

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-M-05-04	2004	11	33

General Electrical Notes

1. Electrical Work shall be New Unless Otherwise Noted.
2. "Wiring" Indicates Insulated Wires in Conduit.
3. Contractor shall Tune to Determine Exact Location of Existing Utilities & Adjust His Work Accordingly.
4. The Locations of the Various Existing Utilities Shown on the Contract Drawings were Determined on the Basis of Best Available Information. Therefore, No Assurance is Provided that the Actual Locations will be Precisely as Shown on the Contract Drawings. The Contractor shall verify the Locations and Depths of the Facilities and Exercise Proper Care in Excavating the Area. The Contractor shall be Held Responsible for any Damages to the Facilities.
5. In Performing All Work, the Contractor shall Exercise Due Care and Caution Necessary to Avoid any Damage to and Impairment in the use of any Existing Utility Line. Any Damage Inflicted on Existing Utility Lines Resulting from the Contractor's Operations shall be Immediately Repaired or Restored as Directed by the State at the Contractor's Expense.
6. All Electric/Signal Ducts shall have a Vertical Clearance of 1'-0" when Crossing Water/Sewer Lines.
7. All Dimensions are Nominal. Verify Exact Dimensions & Equipment Requirements with the Successful Supplier.
8. The Contractor shall be Liable for any Damage to Maui Electric Co. Facilities and shall Immediately Report such Damages to Maui Electric Co.'s Trouble Dispatcher at 871-7777.
9. All Maui Electric Co. Overhead Facilities shown on these Plans or whose Approximate Locations within the Project Boundaries have been made known by any Reasonable Means at any time to the Contractor shall be Protected at all Times by the Contractor during Construction. Costs for the Damages to Maui Electric Co. Facilities will be Borne by the Contractor. This Repair Work shall be done by Maui Electric Co. or by the Contractor under Maui Electric Co.'s Supervision.
10. Temporary Relocation and/or Bracing of Maui Electric Co. Facilities Necessitated by the Contractor's Operation shall be Done by Maui Electric Co. Cost for this Work shall be the the Contractor's Expense. The Contractor shall be Responsible for Coordination.
11. The Project Site Contains Various Maui Electric Co. Lines Operated at 69KV, 23KV, 12.47KV and Various other Secondary Voltages. These Lines must Remain Active. Therefore, the Contractor shall Utilize such Methods, Equipment, Etc., Necessary to Protect His Personnel, the Public, State Personnel, Property, Equipment, Etc.
12. Due to Ongoing Construction & Maintenance, Conditions Indicated in these Drawings may have Changed. Therefore, the Contractor shall verify all Existing Conditions prior to Work.

Traffic Signal System Notes:

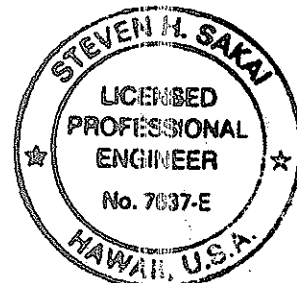
1. All Traffic Signal Work shall Conform to the Requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways", Federal Highway Administration, Latest Edition, and Amendments.
2. The Locations of the Traffic Signal Standards, Traffic Signal Standards with Mast-Arm, Pedestrian Push Buttons, Traffic Controller, Pullboxes, Conduits, Barriers & Loop Detectors shall be Staked Out in the Field by Contractor & Approval of the Locations Obtained from the Engineer Prior to Construction & Installation. Locations shown on the Plans shall be Adjusted as Necessary to Prevent Conflicts with Existing or New Facilities.
3. All New Conduits Under Roadway shall be PVC Schedule 80. Contractor shall have the Option of Using PVC Schedule 40 for New Conduits not Under Roadway, Unless Otherwise Noted.
4. In Addition to the Conduits Indicated in the "Conduit and Cable Schedule". Install One 3-Inch Conduit in the Footings of all Signal Controllers. Conduit shall be Stubbed-Out 12 Inches from Footing and shall be Capped.
5. A Solid #8 Bare Copper Wire shall be Installed with the Traffic Signal Control Cable for Use as a System Ground. Cost shall be Incidental of the Control Cable.
6. Lead-in Wires in Pullbox near Loops shall be Tagged with Loop Number(s).
7. Locations of Pavement striping and Markings (Lane Lines, Stop Lines, Cross-Walk, Etc.) Shown on the Plans shall be verified with the Engineer prior to the Installation of the Traffic Signal System.
8. All Traffic Signal Controller Equipment shall be Completely Wired in the Cabinet and shall Control the Traffic Signals as called for in the Plans.
9. All Splicing shall be Done in the Pullboxes.
10. Signal Indications During Clearance Interval:
  - a. If a Signal is G or <G- and will Remain G or <G- During the Next Phase, it shall be G or <G- During the Clearance Interval.
  - b. If a Signal is G or <G- and will Become R or Extinguished During the Next Phase, it shall be Y or <Y- During the Clearance Interval.
  - c. If the Signal is R and will Remain R or Becomes G During the Next Phase, it shall Remain R During the Clearance Interval.
11. Should any Defect be Encountered during the Warranty Period, the Manufacturer will be Notified and He shall Promptly Correct Such Defect. Service Call (by Factory Qualified Representative) during the Warranty Period for Repairs or Other Maintenance shall be Answered within 24 Hours and shall be Done at No Expense to the State. All Repairs shall be Done as Soon as Possible.

Traffic Signal System Notes (Continued):

12. Connecting into Existing Traffic Signal System and Making All Necessary Adjustments shall not be Paid for Separately, but Considered Incidental to the Various Traffic Signal Contract Items.
13. All Conduits Between Pullboxes and Traffic Signal Standards shall not be Paid for Separately, but Considered Incidental to the Various Contract Items.
14. All Signal-Drop Cables (Type 5 Cable) from the Various Types Traffic Signal Head on the Traffic Signal Standards and Mast Arms to the Pullboxes shall not be Paid for Separately, but Considered Incidental to the Traffic Signal Head.
15. After Installing the Cables in the Conduits, the Contractor shall Duct Seal All Conduits in the Controller Cabinet, Pullboxes and Standards with an Engineer Approved Product. The Cost for Duct Sealing the Conduits shall not be Paid for Separately, but Considered Incidental to the Various Contract Items.
16. Furnishing and Installing the Conduit Stubouts (Pullboxes to Edge of Pavement) will not be Paid for Separately, but shall be Considered Incidental to the Various Contract Items.
17. Pavement Markings Disturbed by the Contractor's Operation shall be Restriped and/or Installed New at Contractor's Expense.
18. Sawcutting and Repairing of Existing Pavement shall not be Paid for Separately, but Considered Incidental to the Various Traffic Signal Ductlines.

For additional Utility Co. and Government Agency Notes, See Sht 4.

ORIGINAL PLAN	SURVEY PLOTTED BY	DATE
NOTE BOOK	DRAWN BY	
QUANTITIES BY	DESIGNED BY	
CHECKED BY		



THIS WORK WAS PREPARED BY ME  
OR UNDER MY SUPERVISION.  
*Steven H. Saku*

STATE OF HAWAII DEPARTMENT OF TRANSPORTATION HIGHWAYS DIVISION	
<u>NOTES</u>	
TRAFFIC OPERATIONAL IMPROVEMENTS AT VARIOUS LOCATIONS PIILANI HIGHWAY AT KANANI ROAD	
Scale: NONE	Date: MAY 2004
SHEET No. E-2 OF 12 SHEETS	