

S U M M A R Y

PROJECT : **PIILANI HIGHWAY**
Mokulele Highway to Kilohana Street
 PROJECT NO.: **F-RF-031-1(6)**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

[illegible]

SHEET NO. 1 OF 25 SHEETS

אידן. 83

S U M M A R Y

PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO.: F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

[illegible]

SHEET NO. 2 OF 25 SHEETS

ADP. 84

S U M M A R Y

PROJECT : **PIILANI HIGHWAY**
Mokulele Highway to Kilohana Street
 PROJECT NO. : **F-RF-031-1(6)**

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

[illegible]

S U M M A R Y

PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO.: F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031- 1(6)	1978	86	262

ITEM NO.		206	206	207		503	503	602		603		603		603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603	603
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S U M M A R Y

PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO.: F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031- 1(6)	1978	87	262

11-16-78	Revised CMP Thickness of Item Nos. 603.3012, 603.3013, 603.7430 & 603.7510. Changed Item No. 603.7100 to 603.7200 & Revised CMP Thickness.	HAWAII	HAW.	F-RF-031-1(6)	1978

Date	Revision
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[illegible]

SHEET NO. 5 OF 25 SHEETS

S U M M A R Y

PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO.: F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031- 1(6)	1978	88	262

11-16-78	Revised CMP Thickness of Item Nos. 603.3012, 603.3013, 603.7430 & 603.7510. Changed Item No. 603.7100 to 603.7200 & Revised CMP Thickness.	HAWAII	HAW.	F-HF-031-1(6)	1978
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[illegible]

S U M M A R Y

PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO. F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031 -1(6)	1978	89	262

[illegible]

DRAINAGE SUMMARY

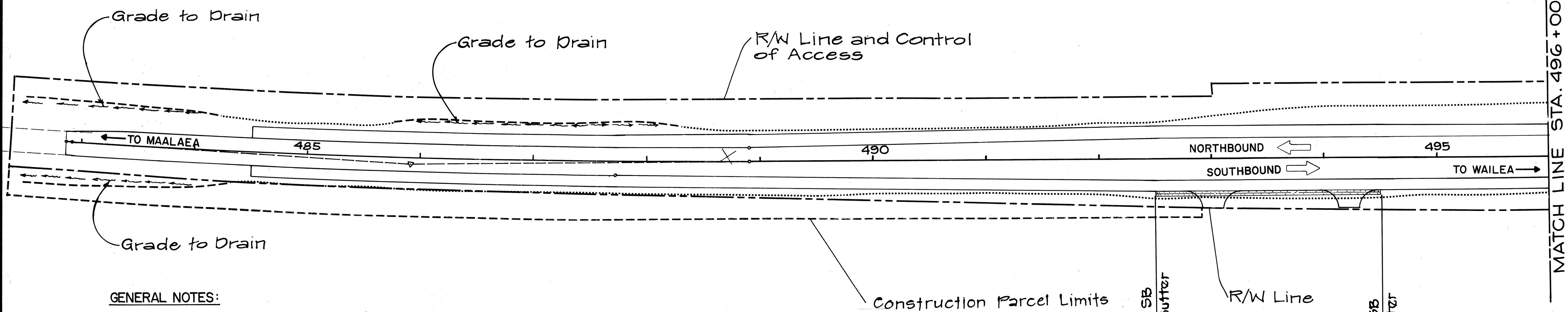
PROJECT : PIILANI HIGHWAY
Mokulele Highway to Kilohana Street
PROJECT NO : F-RF-031-1(6)

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.				

ITEM NO.		609	609	609	612	ITEM NO.		609	609	609	612				
		2140	2216	2216	0100			2140	2216	2216	0100				
UNIT USED		L.F.	L.F.	L.F.	C.Y.	UNIT USED		L.F.	L.F.	L.F.	C.Y.				
TYPE OF STRUCTURE	STATION (FROM - TO)	Gutter, Type 2G	Gutter, Type 7 (G1218) or Type 2 (G1218)	Gutter, Type 7 (G1G1G) or Type 2 (G1G1G)	Grouted Rubble Paving	TYPE OF STRUCTURE	STATION (FROM - TO)	Gutter, Type 2G	Gutter, Type 7 (G1218) or Type 2 (G1218)	Gutter, Type 7 (G1G1G) or Type 2 (G1G1G)	Grouted Rubble Paving				
LINED GUTTERS						Sta. 656+35 S.B.	Sta. 661+50 S.B.		515						
Sta. 492+50 S.B.	Sta. 494+50 S.B.	200				Sta. 661+50 N.B.	Sta. 672+70 N.B.		1120						
Sta. 519+80 N.B.	Sta. 521+63.7 ¹ N.B.			184	0.9	Sta. 661+50 S.B.	Sta. 662+53.64 S.B. 98.4 %			150					
Sta. 519+80 S.B.	Sta. 521+50.9 ¹ S.B.			175	0.9	Sta. 662+70.64 S.B. 98.4 %	Sta. 691+83.7 S.B.			3005	2.7				
Sta. 523+04.4 ¹ S.B.	Sta. 534+66.97 S.B.			1165		Sta. 676+50 N.B.	Sta. 691+83.7 N.B.			1540	0.9				
Sta. 523+17.2 ¹ N.B.	Sta. 534+36.02 N.B.			1120		Sta. 692+36.2 N.B.	Sta. 708+92 N.B.			1664	0.9				
Sta. 535+51.99 S.B.	Moi Place Sta. 1+0.3 % Rt.			1430	1.8	Sta. 692+36.2 S.B.	Sta. 707+00 S.B.			1480	0.9				
Sta. 535+51.99 N.B.	Sta. 536+60 N.B.			108		Sta. 709+83.52 N.B.	Sta. 732+20 N.B.			2270	0.9				
Sta. 550+23.33 S.B.	Ohukai Road Sta. 1+06 % Rt.			1218	0.9	Sta. 724+80 S.B.	Sta. 732+70 S.B.			830	0.9				
Sta. 550+62.01 N.B.	Sta. 553+25 N.B.			264	0.9	Sta. 732+70 N.B.	Sta. 740+00 N.B.		730		0.9				
Sta. 562+71.32 S.B.	Sta. 574+20 S.B.		1170			Sta. 733+20 S.B.	Sta. 740+20 S.B.		700		0.9				
Sta. 564+05 N.B.	Sta. 578+00 N.B.		1395			Sta. 740+20 S.B.	Sta. 741+64.02 S.B. 52.95 %			150					
Sta. 574+20 S.B.	Sta. 602+37.4 S.B.			2848	0.9	Sta. 741+75 N.B.	Sta. 748+85 N.B.		710						
Sta. 578+00 N.B.	Sta. 602+28.9 N.B.			2459	0.9	Sta. 742+35.95 S.B. 52.95 %	Sta. 743+75 S.B.			150					
Sta. 603+82.6 N.B.	Sta. 605+30 N.B.			128		Sta. 743+75 S.B.	Sta. 750+50 S.B.		675						
Sta. 603+91 S.B.	Sta. 605+00 S.B.			109		Sta. 750+50 S.B.	Sta. 757+83 S.B. 84.4 %			5130	2.7				
Sta. 605+00 S.B.	Sta. 613+50 S.B.		850			Sta. 752+00 N.B.	Sta. 68+10 N.B.			6086	3.6				
Sta. 605+65 N.B.	Sta. 614+70 N.B.		905			Sta. 58+17 S.B. 84.4 %	Sta. 68+85 S.B.			1110					
Sta. 614+50 N.B.	Sta. 624+91.9 N.B.			1042	0.9	Sta. 69+45 N.B.	Sta. 82+50 N.B.		1305						
Sta. 615+90 S.B.	Sta. 624+74.4 S.B.			885	0.9	Sta. 68+85 S.B.	Sta. 82+20 S.B.		1335						
Sta. 626+08.1 S.B.	Sta. 639+00 S.B.			1293		Sta. 82+20 S.B.	Sta. 84+33 S.B. 84.4 %			255					
Sta. 626+25.6 N.B.	Sta. 637+20 N.B.			1095		Sta. 83+50 N.B.	Sta. 84+35 N.B. 98.4 %			120					
Sta. 638+80 N.B.	Sta. 648+20 N.B.		970		0.9	Sta. 84+33 N.B. 98.4 %	Sta. 85+25.72 N.B.			100					
Sta. 638+80 S.B.	Sta. 648+30 S.B.		980		0.9	Sta. 84+33 S.B. 84.4 %	Sta. 85+25.77 S.B.			100					
Sta. 648+30 S.B.	Sta. 656+00 S.B.			770		SUB TOTAL			7090	24140	15.3				
Sta. 651+30 N.B.	Sta. 661+50 N.B.		1035		0.9	SUB TOTAL 1		200	7305	16293					
SUB TOTAL 1		200	7305	16293	11.7	TOTAL		200	14395	40433					
												10-10-78	REVISED GUTTER STATIONS AND QUANTITIES		
												DATE	REVISION		

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	91	262

TRUE NORTH
SCALE 1" = 50'



GENERAL NOTES:

1. LINED INTERCEPTOR DITCHES, GUTTERS, C.D.I.'S INLETS AND OUTLET STRUCTURES ARE LISTED BELOW WITH ITS RESPECTIVE SHEET NUMBERS WHERE DETAILS ARE FOUND.

	SHT. NO.
LINED INTERCEPTOR DITCHES	142
TYPE 7 & TYPE 2 (61616 & 61218) GUTTERS	143
GUTTER TRANSITIONS & SPILLWAY	144
TYPE 61614 - 45° C.D.I.	145
TYPE 61214 - 45° C.D.I.	146
TYPE A INLET & OUTLET CONC. STRUCTURE	154
TYPE B OUTLET CONC. STRUCTURE	155
TYPE C " " "	153
FLARED END SECTIONS	153 A
CONCRETE SPILLWAY INLET	157

2. WHERE PLANS CALL FOR GRADE TO DRAIN, CONSIDER AS UNLINED DITCHES. FOR TOTAL QUANTITY, SEE DRAINAGE SUMMARY UNDER UNLINED DITCHES.

3. PRECAST CONCRETE FLARED END SECTION SHALL BE USED WITH RCP OR ACP AND PREFABRICATED STEEL FLARED END SECTION SHALL BE USED WITH CMP FOR INLET OR OUTLET STRUCTURES AS INDICATED ON THE PLANS.

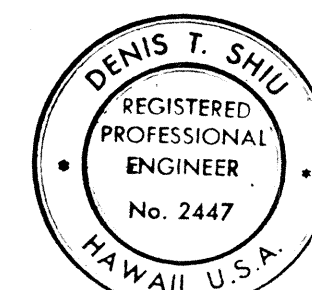
4. CONCRETE SPILLWAY AND SPILLWAY INLETS AT BEGIN OR END OF 61218 GUTTERS SHALL BE CONSIDERED INCIDENTAL TO 61218 GUTTER.

LEGEND

..... Toe of Fill Slope
 ----- Top of Cut Slope
 & Drainage Ditch

10-10-78 REVISED NOTE NO. 1
 ADDED NOTE NOS. 3 & 4

DATE REVISION



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Denis T. Shiu

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS

PIILANI HIGHWAY
 VICINITY OF MOKULELE HIGHWAY TO
 VICINITY OF KILOHANA STREET
 F.A. PROJECT NO. F-RF-031-1(6)

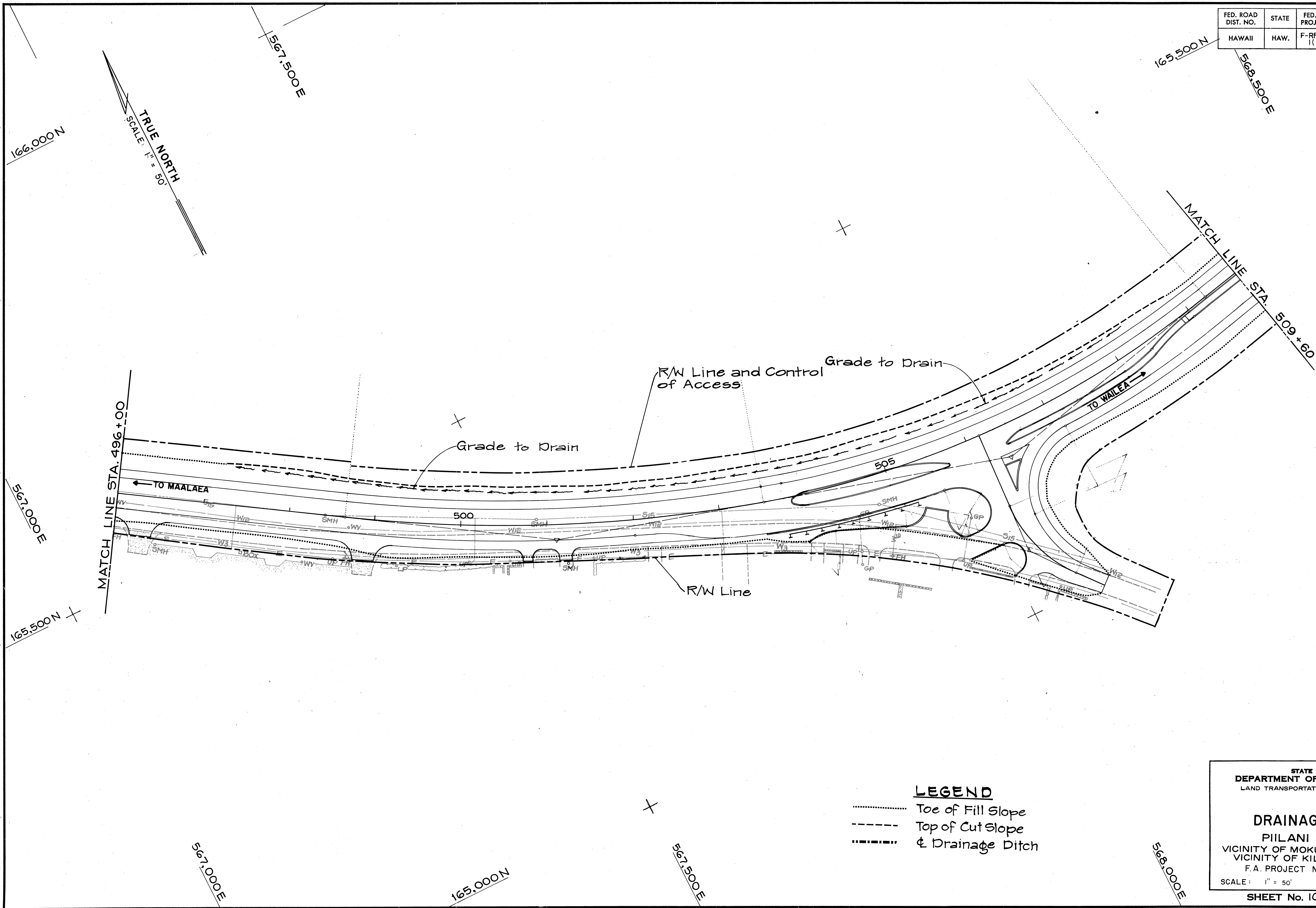
SCALE: 1" = 50' DATE SEP 1978

SHEET No. 9 OF 25 SHEETS

ADD.91

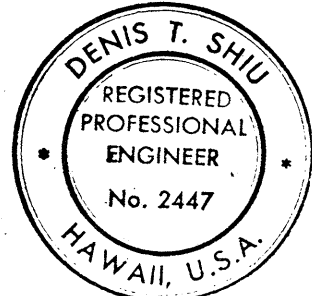
ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	
No.	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	92	262



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

- LEGEND**
- Toe of Fill Slope
 - Top of Cut Slope
 - - - - - & Drainage Ditch



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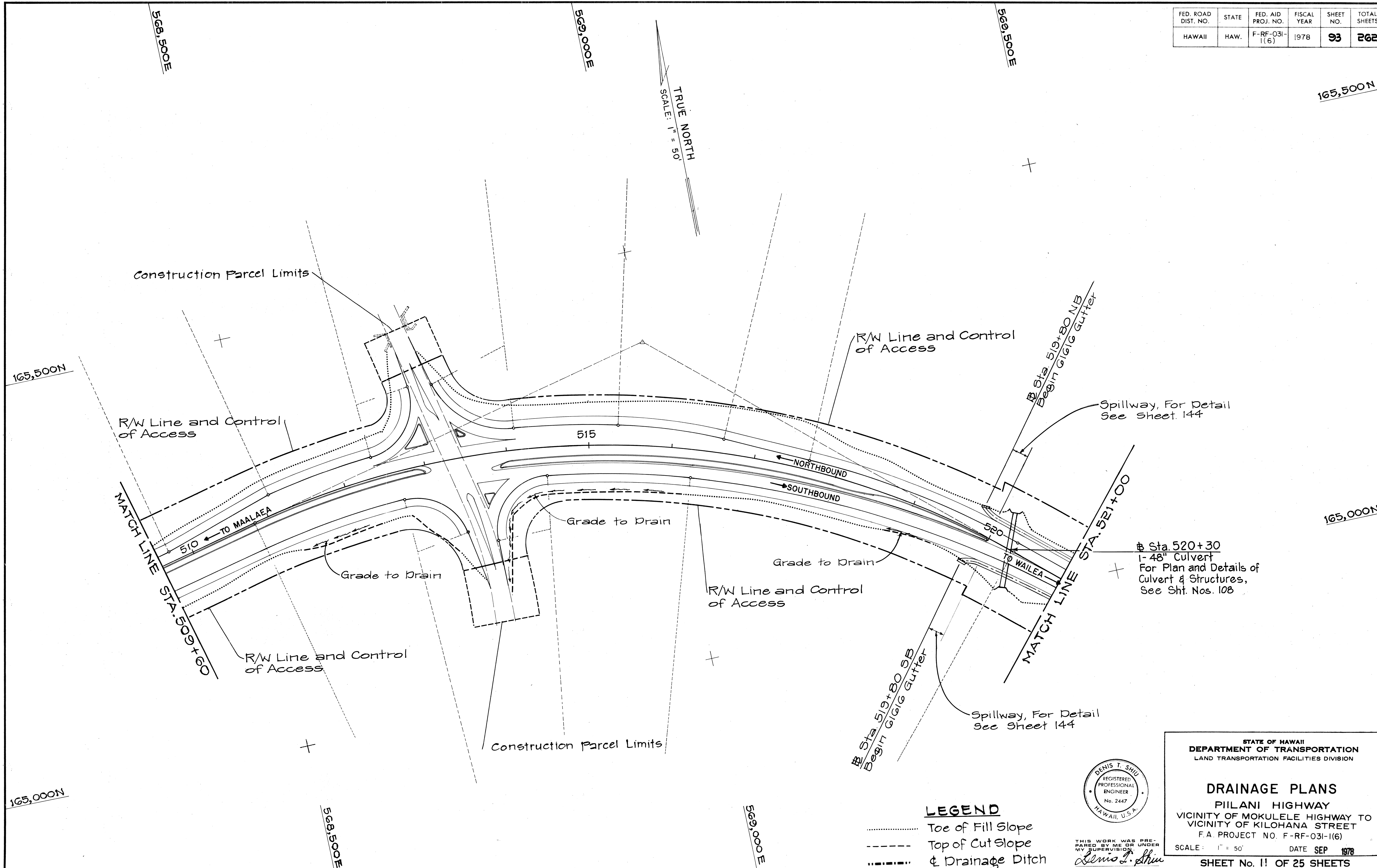
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978
SHEET No. 10 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	93	262

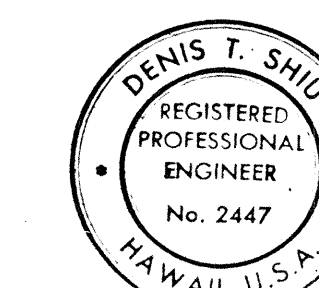
165,500N

ORIGINAL PLAN	SURVEY PLATTED BY	DATE
NOTED BY	DRAWN BY	
NOTED BY	TRACED BY	
NOTED BY	CHECKED BY	
NOTED BY	CHECKED BY	



LEGEND

- Toe of Fill Slope
- Top of Cut Slope
- . - . - . & Drainage Ditch



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS

PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)

SCALE: 1" = 50' DATE SEP 1978

SHEET No. 11 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	94	262

TRUE NORTH
SCALE: 1" = 50'

Sta. 521 + 63.7 ± NB
End 61616 Gutter

Gutter Transition
For Detail, See
Sheet 144

Sta. 523 + 17.2 ± NB
Begin 61616 Gutter

Sta. 523 + 35 ± NB
Type 61614 45° C.D.I.
Inv. = 20.00

24" Culvert @ S = 0.010

6" Galvanized
Pipe Sleeve

Sta. 523 + 35 ± SB
Type 61614 45° C.D.I.
Inv. = 19.50

R/W Line and Control
of Access

Northbound
Southbound

61616 Gutter

Sta. 533 + 15
2 - 48" Culverts
For Plan and Details of
Culverts and Structures,
See Sheet 109

24" Culvert @ S = 0.020

Sta. 523 + 10 ± SB
Tie to Wingwall
Inv. = 18.94

Sta. 523 + 04.4 ± SB
Begin 61616 Gutter

Sta. 521 + 50.9 ± SB
End 61616 Gutter

Sta. 535 + 75.77 ± 0/S 52.0 ± L+
FLARED END SECTION INLET STRUCTURE
Inv. = 33.50

24" Culvert @ S = 0.010

Sta. 535 + 75.77 NB
Type 61614 45° C.D.I.
Inv. = 33.23

Sta. 535 + 51.99 NB 27.67' 0/S
Begin 61616 Gutter

Sta. 534 + 66.97 NB 43.74' 0/S
End 61616 Gutter

For Gutter Transition
and Details For This
Intersection, See Sheet 57

24" Culvert @ S = 0.010

Sta. 534 + 66.97 SB 43.74' 0/S
End 61616 Gutter

Sta. 535 + 51.99 SB 27.67' 0/S
Begin 61616 Gutter

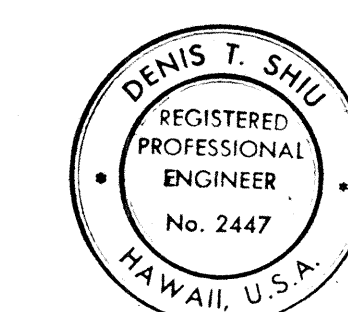
Sta. 535 + 75.77 SB
Type 61614 45° C.D.I.
Inv. = 32.72 (INLET)
Inv. = 31.00 (OUTLET)

24" Culvert @ S = 0.020

Sta. 535 + 82.72 0/S 64.35 ± R+
FLARED END SECTION OUTLET STRUCTURE
Inv. = 30.20

LEGEND

- Toe of Fill Slope
- Top of Cut Slope
- & Drainage Ditch



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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS

PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)

SCALE: 1" = 50' DATE SEP 1978

SHEET No. 12 OF 25 SHEETS

ADD. 94

DATE	REVISION
10-10-78	REVISED INLET STRUCTURE AT Sta. 535 + 75.77 & OUTLET STRUCTURE AT Sta. 535 + 82.72.

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
QUANTITIES BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	95	262

TRUE NORTH
SCALE: 1" = 50'

MATCH LINE

STA. 536+00

Sta. 536 + 60 NB
End 61616 Gutter

R/W Line and Control of Access

Sta. 542+00 SB

Spillway, For Detail See Sheet 144

61616 Gutter

Northbound
Southbound

R/W Line and Control of Access

Sta. 546 + 23
2-72"x44" Arch Culverts
For Plan and Details of Culverts and Structures See Sheet 110

Sta. 550 + 81.55 ± 0/5 53' ± Lt.
Type C Inlet Headwall (Full)
Inv. = 62.93

30" Culvert @ s = .010

Sta. 550 + 81.55 NB
Type 61614 45° C.D.I.
Inv. = 62.80

Sta. 550 + 62.01 NB
Begin 61616 Gutter

30" Culvert @ s = .010

Sta. 550 + 33.30 SB
Type 61614 45° C.D.I.
Inv. = 62.21

For Gutter Transition and Details For This Intersection, See Sheet 58

30" Culvert @ s = .017

Spillway, For Detail See Sheet 144

Sta. 548 + 95 ± 59' ± Rt.
Type C Outlet Headwall (Full)
Inv. = 59.80
60.95

Sta. 1+03 (Moi Place)
End 61616 Gutter

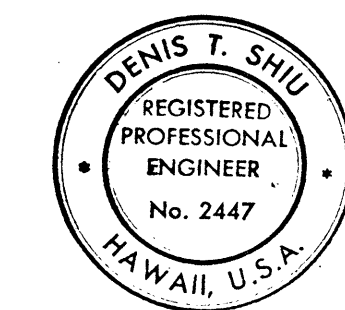
Sta. 550 + 23.33 SB 25.690/5
Begin 61616 Gutter

MATCH LINE

STA. 551+00

LEGEND

- Toe of Fill Slope
- Top of Cut Slope
- Drainage Ditch



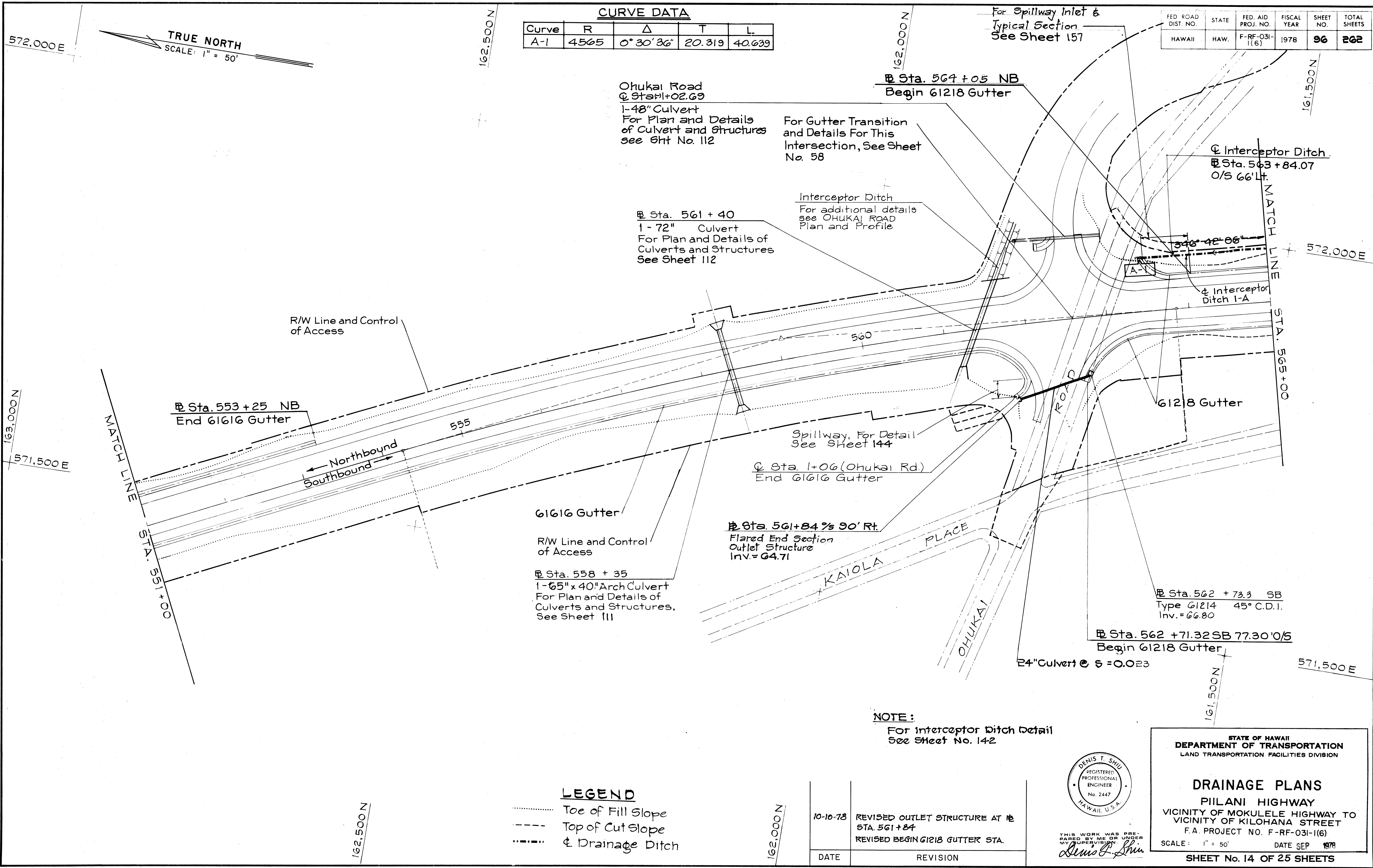
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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)

SCALE: 1" = 50' DATE SEP 1978

SHEET No. 13 OF 25 SHEETS



CURVE DATA				
Curve	R	Δ	T	L
A-1	4565	0° 30' 36"	20.319	40.639

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	96	262

Ohukai Road
Sta. 561+02.69
1-48" Culvert
For Plan and Details of Culvert and Structures
See Sht No. 112

For Gutter Transition and Details For This Intersection, See Sheet No. 58

Sta. 561+40
1-72" Culvert
For Plan and Details of Culverts and Structures
See Sheet 112

Interceptor Ditch
For additional details see OHUKAI ROAD Plan and Profile

Interceptor Ditch
Sta. 563+84.07
0/5 66' Lt.

Interceptor Ditch I-A

61218 Gutter

Spillway, For Detail See Sheet 144

Sta. 1+06 (Ohukai Rd)
End 61616 Gutter

Sta. 561+84 90' Rt.
Flared End Section
Outlet Structure
Inv. = 64.71

Sta. 562+73.3 SB
Type 61214 45° C.D.I.
Inv. = 66.80

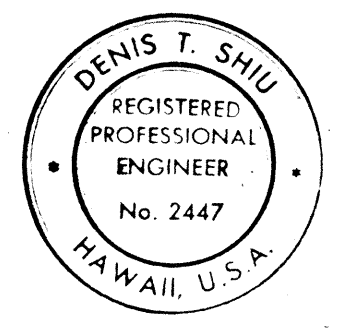
Sta. 562+71.32 SB 77.30' O/S
Begin 61218 Gutter

24" Culvert @ S = 0.023

NOTE:
For Interceptor Ditch Detail See Sheet No. 142

- LEGEND**
- Toe of Fill Slope
 - Top of Cut Slope
 - & Drainage Ditch

DATE	REVISION
10-10-78	REVISED OUTLET STRUCTURE AT STA. 561+84 REVISED BEGIN 61218 GUTTER STA.

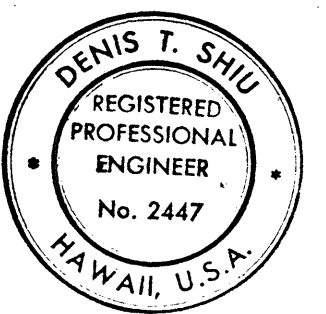
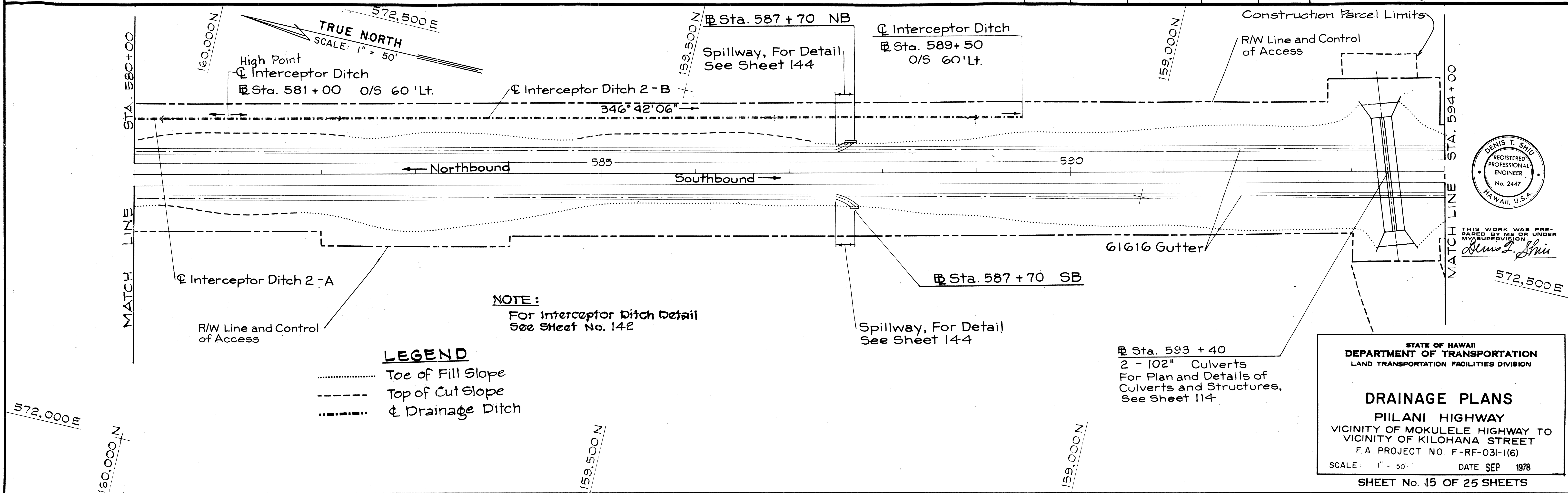
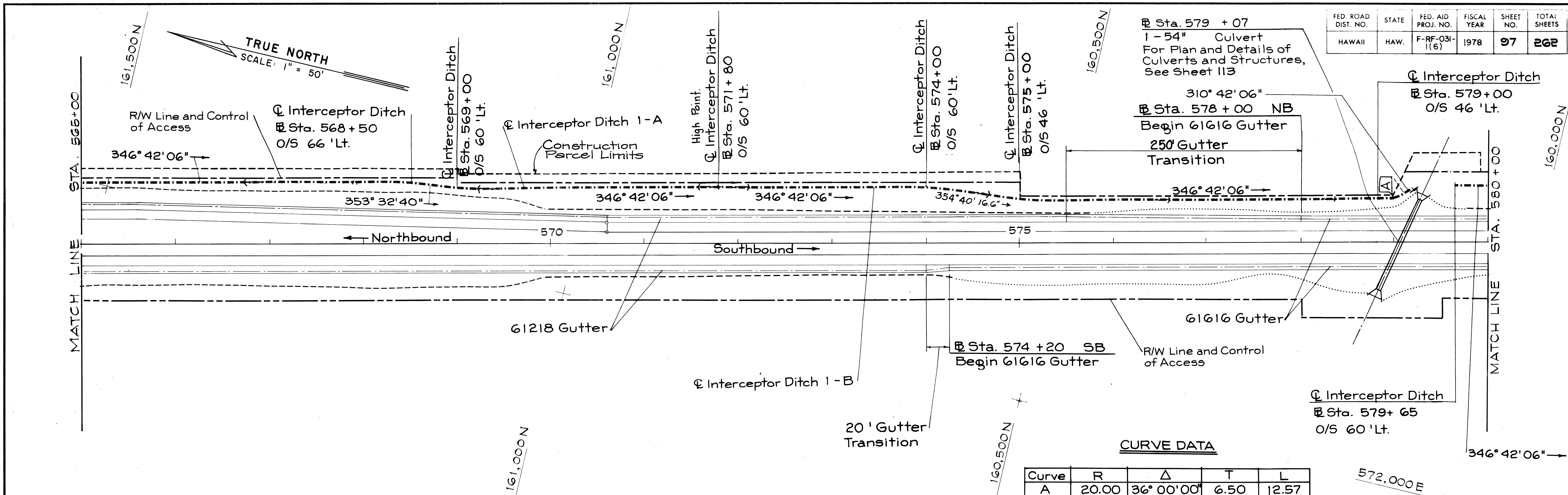


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STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50'
DATE SEP 1978
SHEET No. 14 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	97	262



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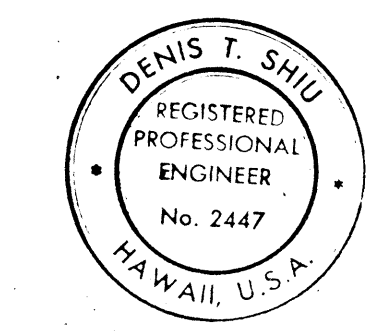
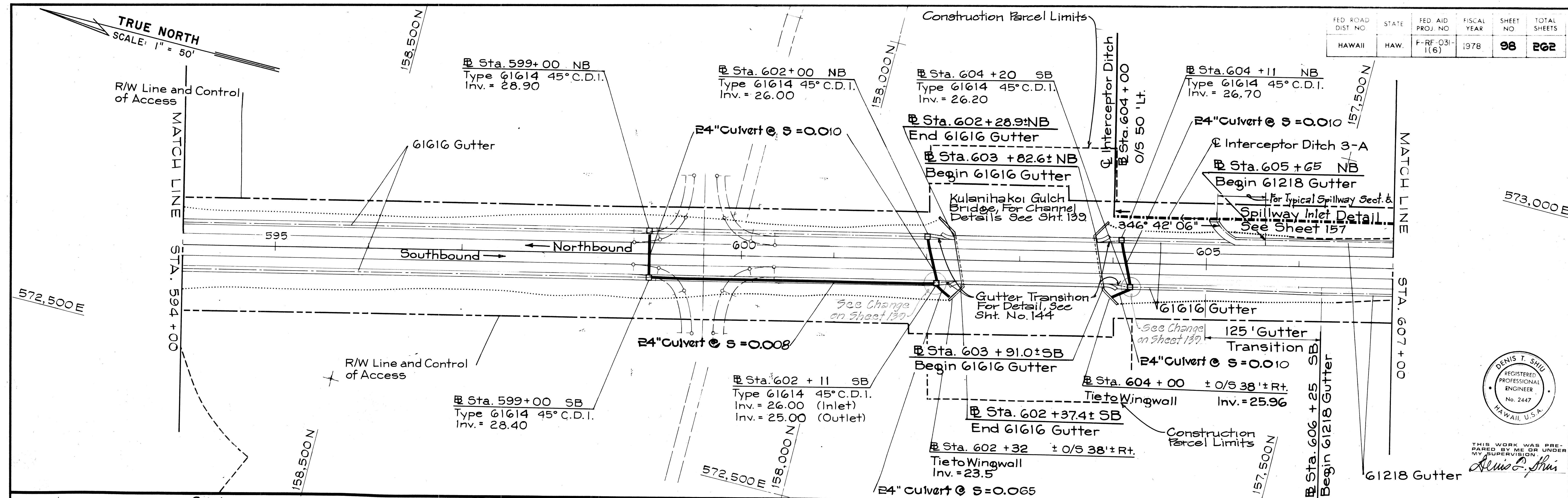
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978

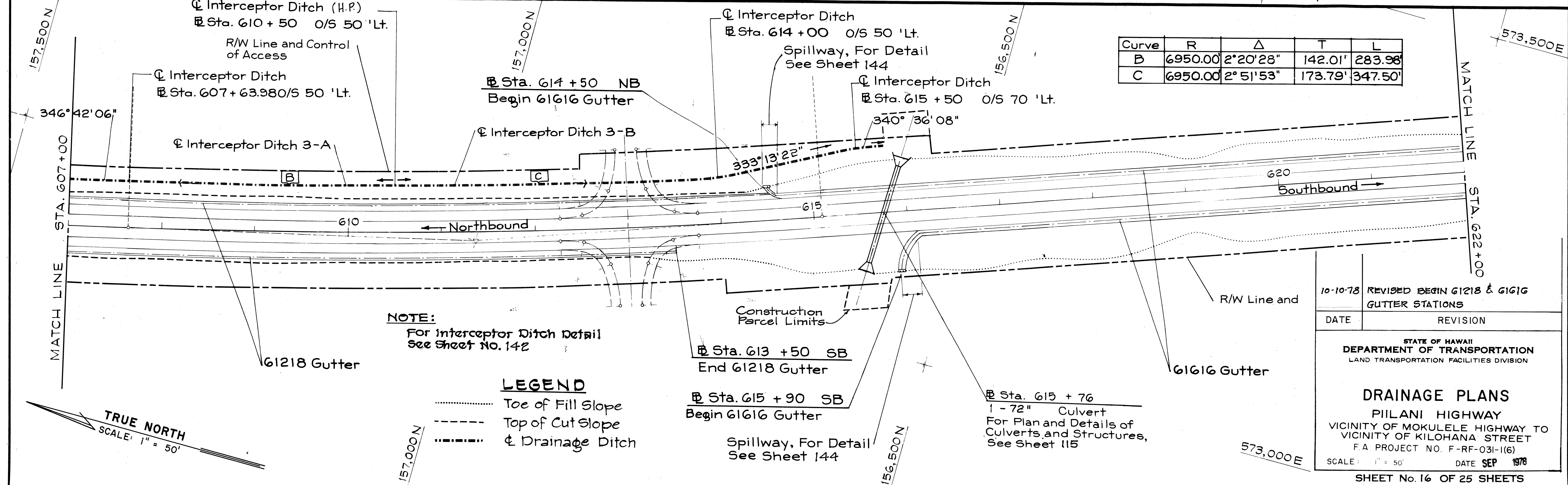
SHEET No. 15 OF 25 SHEETS

ORIGINAL PLAN	DATE
DRAWN BY	
DESIGNED BY	
NOTED BY	
CHECKED BY	

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	98	262



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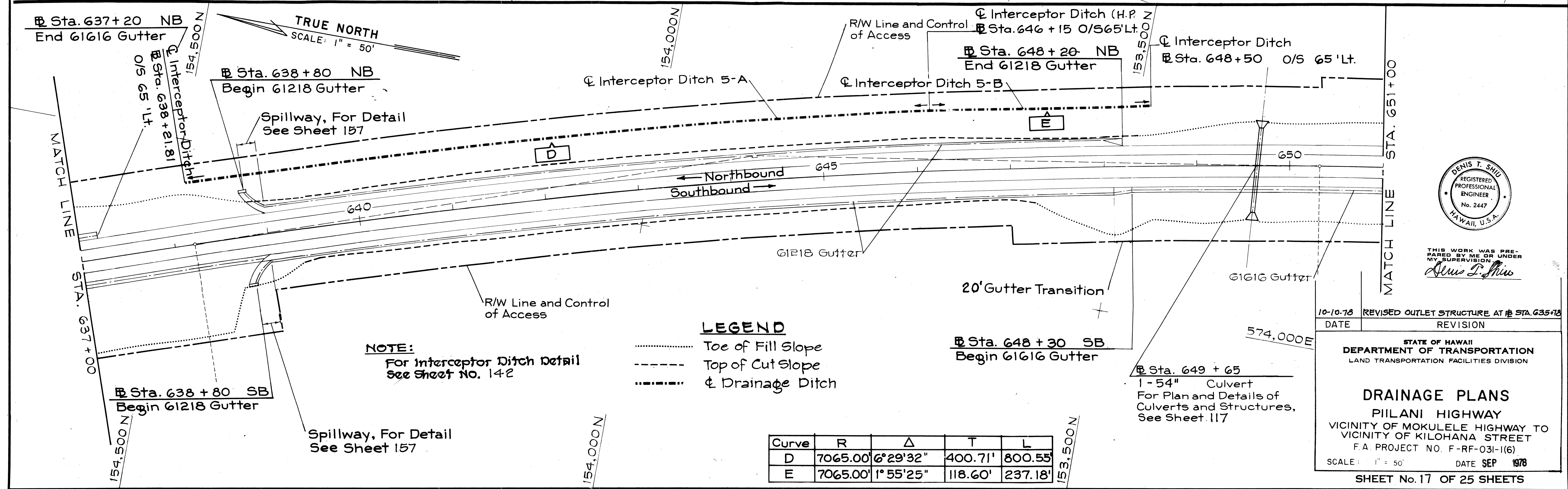
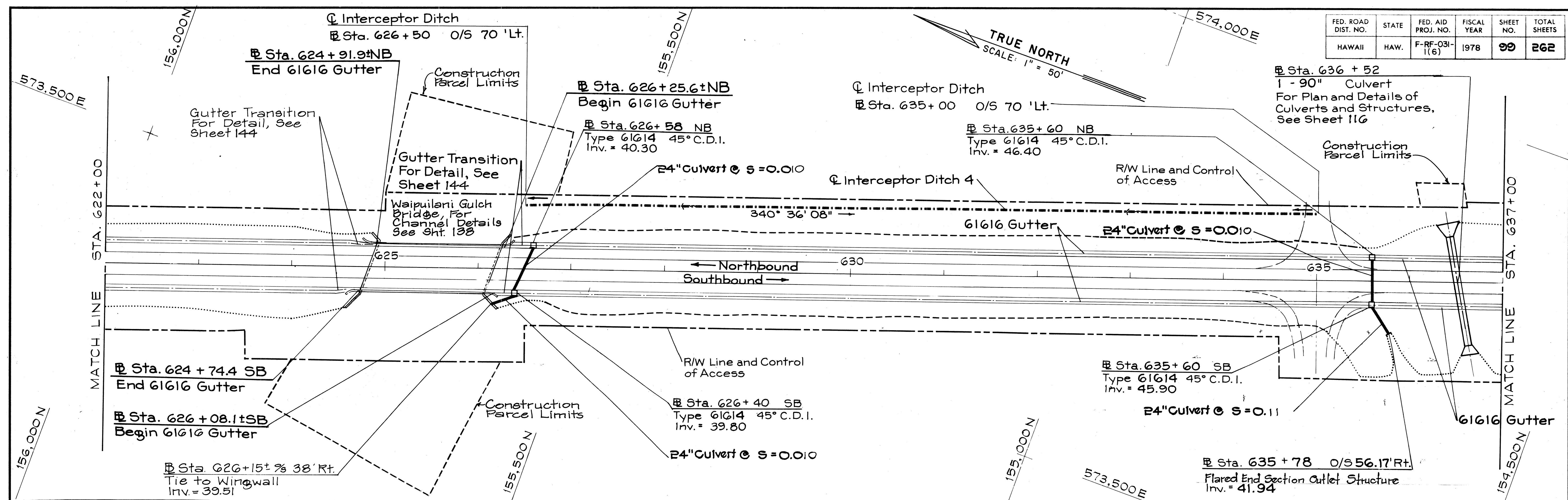


10-10-78	REVISED BEGIN 61218 & 61616 GUTTER STATIONS
DATE	REVISION
STATE OF HAWAII DEPARTMENT OF TRANSPORTATION LAND TRANSPORTATION FACILITIES DIVISION	
DRAINAGE PLANS PIILANI HIGHWAY VICINITY OF MOKULELE HIGHWAY TO VICINITY OF KILOHANA STREET F.A. PROJECT NO. F-RF-031-1(6) SCALE: 1" = 50' DATE SEP 1978	
SHEET No. 16 OF 25 SHEETS	

ADD. 98

ORIGINAL PLAN	DATE
DRAWN BY	
TRACED BY	
NOTED BY	
CHECKED BY	

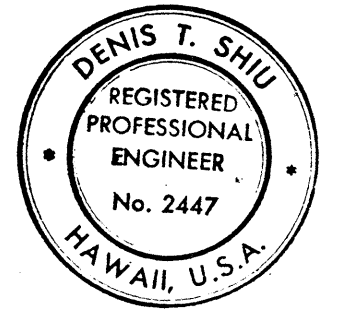
FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	99	262



NOTE:
For Interceptor Ditch Detail
See Sheet No. 142

- LEGEND**
- Toe of Fill Slope
 - Top of Cut Slope
 - & Drainage Ditch

Curve	R	Δ	T	L
D	7065.00'	6°29'32"	400.71'	800.55'
E	7065.00'	1°55'25"	118.60'	237.18'



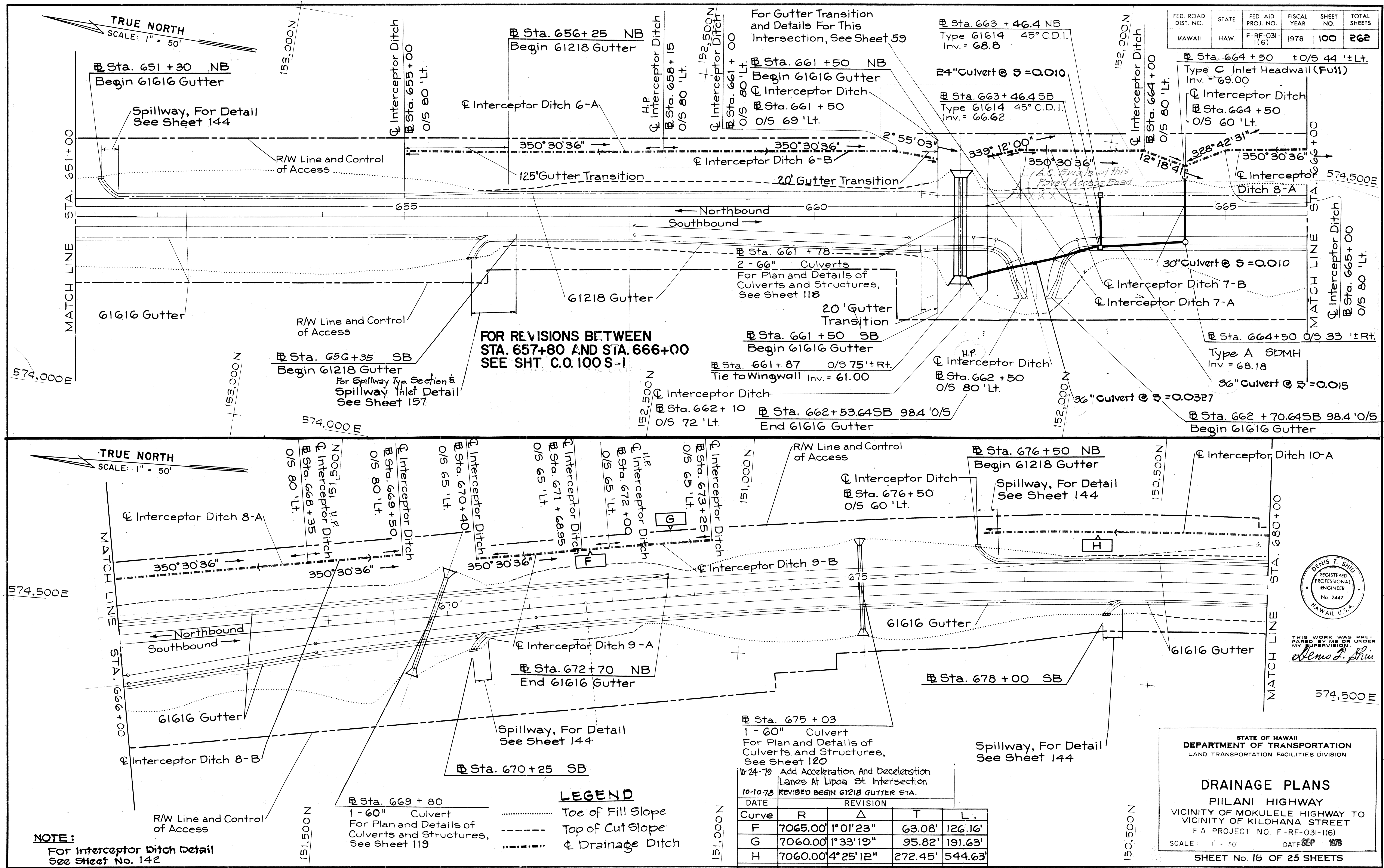
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Denis T. Shiu

DATE	REVISION
10-10-78	REVISED OUTLET STRUCTURE AT STA. 635+78

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

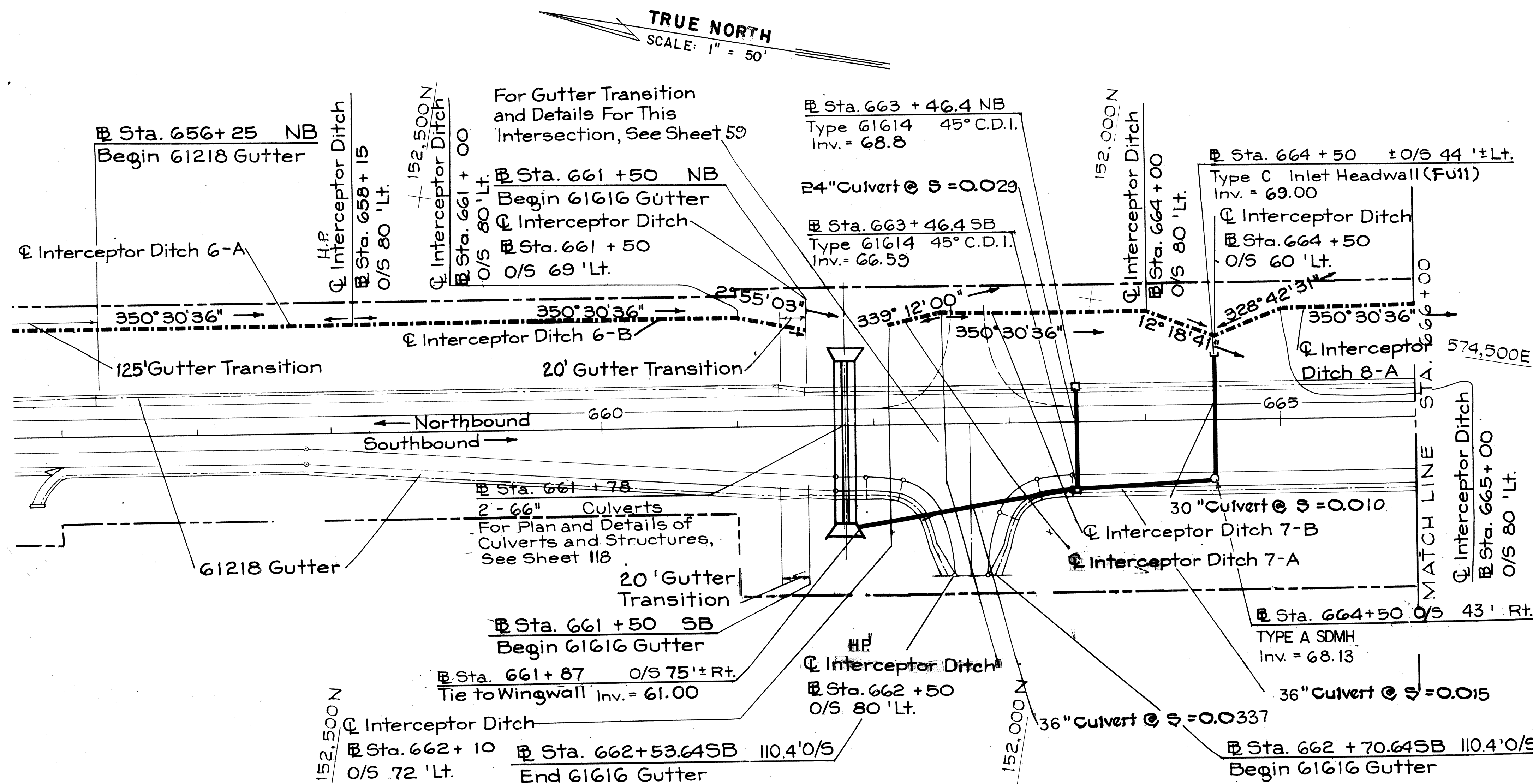
DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978
SHEET No. 17 OF 25 SHEETS

ORIGINAL PLAN	DATE
DRAWN BY	
CHECKED BY	
NOTED BY	
DATE	



C.O. ADID.100

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	100A	262



ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
	TRACED BY	
	CHECKED BY	
	NO. 1	

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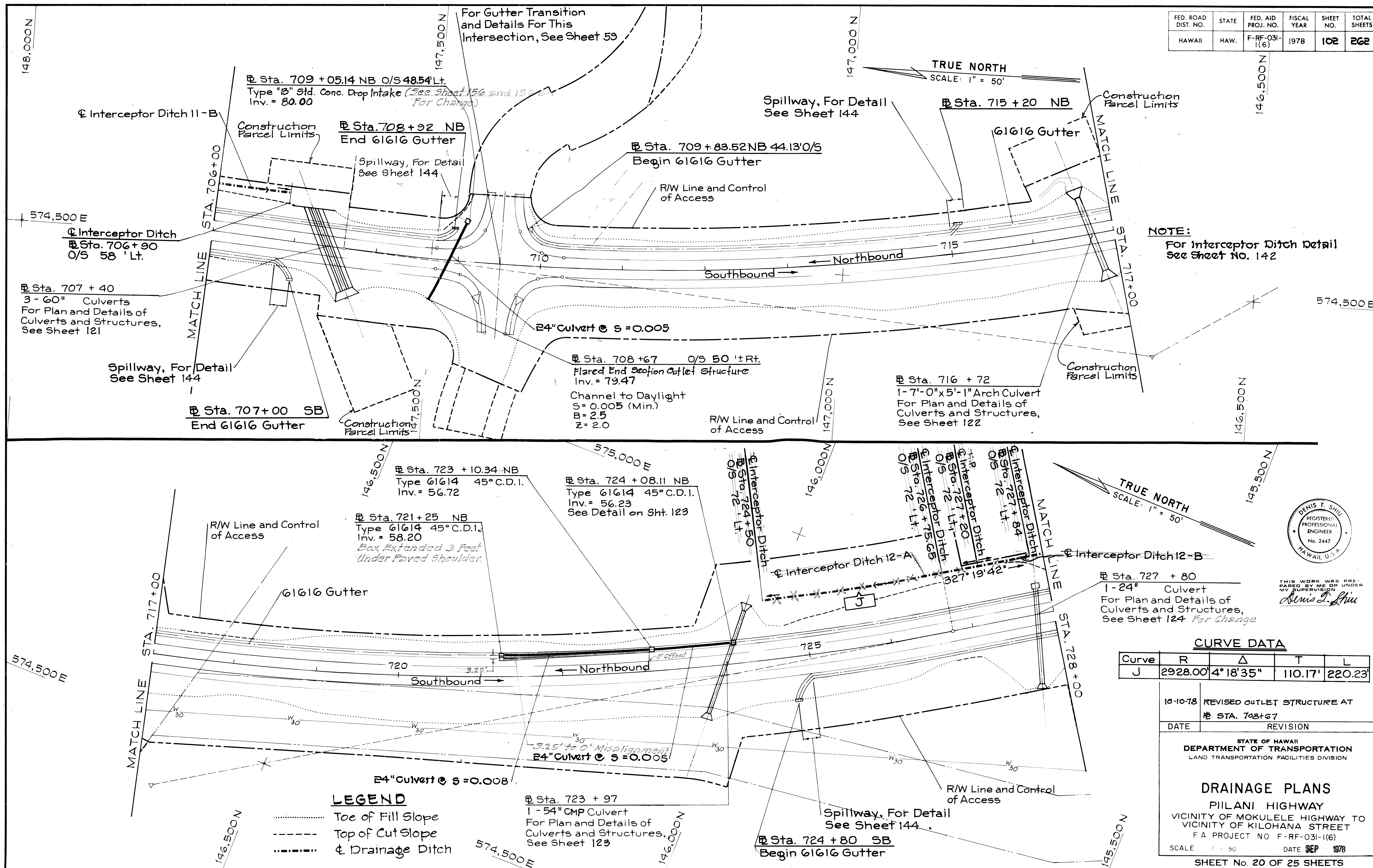
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-031-1(6)
SCALE: AS SHOWN DATE NOV. 1979

SHEET No. 18A OF 25 SHEETS

C.O. 1000 S-1

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031- 1(6)	1978	102	262



<u>CURVE DATA</u>				
Curve	R	Δ	T	L
J	2928.00'	4° 18' 35"	110.17'	220.23'

10-10-78	REVISED OUTLET STRUCTURE AT E STA. 708+67
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS

PIILANI HIGHWAY

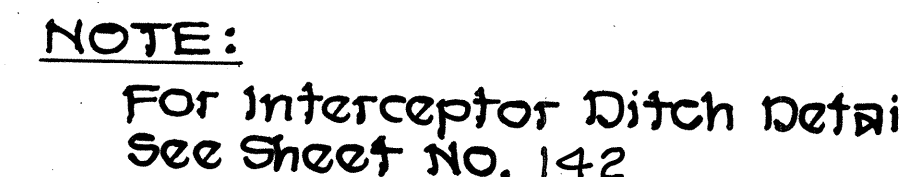
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
FA PROJECT NO F-RF-031-I(6)

SCALE: 1" = 50' DATE SEP 1978

SHEET No. 20 OF 25 SHEETS

TRUE NORTH

SCALE: 1" = 50'



Sta. 740 + 38
3 - 120" Culverts
For Plan and Details of
Culverts and Structures
See Sheet 126

Sta. 740 + 00 NB
End 61218 Gutter

Sta. 740 + 75 NB
Begin 61218 Gutter

Spillway, For Detail
See Sheet 157

24" Culvert @ S = 0.026

For Gutter Transition
and Details For This
Intersection, See Sheet 60

24" Culvert @ S = 0.028

Sta. 742 + 75 NB
Type 61214 45° C.D.I.
Inv. = 120.50

Sta. 742 + 75 SB
Type 61614 45° C.D.I.
Inv. = 118.62

Interceptor Ditch
Sta. 740 + 75
O/S 72' Lt.

Interceptor Ditch
Sta. 740 + 75
O/S 50' Lt.

Interceptor Ditch
Sta. 749 + 43.67
O/S 50' Lt.

Interceptor Ditch
Sta. 747 + 00
O/S 72' Lt.

Interceptor Ditch
Sta. 751 + 03.84
O/S 72' Lt.

Interceptor Ditch
Sta. 752 + 00
O/S 49' Lt.

Sta. 742 + 35.95 SB 52.95' O/S
Begin 61616 Gutter

Sta. 741 + 64.02 SB 52.95' O/S
End 61616 Gutter

Sta. 740 + 68
O/S 62' Rt.
Tie to Wingwall
Inv. = 105.90

Sta. 741 + 00
O/S 33' Rt.
Type A 50M
Inv. = 114.07

Sta. 744 + 25 SB
Begin 61218 Gutter

Sta. 750 + 50 SB
Begin 61616 Gutter

50' Gutter Transition

150' Gutter Transition

61218 Gutter

61616 Gutter

Northbound

Southbound

R/W Line and Control of Access

TRUE NORTH
SCALE: 1" = 50'

576,000 E

575,500 E

149,000 N

143,500 N

149,000 N

143,500 N

LEGEND

- Toe of Fill Slope
- Top of Cut Slope
- Drainage Ditch

Curve	R	Δ	T	L
K	7072.00'	5° 03' 49"	312.70'	625.00'
L	7072.00'	3° 18' 20"	204.05'	407.99'

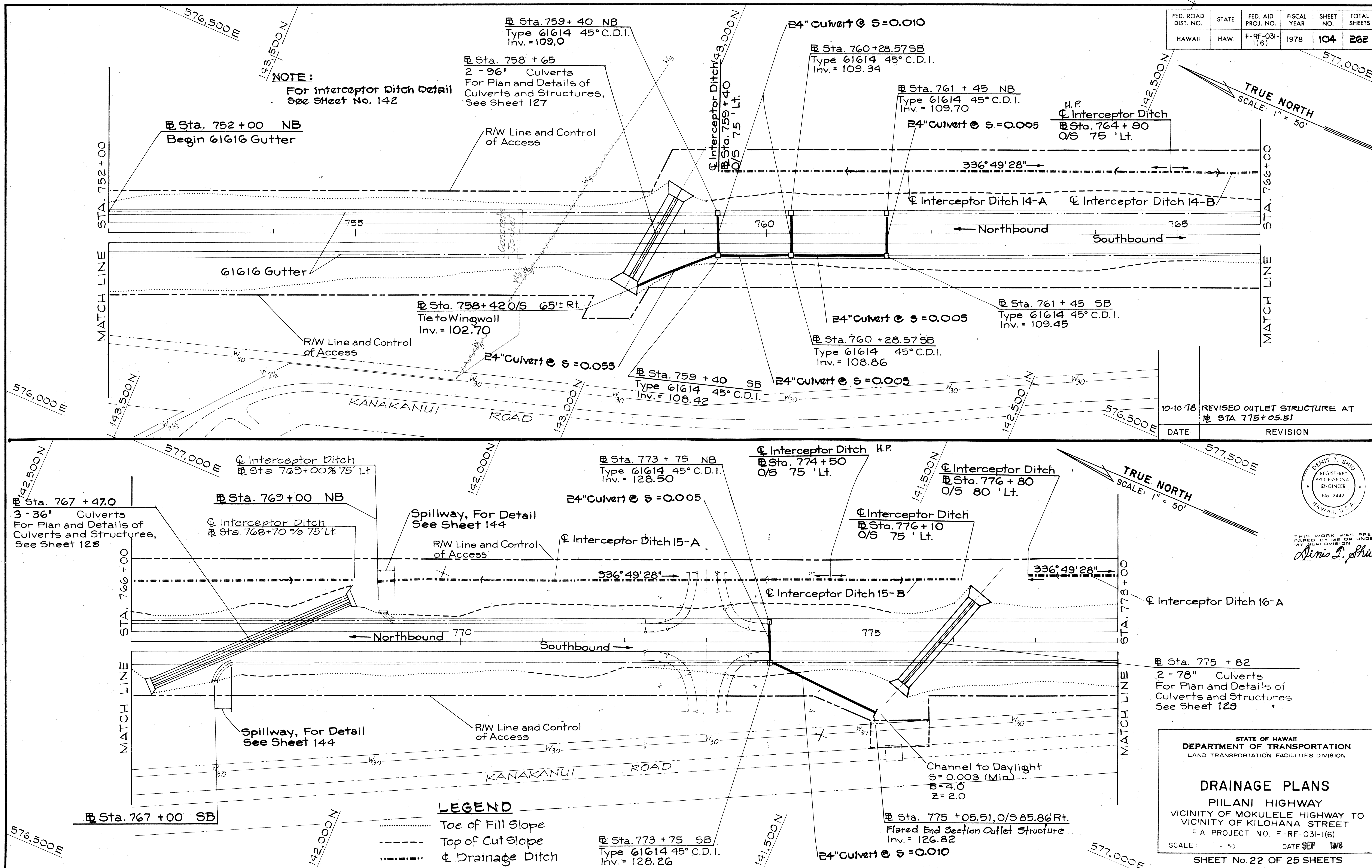
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978
SHEET No. 21 OF 25 SHEETS

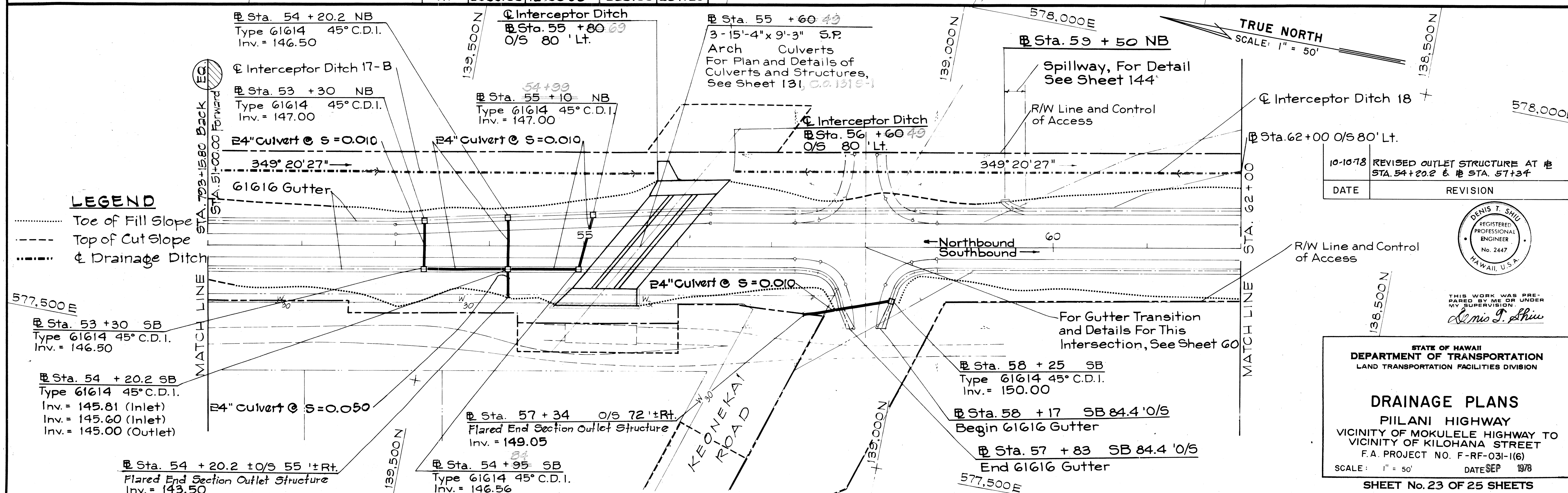
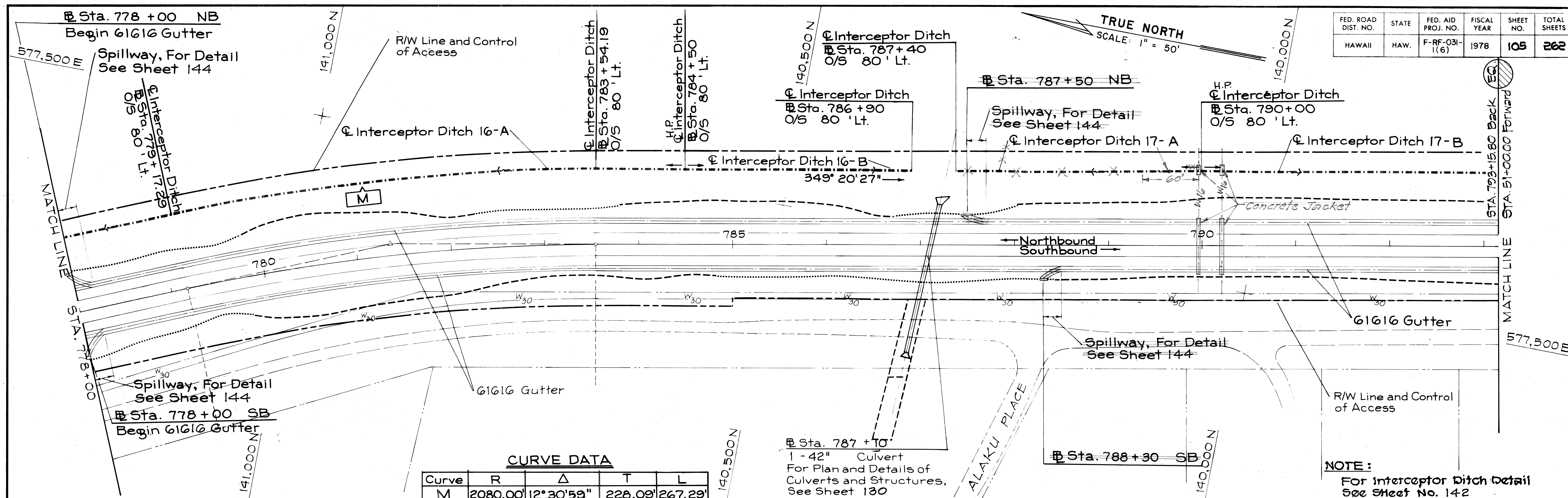
Curve	R	Δ	T	L
K	7072.00'	5°03'49"	312.70'	625.00'
L	7072.00'	3°18'20"	204.05'	407.99'

AIDD. 103

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	104	262



FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	105	262



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978
SHEET No. 23 OF 25 SHEETS

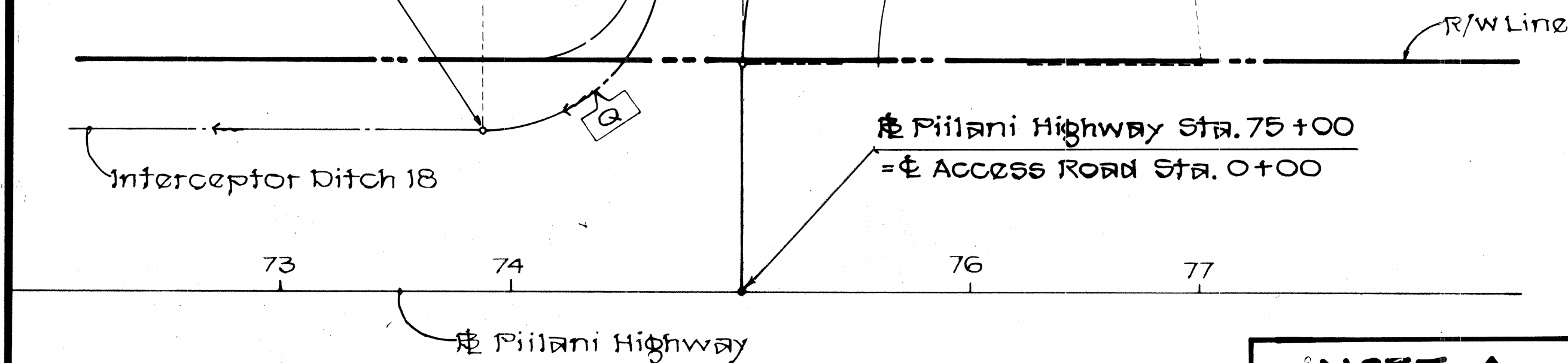
CURVE DATA

	Q	R
Δ	81°04'44"	75°34'44"
R	77.58'	240.00'
T	66.35'	186.09'
L	109.78'	316.58'

☼ Interceptor Ditch
☼ Sta. 3+93.29 (Access Road)
O/S 40' Lt.

☼ Interceptor Ditch
☼ Sta. 1+29.47 (Access Road)
O/S 40' Lt.

☼ Interceptor Ditch
☼ Sta. 73+86.26
O/S 70' Lt.



INSET A
Scale: 1" = 50'

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	106	262

TRUE NORTH
SCALE: 1" = 50'

☼ Interceptor Ditch
☼ Sta. 70+78.16
O/S 70' Lt.

R/W Line and Control of Access

☼ Interceptor Ditch 18

☼ Interceptor Ditch
☼ Sta. 70+86.26
O/S 70' Lt.

See INSET A
this Sheet

346°04'44"

Northbound
Southbound

61218 Gutter

☼ Interceptor Ditch
☼ Sta. 70+00
O/S 70' Lt.

R/W Line and Control of Access

150' Gutter Transition

☼ Sta. 68+85 SB
Begin 61218 Gutter

For Spillway Typ. Sect. &
Spillway Inlet Detail
See Sheet 157

NOTE:
For Interceptor Ditch Detail
See Sheet No. 142

☼ Interceptor Ditch
☼ Sta. 67+00
O/S 80' Lt.

☼ Interceptor Ditch
☼ Sta. 68+00
O/S 60' Lt.

☼ Sta. 69+45 NB
Begin 61218 Gutter

☼ Interceptor Ditch
☼ Sta. 69+00
O/S 60' Lt.

61616 Gutter

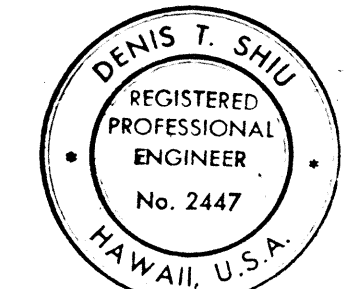
☼ Interceptor Ditch
☼ Sta. 62+24.18
O/S 80' Lt.

CURVE DATA

Curve	R	Δ	T	L
N	14920.00	1°49'03"	236.66'	473.28'
O	14940.00	0°22'55"	49.80'	99.60'
P	14930.00	0°17'55"	38.89'	77.79'

LEGEND

- Toe of Fill Slope
- Top of Cut Slope
- ☼ Drainage Ditch



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION.
Denis T. Shiu

10-10-78
DATE

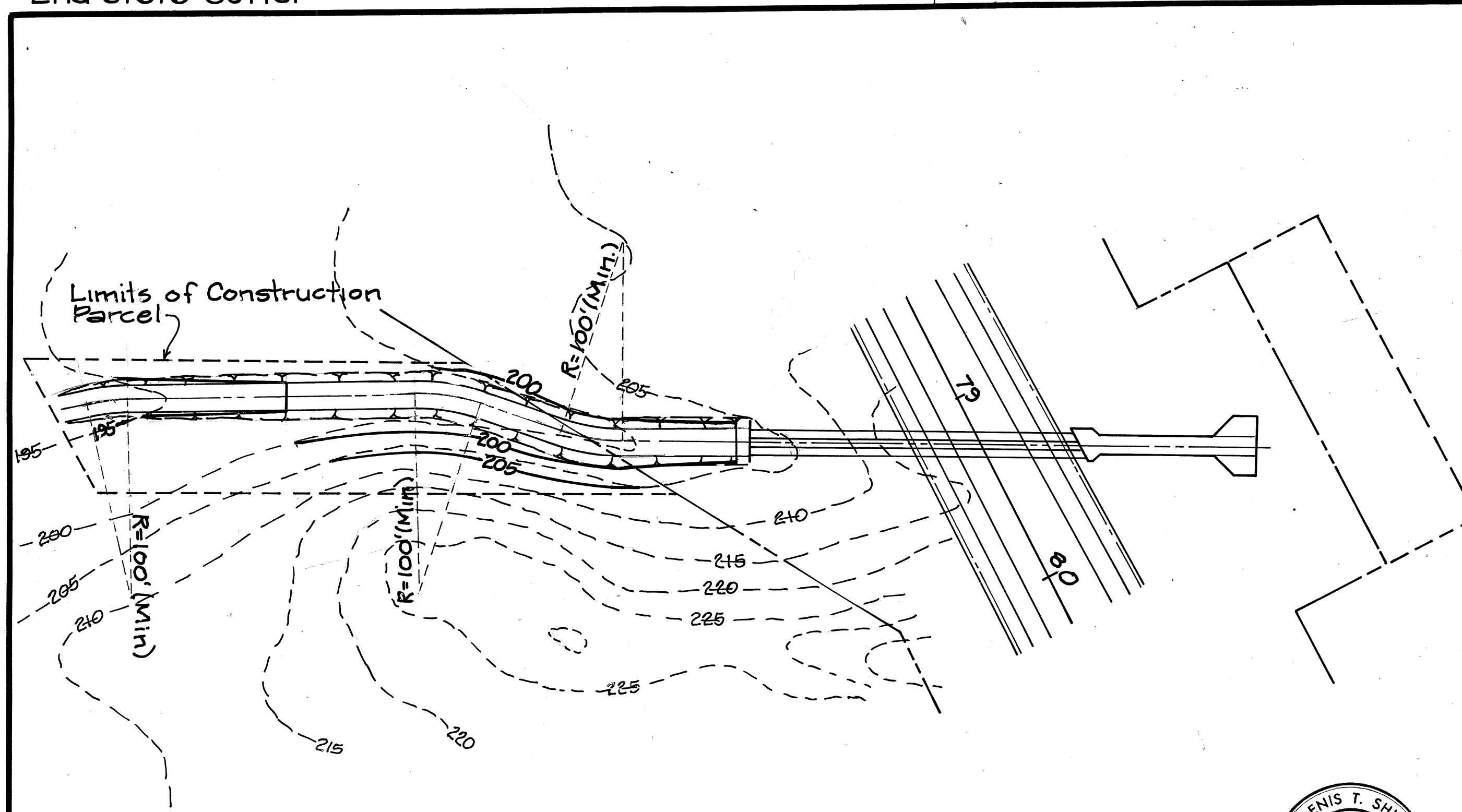
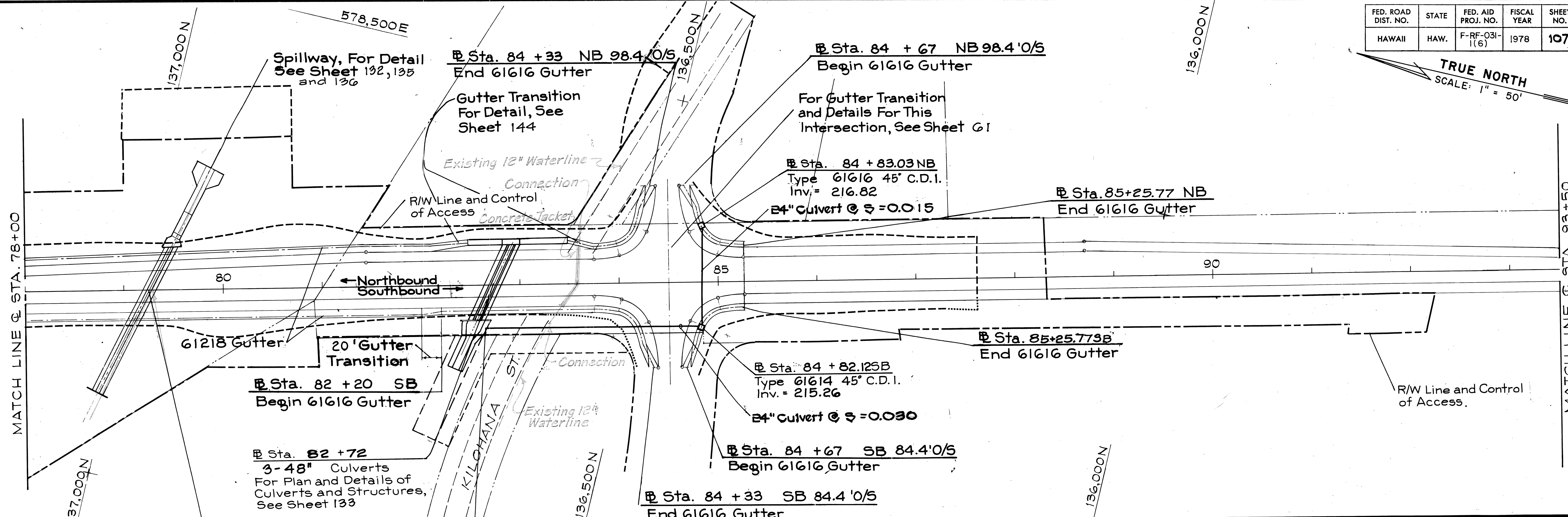
Revised 61218 Gutter Begin Sta.,
DELETED SPILLWAY AT ☼ STA.
70+00, ADDED GUTTER TRANSITION
REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

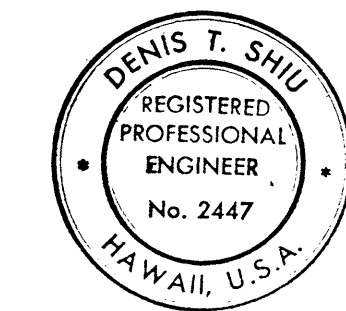
DRAINAGE PLANS
PIILANI HIGHWAY
VICINITY OF MOKULELE HIGHWAY TO
VICINITY OF KILOHANA STREET
F.A. PROJECT NO. F-RF-031-1(6)
SCALE: 1" = 50' DATE SEP 1978
SHEET No. 24 OF 25 SHEETS

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	F-RF-031-1(6)	1978	107	262

TRUE NORTH
SCALE: 1" = 50'



GRADING PLAN-OUTLET STRUCTURE
AT STA. 78+71.44 9/8 102.89 RT.
Scale: 1" = 50' 78+77.52 104.15'



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Dennis T. Shiu

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
LAND TRANSPORTATION FACILITIES DIVISION

DRAINAGE PLANS
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SCALE: 1" = 50' DATE SEP 1978

SHEET No. 25 OF 25 SHEETS