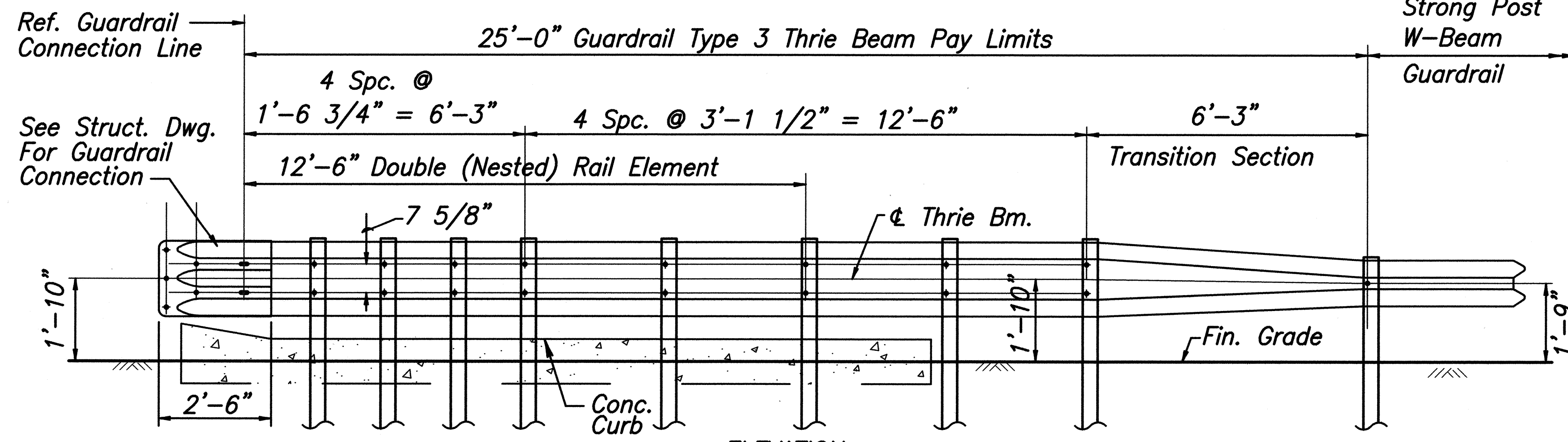
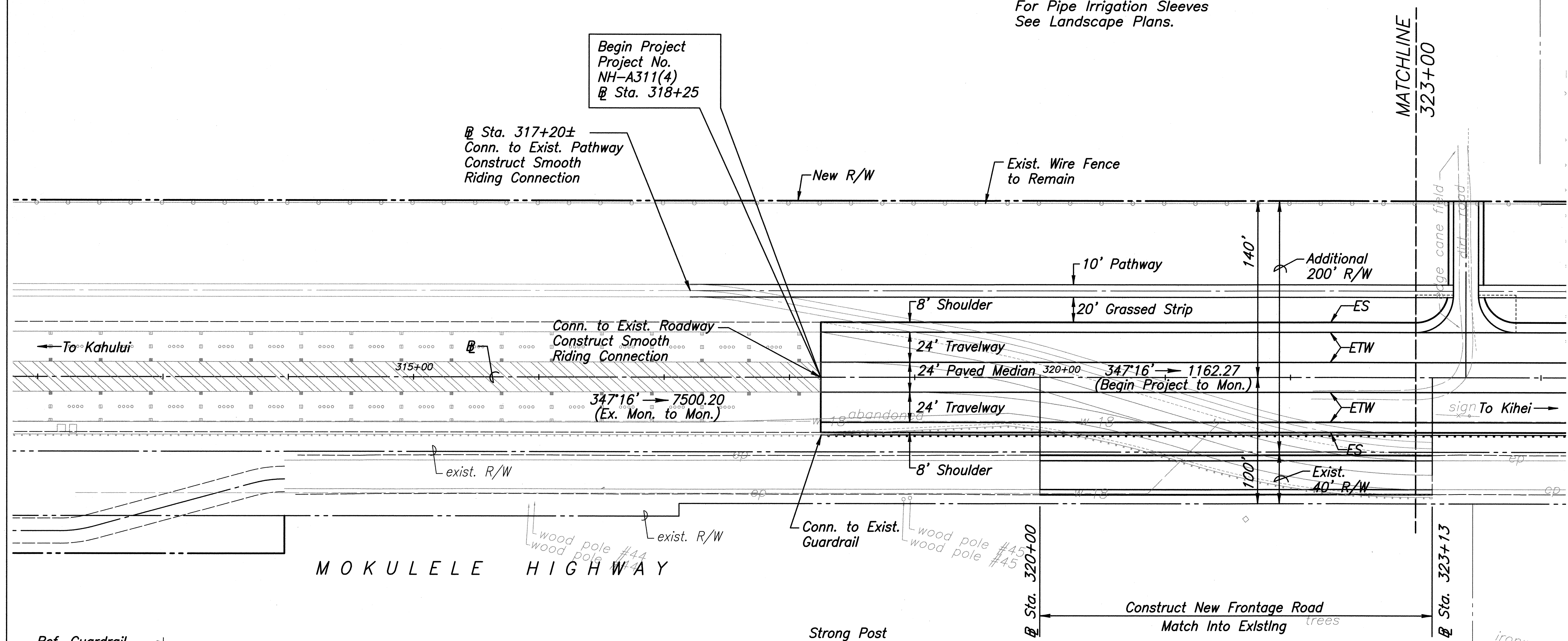


FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	23	180

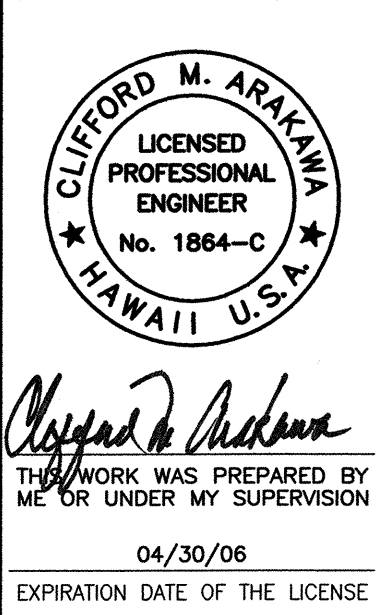
True North
Scale: 1 inch = 40 feet

NOTE:
For Pipe Irrigation Sleeves
See Landscape Plans.



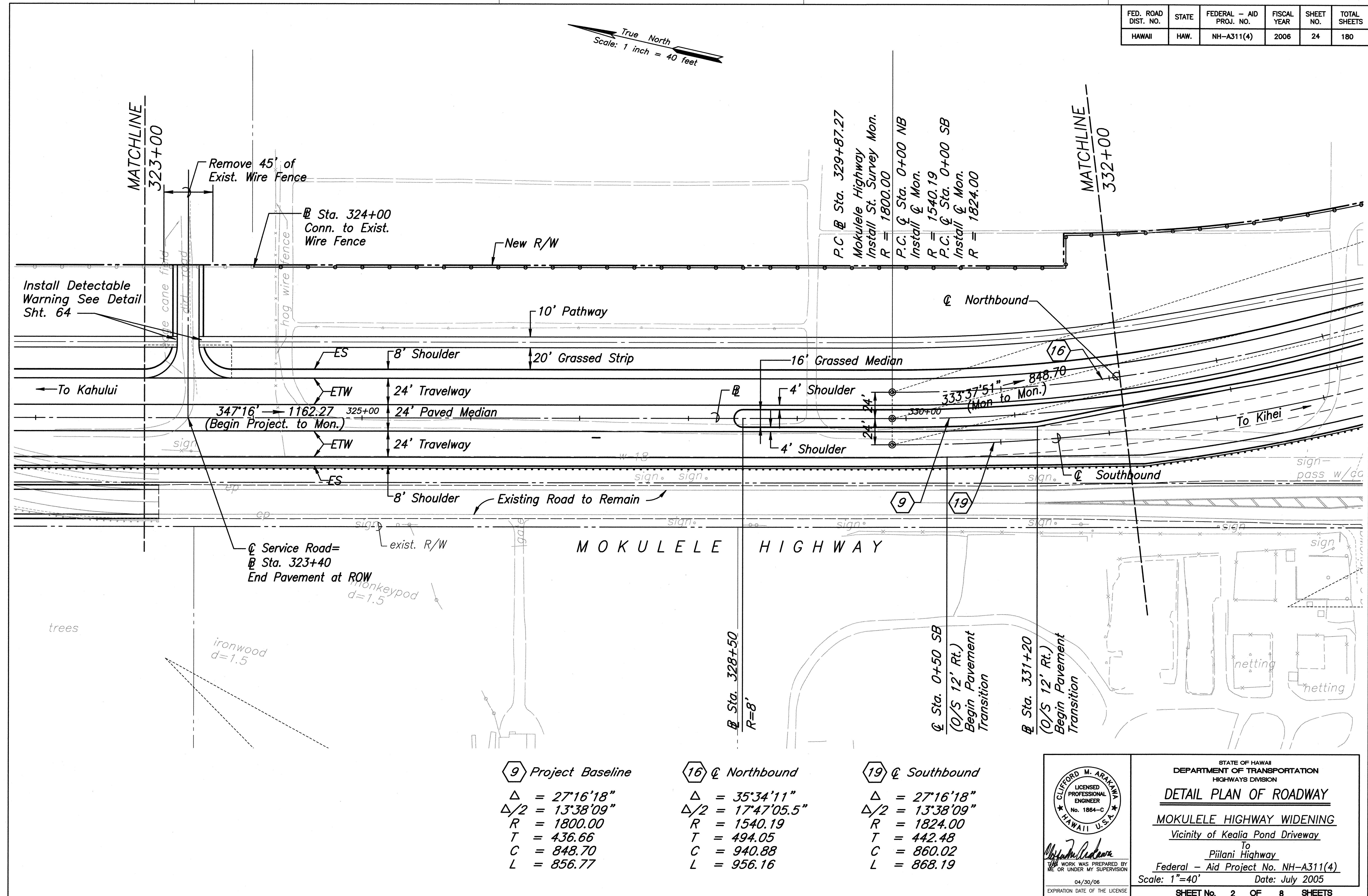
ELEVATION
TYPICAL TYPE 3 THRIE BEAM METAL GUARDRAIL
Scale: 1/2"=1'-0"

@ Sta. 318+25 Rt. to @ Sta. 6+19± Rt. (SB Ramp)
Install 1767± L.F. of Guardrail, Strong Post W-Beam.
For Thrie Beam see detail on this sheet. For Thrie Beam connection to headwall, see Structural Plans.



STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION
DETAIL PLAN OF ROADWAY
MOKULELE HIGHWAY WIDENING
Vicinity of Kealia Pond Driveway
To
Piilani Highway
Federal - Aid Project No. NH-A311(4)
Scale: 1"=40' Date: July 2005
SHEET No. 1 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	24	180



PROJ. NO.: M9901.00

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5/13/03

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

CLIFFORD M. ARAKAWA
LICENSED
PROFESSIONAL
ENGINEER
No. 1864-C
HAWAII U.S.A.

Clifford M. Arakawa

THIS WORK WAS PREPARED
BY ME OR UNDER MY SUPERVISION

04/30/06

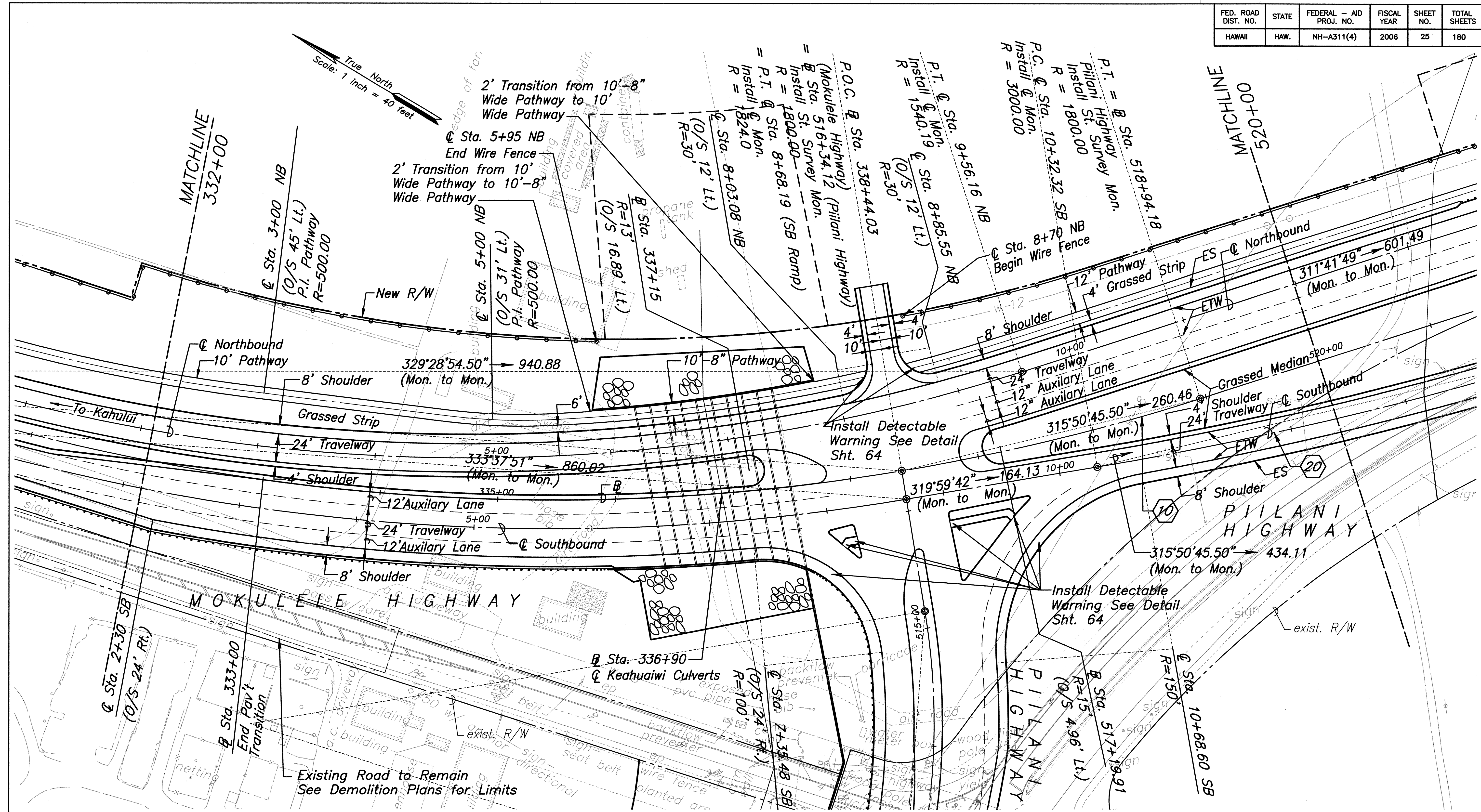
EXPIRATION DATE OF THE LICENSE

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

DETAIL PLAN OF ROADWAY

MOKULELE HIGHWAY WIDENING
Vicinity of Kealia Pond Driveway
To
Piilani Highway
Federal - Aid Project No. NH-A311(4)
Scale: 1"=40' Date: July 2005

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	25	180



@ Sta. 7+78± Rt. (SB Ramp) to @ Sta. 511+45± Rt. (Piilani Hwy.)
 Install 335± L.F. of Guardrail, Strong Post W-Beam and ET-2000 Plus, SKT-350, or approved equal at end terminal. For Thrie Beam see detail on sheet 23. For Thrie Beam connection to headwall, see Structural Plans.

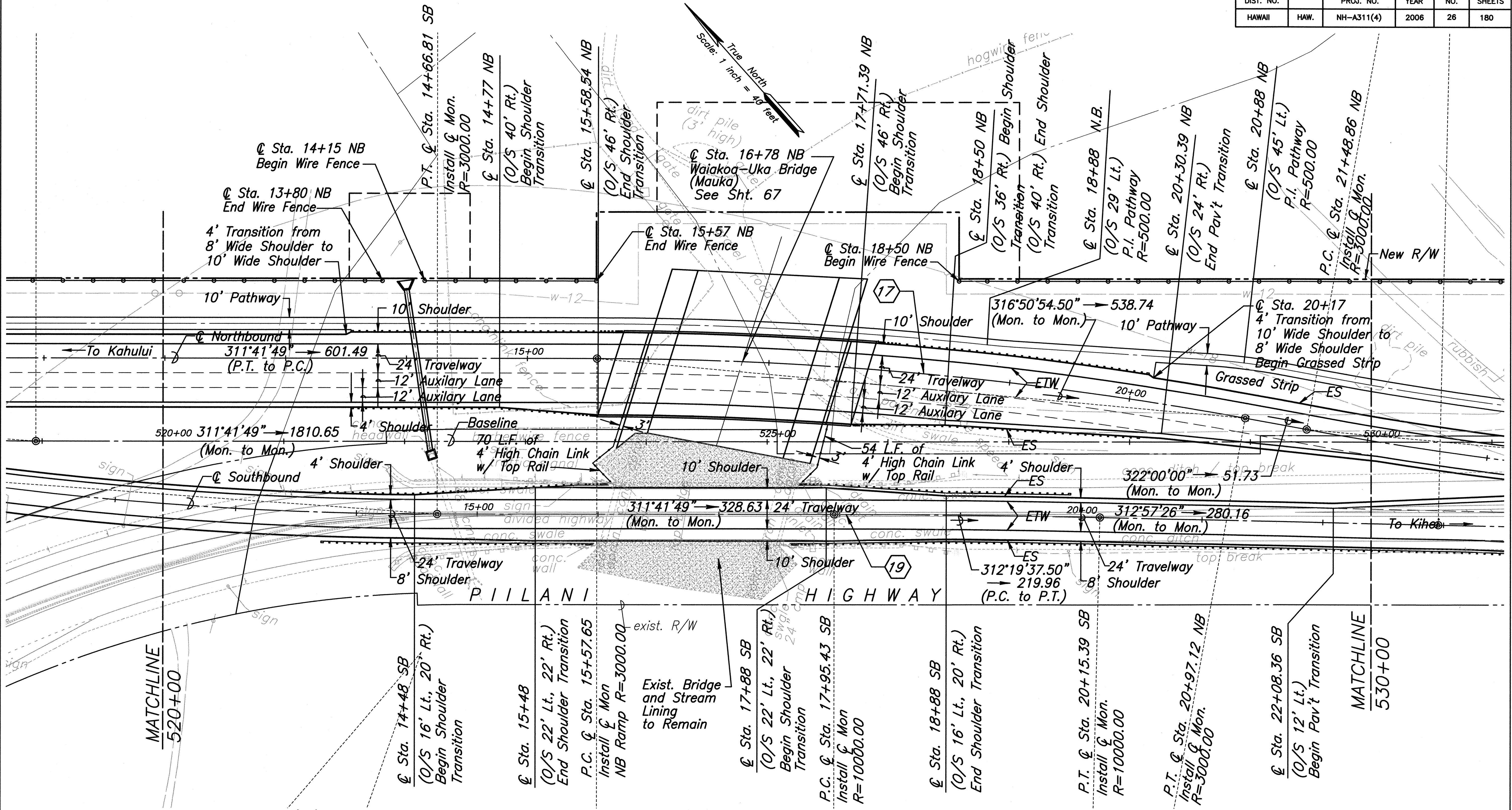
10 Project Baseline	20 @ Southbound
$\Delta = 8^{\circ}17'53''$	$\Delta = 8^{\circ}17'53''$
$\Delta/2 = 4^{\circ}08'56.5''$	$\Delta/2 = 4^{\circ}08'56.5''$
$R = 1800.00$	$R = 3000.00$
$T = 130.57$	$T = 437.55$
$C = 260.46$	$C = 434.11$
$L = 260.69$	$L = 434.49$

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
DETAIL PLAN OF ROADWAY
 MOKULELE HIGHWAY WIDENING
 Vicinity of Kealia Pond Driveway
 To
 Piilani Highway
 Federal - Aid Project No. NH-A311(4)
 Scale: 1"=40' Date: July 2005
 SHEET No. 3 OF 8 SHEETS

PROJ. NO.: M9901.00
 3/13/03
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SURVEY PLOTTED BY	DATE
DRAWN BY	
DESIGNED BY	
CHECKED BY	
NOTED BY	
NO.	

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	26	180

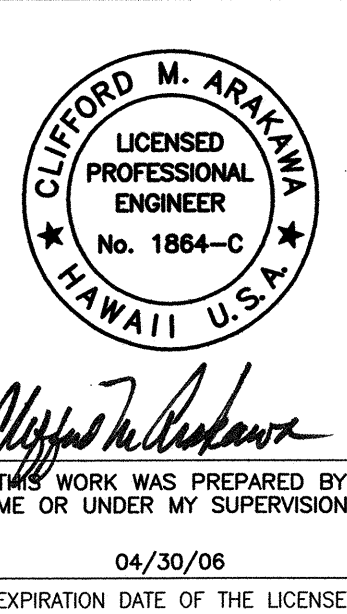


@ Sta. 13+72± Lt. to @ Sta. 16+08± Lt. (SB)
 @ Sta. 13+72± Rt. to @ Sta. 15+96± Rt. (SB)
 @ Sta. 17+66± Lt. to @ Sta. 19+91± Lt. (SB)
 Install 460± L.F. of Guardrail, Strong Post W-Beam and ET-2000 Plus, SKT-350, or approved equal at end terminal. For Thrie Beam see detail on sheet 23. For Thrie Beam connection to headwall, see Structural Plans.

@ Sta. 13+54± Lt. to @ Sta. 15+80± Lt. (NB)
 @ Sta. 13+54± Rt. to @ Sta. 15+59± Rt. (NB)
 @ Sta. 17+87± Lt. to @ Sta. 20+13± Lt. (NB)
 @ Sta. 17+72± Rt. to @ Sta. 20+13± Lt. (NB)
 Install 600± L.F. of Guardrail, Strong Post W-Beam and ET-2000 Plus, SKT-350, or approved equal at end terminal. For Thrie Beam see detail on sheet 23. For Thrie Beam connection to headwall, see Structural Plans.

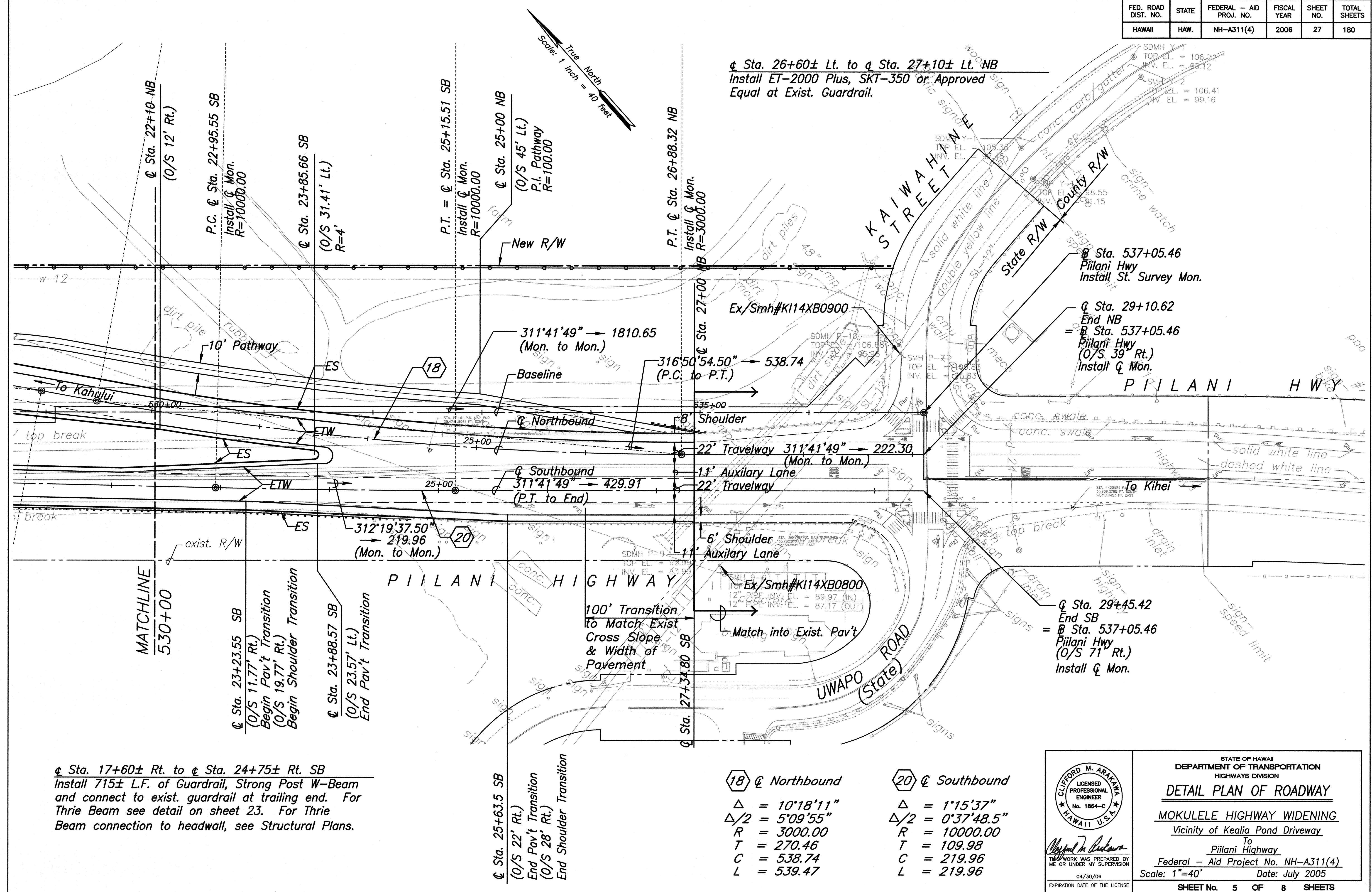
17 @ Northbound
 $\Delta = 10'18'11''$
 $\Delta/2 = 5'09'55''$
 $R = 3000.00$
 $T = 270.46$
 $C = 538.74$
 $L = 539.47$

19 @ Southbound
 $\Delta = 1'15'37''$
 $\Delta/2 = 0'37'48.5''$
 $R = 10000.00$
 $T = 109.98$
 $C = 219.96$
 $L = 219.96$



STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION
DETAIL PLAN OF ROADWAY
 MOKULELE HIGHWAY WIDENING
 Vicinity of Kealia Pond Driveway
 To
 Piilani Highway
 Federal - Aid Project No. NH-A311(4)
 Scale: 1"=40' Date: July 2005
 SHEET No. 4 OF 8 SHEETS

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	27	180



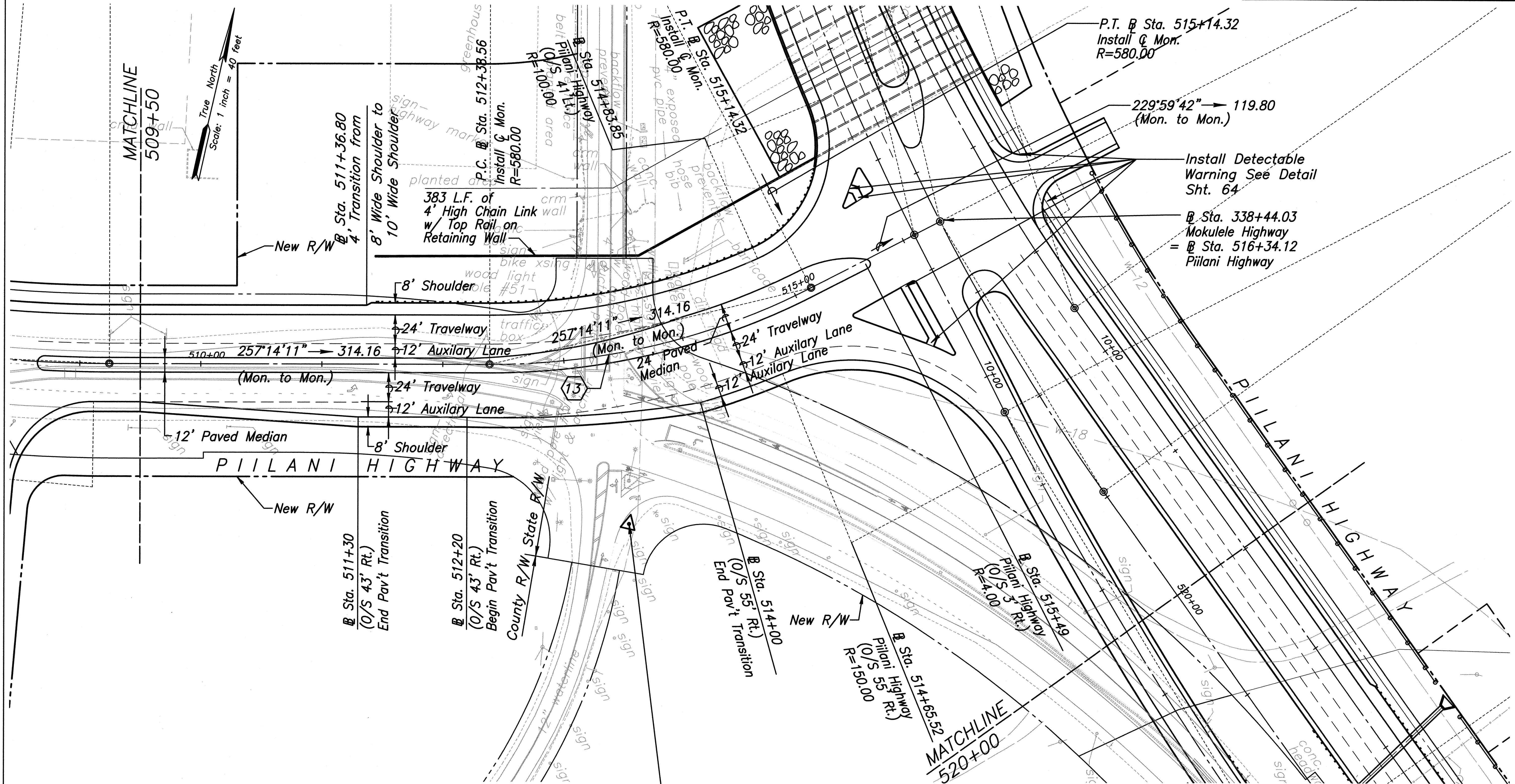
3/13/03

PROJ. NO.: M9901.00

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

FED. ROAD DIST. NO.	STATE	FEDERAL - AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	NH-A311(4)	2006	29	180



13 Piilani Highway
 $\Delta = 27^{\circ}14'29''$
 $\Delta/2 = 13^{\circ}37'14.5''$
 $R = 580.00$
 $T = 140.54$
 $C = 273.17$
 $L = 275.76$

BENCHMARK
 STA. HV 8 (PK NAIL)
 34659.9968 FT. SOUTH
 11544.1041 FT. EAST
 ELEV. = 12.48

ORIGINAL PLAN	DATE
DESIGNED BY	
TRACED BY	
NOTED BY	
CHECKED BY	
NO.	

CLIFFORD M. ARAKAWA
 LICENSED PROFESSIONAL ENGINEER
 No. 1884-C
 HAWAII, U.S.A.

STATE OF HAWAII
 DEPARTMENT OF TRANSPORTATION
 HIGHWAYS DIVISION

DETAIL PLAN OF ROADWAY

MOKULELE HIGHWAY WIDENING
 Vicinity of Kealia Pond Driveway
 To
 Piilani Highway

Federal - Aid Project No. NH-A311(4)
 Scale: 1"=40' Date: July 2005

SHEET No. 7 OF 8 SHEETS

