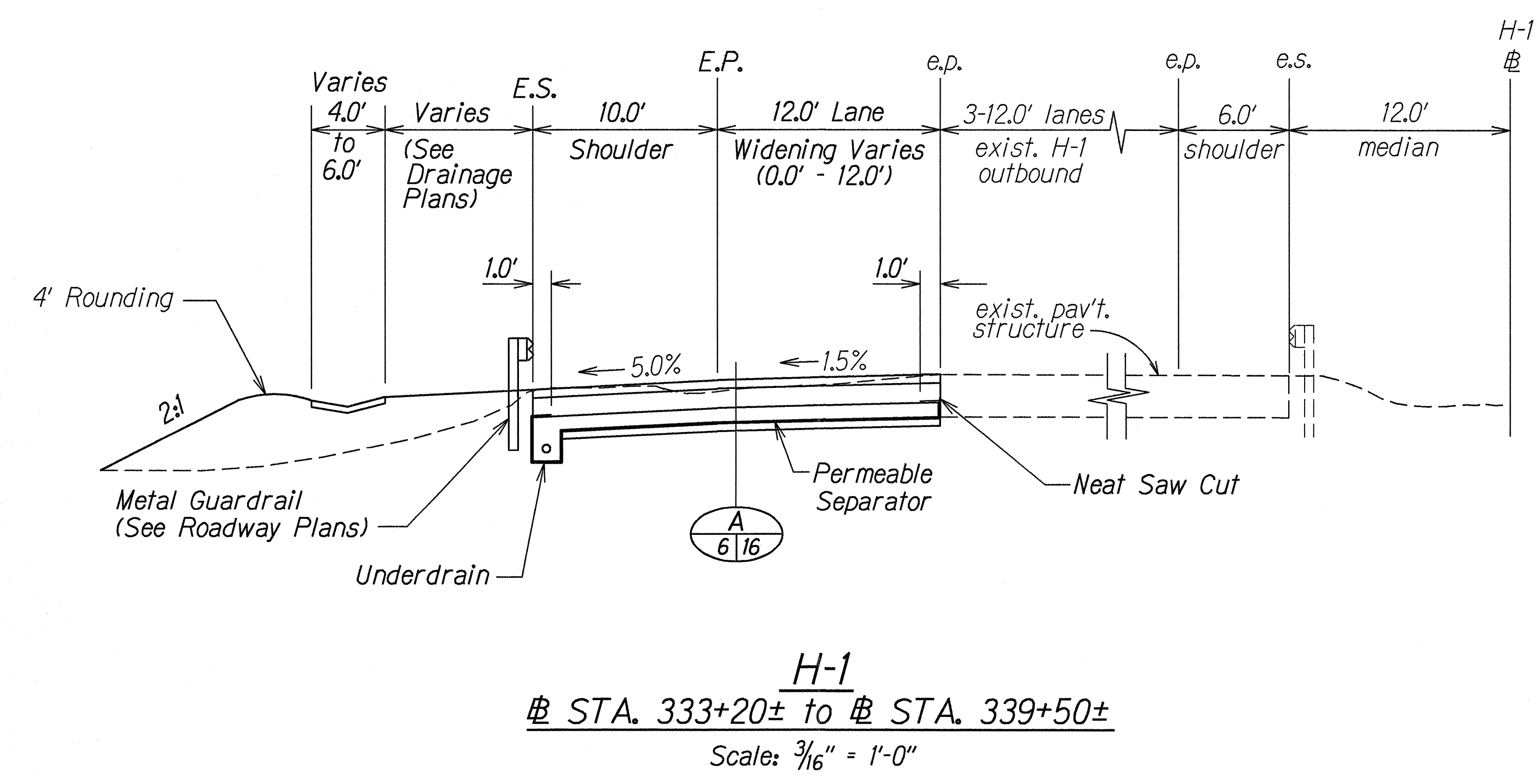
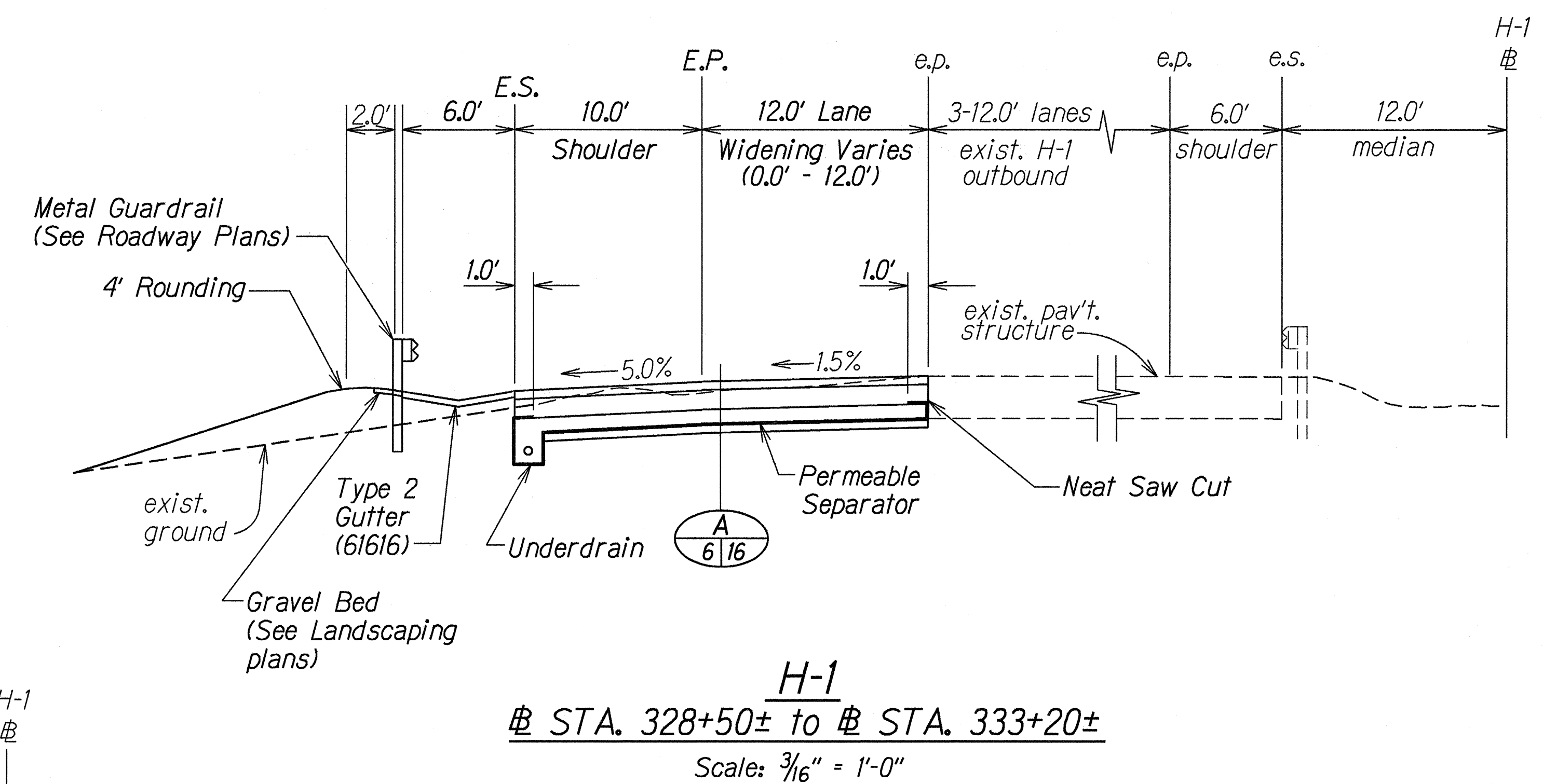
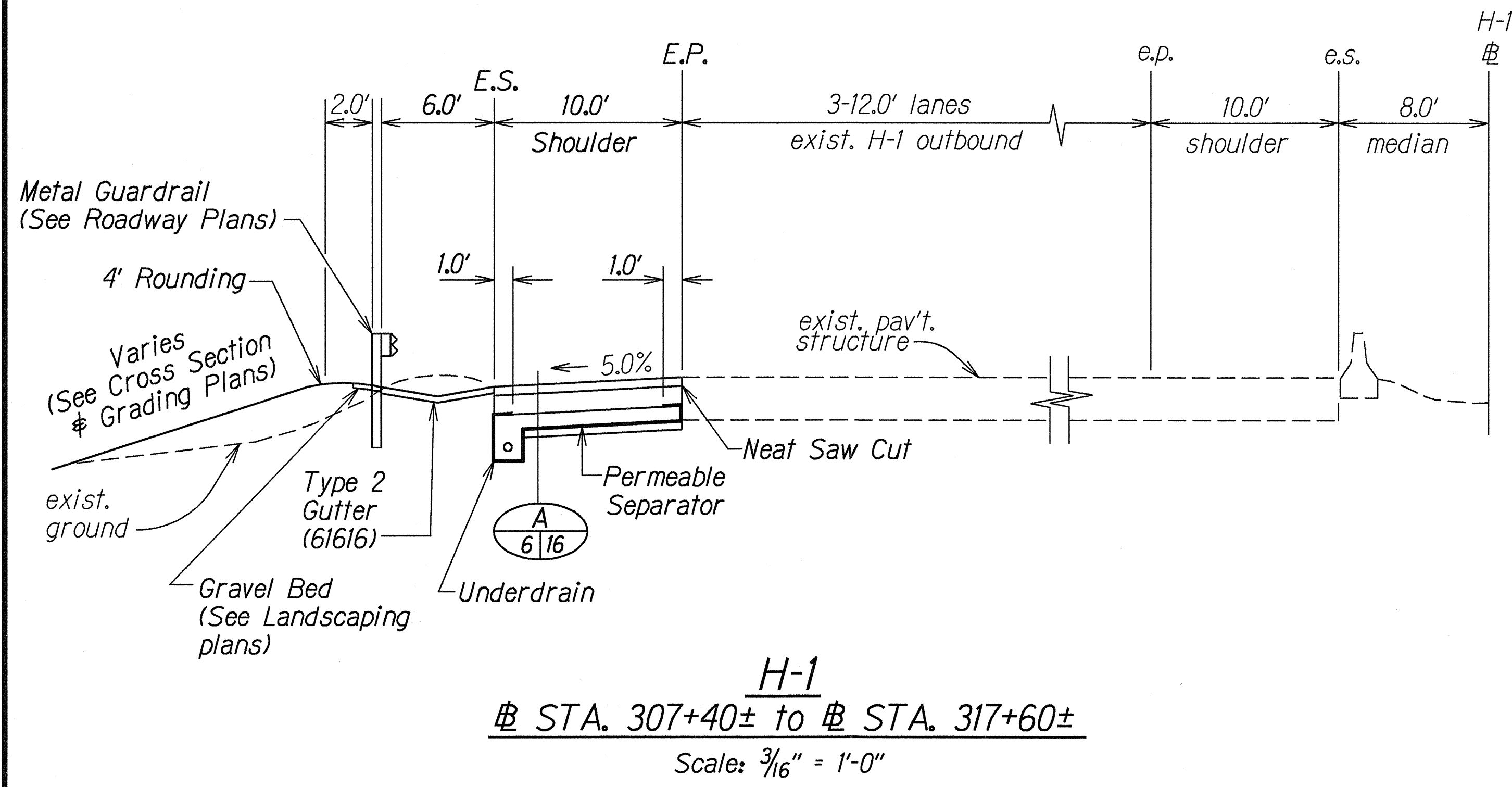


FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	6	378



SURVEY PLOTTED BY	DATE
DRAWN BY	10-23-97
TRACED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

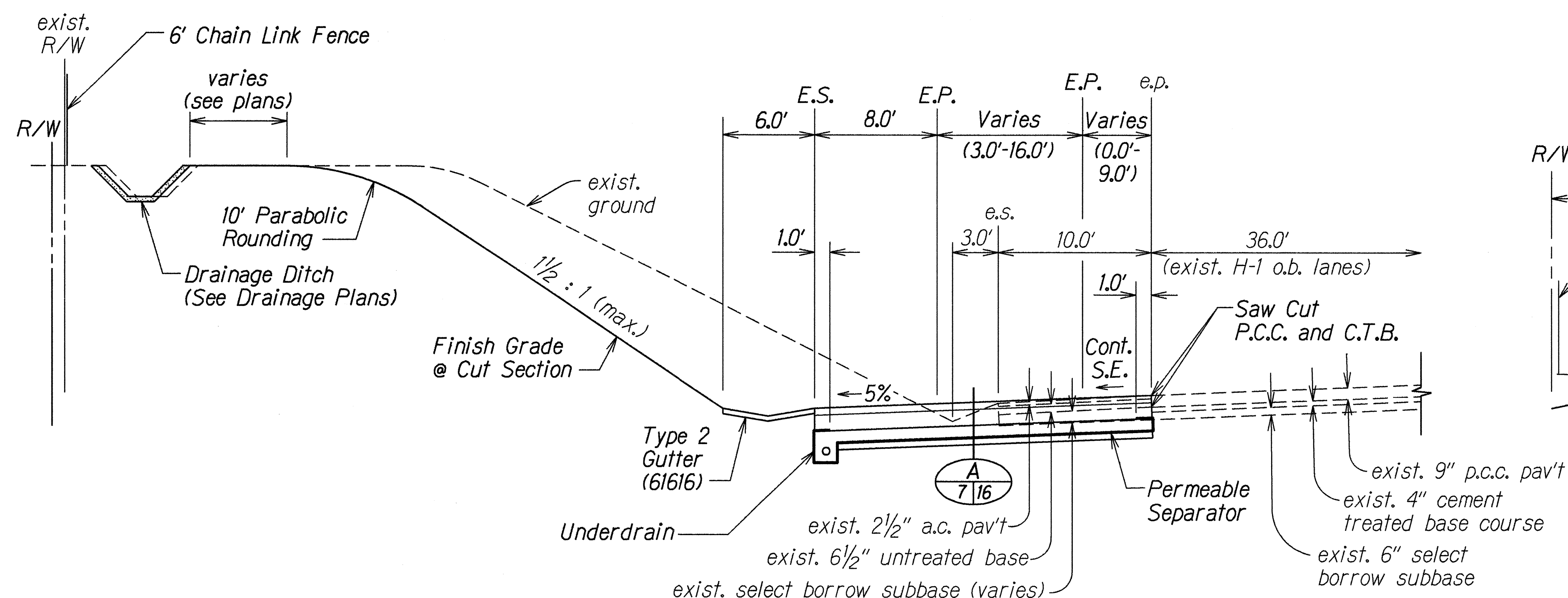
TYPICAL SECTIONS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)

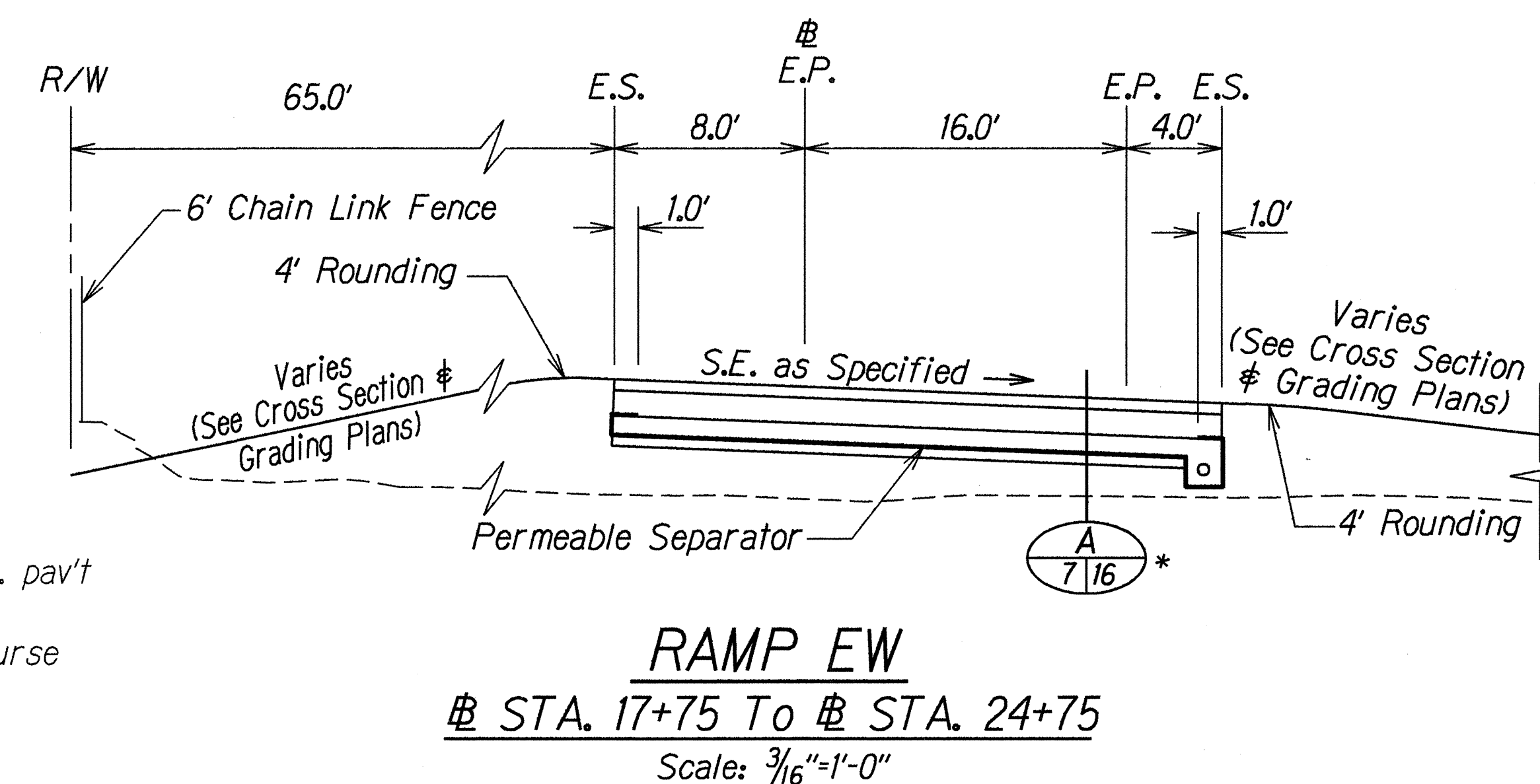
Scale: As Shown Date: Oct. 1997

SHEET No. 1 OF 15 SHEETS

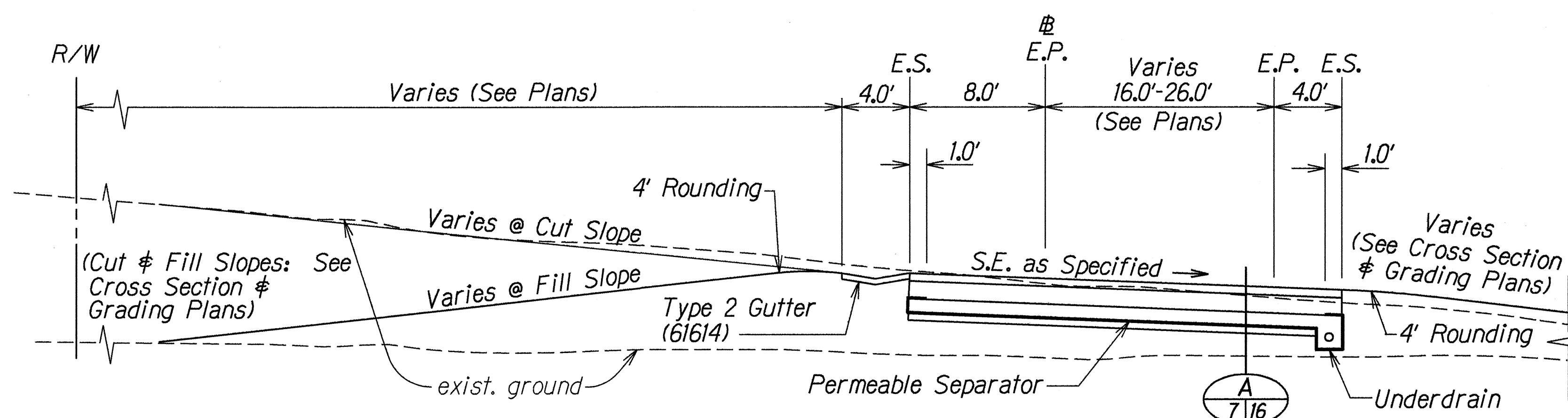
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	7	378



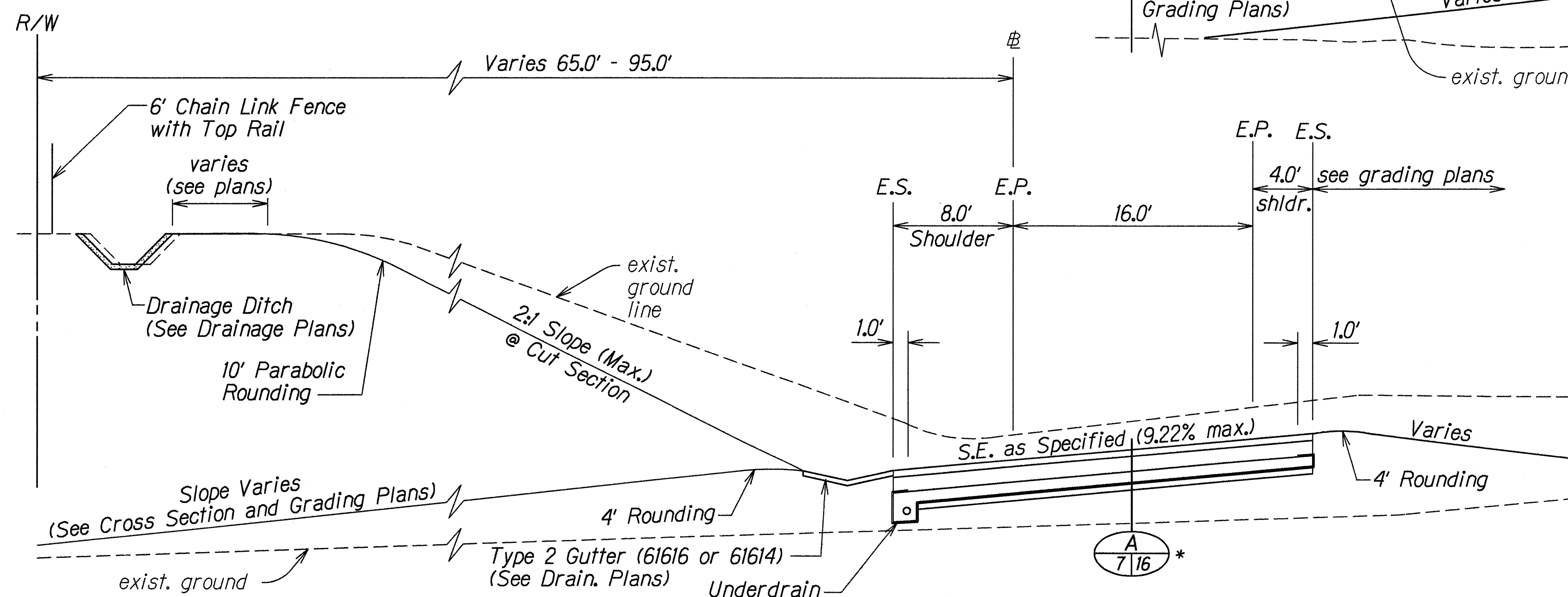
RAMP EW
 # STA. 0+00 TO # STA. 11+30
 Scale: 3/16"=1'-0"



RAMP EW
 # STA. 17+75 TO # STA. 24+75
 Scale: 3/16"=1'-0"



RAMP EW
 # STA. 24+75 TO # STA. 30+49.13
 Scale: 3/16"=1'-0"



RAMP EW
 # STA. 11+30 TO # STA. 17+75
 Scale: 3/16"=1'-0"

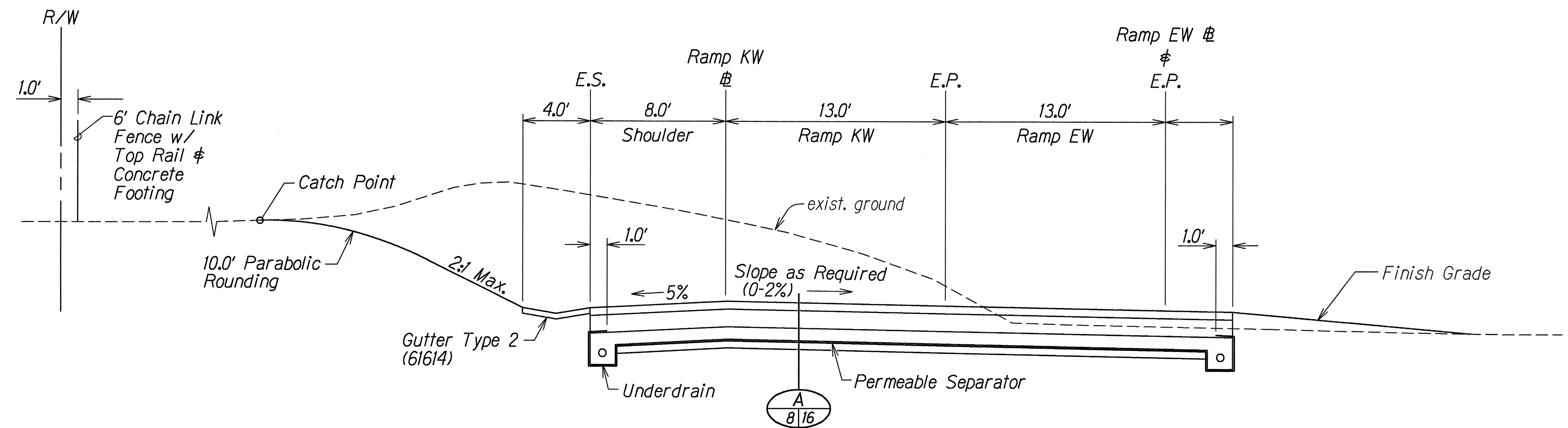
*NOTE: Pavement Design $\frac{A}{716}$ between Ramp EW # Sta. 17+65± and # Sta. 17+79± shall be modified to consist of 6" A.C. Pavement (3" Final Paving & 3" First Lift), 2" A.C. Base and 6" Aggregate Subbase. See Plan Sht. No C.O. 194S-1 for 6" Transverse Underdrain Pipe.

DESIGNED BY	DATE
10-23-98	
TRACED BY	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

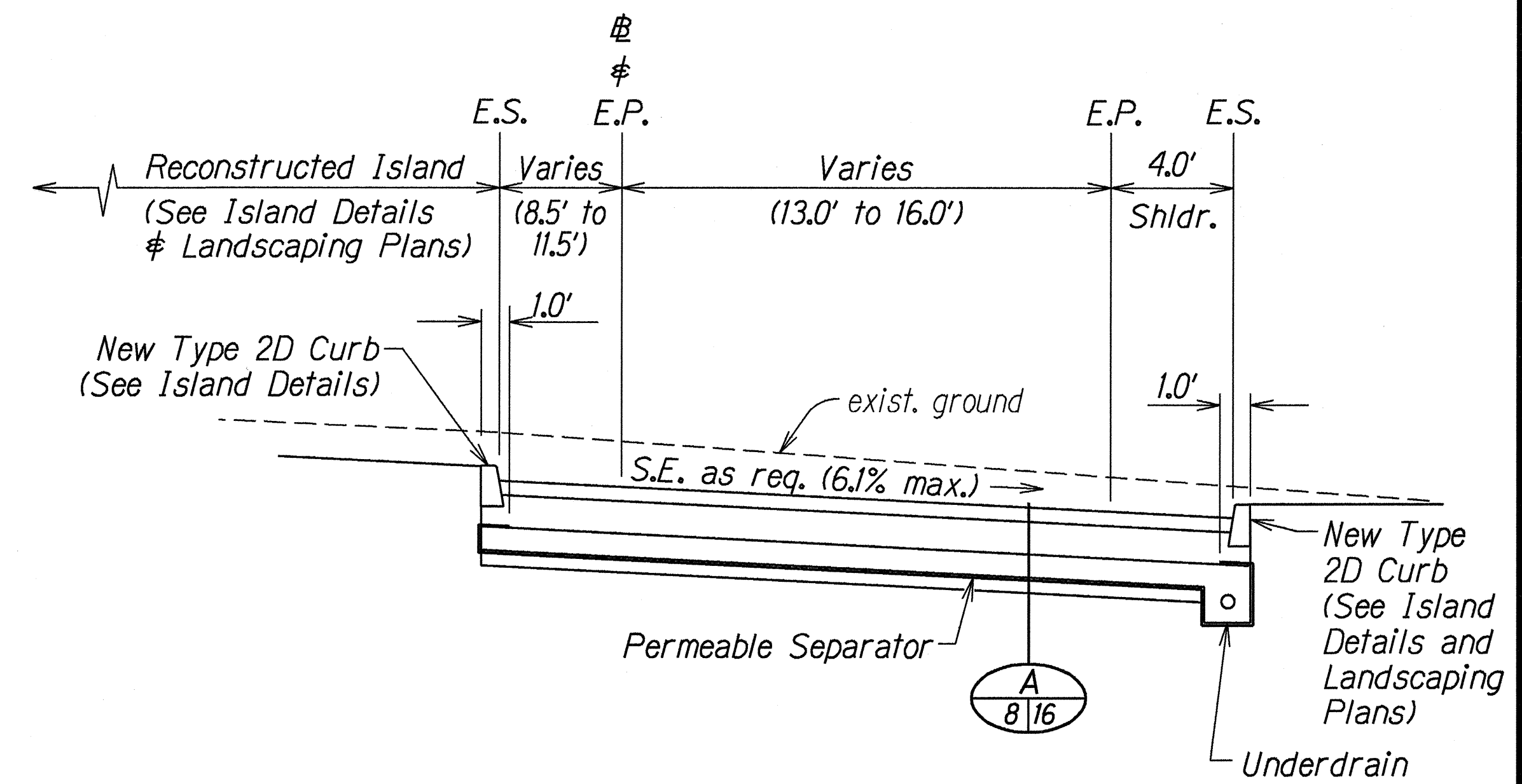
10-23-98	Added Note for Ramp EW Pavement Design
	$\frac{A}{716}$
DATE	REVISION

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION
TYPICAL SECTIONS
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. 1M-HI-1(219)
Scale: As Shown Date: Oct. 1997
SHEET No. 2 OF 15 SHEETS

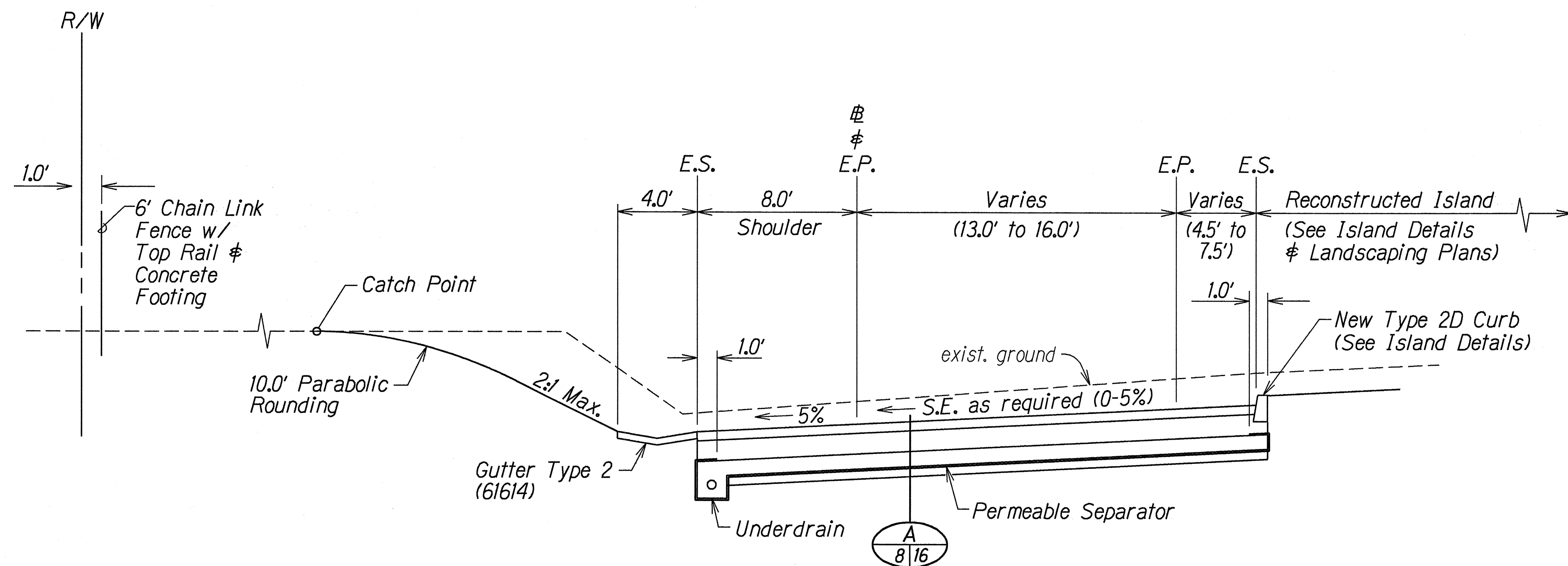
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	8	378



TYPICAL SECTION - RAMPS KW AND EW
 STA. 30+49.13 to STA. 32+97.03
 Scale: 1/4" = 1'-0"



TYPICAL SECTION - RAMP EW
 STA. 32+97.03 to STA. 35+10
 Scale: 1/4" = 1'-0"



TYPICAL SECTION - RAMP KW
 STA. 32+97.03 to STA. 35+30
 Scale: 1/4" = 1'-0"

ORIGINAL PLAN	DATE	9-30-97
DESIGNED BY	DESIGNED BY	JHE / M. GARCIA
QUANTITIES BY	QUANTITIES BY	ts/01/10/97
CHECKED BY	CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

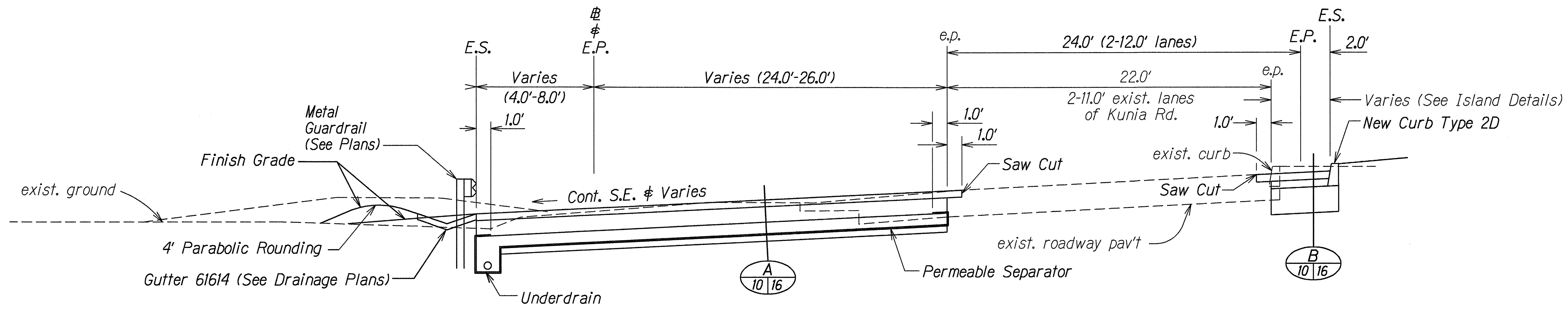
TYPICAL SECTIONS

INTERSTATE ROUTE H-1
 KUNIA INTERCHANGE IMPROVEMENTS
 F. A. I. Project No. IM-HI1-1(219)

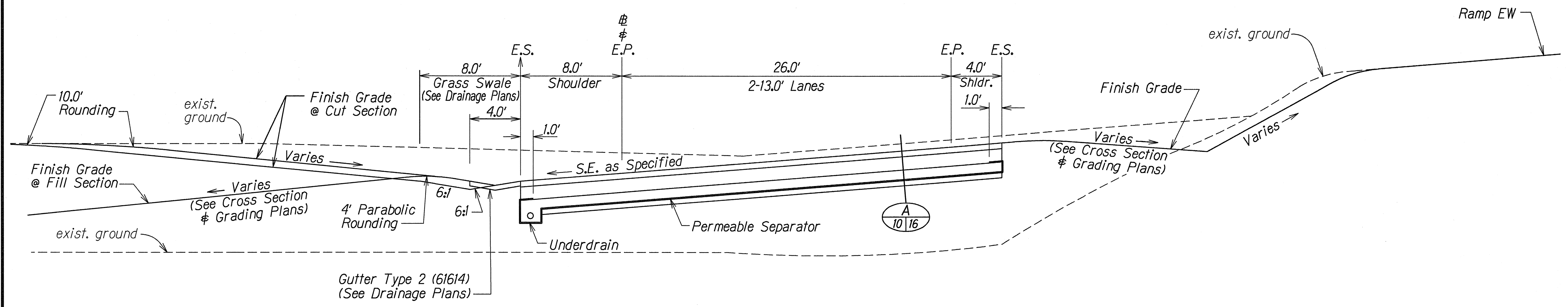
Scale: As Shown Date: Oct. 1997

SHEET No. 3 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	10	378



RAMP HE
 STA. 3+42± to STA. 5+17.70±
 Scale: 1/4" = 1'-0"



RAMP HE
 Sta. 5+17.70± to Sta. 28+07.71±
 Scale: 1/4" = 1'-0"

ORIGINAL PLAN	DATE
NOTE BOOK	10-15-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

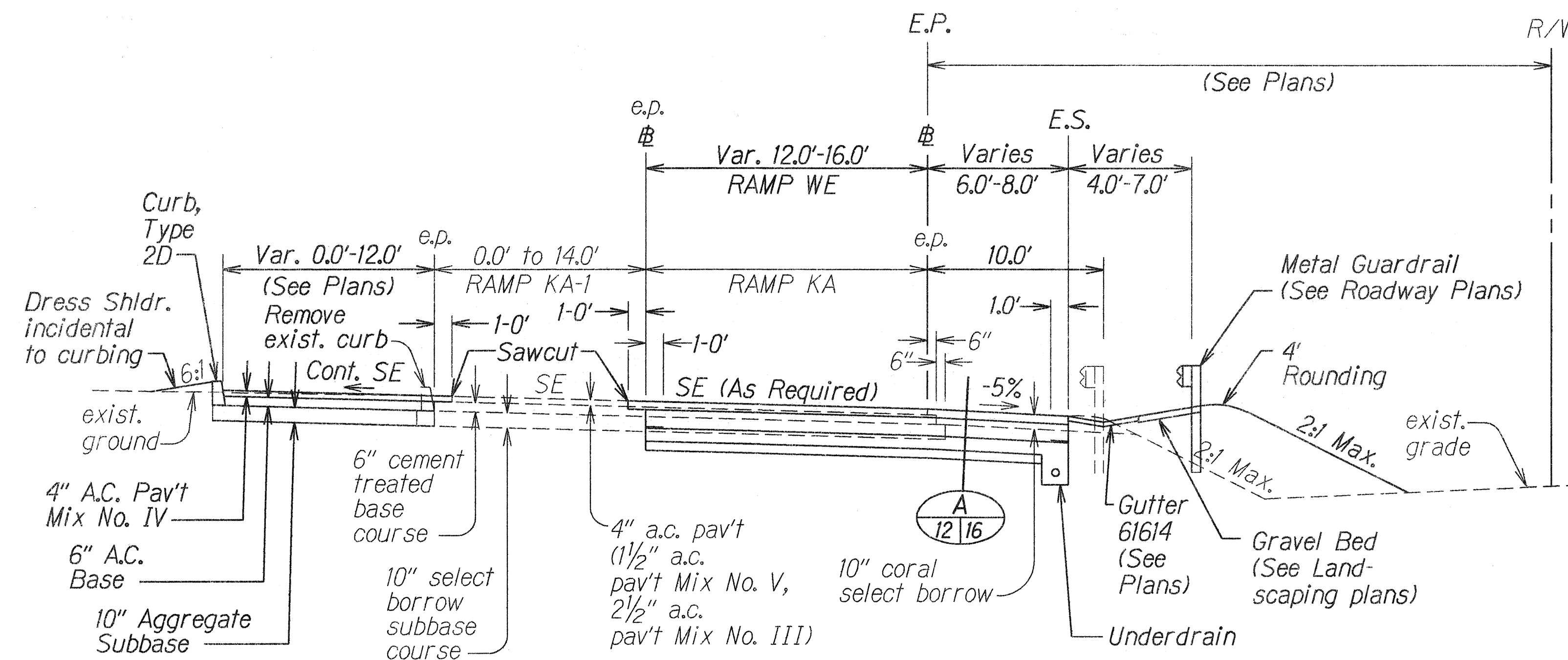
TYPICAL SECTIONS

INTERSTATE ROUTE H-1
 KUNIA INTERCHANGE IMPROVEMENTS
 F. A. I. Project No. IM-HI-1(219)

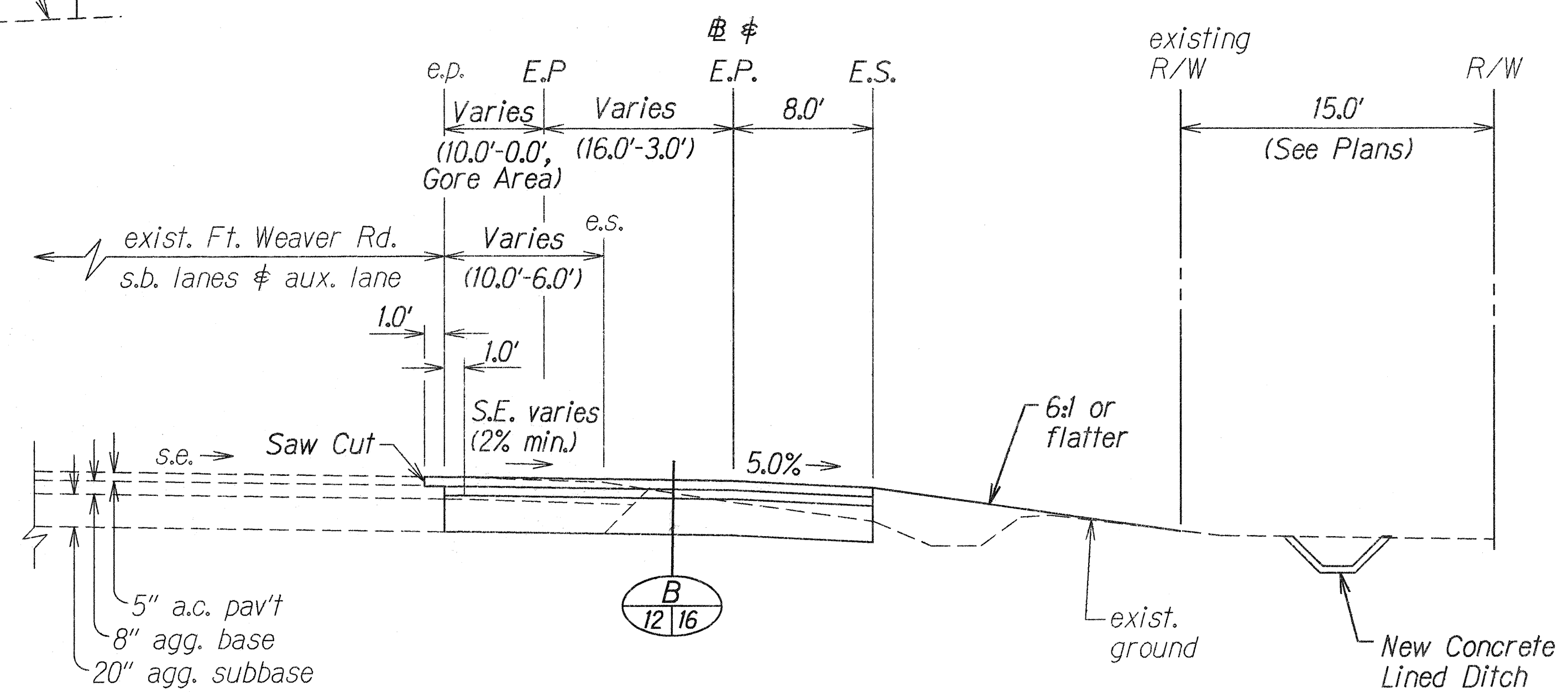
Scale: As Shown Date: Oct. 1997

SHEET No. 5 OF 15 SHEETS

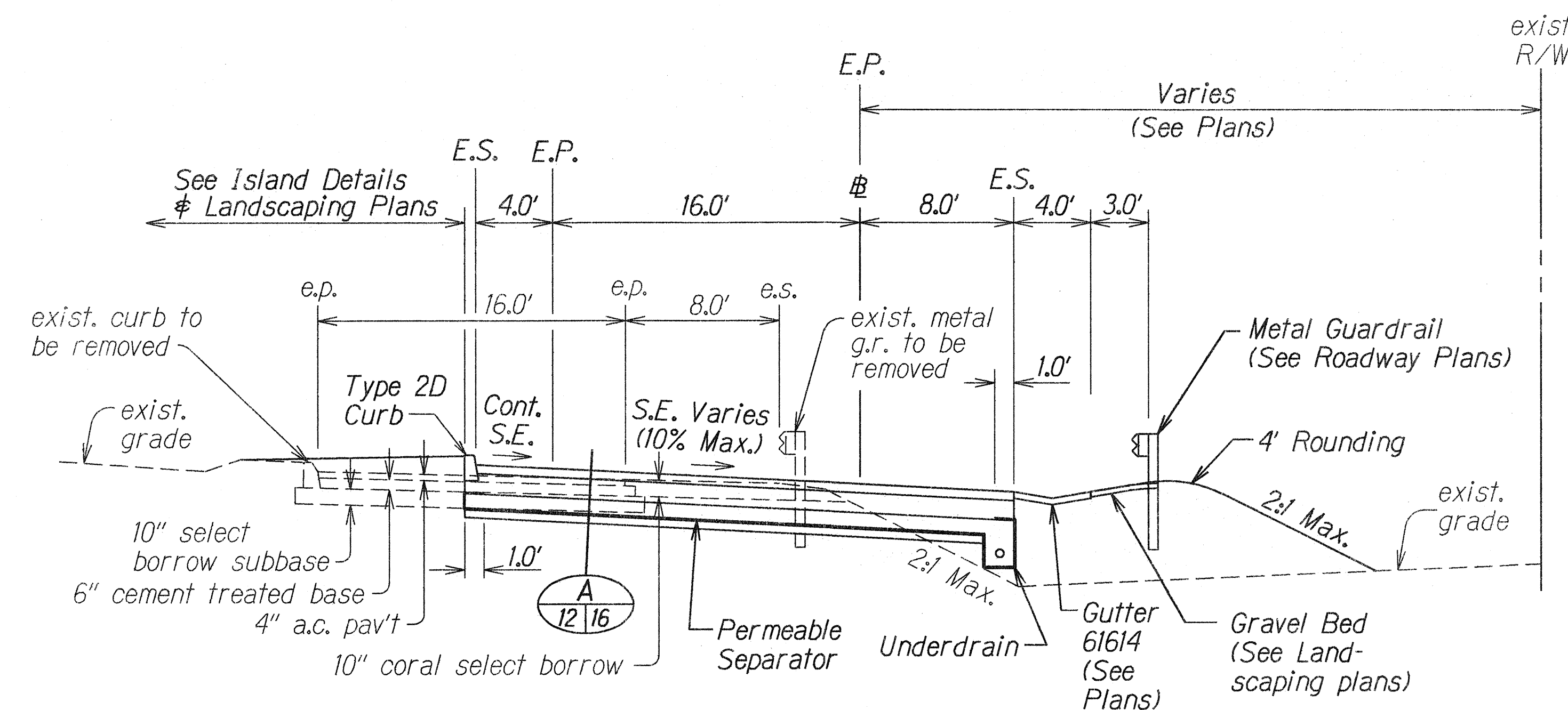
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	C.O.12	378



RAMP WE
 STA. 9+28 to STA. 12+44±
 Scale: 3/16" = 1'-0"



RAMP WE
 STA. 15+10± to STA. 24+18.45±
 Scale: 3/16" = 1'-0"



RAMP WE
 STA. 12+44± to STA. 15+10±
 Scale: 3/16" = 1'-0"

ORIGINAL PLAN	DATE	2-10-00
NOTED BY	DESIGNED BY	W. G. G. G.
QUANTITIES BY	CHECKED BY	W. G. G. G.
sub	its	

2-10-00	Revised Station limits for Metal Guardrail.
DATE	REVISION

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

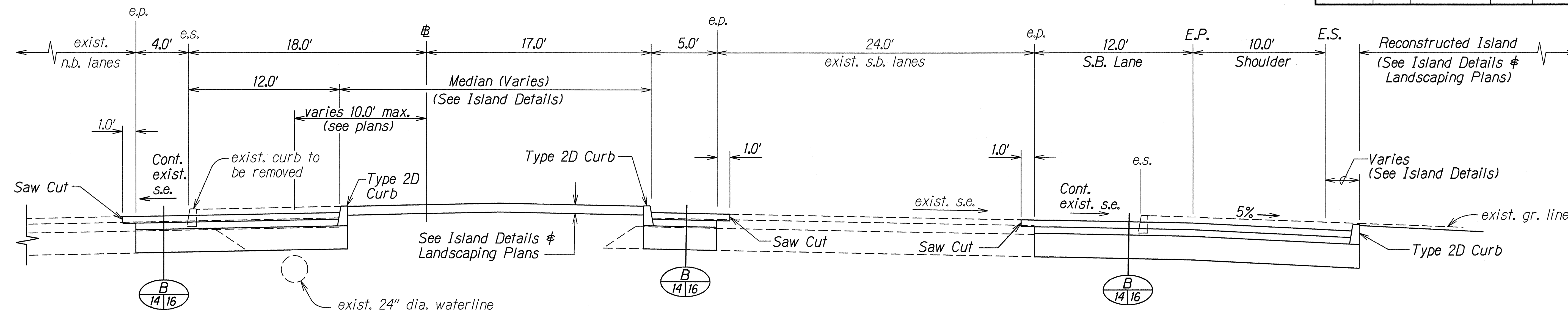
TYPICAL SECTIONS

INTERSTATE ROUTE H-1
 Kunia Interchange Improvements
 F. A. I. Project No. IM-HI-1(219)

Scale: As Shown Date: Oct. 1997

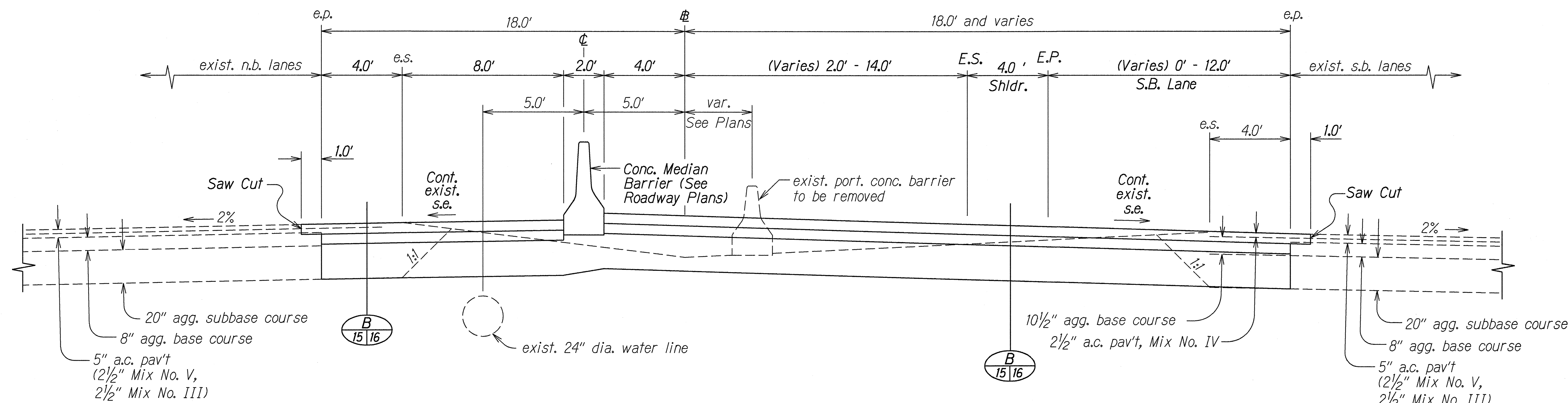
SHEET No. 7 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	14	378



FORT WEAVER ROAD
± STA. 57+70± to ± STA. 58+80±

Scale: 1/4" = 1'-0"



FORT WEAVER ROAD - MEDIAN SECTION
± STA. 58+80 to ± STA. 76+75

Scale: 3/8" = 1'-0"

ORIGINAL PLAN	DATE
NOTE BOOK	10-21-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

sub 1/15

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

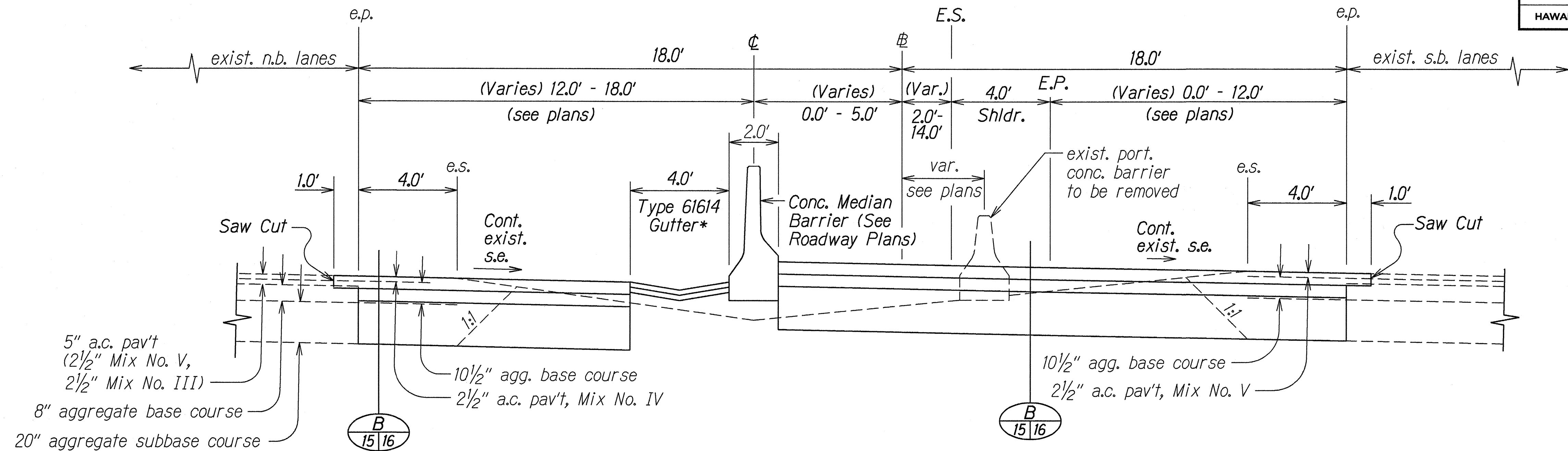
TYPICAL SECTIONS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

Scale: As Shown Date: Oct. 1997

SHEET No. 9 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	15	378

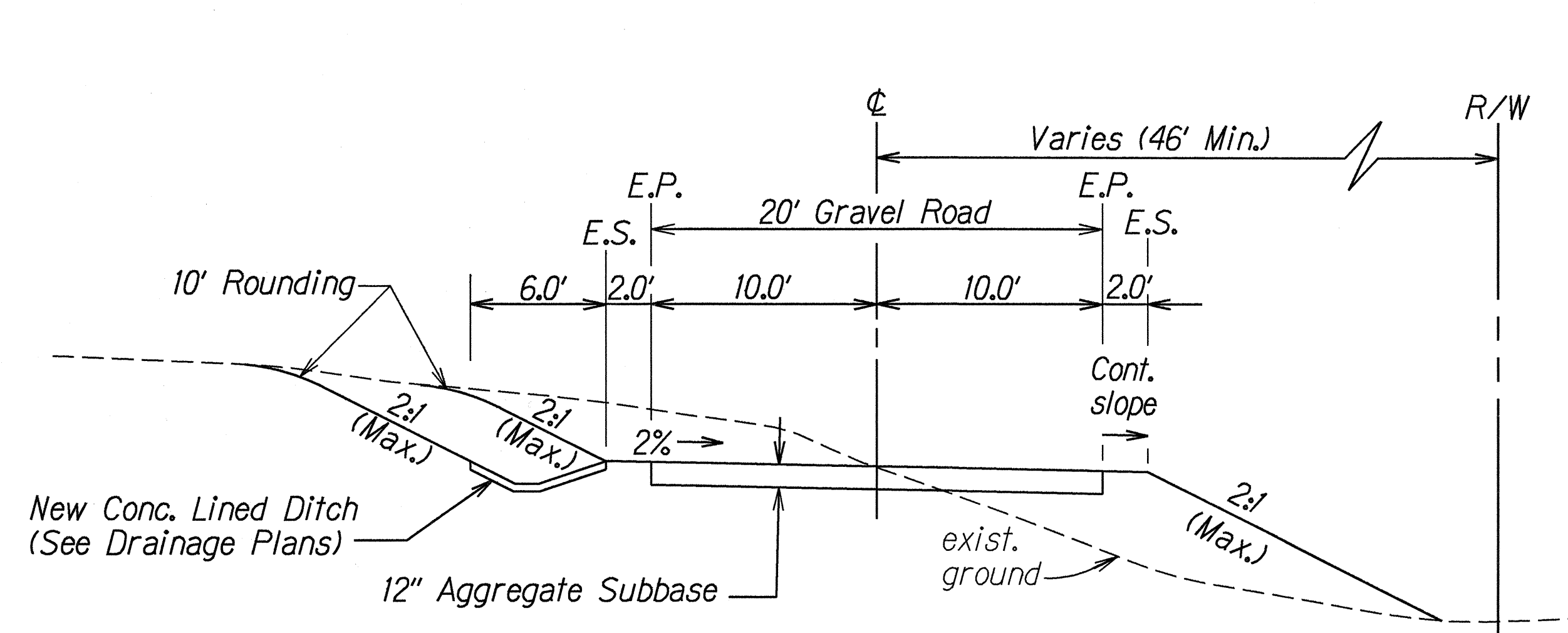


* Sta. 76+75± to Sta. 86+09±

FORT WEAVER ROAD - MEDIAN SECTION

Sta. 76+75 to Sta. 86+12±

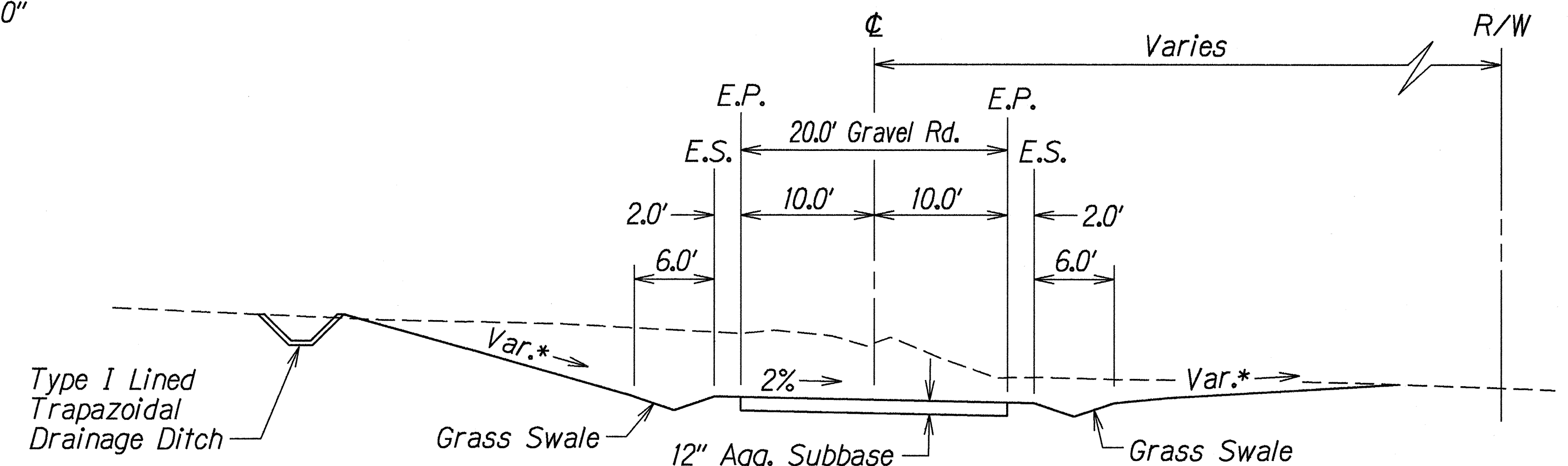
Scale: 3/8" = 1'-0"



CANE HAUL ROAD

Sta. 0+00 to Sta. 8+75±

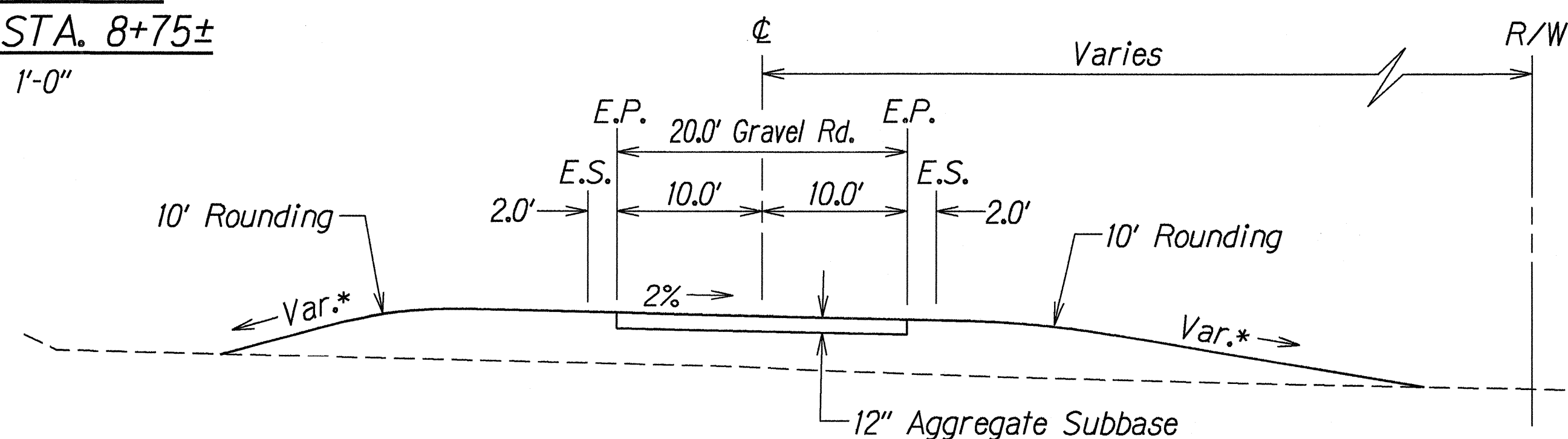
Scale: 3/16" = 1'-0"



CANE HAUL ROAD

Sta. 16+00± to Sta. 21+00±

Scale: 1/8" = 1'-0"



CANE HAUL ROAD

Sta. 8+75± to Sta. 16+00±

Scale: 1/8" = 1'-0"

*See Grading Plans

*See Grading Plans

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPICAL MEDIAN SECTIONS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

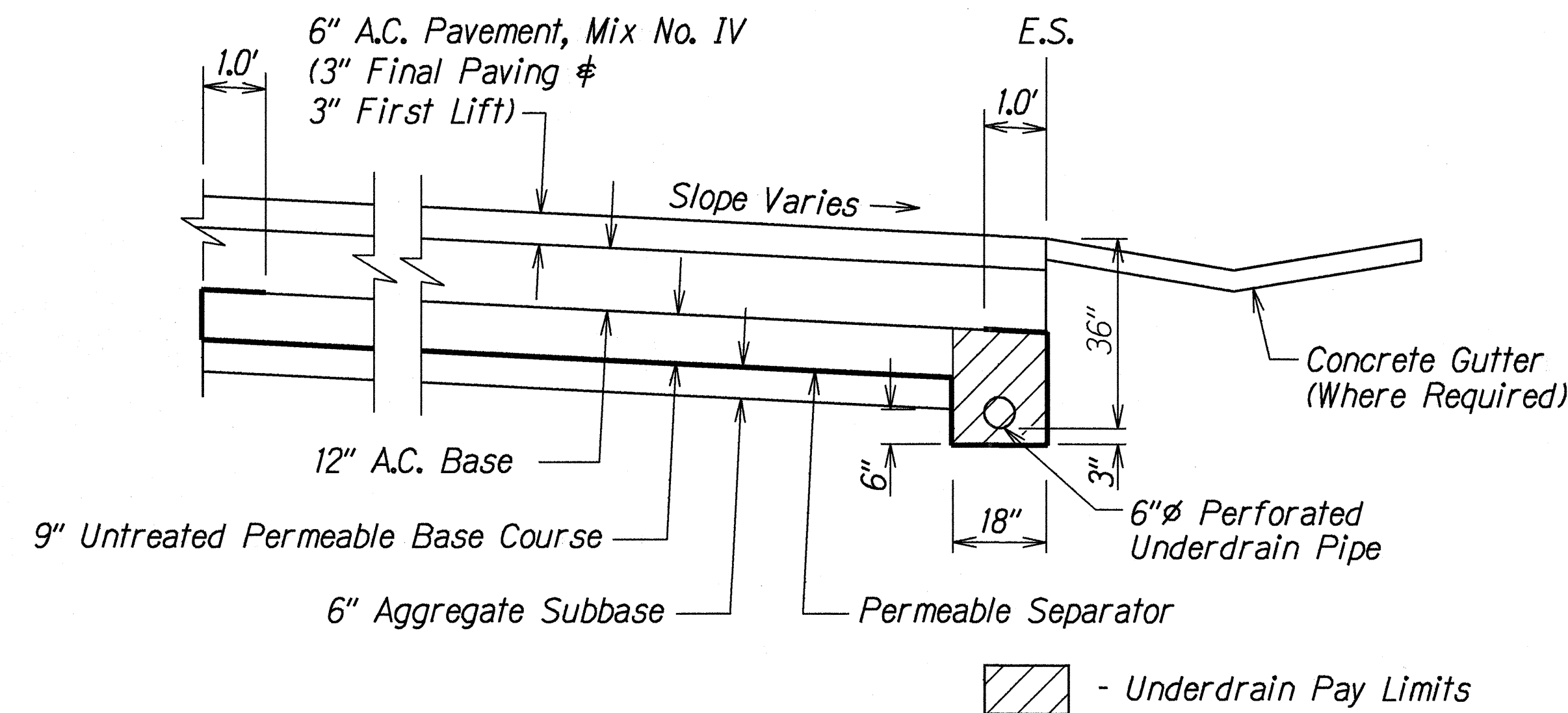
Scale: As Shown Date: Oct. 1997

SHEET No. 10 OF 15 SHEETS

SURVEY PLOTTED BY	DATE
DRAWN BY	10-27-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

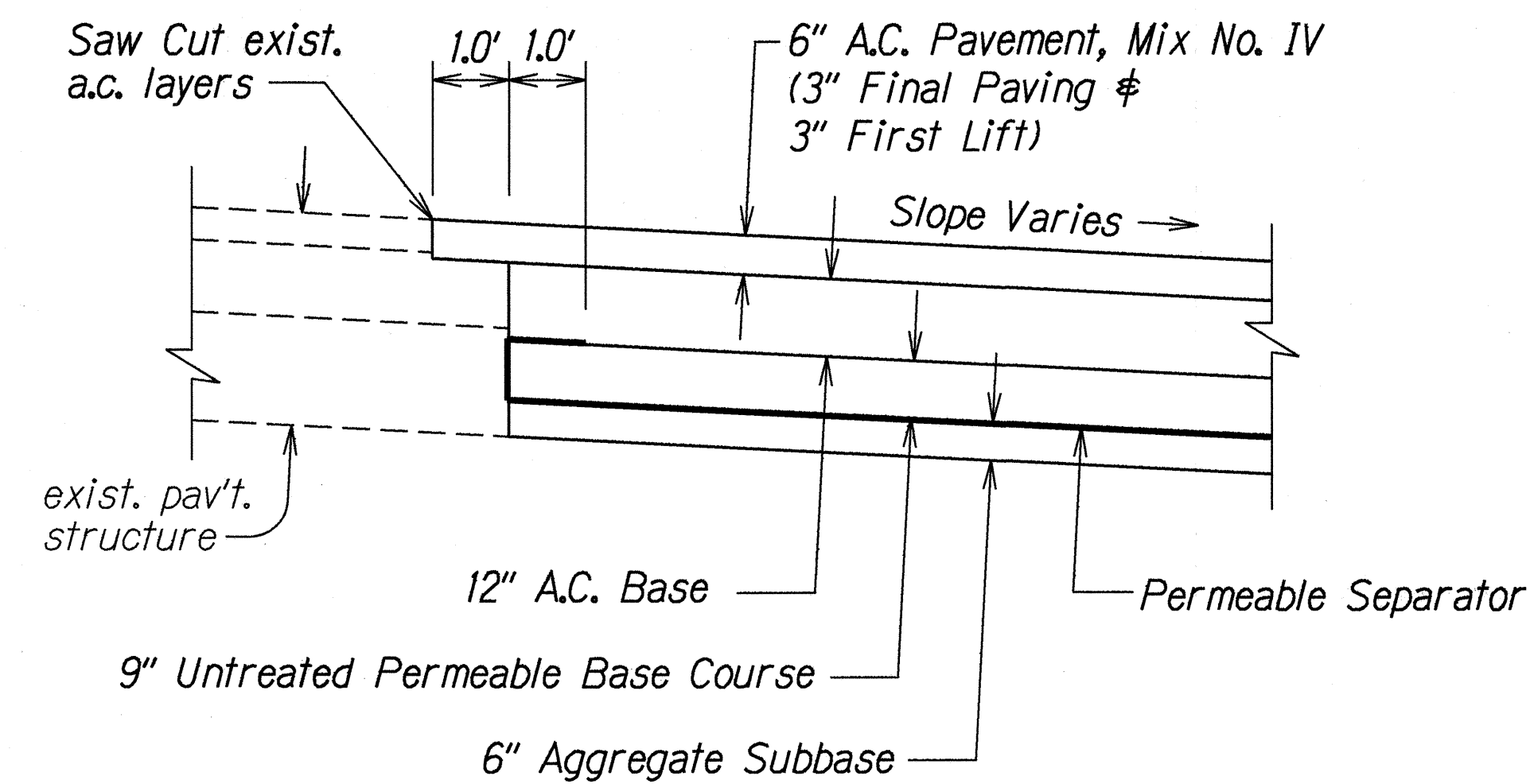
sub 1/15

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	16	378



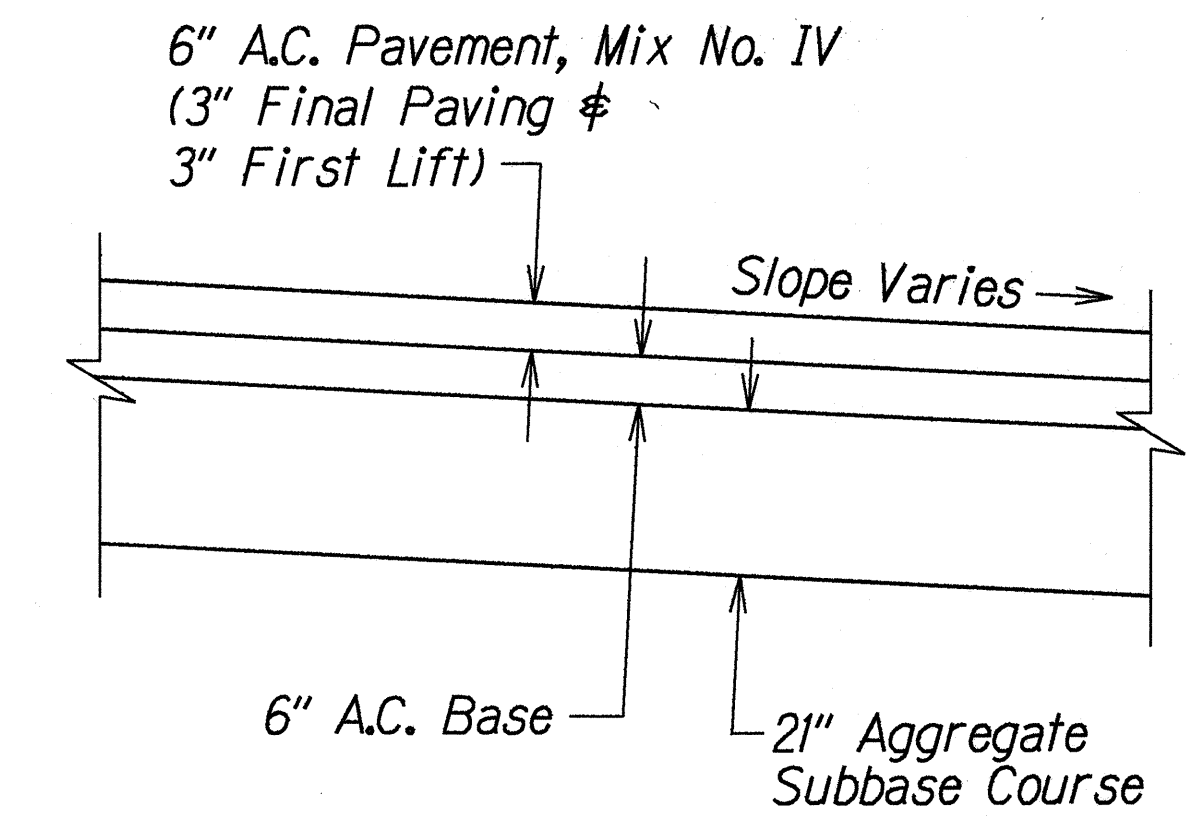
UNDERDRAIN DETAIL

Scale : $\frac{1}{2}" = 1'-0"$



A.C. PAVEMENT TRANSITION DETAIL

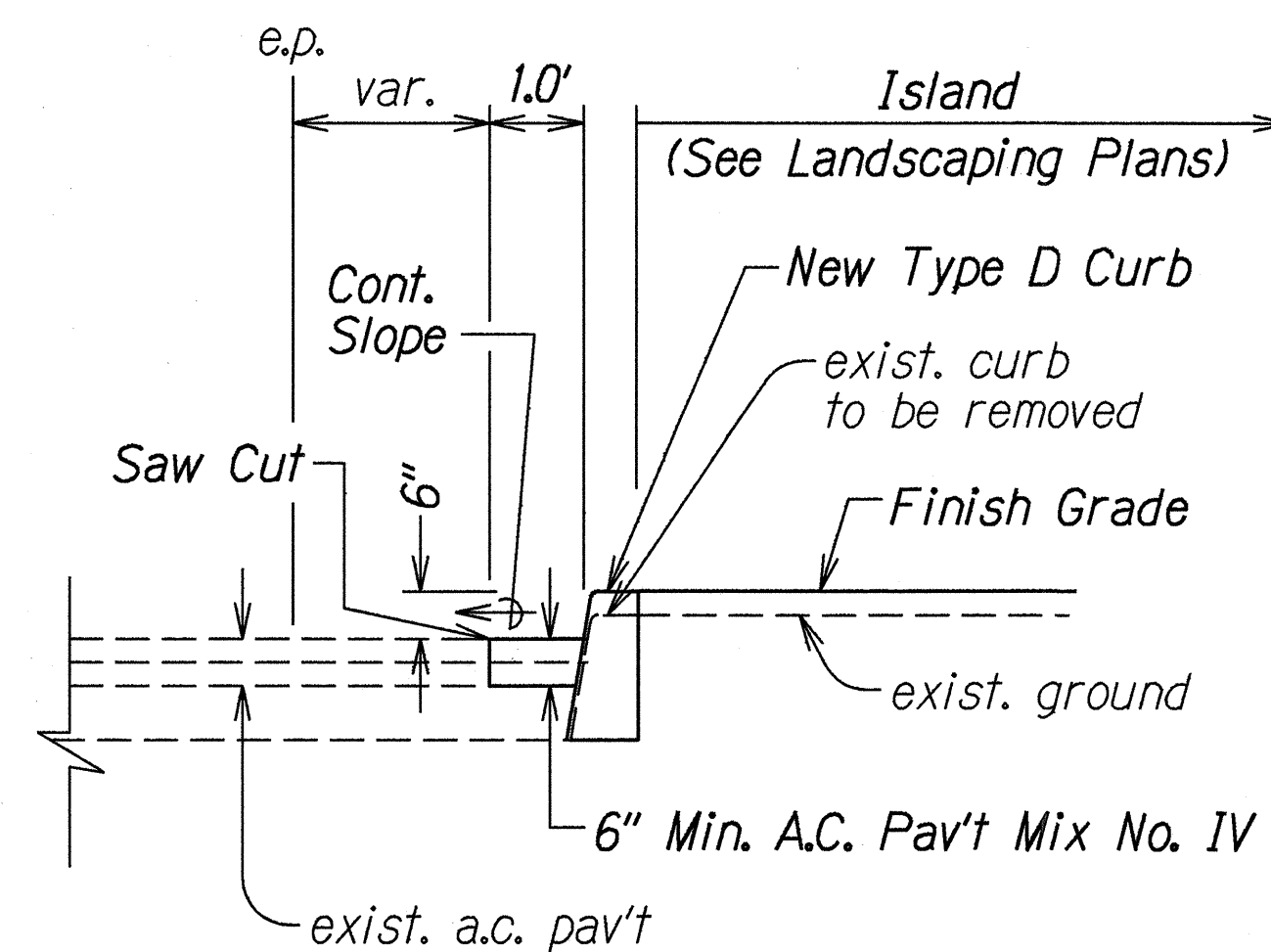
Scale : $\frac{1}{2}" = 1'-0"$



DETAIL B

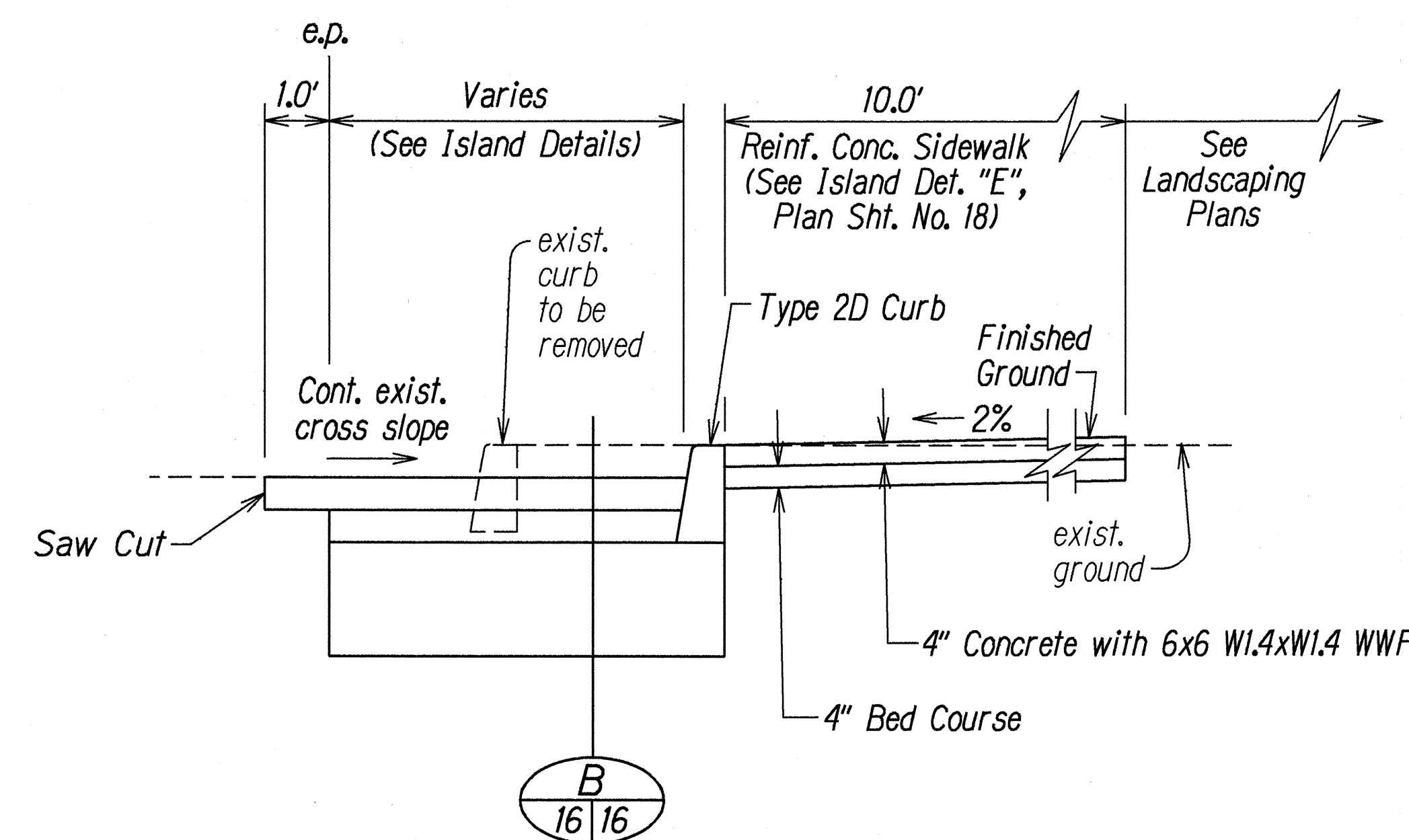
Scale : $\frac{1}{2}" = 1'-0"$

9,10,12,16
14,15,16,20



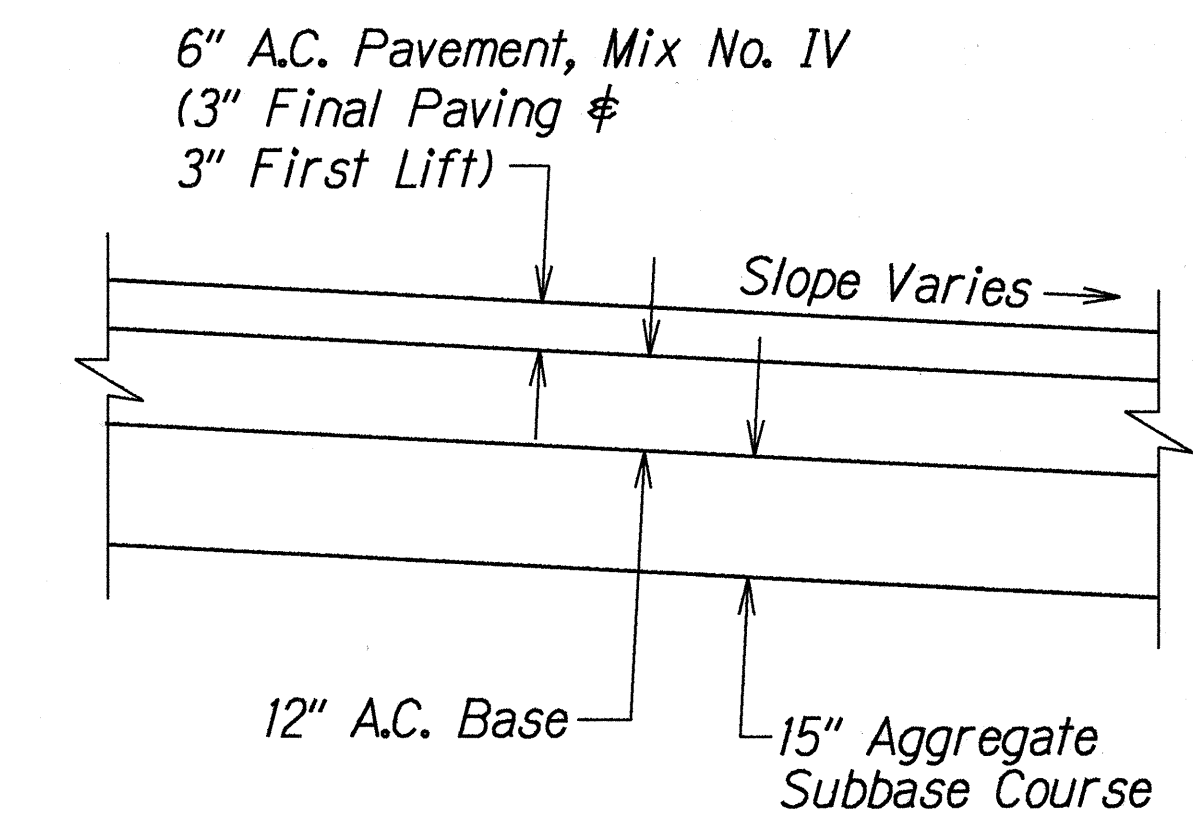
ISLAND CURBING REPLACEMENT DETAIL

Scale : $\frac{1}{2}" = 1'-0"$



TYPICAL DETAIL PAVEMENT WIDENING AT RECONSTRUCTED ISLANDS

Scale : $\frac{1}{2}" = 1'-0"$

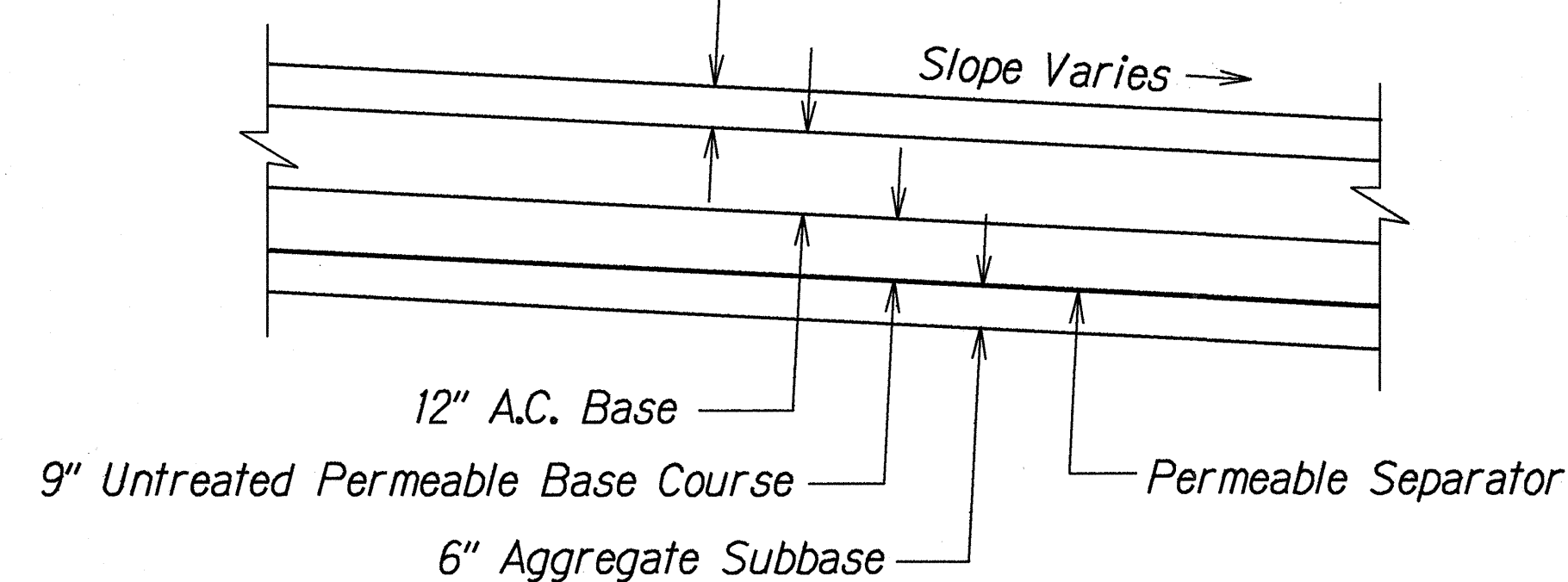


DETAIL C

Scale : $\frac{1}{2}" = 1'-0"$

13,16

6" A.C. Pavement, Mix No. IV (3" Final Paving & 3" First Lift)



DETAIL A

Scale : $\frac{1}{2}" = 1'-0"$

6,7,8,9,10,16
11,12,13,20

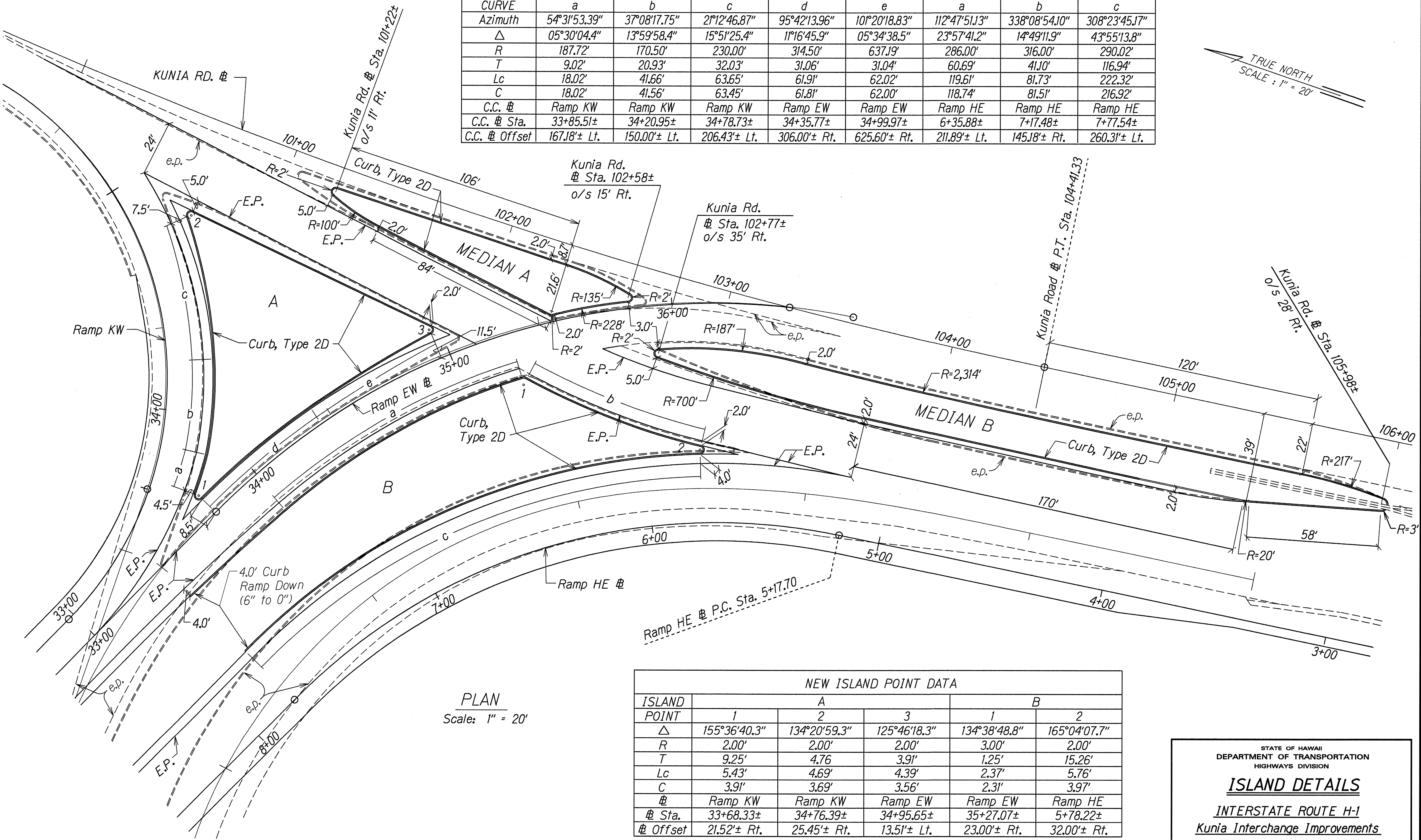
ORIGINAL PLAN	DATE
DESIGNED BY	12-1-97
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
DETAILS	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. IM-HI-1(219)	
Scale: As Shown	Date: Oct. 1997
SHEET No. 11 OF 15 SHEETS	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	17	378

NEW ISLAND CURVE DATA								
ISLAND CURVE	A					B		
	a	b	c	d	e	a	b	c
Azimuth	54°31'53.39"	37°08'17.75"	21°12'46.87"	95°42'13.96"	101°20'18.83"	112°47'51.13"	338°08'54.10"	308°23'45.17"
Δ	05°30'04.4"	13°59'58.4"	15°51'25.4"	11°16'45.9"	05°34'38.5"	23°57'41.2"	14°49'11.9"	43°55'13.8"
R	187.72'	170.50'	230.00'	314.50'	637.19'	286.00'	316.00'	290.02'
T	9.02'	20.93'	32.03'	31.06'	31.04'	60.69'	41.10'	116.94'
Lc	18.02'	41.66'	63.65'	61.91'	62.02'	119.61'	81.73'	222.32'
C	18.02'	41.56'	63.45'	61.81'	62.00'	118.74'	81.51'	216.92'
C.C. #	Ramp KW	Ramp KW	Ramp KW	Ramp EW	Ramp EW	Ramp HE	Ramp HE	Ramp HE
C.C. # Sta.	33+85.51±	34+20.95±	34+78.73±	34+35.77±	34+99.97±	6+35.88±	7+17.48±	7+77.54±
C.C. # Offset	167.18± Lt.	150.00± Lt.	206.43± Lt.	306.00± Rt.	625.60± Rt.	211.89± Lt.	145.18± Rt.	260.31± Lt.

TRUE NORTH
SCALE: 1" = 20'



PLAN
Scale: 1" = 20'

NEW ISLAND POINT DATA					
ISLAND POINT	A			B	
	1	2	3	1	2
Δ	155°36'40.3"	134°20'59.3"	125°46'18.3"	134°38'48.8"	165°04'07.7"
R	2.00'	2.00'	2.00'	3.00'	2.00'
T	9.25'	4.76'	3.91'	1.25'	15.26'
Lc	5.43'	4.69'	4.39'	2.37'	5.76'
C	3.91'	3.69'	3.56'	2.31'	3.97'
#	Ramp KW	Ramp KW	Ramp EW	Ramp EW	Ramp HE
# Sta.	33+68.33±	34+76.39±	34+95.65±	35+27.07±	5+78.22±
# Offset	21.52± Rt.	25.45± Rt.	13.51± Lt.	23.00± Rt.	32.00± Rt.

NOTE: For details on landscaping the islands, see Landscaping Plans.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

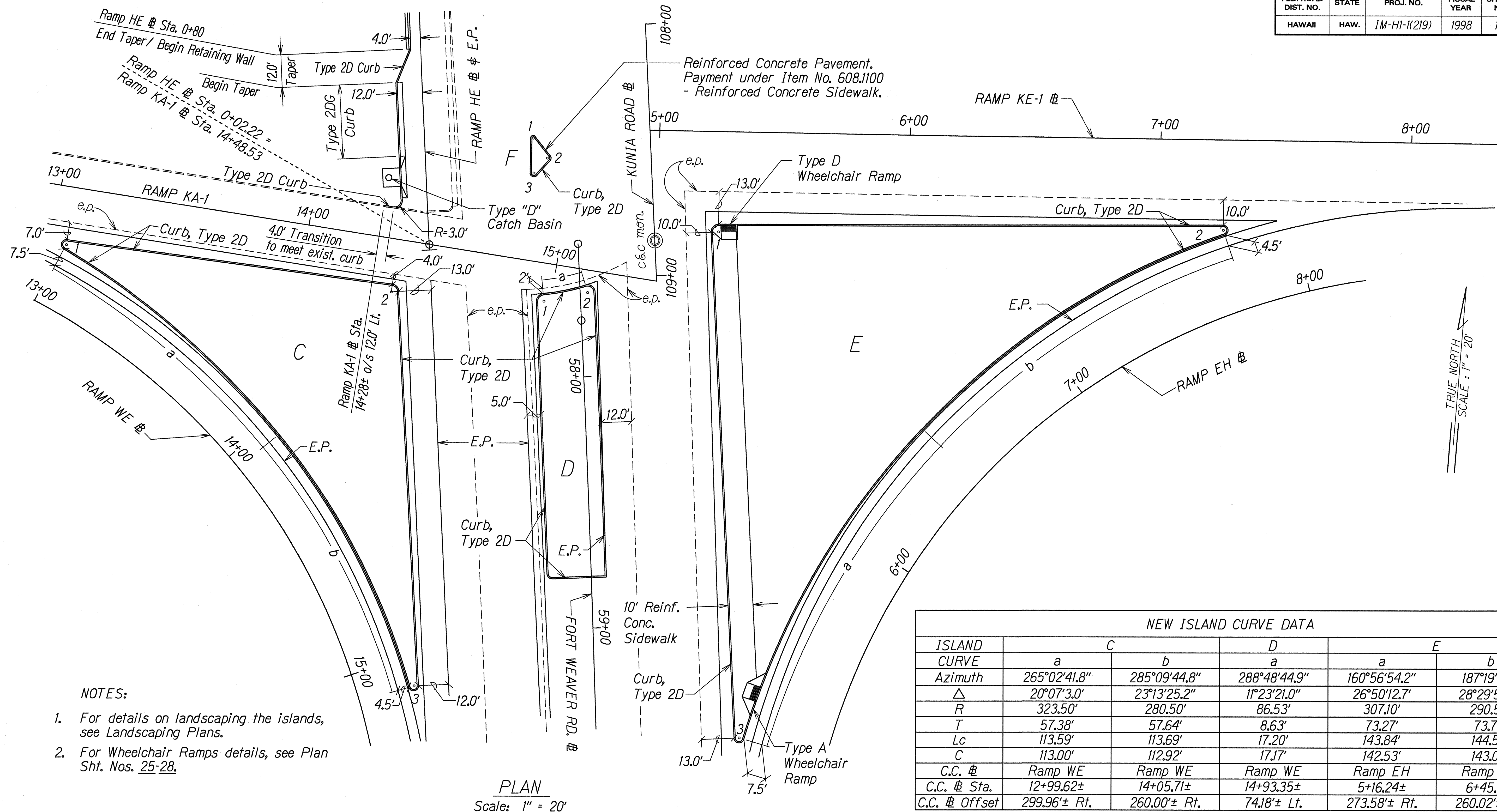
ISLAND DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

Scale: As Shown Date: Oct. 1997

SHEET No. 12 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	18	378



- NOTES:
- For details on landscaping the islands, see Landscaping Plans.
 - For Wheelchair Ramps details, see Plan Sht. Nos. 25-28.

PLAN
Scale: 1" = 20'

NEW ISLAND CURVE DATA					
ISLAND	C		D	E	
CURVE	a	b	a	a	b
Azimuth	265°02'41.8"	285°09'44.8"	288°48'44.9"	160°56'54.2"	187°19'7.5"
Δ	20°07'3.0"	23°13'25.2"	11°23'21.0"	26°50'12.7"	28°29'54.9"
R	323.50'	280.50'	86.53'	307.10'	290.52'
T	57.38'	57.64'	8.63'	73.27'	73.78'
Lc	113.59'	113.69'	17.20'	143.84'	144.50'
C	113.00'	112.92'	17.17'	142.53'	143.02'
C.C. #	Ramp WE	Ramp WE	Ramp WE	Ramp EH	Ramp EH
C.C. # Sta.	12+99.62±	14+05.71±	14+93.35±	5+16.24±	6+45.41±
C.C. # Offset	299.96± Rt.	260.00± Rt.	74.18± Lt.	273.58± Rt.	260.02± Rt.

NEW ISLAND POINT DATA											
ISLAND	C			D			E			F	
POINT	1	2	3	1	2	3	1	2	3	1	2
Δ	156°58'53.3"	79°22'04.8"	167°44'39.0"	86°47'08.9"	104°14'55.0"	92°42'51.0"	161°27'06.0"	160°42'13.0"	141°05'02.9"	79°50'11.5"	139°04'34.8"
R	2.00'	3.00'	2.00'	3.00'	3.00'	3.00'	2.00'	2.00'	1.00'	1.50'	1.50'
T	9.82'	2.48'	18.63'	2.84'	3.86'	3.15'	12.25'	11.76'	2.83'	1.25'	4.02'
Lc	5.48'	4.12'	5.85'	4.54'	5.46'	4.85'	5.63'	5.61'	2.46'	2.09'	3.64'
C	3.92'	3.80'	3.98'	4.12'	4.74'	4.34'	3.95'	3.94'	1.89'	1.93'	2.81'
#	Ramp WE	Fort Weaver Rd.	Ramp WE	Fort Weaver Rd.	Fort Weaver Rd.	Kunia Rd.	Ramp EH	Ramp EH	Kunia Rd.	Kunia Rd.	Kunia Rd.
# Sta.	13+0.09±	57+62.84±	15+11.10±	57+69.33±	57+66.66±	108+83.63±	7+74.85±	5+17.39±	108+43.18±	108+51.39±	108+57.12±
# Offset	25.51± Lt.	75.26± Rt.	22.50± Lt.	14.57± Rt.	2.99± Lt.	25.56± Lt.	32.50± Lt.	35.50± Lt.	46.76± Rt.	41.49± Rt.	47.06± Rt.

DATE: 9-30-97
 SURVEY PLOTTED BY: J.A.H. P.W.
 TRACED BY: J.A.H. P.W.
 DESIGNED BY: J.A.H. P.W.
 QUANTITIES BY: J.A.H. P.W.
 CHECKED BY: J.A.H. P.W.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

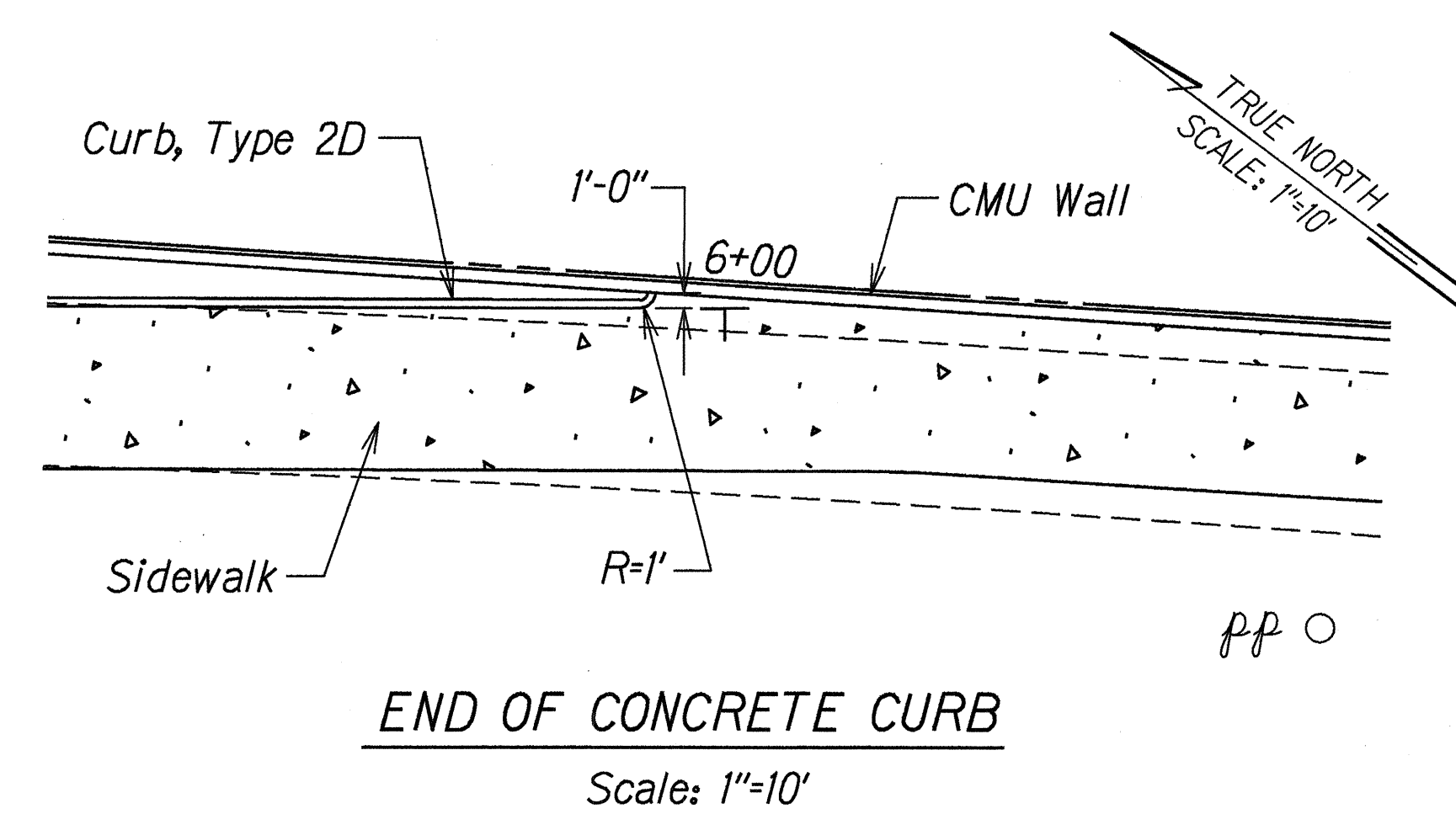
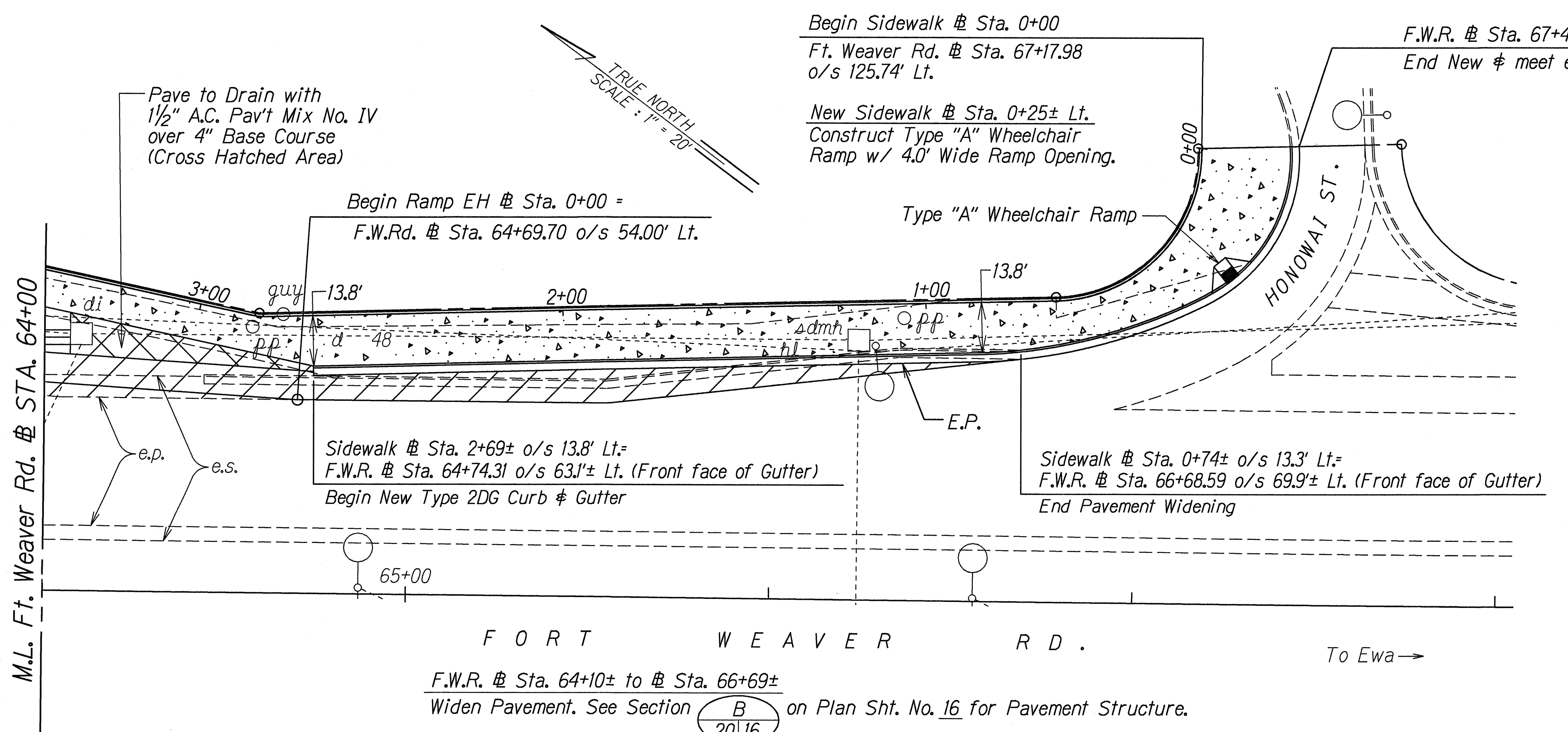
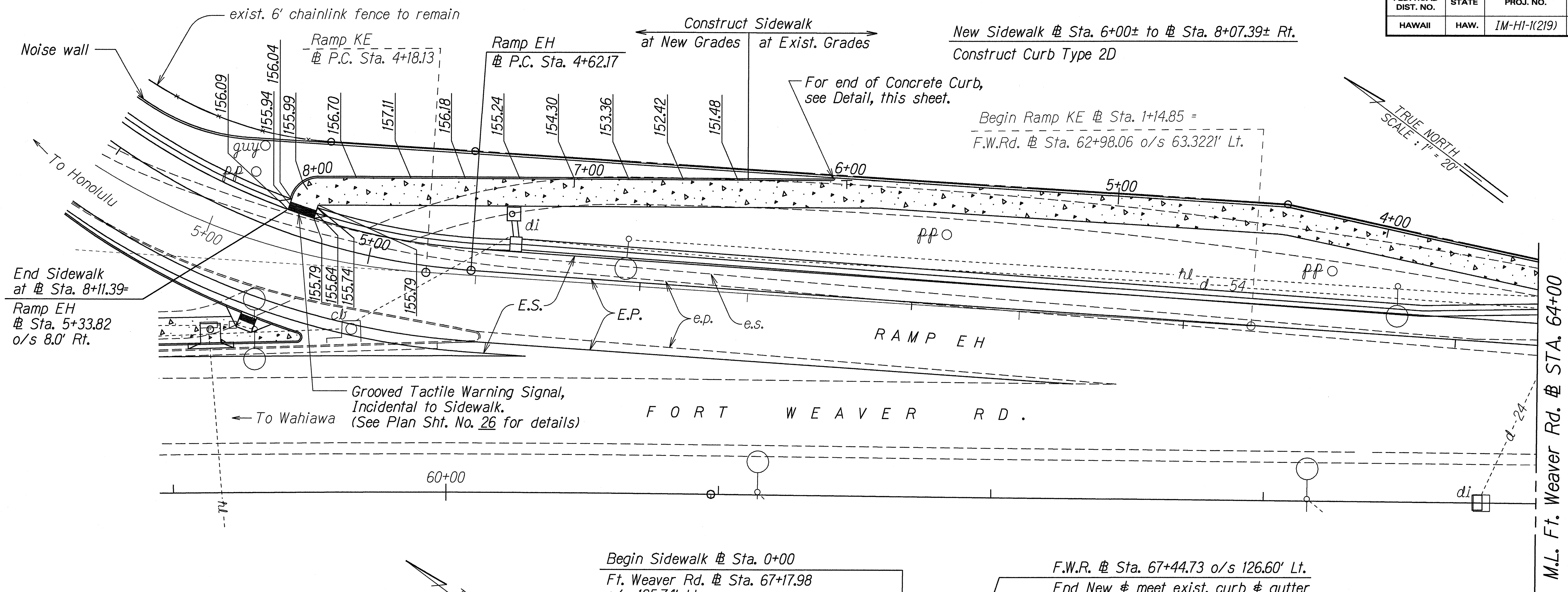
ISLAND DETAILS

INTERSTATE ROUTE H-1
 Kunia Interchange Improvements
 F. A. I. Project No. IM-HI-1(219)

Scale: As Shown Date: Oct. 1997

SHEET No. 13 OF 15 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	19	378



ORIGINAL PLAN	DATE
NOTED BY	9-30-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLANS

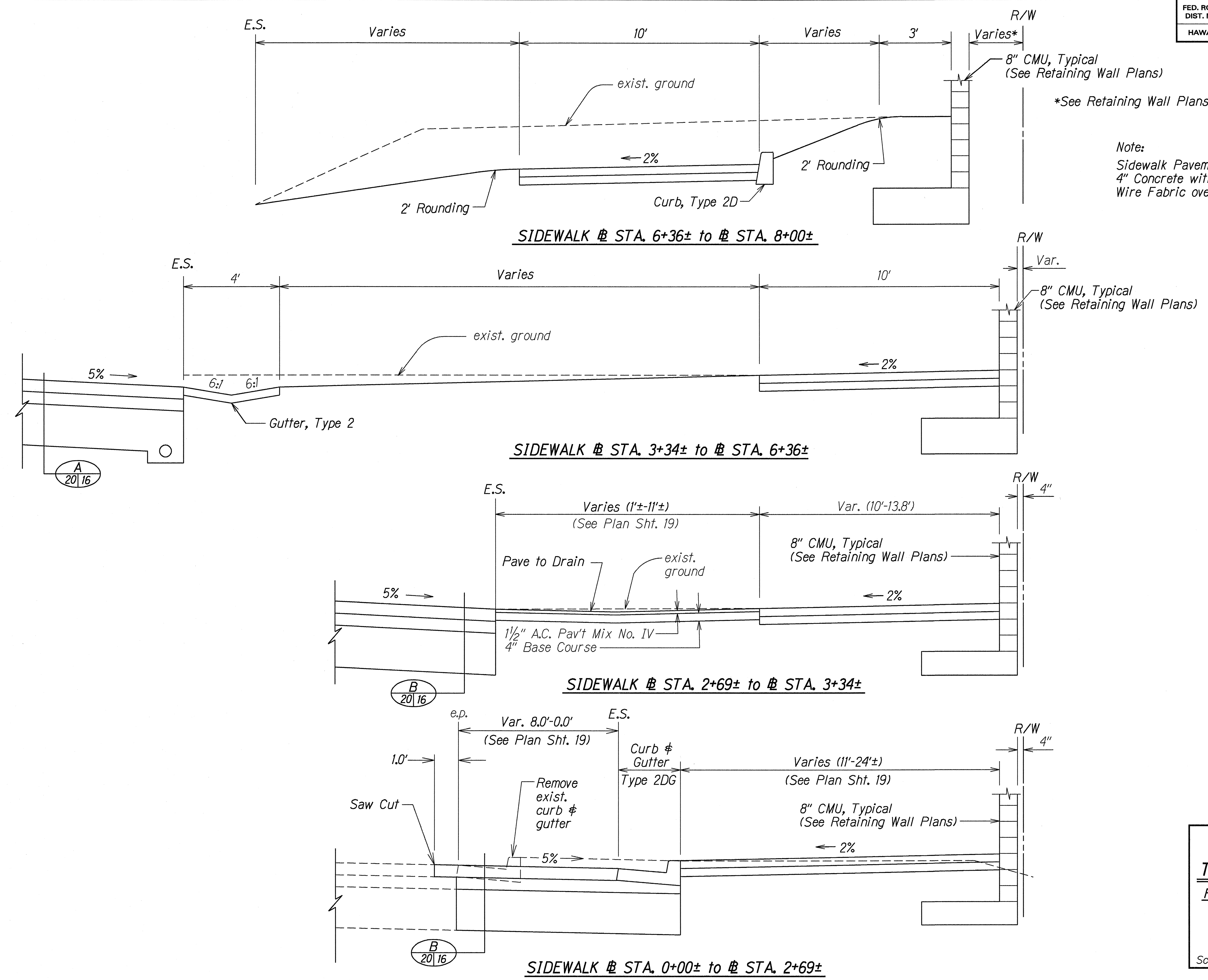
FT. WEAVER RD. SIDEWALK

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

Scale: 1" = 20' Date: Oct. 1997

SHEET No. 14 OF 15 SHEETS

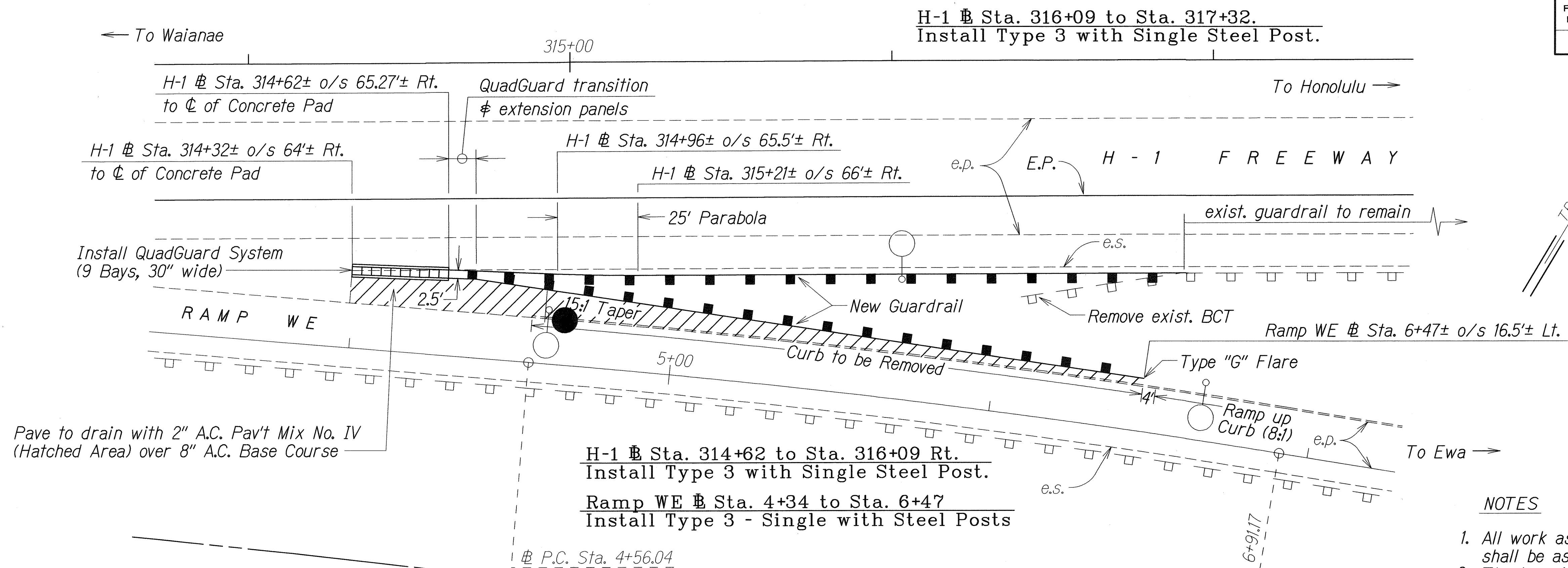
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	20	378



SURVEY PLOTTED BY: DATE: 3/30/97
 DRAWN BY: J.H.P. Wang
 DESIGNED BY: B. Sanguita
 QUANTITIES BY: dd/mh
 CHECKED BY: N. Gonsalo
 sub /ts

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
TYPICAL SIDEWALK SECTIONS
 FORT WEAVER ROAD OFFSET LEFT
 INTERSTATE ROUTE H-1
 Kunia Interchange Improvements
 F. A. I. Project No. IM-HI-1(219)
 Scale: 1/2" = 1'-0" Date: Oct. 1997
 SHEET No. 15 OF 15 SHEETS

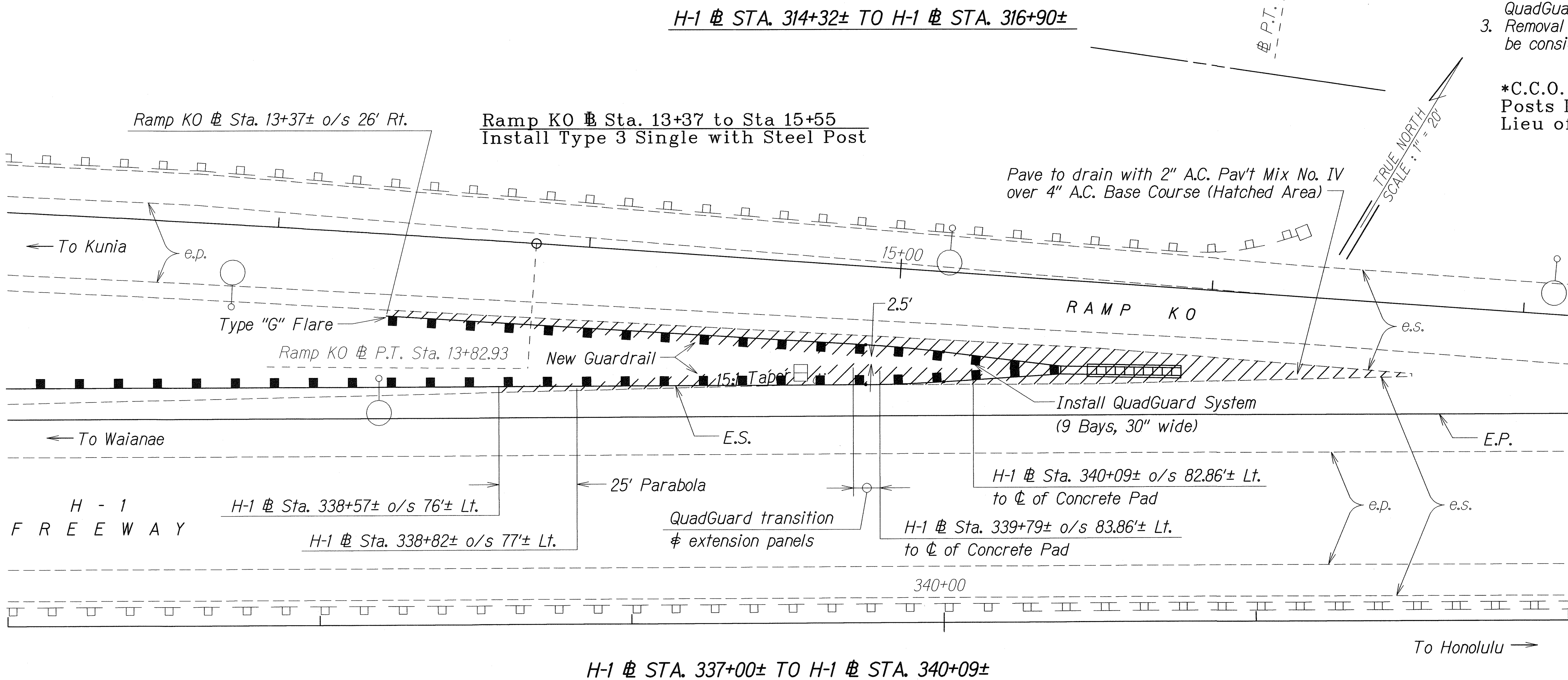
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H1-1(219)	1998	21	378



NOTES

1. All work associated with the QuadGuard System shall be as directed by the Engineer.
2. The transition panels required for the QuadGuard System shall be considered incidental to the QuadGuard System.
3. Removal and disposal of existing guardrail shall be considered incidental to the QuadGuard System.

*C.C.O. No.17 - W6x8.5 Guardrail Posts Installed and Accepted in Lieu of 6x9 Guardrail Posts.



LEGEND FOR AS-BUILT POSTINGS

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

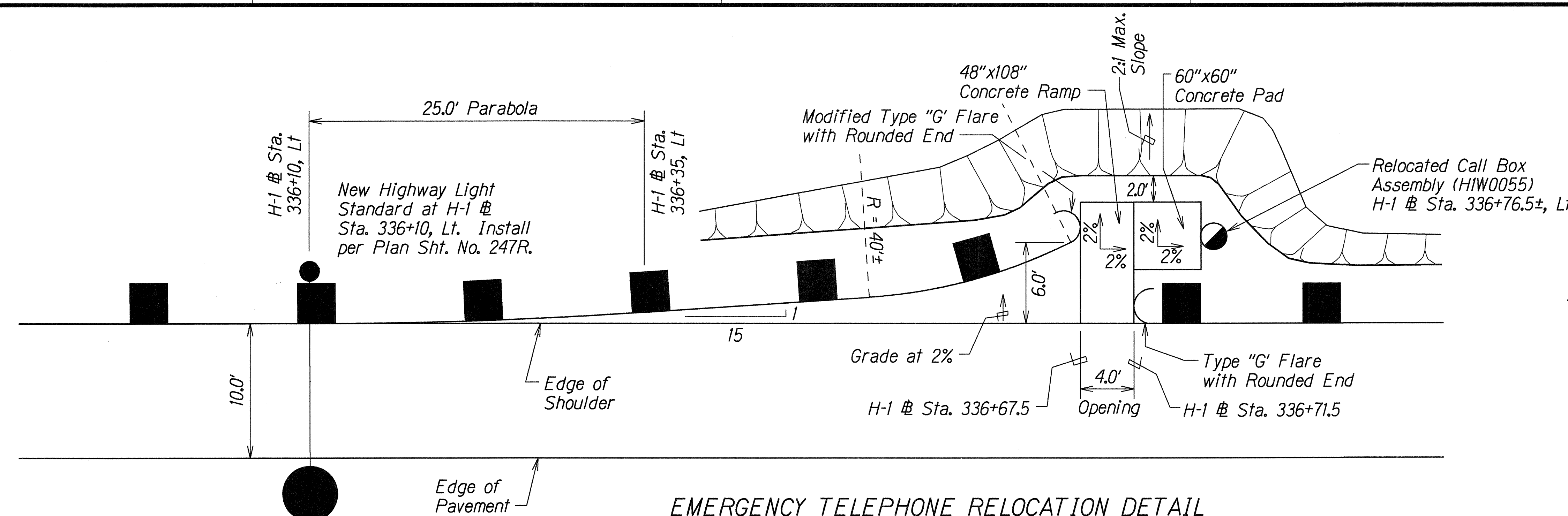
6-4-98	Revised Guardrail Off-Sets
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
GUARDRAIL & QUADGUARD DETAILS	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. IM-H1-1(219)	
Scale: 1"=20'	Date: Oct. 1997
SHEET No. 1 OF 3 SHEETS	

DESIGNED BY	DATE
DRAWN BY	5-5-98
CHECKED BY	
NOTED BY	
QUANTITIES BY	
ORIGINAL PLAN	

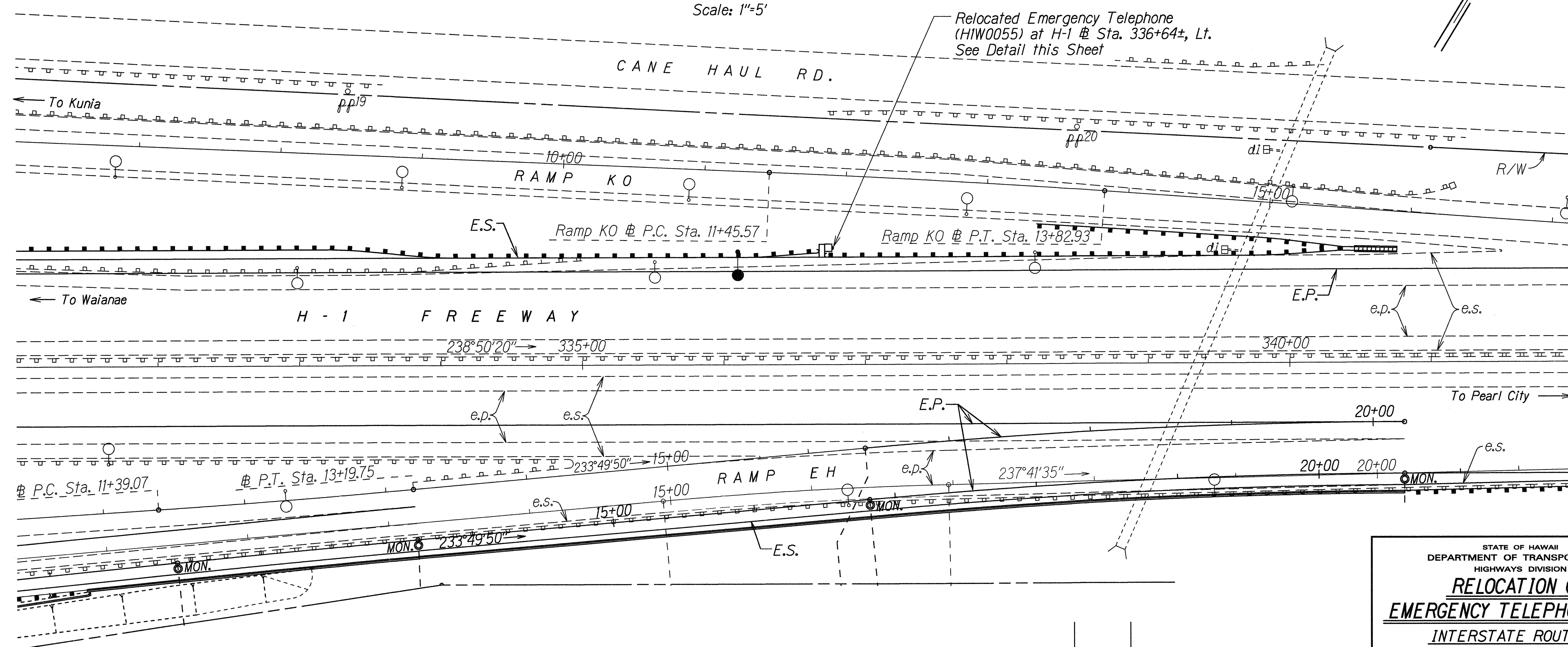
AS-BUILT

C.O. 21

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	C.O.21S-1	378



EMERGENCY TELEPHONE RELOCATION DETAIL
Scale: 1"=5'



SURVEY PLOTTED BY	DATE
PLAN	10-6-99
NOTE BOOK	
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

10-6-99	Added Plan Sheet for Emergency Telephone Relocation.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

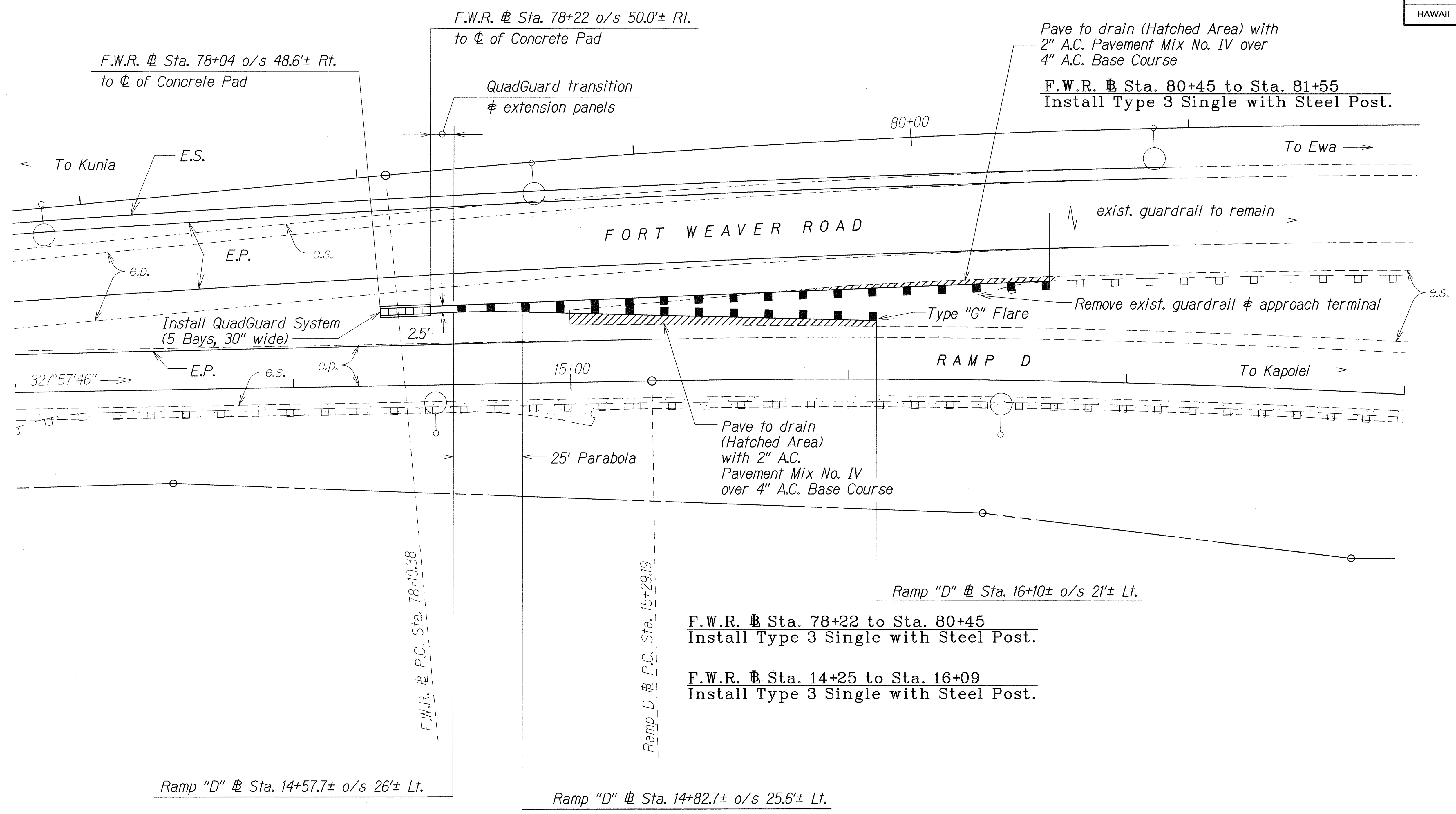
**RELOCATION OF
EMERGENCY TELEPHONE PLAN**

**INTERSTATE ROUTE H-1
Kunia Interchange Improvements**

F. A. I. Project No. IM-HI-1(219)

Scale: As Shown Date: Aug, 1999

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H1-K(219)	1998	22	378



TRUE NORTH
SCALE: 1" = 20'

*C.C.O No.17 - W6x8.5
Guardrail Posts Installed
and Accepted in Lieu of
6x9 Guardrail Posts.

LEGEND FOR AS-BUILT POSTINGS	
	Squiggly line for as-built deletion
	Double line for as-built deletion
Roadway	Text for as-built posting

6-4-98	Revised Guardrail Off-Set
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
GUARDRAIL & QUADGUARD DETAILS	
INTERSTATE ROUTE H-1 Kunia Interchange Improvements F. A. I. Project No. IM-H1-K(219)	
Scale: 1"=20'	Date: Oct. 1997
SHEET No. 2 OF 3 SHEETS	

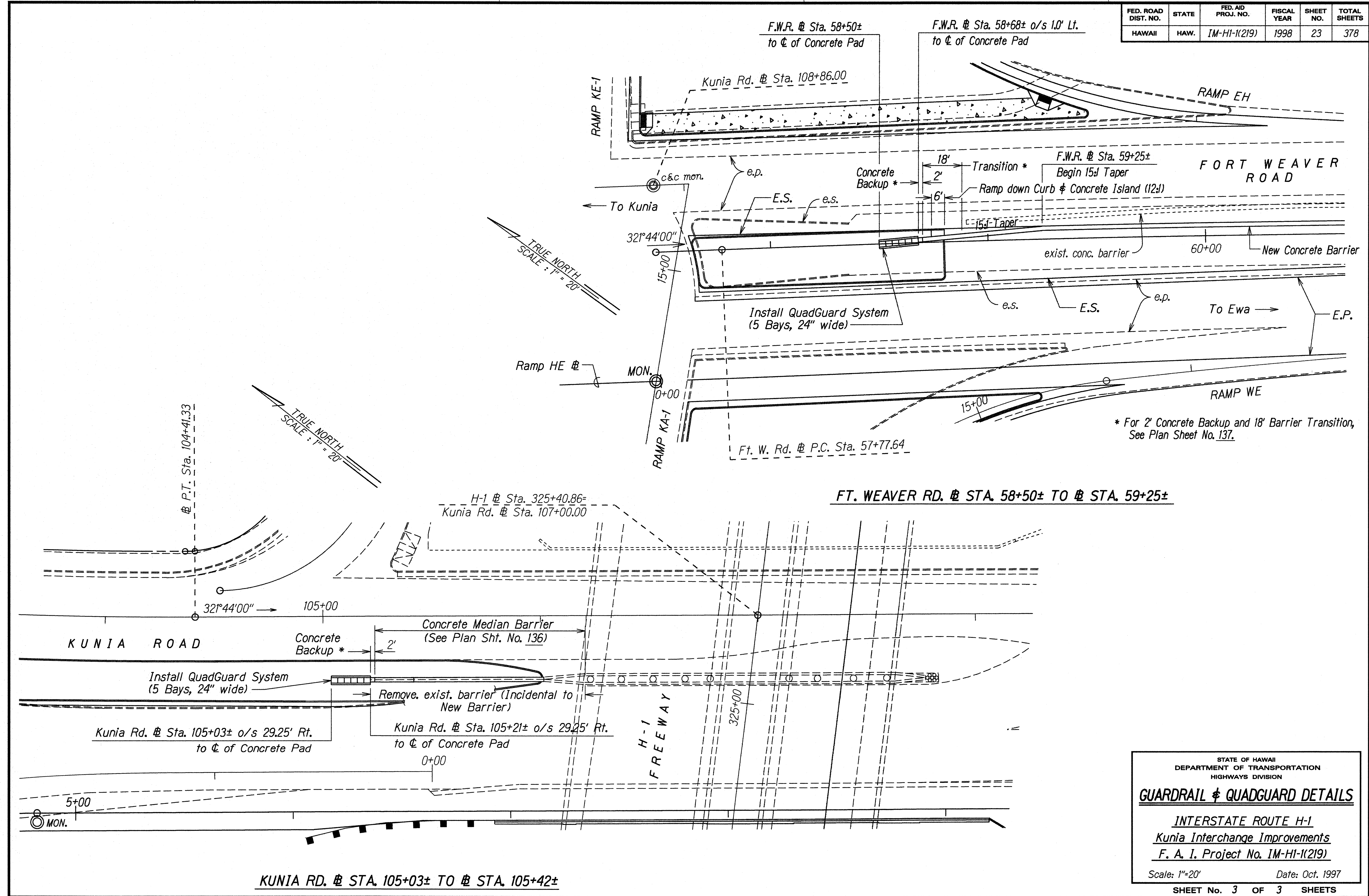
DESIGNED BY	DATE
NOTED BY	6-5-98
CHECKED BY	
APPROVED BY	
ORIGINAL PLAN	
NOTE BOOK	
QUANTITIES BY	
CHECKED BY	

FORT WEAVER ROAD @ STA. 78+04± TO @ STA. 80+50±

AS-BUILT

C.O. 22

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	23	378



ORIGINAL PLAN	DATE
DESIGNED BY	11-5-97
NOTED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

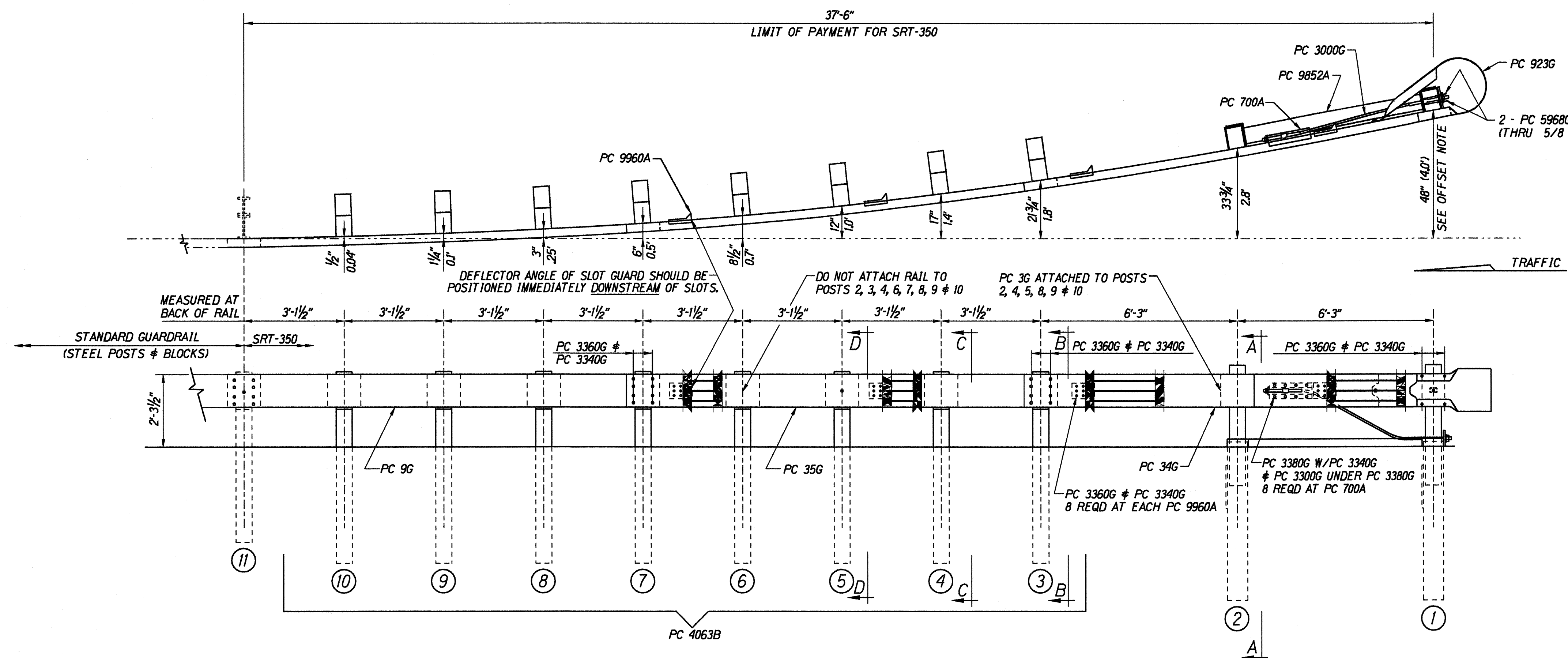
GUARDRAIL & QUADGUARD DETAILS

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

Scale: 1"=20' Date: Oct. 1997

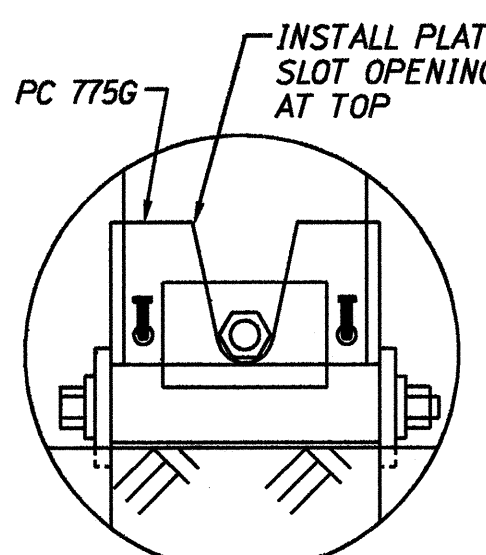
SHEET No. 3 OF 3 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	24	378

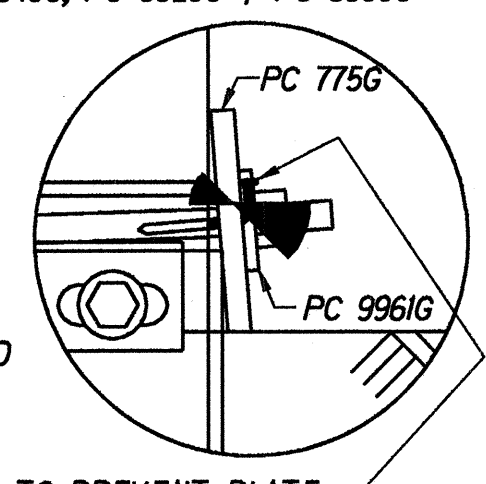


OFFSET NOTE:
THE POST OFFSET DIMENSIONS ARE GIVEN TO THE CENTER OF THE TRAFFIC FACE OF THE BLOCKOUTS, EXCEPT AT THE FIRST TWO POSTS, WHERE THE DIMENSION IS TO THE CENTER OF THE TRAFFIC FACE OF THE POST. OFFSET POINTS ARE TO BE LOCATED BY CHORD MEASUREMENTS AT THE BACK OF THE RAIL EQUAL TO THE NOMINAL POST SPACINGS SHOWN. POSTS ARE TO BE SET APPROXIMATELY RADIAL TO THE RAILING AT EACH POST LOCATION.

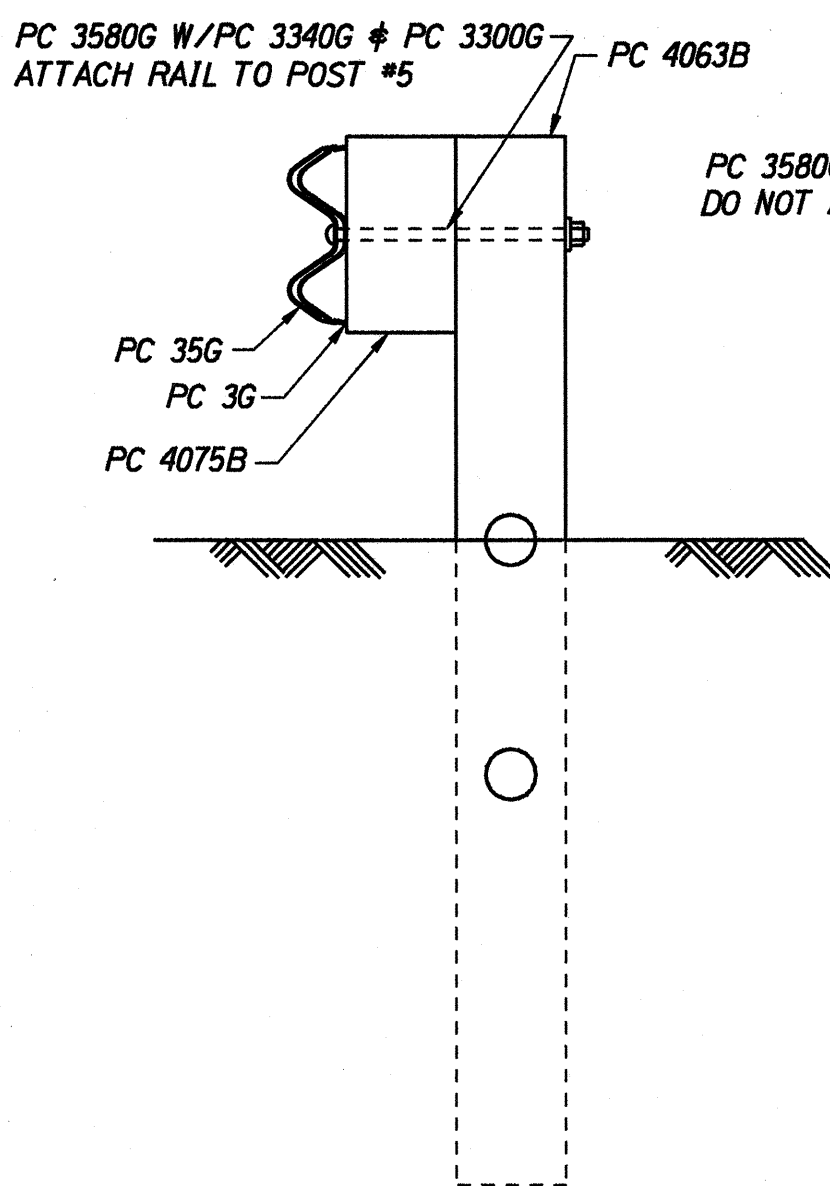
BILL OF MATERIAL		
PC	QTY	DESCRIPTION
3G	7	12/12"/BACKUP (GUARDRAIL)
9G	1	12/126"/63/S (GUARDRAIL)
34G	1	12/126/S SRT-1 (GUARDRAIL)
35G	1	12/126/63/S SRT-2 (GUARDRAIL)
700A	1	CABLE ANCHOR BRACKET
705G	1	2"Ø x 5 1/2" PIPE
736G	2	5'Ø TUBE SLEEVE
766G	2	1/4x 18 x 24 SOIL PLATE
775G	1	3/8x 6 x 8 BEARING PLATE
923G	1	12/BARRIER/98" (TERMINAL)
3000G	1	3/4x 6'6 CABLE
3300G	22	5/8" WASHER
3320G	1	3/16x 1 3/4x 3 WASHER
3340G	77	5/8" HEX NUT
3360G	53	3/8"Ø x 1 1/4" SPLICE BOLT
3380G	8	5/8"Ø x 1 1/2" HEX HD BOLT
3478G	4	5/8"Ø x 7 1/2" HEX HD BOLT
3497G	2	5/8"Ø x 9 1/2" HEX HD BOLT
3500G	2	5/8"Ø x 10" POST BOLT
3580G	8	5/8"Ø x 18" POST BOLT
3900G	1	1" WASHER
3910G	2	1" HEX NUT
4063B	8	6'Ø POST 6 x 8
4075B	8	14" BLOCK 6 x 8
4147B	2	3' 9 POST 5 1/2x 7 1/2
5968G	2	16d NAIL SRT
9852A	1	STRUT ASSEMBLY
9960A	4	SLOT GUARD
9961G	1	3/8x 3 x 4 PLATE WASHER



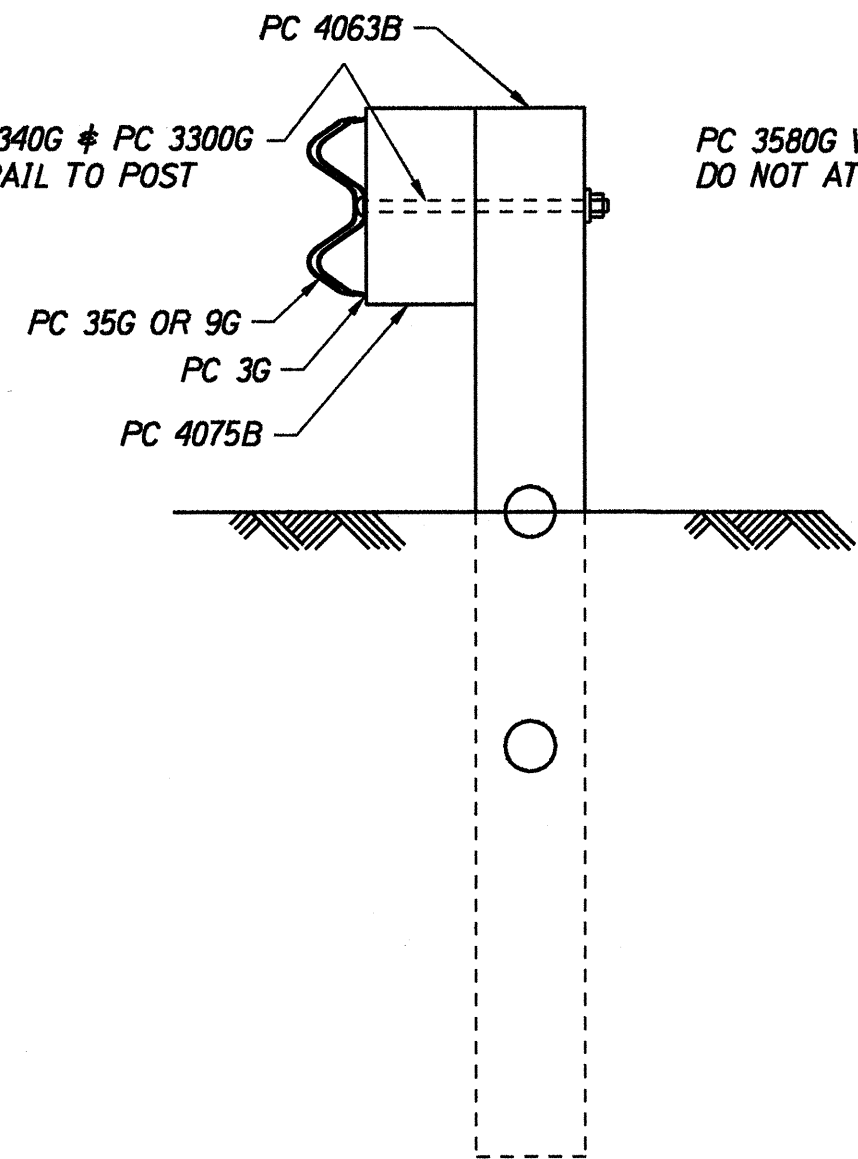
BEARING PLATE ORIENTATION



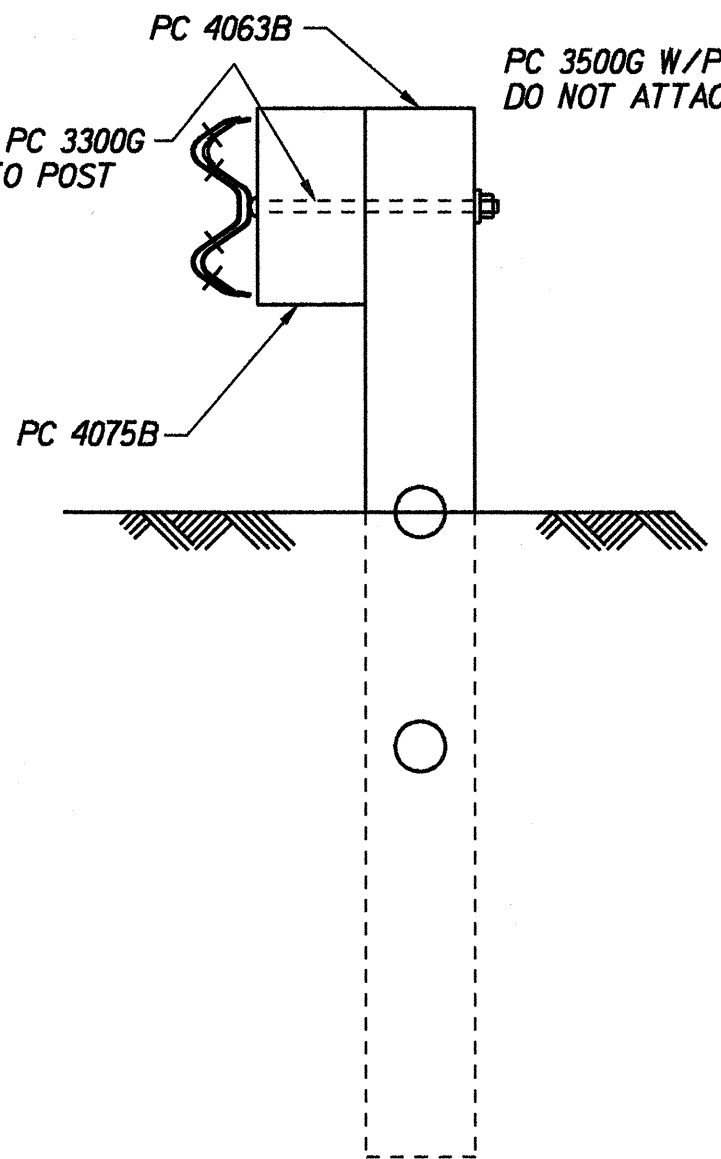
2 - PC 5968G TO PREVENT PLATE ROTATION (THRU 5/8" DIA HOLES IN PL & BENT)



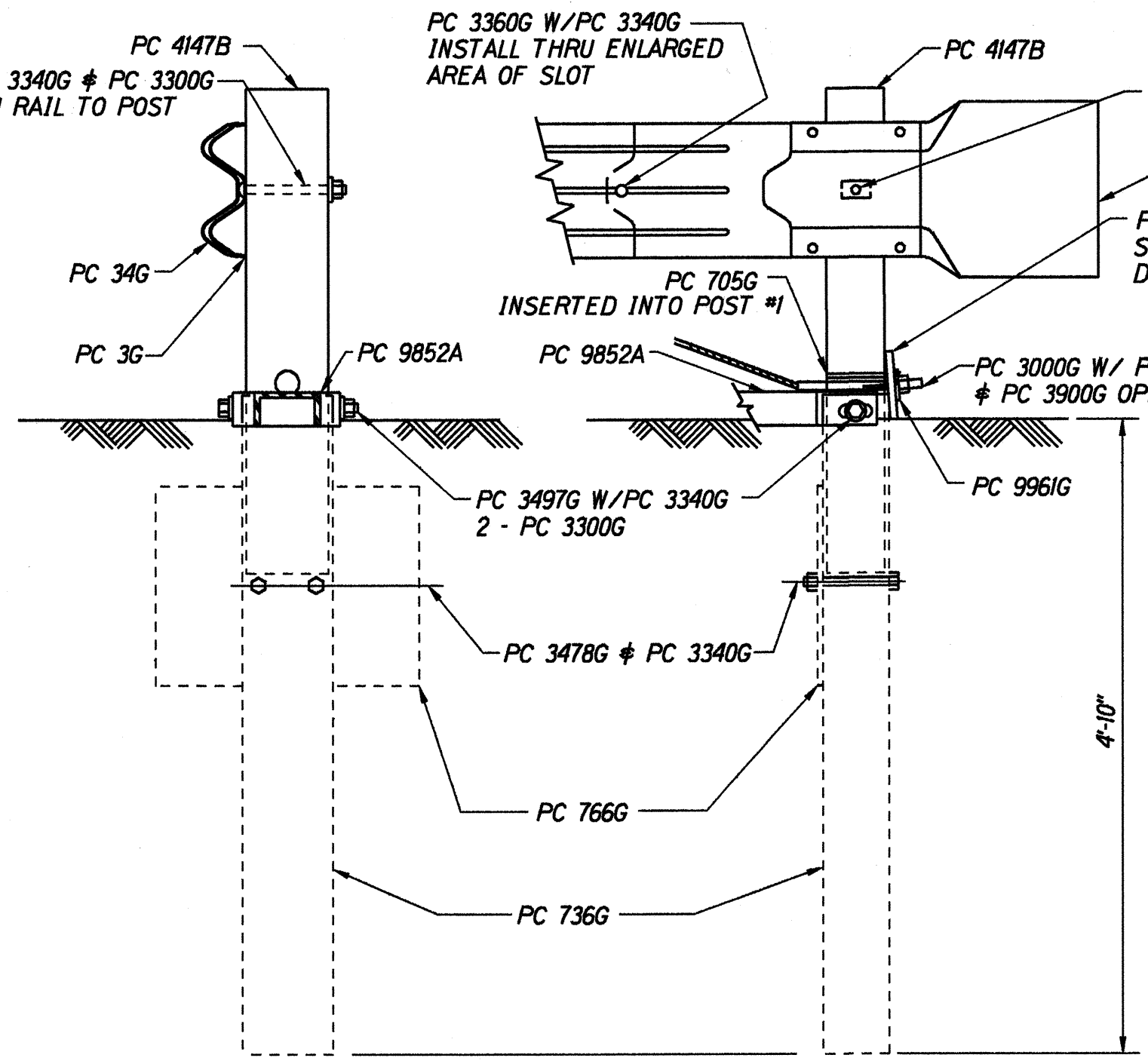
SECTION "D-D"
(@ POST #5)



SECTION "C-C"
(@ POSTS #4, #6, #8, #9 & #10)



SECTION "B-B"
(@ POSTS #3 & #7)



SECTION "A-A"
(@ POST #2)

ENLARGED VIEW @ POST #1

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

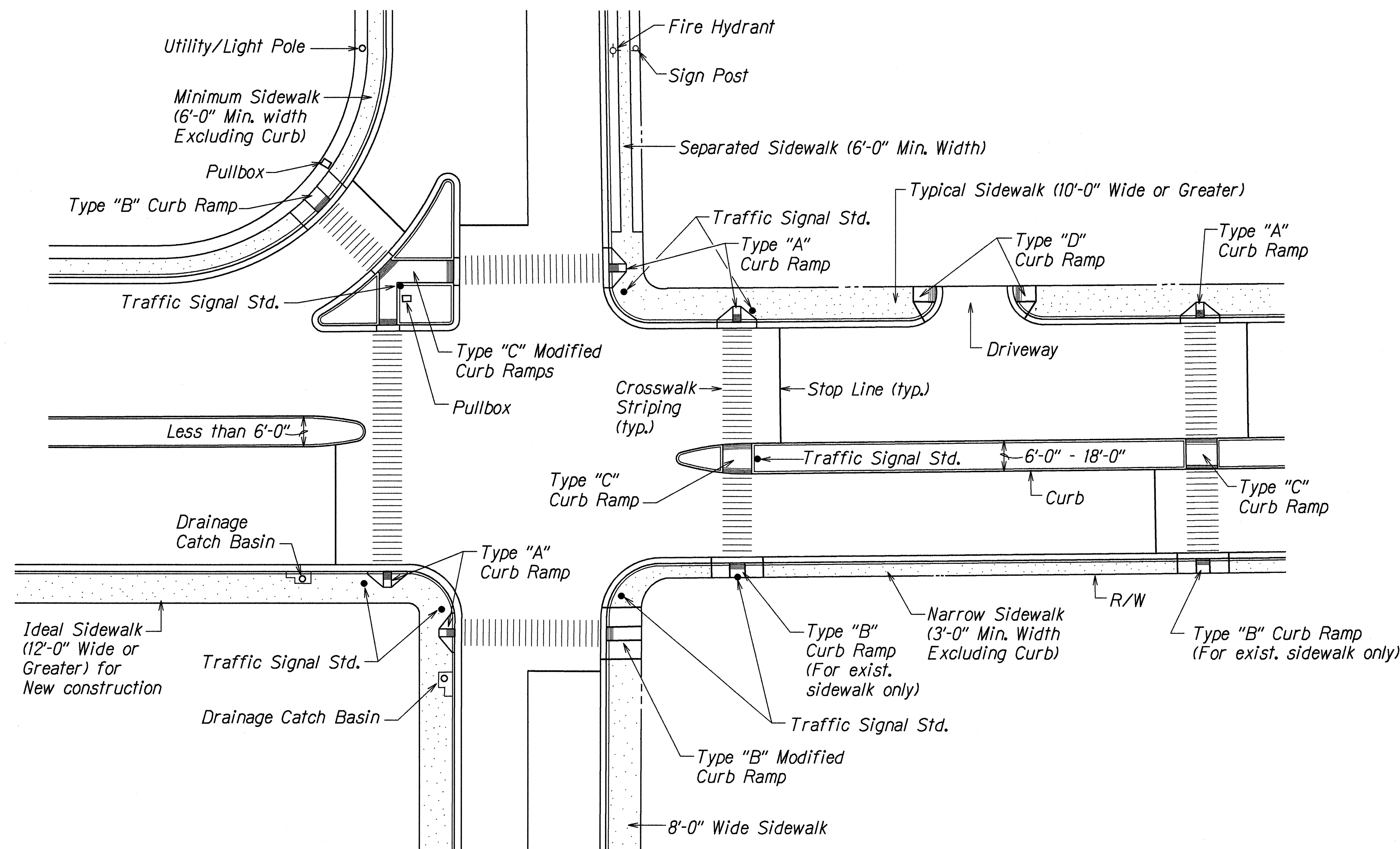
SRT-350
SLOTTED RAIL TERMINAL

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

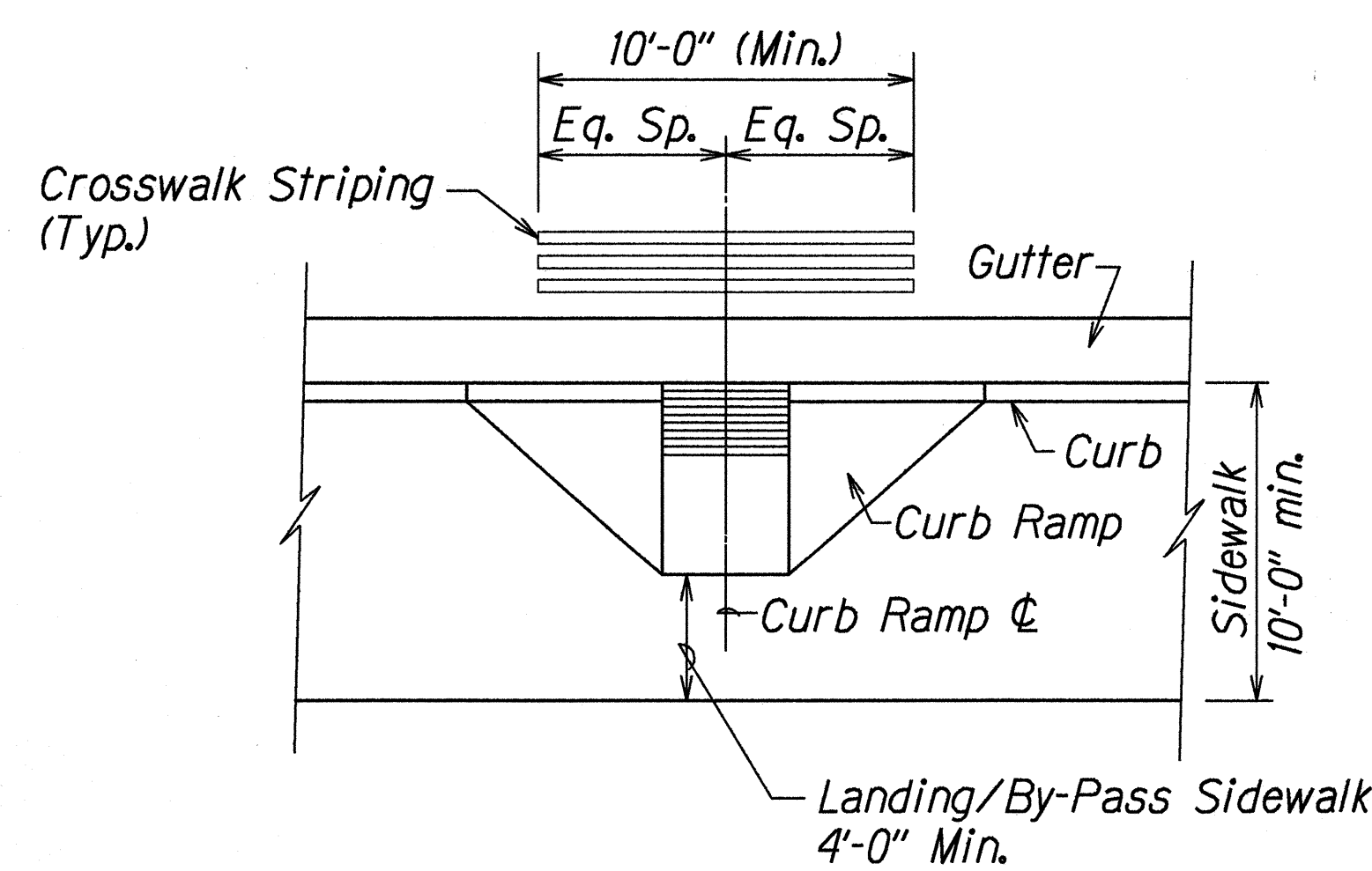
Not to Scale Date: Oct. 1997

SHEET No. 1 OF 1 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	25	378



TYPICAL CURB RAMPS



TYPICAL CROSSWALK STRIPING AT CURB RAMP

GENERAL NOTES:

1. When necessitated by existing physical conditions, alternate Curb Ramps may be used subject to Engineer's approval.
2. Subject to field conditions, the Engineer shall determine final location of Curb Ramp.
3. Where necessary, 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 wheelchair items.
4. All sidewalks shall provide a minimum clear width of 3'-0" (excluding curb) for pedestrian circulation.
5. Narrow Sidewalks (3'-0" min. width excluding curb) will prohibit the installation of any sign posts, utility poles, fire hydrants, traffic signals standards, light poles, etc. in the sidewalk, which will prevent a 3'-0" wide clear zone for pedestrian circulation. Also, Narrow Sidewalks shall require a minimum 6'-0" wide by 10'-0" long passing space at intervals not to exceed 200 feet.
6. If possible, install utility poles, fire hydrants, light poles, sign posts, pullboxes, etc. off of sidewalk but within the right-of way.
7. Single curb ramps serving two street crossing directions is prohibited in new construction.
8. New Curb Ramps shall be installed at 90° to the sidewalk.
9. Objects protruding from utility poles and walls adjacent to the sidewalks (i.e. wall mounted fire hydrants, telephones, meters on poles etc.) shall meet the current American with Disabilities Act (ADA) Accessibility Guidelines and will be subject to Engineer's approval.

SURVEY PLOTTED BY	DATE
DRAWN BY	3-30-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

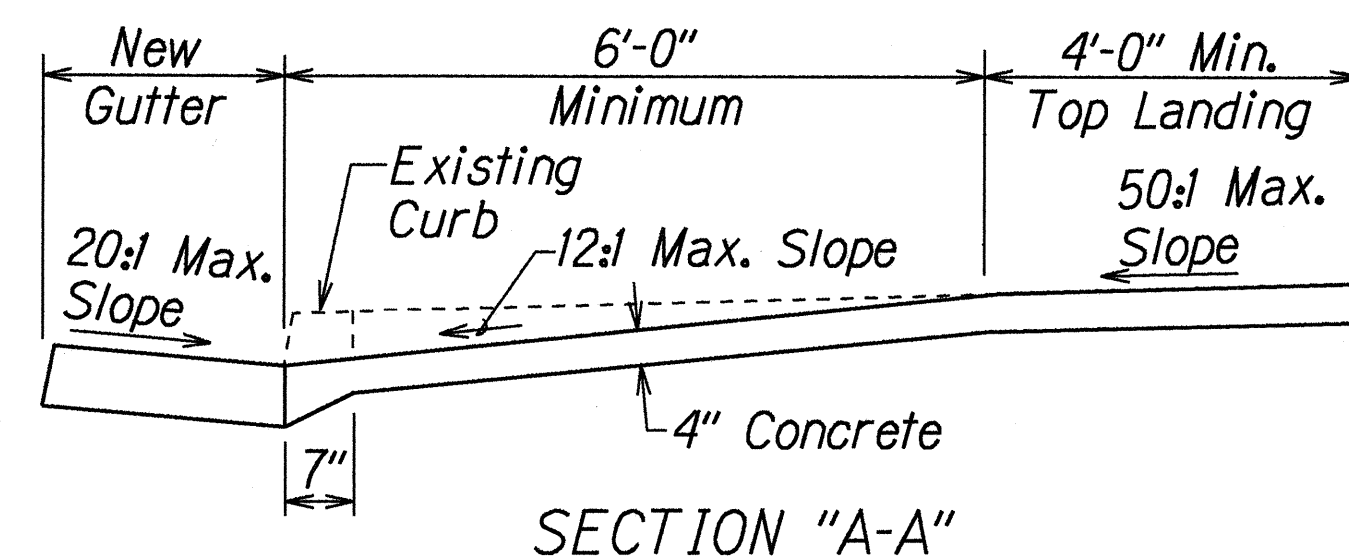
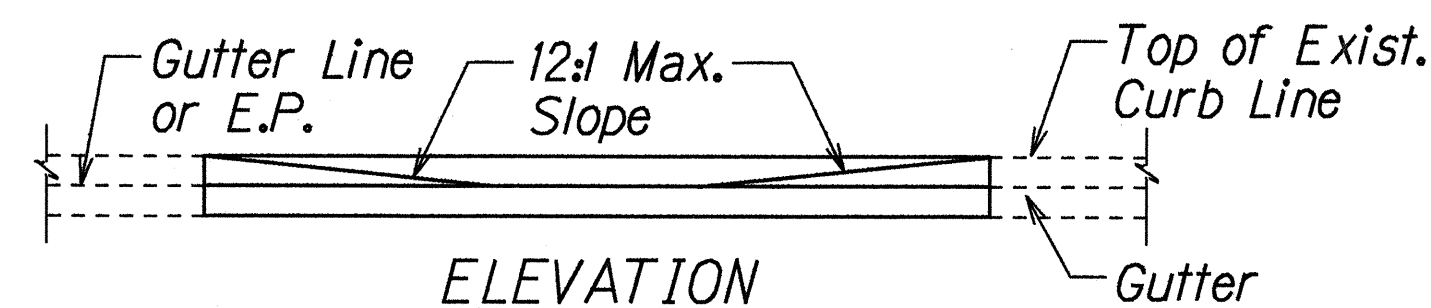
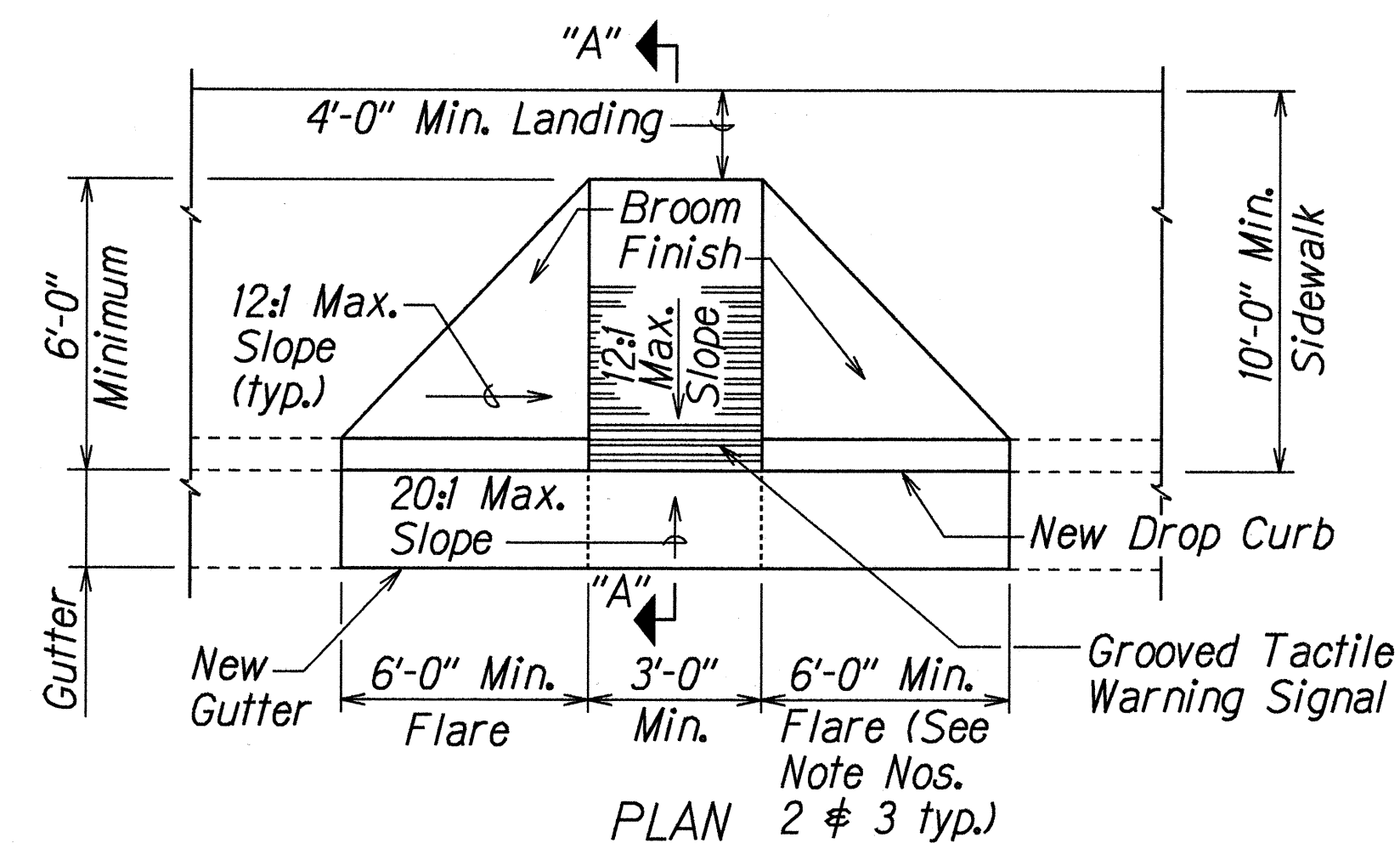
CURB RAMP DETAIL

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

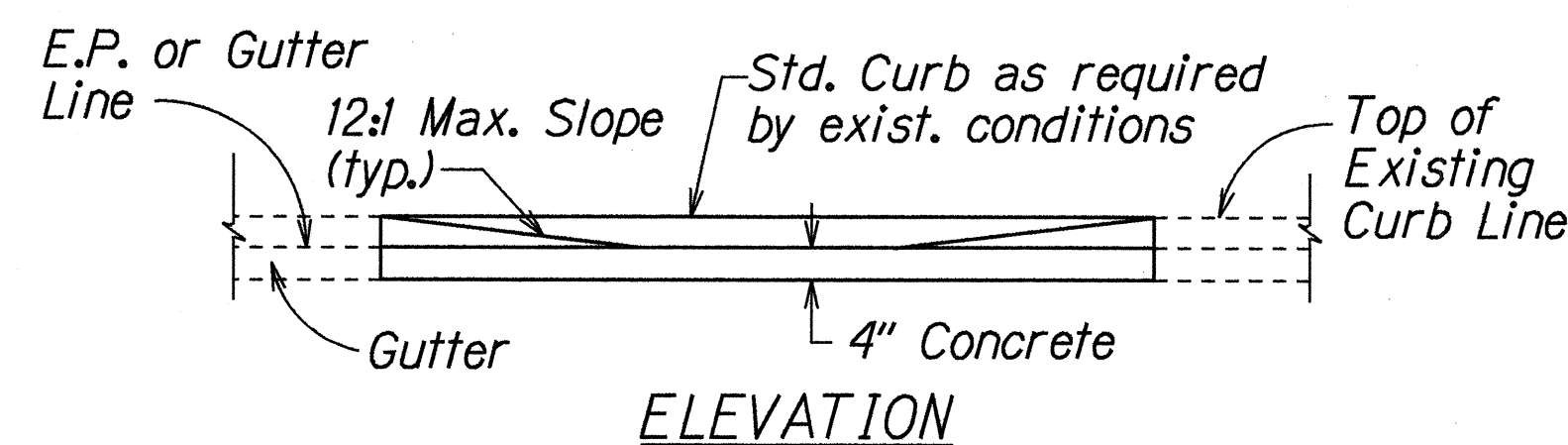
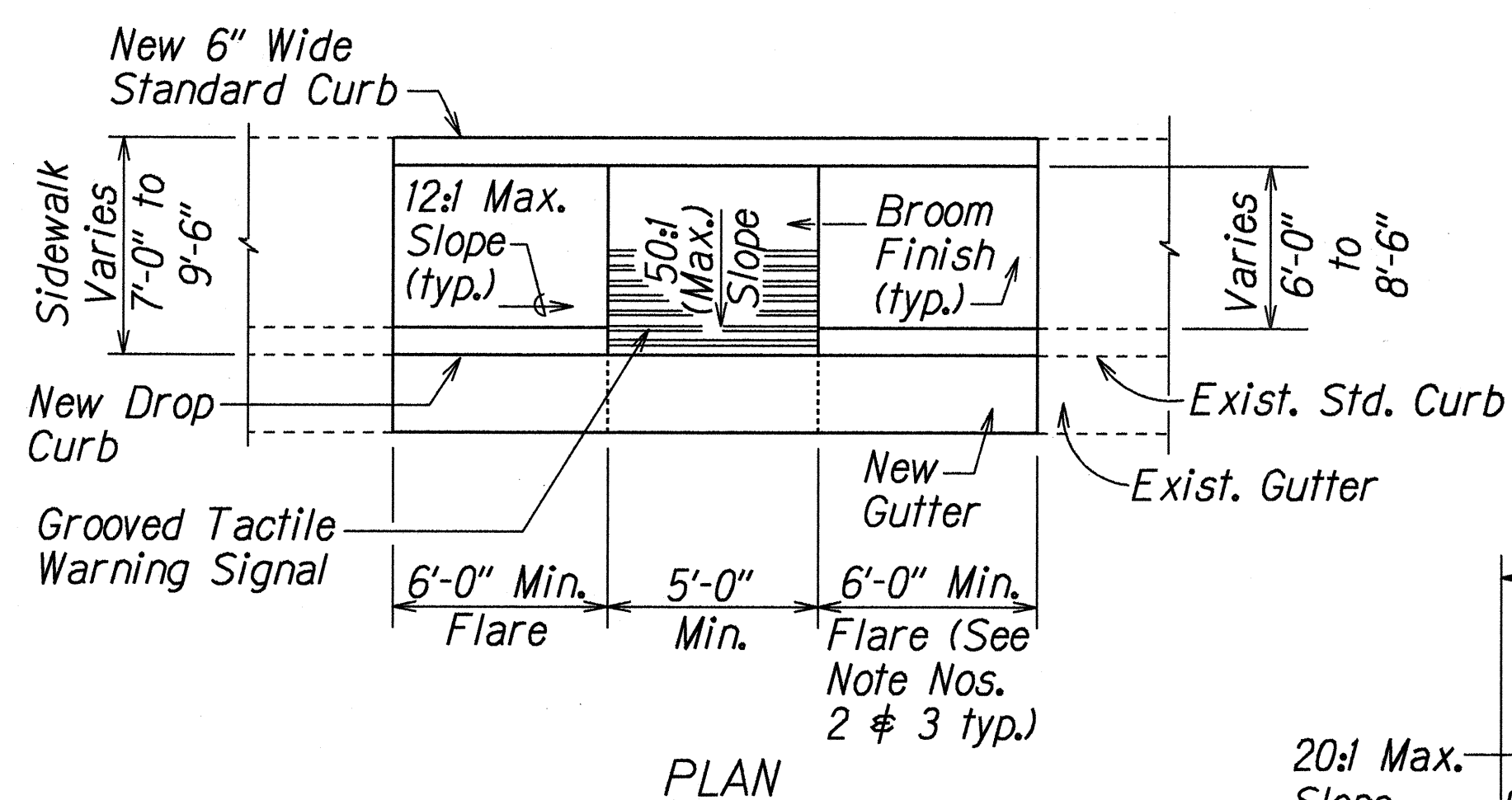
Not to Scale Date: Oct. 1997

SHEET No. 1 OF 4 SHEETS

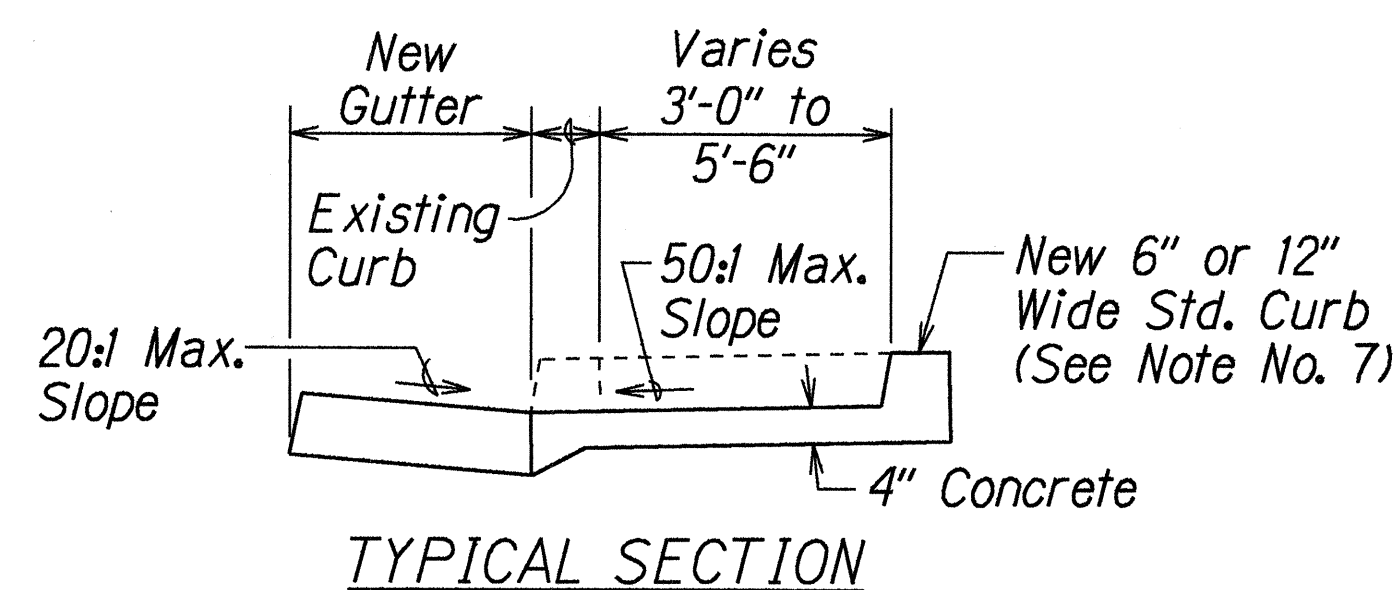
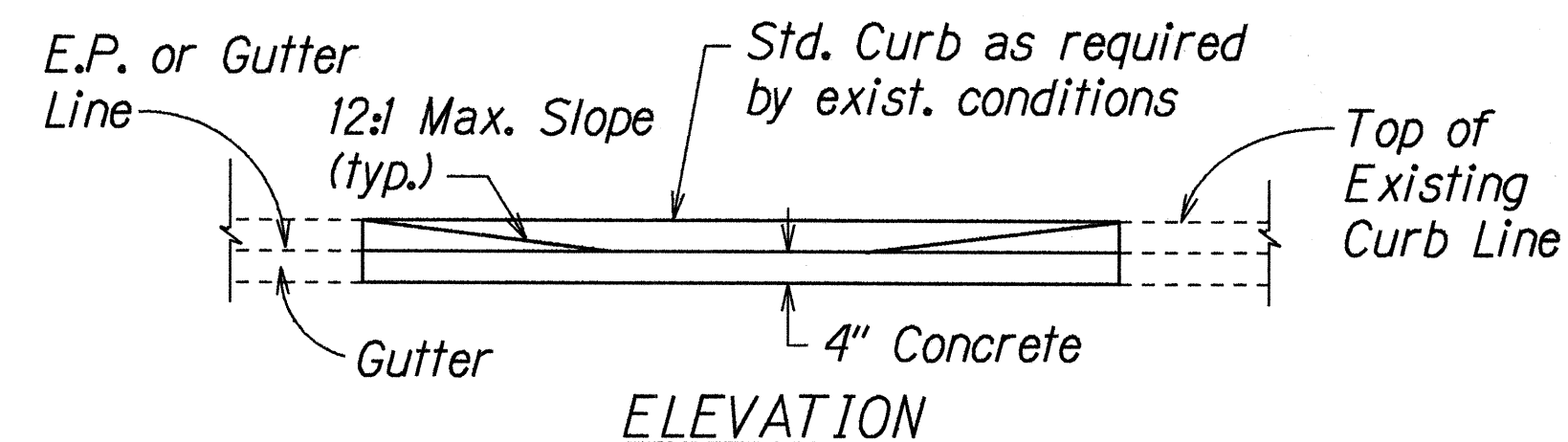
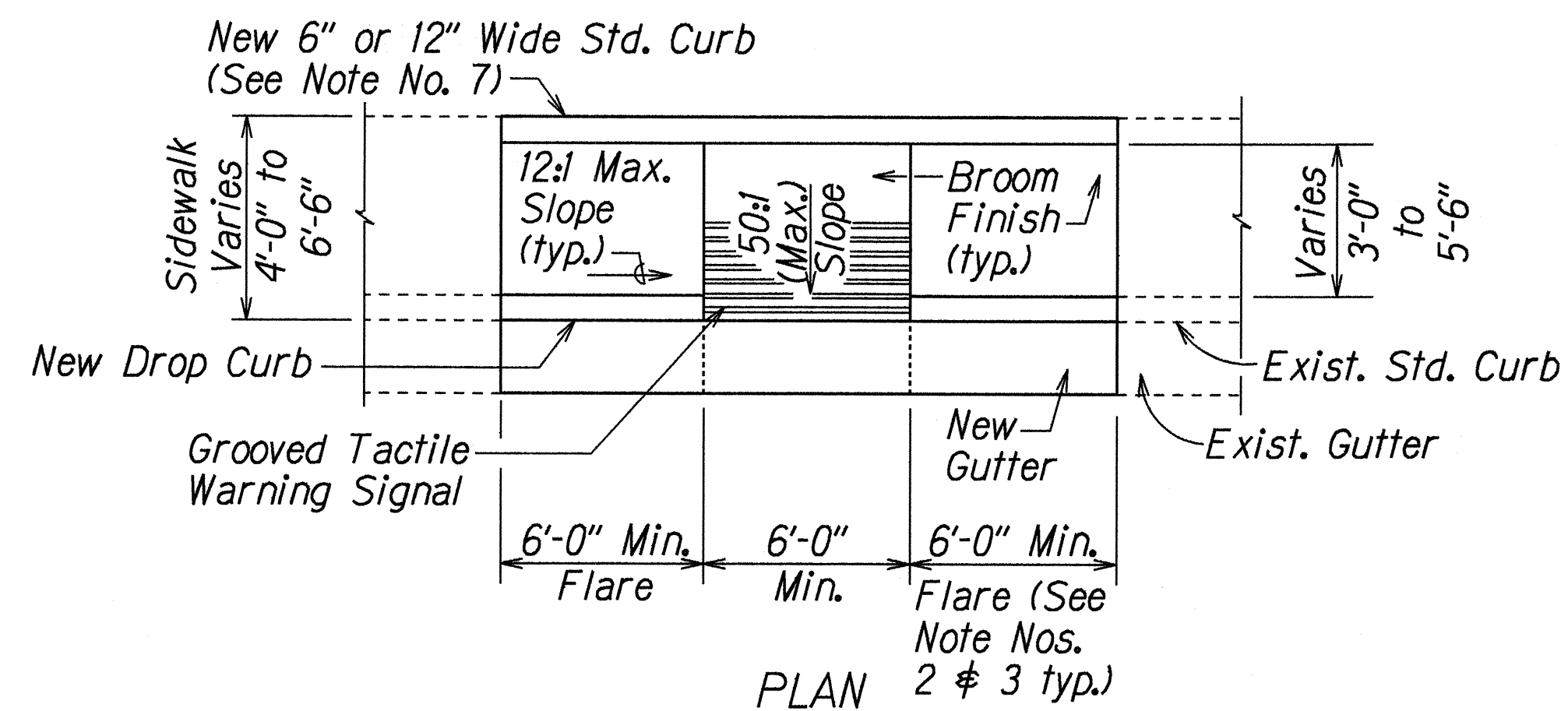
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	26	378



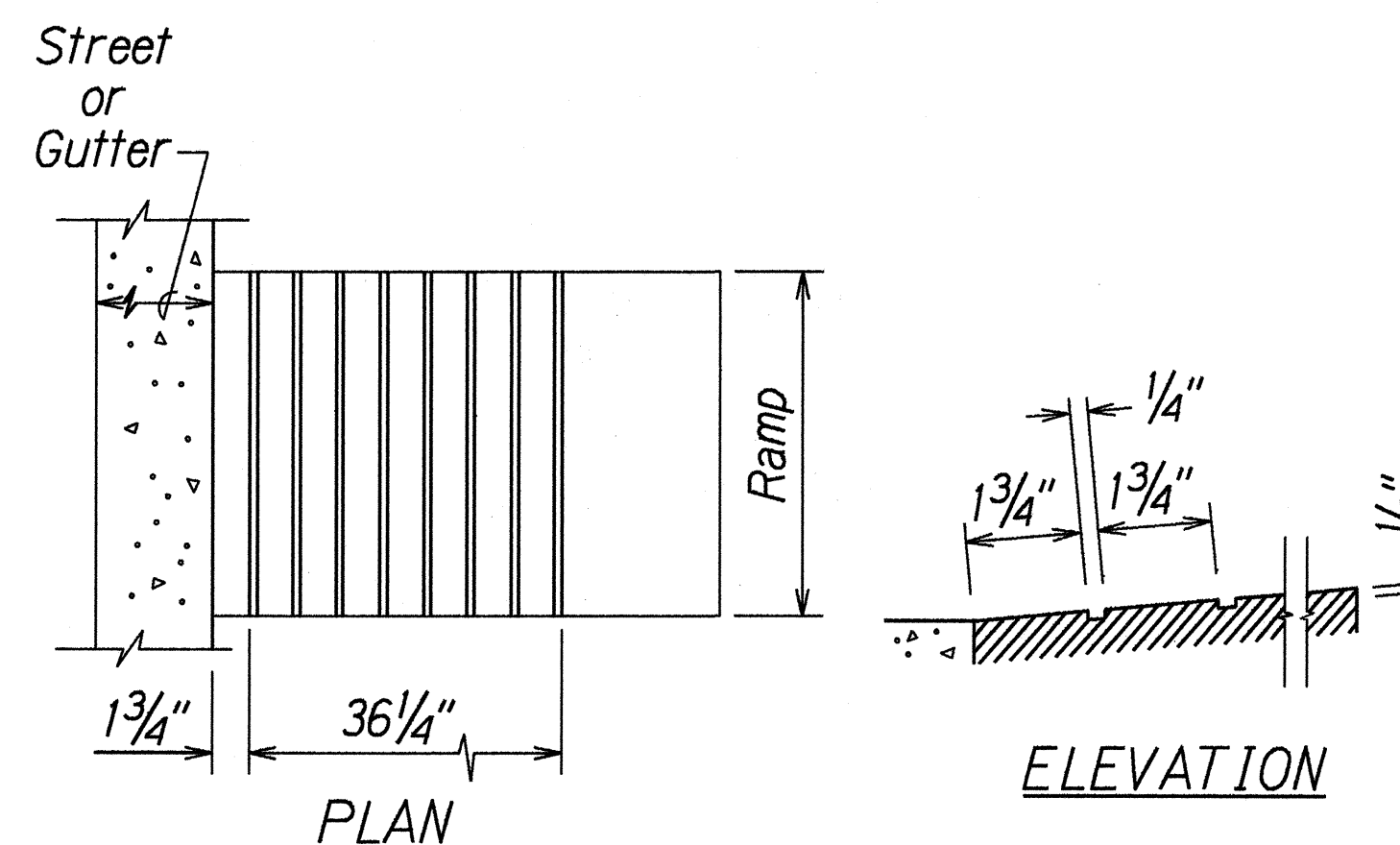
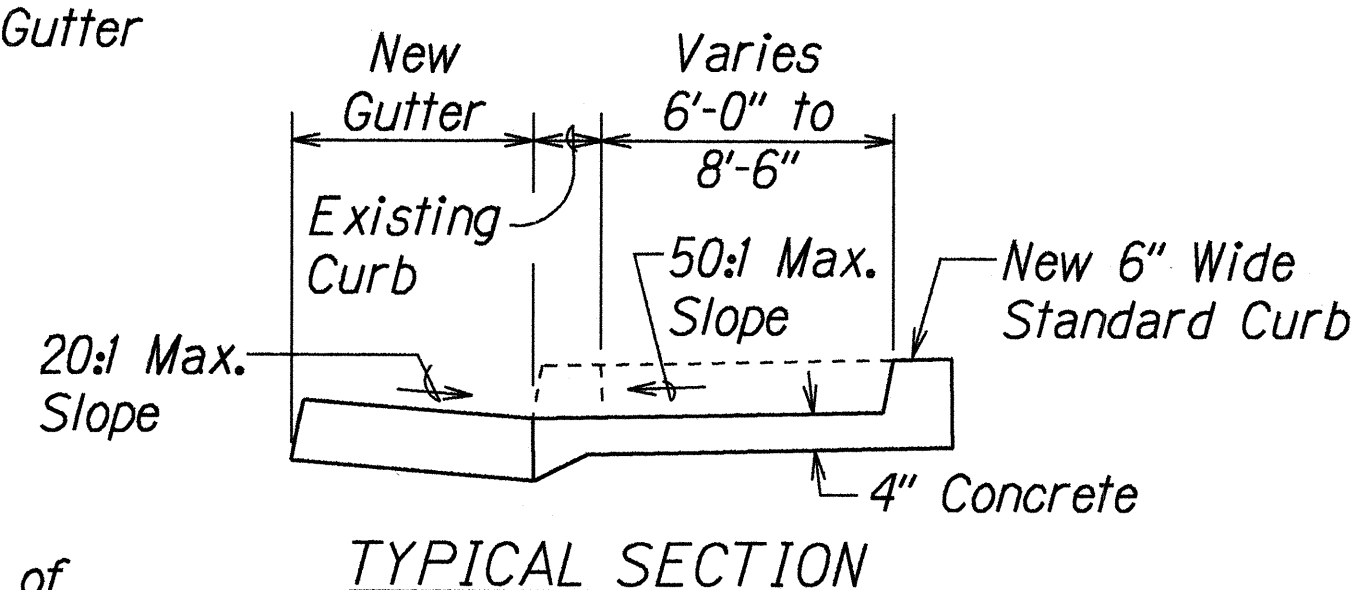
CURB RAMP - TYPE "A"
SIDEWALK WIDTH 10'-0" OR GREATER



CURB RAMP - TYPE "B" MODIFIED
SIDEWALK WIDTH 7'-0" OR GREATER
BUT LESS THAN 10'-0" WIDTH



CURB RAMP - TYPE "B"
SIDEWALK WIDTH 4'-0" OR GREATER
BUT LESS THAN 7'-0" WIDTH
(FOR EXISTING SIDEWALK ONLY)



GROOVED TACTILE WARNING SIGNAL

- CURB RAMP NOTES:

1. The New Gutter fronting the curb ramps shall not exceed a slope of 20:1 maximum. Areas without a gutter shall be handled on a case by case basis in order to meet the 20:1 maximum slope requirement.
2. The New Gutter fronting the 6'-0" minimum flares on both sides of the New Curb Ramps shall have a transition slope from 20:1 maximum to the existing gutter slope.
3. When the curb exceeds the standard 6" height, the side flares and ramp may be greater than 6'-0" in order to meet the 12:1 maximum slope requirement.
4. Curb Ramps shall be reinforced if adjacent sidewalks are reinforced.
5. All new adjacent sidewalks should have a minimum width of 6'-0" excluding the curb and the cross slope shall not exceed 50:1.
6. The Contractor shall use the Edge of Pavement (E.P.) fronting the new curb ramp or gutter as the control elevation when constructing the New Curb Ramp or Curb Ramp with gutter.
7. The New Standard Curb shall be 12" wide at signalized intersection or mid-block pedestrian crossings. For sidewalk width, excluding curb, is less than 4'-0", an Engineer approved, modified sidewalk with a minimum 3'-0" wide curb ramp and a 12" wide standard curb shall be installed.
8. The width of Curb Ramp including curbs shall match the width of the sidewalk. When the sidewalk width is less than 4'-0", an Engineer approved, modified sidewalk with a minimum 3'-0" wide curb ramp excluding curbs shall be installed. Standard curbs shall be installed on all Type "D" and Modified Type "D" Curb Ramps.

ORIGINAL PLAN	SURVEY PLOTTED BY _____ DATE <u>9-30-97</u>
NOTE BOOK	DRAWN BY <u>X</u> _____
<u>ddm/dm/dm</u>	TRACED BY _____
<u>QUANTITY BY</u>	DESIGNED BY <u>X</u> _____
<u>QUANTITY BY</u>	CHECKED BY _____

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

CURB RAMP DETAIL

INTERSTATE ROUTE H-1

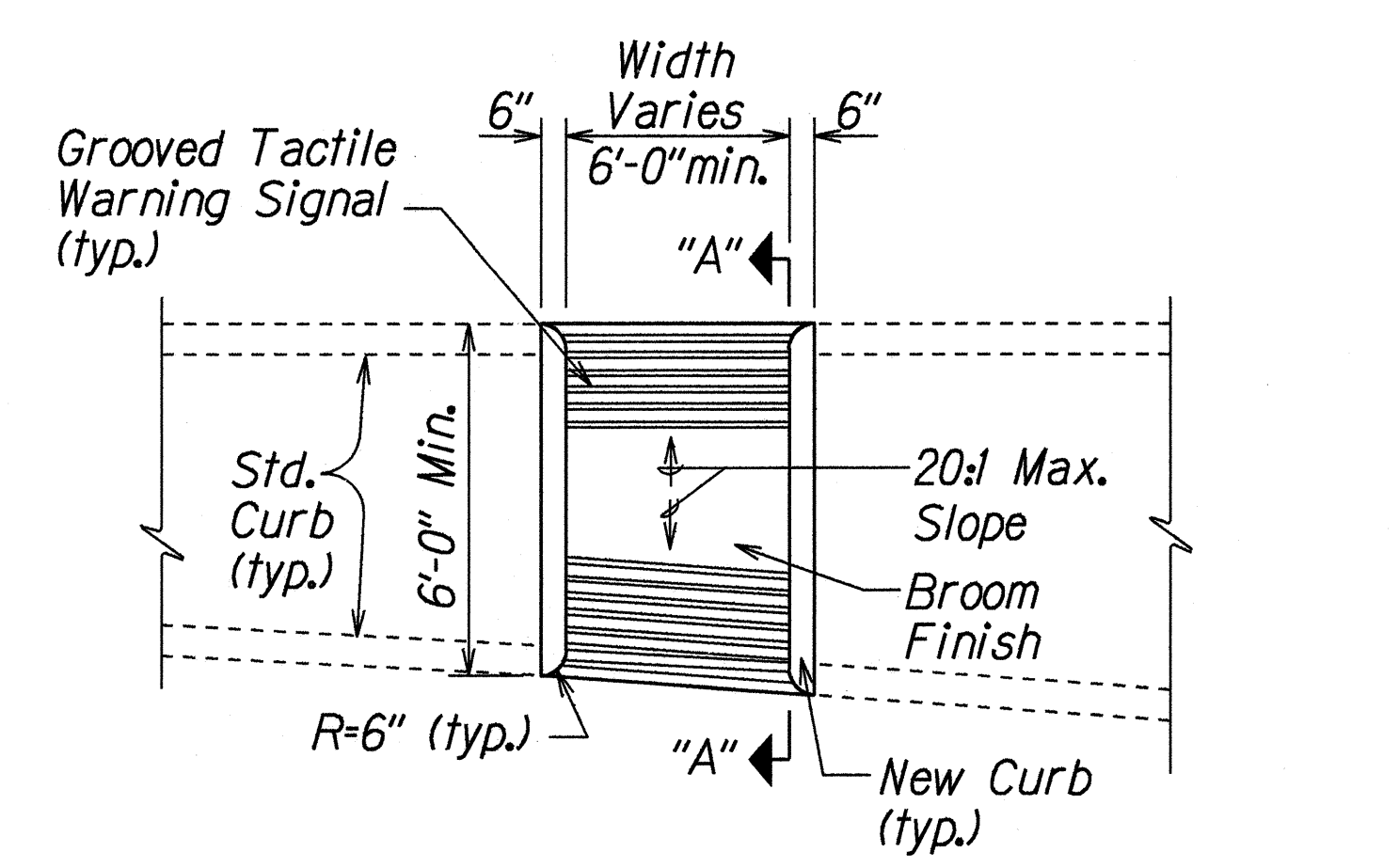
Kunia Interchange Improvements

F. A. I. Project No. 1M-HI-1(219)

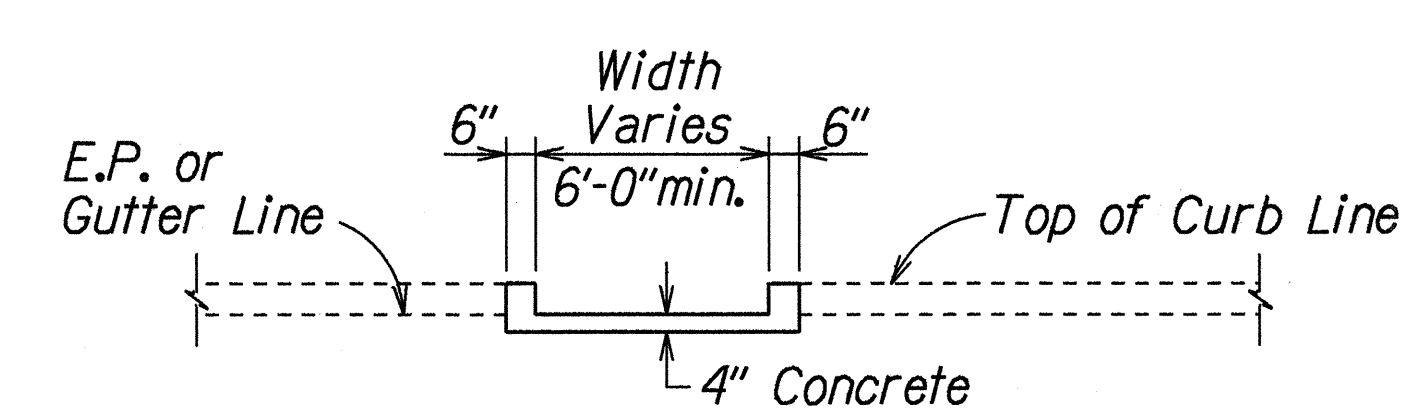
Not to Scale Date: Oct. 1997

SHEET No. 2 OF 4 SHEETS

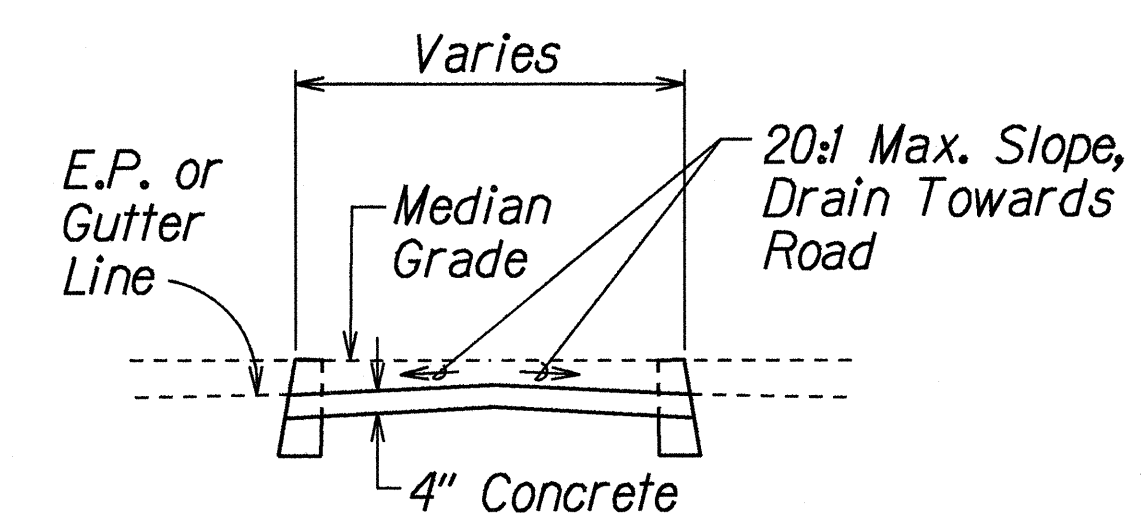
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-HI-1(219)	1998	27	378



PLAN



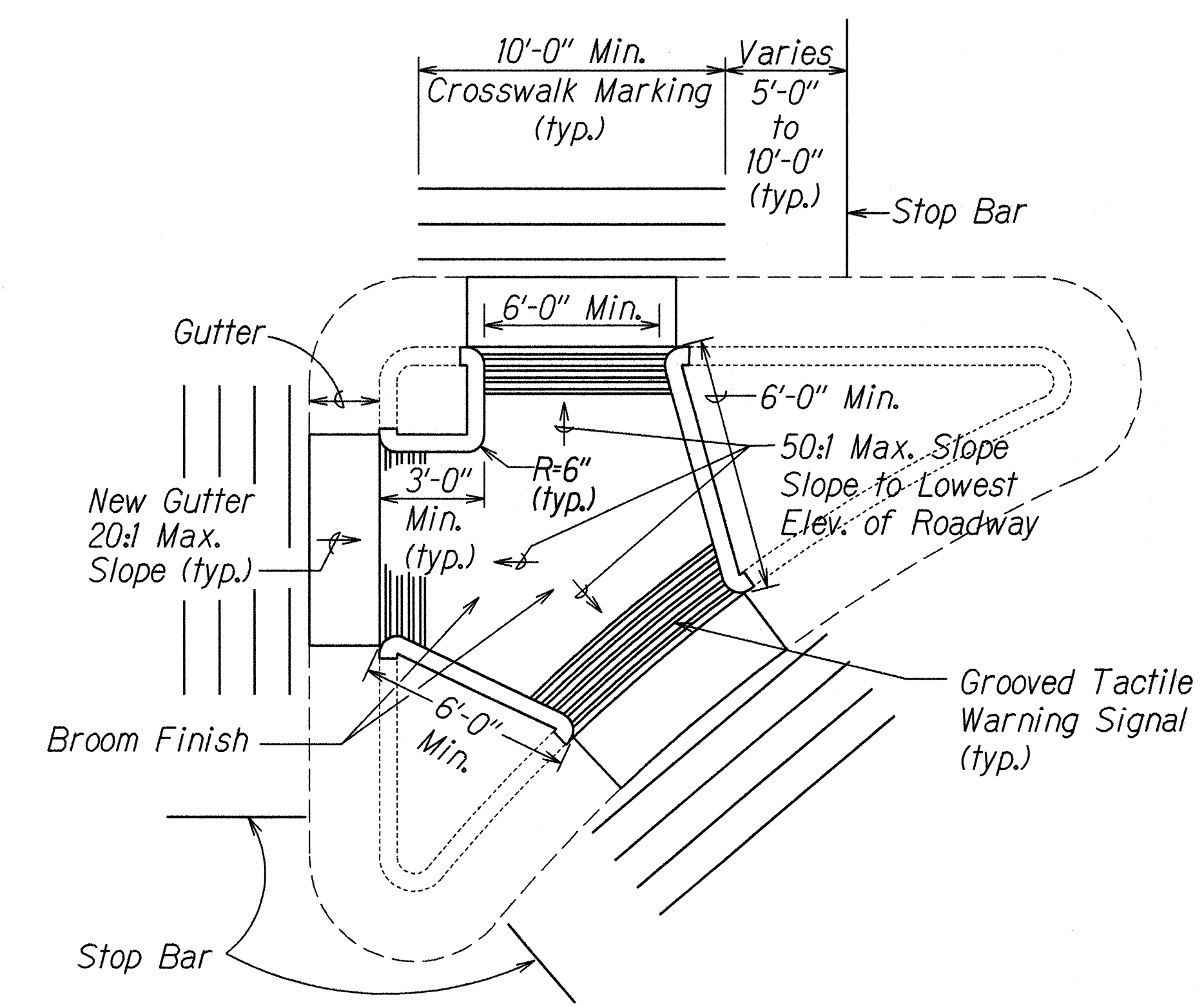
ELEVATION



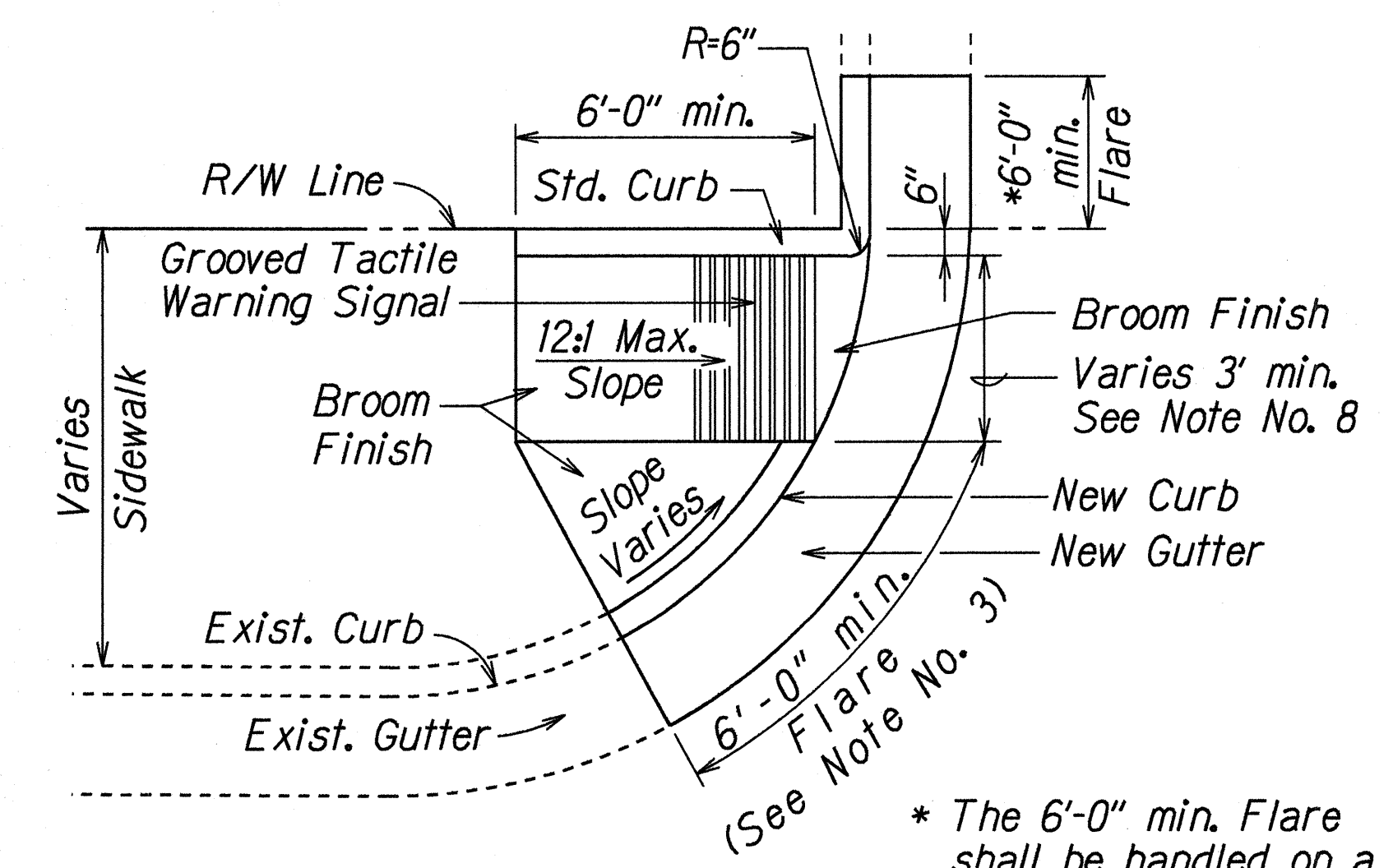
SECTION "A-A"

CURB RAMP - TYPE "C"

USE AT MEDIAN CROSSINGS, ISLANDS

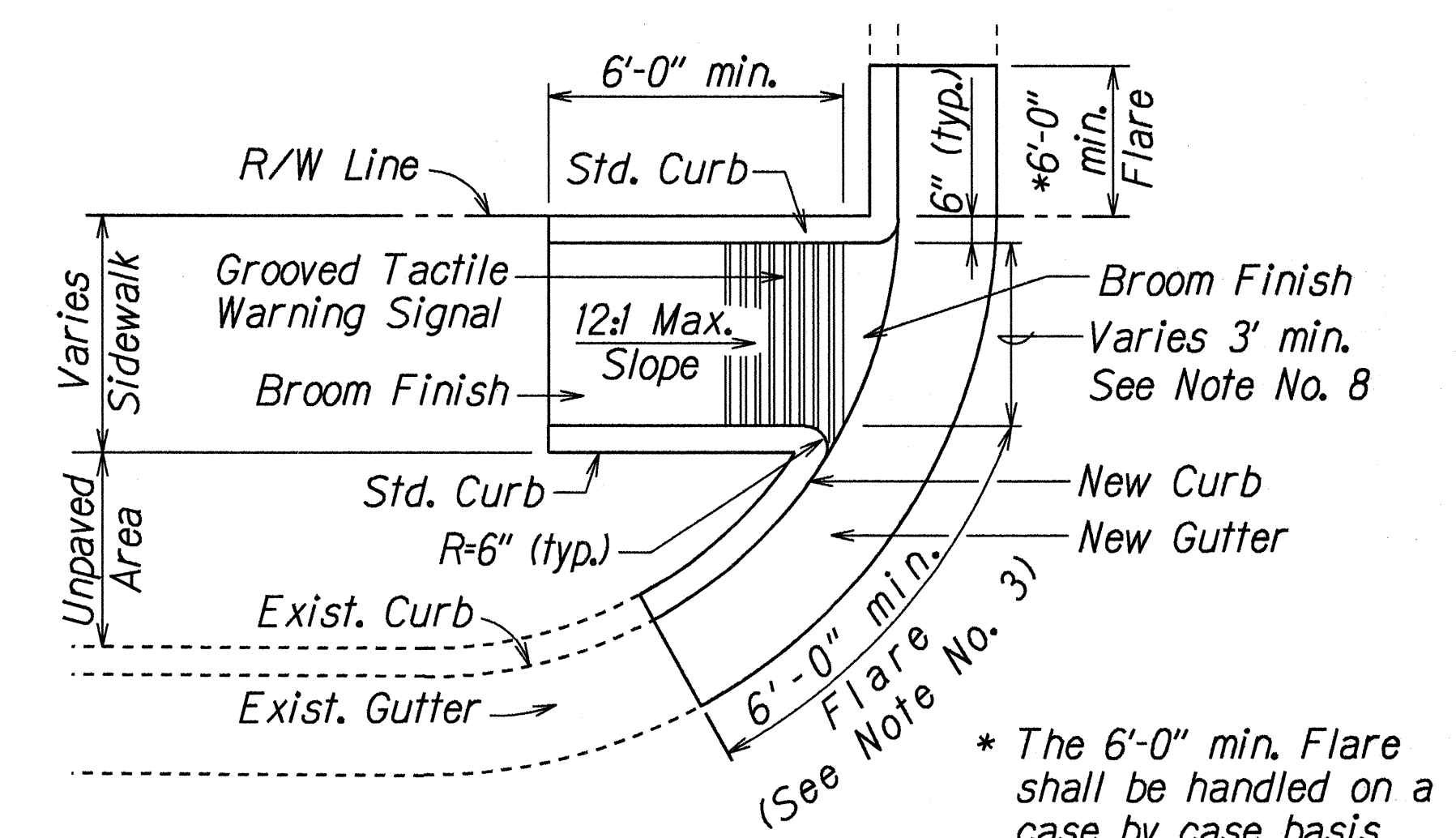


CURB RAMP - TYPE "C" MODIFIED



CURB RAMP - TYPE "D"

* The 6'-0" min. Flare shall be handled on a case by case basis.



CURB RAMP - TYPE "D" MODIFIED

* The 6'-0" min. Flare shall be handled on a case by case basis.

SURVEY PLOTTED BY	DATE
DRAWN BY	9-30-97
DESIGNED BY	
QUANTITIES BY	
CHECKED BY	
ORIGINAL PLAN	
NOTE BOOK	
adim/dhl	
NEW	

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

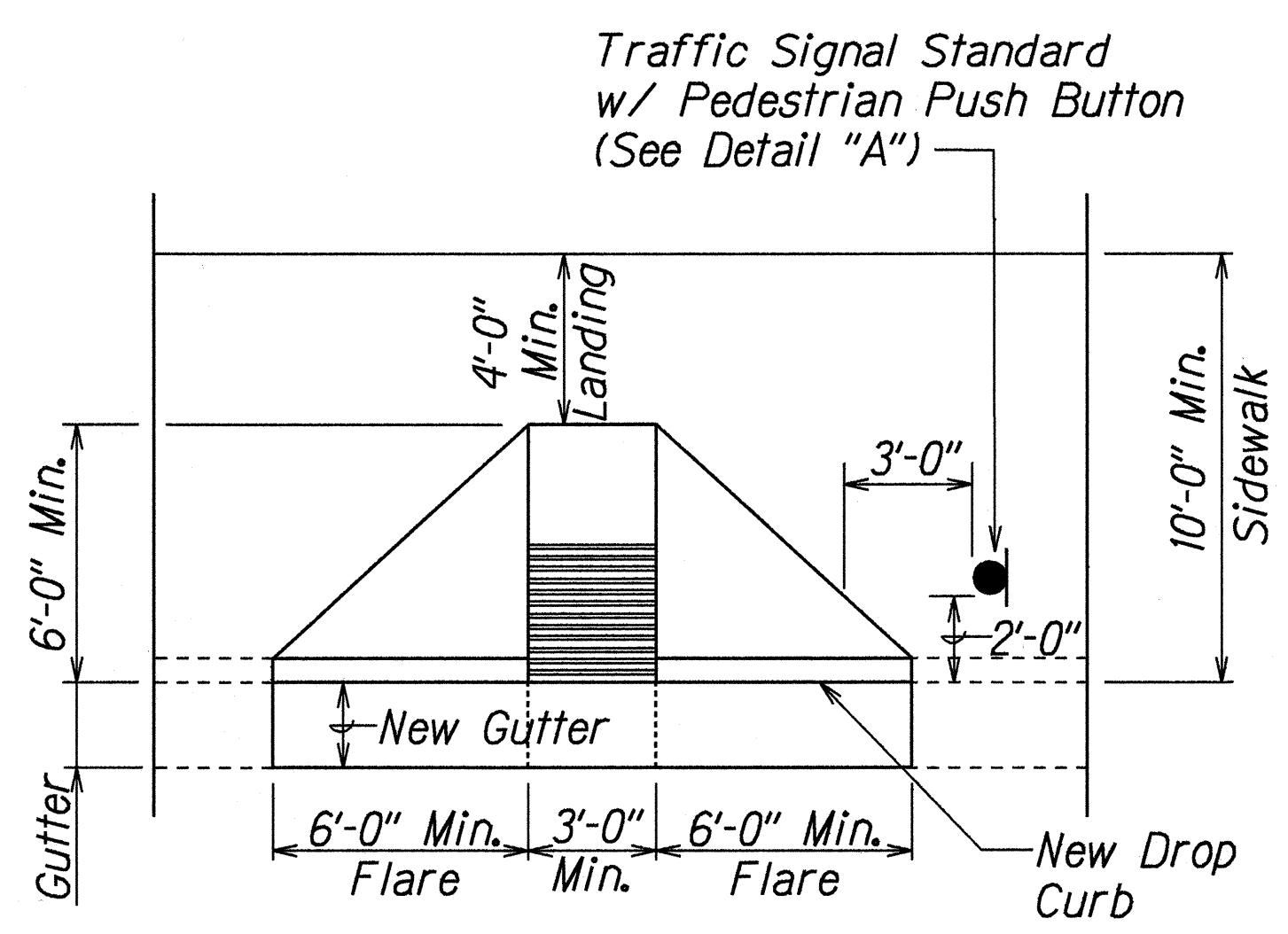
CURB RAMP DETAIL

INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. IM-HI-1(219)

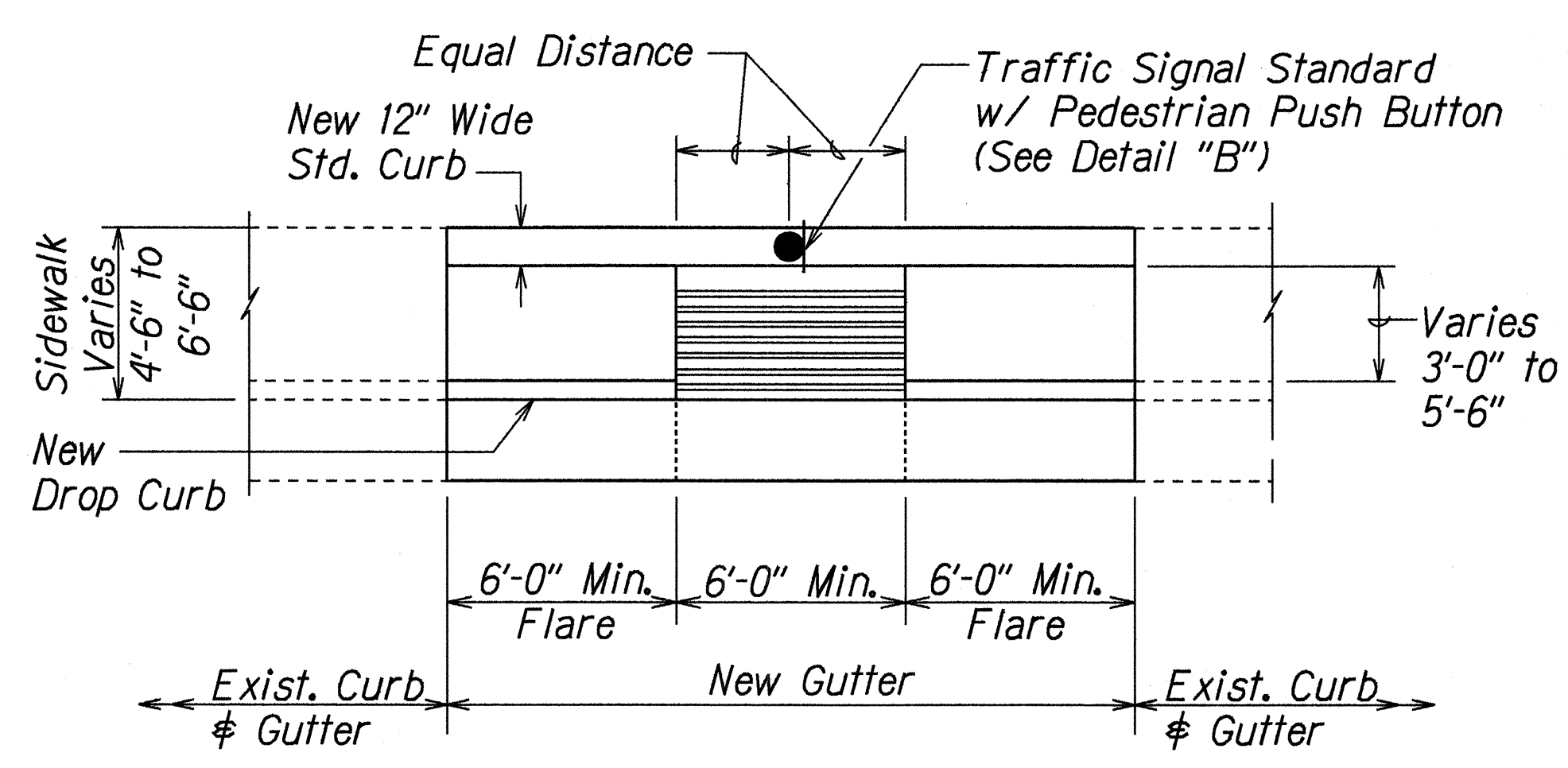
Not to Scale Date: Oct. 1997

SHEET No. 3 OF 4 SHEETS

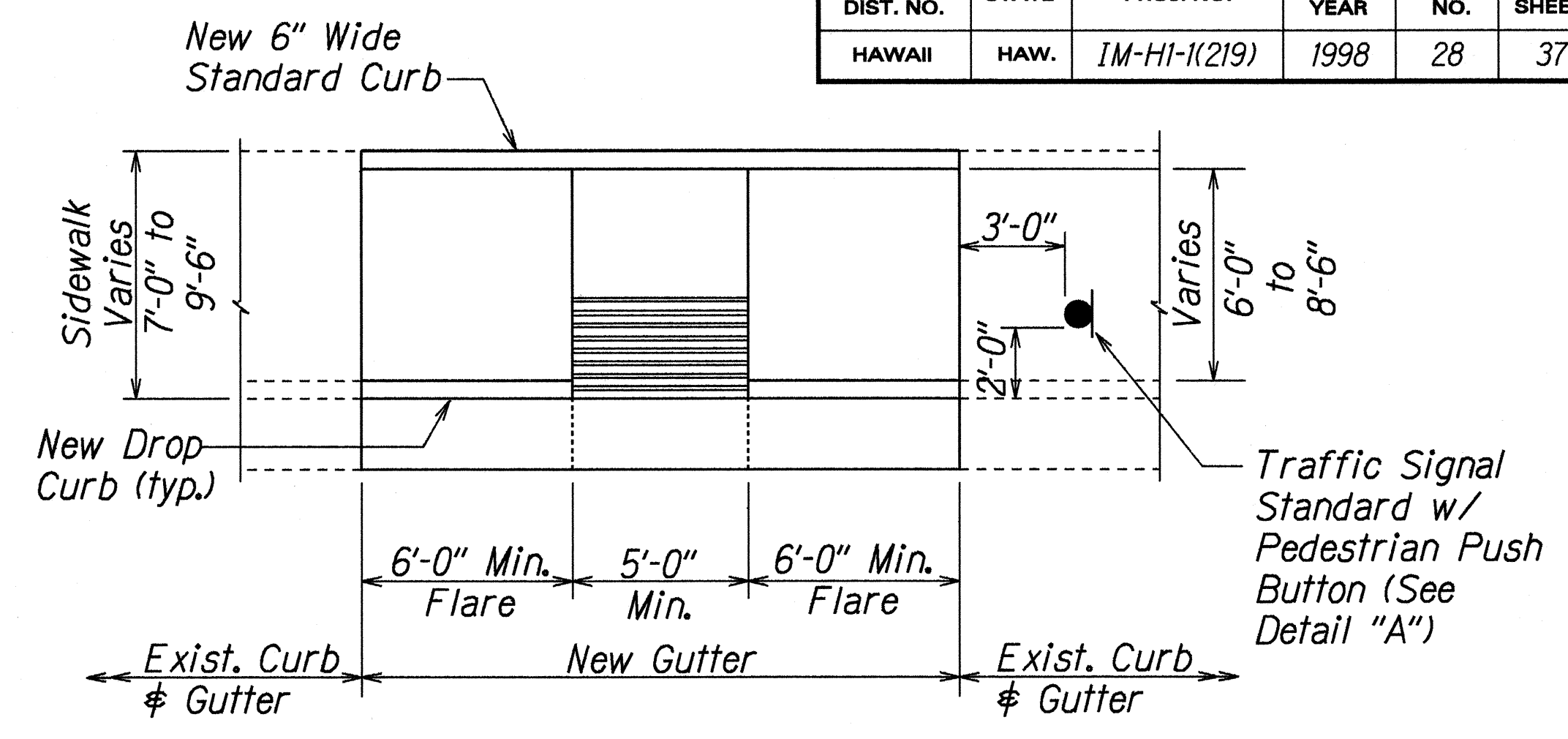
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	1M-HI-1(219)	1998	28	378



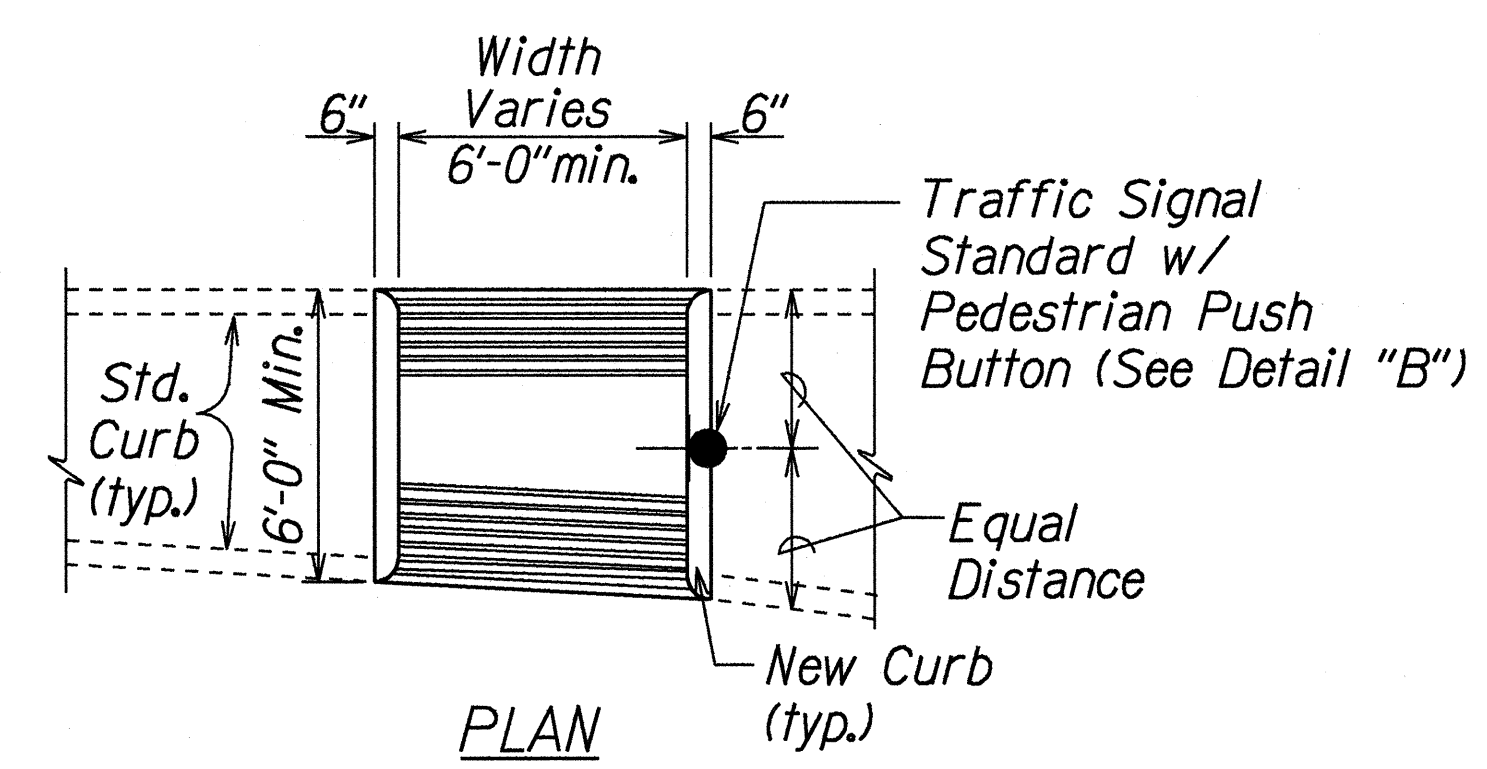
PLAN
CURB RAMP - TYPE "A"



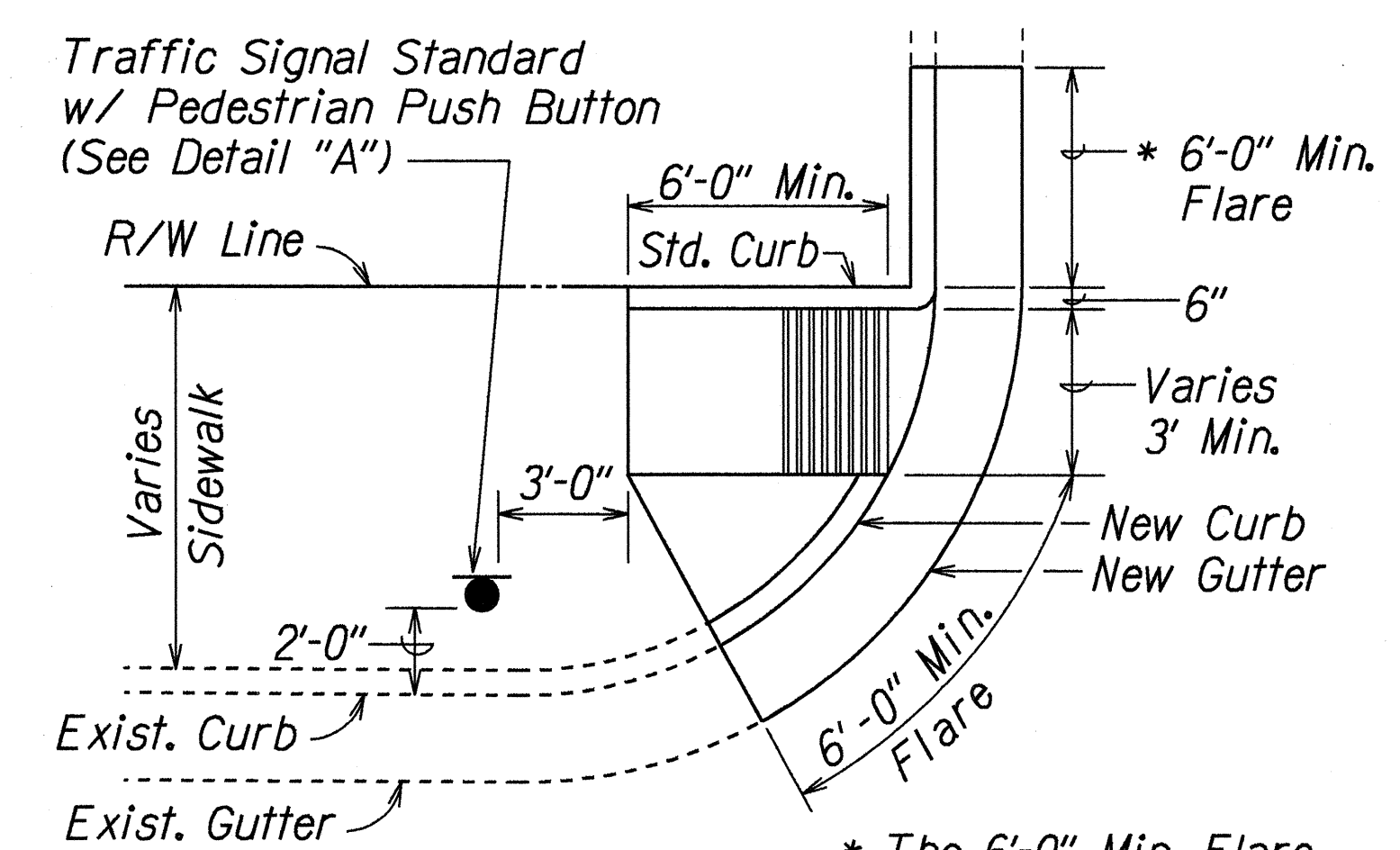
PLAN
CURB RAMP - TYPE "B"



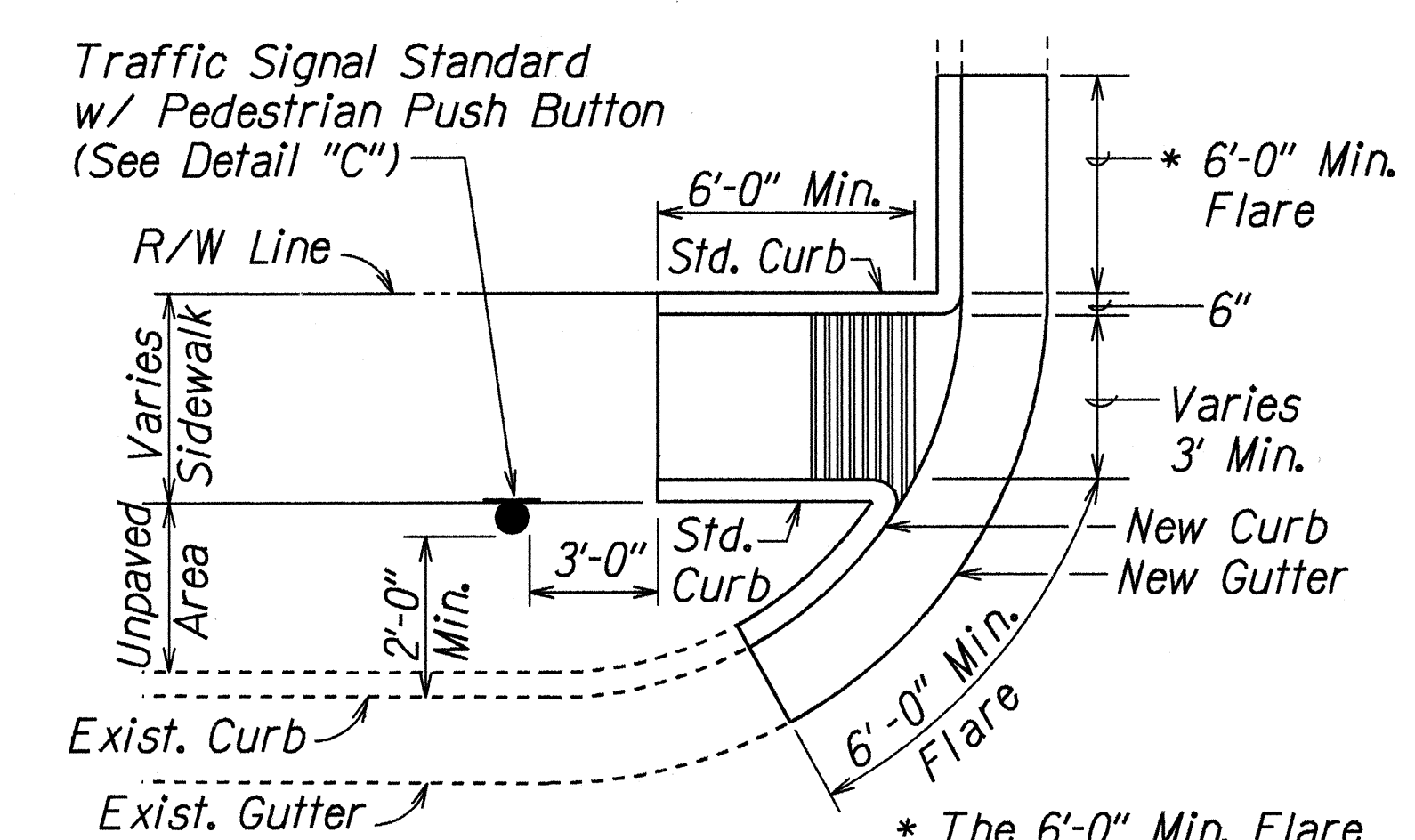
PLAN
CURB RAMP - TYPE "B" MODIFIED



PLAN
CURB RAMP - TYPE "C"



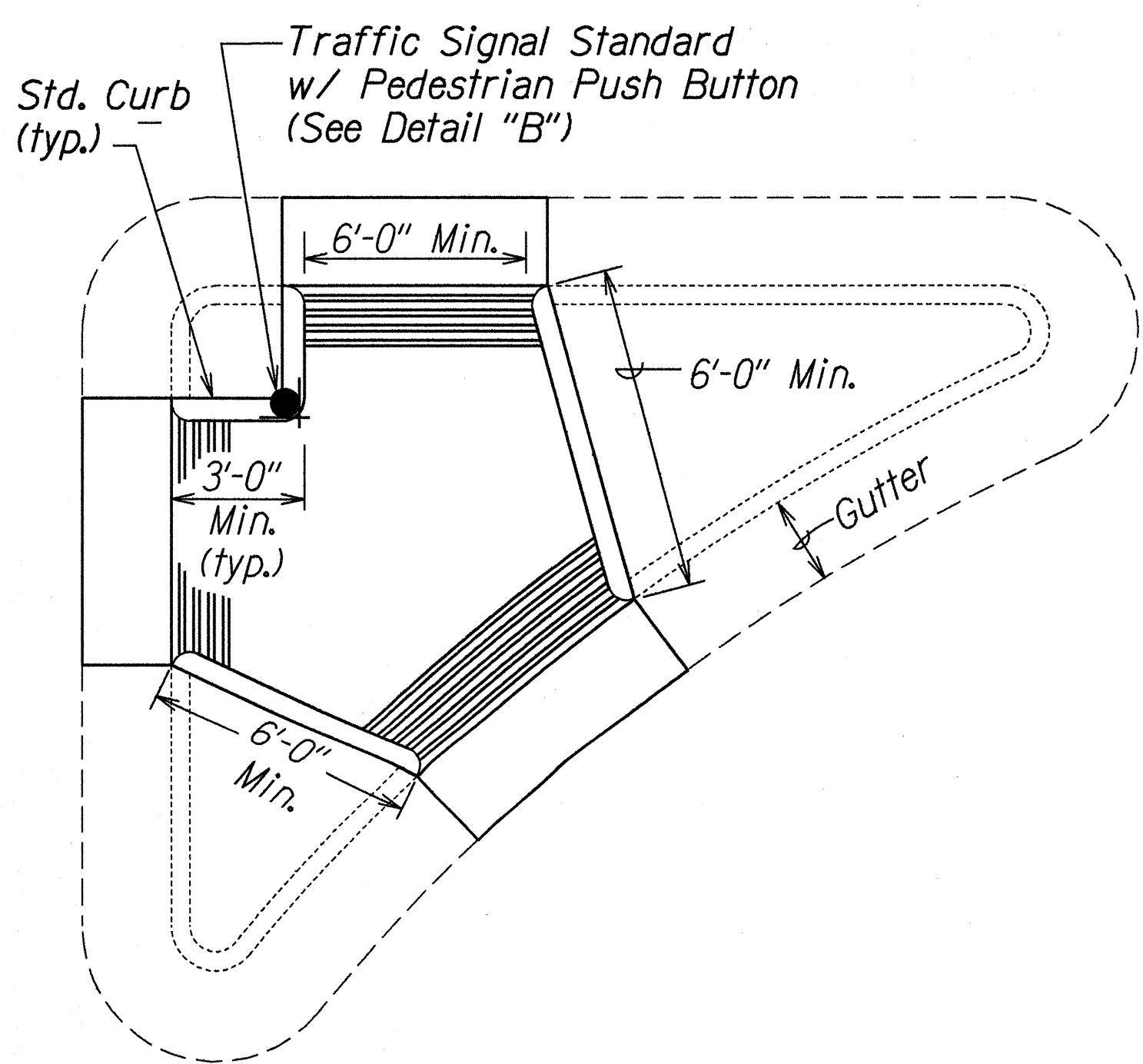
PLAN
CURB RAMP - TYPE "D"



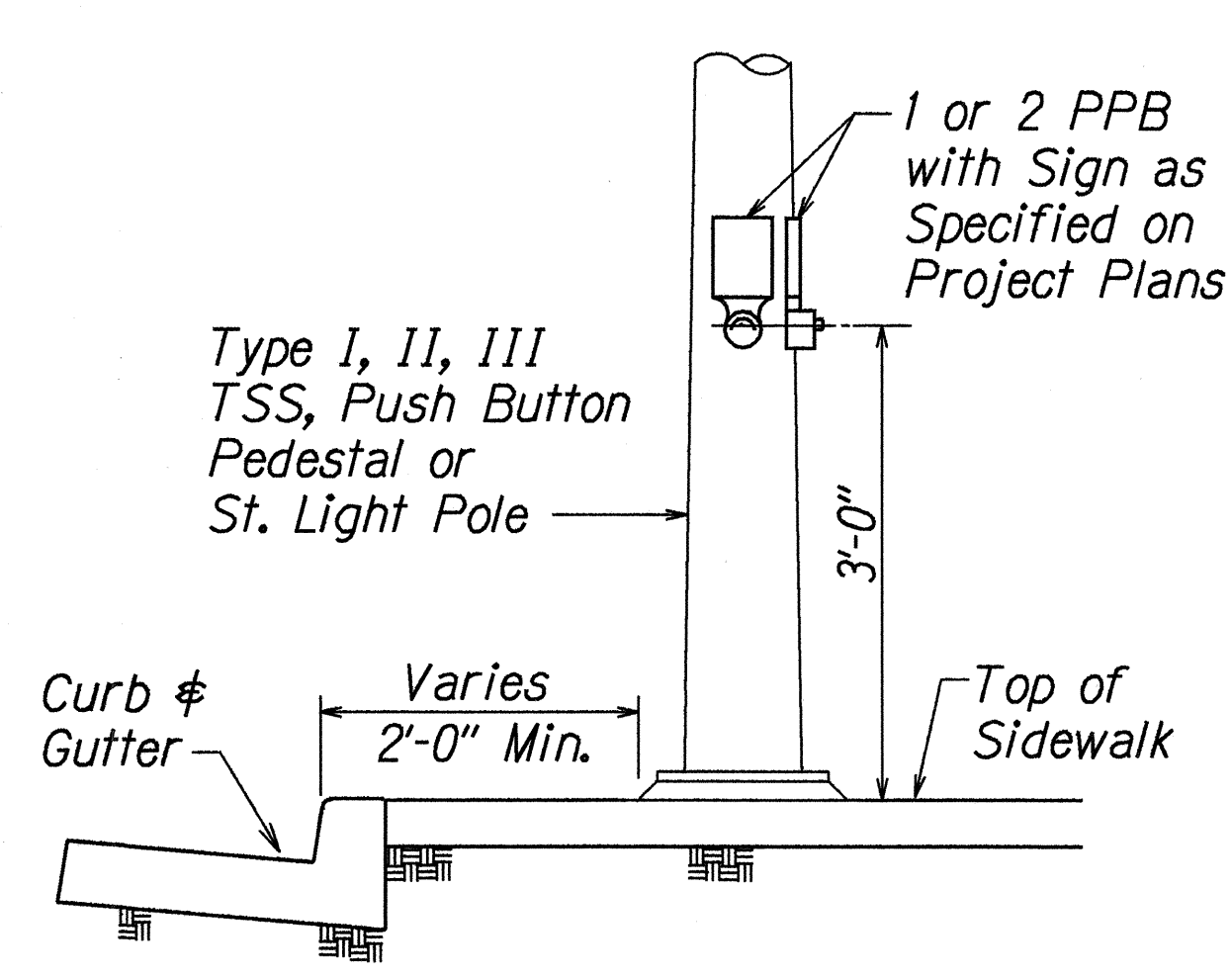
PLAN
CURB RAMP - TYPE "D" MODIFIED

GENERAL NOTE:

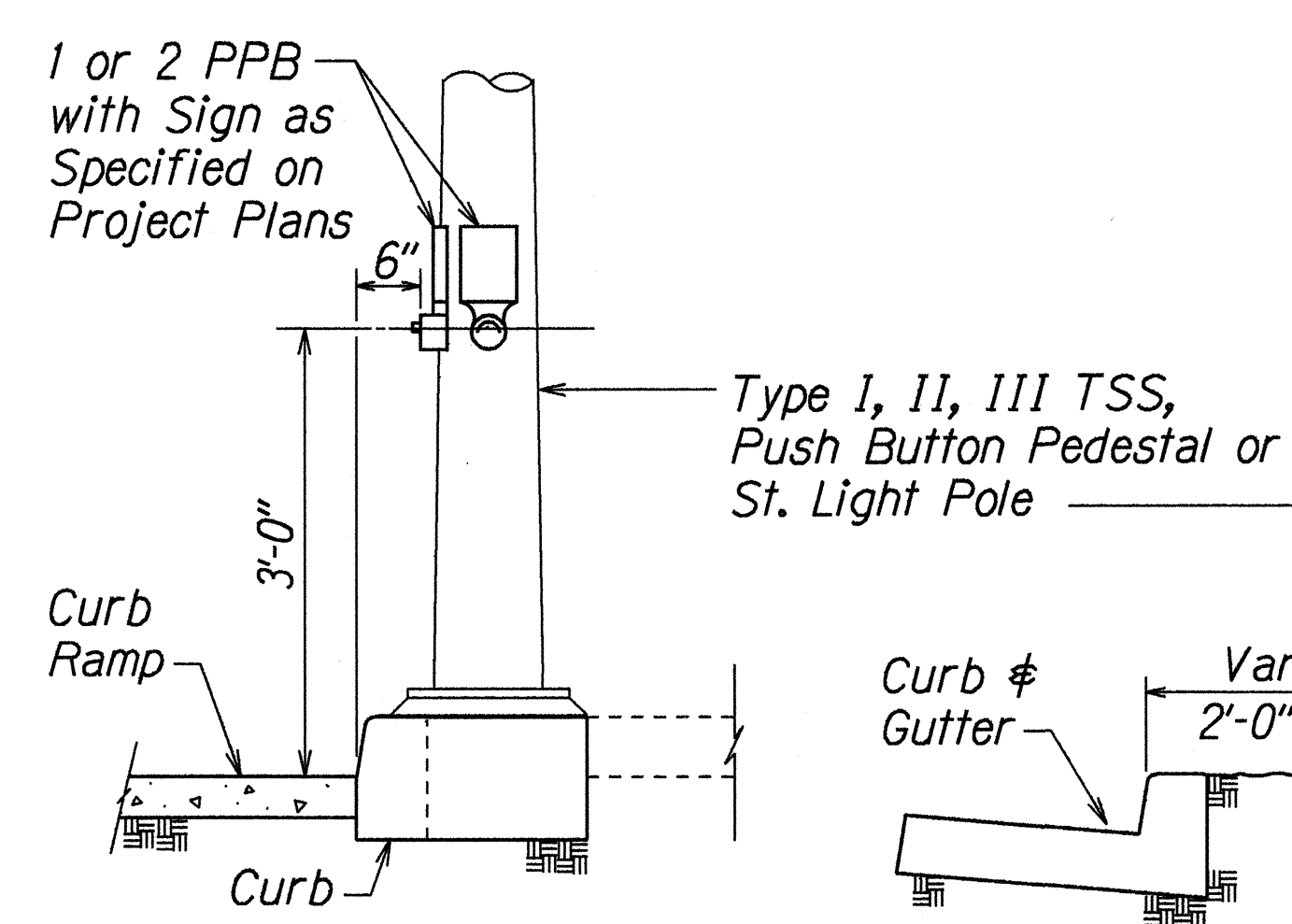
1. A minimum 3'-0" wide by 6'-0" long (excluding curbs) flat, stable paved surface with a cross slope of 50:1 or flatter shall be provided for a parallel approach to the pedestrian push button.



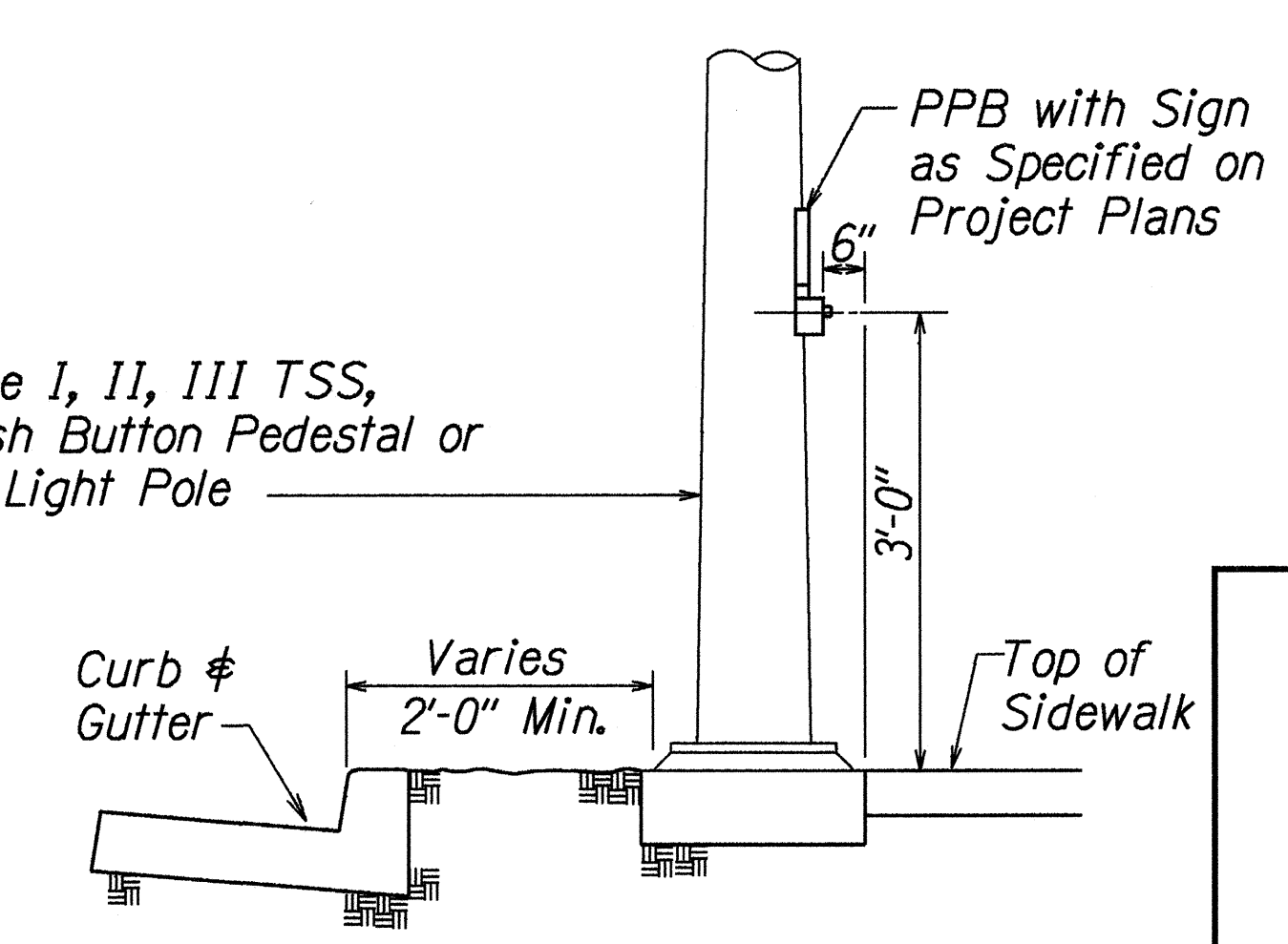
PLAN
CURB RAMP - TYPE "C" MODIFIED



DETAIL "A"



DETAIL "B"



DETAIL "C"

PEDESTRIAN PUSHBUTTON DETAILS

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
CURB RAMP DETAILS
(Pedestrian Push Button)
INTERSTATE ROUTE H-1
Kunia Interchange Improvements
F. A. I. Project No. 1M-HI-1(219)
Not to Scale Date: Oct. 1997
SHEET No. 4 OF 4 SHEETS

ORIGINAL PLAN	DATE 9-30-97
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	