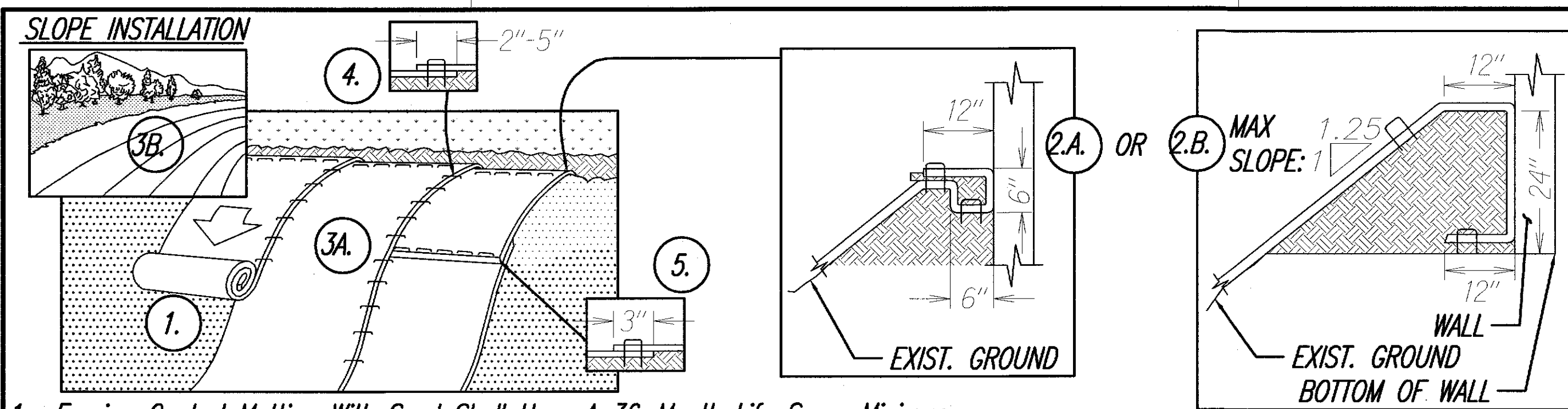


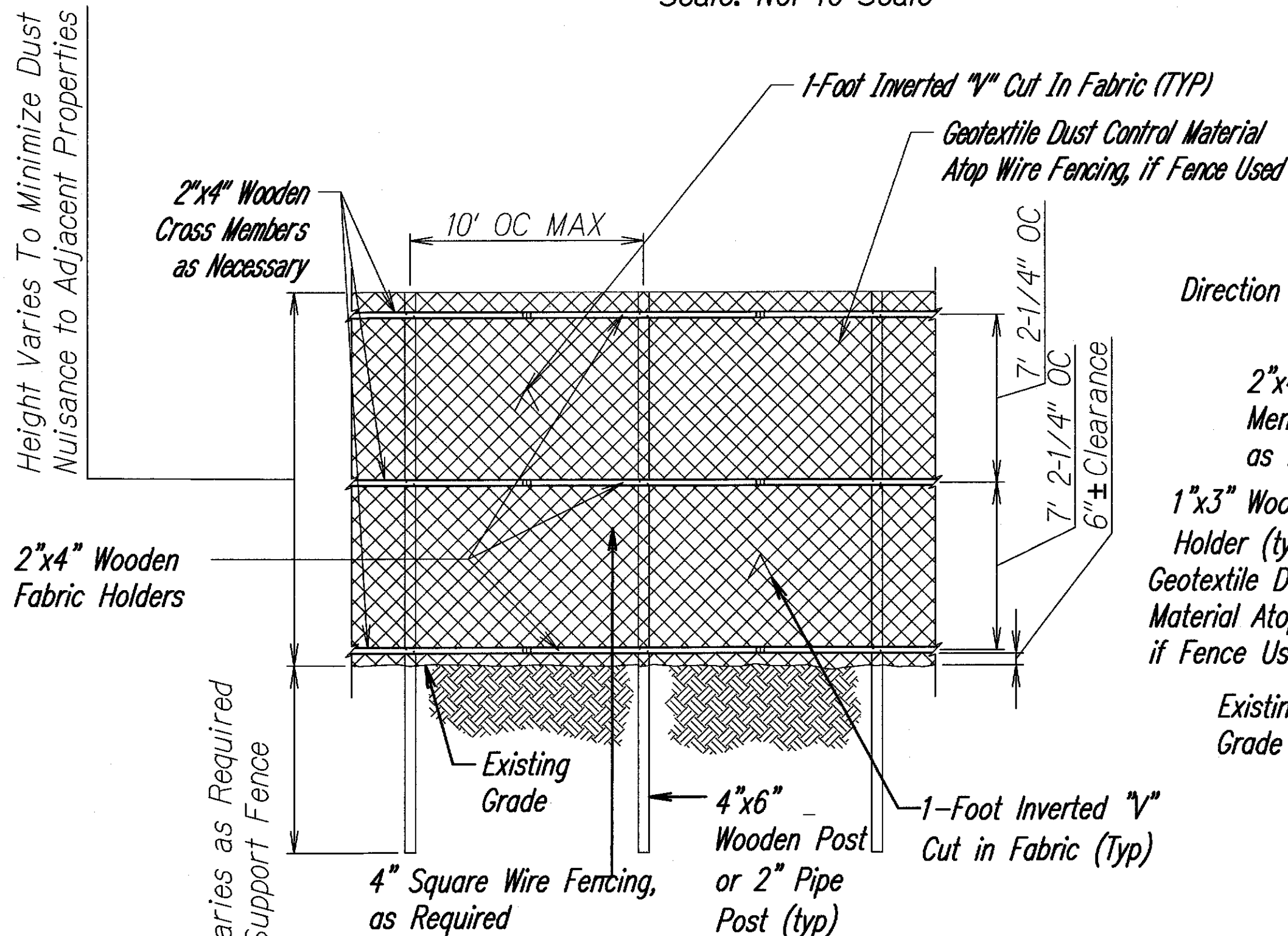
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	68	108



- Erosion Control Matting With Seed Shall Have A 36-Month Life Span, Minimum.
- Prepare Soil Before Installing Erosion Control Matting (ECM), Including Any Necessary Application Of Lime, Fertilizer, And Seed
- Anchor The ECM Using 2.A. Or 2.B.:
 - Begin At The Top Of The Slope By Anchoring The ECM In A 6" Deep x 8" Wide Trench With Approximately 12" Of ECM Extended Beyond The Up-Slope Portion Of The Trench. Anchor The ECM With A Row Of Staples/Stakes Approximately 12" Apart In The Bottom Of The Trench. Backfill And Compact The Trench After Stapling. Apply Seed To Compacted Soil And Fold Remaining 12" Portion Of ECM Back Over Seed And Compacted Soil. Secure ECM Over Compacted Soil With A Row Of Staples/Stakes Spaced Approximately 12" Apart Across The Width Of The ECM.
 - Begin At The Top Of The Slope By Anchoring The ECM In A 6" Deep x 6" Wide Trench With Remainder Of ECM Extended Beyond The Up-Slope Portion Of The Trench. Anchor The ECM With A Row Of Staples/Stakes Approximately 12" Apart In The Bottom Of The Trench. Backfill And Compact The Trench After Stapling. Apply Seed To Compacted Soil And Fold Remaining Portion Of ECM Back Over Seed And Compacted Soil. Secure ECM Over Compacted Soil With A Row Of Staples/Stakes Spaced Approximately 12" Apart Across The Width Of The ECM.
- Roll The ECM (A.) Down Or (B.) Horizontally Across The Slope. ECM Will Unroll With Appropriate Side Against The Soil Surface. All ECM Must Be Securely Fastened To Soil Surface By Placing Staples/Stakes In Appropriate Locations As Shown In The Staple Pattern Guide. When Using The DOT System, Staples/Stakes Should Be Placed Through Each Of The Colored Dots Corresponding To The Appropriate Staple Pattern.
- The Edges Of Parallel ECM Must Be Stapled With Approximately 2" - 5" Overlap Depending On ECM Type. Do Not Leave Gap.
- Consecutive ECM Spliced Down The Slope Must Be Placed End Over End (Shingle Style) With An Approximate 3" Overlap. Staple Through Overlapped Area, Approximately 12" Apart Across Entire ECM Width.
- In Loose Soil Conditions, The Use Of Staple Or Stake Lengths Greater Than 6" (15 cm) May Be Necessary To Properly Secure The ECM.
- Bury Side And Bottom Edges Of The ECM, 4" - 6" Minimum.
- Extend ECM Down Slope S Minimum Distance Of 2' Beyond Graded Area. See GRADING PLAN Sheet 35-36. For Limits Of Area Of Slope Protection.

EROSION CONTROL MATTING (ECM)

Scale: Not to Scale

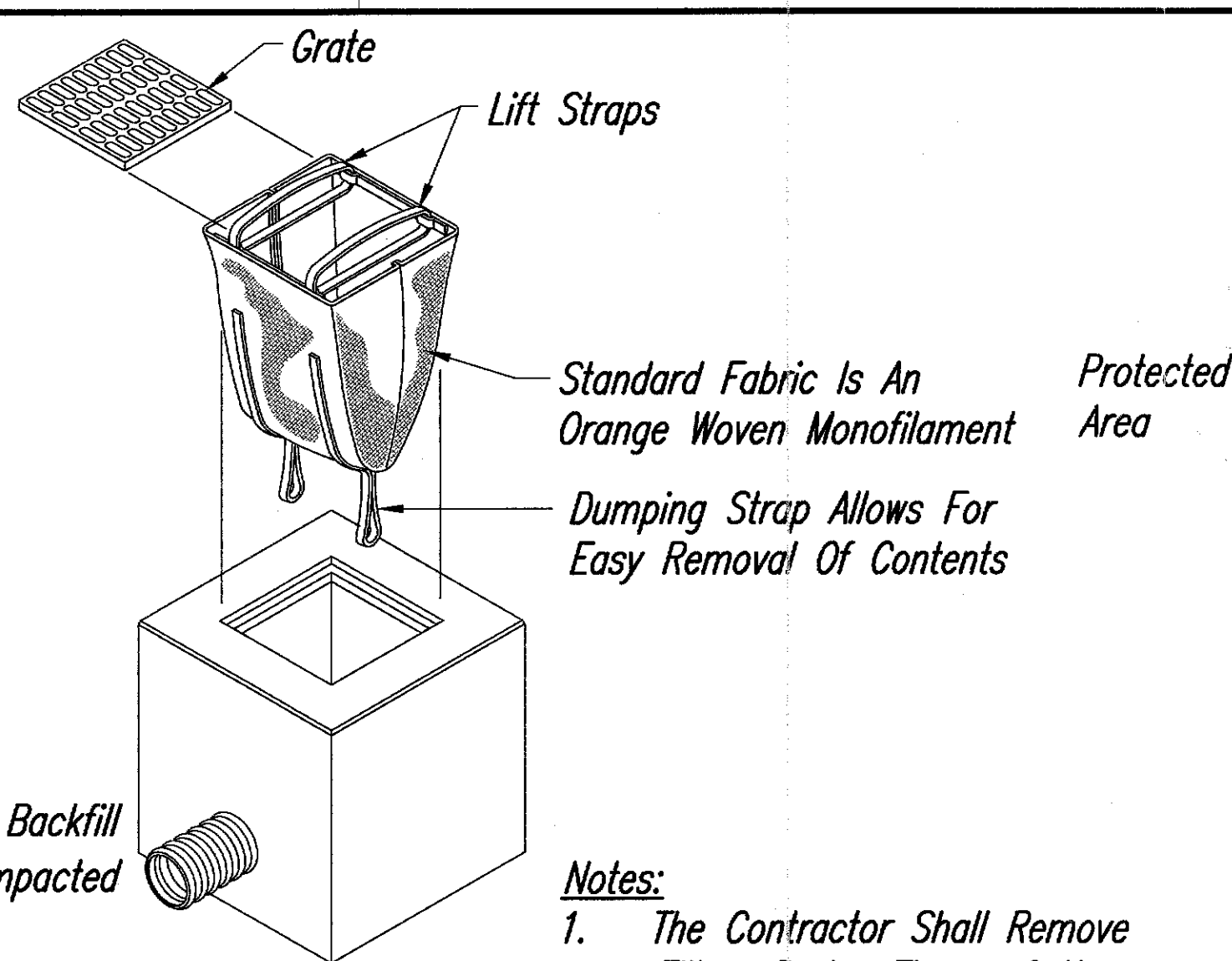


DUST CONTROL FENCE

Scale: Not to Scale

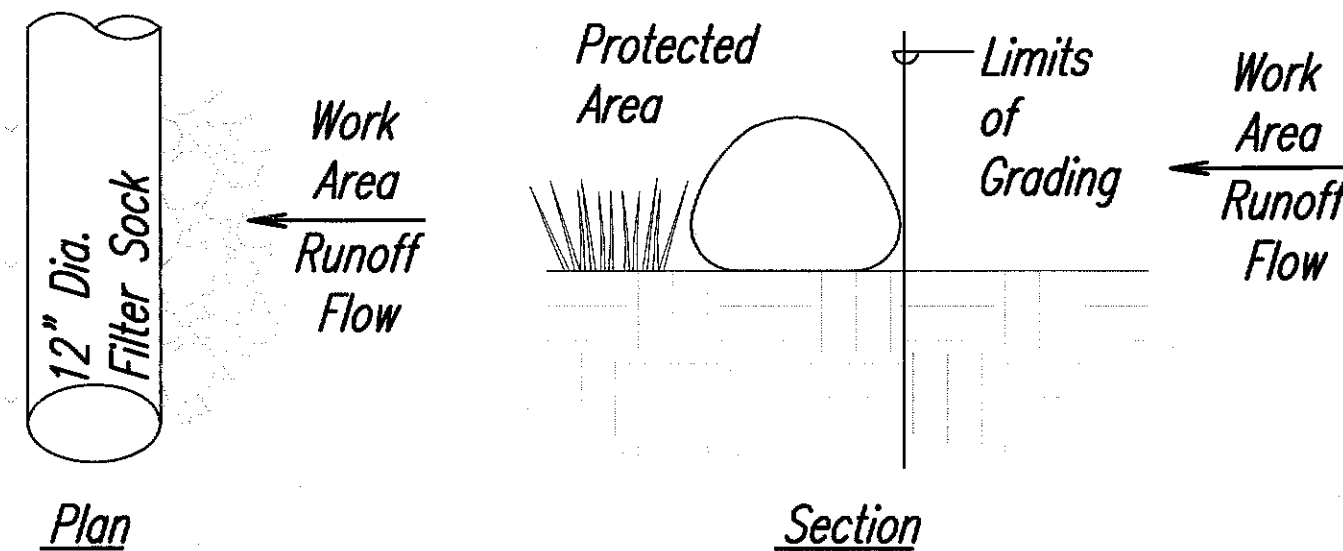
FILTER BAG FOR GRATED DRAIN INLET

Scale: Not to Scale



Notes:

- The Contractor Shall Remove Filters During Times of Above Normal Rainfall Events and Replace Them When Event Has Passed.
- The Contractor Shall Remove All Accumulated Sediment and Debris From Vicinity of Unit After Each Storm Event and at Regular Intervals. If the Containment Area is More Than 1/3 Full of Sediment, the Unit Must be Emptied.



Notes:

- Installation, Inspection, Maintenance and Removal of Compost Filter Socks Shall be Done in Accordance With Manufacturer's Recommendations.
- Provide Necessary Training for Personnel Who Will be Responsible for Implementation of BMPs.

FILTER SOCK

Scale: Not to Scale

Notes:

- Cross Members and Posts of the Wooden Fence Frame Shall be Held Together With Galvanized Steel Flathead Screws.
- Wooden Fabric Holders Shall Fasten the Geotextile Fabric to the Wooden Fence Frame with Galvanized Steel Flathead Screws; Wire Ties Shall be Used if Pipe Posts are Used.
- Wooden Bracing Pieces Shall be Attached to the Wooden Fence Frame With Galvanized Steel Flathead Screws.
- Height of Fence Shall be Field-adjusted by the Contractor to Keep the Project Area and Surrounding Area Free From Dust Nuisance as Indicated in Grading Note 3.
- Appropriate Depth of Wooden or Pipe Fence Frame Posts Shall be Determined in Field by the Contractor.
- Dust Control Fence shall be located outside of clear zone.



LICENSE EXPIRES 4/30/14

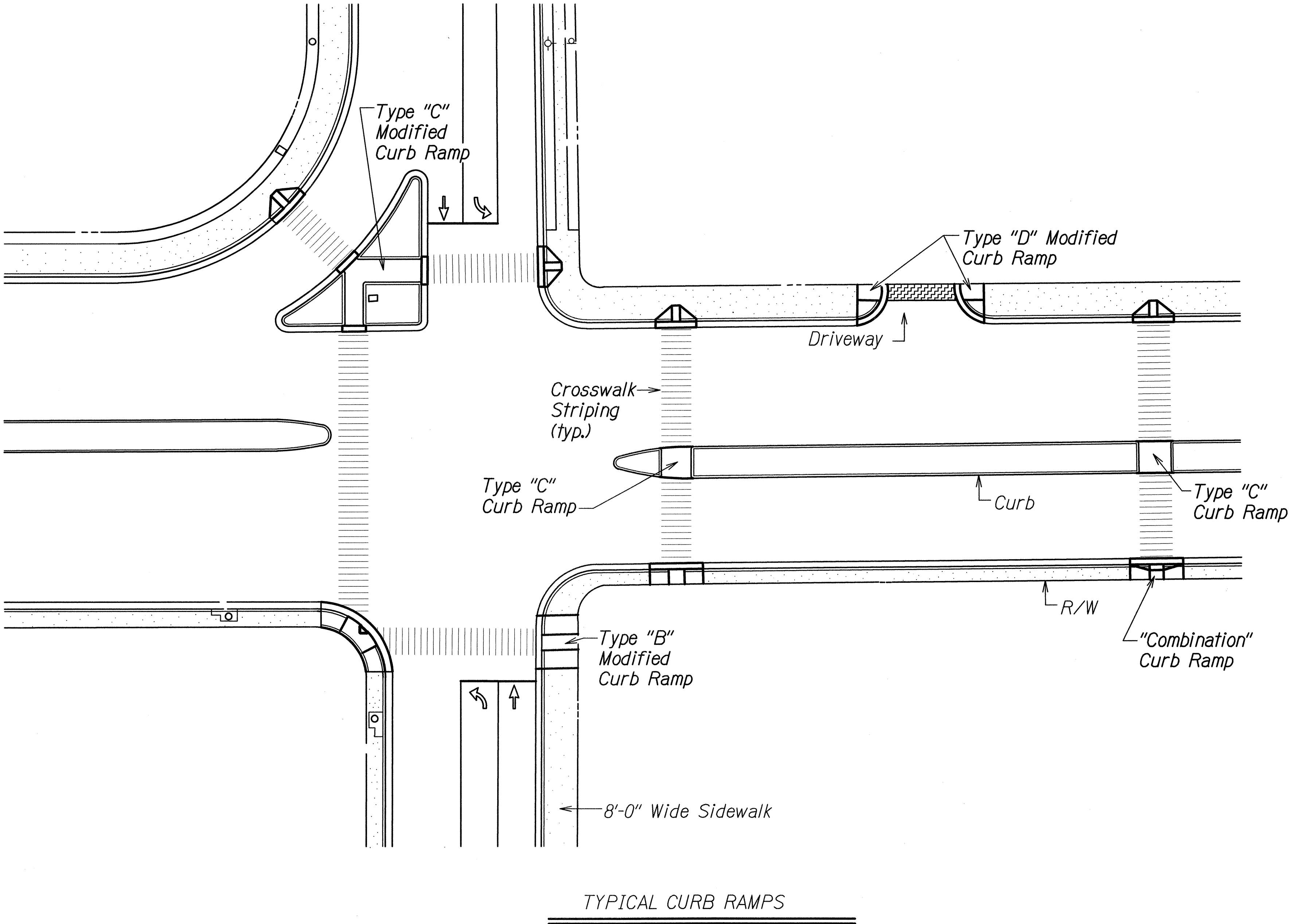
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

02/07/14	Added ECM Detail; Rearranged Sheet
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
EROSION CONTROL DETAILS	
Keaau-Pahoa Road Intersection Improvements at Old Government Road Federal-Aid Project No. HSIP-0130(031)	
Scale: None	Date: August 2013
SHEET No. 1 OF 1 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	69	108

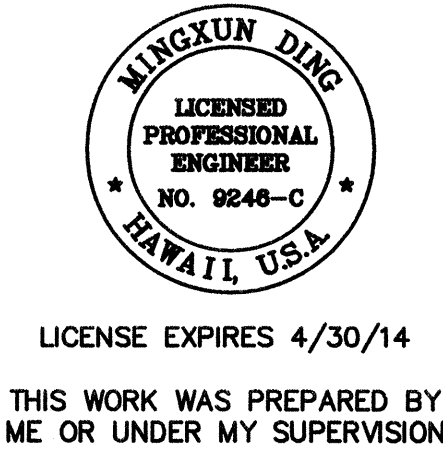
CURB RAMP AND SIDEWALK NOTES:

1. These typical details are intended as curb ramp guidelines for design and construction. These guidelines shall not replace site specific curb ramp plans.
2. A 2% maximum cross slope shall be maintained in the direction of pedestrian traffic.
3. Subject to field conditions, the Engineer shall determine the final location of curb ramps.
4. All pullboxes shall be installed away from the curb ramp and within the sidewalk/unpaved area to the maximum extent feasible.
5. Where necessary, existing pullboxes, handholes, manholes, etc. shall be adjusted to match curb ramp grade. Adjustments shall not be paid for separately but shall be considered incidental to the various curb ramp items unless indicated otherwise.
6. Transitions from ramps to gutters and roadways shall be flush.
7. Curb ramps and sidewalks shall be constructed to eliminate ponding to the maximum extent feasible.
8. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% for Type A, D and Combination ramps and 8.33% for Type B, C, and E ramps.
9. There shall be a 30"x48" level ground surface (2% max. cross slope, both directions) for a forward or side approach, as appropriate, to a pedestrian push button.
10. Construction joints are required to join curb ramps with sidewalks.
11. Unless otherwise noted, new gutters are required as shown.
12. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
13. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
14. Bed course material is required for curb ramps, sidewalks, and gutters.
15. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation. If this cannot be met, a minimum 32-inch clear width is allowed for a distance of 24-inches.
16. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by ADA guidelines. The passing area shall be a minimum 5' wide by 5' long as feasible.
17. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
18. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles, etc.) shall be mounted to meet the current American with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
19. If a curb ramp is not constructed according to the plans, the Contractor shall reconstruct the curb ramp at no cost to the State. Construction tolerance for Portland Cement Concrete shall be based on 1/8 inch per 10 ft. (±0.2%). Remedial measures will not be accepted.



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

PRINT/PLTNAME: P:\USERS\jch\014-Hwy\024741-12-2008\100 Design\014-Hwy\024741-12-2008\ACCESSIBLE DETAILS.dwg
LAST UPDATE: September 03, 2013 @ 08:30:37 am
PLOT DATE: September 03, 2013 @ 08:36:44 am



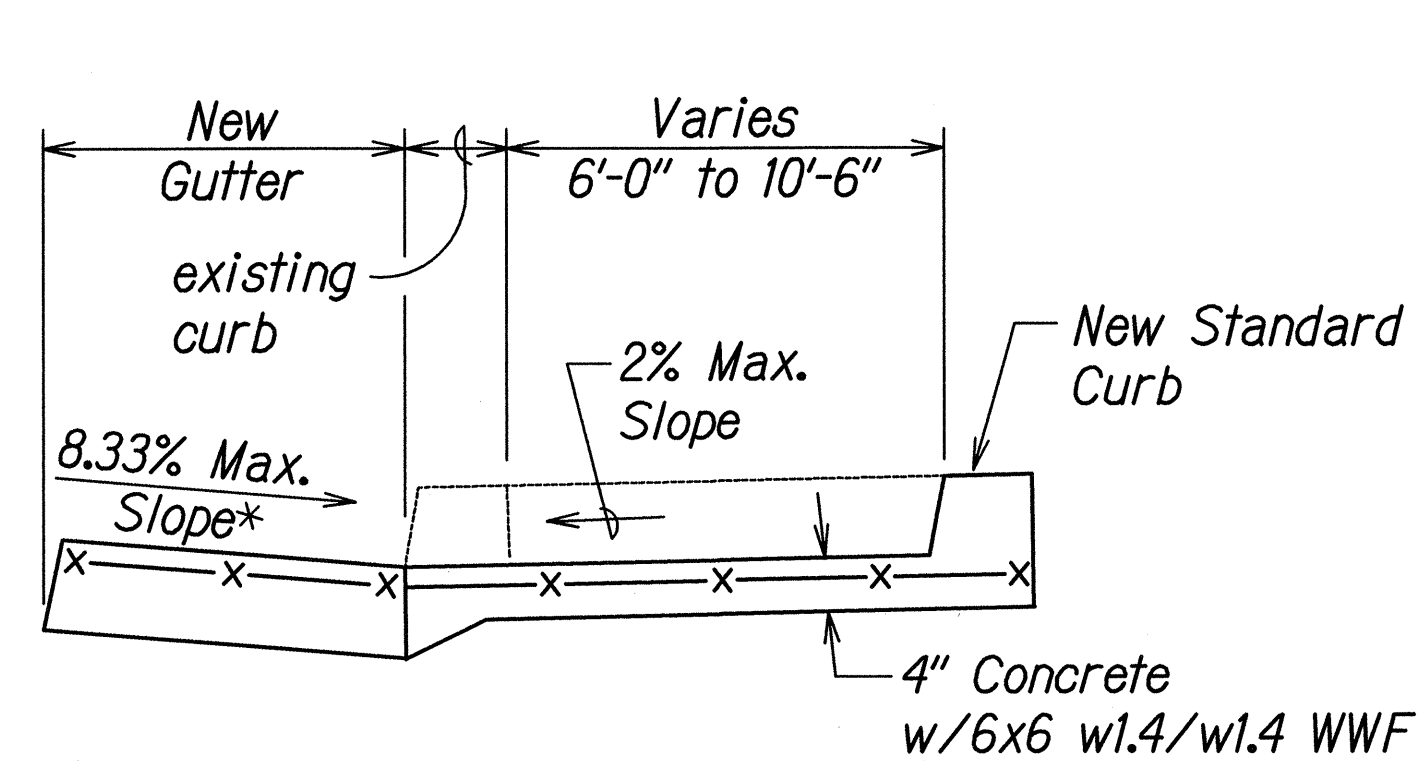
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ACCESSIBLE DETAILS
CURB RAMP AND SIDEWALK NOTES
Kaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)

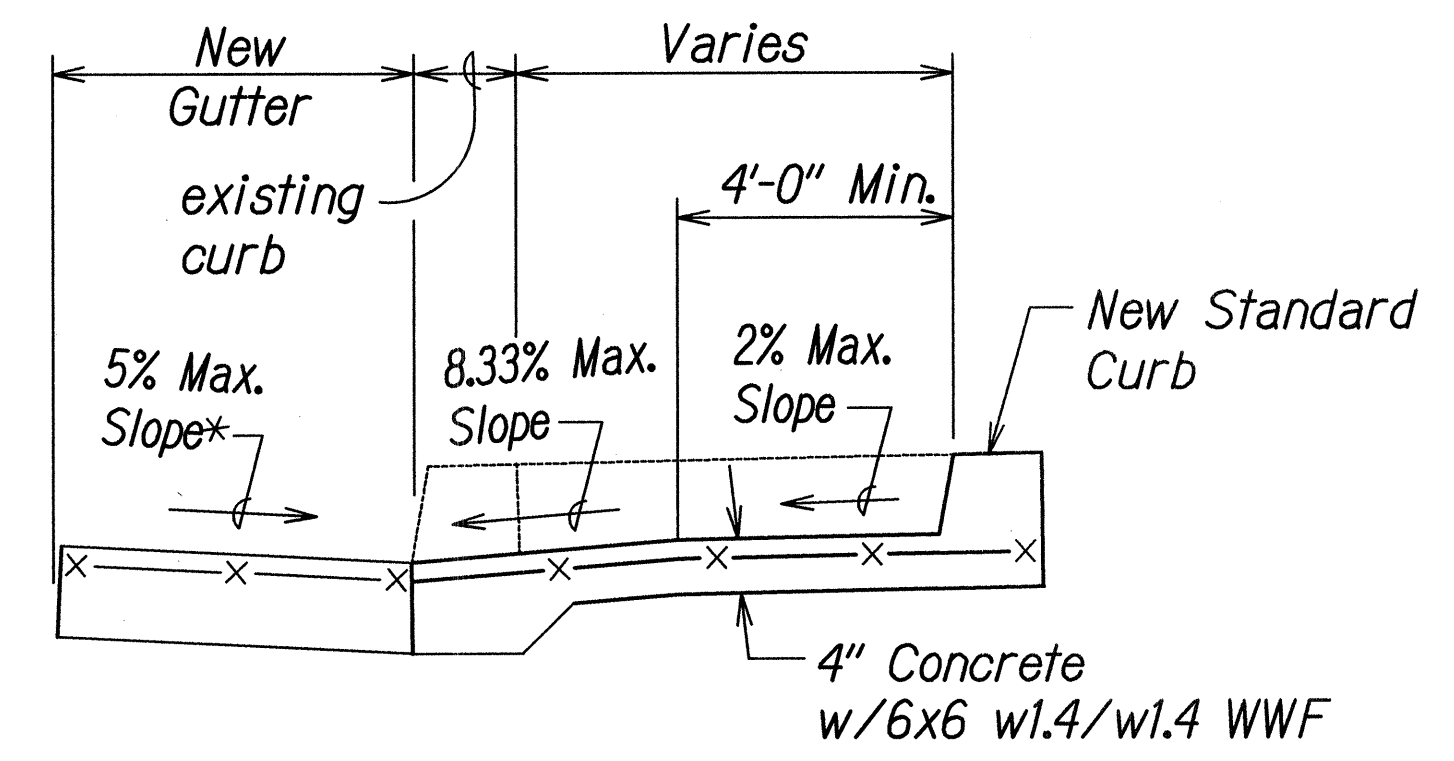
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SHEET No. 1 OF 6 SHEETS

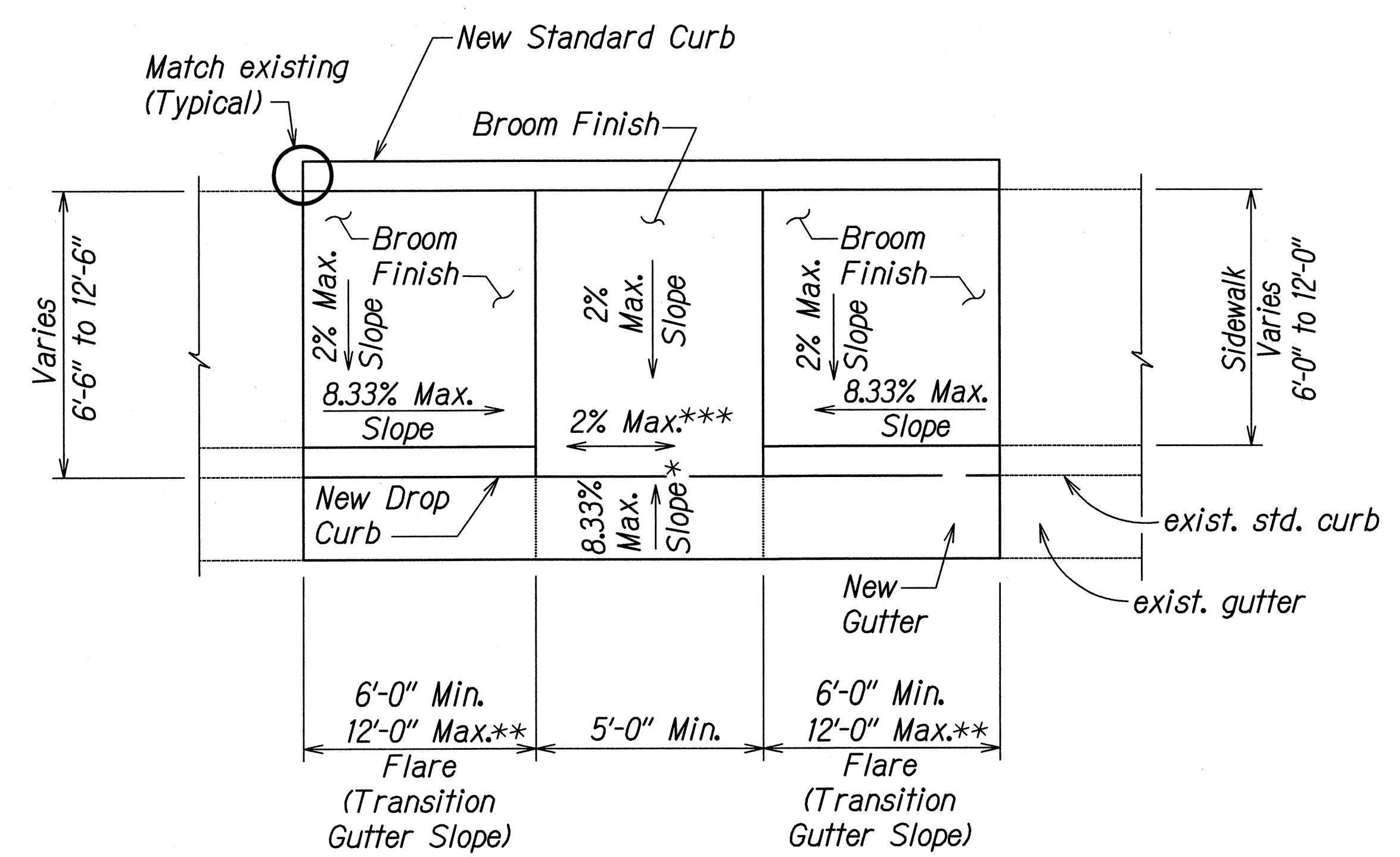
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HAWAII	HAW.	HSIP-0130(031)	2014	70	108



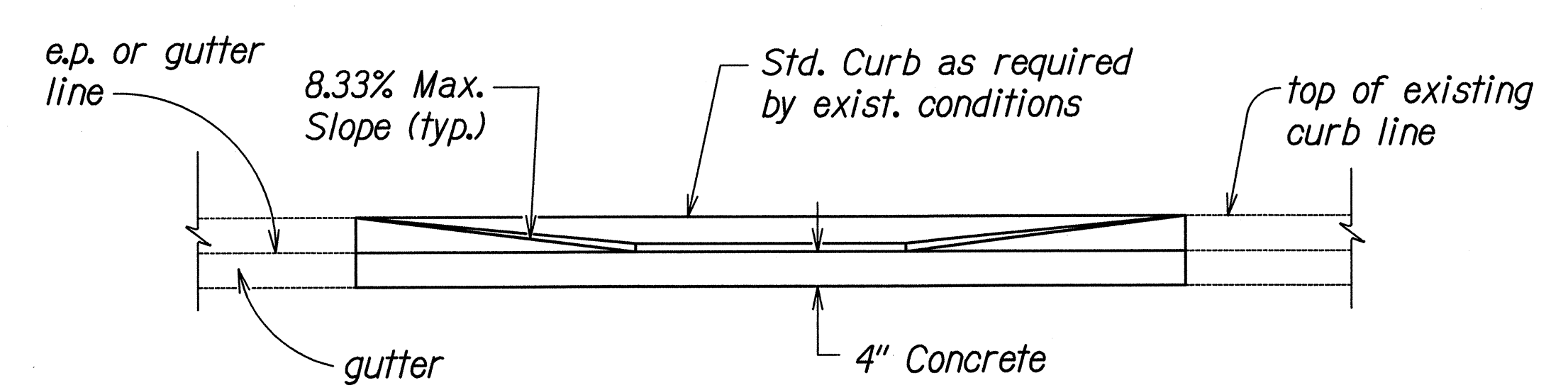
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TYPICAL SECTION

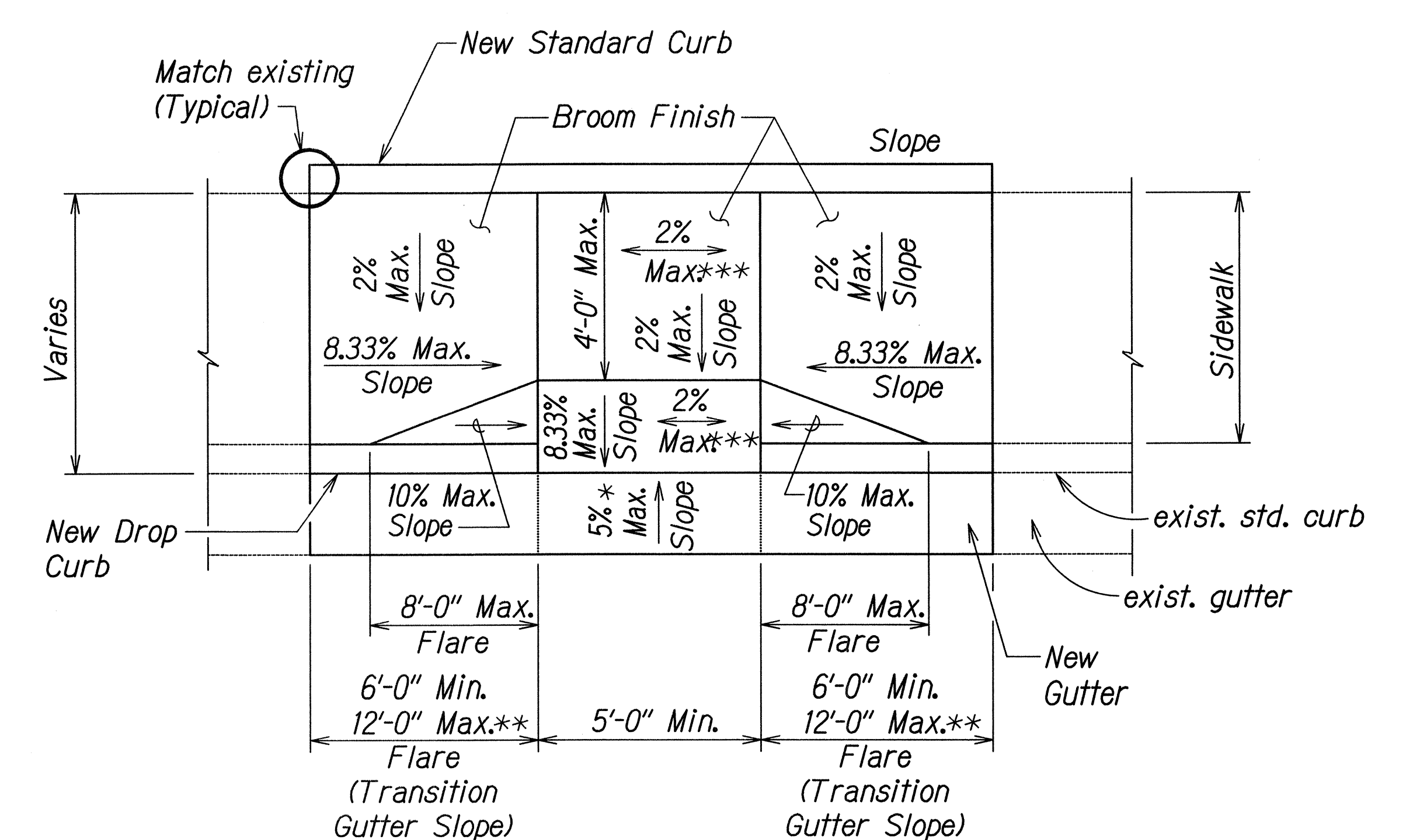


PLAN

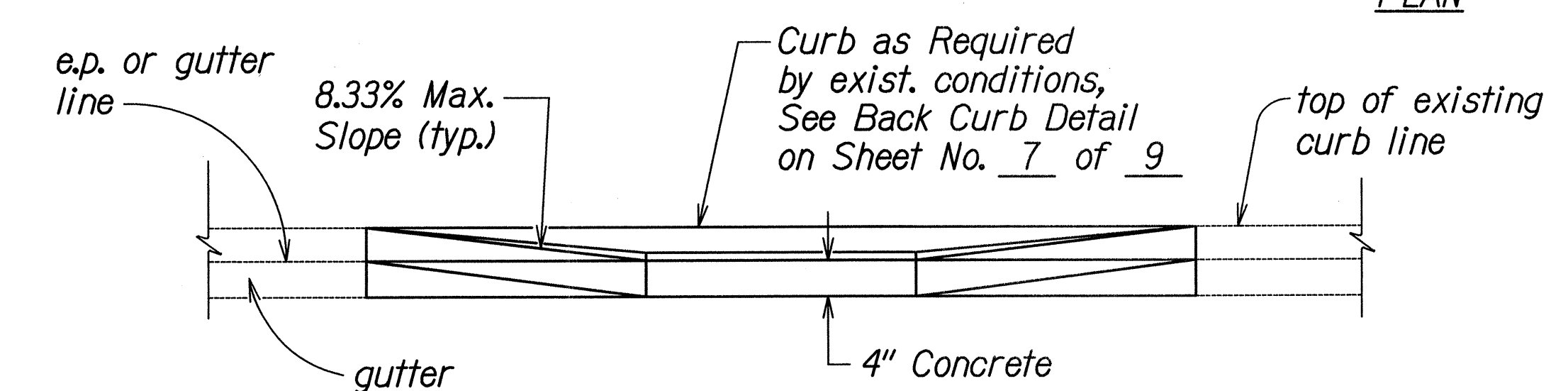


ELEVATION

CURB RAMP - TYPE "B" MODIFIED
SIDEWALK WIDTH 6'-0" OR GREATER
BUT LESS THAN 12'-0" WIDTH



PLAN



ELEVATION

CURB RAMP - COMBINATION

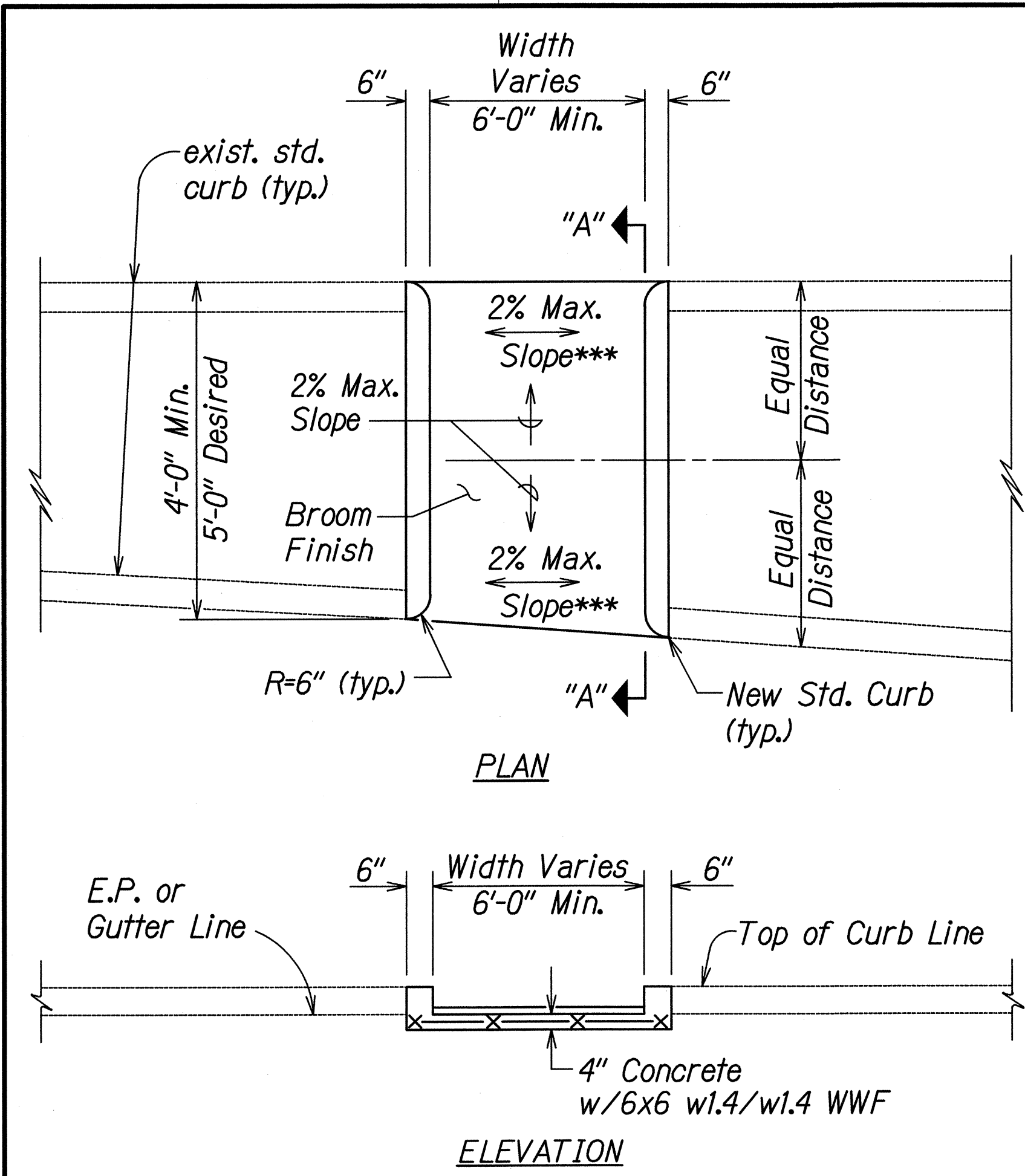
- * See Curb Ramp and Sidewalk Note No. 8
- ** The slope of the ramp shall take precedence over the length of the ramp. If the maximum slope of a ramp cannot be met within a length of 12 feet, then the slope of the ramp shall be set when the length of the ramp is set at the maximum of 12 feet.
- *** If Roadway Slope >2% Conform to Roadway Slope and File Technical Infeasibility (TI) Statement

ORIGINAL PLAN	DATE
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CHECKED BY	
NO.	

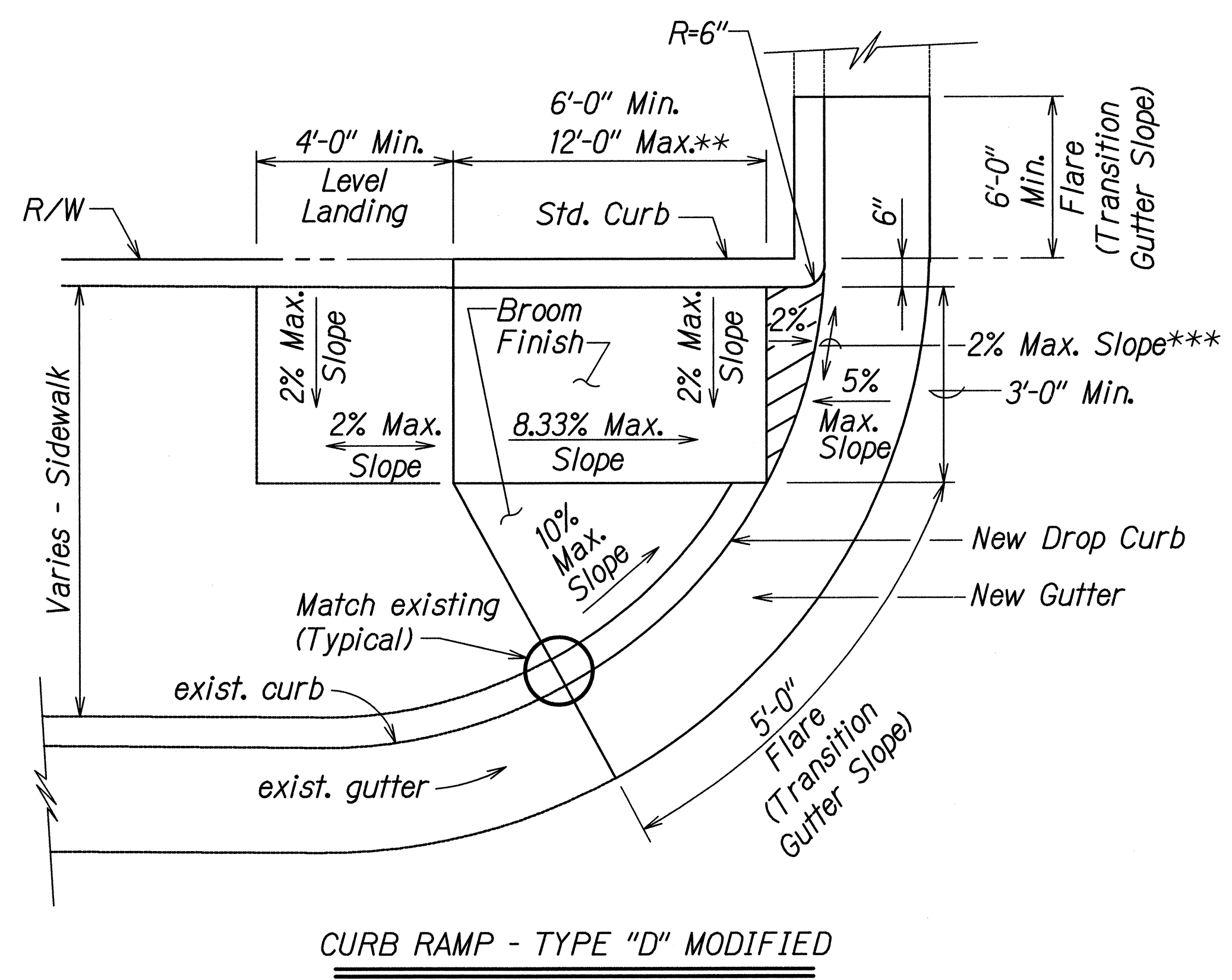
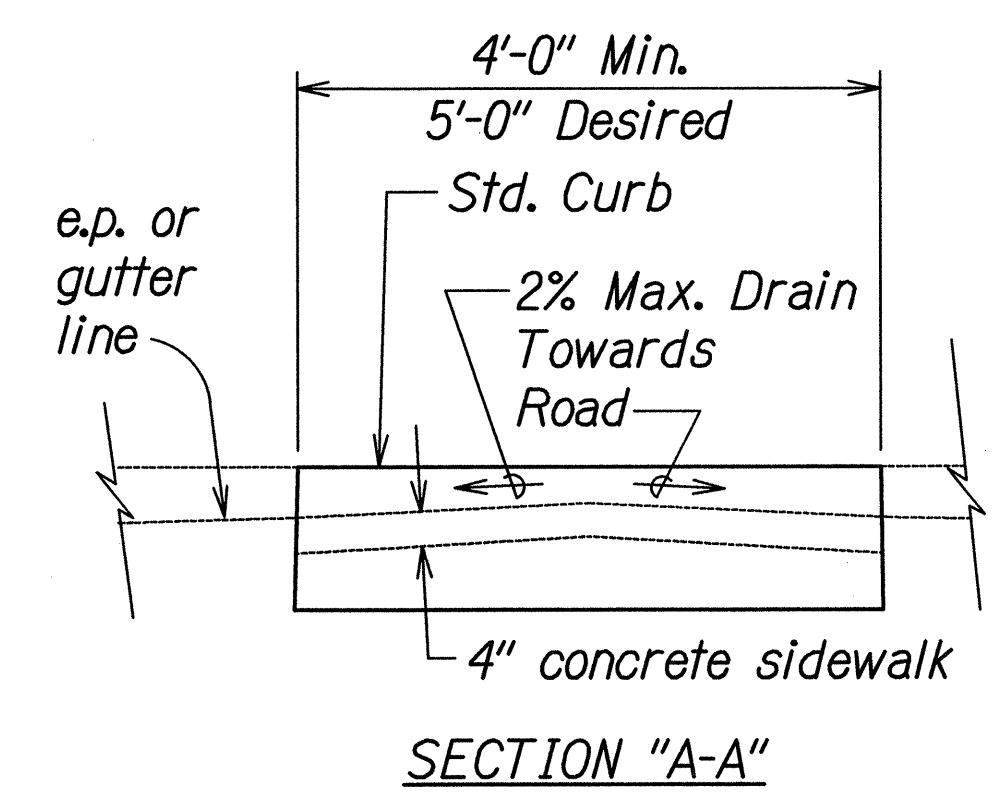
MINGXUN DING
LICENSED PROFESSIONAL ENGINEER
NO. 9246-C
HAWAII, U.S.A.
LICENSE EXPIRES 4/30/14
THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
ACCESSIBLE DETAILS
CURB RAMP B & COMBINATION DETAILS
Keaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)
Scale: None Date: August 2013
SHEET No. 3 OF 7 SHEETS

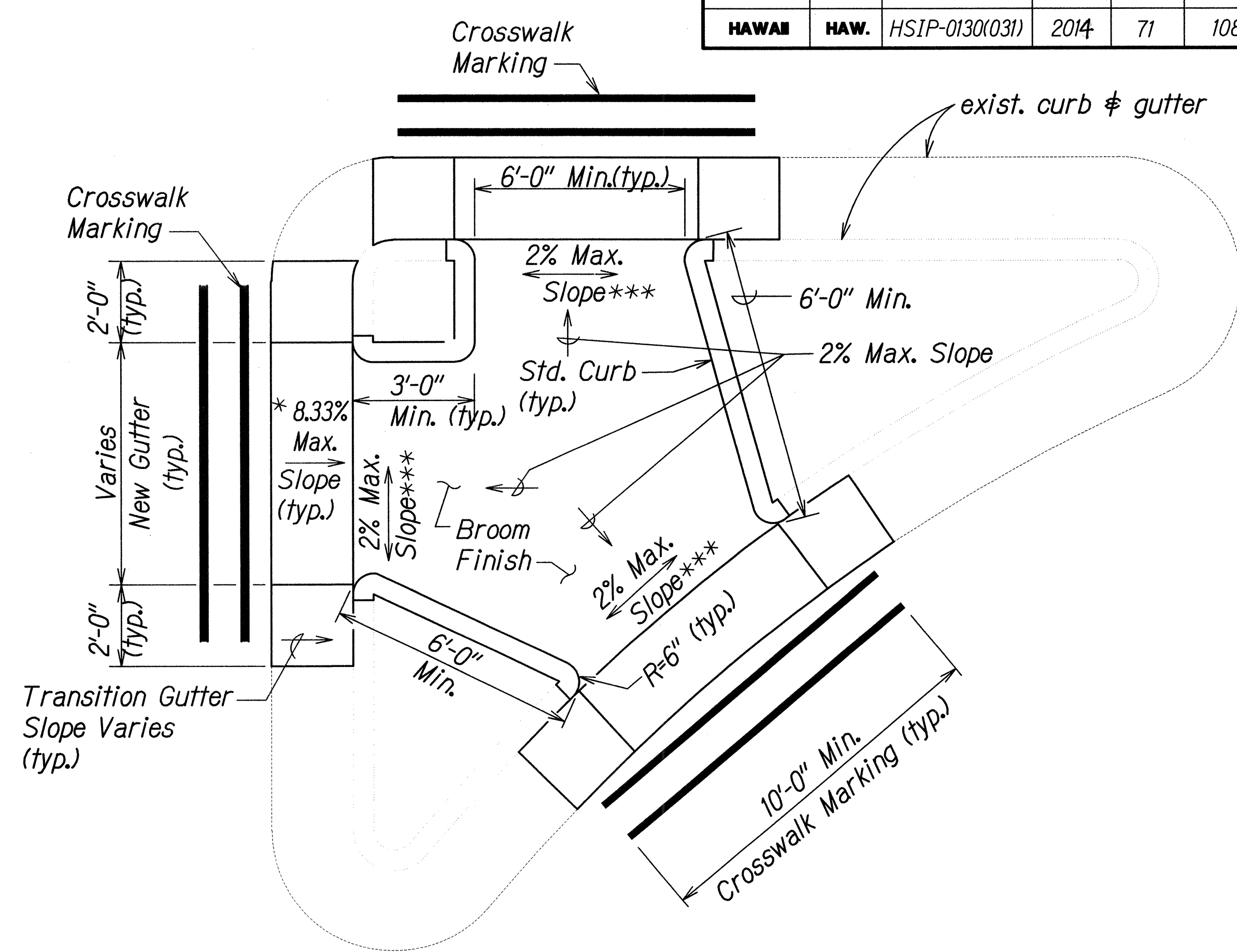
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	71	108



CURB RAMP - TYPE "C"
USE AT MEDIAN CROSSINGS, ISLANDS



CURB RAMP - TYPE "D" MODIFIED



CURB RAMP - TYPE "C" MODIFIED

- * See Curb Ramp and Sidewalk Note No. 8.
- ** The slope of the ramp shall take precedence over the length of the ramp. If the maximum slope of a ramp cannot be met within a length of 12 feet, then the slope of the ramp shall be set when the length of the ramp is set at the maximum of 12 feet.
- *** If Roadway Slope >2% Conform to Roadway Slope and File a Technical Infeasibility (TI) Statement

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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NO. 9248-C
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[Signature]

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

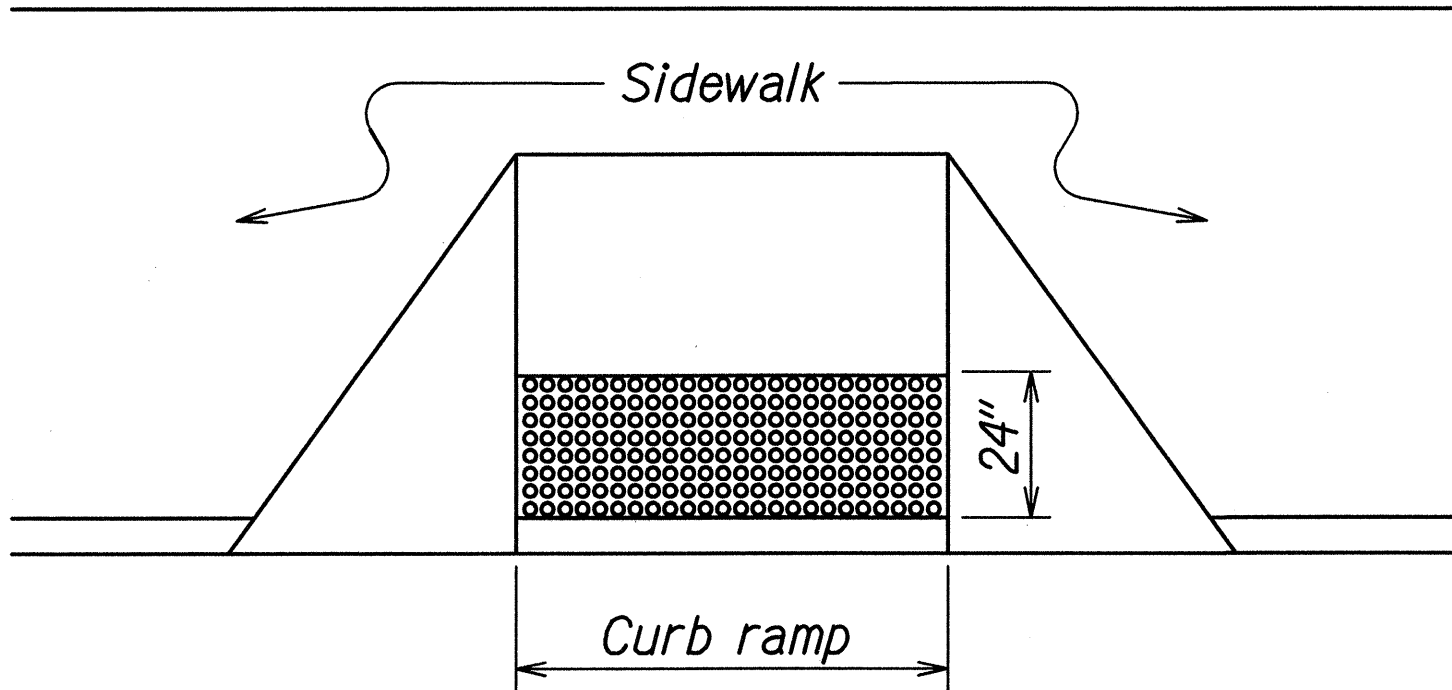
ACCESSIBLE DETAILS
CURB RAMPS C & D DETAILS

Keaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)

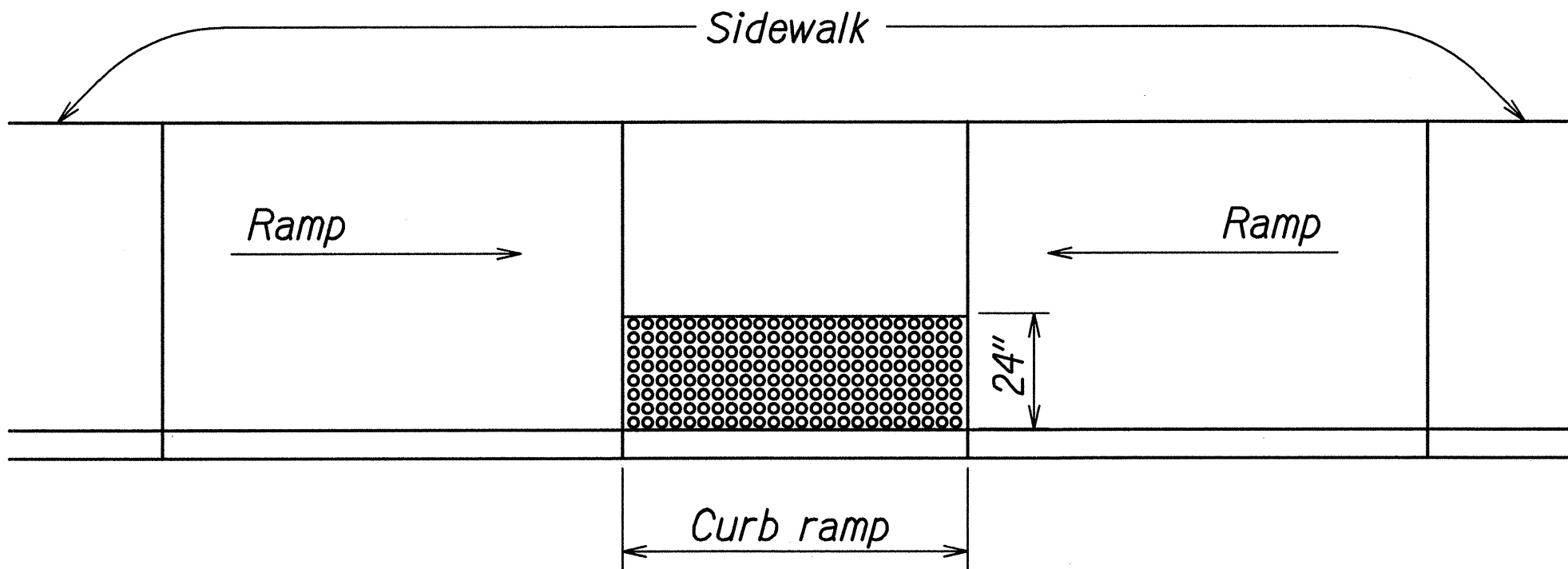
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SHEET No. 4 OF 7 SHEETS

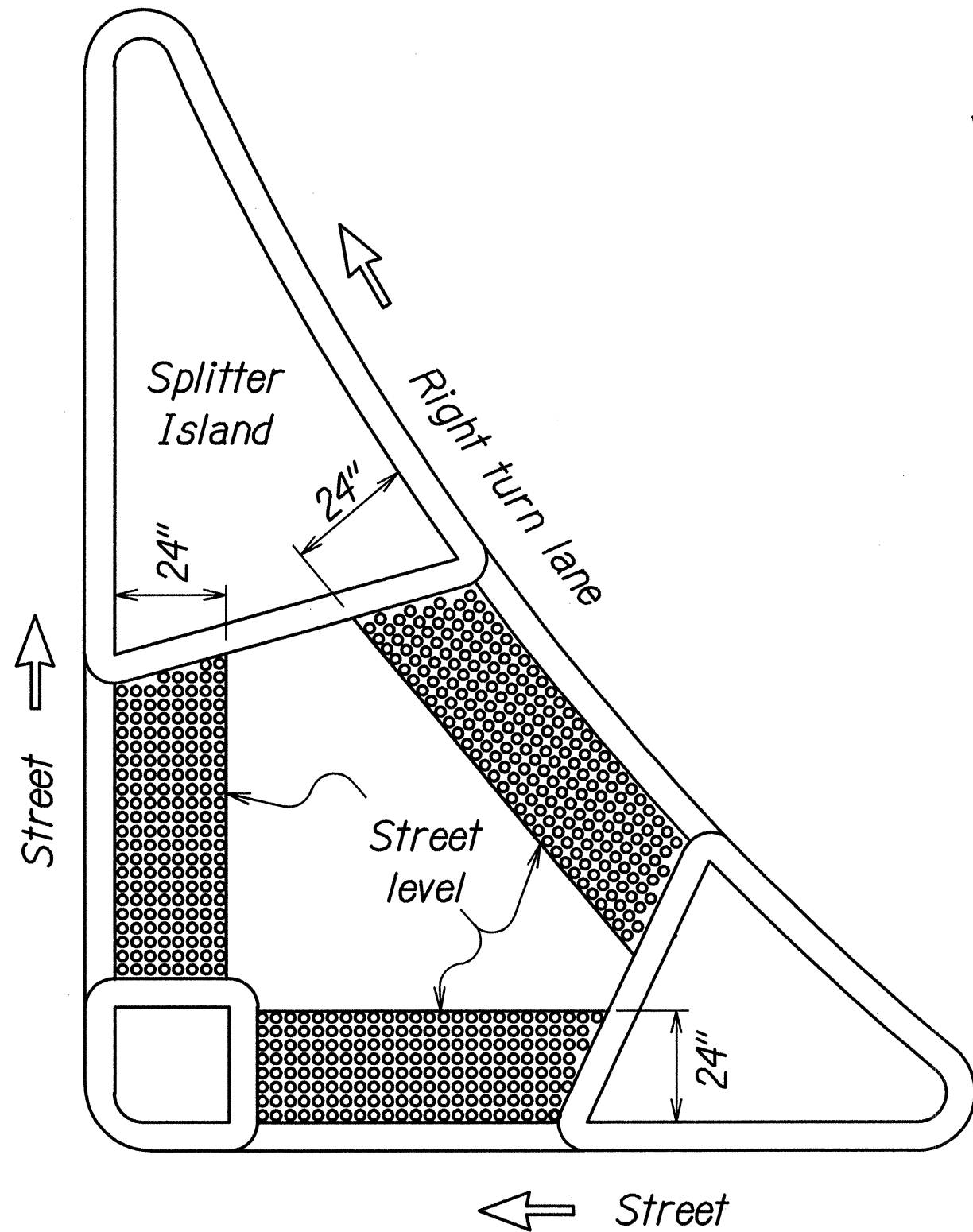
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HAWAII	HAW.	HSIP-0130(031)	2014	72	108



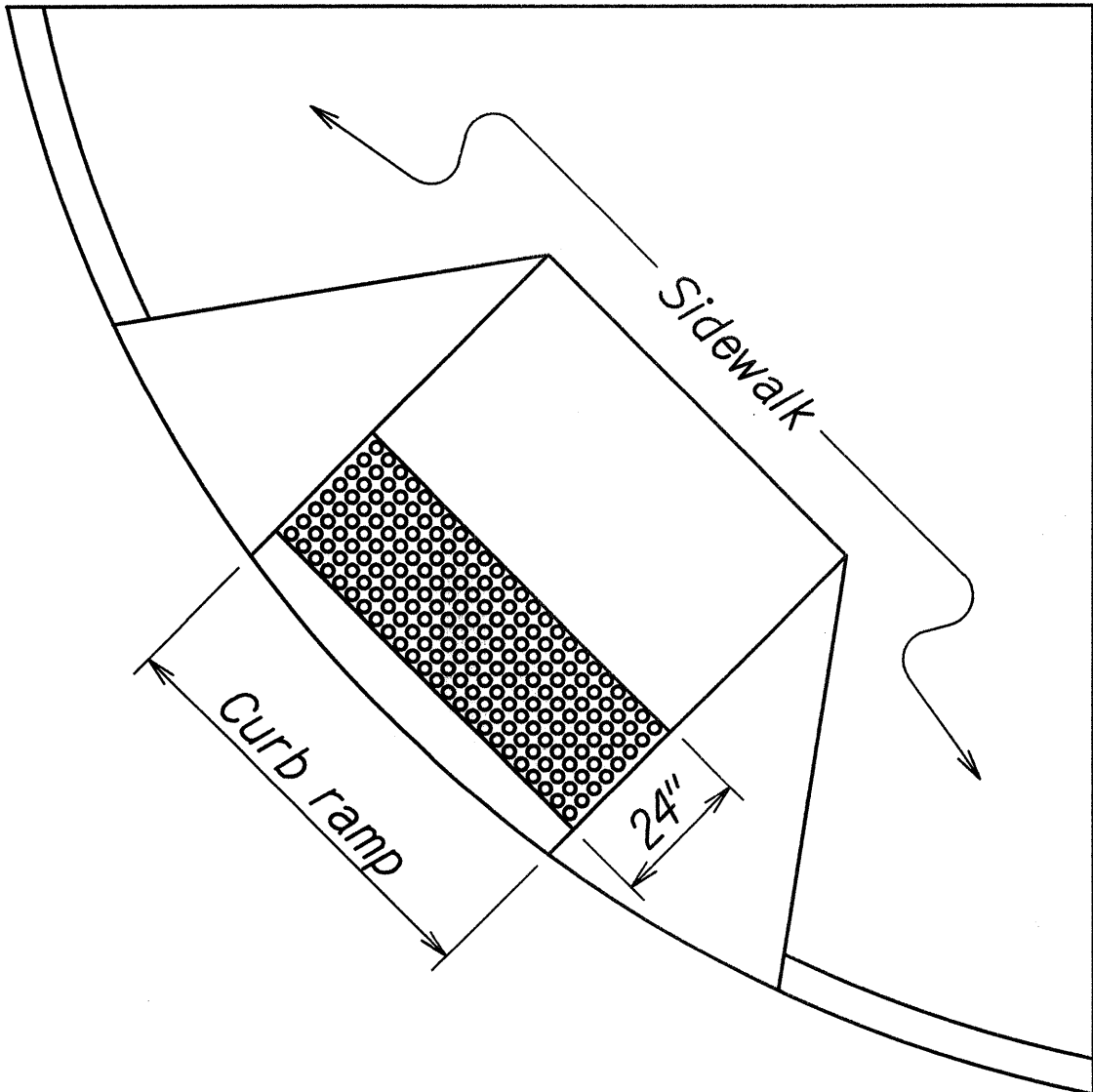
DETECTABLE WARNING AT CURB RAMP



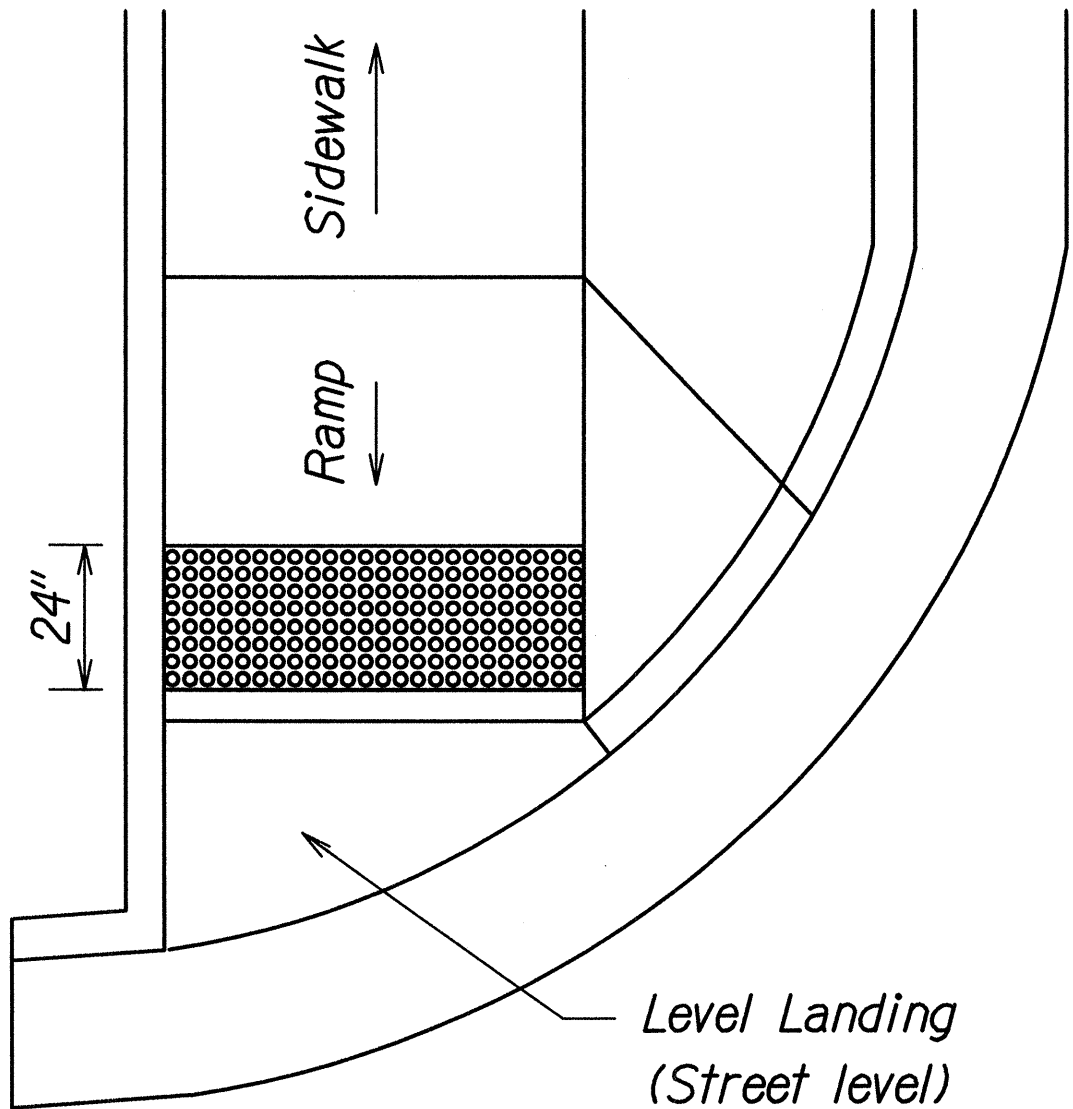
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH
DETECTABLE WARNING



SHARED CURB RAMP WITH
DETECTABLE WARNING



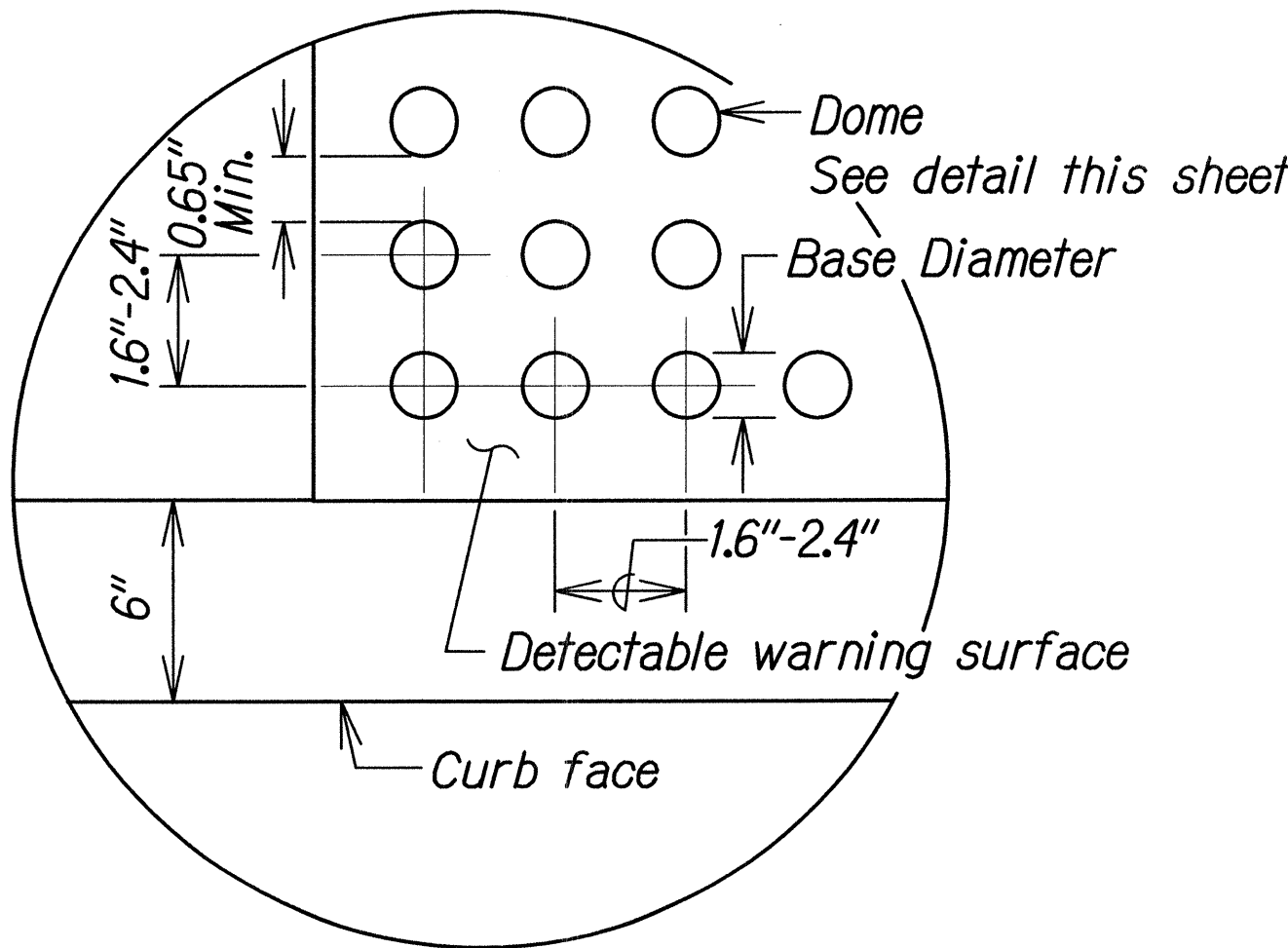
END OF SIDEWALK CURB RAMP WITH
DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

Not to Scale

NOTES:

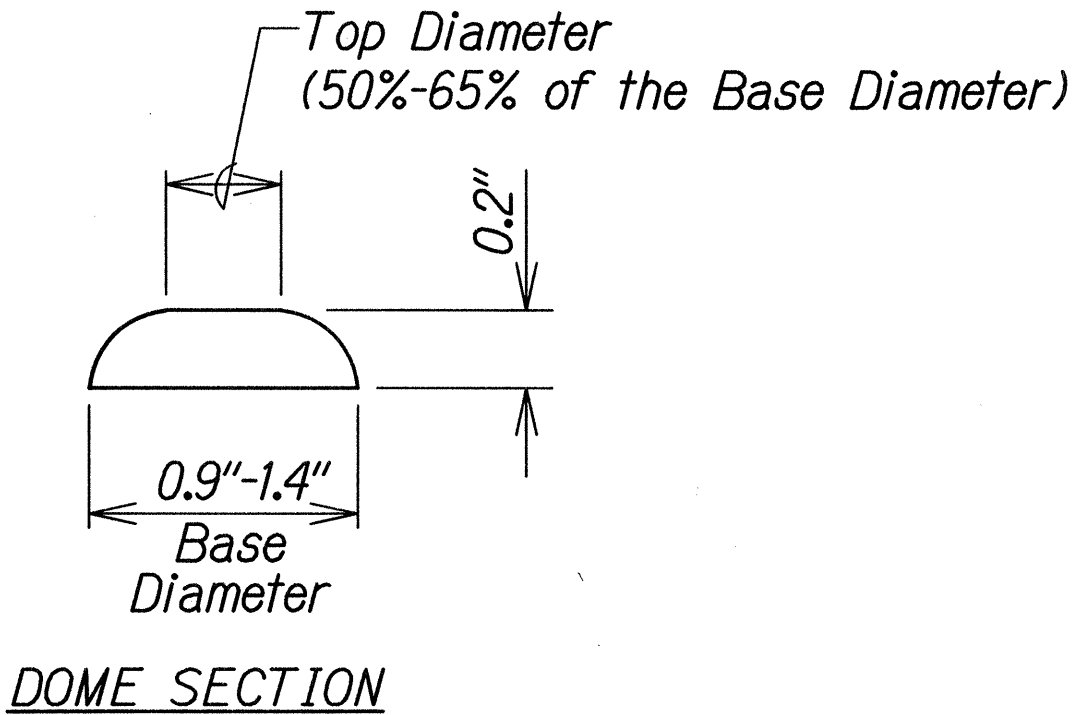
1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%-65% of the base diameter at the top, a height of 0.2 inch and a center-to-center spacing of 1.6 to 2.4 inches measured along one side of a square arrangement.
3. Domes shall be aligned on a square grid in the predominant direction of travel to permit wheels to roll between the domes.
4. There shall be a minimum of 70 percent contrast in light reflectance between the detectable warning and an adjoining surface, or the detectable warning shall be "safety yellow".
5. The material used to provide visual contrast shall be an integral part of the detectable warning surface.
6. The detectable warning shall be located so that the edge nearest the curb line or other potential hazard is 6 to 8 inches from the curb line.



ENLARGEMENT

DETECTABLE WARNING DETAIL

Not to Scale



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Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ACCESSIBLE DETAILS
DETECTABLE WARNING DETAIL

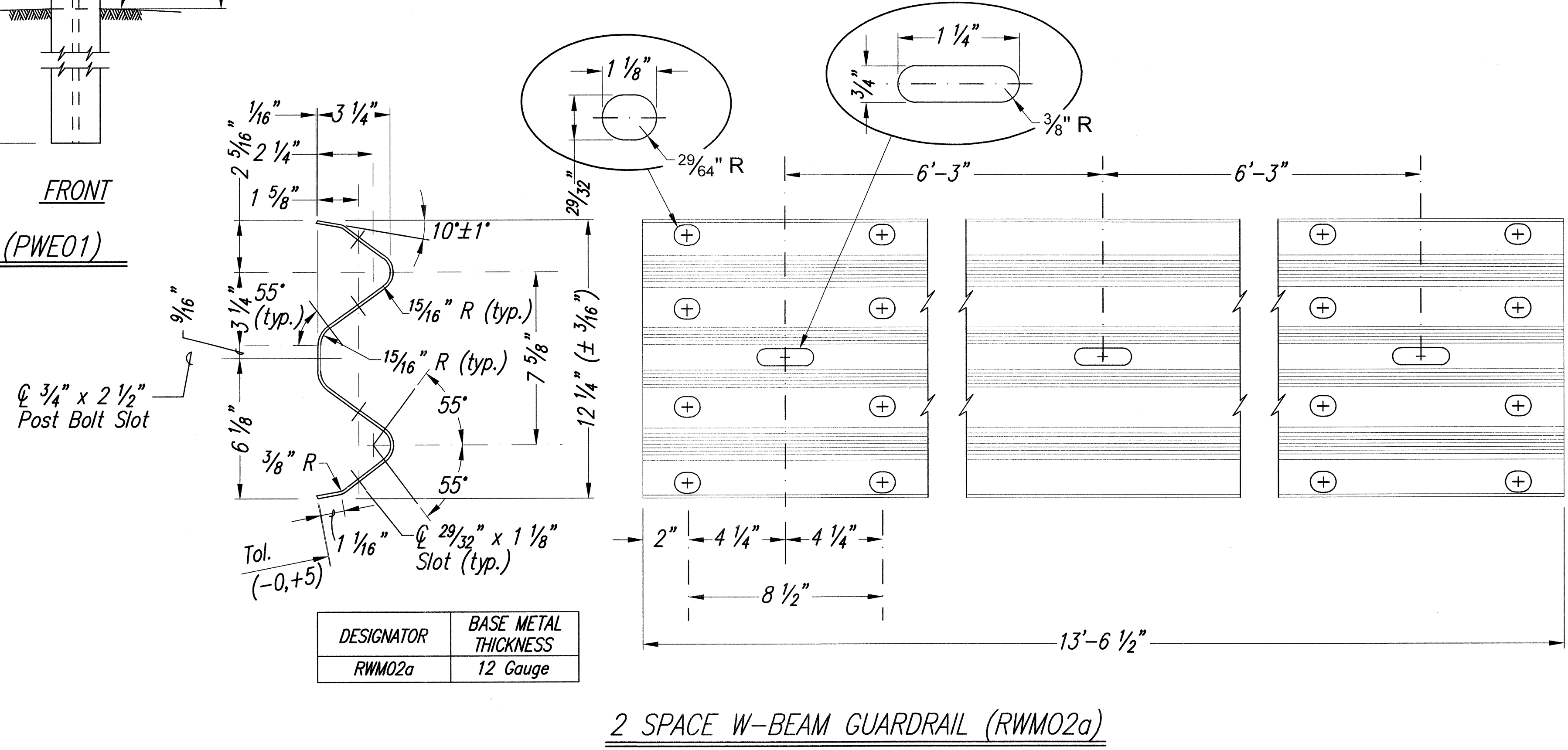
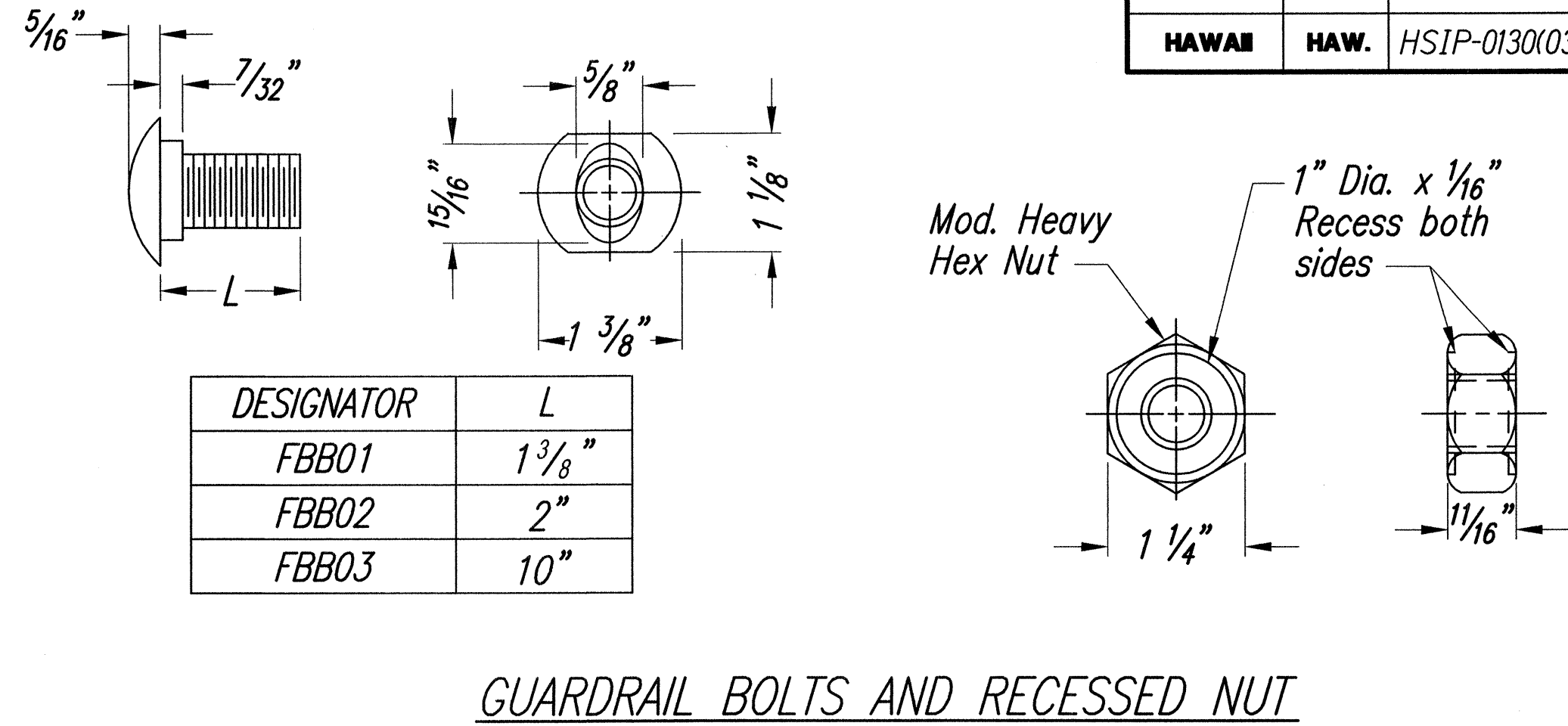
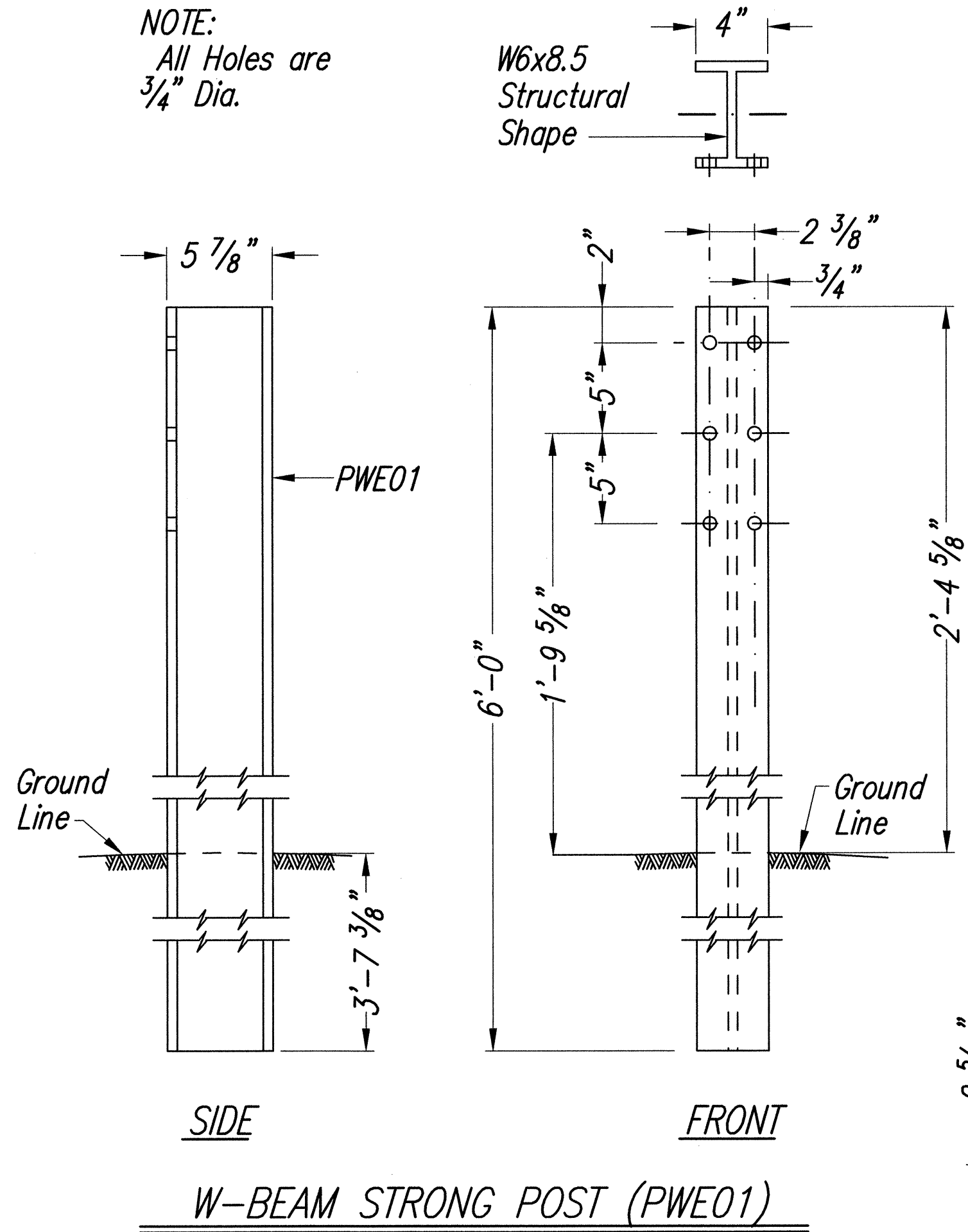
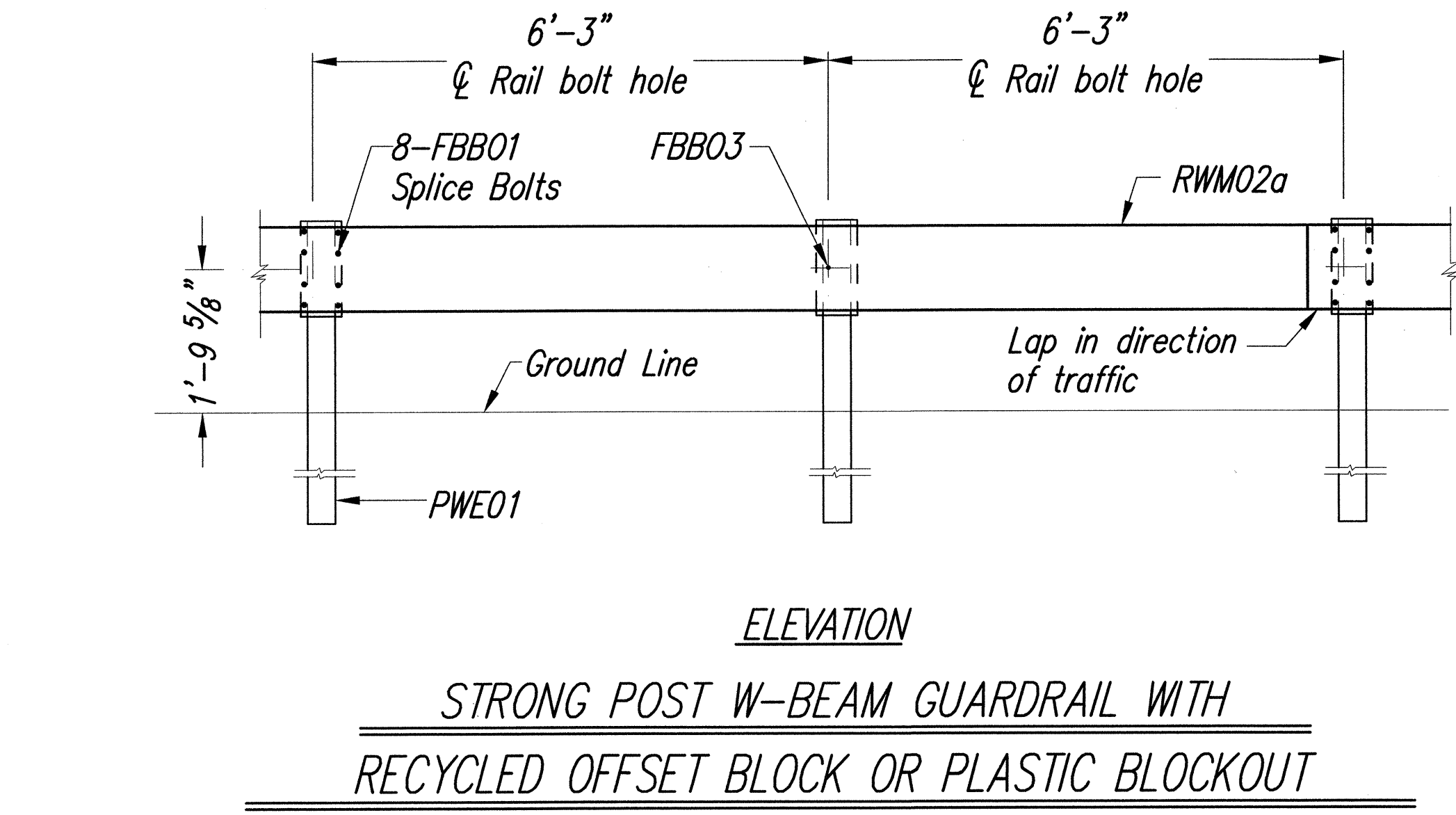
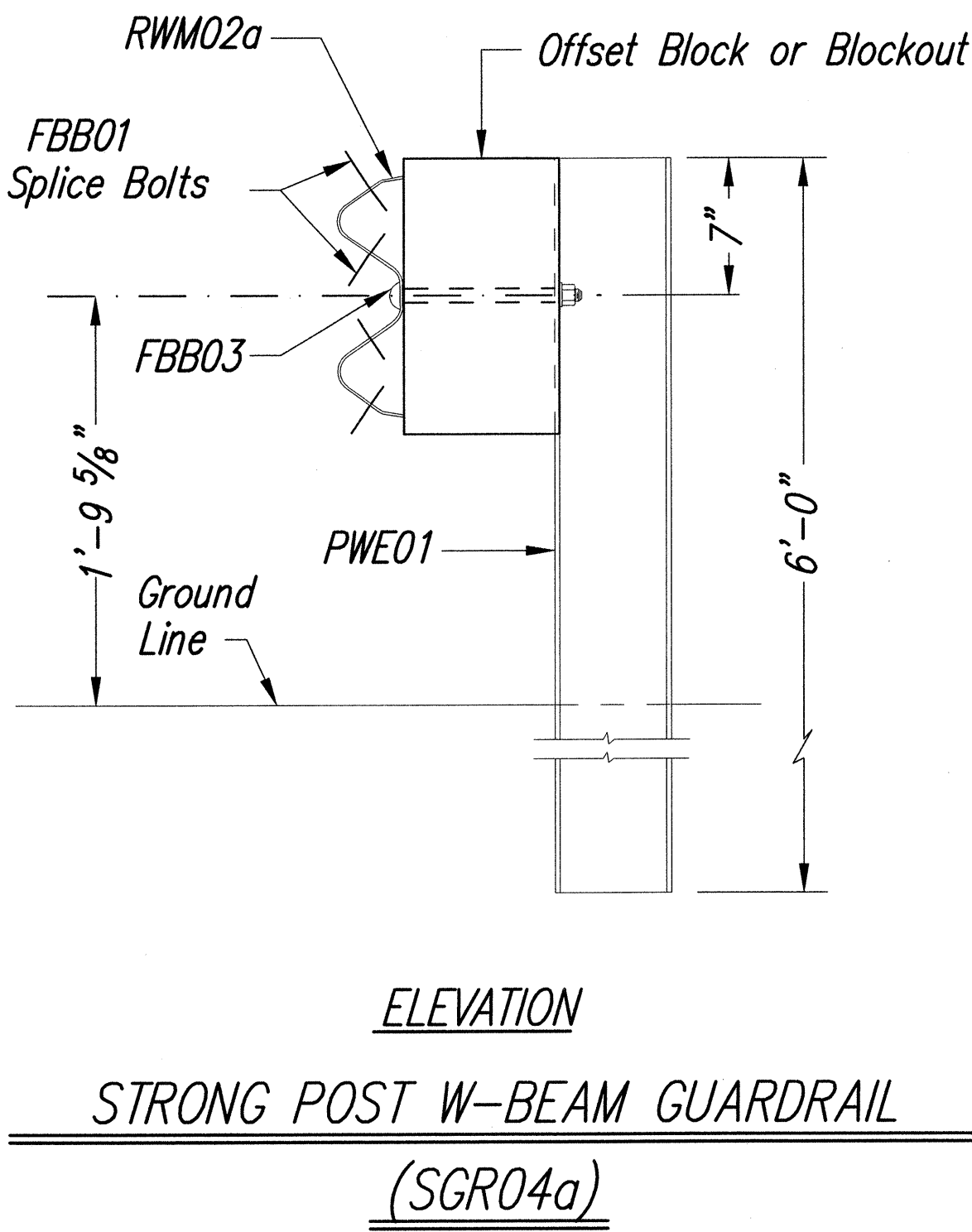
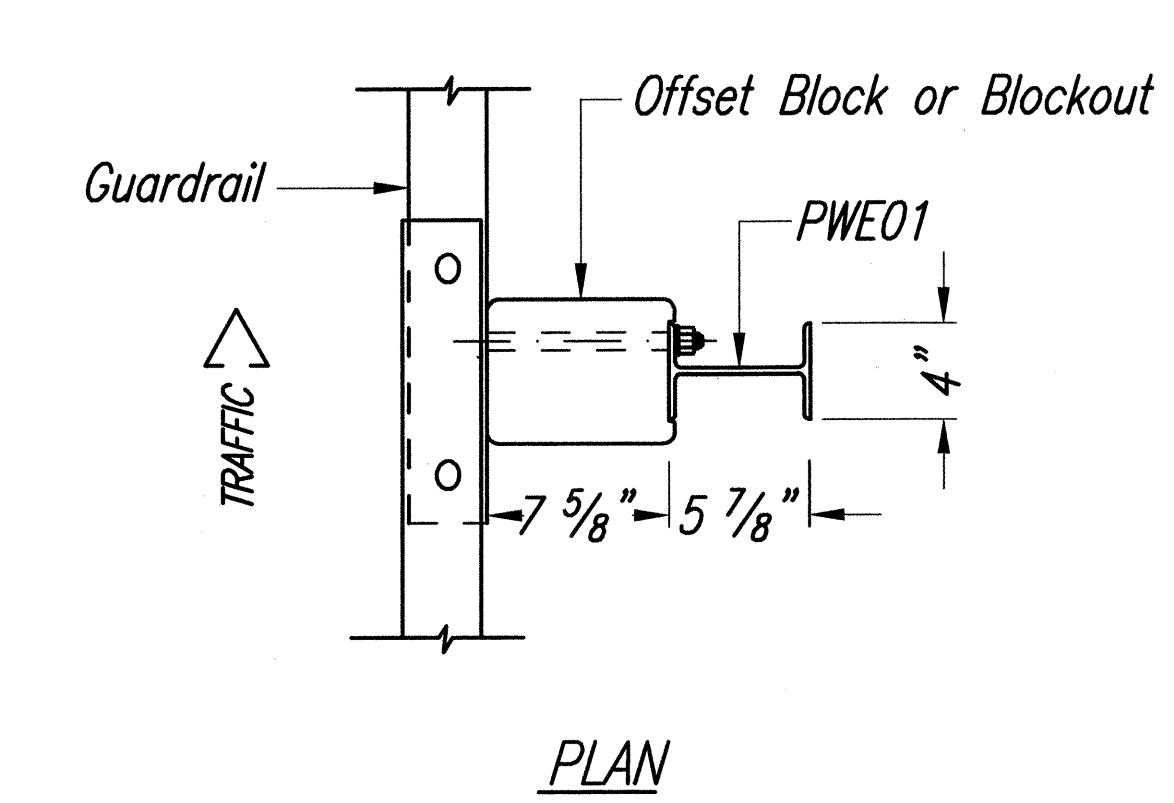
Keaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)

Scale: None Date: August 2013

SHEET No. 6 OF 7 SHEETS

72

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	75	108



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
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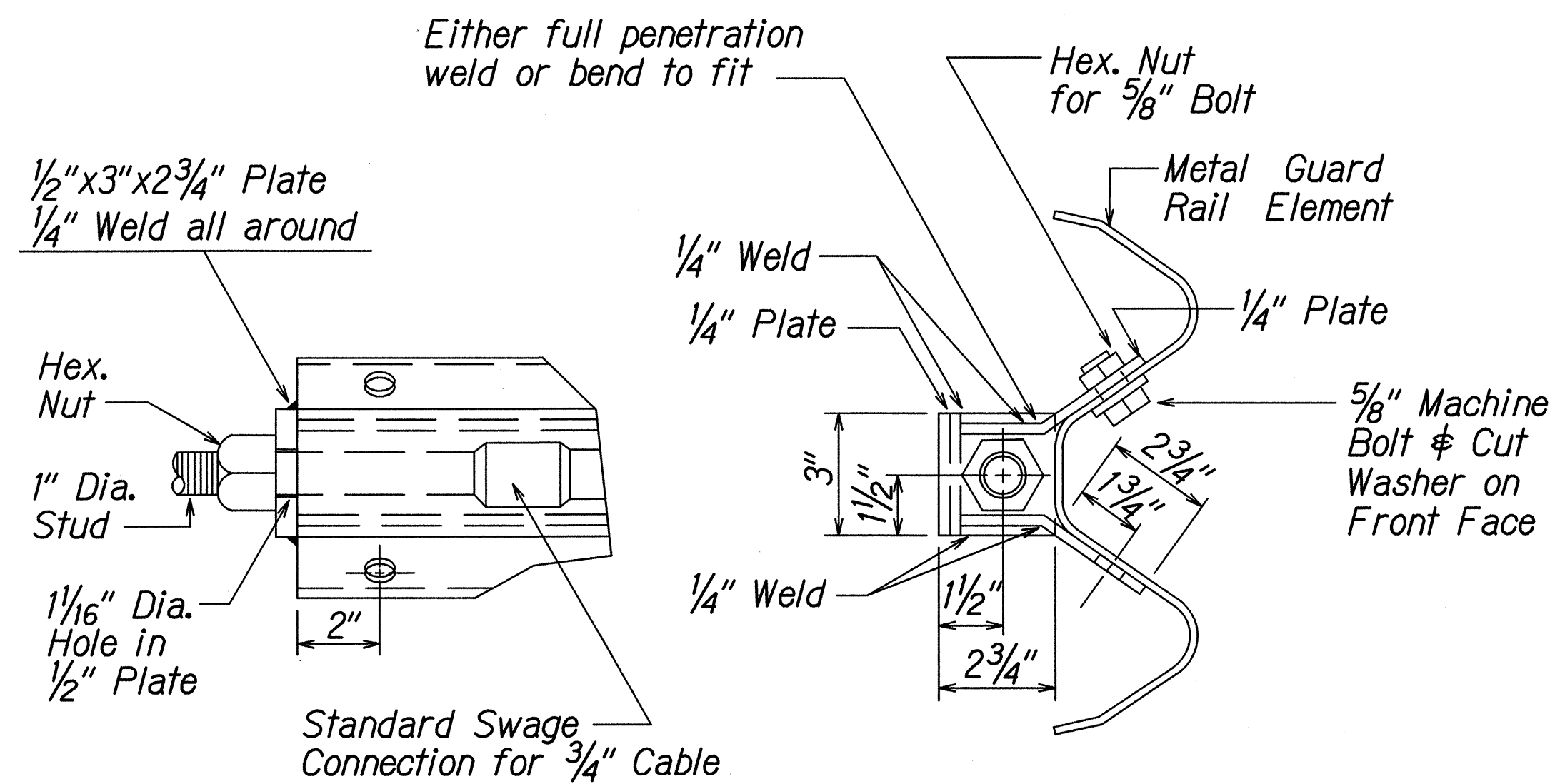
MINGXUN DING
 LICENSED PROFESSIONAL ENGINEER
 NO. 9248-C
 HAWAII, U.S.A.
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STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
STRONG POST W-BEAM GUARDRAIL DETAIL
 Keaau-Pahoa Road Intersection
 Improvements at Old Government Road
 Federal-Aid Project No. HSIP-0130(031)

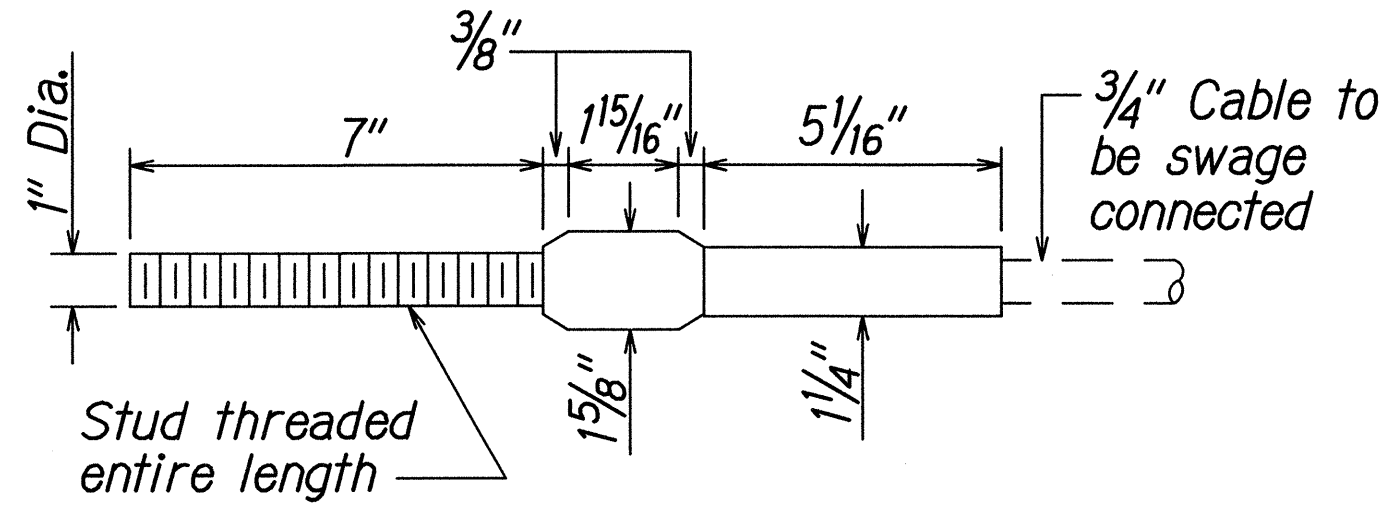
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SHEET No. 2 OF 3 SHEETS

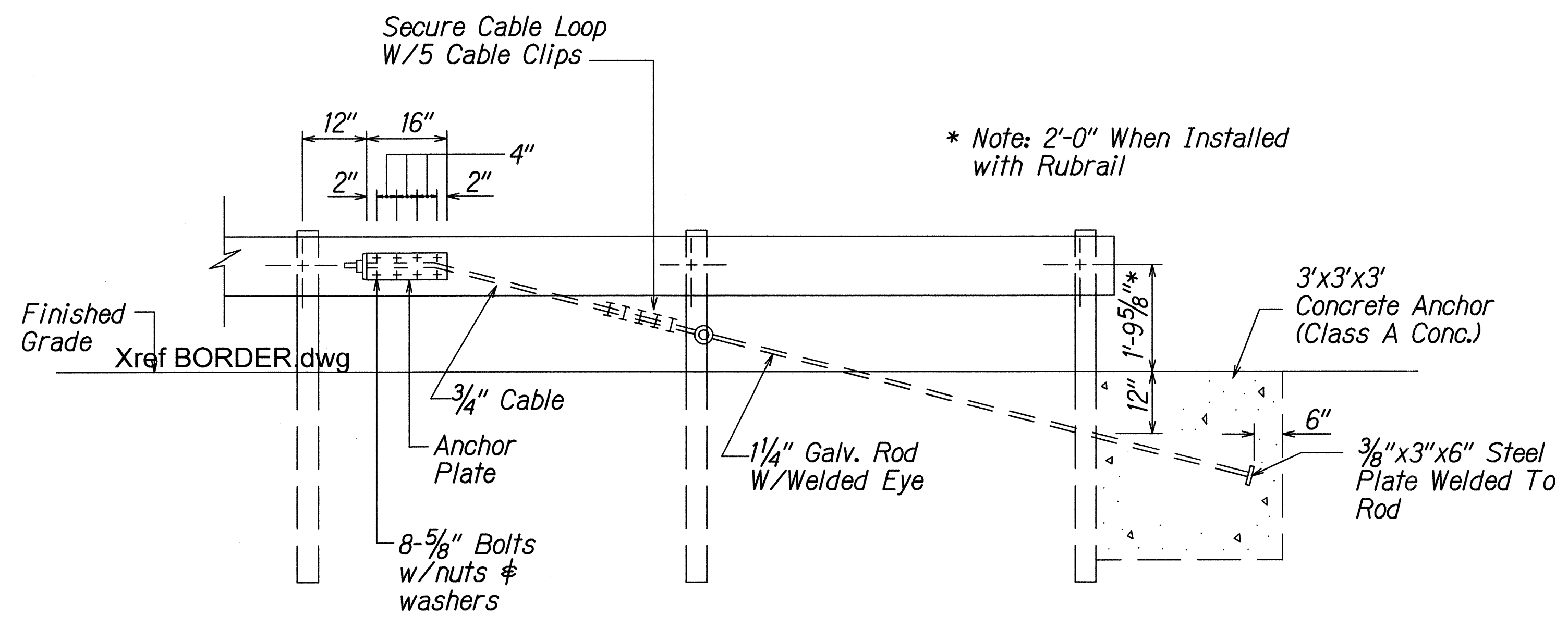
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	76	108



ANCHOR PLATE DETAILS



STANDARD SWAGED FITTING
AND STUD



ANCHOR BLOCK DETAIL

- Concrete, G.R.P., excavation, anchor rod and miscellaneous appurtenances necessary to anchor the guardrail ends shall be incidental to metal guardrail.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	QUANTITIES BY	
	CHECKED BY	
No.		

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 LAST UPDATE: September 03, 2013 @ 07:55:36 am

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

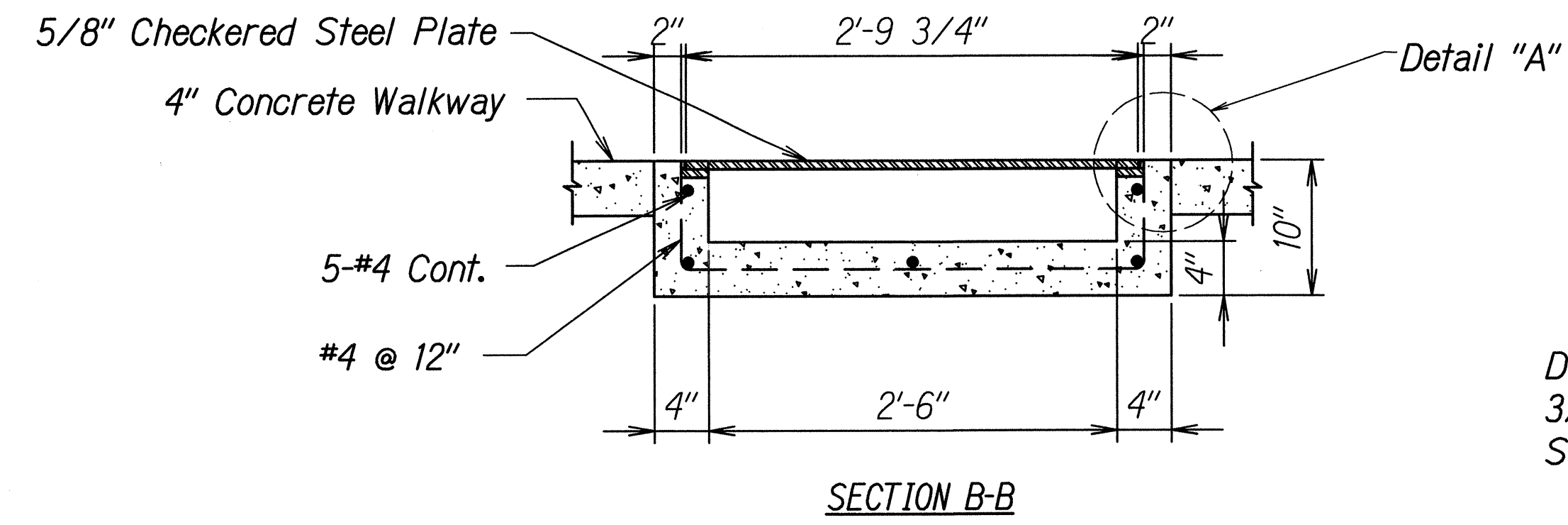
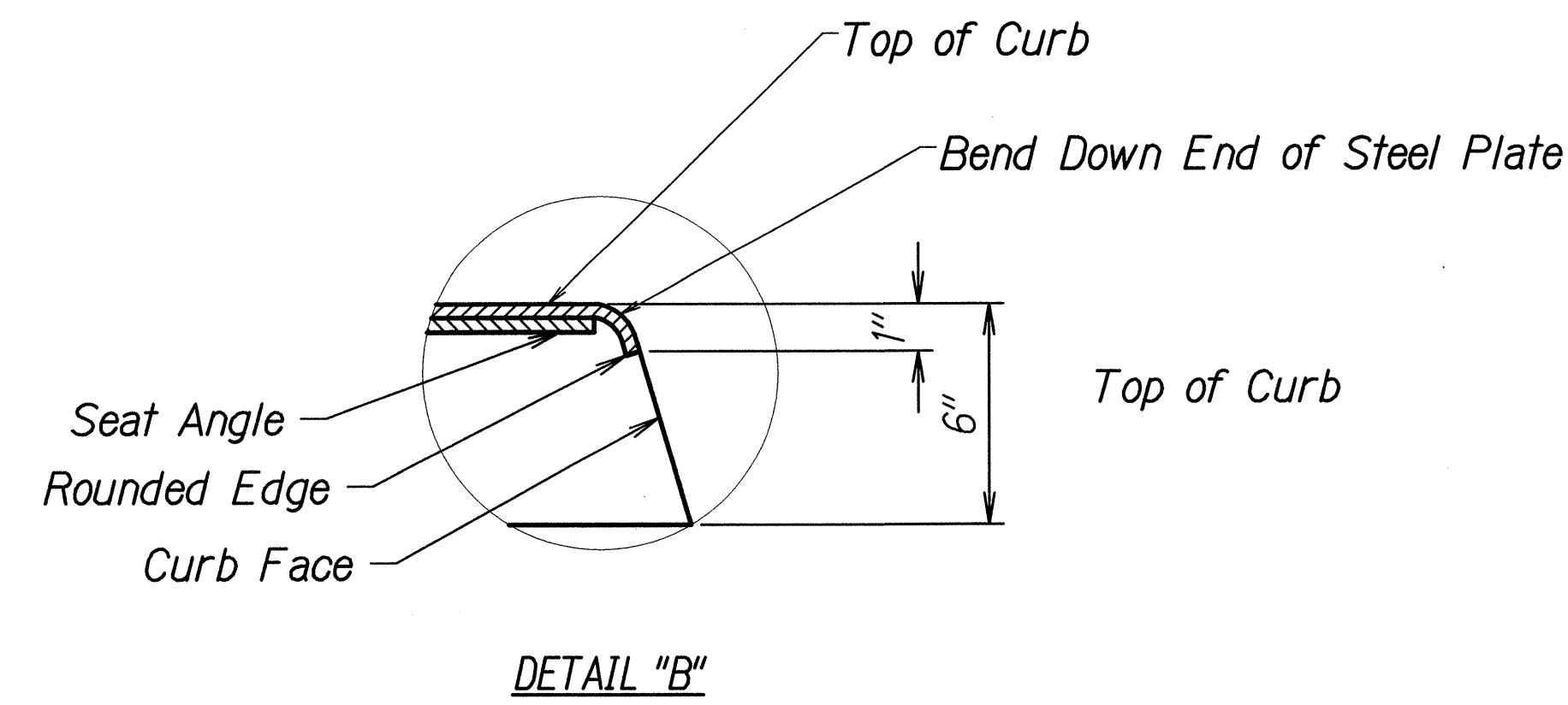
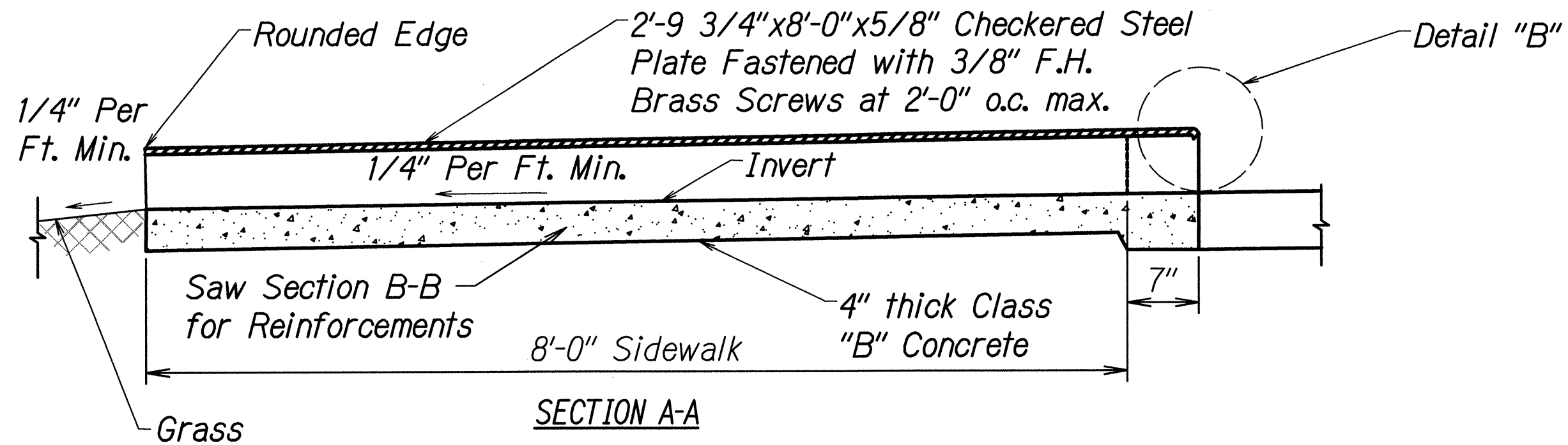
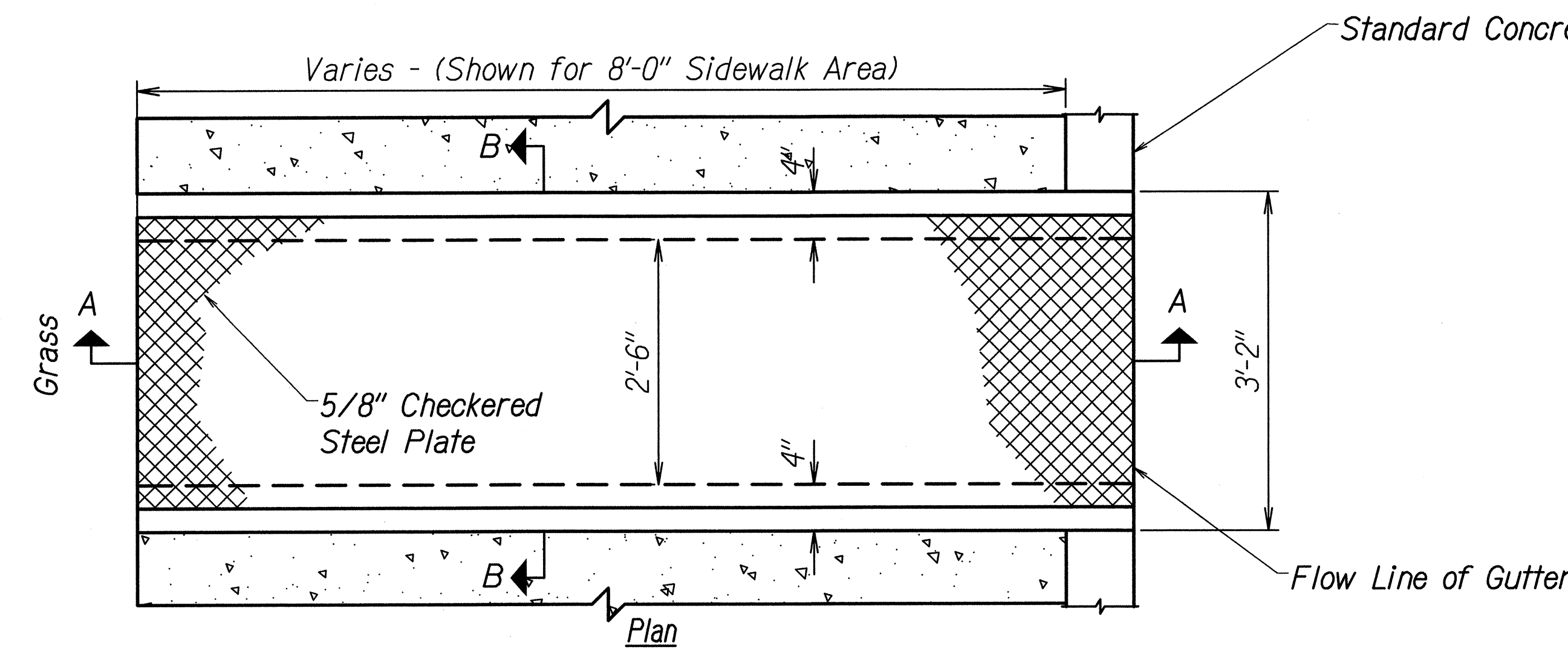
MISCELLANEOUS
GUARDRAIL DETAILS

Keaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)

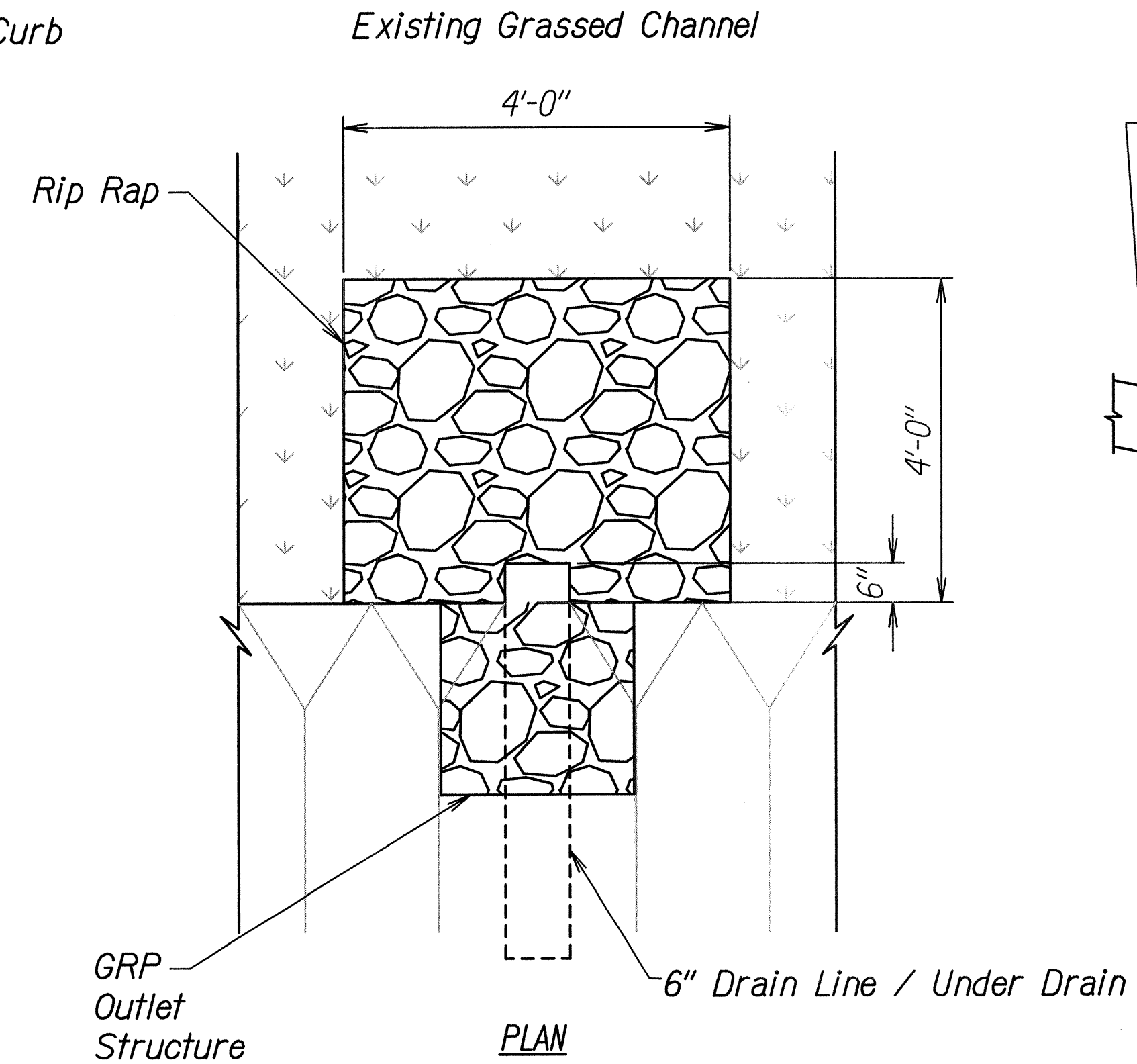
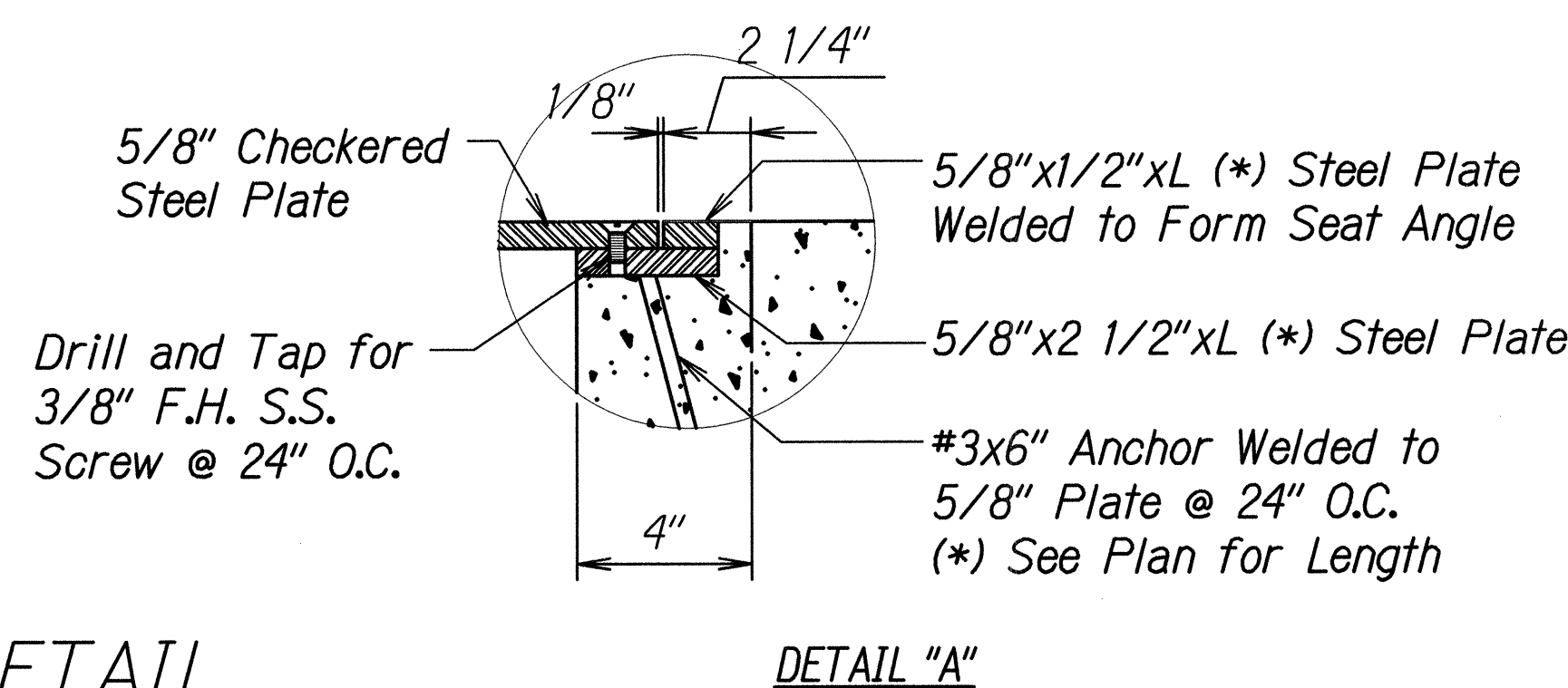
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SHEET No. 3 OF 3 SHEETS

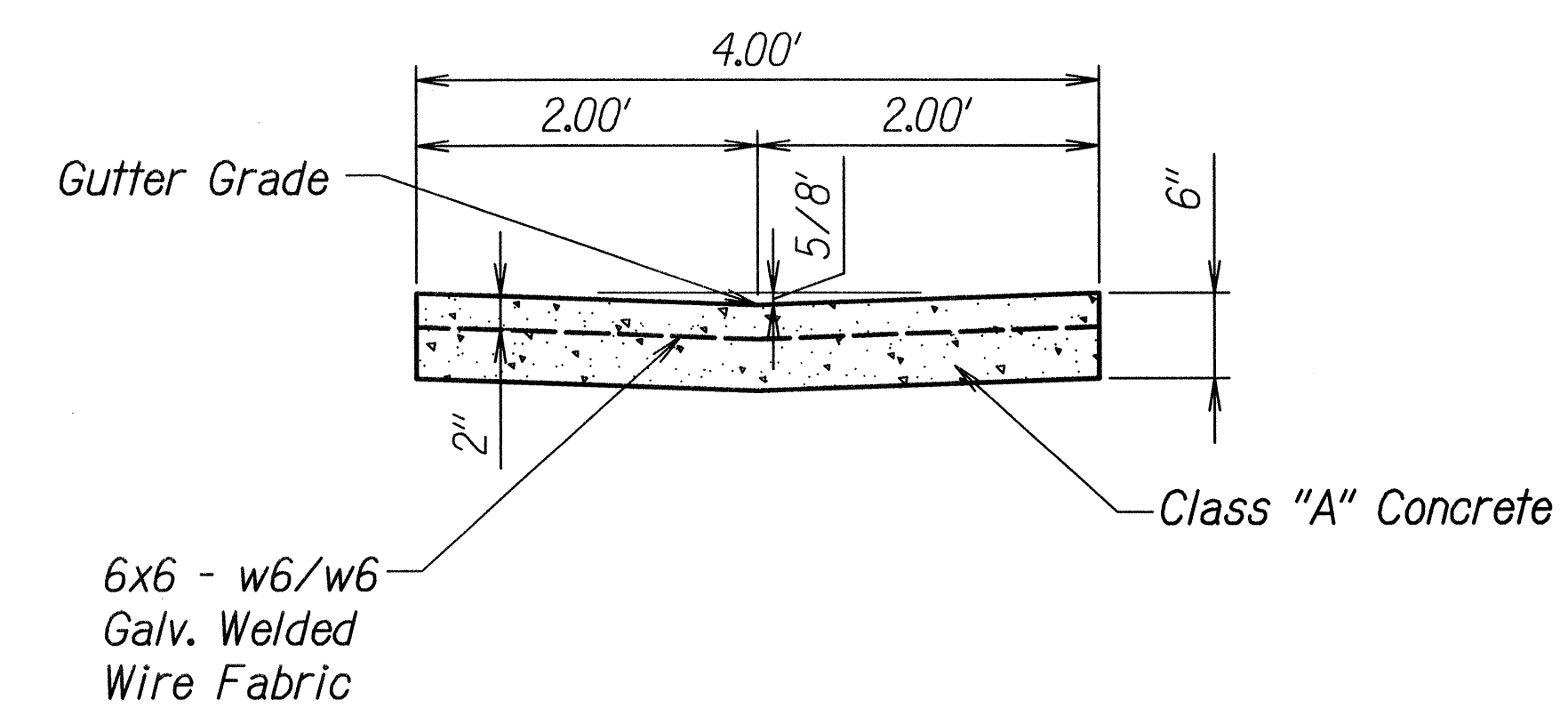
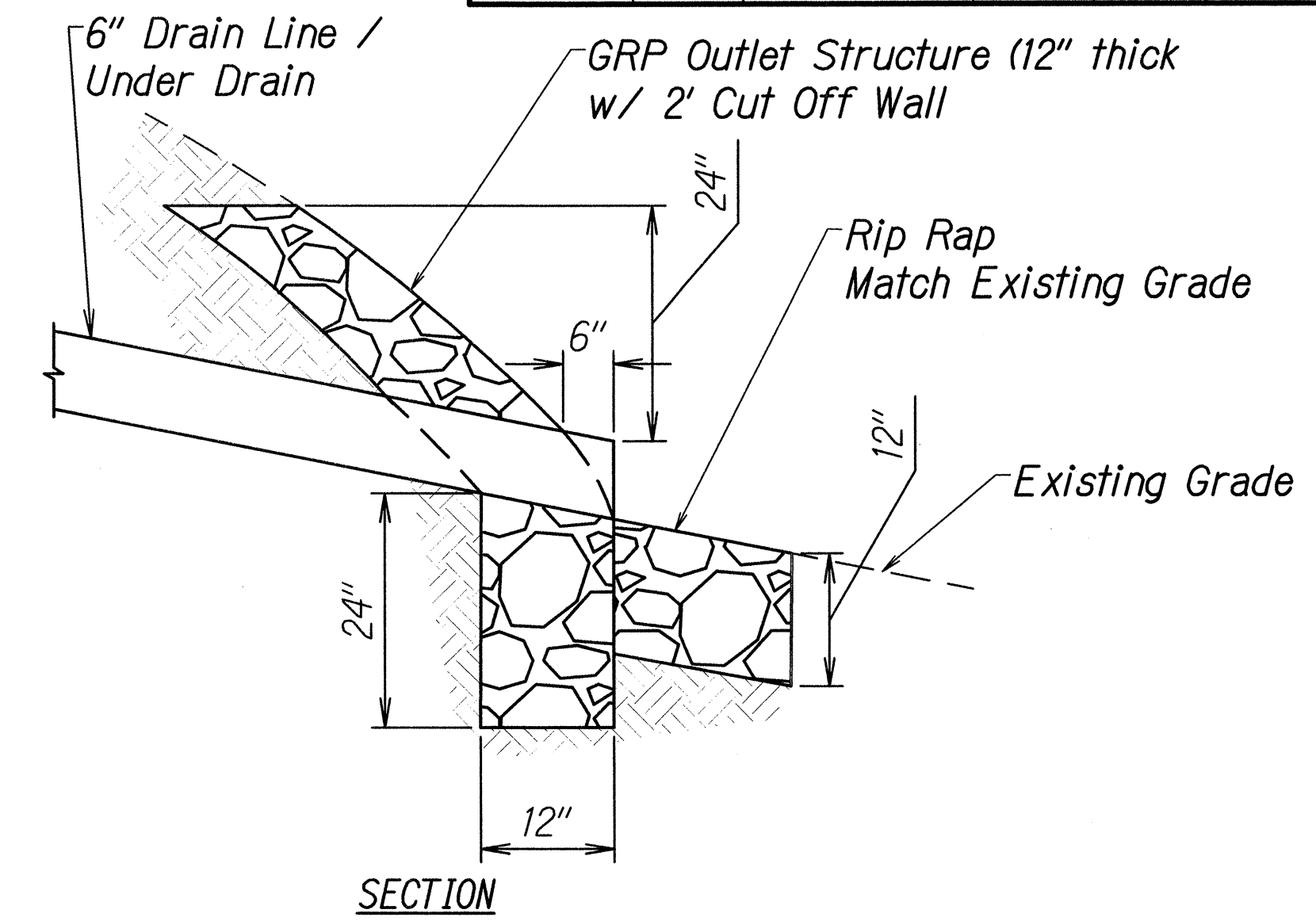
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HSIP-0130(031)	2014	77	108



SIDEWALK CULVERT DETAIL
Scale: Not to Scale



OUTLET RIPRAP DETAIL
Scale: Not to Scale



THRU GUTTER DETAIL
Scale: Not to Scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	DESIGNED BY	
	CHECKED BY	

PLOT DATE: September 03, 2013 @ 08:27:24 am
LAST UPDATE: September 03, 2013 @ 07:59:25 am
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LICENSED PROFESSIONAL ENGINEER
NO. 9248-C
HAWAII, U.S.A.
LICENSE EXPIRES 4/30/14
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LMD

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DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

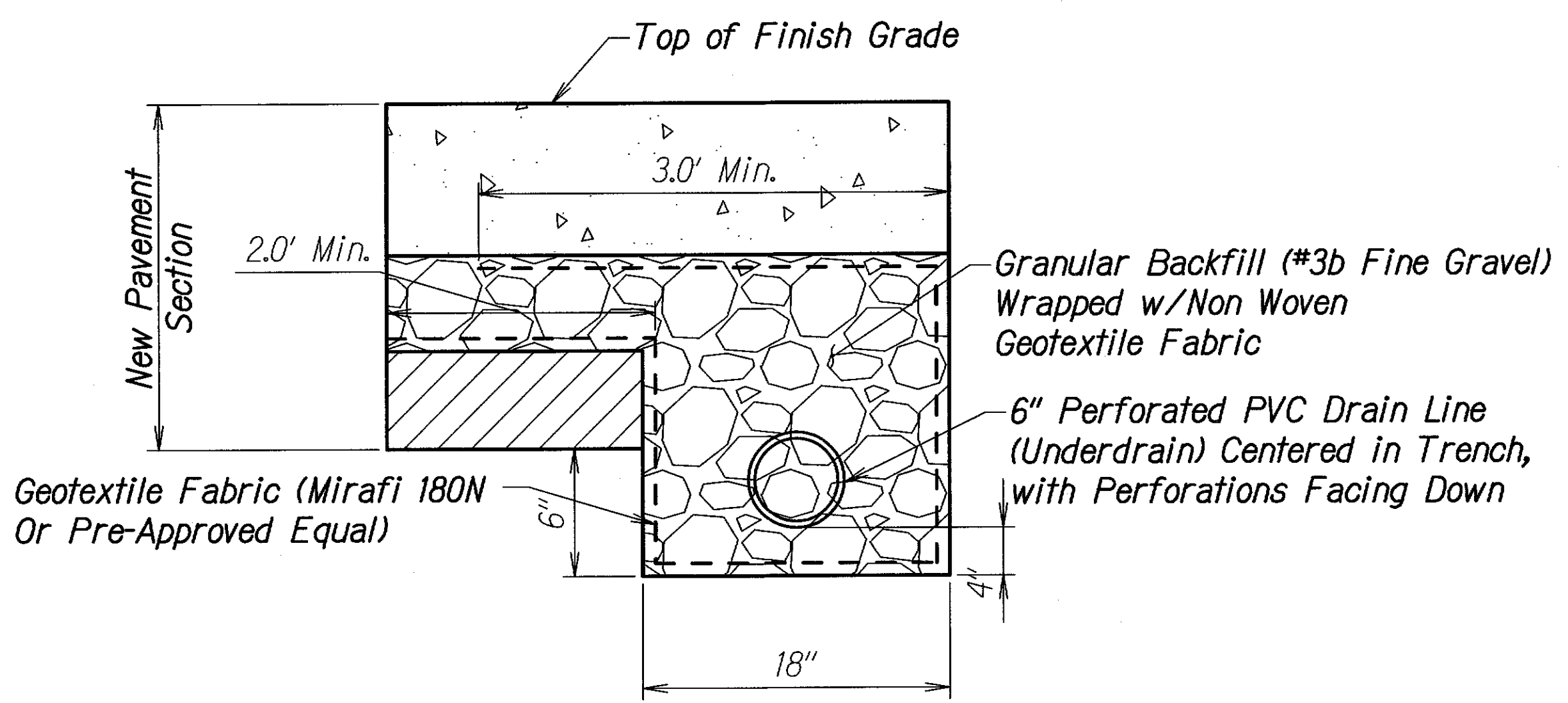
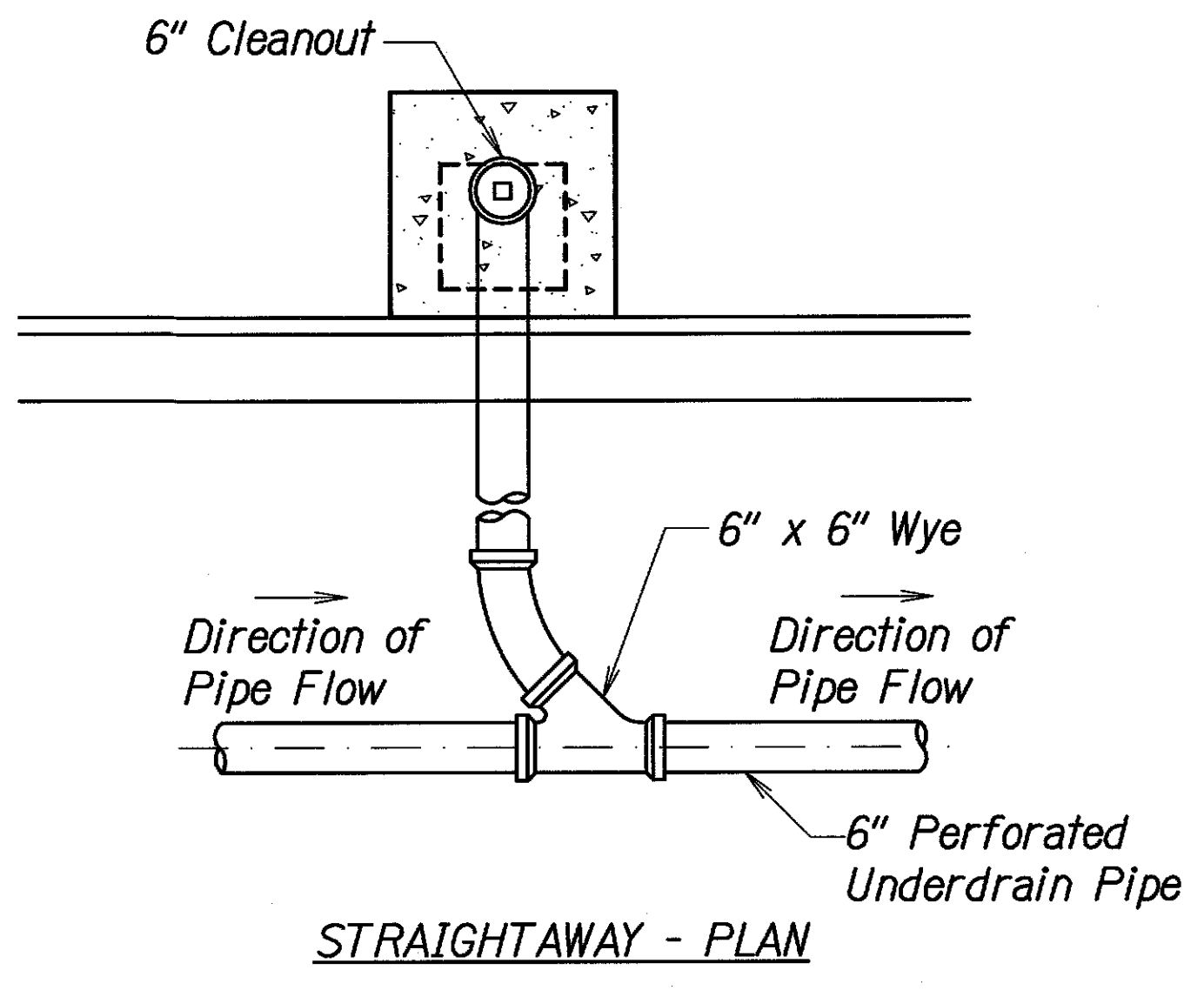
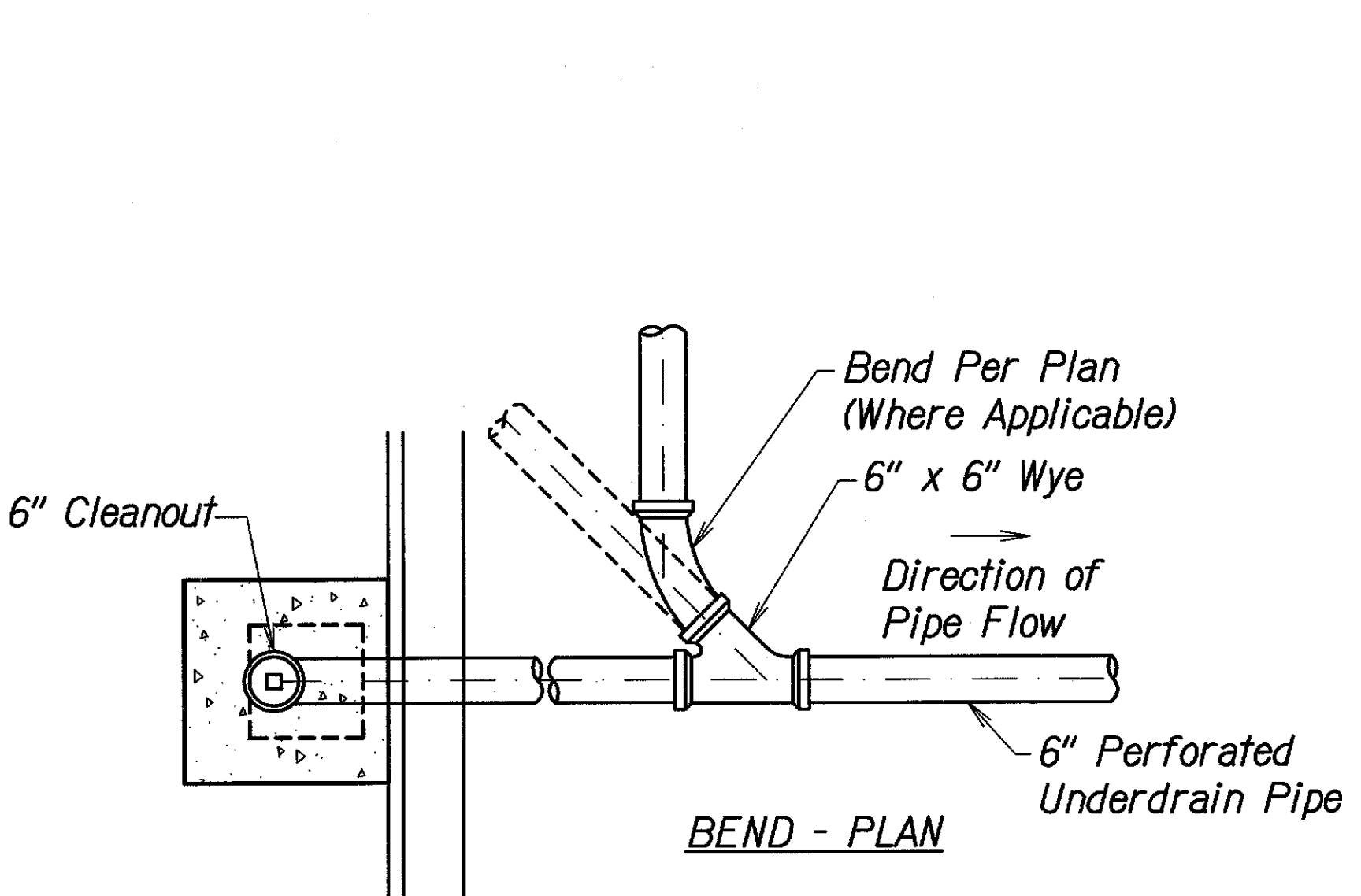
UTILITY DETAILS - 1

Kaaau-Pahoa Road Intersection
Improvements at Old Government Road
Federal-Aid Project No. HSIP-0130(031)

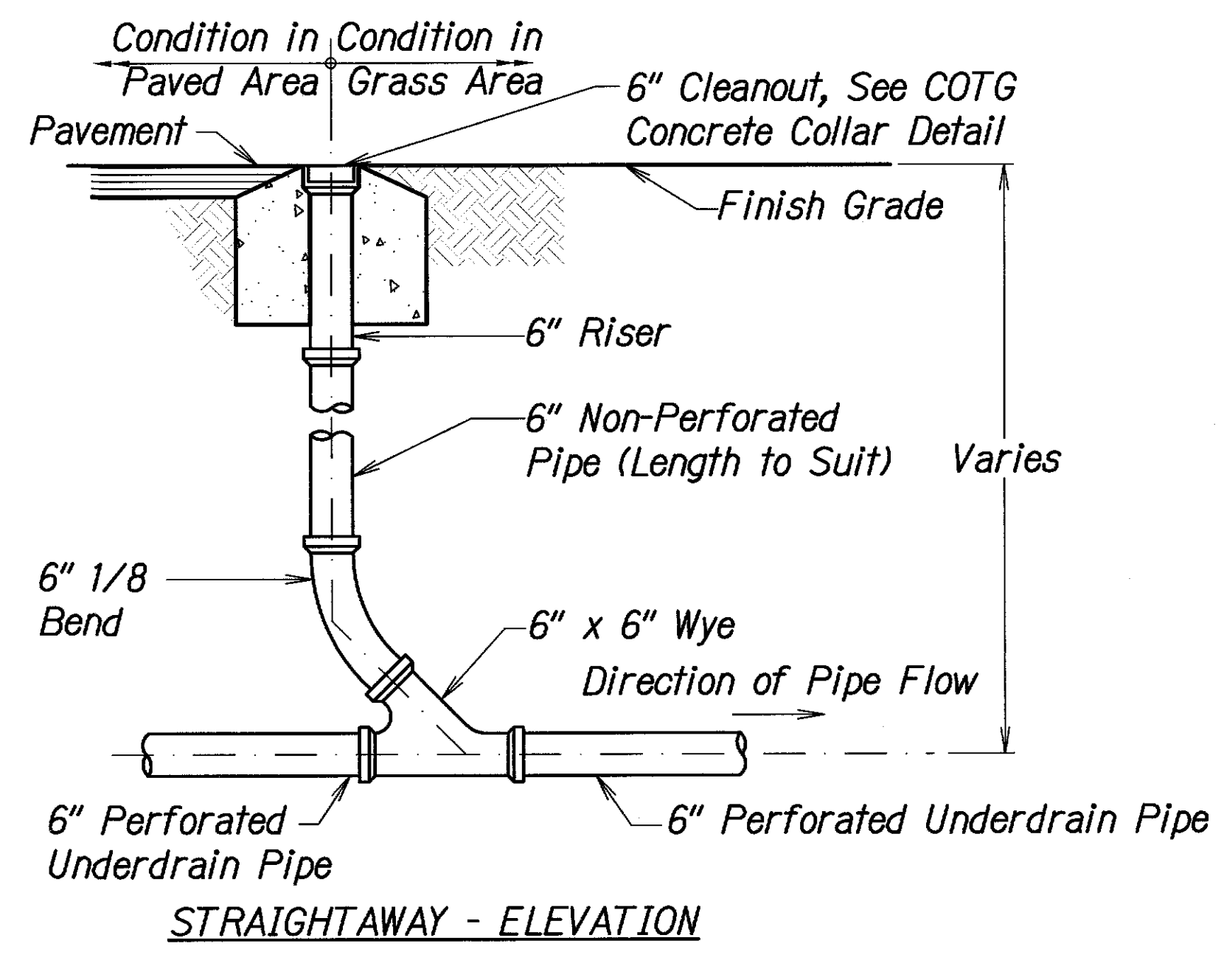
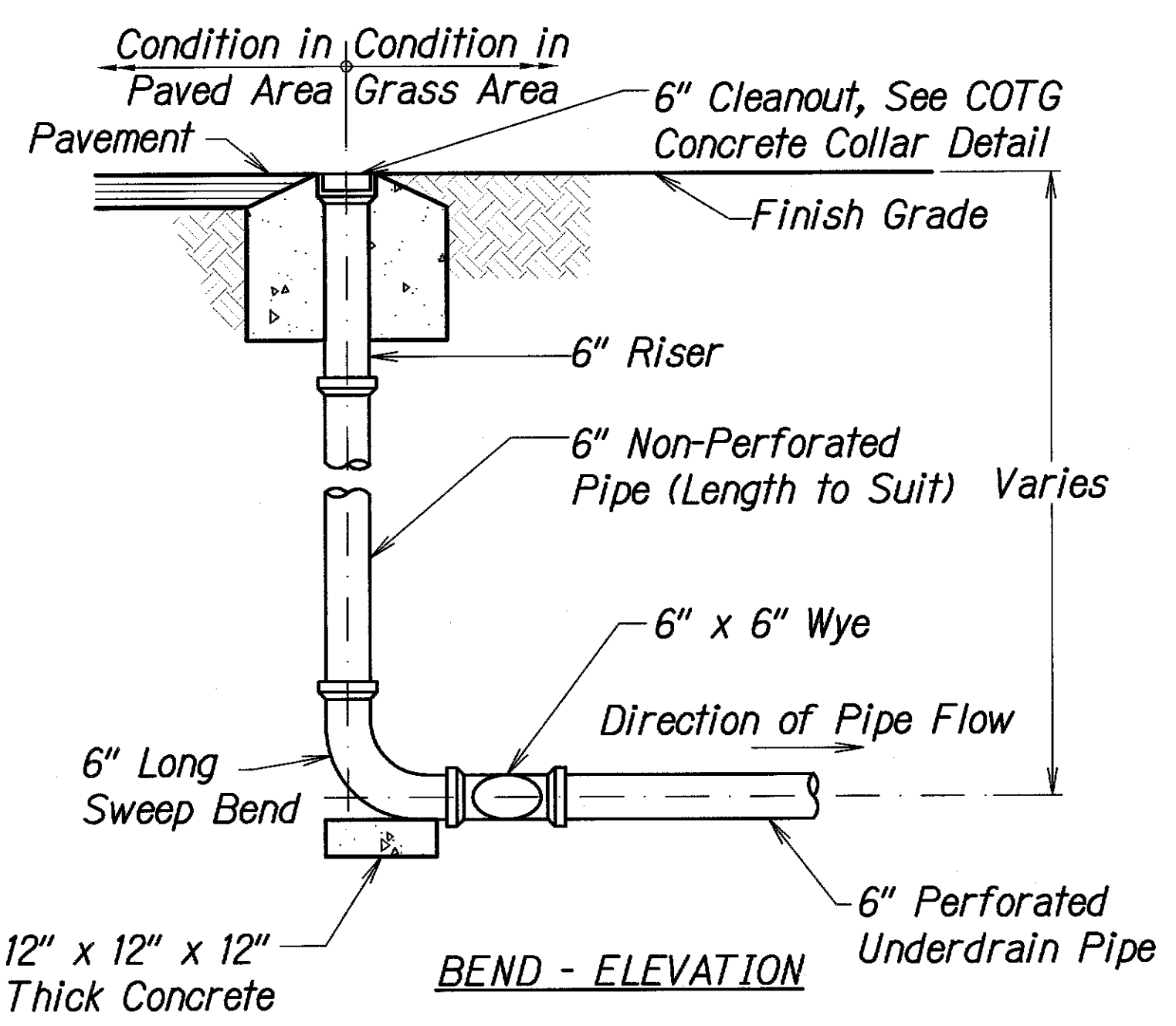
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Date: August 2013

SHEET No. 1 OF 2 SHEETS

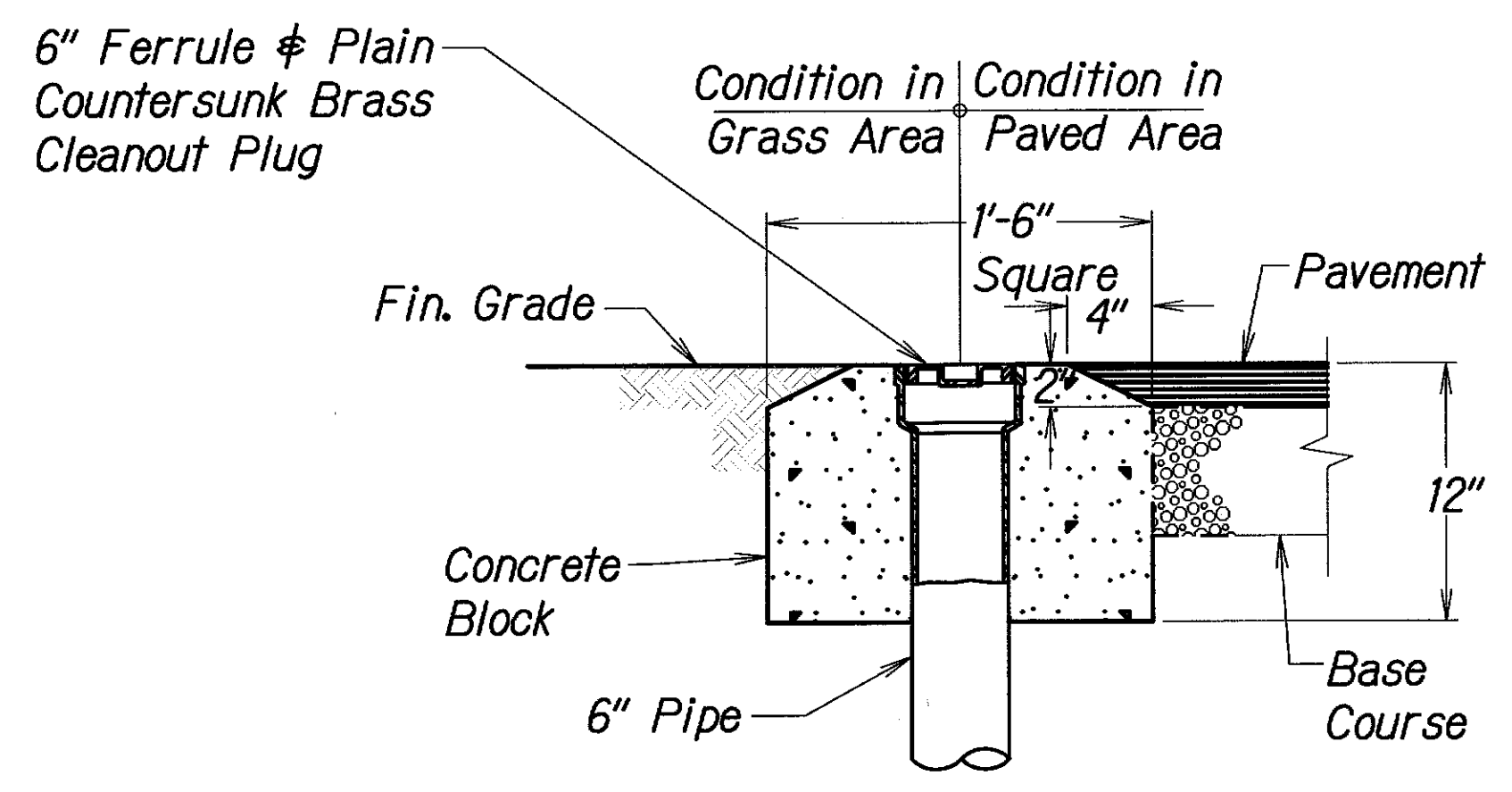
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HAWAII	HAW.	HSIP-0130(031)	2014	C.O. 78	108



UNDERDRAIN TYPICAL SECTION
Scale: Not to Scale



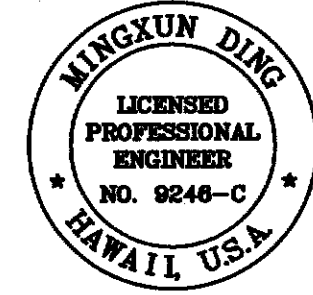

CLEANOUT TO GRADE DETAIL
Scale: Not to Scale



COTG CONCRETE COLLAR DETAIL
Scale: Not to Scale

SURVEY PLOTTED BY	DATE
DRAWN BY	
CHECKED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

FILENAME: S:\Projects\Library\USD\CD\HAW\040474-140_0001\001\DWG\UTILITY DETAILS.dwg


 LICENSE EXPIRES 4/30/16
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION


08/26/15 Added Dimension for Geotextile

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

UTILITY DETAILS - 2

Keaau-Pahoa Road Intersection

Improvements at Old Government Road

Federal-Aid Project No. HSIP-0130(031)

Scale: None
Date: August 2013

SHEET No. 2 OF 2 SHEETS