FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-050-1(27)	2005	24	27

GENERAL NOTES

DESIGN SPECIFICATIONS:

AASHTO LRFD Bridge Design Specifications, Second Edition, 1998

MATERIALS:

A. Reinforced Concrete: Class A (f'c = 3,000 psi min.)
B. Reinforced 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, hot-dip galvanized after fabrication.
F. All anchor bolts, nuts and washers 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 Reinforcing Steel Welding Code AWS D 1.4.

CONSTRUCTION REQUIREMENTS:

A. Refer to Hawaii Standard Specifications for Road, Bridge and Public Works Construction, (Hawaii 1994 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 as per the ACI Detailing Manual, 1994.
E. For cast-in-place concrete, minimum reinforcement cover:
Concrete cast against earth: 3"
Walls: 2"
F. At time concrete is placed, reinforcing shall be free from mud, oil latance 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 shall be one and one-half (1½) times the diameter of the bars (for non-bundled bars). But in no case shall the clear distance between the bars be less than one and one-half (1½) times the maximum size of the course aggregate.
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 undistrurbed natural soils or properly compacted structural fill.

REFERENCE:

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

GENERAL:

A. The Contractor 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.
B. In the event of over-excavation, the space between the footing or footing key and ground shall be filled with a minimum of Class D concrete at the Contractor's expense at no cost to the State.
C. Unless noted otherwise, chamfer all exposed concrete edges three-quarters (¾) of an inch.

SYMBOLS AND ABBREVIATIONS

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

(XX) - ℄ Bearing Abutment Seat Line
⊕ - Boring No. & Designation

Abut.	Abutment
AC	Asphaltic Concrete
Adj.	Adjacent
Alt.	Alternate
Approx.	Approximate
Az.	Azimuth
ℬ	Baseline
Bal.	Balance
Bet., Btwn.	Between
B.F.	Both faces
B.F.E.	Bottom Footing Elevation
Bk.	Back
Blt.	Bolt
Bm.	Beam
B, Bot., Bott.	Bottom
Br.	Bridge
Brg., Brgs.	Bearing, Bearings
B.V.C.	Beginning of Vertical Curve
℄	Center Line
Cant.	Cantilever
C.F.	Cubic Feet
CIP	Cast in Place
C.I.P.	Cast Iron Pipe
Cl., Clr.	Clear
Col.	Column
Conc.	Concrete
Conn.	Connection
Const.	Construction
Cont.	Continuous
CRM	Cement Rubble Masonry
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
Elec.	Electrical
El., Elev.	Elevation
Emb.	Embankment
E.P.	Edge of Pavement
Eq.	Equal
Est.	Estimated
E.W.	Each Way
Exc.	Excavation
Exist.	Existing
Exp., (E)	Expansion
Ext.	Exterior
(F)	Fixed
F'c	Specified Strength of Concrete
F'ci	Strength of Concrete at Time of Initial Prestress
F.F.	Front Face
Fig.	Figure
Fin.	Finish
Fin. Gr.	Finish Grade
Ftg.	Footing
Ga.	Gage, Gauge
Galv.	Galvanized
Gir., G	Girder
G.R.P.	Grouted Rubble Paving
Gr.	Grade
Grd.	Ground
(H)	Hinge
Horiz.	Horizontal
HS	High Strength
Ht.	Height
Hwy.	Highway
I.B.	Inbound
I.F.	Inside Face
In.	Inch
Int.	Interior
Inv.	Invert
Jt.	Joint
L	Length
LBS., lb., lbs.	Pound, Pounds
L.F., Lin. Ft.	Linear Feet
Lg.	Long
Longit.	Longitudinal
L.S.	Lump Sum
Lt.	Left
Ltg. Std.	Lighting Standard
Max.	Maximum
Mech.	Mechanical
Min.	Minimum
Misc.	Miscellaneous
N	North
N.B.	Northbound
N.F.	Near Face
No., #	Number
N.T.S.	Not To Scale
O.B.	Outbound
o.c.	On Center
O.G.	Outside Girder
Opn'g	Opening
o/s, O/S	Offset
P.B.	Pull Box
P.C.	Point of Curvature
P.C.C.	Portland Cement Concrete
Perf.	Perforated
PG-( )	Prestressed Girder-(Type)
PL	Plate
P/S	Prestressed Strands
Pvmt.	Pavement
R	Radius
Rdwy	Roadway
Ref.	Reference
Reinf.	Reinforcement
Ret.	Retaining
Req'd	Required
R.F.	Rear Face
Rt.	Right
R/W	Right Of Way
S	South
S.B.	Southbound
Sect.	Section
SF	Square Feet
Shldr.	Shoulder
Sht.	Sheet
Spc.	Space
Spcd.	Spaced
Spcg.	Spacing
Spec.	Specification
Sprd.	Spread
Sta.	Station
Std.	Standard
Stirr.	Stirrup
Str.	Straight
Struct.	Structural
Symm.	Symmetrical
T	Top
Temp.	Temporary
Thk.	Thick, Thickness
T.O.D.	Top Of Deck
Tot.	Total
Transv.	Transverse
Typ.	Typical
Var.	Varies
V.C.	Vertical Curve
Vert.	Vertical
W	West
w/	With
W.W.	Wingwall

ORIGINAL PLAN	SURVEY PLOTTED BY KMN	DATE FEB 2003
NOTE BOOK ke2.janil	DRAWN BY	
No. skmukepd01.dgn	TRACED BY	
	DESIGNED BY DKT	FEB 2003
	QUANTITIES BY DKT	FEB 2003
	CHECKED BY PTS	FEB 2003

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TYPE "H-TL2" ENDPOST DETAILS, VERTICAL FACE OPTION

GENERAL NOTES and SYMBOLS & ABBREVIATIONS

KAUMUALII HIGHWAY

Guardrail and Shoulder Improvements at Hanapepe Bridge and Mana Bridge Structure Nos. 1, 2, 3 & 4

Federal Aid Project No. STP-050-1(27)

Scale: As Noted   Date: Nov. 2003

SHEET No. Q1 OF 4 SHEETS