| <br>                   |       |           |                |              |                 |
|------------------------|-------|-----------|----------------|--------------|-----------------|
| FED. ROAD<br>DIST. NO. | STATE | PROJ. NO. | FISCAL<br>YEAR | SHEET<br>NO. | TOTAL<br>SHEETS |
| HAWAII                 | HAW.  | 19B-01-97 | 1998           | 7            | 13              |

## TRAFFIC SIGNAL LEGEND

New Traffic Signal Controller/U.P.S./Meter New Traffic Signal Conduits \$ Cables New 12" RYG Traffic Signal Head New 12" RY↑ Traffic Signal Head  $\frac{\phantom{a}}{\phantom{a}} \triangleright$ New 12" R Y G Traffic Signal Head New 12" RY← Traffic Signal Head New 12" RY← Traffic Signal Head (Programmed Visibility)

New 12" RYG ← Fiber Optic Traffic New Type I Traffic Signal Standard

w/Traffic Signal Head as specified on plan New Type II Traffic Signal Standard w/Mast Arm and Traffic Signal Heads (length of mast arm \ distance between signal heads as specified on plan)

Existing Traffic Signal Standard New Pedestrain Signal Head

New Type C Pullbox

New Type D Pullbox

New Loop Detectors

New Opticom Detector

New Street Light Pullbox

Existing Traffic Signal Pullbox

Otap

 $\boxtimes$ 

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New Type B Pullbox and shall provide temporary relocations and wirings as necessary. Payment shall New Type B Pullbox w/Modified Cover be considered incidental to the various contract items.

> 8. Furnishing and installing controller barriers, risers on poles and conduit stubouts (pullboxes to edge of pavement) will not be paid for separately but shall be considered incidental to the various contract items.

9. The Contractor shall clean and/or repair the existing traffic signal pullboxes to separately but shall be considered incidental to the various contract items.

10. The existing controller foundation not to be incorporated in the final traffic signal system shall be removed in accordande with Section 202, Removal of Structure and Obstruction of the Standard Specifications. Costs shall be considered incidental to the various contract items.

inspection for the traffic signal system.

13. A solid #8 bare copper wire shall be pulled with the traffic signal control cable for equipment ground. Cost shall be incidental to the installation of the control cable.

14. The Contractor shall maintain a 36" clearance between the Control Ductline and

15. All conduits shall be concrete encased unless directed by the County of Hawaii Engineer Inspector. All conduits encased in concrete shall be Schedule 40. Conduits not encased shall be Schedule 80.

16. If abandoned in place, existing conduits and cables shall be saw cut completely

## TRAFFIC SIGNAL NOTES

- 1. All traffic signal controller equipment shall be completely wired in the cabinet and shall control the traffic signals as called for in the plans.
- 2. The Contractor shall install each meter socket and 50 Amp. breaker on power pole as shown on the plans in accordance with HELCO requirements. Meter shall be mounted between 5 feet and 6 feet above ground. Meter socket shall be 4-prong, complete with test bypass facilities.
- 3. Existing traffic signal standards to be replaced shall be removed together with its respective footing. The Contractor may elect to remove only the top portion of the footing. In such cases, the Contractor shall ensure that the remaining footing shall be 6 inches below the existing ground. The Engineer will determine whether the removed standards shall be disposed of or salvaged. Costs shall be considered incidental to the various contract items.
- 4. Exist conduits, cables and pullboxes not to be incorporated in the new traffic signal system shall remain in place unless otherwise noted on plans or directed by the Engineer.
- 5. Locations of all new traffic signal equipment shall be staked out in the field by the Contractor for approval by the Engineer prior to construction and installation.
- 6. All splicing shall be done in the pullboxes.
- 7. The existing traffic signal system shall remain in operation until the new traffic signal system is put into service. The Contractor shall arrange his work accordingly
- be used prior to installing conduits and cables. This work will not be paid for
- 11. The Contractor shall notify the Traffic Division, Public Works Department, County of Hawaii, 2 weeks prior to commencing any work on the traffic signal system.
- 12. Public Works Department, County of Hawaii, will assist the Engineer in Construction
- Loop Detectors.
- through every 10' to prevent inductive coupling.

## CONSTRUCTION NOTES

- Locations of existing underground structures and utilities such as pipelines, 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 exist. utilities w/the respective owners. Exist. utilities damaged by the Contractor shall be repaired by the Contractor at his own cost.
- 2. The Contractor shall verify & check all dimensions & 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.
- 3. The Contractor shall notify all agencies to verify actual location of all utilities in the project area prior to excavating. The Contractor shall coordinate all work.
- 4. The Contractor shall tone \$ locate exist. utilities along ductlines prior to excavation.
- 5. The locations of the new traffic signal standards, traffic signal standards with mast-arms, 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.
- 6. All traffic signal work shall conform to the requirements of the "MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES FOR STREETS AND HIGHWAYS" (MUTCD), Federal Highway Administration (1988) and Amendments.
- 7. Locations of new pav't. striping, markers, # markings (pav't. arrow, stop lines, crosswalk, etc.) shown on the plans shall be verified w/the Engineer prior to the installation of the traffic signal system.
- 8. Maintenance of traffic through the Construction area shall be in accordance w/ part VI of the MUTCD, FHWA (1988) and as specified in the special provisions. The Contractor shall furnish # maintain adequate barricades, blinkers, construction signs, etc. for the safety of the motoring public.
- 9. Removal of exist. signs shall also include the removal of posts \$ foundations unless otherwise noted. Cost for removal & temporary installation of signs, posts, & foundations shall be considered incidental to other items of work.

SURVEY PLOTTE
DRAWN BY X
TRACED BY
DESIGNED BY X
QUANTITIES BY
CHECKED BY

**DEPARTMENT OF TRANSPORTATION** TRAFFIC SIGNAL LEGEND **♦** NOTES QUEEN KAAHUMANU HIGHWAY Installation of Traffic Signals at Kealakehe Parkway Project No. 19B-01-97