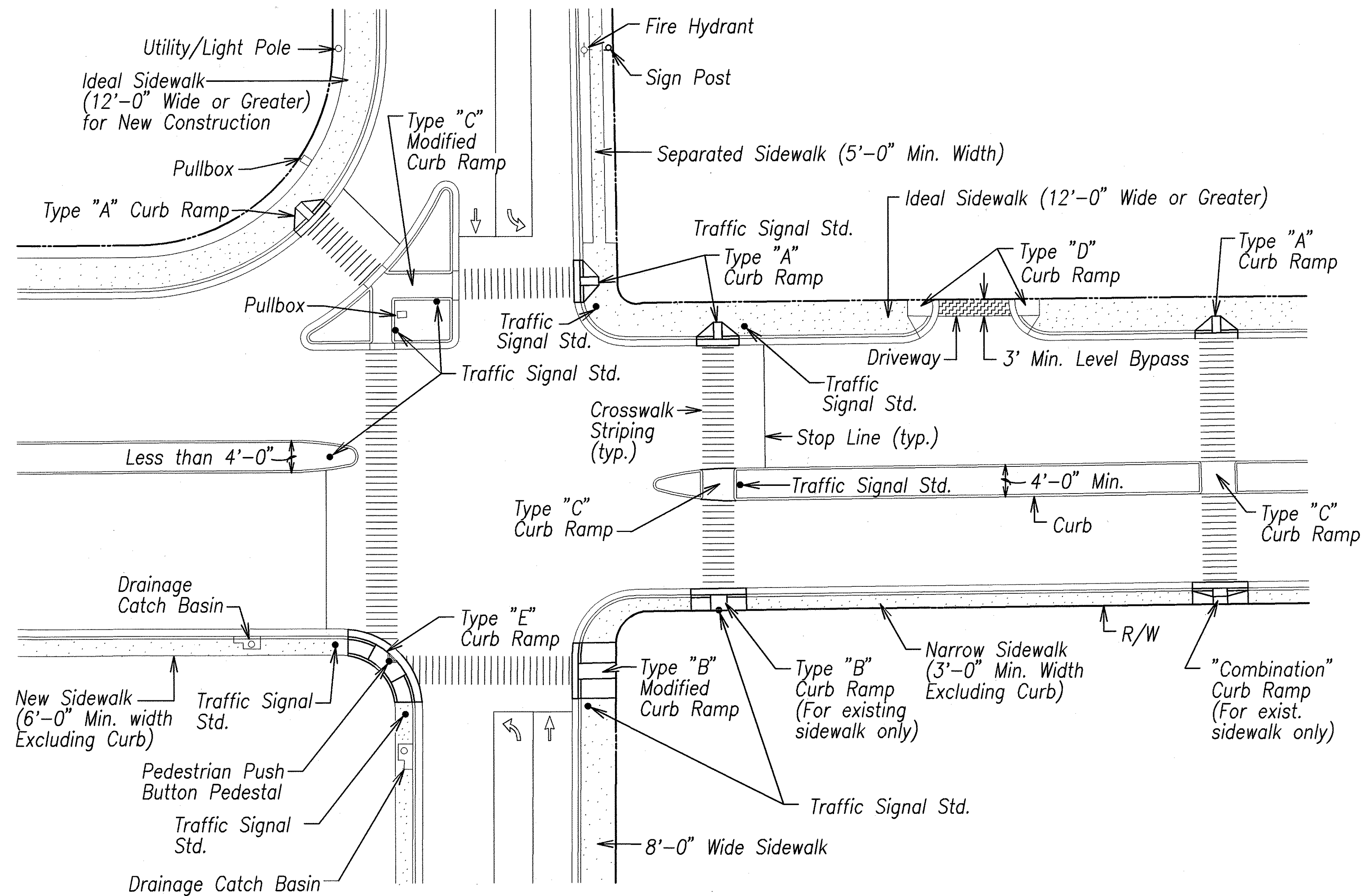


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	19	171



TYPICAL CURB RAMPS

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

Signature: [Signature] April 30, 2006  
 Date: [Date]

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

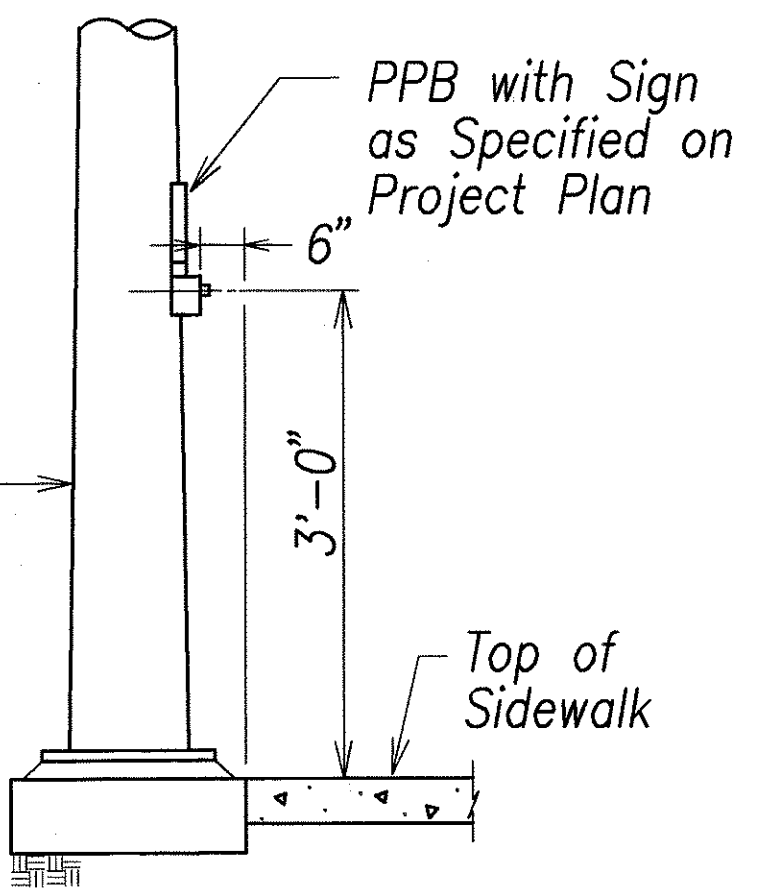
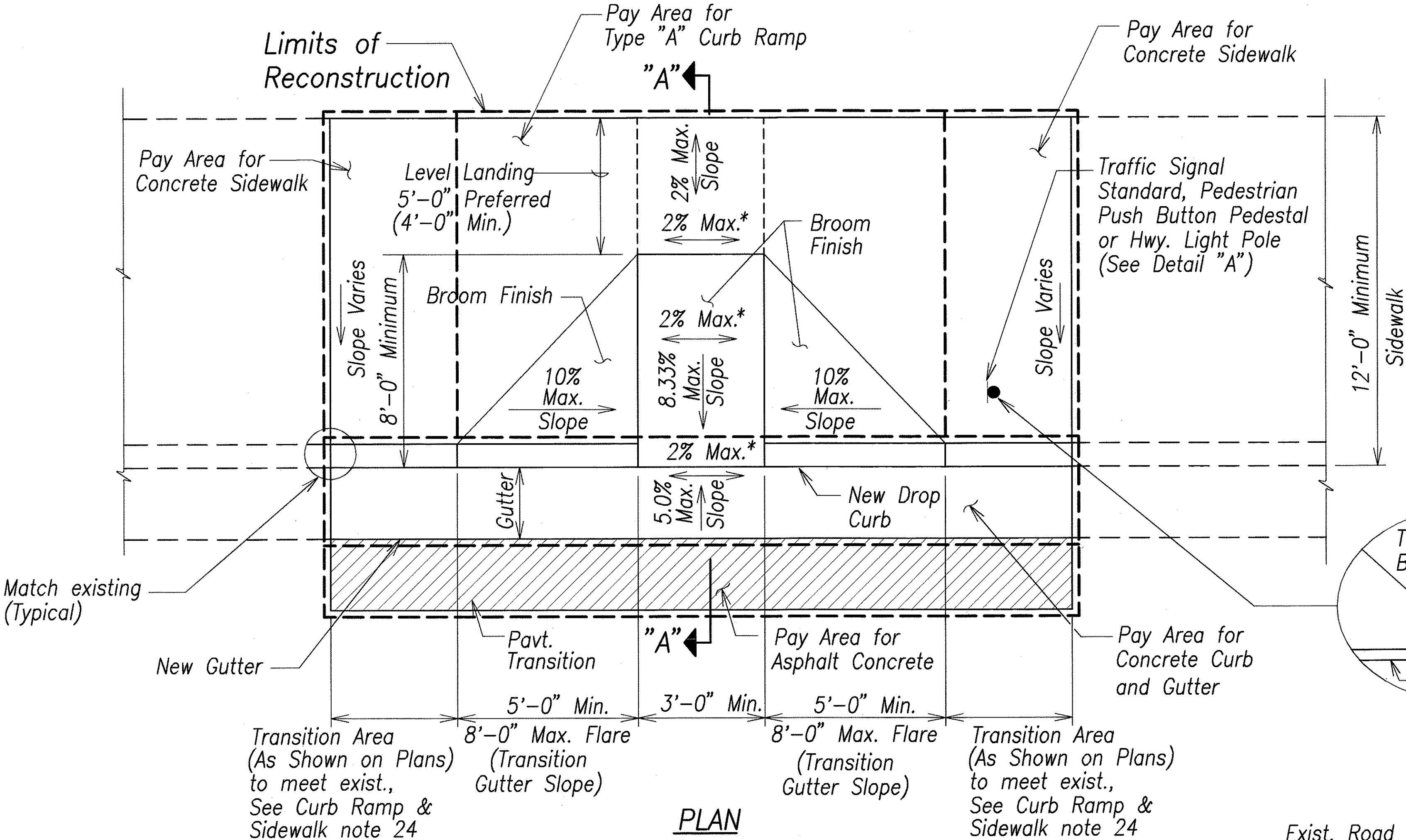
STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

**TYPICAL CURB RAMP LAYOUT**  
 Pedestrian Facilities & ADA Compliance  
 at Various Locations on Oahu, Unit 2  
 Fed. Aid Proj. No. CMAQ-0300(93)

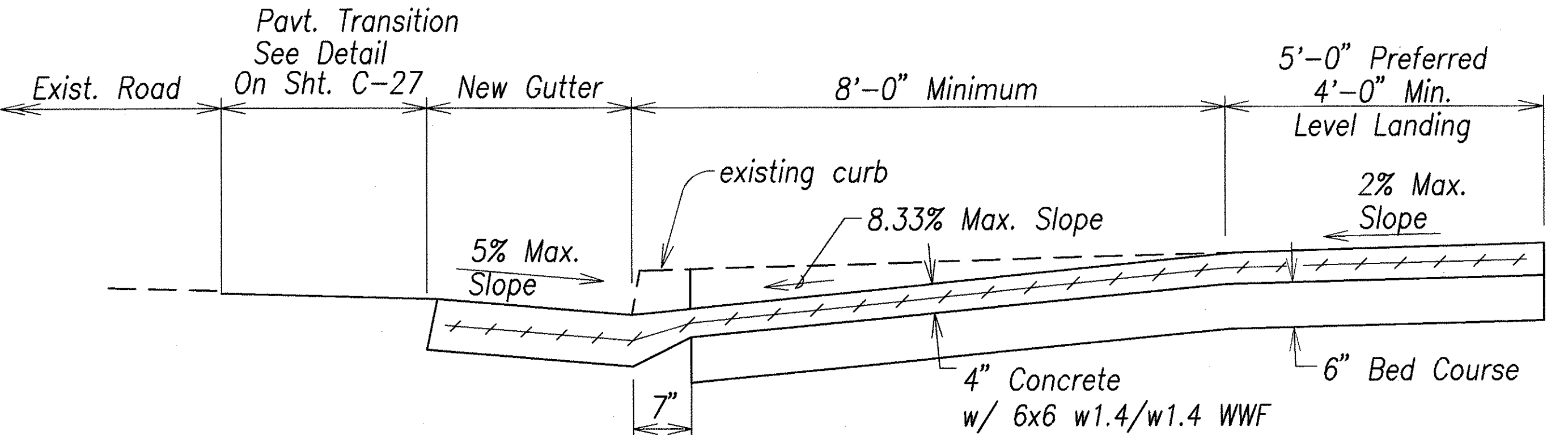
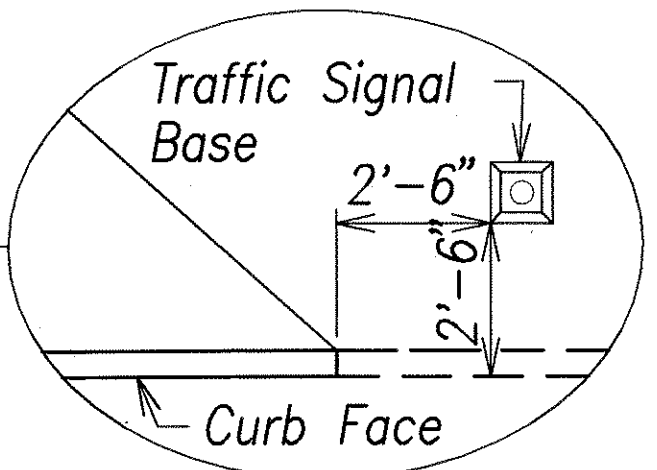
Scale: None Date: September 2004

SHEET No. C-18 OF 126 SHEETS

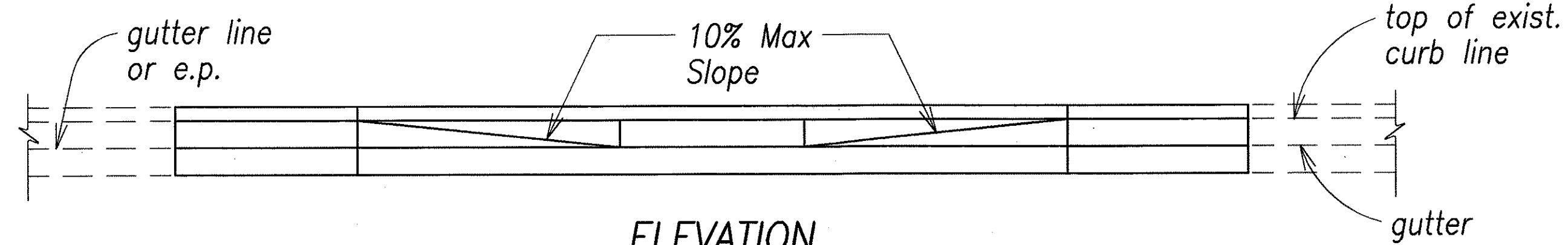
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	20	171



DETAIL "A"



SECTION "A-A"



ELEVATION

CURB RAMP - TYPE "A"  
SIDEWALK WIDTH 12'-0" OR GREATER

\* If roadway slope >2% conform to roadway slope and file a Technical Infeasibility (TI) Statement

DATE	_____
SURVEY PLOTTED BY	_____
DESIGNED BY	_____
NOTED BY	_____
CHECKED BY	_____
ORIGINAL PLAN	_____
NOTE BOOK	_____
No.	_____



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
 SIGNATURE: *Greg H. Hiyakimoto* April 30, 2006  
 EXP. DATE: \_\_\_\_\_  
 "OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

CURB RAMP DETAILS - 1

Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 2

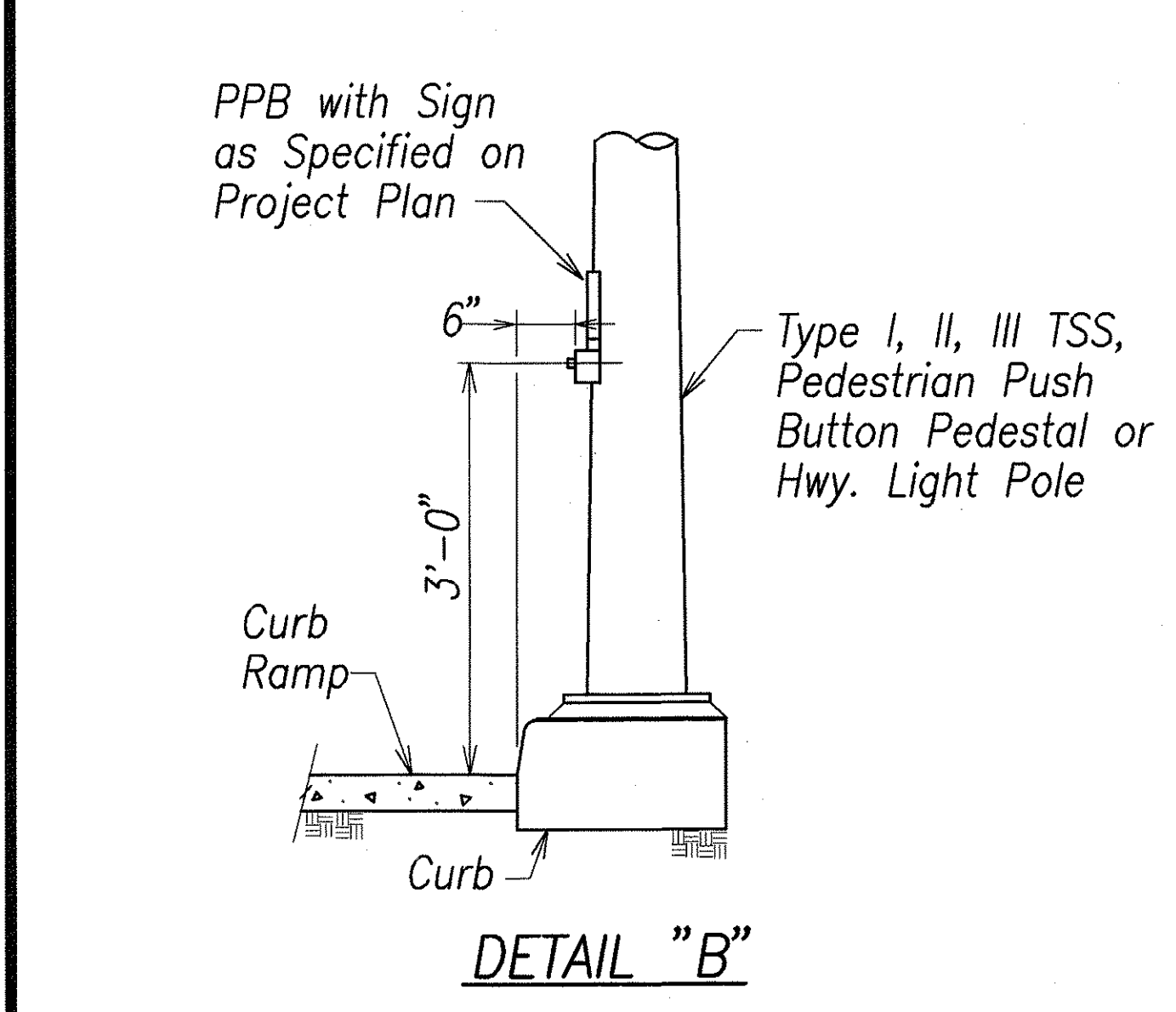
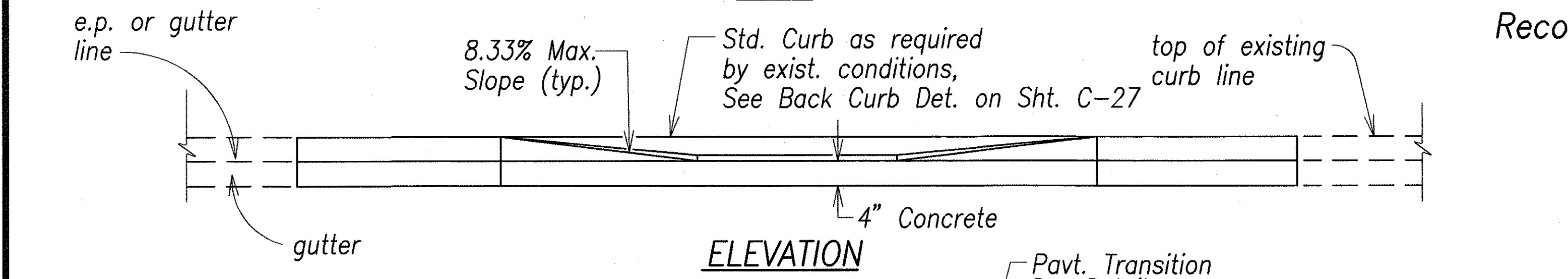
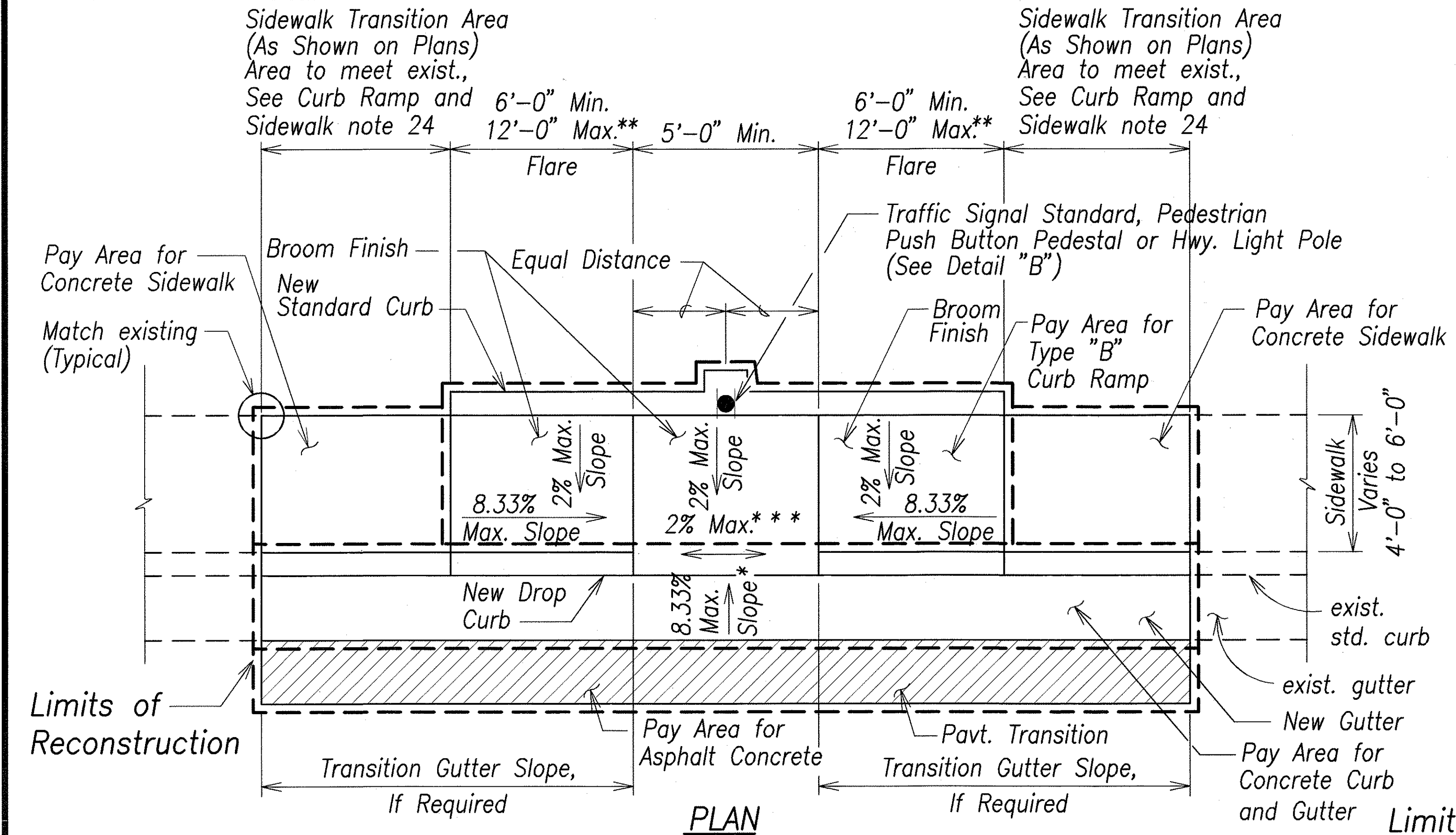
Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None

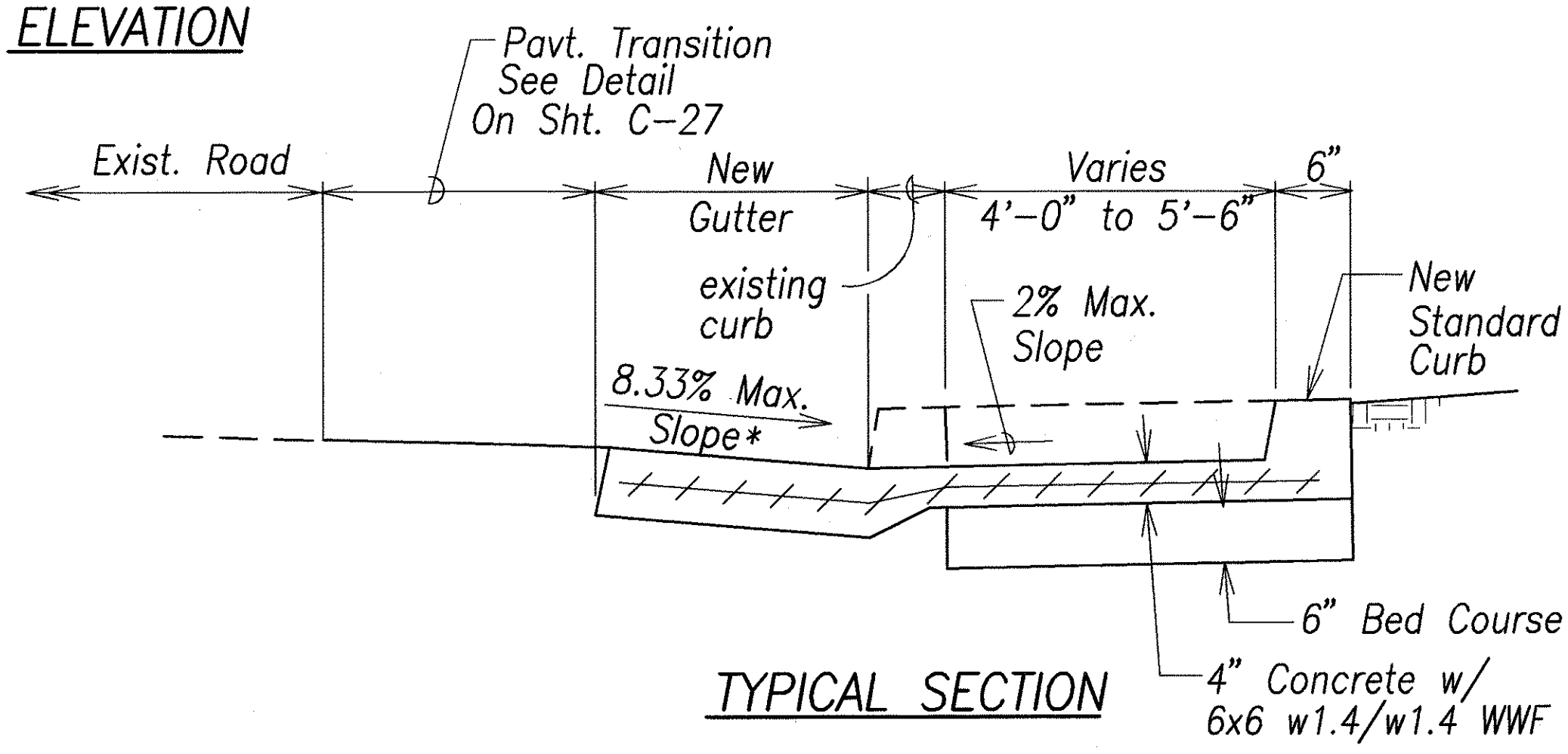
Date: September 2004

SHEET No. C-19 OF 126 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	21	171

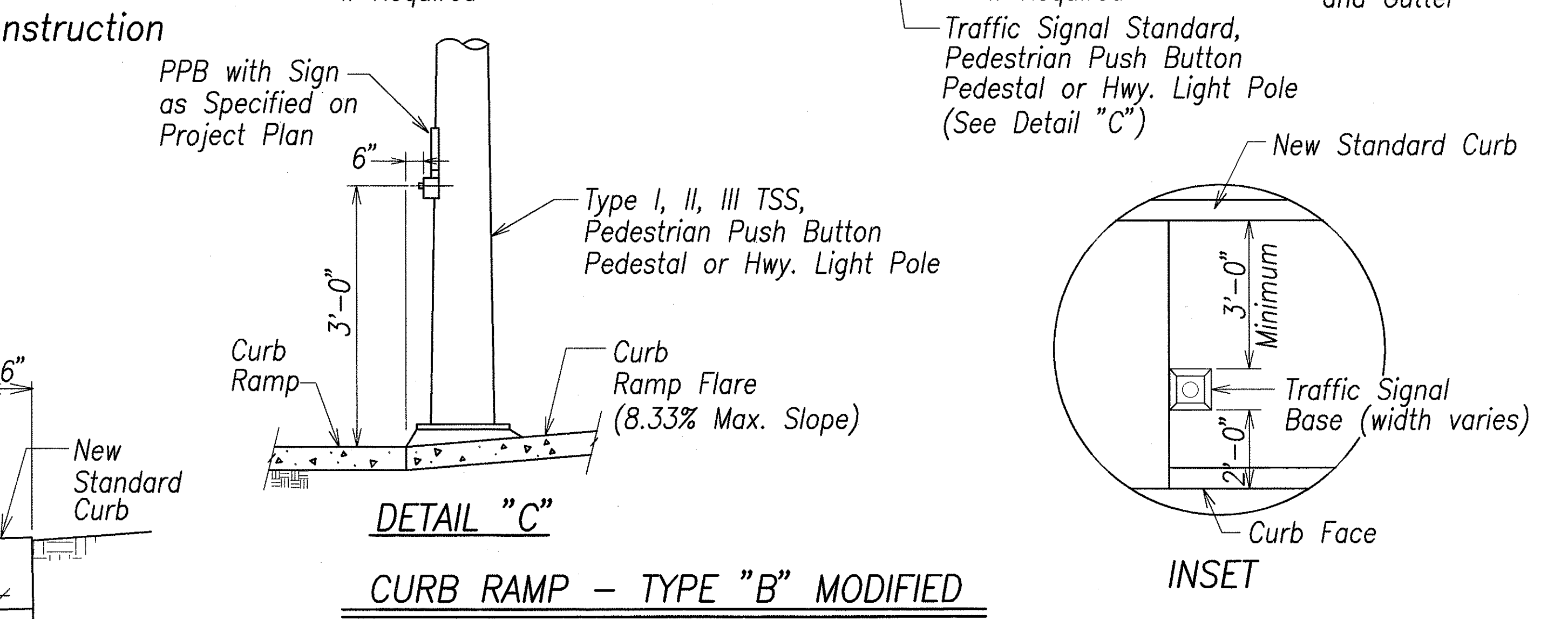
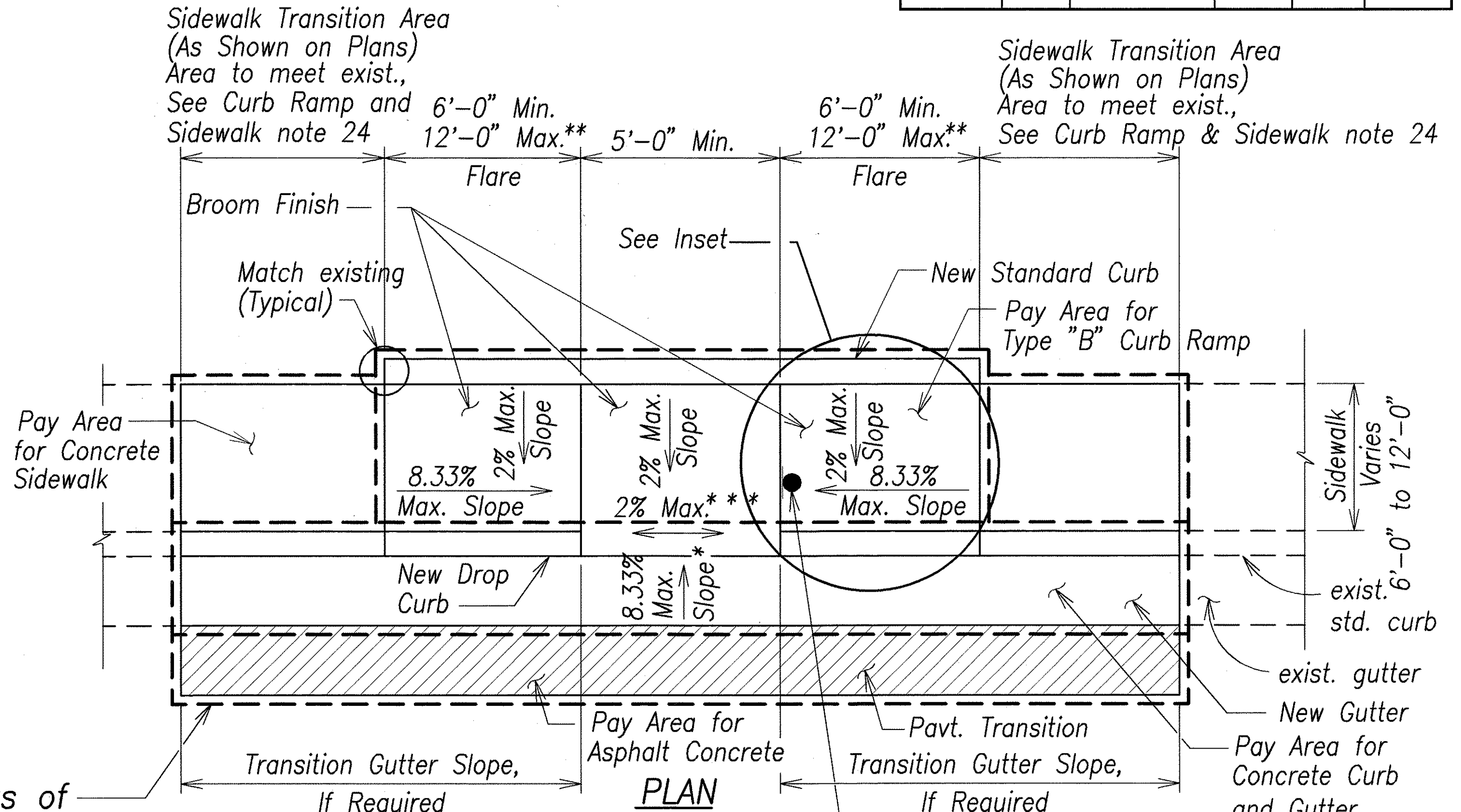


**CURB RAMP - TYPE "B"**  
SIDEWALK WIDTH 4'-0" OR GREATER  
BUT LESS THAN 6'-0" WIDTH



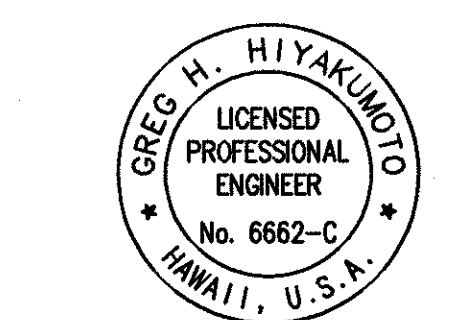
**TYPICAL SECTION**

- \* 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.
- \*\*\* If roadway slope >2% conform to roadway slope and file a Technical Infeasibility (TI) Statement



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

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
SIGNATURE: [Signature] DATE: April 30, 2006  
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

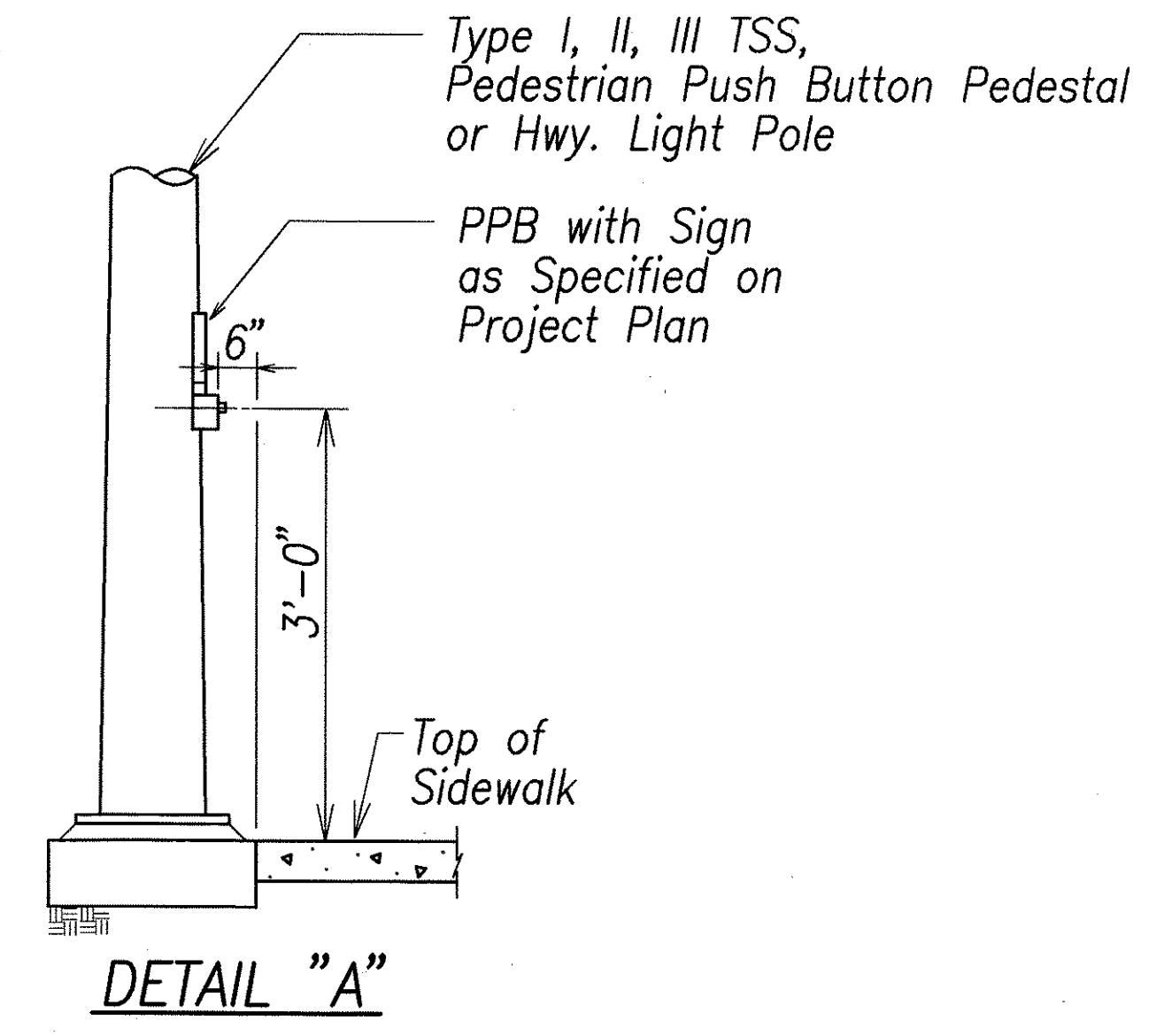
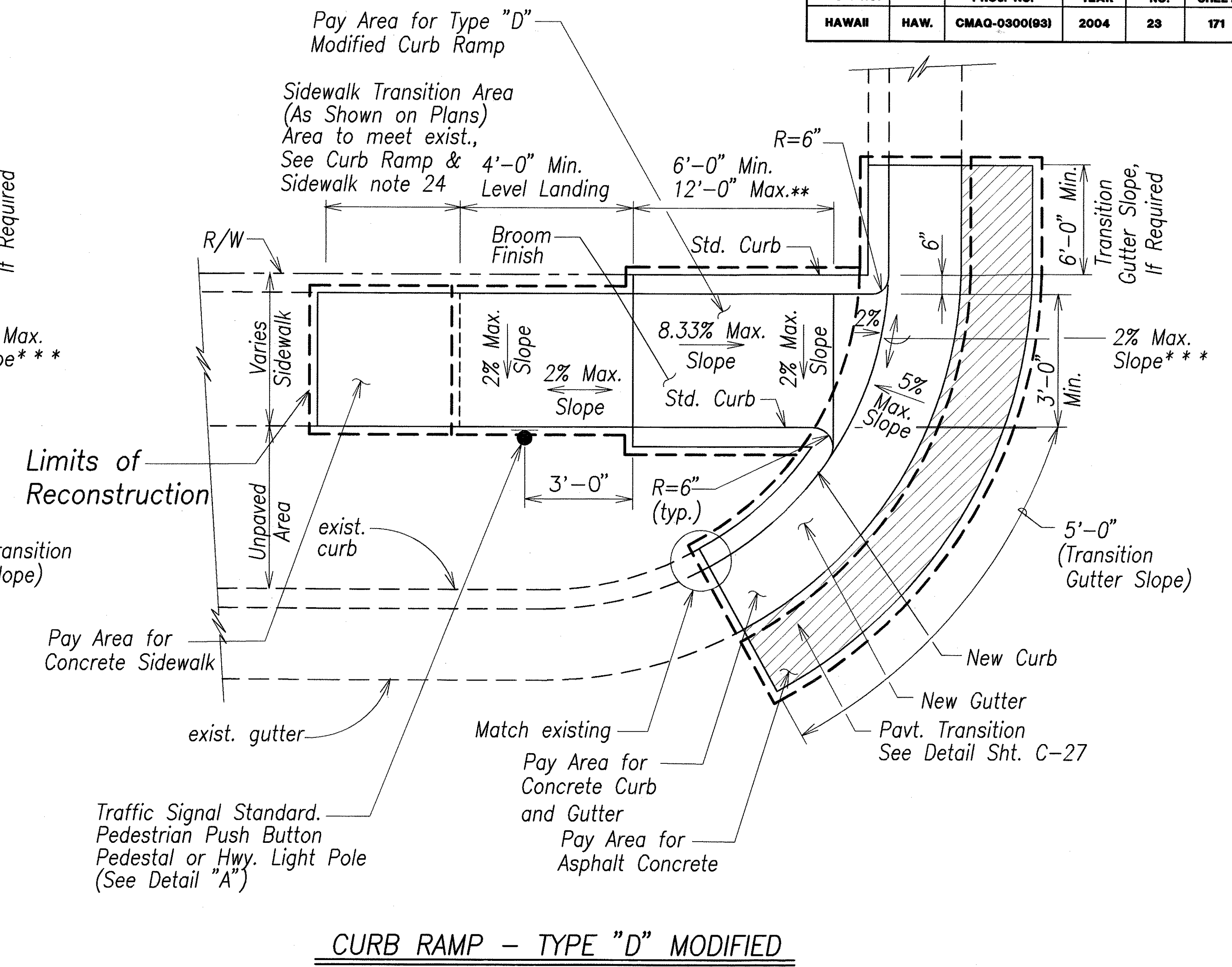
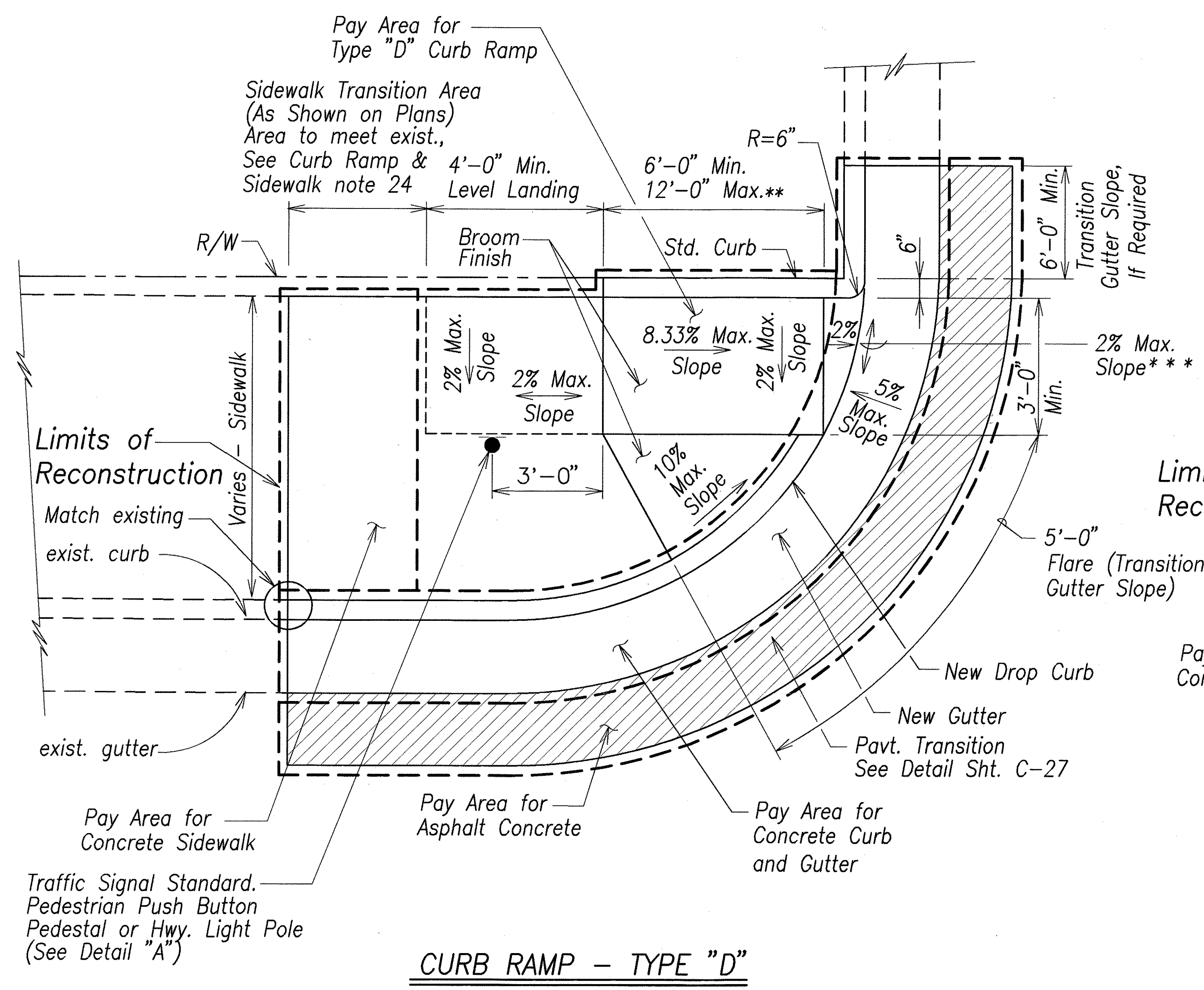
**CURB RAMP DETAILS - 2**  
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 2  
Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None Date: September 2004  
SHEET No. C-20 OF 126 SHEETS





FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	23	171



- \* 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.
- \*\*\* If roadway slope >2% conform to roadway slope and file a Technical Infeasibility (TI) Statement

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

GREG H. HIYAKUMOTO  
 LICENSED PROFESSIONAL ENGINEER  
 No. 6662-C  
 HAWAII, U.S.A.  
 THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
 SIGNATURE *Greg H. Hiyakumoto* April 30, 2008  
 EXP. DATE  
 "OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII

DEPARTMENT OF TRANSPORTATION

HIGHWAYS DIVISION

CURB RAMP DETAILS - 4

Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 2

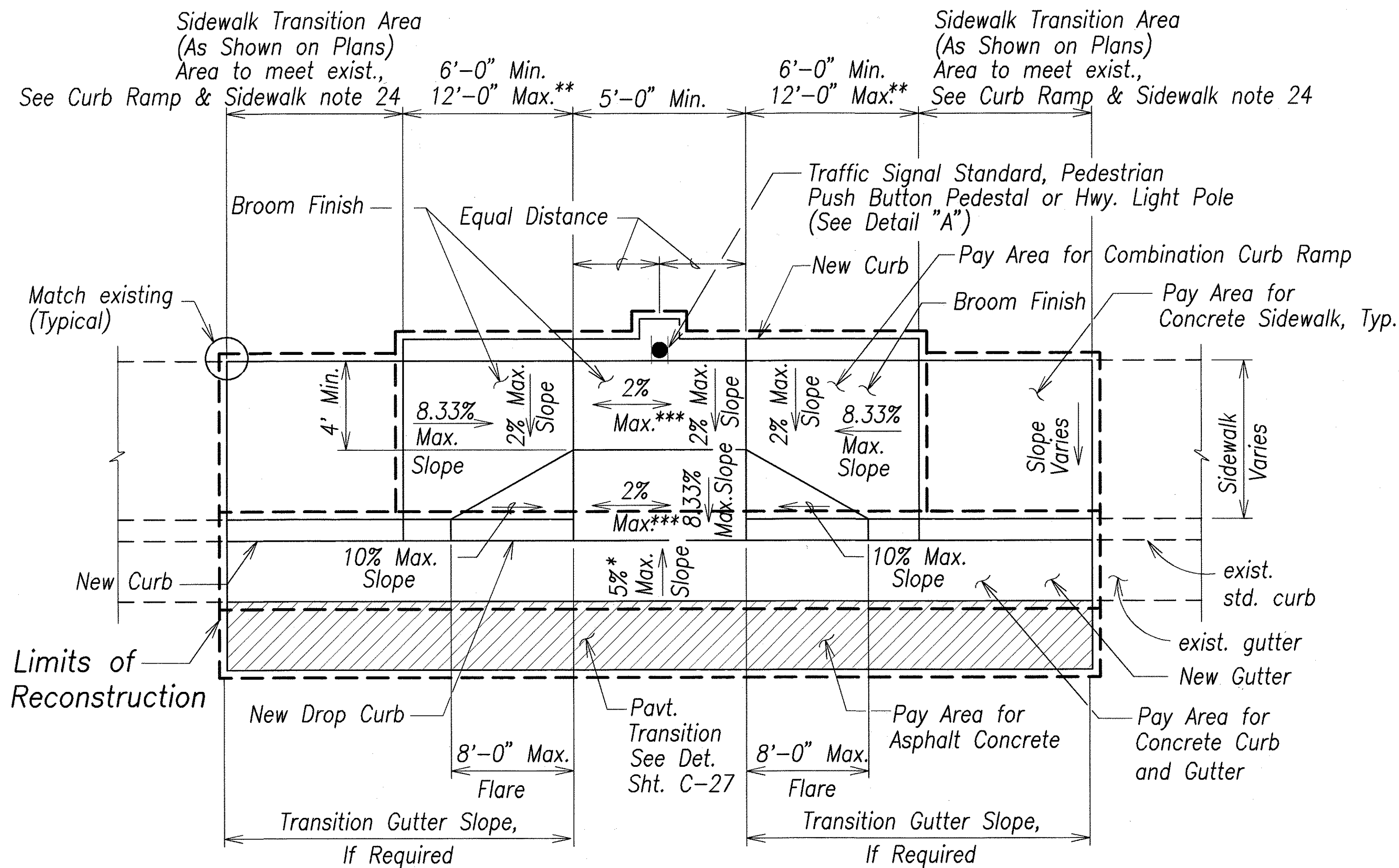
Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None Date: September 2004

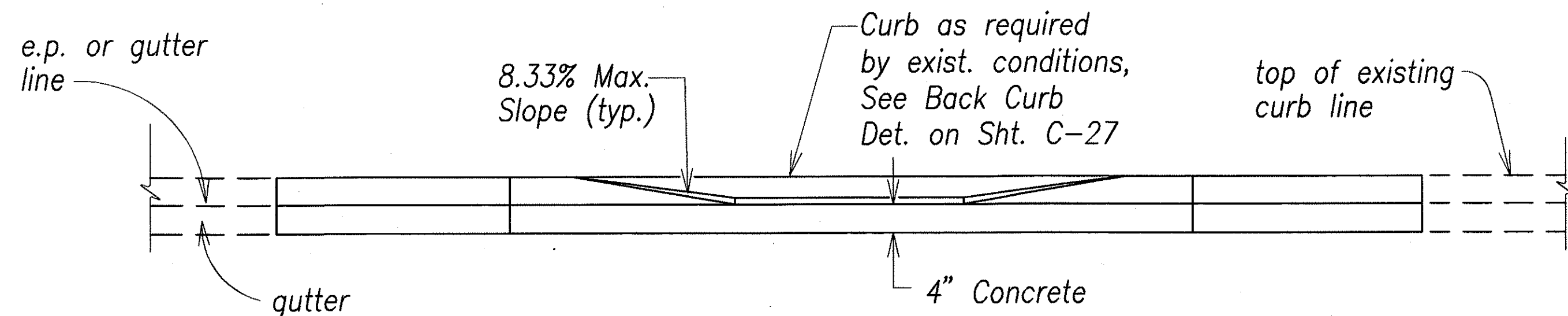
SHEET No. C-22 OF 126 SHEETS

23

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	24	171



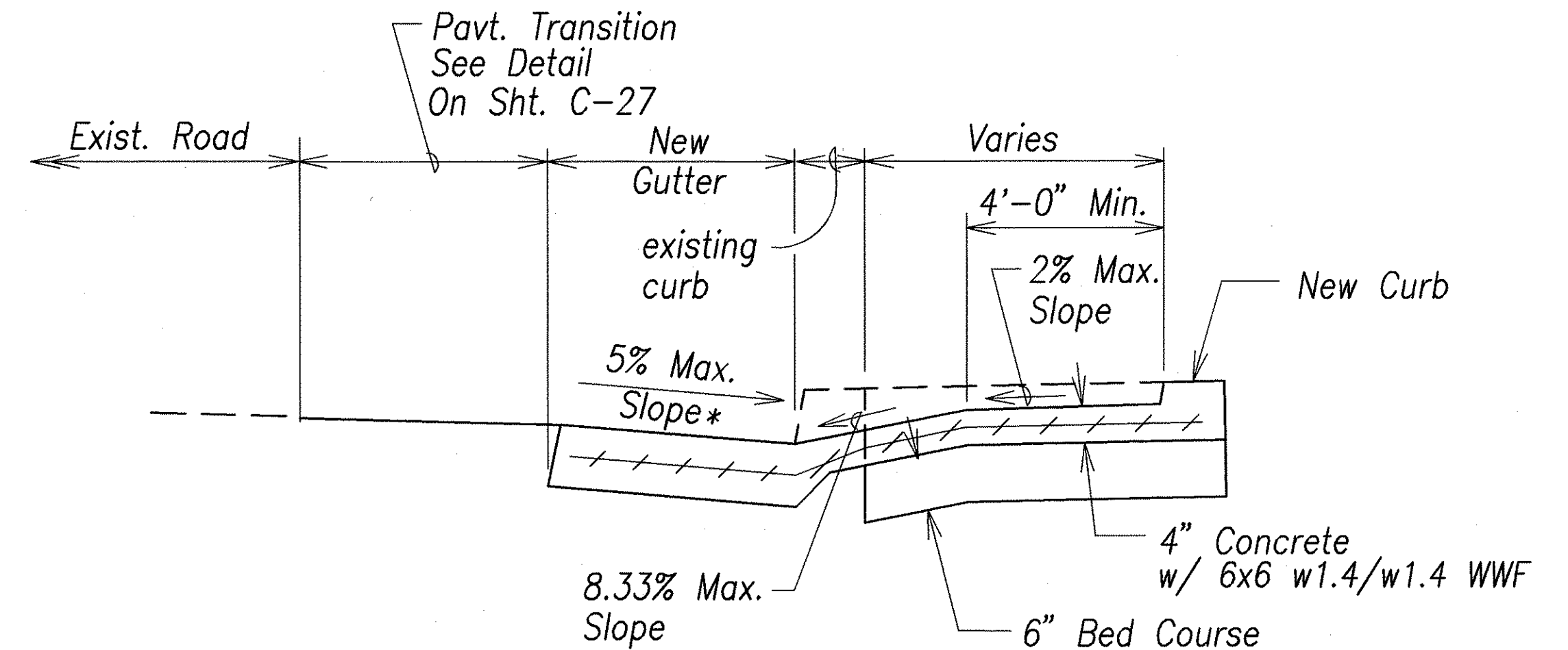
PLAN



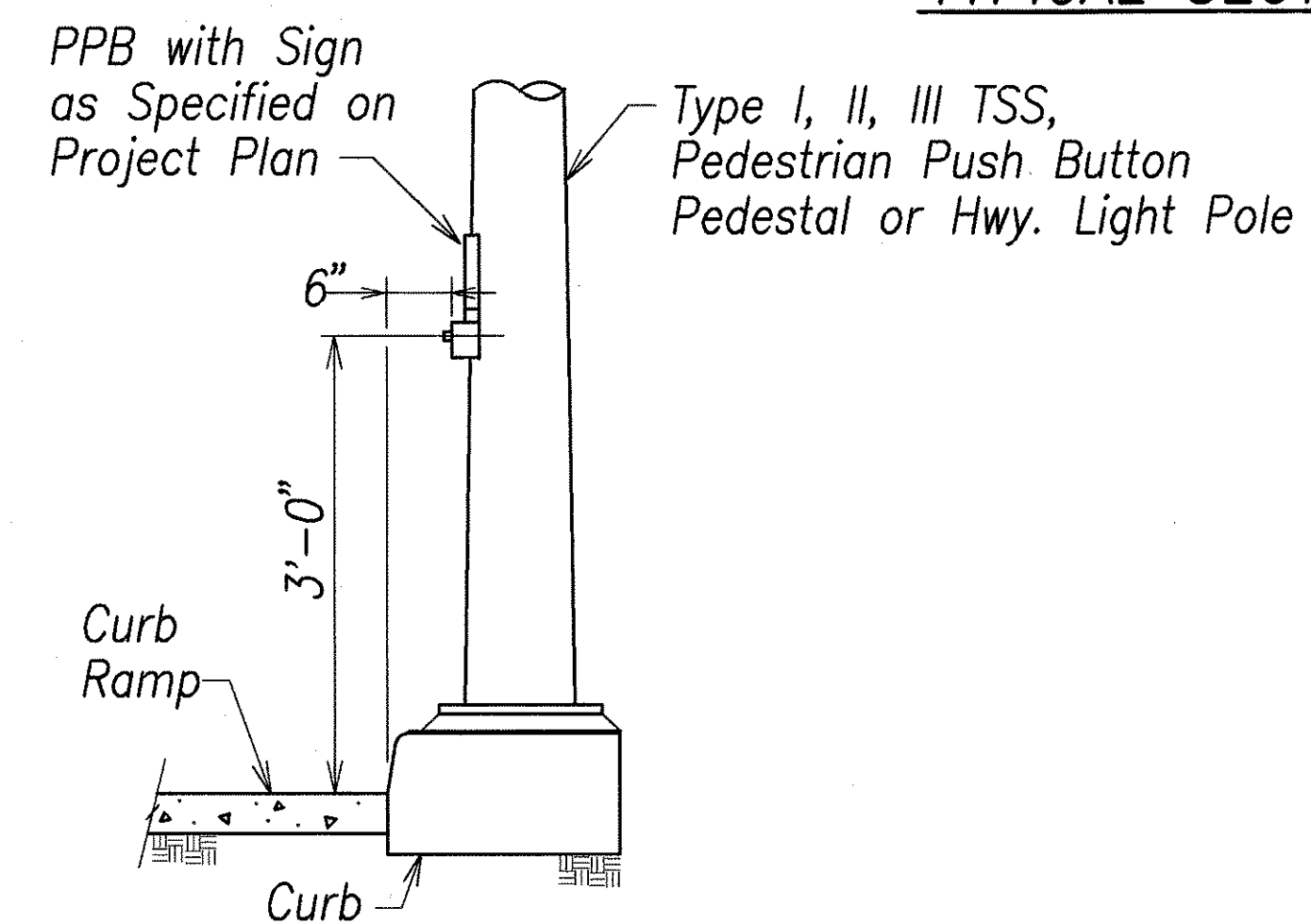
ELEVATION

- \* 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.
- \*\*\* If roadway slope >2% conform to roadway slope and file a Technical Infeasibility (TI) Statement

### CURB RAMP - COMBINATION



TYPICAL SECTION



DETAIL "A"



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE: *Greg H. Hiyakumoto* DATE: April 30, 2006

\*OBSERVATION OF CONSTRUCTION\* IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**CURB RAMP DETAILS - 5**

*Pedestrian Facilities & ADA Compliance at Various Locations on Oahu, Unit 2*

Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None Date: September 2004

SHEET No. C-23 OF 126 SHEETS

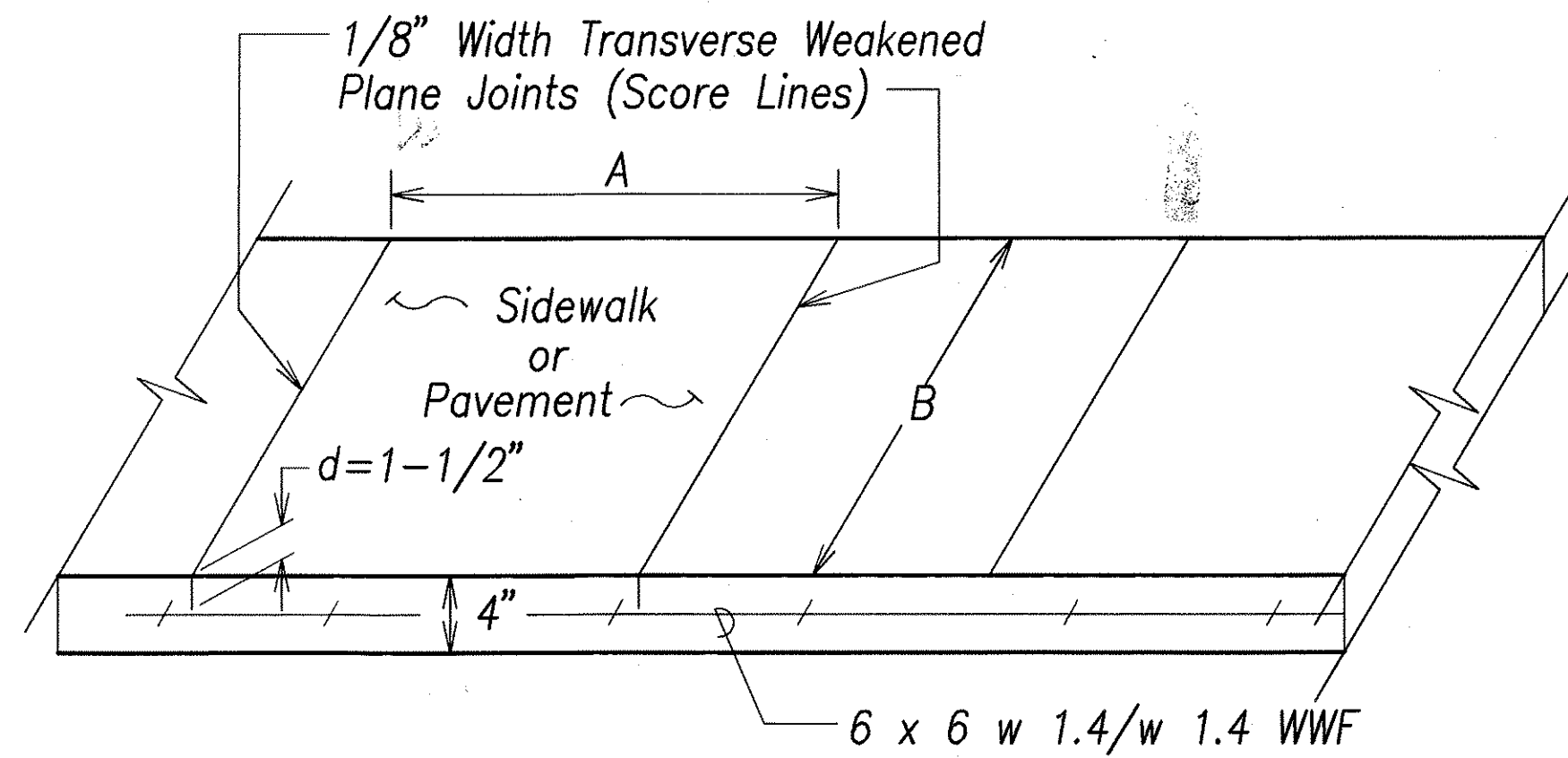








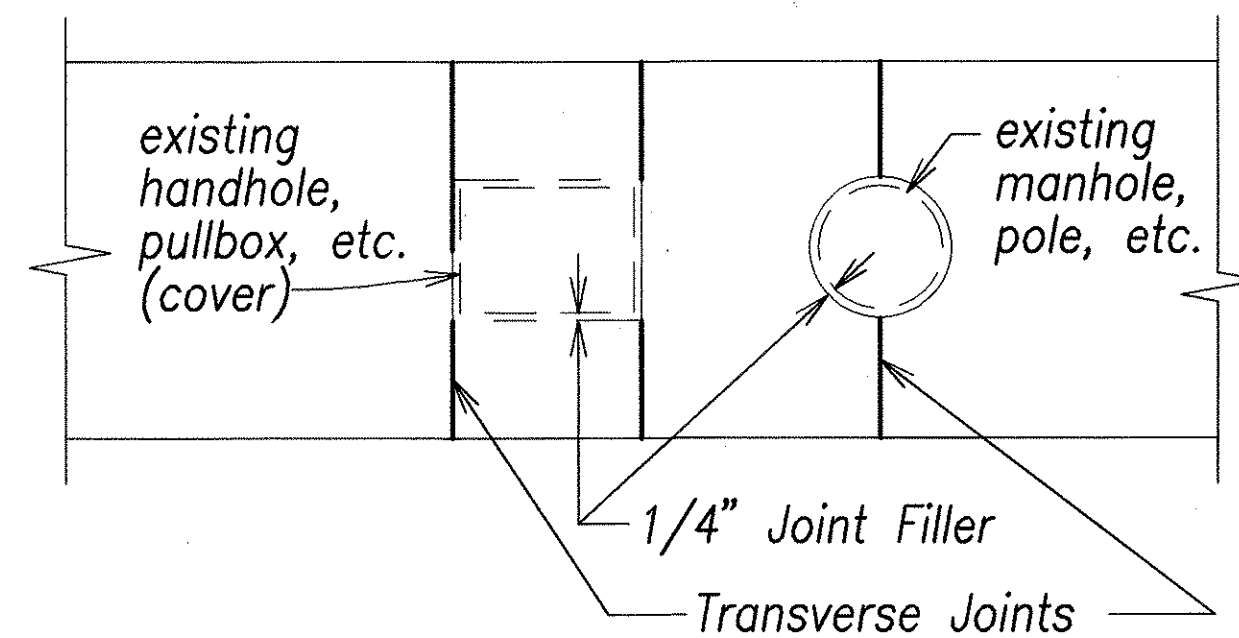
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	27	171



Note: A = 6' if B ≤ 8'.  
If B > 8', Add Longitudinal Joint

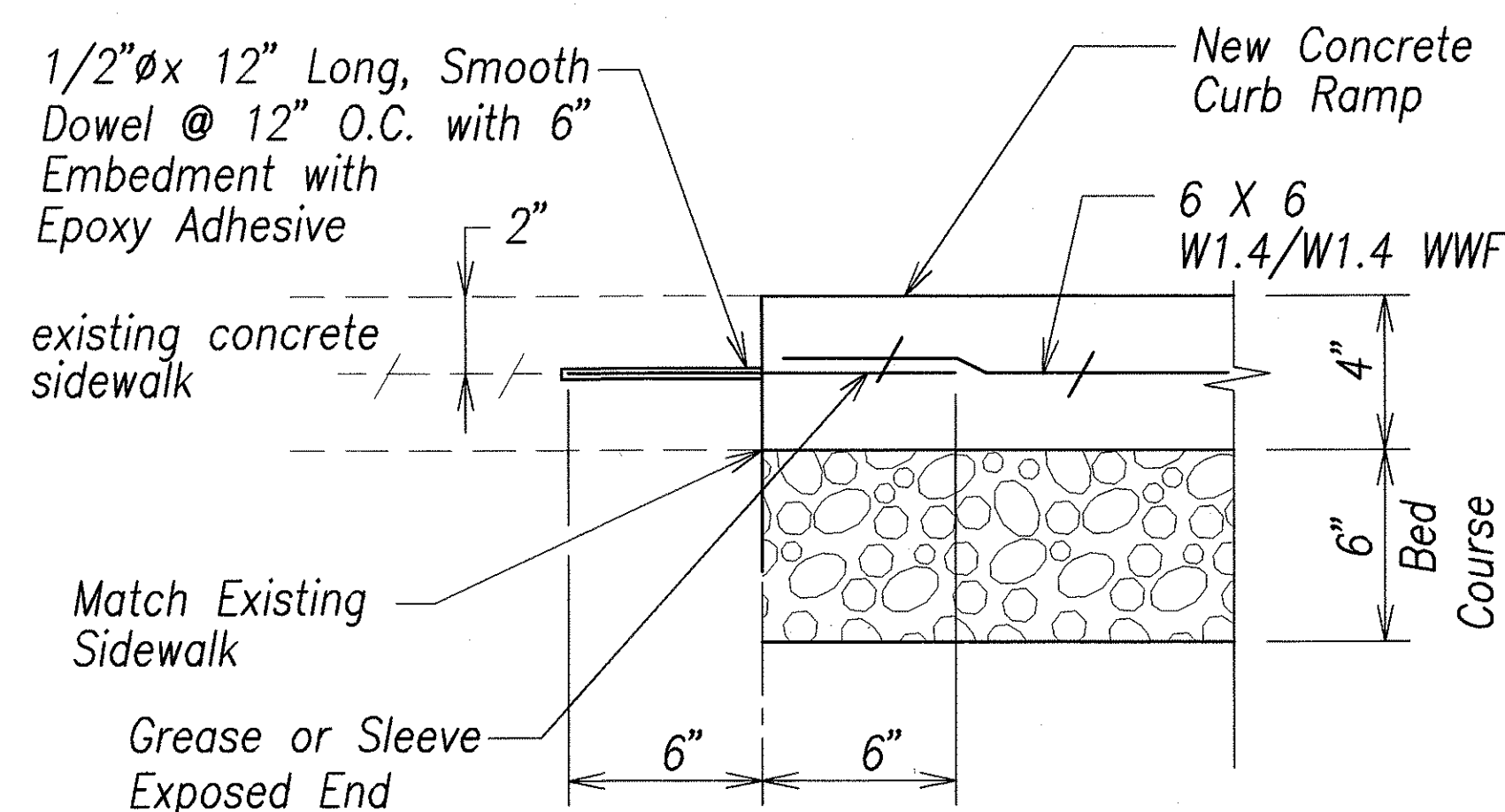
#### SIDEWALK SCORE LINE DETAIL

Not to scale



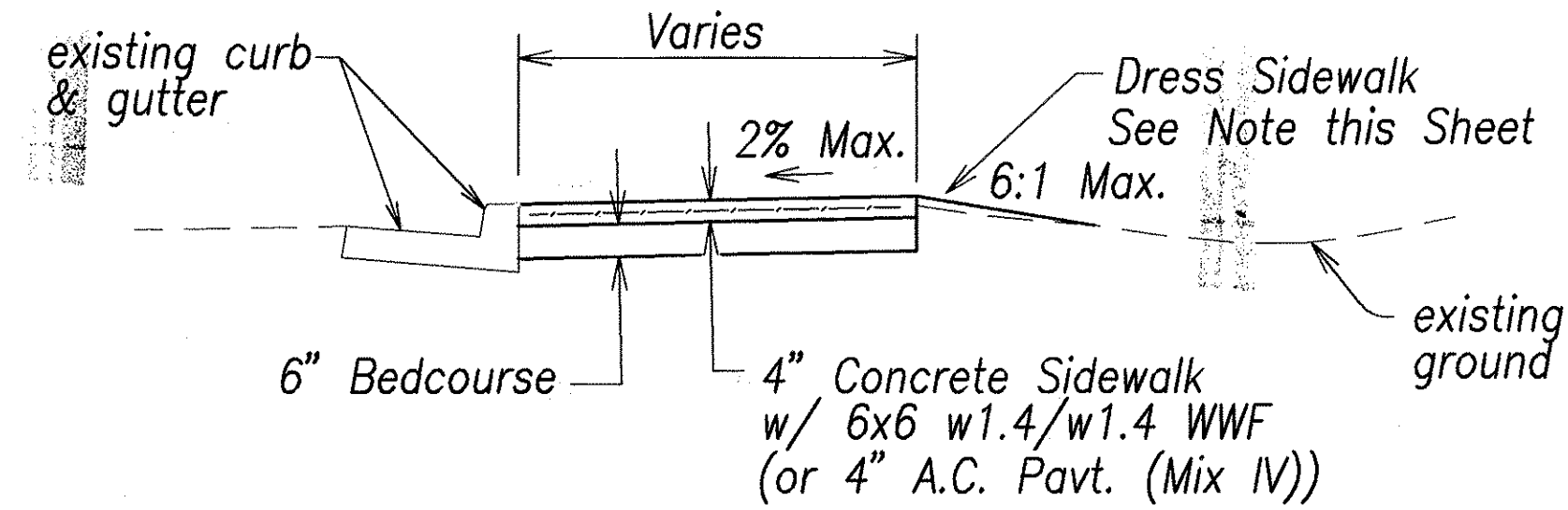
#### SIDEWALK ISOLATION JOINT DETAIL

Not to scale



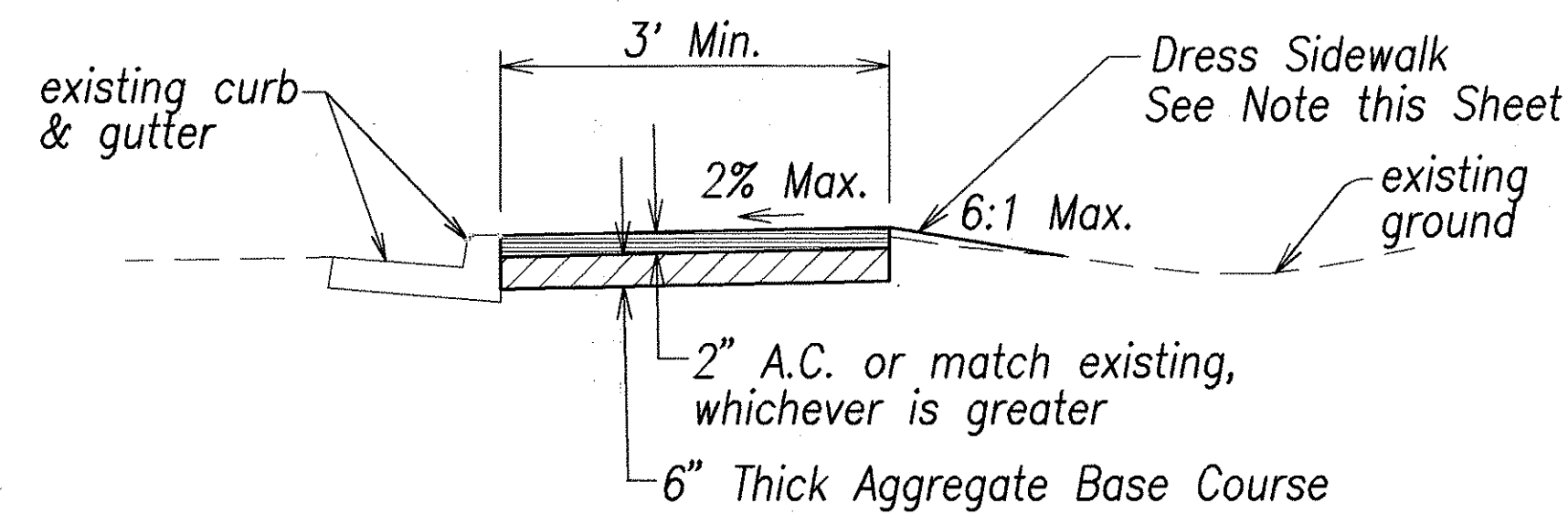
#### TYPICAL CONSTRUCTION JOINT AT EXISTING SIDEWALK

Not to scale



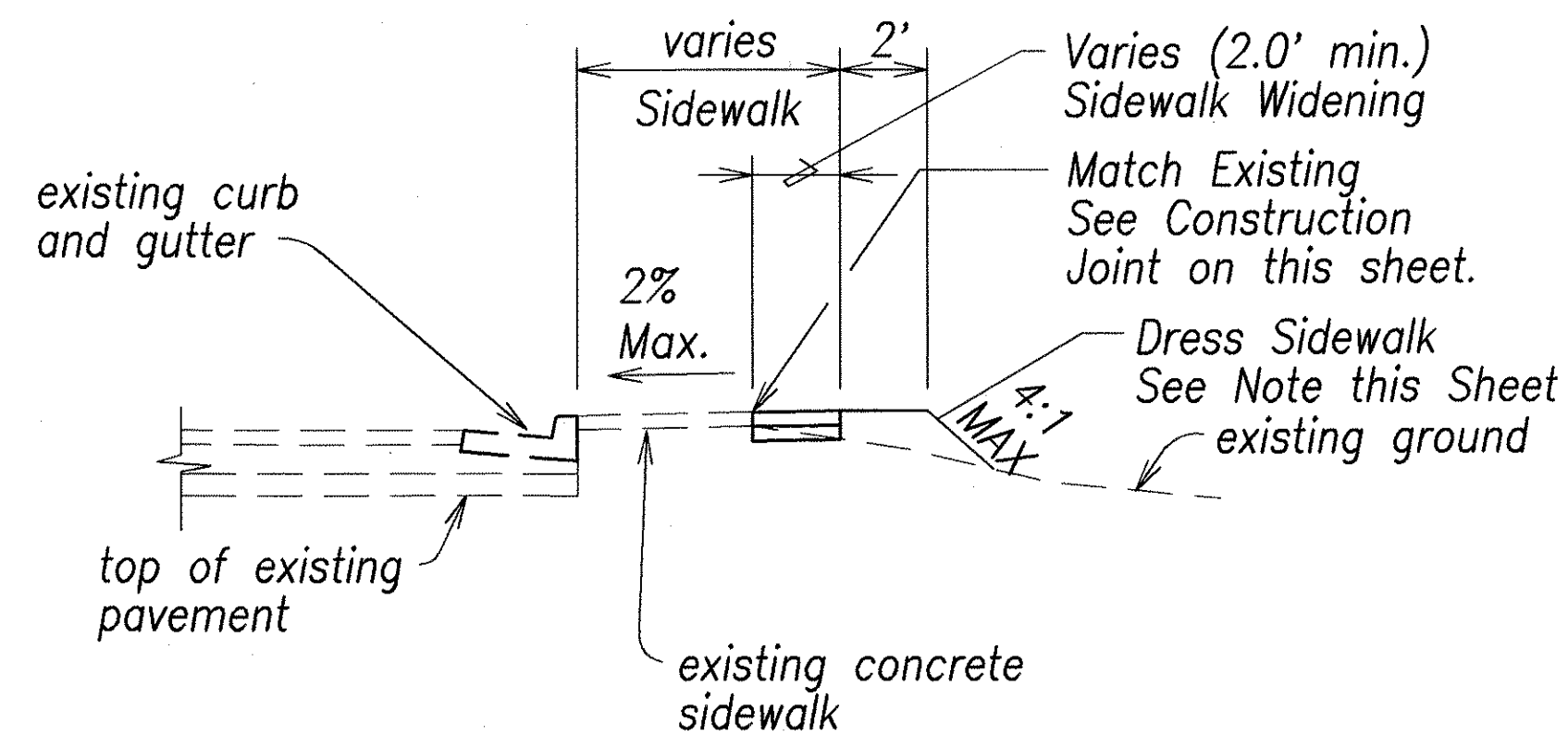
#### SIDEWALK DETAIL

Not to scale



#### A.C. SIDEWALK DETAIL

Not to scale

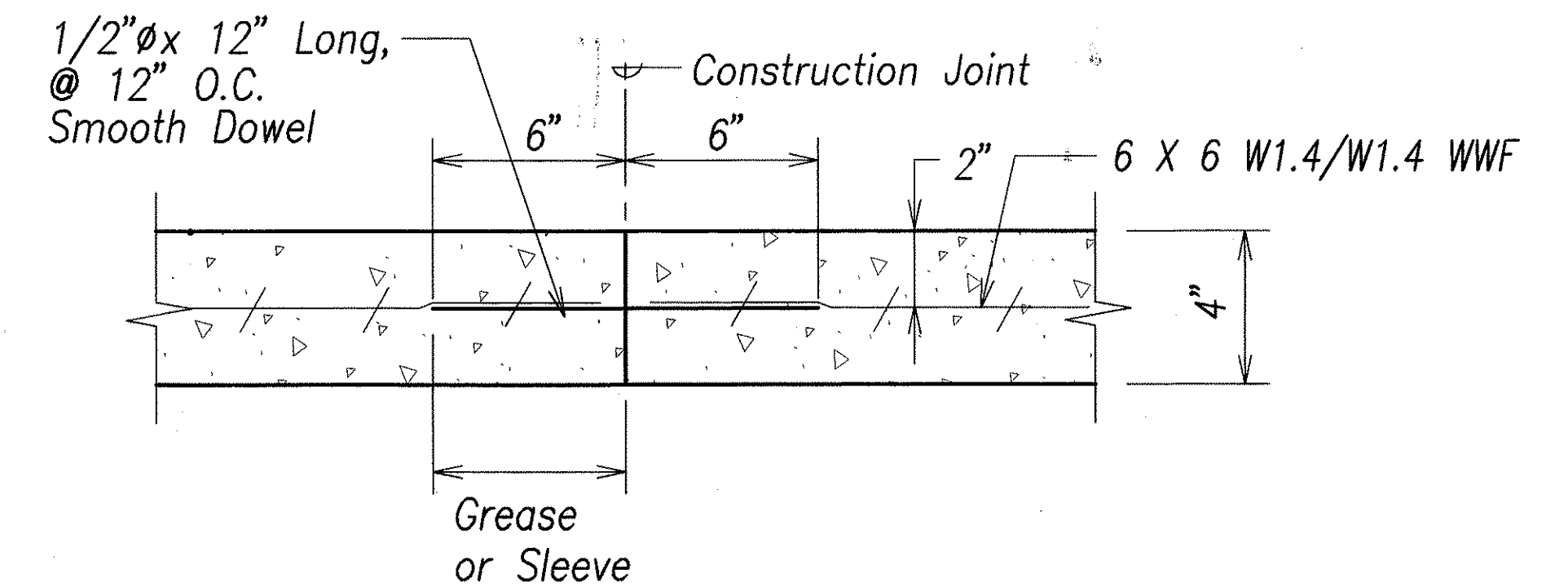


#### SIDEWALK WIDENING SECTION

Not to scale

#### NOTES:

1. Dressing of sidewalk shall consist of clearing, grubbing, grading, reshaping and compacting the area adjacent to the improvement with suitable material as shown on the plans and/or as directed by the Engineer. If existing ground is asphalt or concrete surface, dress sidewalk with A.C. pavement, Mix No. IV. This work shall be considered incidental to the new sidewalk.
2. Transverse and Longitudinal Weakened Plane Joints for sidewalk shall be considered incidental to the New Sidewalk.
3. Installation of dowels and tie bars including drilling, and epoxy grout shall be incidental to Sidewalk.



#### TRANSVERSE CONSTRUCTION JOINT DETAIL

Not to scale

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



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE 9/9/04 EXP. DATE April 30, 2006

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

#### SIDEWALK DETAILS

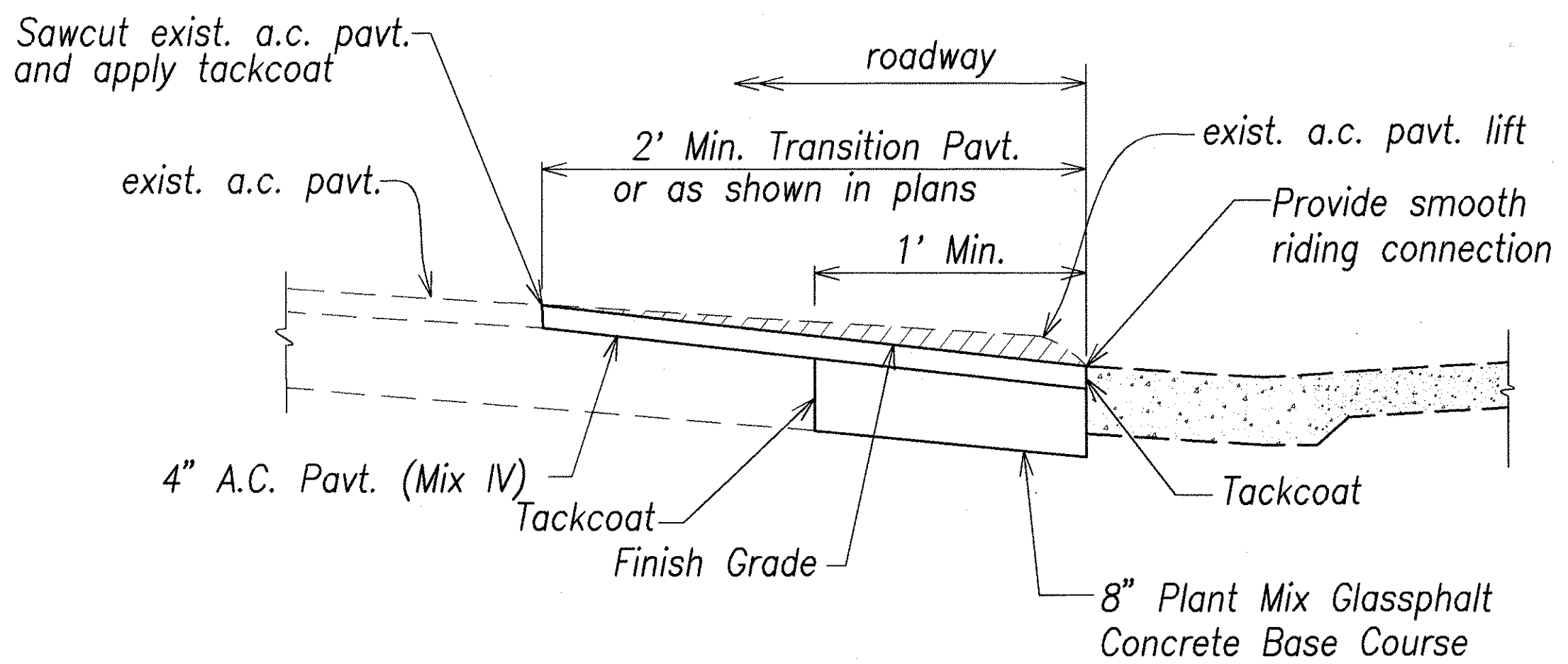
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 2  
Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None

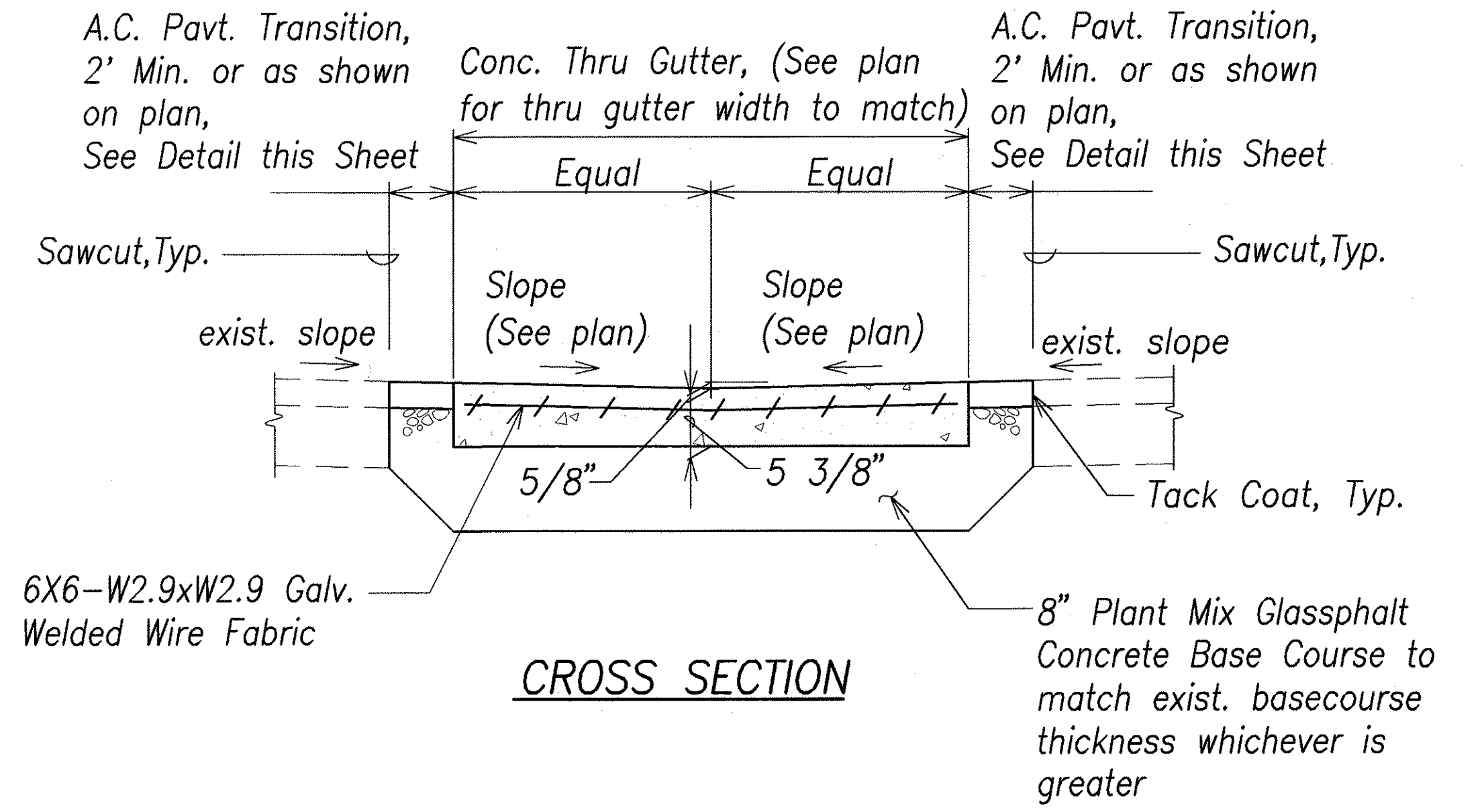
Date: September 2004

SHEET No. C-26 OF 126 SHEETS

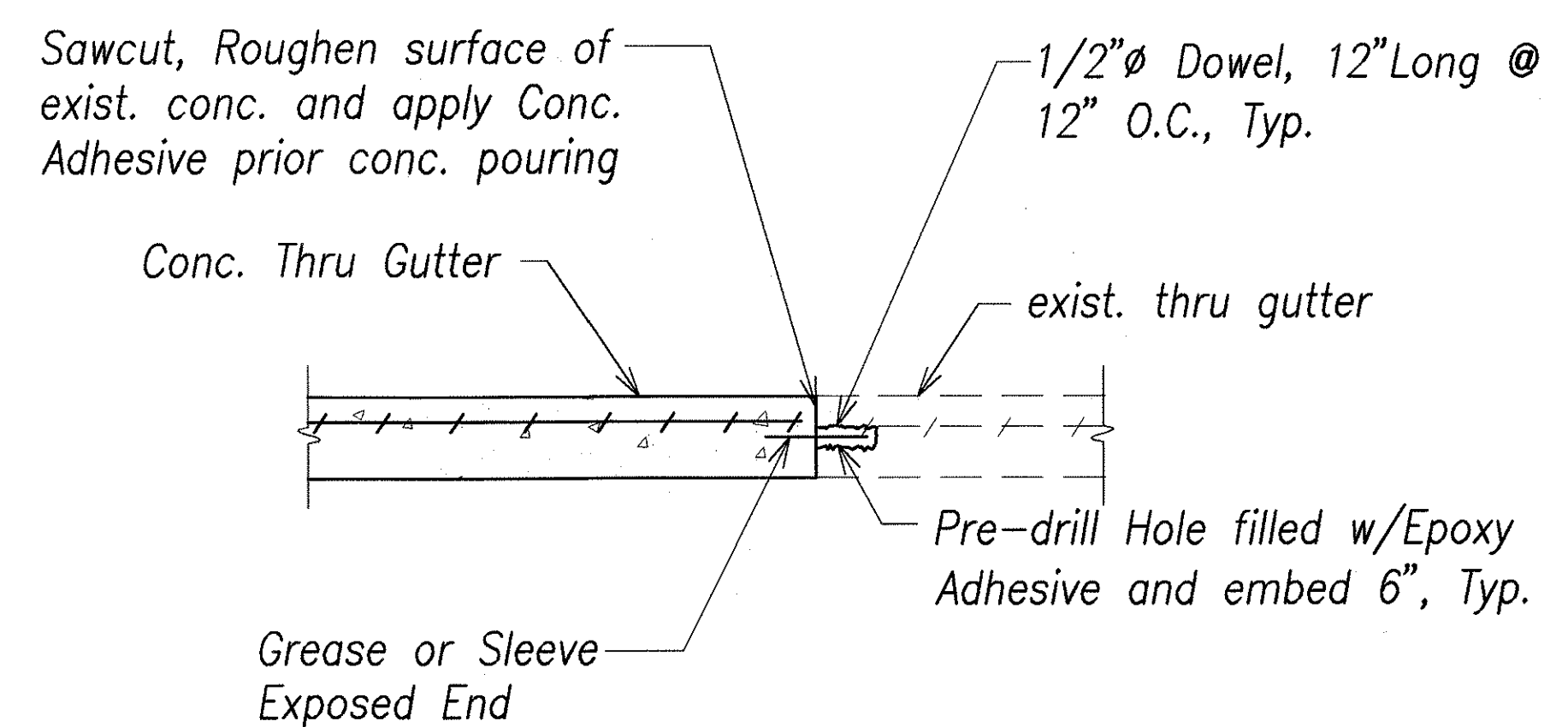
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	28	171



**PAVEMENT TRANSITION DETAIL**  
Not to scale

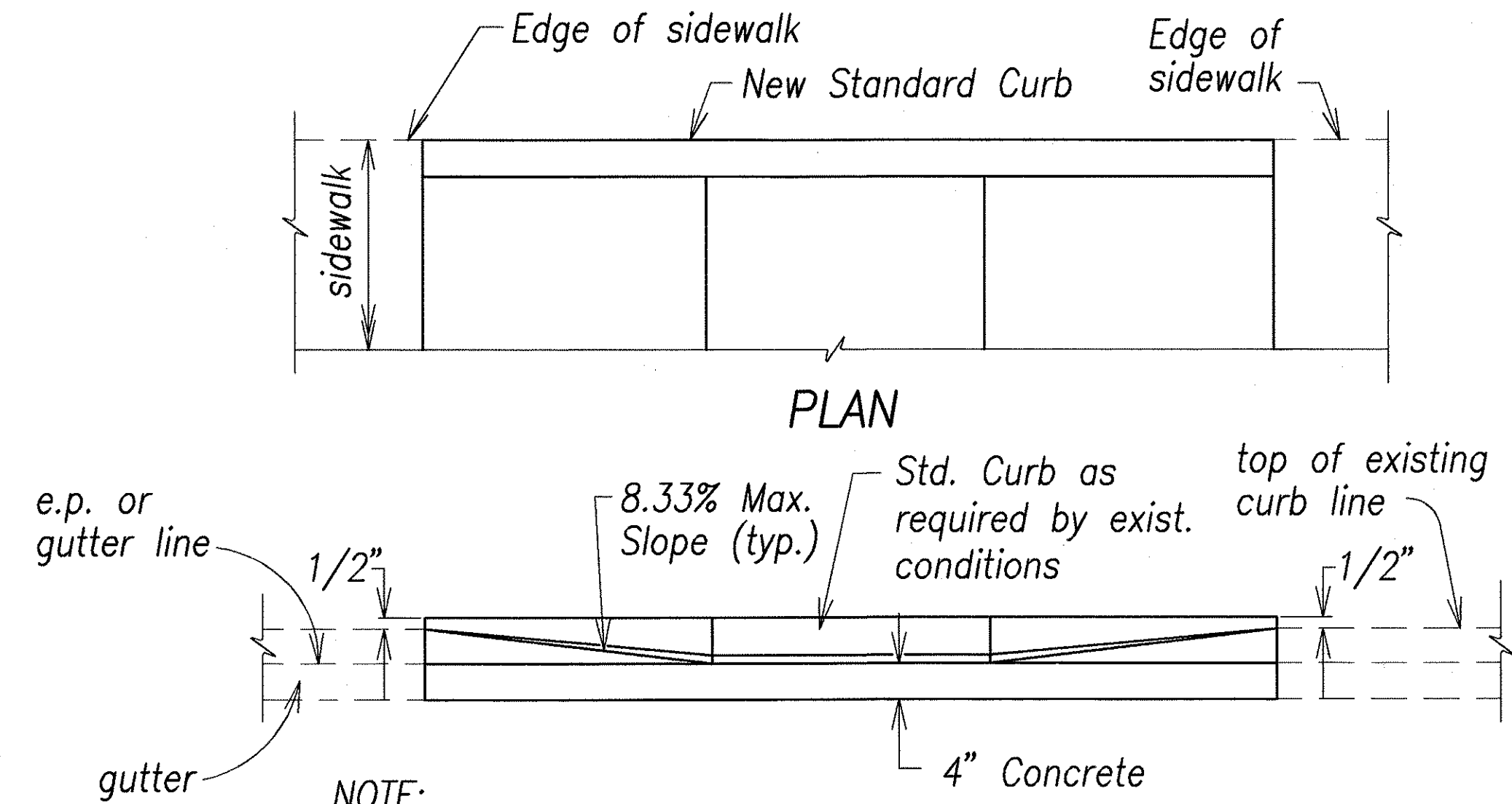


**CROSS SECTION**



**LONGITUDINAL SECTION**

**CONCRETE THRU GUTTER CONNECTION DETAIL**  
Not to scale

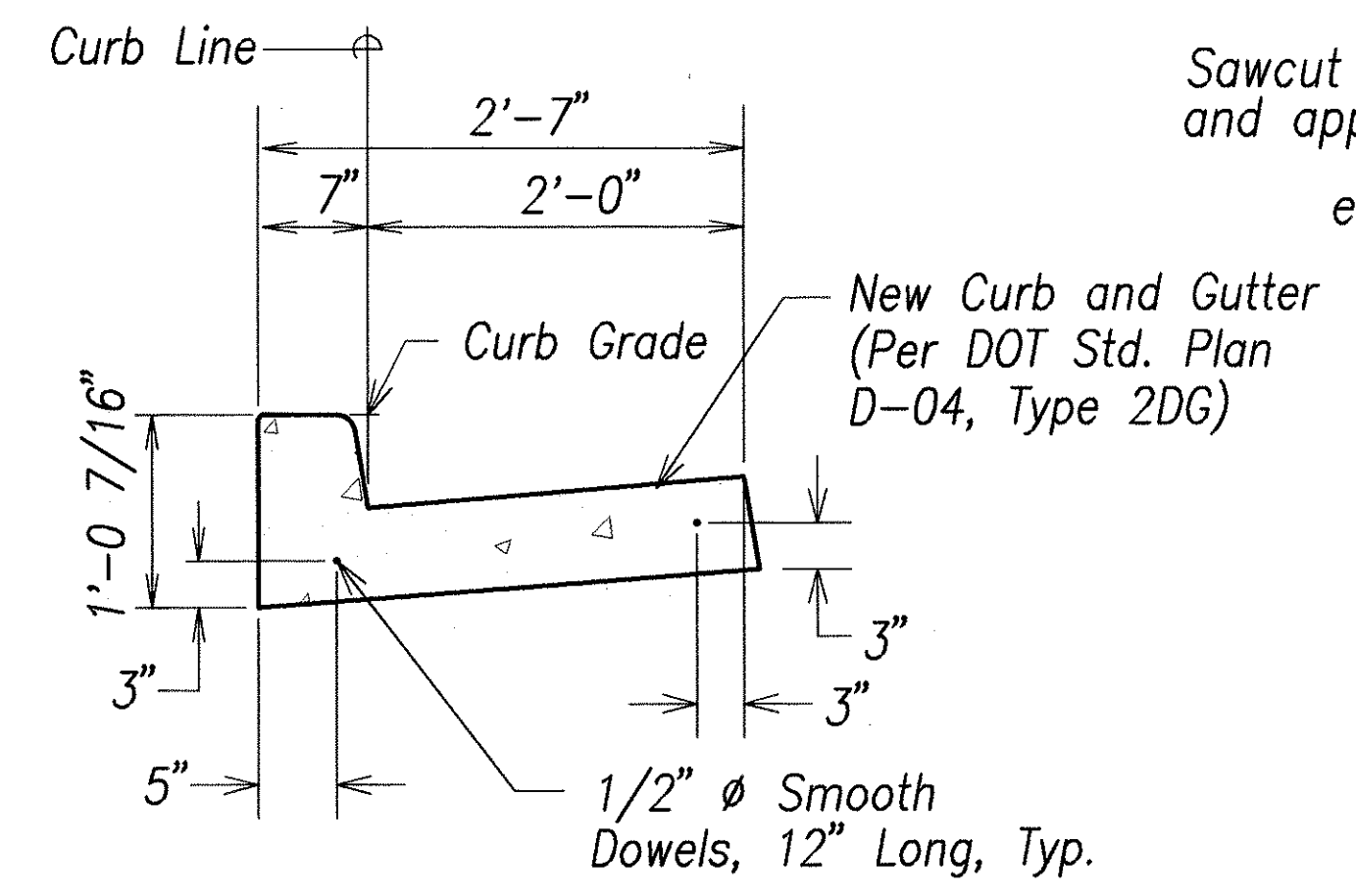


**NOTE:**

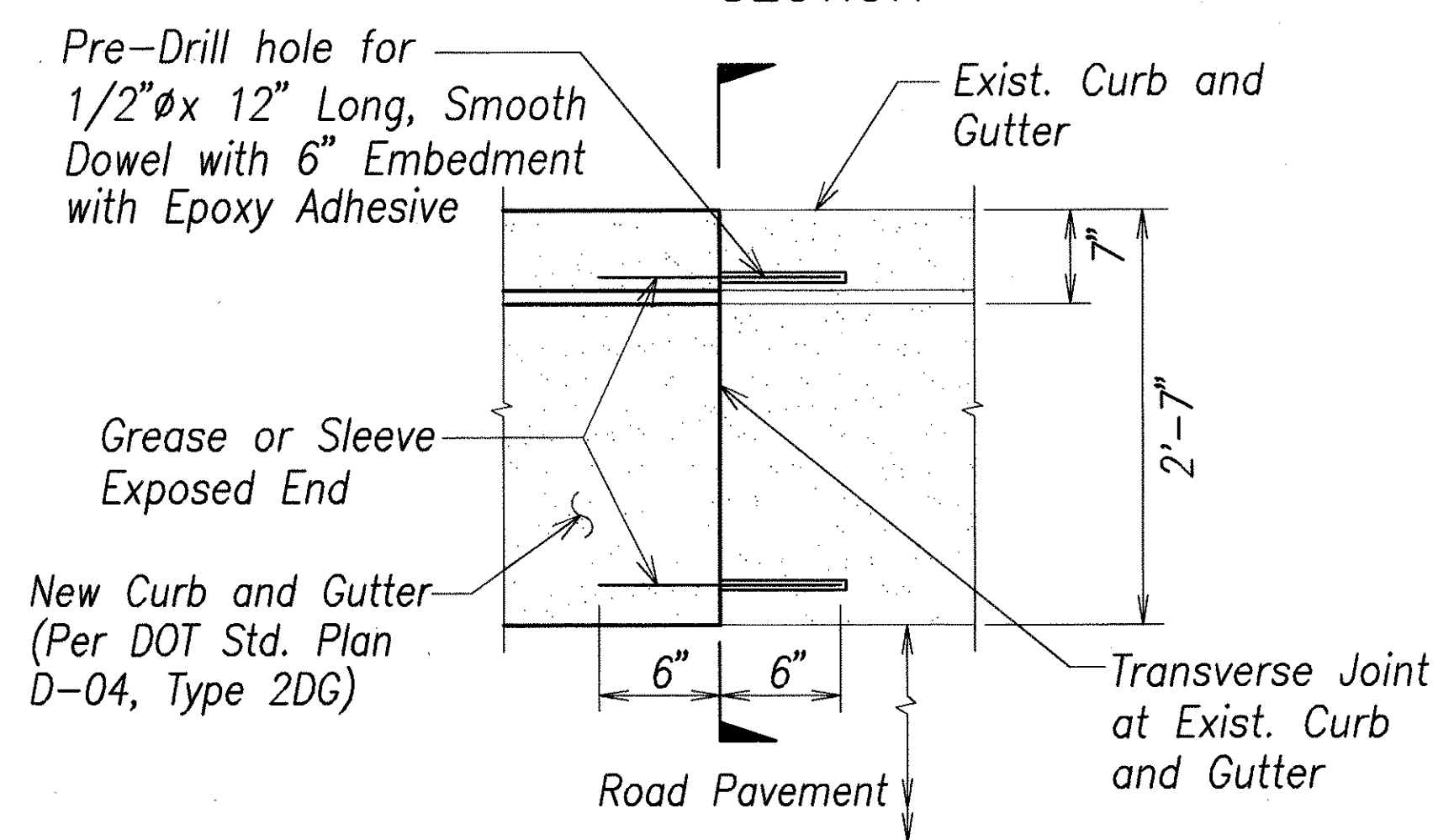
This detail can be used in situations where the edge of sidewalk cannot be flush with the face of (back) curb due to right of way restrictions.

**ELEVATION DETAIL - BACK CURB**  
Not to scale

**NOTE:**  
All curb ramps shall be reinforced.

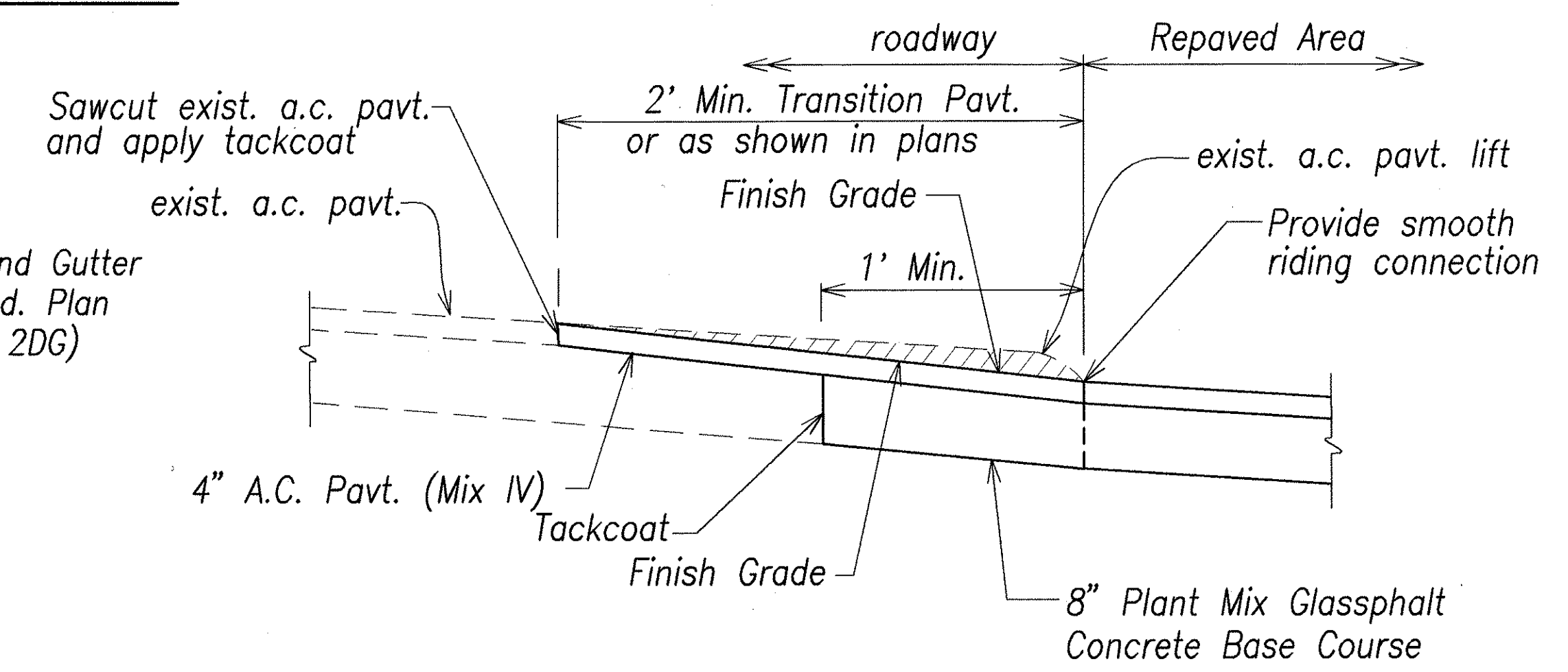


**SECTION**



**PLAN**

**CURB AND GUTTER CONNECTION**  
Not to scale



**PAVEMENT RESTORATION DETAIL**  
Not to scale

SURVEY PLOTTED BY	DATE
DESIGNED BY	
NOTED BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
No.	

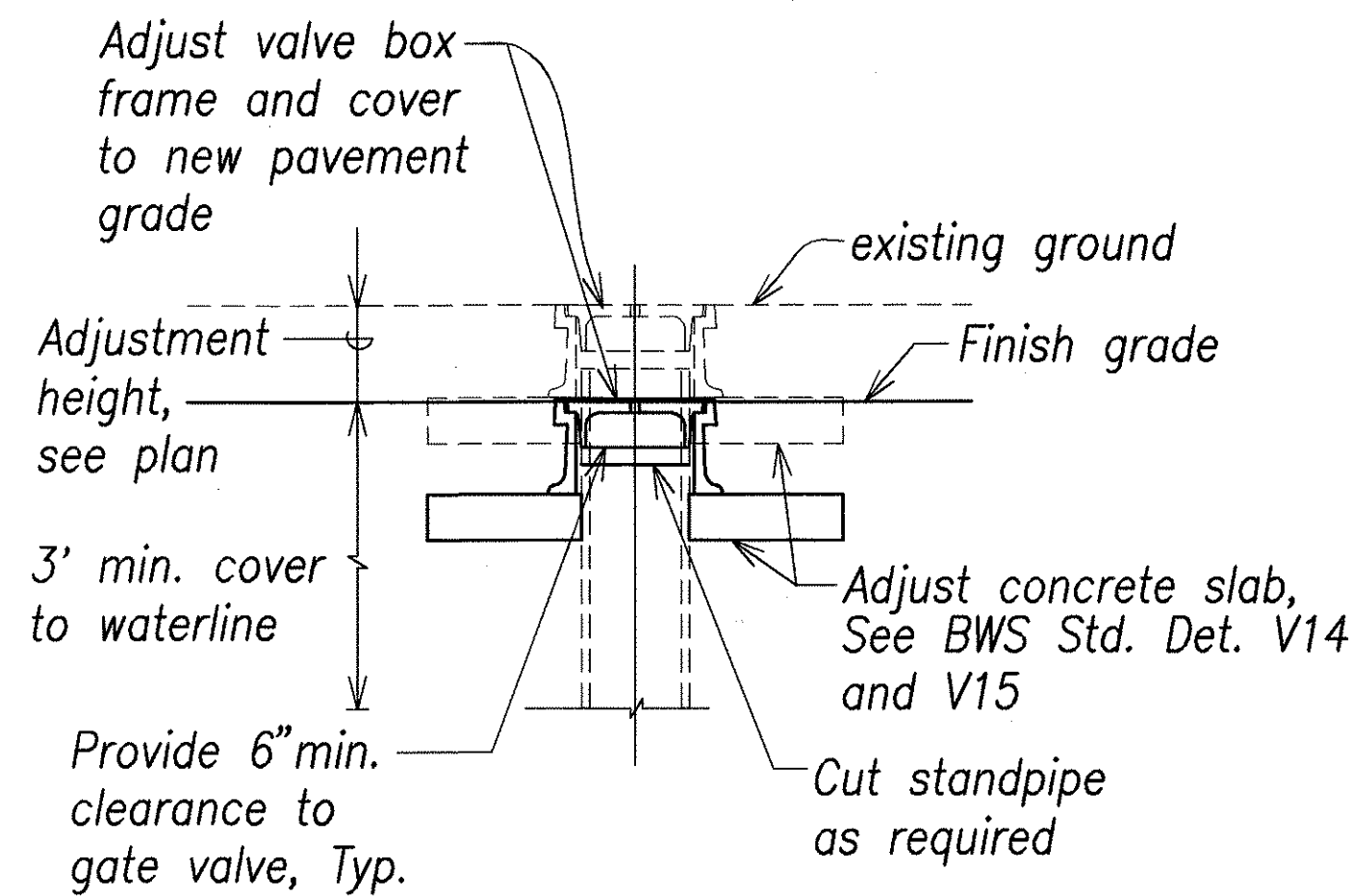


THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.  
SIGNATURE: [Signature] DATE: April 30, 2006  
"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

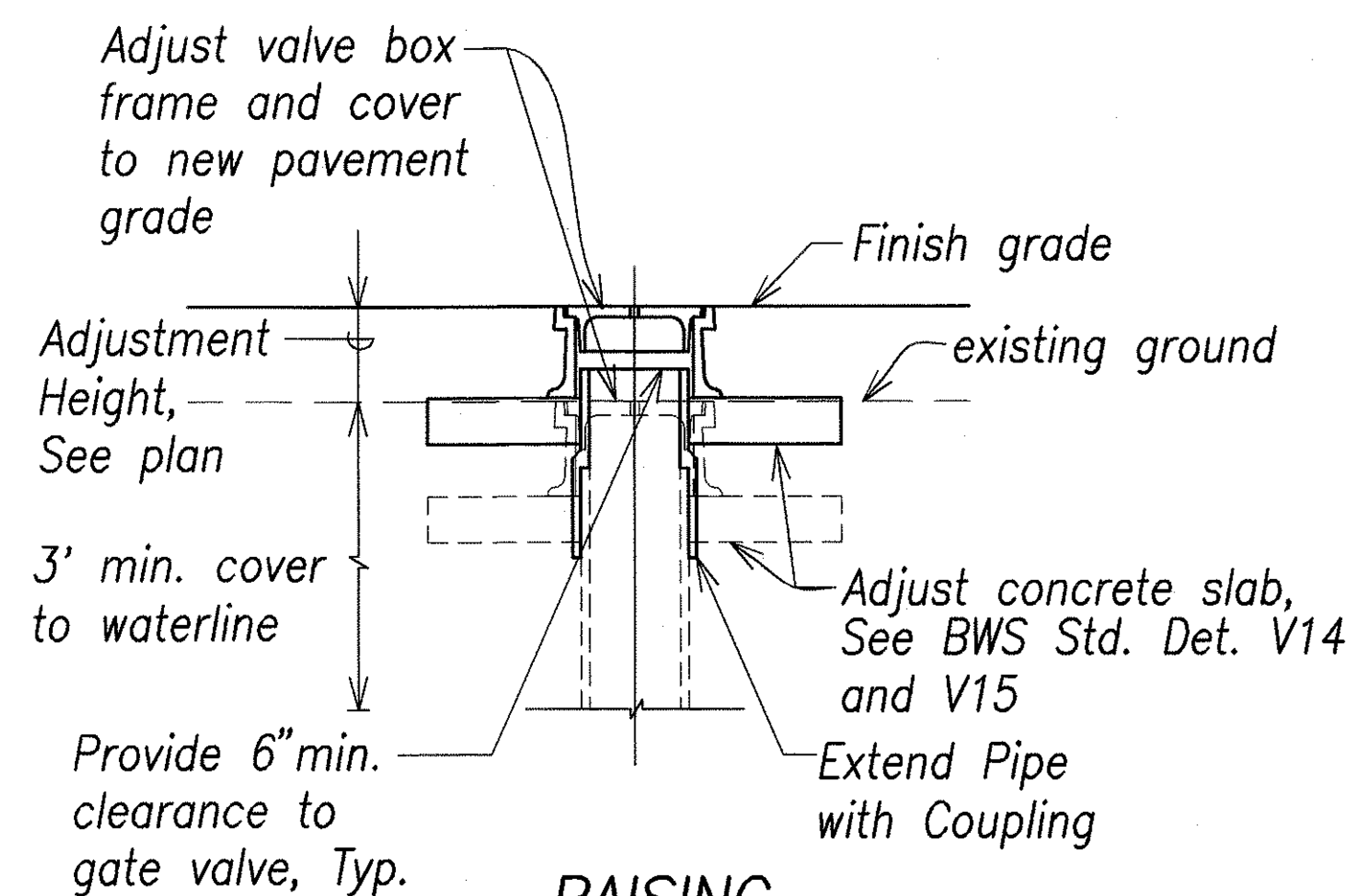
STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

**MISCELLANEOUS DETAILS**  
Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 2  
Fed. Aid Proj. No. CMAQ-0300(93)  
Scale: None Date: September 2004  
**SHEET No. C-27 OF 126 SHEETS**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	29	171



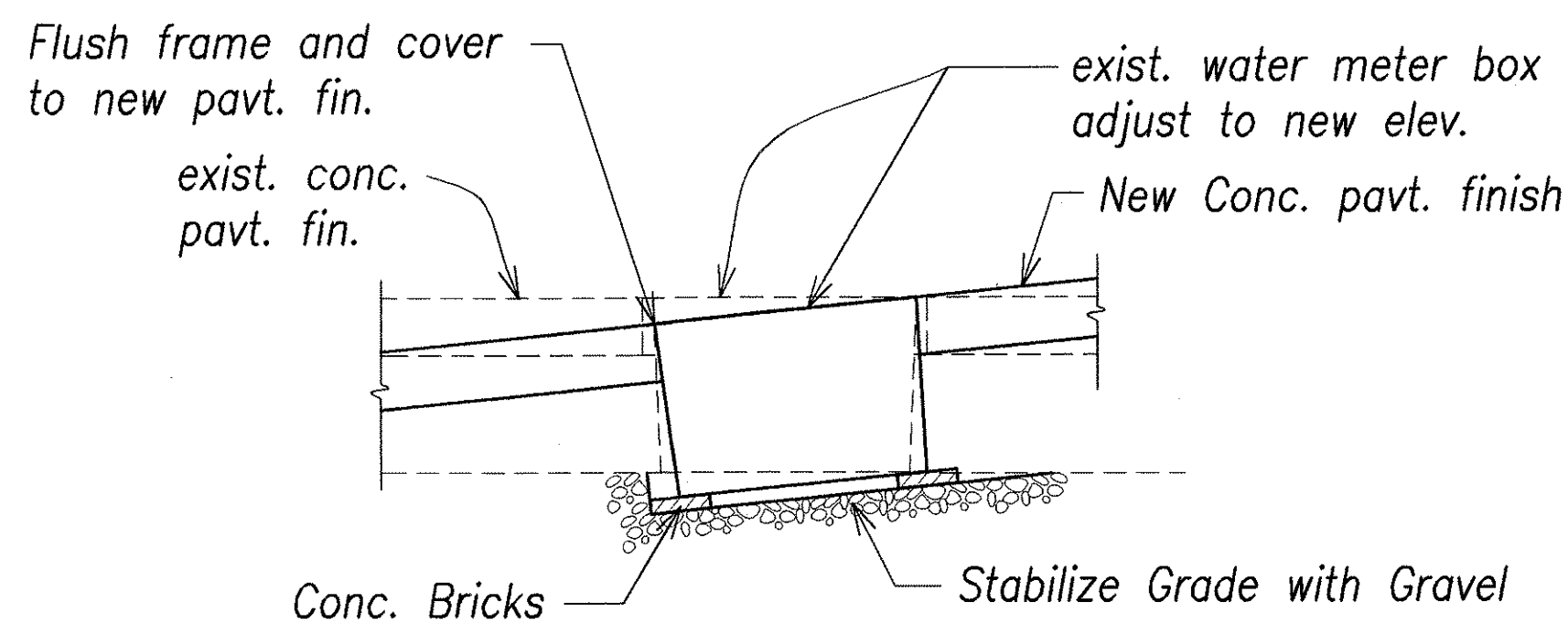
### LOWERING



### RAISING

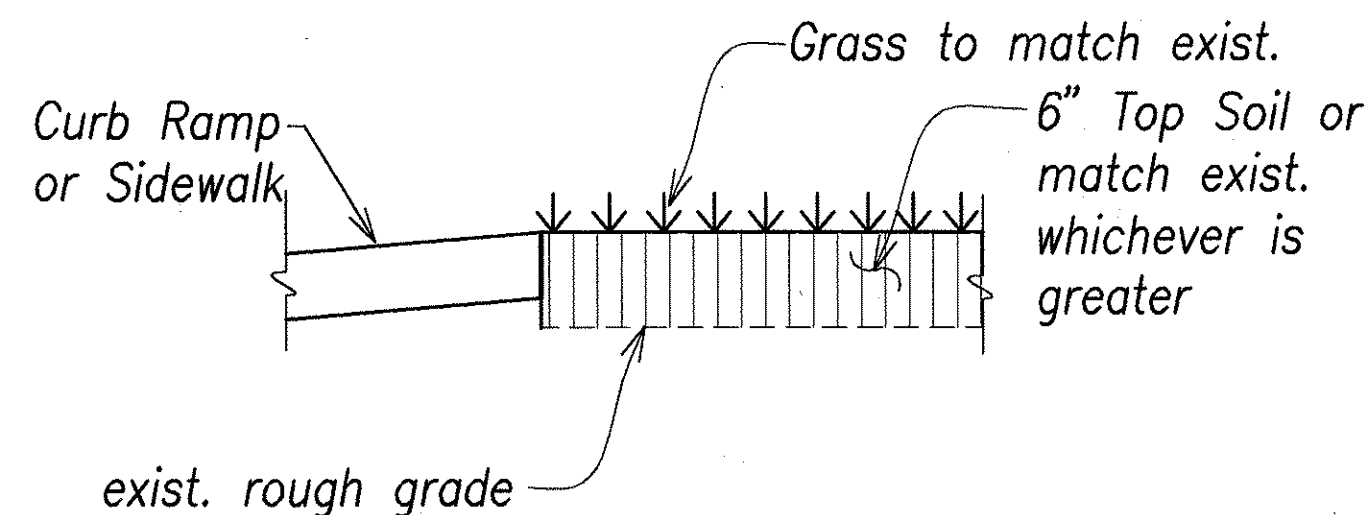
### ADJUSTMENT OF VALVE BOX

Not to scale



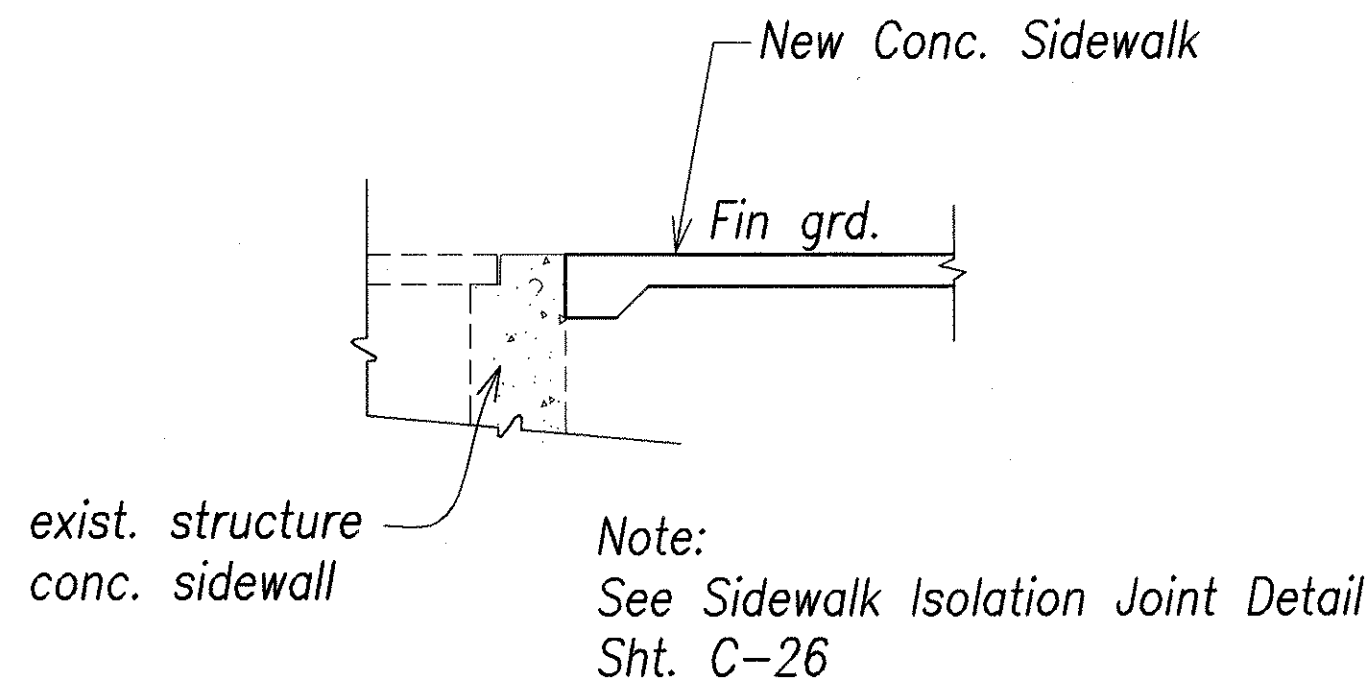
### WATER METER FRAME AND COVER ADJUSTMENT

Not to scale



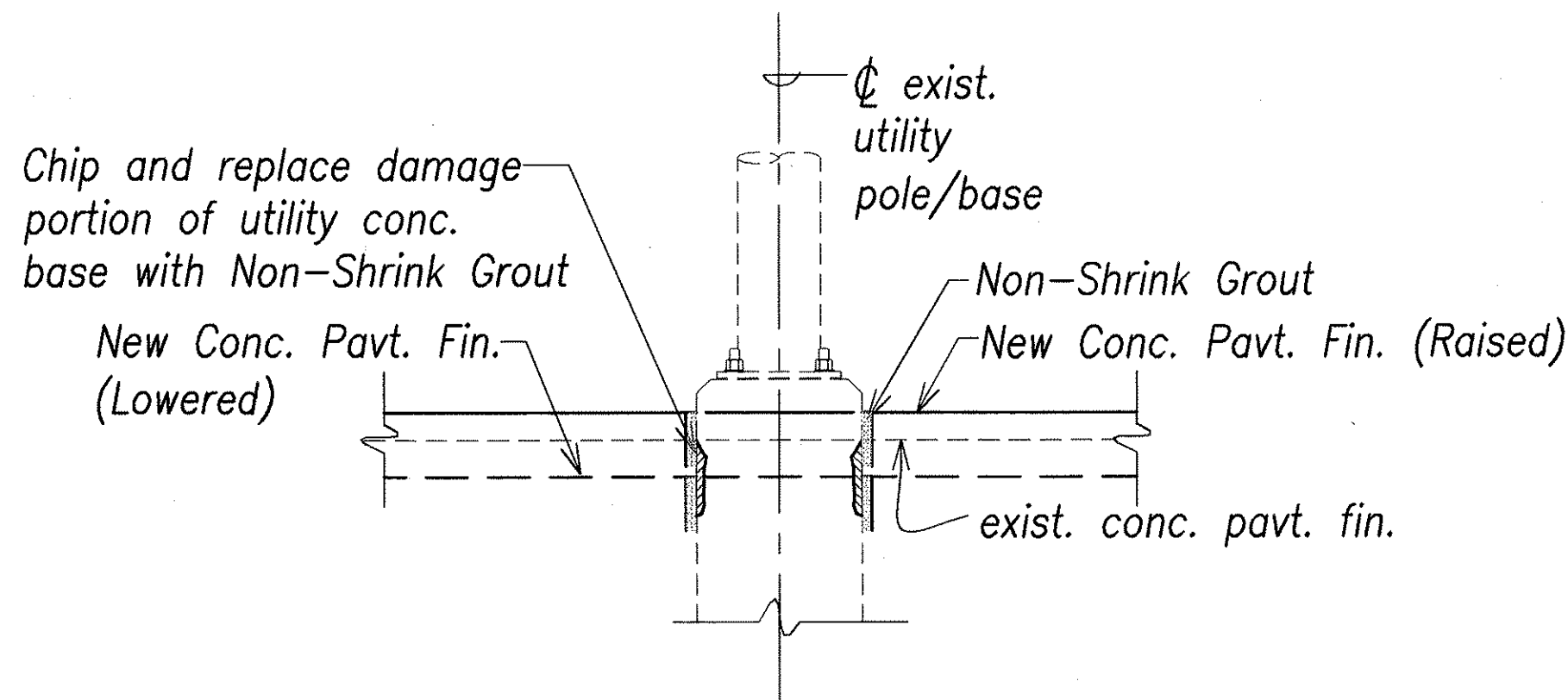
### GRASS RESTORATION

Not to scale



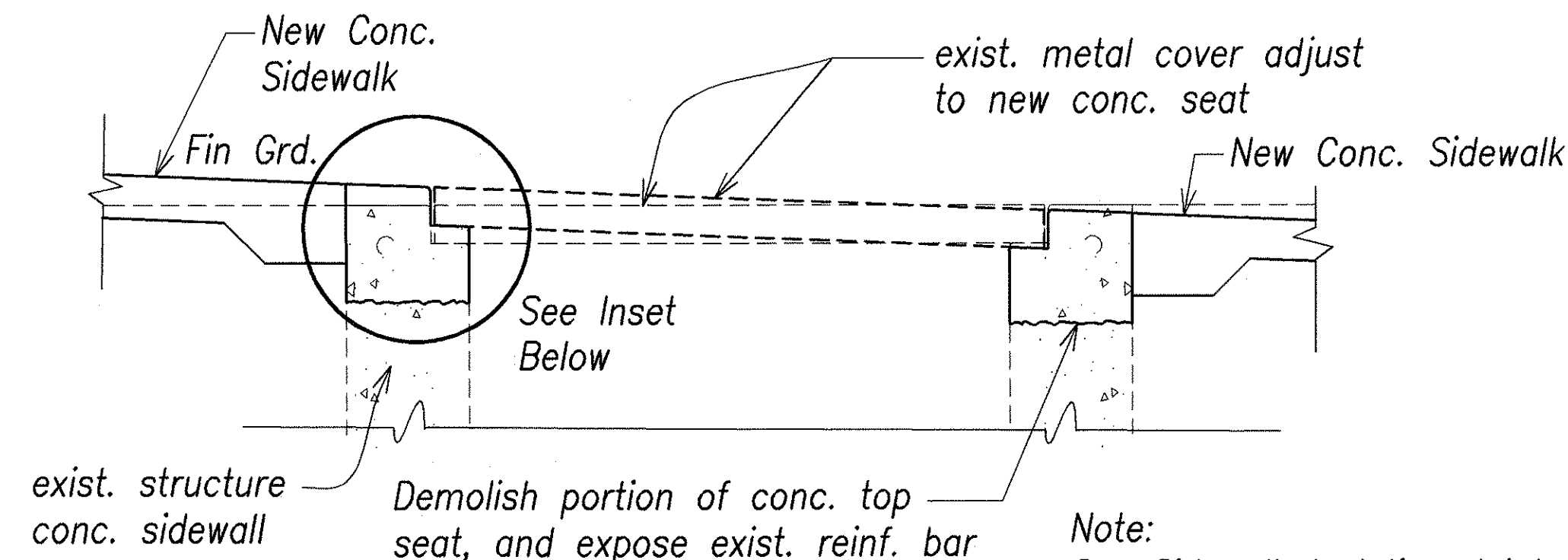
### EXIST. STRUCTURE CONNECTION

Not to scale

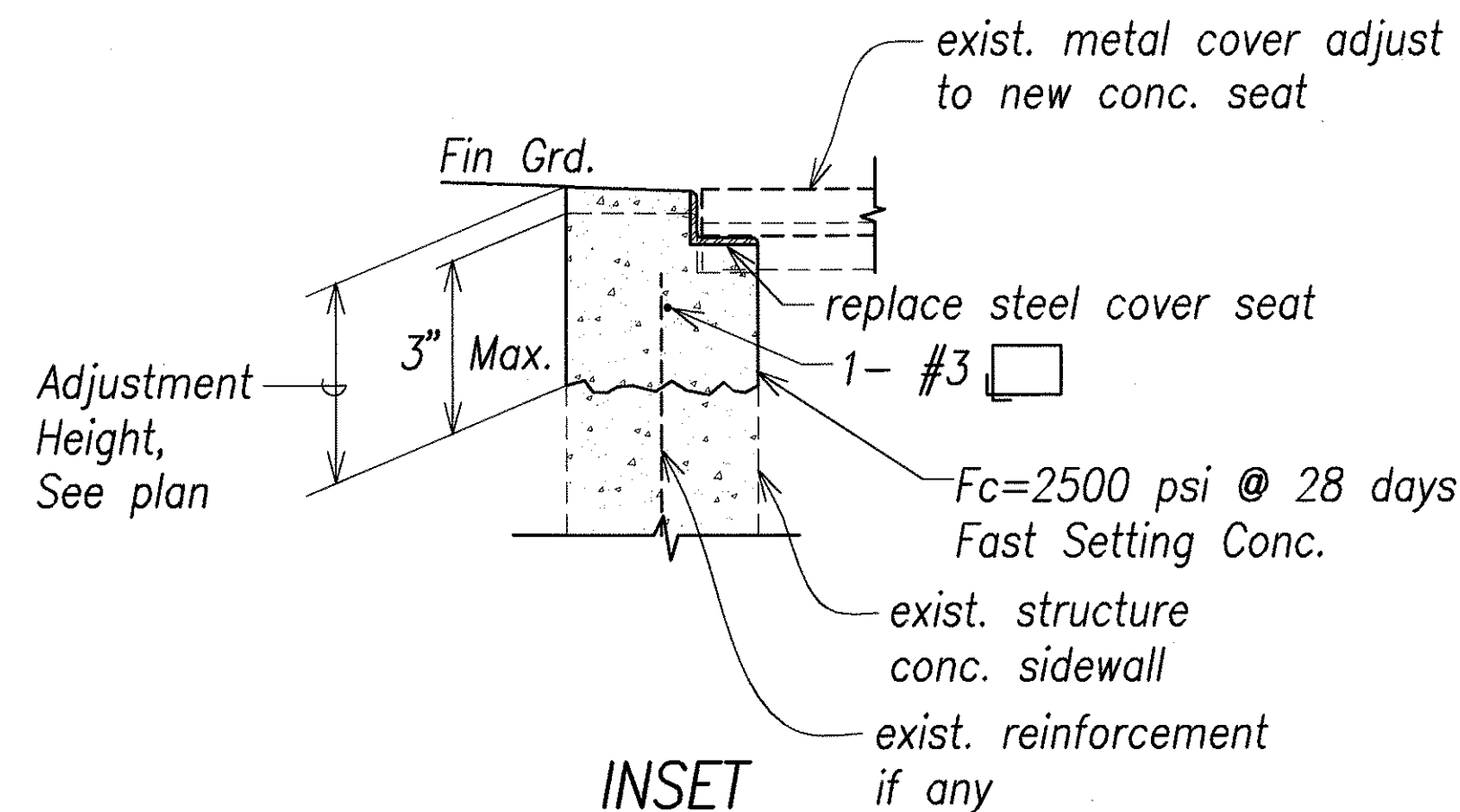


### UTILITY CONC. BASE RESTORATION

Not to scale



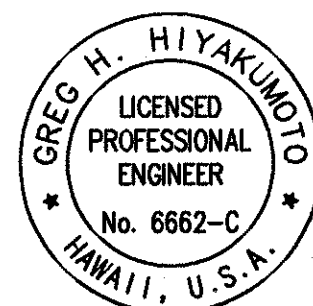
### SECTION



### INSET

### EXIST. VALVE BOX FRAME AND COVER ADJUSTMENT

Not to scale



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE: *Greg H. Hiyakumoto* DATE: April 30, 2006

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION

### UTILITY DETAILS

Pedestrian Facilities & ADA Compliance  
at Various Locations on Oahu, Unit 2  
Fed. Aid Proj. No. CMAQ-0300(93)

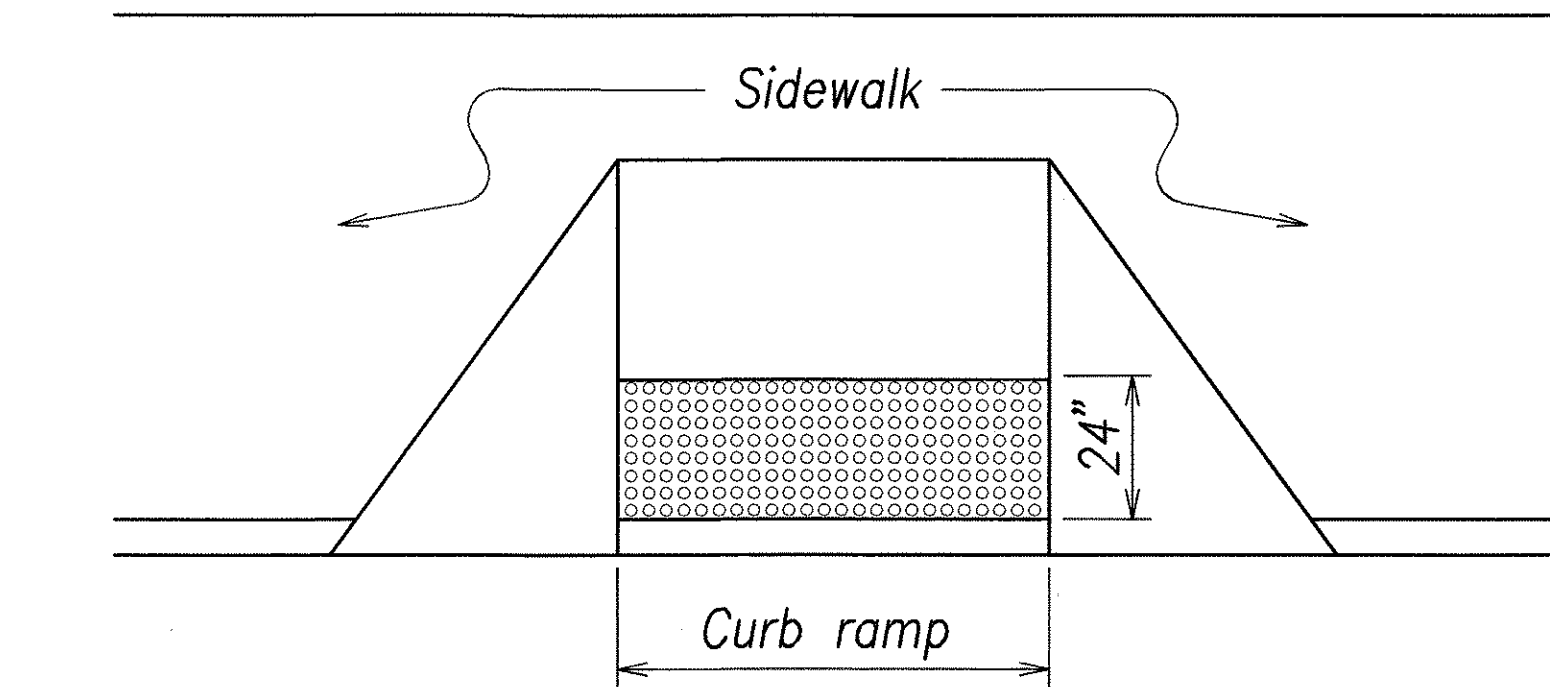
Scale: XX

Date: September 2004

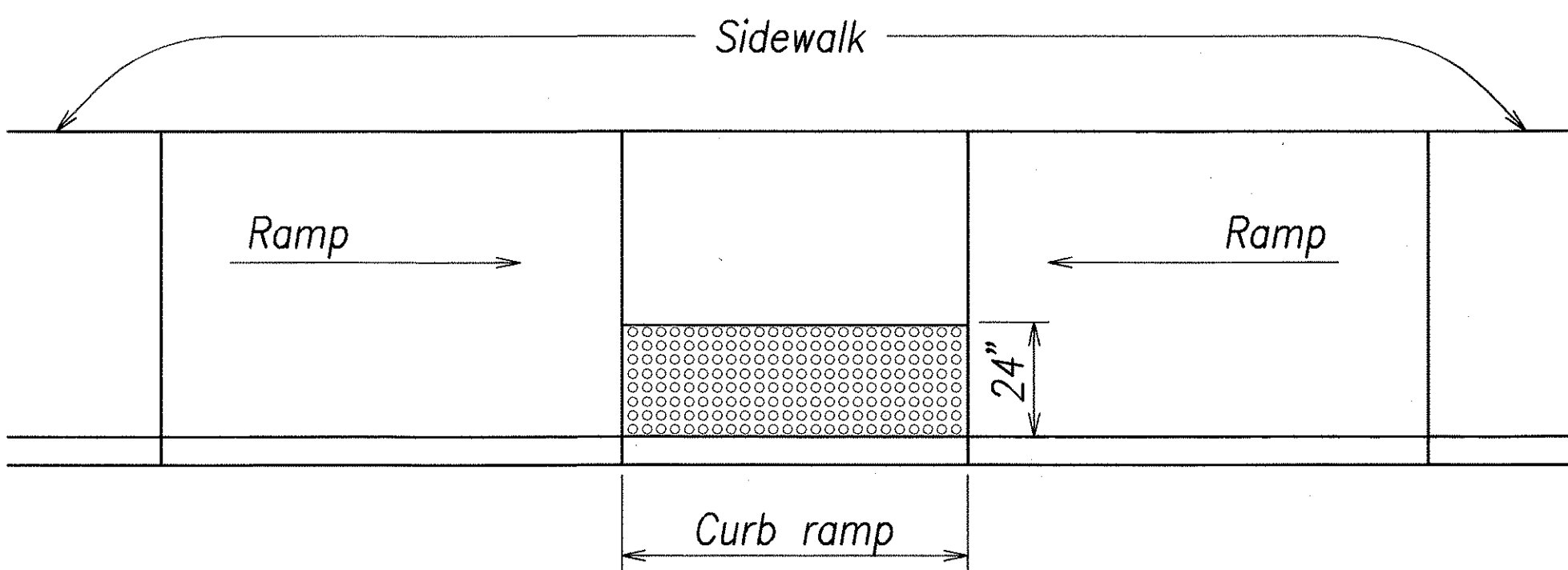
SHEET No. C-28 OF 126 SHEETS



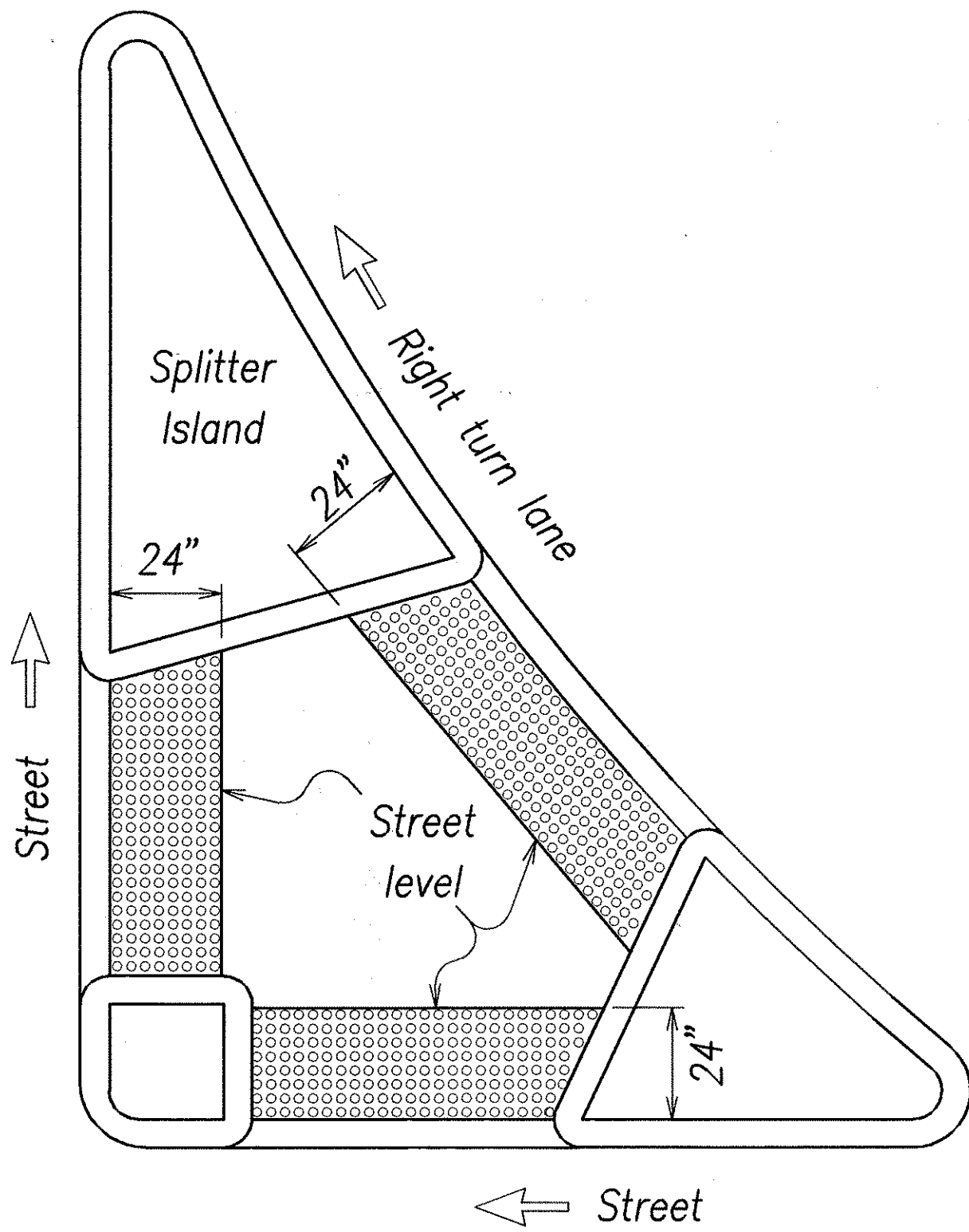
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	CMAQ-0300(93)	2004	30	171



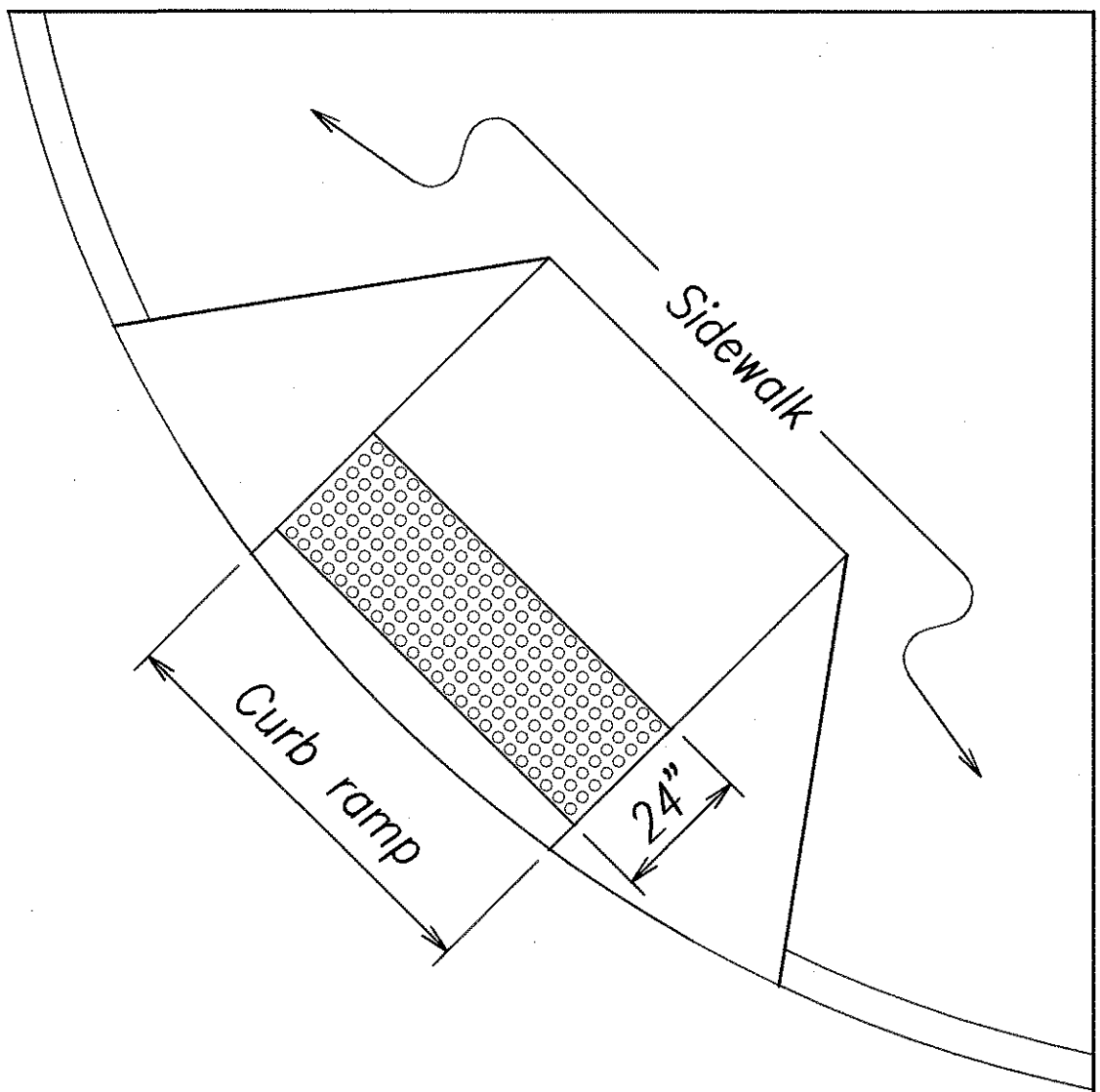
DETECTABLE WARNING AT CURB RAMP



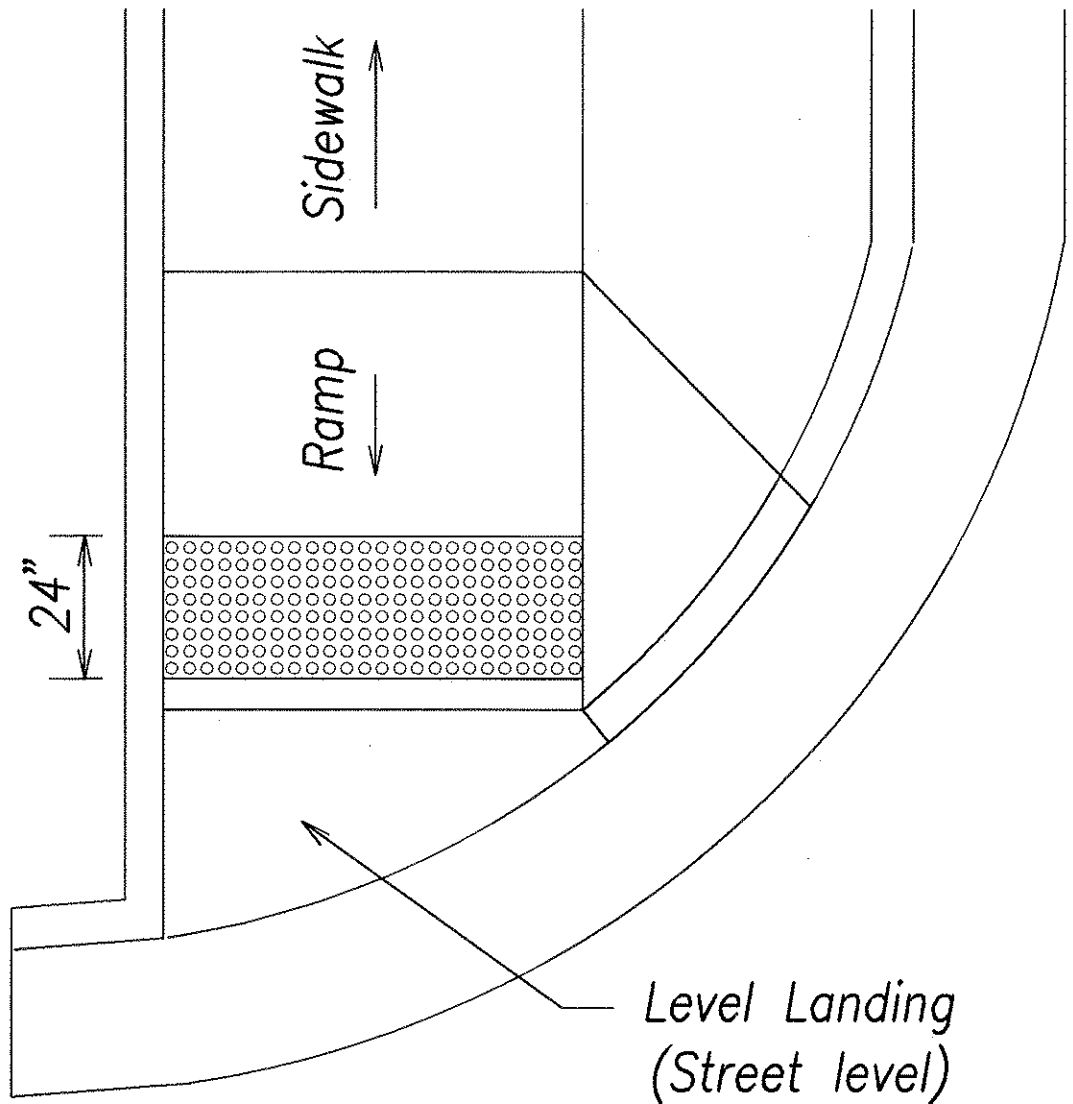
TRANSITION RAMP WITH DETECTABLE WARNING



REFUGE ISLAND WITH DETECTABLE WARNING



SHARED CURB RAMP WITH DETECTABLE WARNING



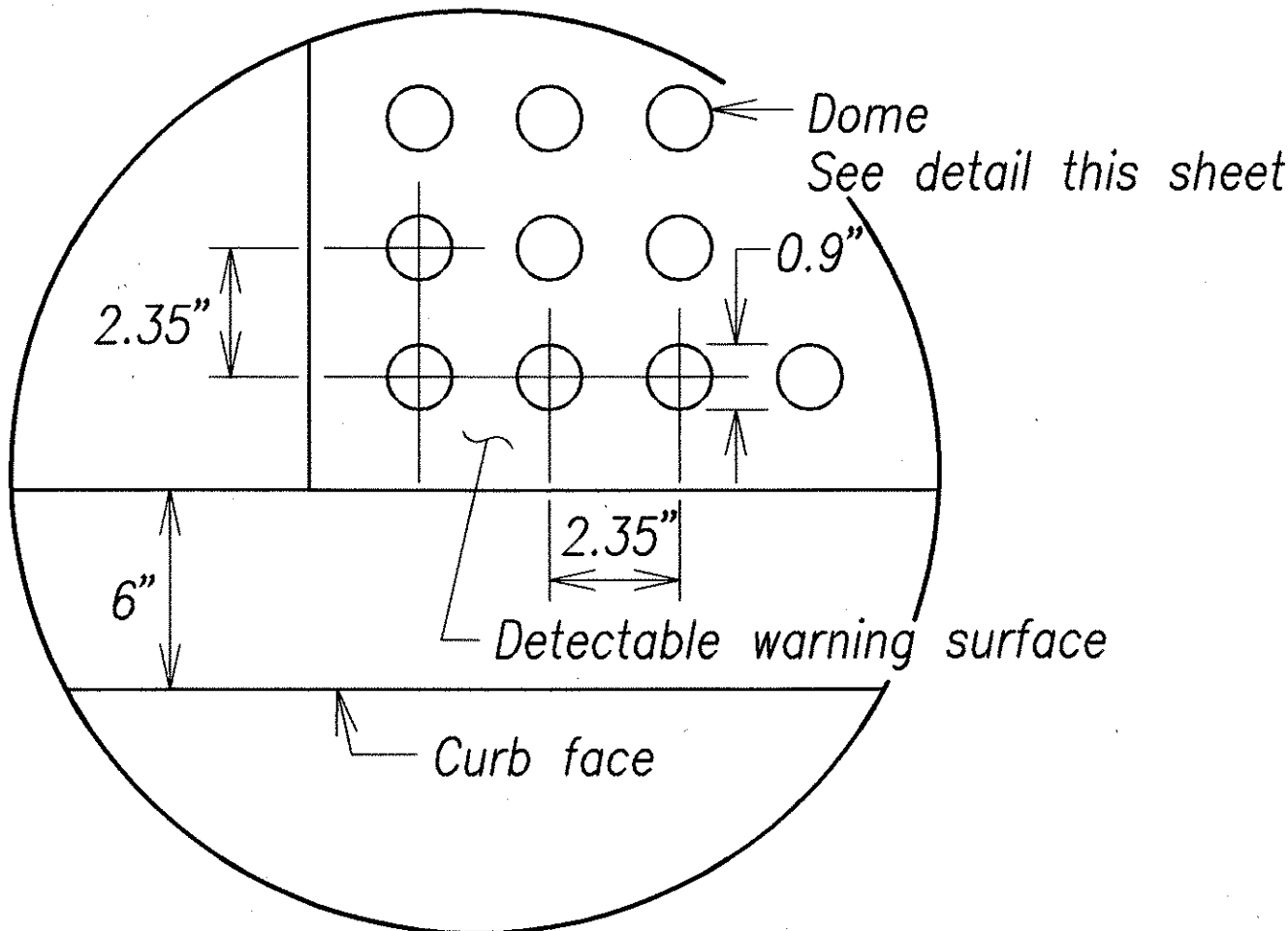
END OF SIDEWALK CURB RAMP WITH DETECTABLE WARNING

TYPICAL INSTALLATION OF DETECTABLE WARNINGS

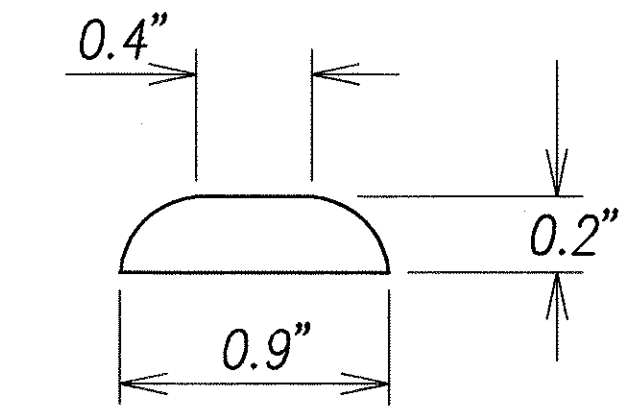
Not to Scale

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. 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 inches from the curb line.



ENLARGEMENT



DOMES SECTION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION AND CONSTRUCTION OF THIS PROJECT WILL BE UNDER MY OBSERVATION.

SIGNATURE *Greg H. Hiyakimoto* April 30, 2006  
 DATE

"OBSERVATION OF CONSTRUCTION" IS DEFINED IN CHAPTER 16-115, HAWAII ADMINISTRATIVE RULES ENTITLED "PROFESSIONAL ENGINEERS, ARCHITECTS, SURVEYORS AND LANDSCAPE ARCHITECTS".

STATE OF HAWAII  
 DEPARTMENT OF TRANSPORTATION  
 HIGHWAYS DIVISION

DETECTABLE WARNING DETAILS

Pedestrian Facilities & ADA Compliance  
 at Various Locations on Oahu, Unit 2  
 Fed. Aid Proj. No. CMAQ-0300(93)

Scale: None Date: September 2004

SHEET No. C-29 OF 126 SHEETS

