FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	8	44

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 American with Disabilities Act Accessibility Guidelines (ADAAG):
   a) Forward Reach. The maximum height for forward reach shall be 48".
   b) Side Reach. The maximum height for side reach shall be 54".
   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% for Type A and D ramps and 8.33% for Type B, C, and E ramps. The counterslope may be exceeded when the change of grade does not exceed 13% (11% preferred) over a distance of 2 ft. Exceeding the 13% (11% preferred) change in grade will cause a person in a wheelchair to tip forward and/or fall backward.
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 ADA 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 American 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) American with Disabilities Act Accessibility Guidelines (ADAAG), Jan. 1998, The Access Board.
    b) Accessible Rights-of-Way: A Design Guide, Nov. 1999, The 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.
22. Pay limits for the various types of curb ramps are as shown on these typical details.
23. For curb ramps at curb returns, install Construction Joints per Standard Detail D-05 (Detail C) full width sidewalk at curb return.
24. When directed by the Engineer, Sidewalk Transition Area shall be extended beyond shown plan limits to match the nearest scoreline.

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

tdl/usr2/traffic/std/curbrampnote.dgn

R 01-30-02 TE-00 sht. 1 of 6

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

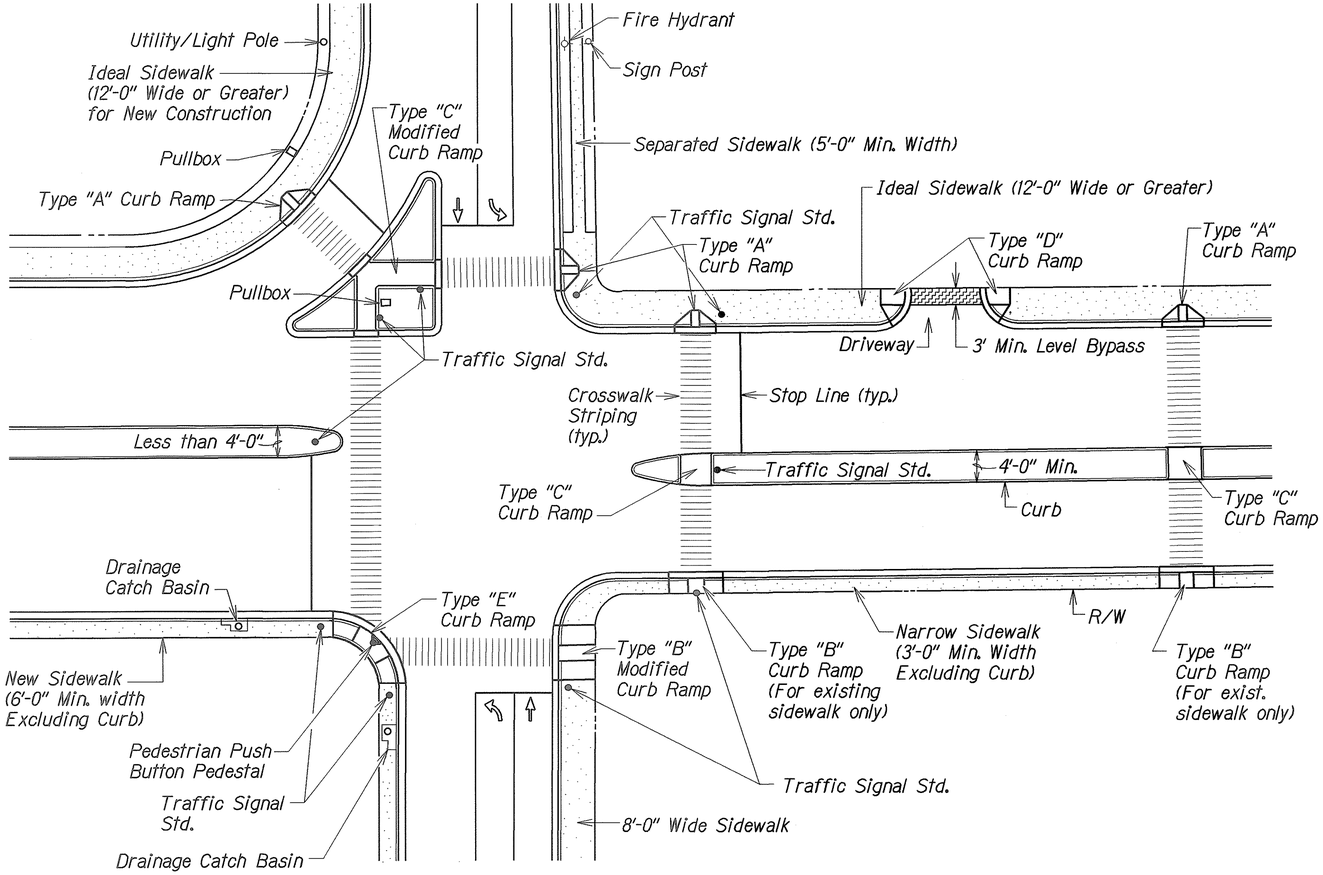
CURB RAMP AND SIDEWALK NOTES

CURB RAMP REPAIRS AT
VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

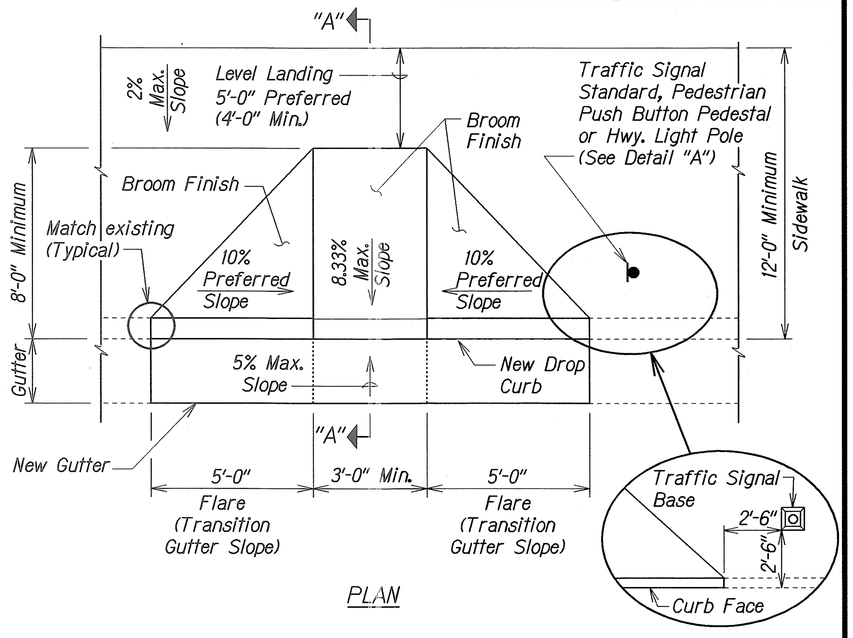
Date: February, 2005

SHEET No. CA-7 OF 7 SHEETS

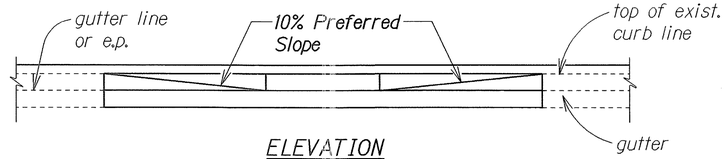
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	9	44



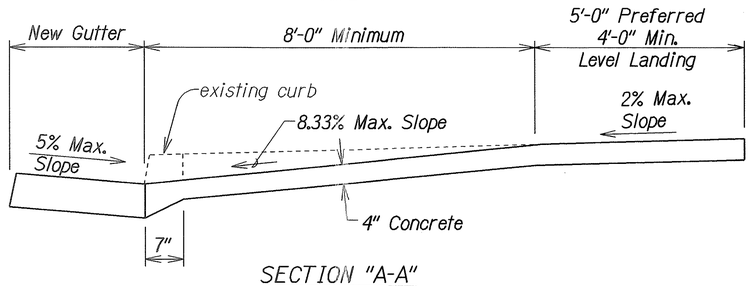
TYPICAL CURB RAMPS



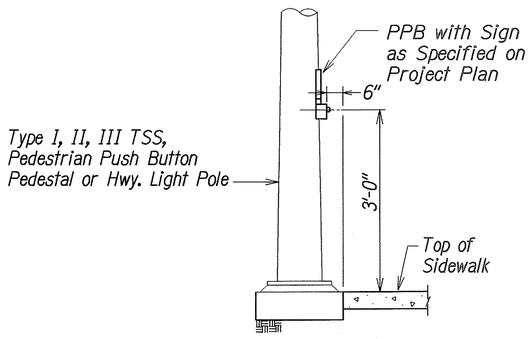
PLAN



ELEVATION



SECTION "A-A"



DETAIL "A"

CURB RAMP - TYPE "A"

SIDEWALK WIDTH 12'-0" OR GREATER

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

Not to Scale — Date: February, 2005

SHEET No. CB-1 OF 6 SHEETS

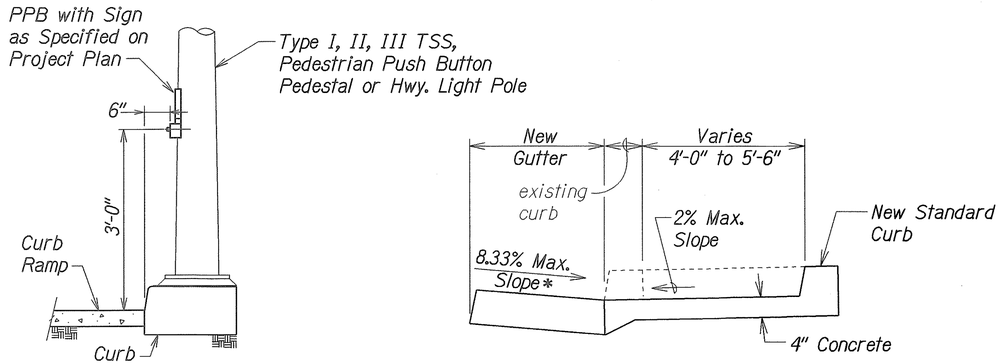
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE
NOTE BOOK | No.

R 10-16-00 TE-68 sht. 2 of 6

!dl/usr2/traffic/std/curbrampa.dgn

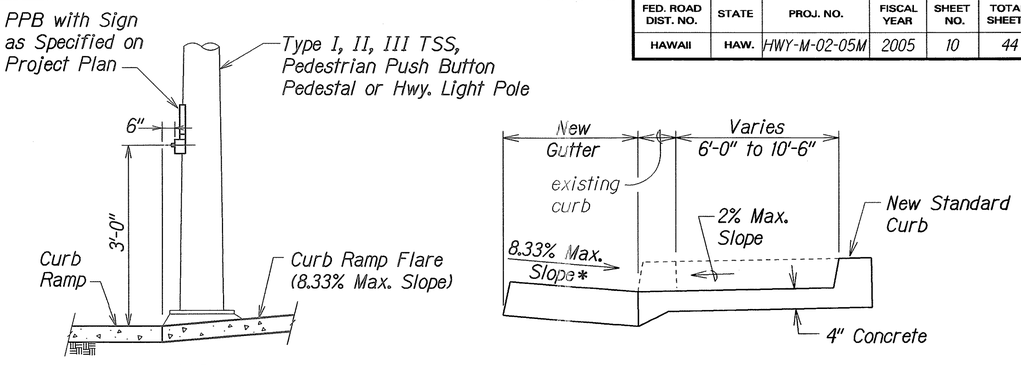
R10-16-00

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	10	44



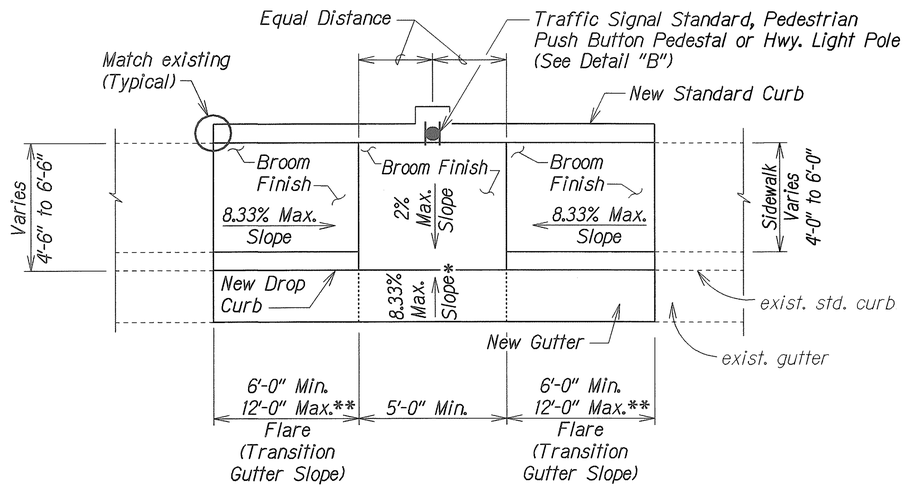
DETAIL "B"

TYPICAL SECTION

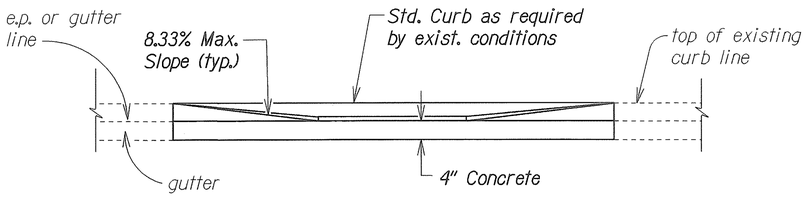


DETAIL "C"

TYPICAL SECTION



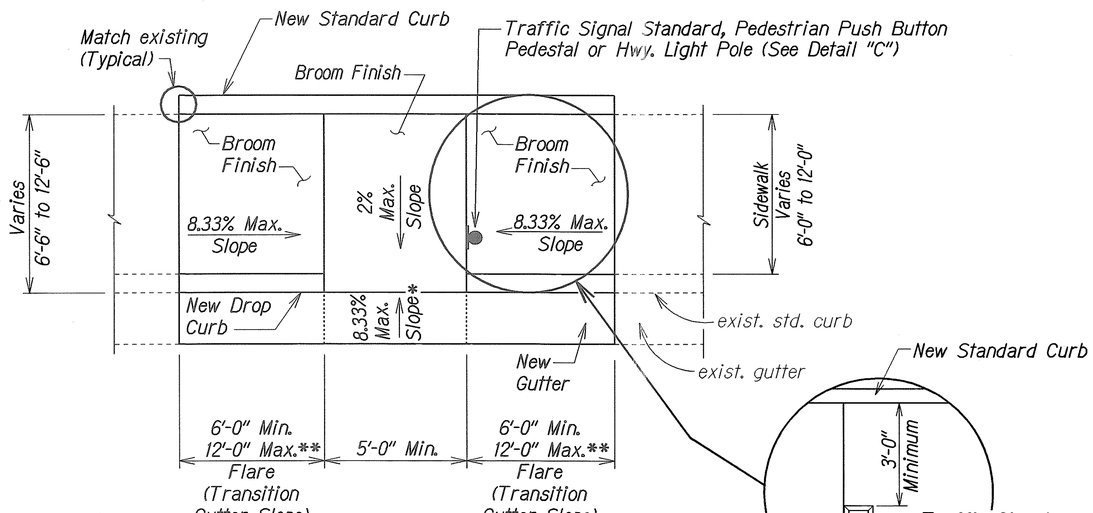
PLAN



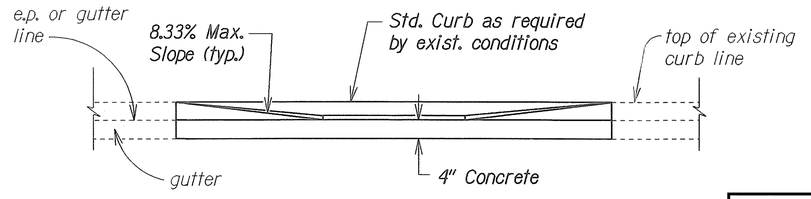
ELEVATION

CURB RAMP - TYPE "B"

SIDEWALK WIDTH 4'-0" OR GREATER BUT LESS THAN 6'-0" WIDTH



PLAN



ELEVATION

CURB RAMP - TYPE "B" MODIFIED

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

* See Curb Ramp and Sidewalk Note No. 9

** 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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

Not to Scale Date: February, 2005

SHEET No. CB-2 OF 6 SHEETS

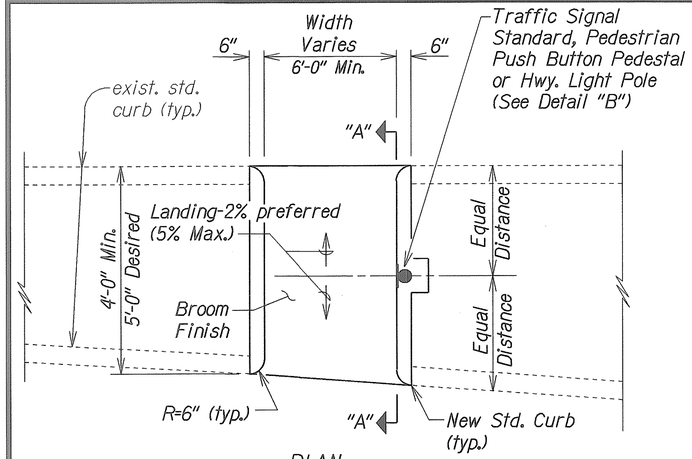
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY X | TRACED BY X | DESIGNED BY X | QUANTITIES BY | CHECKED BY | DATE X | NOTE BOOK | No.

tdl/usr2/traffic/std/curbrampb.dgn

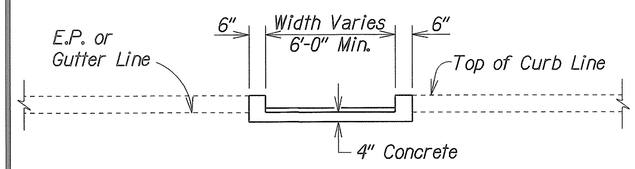
R 02-05-02 TE-69 sht. 3 of 6

R02-05-02

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	11	44



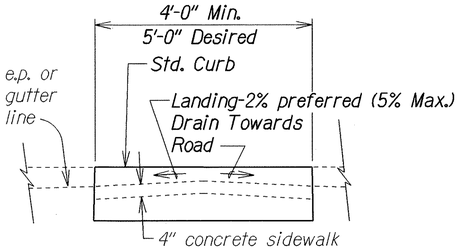
PLAN



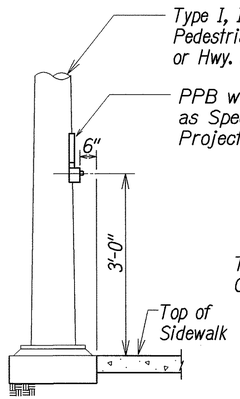
ELEVATION

CURB RAMP - TYPE "C"

USE AT MEDIAN CROSSINGS, ISLANDS



SECTION "A-A"



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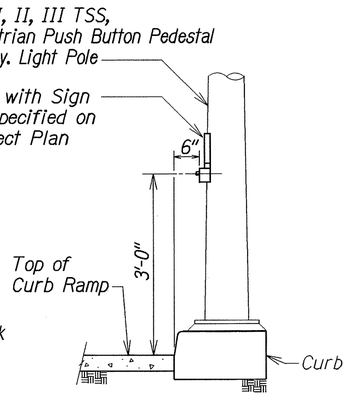

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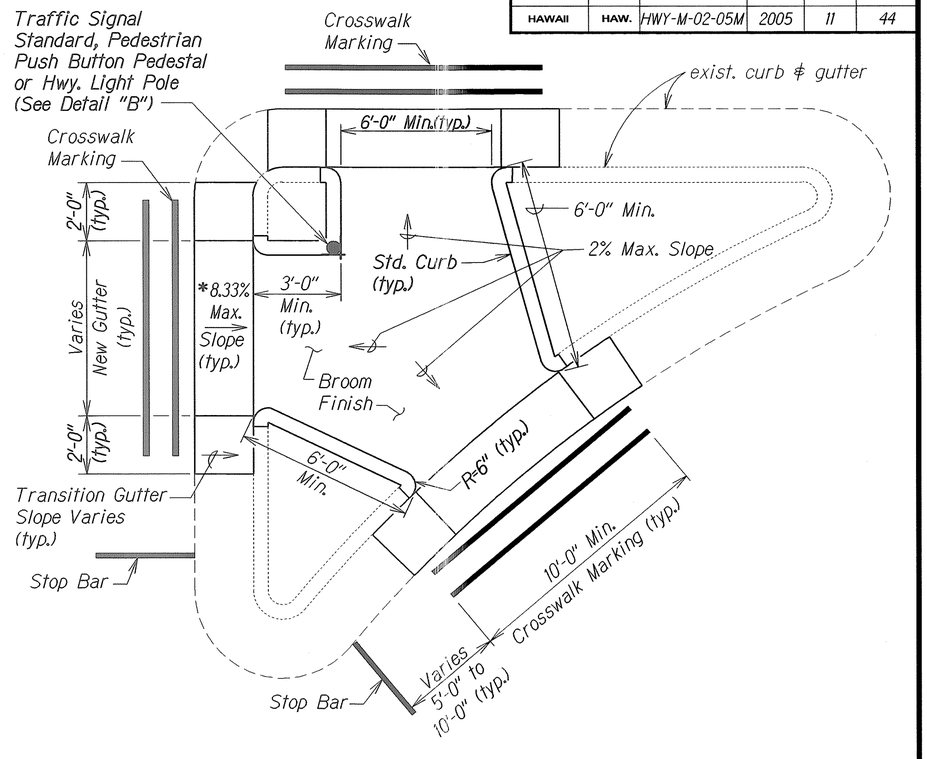

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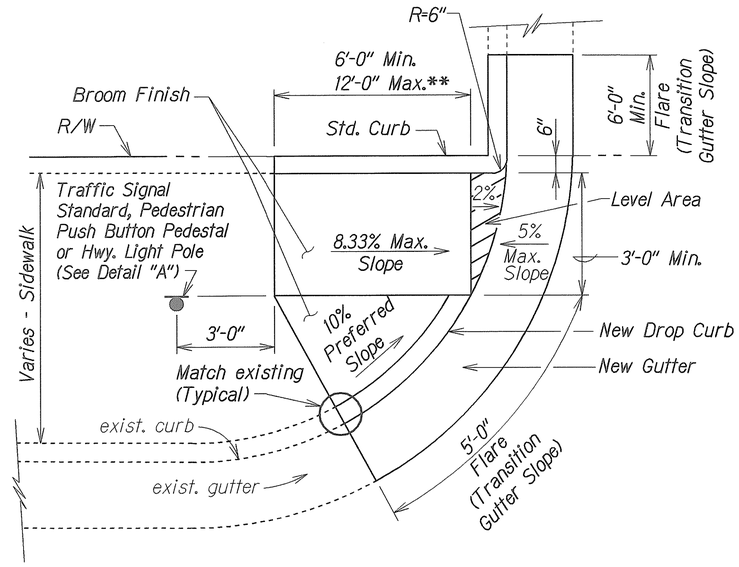
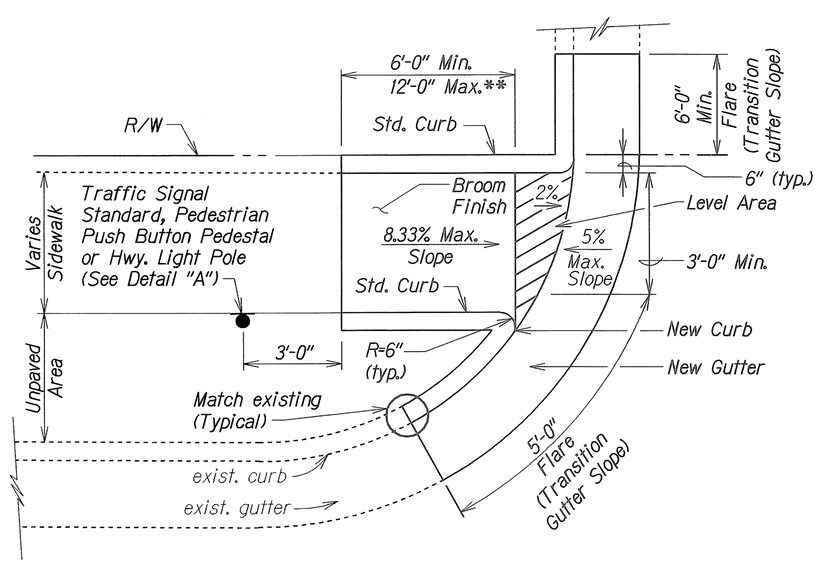


CURB RAMP - TYPE "D"



CURB RAMP - TYPE "D" MODIFIED

* See Curb Ramp and Sidewalk Note No. 9

** 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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

Not to Scale — Date: February, 2005

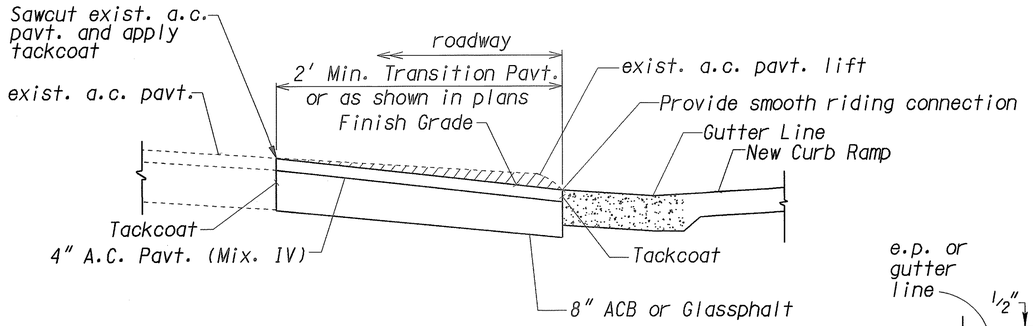
SHEET No. CB-3 OF 6 SHEETS

ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY | TRACED BY | DESIGNED BY | QUANTITIES BY | CHECKED BY | DATE | NOTE BOOK | N=

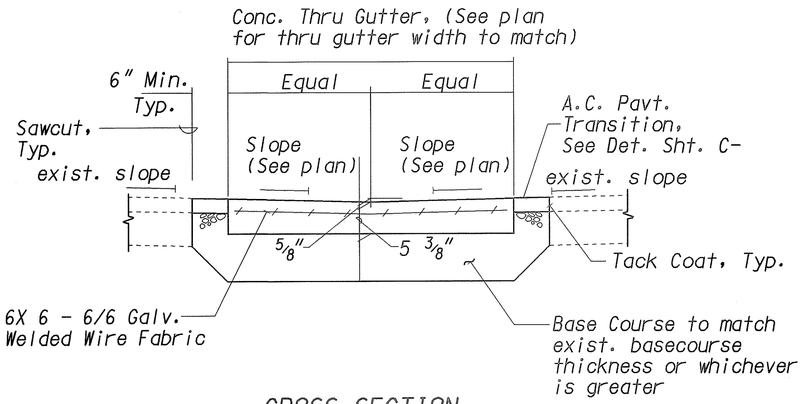
tdl /usr2/traffic/std/curbrampcddgn

R 01-24-02 TE-69 sht. 4 of 6

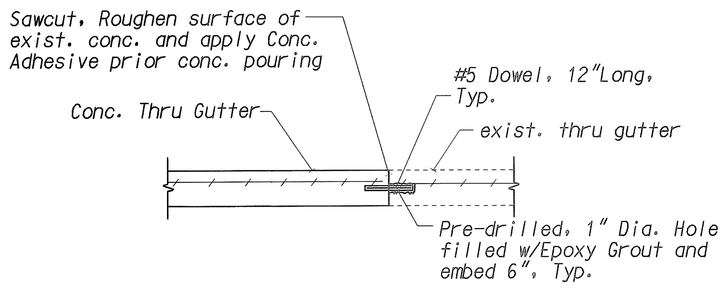
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	12	44



PAVEMENT TRANSITION DETAIL
Not to scale

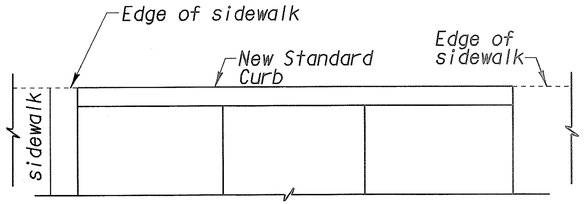


CROSS SECTION

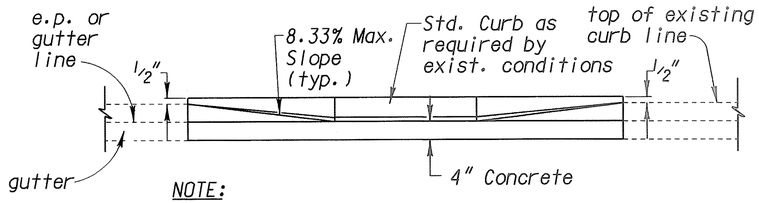


LONGITUDINAL SECTION

CONCRETE THRU GUTTER CONNECTION DETAIL
Not to scale



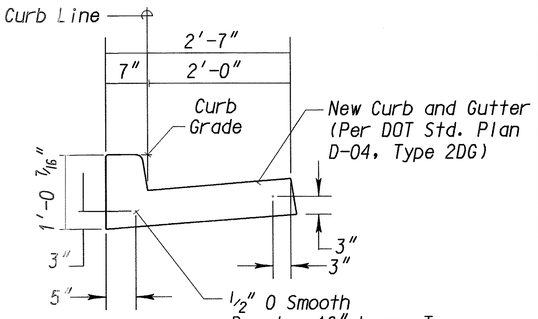
PLAN



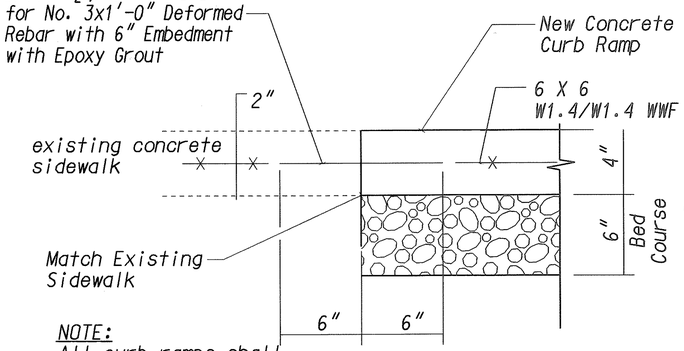
NOTE:
This detail can be used in situations where the edge of sidewalk cannot be flush with the face of (back) curb due to right of way restrictions.

ELEVATION

DETAIL - BACK CURB
Not to scale

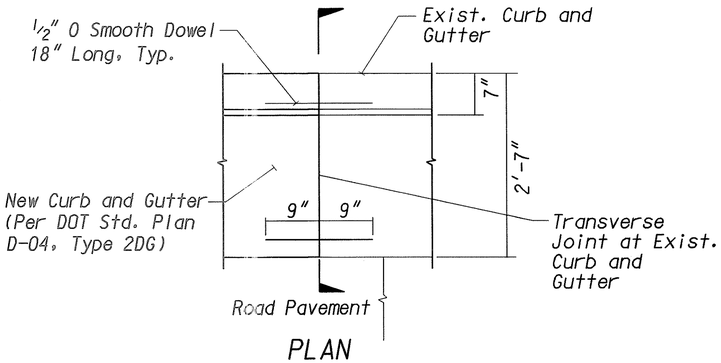


SECTION
SCALE: 1" = 1'-0"



NOTE:
All curb ramps shall be reinforced.

TYPICAL CONSTRUCTION JOINT AT EXISTING SIDEWALK
Not to scale



PLAN
SCALE: 1" = 1'-0"

CURB AND GUTTER CONNECTION
Not to scale

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE 3/05
	DRAWN BY	
NOTE BOOK	TRACED BY	
	DESIGNED BY X	
	QUANTITIES BY	
	CHECKED BY	

REDUCED PLAN
(HALF SIZE)
0 1 2 3
0 1/2 1 1/2 2 2 1/2 3
INCHES OF ORIGINAL PLAN

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

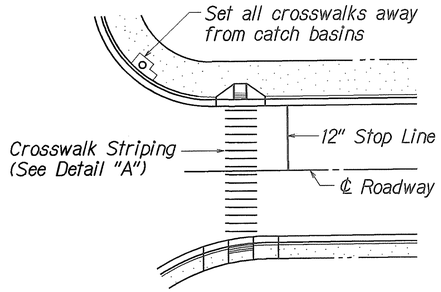
MISCELLANEOUS DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

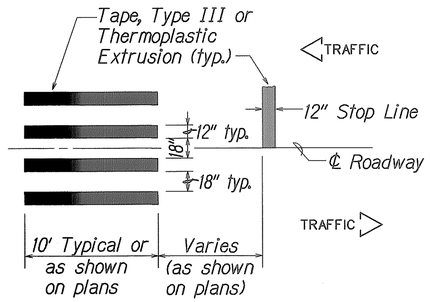
Scale: As Shown Date: February, 2005

SHEET No. CB-4 OF 6 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	13	44



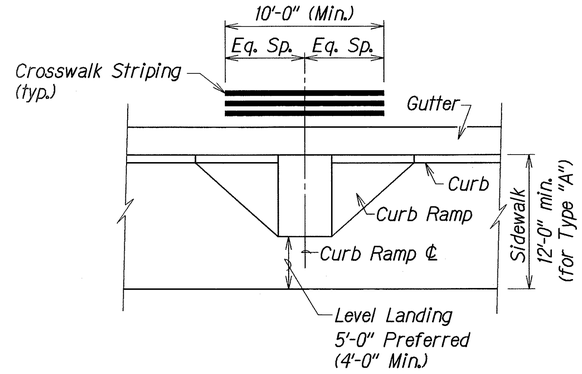
PLAN



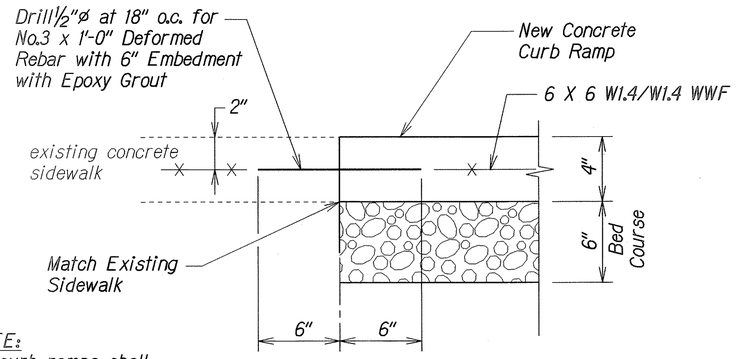
DETAIL "A"

CROSSWALK STRIPING DETAIL

NOTE:
Longitudinal lines shall be parallel to traffic flow.

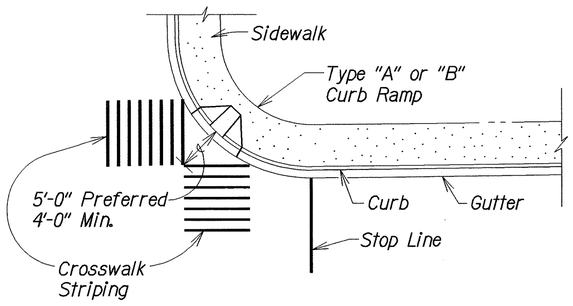


TYPICAL CROSSWALK STRIPING AT CURB RAMP

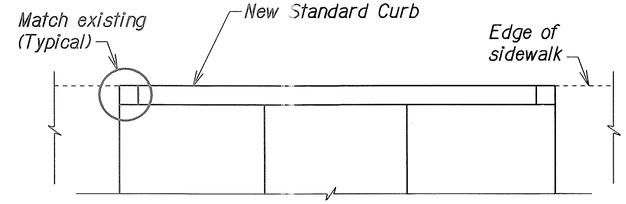


NOTE:
All curb ramps shall be reinforced.

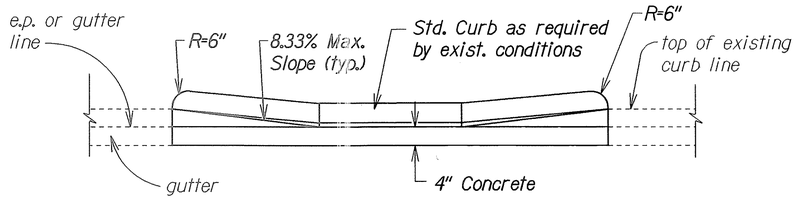
TYPICAL CONSTRUCTION JOINT AT EXISTING SIDEWALK



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.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

MISCELLANEOUS DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

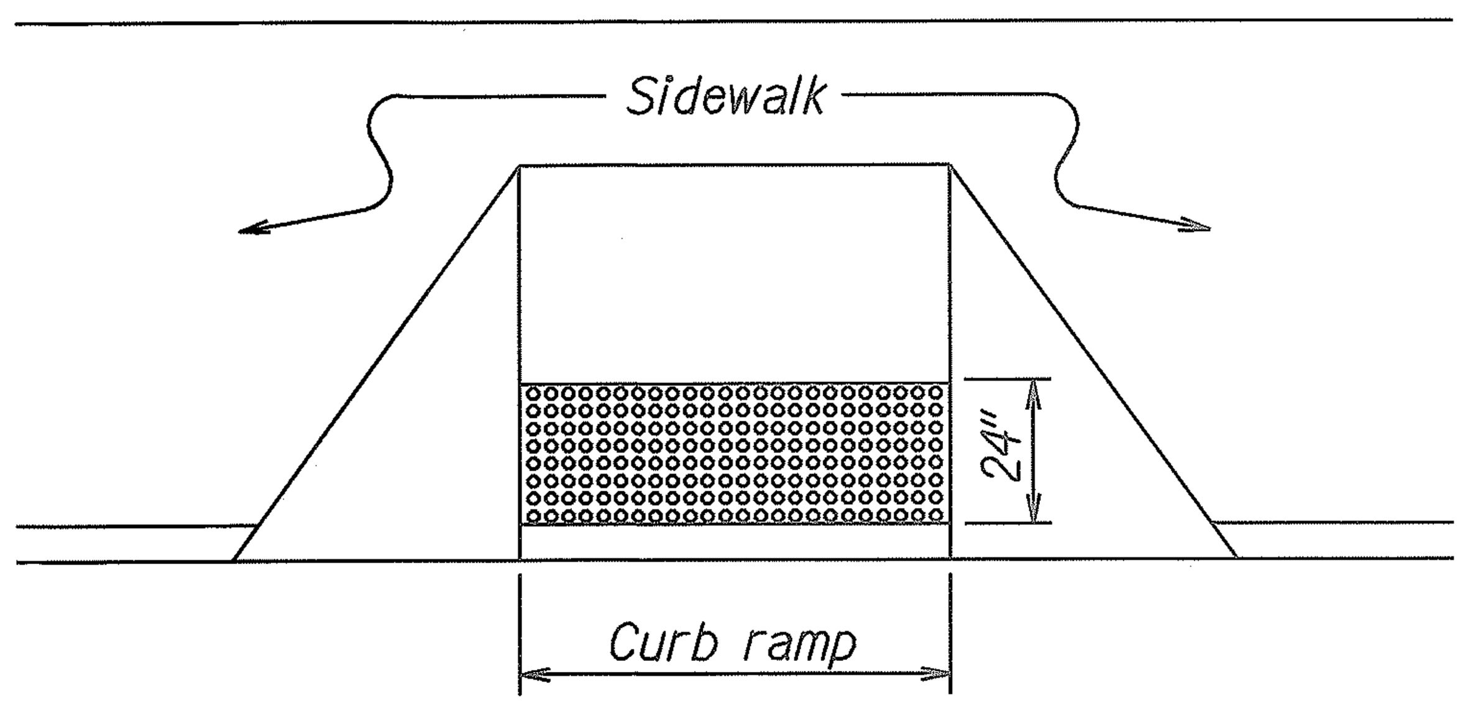
Not to Scale — Date: February, 2005

SHEET No. CB-5 OF 6 SHEETS

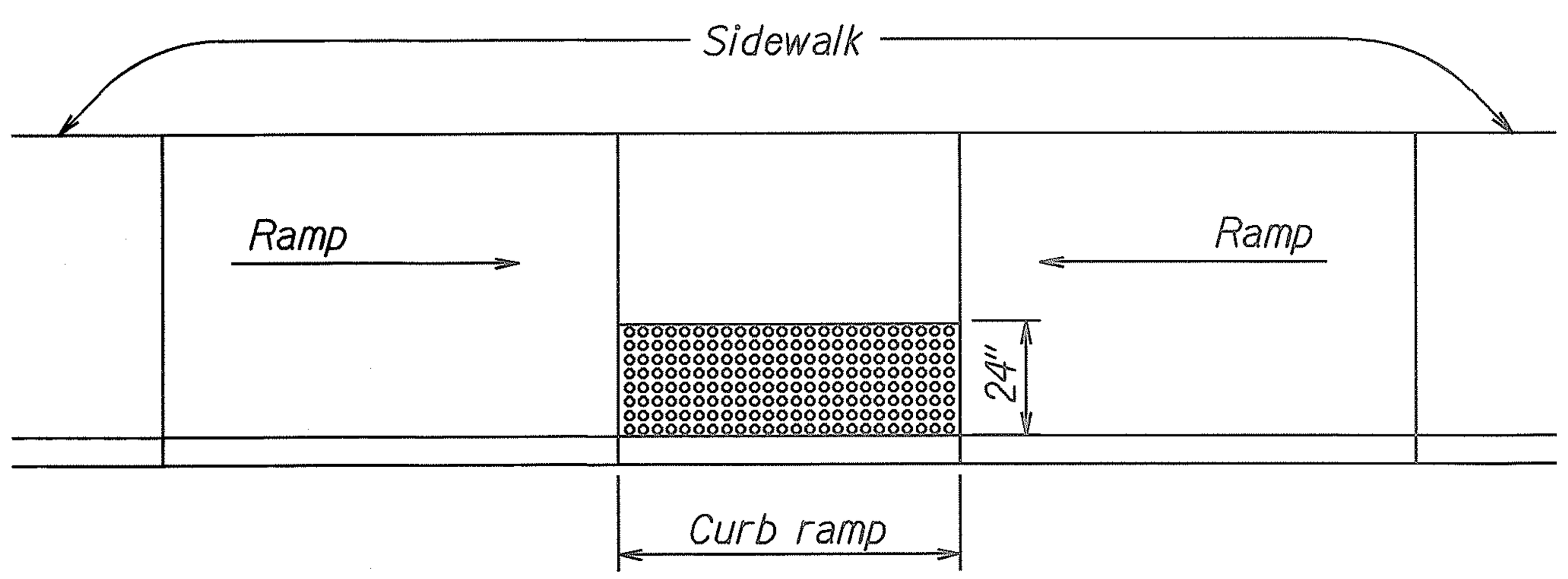
ORIGINAL PLAN | SURVEY PLOTTED BY | DRAWN BY X | TRACED BY | DESIGNED BY X | QUANTITIES BY | CHECKED BY | DATE X | NOTE BOOK | No.

tdl/usr2/traffic/std/curbrampmiscdgn
R 08-22-03 TE-XX sht. 6 of 8

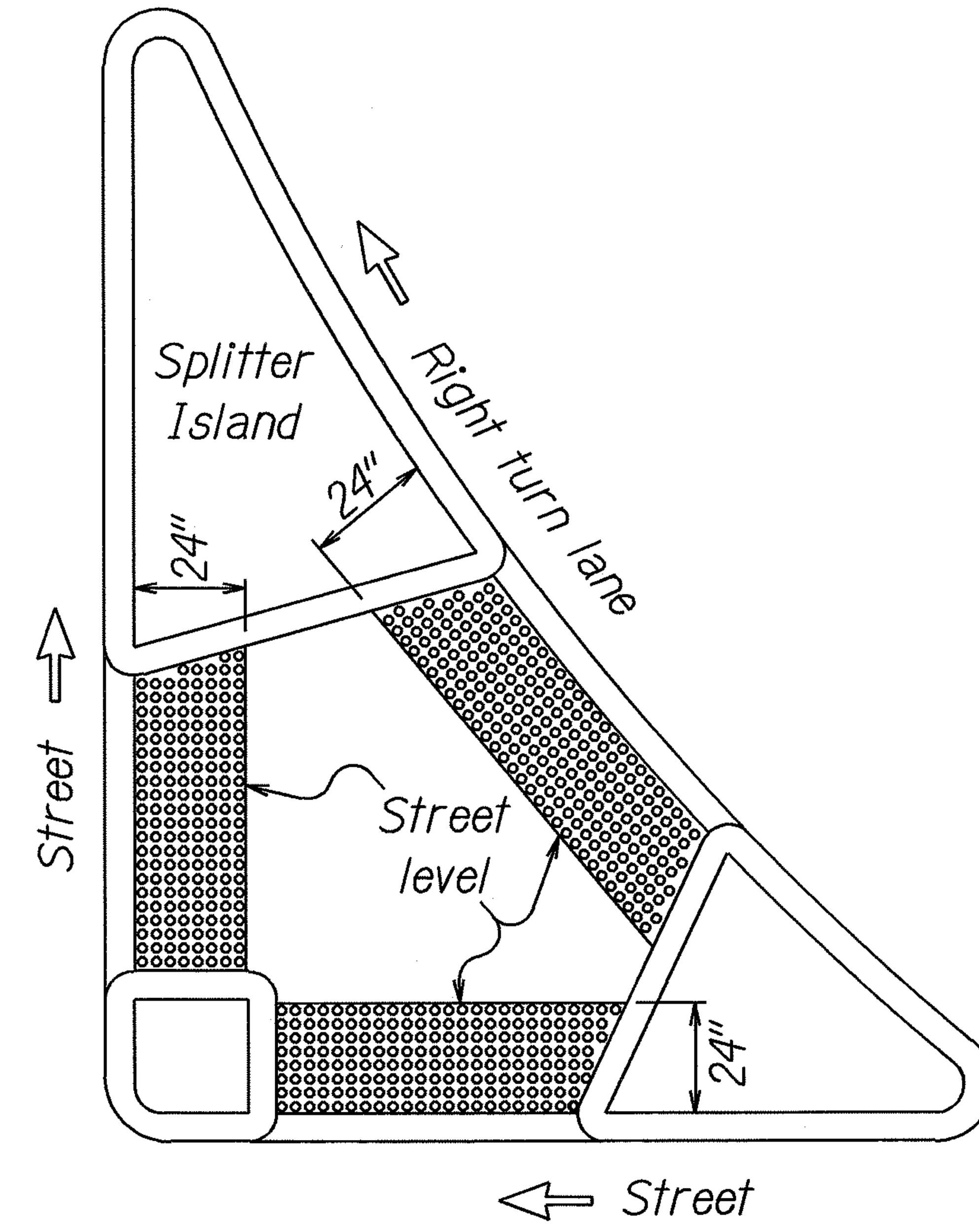
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-02-05M	2005	14	44



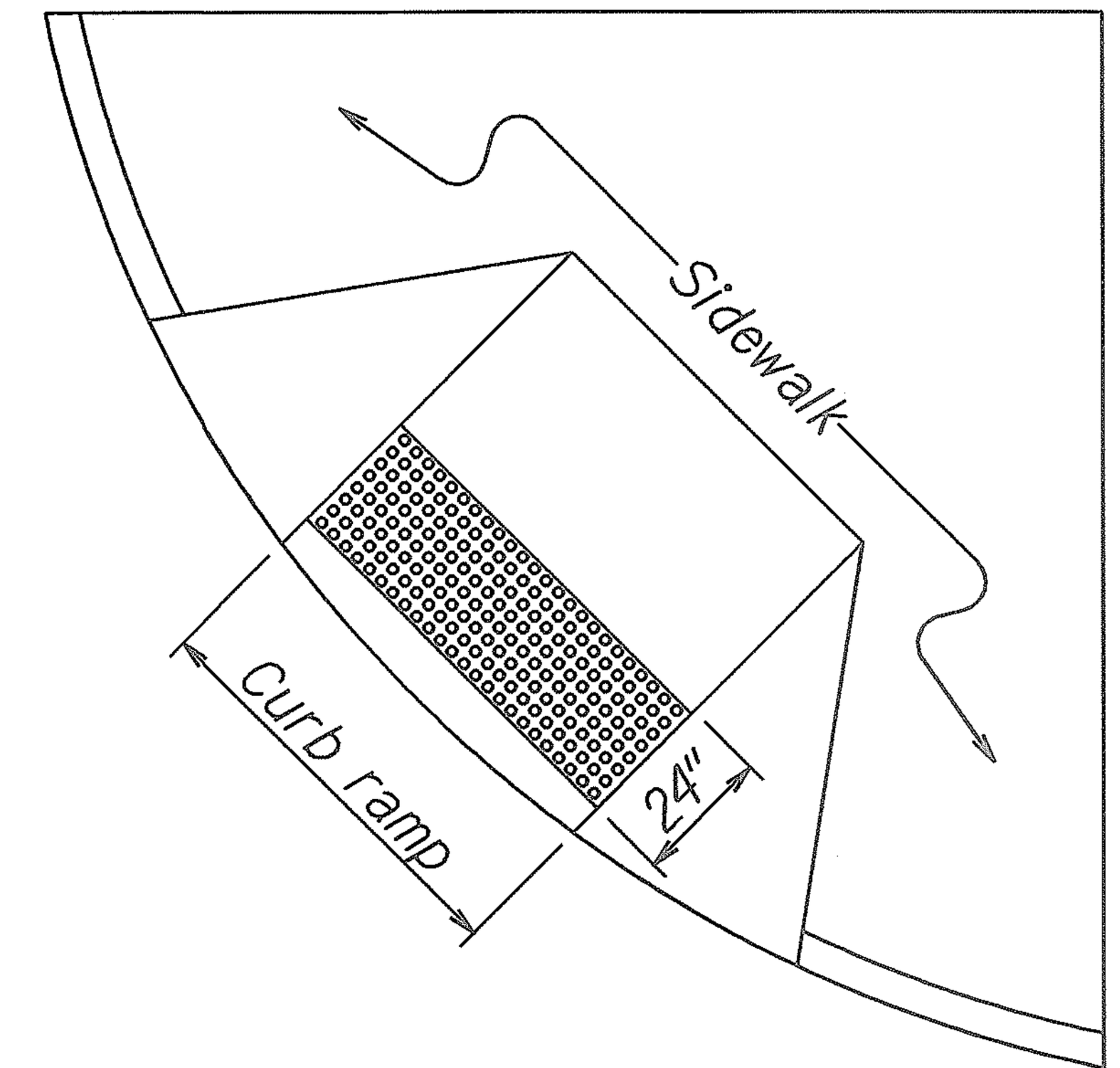
DETECTABLE WARNING AT CURB RAMP



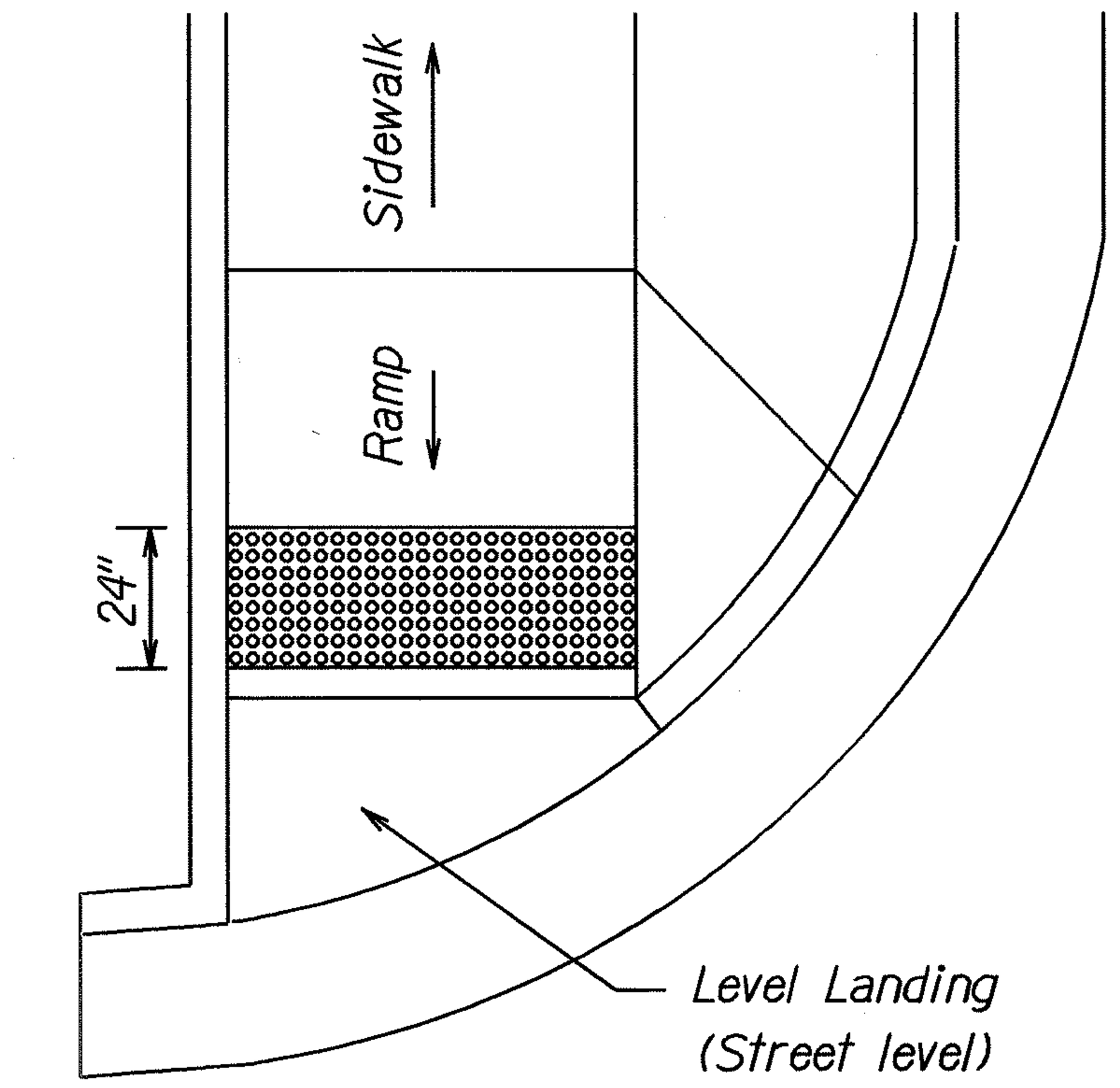
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



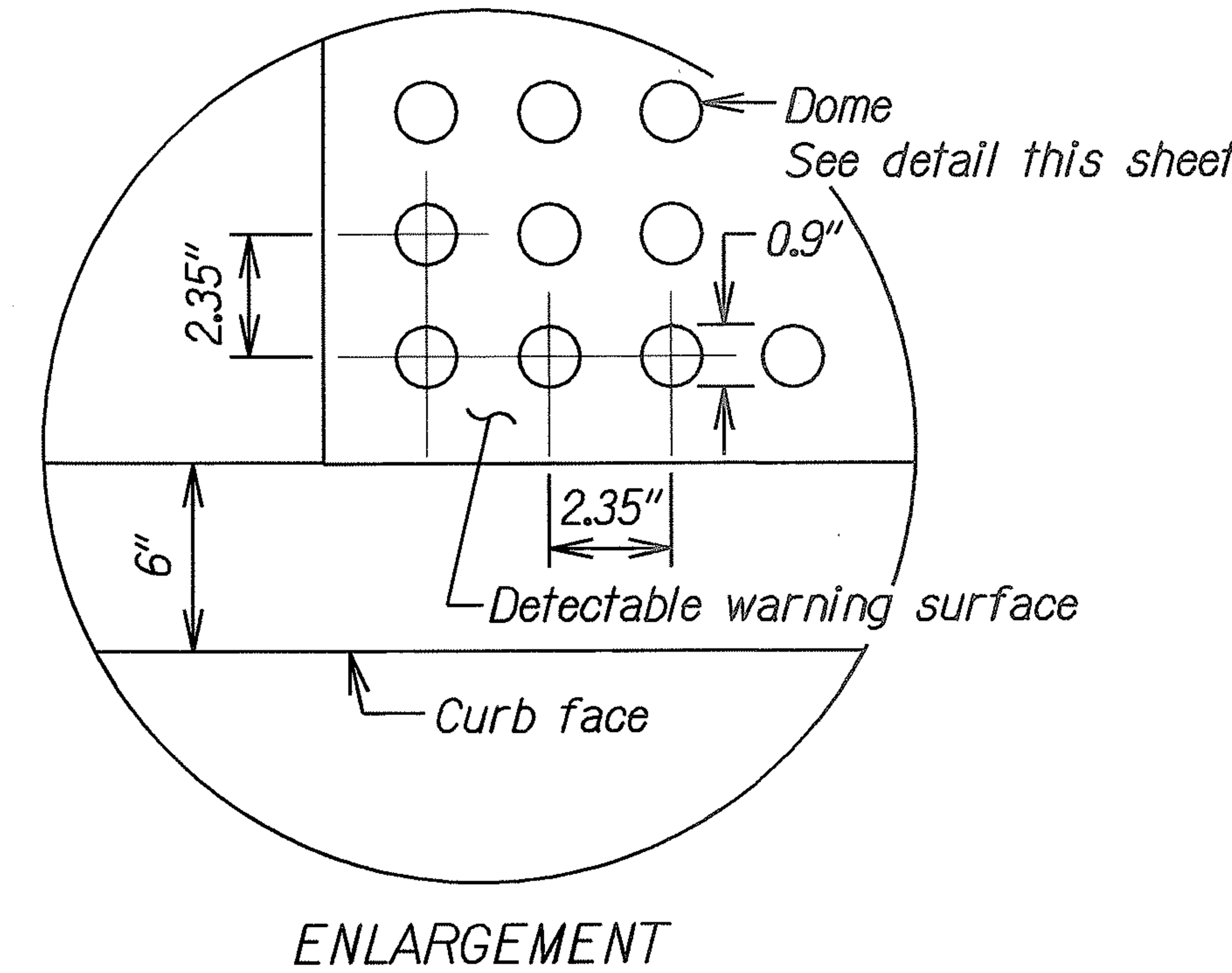
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

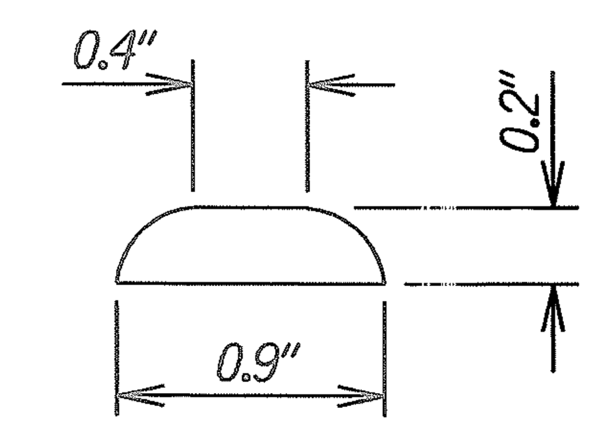
Not to Scale

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 inch at the bottom, a diameter of 0.4 inch at the top, a height of 0.2 inch and a center-to-center spacing of 2.35 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



DOME SECTION

DETECTABLE WARNING DETAIL

Not to Scale

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETECTABLE WARNING DETAILS

CURB RAMP REPAIRS AT VARIOUS LOCATIONS, MAUI
Project No. HWY-M-02-05M

Scale: As Shown Date: February, 2005

SHEET No. CB-6 OF 6 SHEETS