at the base in accordance with State Standard Plan RS2 "Breakaway Feature".
- Street name signs shall be installed on the corner with the greatest sight distance and which favors the major street.
- One street name sign assembly shall be installed at the intersection of County-maintained roads with two or more lanes in each direction.
- Where sign posts are to be installed within an existing sidewalk, the sidewalk shall be sawcut to a neat appearance when finished to surrounding grade.
- Where conditions permit, street name signs (SNS) may be installed on the same sign post with a STOP (R1) sign.
- Pavement markings shall be thermoplastic and shall conform to the current State Standard Specifications.
- For G7 sign use 6" U.C. and 4 1/2 inch L.C. lettering.
- The first 3' of all island noses shall be painted with reflective white paint.
- Striping details and markings shall conform to the current State Standard Plans.
- Carriage bolts shall be peened after assembly.



COUNTY OF CONTRA COSTA
PUBLIC WORKS DEPARTMENT
 MARTINEZ, CALIFORNIA
 STANDARD PLAN

SIGNING & STRIPING STANDARDS

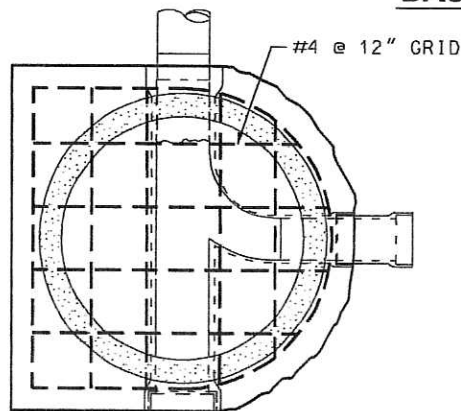
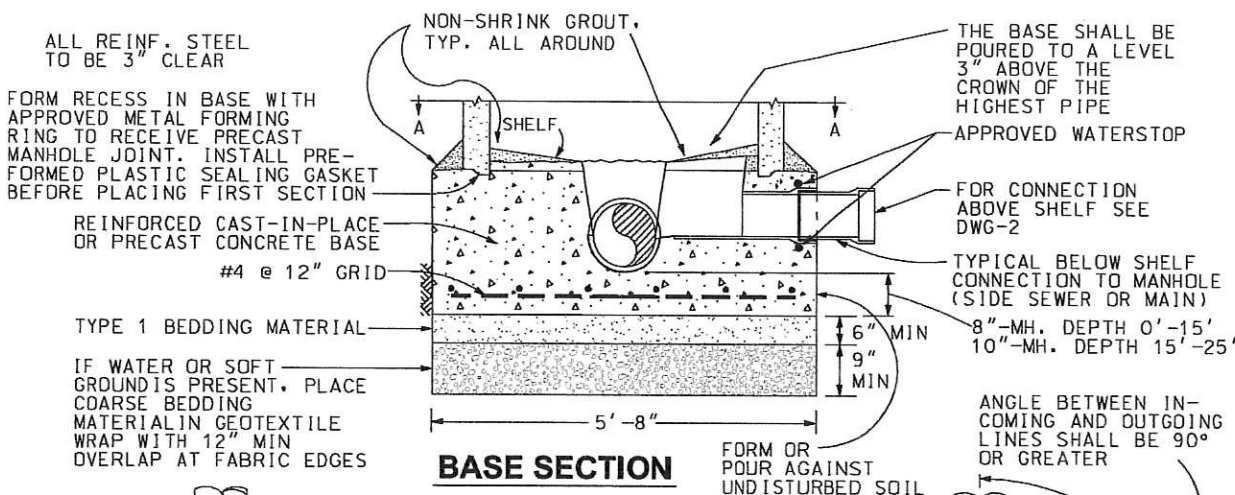
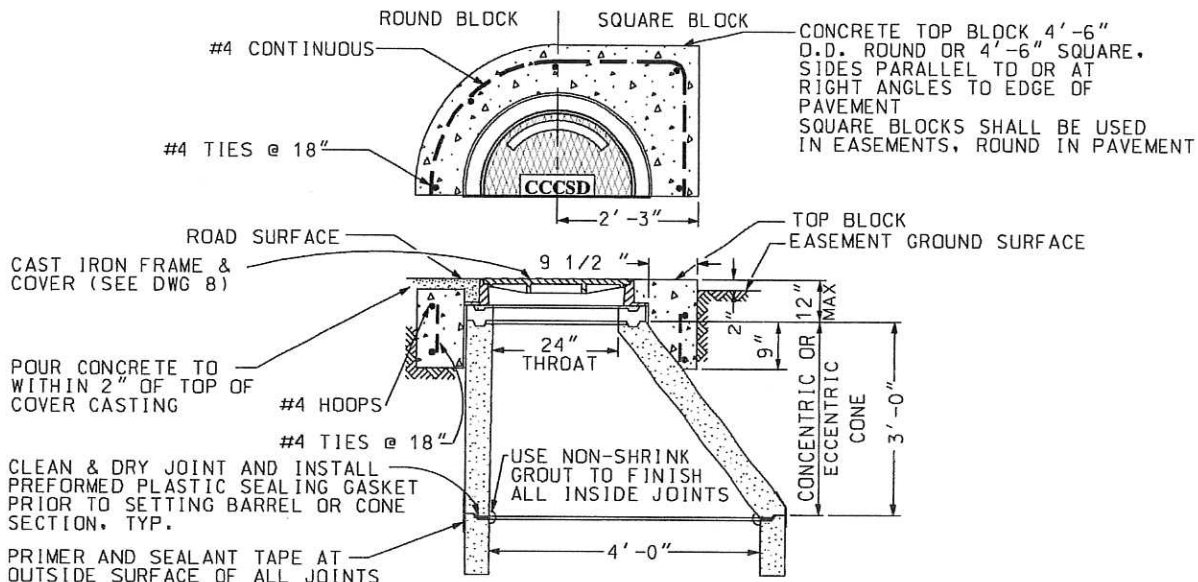
SCALE: NO. SCALE
 DRAWN BY: H. HUSSEY
 CHECKED BY: L. BURKS

DATE: 4-07
 PLAN NO. **CRS1i**

NO.	DATE	REVISION DESCRIPTION	BY
2-02	Supersedes Standard Plan CRS1 dated 11-99		P.W.
4-07	Sign Post Placement Revisions		MH

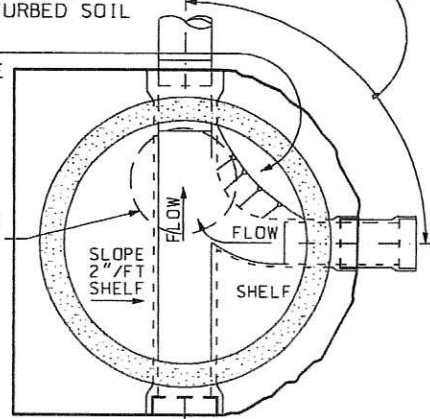
CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

STANDARD MAIN MANHOLE



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

TYPICAL ECCENTRIC CONE ORIENTATION

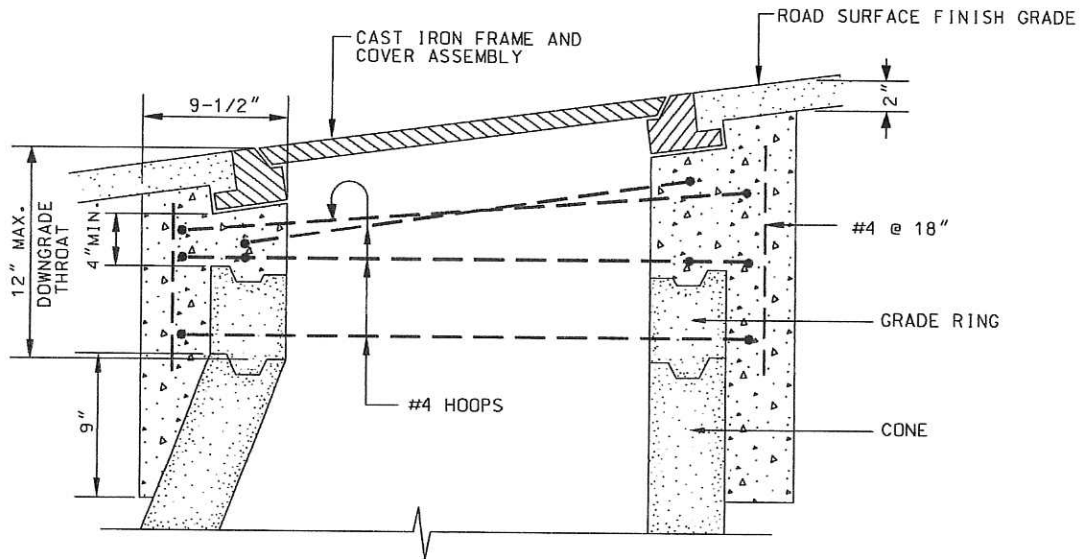


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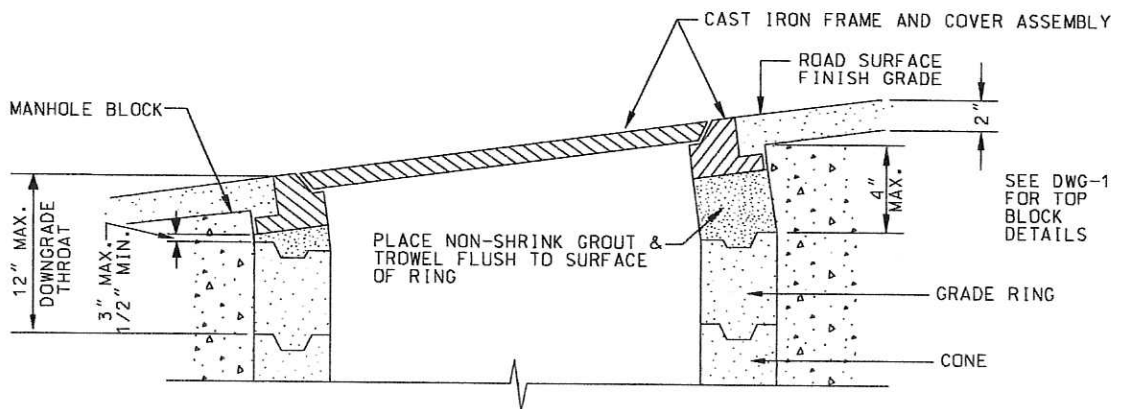
CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

MANHOLE and RODDING INLET ADJUSTMENT TO FINISH GRADE

PAVED AREAS



GREATER THAN 13% GRADE



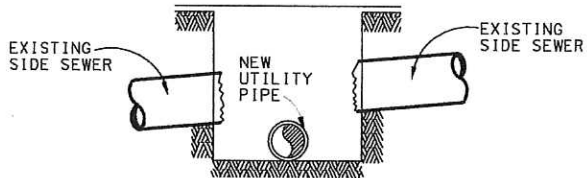
13% GRADE OR LESS

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CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

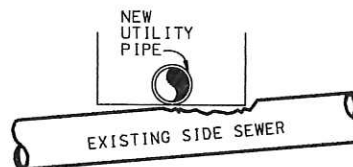
SIDE SEWER REPAIRS

SIMPLE SIDE SEWER BREAK NO CONFLICT IN GRADE



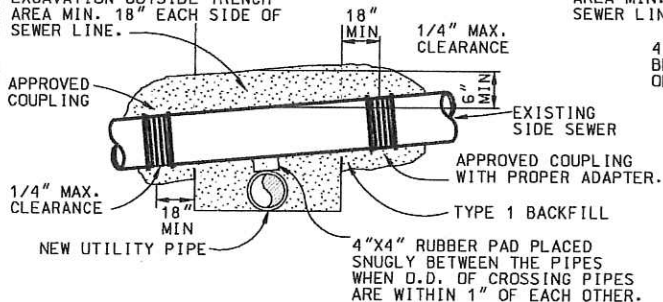
BREAK

SIMPLE SIDE SEWER BREAK NO CONFLICT IN GRADE



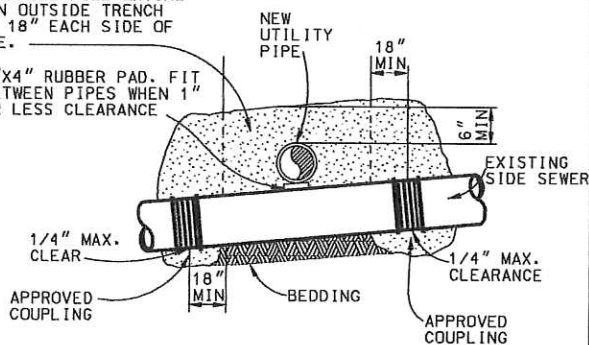
BREAK

TYPE 1 BACKFILL FILL ENTIRE EXCAVATION OUTSIDE TRENCH AREA MIN. 18" EACH SIDE OF SEWER LINE.



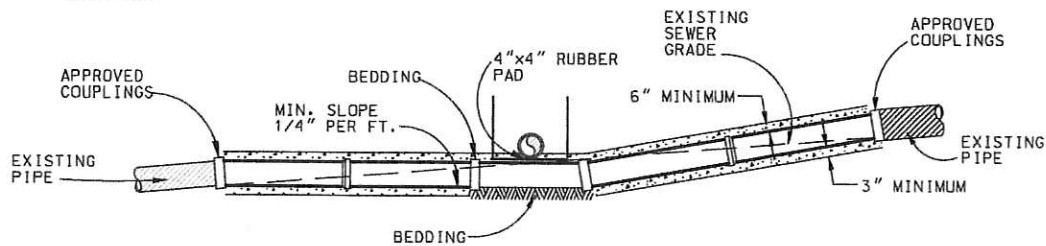
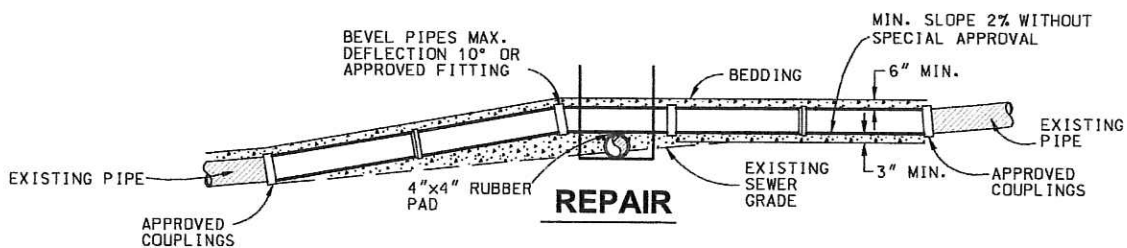
REPAIR

TYPE 1 BACKFILL FILL ENTIRE EXCAVATION OUTSIDE TRENCH AREA MIN. 18" EACH SIDE OF SEWER LINE.



REPAIR

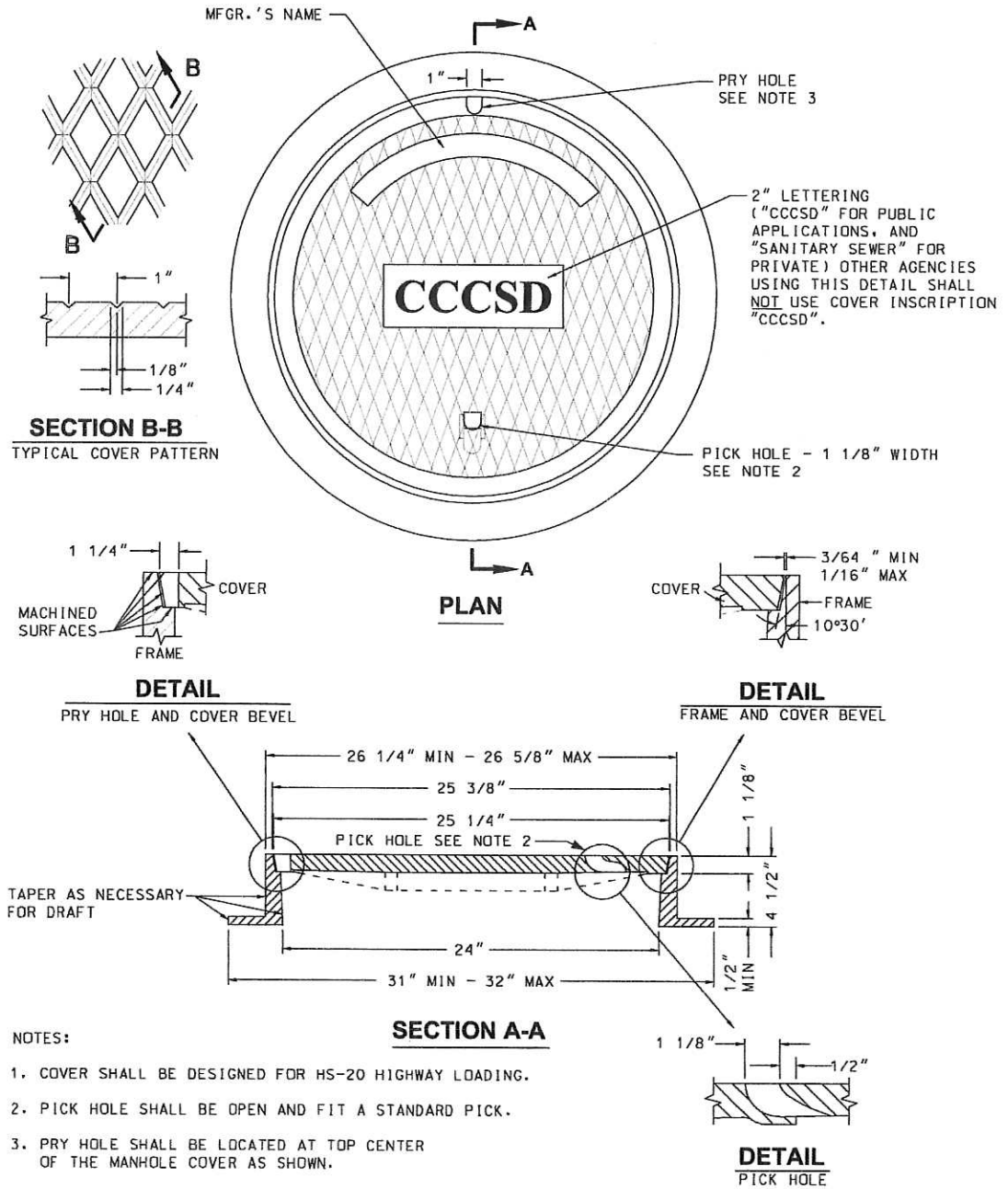
SIMPLE SIDE SEWER WITH CONFLICT IN GRADE



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CENTRAL CONTRA COSTA SANITARY DISTRICT MARTINEZ, CALIFORNIA

STANDARD MANHOLE FRAME & COVER



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