

DEPARTMENT OF PUBLIC WORKS & FACILITIES

MINOR LAND DIVISION

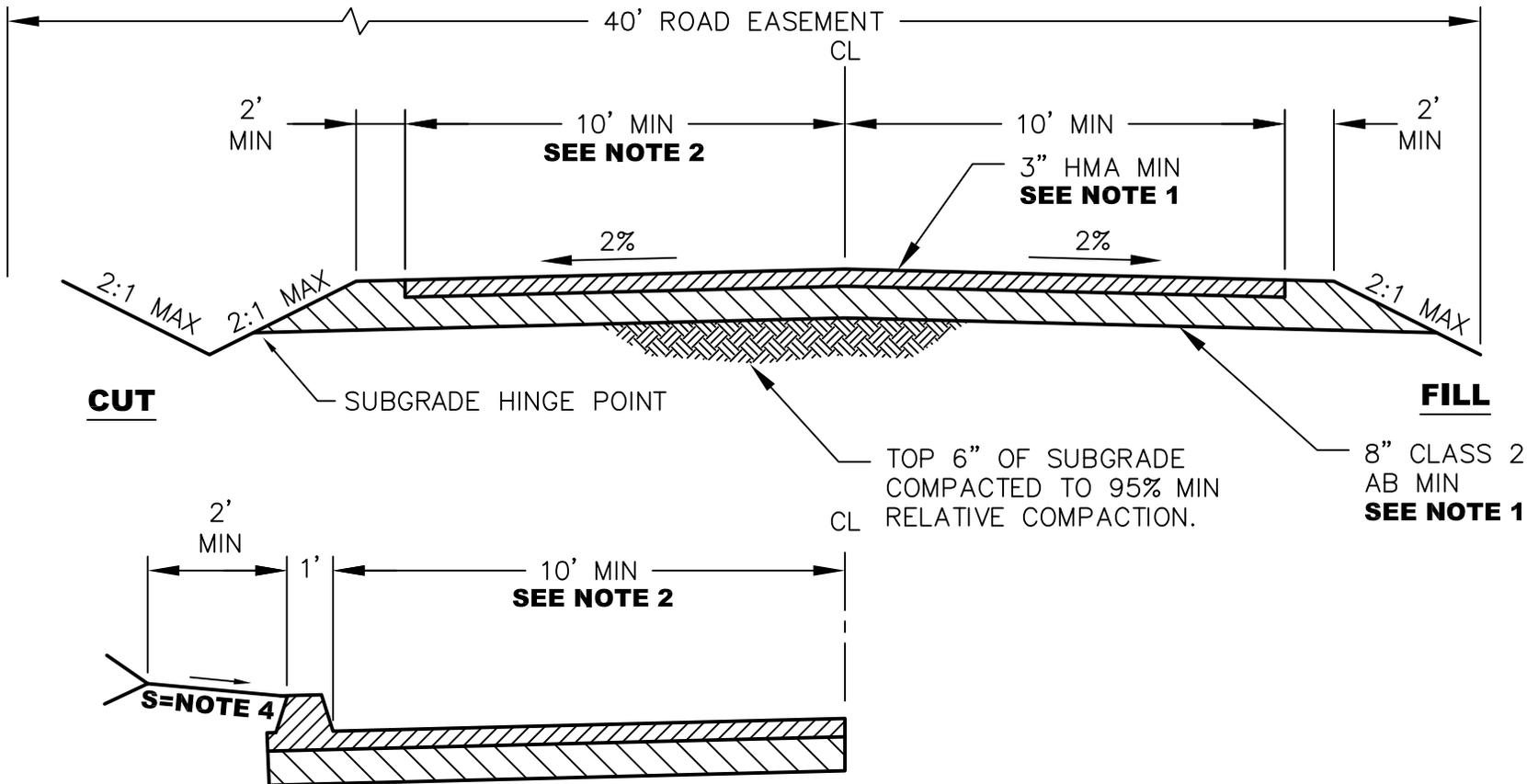
ROAD STANDARD

COUNTY OF PLACER

DATE: APR. 2018
SCALE: NOT TO SCALE



PLATE
100



ALTERNATE CUT SECTION

NOTES:

1. SURFACING SHALL BE IN ACCORDANCE WITH SECTION 4.07(1)(a) OF THE LDM.
2. ADDITIONAL PAVED WIDTH MAY BE REQUIRED BY LOCAL FIRE DISTRICT RULES.
3. THE DITCH MAY BE REQUIRED TO BE LARGER DEPENDING ON THE DRAINAGE TO BE CONVEYED. CONVEYANCE CALCULATIONS MAY BE NECESSARY.
4. S=10% MINIMUM SLOPE FOR DIKE BACKFILL. FOR ROADS WITH LONGITUDINAL CENTERLINE SLOPES GREATER THAN 8%, USE 18% MINIMUM AND 22% MAXIMUM DIKE BACKFILL SLOPE.
5. HMA MIX SHALL BE PER APPROVED PLANS, ENCROACHMENT PERMIT, OR AS APPROVED BY ENGINEER.
6. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.
7. ADDITIONAL EASEMENTS MAY BE REQUIRED AS NECESSARY TO PROVIDE FOR DRAINAGE, CUT/FILL SLOPES, UTILITIES, ETC.



DEPARTMENT OF PUBLIC WORKS & FACILITIES

MINOR LAND DIVISION

TURNAROUNDS

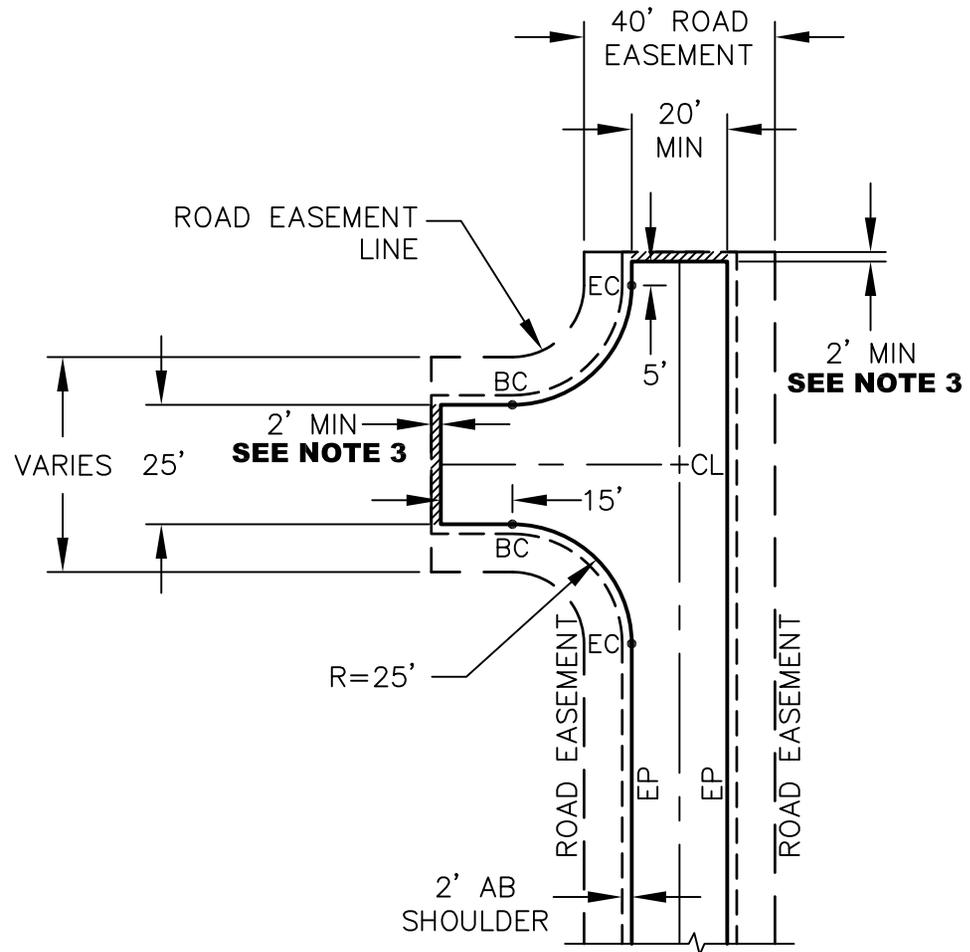
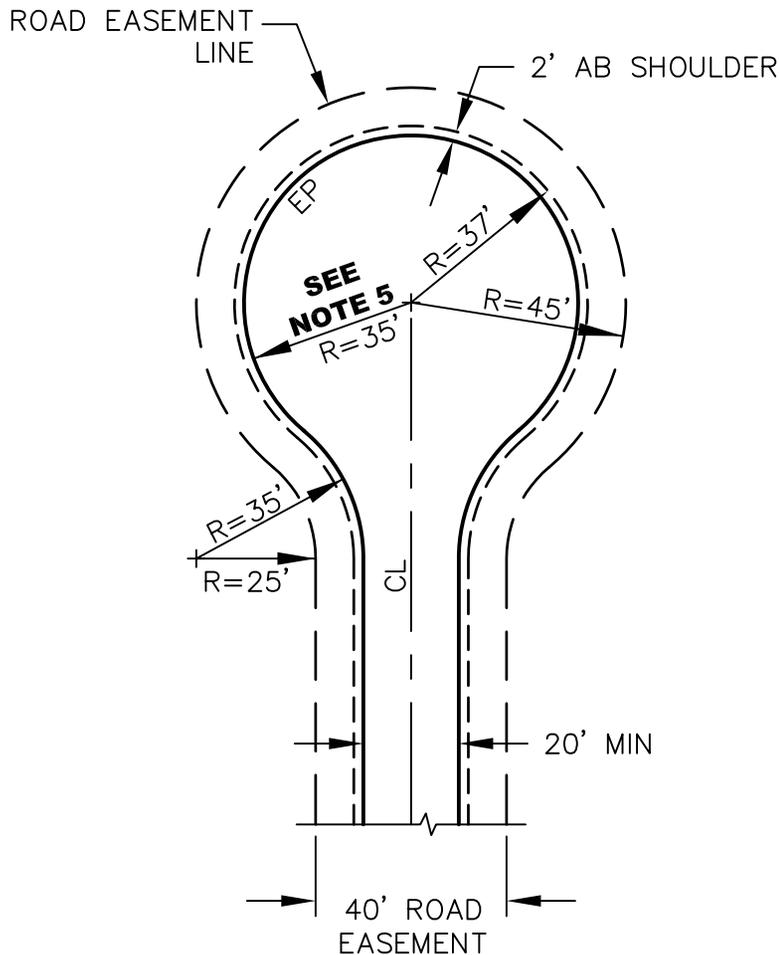
COUNTY OF PLACER

REVISED:
APR. 2018

SCALE:
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PLATE
101



NOTES:

1. CUL-DE-SAC AND HAMMERHEAD TO BE SIGNED "NO PARKING".
2. SLOPE EASEMENTS WILL BE REQUIRED WHEN NECESSARY.
3. PROVIDE A 2' MINIMUM OVERHANG AREA WHEN IN CUT.
4. UTILITY TURNAROUNDS MAY NEED TO BE LARGER. SEE UTILITY PLATES 426 AND 427.
5. RADIUS IS TO BE MEASURED TO FACE OF AC DIKE, IF PRESENT.
6. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.

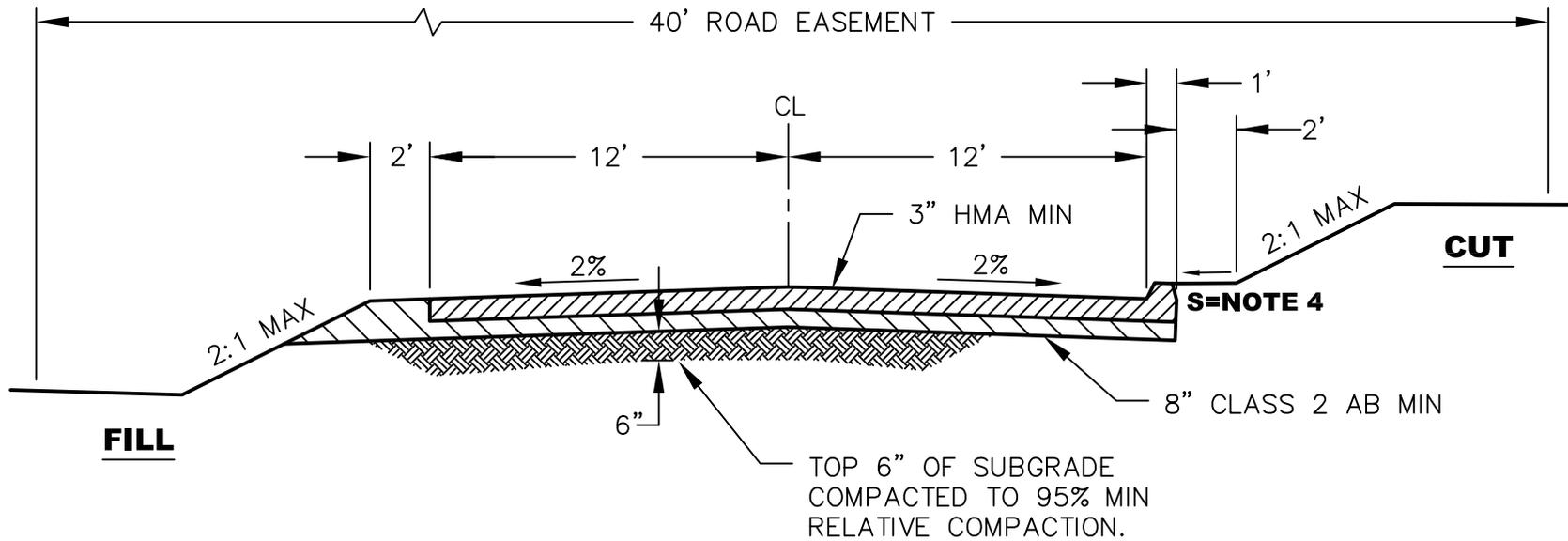


DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

RURAL MINOR RESIDENTIAL

NO PARKING



ALLOWABLE USE

- A. THIS STANDARD APPLIES WHERE RESIDENTIAL LOTS ARE 40,000 SQUARE FEET AND GREATER.
- B. NO PARKING – STREETS TO BE SIGNED AS DIRECTED BY ENGINEER.
- C. THIS STANDARD APPLIES WHERE THERE ARE LESS THAN 50 UNITS ON A CUL-DE-SAC OR 75 UNITS ON A THROUGH ROAD, AND BUILDING SETBACKS ARE A MINIMUM OF 40' FROM THE R/W LINE. WHEN BUILDING SETBACKS ARE LESS THAN 40' FROM THE R/W LINE, THIS STANDARD APPLIES WHERE THERE ARE LESS THAN 25 UNITS ON A CUL-DE-SAC OR 50 UNITS ON A THROUGH ROAD.

NOTES:

- 1. A MULTI-PURPOSE TRAIL, PATHWAY, OR SIDEWALK MAY BE REQUIRED IN ADDITION TO THE IMPROVEMENTS SHOWN ABOVE.
- 2. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.
- 3. ADDITIONAL EASEMENTS MAY BE REQUIRED AS NECESSARY TO PROVIDE FOR DRAINAGE, CUT/FILL SLOPES, UTILITIES, ETC.
- 4. S=10% MINIMUM SLOPE FOR DIKE BACKFILL. FOR ROADS WITH LONGITUDINAL CENTERLINE SLOPES GREATER THAN 8%, USE 18% MINIMUM AND 22% MAXIMUM DIKE BACKFILL SLOPE.
- 5. ACTUAL ROADWAY STRUCTURAL SECTION MAY BE GREATER THAN INDICATED BASED ON PROJECT APPROVALS.
- 6. HMA MIX SHALL BE PER APPROVED PLANS, ENCROACHMENT PERMIT, OR AS APPROVED BY ENGINEER.

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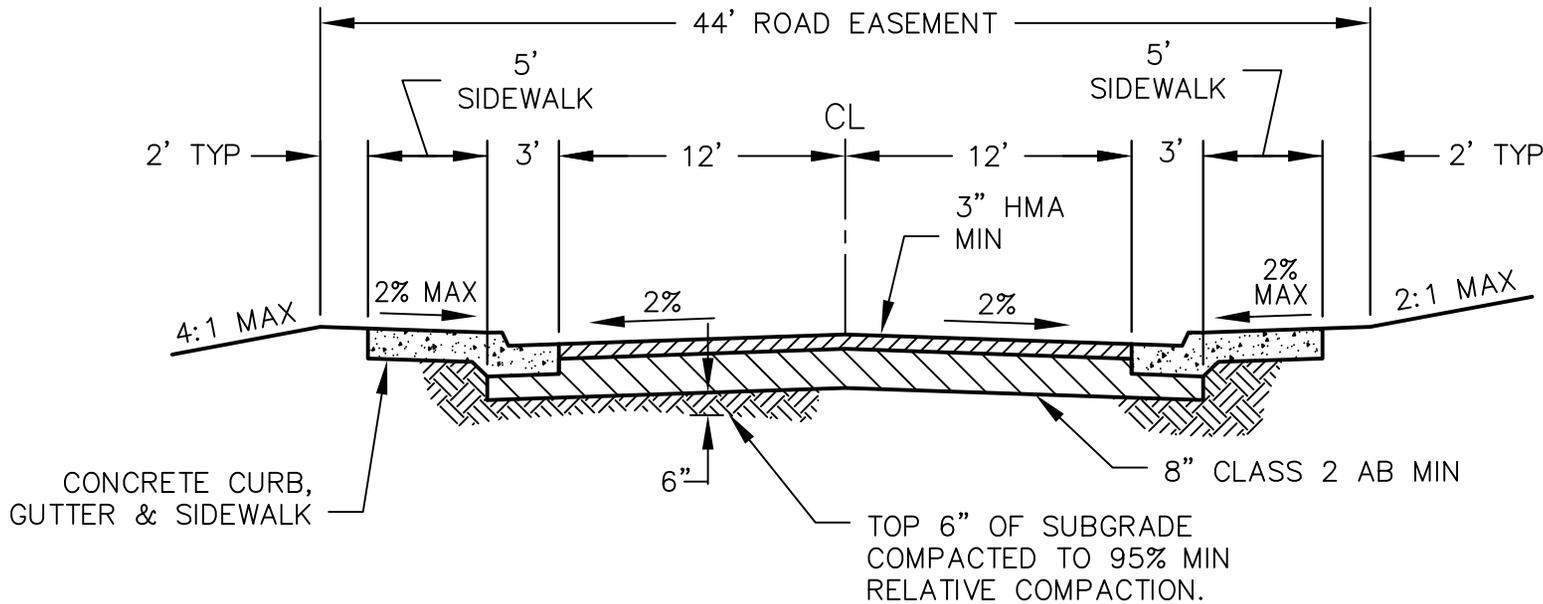
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PLATE
102



URBAN MINOR



ALLOWABLE USE

- LESS THAN 50 UNITS ON A CUL-DE-SAC OR LESS THAN 75 UNITS ON A THROUGH STREET, UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- NO PARKING PERMITTED. FOR PARKING ON ONE SIDE ONLY, ADD 5' PAVEMENT TO PARALLEL PARKING SIDE (11' TRAVEL LANE PLUS 8.5' TO FACE OF CURB).
- SIDEWALKS BOTH SIDES - LOTS 1/2 ACRE OR SMALLER OR ROADS THAT ARE EXISTING OR FUTURE COLLECTORS.
- SIDEWALKS ONE SIDE - LOTS GREATER THAN 1/2 ACRE TO 40,000 SQUARE FEET.
- ALL SIDEWALKS SHALL MEET TITLE 24 ACCESSIBILITY.

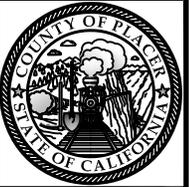
NOTES:

- ACTUAL ROADWAY STRUCTURAL SECTION MAY BE GREATER THAN INDICATED BASED ON PROJECT APPROVALS.
- HMA MIX SHALL BE PER APPROVED PLANS, ENCROACHMENT PERMIT, OR AS APPROVED BY ENGINEER.
- A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.
- ADDITIONAL EASEMENTS MAY BE REQUIRED AS NECESSARY TO PROVIDE FOR DRAINAGE, CUT/FILL SLOPES, UTILITIES, ETC.

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APR. 2018

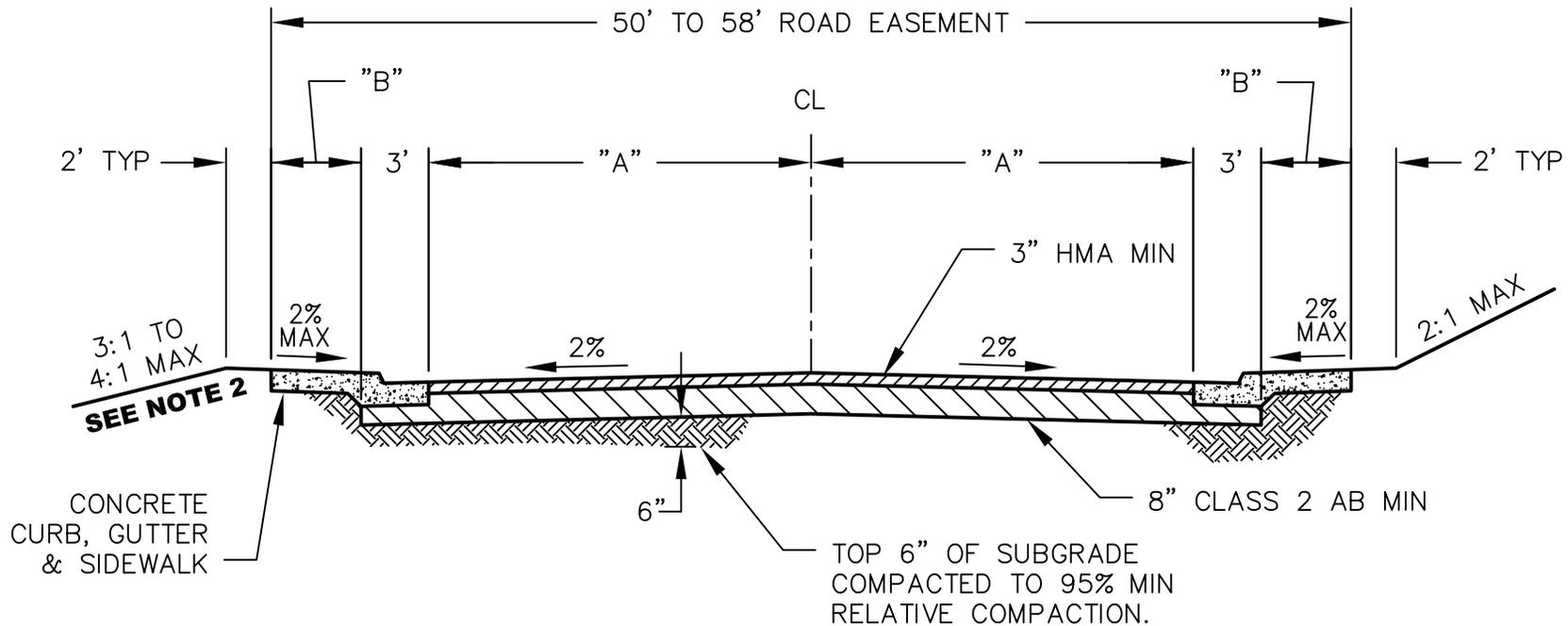
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URBAN SECONDARY

RESIDENTIAL/COMMERCIAL-INDUSTRIAL



ALLOWABLE USE

RESIDENTIAL- 75 OR MORE UNITS SERVED:

- A. TRAVELED WAY 17 FT. MIN (11' TRAFFIC LANE + 6' TO LIP OF GUTTER).
- B. 5 FT. SIDEWALKS BOTH SIDES – LOTS 1/2 ACRE AND SMALLER OR ROADS THAT ARE EXISTING OR FUTURE COLLECTORS/ ARTERIAL; 5 FT. SIDEWALKS ONE SIDE – LOTS GREATER THAN 1/2 ACRE TO 40,000 SQUARE FEET.
- C. PARKING PERMITTED

COMMERCIAL - INDUSTRIAL:

- A. TRAVELED WAY 20 FT. (12' TRAFFIC LANE + 8' PAVED SHOULDER).
- B. 6 FT. SIDEWALKS BOTH SIDES (IF REQUIRED BY COMMUNITY PLAN OR HIGHWAY DEFICIENCY MANUAL).

NOTES:

1. ACTUAL ROADWAY STRUCTURAL SECTION MAY BE GREATER THAN INDICATED BASED ON PROJECT APPROVALS.
2. 3:1 TO 4:1 SLOPE MAY BE REQUIRED BASED ON DESIGN SPEED AND SLOPE HEIGHT.
3. HMA MIX SHALL BE PER APPROVED PLANS, ENCROACHMENT PERMIT, OR AS APPROVED BY ENGINEER.
4. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.
5. ADDITIONAL EASEMENTS MAY BE REQUIRED AS NECESSARY TO PROVIDE FOR DRAINAGE, CUT/FILL SLOPES, UTILITIES, ETC.
6. ALL SIDEWALKS SHALL MEET TITLE 24 ACCESSIBILITY.
7. FOR BIKE LANE, ADD 5' ADDITIONAL PAVEMENT WIDTH BETWEEN TRAVEL LANE AND PARALLEL PARKING AREA.

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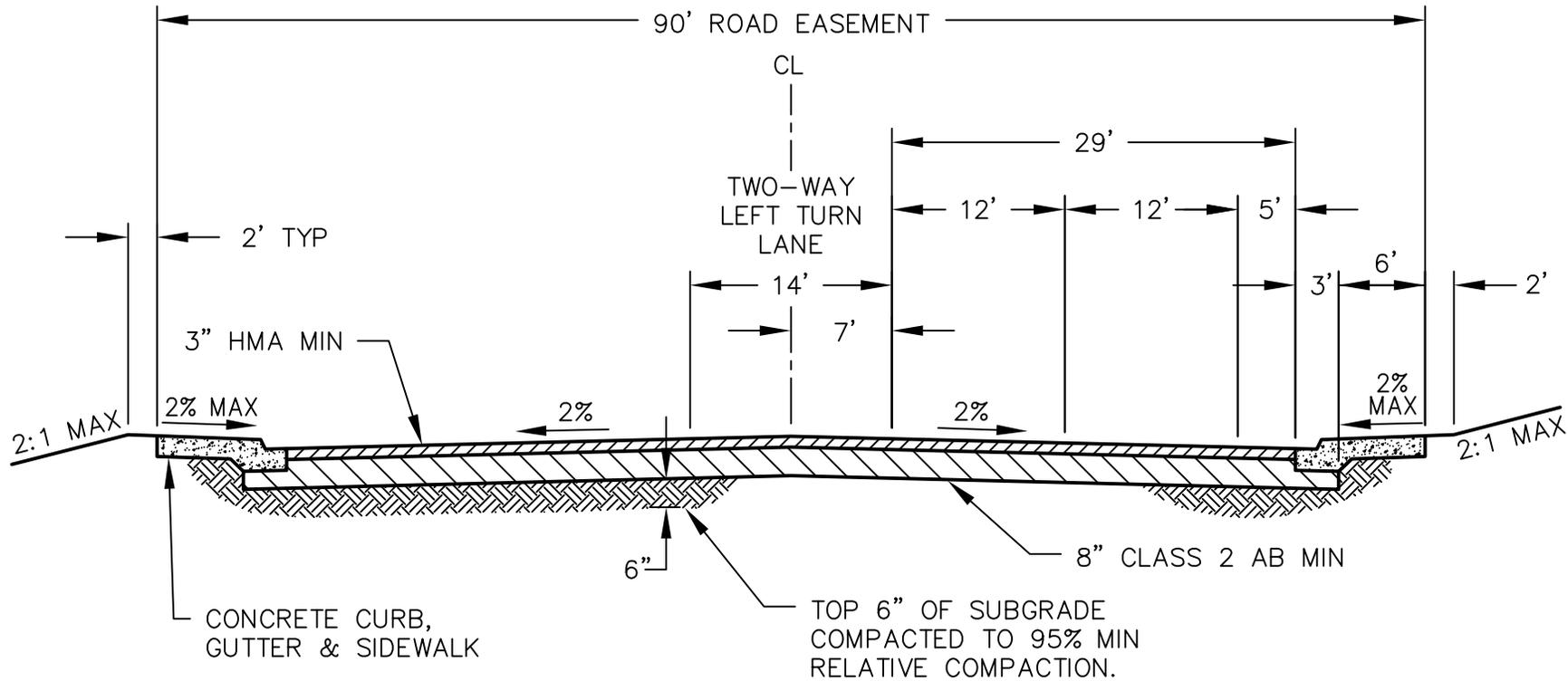


PLATE
105



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

URBAN PRIMARY



ALLOWABLE USE

- A. THIS STANDARD IS APPLICABLE AS PER APPROPRIATE COMMUNITY PLAN OR AS DETERMINED BY THE DEPARTMENT OF PUBLIC WORKS.
- B. 6 FT. SIDEWALKS REQUIRED.
- C. NO PARKING.

NOTES:

- 1. ACTUAL ROADWAY STRUCTURAL SECTION MAY BE GREATER THAN INDICATED BASED ON PROJECT APPROVALS.
- 2. HMA MIX SHALL BE PER APPROVED PLANS, ENCROACHMENT PERMIT, OR AS APPROVED BY ENGINEER.
- 3. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.
- 4. ADDITIONAL EASEMENTS MAY BE REQUIRED AS NECESSARY TO PROVIDE FOR DRAINAGE, CUT/FILL SLOPES, UTILITIES, ETC.
- 5. ALL SIDEWALKS SHALL MEET TITLE 24 ACCESSIBILITY.

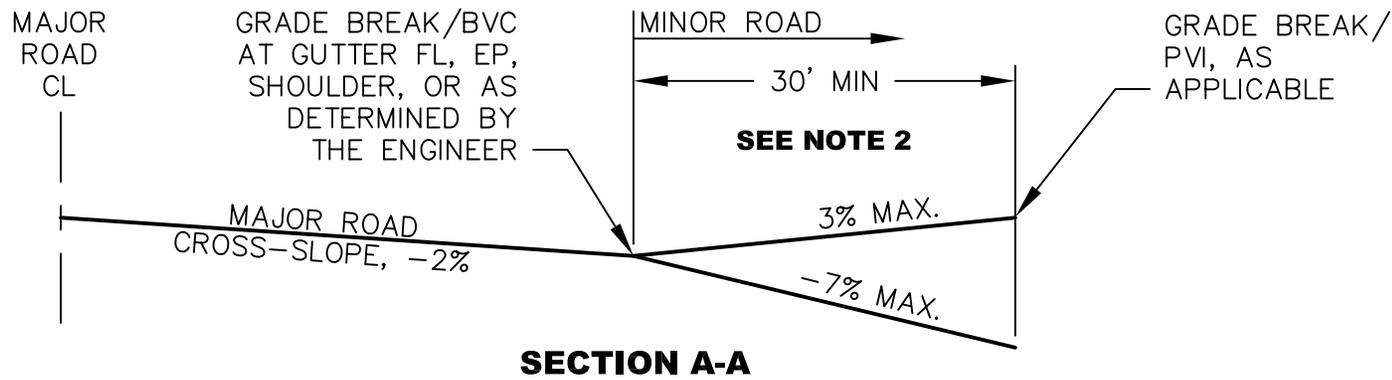
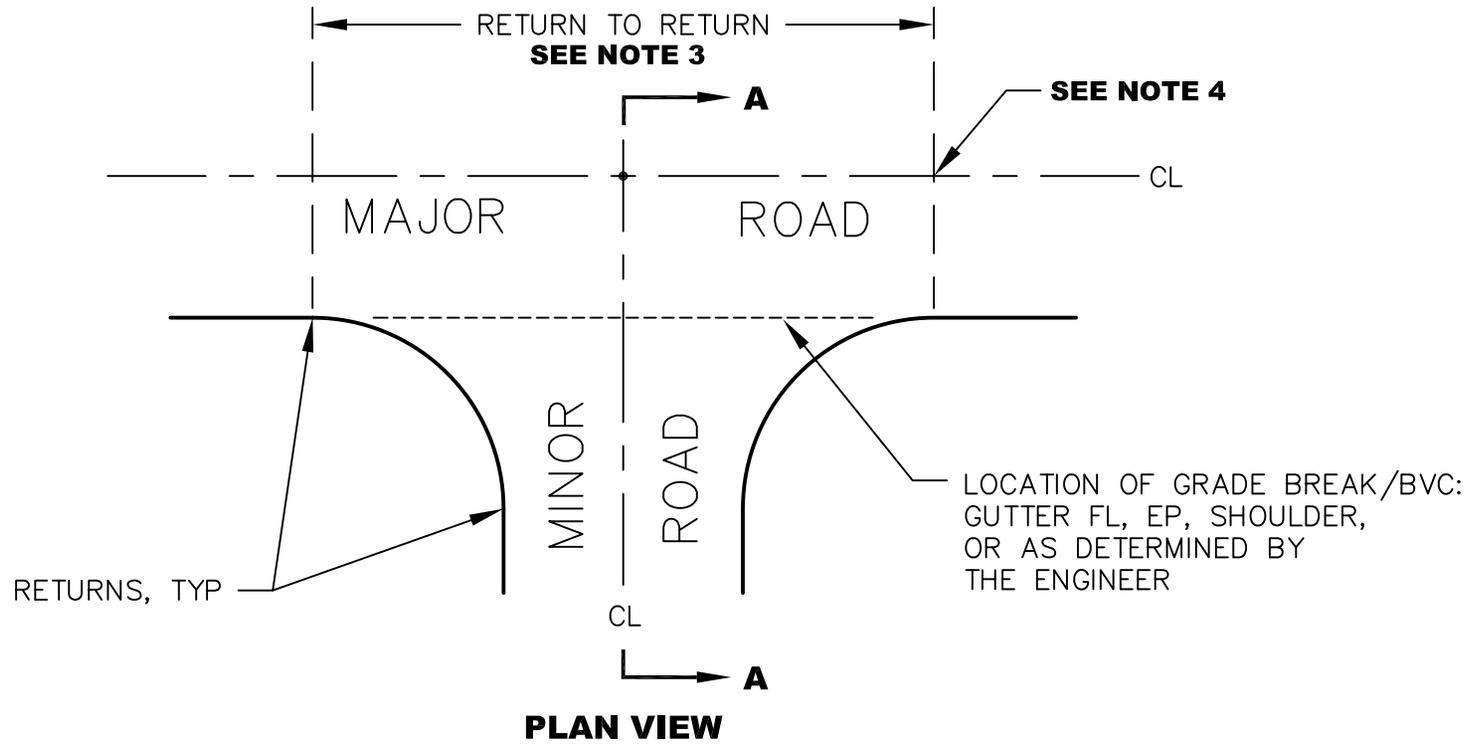
DATE: APR. 2018
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PLATE
106



ROAD INTERSECTION PROFILES



- NOTES:**
1. GRADE BREAK LOCATION SHALL BE OUTSIDE OF TRAVELED WAY OF MAJOR ROADS.
 2. ADDITIONAL GRADE BREAKS ALLOWED WITHIN 30' IF EQUIVALENT TO A 30' VERTICAL CURVE, OR GREATER.
 3. LONGITUDINAL SLOPE THROUGH INTERSECTION ON MAJOR ROAD SHALL NOT EXCEED 6% PER LDM SECTION 4.05(1)(a)(6).
 4. SEE LDM SECTION 4.05(1)(a) REGARDING VERTICAL ALIGNMENT AND SECTION 4.05(1)(c)(1) REGARDING VERTICAL CURVE AND GRADE BREAK REQUIREMENTS.
 5. EXCEPTIONS TO SLOPE APPLY WHEN INTERSECTION IS LOCATED AT SUPERELEVATED SECTION OF MAJOR ROAD, OR AS OTHERWISE APPROVED BY THE ENGINEER.

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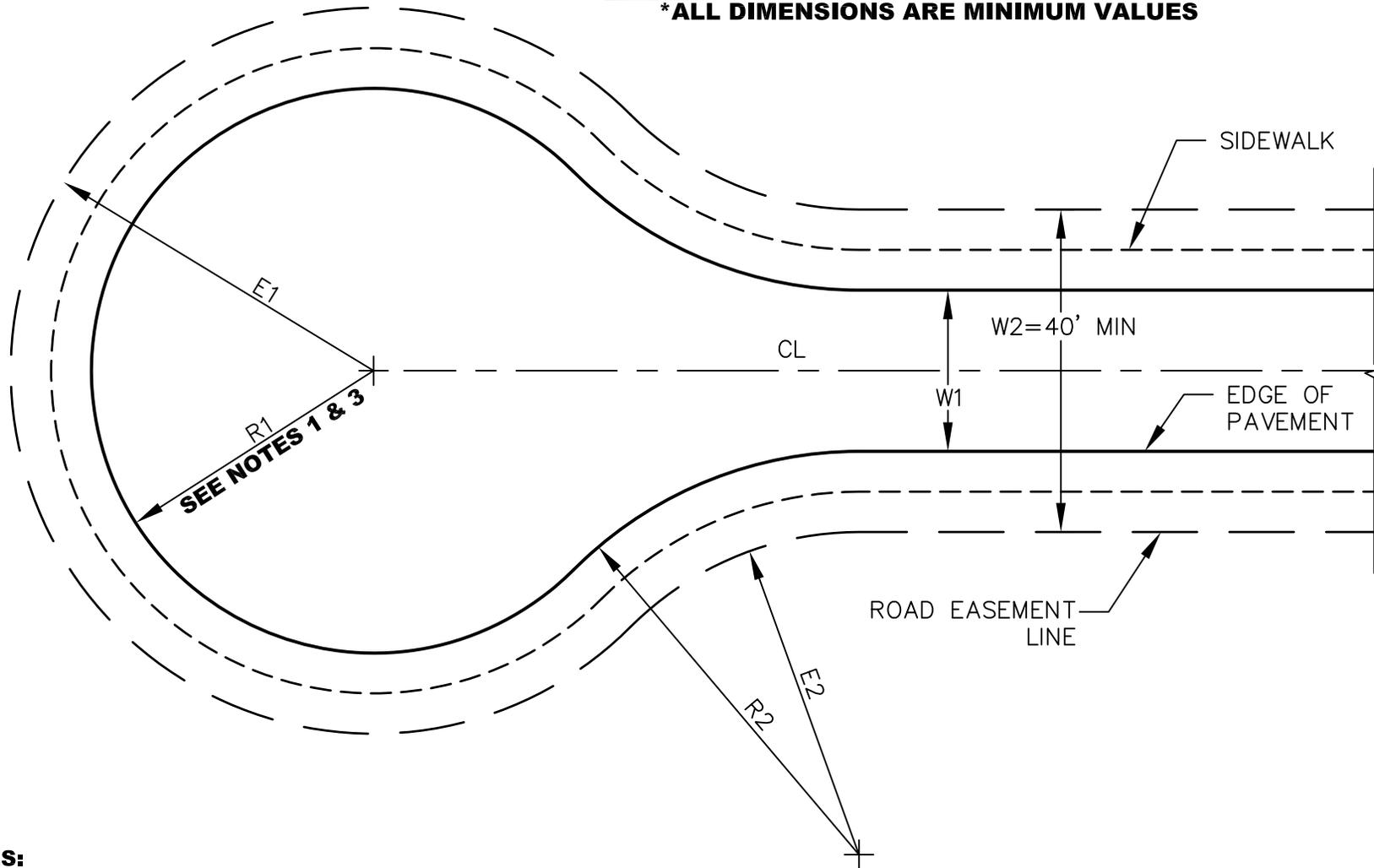


COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

CUL-DE-SAC

ROAD SECTION DESIGN PLATE	102	103	104	105 RES.	105 COM.	106
PAVEMENT WIDTH, W1	24'	32'	24'	34'	40'	72'
EASEMENT WIDTH, W2	40'	40'	44'	50'	58'	90'
PAVEMENT RADIUS, R1	35'	35'	35'	35'	42'	42'
EASEMENT RADIUS, E1	43'	39'	45'	43'	51'	51'
PAVEMENT RETURN, R2	35'	35'	35'	35'	42'	42'
EASEMENT RETURN, E2	27'	31'	25'	27'	33'	33'

***ALL DIMENSIONS ARE MINIMUM VALUES**



NOTES:

1. COMMERCIAL AND INDUSTRIAL ROADWAYS REQUIRE A 42' MIN. RADIUS TO EDGE OF PAVEMENT.
2. FINISHED GRADE FLOWLINE SPOT ELEVATIONS SHALL BE SHOWN ON PLANS AT ALL EC'S, BC'S, PRC'S, ANGLE POINTS AND 1/4 DELTAS AROUND CUL-DE-SACS, OR AS DIRECTED BY THE ENGINEER.
3. 35' RADIUS IS TO BE MEASURED TO FACE OF AC DIKE, IF PRESENT. IF NO CURB & GUTTER, PAVE 37'-6" MIN.
4. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.

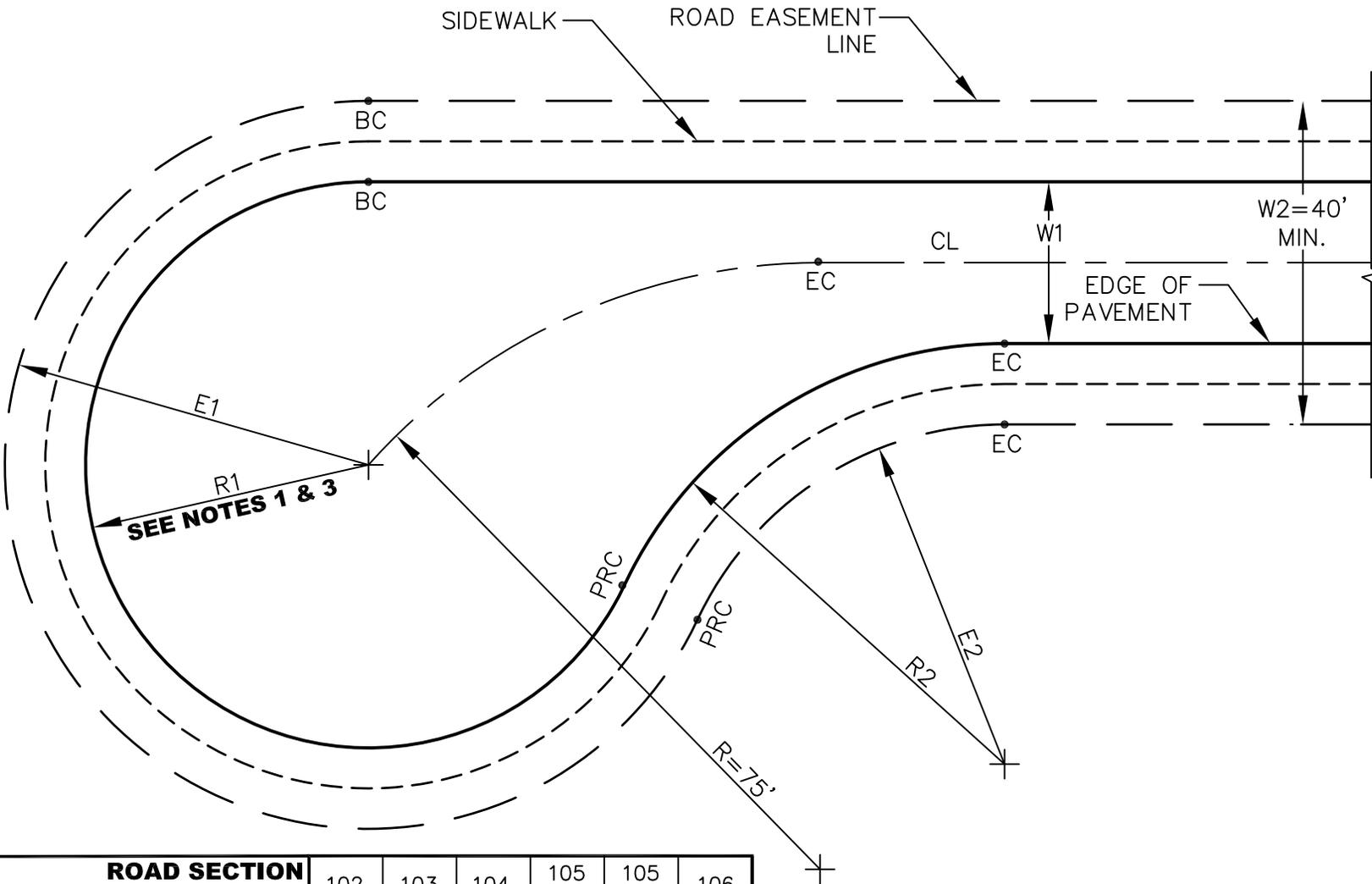
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PLATE
108



OFFSET CUL-DE-SAC



ROAD SECTION DESIGN PLATE	102	103	104	105 RES.	105 COM.	106
PAVEMENT WIDTH, $W1$	24'	32'	24'	34'	40'	72'
EASEMENT WIDTH, $W2$	40'	40'	44'	50'	58'	90'
PAVEMENT RADIUS, $R1$	35'	35'	35'	35'	42'	42'
EASEMENT RADIUS, $E1$	43'	39'	45'	43'	51'	51'
PAVEMENT RETURN, $R2$	35'	35'	35'	35'	42'	42'
EASEMENT RETURN, $E2$	27'	31'	25'	27'	33'	33'

***ALL DIMENSIONS ARE MINIMUM VALUES**

NOTES:

1. COMMERCIAL AND INDUSTRIAL ROADWAYS REQUIRE A 42' MIN RADIUS TO EDGE OF PAVEMENT.
2. FINISHED GRADE FLOWLINE SPOT ELEVATIONS SHALL BE SHOWN ON PLANS AT ALL EC'S, BC'S, PRC'S, ANGLE POINTS AND 1/4 DELTAS AROUND CUL-DE-SACS, OR AS DIRECTED BY THE ENGINEER.
3. 35' RADIUS IS TO BE MEASURED TO FACE OF AC DIKE, IF PRESENT. IF NO CURB & GUTTER, PAVE 37'-6" MIN.
4. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.

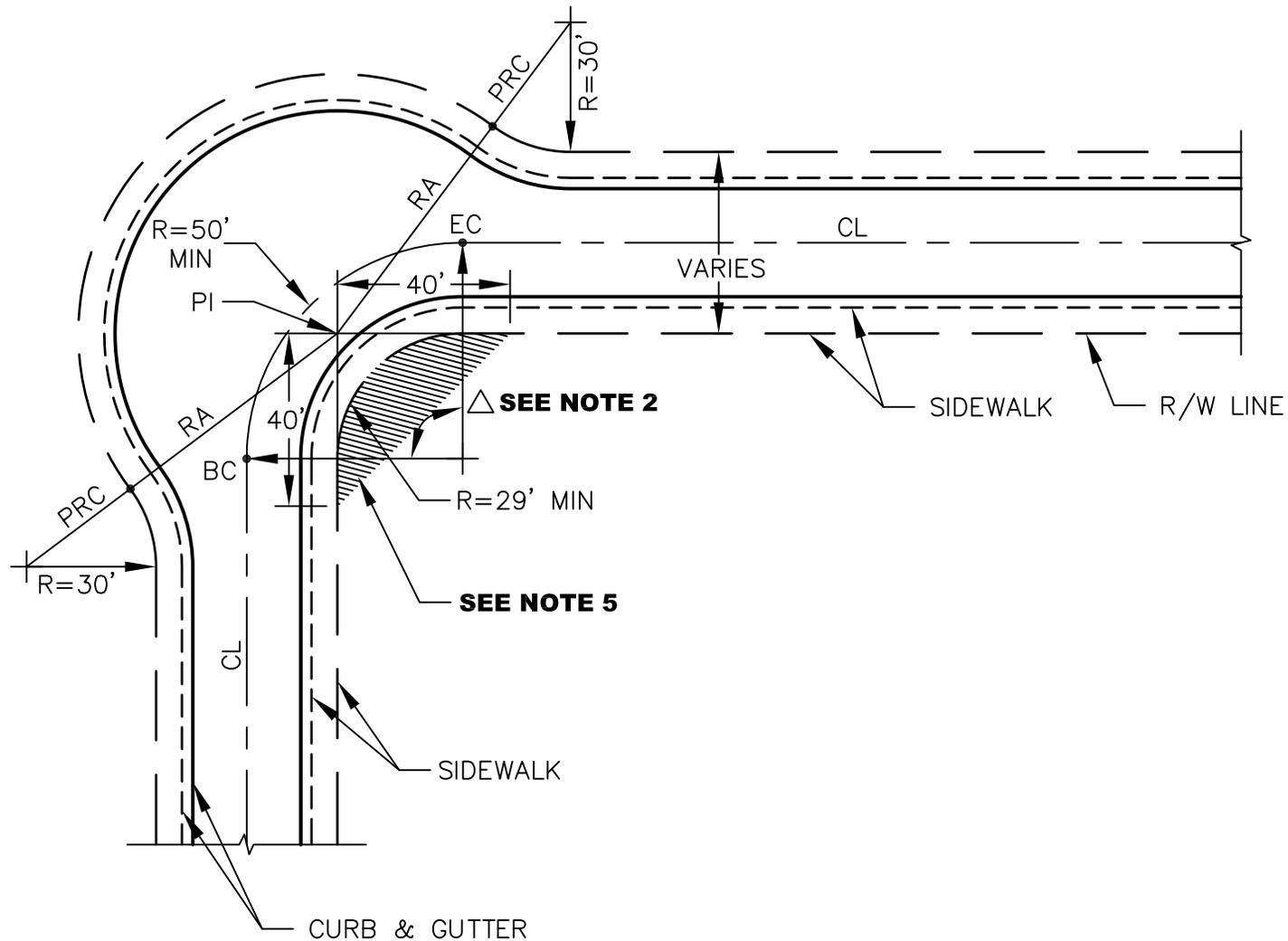
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COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

90° INTERSECTION ELBOW



NOTES:

1. INTERSECTION BULBS ARE NOT REQUIRED ON STREETS WITH A CENTERLINE RADIUS OF 200 FT. OR MORE.
2. ALL RADII SHOWN PERTAIN TO R/W LINES EXCEPT THE MINIMUM CENTERLINE RADIUS OF 50 FT. $\Delta=90^{\circ}\pm 10^{\circ}$.
3. RA=60 FT.
4. A MINIMUM CENTERLINE RADIUS OF 50 FT. IS REQUIRED. THE CENTERLINE PROFILE SHALL FOLLOW THE CURVILINEAR ALIGNMENT.
5. SIGHT DISTANCE SHALL BE MAINTAINED IN THE SHADED AREA. A VISIBILITY CONTROL EASEMENT SHALL BE REQUIRED.
6. ALLOWABLE ONLY ON URBAN MINOR RESIDENTIAL STANDARD ROADS SERVING LESS THAN 50 UNITS.
7. PI IS POINT OF INTERSECTION OF TANGENT LINES AT BACK OF SIDEWALK & R/W LINE AT THE CURB RETURN OF THE INSIDE OF THE STREET.
8. FINISHED GRADE FLOWLINE SPOT ELEVATIONS SHALL BE SHOWN ON PLANS AT ALL EC'S, BC'S, PRC'S, ANGLE POINTS AND 1/4 DELTAS AROUND ELBOWS, OR AS DIRECTED BY THE ENGINEER.
9. A 12.5' MULTI-PURPOSE EASEMENT IS REQUIRED ADJACENT TO EACH SIDE OF ANY HIGHWAY EASEMENT.

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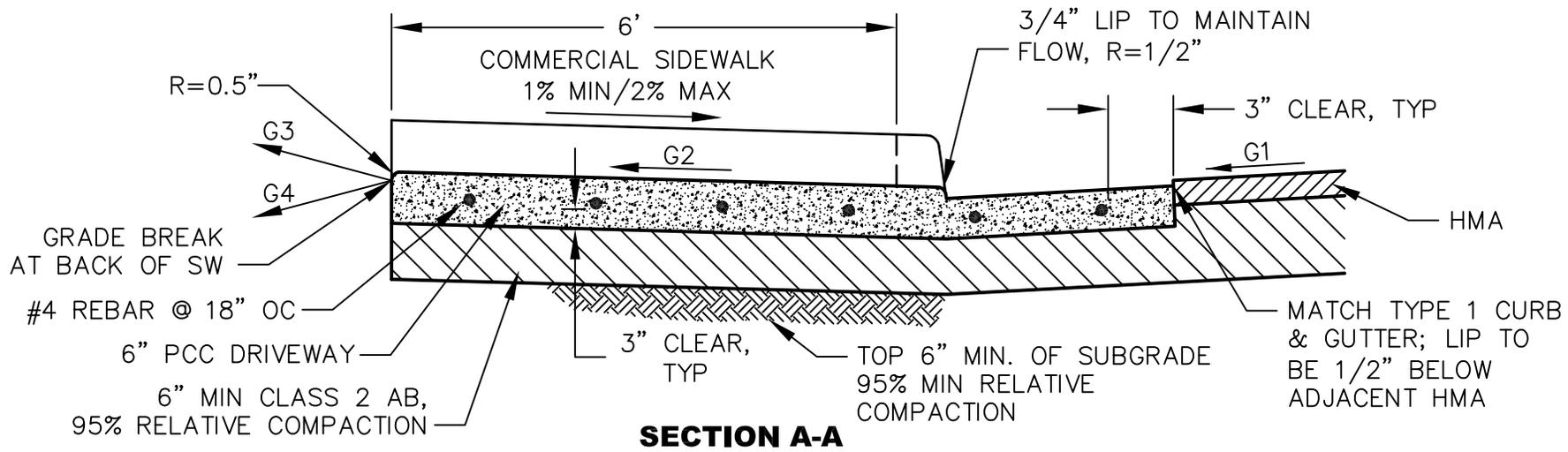
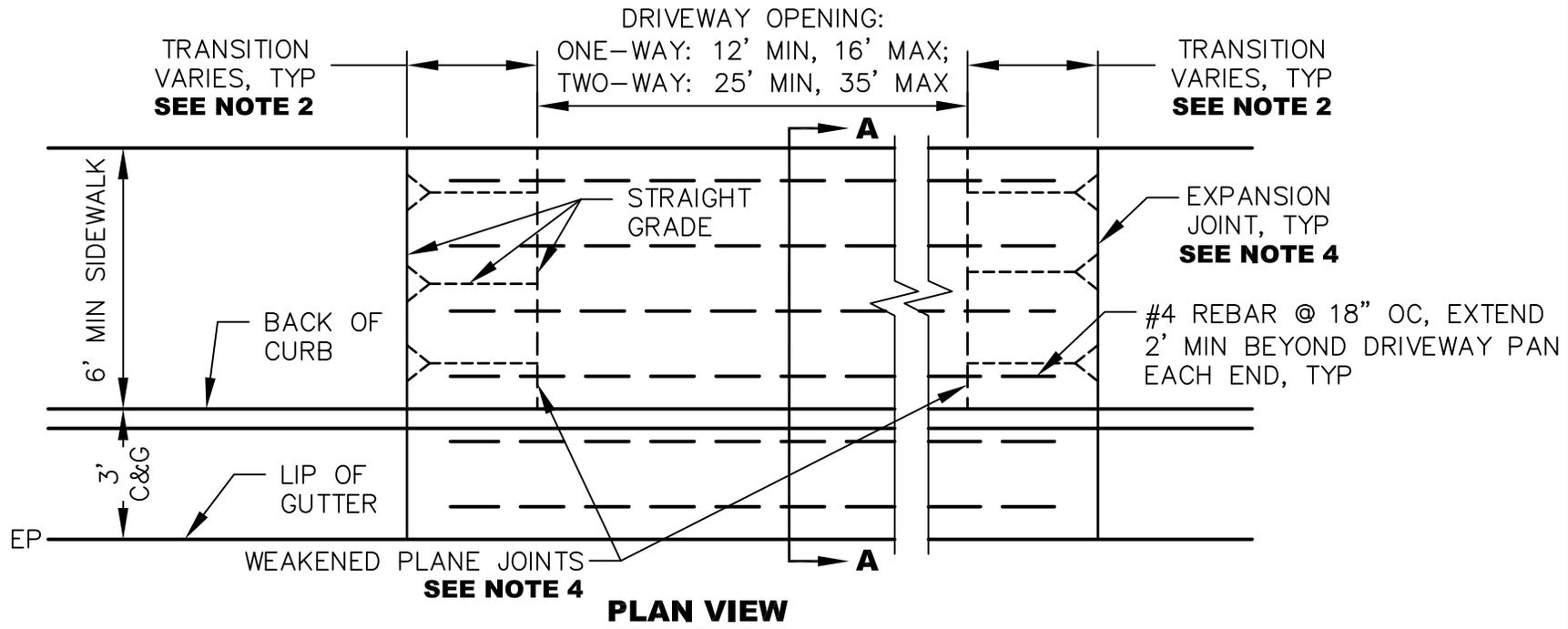


PLATE
110



COUNTY OF PLACER
 DEPARTMENT OF PUBLIC WORKS & FACILITIES

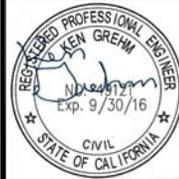
COMMERCIAL DRIVEWAY CONNECTION (MINOR)



- NOTES:**
1. MAXIMUM GRADES FOR DRIVEWAYS SHALL BE AS FOLLOWS AND ARE BASED ON A -2% (G1) ROAD CROSS SLOPE: G2 = +1% TO +2%; G3 & G4 = AS DETERMINED, MAXIMUM 5% ALGEBRAIC GRADE DIFFERENCE FOR A GRADE BREAK, 30 FT. MIN VERTICAL CURVE.
 2. SEE CALTRANS STANDARD SPECIFICATIONS FOR ALLOWABLE SLOPES.
 3. EXPANSION AND WEAKENED PLANE JOINTS PER SECTION 73-1.03E OF THE PLACER COUNTY GENERAL SPECIFICATIONS.
 4. IF THE OPENING OF THE PCC DRIVEWAY APRON IS 14 FT. OR GREATER, THE WEAKENED PLANE JOINT(S) SHALL BECOME EXPANSION JOINT(S) AT A MINIMUM SPACING OF 10 FT. CENTER TO CENTER.
 5. ALL PCC TO BE 6-SACK MIX.

DATE:
 APR. 2016

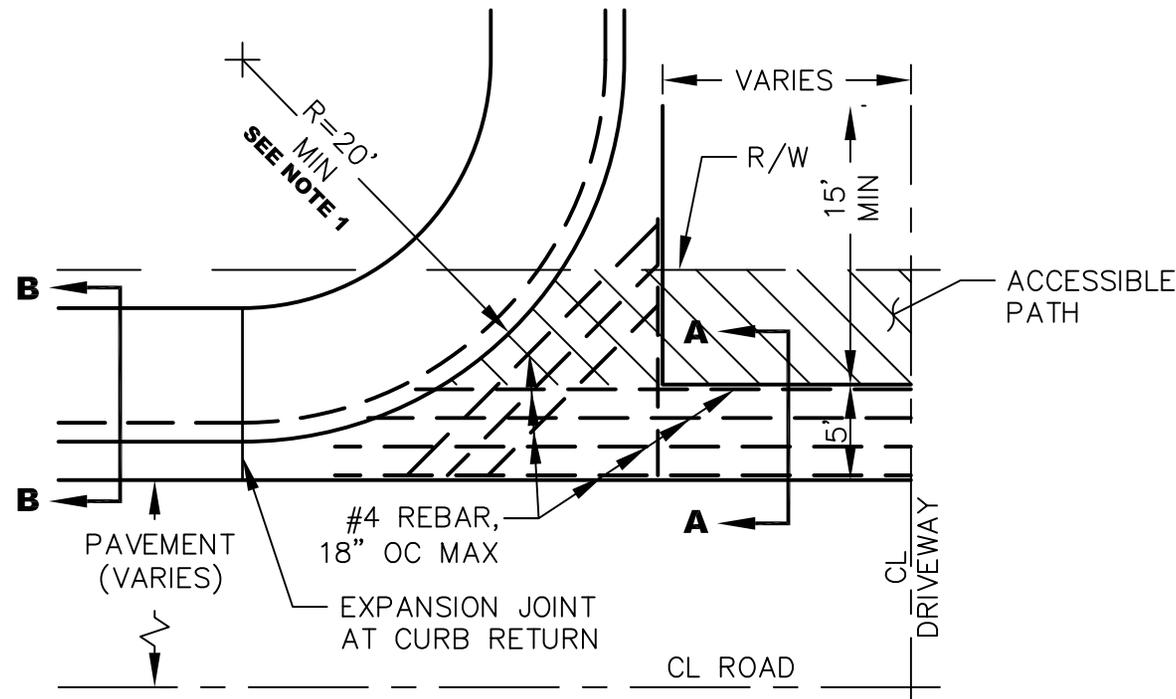
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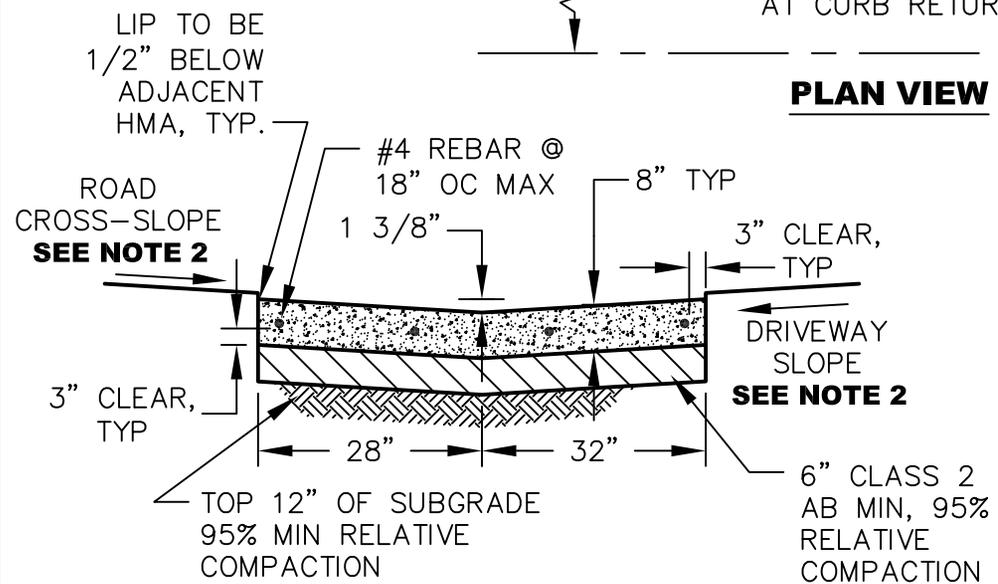


COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

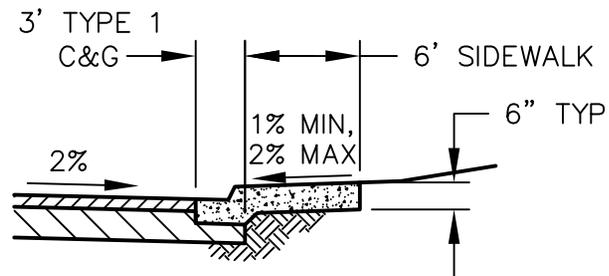
COMMERCIAL DRIVEWAY CONNECTION (MAJOR)



PLAN VIEW



SECTION A-A
VALLEY GUTTER



SECTION B-B

NOTES:

1. THE CURB RETURN RADIUS MAY NEED TO BE LARGER DEPENDING ON THE DRIVEWAY WIDTH, ROAD WIDTH AND THE TYPE OF VEHICLE THAT WILL UTILIZE THE DRIVEWAY.
2. MAXIMUM ALGEBRAIC GRADE DIFFERENCE BETWEEN ROAD CROSS SLOPE AND THE DRIVEWAY SLOPE SHALL BE 5%.
3. SEE APPLICABLE PLACER COUNTY PLATE FOR CURB, GUTTER AND SIDEWALK SPECIFICATIONS.
4. ACCESSIBILITY COMPLIANCE IS REQUIRED. MAXIMUM CROSS SLOPE IS 2% AT DRIVEWAY CROSSING. ACCESSIBLE PATH CANNOT OVERLAP VALLEY GUTTER.
5. ALL PCC TO BE 6-SACK MIX.

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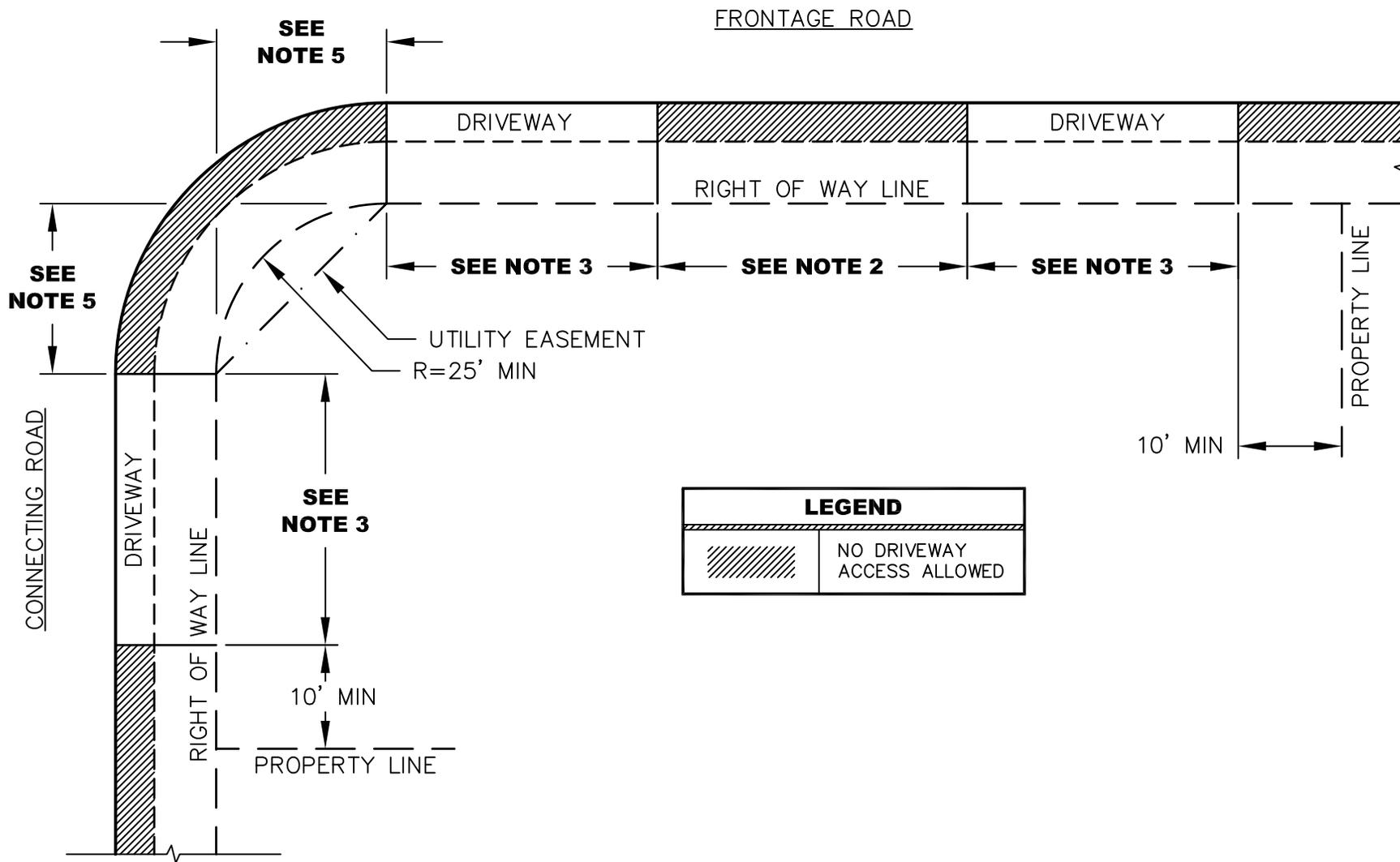


PLATE
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COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

COMMERCIAL DRIVEWAY LOCATIONS



NOTES:

- FRONTAGE MEASURED ALONG R/W LINE AND FROM THE INTERSECTION OF PROJECTED R/W TANGENTS ON LOT CORNERS. DRIVEWAYS NOT PERMITTED WITHIN 10 FT. OF PROPERTY LINES OR 25 FT. OF INTERSECTING R/W TANGENTS.
- 22 FT. MIN DISTANCE BETWEEN DRIVEWAYS FOR LESS THAN 200 FT. FRONTAGE AND 45 FT. MIN DISTANCE BETWEEN DRIVEWAYS FOR GREATER THAN OR EQUAL TO 200 FT. FRONTAGE AS MEASURED AT R/W LINE.
- DRIVEWAY WIDTH: FOR ONE-WAY TRAFFIC, 12 FT. MIN AND 16 FT. MAX; FOR TWO-WAY TRAFFIC, 25 FT. MIN AND 35 FT. MAX.
- SPECIAL CASES SHALL BE SUBMITTED FOR APPROVAL OF THE ENGINEER.
- 25 FT. MIN DISTANCE FOR DESIGN SPEED EQUAL TO OR LESS THAN 30 MPH; 50 FT. MIN DISTANCE FOR DESIGN SPEED GREATER THAN 30 MPH BUT LESS THAN 50 MPH; IF DESIGN SPEED IS 50 MPH OR GREATER, MIN DISTANCE TO BE DETERMINED BY THE ENGINEER.

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DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

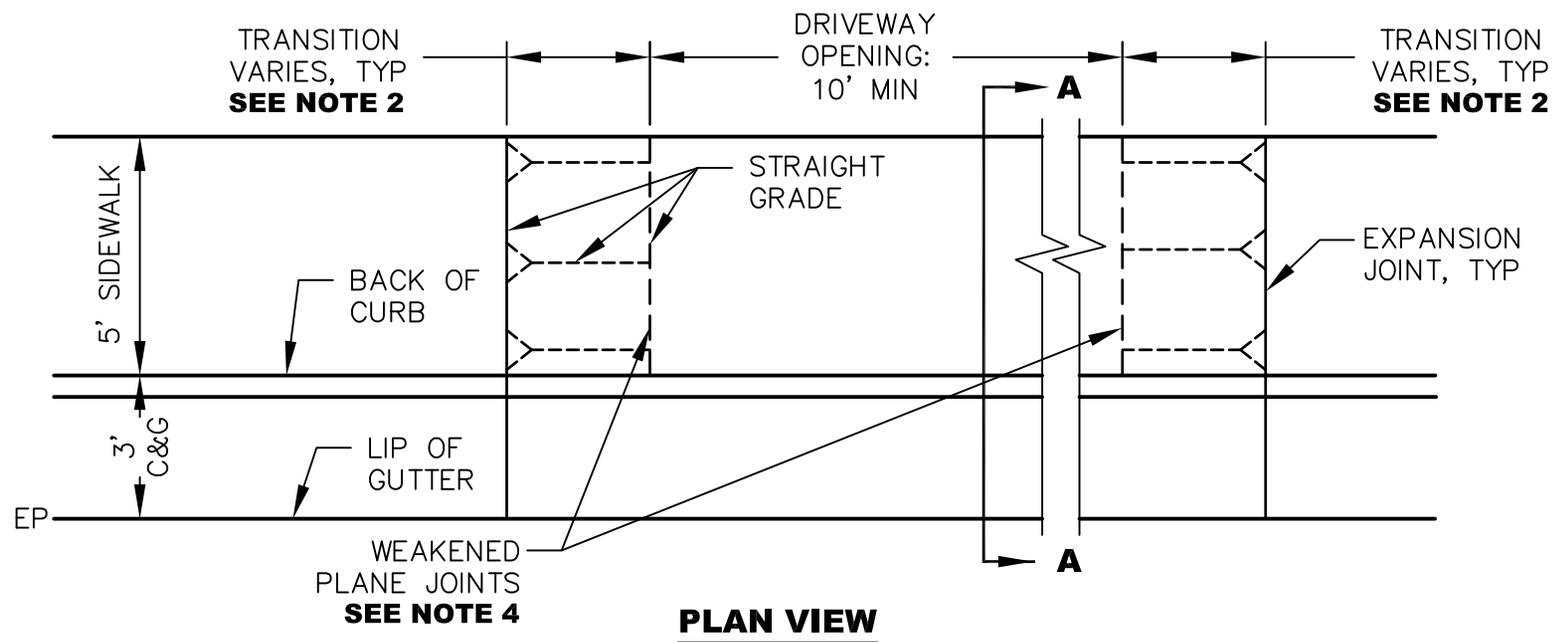
DRIVEWAY CURB CUTS- SINGLE FAMILY RESIDENTIAL

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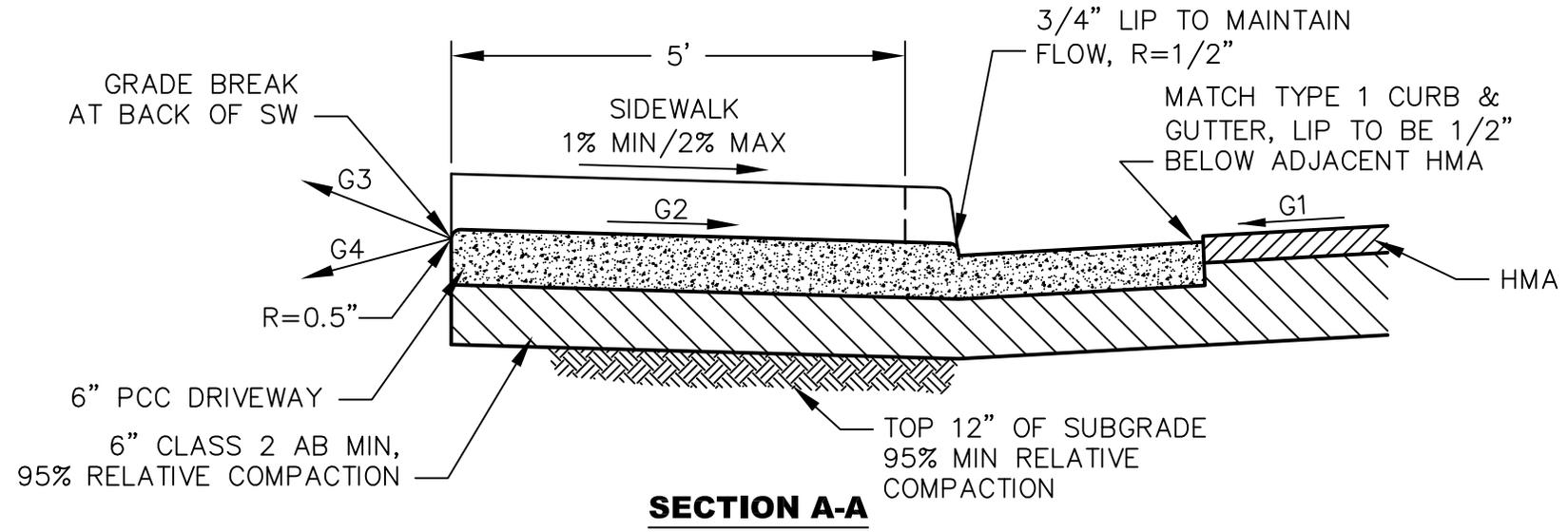
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PLATE
114



PLAN VIEW



SECTION A-A

- NOTES:**
1. MAXIMUM GRADES FOR DRIVEWAYS SHALL BE AS FOLLOWS AND ARE BASED ON A -2% (G1) ROAD CROSS SLOPE: G2 = +1% TO +2%; G3 & G4 = AS DETERMINED, MAXIMUM 5% ALGEBRAIC GRADE DIFFERENCE FOR A GRADE BREAK, 30 FT. MIN VERTICAL CURVE.
 2. SEE CALTRANS STANDARD SPECIFICATIONS FOR ALLOWABLE SLOPES.
 3. EXPANSION AND WEAKENED PLANE JOINTS PER SECTION 73-1.03E OF THE PLACER COUNTY GENERAL SPECIFICATIONS.
 4. IF THE OPENING OF THE PCC DRIVEWAY APRON IS 14 FT. OR GREATER, THE WEAKENED PLANE JOINT(S) SHALL BECOME EXPANSION JOINT(S) AT A MINIMUM SPACING OF 10 FT. CENTER TO CENTER.
 5. ALL PCC TO BE 6-SACK MIX.



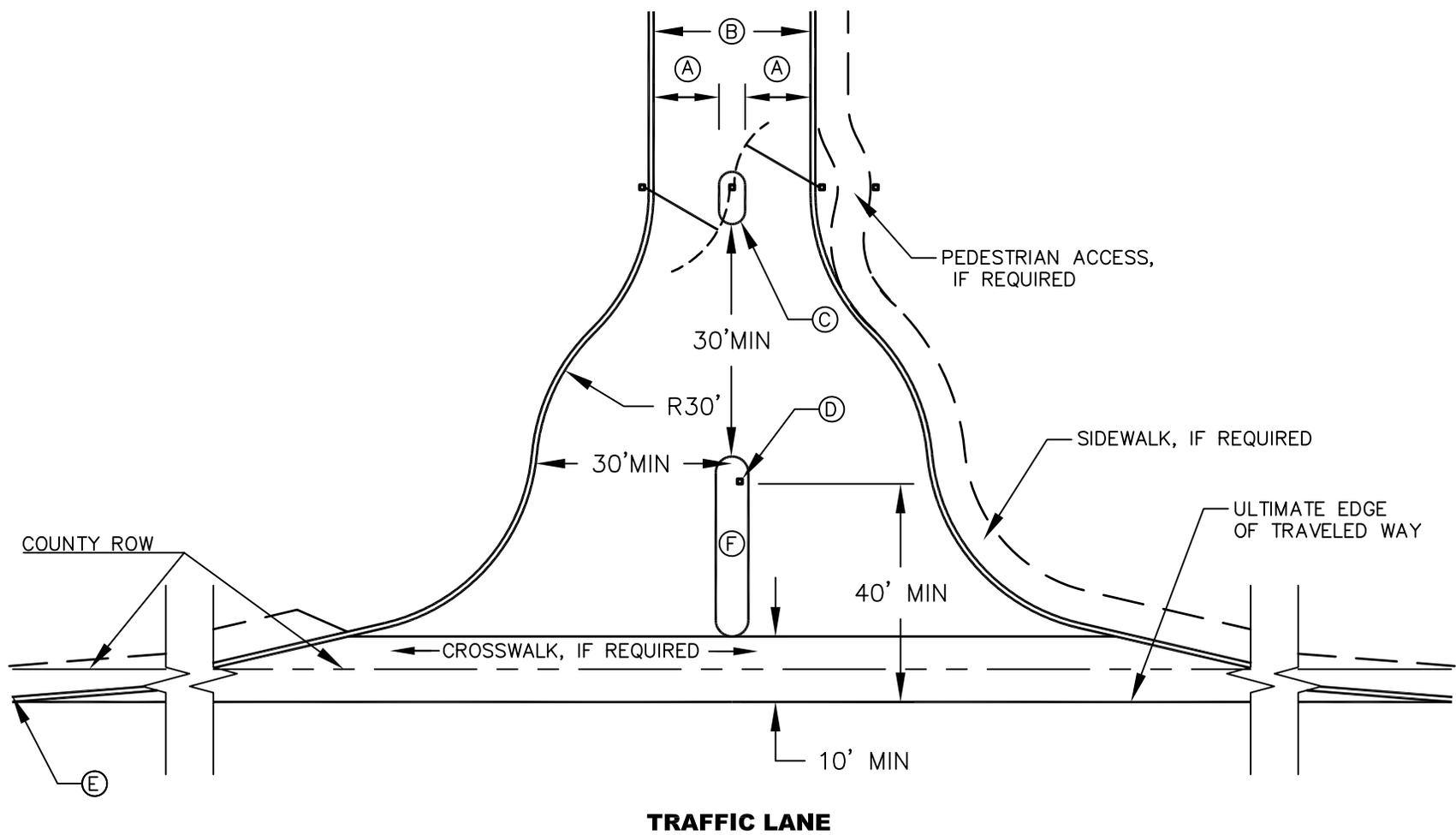
COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

PRIVATE GATED ENTRANCE

NOTES:

1. SIDEWALK, CURB AND GUTTER WIDTH PER DEVELOPMENT STANDARDS, IF APPLICABLE.
2. ENCROACHMENT PERMIT REQUIRED FOR ANY WORK WITHIN THE COUNTY RIGHT-OF-WAY.
3. GEOMETRICS FOR ENCROACHMENT: RADII, OFFSETS AND TAPERS PER STANDARD PLATE 116, IF APPLICABLE
4. FOR ANY GATED ENTRANCE ON A PRIVATE ROAD SERVING MORE THAN TWO RESIDENTIAL LOTS.
5. ALTERNATIVE KEYPAD LAYOUTS MAY BE CONSIDERED IF THE DESIGN MEETS RADII AND SETBACK REQUIREMENTS.

- (A) GATE OPENING TO BE MIN. 1-FEET WIDER ON EACH SIDE THAN TRAFFIC LANE.
- (B) PRIVATE ROAD/ACCESS WIDTH AS DETERMINED BY APPLICABLE PLACER COUNTY STANDARDS.
- (C) GATE ISLAND IS OPTIONAL, HOWEVER GATE SHALL NOT OBSTRUCT THE TURNAROUND AREA.
- (D) KEYPAD AND/OR CALL BOX (40-FEET MIN. FROM ULTIMATE CURBLINE OR EDGE OF TRAVELED WAY).
- (E) START/END OF PAVEMENT TAPER.
- (F) MEDIAN ISLAND IS OPTIONAL.



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DEPARTMENT OF PUBLIC WORKS & FACILITIES

ROADWAY CONNECTIONS

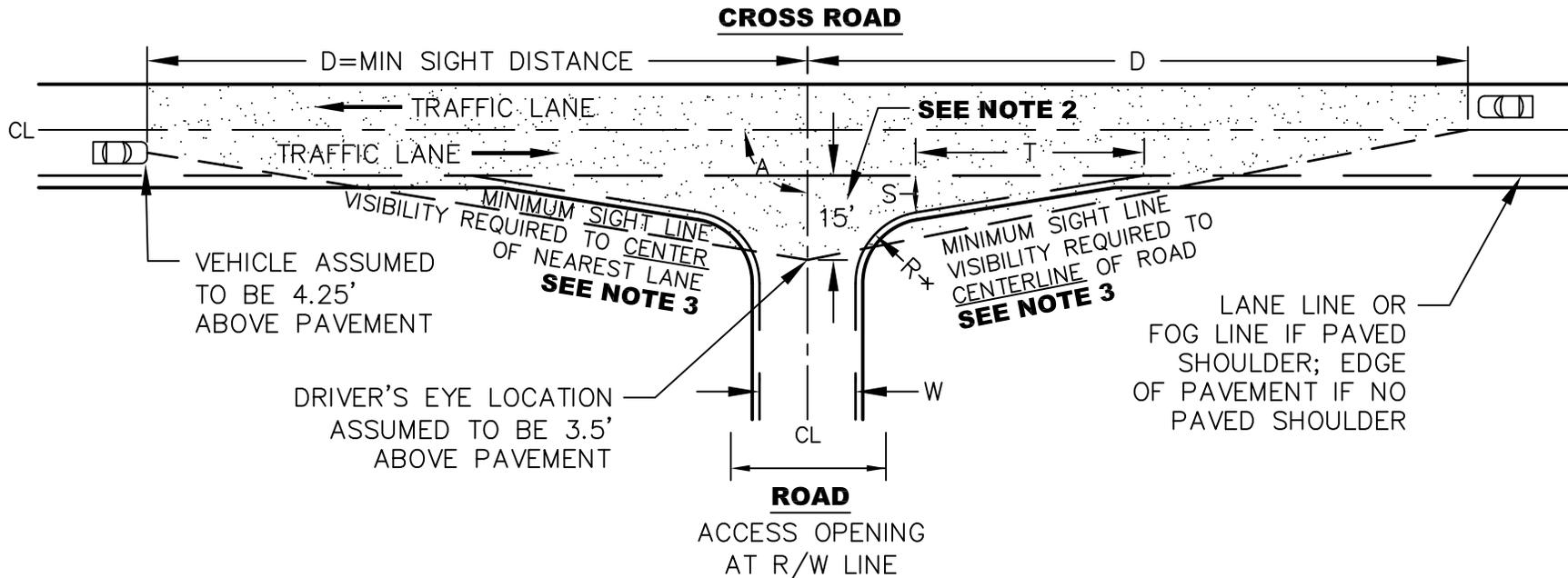
RESIDENTIAL AND COMMERCIAL

COUNTY OF PLACER

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PLATE
116



DESIGN SPEED (MPH)	MINOR								MPH	MAJOR							
	RESIDENTIAL (SERVING LESS THAN 5 LOTS) OR SINGLE FAMILY DRIVEWAY CONNECTING TO ROADS WITH DESIGN SPEED >25 MPH									MULTIPLE RESIDENTIAL (SERVING 5 OR MORE LOTS) OR COMMERCIAL							
	25	30	35	40	45	50	55	60		25	30	35	40	45	50	55	60
ANGLE, A	60° TO 120°								A	80° TO 100°							
SIGHT DIST., D*	275'	330'	385'	440'	495'	550'	605'	660'	D	275'	330'	385'	440'	495'	550'	605'	660'
OFFSET, S	3'	3'	3'	3'	4'	4'	5'	5'	S	8'	8'	12'	12'	12'	12'	12'	12'
RADIUS, R	15'	15'	20'	20'	25'	25'	25'	25'	R	25'	30'	35'	40'	45'	50'	50'	50'
TAPER, T	VARIABLE - 25 FT. MIN								T	50'	75'	100'	150'	200'	250'	250'	250'
WIDTH, W	AS APPROVED								W	CONFORM TO ROAD SECTION							

*SEE NOTE 7

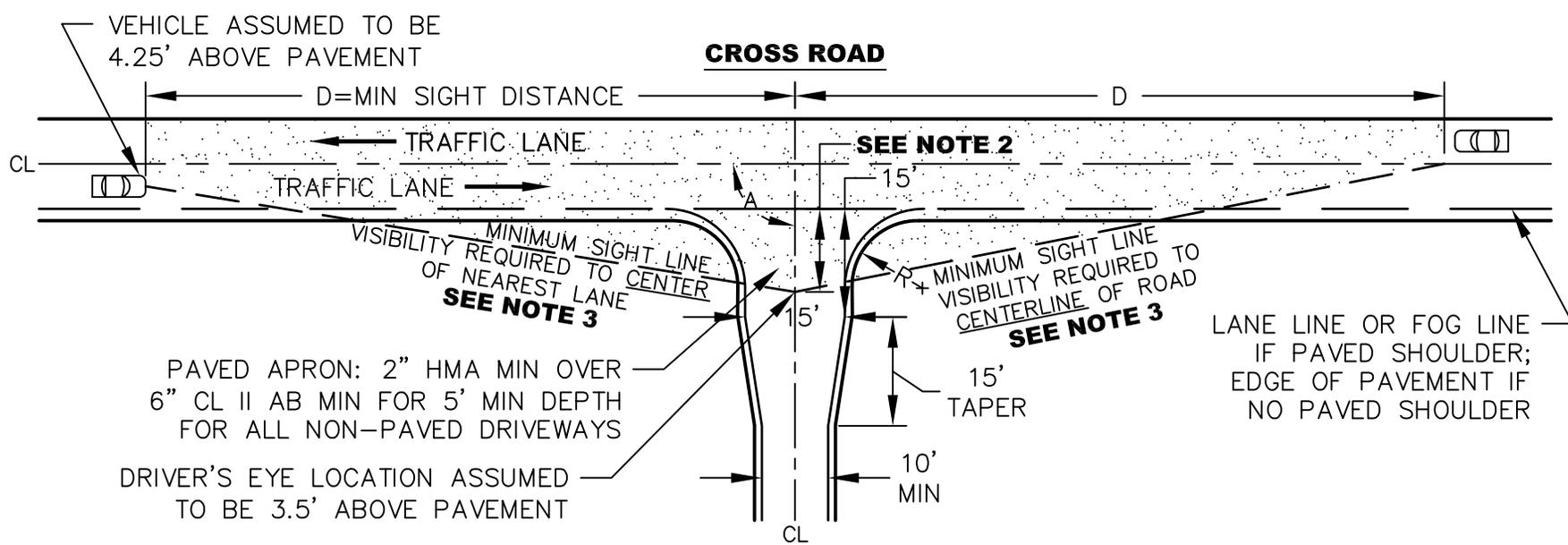
- NOTES:**
- INTERSECTING R/W LINES AT ROADWAY CONNECTIONS SHALL BE JOINED BY A 25 FT. OR GREATER RADIUS CURVE TO ALLOW FOR ROADWAY IMPROVEMENTS.
 - SETBACK = 15 FT. MIN FROM EDGE OF TRAVELED WAY. THIS ASSUMES 6 FT. TO STOP BAR, 1 FT. FOR STOP BAR, AND 8 FT. FROM THE FRONT OF BUMPER TO THE DRIVER. THIS SETBACK MAY BE REQUIRED TO BE INCREASED UP TO 30 FT. DUE TO INTERSECTION LAYOUT.
 - IN BOTH DIRECTIONS OF TRAVEL ALONG THE CROSS ROAD, SIGHT DISTANCE D IS TO BE MEASURED ALONG THE CROSS ROAD CL FOR TWO LANE CROSS ROADS, AND ALONG THE CL OF THE NEAREST LANE TO THE ROAD FOR MULTI-LANE ROADS.
 - WHERE RESTRICTIVE CONDITIONS DO NOT ALLOW COMPLIANCE WITH THE SPECIFIED SIGHT DISTANCE REQUIREMENTS, THE ENGINEER MAY APPROVE A REDUCTION OF THE CORNER SIGHT DISTANCE TO NO LESS THAN THE MINIMUM STOPPING SIGHT DISTANCE AS OUTLINED IN THE CALTRANS HIGHWAY DESIGN MANUAL.
 - LINE OF SIGHT CLEARANCE SHALL TAKE INTO ACCOUNT EXISTING/FUTURE LANDSCAPING. A VISIBILITY CONTROL EASEMENT MAY BE REQUIRED.
 - ANGLE OF INTERSECTION, A, SHALL BE AS CLOSE TO 90° AS POSSIBLE, BUT SHALL NOT EXCEED LIMITS SHOWN IN TABLE ABOVE.
 - CORNER SIGHT DISTANCE SHALL COMPLY WITH CALTRANS HIGHWAY DESIGN MANUAL REQUIREMENTS.



COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

ROADWAY CONNECTION

SINGLE FAMILY RESIDENTIAL DRIVEWAY, ROADWAYS ≤ 25 MPH



SINGLE FAMILY RESIDENTIAL DRIVEWAY CONNECTING TO ROADS WITH DESIGN SPEED ≤ 25 MPH ONLY	
A	60° TO 120°
D	200 FT.
R	10 FT. MIN

- NOTES:**
- THIS PLATE IS TO ONLY BE USED WITH SINGLE RESIDENTIAL DRIVEWAYS, AS DEFINED IN LAND DEVELOPMENT MANUAL SECTION 4.05(1)(f)1. SHARED RESIDENTIAL DRIVEWAYS, AS DEFINED IN SECTION 4.05(1)(f)7 SHALL BE DESIGNED TO MEET REQUIREMENTS OUTLINED IN PLATE 116 (MINOR).
 - SETBACK MEASUREMENT FOR SIGHT DISTANCE = 15 FT. TYP. THIS SETBACK MAY BE REQUIRED TO BE INCREASED DUE TO INTERSECTION LAYOUT, AND MAY BE DECREASED TO 12' AS APPROVED BY PLACER COUNTY. IN BOTH DIRECTIONS OF TRAVEL ALONG THE CROSS ROAD, SIGHT DISTANCE D IS TO BE MEASURED ALONG THE CROSS ROAD CL FOR TWO LANE CROSS ROADS, AND ALONG THE CL OF THE NEAREST LANE TO THE DRIVEWAY FOR MULTI-LANE CROSS ROADS. FOR CROSS ROAD DESIGN SPEEDS GREATER THAN 25 MPH, SEE PLATE 116. CORNER SIGHT DISTANCE R SHALL COMPLY WITH CALTRANS HIGHWAY DESIGN MANUAL REQUIREMENTS.
 - THE RETURN RADIUS R SHALL BE DESIGNED SUCH THAT EMERGENCY FIRE VEHICLE ACCESS IS PROVIDED FOR BOTH DIRECTIONS WITHOUT REQUIRING THE VEHICLE TO SWING INTO OPPOSING TRAFFIC LANES.
 - LINE OF SIGHT CLEARANCE SHALL TAKE INTO ACCOUNT EXISTING/FUTURE LANDSCAPING. A VISIBILITY CONTROL EASEMENT MAY BE REQUIRED.
 - ANGLE OF INTERSECTION, A, SHALL BE AS CLOSE TO 90° AS POSSIBLE, BUT NOT LESS THAN 60° OR MORE THAN 120°.
 - THERE SHALL BE 20 FT. MIN DISTANCE BETWEEN THE EDGE OF THE ROADWAY AND THE STRUCTURE.
 - FOR SITES LOCATED ABOVE 3500 FT. ELEVATION: THERE SHALL BE ONE DRIVEWAY CONNECTION TO A PARCEL; NO CIRCULAR OR SECONDARY DRIVEWAYS ALLOWED. THE DRIVEWAY WIDTH AT THE ROADWAY CONNECTION, EXCLUDING RETURN RADIUS, SHALL BE 20 TO 24 FT. MAX.
 - SEE PLATE 118 FOR DRIVEWAY APRON AND SLOPE REQUIREMENTS.
 - DRIVEWAYS NOT PERMITTED WITHIN 25 FT. OF INTERSECTING R/W TANGENTS IF AN ALTERNATIVE ACCESS LOCATION IS AVAILABLE.

DATE:
APR. 2016

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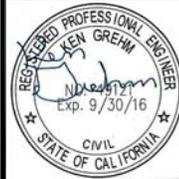
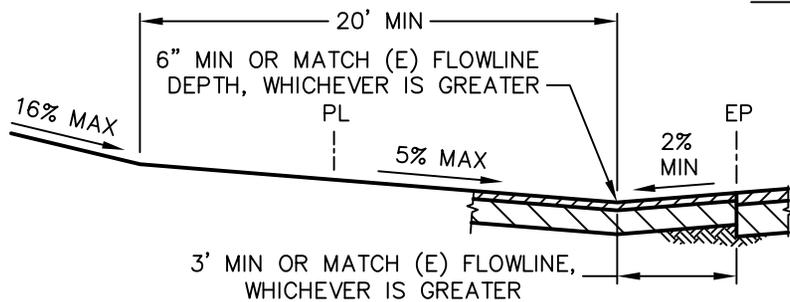
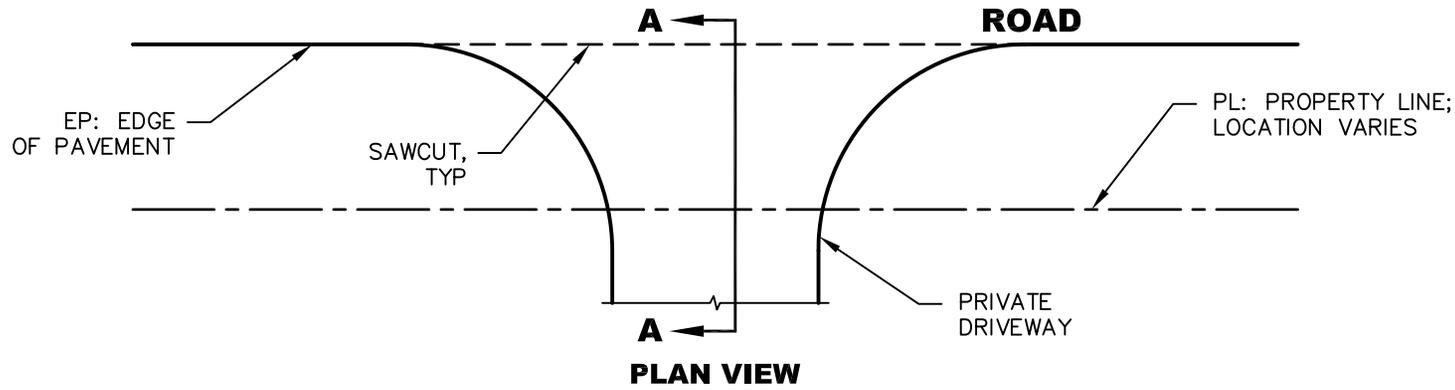


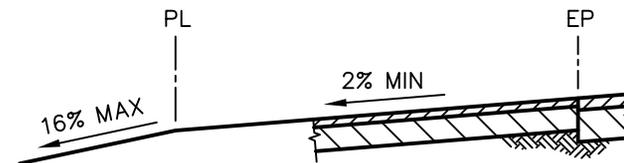
PLATE
117



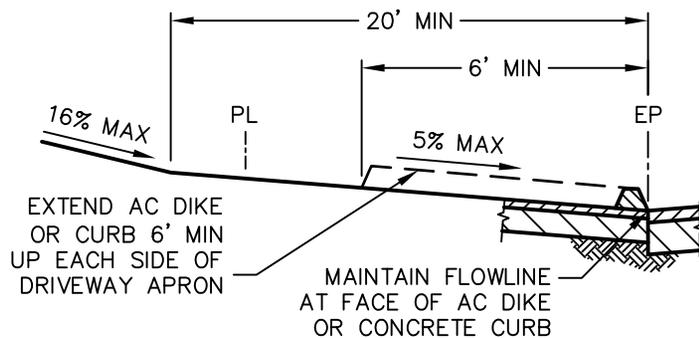
COUNTY OF PLACER
 DATE: APR. 2016
 SCALE: NOT TO SCALE



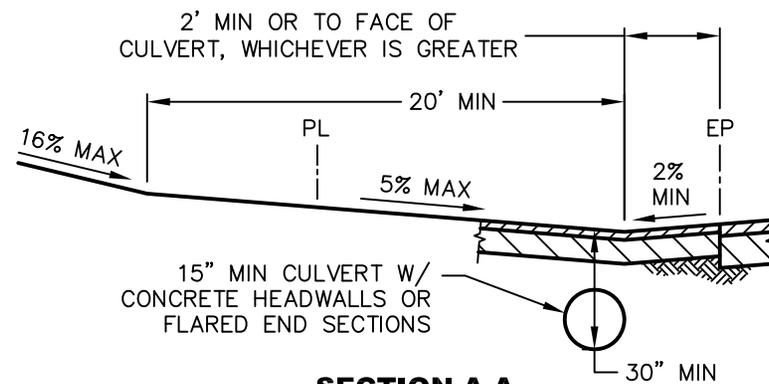
SECTION A-A
ROADSIDE SWALE/VALLEY GUTTER



SECTION A-A
DOWN-SLOPING/SHEET FLOW



SECTION A-A
AC DIKE OR CONCRETE CURB



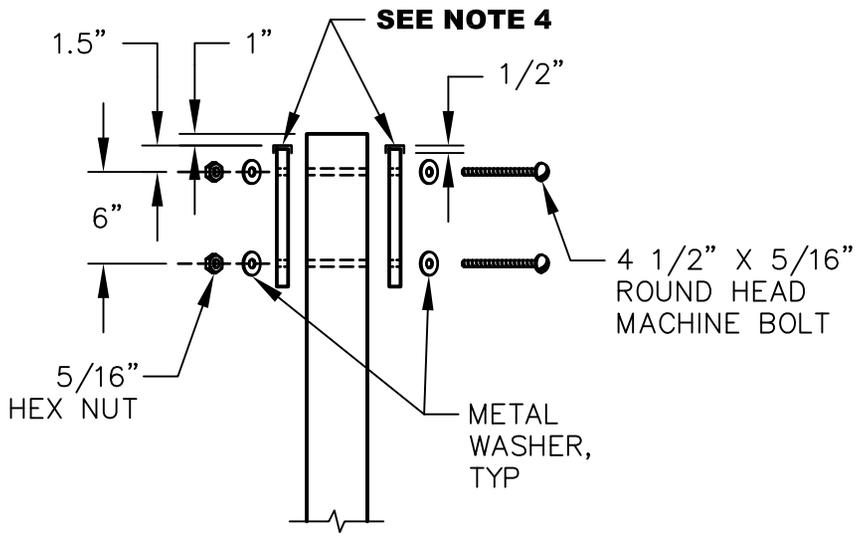
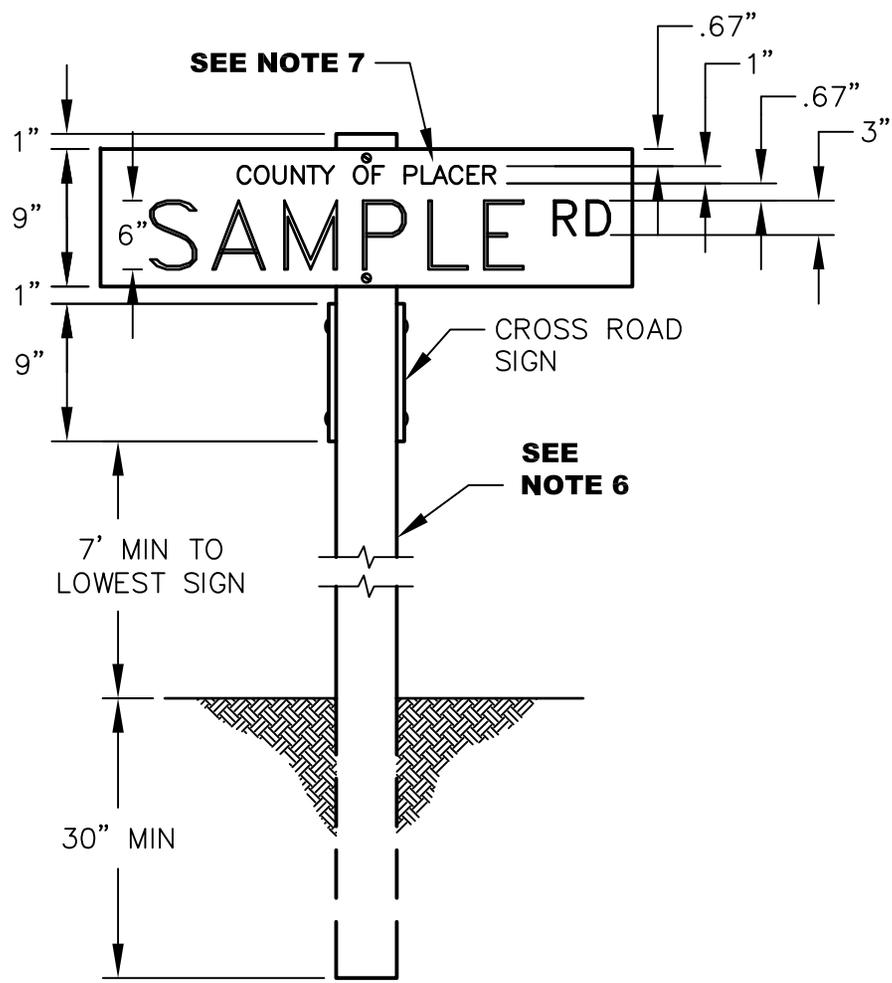
SECTION A-A
ROADSIDE SWALE/VALLEY GUTTER W/ CULVERT

- NOTES:**
- THIS PLATE IS ONLY TO BE USED WITH SINGLE RESIDENTIAL DRIVEWAYS, AS DEFINED IN LAND DEVELOPMENT MANUAL SECTION 4.05(1)(f)1. SHARED RESIDENTIAL DRIVEWAYS, AS DEFINED IN SECTION 4.05(1)(f)7 SHALL BE PER PROJECT APPROVALS OR AS DIRECTED BY ENGINEER.
 - SEE PLATE 117 FOR ADDITIONAL REQUIREMENTS.
 - ADDITIONAL TAHOE REGIONAL PLANNING AGENCY (TRPA) OR FIRE DEPARTMENT CONDITIONS MAY APPLY. COMPLY WITH ALL OTHER AGENCY REQUIREMENTS AS APPLICABLE.
 - WHERE RESTRICTIVE SITE TOPOGRAPHY EXISTS, ALTERNATE DESIGNS MAY BE APPROVED BY THE ENGINEER.



COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

ROAD SIGN DETAIL



ROAD TYPE ABBREVIATIONS	
AVE	AVENUE
BLVD	BOULEVARD
CIR	CIRCLE
CT	COURT
DR	DRIVE
LN	LANE
PKWY	PARKWAY
PL	PLACE
RD	ROAD
ST	STREET
TR	TRAIL
WY	WAY

NOTES:

- ROAD NAME SIGN PANELS SHALL BE 6061-T6 OR 5155-H36, ALUMINUM ALLOY, 0.080 IN. THICK. PANELS SHALL HAVE SQUARE CORNERS AND BE 9 IN. HIGH BY 24, 30, 36, 42 OR 48 IN. LONG, DEPENDING ON STREET NAME LENGTH. COLOR SHALL BE REFLECTIVE WHITE LETTERS ON A REFLECTIVE GREEN BACKGROUND. MATERIALS AND METHODS SHALL CONFORM TO CALTRANS "SPECIFICATIONS FOR REFLECTIVE SHEETING ON ALUMINUM HIGHWAY SIGNS", AND FEDERAL SPECIFICATION L-S-300.
- REFLECTIVE SHEETING FOR THE WHITE LETTERS AND GREEN BACKGROUND SHALL BE "SCOTCHLITE" SILVER "HIGH INTENSITY REFLECTIVE SHEETING".
- THE BACKGROUND SHALL BE "SCOTCHLITE" GREEN "ELECTRO CUT FILM", OR SILK SCREENED WITH THE MANUFACTURERS RECOMMENDED GREEN TRANSPARENT INK. THE "ELECTRO CUT FILM", IF USED, SHALL HAVE THE LETTERS CUT FROM THE FILM AND THE FILM OVERLAID ON THE SILVER SHEETING.
- SIGNS FOR LOCATIONS ABOVE 3000 FT. ELEVATION SHALL HAVE THE TOP EDGE BANDED WITH "SCOTCHLITE PROTECTIVE OVERLAY FILM", SERIES 1150 OR EQUIVALENT.
- ROAD NAME LETTERING SHALL BE 6 IN. SERIES "B". ROAD TYPE DESIGNATIONS SHALL BE 3 IN. SERIES "B" LETTERING AND ABBREVIATED AS SHOWN. LEGENDS SHALL BE 1 IN. SERIES "C" LETTERING. ALL LETTERING SHALL BE HIGHWAY GOTHIC MOD B FED KERN REVA.
- 4"x4" POST, TREATED WOOD, CONFORMING TO SEC. 56-4.02C OF CALTRANS STANDARD SPECIFICATIONS.
- FOR COUNTY MAINTAINED ROADS, LEGEND SHALL BE LABELED "COUNTY OF PLACER". FOR PRIVATELY MAINTAINED ROADS, LEGEND SHALL BE LABELED "PRIVATE ROAD".
- STREET NAME SIGNS SHALL NOT BE LOCATED ON THE SAME POST AS A STOP SIGN.

DATE:
APR. 2016

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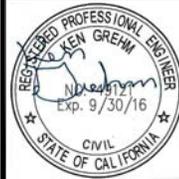
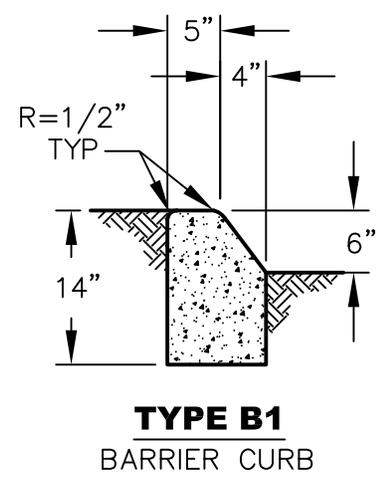
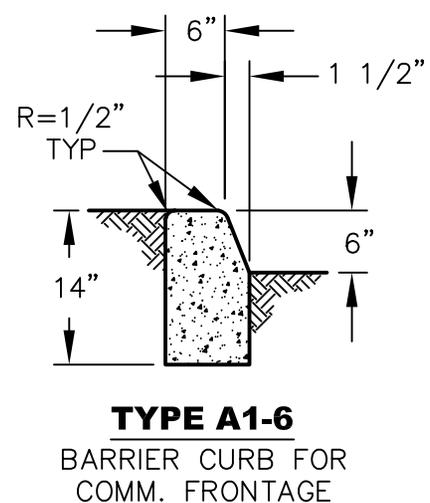
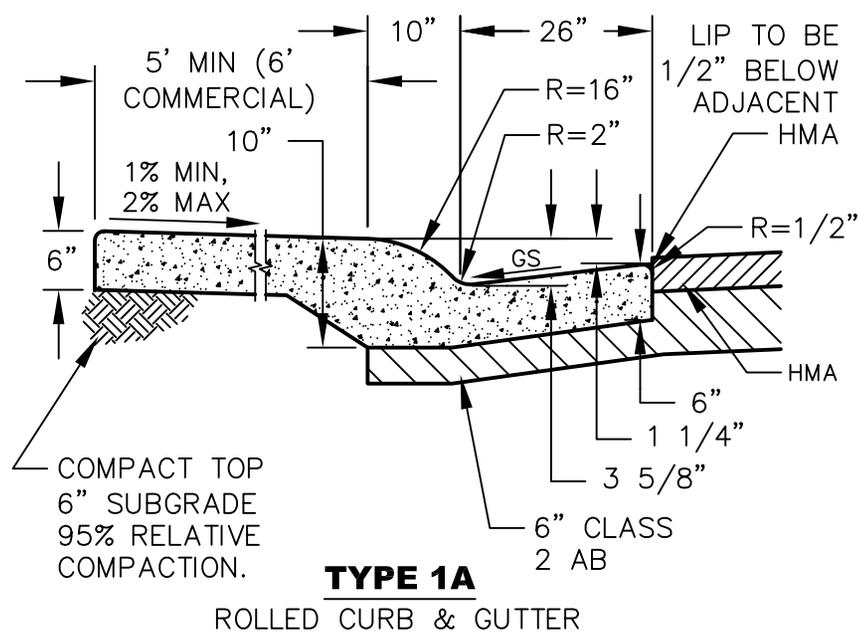
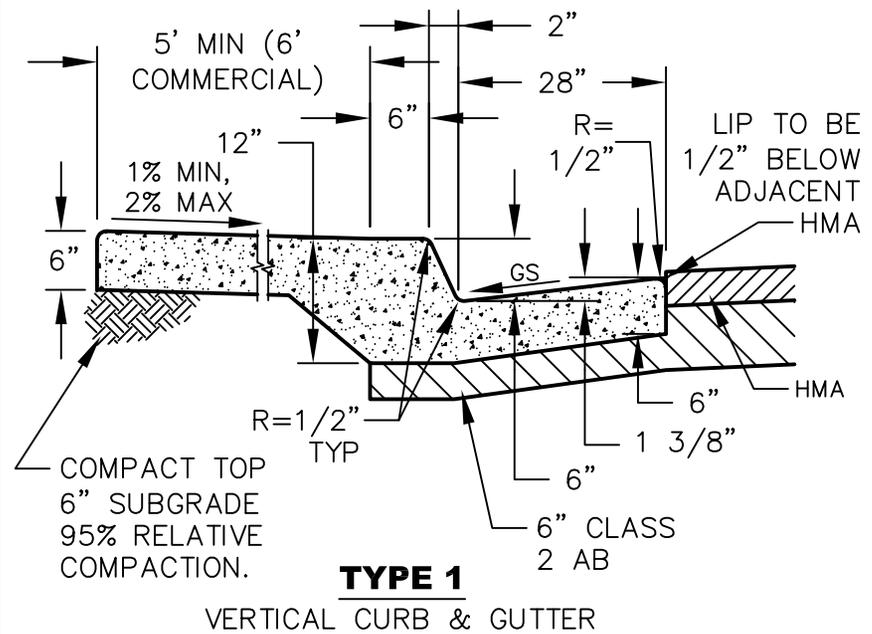


PLATE
119



COUNTY OF PLACER
 DEPARTMENT OF PUBLIC WORKS & FACILITIES

CONCRETE CURBS AND GUTTERS



- NOTES:**
1. ALL PCC TO BE 6-SACK MIX, AND SHALL BE MONOLITHIC POUR UNLESS OTHERWISE APPROVED.
 2. EXPANSION AND WEAKENED PLANE JOINTS PER SECTION 73-1.03E OF THE PLACER GENERAL SPECIFICATIONS. FOR GUTTER PANS, WEAKENED PLANE JOINTS SHALL BE PLACED ONLY AT THE MID-POINT BETWEEN EXPANSION JOINTS.
 3. SUBDRAINS BEHIND SIDEWALK MAY BE REQUIRED AT THE DISCRETION OF THE ENGINEER.
 4. SLOPE OF GUTTER PAN, GS, SHALL NOT EXCEED 5% ACROSS CURB RAMP LANDINGS.
 5. STRUCTURAL THICKNESSES ARE MINIMUM. INCREASED SECTIONS MAY BE REQUIRED BASED ON ACTUAL SOIL CONDITIONS, OR PROJECT APPROVALS.
 6. UNSUITABLE MATERIALS TO BE REMOVED & REPLACED WITH SUITABLE MATERIAL.

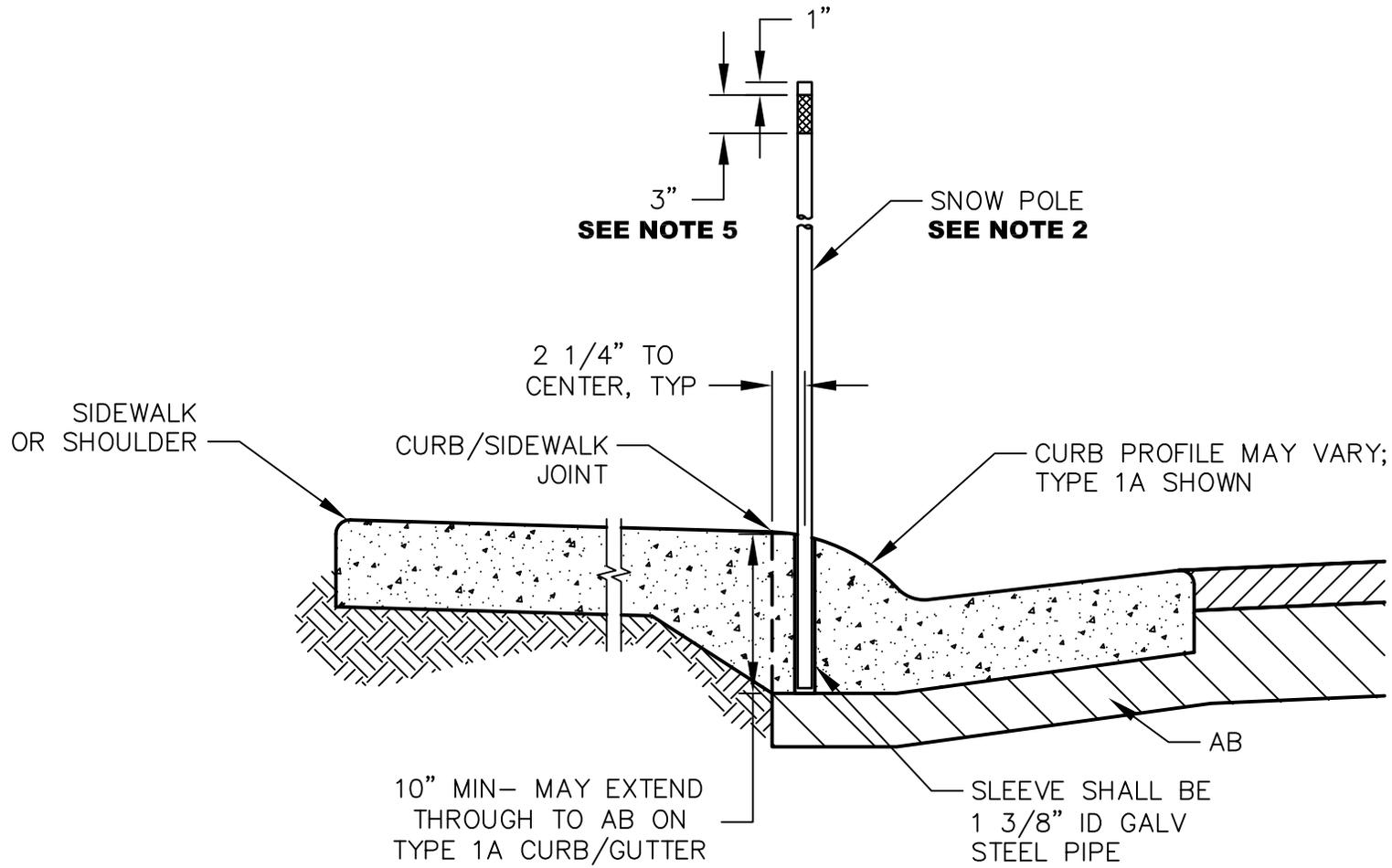
DATE:
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COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

CONCRETE CURB WITH SNOW POLE SLEEVE



NOTES:

1. THIS STANDARD APPLIES TO THAT PORTION OF PLACER COUNTY AS DEFINED IN CODE SEC. 10.12.020(B), OR AS DIRECTED BY ENGINEER.
2. SNOW POLES SHALL BE FURNISHED WITH PROJECT AND SHALL BE 1" ID X 10'-6" LONG SCH. 40 STEEL PIPE.
3. SLEEVES SHALL BE SET PLUMB INTO WET CONCRETE. INTERIOR OF SLEEVE SHALL NOT BE OBSTRUCTED.
4. SLEEVES SHALL BE PLACED PER PLAN AT CURB ENDS, DEFLECTION POINTS, OR AS DIRECTED BY ENGINEER. WHEN INSTALLED IN PARKING LOTS, SPACING ALONG STRAIGHT RUNS SHALL NOT EXCEED 25 FT. OC, AND SHALL COINCIDE WITH ADJACENT PARKING STALL STRIPING. ON ROADWAY FRONTAGE, SPACING ALONG STRAIGHT RUNS SHALL BE DETERMINED BY DPW ROADS DEPT. SUPERVISOR.
5. REFLECTIVE STRIPE SHALL BE 3M HIGH INTENSITY GRADE PRISMATIC REFLECTIVE SHEETING, PART #3930, AND SHALL COMPLETELY ENCIRCLE THE POLE.

DATE: APR. 2016

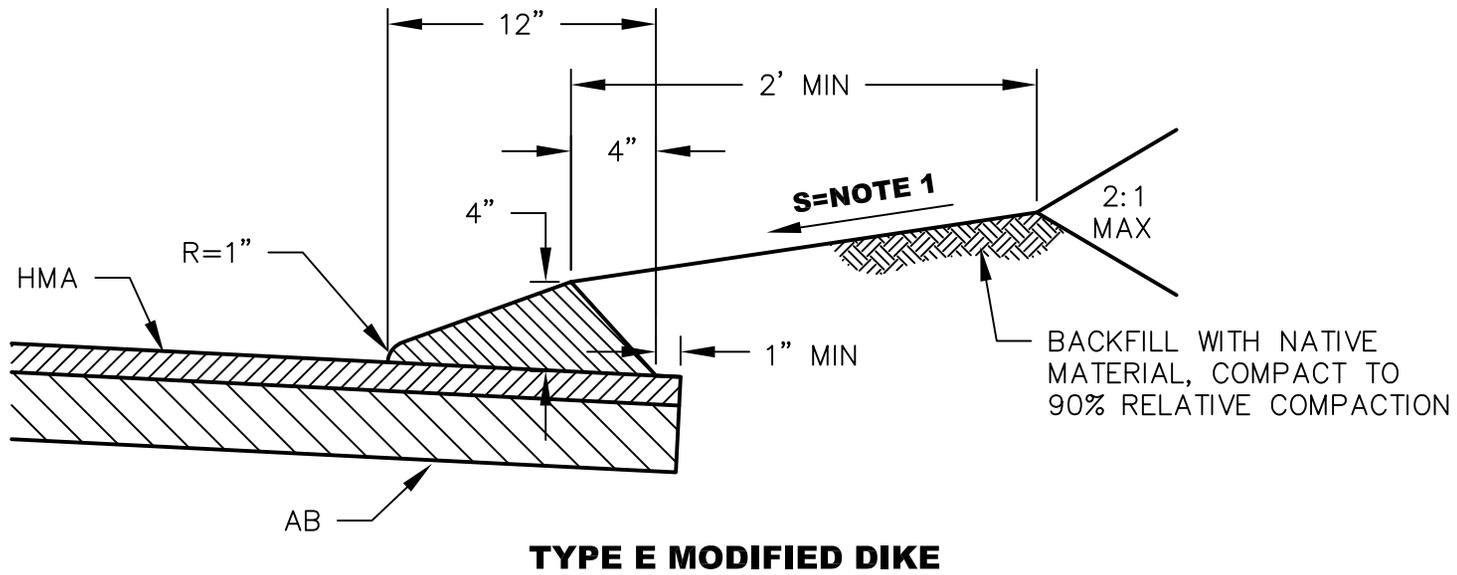
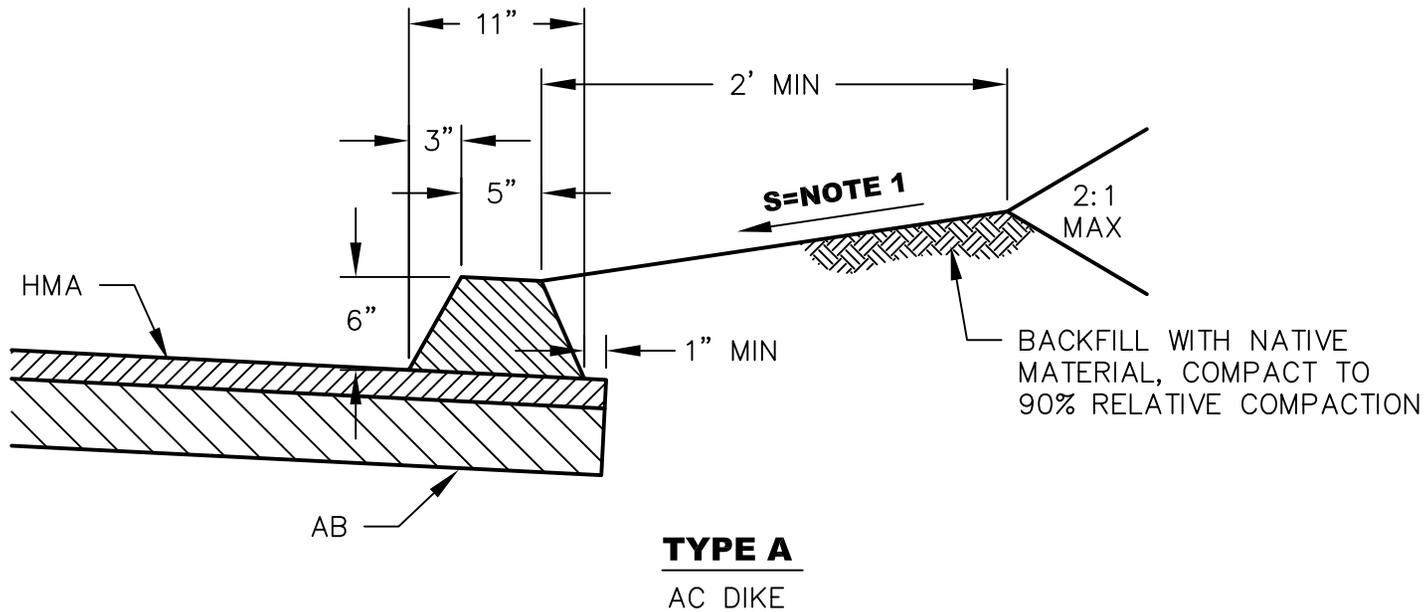
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PLATE 121



ASPHALT DIKES

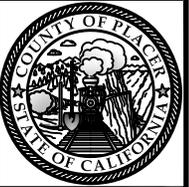


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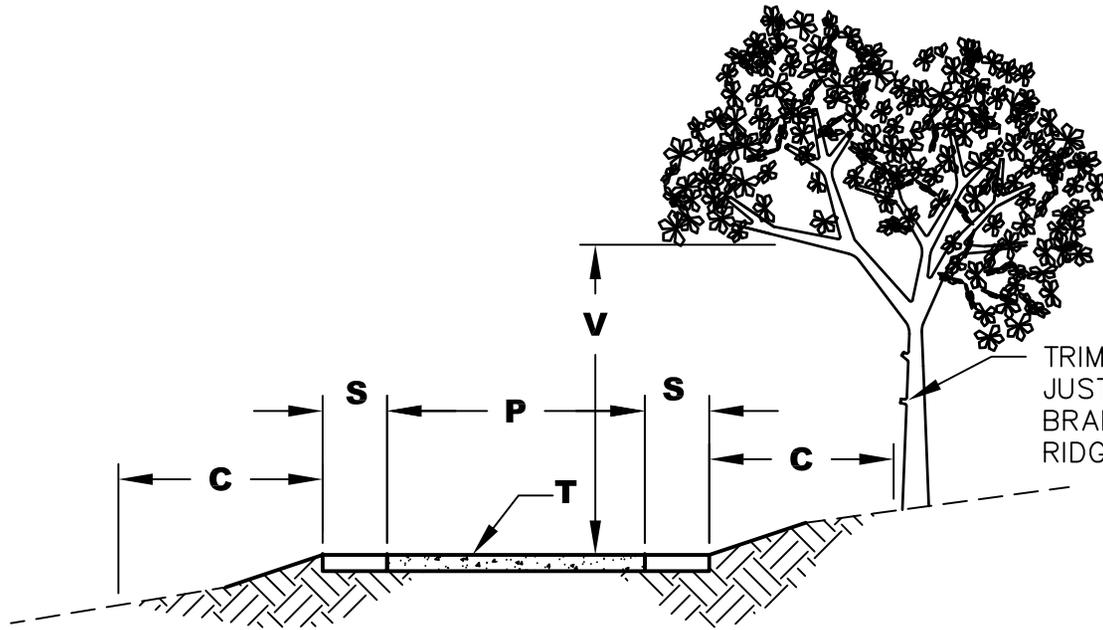
1. S=10% MINIMUM SLOPE FOR DIKE BACKFILL. FOR ROADS WITH LONGITUDINAL CENTERLINE SLOPES GREATER THAN 8%, USE 18% MINIMUM AND 22% MAXIMUM DIKE BACKFILL SLOPE.

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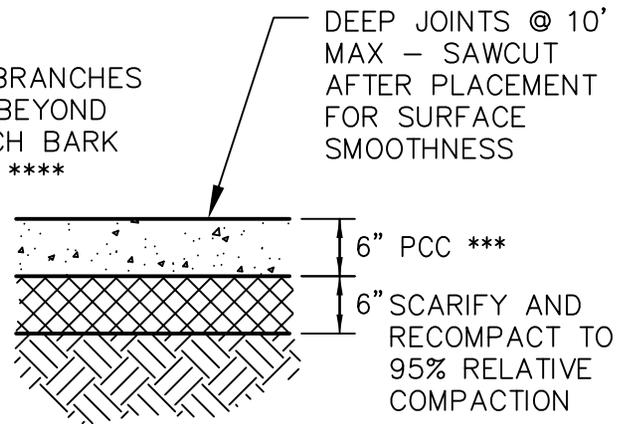




MULTI USE TRAILS



**MULTI-USE AND PEDESTRIAN TRAIL
TYPICAL SECTION**



PAVEMENT SECTION

	PATH WIDTH (P)	SHOULDER WIDTH (S)	SURFACE TYPE (T)	CLEARING LIMITS (C)	VERTICAL CLEARING LIMITS (V)
CLASS 1					
• TYPE A	12'	2' **	PCC	7.5'	10'
• TYPE B	8'	2'	PCC	7.5'	10'
• TYPE C	10'	2'	PCC	7.5'	10'
MULTI PURPOSE	5'	NONE	COMPACTED NATIVE*	2'	10'

NOTES:

TYPE A – FOR ALL REGIONALLY SIGNIFICANT CLASS 1 PATHS
 TYPE B – FOR CLASS 1 PATHS ADJACENT TO ROADS WHERE A CLASS 2 BIKE LANE IS INCLUDED IN THE ROADWAY
 TYPE C – FOR ALL OTHER CLASS 1 PATHS

* IMPORTED/STABILIZED AGGREGATE, DECOMPOSED GRANITE, OR ELEVATED STRUCTURE TO BE INSTALLED IN WET OR UNSTABLE AREAS

** MAY BE WIDENED TO 4' ON SIDE FURTHEST FROM TRAFFIC WHEN ADJACENT EQUESTRIAN USE IS REQUIRED.

*** ALTERNATIVE HMA SURFACE MAY BE ALLOWED SUBJECT TO APPROVAL BY PLACER COUNTY

**** TREE PRUNING PER ISA TREE PRUNING STANDRDS: ANZI: 300

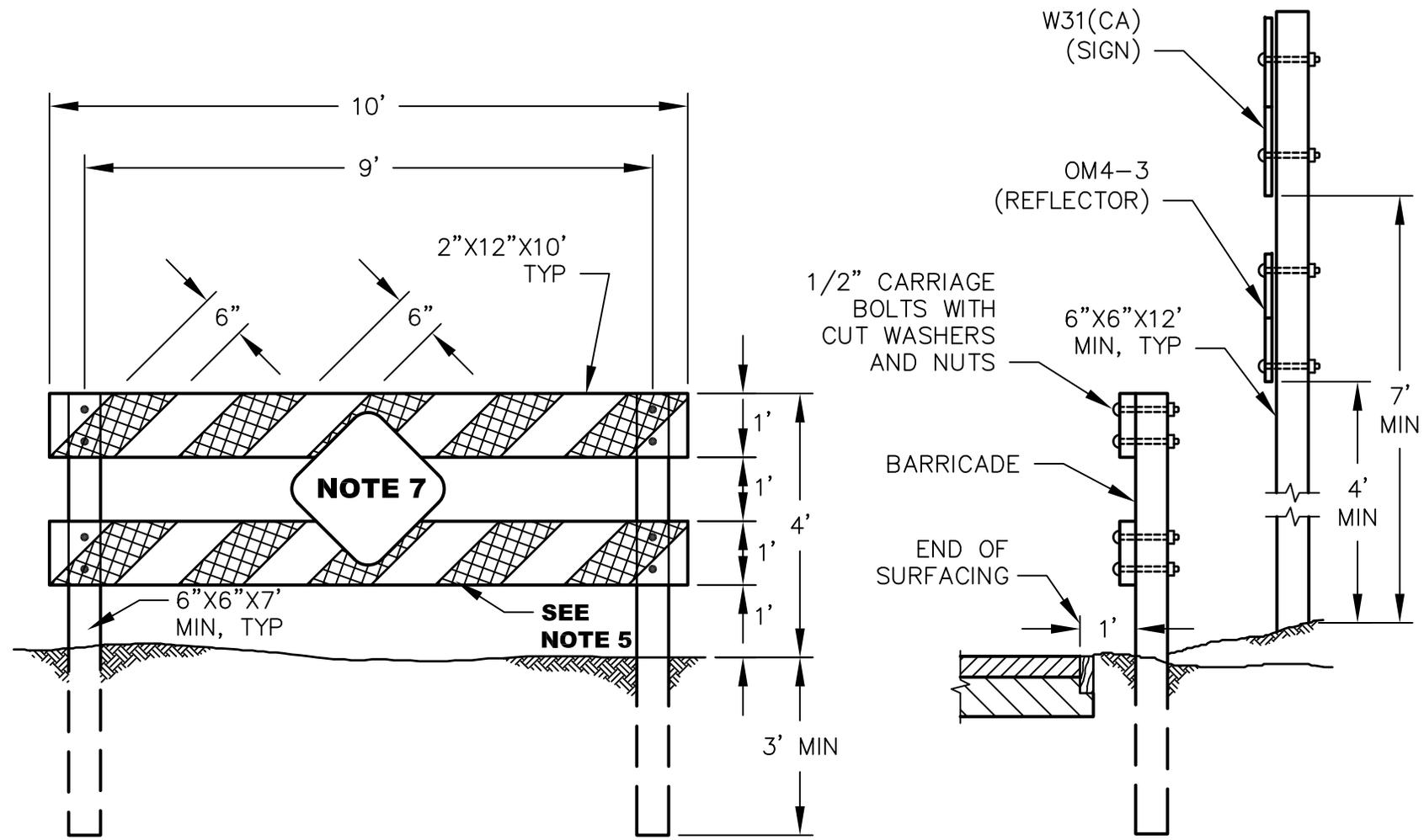
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COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

ROADWAY TIMBER BARRICADE



NOTE 7

SEE NOTE 5

NOTES:

1. ALL LUMBER TO BE S4S.
2. ALL EXPOSED SURFACES TO BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO SEC. 91-3 OF PLACER COUNTY GENERAL SPECIFICATIONS PRIOR TO APPLICATION OF REFLECTIVE SHEETING.
3. ALL LUMBER BELOW GROUND LEVEL AND BARRICADE POSTS SHALL BE PRESSURE TREATED FIR.
4. NUMBER OF BARRICADES REQUIRED SHALL BE AS SHOWN ON THE PLANS APPROVED BY THE ENGINEER - A MINIMUM OF TWO BARRICADES WILL BE CONSTRUCTED AT THE END OF STREETS.
5. ORANGE STRIPE SHALL CONSIST OF REFLECTIVE SHEETING MEETING OR EXCEEDING CALTRANS SPECIFICATIONS FOR TYPE 2 REFLECTIVE SIGN SHEETING (ENGINEER GRADE).
6. A "W31(CA)(END)/OM4-3 (RED REFLECTOR)" SIGN SHALL BE INSTALLED BEHIND THE BARRICADE IN LINE WITH THE APPROACHING TRAFFIC.
5. ADDITIONAL OM4-3 REFLECTORS AND/OR SIGNS MAY BE REQUIRED ON BARRICADE, AS DIRECTED BY THE ENGINEER.
6. ALL MATERIAL USED IN CONSTRUCTION OF BARRICADE THAT IS BELOW GROUND OR WITHIN 6" OF GROUND SHALL BE TREATED DOUGLAS FIR IN CONFORMANCE WITH SEC. 56-4.02C OF CALTRANS STANDARD SPECIFICATIONS.

DATE:
APR. 2016

SCALE:
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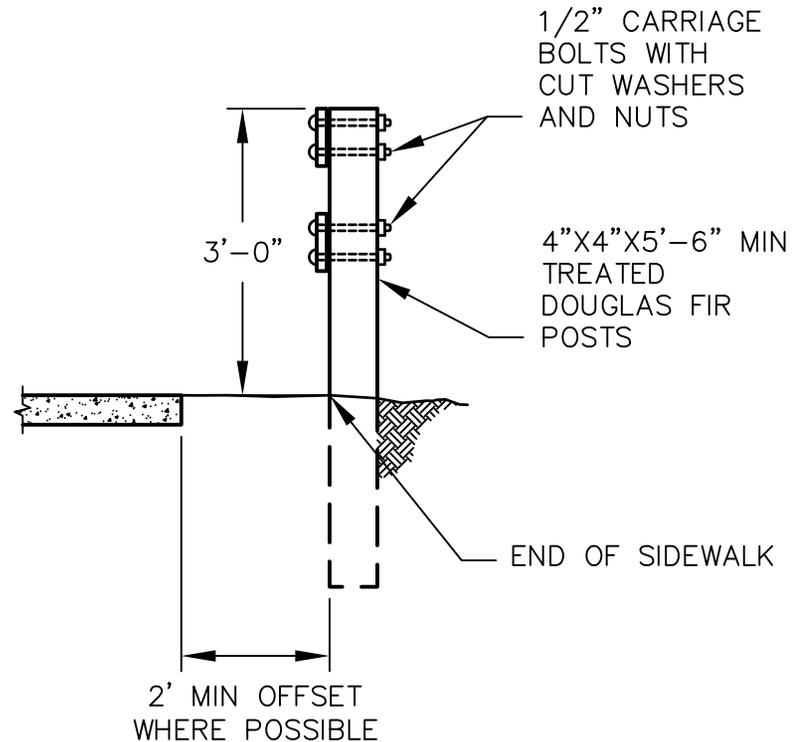
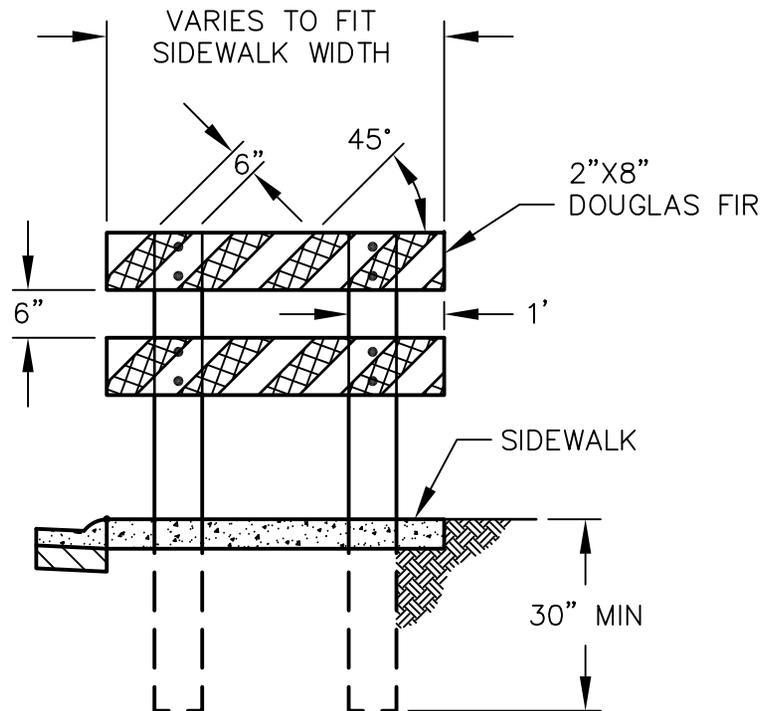
PLATE
124



DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

SIDEWALK BARRICADE



NOTES:

1. SIDEWALK BARRICADE TO BE ERECTED AT EACH LOCATION WHERE SATISFACTORY PROVISION CANNOT BE MADE FOR PEDESTRIANS TO CONTINUE BEYOND THE TERMINUS OF A SIDEWALK.
2. ALL LUMBER TO BE S4S.
3. ALL EXPOSED SURFACES TO BE PAINTED WITH TWO (2) COATS OF WHITE PAINT CONFORMING TO SEC. 91-3 OF PLACER COUNTY GENERAL SPECIFICATIONS PRIOR TO APPLICATION OF REFLECTIVE SHEETING.
4. ORANGE STRIPE SHALL CONSIST OF REFLECTIVE SHEETING MEETING OR EXCEEDING CALTRANS SPECIFICATIONS FOR TYPE 2 REFLECTIVE SIGN SHEETING (ENGINEER GRADE).
5. ALL MATERIAL USED IN CONSTRUCTION OF BARRICADE THAT IS BELOW GROUND OR WITHIN 6" OF GROUND SHALL BE TREATED DOUGLAS FIR IN CONFORMANCE WITH SEC. 56-4.02C OF CALTRANS STANDARD SPECIFICATIONS.

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APR. 2016

SCALE:
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PLATE
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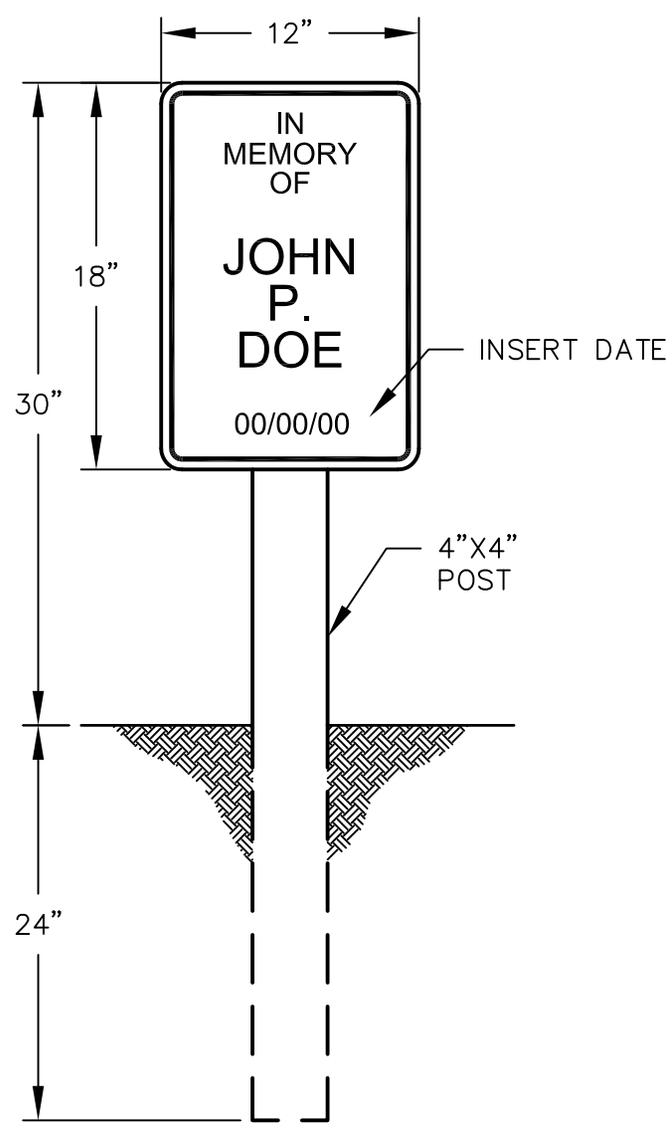
COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

ROADSIDE MEMORIAL

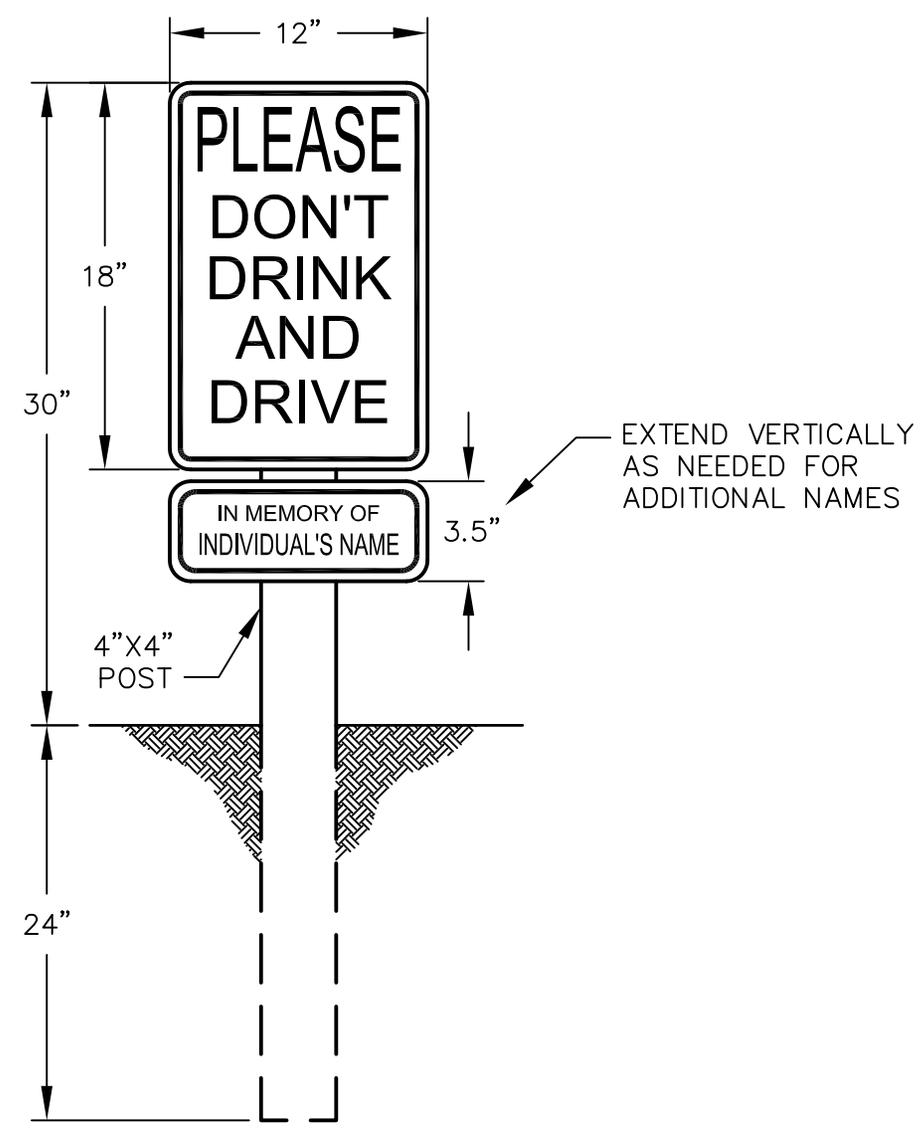
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PLATE
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OPTION A



OPTION B

- NOTES:**
1. ALL SIGNS SHALL BE REFLECTIVE BLUE WITH WHITE LETTERING.
 2. SIGN TO BE REMOVED THREE YEARS FROM DATE OF ACCIDENT.
 3. SPECIFIC MONUMENT LOCATION WITH ADEQUATE SHOULDER WIDTH SHALL BE DETERMINED BY THE ENGINEER. LOCATION WILL BE AS CLOSE TO ACTUAL ACCIDENT SITE AS PRACTICAL.
 4. WRITTEN COUNTY APPROVAL IS REQUIRED PRIOR TO INSTALLATION OF ANY MONUMENT.
 5. COUNTY SHALL MAINTAIN MONUMENT AREA. COUNTY SHALL REMOVE INAPPROPRIATE APPURTENANCES.



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

ACCESSIBLE CURB RAMPS NOTES

NOTES:

1. CALTRANS CURB RAMP DETAILS STANDARD PLAN A88A, MOST CURRENT VERSION AS DETERMINED BY THE DIRECTOR, SHALL APPLY.
2. THE MAXIMUM RAMP SLOPE IS 7.5%. FOR CASE C RAMPS ON STEEPER GRADES WHERE 7.5% CANNOT BE MET, THE MAXIMUM TRANSITION LENGTH REQUIRED IS 15 FEET ON EITHER SIDE OF THE LANDING.

DATE:
APR. 2016

SCALE:
NOT TO SCALE

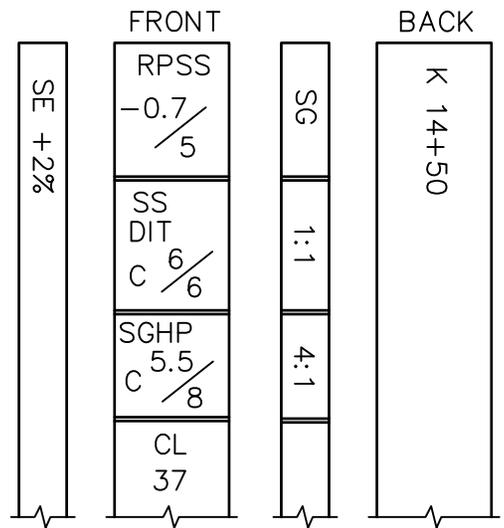
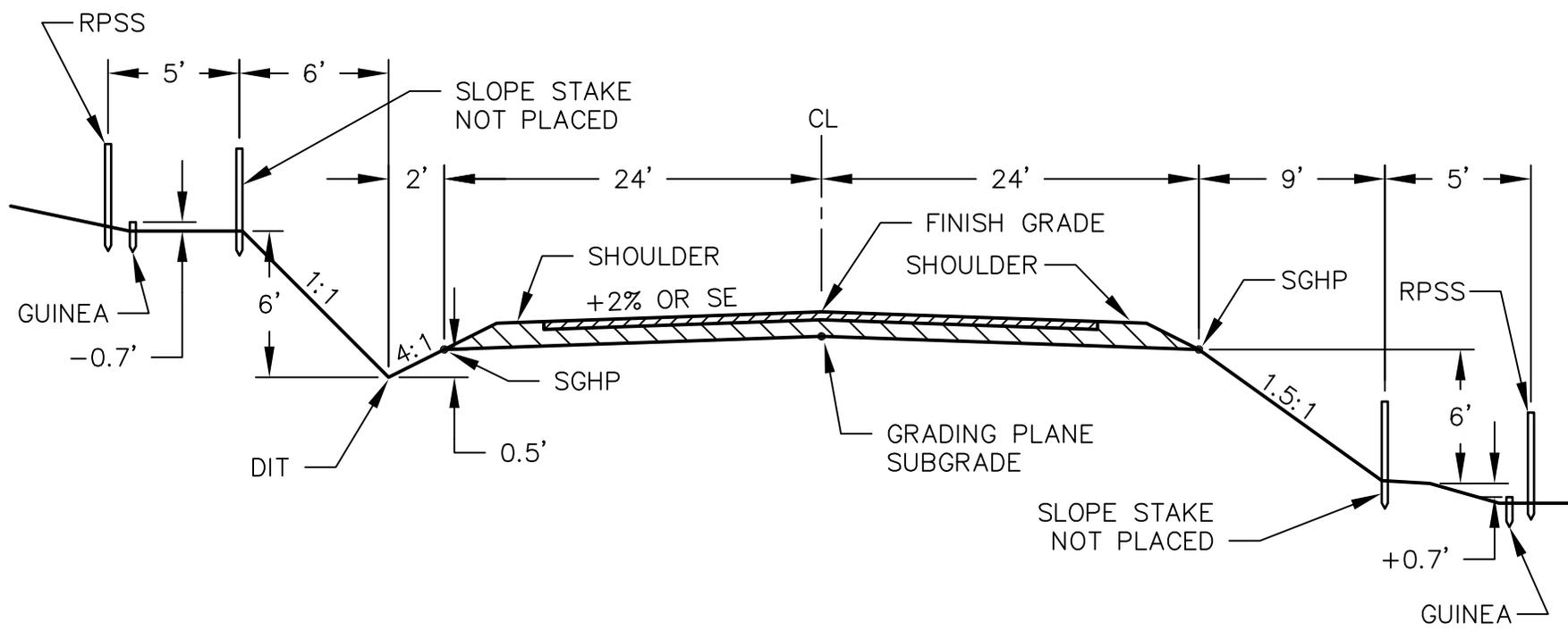


PLATE
127

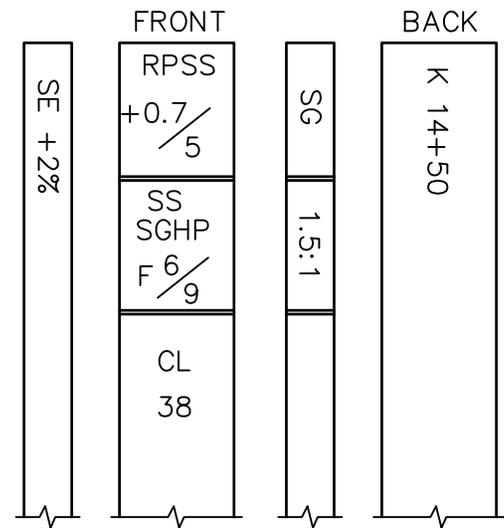


COUNTY OF PLACER
ENGINEERING & SURVEYING
CDRA

CONSTRUCTION STAKING



LEGEND	
	REFERENCE POINT SLOPE STAKE
	SLOPE STAKE
	SUBGRADE HINGE POINT
	DITCH
	SUPERELEVATION-CROWN SLOPE
	SUBGRADE



NOTES:

- AT ENGINEER'S DISCRETION, AND UPON REQUEST OF PROJECT OWNER, ALTERNATE CONSTRUCTION STAKING METHODS MAY BE APPROVED. IF REQUESTED TO DO SO, PROJECT OWNER SHALL PROVIDE ASSISTANCE TO COUNTY INSPECTOR TO CHECK GRADES.

DATE:
APR. 2016

SCALE:
NOT TO SCALE

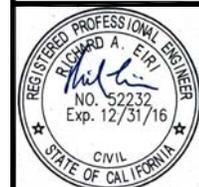


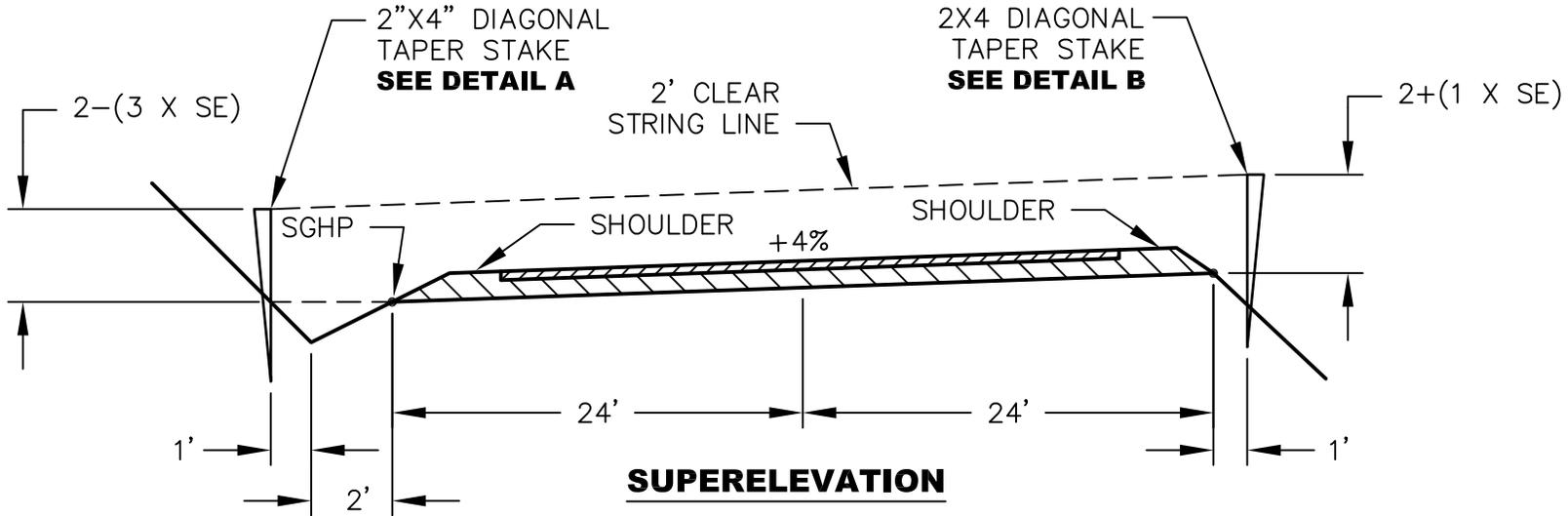
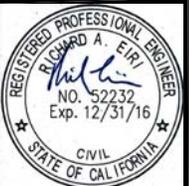
PLATE
200



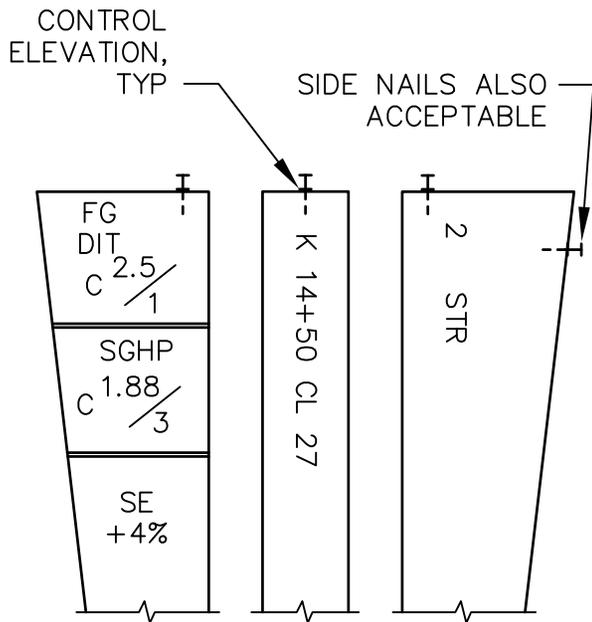
FINAL GRADE STAKES

"BANK PLUGS" FINISH GRADE - SUPERELEVATION

DATE: APR. 2016
SCALE: NOT TO SCALE

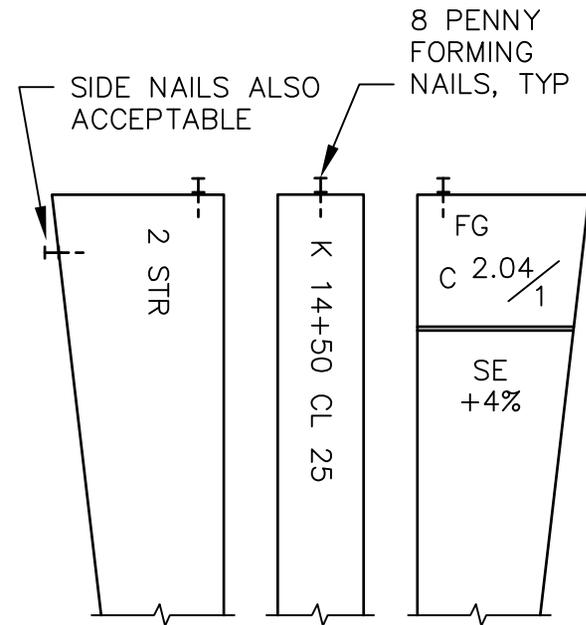


SUPERELEVATION



DETAIL A

LEGEND	
STR	STRING LINE BOOT
SGHP	SUBGRADE HINGE POINT
DIT	DITCH
SE	SUPERELEVATION-CROWN SLOPE
SC	SUBGRADE
FG	FINISH GRADE



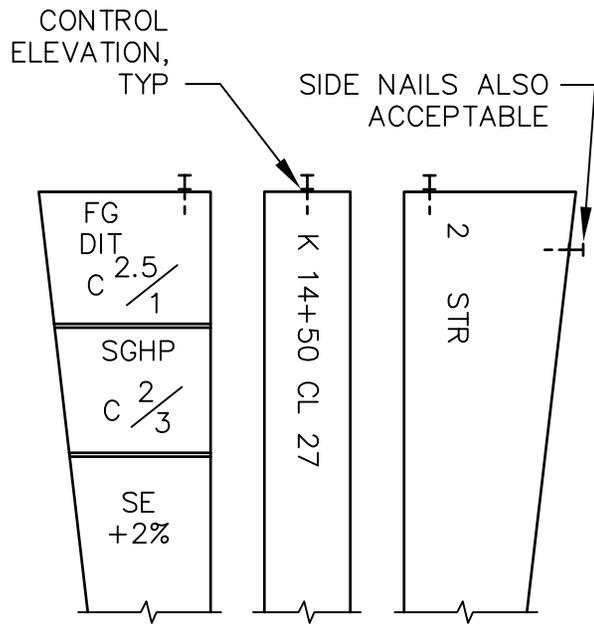
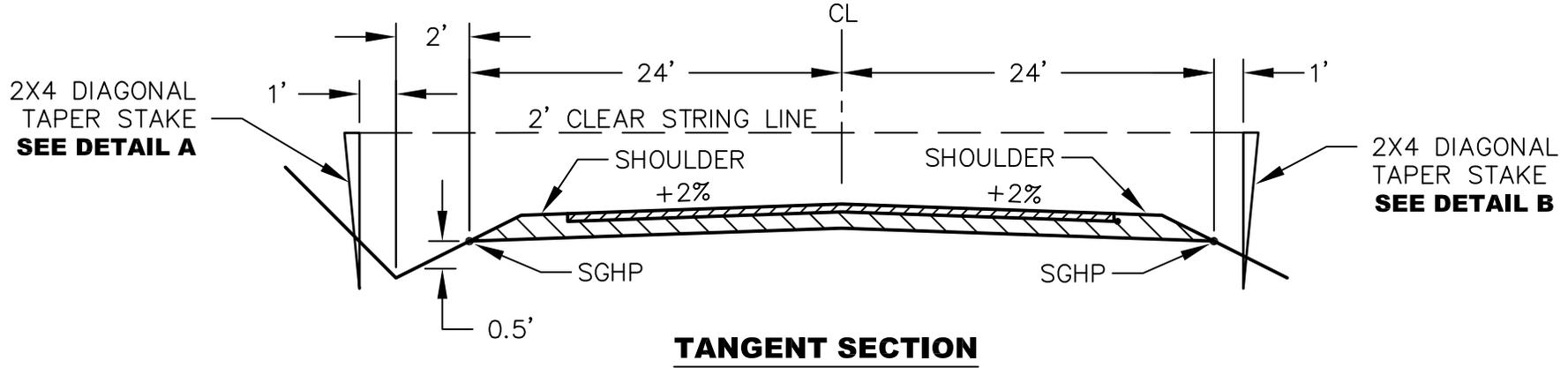
DETAIL B

- NOTES:**
1. AT ENGINEER'S DISCRETION, AND UPON REQUEST OF PROJECT OWNER, ALTERNATE CONSTRUCTION STAKING METHODS MAY BE APPROVED. IF REQUESTED TO DO SO, PROJECT OWNER SHALL PROVIDE ASSISTANCE TO COUNTY INSPECTOR TO CHECK GRADES.

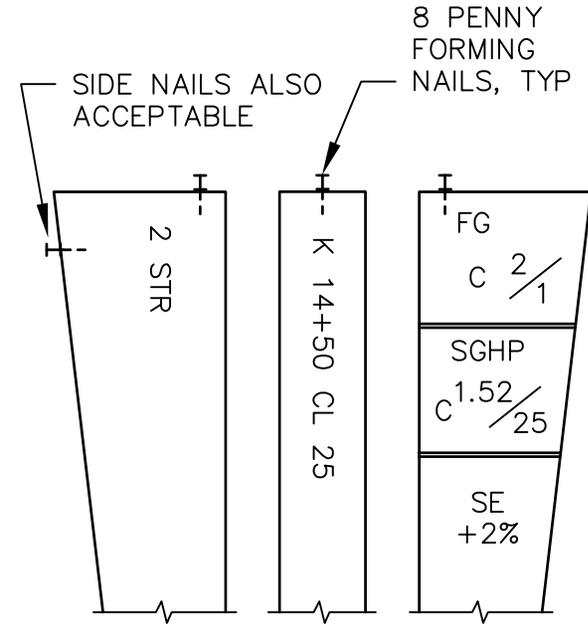


FINAL GRADE STAKES

"BANK PLUGS" FINISH GRADE - TANGENT SECTION



LEGEND	
STR	STRING LINE BOOT
SGHP	SUBGRADE HINGE POINT
DIT	DITCH
SE	SUPERELEVATION-CROWN SLOPE
SC	SUBGRADE
FG	FINISH GRADE



- NOTES:**
1. AT ENGINEER'S DISCRETION, AND UPON REQUEST OF PROJECT OWNER, ALTERNATE CONSTRUCTION STAKING METHODS MAY BE APPROVED. IF REQUESTED TO DO SO, PROJECT OWNER SHALL PROVIDE ASSISTANCE TO COUNTY INSPECTOR TO CHECK GRADES.

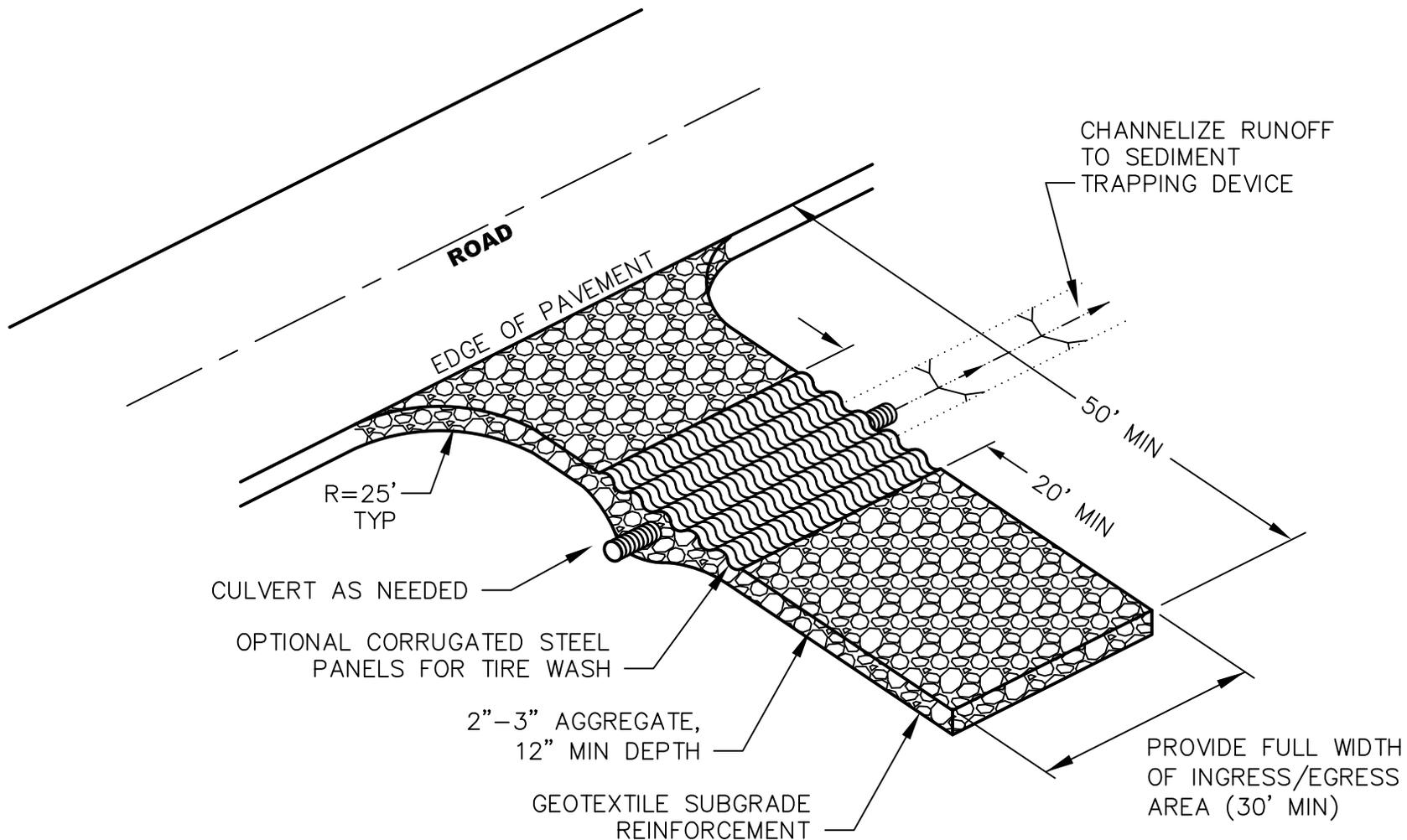
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COUNTY OF PLACER
CDRA
ENGINEERING & SURVEYING

STABILIZED CONSTRUCTION ENTRANCE



NOTES:

1. A STABILIZED CONSTRUCTION ENTRANCE SHALL BE USED AT ALL POINTS OF CONSTRUCTION INGRESS AND EGRESS.
2. THE AGGREGATE SHALL BE $2'' - 3''$ CRUSHED ROCK.
3. THE ENTRANCE SHALL BE PROPERLY GRADED TO PREVENT RUNOFF FROM LEAVING THE CONSTRUCTION SITE.
4. THE ENTRANCE SHALL BE CONSTRUCTED ON LEVEL GROUND.
5. PERIODIC TOP DRESSING WITH ADDITIONAL STONE SHALL BE PROVIDED TO ENSURE THE INTEGRITY OF THE ENTRANCE DURING CONSTRUCTION.
6. CONTRACTOR TO MAINTAIN CONSTRUCTION ENTRANCE AT ALL TIMES.
7. CRUSHED ROCK MATERIAL SHALL BE ADDED WHEN SURFACE VOIDS ARE NOT VISIBLE.
8. ALL SEDIMENT DEPOSITS ON PAVED ROADWAYS SHALL BE REMOVED WITHIN 24 HOURS.
9. THE CRUSHED ROCK AND GEOTEXTILE SHALL BE REMOVED AT COMPLETION OF CONSTRUCTION.

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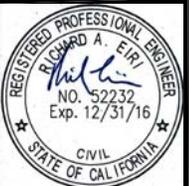
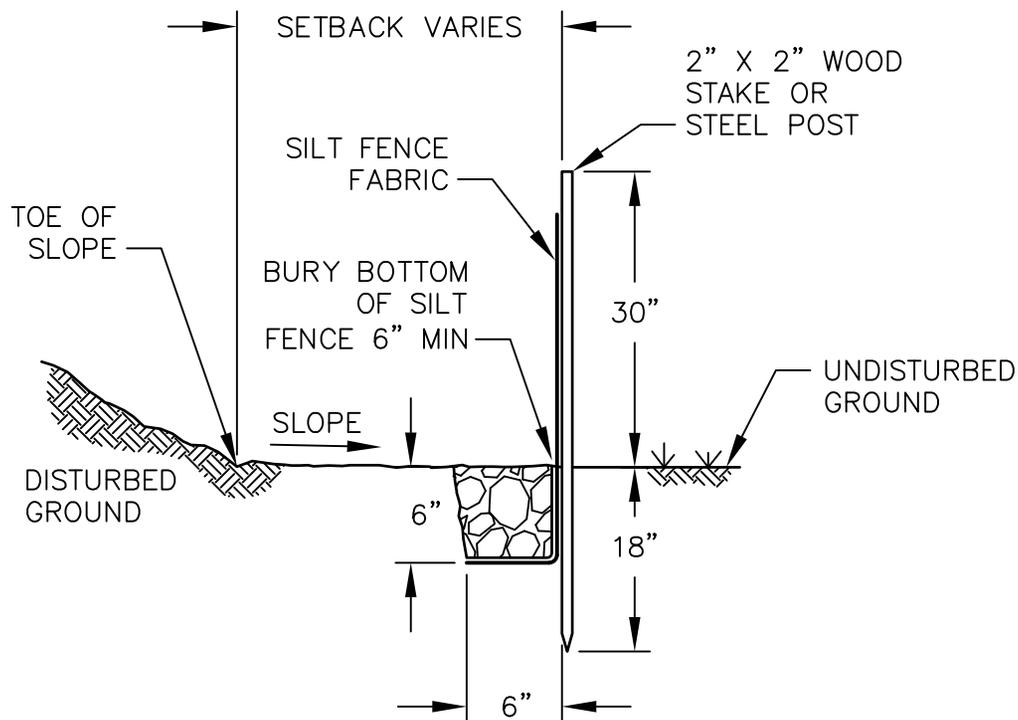


PLATE
203



COUNTY OF PLACER
CDRA ENGINEERING & SURVEYING

SILT FENCE



NOTES:

1. DO NOT USE IN STREAMS, CHANNELS, DRAIN INLETS, OR ANYWHERE FLOW IS CONCENTRATED. DO NOT USE TO DIVERT FLOW.
2. THE MAXIMUM LENGTH OF SLOPE DRAINING TO ANY POINT ALONG THE SILT FENCE SHALL BE 200'.
3. SILT FENCE FABRIC SHALL BE WOVEN POLYPROPYLENE; WIDTH = 36" MIN, TENSILE STRENGTH = 100 LB MIN.
4. THE FOLLOWING CRITERIA IS RECOMMENDED FOR SELECTION OF THE FABRIC EQUIVALENT OPENING SIZE (EOS):
 - A. IF 50% OR LESS OF THE SOIL, BY WEIGHT, WILL PASS THE U.S. STANDARD SIEVE NO. 200, SELECT THE EOS TO RETAIN 85% OF THE SOIL. THE EOS SHALL NOT BE FINER THAN EOS70.
 - B. FOR ALL OTHER SOIL TYPES, THE EOS SHALL BE NO LARGER THAN THE OPENINGS IN THE U.S. STANDARD SIEVE NO. 70 EXCEPT WHERE DIRECT DISCHARGE TO A STREAM, LAKE, OR WETLAND WILL OCCUR, THEN THE EOS SHALL BE NO LARGER THAN STANDARD SIEVE NO. 100.
5. CONNECTION/JOINING OF SILT FENCES SHALL BE COMPLETED BY TIGHTLY OVERLAPPING THE ENDS OF THE ROLLS A MINIMUM OF 12" OR BY OVERLAPPING THE END POSTS AND SECURING THE TWO POSTS TOGETHER TIGHTLY WITH PLASTIC WIRE TIES AND/OR STEEL BAILING WIRE (9 GAUGE OR HEAVIER).
6. STAKES SHALL BE SPACED AT 8'-0" MAX AND SHALL BE POSITIONED ON DOWNSLOPE SIDE OF FENCE.
7. STAPLES USED TO FASTEN THE FENCE FABRIC TO THE STAKES SHALL BE NOT LESS THAN 1.25" LONG AND SHALL BE FABRICATED FROM 15 GAUGE OR HEAVIER WIRE. PLASTIC WIRE TIES AND/OR STEEL BAILING WIRE (9 GAUGE OR HEAVIER) MAY BE SUBSTITUTED. NOT LESS THAN 4 STAPLES/TIES SHALL BE USED ON EACH STAKE.
8. THE LAST 8' OF FENCE SHALL BE TURNED UPSLOPE.
9. SILT FENCES SHALL BE LEFT IN PLACE, REGULARLY INSPECTED, AND MAINTAINED UNTIL THE UPSLOPE AREA IS PERMANENTLY STABILIZED.
10. SEDIMENT SHALL BE REMOVED BEFORE THE SEDIMENT ACCUMULATION REACHES ONE-THIRD OF THE BARRIER HEIGHT.

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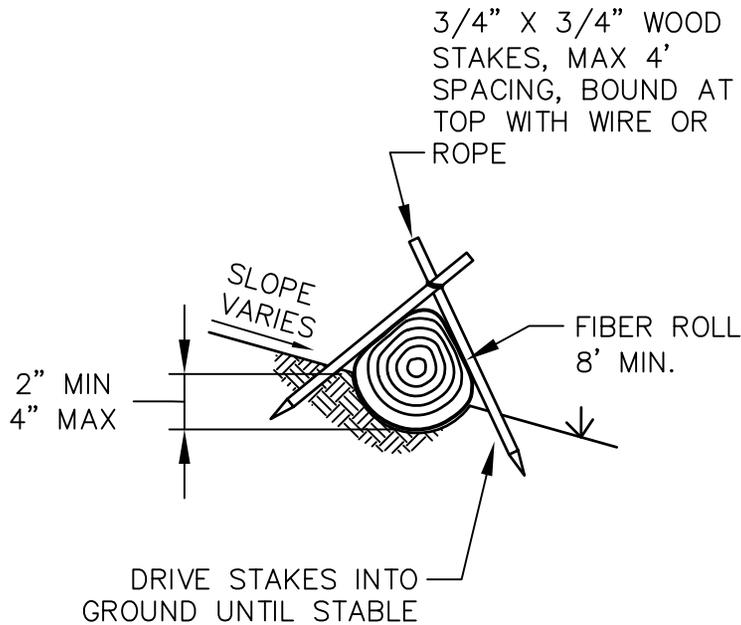


PLATE
204

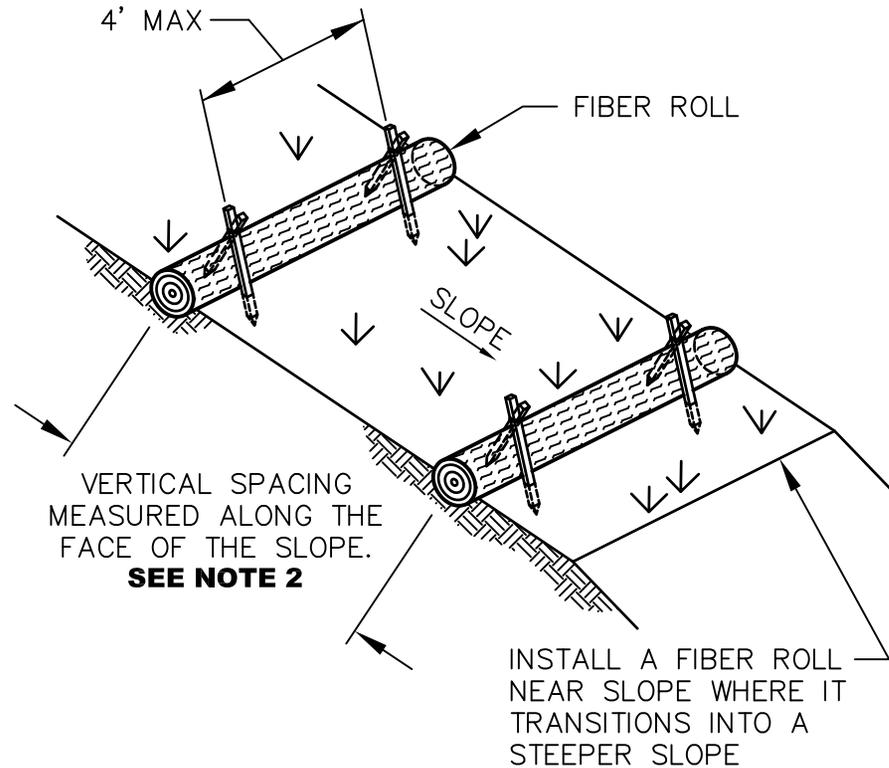


COUNTY OF PLACER
CDRA ENGINEERING & SURVEYING

FIBER ROLL INSTALLATION ON SLOPES



STAKING AND TRENCHMENT DETAIL



TYPICAL FIBER ROLL INSTALLATION

NOTES:

1. FIBER ROLLS SHOULD CONSIST OF STRAW, FLAX, WOOD EXCELSIOR OR COCONUT FIBERS BOUND IN A TIGHT TUBULAR ROLL.
2. LOCATE FIBER ROLLS ON LEVEL CONTOURS SPACED AS FOLLOWS:
 - SLOPE INCLINATION OF 4:1 (H:V) OR FLATTER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 20 FT.
 - SLOPE INCLINATION BETWEEN 4:1 AND 2:1 (H:V): FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 15 FT.
 - SLOPE INCLINATION OF 2:1 (H:V) OR GREATER: FIBER ROLLS SHOULD BE PLACED AT A MAXIMUM INTERVAL OF 10 FT.
3. TURN THE ENDS OF THE FIBER ROLL UP SLOPE TO PREVENT RUNOFF FROM GOING AROUND THE ROLL.
4. IF MORE THAN ONE FIBER ROLL IS PLACED IN A ROW, THE ROLLS SHOULD BE OVERLAPPED, NOT ABUTTED.
5. FIBER ROLLS MAY BE USED FOR DRAINAGE INLET PROTECTION IF PROPERLY ANCHORED.
6. SEDIMENT SHOULD BE REMOVED WHEN SEDIMENT ACCUMULATION REACHES ONE-HALF THE SEDIMENT STORAGE DEPTH.

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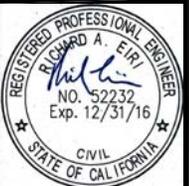


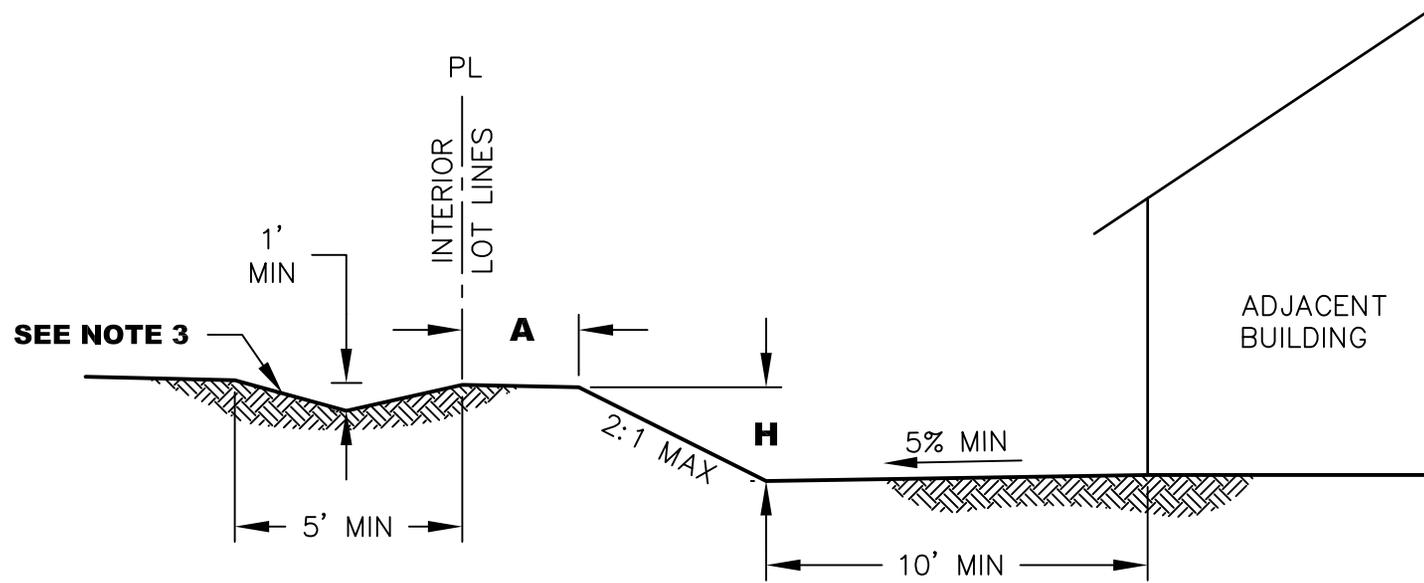
PLATE
205



COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

PROPERTY LINE GRADING

INTERIOR



SEE NOTE 3

H	A, MIN
≤ 2'	1'
> 2'	2'

NOTES:

1. THE SETBACKS SHOWN ON THIS PLATE ARE FOR USE WITH PROPOSED GRADED SUBDIVISIONS FOR INTERIOR PROPERTY LINES ONLY. SEE PLATE 302 FOR REQUIRED SETBACKS ALONG SITE BOUNDARY LINES.
2. POSITIVE SLOPE GRADING AROUND BUILDING TO BE COMPLETED AS PART OF THE BUILDING CONSTRUCTION.
3. DRAINAGE SWALE MAY BE REQUIRED AT TOP OF SLOPE ON ADJACENT LOT TO AVOID CROSS LOT DRAINAGE.

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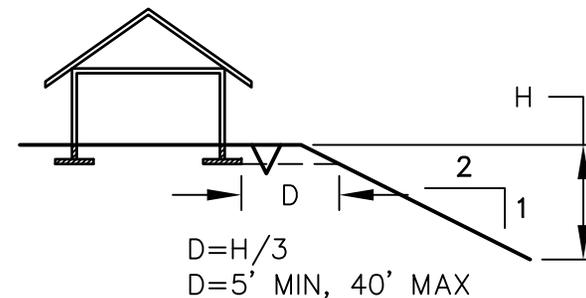
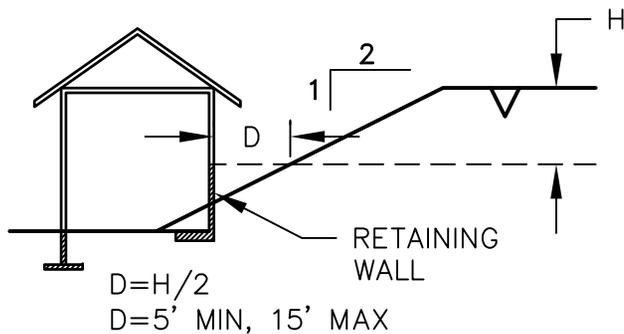
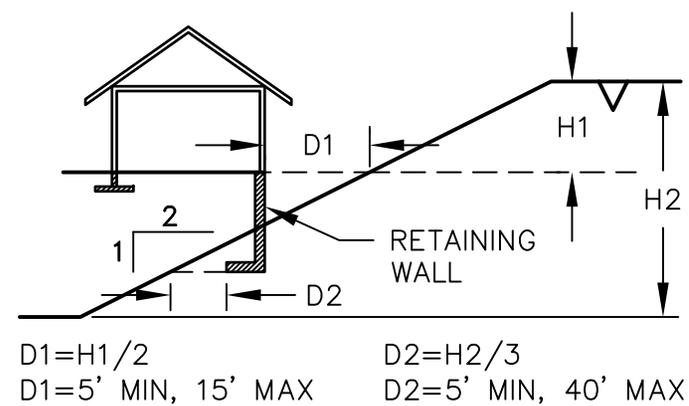
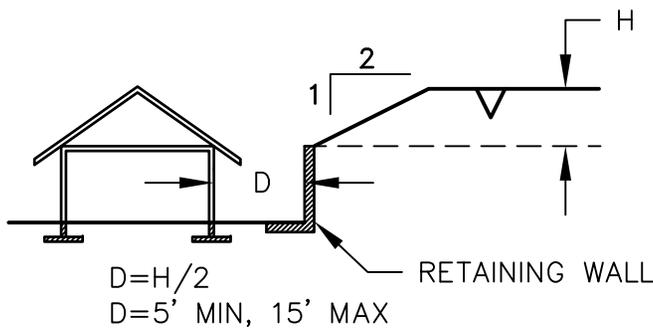
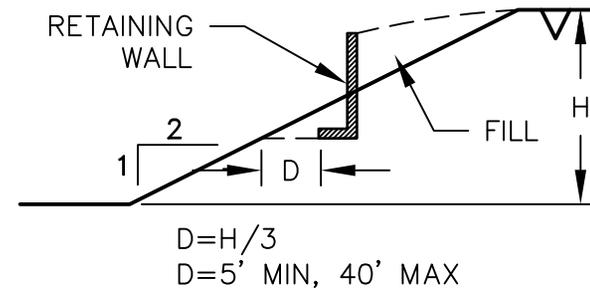
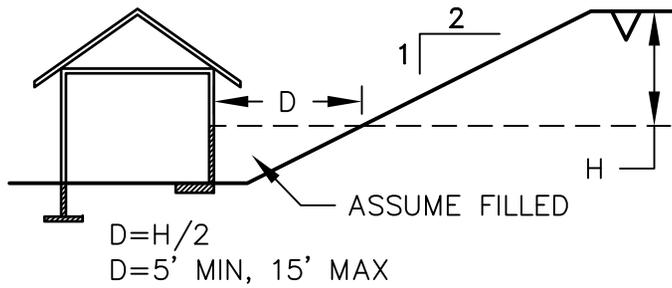
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PLATE
300



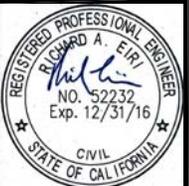
BUILDING AND SLOPE SETBACKS



- NOTES:**
1. REFER TO COUNTY GRADING ORDINANCE FOR ALLOWABLE CUT, FILL, SLOPES, ETC.
 2. BROW DITCHES MAY BE REQUIRED AT TOP OF SLOPES.
 3. FINAL LOCATION OF BUILDING SHALL CONFORM TO THIS REQUIREMENT AT THE BUILDING STAGE. SITE GRADING FOR PADS SHALL ALLOW FOR THIS REQUIREMENT.
 4. MAXIMUM DISTANCES AS NOTED ARE THE MAXIMUM WHICH MAY BE REQUIRED, AND ARE NOT INTENDED TO DICTATE THE MAXIMUM ALLOWED.

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COUNTY OF PLACER
CDRA ENGINEERING & SURVEYING

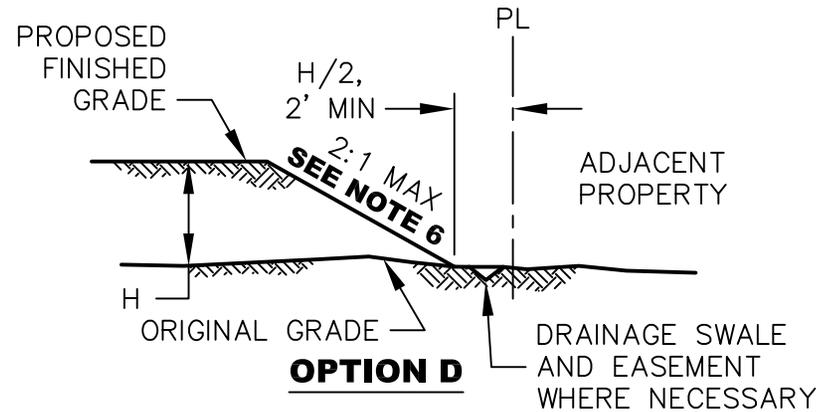
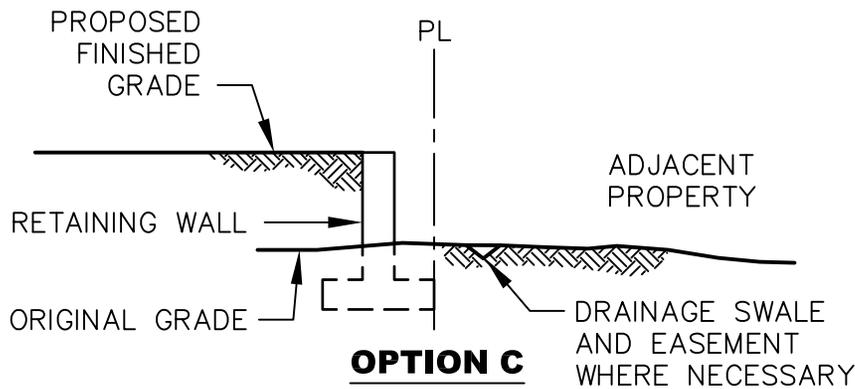
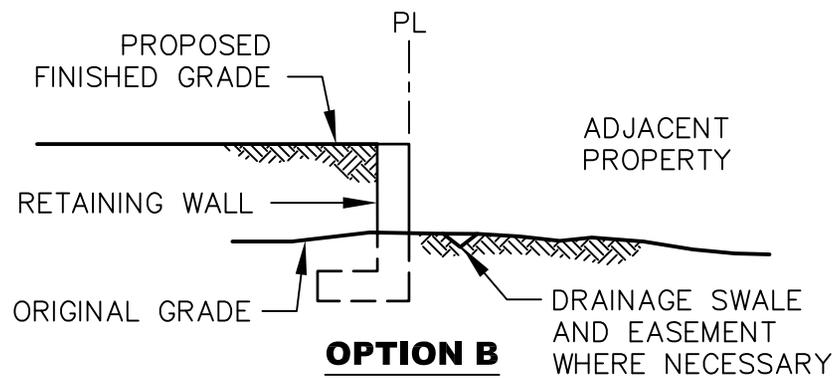
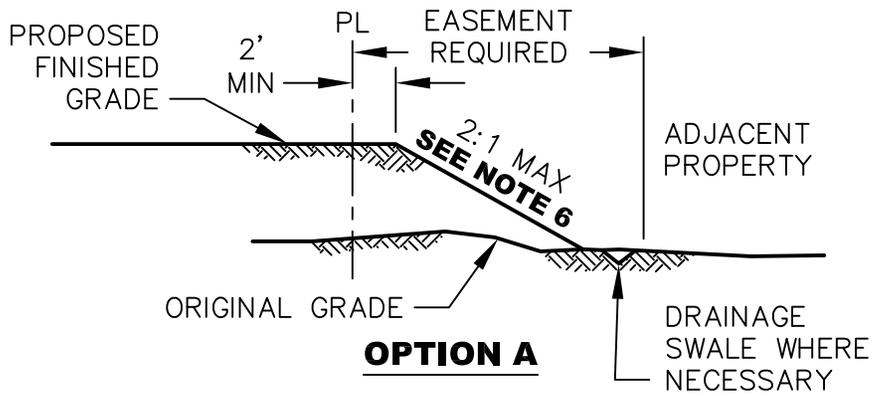
PROPERTY LINE GRADING

EXTERIOR PERIMETER

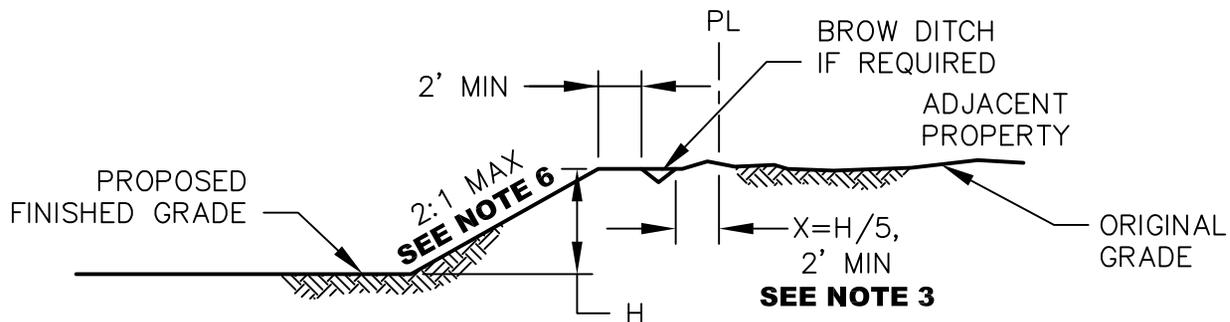
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PLATE
302



FILL AREAS



NOTES:

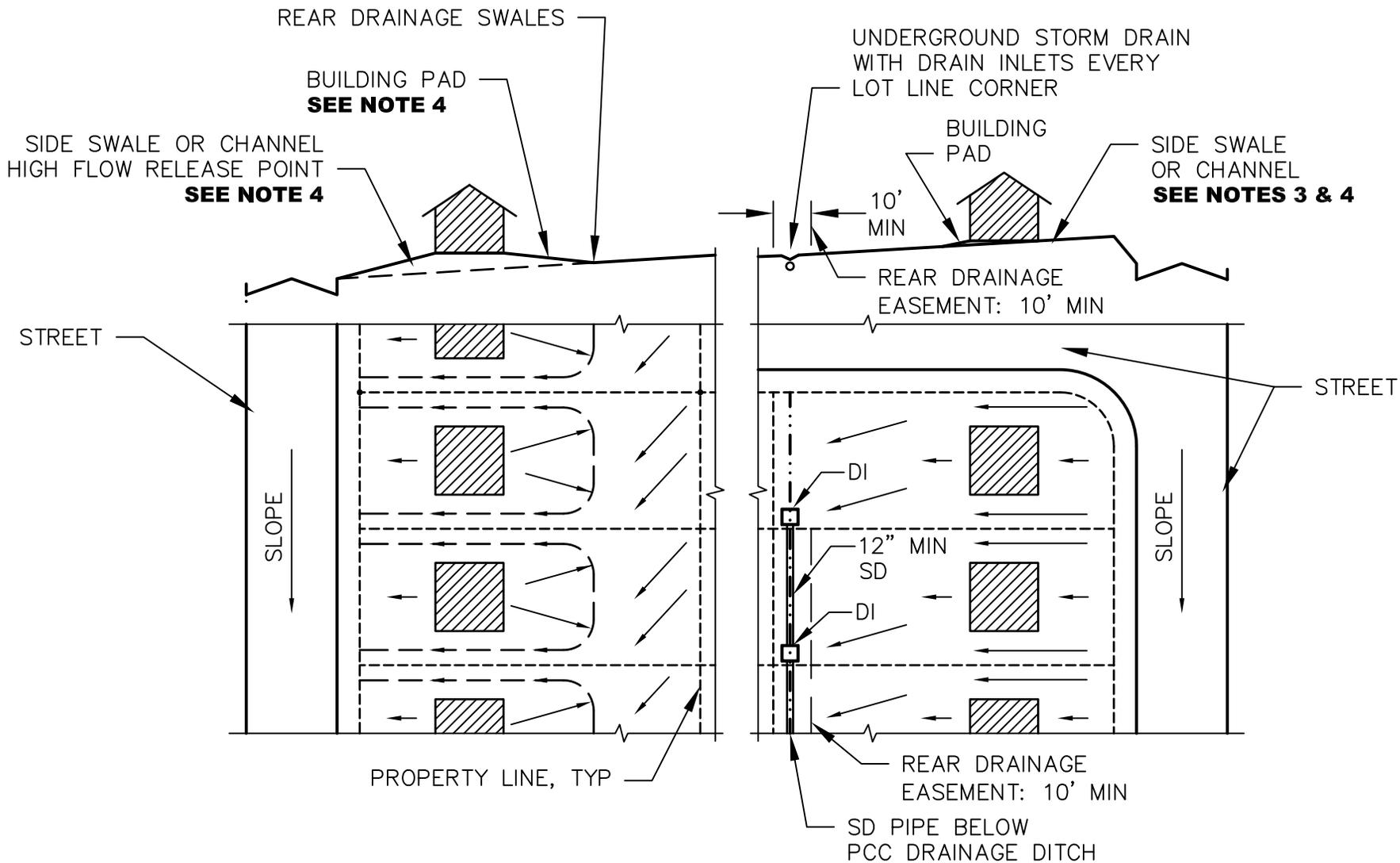
1. PERMANENT SLOPE EASEMENT IS REQUIRED FROM ADJACENT PROPERTY OWNER FOR OPTION A.
2. CONSTRUCTION EASEMENTS MAY BE REQUIRED FROM ADJACENT PROPERTY FOR OPTIONS A, B, & C.
3. DISTANCE X TO BE TAKEN FROM TOP OF SLOPE IF BROW DITCH NOT REQUIRED.
4. SLOPE OPTIONS FOR FILL AREAS ARE PRESENTED IN ORDER OF PREFERENCE.
5. PAD CERTIFICATION FOR COMPACTION AND/OR ELEVATION MAY BE REQUIRED TO BE PROVIDED BY A REGISTERED CIVIL ENGINEER.
6. 3:1 SLOPE OR LESS IS PREFERRED.



COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

CLASS 1 & 2 RESIDENTIAL

LOT GRADING AND DRAINAGE, LOT AREA < 1 ACRE



CLASS 1

CLASS 2

NOTES:

1. ALL GRADING FOR SINGLE FAMILY RESIDENTIAL LOTS SHALL CONFORM WITH CLASS 1 REQUIREMENTS SHOWN ON THIS PLATE AND NOTED IN THE LAND DEVELOPMENT MANUAL AND STORMWATER MANAGEMENT MANUAL.
2. CLASS 2 GRADING REQUIRES SPECIFIC APPROVAL FROM ENGINEER AND SHALL BE ALLOWED ONLY WHEN CLASS 1 GRADING IS NOT FEASIBLE.
3. AFTER HOUSE CONSTRUCTION, LOT GRADING SHALL PROVIDE FOR ADEQUATE RELEASE POINTS FOR ALL BACK LOT DRAINAGE WITH A MINIMUM 2% SLOPE.
4. MINOR SWALES AROUND BUILDINGS WHICH WILL CARRY WATER ONLY FROM ONE LOT MAY BE CONSTRUCTED AS PART OF THE BUILDING CONSTRUCTION. SWALES AND DRAINAGE SYSTEMS WHICH WILL CARRY WATER FROM MORE THAN ONE LOT SHALL BE SHOWN ON THE IMPROVEMENT PLANS AND CONSTRUCTED AS PART OF THE SUBDIVISION IMPROVEMENTS.
5. EACH CLASS 2 LOT SHALL HAVE A STORM DRAIN INLET.
6. REAR LOT STORM DRAINS SHALL BE LOCATED IN A DRAINAGE EASEMENT AND SHALL BE MAINTAINED BY THE PROPERTY OWNER OR HOMEOWNER'S ASSOCIATION (IF APPLICABLE).

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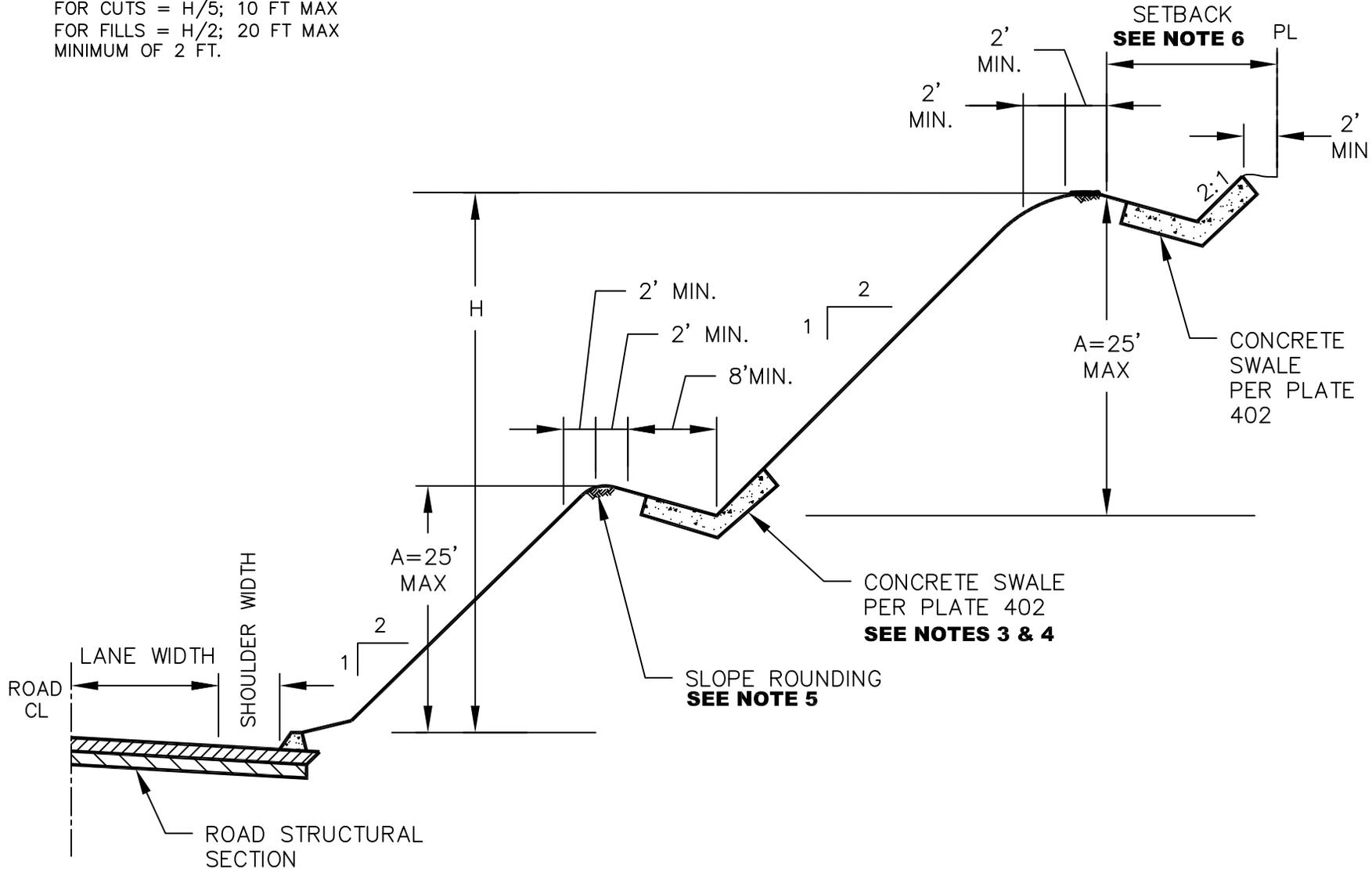
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PLATE 303

NOTES:

1. FOR ALL CUT OR FILL SLOPES WHERE H (HEIGHT) IS GREATER THAN 30 FT., TERRACES SHALL BE CONSTRUCTED AS RECOMMENDED BY A GEOTECHNICAL ENGINEER. THIS PLATE SHALL BE USED AS A GUIDE. MORE RESTRICTIVE DIMENSIONS MAY BE NEEDED DEPENDING ON SITE SPECIFIC CRITERIA.
2. THE MAXIMUM HEIGHT (A) OF EACH SLOPE BETWEEN TERRACES SHALL BE 25 FT.
3. DRAINAGE SWALES ON TERRACES SHALL HAVE A MINIMUM LONGITUDINAL GRADE OF 4% AND A MAXIMUM OF 12% AND CAPACITY FOR A TEN YEAR STORM.
4. DOWN DRAINS OR DRAINAGE OUTLETS SHALL BE PROVIDED AT APPROXIMATELY 300 FT. INTERVALS ALONG DRAINAGE TERRACE.
5. UPPER PORTION OF ALL CUT/FILL SLOPES SHALL BE ROUNDED, THE 4 FT. MIN. ROUNDED LENGTH SHALL BE INCREASED WITH INCREASED SLOPE HEIGHT AS REQUIRED BY THE COUNTY ENGINEER.
6. SETBACK DISTANCE SHALL BE:
 FOR CUTS = $H/5$; 10 FT MAX
 FOR FILLS = $H/2$; 20 FT MAX
 MINIMUM OF 2 FT.



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

TERRACE DRAINAGE

FOR CUTS AND FILLS

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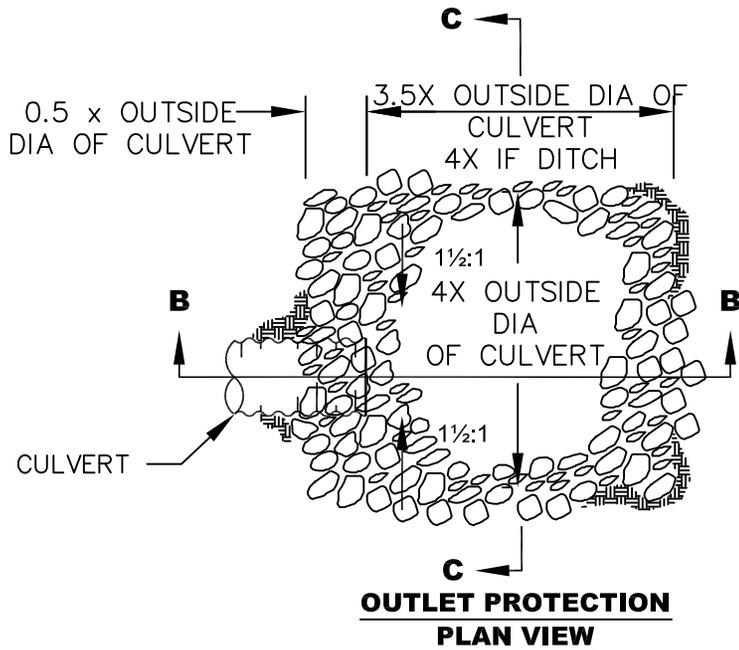
PLATE
400



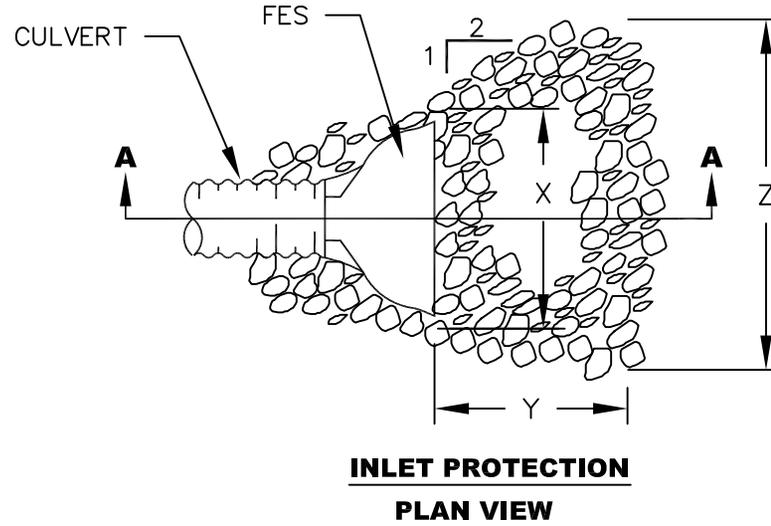
DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

**STORM DRAIN
ROCK INLET/OUTLET PROTECTION
48" DIAMETER OR SMALLER**

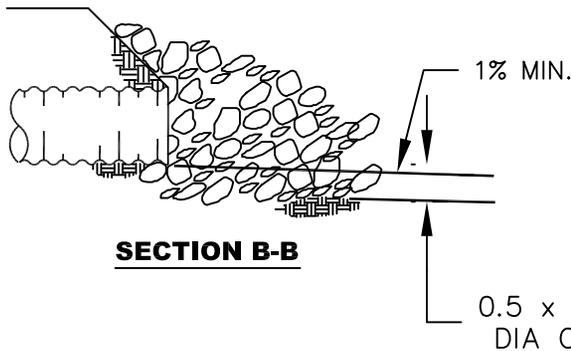


**OUTLET PROTECTION
PLAN VIEW**

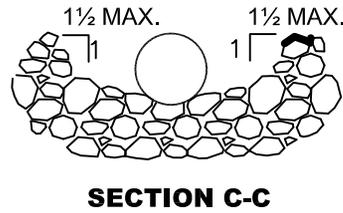


**INLET PROTECTION
PLAN VIEW**

INLET PROTECTION MINIMUM DIMENSIONS				
ROCK CLASS	PIPE Ø IN.	X FEET	Y FEET	Z FEET
NO. 1 BACKING	12	3	4	5
NO. 1 BACKING	15-18	4.5	6	7.5
NO. 1 BACKING	21-24	6	8	10
NO. 1 BACKING	27-30	7.5	10	12.5
NO. 1 BACKING	36	9	12	15
NO. 1 BACKING	42	10.5	14	17.5
NO. 1 BACKING	48	12	16	20



SECTION B-B

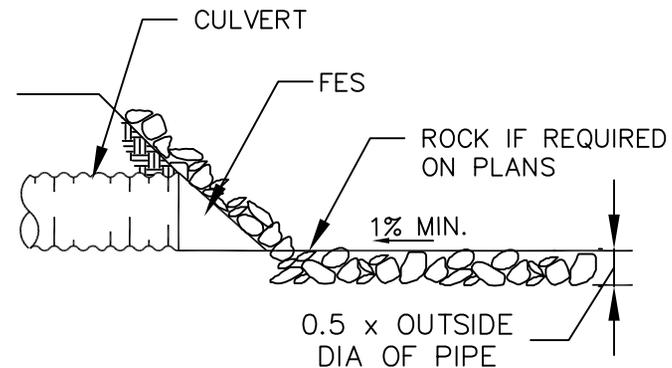


SECTION C-C

0.5 x OUTSIDE
DIA OF PIPE

NOTES:

- HAND PLACE ROCKS.
- ALL ROCKS SHALL BE ANGULAR AND HAVE TWO FACES.
- WHERE SLOPE OF OUTLET EXCEEDS 5%, A SEDIMENT BOWL OR ENERGY DISSIPATER SHALL BE REQUIRED.
- FLARED END SECTION AND ROCK SLOPE PROTECTION SHALL BE SLOPED AT A MIN. OF 1% INTO OR OUT OF CULVERT.
- ALL CULVERTS OF 48 IN. OR LESS SHALL BE INSTALLED WITH FLARED END SECTIONS (FES) ON INLETS. REINFORCED CONCRETE HEADWALLS AND END WALLS WITH CUTOFF WALLS SHALL BE CONSTRUCTED FOR ALL PIPES LARGER THAN 48 IN. UNLESS OTHERWISE APPROVED BY THE ENGINEER.
- ON OUTLET APPLICATIONS, 50% OF THE ROCKS SHALL BE LARGER THAN HALF THE DIAMETER OF THE PIPE.
- FOR ADDITIONAL EROSION PROTECTION, ENGINEER MAY REQUIRE FILTER FABRIC BENEATH ROCK.



SECTION A-A

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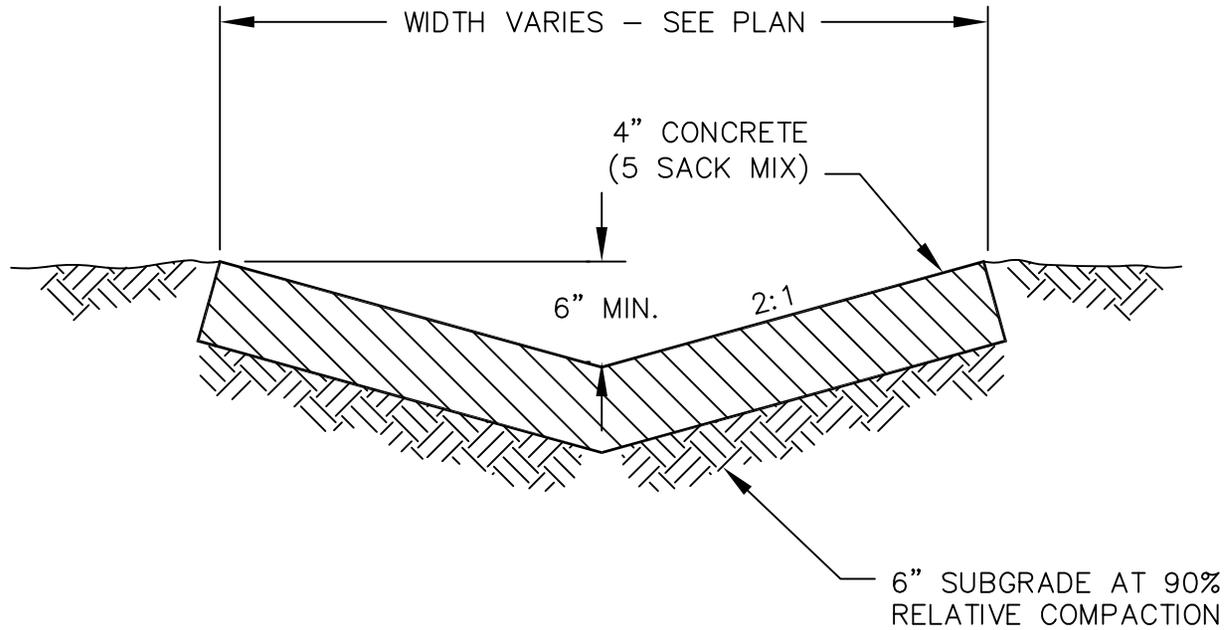


PLATE
401



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

CONCRETE SWALE



NOTE:

- 1. EXPANSION JOINTS AT 20 FT O.C.

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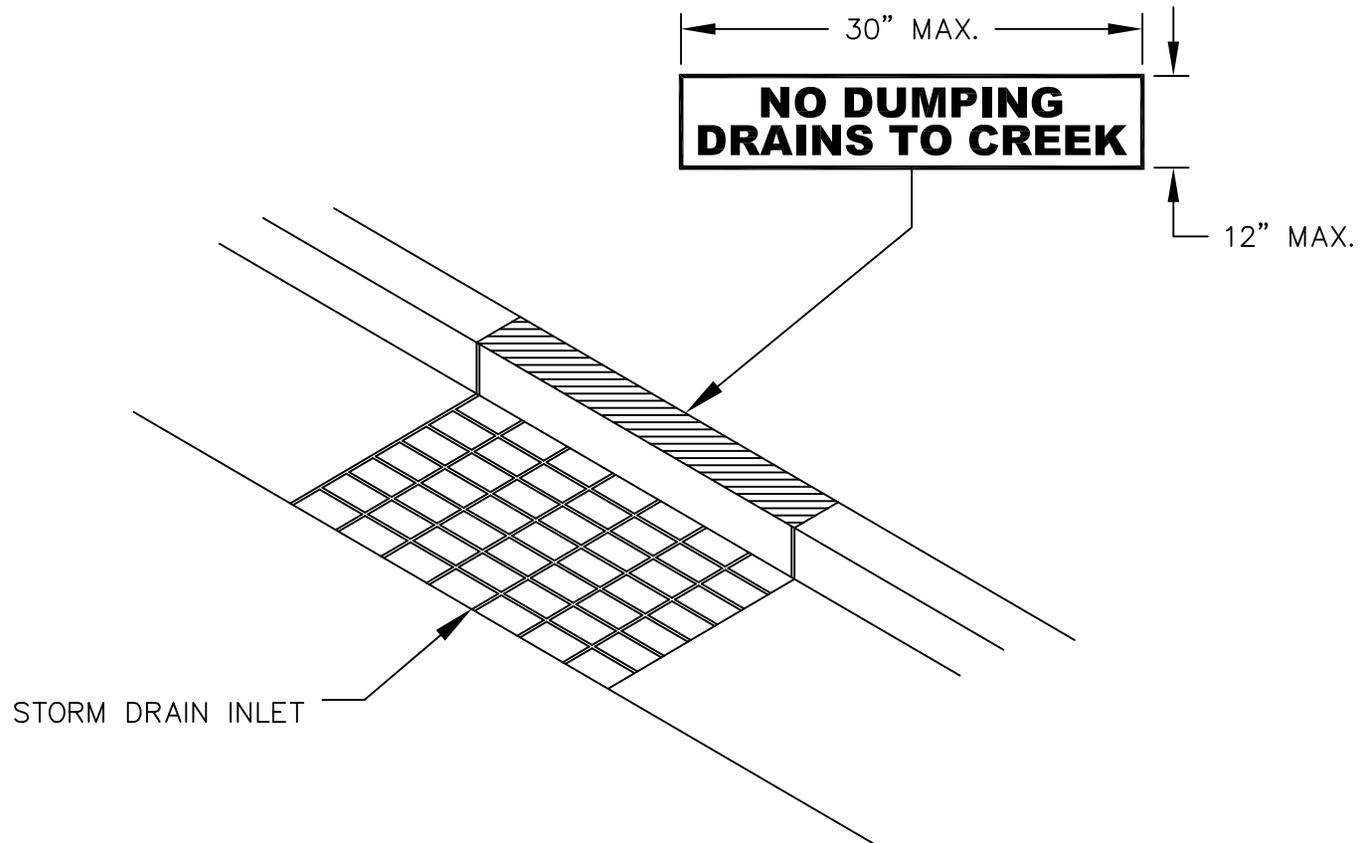


PLATE
402



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

STORM DRAIN MARKING



ACCEPTABLE MESSAGES:

1. NO DUMPING—DRAINS TO CREEK
2. NO DUMPING—DRAINS TO STREAM
3. NO DUMPING—DRAINS TO LAKE
3. ONLY RAIN DOWN THE DRAIN
4. OTHER MESSAGES MAY BE USED WITH PRIOR APPROVAL BY THE DEPARTMENT OF PUBLIC WORKS.

NOTES:

1. THE STORM DRAIN MESSAGE SHALL BE PERMANENTLY STAMPED INTO CONCRETE DURING CONSTRUCTION OF THE SIDEWALK. IF SIDEWALK IS NOT PLACED ADJACENT TO BACK OF CURB, THE ENGINEER WILL DETERMINE MESSAGE PLACEMENT AND METHODOLOGY.
2. LETTERING HEIGHT SHALL BE 1/2" AND STAMPING DEPTH SHALL BE APPROXIMATELY 0.25". THE MESSAGE SHALL BE CLEAR, LEGIBLE AND ACCEPTABLE TO THE ENGINEER.
4. MESSAGE DIMENSIONS SHALL BE 12" X 30" MAXIMUM.
5. MESSAGE SHALL BE PLACED ADJACENT AND PARALLEL TO THE LONG AXIS OF THE DRAIN.

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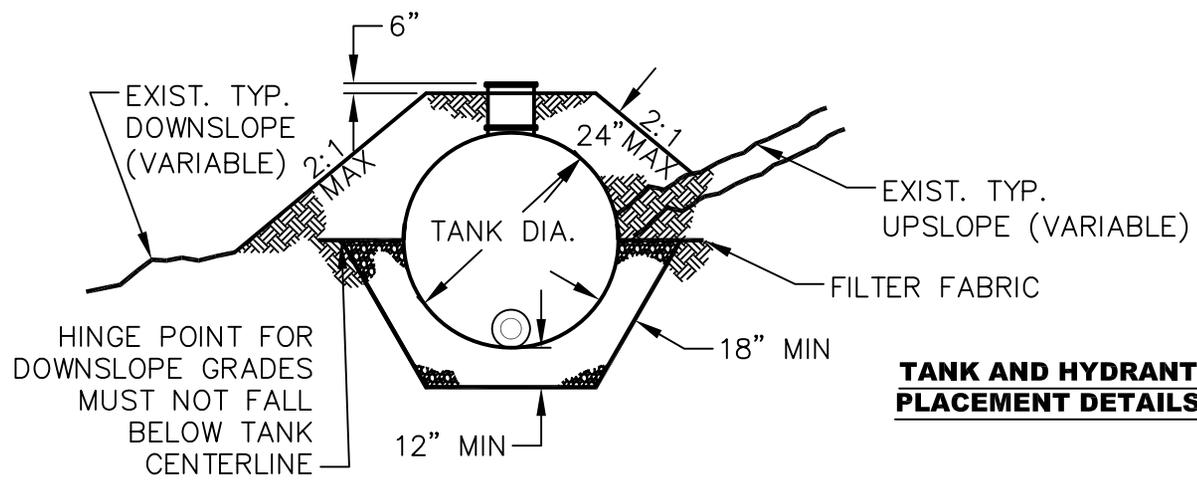


PLATE
403

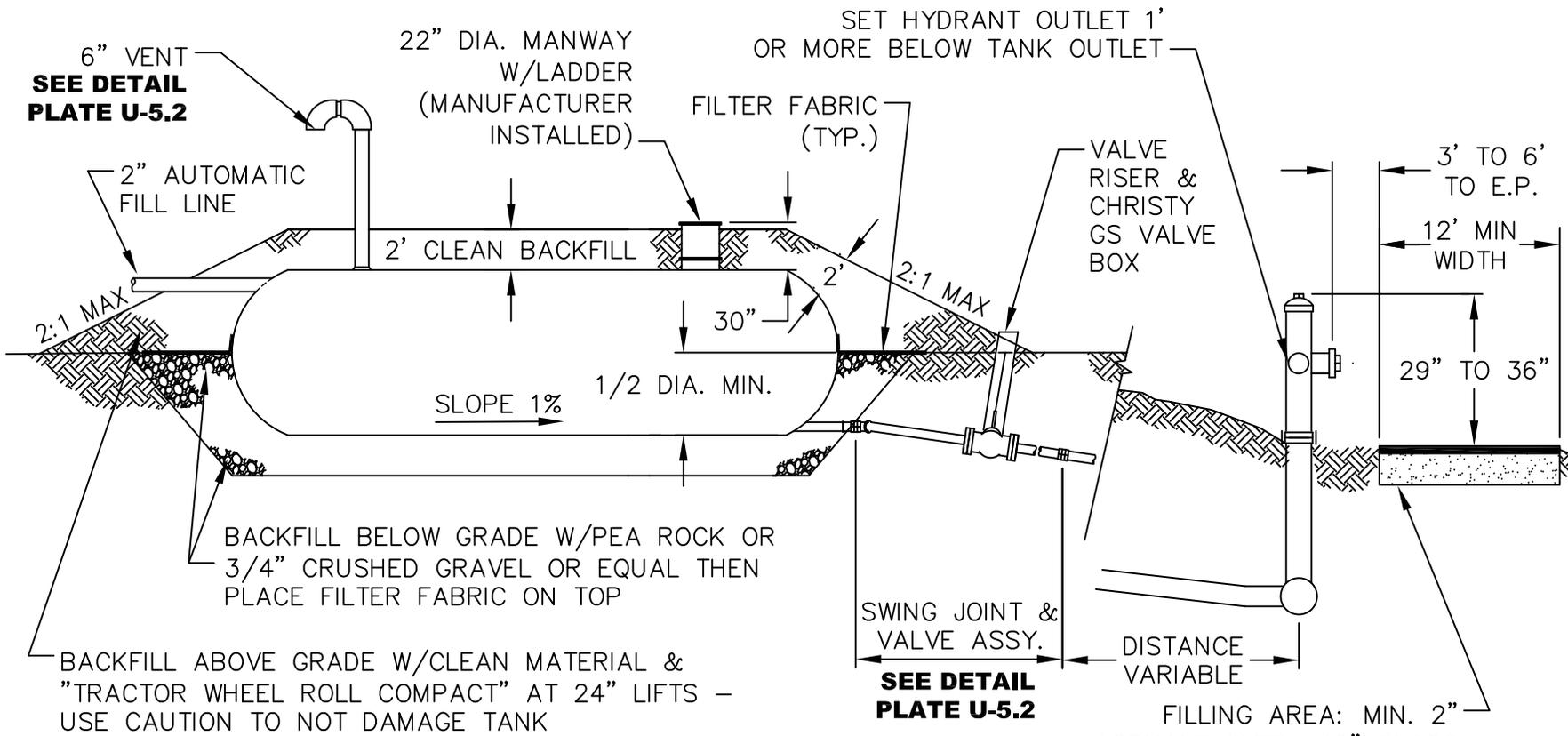


COUNTY OF PLACER
CDRA
ENGINEERING & SURVEYING

FIRE SUPPLY STORAGE TANK PLACEMENT



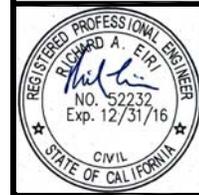
**TANK AND HYDRANT
PLACEMENT DETAILS**



**SEE DETAIL
PLATE U-5.2**

FILLING AREA: MIN. 2"
ASPHALT OVER 10" CLASS
2 AGGREGATE BASE, 40'
MIN LENGTH W/MIN
TURNAROUND = 40' DIA.

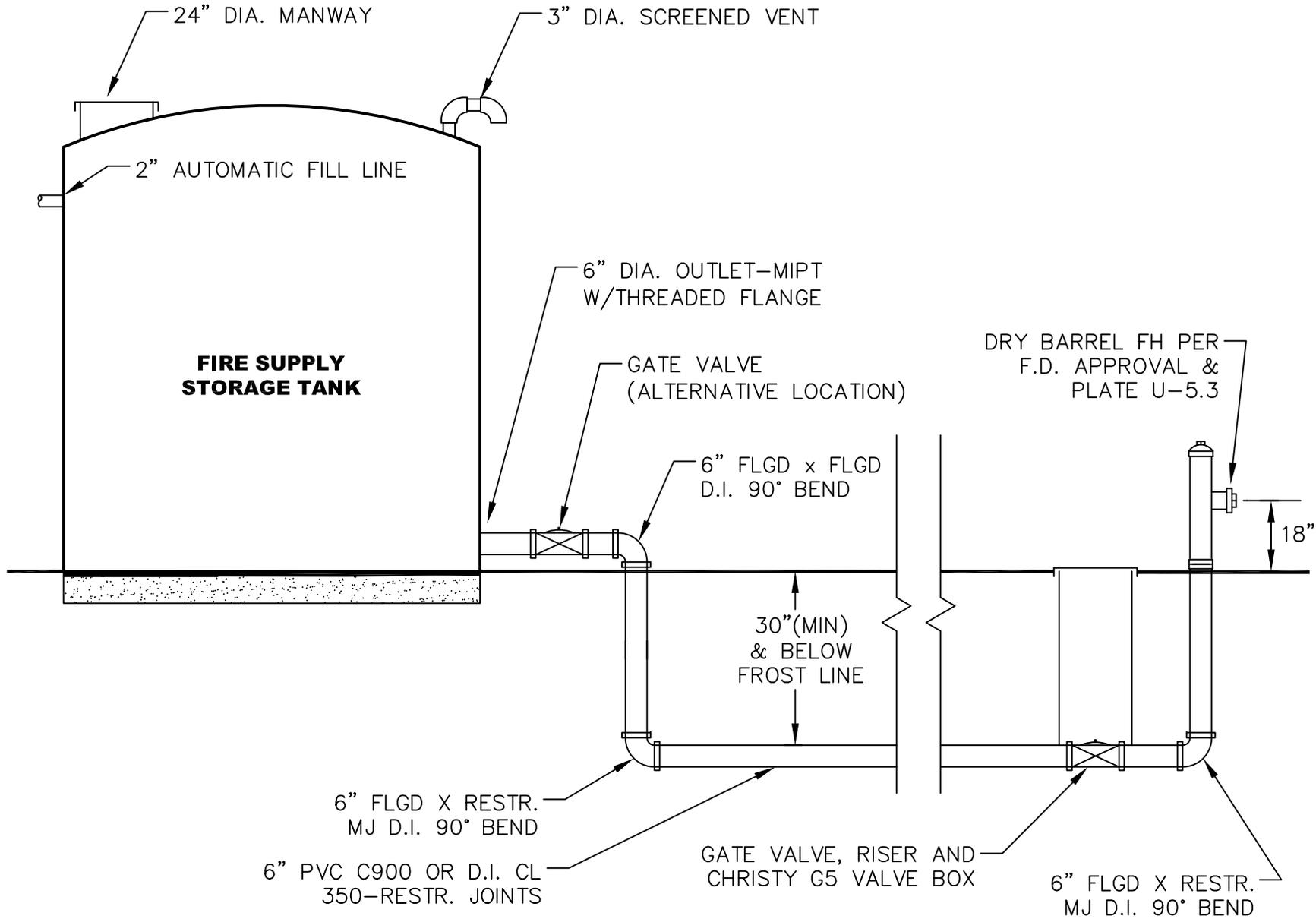
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COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

FIRE SUPPLY ABOVE GROUND STORAGE TANK



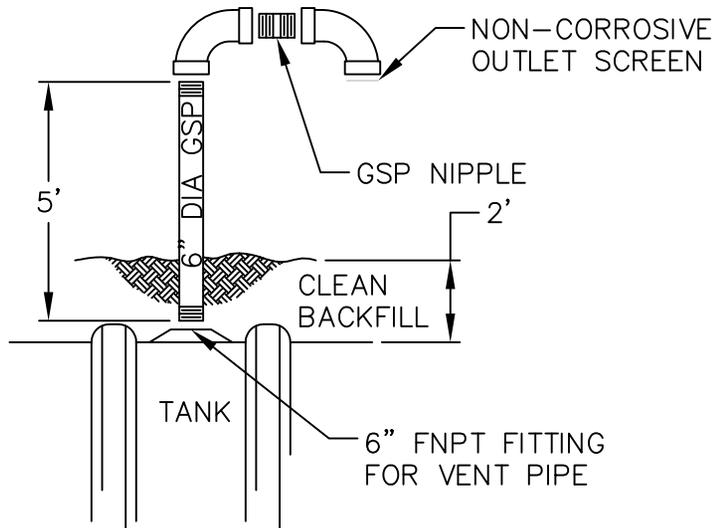
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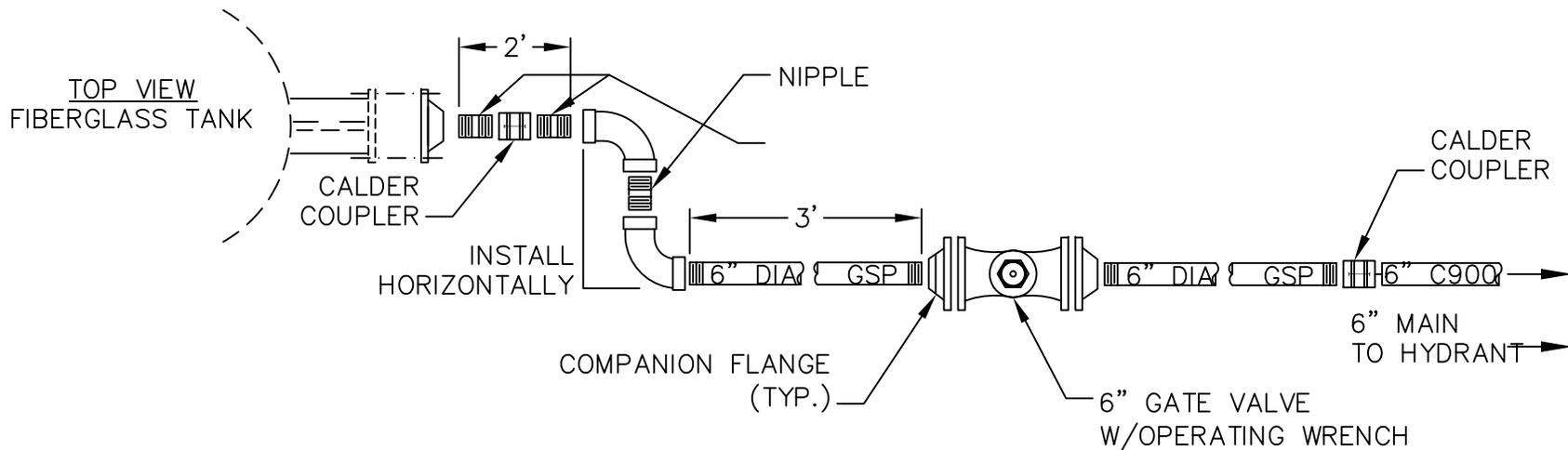


COUNTY OF PLACER
CDRA ENGINEERING & SURVEYING

FIRE SUPPLY STORAGE TANK PLUMBING CONNECTIONS



DETAIL - 6" GSP VENT



**TOP VIEW
DETAIL - SWING JOINT**

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PLATE
406



COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

FIRE SUPPLY STORAGE TANK NOTES

NOTES:

1. TANK SHALL BE WARRANTIED FOR 30 YEARS AGAINST DEFECTS IN WORKMANSHIP AND MATERIALS.
2. TANK VOLUME, LOCATION, MATERIALS, DESIGN, AND HYDRANT PLACEMENT SHALL COMPLY WITH PROJECT APPROVALS AND ARE SUBJECT TO LOCAL FIRE DISTRICT APPROVALS. IN THE EVENT OF CONFLICT, THE MOST RESTRICTIVE CONDITION SHALL APPLY. ROAD DISTANCES TO HYDRANTS SHALL NOT EXCEED 1000' FOR LOTS UP TO 3 ACRES, AND 2000' FOR LOTS BETWEEN 3 ACRES AND 20 ACRES UNLESS OTHERWISE APPROVED BY THE ENGINEER.
3. TANKS ELEVATED ABOVE GRADE SHALL BE DESIGNED BY A CIVIL OR STRUCTURAL ENGINEER REGISTERED IN CALIFORNIA. PARTIALLY OR COMPLETELY BURIED TANKS ARE EXEMPT UNDER THE UNIFORM BUILDING CODE, AND DO NOT REQUIRE ENGINEERING. TANKS SUPPORTED ON-GRADE, IF UNDER 5000 GAL. CAPACITY AND NOT EXCEEDING A 2:1 HEIGHT-TO-DIAMETER RATIO ARE LIKEWISE EXEMPT, AND DO NOT REQUIRE ENGINEERING. ALL OTHER TANKS REQUIRE AN ENGINEERED DESIGN.
4. TANKS SHALL BE CONSTRUCTED OF NON-CORROSIVE MATERIAL OR TREATED MATERIAL. CORROSIVE MATERIALS SHALL COMPLY WITH THE FOLLOWING:
 - A. PAINTS AND COATINGS SHALL COMPLY WITH THE LATEST PLACER COUNTY WATER AGENCY (PCWA) SPECIFICATIONS.
 - B. TANKS SHALL HAVE A MINIMUM WALL THICKNESS OF 1/2 INCH.
 - C. THE TANK INTERIOR SHALL BE SANDBLASTED AND TREATED PER PCWA SPECIFICATIONS.
 - D. THE TANK EXTERIOR SHALL BE TREATED WITH APPROPRIATE COATINGS PER PCWA SPECIFICATIONS.
 - E. TANK TREATMENT SHALL PROVIDE FOR A MINIMUM USEFUL LIFE OF 50 YEARS.
 - F. CATHODIC PROTECTION, IF REQUIRED, SHALL BE DESIGNED BY A NATIONAL ASSOCIATION OF CORROSION ENGINEERS CERTIFIED OR A CALIFORNIA REGISTERED CORROSION ENGINEER. SPECIAL INSPECTION WILL BE REQUIRED FOR SUCH INSTALLATIONS.
 - G. CERTIFICATES OF COMPLIANCE FOR THE ABOVE SHALL BE PROVIDED TO THE COUNTY'S INSPECTOR PRIOR TO ACCEPTANCE OF THE TANK(S).
5. AUTOMATIC FILL – A SUITABLE MEANS SHALL BE PROVIDED TO AUTOMATICALLY MAINTAIN THE WATER LEVEL IN THE TANK.
6. WHEN REQUIRED, A HYDRAULIC ANALYSIS OF THE SYSTEM SHALL BE PROVIDED BY A CALIFORNIA REGISTERED CIVIL ENGINEER.
7. ALL COMPONENTS OF THE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH COUNTY GENERAL SPECIFICATIONS AND THE LATEST VERSION OF PCWA SPECIFICATIONS.
8. AFTER INSTALLATION, THE TANK SHALL RECEIVE A LOW PRESSURE AIR TEST PER UNDERWRITER'S LABORATORY REQUIREMENTS.
9. 6" PVC PIPE SHALL MEET ALL AWWA C900 STANDRDS. THRUST BLOCKS SHALL BE PROVIDED AT ALL CHANGES IN DIRECTION.
10. STANDARD DRY-BARREL HYDRANT(S) SHALL BE CONFIGURED WITH 4 1/2 INCH AND 2 1/2 INCH FIRE CONNECTIONS AND A 6 INCH UNDERGROUND VALVE. HYDRANT IS TO BE PERMANENTLY LABELED "DRAFT ONLY", AND INSTALLED WITH A STANDARD BURY, CONCRETE KICKER, AND BREAK-OFF BOLT ASSEMBLY, AS APPROVED BY THE LOCAL FIRE DISTRICT. IF APPROVED BY THE DISTRICT, A 4 INCH STAND PIPE WITH A PERMANENTLY ATTACHED 4 1/2 INCH X 2 1/2 INCH FEMALE SWIVEL NATIONAL HOSE THREAD FITTING MAY BE SUBSTITUTED FOR A HYDRANT. THE STAND PIPE SHALL BE BETWEEN 18 INCHES AND 30 INCHES ABOVE GRADE.
11. A REFLECTORIZED BLUE MARKER WITH A MINIMUM DIMENSION OF 3 INCHES SHALL BE MOUNTED ON A FIRE RETARDANT POST PLACED WITHIN 3 FEET OF THE HYDRANT/FIRE VALVE. THE MARKER SHALL BE MOUNTED HORIZONTALLY, BETWEEN 3 AND 5 FEET ABOVE THE GROUND, AND VISIBLE FROM THE ROADWAY, OR AS SPECIFIED IN THE LATEST VERSION OF THE STATE FIRE MARSHAL'S GUIDELINES FOR FIRE HYDRANT MARKINGS ALONG STATE HIGHWAYS AND FREEWAYS.

DATE: APR. 2016
 SCALE: NOT TO SCALE



PLATE
407



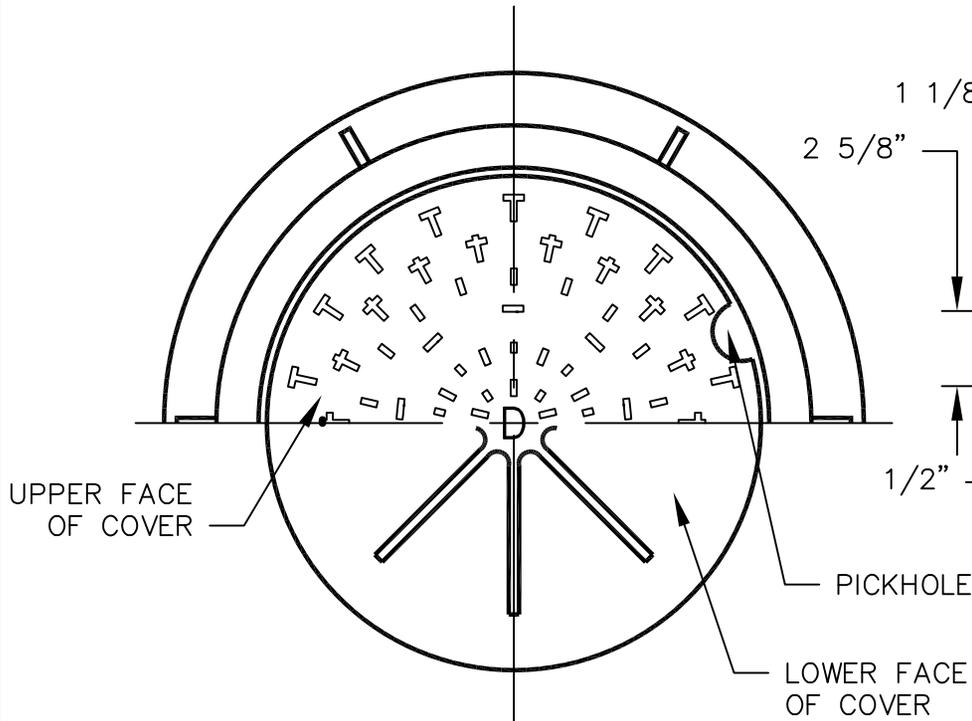
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

STANDARD 24" STORM DRAIN MANHOLE

DATE:
APR. 2016
SCALE:
NOT TO SCALE

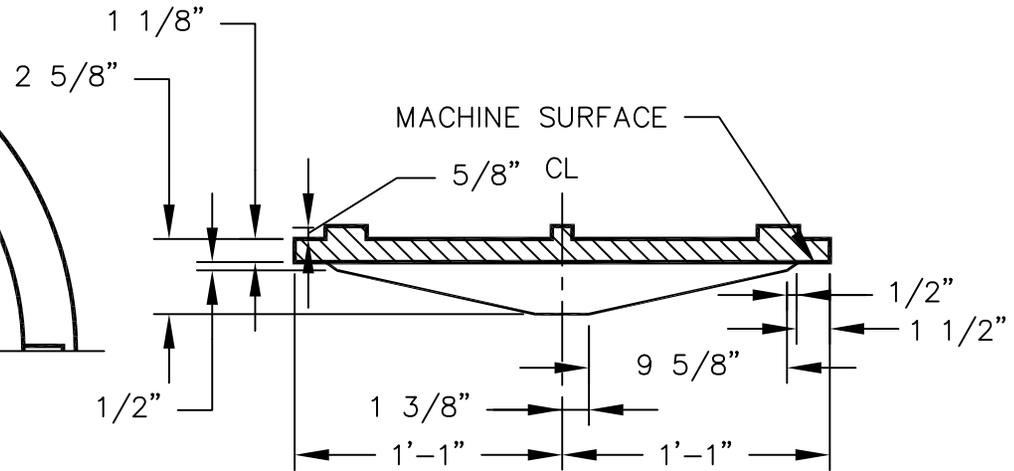


PLATE
408

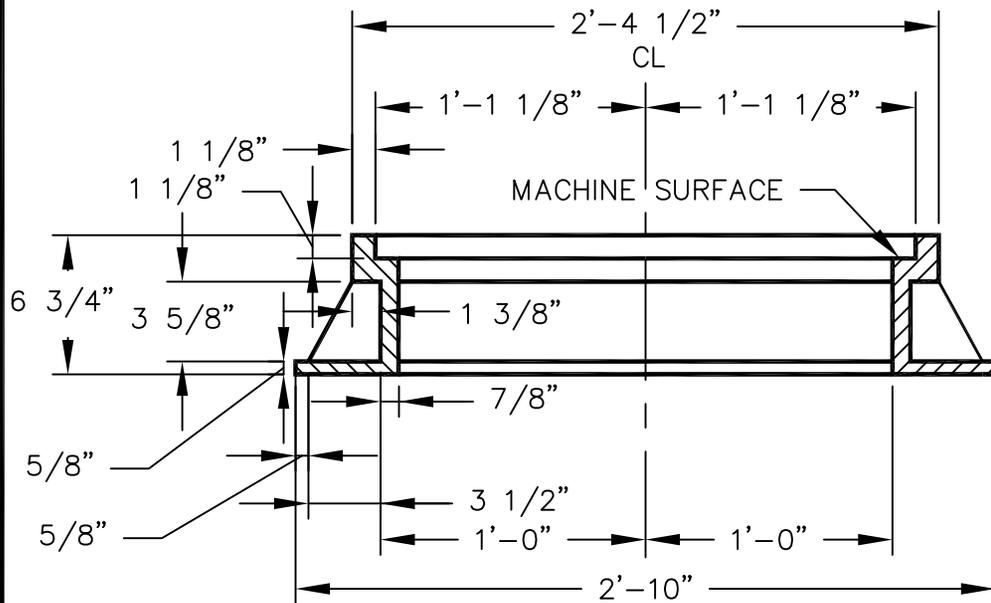


HALF PLAN OF MANHOLE FRAME & COVER

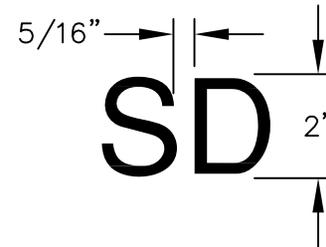
SD or D = STORM DRAIN



SECTION ON CL THROUGH COVER



SECTION ON CL THROUGH FRAME



**LETTER "S" AND/OR "D" AT
CENTER OF COVER**



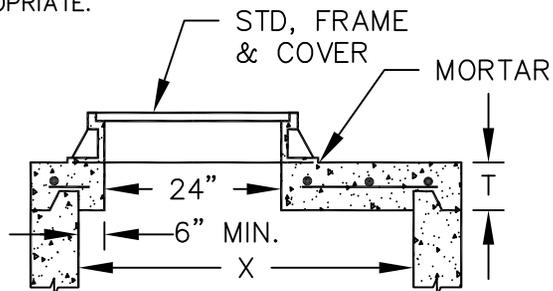
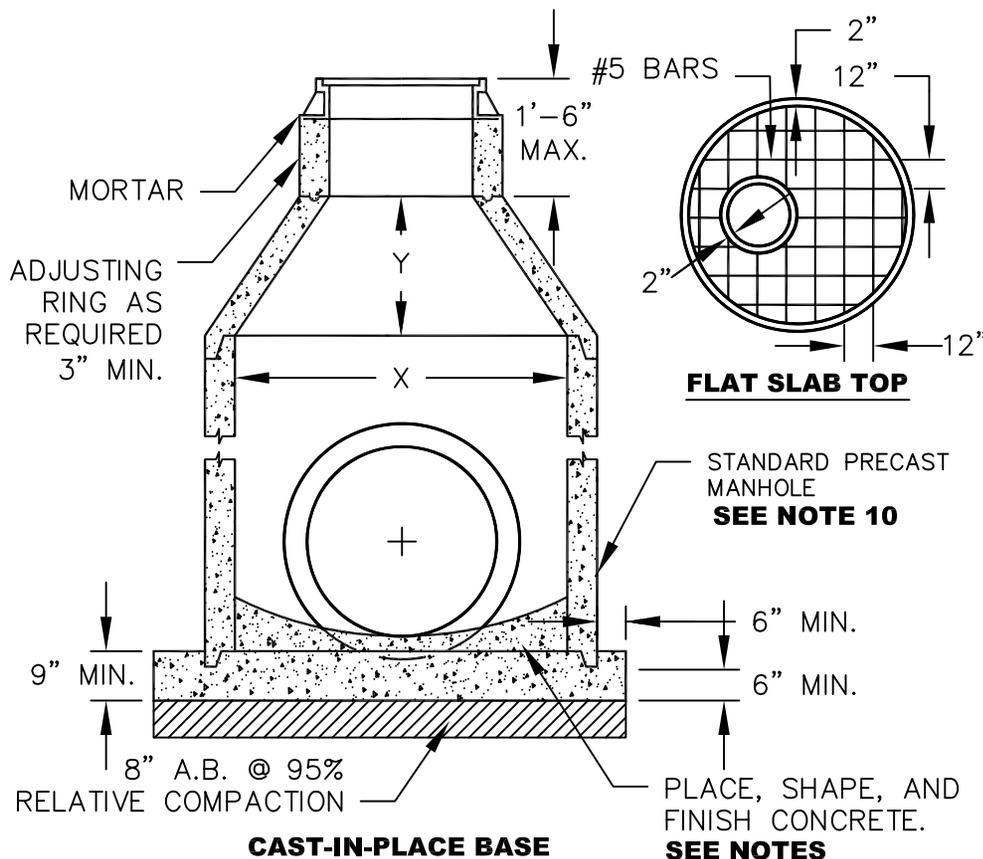
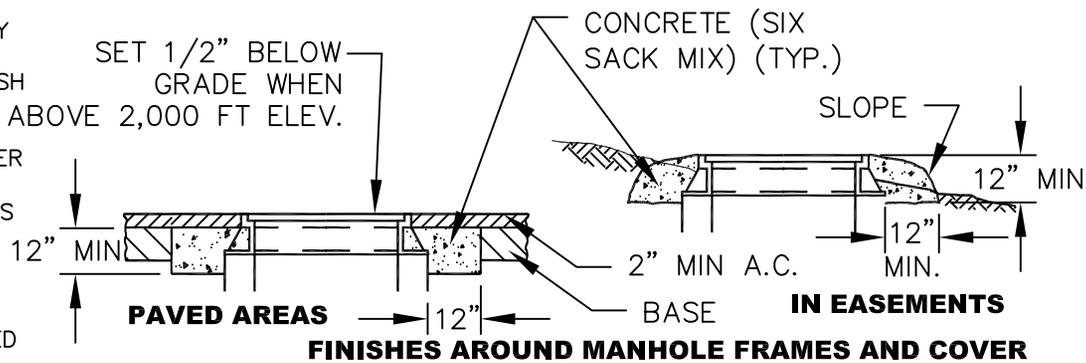
DEPARTMENT OF PUBLIC WORKS & FACILITIES
COUNTY OF PLACER

STANDARD PRECAST STORM DRAIN MANHOLE

NOTES:

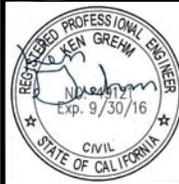
1. ECCENTRIC CONES SHALL BE USED WHEN SPECIFIED ON THE PLANS.
2. JOINTS MAY BE EITHER KEYED OR TONGUE AND GROOVE.
3. RISER SECTIONS, CONES, AND ADJUSTING RINGS SHALL CONFORM TO ASTM DESIGNATION C-478.
4. FRAME SHALL BE SECURED TO RISER OR FLAT SLAB TOP WITH CEMENT MORTAR.
5. DIMENSION "Y" IS A MINIMUM DIMENSION AND MAY BE GREATER IF DEPTH PERMITS.
6. MANHOLE FLOORS SHALL HAVE WOOD TROWEL FINISH AND SLOPED FROM ALL DIRECTIONS TOWARD THE ABOVE 2,000 FT ELEV. OUTLET.
7. COVER FOR STORM DRAINS SHALL BEAR THE LETTER "D" OR "SD". SEE PLATES: 408 AND 410.
8. EXTRA DEPTH MANHOLES OR MANHOLES WITH PIPES OVER 54 INCHES IN DIAMETER SHALL REQUIRE SPECIAL DESIGN.
9. THERE SHALL BE AN 8 INCH MINIMUM CLEAR DISTANCE BETWEEN ALL PIPE OUTSIDE DIAMETERS AT THE MANHOLE UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.
10. CAST-IN-PLACE MANHOLE WALLS MAY BE APPROVED BY THE ENGINEER. ALL CAST-IN-PLACE MANHOLES MUST BE FORMED IN A CIRCULAR SHAPE CONSISTENT WITH THE DIAMETER SPECIFIED ON THE PLANS AND REQUIRED TO FIT UPPER PRECAST SECTIONS. MINIMUM WALL THICKNESS SHALL BE 8 INCHES. MAXIMUM HEIGHT OF THE CAST-IN-PLACE SHALL BE 60 INCHES (MEASURED FROM THE TOP OF THE MANHOLE). PRECAST RINGS SHALL BE SET WET OR REQUIRED KEY FORM SHALL BE INCLUDED IN THE FORM WORK TO ACCEPT THE PRECAST KEY. ALL CAST-IN-PLACE CONCRETE SHALL BE CONSOLIDATED BY AN ACCEPTABLE METHOD TO ENSURE ALL VOIDS ARE REMOVED.
11. ANY VARIATIONS FROM THIS PLATE OR SPECIAL MANHOLES AND JUNCTION BOXES WILL REQUIRE REVIEW AND APPROVAL OF THE DESIGN BY THE ENGINEER.
12. M.H. LID TO BE RAISED AFTER FINAL PAVING, WHERE APPROPRIATE.

M.H.	X	Y	T	MIN.	MAX. PIPE INNER DIA
48"	48"	18"	8"		30"
60"	60"	30"	9"		42"
72"	72"	42"	10"		54"



FLAT SLAB SHALL BE USED WHEN DEPTH DOES NOT PERMIT USE OF TAPER UNIT.

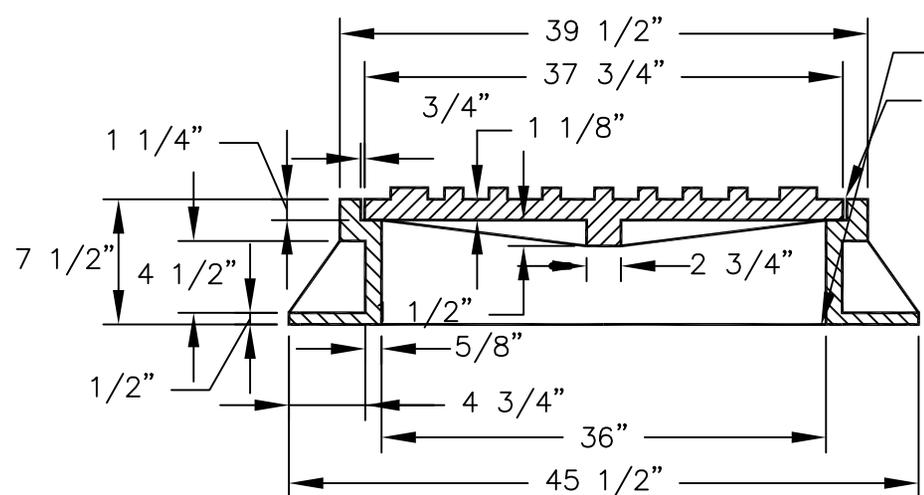
DATE: APR. 2016
SCALE: NOT TO SCALE



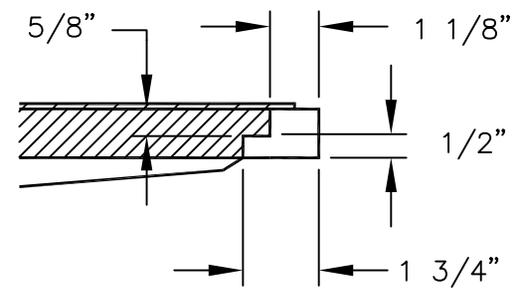


COUNTY OF PLACER
 DEPARTMENT OF PUBLIC WORKS & FACILITIES

STANDARD 36" STORM DRAIN MANHOLE FRAME AND COVER

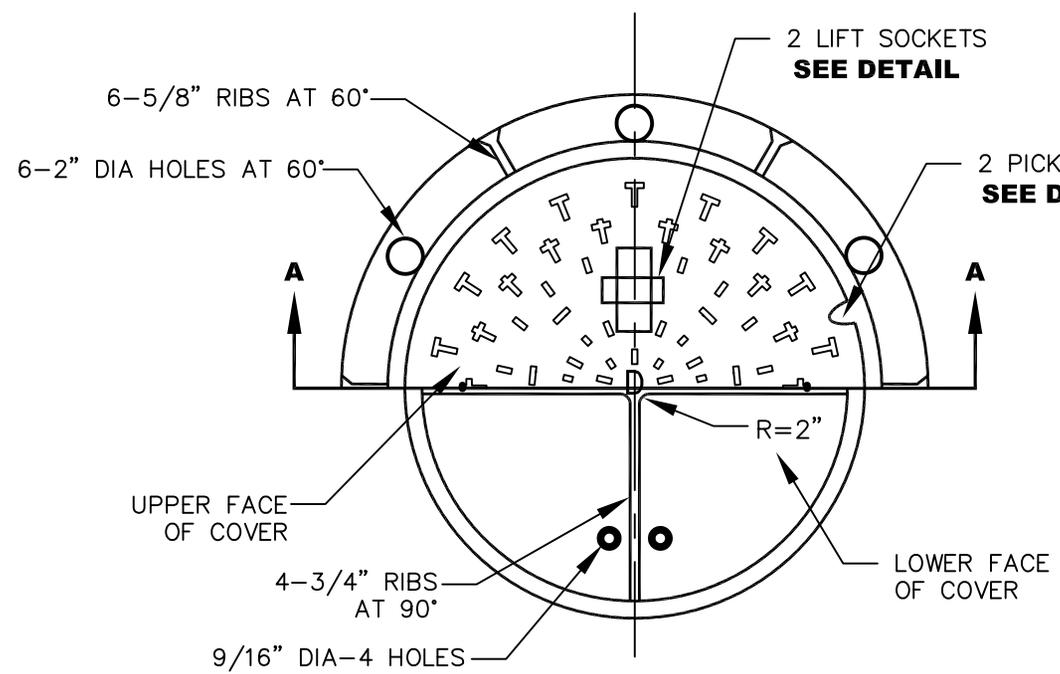


SMOOTH ALL JOINTS
& EDGES WITH MORTAR
MACHINE
CONTACT
SURFACES



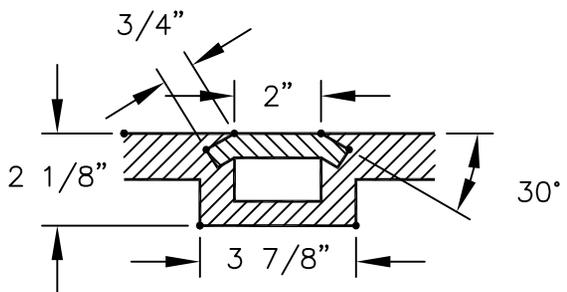
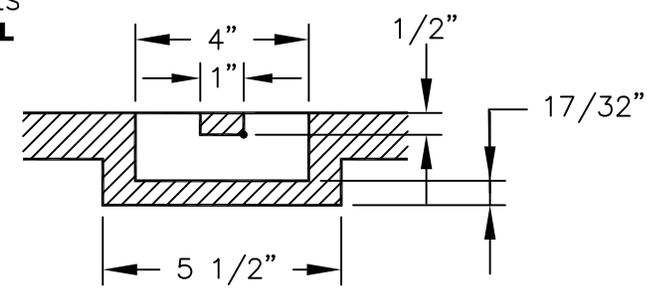
PICK HOLE DETAIL

SECTION A-A



HALF PLAN OF MANHOLE FRAME & COVER

APPROX. WEIGHTS:
 FRAME - 300 LBS.
 COVER - 375 LBS.



LIFT SOCKET DETAIL

DATE:
APR. 2016

SCALE:
NOT TO SCALE



PLATE
410



COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

SADDLE STORM DRAIN MANHOLES

TYPE A & B

COUNTY OF PLACER

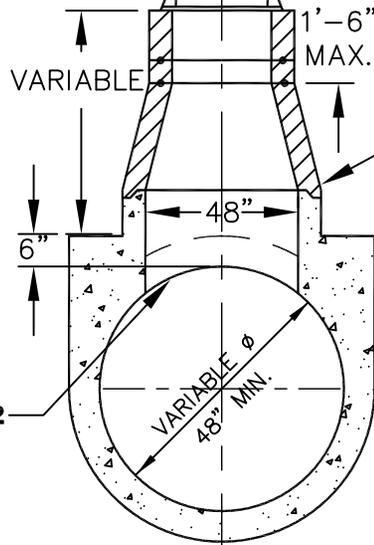
DATE: APR. 2016
SCALE: NOT TO SCALE



PLATE
411

ADJUST RINGS AS REQUIRED, 3" MIN.

STANDARD 24" FRAME & COVER
SEE STANDARD PRECAST MANHOLE
PLATE FOR REQUIRED FINISHES
AROUND MANHOLE FRAMES & COVERS

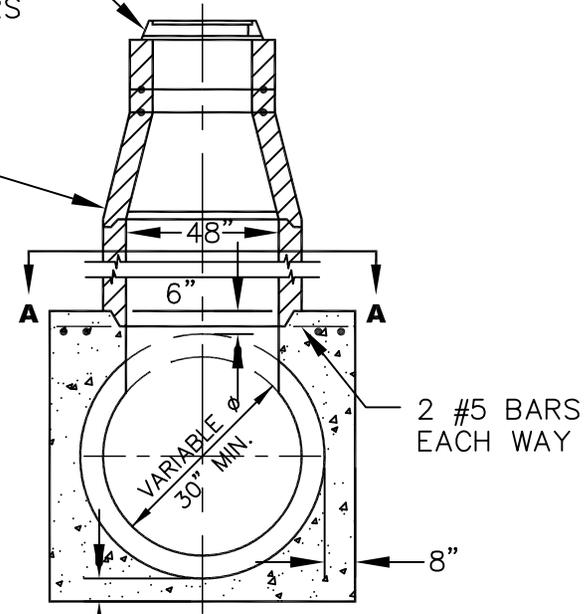


SEE NOTE 2

TYPE A

1. CAST-IN-PLACE PIPE ONLY, 48" MIN. DIAMETER.
2. REMOVE CONCRETE IN MANHOLE OPENING AND CONSTRUCT RISER BASE WHILE CONCRETE IS STILL FRESH.
3. PLACE RISER SECTION AFTER CONCRETE HAS SET.

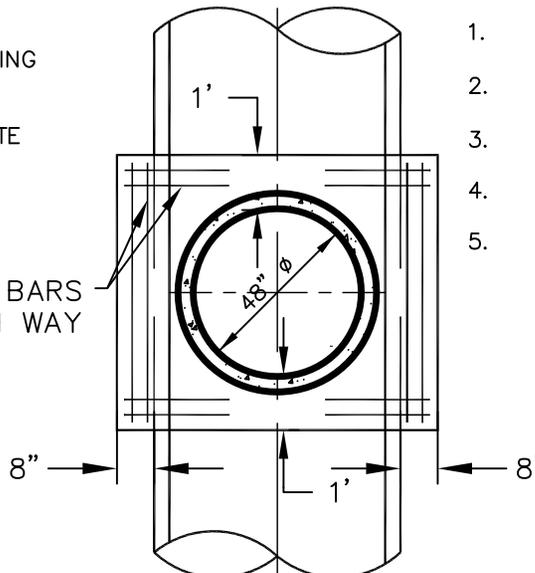
STANDARD MANHOLE SECTION



10" **TYPE B**

1. ALL PIPE OTHER THAN CAST-IN-PLACE PIPE.
2. CAST-IN-PLACE PIPE LESS THAN 48" DIAMETER. (SEE NOTE 2 UNDER TYPE A).
3. WET SET RING FOR FIRST RISER WHILE CONCRETE IS STILL WET.
4. PLACE RISER SECTION AFTER CONCRETE HAS SET.
5. SPECIAL INSPECTION AND STAMPED CERTIFICATION BY THE DESIGN ENGINEER MAY BE REQUIRED AT THE SOLE DISCRETION OF THE COUNTY.

2 #5 BARS EACH WAY



SECTION A-A

NOTES:

1. TWO FLEX JOINTS REQUIRED FOR VCP OUTSIDE OF SEWER MANHOLES. ONLY ONE FLEX JOINT REQUIRED FOR PVC & DIP OUTSIDE OF SEWER MANHOLES.
2. ON PRE-CAST MANHOLE BASES, THE BUILT IN JOINT CAN BE USED FOR THE FIRST FLEX JOINT.
3. ALL MANHOLES BARRELS AND CONES SHALL BE ASTM C-478.
4. FOR MANHOLES LARGER THAN 48-INCH IN DIAMETER, ADDITIONAL REDUCING CONE SECTIONS ARE REQUIRED.
5. FLAT TOPS ARE NOT ALLOWED WITHOUT PERMISSION FROM THE ENGINEER.
6. NEW CHANNELS IN THE MANHOLE BASES SHALL BE CONSTRUCTED IN THE FIELD USING NON-SHRINK GROUT AND THE FOLLOWING REQUIREMENTS AT A MINIMUM:
 - A. CHANNEL SURFACES SHALL BE FINISHED WITH A SMOOTH FINISH AND BLEND INTO THE EXISTING BASE IN A MANNER ACCEPTABLE TO THE ENGINEER.
 - B. THE EXISTING MANHOLE BASE SHALL BE BUSH-HAMMERED IN THE AREA OF THE NEW CHANNELS PRIOR TO THE CONSTRUCTION OF THE CHANNELS.
 - C. A CONCRETE BONDING AGENT SHALL BE USED IN THE AREA OF THE NEW CHANNELS TO ENSURE PROPER BONDING BETWEEN THE NEW NON-SHRINK GROUT CHANNELS AND THE EXISTING BASE.
 - D. CONTRACTOR SHALL SUBMIT SPECIFICATION SHEETS FOR REVIEW AND APPROVAL BY THE ENGINEER FOR ALL MATERIALS TO BE USED IN THE CONSTRUCTION OF THIS SPECIFIC CHANNEL. ALL SUBMITTALS MUST BE SUBMITTED THROUGH THE PROJECT DESIGN ENGINEER.
 - E. NO DEBRIS FROM CHANNEL CREATION SHALL BE ALLOWED TO FALL IN TO THE ACTIVE FLOW.
7. BACKFILL MATERIAL AROUND SEWER MANHOLES AND OTHER SANITARY SEWER STRUCTURES THAT MUST REMAIN WATERTIGHT SHALL BE COMPACTED WITH RAMMER COMPACTORS ("WHACKER" TYPE). HEAVY EQUIPMENT SHALL NOT BE USED TO COMPACT AROUND THESE STRUCTURE UNLESS SPECIFICALLY APPROVED BY THE ENGINEER IN WRITING. BACKFILL SHALL BE PLACED UNIFORMLY AROUND THE CIRCUMFERENCE OF THE STRUCTURE IN 8-INCH LIFTS.
8. PRIOR TO INSTALLATION OF ANY SANITARY SEWER FACILITIES THE CONTRACTOR SHALL PROVIDE TO THE DESIGN ENGINEER FOR REVIEW AND APPROVAL MATERIAL SUBMITTALS FOR THE COMPONENTS VERIFYING THAT THEY MEET PLACER COUNTY REQUIREMENTS AND SPECIFIC PROJECT REQUIREMENTS. THE MATERIAL SUBMITTALS SHALL INCLUDE, BUT NOT LIMITED TO, MANHOLES, PIPING, LIFT STATION COMPONENTS, UNDERGROUND STORAGE TANKS AND APPURTENANCES, ETC. THEY SHALL PROPERLY IDENTIFY WHICH FACILITY THE ITEM PERTAINS TO ON THE PROJECT PLANS (E.G. FROM THE PRECAST MANUFACTURER FOR ALL PRECAST MANHOLE BASES). AFTER DESIGN ENGINEER REVIEW AND APPROVAL OF THE SUBMITTALS A COPY SHALL BE SENT TO THE ENGINEER FOR FINAL REVIEW AND ACCEPTANCE. ONCE ACCEPTED, COPIES SHALL BE RETURNED TO THE CONTRACTOR. THE CONTRACTOR SHALL NOT START INSTALLATION OF THE APPLICABLE SANITARY SEWER FACILITIES UNTIL THE COUNTY INSPECTOR HAS VERIFIED ALL COMPONENTS DELIVERED TO THE PROJECT SITE CONFORM TO THE APPROVED MATERIAL SUBMITTALS.
9. PRECAST MANHOLE BASES REQUIRE THE HORIZONTAL ALIGNMENT OF A SEWER LINE AT THE MANHOLE TO MATCH THE PRECAST BASE WITHIN A TOLERANCE OF ± 4 DEGREES.
10. MANHOLES SHALL BE WATER-TIGHT STRUCTURES CONSTRUCTED BY PLACING PRECAST CONCRETE SECTIONS ON A POURED CONCRETE BASE OR A PRECAST MANHOLE BASE. PRECAST MANHOLE BASES SHALL ONLY BE ALLOWED WHERE PRECAST DIRECTION GEOMETRY MATCHES ALL INCOMING AND OUTGOING LINES BY ± 4 DEGREES AS STATED IN PLACER COUNTY GENERAL SPECIFICATIONS SECTION 71-1.07A.
11. MANHOLES SHALL BE TESTED PER THE REQUIREMENTS OF PLACER COUNTY GENERAL SPECIFICATIONS SECTION 71-1.08 D.
12. FOR ALL FORCE MAIN, LOW PRESSURE AND GRAVITY SEWER PIPING SYSTEMS INSTALL SOLID INSULATED #10 THHN SOFT DRAWN COPPER WIRE. THE WIRE SHALL BE TAPED CONTINUOUSLY TO THE TOP OF THE PIPE AND ACCESSIBLE AT MANHOLES (PLATE 413), VALVE BOXES (PLATE 430), SEWER LATERAL CLEANOUTS (PLATES 421 & 422), FLUSHING BRANCHES (PLATE 423), AND SEWER SERVICE CONNECTIONS (PLATE 420).



DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

STANDARD SANITARY SEWER MANHOLE NOTES

DATE:

APR. 2016

SCALE:

NOT TO SCALE



PLATE
412



COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

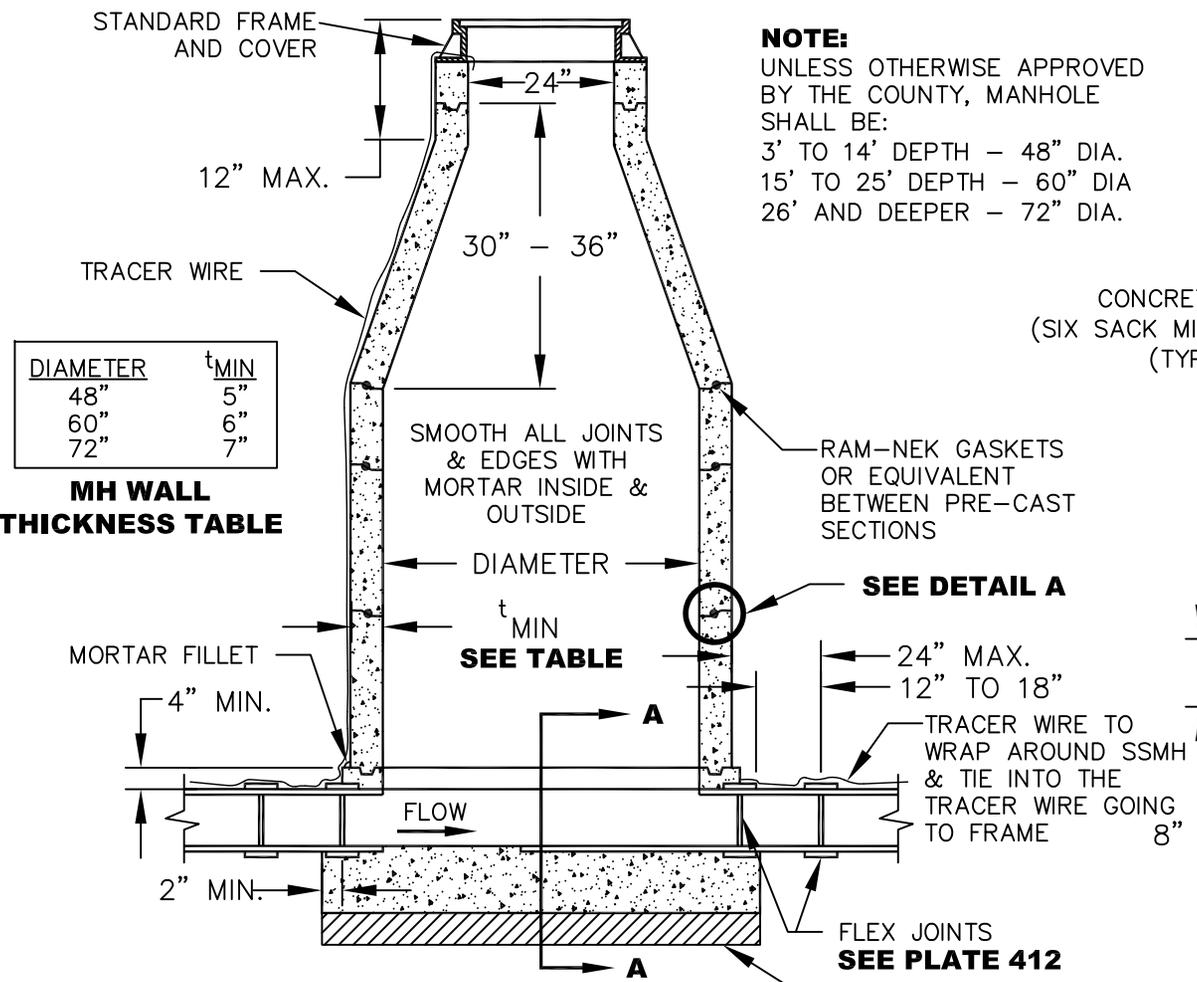
STANDARD SANITARY SEWER MANHOLE

REVISED:
APR. 2018
SCALE:
NOT TO SCALE



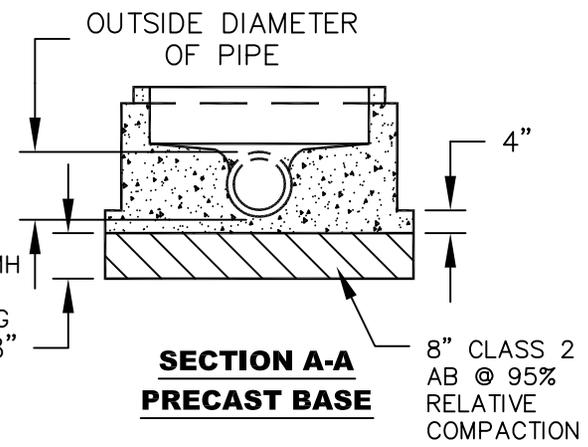
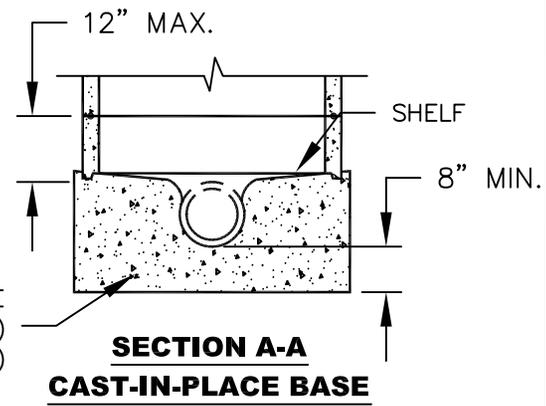
PLATE
413

NOTE:
UNLESS OTHERWISE APPROVED
BY THE COUNTY, MANHOLE
SHALL BE:
3' TO 14' DEPTH - 48" DIA.
15' TO 25' DEPTH - 60" DIA.
26' AND DEEPER - 72" DIA.

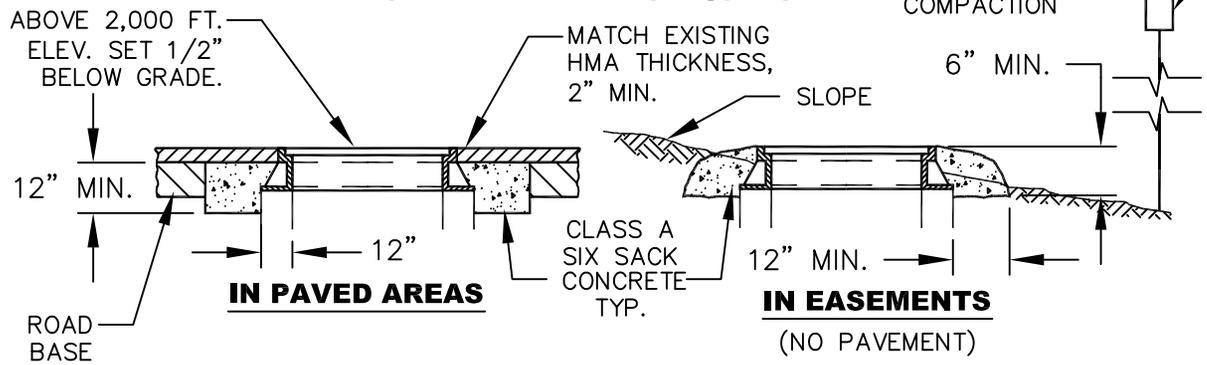


MH WALL THICKNESS TABLE

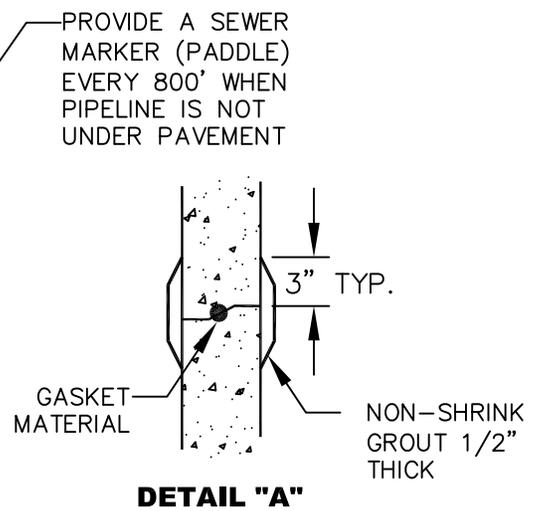
DIAMETER	t _{MIN}
48"	5"
60"	6"
72"	7"



**STANDARD MANHOLE DETAIL
SEE PLATE 412 FOR NOTES**

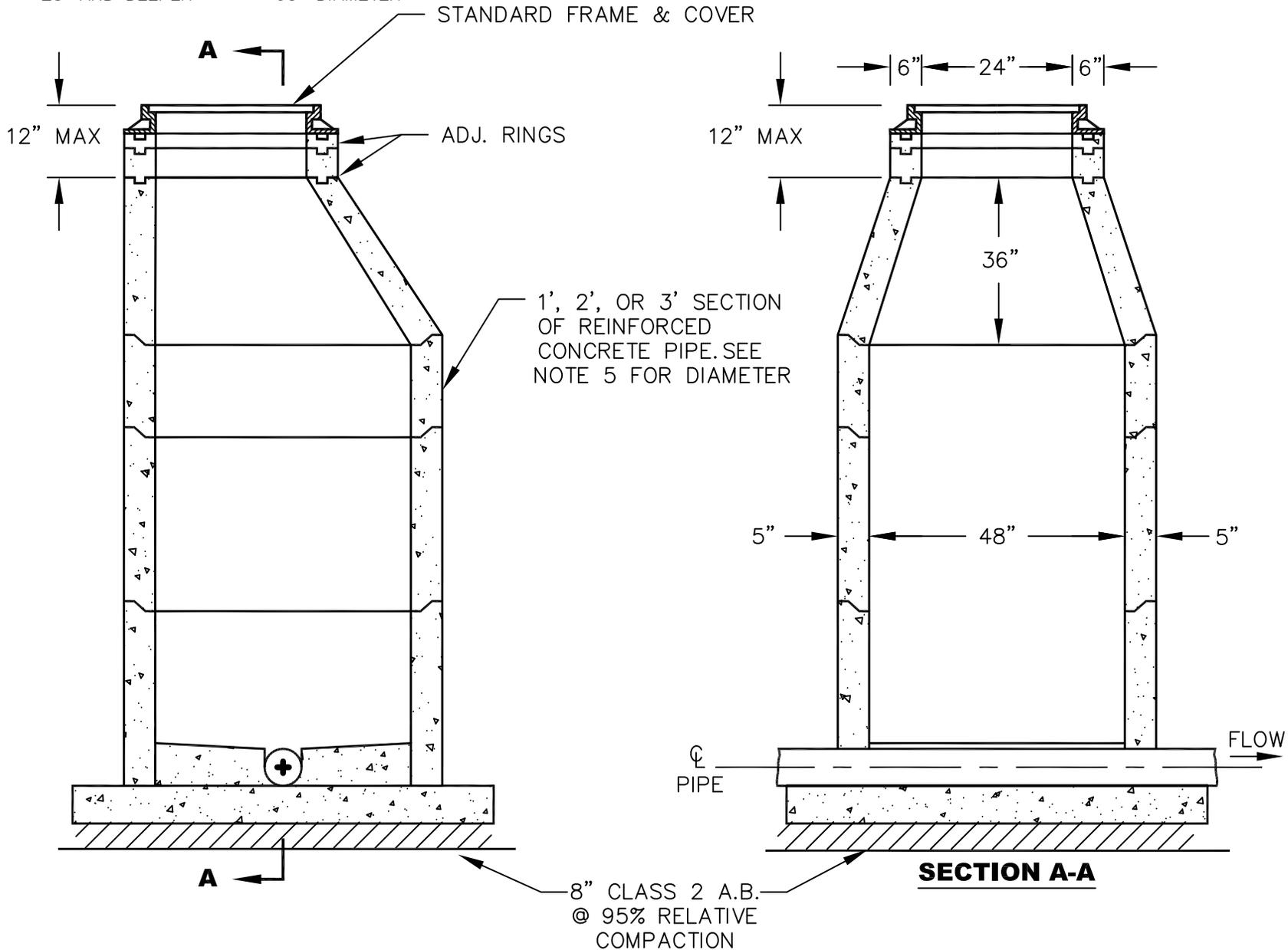


FRAME AND COVER DETAILS



NOTES:

1. REFER TO PLATES 413 AND 416 FOR ADDITIONAL DETAILS.
2. INSTALL TRACER WIRE AS SHOWN ON PLATE 413
3. 48 IN. DIAMETER MANHOLE SHOWN.
4. ALL SECTIONS TO BE ASTM C-478.
5. TO BE USED ONLY WITH ENGINEER'S APPROVAL.
6. MANHOLE SIZE DETERMINED BY DEPTH, UNLESS OTHERWISE APPROVED BY THE COUNTY.
 - 3' TO 20' DEPTH - 48" DIAMETER
 - 20' AND DEEPER - 60" DIAMETER



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

PRECAST SANITARY SEWER MANHOLE WITH ECCENTRIC CONE

COUNTY OF PLACER

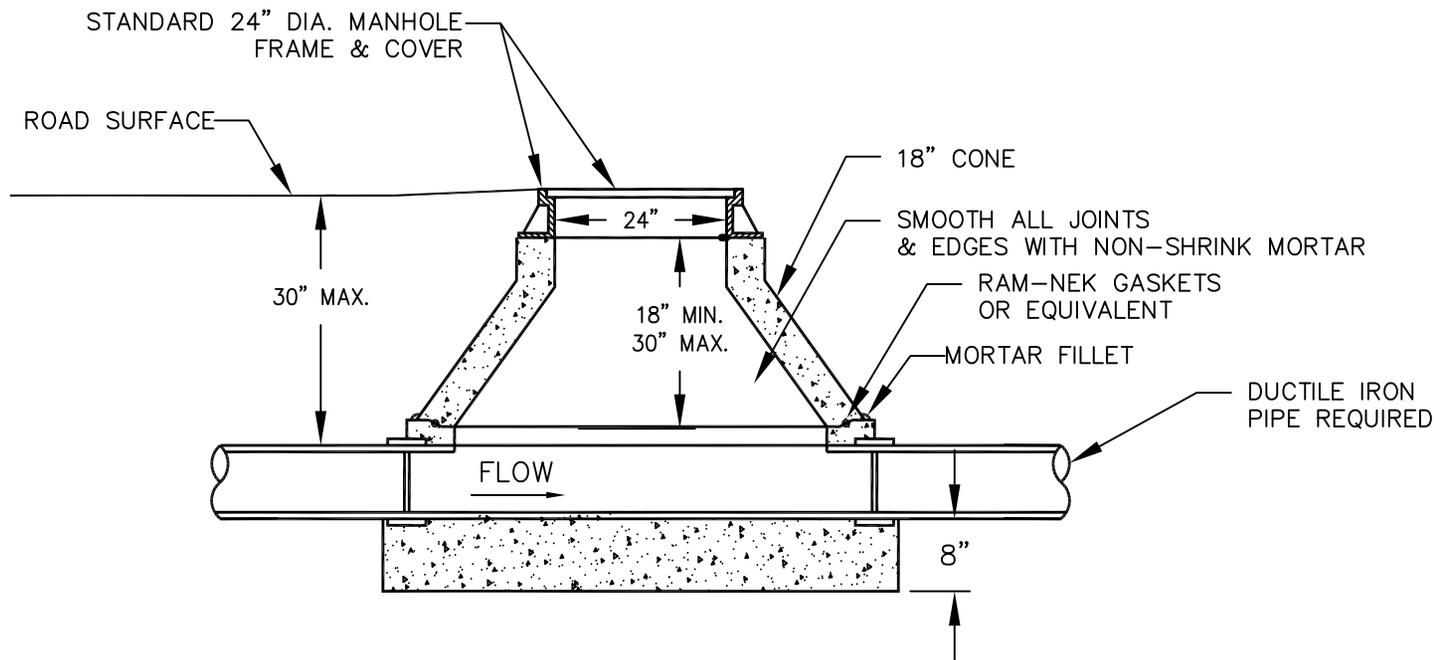
DATE: APR. 2016
SCALE: NOT TO SCALE





DEPARTMENT OF PUBLIC WORKS & FACILITIES
COUNTY OF PLACER

SHALLOW SANITARY SEWER MANHOLE



THIS MANHOLE IS USED WHERE TOP OF PIPE IS LESS THAN 30 INCHES BELOW SURFACE.

NOTES:

1. FOR MANHOLE FRAME & COVER DETAILS, SEE PLATE 417.
2. FOR CAST-IN-PLACE BASE DETAIL SEE PLATE 413. INSTALL TRACER WIRE AS SHOWN ON PLATE 413.
3. FOR PIPES WITH LESS THAN 22 IN. COVER, NOTCH HOLE IN SIDE OF CONE.
4. SEE PLATE 412 FOR STANDARD NOTES.
5. REQUIRES APPROVAL BY DISTRICT SEWER ENGINEER.
6. MORTAR SUBMITTAL IS REQUIRED PRIOR TO CONSTRUCTION.
7. SEE PLACER COUNTY GENERAL SPECIFICATION 71-1.07D FOR CAST-IN-PLACE MANHOLES.

DATE:
APR. 2016

SCALE:
NOT TO SCALE



PLATE
415



DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

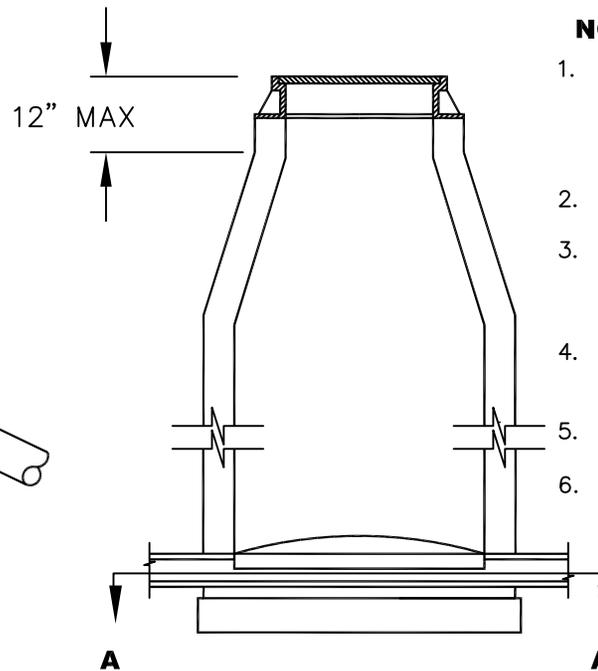
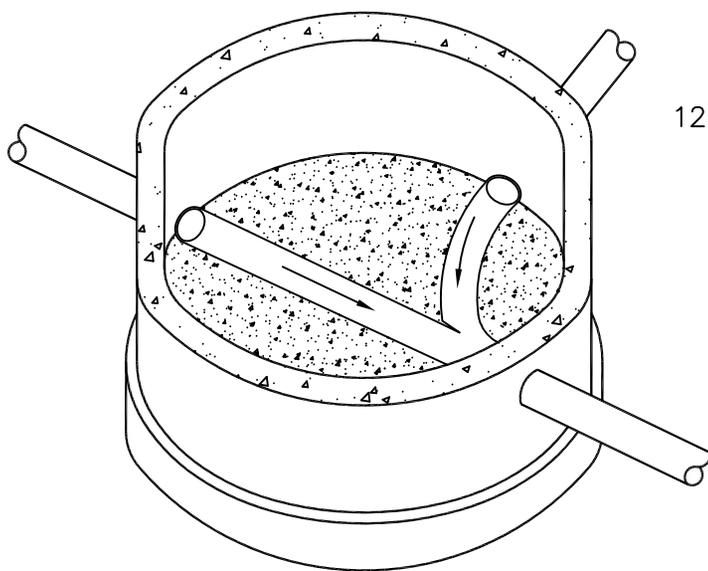
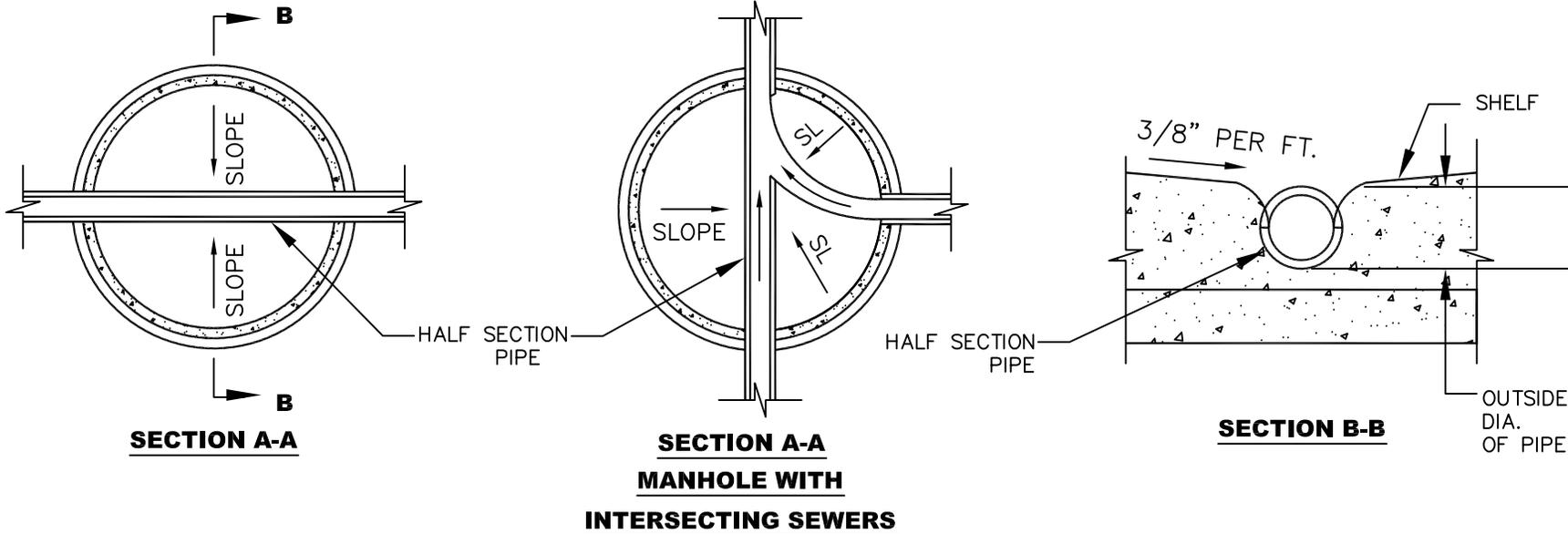
STANDARD SANITARY SEWER MANHOLE CHANNELIZATION DETAIL

DATE: APR. 2016

SCALE: NOT TO SCALE



PLATE
416



NOTES:

1. PIPE MAY STOP AT INSIDE FACE OF MANHOLE, OR BE CONTINUOUS THROUGH MANHOLE. IF PIPE LAID CONTINUOUS, TOP HALF SHALL BE CUT AWAY AFTER BASE IS POURED.
2. MIN 0.1' DROP BETWEEN INLET AND OUTLET PIPES.
3. SEWER SERVICES SHALL BE INSTALLED WITH THE INVERT ELEVATION MATCHING THE CROWN ELEVATION OF THE OUTLET PIPE.
4. FOR SEWER CAMERA ACCESSIBILITY, PROVIDE A STRAIGHT THROUGH CHANNEL SECTION OF 30" OR MORE.
5. SEE SECTION 71-1.07 OF THE GENERAL SPECIFICATIONS.
6. SEE PLATE 412 FOR STANDARD NOTES

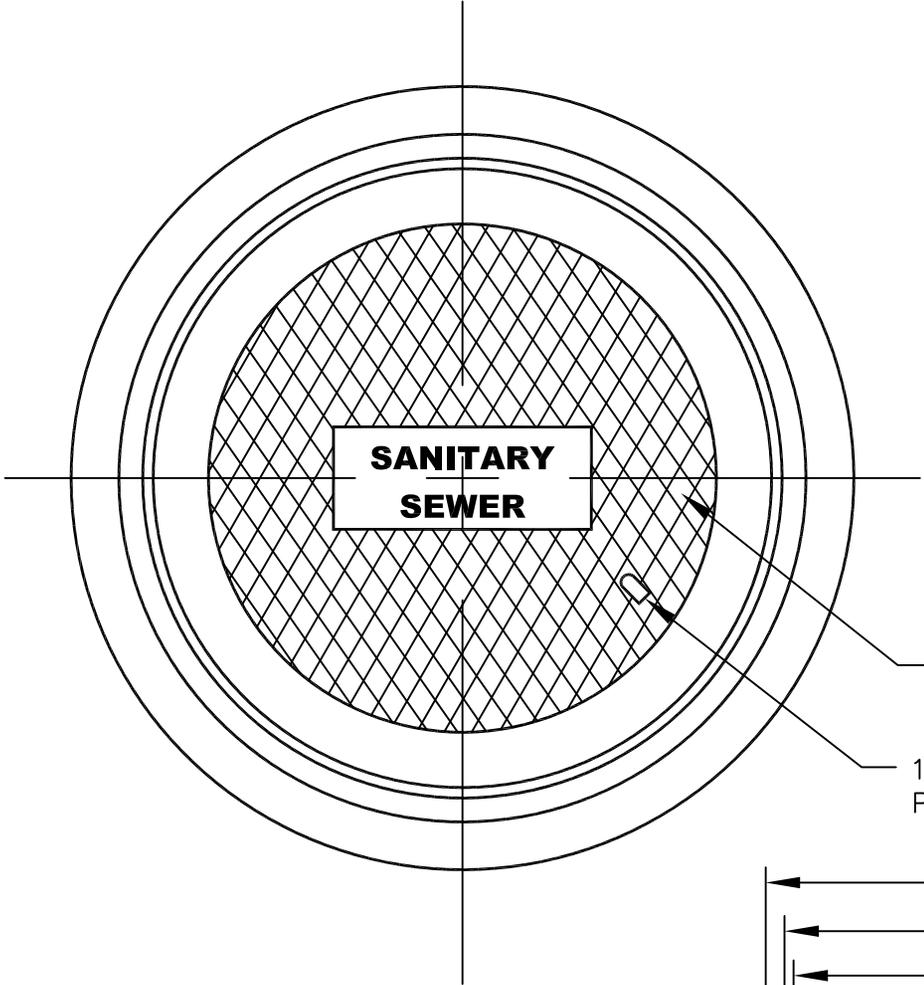


COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

STANDARD 24" SANITARY SEWER MANHOLE - FRAME AND COVER

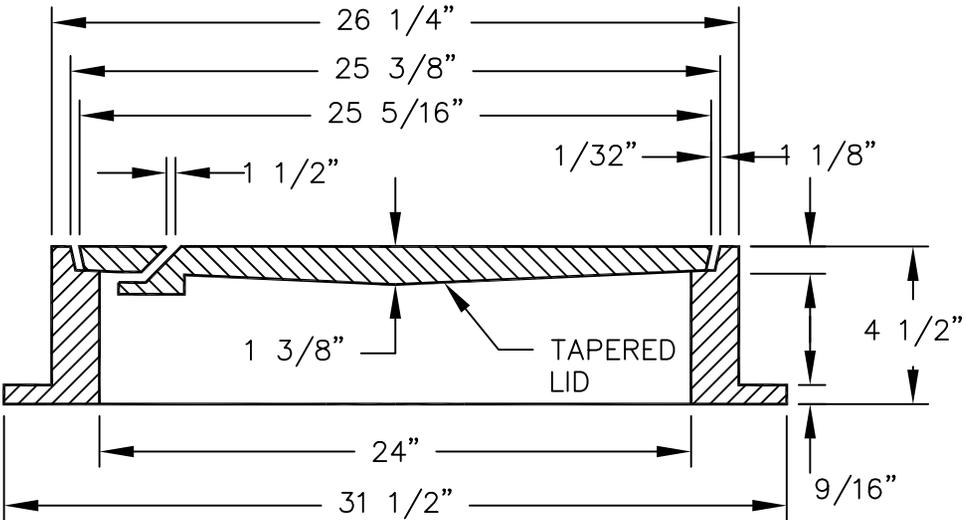
NOTES:

- 1. FRAME AND COVER BEARING SURFACES MACHINED TO ASSURE INTERCHANGEABILITY AND CLOSE, QUIET FIT.
- 2. CASTINGS DIPPED IN BLACK BITUMINOUS PAINT.
- 3. ALL MATERIAL USED IN MANUFACTURING SHALL CONFORM TO ASTM SPECIFICATIONS A159-64T-G3000, 48-30, OR OF UNITED STATES GOVERNMENT SPECIFICATIONS QQ1-653.
- 4. FRAME AND COVER EXCEEDS H-20 WHEEL LOADING.
APPROX. WEIGHTS:
FRAME - 140 LBS.
COVER - 130 LBS. MIN.
- 5. WHEN BOLT DOWN MANHOLE LIDS ARE SPECIFIED, USE D&L SUPPLY, A-1024 BOLT DOWN/WATER TIGHT MANHOLE RING AND COVER OR EQUAL.
- 6. SEE PLATE 412 FOR STANDARD NOTES



ASTM GRID PATTERN

1 1/2" OPEN PICK HOLE



1 1/2" 1/32" 1 1/8"

1 3/8" TAPERED LID

4 1/2"

24" 31 1/2" 9/16"

DATE: APR. 2016
SCALE: NOT TO SCALE

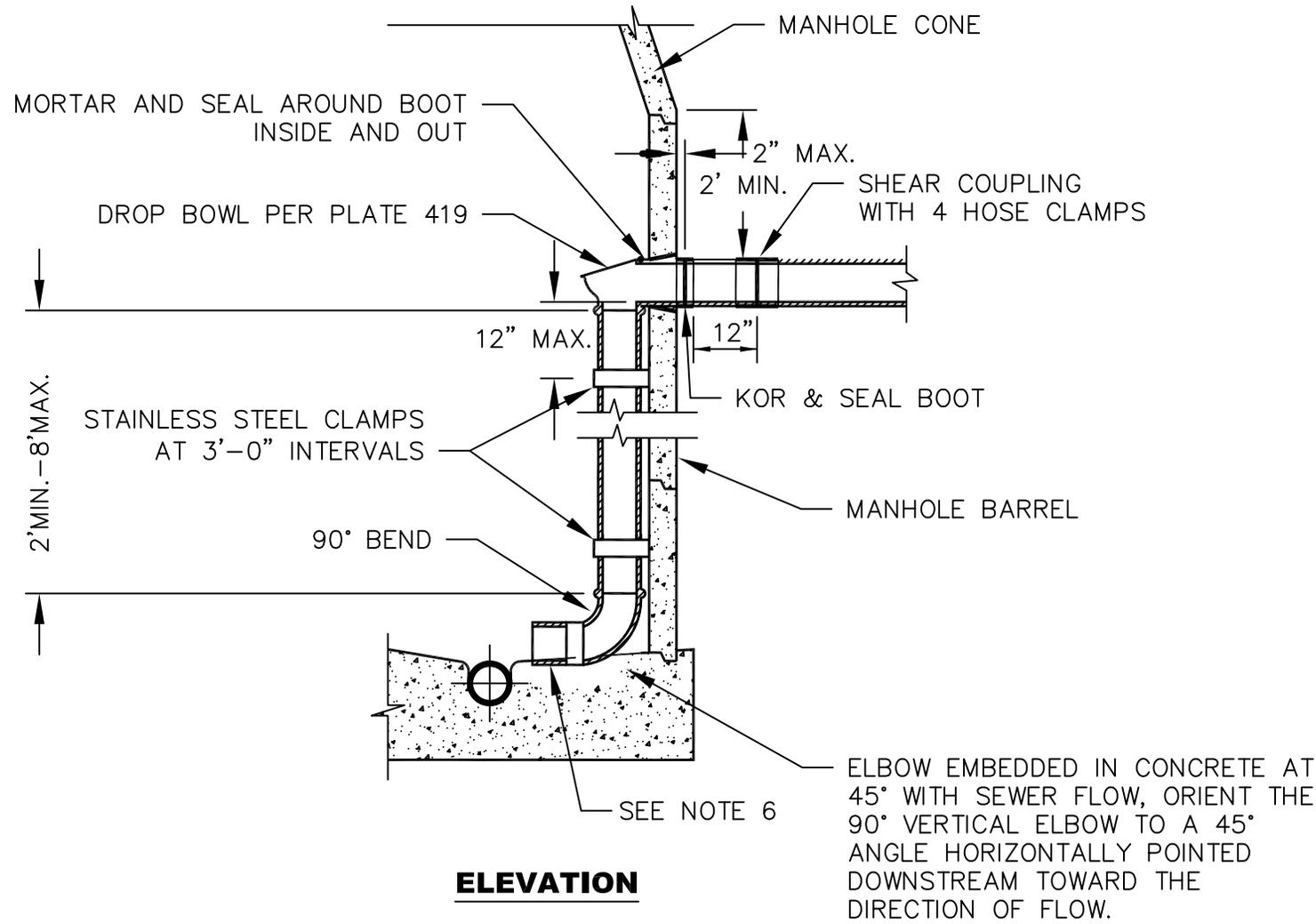


PLATE 417



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

INSIDE DROP CONNECTION SANITARY SEWER 4", 6" & 8" ONLY



ELEVATION

NOTES:

1. ALL INSIDE DROP PIPING SHALL BE P.V.C. PIPE, SCHEDULE 40.
2. INSTALL TRACER WIRE AND DAYLIGHT AT MANHOLE COVER AS SHOWN ON PLATE 413
3. PRIME AND CEMENT ALL JOINTS AS RECOMMENDED BY THE MANUFACTURER.
4. DROP CONNECTION PIPE AND FITTINGS TO BE SAME SIZE AS ENTERING PIPE.
5. CLAMPS SHALL BE 1 1/2 IN. BY 12 GAUGE STAINLESS STEEL, ANCHORED TO MANHOLE WALL WITH 2 1/2 IN. CADMIUM PLATED BOLTS.
6. THE FLOWLINE OF THE DROP PIPE SHALL REST ON TOP OF THE SHELF OF THE MANHOLE BASE.
7. INSIDE DROP CONNECTIONS ARE ALLOWED FOR 4", 6", AND 8" PIPE ONLY.

REVISED: APR. 2018

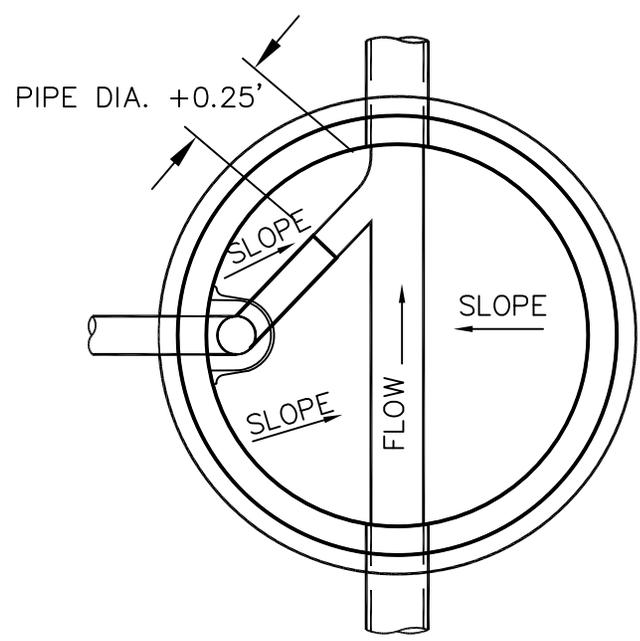
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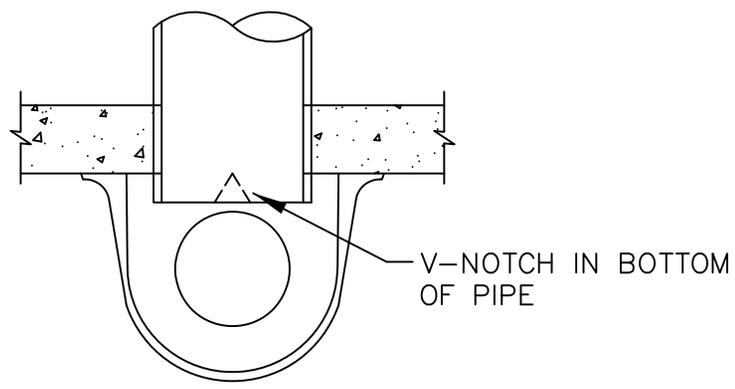


COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

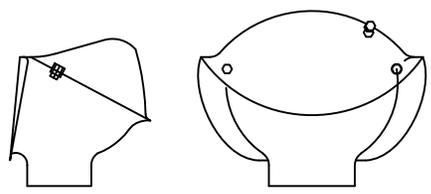
STANDARD SEWER INSIDE DROP CONNECTION DETAILS



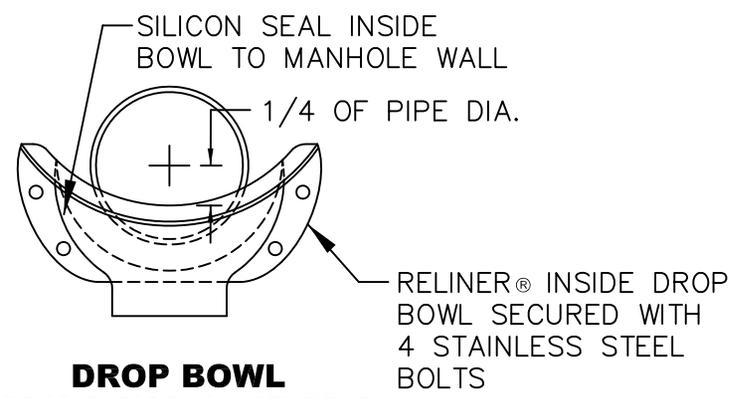
**PLAN
PER PLATE 416**



**DROP BOWL
MOUNTING POSITION
TOP VIEW**



FORCE LINE HOOD
REQUIRED FOR FORCE MAINS
AND LOW PRESSURE PIPES
OR WHEN THE SLOPE EXCEEDS 3%



**DROP BOWL
MOUNTING POSITION
FRONT VIEW**

DATE: APR. 2016
SCALE: NOT TO SCALE





DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

STANDARD SEWER LATERAL & CLEANOUT

REVISED:

APR. 2018

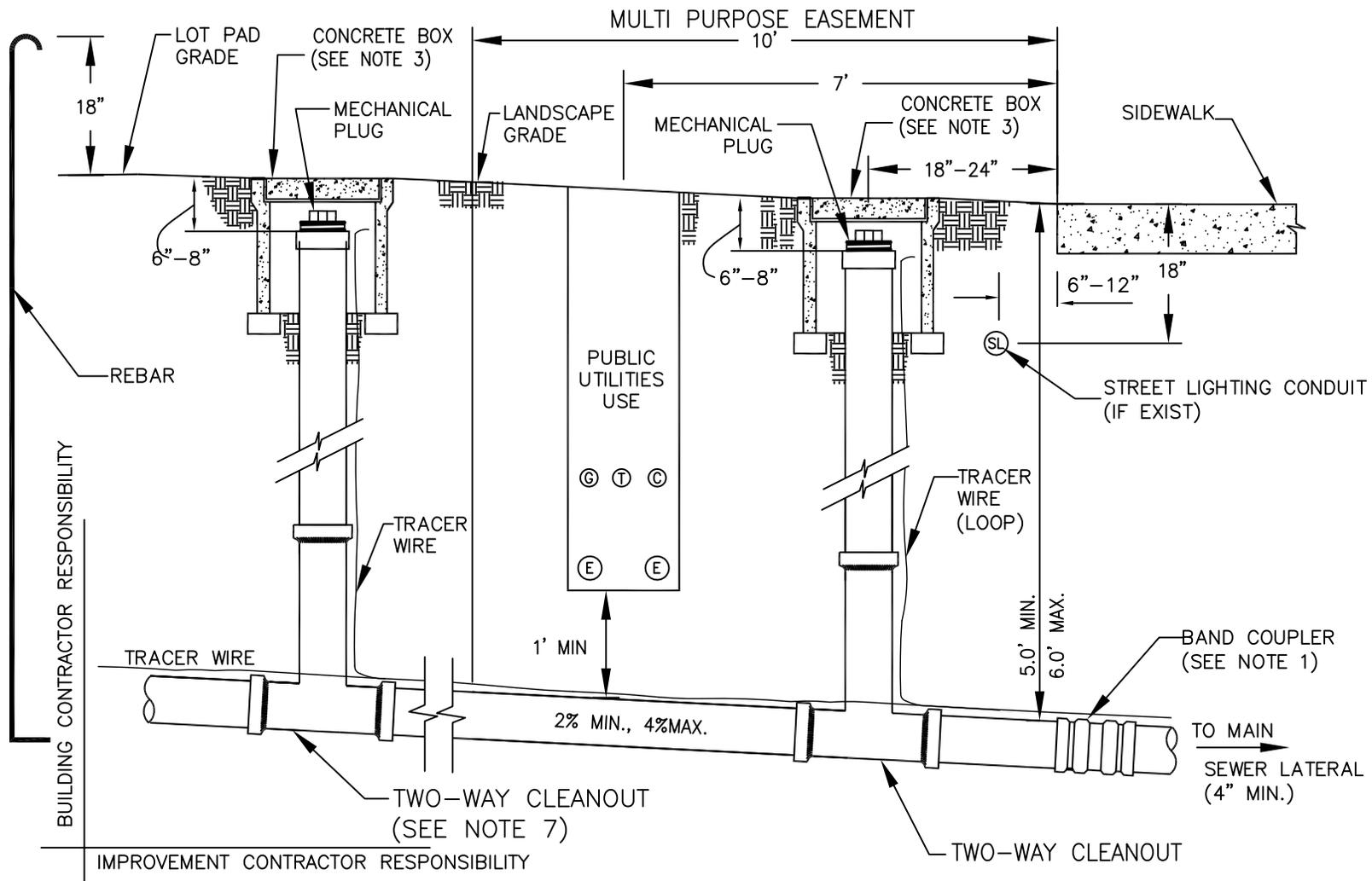
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PLATE

421



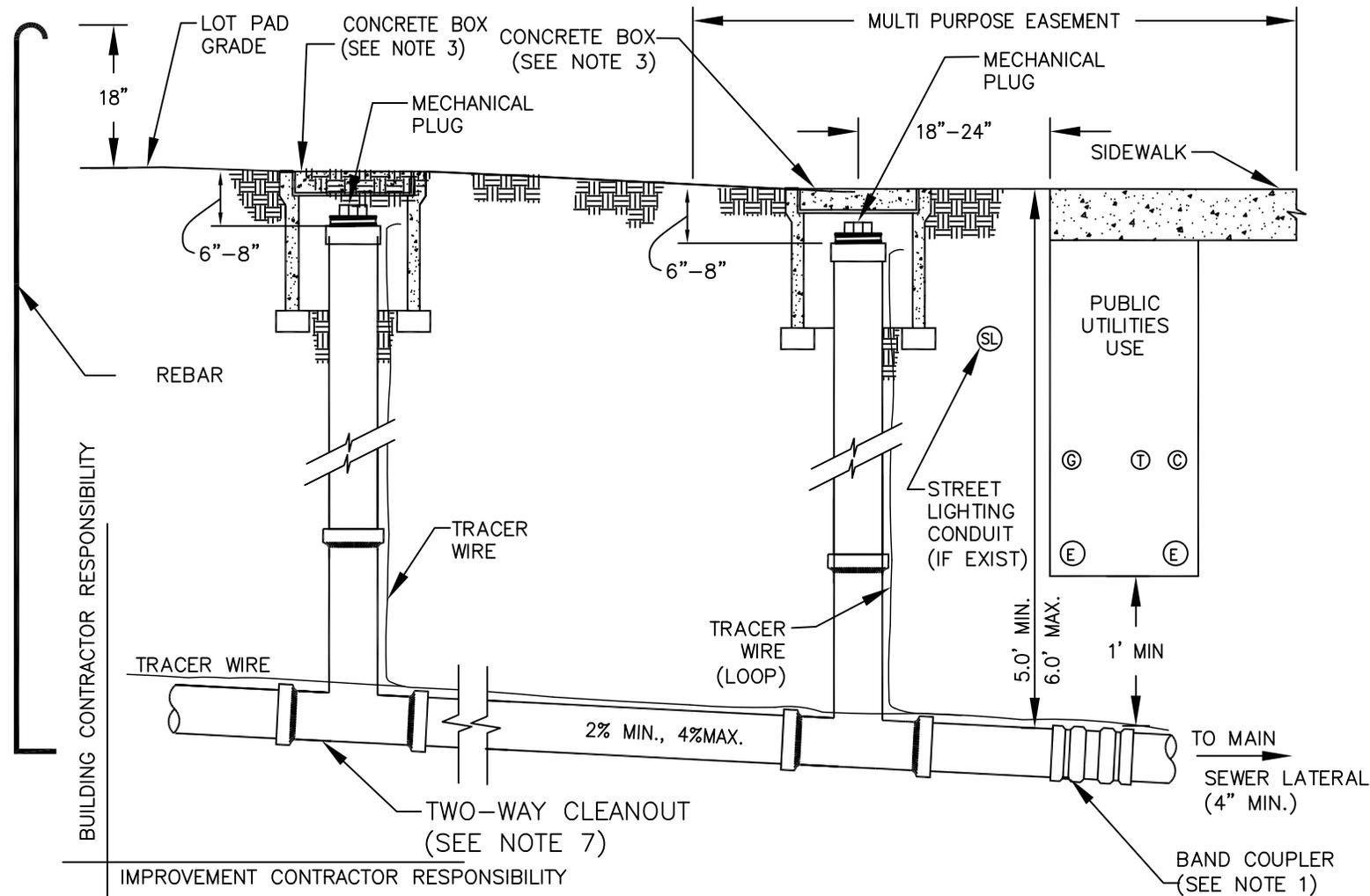
NOTES:

- BAND COUPLER SHALL BE A FERNCO STAINLESS STEEL SHEAR COUPLER OR APPROVED EQUAL. BAND SHALL HAVE A MINIMUM OF 4 LOCKING BAND STRAPS.
- CLEANOUT AND SERVICE MATERIALS SHALL BE ALL ABS OR ALL PVC. WYE AT PUBLIC MAIN SHALL BE SAME MATERIAL AS PUBLIC LINE.
- CONCRETE BOX WITH METAL LID
 - IN LANDSCAPED AREAS USE CHRISTY G05 WITH METAL LID MARKED "SEWER", 2" ABOVE LANDSCAPE GRADE
 - AVOID PLACING CURB BOX IN DRIVEWAY.
 - IF PLACED IN PAVED AREAS, USE CHRISTY G05 TRAFFIC BOX MARKED "SEWER", IF APPROVED BY COUNTY ENGINEER.
 - BOXES SHALL BE PROVIDED WITHOUT KNOCK-OUTS.
- IN AREAS WHERE SIDEWALK IS NOT MONOLITHIC WITH CURB, THE CLEANOUT SHALL BE LOCATED WITHIN 18 IN. TO 24 IN. FROM BACK OF CURB OR BACK OF STORM DRAIN WHEN THERE IS A STORM DRAIN CONFLICT.
- JOINT TRENCH SHALL BE A MINIMUM OF 1 FOOT ABOVE THE SANITARY SEWER LATERAL.
- CLEANOUT MATERIALS SHALL BE SAME DIAMETER AS LATERAL.
- CLEANOUTS SHALL BE EVERY 100 FEET MAX. FROM PROPERTY LINE TO HOUSE.
- PIPELINE SHALL BE INSPECTED PRIOR TO BACKFILL.
- 12 GAUGE TRACER WIRE-DIRECT BURIAL-GREEN SHALL BE TAPED TO THE TOP OF THE PIPE FROM THE HOME TO THE STREET CONNECTION AND DAYLIGHT IN ALL CLEANOUT BOXES.



DEPARTMENT OF PUBLIC WORKS & FACILITIES
COUNTY OF PLACER

STANDARD SEWER LATERAL & CLEANOUT FOR JOINT TRENCH UNDER WALK



NOTES:

- BAND COUPLER SHALL BE A FERNCO STAINLESS STEEL SHEAR COUPLER OR APPROVED EQUAL. BAND SHALL HAVE A MINIMUM OF 4 LOCKING BAND STRAPS.
- CLEANOUT AND SERVICE MATERIALS SHALL BE ALL ABS OR ALL PVC. WYE AT PUBLIC MAIN SHALL BE SAME MATERIAL AS PUBLIC LINE.
- CONCRETE BOX WITH METAL LID
 - IN LANDSCAPED AREAS USE CHRISTY G05 WITH METAL LID MARKED "SEWER", 2" ABOVE LANDSCAPE GRADE
 - AVOID PLACING CURB BOX IN DRIVEWAY.
 - IF PLACED IN PAVED AREAS, USE CHRISTY G05 TRAFFIC BOX MARKED "SEWER", IF APPROVED BY COUNTY ENGINEER.
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- CLEANOUTS SHALL BE EVERY 100 FEET MAX. FROM PROPERTY LINE TO HOUSE.
- PIPELINE SHALL BE INSPECTED PRIOR TO BACKFILL.
- 12 GAUGE TRACER WIRE-DIRECT BURIAL-GREEN SHALL BE TAPED TO THE TOP OF THE PIPE FROM THE HOME TO THE STREET CONNECTION AND DAYLIGHT IN ALL CLEANOUT BOXES.

REVISED:
APR. 2018
SCALE:
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PLATE
422



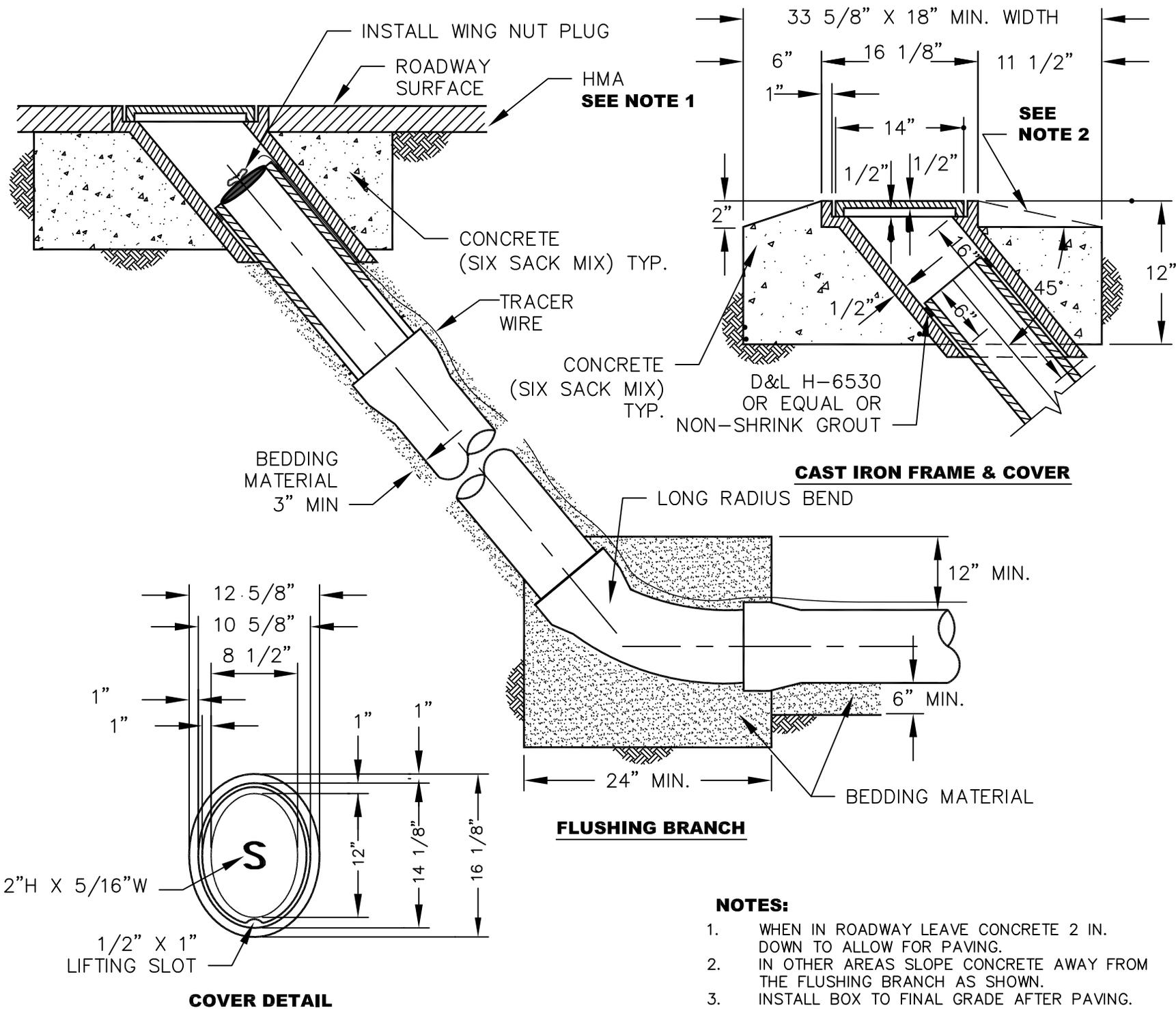
COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

SEWER FLUSHING BRANCH STANDARD 45°

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PLATE
423

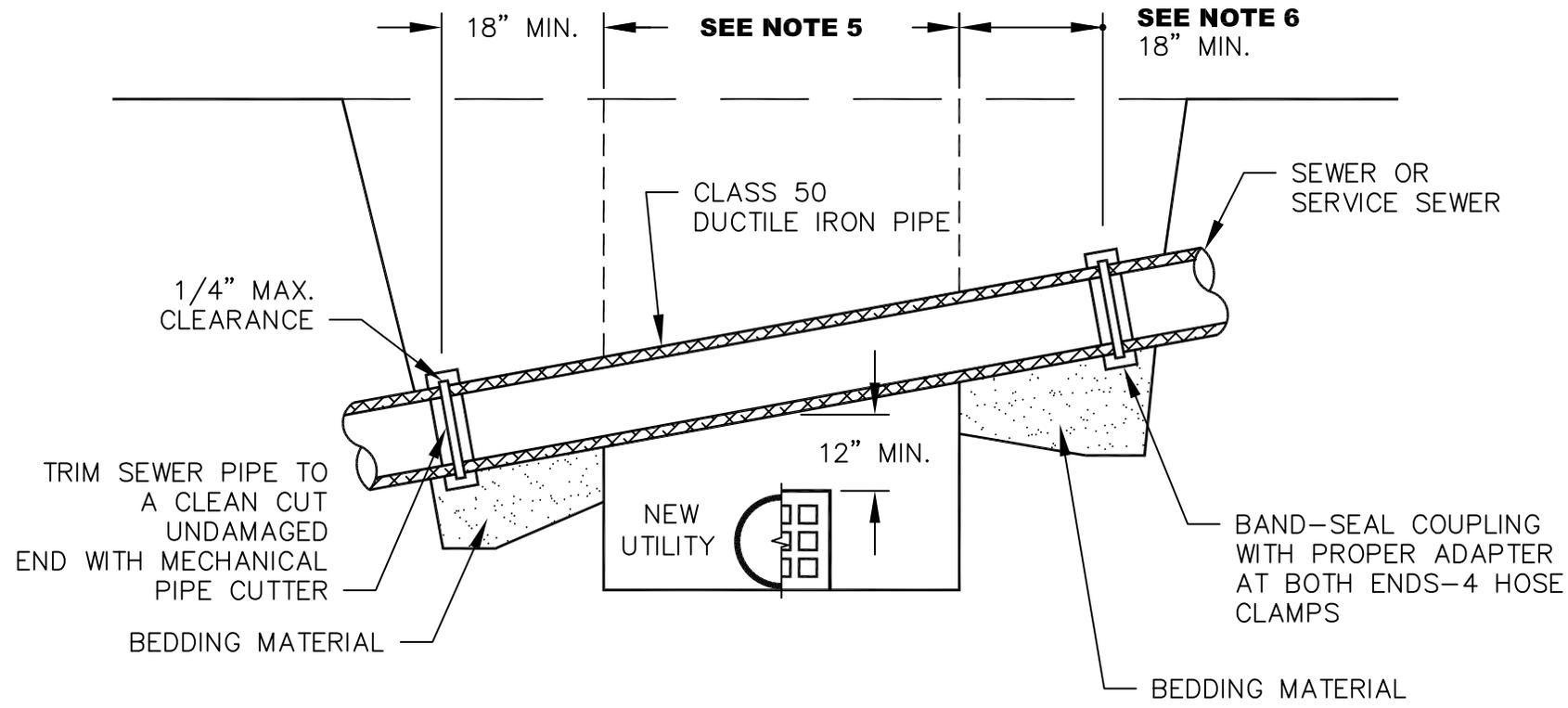


- NOTES:**
1. WHEN IN ROADWAY LEAVE CONCRETE 2 IN. DOWN TO ALLOW FOR PAVING.
 2. IN OTHER AREAS SLOPE CONCRETE AWAY FROM THE FLUSHING BRANCH AS SHOWN.
 3. INSTALL BOX TO FINAL GRADE AFTER PAVING.



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

SEWER UTILITY CROSSING



NOTES:

1. INSIDE DIAMETER OF DUCTILE IRON PIPE TO BE SAME AS THE PIPE TO WHICH IT CONNECTS.
2. REPLACE WITH DUCTILE IRON PIPE, AS PER THIS DETAIL, WHENEVER A NEW UTILITY IS CONSTRUCTED BENEATH THE SEWER PIPE.
3. USE DUCTILE IRON PIPE, AS PER THIS DETAIL WHENEVER A NEW SEWER PIPE IS CONSTRUCTED ABOVE AN EXISTING UTILITY OR WHENEVER CLEARANCE IS LESS THAN 12".
4. ALTERATION OF SEWER GRADES WILL BE PERMITTED ONLY AFTER WRITTEN PERMISSION HAS BEEN RECEIVED FROM THE PLACER COUNTY DEPARTMENT OF PUBLIC WORKS AND FACILITIES, ENVIRONMENTAL ENGINEERING DIVISION.
5. WHENEVER THE SPAN, WHETHER CAUSED BY TRENCH WIDTH OR CROSSING ANGLE, OF THE DUCTILE IRON PIPE EXCEEDS 3 FT.-0 IN. PLACE BEDDING MATERIAL TO 6 IN. ABOVE THE DUCTILE IRON PIPE.
6. FOR CROSSINGS OF DOMESTIC WATER LINES, A MINIMUM OF 20 LF OF DIP SHALL BE USED AND CENTERED OVER CROSSING.
7. THIS DETAIL TO BE USED WHENEVER A SEWER LATERAL OR SEWER SERVICE CROSSES OVER ANY EXISTING OR PROPOSED UTILITY OR CULVERT AND WHEN A NEW UTILITY IS INSTALLED UNDER AN EXISTING SEWER.

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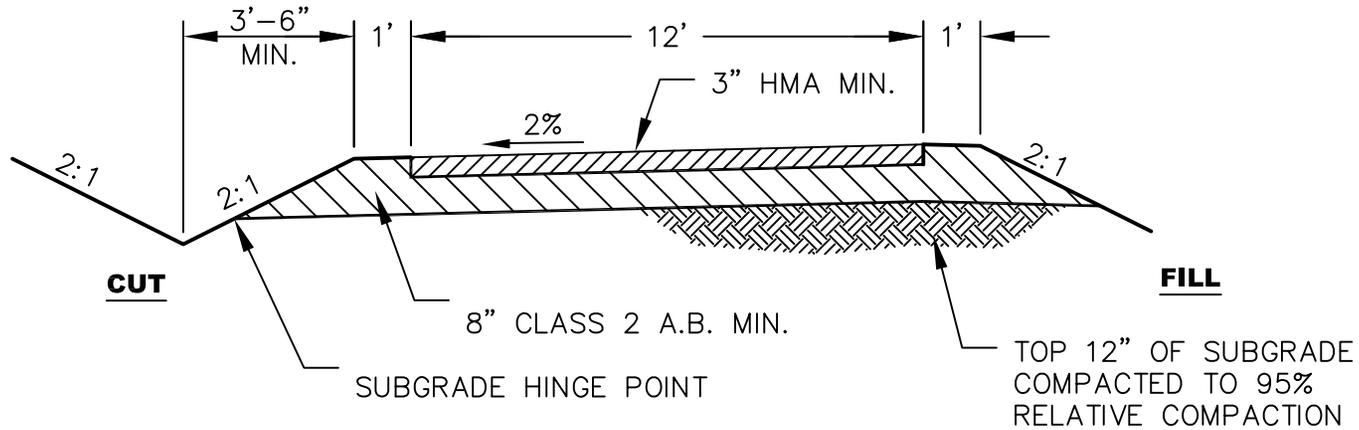


PLATE 424



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

SEWER ACCESS ROAD



NOTES:

1. MAXIMUM LONGITUDINAL GRADE IS 12%.
2. DITCH FLOWLINE MUST BE A MINIMUM OF ONE FOOT BELOW SUBGRADE HINGE POINT. THE DITCH MAY BE REQUIRED TO BE LARGER DEPENDING ON THE DRAINAGE TO BE CONVEYED.
3. HMA PER ENCROACHMENT PERMIT REQUIREMENTS OR AS DIRECTED BY COUNTY.

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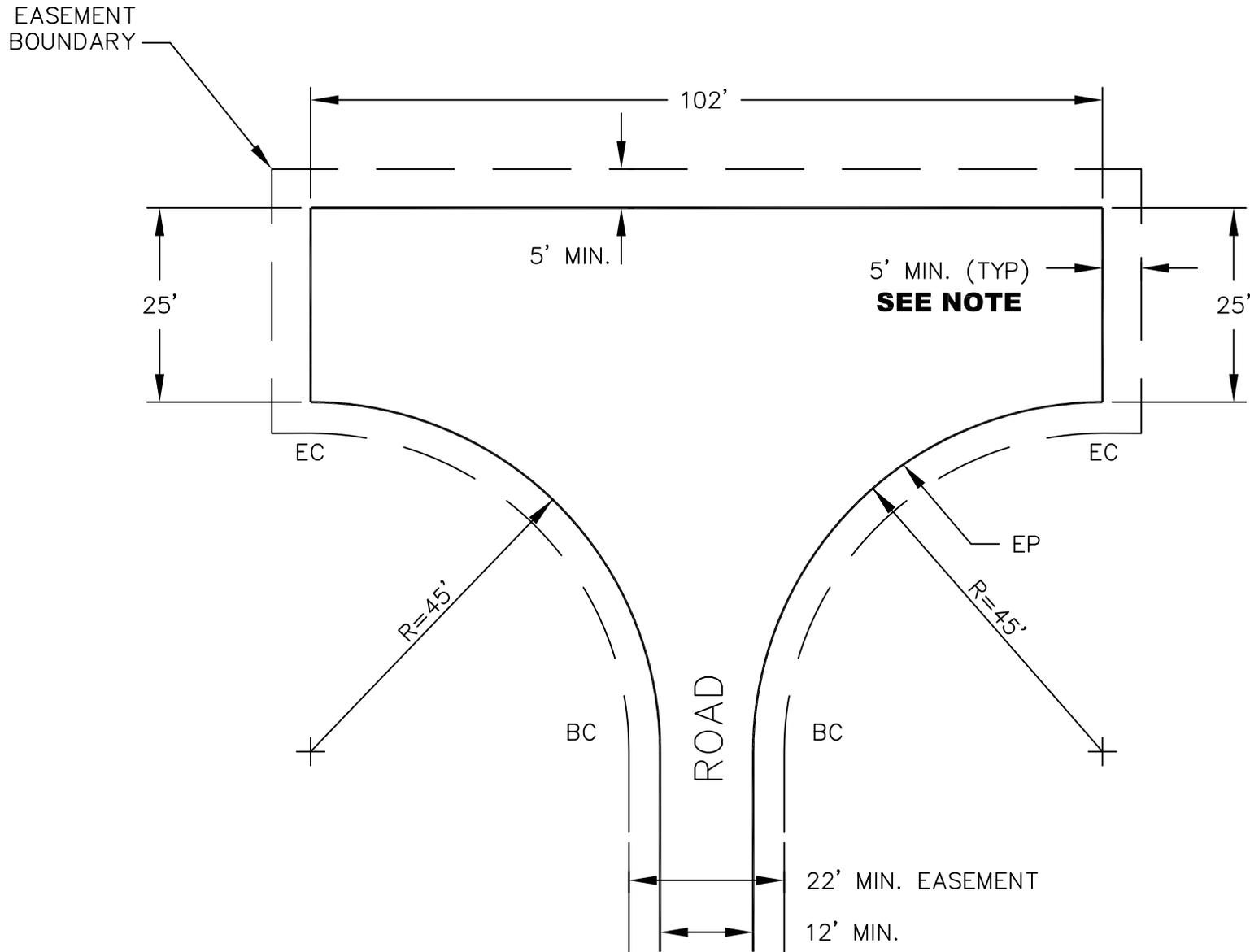


PLATE
425



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

SEWER ACCESS ROAD HAMMERHEAD FOR TRUCKS (OPTION 1)



NOTE:

- 1. PROVIDE A 5' MINIMUM OVERHANG EASEMENT AREA

DATE: APR. 2016
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PLATE
426



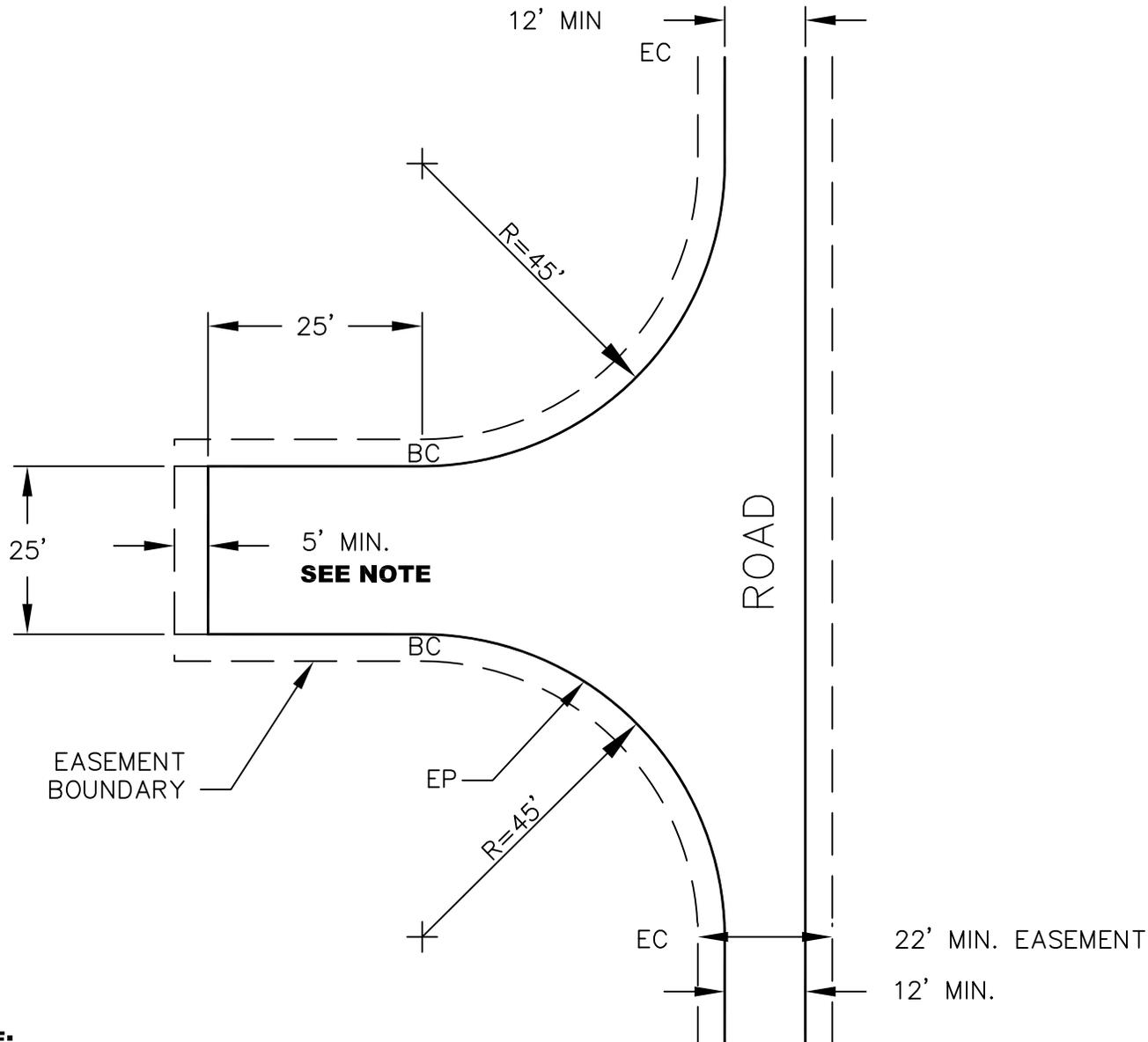
COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

SEWER ACCESS ROAD HAMMERHEAD FOR TRUCKS (OPTION 2)

DATE: APR. 2016
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PLATE
427



NOTE:

1. PROVIDE A 5' MINIMUM OVERHANG EASEMENT AREA



DEPARTMENT OF PUBLIC WORKS & FACILITIES

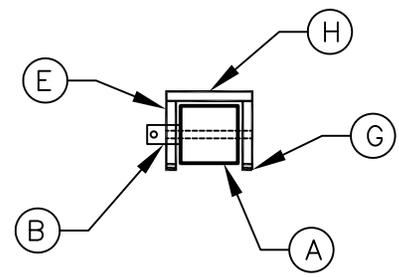
COUNTY OF PLACER

BOLLARD DETAILS

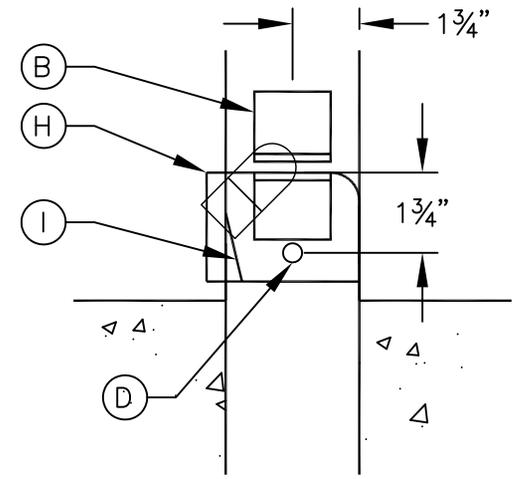
DATE: APR. 2016
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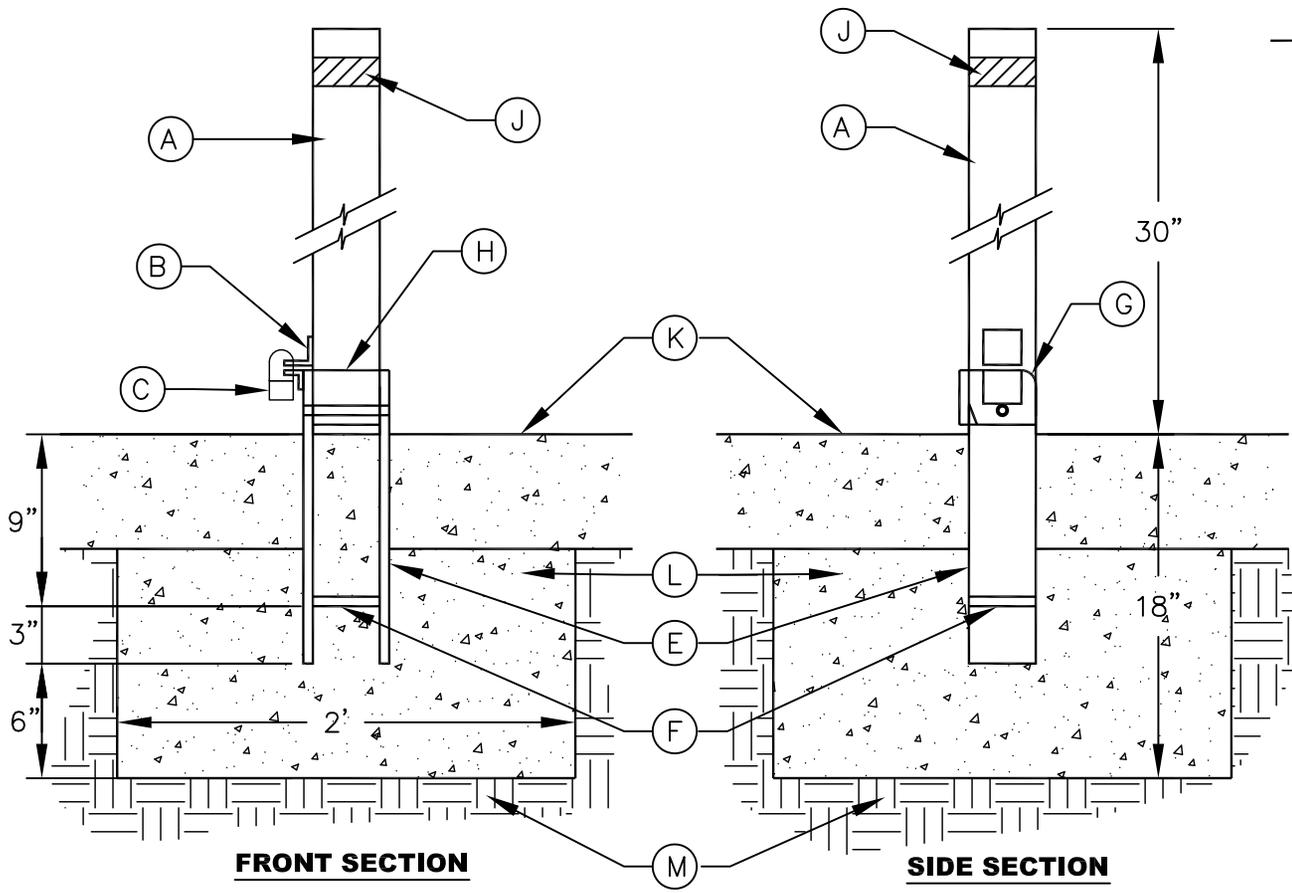
PLATE
428



PLAN VIEW



ENLARGEMENT



FRONT SECTION

SIDE SECTION

LEGEND:

- A. 3 1/2" O.D. 1/4" WALL STEEL TUBE WITH CAP WELDED ON TOP, 3/4" HOLES FOR SWIVEL ROD. EASE ALL EDGES OF STEEL TUBE.
- B. 1 1/2" X 1 1/2" ANGLE IRON (2) WELDED TO TUBE AND BASE. PLACE 1/2" HOLE DRILLED 1/4" FROM END OF ANGLE IRON ON TUBE
- C. PADLOCK TO BE PROVIDED BY FIRE DEPARTMENT AND/OR ENVIRONMENTAL ENGINEERING
- D. 5/8" DIA. STEEL SWIVEL ROD, WELD SWIVEL ROD TO SIDE PLATES.
- E. 3/8" X 16" X 4" STEEL BASE PLATE WITH 1 1/2" RADIUS CORNERS EASE ALL EDGES.
- F. 3/8" STEEL BRACE FILET WELD BOTH SIDES TO BASE PLATES
- G. 1 1/2" RADIUS CORNERS, TYP.
- H. 4" X 4" X 3/8" STEEL BACK PLATE WELDED TO BASE PLATE.
- I. FISH MOUTH GRIND AT BOTTOM BACK CORNER OF TUBE.
- J. PLACE 2" WHITE REFLECTIVE TAPE.
- K. CONCRETE PAVING (OR HMA)
- L. CONCRETE FOOTING
- M. COMPACTED SUBGRADE

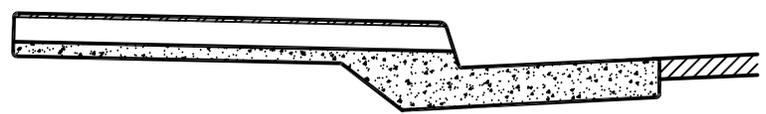
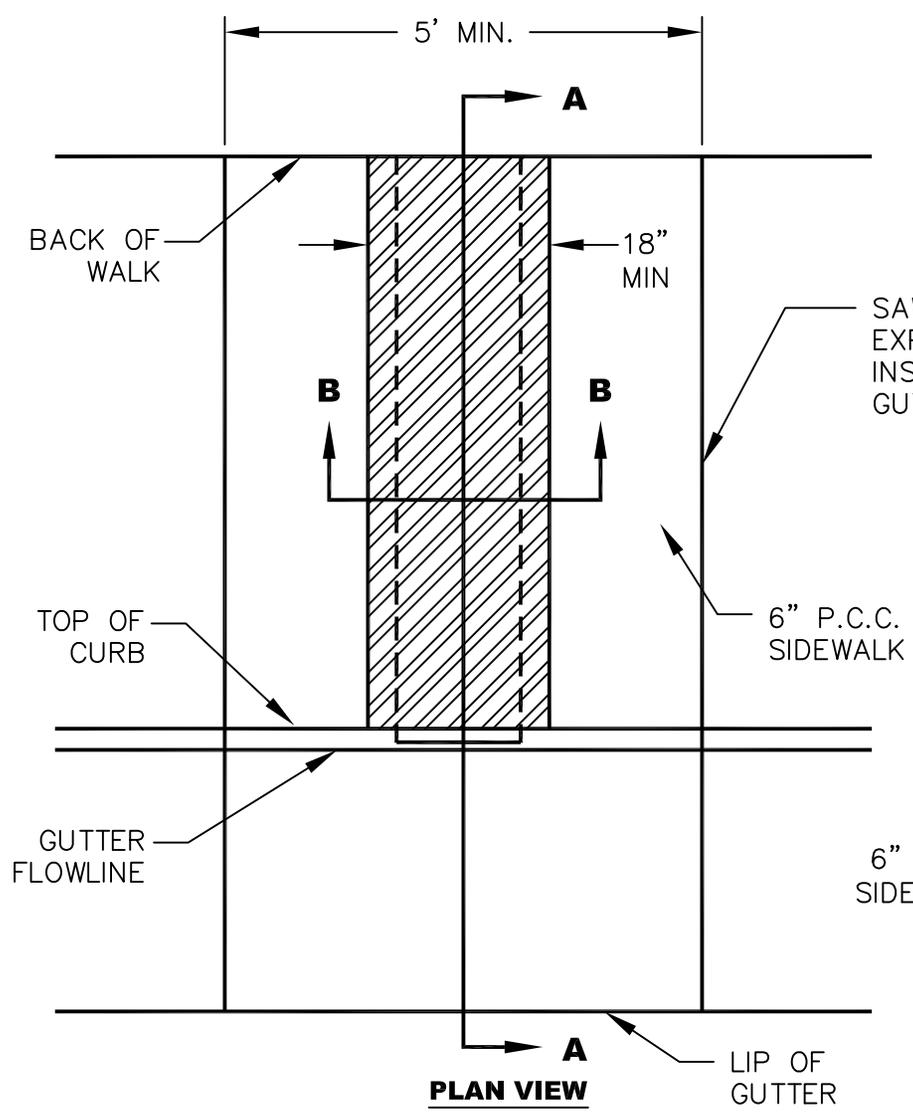
NOTES:

1. ALL TUBING SHALL BE BLACK STEEL PIPE.
2. ALL JOINTS SHALL BE WELDED IN ACCORDANCE WITH CA STATE STANDARD SPECIFICATIONS FOR WELDING STRUCTURAL STEEL AND GROUND SMOOTH.
3. ALL PARTS (EXCEPT PADLOCK) SHALL BE PAINTED WITH TWO COATS ZINC CHROMATE PRIMER AND TWO COATS EXTERIOR ENAMEL. COLOR: YELLOW
4. BOLLARD SHALL BE INSTALLED SUCH THAT IT LAYS FLAT WHEN FOLDED.
5. CONCRETE SHALL BE "MINOR CONCRETE".



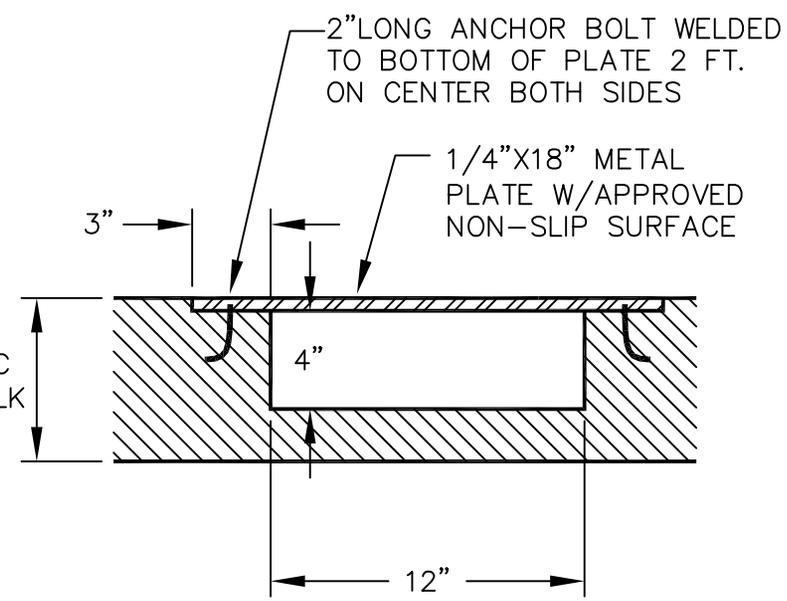
COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

STORM DRAIN UNDER SIDEWALK DRAIN



SECTION A-A

SAWCUT AT EXISTING EXPANSION JOINTS WHEN INSTALLING IN EXISTING CURB, GUTTER & SIDEWALK



SECTION B-B

NOTES:

1. GALVANIZE AFTER FABRICATION AND ASSEMBLY.
2. FOR INSTALLATION IN EXISTING SIDEWALK, SAWCUT AT EXISTING EXPANSION JOINTS AND RECONSTRUCT SIDEWALK.
3. ALLOWABLE ONLY WHEN DRAINAGE HAS BEEN ADEQUATELY TREATED FOR QUALITY ON SITE.
4. ALTERNATIVES MAY BE APPROVED BY THE ENGINEER.

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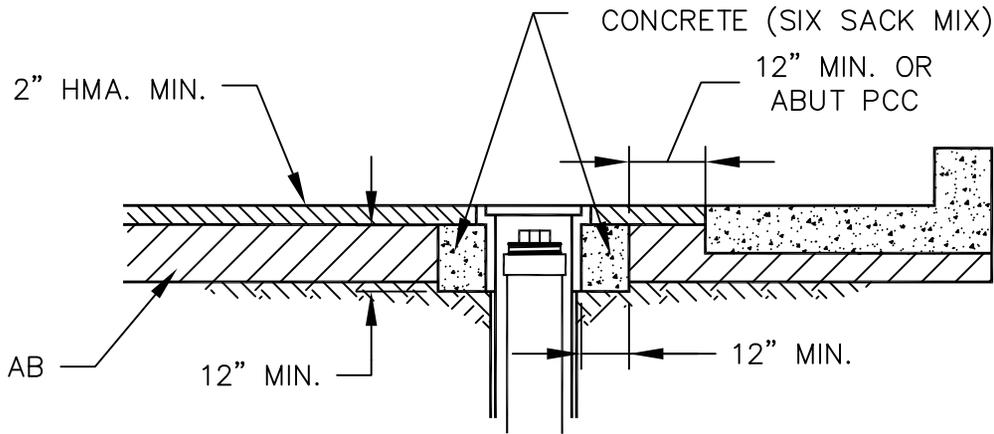


PLATE
429

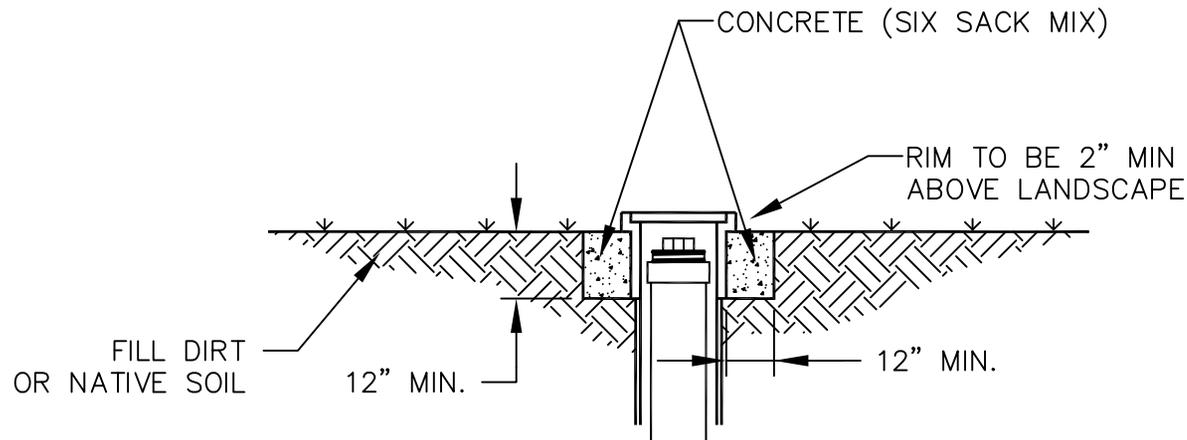


DEPARTMENT OF PUBLIC WORKS & FACILITIES
COUNTY OF PLACER

UTILITY BOXES



IN PAVEMENT



OUTSIDE PAVEMENT

NOTES:

1. TOP OF BOX IN PAVEMENT TO BE RECESSED BY 0.5 IN. WHEN ABOVE 2,000 FT. ELEVATION.
2. BOXES TO BE RAISED AFTER FINAL PAVING.
3. BOX AND LID SHALL BE G05 WITH A METAL LID WITH "SEWER" WELDED ON THE LID.
4. BOXES GREATER THAN 12" OUTER DIAMETER WILL REQUIRE APPROVAL OF THE ENGINEER PRIOR TO INSTALLATION.
5. ALL RECTANGULAR UTILITY BOXES SHALL BE LOCATED OUTSIDE OF THE PAVEMENT AND NOT WITHIN TWO FEET OF A ROAD SIDE DITCH UNLESS APPROVED BY THE ENGINEER PRIOR TO INSTALLATION.
6. LOCATE OUTSIDE OF VEHICLE WHEEL PATH.
7. BOXES LOCATED OUTSIDE PAVEMENT SHALL BE 2" MINIMUM ABOVE THE OUTSIDE PAVEMENT MATERIAL.
8. METAL LIDS ARE REQUIRED ON ALL BOXES.

REVISED
APR. 2018

SCALE:
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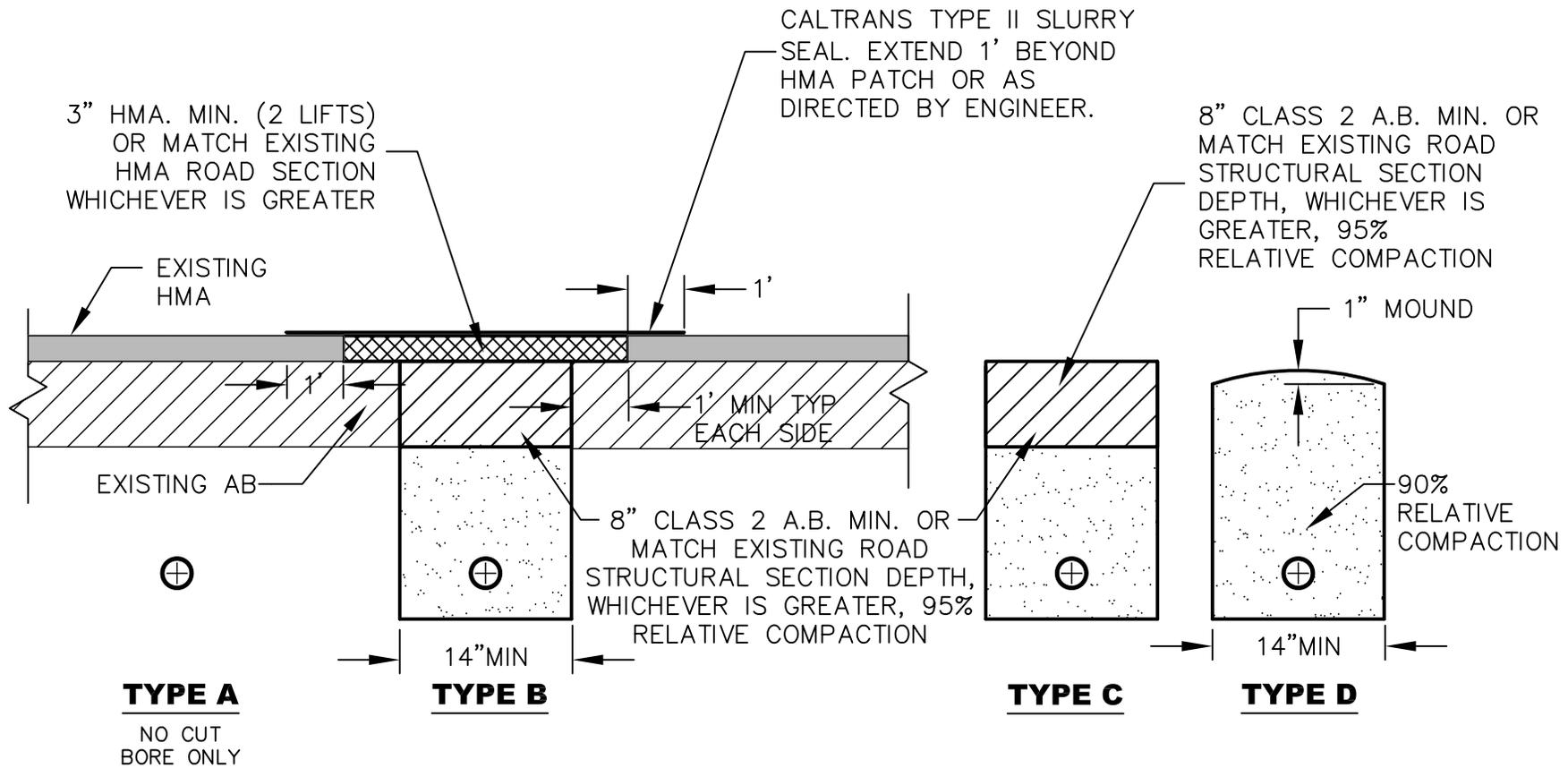


PLATE
430



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

TRANSVERSE TRENCH RESURFACING SECTIONS



TYPE A: PAVEMENT SURFACES LESS THAN 5 YEARS OLD, SURFACE TREATMENTS LESS THAN 3 YEARS OLD, & MAJOR THOROUGHFARES WITH HIGH QUALITY RIDING SURFACES, BORING OR JACKING ONLY. NO PAVEMENT CUTTING PERMITTED.

TYPE B: PAVEMENT GREATER THAN 5 YEARS OLD

TYPE C: UNSURFACED ROAD SHOULDER OR OTHER AREAS SUBJECT TO TRAFFIC LOADS

TYPE D: OUTSIDE ROADWAY, NOT SUBJECT TO TRAFFIC LOADS

NOTES:

- SEE PLATES 433, 434, 435 AND PLACER COUNTY GENERAL SPECIFICATIONS SECTION 19 FOR APPLICABLE TRENCH, BACKFILL, AND COMPACTION REQUIREMENTS.
- WHERE OPEN-GRADE OR OTHER SPECIALIZED HMA/SURFACE TREATMENT IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
- WHERE GEOTEXTILE FABRIC IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.

COUNTY OF PLACER

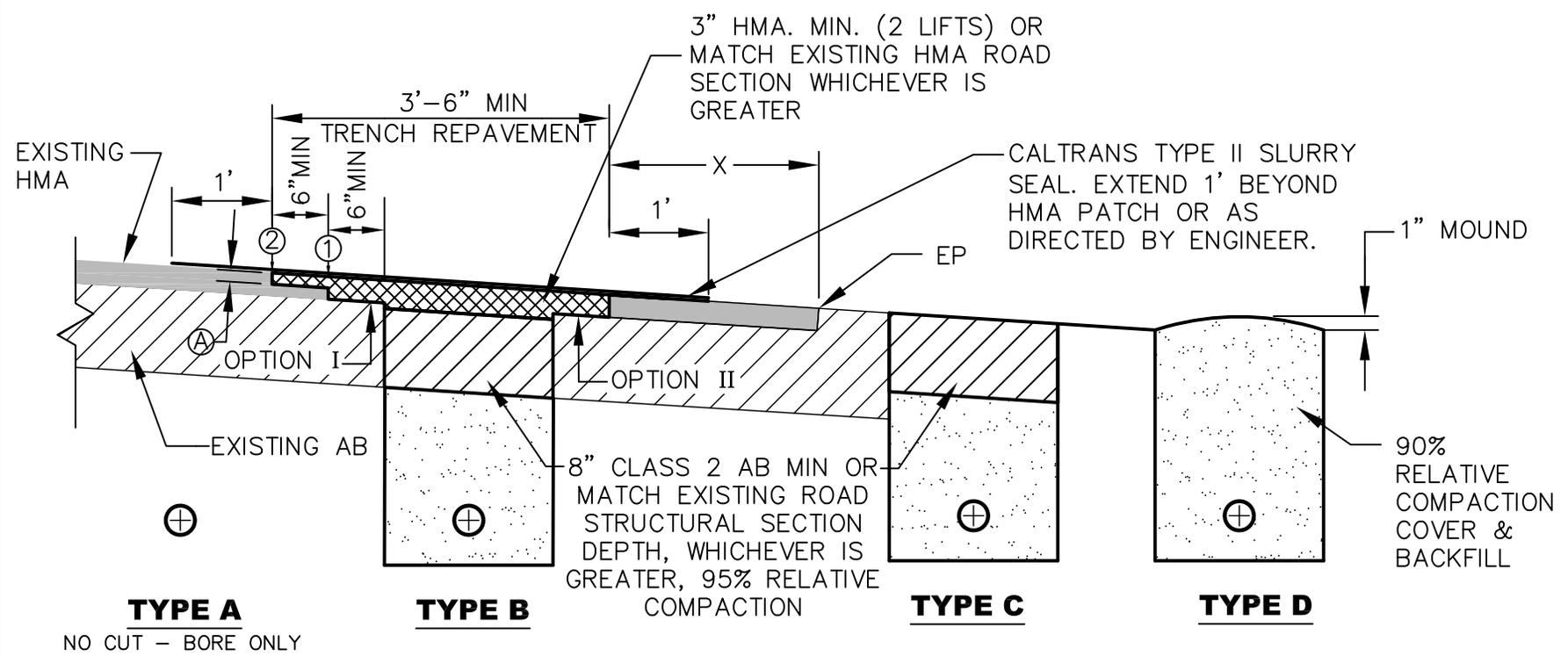
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COUNTY OF PLACER
 DEPARTMENT OF PUBLIC WORKS & FACILITIES

LONGITUDINAL TRENCH RESURFACING SECTIONS



TYPE A: PAVEMENT LESS THAN 5 YRS OLD, SURFACE TREATMENT LESS THAN 3 YRS OLD, AND MAJOR THOROUGHFARES WITH HIGH QUALITY RIDING SURFACES

1. BORING AND JACKING ONLY—NO PAVEMENT CUTTING UNLESS REQUESTED IN WRITING AND APPROVED IN WRITING BY THE DIRECTOR OF DPW.
2. RESTORATION SHALL BE AS DIRECTED BY THE ENGINEER AND MAY INCLUDE:
 - A. COMPLETE ROAD OVERLAY AFTER TRENCHING 0.2 FT. MIN. THICKNESS OR AS SPECIFIED ON THE PERMIT.
 - B. COMPLETE ROAD RECONSTRUCTION TO MATCH EXISTING.
3. ANY OTHER RESTORATION MUST BE REQUESTED IN WRITING AND APPROVED IN WRITING BY THE DIRECTOR OF PUBLIC WORKS.

TYPE B: PAVEMENT OLDER THAN 5 YEARS; OR SURFACE TREATMENT OLDER THAN 3 YRS

1. THE ENGINEER SHALL DETERMINE WHICH OPTION (I OR II) APPLIES.
2. IF USING OPTION I: TRENCH RESTORATION TO INCLUDE PLACEMENT OF NEW HMA USING OFFSET JOINT WITH MIN. 6" + 6" LAP EACH SIDE. GRIND DEPTH (A) TO BE 0.2' AT DISCRETION OF COUNTY WHERE EXISTING AC SECTION IS LESS THAN 3". NEW HMA SHALL BE PLACED IN TWO LIFTS. THE FIRST LIFT SHALL BE TO TOP OF OFFSET JOINT AT SAWCUT LINE (1) SECOND LIFT SHALL BE FULL WIDTH OF NEW AC TO GRIND LINE (2). COUNTY MAY REQUIRE PLACEMENT OF GEOTEXTILE FABRIC BETWEEN TWO AC LIFTS WHERE EXTENSIVE SURFACE CRACKS ARE PRESENT OR IF POOR SOIL CONDITIONS EXIST.
3. IF X < 3 FT. FOR ALL TRENCHES REPAVE TO E.P.
4. SLURRY SEAL OR OTHER ASPHALT MATERIAL AS DIRECTED BY THE ENGINEER, MINIMUM OF 2 FT. EITHER SIDE OF TRENCH LIMITS, IF X < 5 FT. SEAL TO E.P. A MINIMUM OF ONE FOOT BEYOND THE SAWCUT/GRIND LIMITS AND/OR LIMITS OF DISTURBANCE.
5. DAMAGE TO THE STRUCTURAL SECTION OR THE PAVEMENT SURFACE RESULTING FROM WORK UNDER THIS PERMIT SHALL BE RESTORED BY THE PERMITTEE TO EQUAL OR BETTER CONDITIONS AS DIRECTED BY THE COUNTY. EXTENSIVE DAMAGE MAY REQUIRE RESTORATION VIA CREATION OF A NEW STRUCTURAL SECTION.
6. IF OPEN GRADE OR OTHER SPECIALIZED HMA/SURFACE TREATMENT IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
7. PAVEMENT REPAIR JOINTS SHALL BE LOCATED OUTSIDE OF VEHICLE WHEEL PATH.
8. WHERE GEOTEXTILE FABRIC IS PRESENT, RESTORATION REQUIREMENTS WILL BE DETERMINED BY ENGINEER.
9. SEE PLATES 433-435 AND PLACER COUNTY GENERAL SPECS SECTION 19 FOR TRENCH, BACKFILL, AND COMPACTION REQUIREMENTS.

TYPE C: UNSURFACED ROAD SHOULDER OR OTHER AREAS SUBJECT TO TRAFFIC LOADS

TYPE D: OUTSIDE ROADWAY PRISM, NOT SUBJECT TO TRAFFIC

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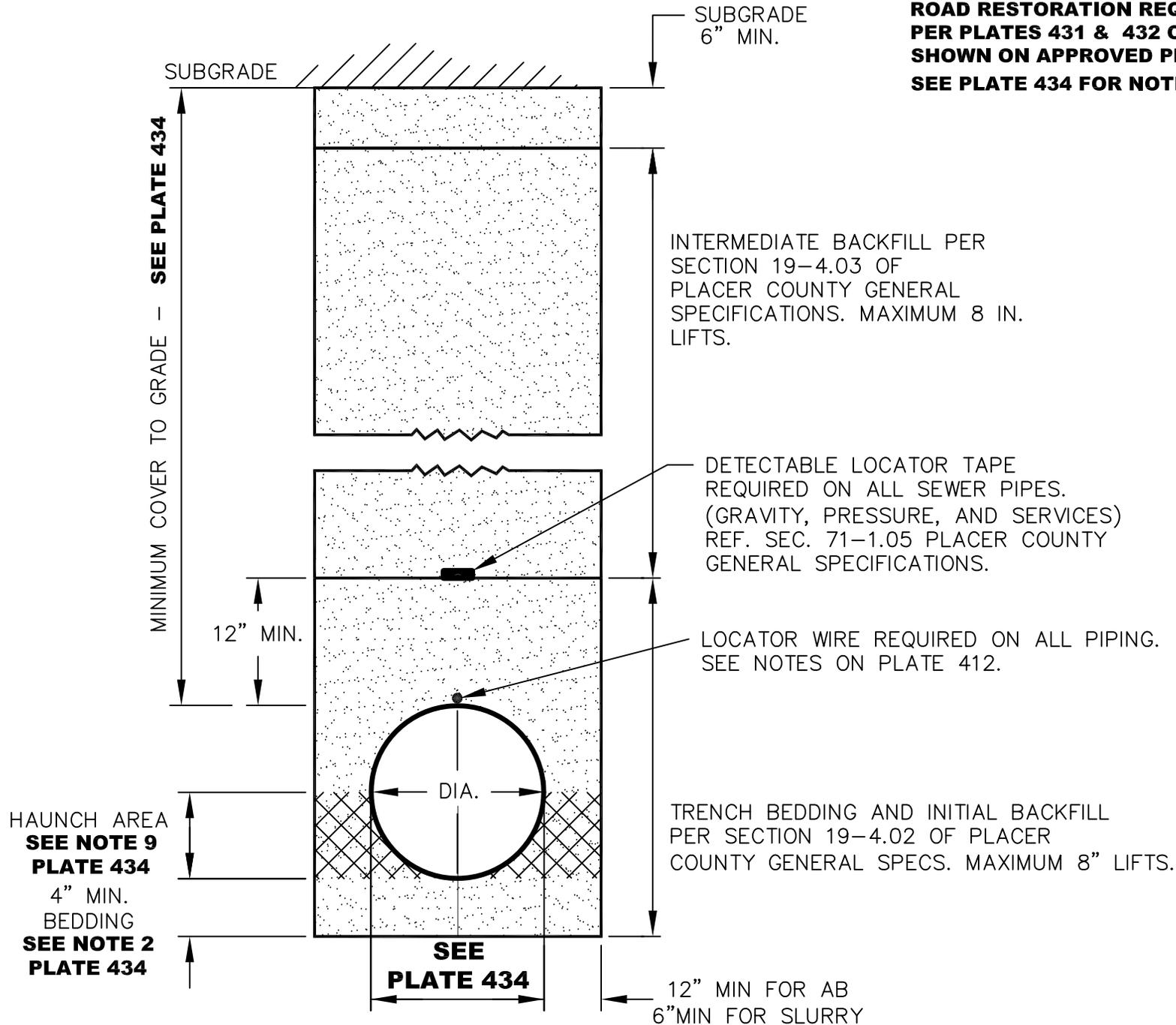
PLATE
432



COUNTY OF PLACER
DEPARTMENT OF PUBLIC WORKS & FACILITIES

TRENCH EXCAVATION AND BACKFILL

**ROAD RESTORATION REQUIREMENTS
PER PLATES 431 & 432 OR AS
SHOWN ON APPROVED PLANS.
SEE PLATE 434 FOR NOTES.**



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PLATE
433



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

TRENCH EXCAVATION AND BACKFILL - NOTES

NOTES:

1. UNLESS OTHERWISE APPROVED, MINIMUM COVERAGE FROM TOP OF PIPE TO FINISH GRADE SHALL BE AS FOLLOWS:

SEWER	36 IN.
WATER	30 IN.
CULVERTS	18 IN.
STORM DRAINS	18 IN.
OTHER UTILITIES	30 IN.

2. IN WET OR ROCKY MATERIAL, THE DEPTH OF TRENCH BEDDING SHALL BE INCREASED TO THE LARGER OF EITHER 6 IN. OR 1/4 DIA.

3. FOR CULVERTS/STORM DRAINS, THE MINIMUM DISTANCE BETWEEN THE SIDE OF THE TRENCH AND THE SIDE OF THE PIPE SHALL BE 12 IN.

4. MINIMUM COMPACTION REQUIREMENTS (SEE SECTION 19-4.04 OF THE PLACER COUNTY GENERAL SPECIFICATIONS).
 - A. WITHIN ROADWAY PRISM-

BEDDING/INITIAL BACKFILL	
SUBGRADE	95%
INTERMEDIATE BACKFILL	92%

 - B. OUTSIDE ROADWAY PRISM-

BEDDING/INITIAL BACKFILL	90%
INTERMEDIATE BACKFILL	90%

5. IN AREAS WITH MINIMUM COVER, INTERMEDIATE BACKFILL SHALL BE CLASS 2 AGGREGATE BASE.

6. IN AREAS OF NATURAL VEGETATION OR LANDSCAPING, REMOVE TOP 12 IN. OF MATERIAL, STOCKPILE & REPLACE IN A MOUND PER PLATE 431, TYPE D AND PLATE 432, TYPE D.

7. ALL LANDSCAPING CONDUITS WITHIN THE ROADWAY PRISM AND/OR TRAFFIC AREAS MUST HAVE MINIMUM OF 30 INCHES COVER. MINIMUM COVER WITHIN COUNTY R/W BUT OUTSIDE THE ROADWAY AND TRAFFIC AREAS SHALL BE AS FOLLOWS:

LOW VOLTAGE ELECTRICAL CONDUITS	24 IN. MIN
PRESSURIZED WATERLINES	24 IN. MIN
NONPRESSURIZED (DISCHARGED) LATERALS	12 IN. MIN

8. COMPACTION TESTING WITHIN THE PIPE ZONE (BOTTOM OF TRENCH TO 12 IN. ABOVE CONDUIT(S)) SHALL BE PERFORMED BY TESTING LAB AS APPROVED BY THE COUNTY OR DONE BY THE COUNTY AND REIMBURSED BY THE APPLICABLE DEVELOPER OR UTILITY COMPANY.

9. SHOVEL SLICE BEDDING MATERIAL UNIFORMLY UNDER PIPE IN HAUNCH AREA. SHOVEL SLICING SHALL BE COMPLETED BEFORE THE BEDDING IS BROUGHT UP TO THE PIPE SPRINGLINE AND PREFERABLY WHEN IT IS NO HIGHER THAN THE QUARTER POINT OF THE PIPE.

DATE:
APR. 2016

SCALE:
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PLATE
434



COVER REQUIREMENTS

CLASS	CONCRETE PIPE							CMP UNSTRUTTED					VCP EXTRA STRENGTH
	C-14		REINFORCED					16 GA	14 GA	12 GA	10 GA	8 GA	
DIA	SS	ES	I	II	III	IV	V						
10	13	30	NOT PERMITTED									30	
12	12	26			8	12	30		60	80			26
15	12	26			10	15	35		50	70			26
18	12	29			11	16	38		40	60	100		29
21	12	29			12	17	39		35	50	80	100	29
24	12	24			12	18	39		17	47	72	82	24
27					13	19	39						19
30					14	19	38		17*	32	47	72	19
33					14	20	38						20
36					13	17	27	64	13*	18	33	48	
42				14	18	29	62		18*	28	38	100	
48				15	19	30	60		16*	24	29	39	
54				16	20	31	58		14*	20	25	35	
60				14	16	21	31	57	12*	17*	20	30	
66				15	17	22	32	56		14*	20	25	
72				15	18	23	33	56		7*	16	21	

MAXIMUM ALLOWABLE COVER - DRAINAGE PIPES

MEASURED FINISH GRADE TO BOTTOM OF TRENCH IN FEET
* ONLY ON MINOR STREETS AND UNTRAVELED AREAS

LEGEND:
SS = SINGLE STRENGTH
ES = EXTRA STRENGTH

- NOTES:
1. CONCRETE PIPE SHALL CONFORM TO ASTM C-76 57-T OR C-14.
 2. VITRIFIED CLAY PIPE SHALL BE EXTRA STRENGTH AND CONFORM TO ASTM C-278, CL 2.
 3. ALL DEPTHS SHOWN FOR FLEXIBLE PAVEMENT ONLY
 4. MIN. COVER ON VCP EXTRA STRENGTH SHALL CONFORM TO THAT OF CONCRETE PIPE CLASS 3.
 5. 12 IN. MIN. COVER ON CONCRETE PIPE OUTSIDE STREET AREAS.
 6. PIPES SHALL NOT EXTEND INTO ROAD STRUCTURAL SECTIONS UNLESS SPECIFICALLY APPROVED BY THE ENGINEER.

THICKNESS	GAGE NO.					
	22	20	18	16	14	12
UNCOATED (in)	0.0299	0.0359	0.0478	0.0598	0.0747	0.1046
GALVANIZED(in)	0.034	0.040	0.052	0.064	0.079	0.109
GALVANIZED(mm)	0.762	1.02	0.32	1.63	2.01	2.77
	10	8	7	5	3	1
UNCOATED (in)	0.1345	0.1644	0.1838	0.2145	0.2451	0.2758
GALVANIZED(in)	0.138	0.168	0.188	0.218	0.249	0.280
GALVANIZED(mm)	3.51	4.27	4.78	5.54	6.32	7.11

CLASS	CONCRETE PIPE							CORRUGATED METAL PIPE ALL SIZES H-20 LOADING	CORRUGATED HIGH DENSITY POLYETHYLENE DUAL WALL SMOOTH INTERIOR ONLY
	C-14		REINFORCED						
DIA	SS	ES	I	II	III	IV	V		
ALL SIZES	27"	24"	27"	24"	18"	12"	12"	18"	18"

MINIMUM ALLOWABLE COVER - DRAINAGE PIPES

MEASURED SURFACE TO TOP OF PIPE IN INCHES

CORRUGATED HIGH DENSITY POLYETHYLENE PIPE DUAL WALL SMOOTH INTERIOR ONLY

DIA (INCHES)	MIN. COVER (INCHES)	MAX. FILL (HEIGHT - FEET)
12	18	23
15	18	22
18	18	22
24	18	24
30	18	23
36	18	26

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DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

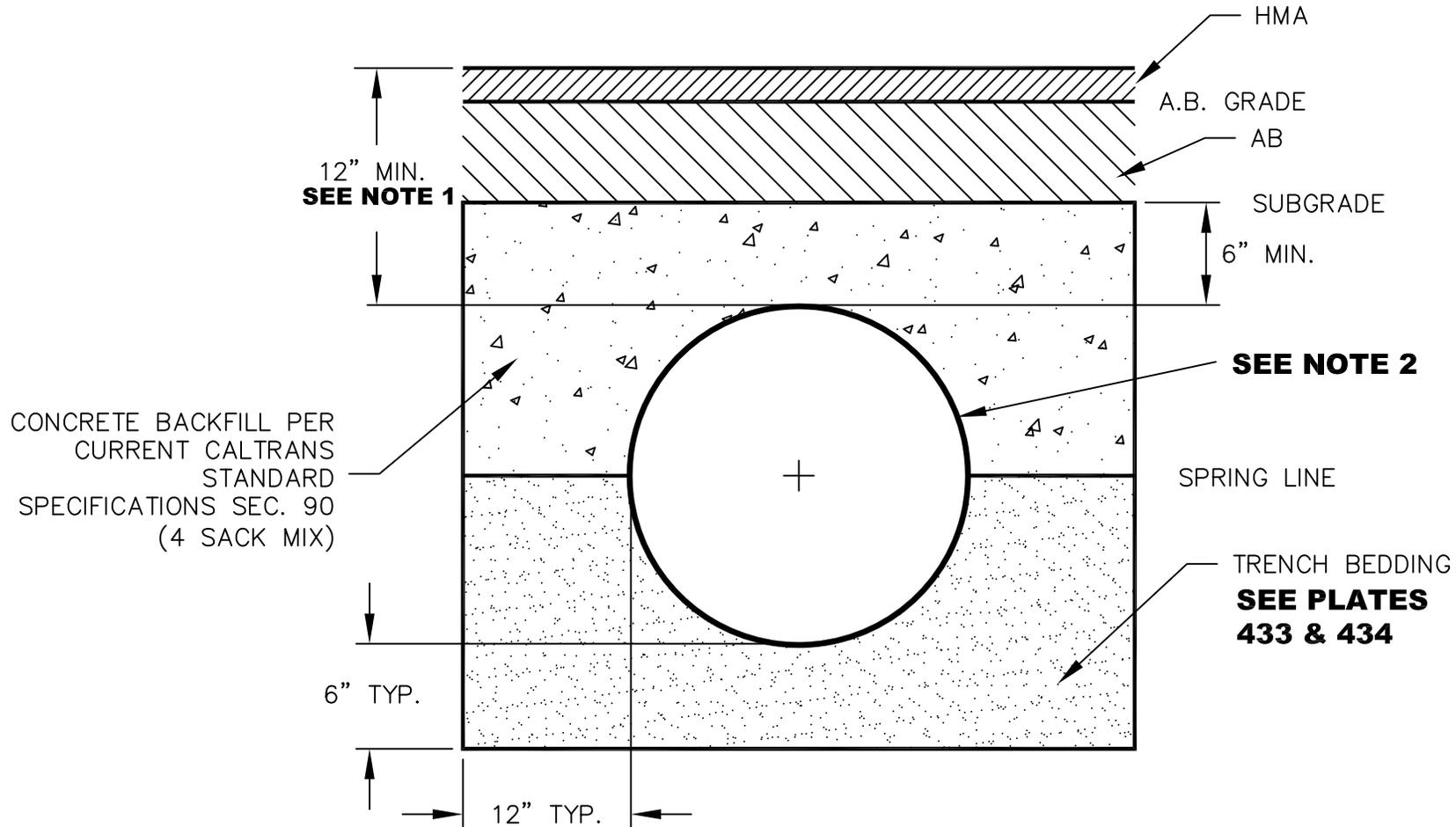
CONCRETE CAP FOR PIPES HAVING LESS THAN MINIMUM COVER

DATE:
APR. 2016

SCALE:
NOT TO SCALE



PLATE
436



NOTES:

1. PROVIDE MINIMUM COVER TO ACCOMMODATE STRUCTURAL SECTION REQUIRED PER THE COUNTY.
2. IF CONCRETE BONDING TO PIPE IS A CONCERN, WRAP ENTIRE PIPE WITH MINIMUM 10 MIL POLYETHYLENE SHEETING TO PREVENT BONDING.
3. CONCRETE CAP SHALL NOT BE ALLOWED WITHIN 5' OF A FLEX JOINT IN A SEWER PIPELINE.



DEPARTMENT OF PUBLIC WORKS & FACILITIES

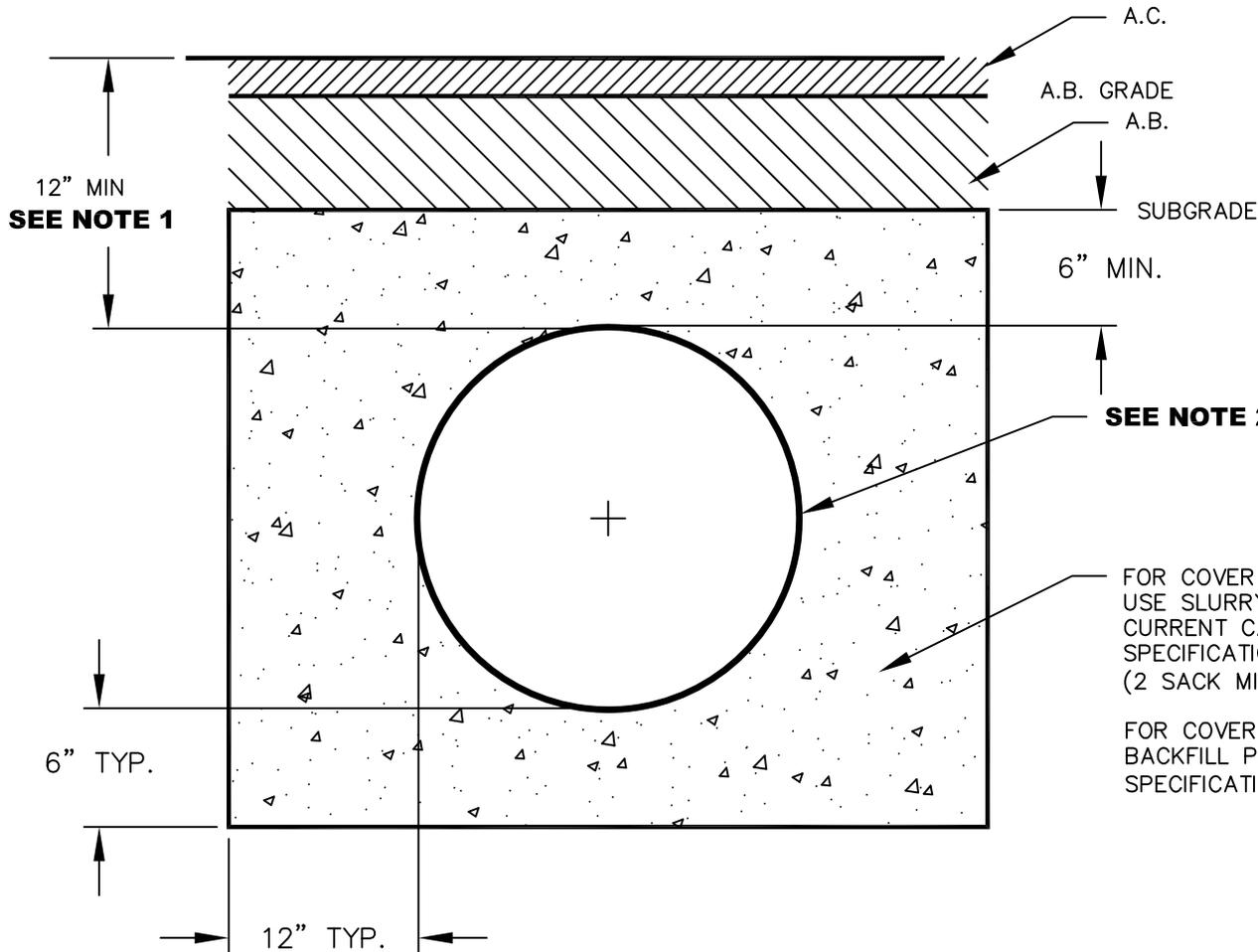
COUNTY OF PLACER

CONCRETE ENCASEMENT FOR PIPES

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PLATE
437



FOR COVER 12" OR GREATER,
USE SLURRY CEMENT BACKFILL PER
CURRENT CALTRANS STANDARD
SPECIFICATIONS SEC. 19-3.02D
(2 SACK MIX) OR COMPACTABLE CONCRETE.

FOR COVER LESS THAN 12", USE CONCRETE
BACKFILL PER CURRENT CALTRANS STANDARD
SPECIFICATIONS SEC. 90 (4 SACK MIX).

NOTES:

1. PROVIDE MINIMUM COVER SUCH THAT FULL DESIGN A.C. LAYER PROVIDED AND AT LEAST 0.20 FT. OF A.B. TO ALLOW FOR GROUNDWATER FLOW OVER PIPE (i.e. TO PREVENT HYDROSTATIC PRESSURE BUILD-UP UNDER PAVEMENT).
2. IF CONCRETE BONDING TO PIPE IS A CONCERN, WRAP ENTIRE PIPE WITH MINIMUM 10 MIL PLASTIC TO PREVENT BONDING.
3. CONCRETE ENCASEMENT SHALL NOT BE ALLOWED WITHIN 5' OF A FLEX JOINT IN A SEWER PIPELINE.



COUNTY OF PLACER DEPARTMENT OF PUBLIC WORKS & FACILITIES

TRASH RACK 48" PIPE & SMALLER

DATE: APR. 2016
SCALE: NOT TO SCALE

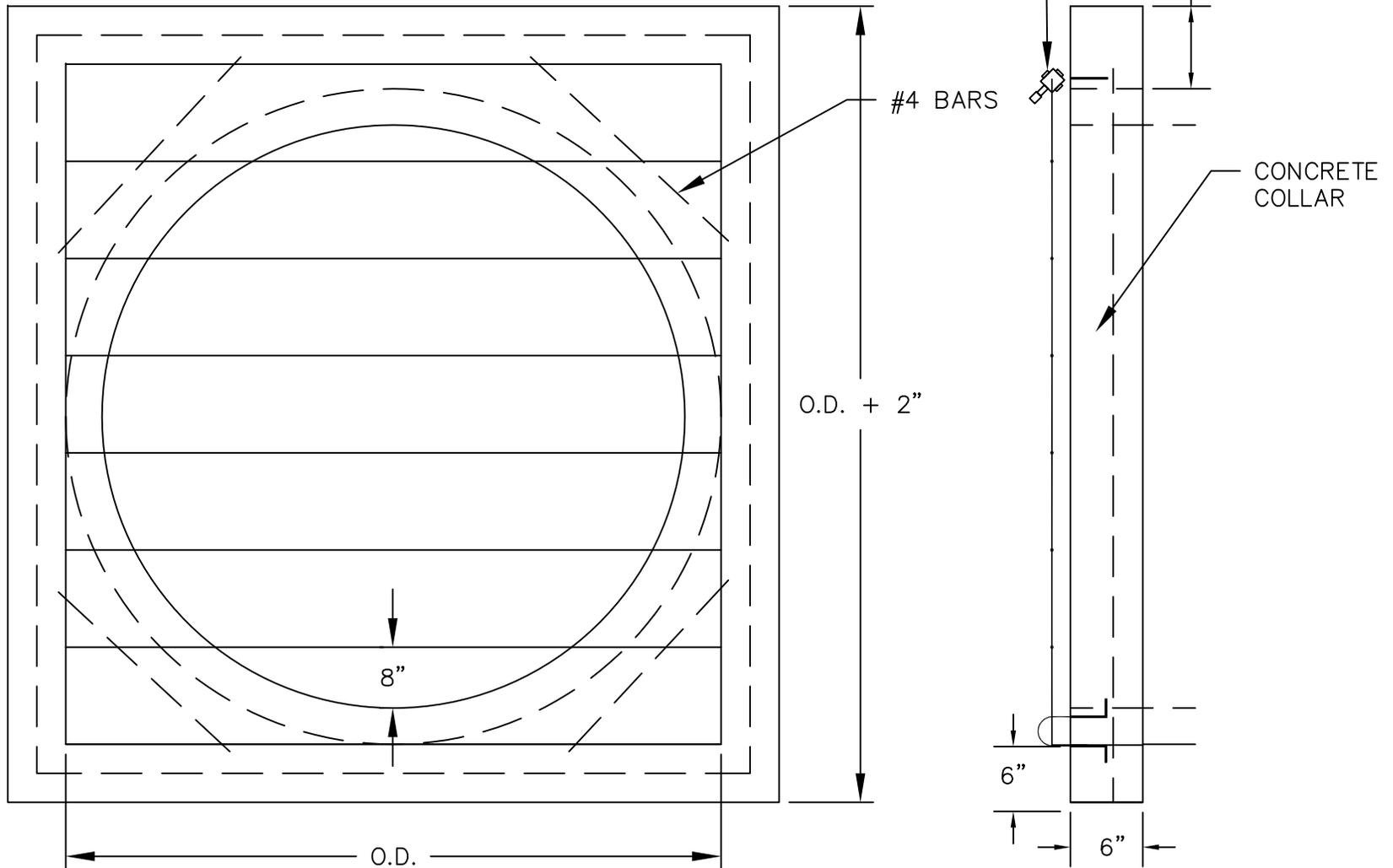


PLATE
438

NOTES:

1. ENTIRE RACK TO BE WELDED REINFORCING STEEL OR ROUND BARS OF EQUAL DIAMETER WITH HORIZONTAL BARS BEING 8" CENTER TO CENTER.
2. USE 5 SACK MIX CONCRETE.
3. ROOM SHALL BE PROVIDED DOWNSTREAM TO LAY RACK FLAT.
4. REFER TO SECTION 5.09(1)(g) IN THE LAND DEVELOPMENT MANUAL.

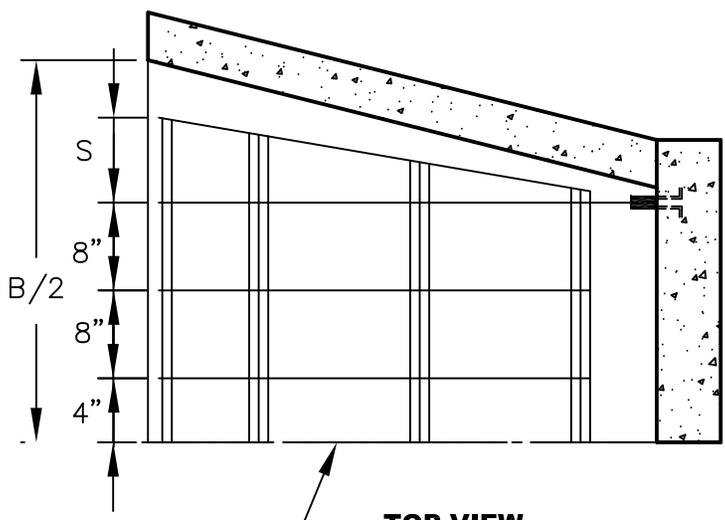
PIPE SIZE	24"	27"	30"	33"	36"	42"	48"
BAR SIZE	#4	#5	#5	#6	#6	#7	#7





COUNTY OF PLACER
 DEPARTMENT OF PUBLIC WORKS & FACILITIES

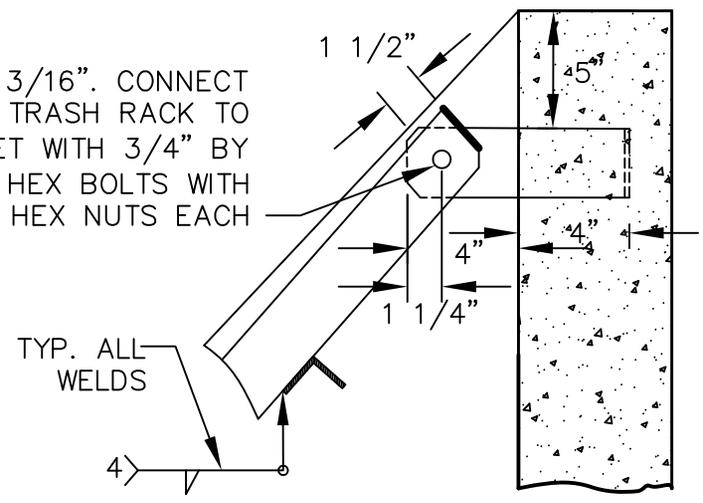
TRASH RACK 54" PIPE & LARGER



TOP VIEW

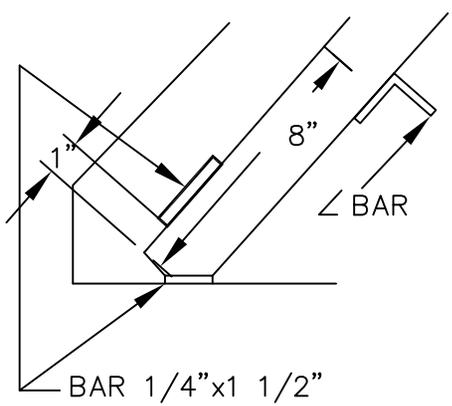
SYMMETRICAL ABOUT C/L

DRILL 13/16". CONNECT TRASH RACK TO BRACKET WITH 3/4" BY 2-3/4" HEX BOLTS WITH TWO HEX NUTS EACH



DETAIL B

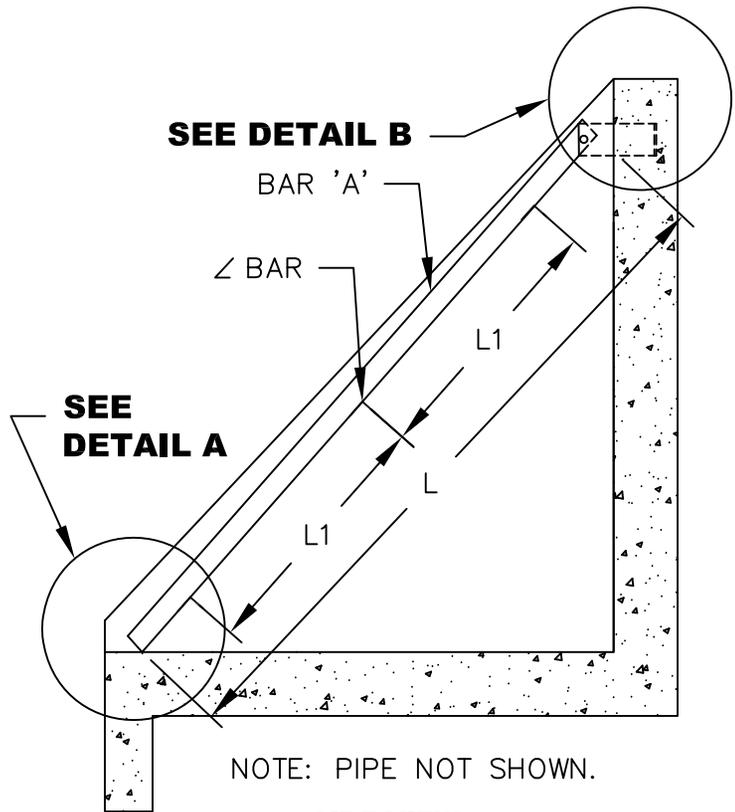
TYP. ALL WELDS



DETAIL A

NOTES:

1. THIS TRASH RACK MAY BE USED WITH PIPE INLET STRUCTURES MATERIAL TO CONFORM TO ASTM DESIGNATION A-36.
2. 'S' MAY VARY WITH 'B'. SEE PLATE U-35.
3. ALL FILLET WELDS TO BE 3/16".
4. 3 HINGES REQUIRED.



SIDE VIEW

NOTE: PIPE NOT SHOWN.

TRASH RACK DIMENSIONS

DIA.	NUMBER & SIZE		L	L1	S	H
	BAR A	∠ BAR				
54"	10- $\frac{3}{8}$ X3	4-3X3X $\frac{1}{4}$	7'-9"	2'-1 $\frac{1}{2}$ "	10 $\frac{1}{2}$ "	5'-8"
60"	11- $\frac{3}{8}$ X3 $\frac{1}{2}$	4-3X3X $\frac{1}{4}$	8'-5"	2'-4"	11"	6'-2"

DATE: APR. 2016
 SCALE: NOT TO SCALE



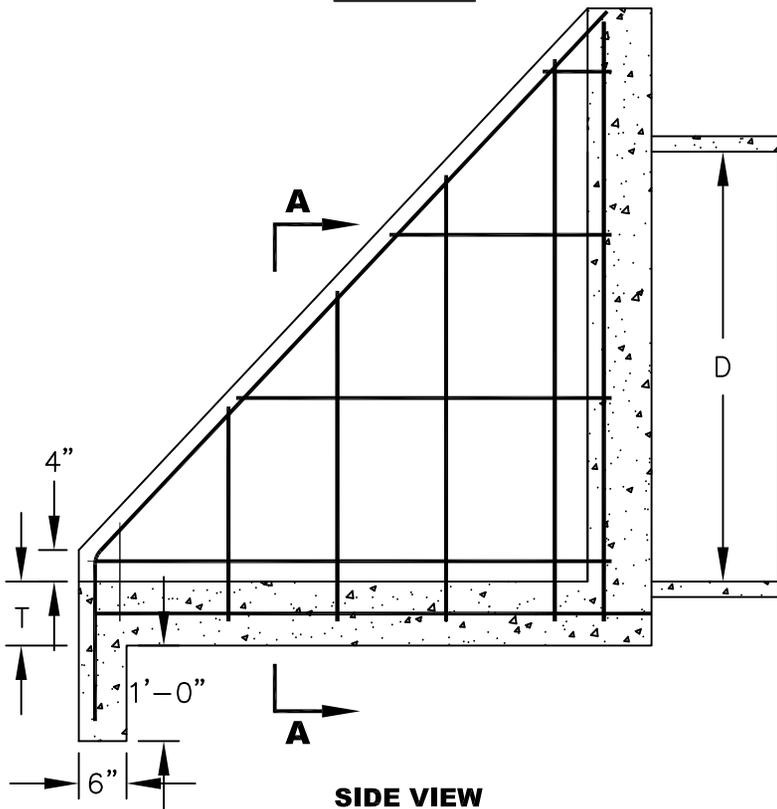
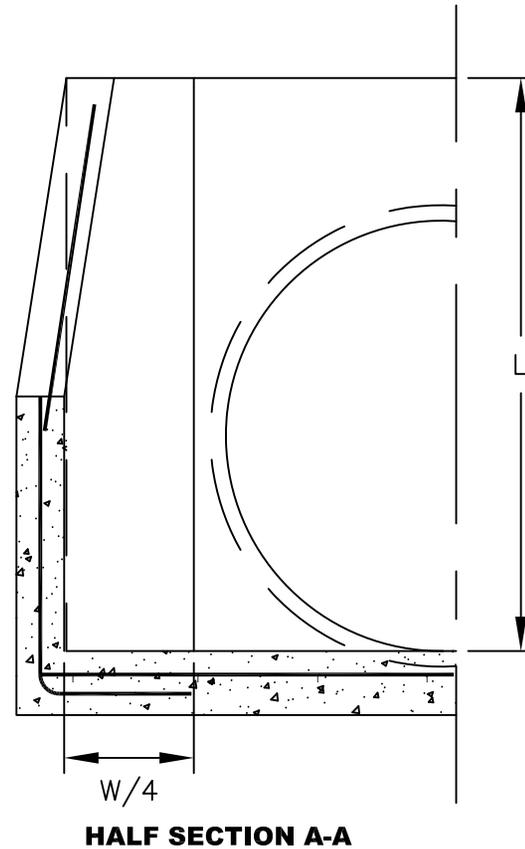
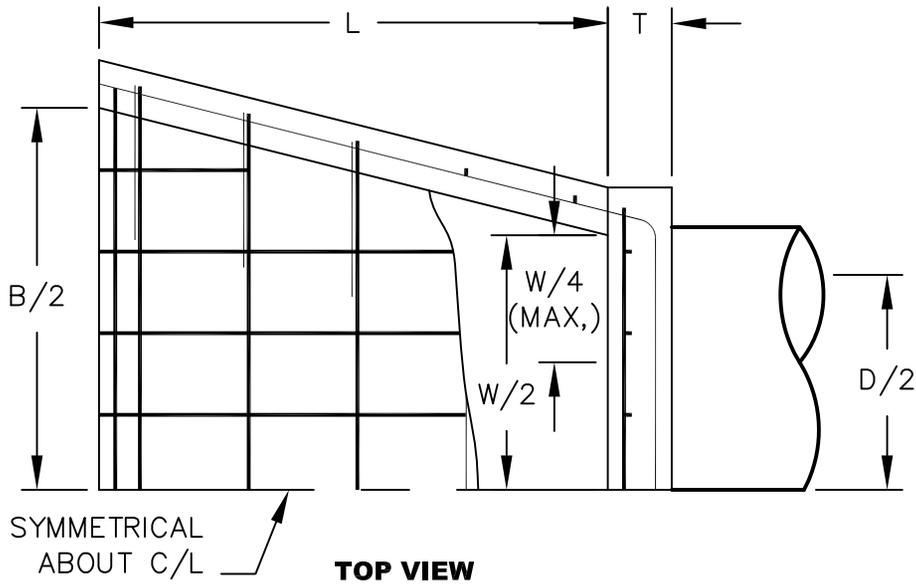
PLATE
439



DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

54" - 60" PIPE STORM DRAIN INLET STRUCTURE



DIMENSIONS AND REINFORCING

D	W	B	L	T	ALL REINFORCING
54"	5'-4"	8'-0"	6'-0"	8"	#6 @ 12"
60"	6'-0"	8'-10"	6'-6"	8"	#6 @ 12"

NOTES:

1. "B" MAY BE REDUCED IF REQUIRED BY CHANNEL DIMENSIONS.
2. REINFORCING BAR SPACING SHOWN IS MAXIMUM SPACING.
3. USE 5 SACK MIX CONCRETE.
4. REFER TO SECTION 5.09(1)(h) IN THE LAND DEVELOPMENT MANUAL.

DATE:
APR. 2016

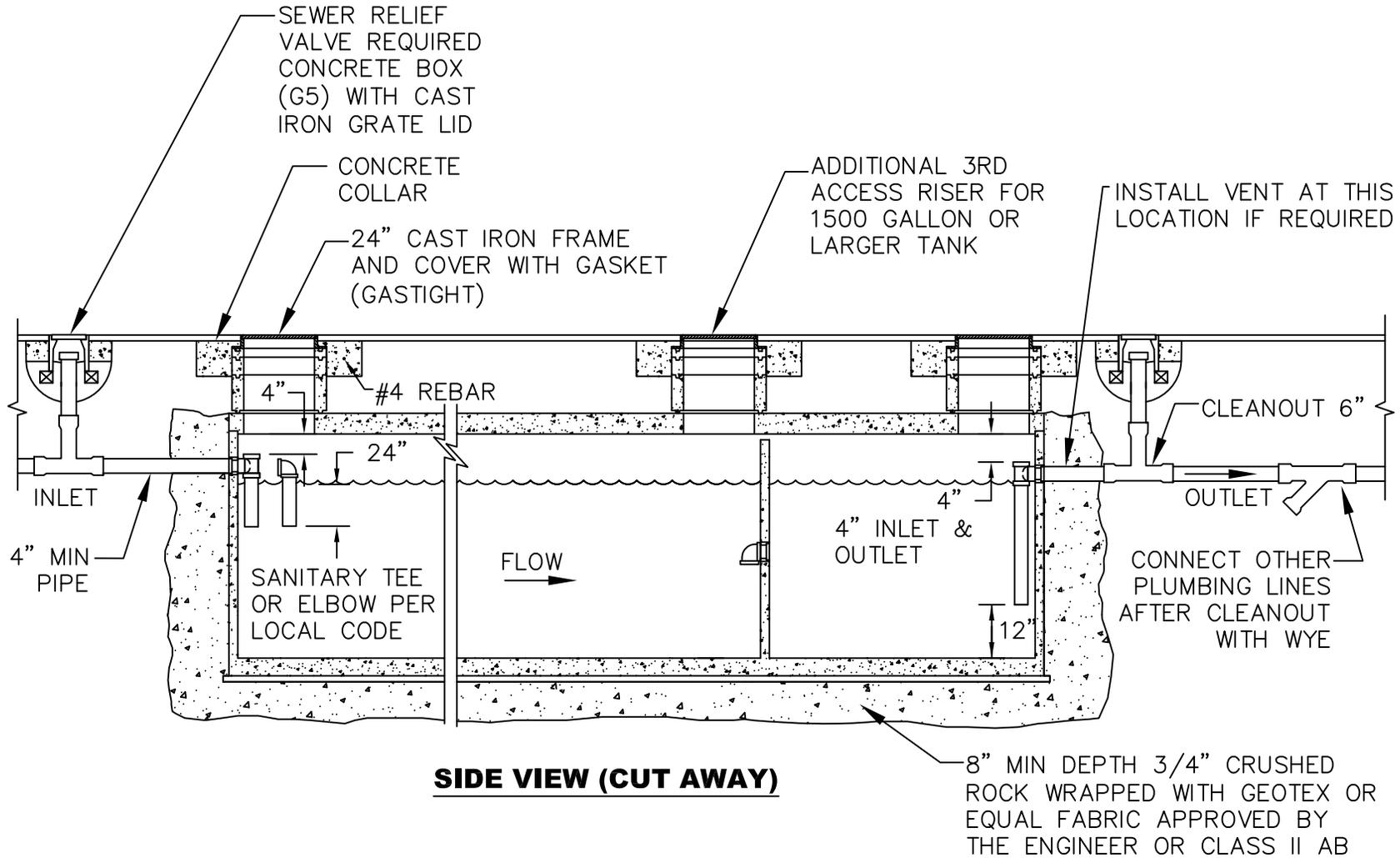
SCALE:
NOT TO SCALE





DEPARTMENT OF PUBLIC WORKS & FACILITIES
COUNTY OF PLACER

SAND/OIL SEPARATOR



SIDE VIEW (CUT AWAY)

DATE:
APR. 2016

SCALE:
NOT TO SCALE



SEE PLATE 443 FOR SPECIAL NOTES

PLATE
442

NOTES:

1. TWO RISERS ARE REQUIRED FOR ALL TANKS. ADDITIONAL RISER(S) REQUIRE CONCRETE COLLARS.
2. MANHOLE LIDS SHALL SAY "INTERCEPTOR" OR "GREASE INTERCEPTOR".
3. UTILITY BOXES LOCATED IN TRAFFIC AREAS SHALL CONFORM TO THE "IN PAVEMENT" DETAIL ON PLACER COUNTY PLATE 430.
4. TRENCH EXCAVATION AND BACKFILL SHALL CONFORM TO PLACER COUNTY PLATES 433 AND 434.
5. PLACER COUNTY ENVIRONMENTAL ENGINEERING SHALL REVIEW AND APPROVE ALL GREASE INTERCEPTORS PRIOR TO PERMIT ISSUANCE AND INSTALLATION.
6. RISER DEPTH SHALL NOT EXCEED 36 INCHES.
7. REFER TO THE GREASE INTERCEPTOR SPECIFICATIONS HANDOUT FOR INSTALLATION AND INSPECTION OF INTERCEPTOR FOR ADDITIONAL INFORMATION AND REQUIREMENTS.
8. TANKS SHALL BE PRE-CAST CONCRETE WITH WALLS AND THE BOTTOM SLAB MONOLITHICALLY POURED.
9. REINFORCING STEEL SHALL BE ASTM A615 GRADE 60, FY=60,000 PSI. DETAILS AND PLACEMENT SHALL BE IN ACCORDANCE WITH ACI 315 AND ACI 318.
10. TANKS SHALL BE VACUUM TESTED PRIOR TO BACKFILL AND INSPECTED BY ENVIRONMENTAL ENGINEERING.
11. NO WASTEWATER FROM TOILETS, BATHROOM FIXTURES, WASHING MACHINES OR MOP SINKS OUTSIDE THE KITCHEN AREA SHALL FLOW THROUGH GREASE INTERCEPTOR OR SAND/OIL SEPARATOR.
12. TANKS SHALL BE A MINIMUM OF 1500 GALLONS.
13. NO TANK SHALL BE LOCATED IN A DRIVE THRU, PARKING SPACE, FOOD DINING AREA, OR INSIDE A BUILDING..
14. WHEN TANKS ARE LOCATED IN LANDSCAPING THE LIDS SHALL HAVE A MINIMUM 6 FOOT DIAMETER CLEARANCE WITH ONLY BARK, 3/8 INCH OR LESS GRAVEL OR GRASS.
15. TANKS IN LANDSCAPING SHALL USE AN ORENCO FIBERGLASS RISER WITH A 4 BOLT FIBERGLASS LID OR EQUAL.



DEPARTMENT OF PUBLIC WORKS & FACILITIES

COUNTY OF PLACER

**NOTES - GREASE INTERCEPTOR
OR SAND/OIL SEPARATOR**

REVISED:
APR. 2018

SCALE:
NOT TO SCALE



PLATE
443



COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

MONUMENTS

SECTION CORNER & QUARTER CORNER

DATE: APR. 2016
SCALE: NOT TO SCALE

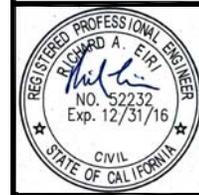
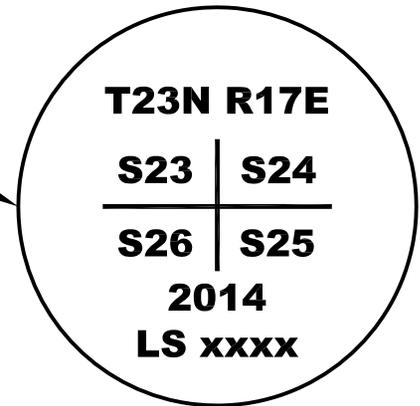


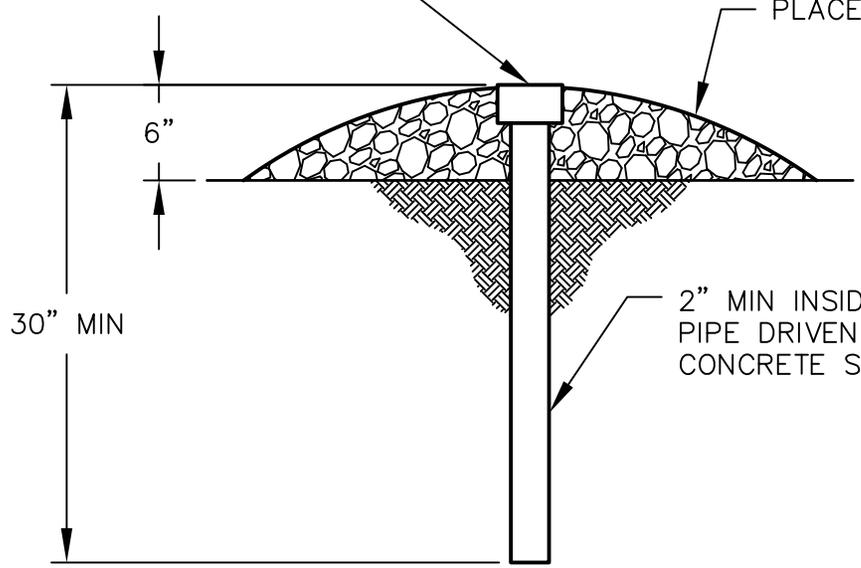
PLATE
500

APPROVED BRONZE, BRASS OR EQUIVALENT MARKER OR CAP, 2"φ MIN (W/SAMPLE MARKINGS)
SEE NOTE 2



APPROVED BRONZE, BRASS OR EQUIVALENT CAP, 2"φ MIN

PLACE ROCK MOUND



2" MIN INSIDE DIAMETER GALVANIZED IRON PIPE DRIVEN INTO GROUND. IF PLACED IN HOLE, CONCRETE SHALL BE USED AS BACKFILL.

- NOTES:**
1. SET ACCORDING TO PLATE 501 IF CORNER FALLS ON ROAD.
 2. MARKINGS ON CAP TO BE ORIENTED NORTH AND STAMPED IN ACCORDANCE WITH THE INSTRUCTIONS IN CHAPTER IV OF THE 2009 MANUAL OF SURVEY INSTRUCTIONS PREPARED BY THE BUREAU OF LAND MANAGEMENT.



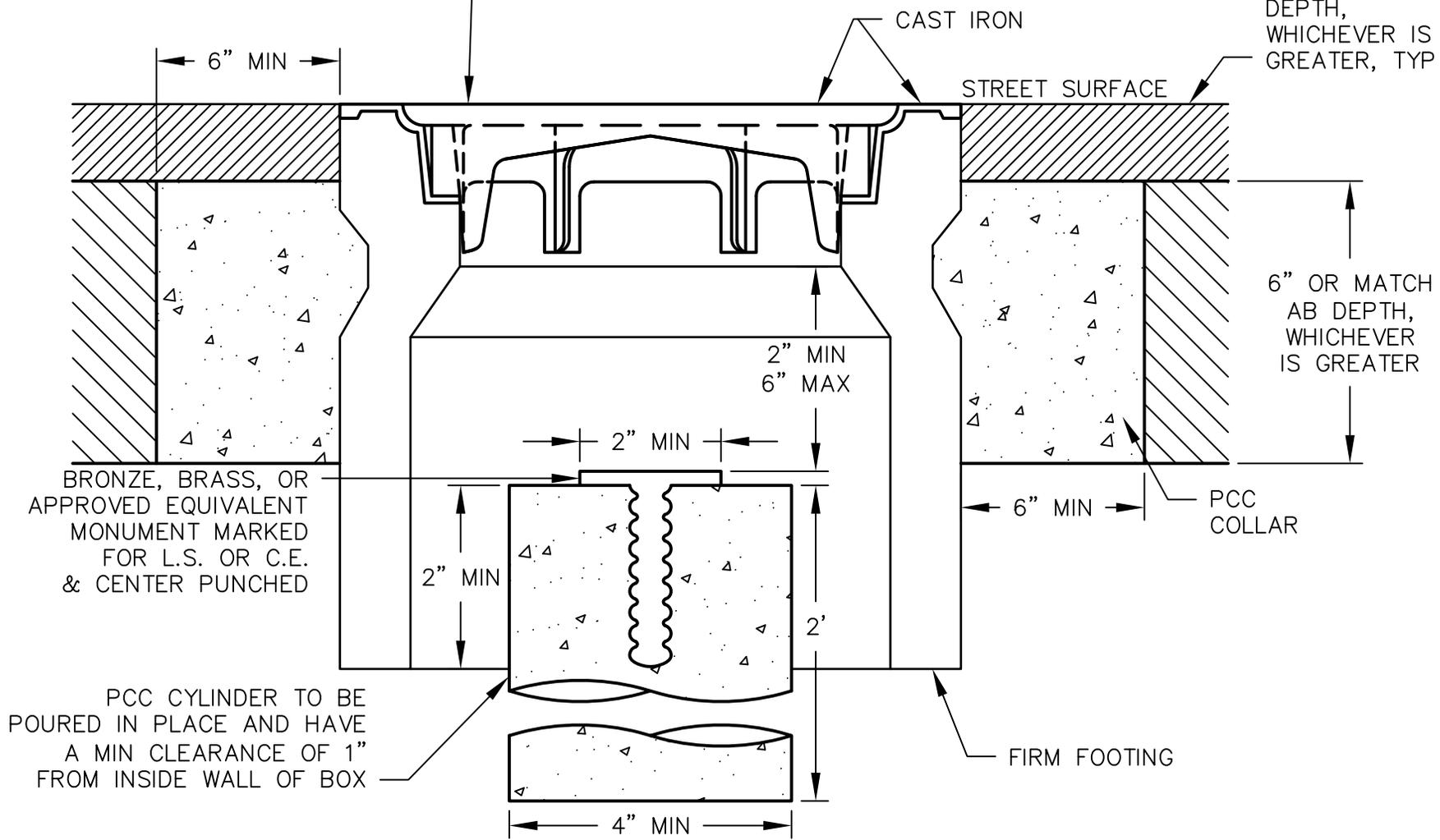
COUNTY OF PLACER
ENGINEERING & SURVEYING
CDRA

MONUMENTS

STREET INTERSECTION

COVER MARKED "MONUMENT" OR APPROVED EQUIVALENT. IN AREAS ABOVE 2000 FT ELEVATION, RECESS MONUMENT BOX 1/2" BELOW PAVEMENT SURFACE

2" HMA OR MATCH (E) DEPTH, WHICHEVER IS GREATER, TYP



NOTES:

- SECTION AND QUARTER CORNER MONUMENTS SHALL BE MARKED AND SET IN ACCORDANCE WITH PLATE 500.
- MONUMENT BOX TO BE RAISED AFTER FINAL PAVING.
- ALL PCC TO BE 6-SACK MIX.
- MONUMENT BOX SHALL BE ONE OF THE FOLLOWING, OR APPROVED EQUIVALENT:
 - BROOKS #3-RT TRAFFIC GATE VALVE BOX;
 - FORNI TRAFFIC VALVE BOX, IRON SIDES;
 - THE AMERICAN BRASS & IRON FOUNDRY MONUMENT COVER: FRAME 5020, LID 5022.

DATE:
APR. 2016

SCALE:
NOT TO SCALE

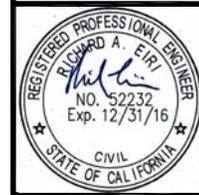


PLATE
501



COUNTY OF PLACER CDRA ENGINEERING & SURVEYING

STREET MONUMENTS

DATE: APR. 2016

SCALE: NOT TO SCALE



PLATE
502

