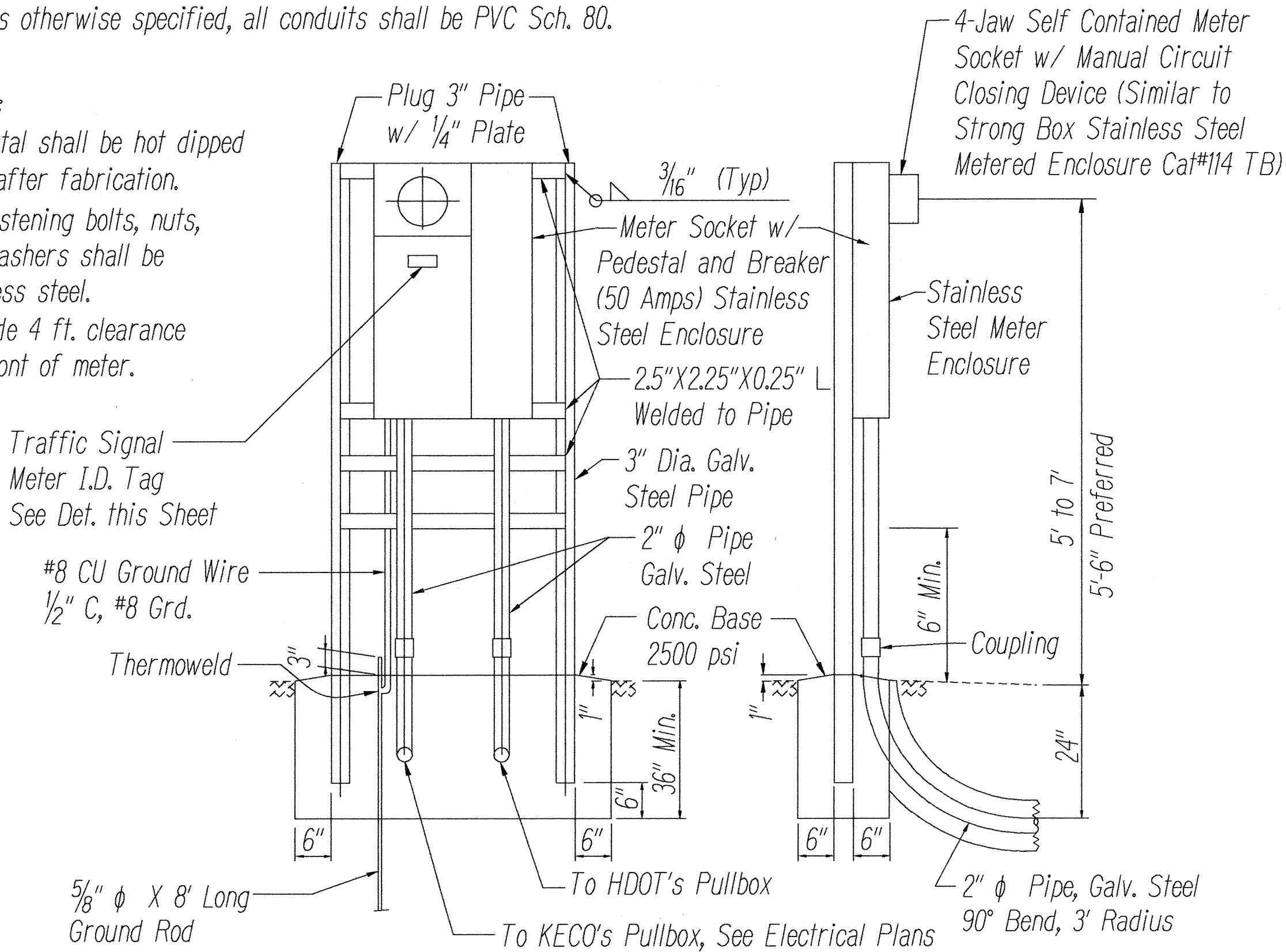


TRAFFIC SIGNAL NOTES

- All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.
- Signal indications during clearance interval:
 - If a signal is G or $\leftarrow G$ and will remain G or $\leftarrow G$ during the next phase, it shall be G or $\leftarrow G$ during the clearance interval.
 - If a signal is G or $\leftarrow G$ and will become R or extinguished during the next phase, it shall be Y or $\leftarrow Y$ during the clearance interval.
 - If a signal is R and will remain R or becomes G during the next phase, it shall remain R during the clearance interval.
- The loop amplifier units furnished for this project shall be capable of operating the loop detector configurations shown on the plans. Cost for the loop amplifier shall be incidental to the installation of the loop detector.
- A solid #8 bare copper wire shall be pulled with the traffic control cable for equipment ground. Cost shall be incidental to the installation of the control cable.
- Conduits and pullbox locations as shown on the plans are schematic. They may be modified by the Contractor with the approval of the Engineer.
- The Contractor shall install new controller and cabinet in the indicated location.
- All work for the installation or modification of the traffic signal system shall conform to the latest revisions of the "Hawaii Standard Specifications for Road and Bridge Construction, 1994" and the "Standard Plans" of the Department of Transportation, Highways Division and as shown on these drawings.
- All splicing shall be done in the pullboxes.
- 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.
- 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.
- The concrete jacket for the conduit by-pass details shown on this sheet, shall not be paid for separately but considered incidental to the various contract items. The Engineer shall determine if a concrete jacket is required.
- All electrical conduits within the County Right of Way shall be concrete encased.
- Unless otherwise specified, all conduits shall be PVC Sch. 80.

NOTES:

- Pedestal shall be hot dipped galv. after fabrication.
- All fastening bolts, nuts, and washers shall be stainless steel.
- Provide 4 ft. clearance in front of meter.



METER PEDESTAL FOR UNDERGROUND SERVICE
Not to Scale

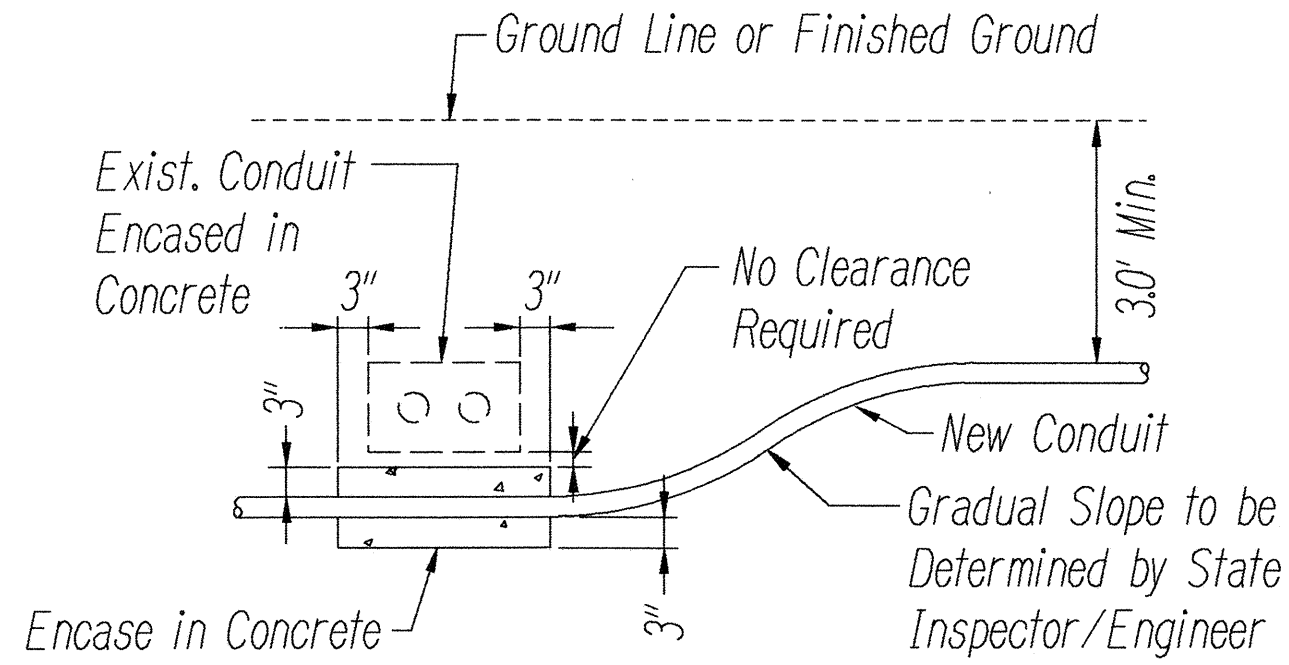
CONSTRUCTION NOTES

- Locations of existing underground structures and utilities such as pipelines, conduits, cables, etc., shown on the plans are approximate only. It is not the intent of these plans to show the exact location of all underground utilities and structures. It is the responsibility of the Contractor to verify the locations of all existing utilities with the respective owners. Existing utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.
- The Contractor shall verify and check all dimensions and details shown on the drawings prior to the start of construction. Any discrepancy shall be immediately brought to the attention of the Engineer for clarification.
- The Contractor shall notify all agencies to verify the actual location of all utilities in the project area prior to excavating. The Contractor shall coordinate all work.
- The Contractor shall tone and locate existing utilities along the ductline prior to excavation.
- The locations of the new traffic signal standards, traffic signal standards with mast-arm, pedestrian push buttons, traffic controller, pullboxes, conduits and loop detectors shall be staked out in the field by the Contractor and approval of the locations shall be obtained from the Engineer prior to construction and installation.
- All traffic signal work shall conform to the requirements of the "Manual on Uniform Traffic Control Devices for Streets and Highways", Federal Highway Administration (1988) and Amendments.
- Locations of new pavement striping, markers, and markings (pavement arrow, stop lines, crosswalk, etc.) shown on the plans shall be verified with the engineer prior to the installation of the traffic signal system.
- Maintenance of traffic through the construction area shall be in accordance with Part VI of the "Manual on Uniform Traffic Control Devices for Streets and Highways", Federal Highway Administration (1988) and as specified in the Special Provisions. The Contractor shall furnish and maintain adequate barricades, blinkers, construction signs, etc., for the safety of the motoring public.

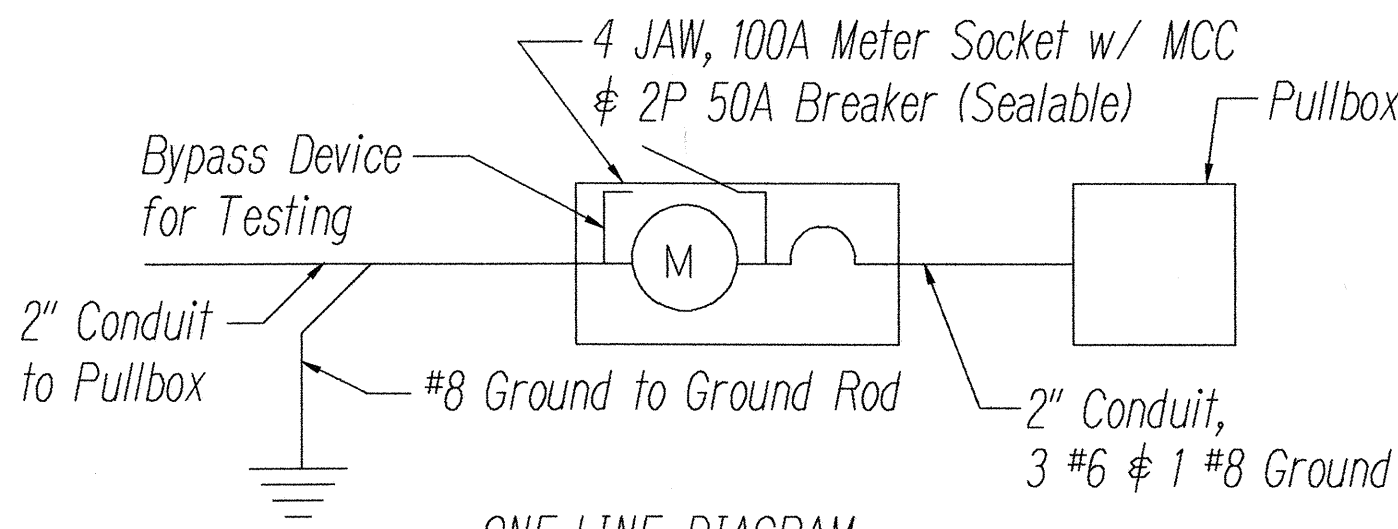
LEGEND

- Standard Traffic Signal Head Mounted on Type I Signal Standard, Height = 10'
- 12" RYG Standard Traffic Signal Head
- Traffic Signal Heads Mounted on Type II Signal Standard, Arm Spread Shown 26' and Distance Between Signal Heads shown is 12'
- 12" RYG \leftarrow Traffic Signal Head
- EVP Detector
- Type "A" Concrete Pullbox For Detail, See Sheet No. 16
- Type "C" Concrete Pullbox For Detail, See Sheet No. 16
- Controller Cabinet
- Loop Detector, Series-Parallel Connected
- Loop Detector
- Existing Striping
- Existing Utility Lines and Sizes as Indicated
 - w = Water
 - s = Sewer
 - d = Drain
 - t = Telephone
- New Drain Line and Sizes as Indicated

FED. ROAD DIST. NO.	STATE	FED. AID PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	STP-051-1(9)	1999	14	23



CONDUIT BY-PASS DETAIL
Not to Scale



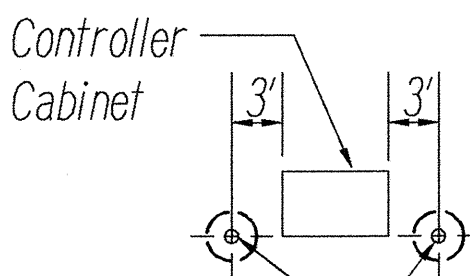
ONE-LINE DIAGRAM

Service Data

- Service Voltage: 1 Phase, 3 Wire 120/240 V
- Load Data: Connected - 5 KVA, Estimated Demand - 2 KVA

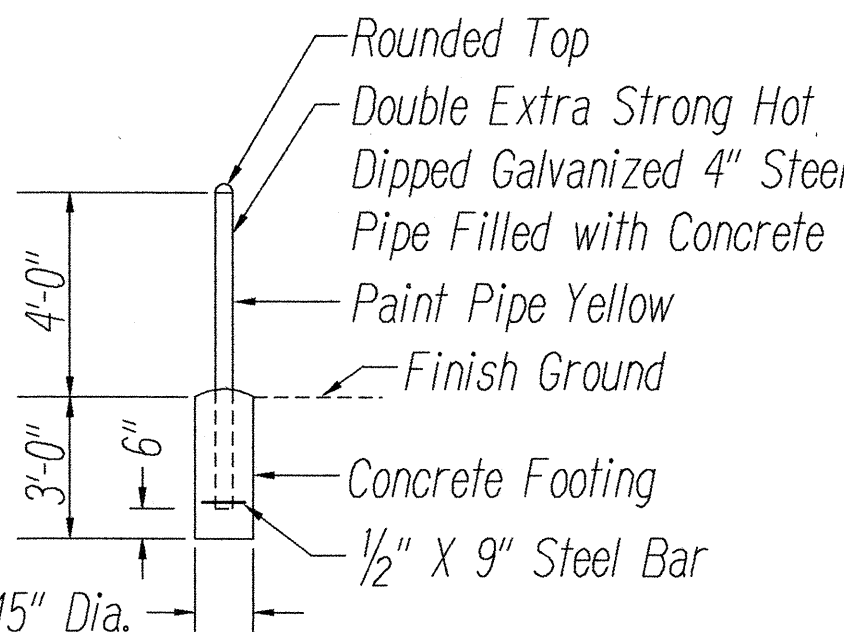
NOTE:

Cost of concrete filled galvanized posts shall be incidental to other items of work.



Double Extra Strong Hot Dipped Galvanized 4" Steel Pipe Filled with Concrete

PLAN



TYP. ELEVATION

PIPE GUARD DETAIL
Not to Scale

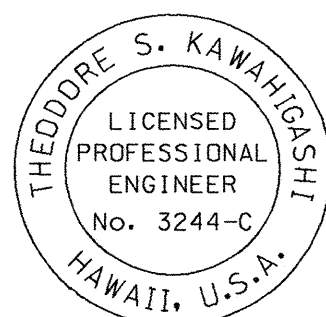
NOTES

- Use 3-Ply laminated flexible plastic, black-white-black Thickness: Black Cap Sheet - 0.010", White Base Sheet - 0.052", Black Base Sheet - 0.010".
- Attach to meter socket using Scotch 3M Brand Very High Bond (VHB) Double Coated Acrylic Foam Tape or equivalent.
- Letters/Numbers shall be 3/8" high, 1/16" stroke, (white in color).
- Letters/Numbers area inscribed by cutting through "Black Cap Sheet" to expose white letters/numbers.

METER I.D. TAG DETAIL
Not to Scale

NOTES

- Kauai Electric Co. shall furnish and install cable between secondary and meter socket (to be done under customer's underground non-refundable contribution to Kauai Electric Company, estimated at \$1,000.00 to be paid by the Contractor).
- The Contractor shall make all electrical connections to controller, provide breaker, ground and concrete-encased 2" PVC Sch. 40 conduit.
- All conduits to contain a polyolefin pull line (jet line cat. #232 or equivalent).
- The Contractor shall provide Kauai Electric Co. one week advance notice for any work to be done by Kauai Electric Co. (trenching to be inspected by Kauai Electric Co. before covering).
- Before ordering materials and starting work on electrical lines, the Contractor shall coordinate his work and contact Mr. Bernard Naea of Kauai Electric Co. at 822-9770.
- The Contractor to pull County permit, obtain temporary service for testing after County inspection, State will then take over permanent account.



THIS WORK WAS PREPARED BY ME OR UNDER MY SUPERVISION
Theodore S. Kawahigashi
Signature

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

LEGEND, NOTES AND DETAILS

KAPULE HIGHWAY,
INTERSECTION IMPROVEMENTS
AT HAOA STREET
Federal Aid Proj. No. STP-051-1(9)

Scale: As Shown

Date: Nov. 1998

SHEET No. 1 OF 1 SHEETS