GENERAL CONSTRUCTION NOTES

- A. All work shall be done in accordance with the "Hawaii Standard Specifications For Road, Bridge, and Public Works Construction", 1994, State of Hawaii Department of Transportation, Highways Division, except as modified herein or in the Special Provisions.
- B. The Contractor shall verify with the respective utility companies and Government agencies the locations of all electric, telephone, roadway light, water, sewer, drain and other lines crossing the excavation path or in excavation areas.
- C. The Contractor shall notify all affected utility companies and Government agencies of their intent to begin construction on any intersection or street at least two (2) weeks prior to the start of such construction.
- D. The Contractor shall notify the Traffic Signal & Technology, Department & Transportation Services, three (3) working days prior to commencing work on the traffic signal system (Phone: 523-4589).
- E. The traffic signal system shall be kept operational during construction. Any relocation required shall be approved by the Traffic Signal & Technology, Department of Transportation Services, and paid for by the Contractor.
- F. The Contractor shall provide microwave detector system for all existing signalized intersections where existing loop detector system will be out of service for more the one (1) week.
- G. Trenching to be by hand digging near and across existing utility lines.
- H. Unless otherwise requested by the Board of Water Supply, minimum clearance between water lines and conduits shall be: Horizontal = 3 feetVertical = 6 inches
- Adjust new conduit alignment, if required to provide clearances. If conduit cannot be realigned, adjustments to existing water system shall be performed in accordance with standards of the Board of Water Supply.
- J. Underground utilities shown hereon are for information only. No guarantee is made on the accuracy or completeness of said information.
- K. Where necessary, reconstruction of sidewalk, gutter and driveway areas shall conform to the standard details of the governmental agency having jurisdiction over the work.
- The Contractor shall be responsible for removal of all silt and debris resulting from his work and deposited in drainage facilities, roadways and other areas. The cost for any necessary remedial action by the Chief Engineer shall be payable by the Contractor.
- M. The Contractor, at his own expense, shall keep the project area free from dust nuisance. The work shall be in conformance with the air pollution control standards and regulations of the State Department of Health.

SURVEY PLOTTE
DRAWN BY_____
TRACED BY____
DESIGNED BY___
QUANTITIES BY__
CHECKED BY

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(33)	200 7	140	168

ELECTRICAL SYMBOLS										
SYMBOL	DESCRIPTION	SYMBOL	DESCRIPTION							
	HPS ROADWAY LIGHT. SEE DETAILS ON SHEET E-11.	$A \square$	TYPE "A" METRIC TRAFFIC SIGNAL PULLBOX (APPROX. 22" X 28"), SEE DETAIL A/E-7.							
	TRAFFIC SIGNAL HEAD RYGN, PROVIDE NECESSARY MOUNTING BRACKETS AND ACCESSORIES TRAFFIC SIGNAL HEAD RYG, PROVIDE NECESSARY MOUNTING		TYPE "C" METRIC TRAFFIC SIGNAL PULLBOX (APPROX. 28" X 57"), SEE DETAIL B/E-7.							
			TYPE "A" METRIC ROADWAY LIGHTING PULLBOX (APPROX. 22" X 28"), SEE DETAIL A/E-7.							
	BRACKETS AND ACCESSORIES									
 ⊚	TYPE 1 TRAFFIC SIGNAL STANDARD, SEE PLAN FOR HEIGHT,									
	SEE DETAIL A/E-9.	—SL—	ROADWAY LIGHTING CONDUIT & WIRING							
⊗→	OPTICON DETECTOR, PROVIDE NECESSARY MOUNTING BRACKET AND ACCESSORIES, SEE DETAIL C/E-10		ROADWAY LIGHTING CONDUIT & WIRING. SAWCUT AND PATCH EXST. AC PAVEMENT, AC BERM AND CONCRETE SWALE							
P	TYPE II TRAFFIC SIGNAL STANDARD, WITH TRAFFIC SIGNAL HEADS	— <i>TS</i> —	TRAFFIC SIGNAL CONDUIT & WIRING							
30'	AND NECESSARY MOUNTING BRACKETS AND ACCESSORIES (WITH 30' MAST ARM INDICATED), SEE DETAIL B/E-9.	<i>===7</i> S <i>==</i>	TRAFFIC SIGNAL CONDUIT & WIRING. SAWCUT AND PATCH EXST. AC PAVEMENT, AC BERM AND CONCRETE SWALE							
		—Е—	ELECTRIC CONDUIT							
			BREAK LINE TO BEGIN AND END DUCT SECTION TYPE							
		A 4E	ELECTRIC/SIGNAL DUCTLINE WITH DESIGNATORS; INDICATES TYPE 'A' DUCT SECTION WITH '1-4" ELECTRIC DUCT. E=ELECTRIC, SL=STREET LIGHT, TS=TRAFFIC SIGNAL.							

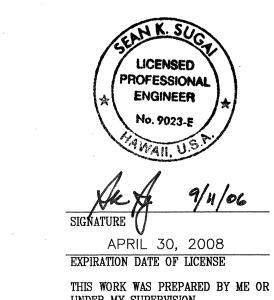


STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION

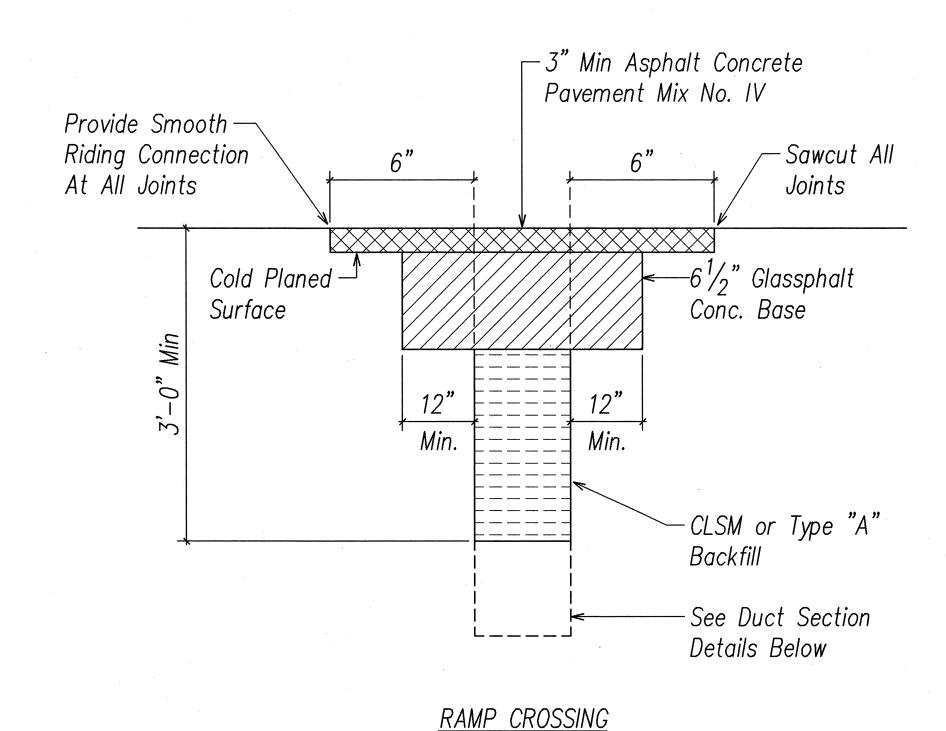
ELECTRICAL SYMBOLS, GENERAL NOTES WAIPIO INTERCHANGE, RAMP WG-3

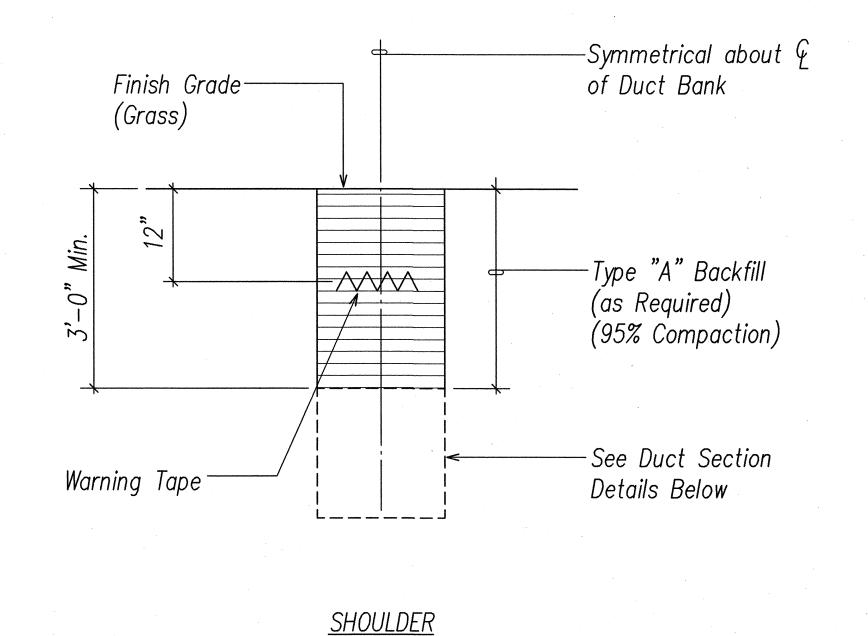
INTERSTATE ROUTE H-2 REHABILITATION <u>Wai:pio Interchange and Mililani Interchange</u> <u>On/Off Ramps, Ka Uka Boulevard and</u> Meheula Parkway Overpasses & Kipapa Stream Bridge Federal Aid Project No. IM-H2-1(33) DATE: November 2006

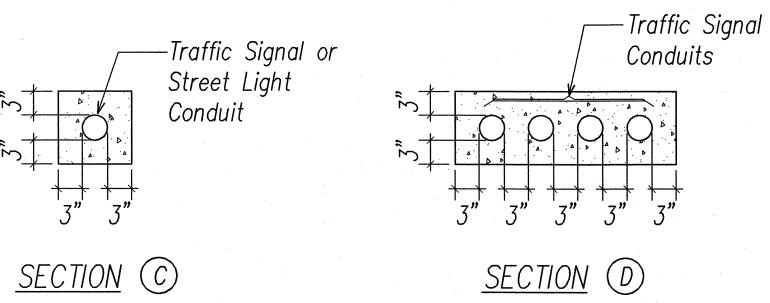
SHEET No. E-1 OF 12 SHEETS

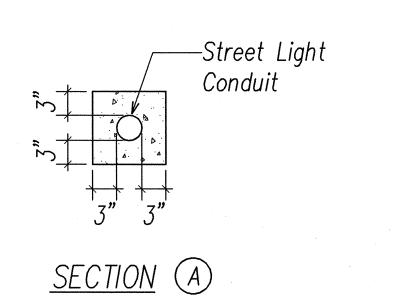


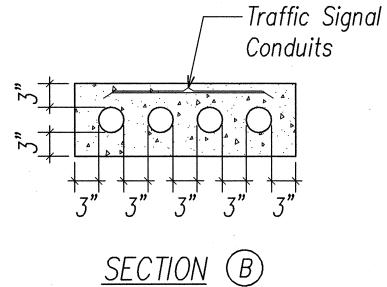
FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	IM-H2-1(33)	2007	141	168

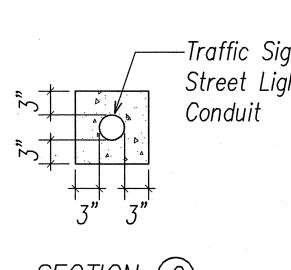


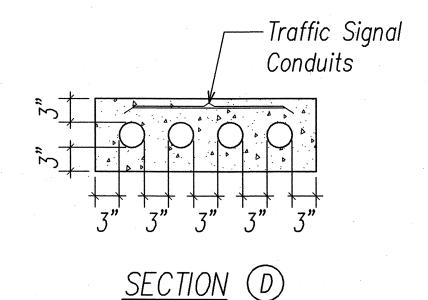












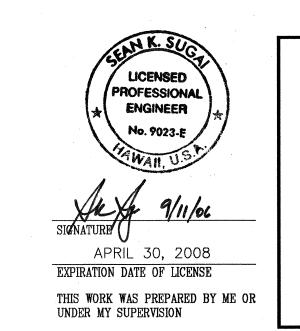


Trench Backfill Material "A"

- 1. Sand Equivalent ≥ 2 2. 8" Max. Lift Loose
- 3. 95% Compaction
- Concrete 3" Encasement, 3000 PSI Compressive Strength @ 24 Days.

NOTES:

- 1. Tack Coat Existing Asphalt Bound Material Faces Prior To Filling Excavation With Asphalt Bound Material.
- 2. When Ground Water Is Encountered In Trenches. Backfill With Gravel Conforming To ASTM C-33, Size 67 Material Until One Foot Above Waterlevel. Encapsulate The Size 67 And Sides Of The Trench And Overlaps At The Top Of The Material For The Width Of The Trench. Complete Backfilling The Trench Per Detail.
- 3. Smoothness of Paved Surfaces: The Distance From The Paved Surface To The Testing Edge Of A Ten-Foot Straight Edge Between Two Points Of Contact Shall Not Exceed 3/16".
- Base Course & Sub-Base Course Per 1994 State Standard Specifications For Highway Construction.
- 5. Sawcutting & Repairing Of Exst A.C. Pavement Shall Not Be Paid For Separately, But considered Incidental to the Various Contract Items.
- 6. The Metal Detectable Reel Warning Tape Shall Be A Minimum Of 8 Mils Thick And 3" Wide With A Continuous Metallic Backing And Corrosion Resistant $1\pm$ Mil Thick Foil Core. The Message On The Tape Shall Read, "Caution—State Highway Lighting Cables Buried Below", Utility 2" Series "C" Black Lettering. The Message Shall Be Repeated With A 36" Spacing. Message Shall Be Repeated With A 36" Spacing. Warning Tape For Signal Corps Conduits Shall Be Per Signal Corps Standards.
- 7. Metal Plates Shall Not Be Used On The Off-Ramp.



STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION

DUCT SECTION DETAILS WAIPIO INTERCHANGE, RAMP WG-3

<u>INTERSTATE ROUTE H-2 REHABILITATION</u> <u>Waipio Interchange and Mililani Interchange</u> <u>On/Off Ramps, Ka Uka Boulevard and</u> Meheula Parkway Overpasses & Kipapa Stream Bridge
Federal Aid Project No. IM-H2-1(33)

DATE: November 2006

SHEET No. E-2 OF 12 SHEETS

DUCT SECTION DETAILS

NOT TO SCALE

