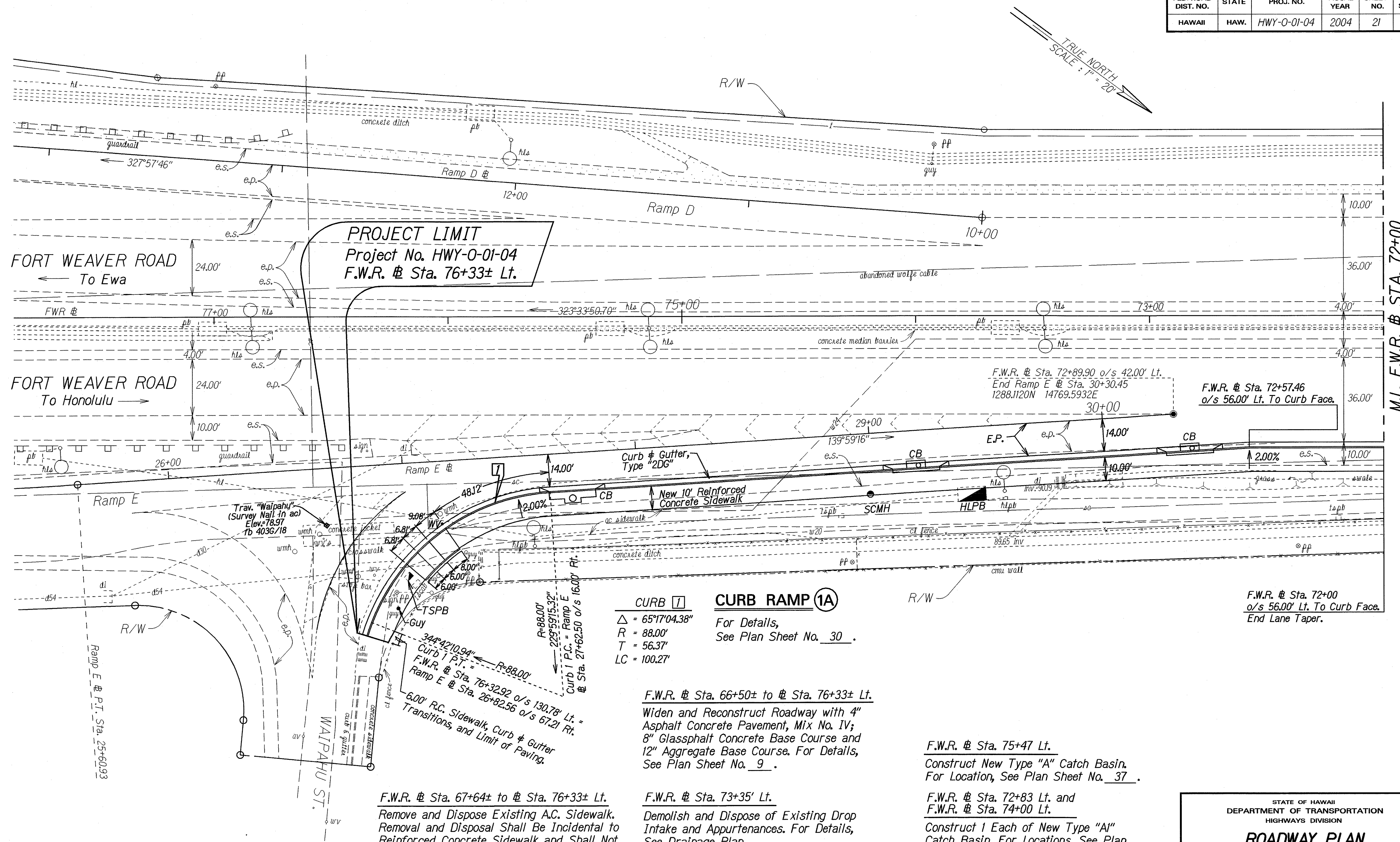


FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-04	2004	21	61



NOTE: Data Measurements are from the front face of curb unless otherwise specified.

△ Origin of Coordinates and Azimuth = "Kapuai New".

F.W.R. Sta. 67+64± to Sta. 76+33± Lt.
Remove and Dispose Existing A.C. Sidewalk. Removal and Disposal Shall Be Incidental to Reinforced Concrete Sidewalk and Shall Not Be Paid For Separately.
Construct 936 Ln. Ft. of Curb and Gutter, Type "2DG"; 1,040 Sq. Yd. of R. C. Sidewalk Including Transitions; and 2 Each Of Curb Ramp, Type "B" Modified.

F.W.R. Sta. 66+50± to Sta. 76+33± Lt.
Widen and Reconstruct Roadway with 4" Asphalt Concrete Pavement, Mix No. IV; 8" Glassphalt Concrete Base Course and 12" Aggregate Base Course. For Details, See Plan Sheet No. 9.

F.W.R. Sta. 73+35' Lt.
Demolish and Dispose of Existing Drop Intake and Appurtenances. For Details, See Drainage Plan.

F.W.R. Sta. 76+21± o/s 118± Lt.
Verizon Hawaii, Inc. Will Reconstruct the Down Guy to a Sidewalk Guy for Pedestrian Clearance.

F.W.R. Sta. 75+47 Lt.
Construct New Type "A" Catch Basin. For Location, See Plan Sheet No. 37.

F.W.R. Sta. 72+83 Lt. and F.W.R. Sta. 74+00 Lt.
Construct 1 Each of New Type "A1" Catch Basin. For Locations, See Plan Sheet No. 37.

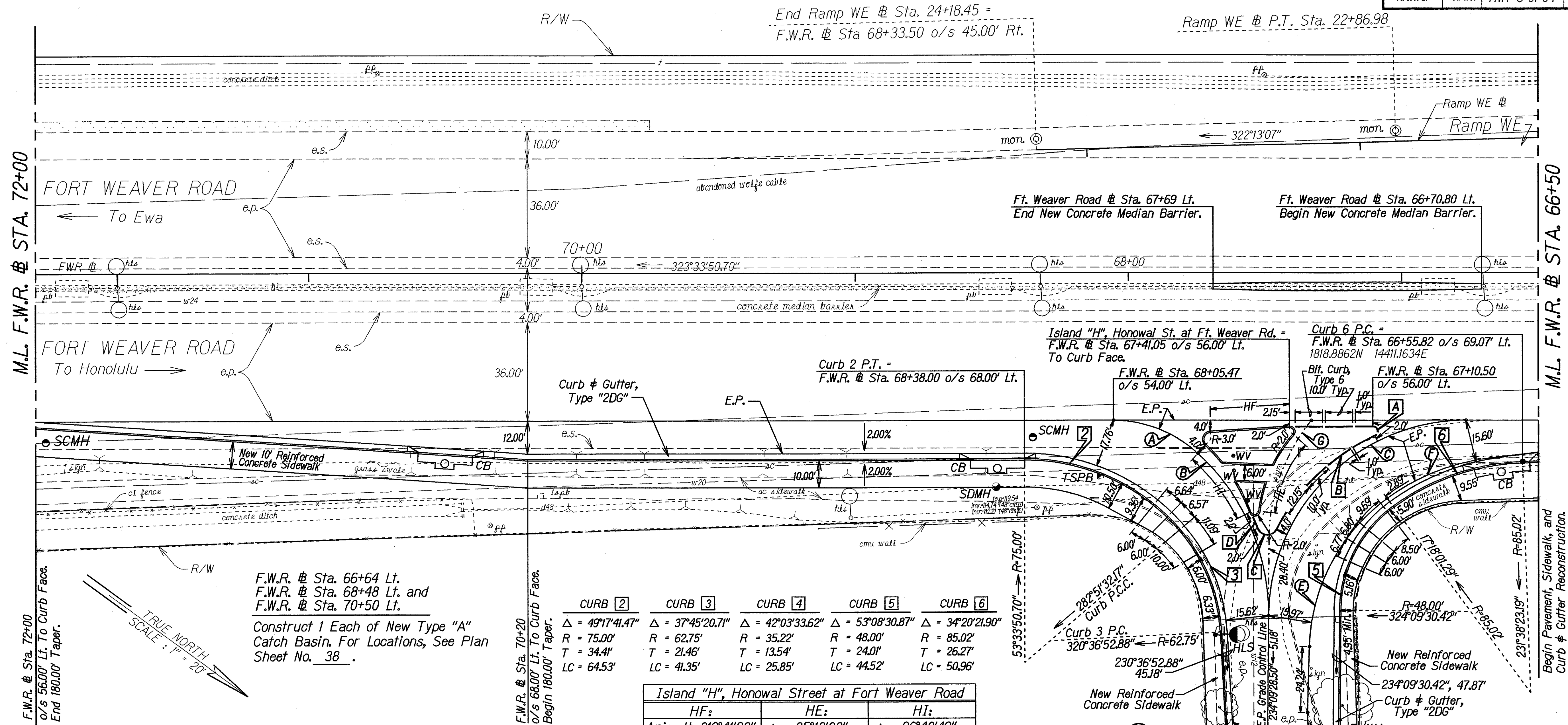
F.W.R. Sta. 76+37 o/s 144± Lt.
Clean Existing Culvert and Drop Inlet. Cleaning of Existing Culvert and Drop Inlet Shall Be Paid For Under Contract Item No. 603.5001.

DATE	01/12/04
SURVEY PLOTTED BY	MD
DRAWN BY	MD
DESIGNED BY	MD
CHECKED BY	MD
ORIGINAL PLAN	
NOTE BOOK	
DATE	01/12/04
BY	MD

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN
KUNIA ROAD IMPROVEMENTS
VICINITY OF SOUTH KUPUNA LOOP
to VICINITY OF HONOWAI STREET
PROJECT NO.: HWY-0-01-04
Scale: As Noted Date: OCT, 2003
SHEET No. 1 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-01-04	2004	C.O.22	61



F.W.R. @ Sta. 66+50± to @ Sta. 67+26± Lt.

Construct 162 Ln. Ft. of Curb and Gutter, Type "2DG"; 131 Sq. Yd. of Reinforced Concrete Sidewalk Including Transitions; and 1 Each Of Curb Ramp, Type "B".

F.W.R. @ Sta. 67+39± to @ Sta. 67+73± Lt.

Construct 94 Ln. Ft. of Curb, Type "2D"; 55 Sq. Yd. of Reinforced Concrete Island; and 1 Each of Curb Ramp Type "C".

F.W.R. @ Sta. 66+70.8± to @ Sta. 67+69± Lt.

Remove and Dispose Existing Concrete Median Barrier. Construct 88 Ln. Ft. of New Concrete Median Barrier Including Transitions. For Details and Locations, See Plan Sheet Nos. 35 & 36.

Construct 2 Each of Foundation for Traffic Signal Standards. For Locations, See Plan Sheet No. 55.

Relocated Highway Lighting System Standard
Fort Weaver Road @ Sta. 67+68± o/s 133± Lt.

F.W.R. @ Sta. 67+10± to @ Sta. 67+55± Lt.

Install 100± Ln. Ft. of Bituminous Curb, Type 6 At 10.0 Ft. Per Section With 1.0 Ft. Opening Between Sections. End Curbs With 1:1 Slope.

CURB [2]	CURB [3]	CURB [4]	CURB [5]	CURB [6]
Δ = 49°17'41.47"	Δ = 37°45'20.71"	Δ = 42°03'33.62"	Δ = 53°08'30.87"	Δ = 34°20'21.90"
R = 75.00'	R = 62.75'	R = 35.22'	R = 48.00'	R = 85.02'
T = 34.41'	T = 21.46'	T = 13.54'	T = 24.01'	T = 26.27'
LC = 64.53'	LC = 41.35'	LC = 25.85'	LC = 44.52'	LC = 50.96'

Island "H", Honowai Street at Fort Weaver Road		
HF:	HE:	HI:
Azimuth=319°41'28"	Δ = 35°13'08"	Δ = 26°40'49"
Distance = 29.06'	R = 50.70'	R = 64.00'
	T = 16.09'	T = 15.17'
	LC = 31.16'	LC = 29.80'

INTERSECTION E.P. CURVE DATA:						
A	B	C	D	E	F	G
Δ = 42°43'36"	Δ = 47°52'01"	Δ = 89°24'22"	Δ = 93°08'12"	Δ = 52°05'04"	Δ = 29°37'22"	Δ = 38°20'57"
R = 45.50'	R = 80.00'	R = 72.42'	R = 46.73'	R = 70.00'	R = 80.00'	R = 70.00'
T = 17.80'	T = 35.51'	T = 71.67"	T = 49.36'	T = 34.21'	T = 21.15'	T = 24.34'
LC = 33.93'	LC = 66.83"	LC = 113.01'	LC = 75.96'	LC = 63.63'	LC = 41.36'	LC = 46.85'

BITUMINOUS CURB, TYPE 6 CURVE DATA:			
A	B	C	D
Δ = 155°34'59"	Δ = 38°28'11"	Δ = 130°34'04"	Δ = 03°09'24"
R = 2.00'	R = 75.51'	R = 4.00'	R = 82.00'
T = 9.24'	T = 26.35'	T = 8.69'	T = 2.26'
LC = 5.43'	LC = 50.70'	LC = 9.12'	LC = 4.52'

NOTE:
*G = Grade Control Line Data.

CURB RAMP (1B)

For Details, See Plan Sheet No. C.O.31.

CURB RAMP (1C)

For Details, See Plan Sheet No. C.O.31.

DATE	07/19/04
SURVEY PLOTTED BY	THQ
DRAWN BY	THQ
CHECKED BY	THQ
NOTES	SEE PLAN SHEET NO. 55 FOR DETAILS OF TRAFFIC SIGNAL STANDARDS.
QUANTITIES BY	THQ
CHECKED BY	THQ
ORIGINAL PLAN	NO
DATE	07/19/04

01/04/05 Deleted Traffic Signal Symbol and Label at Median Between F.W.R. @ Sta. 67+00 and @ Sta. 68+88. Added Intersection E.P. and Bituminous Curb Type 6 at Median Island With Curve Data, Labels and Dimensions and Adjusted Water Meter Box. Revised Dimensions at Median Island, Auxiliary Lanes, Curb Ramp 1B and Curve Data [6].

DATE REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KUNIA ROAD IMPROVEMENTS
VICINITY OF SOUTH KUPUNA LOOP
to VICINITY OF HONOWAI STREET

PROJECT NO.: HWY-0-01-04

Scale: As Noted Date: OCT, 2003

SHEET No. 2 OF 5 SHEETS

[illegible]

Begin Ramp EH @ Sta. 0+00 =
F.W.R. @ Sta. 64+69.70 o/s 54.00' Lt.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KUNIA ROAD IMPROVEMENTS
VICINITY OF SOUTH KUPUNA LOOP
to VICINITY OF HONOWAI STREET
PROJECT NO.: HWY-0-01-04

Scale: As Noted Date: OCT, 2003

SHEET No. 3 OF 5 SHEETS

KUNIA ROAD
 To Schofield
 To Ewa
 To Waianae

STRUCTURE
 Ramp HE
 Ramp EW
 Ramp KO
 Ramp HE To Ewa
 Ramp EW To Waianae

Curbs and Gutter Data:

Section	Stationing	Curve Data
CURB 7	Sta. 98+80± to Sta. 101+20±	Δ = 33°29'03" R = 79.53' T = 23.92' LC = 46.48'
CURB 8	Sta. 101+20± to Sta. 101+30±	Δ = 26°03'42" R = 156.71' T = 36.27' LC = 71.28'
CURB 9	Sta. 101+30± to Sta. 101+40±	Δ = 4°59'56" R = 2,263.26' T = 98.79' LC = 197.46'
CURB 10	Sta. 101+40± to Sta. 101+50±	Δ = 1°14'04" R = 1,431.59' T = 140.80' LC = 280.70'

Notes:
 1. Construct 560 Ln. Ft. of Curb and Gutter, Type "22DG", 210 Sq. Yd. of R. C. Sidewalk Including Transitions; and 2 Each Of Curb Ramp, Type "B" Modified.
 2. Kunia Road Sta. 104+30± Lt. Construct New Type "A1" Catch Basin. For Location, See Plan Sheet No. 40.
 3. Kunia Road Sta. 104+41.33 Lt. to Ramp KO Sta. 1+50± Cold Plane and Dispose 4.0 Inch Asphalt Concrete Pavement Hatched Area and Pave With 4.0 Inch Asphalt Concrete Pavement, Mix No. IV.
 4. Demolish and Dispose of Existing Catch Basin. Construct Type "C" SDMH. For Location, See Plan Sheet No. 40.
 5. Clean Existing Culvert and Drop Inlet. Cleaning of Existing Culvert and Drop Inlet Shall Be Paid For Under Contract Item No. 603.5001.
 6. Relocate and Reconstruct Roadway with 4" Asphalt Concrete Pavement, Mix No. IV; 8" Glassphalt Concrete Base Course and 12" Aggregate Subbase Course. For Details, See Plan Sheet No. 9.
 7. Relocated Highway Lighting System Standard
 Kunia Road Sta. 101+15± o/s 36" Lt.
 Kunia Road Sta. 103+93± o/s 38" Lt.
 8. Remove and Dispose Existing Rock Wall. Removal and Disposal Shall Not Be Paid For Separately But Shall Be Considered Incidental To Roadway Excavation.
 9. Existing Loop Detectors are Out of Commission and Shall Be Abandoned In Place.
 10. Construct 150 L.F. of 1.50 Ft. High Grade Adjustment Wall. For Detail, See Plan Sheet No. 10.
 11. End 150 Ft. High Grade Adjustment Wall.
 12. End 1100' Lane
 13. End 1100' Foot Lane.
 14. End 1100' Foot Lane.
 15. End 1100' Foot Lane.
 16. End 1100' Foot Lane.
 17. End 1100' Foot Lane.
 18. End 1100' Foot Lane.
 19. End 1100' Foot Lane.
 20. End 1100' Foot Lane.

[illegible][illegible]

The diagram illustrates a V-shaped road intersection. The top horizontal road has a total width of 40.29'. A 100' typical width is indicated for the top section. The bottom road is V-shaped, with a 6' width at the top of the V and a 30' width at the bottom. The intersection is marked with a center line (CL) and a center of gravity (CG). The proposed pavement layout is shown with a 3.0' wide curb and a 3.0' wide shoulder. The existing pavement layout is shown with a 3.0' wide curb and a 3.0' wide shoulder. The intersection is marked with a center line (CL) and a center of gravity (CG). The diagram includes various dimensions and labels such as 'E.P.' (Existing Pavement), 'P.O.C.' (Point of Curvature), and 'R' (Radius).

CR: Azimuth=335°27'11" Δ = 14°10'42" Distance = 15.57' T = 9.76' LC = 19.41'

CE: Δ = 10°34'19" R = 78.44' T = 6.31' LC = 12.59'

CI: Δ = 110°08'10" R = 4.00' T = 5.73' LC = 7.69'

R=4.0': Δ = 135°28'38" R = 3.00' T = 7.33' LC = 7.09'

R=3.0': Δ = 137°38'57" R = 2.00' T = 5.16' LC = 4.80'

R=2.0':

INTERSECTION E.P. CURVE DATA:

⑧	⑨
Δ = 44°30'07"	Δ = 44°54'55"
R = 62.92'	R = 65.58'
T = 25.74'	T = 27.11'
LC = 48.87'	LC = 51.41'

CURB ⑩
 Δ = 83°05'42"
 R = 30.73'
 T = 27.23'
 LC = 44.57'

CURB RAMP ⑫B
 For Details,
 See Plan Sheet No. 32.

PROJ
 Project No.
 Kunia Road

Island "C", Cane Haul Road at Kunia Road					
CR:	CE:	CI:	R=4.0':	R=3.0':	R=2.0':
Azimuth=335°27'11"	$\Delta = 14^{\circ}10'42''$	$\Delta = 10^{\circ}34'19''$	$\Delta = 110^{\circ}08'10''$	$\Delta = 135^{\circ}28'38''$	$\Delta = 137^{\circ}38'51''$
Distance = 15.57'	R = 78.44'	R = 68.25'	R = 4.00'	R = 3.00'	R = 2.00'
	T = 9.76'	T = 6.31'	T = 5.73'	T = 7.33'	T = 5.16'
	LC = 19.41'	LC = 12.59'	LC = 7.69'	LC = 7.09'	LC = 4.80'

Kunia Road @ Sta. 98+48.51 to @ Sta. 98+70.51 Lt.
Install 68± Ln. Ft. of Bituminous Curb, Type 6
At 10.0 Ft. Per Section With 1.0 Ft. Opening
Between Sections. End Curbs With 1:1 Slope.

INTERSECTION E.P. CURVE DATA:	
Ⓗ	Ⓘ
$\Delta = 44^{\circ}30'07''$	$\Delta = 44^{\circ}54'55''$
$R = 62.92'$	$R = 65.58'$
$T = 25.74'$	$T = 27.11'$
$LC = 48.87'$	$LC = 51.41'$

Kunia Road @ Sta. 97+82.5± Lt.
Begin 337.41 Ln. Ft. of Quick Kurb
Median Barrier System.
-End Uld Ramp RW @ Sta. 31+14.33 -
Kunia Rd. @ Sta. 97+64.61 O/S 12.0' RT

CURB 11

$\Delta = 83^{\circ}05'42''$
 $R = 30.73'$
 $T = 27.23'$
 $LC = 44.57'$

CURB RAMP (2B)

For Details,
See Plan Sheet No. 32

Kunia Road @ Sta. 99+28± to @ Sta. 99+57± Lt.
Construct 31 Square Yard Reinforced Concrete
Drop Driveway Including 2-6.0 Feet Drop Curbs
and 3.00 Feet Minimum Transition. For Details,
See Plan Sheet No. 11 .

Kunia Road @ Sta. 98+83± to @ Sta. 101+20±
Cold Plane and Dispose 4.0 Inch Asphalt Concrete Pavement
Hatched Area and Pave With 4.0 Inch Asphalt Concrete
Pavement, Mix No. IV.

PROJECT LIMIT
Project No. HWY-0-01-04
Kunja Road @ Sta. 97+33± Lt.

1/14/05	Added Quick Kurb Median Barrier Systems Symbol, Limit and Label; and Bituminous Curve Type 6 at Kane Haul Road Intersection. Revised Project Limit.
DATE	REVISION

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

ROADWAY PLAN

KUNIA ROAD IMPROVEMENTS
VICINITY OF SOUTH KUPUNA LOOP
to VICINITY OF HONOWAI STREET
PROJECT NO.: HWY-0-01-04

Scale: As Noted Date: OCT, 2003

SHEET No. 5 OF 5 SHEETS