

FED.ROAD DIST.NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	HWY-0-01-13	2016	21	47

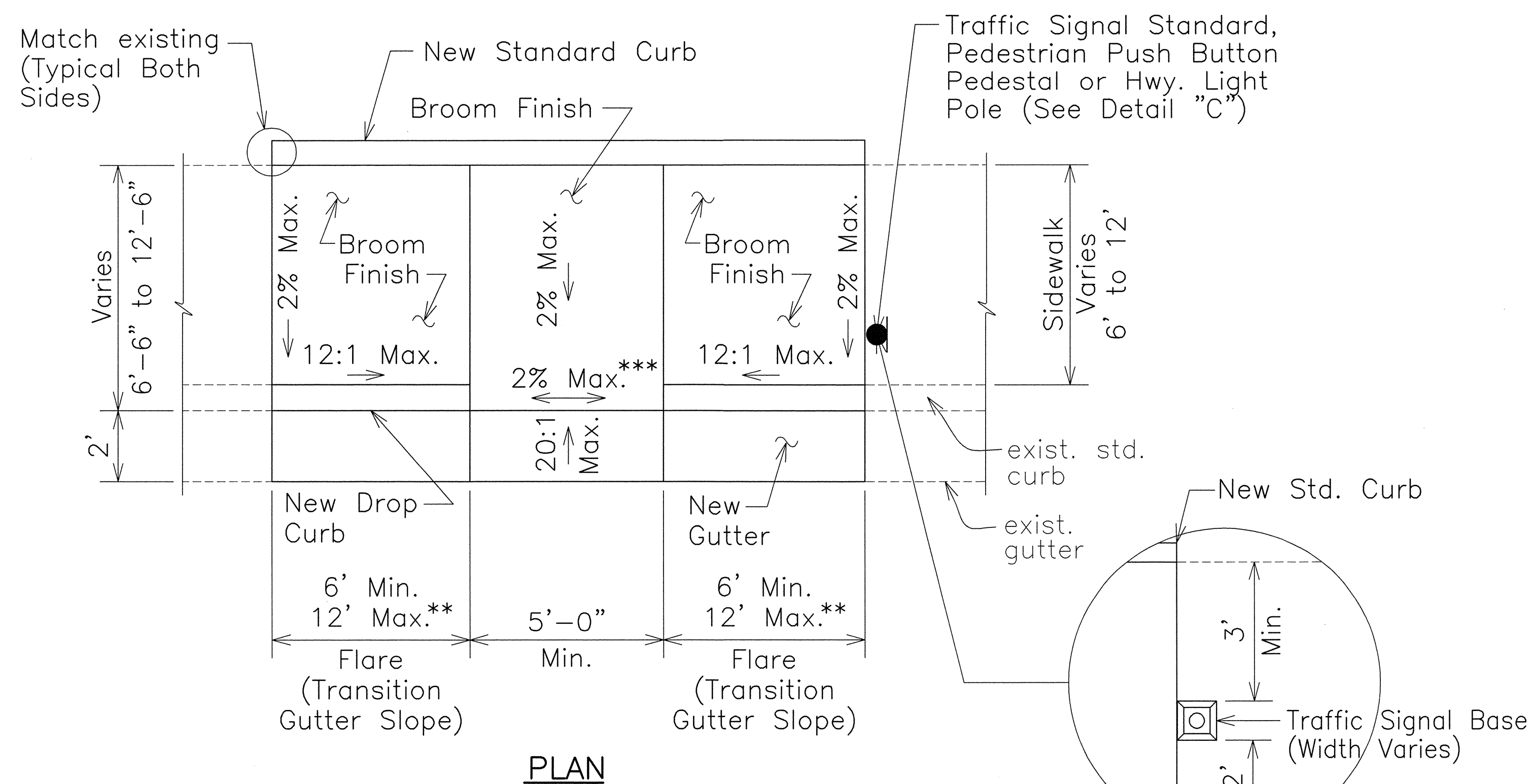
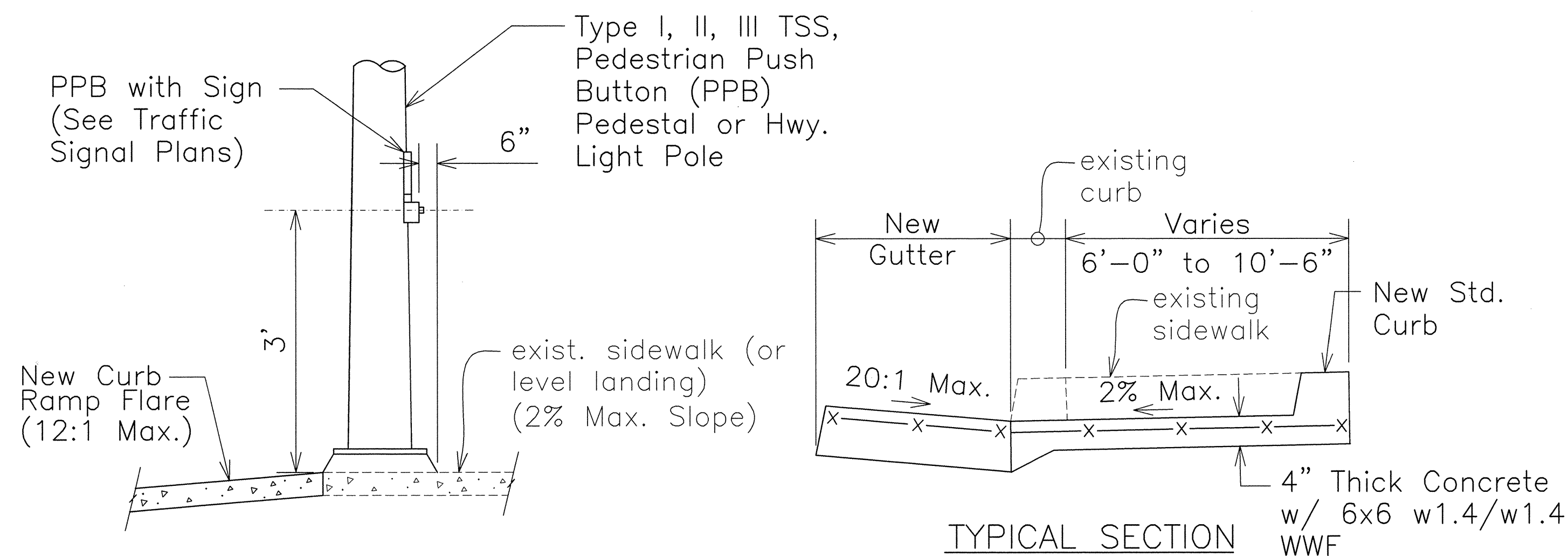
CURB RAMP AND SIDEWALK NOTES:

1. These typical details are intended as curb ramp guidelines for design and construction.
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 pedestrian push button shall meet operational and reach requirements of the Americans with Disabilities Act Accessibility Guidelines (ADAAG):
 - a) Forward Reach. The high forward reach shall be 48" maximum and the low forward reach shall be 15" above the finish ground.
 - b) Side Reach. The high side reach shall be 48" maximum and the low side reach shall be 15" minimum above the finish ground.
 - c) Operation. Controls and operating mechanisms shall be operable with one hand and shall not require tight grasping, pinching, or twisting of the wrist. The force required to activate controls shall be no greater than 5 lbf.
9. The maximum slopes of adjoining gutters or road surface immediately fronting the curb ramp shall not exceed 5% (20:1) [Ref: ADAAG 406.2].
10. 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.
11. Construction joints are required to join curb ramps with sidewalks.
12. Unless otherwise noted, new gutters are required as shown.
13. All curb ramps shall be reinforced with 6x6 W1.4/W1.4 welded wire fabric.
14. Surface of sidewalks and curb ramps shall be firm, stable, and slip-resistant. This includes the surfaces of pullboxes, valve covers, manhole covers, etc.
15. Bed course material is required for curb ramps, sidewalks, and gutters.
16. 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.
17. Passing spaces along new sidewalks with 5' clear width or less shall be provided at maximum 200' intervals as required by Americans with Disabilities Act Guidelines. The passing area shall be a minimum 5' wide by 5' long, as feasible.
18. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of-way.
19. 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 Americans with Disabilities Act Accessibility Guidelines (ADAAG) and will be subject to Engineer's approval.
20. 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 1/4 inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
21. Additional information is available from:
 - a) Americans with Disabilities Act Accessibility Guidelines (ADAAG), July 23, 2004, The U.S. Access Board.
 - b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The U.S. Access Board.
 - c) Designing Sidewalks and Trails for Access, Part 1, July 1999, FHWA.
 - d) Designing Sidewalks and Trails for Access, Part 2, Sept. 2001, FHWA.

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

STATE OF HAWAII	
DEPARTMENT OF TRANSPORTATION	
HIGHWAYS DIVISION	
CURB RAMP AND	
SIDEWALK NOTES	
Traffic Operational Improvements	
at Various Locations	
Vicinity of Kaneohe Bay Drive	
and Puuhala Street	
Project No. HWY-0-01-13	
Scale: As Noted	Date: Oct 2015
SHEET No. 1 OF 4 SHEETS	

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CURB RAMP – TYPE "B" MODIFIED

SIDEWALK WIDTH 6'-0" OR GREATER
BUT LESS THAN 12'-0" WIDTH

** 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 the Roadway Slope is > 2%, Conform to the Roadway Slope and file a Technical Infeasibility (TI) Statement

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

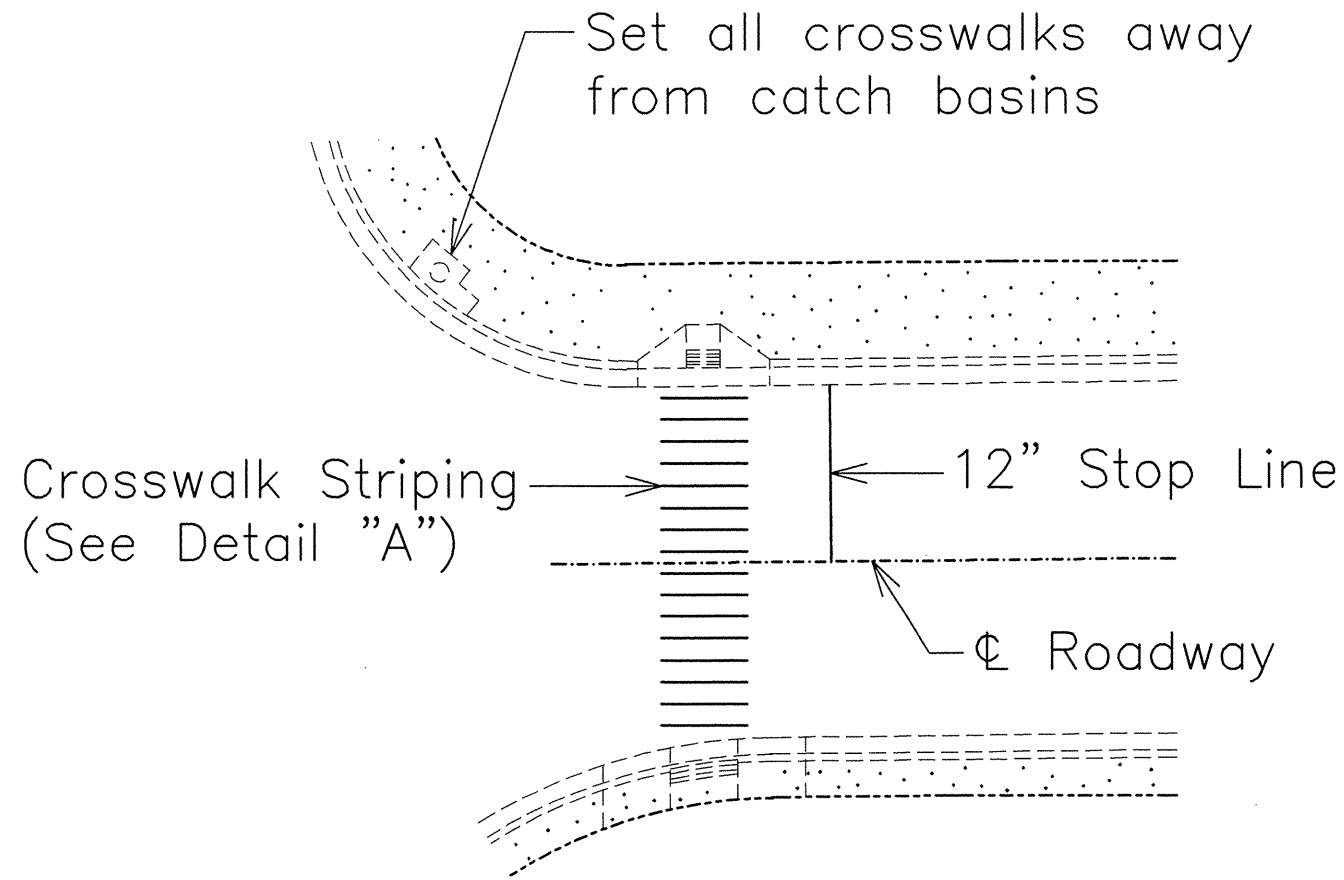
CURB RAMP DETAILS

*Traffic Operational Improvements
at Various Locations
Vicinity of Kaneohe Bay Drive
and Puuhala Street
Project No. HWY-0-01-13*

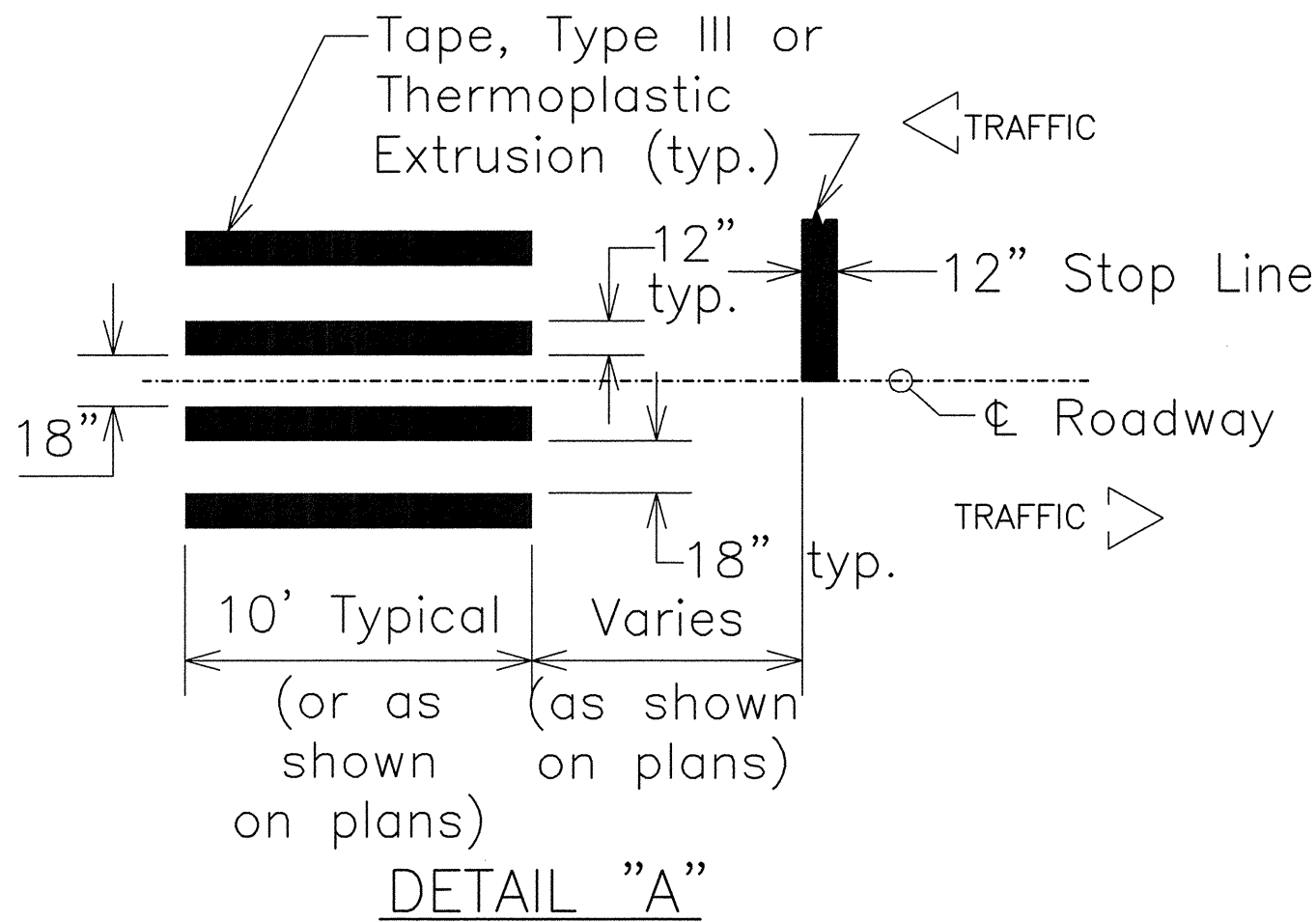
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SHEET No. 2 OF 4 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	HWY-0-01-13	2016	23	47



PLAN

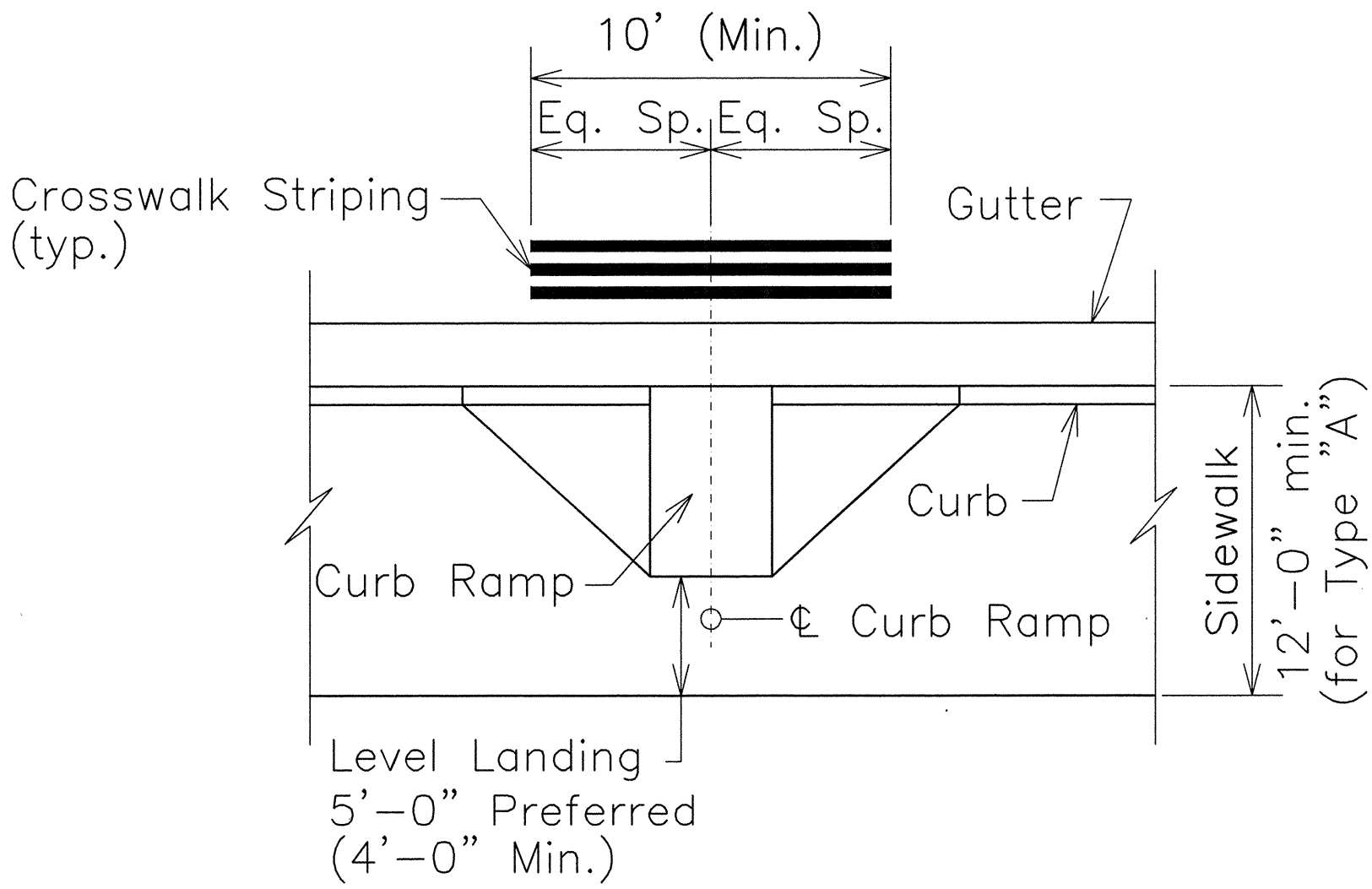


DETAIL "A"

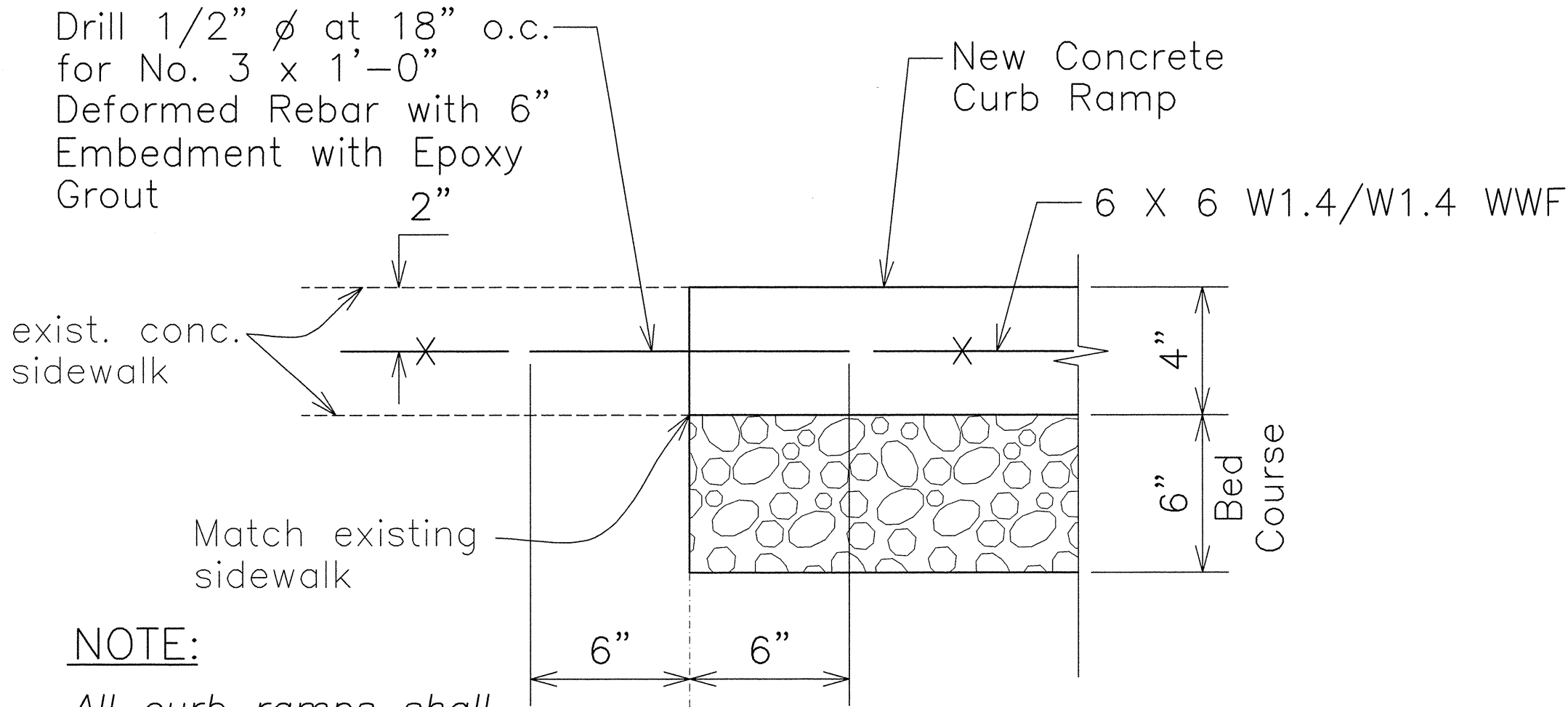
NOTE:

Longitudinal lines shall be parallel to traffic flow.

CROSSWALK STRIPING DETAIL



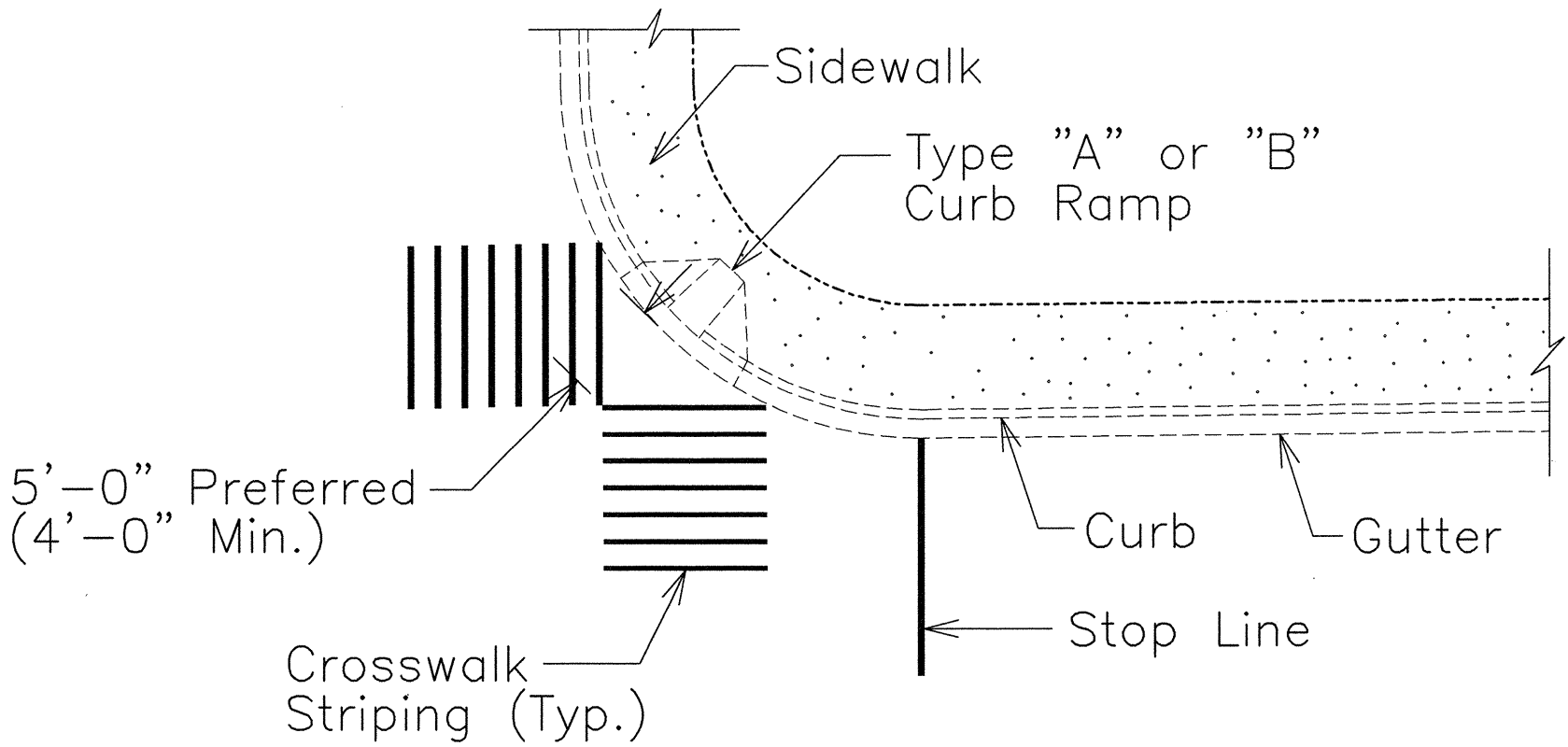
TYPICAL CROSSWALK STRIPING AT CURB RAMP



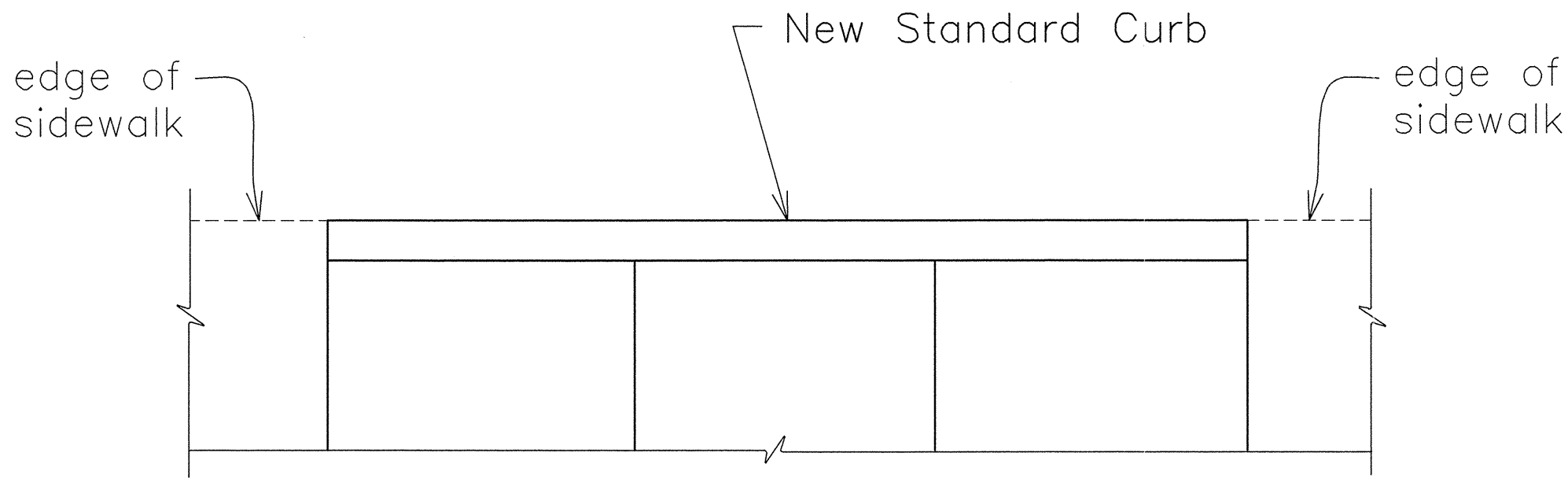
NOTE:

All curb ramps shall be reinforced.

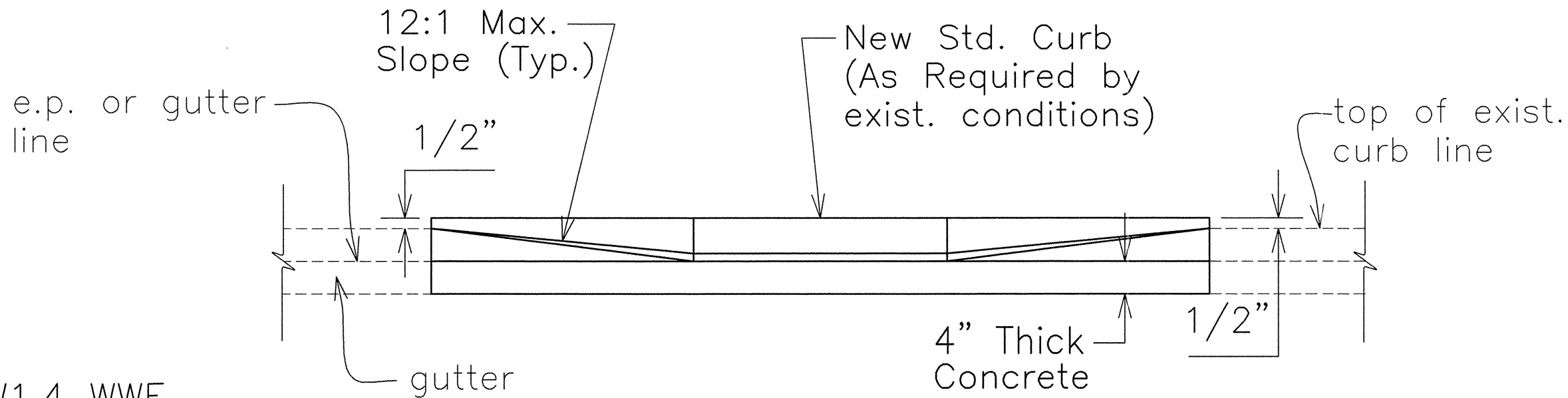
TYPICAL CONSTRUCTION JOINT AT EXISTING SIDEWALK



TYPICAL CROSSWALK STRIPING AT DIAGONAL CURB RAMP



PLAN



ELEVATION

DETAIL – BACK CURB

NOTE:

This detail can be used in situations where the edge of sidewalk cannot be flush with the face of (back) curb due to Right-of-Way restrictions.

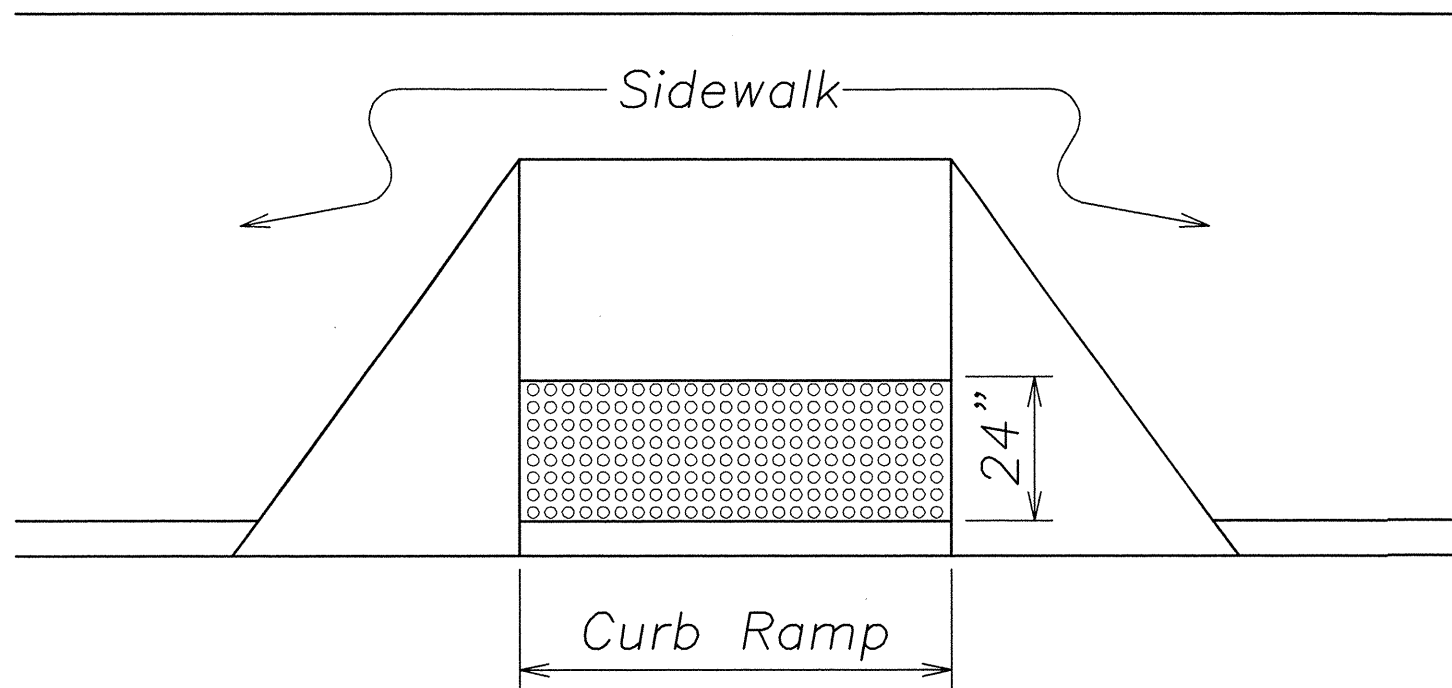
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

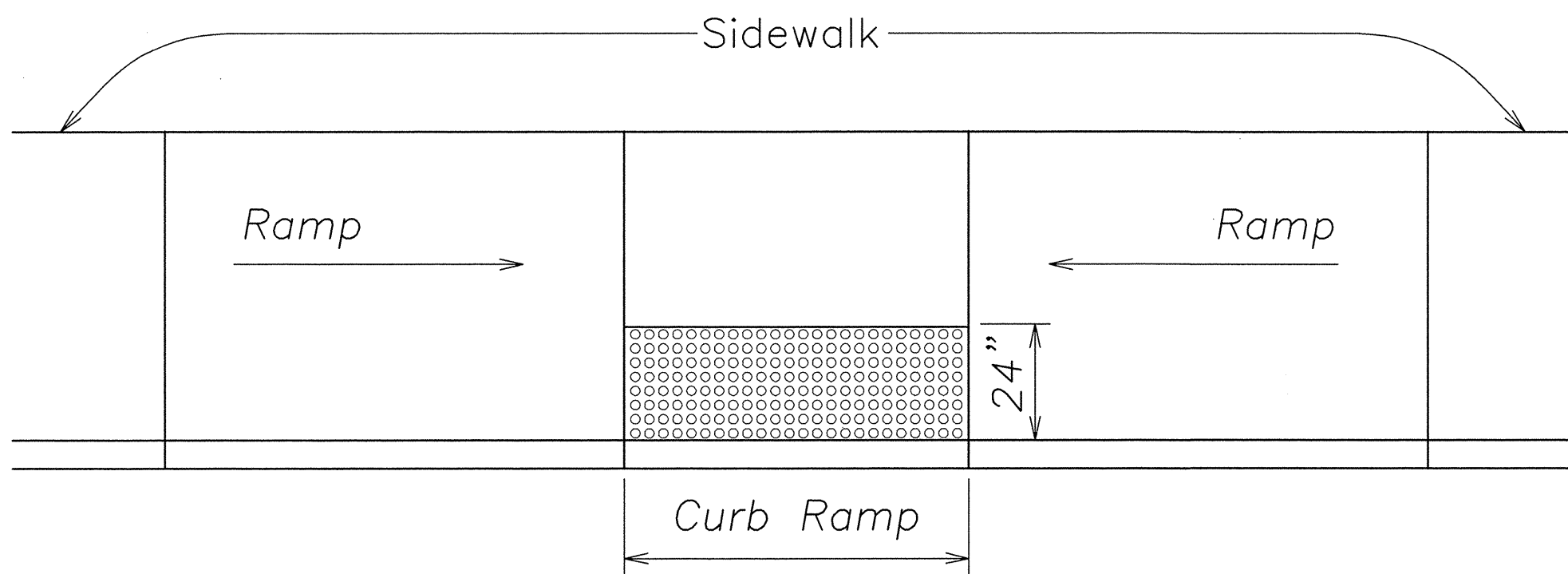
MISCELLANEOUS DETAILS
Traffic Operational Improvements at Various Locations
Vicinity of Kaneohe Bay Drive and Puuhala Street
Project No. HWY-0-01-13
Scale: As Noted Date: Oct 2015

SHEET No. 3 OF 4 SHEETS

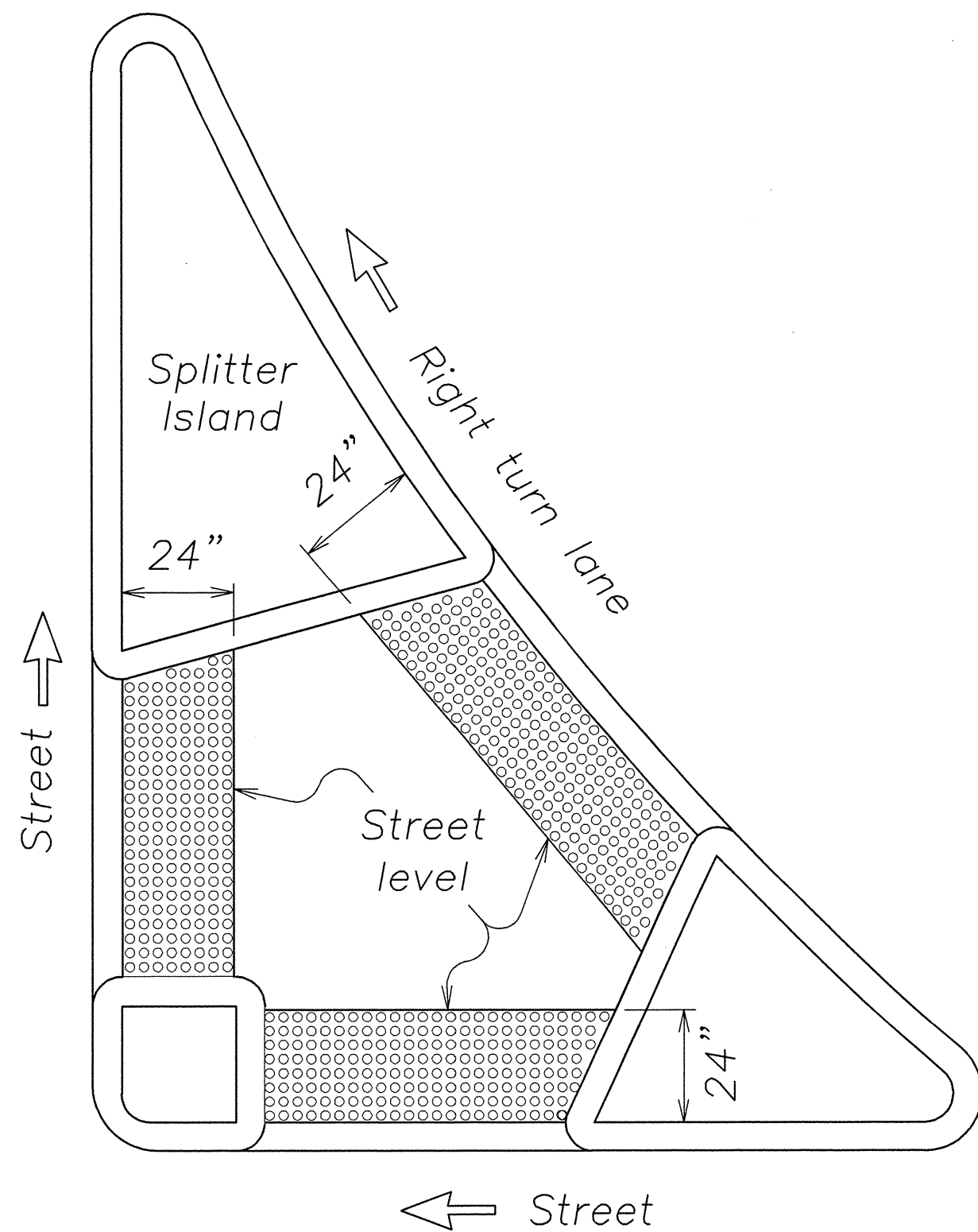
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
OAHU	HAW.	HWY-0-01-13	2016	24	47



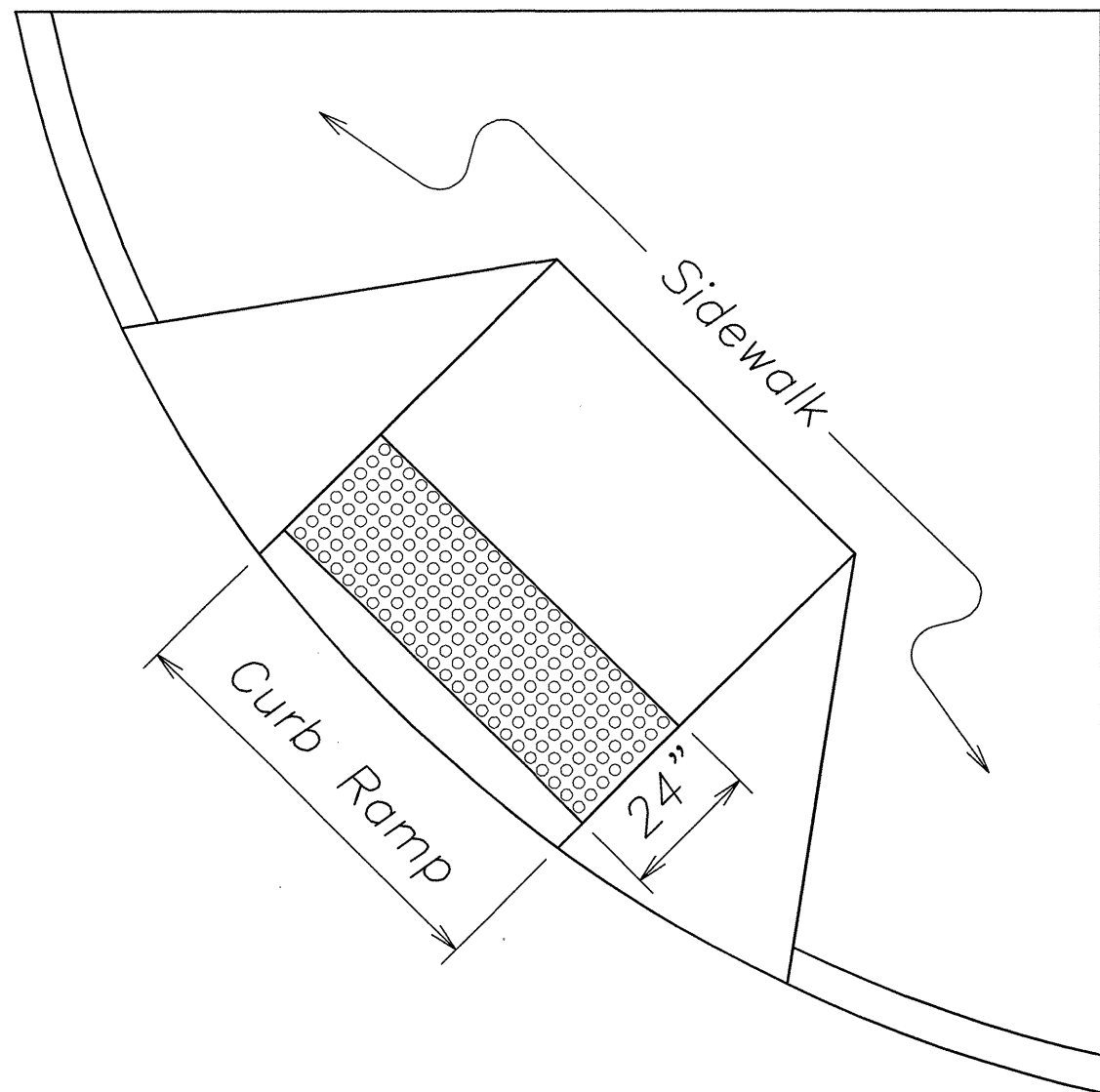
DETECTABLE WARNING AT CURB RAMP



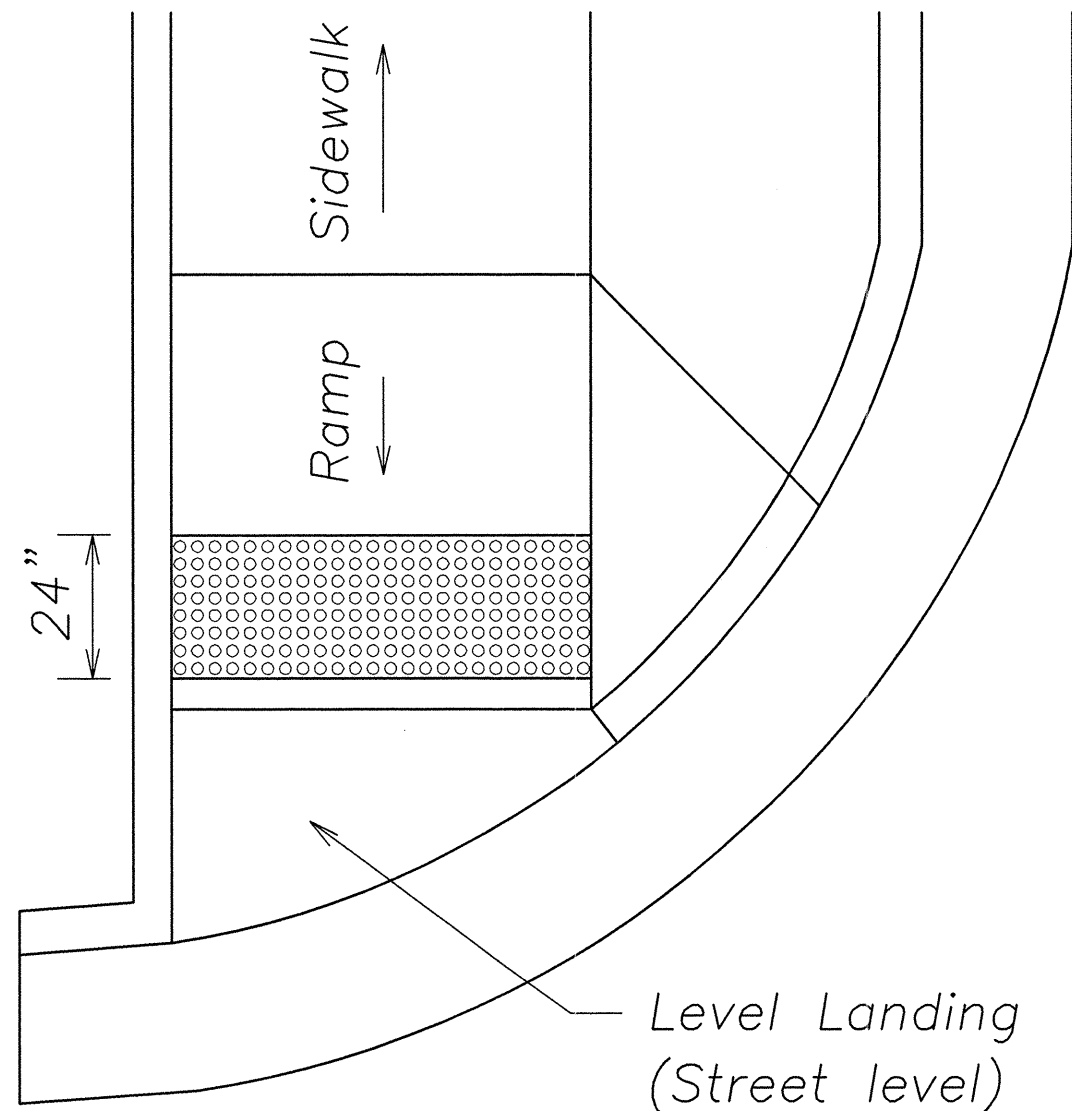
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



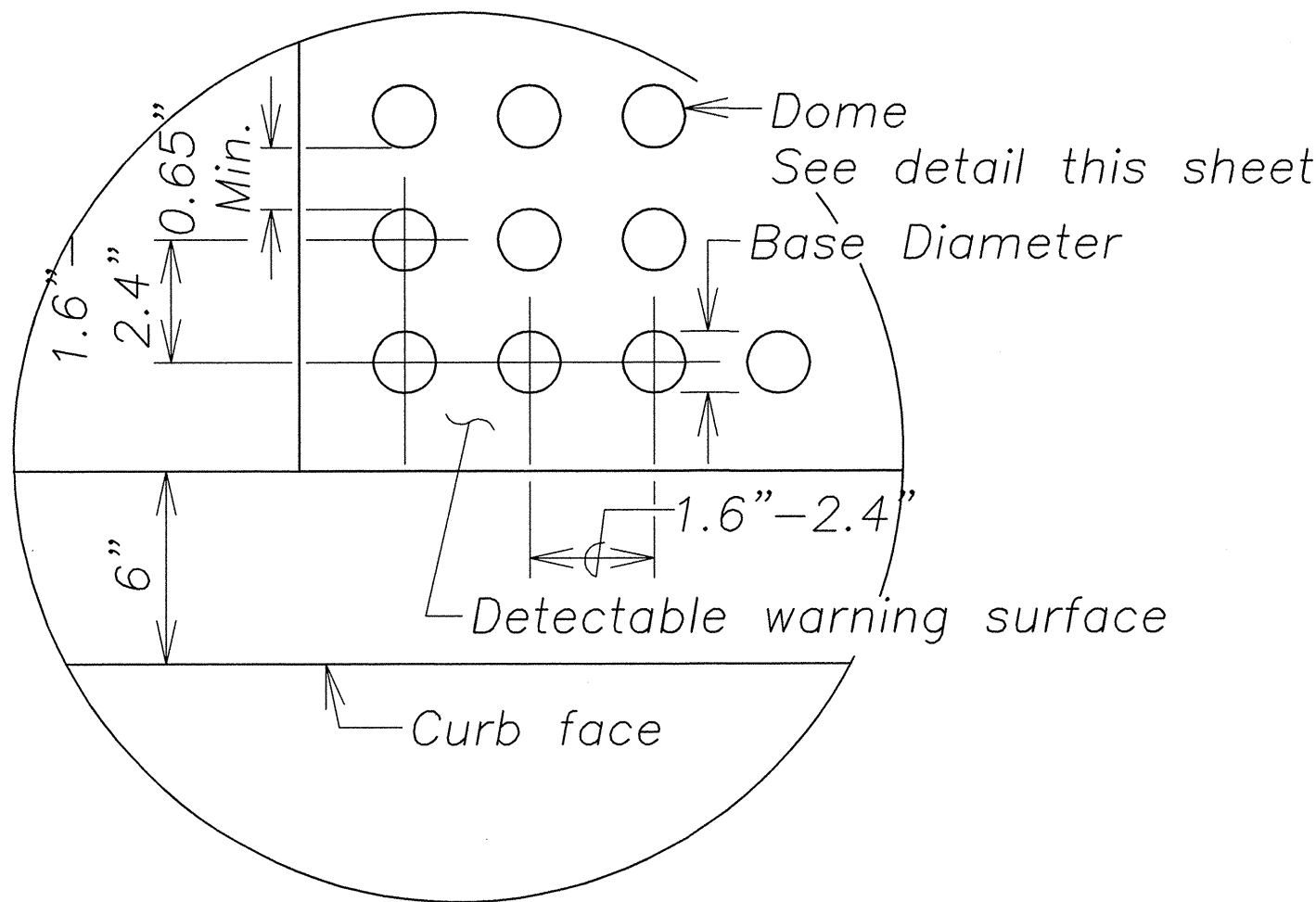
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

Not to Scale

NOTES:

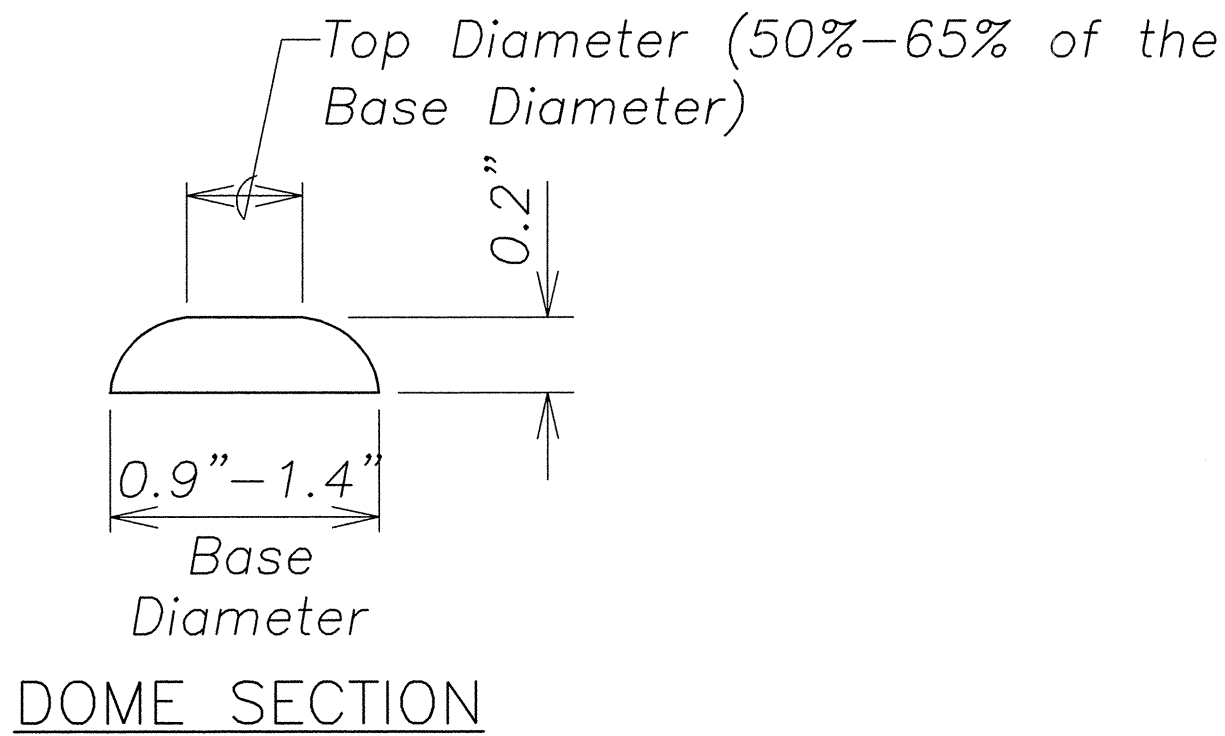
1. Detectable warnings shall be 24 inches in the direction of travel and extend the full width of the curb ramp or flush surface (does not include flares).
2. Truncated domes shall have a diameter of 0.9 to 1.4 inch at the bottom, a diameter of 50%–65% of the base diameter at the top, a height of 0.2 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



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETECTABLE WARNING DETAILS
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SHEET No. 4 OF 4 SHEETS