FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	139A-01-05M	2007	97	106

GENERAL NOTES

DESIGN SPECIFICATIONS:

A. AASHTO 2007 LRFD Bridge Desigh Specifications, Fourth Edition, including all interim revisions.

MATERIALS:

A. Reinforced Concrete: Class A, unless otherwise noted
B. Reinforcing Steel: ASTM A 615, Grade 60
C. Admixture in concrete: See Special Provisions
D. All expansion and premolded joint filler shall be incidental to concrete and will not be paid for separately.
E. All structural steel shall be ASTM A 36 or ASTM A 500, Gr. B, and shall be hot-dip galvanized after fabrication.
F. All anchor bolts, washers and nuts shall be ASTM A 325, hot-dip galvanized after fabrication, unless noted otherwise.
G. All welding shall be in accordance with the current edition of Bridge Welding Code ANSI/AASHTO/AWS D 1.5

CONSTRUCTION METHODS:

A. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, 2005 Edition and Special Provisions.
B. Except as noted otherwise, all vertical dimensions are measured plumb.
C. For steel reinforcing, stagger all splices where possible.
D. Steel reinforcing shall be supported, bent and placed per LRFD Bridge Design Specifications.
E. For cast-in-place concrete, minimum reinforcement cover:
Concrete cast against earth: 3"
Concrete cast against a smooth surface or finished to a smooth surface: 2"
F. At time concrete is placed, reinforcing shall be free from mud, oil, laitance or other coatings adversely affecting bond capacity.
G. Reinforcement, dowels and other embedded items shall be positively secured before pouring.
H. Minimum clear spacing between parallel bars in a layer shall not be less than:
- 1.5 times the nominal diameter of the bars,
- 1.5 times the maximum size of the course aggregate, or
- 1.5"

I. All dimensions relating to reinforcing bars (e.g. spacing of bars, etc.) are to centers of bars unless noted otherwise.
J. All footings shall bear on firm undisturbed natural ground or properly compacted structural fill.
K. In the event of over-excavation, the space between the footing/slab/wall and the ground shall be filled with a minimum of Class D concrete at the Contractor's expense at no cost to the State.
L. Where the plans call for reinforcement bars to be embedded or anchored into existing concrete, see Special Provisions Section 674--Concrete Retrofit.
M. Where the plans call for placing fresh plastic concrete against existing concrete, see Special Provisions Section 674--Concrete Retrofit.

REFERENCE:

A. Refer to Standard Plans for additional details and notes not covered by details and typical drawings.

GENERAL:

A. All items noted incidental will not be paid for separately.
B. The Contractor shall verify the locations of all existing utility lines and notify their respective owners before commencing with any work.
C. The Contractor shall verify all grades and dimensions before commencing with any work.
D. The Contractor shall be solely responsible for the protection of adjacent property, utilities and existing and new structures from damage due to construction. Repairing any damage shall be at no cost to the State.
E. The Conctractor shall conduct his work in such a manner and provide such temporary shoring or other measures as may be necessary to insure the safety of all concerned and to protect existing structures.
F. Unless noted otherwise, all exposed concrete edges shall be chamfered 3/4".

SYMBOLS AND ABBREVIATIONS

Detail or Section designation: XXX / XXX|XXX
Sheet No. Section is cut or Detail Location
Sheet No. Detail is drawn

A.C.	Asphaltic Concrete
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximate
℄	Baseline
Bal.	Balance
Bet., Btwn.	Between
B.F.	Back Face
B.F.E.	Bottom Footing Elevation
Bk.	Back
Blk.	Block
Blt.	Bolt
Bm.	Beam
B, Bot., Bott.	Bottom
B.O.S.	Bottom of Slab
℄	Center Line
CIP	Cast in Place
C/L	Chain Link
Cl., Clr.	Clear
Conc.	Concrete
Cont.	Continuous
C.Y., Cu. Yd.	Cubic Yards
Det.	Detail
Dia., ø	Diameter
Dim.	Dimension
Dwg., Dwgs.	Drawing, Drawings
EA, Ea., ea.	Each
E.F.	Each Face
El., Elev.	Elevation
Eq.	Equal
Est.	Estimated
E.W.	Each Way
Exc.	Excavation
Exist.	Existing
Exp., (E)	Expansion
Ext.	Exterior
F.F.	Front Face
Fin.	Finish
Fin. Gr.	Finish Grade
Ftg.	Footing
Galv.	Galvanize
Gr.	Grade
Grd.	Ground
Horiz.	Horizontal
Hwy.	Highway
I.B.	Inbound
I.F.	Inside Face
In.	Inch
Int.	Interior
Inv.	Invert
Jt.	Joint
L	Length
L.F., Lin. Ft.	Linear Feet
Lg.	Long
Longit.	Longitudinal
L.S.	Lump Sum
Lt.	Left
Max.	Maximum
Min.	Minimum
Misc.	Miscellaneous
N	North
N.F.	Near Face
No., #	Number
N.T.S.	Not To Scale
O.B.	Outbound
o.c.	On Center
Opn'g	Opening
R	Radius
Rdwy	Roadway
Ref.	Reference
Reinf.	Reinforcement
Ret.	Retaining
Req'd	Required
R.F.	Rear Face
Rt.	Right
R/W	Right Of Way
Sect.	Section
Shldr.	Shoulder
Sht.	Sheet
Spc.	Space
Spcd.	Spaced
Spcg.	Spacing
Spec.	Specification
Sta.	Station
Std.	Standard
Stirr.	Stirrup
Str.	Straight
Struct.	Structural
Symm.	Symmetrical
T	Top
Temp.	Temporary
Thk.	Thick, Thickness
T.O.S.	Top of Slab
T.O.W.	Top of Wall
Tot.	Total
Transv.	Transverse
Typ.	Typical
Var.	Varies
Vert.	Vertical
w/	With
W.P.	Working Point
W.W.	Wingwall

INDEX TO DRAWINGS

ORIGINAL PLAN			DATE
	SURVEY PLOTTED BY	XXX	XXX, 1991
	DRAWN BY		
NOTE BOOK	TRACED BY	XXX	XXX, 1991
XXXXXXX	DESIGNED BY	XXX	XXX, 1991
N. XXXXXXX	QUANTITIES BY	XXX	XXX, 1991
	CHECKED BY	XXX	XXX, 1991

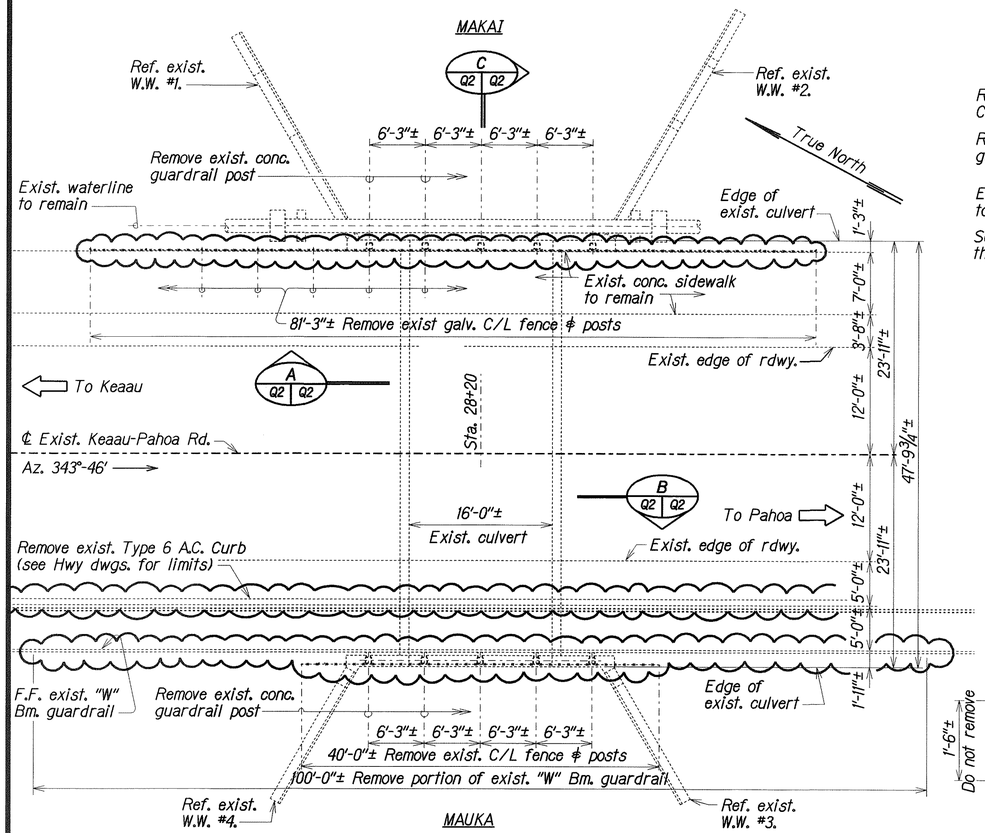
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

GENERAL NOTES, SYMBOLS & ABBREV. ESTIM. QUAN. and INDEX to DRAWINGS
OLD KEA'AU-PAHOA ROAD RESURFACING, KEA'AU to KEA'AU HIGH SCHOOL
Project No. 139A-01-05M

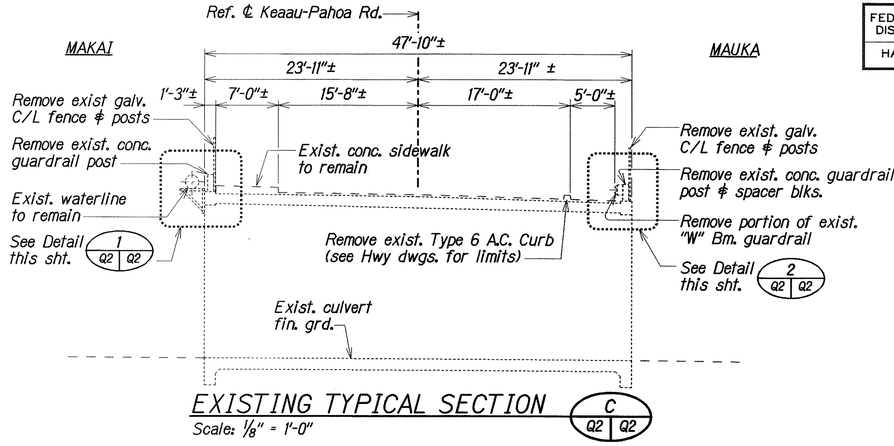
Scale: As Noted — Date: May, 2007

SHEET No. Q1 OF 5 SHEETS

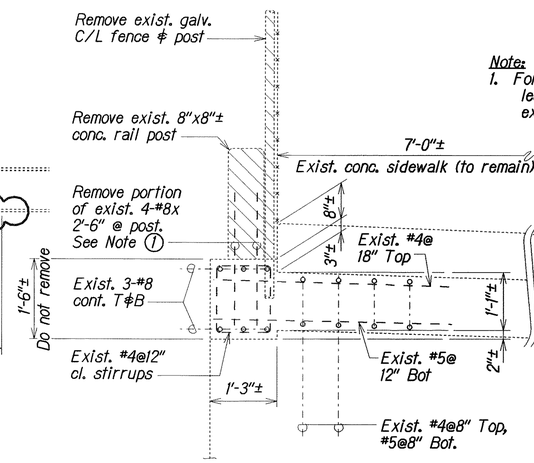
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	139A-01-05M	2007	98	106



EXISTING LAYOUT PLAN
16'x17' BOX CULVERT KEAAU-PAHOA ROAD STA. 28+20
Scale: ⅛" = 1'-0"

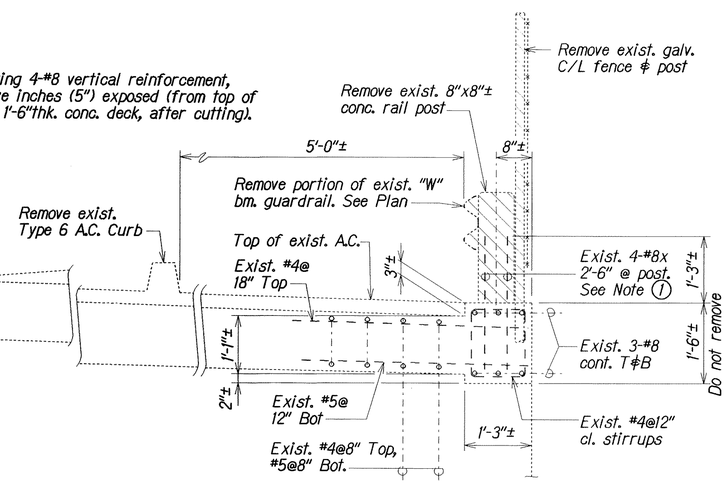


EXISTING TYPICAL SECTION C Q2 Q2
Scale: ⅛" = 1'-0"

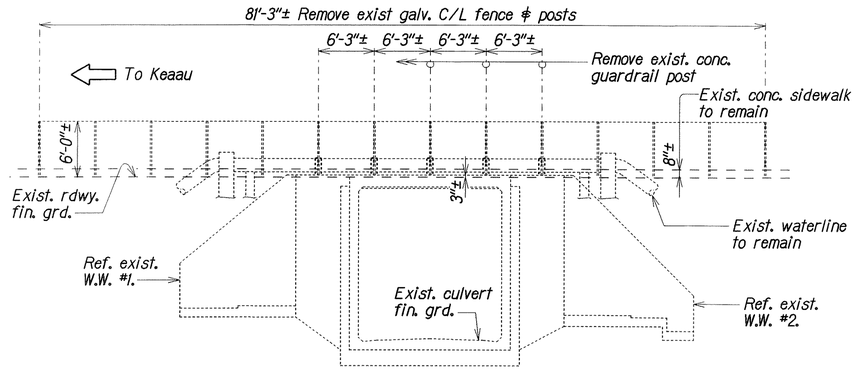


Note:
1. For existing 4-#8 vertical reinforcement, leave five inches (5") exposed (from top of existing 1'-6"thk. conc. deck, after cutting).

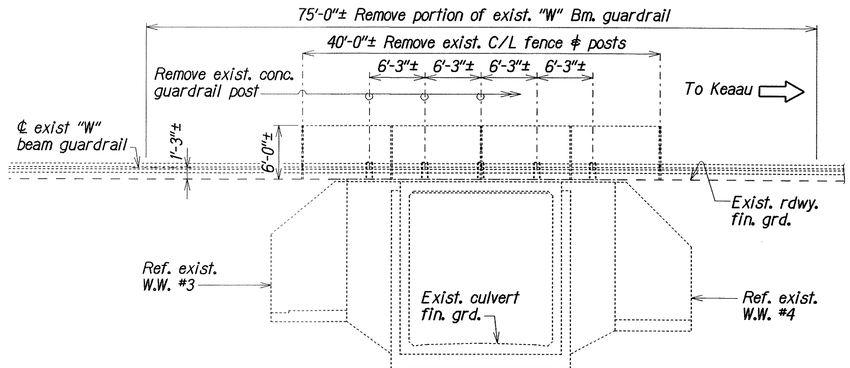
EXISTING DETAIL 1 Q2 Q2
MAKAI ON STRUCTURE
Scale: ¾" = 1'-0"



EXISTING DETAIL 2 Q2 Q2
MAUKA ON STRUCTURE
Scale: ¾" = 1'-0"



EXISTING ELEVATION A Q2 Q2
Scale: ⅛" = 1'-0"



EXISTING ELEVATION B Q2 Q2
Scale: ⅛" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	XXX	DATE XXX 1991
	DRAWN BY	XXX	XXX 1991
NOTE BOOK	TRACED BY	XXX	XXX 1991
XXXXXXXX	DESIGNED BY	XXX	XXX 1991
	QUANTITIES BY	XXX	XXX 1991
	CHECKED BY	XXX	XXX 1991

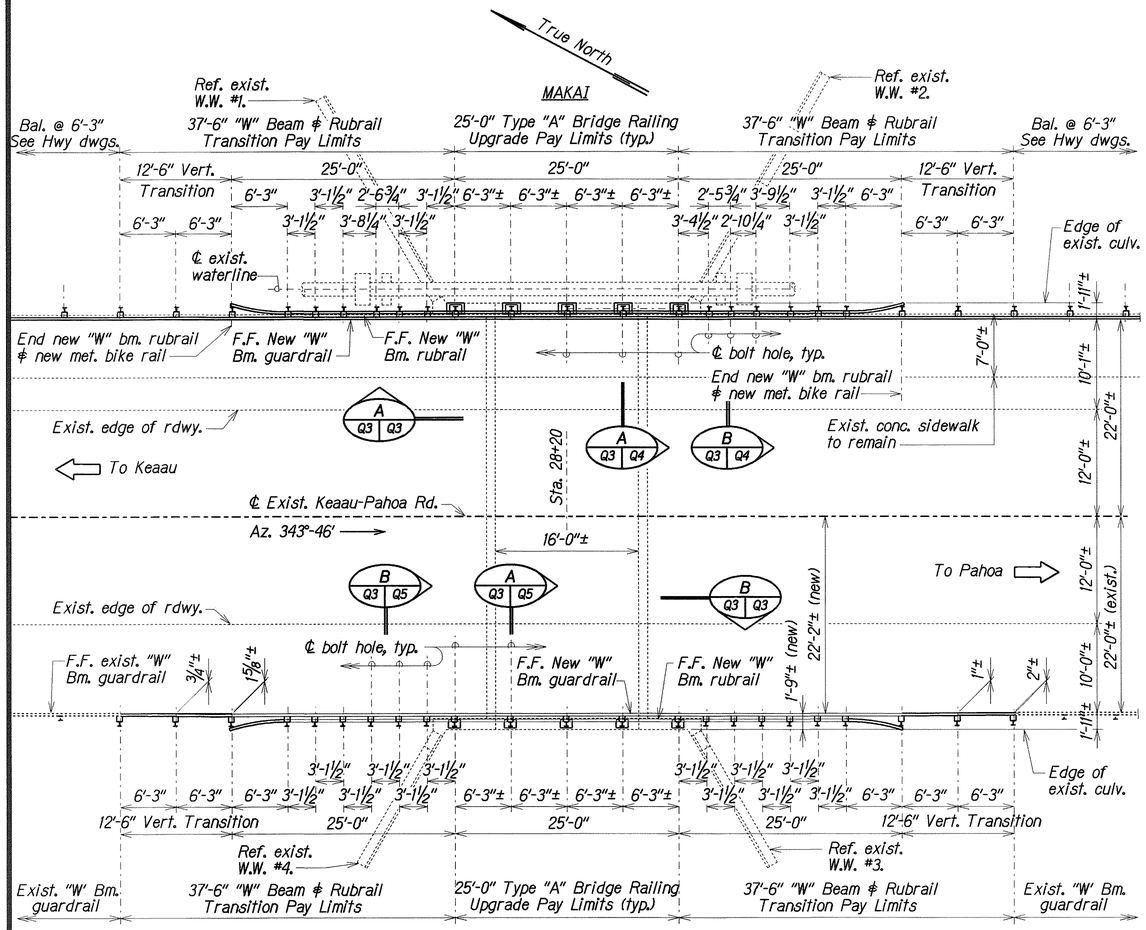
STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

EXISTING LAYOUT PLAN, ELEVATIONS, TYPICAL SECTION and DETAILS
OLD KEA'AU-PAHOA ROAD RESURFACING, KEA'AU to KEA'AU HIGH SCHOOL
Project No. 139A-01-05M

Scale: As Noted Date: May, 2007

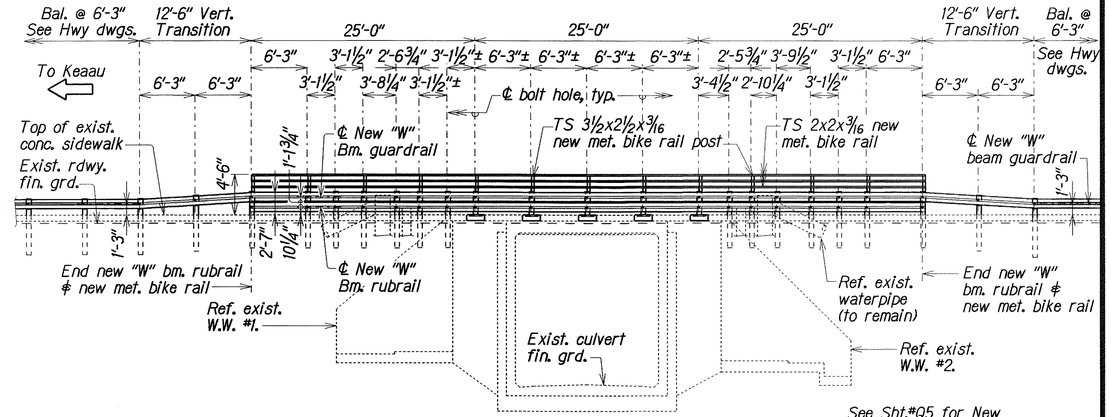
SHEET No. Q2 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	139A-01-05M	2007	99	106



NEW LAYOUT PLAN
16'x17' BOX CULVERT KEAAU-PAHOA ROAD STA. 28+20

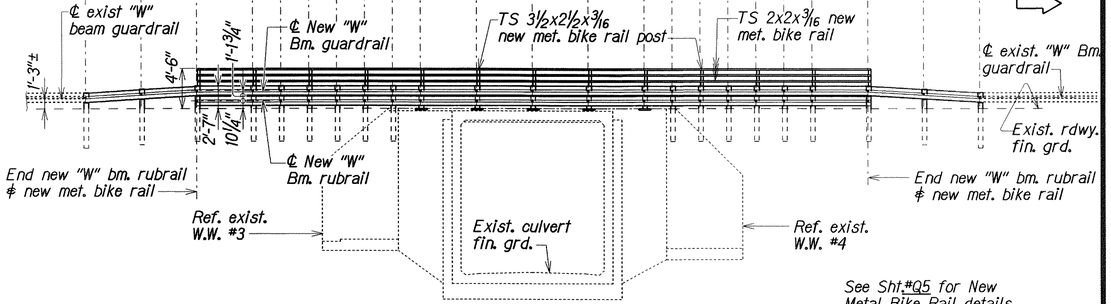
Scale: 1/8" = 1'-0"



NEW ELEVATION

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

See Sht.#Q5 for New Metal Bike Rail details



NEW ELEVATION

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

See Sht.#Q5 for New Metal Bike Rail details

ORIGINAL PLAN	SURVEY PLOTTED BY	XXX	DATE	XXX, 200_
	DRAWN BY			
NOTE BOOK	TRACED BY	XXX		XXX, 200_
	DESIGNED BY	XXX		XXX, 200_
XXXXXXXX	QUANTITIES BY	XXX		XXX, 200_
No. XXXXXXXX	CHECKED BY	XXX		XXX, 200_

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

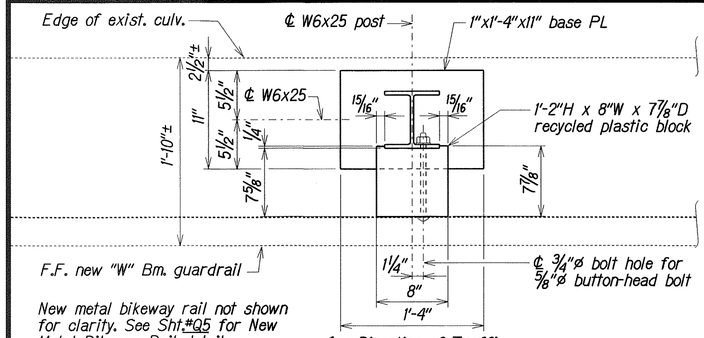
NEW LAYOUT PLAN and MAUKA & MAKAI ELEVATIONS
OLD KEA'AU-PAHOA ROAD RESURFACING, KEA'AU to KEA'AU HIGH SCHOOL

Project No. 139A-01-05M

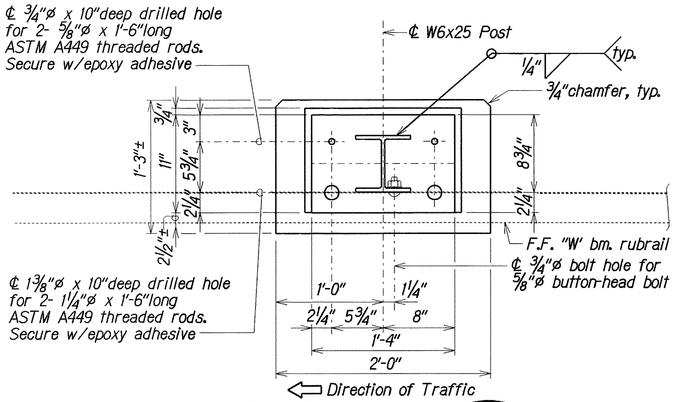
Scale: As Noted — Date: May, 2007

SHEET No. Q3 OF 5 SHEETS

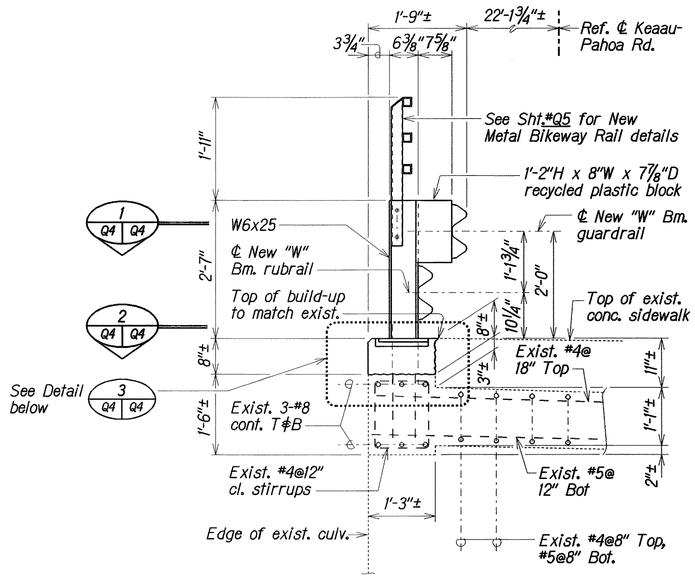
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	139A-01-05M	2007	100	106



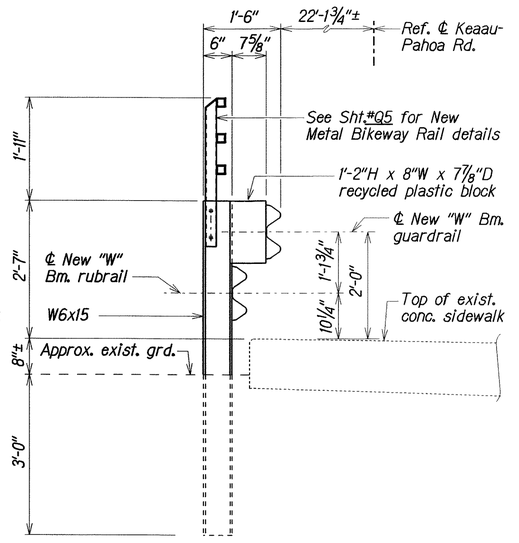
DETAIL 1 (Q4 | Q4)
MAUKA ON STRUCTURE
Scale: 1½" = 1'-0"



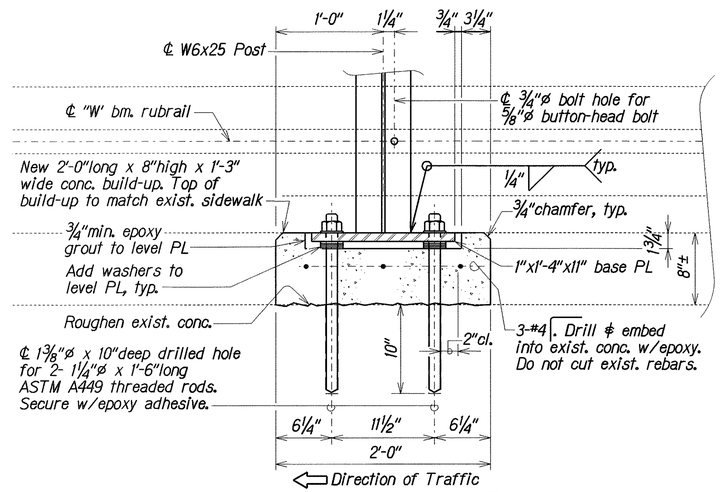
DETAIL 2 (Q4 | Q4)
MAUKA ON STRUCTURE
Scale: 1½" = 1'-0"



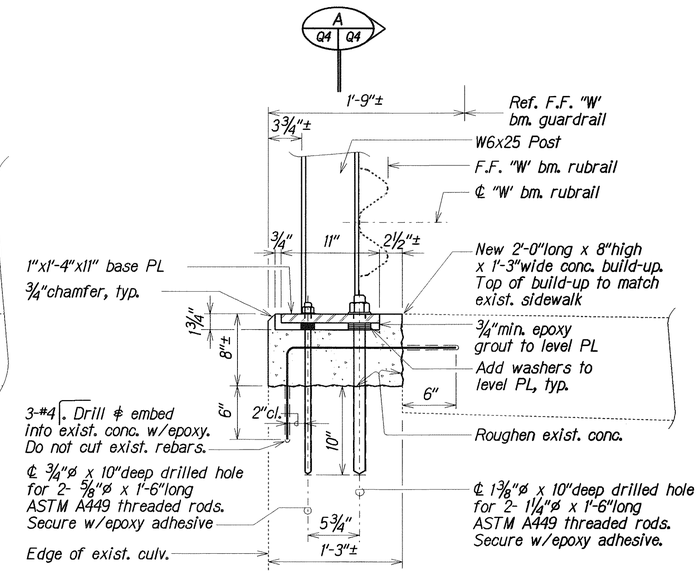
NEW SECTION A (Q3 | Q4)
MAUKA ON STRUCTURE
Scale: ¾" = 1'-0"



NEW SECTION B (Q3 | Q4)
MAUKA OFF-STRUCTURE
Scale: ¾" = 1'-0"



SECTION A (Q4 | Q4)
MAUKA ON STRUCTURE
Scale: 1½" = 1'-0"



DETAIL 3 (Q4 | Q4)
MAUKA ON STRUCTURE
Scale: 1½" = 1'-0"

ORIGINAL PLAN	SURVEY PLOTTED BY	XXX	DATE	XXX 1992
	DRAWN BY	XXX		XXX 1992
NOTE BOOK	TRACED BY	XXX		XXX 1992
	DESIGNED BY	XXX		XXX 1992
N. XXXXXXXX	QUANTITIES BY	XXX		XXX 1992
	CHECKED BY	XXX		XXX 1992

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW DETAILS & SECTIONS--MAUKA and NEW METAL BIKE RAIL DETAILS

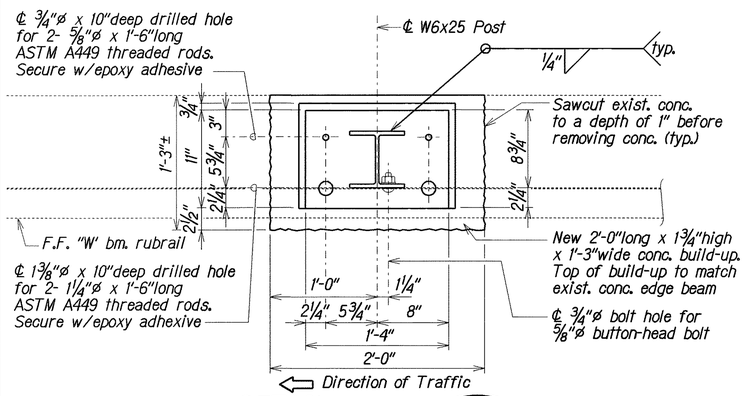
OLD KEA'AU-PAHOA ROAD RESURFACING, KEA'AU to KEA'AU HIGH SCHOOL

Project No. 139A-01-04M

Scale: As Noted — Date: May, 2007

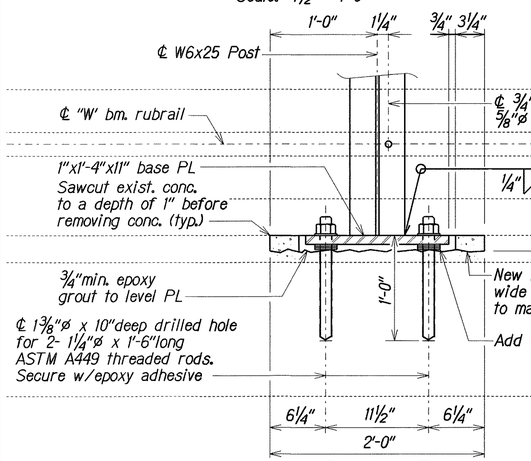
SHEET No. Q4 OF 5 SHEETS

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	139A-01-05M	2007	101	106

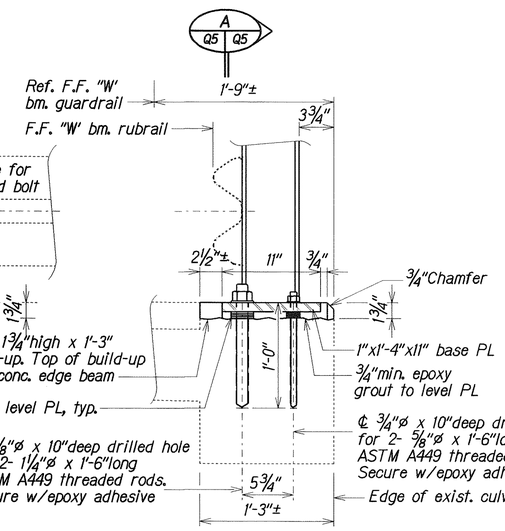


DETAIL
MAKAI ON STRUCTURE
Scale: 1½" = 1'-0"
(1 / Q5 | Q5)

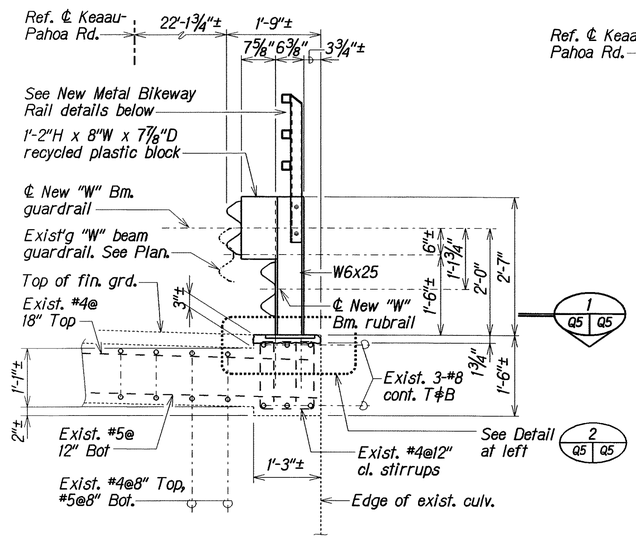
NOTE:
Existing rebars shall not be cut or damaged.



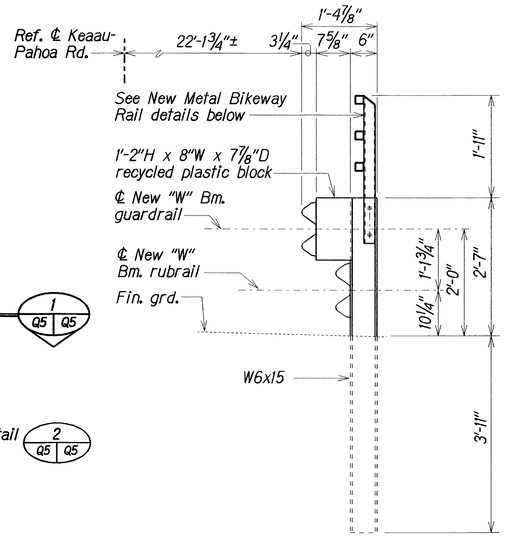
SECTION
MAKAI ON STRUCTURE
Scale: 1½" = 1'-0"
(A / Q5 | Q5)



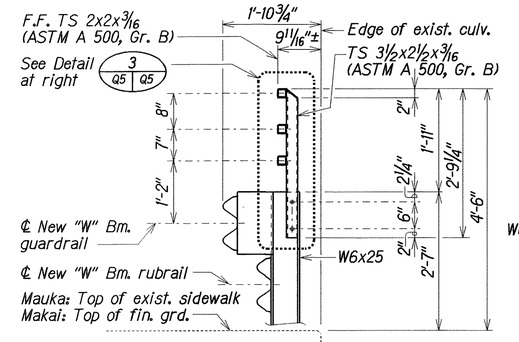
DETAIL
MAKAI ON STRUCTURE
Scale: 1½" = 1'-0"
(2 / Q5 | Q5)



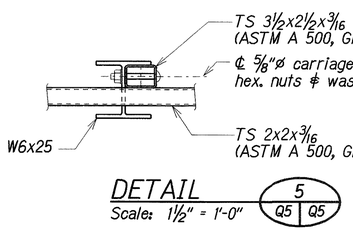
NEW SECTION
MAKAI ON STRUCTURE
Scale: 3/4" = 1'-0"
(A / Q3 | Q5)



NEW SECTION
MAKAI OFF-STRUCTURE
Scale: 3/4" = 1'-0"
(B / Q3 | Q5)

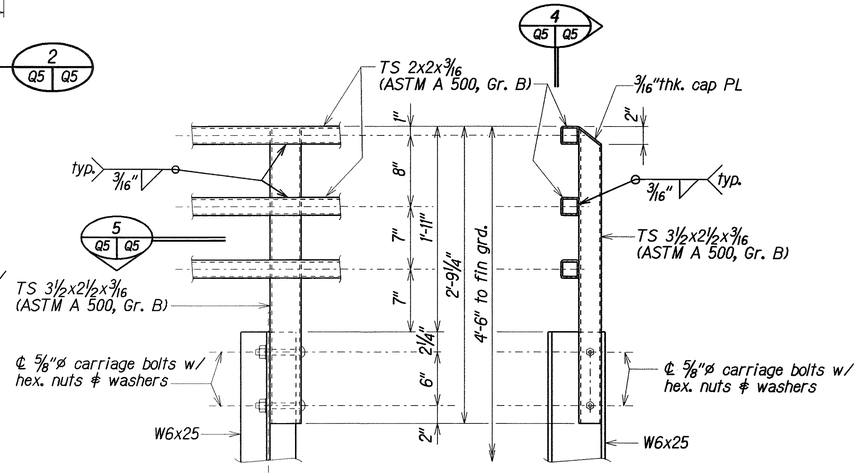


TYPICAL SECTION
Scale: 1½" = 1'-0"



DETAIL
Scale: 1½" = 1'-0"
(5 / Q5 | Q5)

NEW METAL BIKE RAIL DETAILS



DETAIL
Scale: 1½" = 1'-0"
(4 / Q5 | Q5)

DETAIL
Scale: 1½" = 1'-0"
(3 / Q5 | Q5)

ORIGINAL PLAN	SURVEY PLOTTED BY	XXX	DATE	XXX 1997
	DRAWN BY			
NOTE BOOK	TRACED BY	XXX		XXX 1997
	DESIGNED BY	XXX		XXX 1997
N. XXXXXXXX	QUANTITIES BY	XXX		XXX 1997
	CHECKED BY	XXX		XXX 1997

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

NEW DETAILS & SECTIONS--MAKAI and NEW METAL BIKE RAIL DETAILS
OLD KEA'AU-PAHOA ROAD RESURFACING, KEA'AU to KEA'AU HIGH SCHOOL
Project No. 139A-01-04M

Scale: As Noted — Date: May, 2007

SHEET No. Q5 OF 5 SHEETS