

FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS	
HAWAII	HAW.	93A-08-98	2000	16	18	

### TRAFFIC SIGNAL NOTES

- 1. The locations of the Traffic Signal Pullbox and Conduits 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.
- 2. All splicing shall be done in the pullboxes.
- 3. 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.
- 4. After installing all the traffic signal cables, the Contractor shall duct seal all conduits in the pullboxes. The duct seal material shall be approved by the Traffic Signal Inspector/Engineer and shall not be paid for separately but considered incidental to the direct buried and/or concrete encased conduits.
- 5. 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.
- 6. The Contractor shall notify the Traffic Control Branch, Department of Transportation Services, City & County of Honolulu, (phone no. 523-4589) two weeks prior to commencing any work on the traffic signal system.
- 7. The Department of Transportation Services, City & County of Honolulu, will assist the Engineer in construction inspection for the traffic signal system. The Contractor shall notify the Electrical and Maintenence Services Division, Department of Transportation Services, three (3) working days prior to commencing work on the traffic signal system (phone no. 527-5007).
- 8. The Traffic Signal shall be kept operational during construction. Any relocation required not shown on the plans shall be approved by the Electrical and Maintenance Services Division, Department of Transportation Services.
- 9. All Signal-Drop Cables (Type 5 Cables), conduits and conduit connections from the various traffic signal standards and mast arms to the pullbox shall not be paid for separately, but considered incidental to the pullbox.
- 10. The removal and disposal of existing traffic signal conduits, cables and pullbox shall not be paid for separately, but considered incidental to various drainage items.
- 11. All conduits installed within the roadway shall be concrete encased. Concrete encasement shall be included in the lump sum item for traffic signal conduits.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

## TRAFFIC SIGNAL PLAN

FARRINGTON HWY. DRAINAGE IMPROVEMENTS

Auyong Homestead Road to Nanaikeola Street

Project No. 93A-08-98

Scale: 1"=20'

Date: Oct. 1999

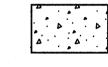
SHEETS

SHEET No. 71 OF 3

ORIGINAL BURVEY PLOTTED BY
PLAN DRAWN BY R. ACI!
TRACED BY
TRACED BY
TRACED BY
TRACED BY
DESIGNED BY
OUANTITIES BY
CHECKED BY
CHECKED BY

### STATE RIGHT-OF-WAY BACKFILL NOTES

Trench Backfill Material "A" Beach Sand, Earth, or Earth and Gravel. If Earth and Gravel used, the maximum shall contain not more than 50% by volume of rock particles. Maximum 8" loose fill per lift. Obtain 95% compaction for each lift.



Concrete

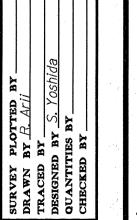
3000 psi compressive strength @ 3 days.

NOTE: Base Course & Sub-Base Course per 1994 State Standard Specifications for Highway Construction.

### Sawcut through and Trench Width 12" Sawcut through and removeall existing Sawcut Prior removeall existing Min. material bound by to Trenching material bound by asphalt or portland asphalt or portland Pav't. \_ cement cement A.C. Base \* Minimum thickness Prime Coat Type "A" Backfill or match existina whichever is greater Metal Detectable Red Plastic Warning Tape, See Note No. 2. O O O O Concrete Encasement — Prior to installing Conduits, PVC Conduits Sch. 40 (typ.) level ¢ compact bottom of (See Duct Sect.) trench to 95% compaction

# GENERAL NOTES

- 1. If trench is located on unpaved area, the Contractor shall replace 10" A.C. Base Course and 4" A.C. Pavement with Type "A" backfill material.
- 2. The Metal Detectable Red Plastic Warning Tape shall be a minimum 5 mils thick and 4" wide with a continuous metallic backing and corrosion resistant 1± mil thick foil core. The message on the tape shall read, "CAUTION - STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW," utilizing 1½ inches series "C" black lettering. The message will be repeated with a 41/4" spacing between top line of message and start of next repeat.
- 3. The Contractor may begin backfilling the conduit trench when the concrete reaches 3000 psi compressive strength after 3 days.
- 4. Maximum four (4) Conduits per row for multiple conduit duct
- 5. For direct buried duct sections, the concrete jacket required at the conduit by-pass for various utilities, shall not be paid for separately but considered incidental to the direct buried conduits.
- 6. After installing all the traffic signal cables, the Contractor shall duct seal all conduits in the pullboxes, traffic signal standards and traffic signal controller cabinet concrete base. The duct seal material shall be approved by the Traffic Signal Inspector/Engineer and shall not be paid for separately but considered incidental to the direct buried and/or concrete encased conduits.



CAUTION-STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW

CAUTION-STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW

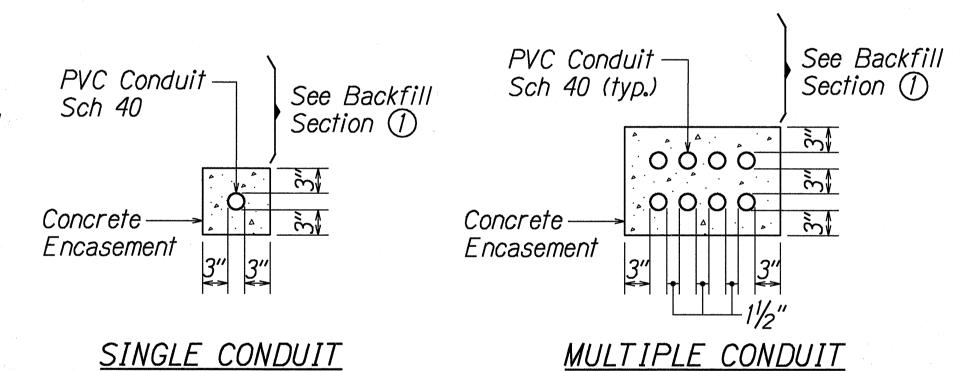
1//2" series "C" Black Letters

∠5 mils thick (min.) Plastic Warning Tape

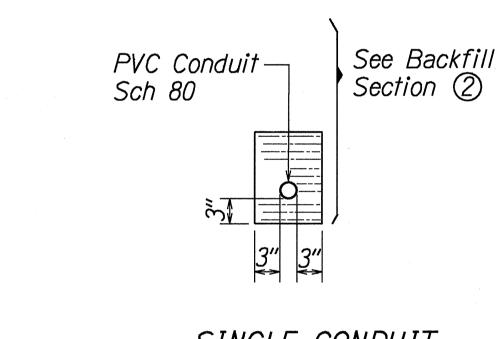
For additional information see note no. 2.

METAL DETECTABLE RED PLASTIC WARNING TAPE

# TYPICAL BACKFILL SECTION WITH CONCRETE ENCASED DUCTS



DUCT SECTIONS - CONC. ENCASED



Prior to installing Conduits,

level ¢ compact bottom of

trench to 95% compaction

Sawcut Prior

to Trenching

Sawcut through and

remove all existing

asphalt or portland

material bound by

cement

\* Minimum thickness

or match existing

whichever is greater

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FISCAL SHEET TOTAL YEAR NO. SHEETS

-Sawcut through and

remove all existing

material bound by

asphalt or portland

2000

cement

- Metal Detectable Red

Plastic Warning Tape,

PVC Conduits Sch. 80 (typ.)

See Backfill

Section (2)

See Note No. 2.

(See Duct Sect.)

SINGLE CONDUIT

<u>MULTIPLE CONDUIT</u>

DUCT SECTIONS - DIRECT BURIED

FED. ROAD

DIST. NO.

Trench Width

A.C.

A.C.
Base

Varies ype "A" 3ackfill

Pav't. —

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TYPICAL BACKFILL SECTION

DIRECT BURIED DUCTS

PVC Conduit —

Sch 80 (typ.)

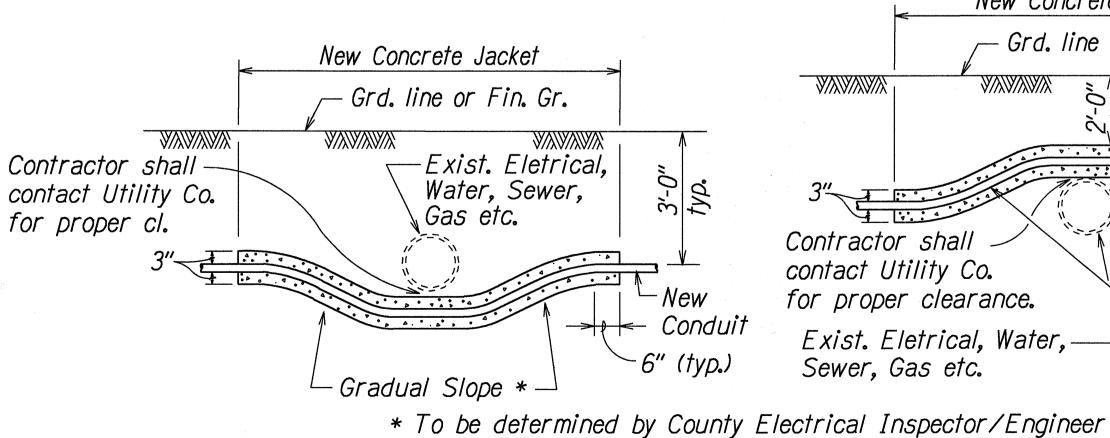
STATE

HAW.

PROJ. NO.

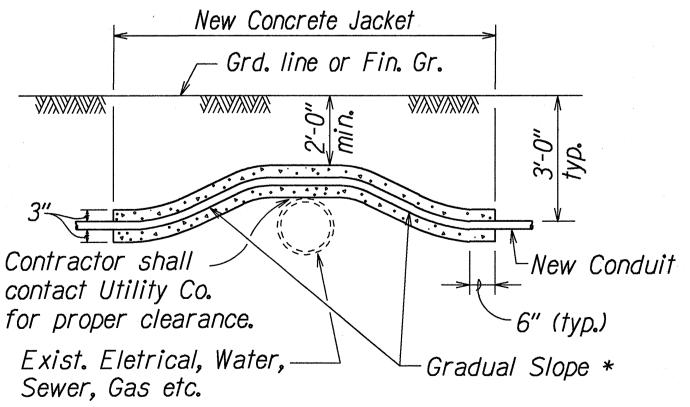
93A-08-98

Prime Coat



CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES

Not to Scale



TRAFFIC SIGNAL DETAILS

**DEPARTMENT OF TRANSPORTATION** 

FARRINGTON HWY. DRAINAGE IMPROVEMENTS Auyong Homestead Road to Nanaikeola Street Project No. 93A-08-98

Not to Scale

Date: Oct. 1999 SHEET No. T2 OF 3

SHEETS

