FED. ROAD DIST. NO.	STATE	PROJ. NO.	FISCAL YEAR	SHEET NO.	TOTAL SHEETS
HAWAII	HAW.	HWY-0-05-00	2002	25	30

STATE RIGHT-OF-WAY BACKFILL NOTES

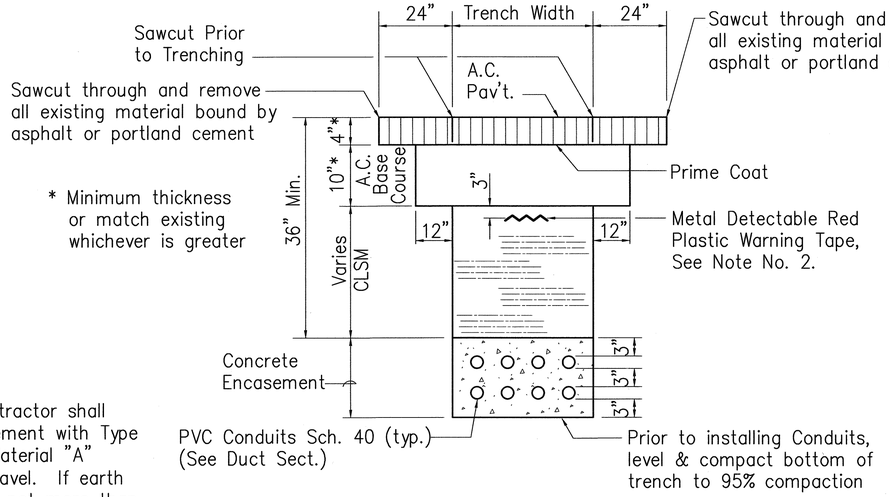
Controlled Low Strength Material (CLSM) Approximately 50–150 psi compressive strength at 28 days. CLSM shall comply with Sections 313 and 601 of the Special Provisions.

Concrete 3000 psi compressive strength @ 28 days.

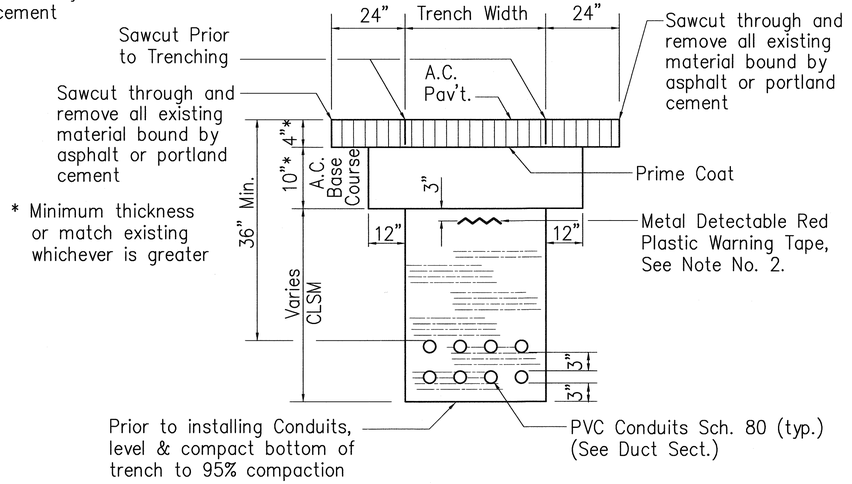
NOTE: Base Course & Sub-Base Course per 1994 State Standard Specifications for Highway Construction.

GENERAL NOTES

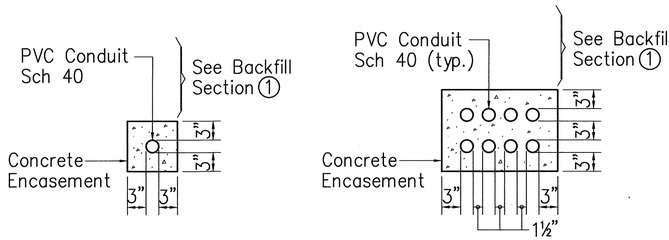
1. If trench is located on unpaved area, the Contractor shall replace 10" A.C. Base Course and 4" A.C. Pavement with Type "A" trench backfill material. (Trench Backfill Material "A" consists of beach sand, earth, or earth and gravel. If earth and gravel is used, the maximum shall contain not more than 50% by volume of rock particles. Maximum 8" loose fill per lift. Obtain 95% compaction for each lift. Rock shall not exceed 1" ø.)
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 4¼" spacing between top line of message and start of next repeat.
3. The Contractor may begin backfilling the conduit trench before the concrete reaches 2500 psi compressive strength but after concrete has hardened sufficiently enough that backfilling will not damage the concrete jacket.
4. Maximum four (4) Conduits per row for multiple conduit duct section. Ducts shall be installed with spacers and anchored to the ground before pouring concrete. Spacers shall be a maximum of 5' apart. Joints shall be staggered.
5. For direct buried duct sections, the concrete jacket required at the conduit by-pass for various utilities, shall be at the Contractor's expense.
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.



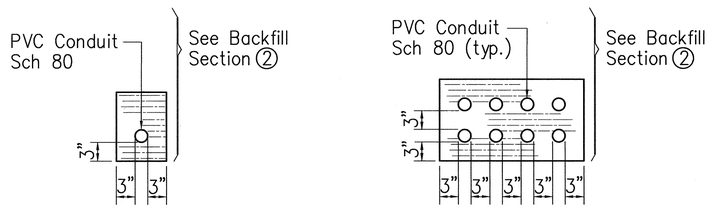
① TYPICAL BACKFILL SECTION WITH CONCRETE ENCASED DUCTS



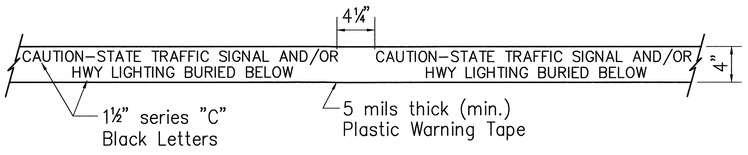
② TYPICAL BACKFILL SECTION DIRECT BURIED DUCTS



DUCT SECTIONS – CONC. ENCASED

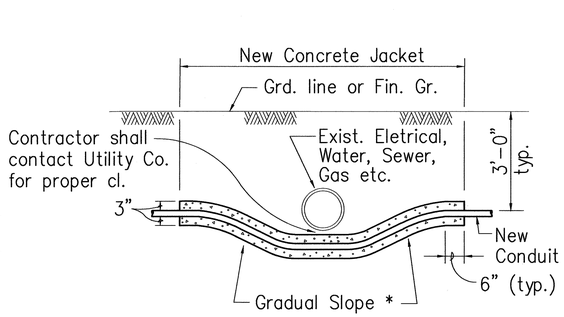


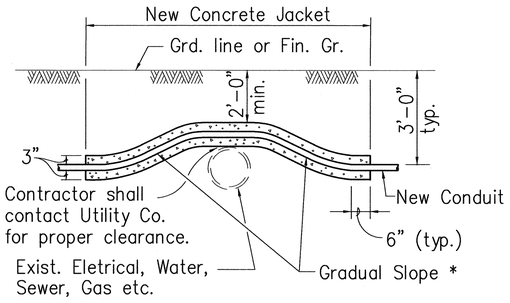
DUCT SECTIONS – DIRECT BURIED



For additional information see note no. 2.

METAL DETECTABLE RED PLASTIC WARNING TAPE





* To be determined by County Electrical Inspector/Engineer

CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES

Not to Scale

SURVEY PLOTTED BY ____ DATE
DRAWN BY ____
TRACED BY ____
DESIGNED BY ____
QUANTITIES BY ____
CHECKED BY ____
ORIGINAL PLAN
NOTE BOOK
No.

STATE OF HAWAII
DEPARTMENT OF TRANSPORTATION
HIGHWAYS DIVISION

TRAFFIC SIGNAL PLAN

SAND ISLAND ACCESS ROAD
Intersection Improvements at Road No. 2
Project No. HWY-0-5-00

Scale: 1"=20' Date: Feb. 2002

SHEET No. TS-7 OF 7 SHEETS