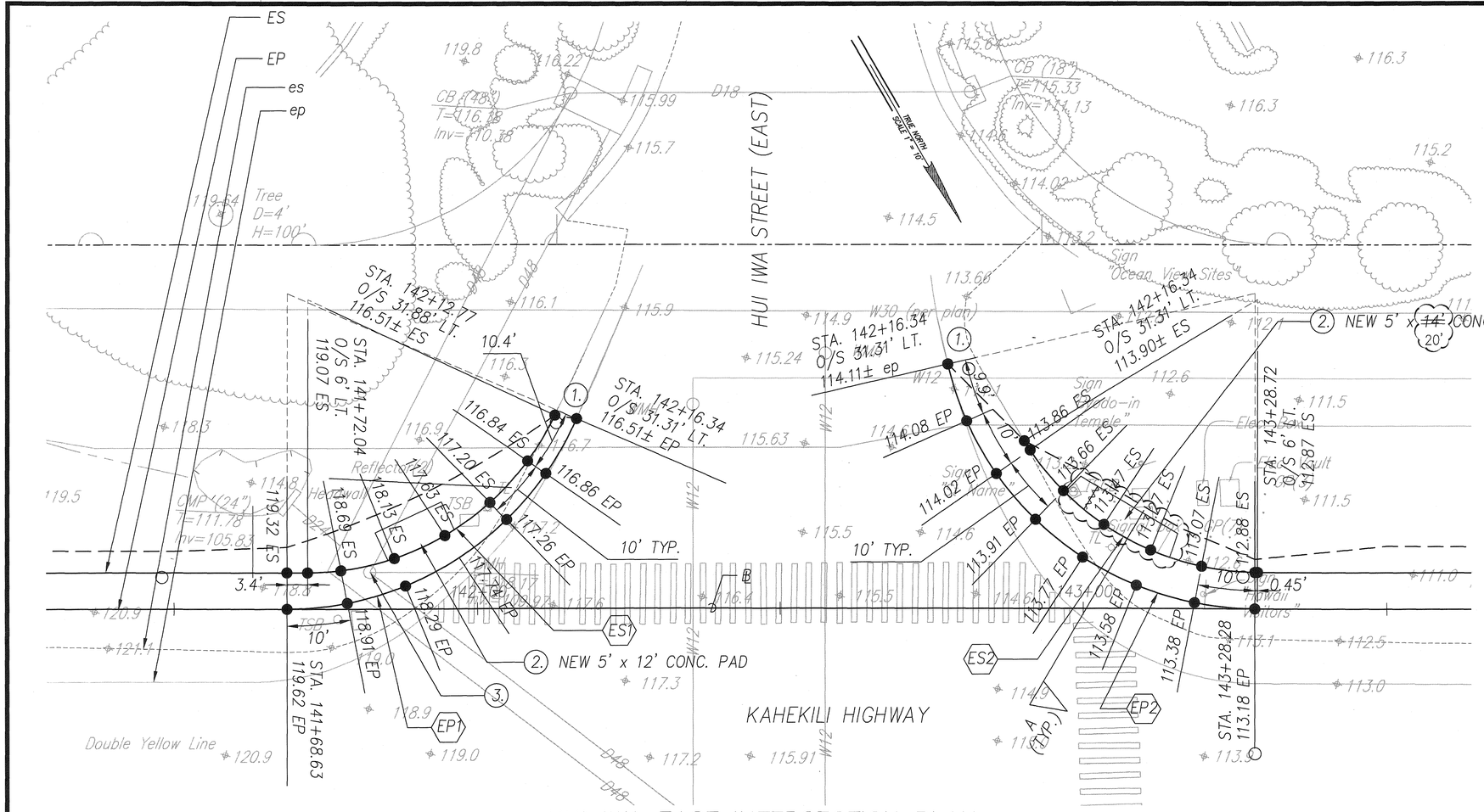
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(60)	2007	12	90



HUI IWA EAST INTERSECTION PLAN

GRAPHIC SCALE IN FEET

10 5 0 10 20 1"=10'

INTERSECTION EP CURVE DATA

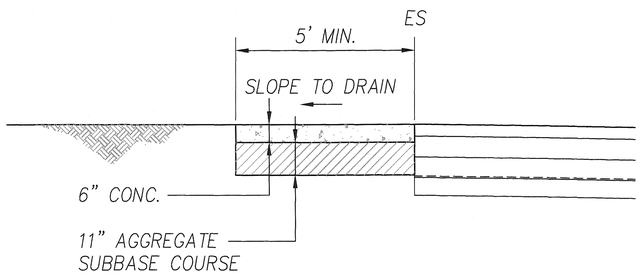
	EP1	EP2
△	66° 33' 20.6"	77° 00' 14.2"
△/2	33° 16' 40.3"	38° 30' 07.1"
R	52'	52'
T	34.13'	41.37'
C	57.07'	64.74'
L	60.40'	69.89'

INTERSECTION ES CURVE DATA

	ES1	ES2
△	64° 51' 38.9"	58° 45' 39.1"
△/2	32° 25' 49.5"	29° 22' 49.5"
R	45'	45'
T	28.59'	25.34'
C	48.27'	44.16'
L	50.94'	46.15'

NOTES:

1. PROVIDE SMOOTH RIDING CONNECTION
2. COORDINATE LOCATION OF CONCRETE SLAB WITH PEDESTRIAN PUSH BUTTON UNIT INSTALLATION. SEE ELECTRICAAL PLANS.
3. ADJUST MANHOLE FRAME AND COVER TO FINISH GRADE



SECTION A

SCALE: 1/2" = 1'

"AS-BUILT"

LEGEND FOR AS-BUILT POSTING

~~	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

KENNETH O. NAGAI LICENSED PROFESSIONAL ENGINEER No. 3265-C HAWAII, U.S.A.

Signature

APRIL 30, 2008
EXPIRATION DATE OF LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

INTERSECTION DETAIL PLAN
KAHEKILI HIGHWAY

KAHEKILI HIGHWAY INTERSECTION IMPROVEMENTS
VICINITY OF HUI IWA STREET
FEDERAL-AID PROJECT NO. NH-083-1(60)

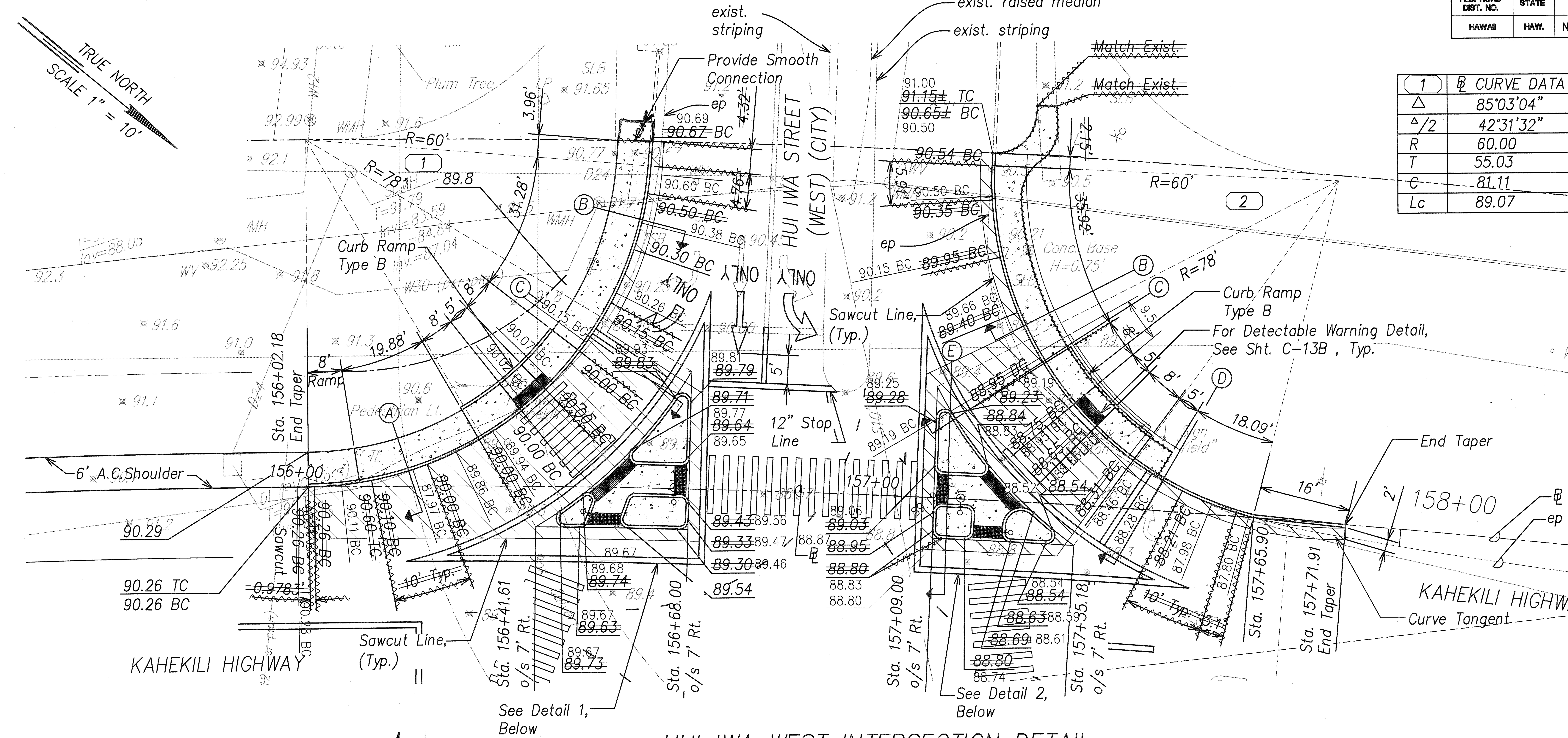
SCALE: AS NOTED DATE: April 2007

SHEET No. C-12 OF 90 SHEETS

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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(60)	2007	15	90

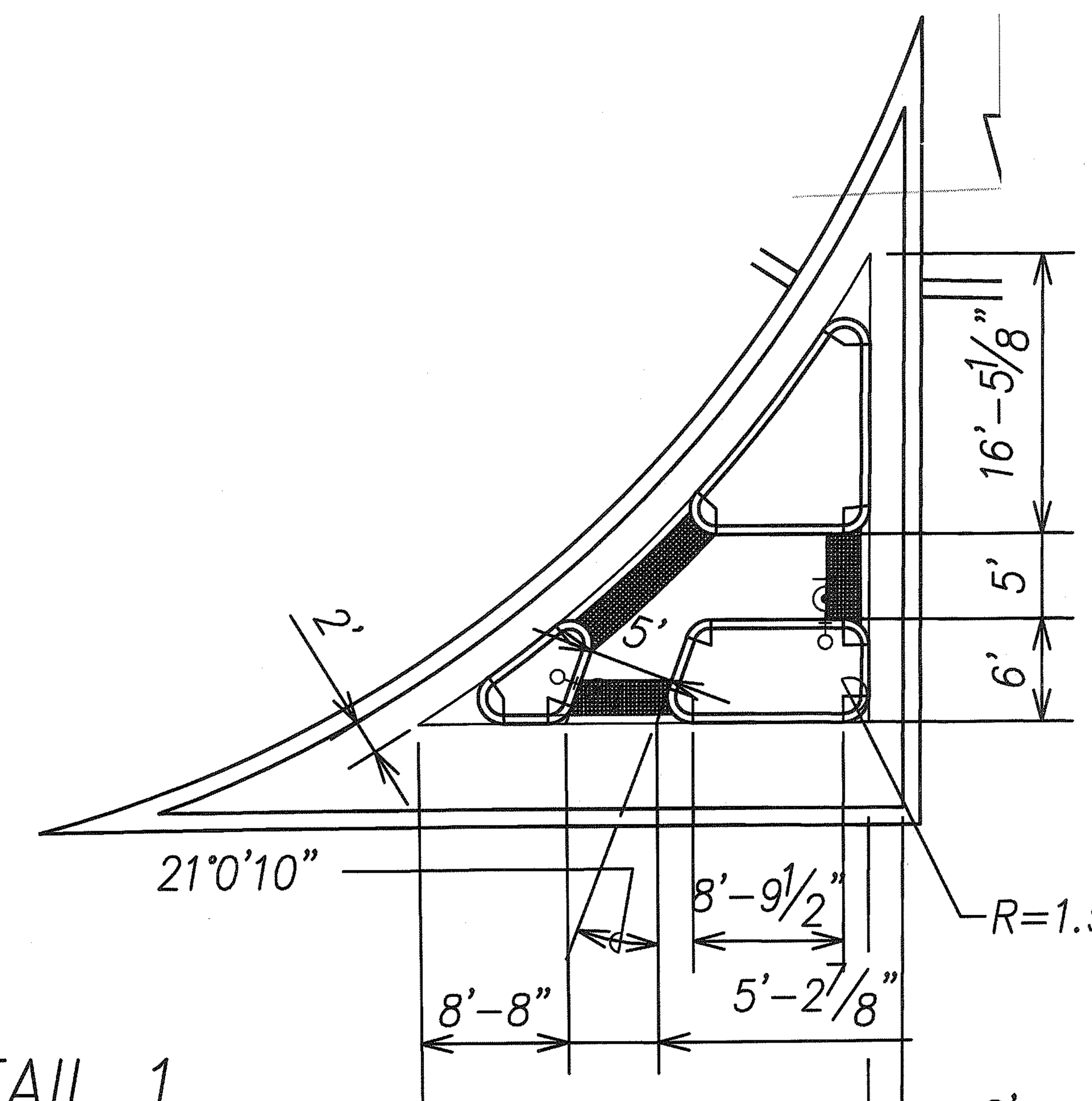
1	℄ CURVE DATA	2	℄ CURVE DATA
Δ	85°03'04"	Δ	78°13'25"
Δ/2	42°31'32"	Δ/2	39°06'42.5"
R	60.00	R	60.00
T	55.03	T	48.78
~~C~~	~~81.11~~	C	75.70
Lc	89.07	Lc	81.92



HUI IWA WEST INTERSECTION DETAIL

GRAPHIC SCALE IN FEET

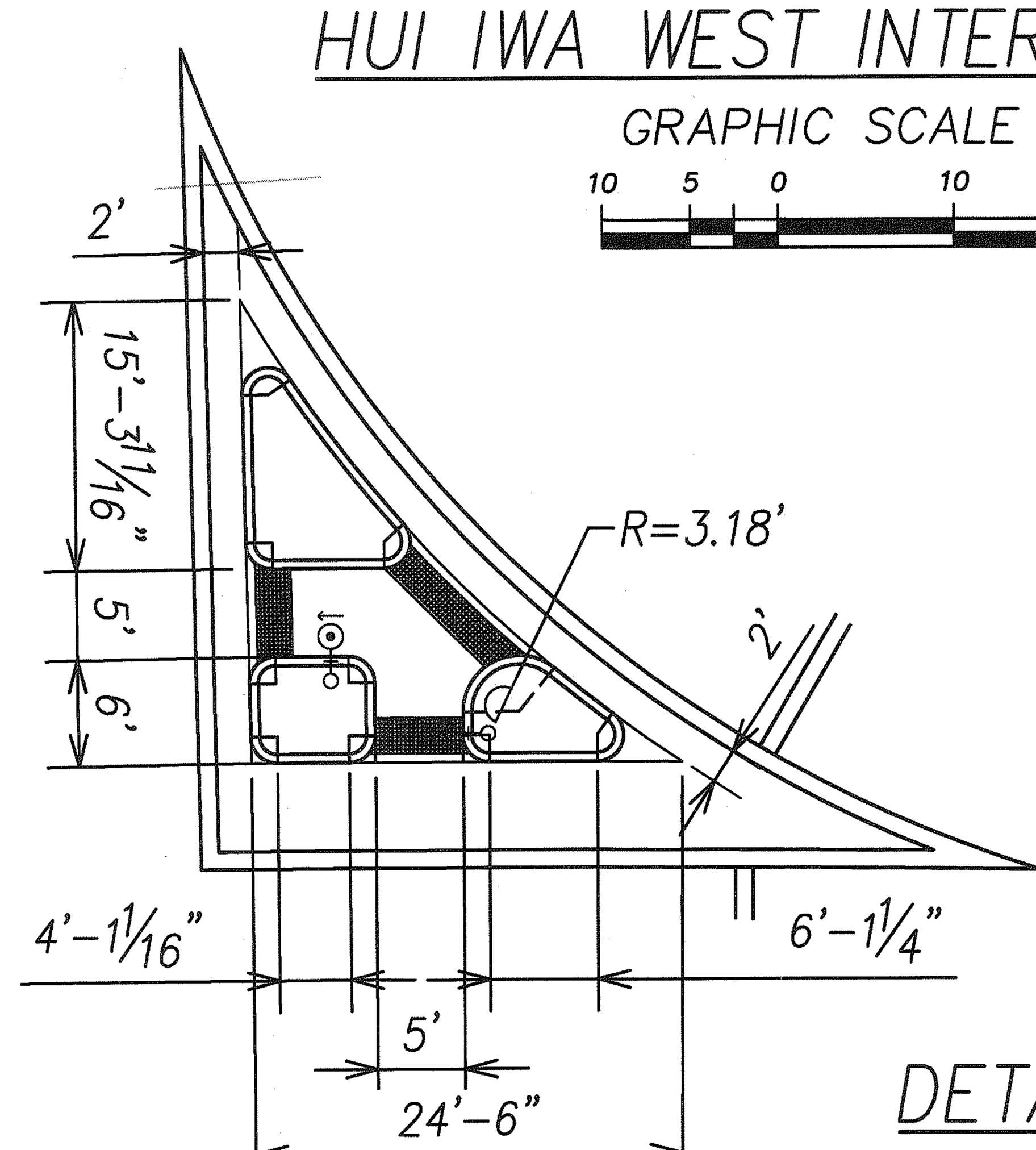
10 5 0 10 20 1"=10'



DETAIL 1

GRAPHIC SCALE IN FEET

10 5 0 10 20 1"=10'



DETAIL 2

GRAPHIC SCALE IN FEET

10 5 0 10 20 1"=10'

Notes:

1. Spot elevations based on topo survey. Contractor to field verify and make adjustments accordingly.
2. [hatched box] Existing pavement to be reconstructed
3. Pedestrian Push Button mounted on signal, std.

LEGEND FOR AS-BUILT POSTING

(squiggly line)	Squiggly line for as-built deletion
~~100.00~~	Double line for as-built deletion
Roadway	Text for as-built posting

KENNETH O. NAGAI
LICENSED PROFESSIONAL ENGINEER
No. 3265-C
HAWAII, U.S.A.

SIGNATURE

APRIL 30, 2010
EXPIRATION DATE OF LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KAHEKILI HIGHWAY INTERSECTION DETAIL

KAHEKILI HIGHWAY INTERSECTION IMPROVEMENTS
VICINITY OF HUI IWA STREET
FEDERAL-AID PROJECT NO. NH-083-1(60)

SCALE: 1"=10' DATE: August 2009

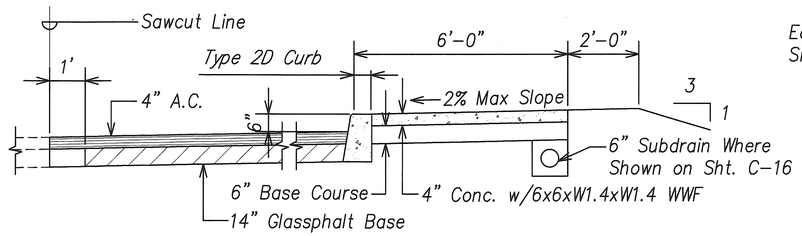
SHEET No. C-13 OF 90 SHEETS

15A C.O.

"AS-BUILT"

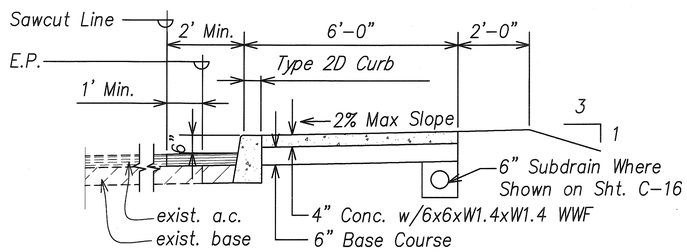
ORIGINAL PLAN	SURVEY PLOTTED BY ___ DATE ___
NOTE BOOK	DRAWN BY ___ "
	TRACED BY ___ "
	DESIGNED BY ___ "
	QUANTITIES BY ___ "
No. ___	CHECKED BY ___ "

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(60)	2007		90



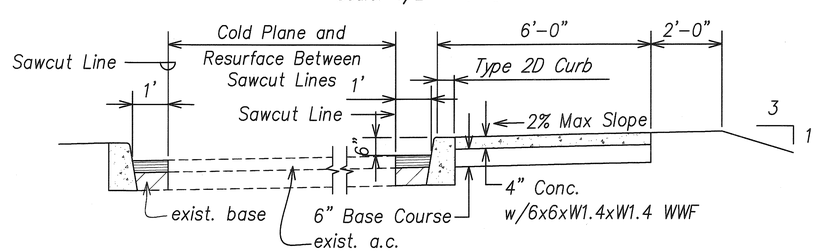
SECTION A

Scale: 1/2" = 1'-0"



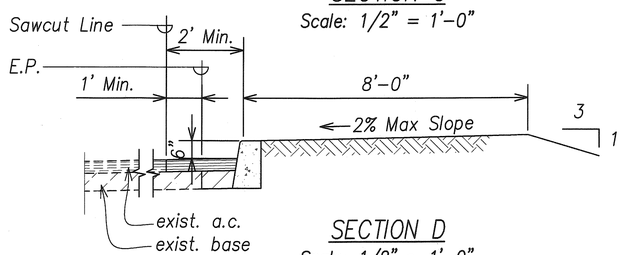
SECTION B

Scale: 1/2" = 1'-0"



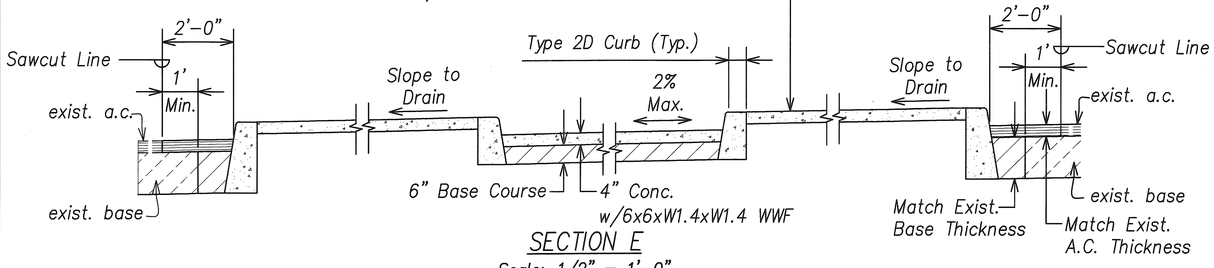
SECTION C

Scale: 1/2" = 1'-0"



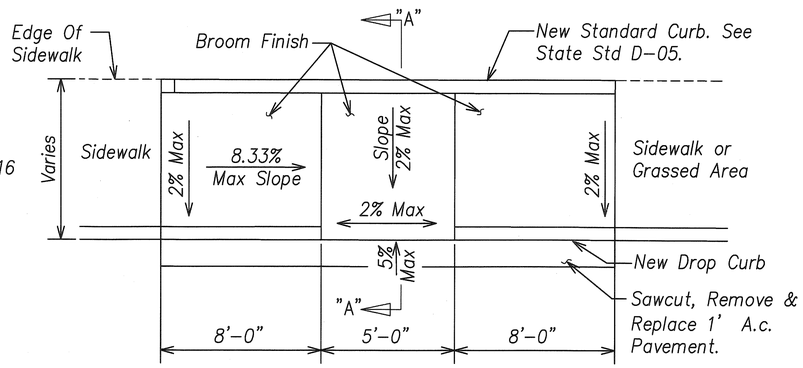
SECTION D

Scale: 1/2" = 1'-0"

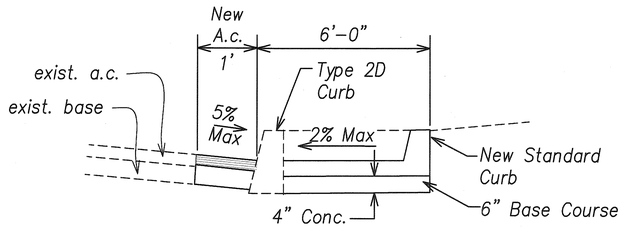


SECTION E

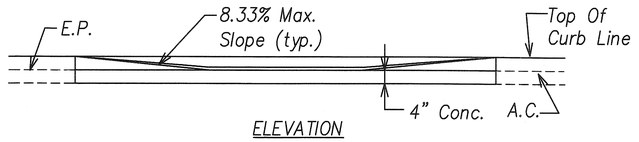
Scale: 1/2" = 1'-0"



CURB RAMP - TYPE "B" MODIFIED



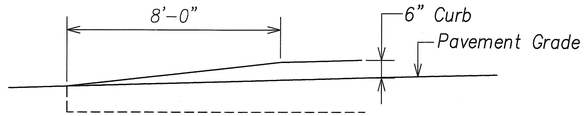
SECTION "A-A"



ELEVATION

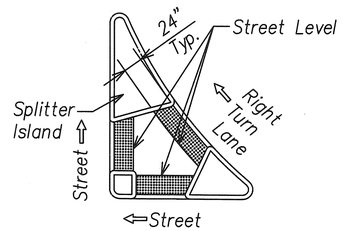
TYPE B CURB RAMP

Not To Scale



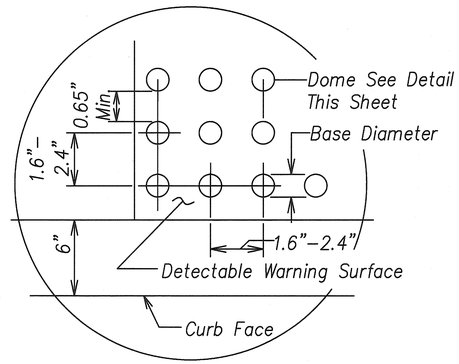
ELEVATION - CURB END TAPER

Not To Scale

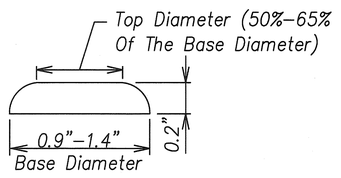


REFUGE ISLAND WITH DETECTABLE WARNING

Not To Scale

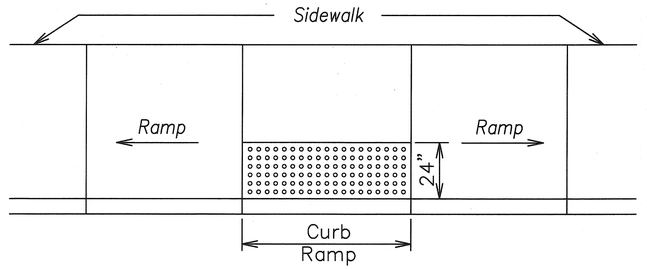


Enlargement



Dome Section

DETECTABLE WARNING DETAIL



TYP. TRANSITION RAMP WITH DETECTABLE WARNING

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

KENNETH O. NAGAI
LICENSED PROFESSIONAL ENGINEER
No. 3265-C
HAWAII, U.S.A.

SIGNATURE

APRIL 30, 2010

EXPIRATION DATE OF LICENSE

THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAIL

KAHEKILI HIGHWAY INTERSECTION IMPROVEMENTS
VICINITY OF HUI IWA STREET
FEDERAL-AID PROJECT NO. NH-083-1(60)

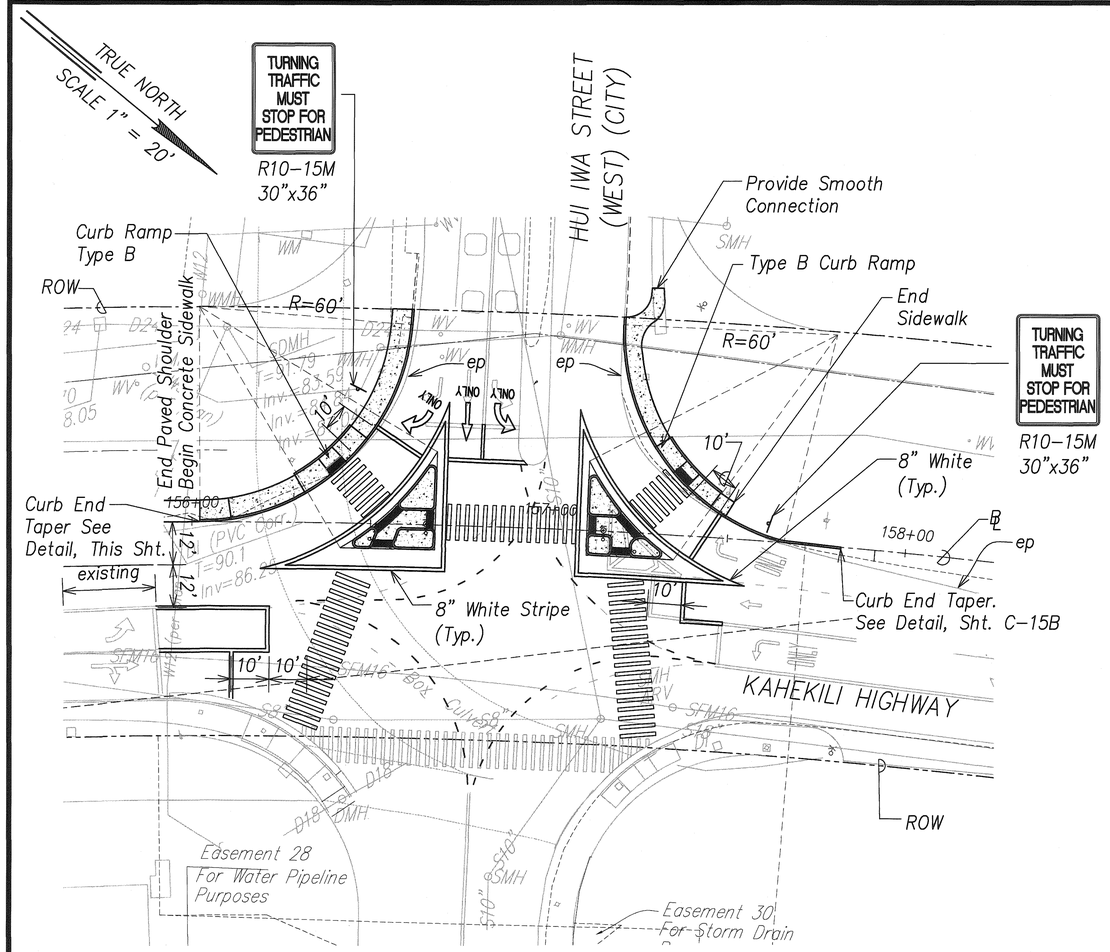
SCALE: 1"=10'

DATE: May 2009

SHEET No. C-13 OF 90 SHEETS

"AS-BUILT"

15B C.O.



Notes:

1. See Sht. C-13A for Layout of Curb Returns and Traffic Islands.
2. See Sht. C-30 for Signing and Marking Requirements.
3. See Electrical Plans for Traffic Signal Installation.

HUI IWA WEST INTERSECTION PLAN

GRAPHIC SCALE IN FEET

20 10 0 20 40 1"=20'

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

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 curb 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% prefered) over a distance of 2 ft. Exceeding the 13% (11% prefered) 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 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 Section 4.4) 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 ¼ inch per 10 ft. (±0.2%). Remedial measures will not be accepted.
21. Additional information is available from:
   a) American with Disabilties Act Accessibility Guidelines (ADAAG), Jan. 1998, The Access Board.
   b) Accessible Rights-of-Way: 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

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-083-1(60)	2007	15	90

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SIGNATURE
APRIL 30, 2010
EXPIRATION DATE OF LICENSE

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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

KAHEKILI HIGHWAY
HUI IWA WEST INTERSECTION
KAHEKILI HIGHWAY INTERSECTION IMPROVEMENTS
VICINITY OF HUI IWA STREET
FEDERAL-AID PROJECT NO. NH-083-1(60)

SCALE: 1"=10' DATE: May 2009

SHEET No. C-13 OF 90 SHEETS

15 C.O.