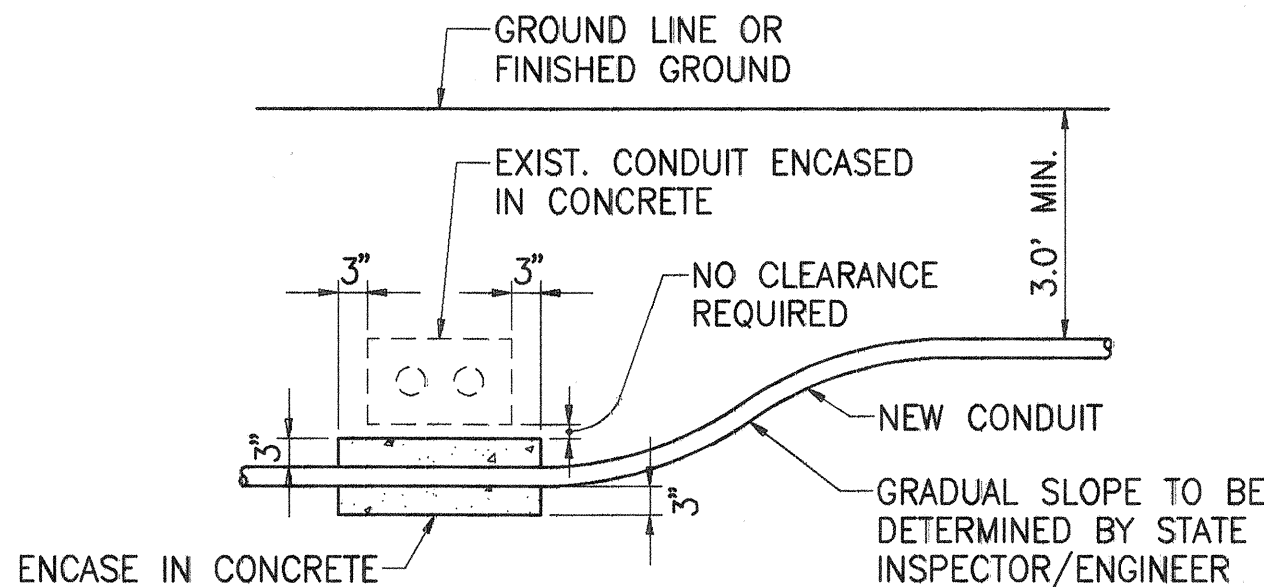
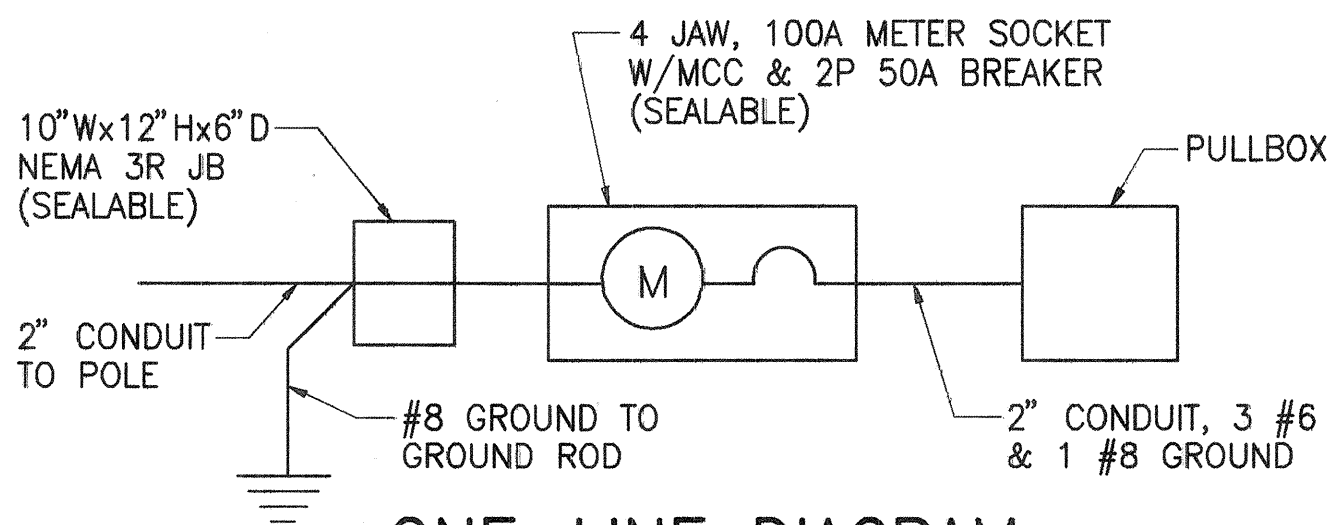


CONSTRUCTION NOTES

- LOCATIONS OF EXISTING UNDERGROUND STRUCTURES AND UTILITIES SUCH AS PIPE-LINES, CONDUITS, CABLES, ETC., SHOWN ON 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 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 PAV'T. 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) AS AMENDED 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.
- THE CONTRACTOR IS REMINDED OF THE REQUIREMENTS OF SUBSECTION 108.01 - SUBLETTING OF CONTRACT, WHICH REQUIRES HIM TO PERFORM WORK AMOUNTING TO NOT LESS THAN 50 PERCENT OF THE TOTAL CONTRACT COST LESS SPECIALTY ITEMS. NON-COMPLIANCE WITH THIS SUBSECTION MAY BE GROUNDS FOR REJECTION OF BID.
- THE CONTRACTOR'S ATTENTION IS DIRECTED TO THE FOLLOWING SECTIONS OF THE SPECIAL PROVISIONS: SUBSECTION 107.11 - PUBLIC CONVENIENCE AND SAFETY. SUBSECTION 107.20 - CONTRACTOR'S RESPONSIBILITY FOR UTILITY PROPERTY AND SERVICES. SECTION 645 - WORK ZONE TRAFFIC CONTROL.
- AT THE END OF EACH DAY'S WORK, THE CONTRACTOR SHALL REMOVE ALL EQUIPMENT AND OTHER OBSTRUCTIONS TO PERMIT FREE AND SAFE PASSAGE OF PUBLIC TRAFFIC.



CONDUIT BY-PASS DETAIL  
NOT TO SCALE



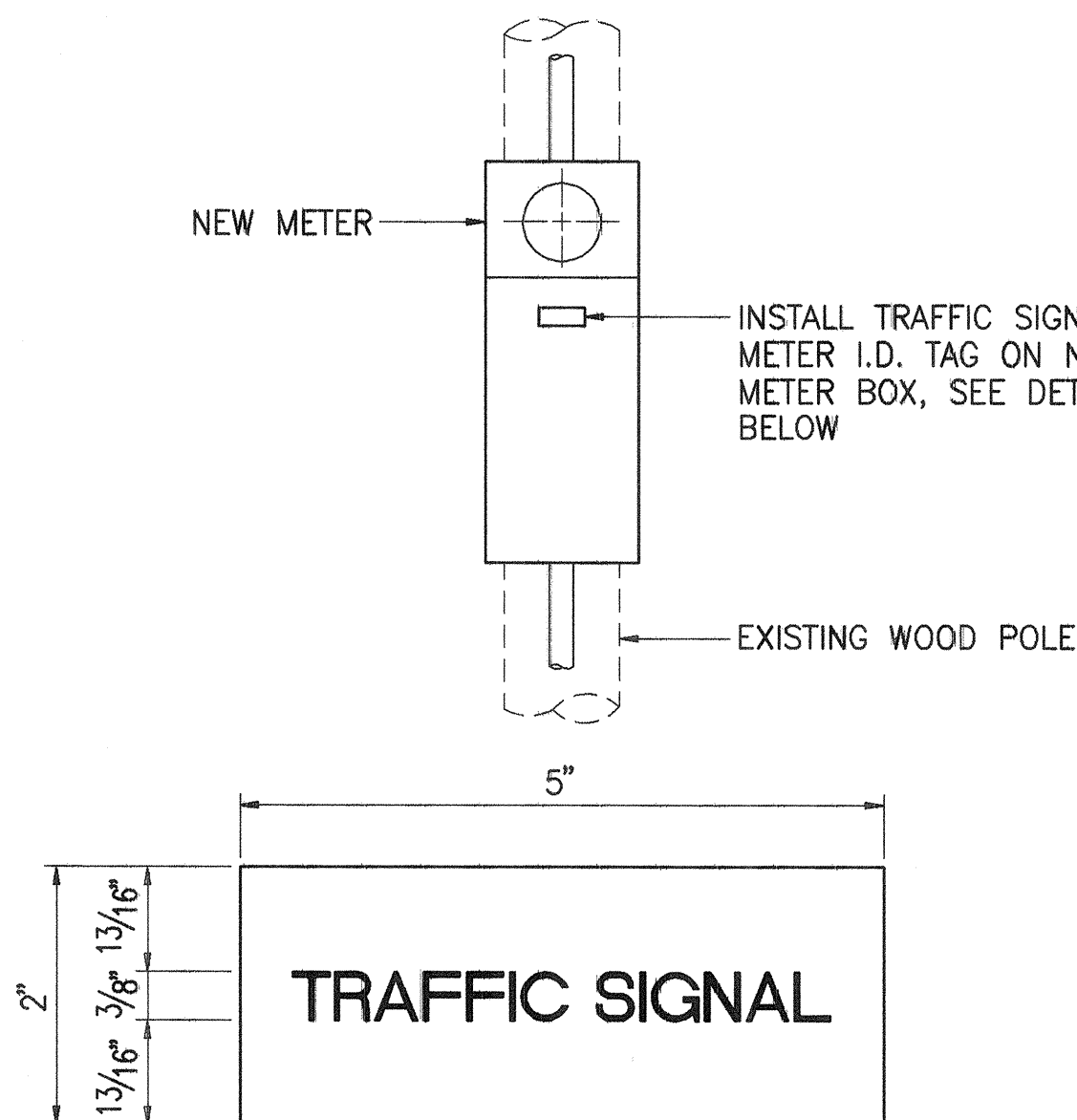
ONE-LINE DIAGRAM  
NOT TO SCALE

SERVICE DATA

- SERVICE VOLTAGE: 1 PHASE  
3 WIRE 120/240 V
- LOAD DATA: CONNECTED -5KVA  
ESTIMATED DEMAND-2KVA
- SERVICE CONDUCTORS: 3-#6 CU

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.
- THE CONCRETE JACKET FOR THE CONDUIT BY-PASS DETAIL 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.



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 BOX 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 SHALL BE INSCRIBED BY CUTTING THROUGH "BLACK CAP SHEET" TO EXPOSE WHITE LETTERS/NUMBERS.

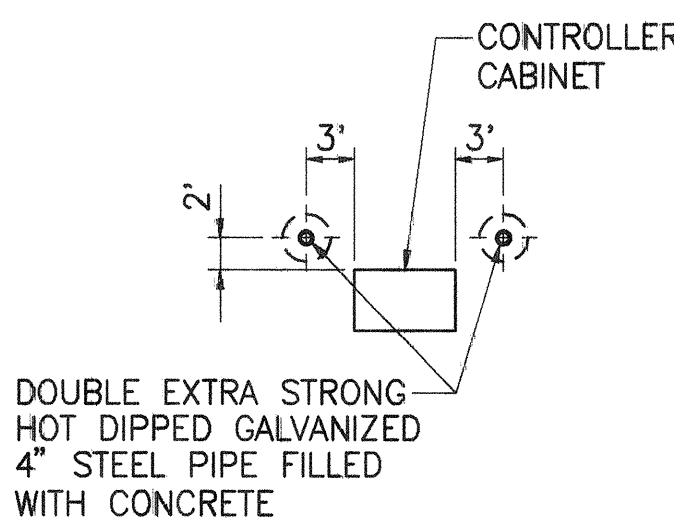
METER I.D. TAG DETAIL  
NOT TO SCALE

LEGEND

|  |  |
|--|--|
|  | STANDARD TRAFFIC AND PEDESTRIAN SIGNAL HEADS MOUNTED ON TYPE I SIGNAL STANDARD, HEIGHT=10' |
|  | PROGRAMMED VISIBILITY HEAD   |
|  | 12" RY $\uparrow$ TRAFFIC SIGNAL HEAD  |
|  | 12" RYG STANDARD TRAFFIC SIGNAL HEAD   |
|  | 12" RY $\leftarrow$ TRAFFIC SIGNAL HEAD  |
|  | EVP DETECTOR   |
|  | TYPE "B" PULLBOX   |
|  | TYPE "B" PULLBOX WITH MODIFIED COVER   |
|  | TYPE "D" CONCRETE PULLBOX FOR DETAIL, SEE SHEET NO. 6                                      |
|  | CONTROLLER CABINET   |
|  | NEW TYPE I TRAFFIC SIGNAL STANDARD   |
|  | NEW TYPE II TRAFFIC SIGNAL STANDARD  |
|  | LOOP DETECTOR, SERIES-PARALLEL CONNECTED   |
|  | LOOP DETECTOR, SERIES CONNECTED  |
|  | EXISTING STRIPING  |
|  | EXISTING PAVEMENT MARKING TO BE REMOVED  |
|  | EXISTING UTILITY LINES AND SIZES AS INDICATED<br>W = WATER<br>S = SEWER<br>D = DRAIN       |
|  | PP $\circ$ POWER POLE  |
|  | LP $\circ$ LIGHT POLE  |
|  | AP $\circ$ ANCHOR POLE   |
|  | GA   |
|  | WM $\square$ WATER METER   |
|  | WV $\circ$ WATER VALVE   |
|  | ARV $\circ$ AIR RELIEF VALVE   |
|  | FH $\odot$ FIRE HYDRANT  |
|  | SDMH $\circ$ STORM DRAIN MANHOLE   |
|  | SMH $\bigcirc$ SEWER MANHOLE   |

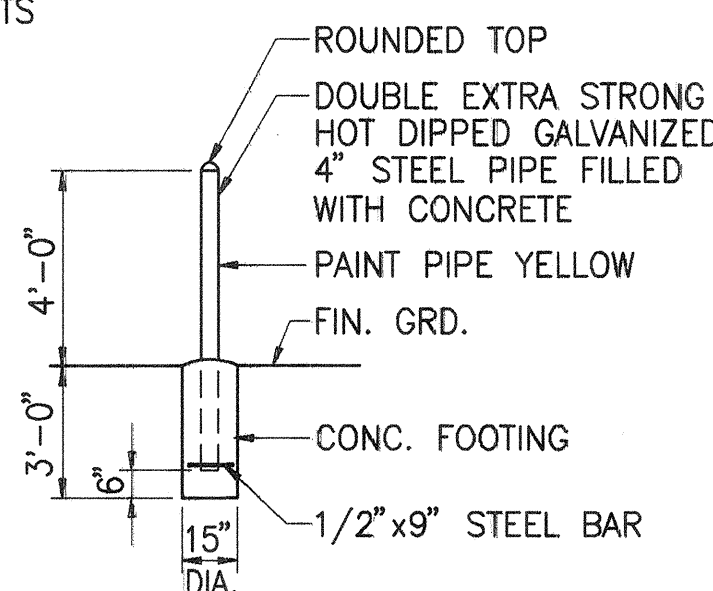
NOTE:

COST OF CONC. FILLED GALVANIZED POSTS SHALL BE INCIDENTAL TO OTHER ITEMS OF WORK.

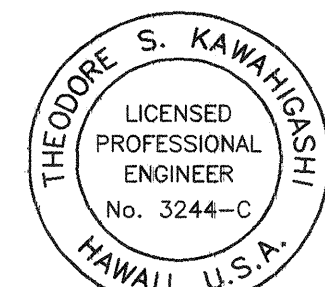


PLAN

PIPE GUARD DETAIL  
NOT TO SCALE



TYP. ELEVATION



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

WATER NOTES:

- CONTACT DWS ON THE EXACT LOCATIONS OF THE EXISTING WATERLINES IN THE PROJECT AREA, TO BE DETERMINED IN THE FIELD.
- CONTACT DWS PRIOR TO THE COMMENCEMENT OF WORK.
- KEEP THREE (3) FEET MINIMUM HORIZONTAL CLEARANCE AND/OR SIX (6) INCH MINIMUM VERTICAL CLEARANCE BETWEEN THE EXISTING WATER SYSTEM IMPROVEMENTS AND ELECTRICAL UTILITIES.
- ELECTRICAL CONDUITS, CROSSING THE EXISTING WATERLINES, SHOULD BE CONCRETE JACKETED FIVE (5) FEET ON BOTH SIDES OF THE CROSSING.

| FED. ROAD DIST. NO. | STATE | FED. AID PROJ. NO. | FISCAL YEAR | SHEET NO. | TOTAL SHEETS |
|---------------------|-------|--------------------|-------------|-----------|--------------|
| HAWAII              | HAW.  | STP-030-1(29)      | 1998        | 3         | 11           |

STATE OF HAWAII  
DEPARTMENT OF TRANSPORTATION  
HIGHWAYS DIVISION  
**TRAFFIC SIGNAL LEGEND,  
NOTES AND DETAILS**  
HONOAPILANI HIGHWAY  
INTERSECTION IMPROVEMENTS  
AT DICKENSON STREET  
FAP NO. STP-030-1(29)

SCALE: AS NOTED DATE: JAN. 1998

SHEET No. 1 OF 1 SHEETS