



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.

## GENERAL NOTES

Black Letters

- 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 Yellow 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 11/2 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. The Metal Detectable Yellow Plastic Warning Tape shall not be paid for separately but considered incidental to the direct buried and/or concrete encased conduits.
- 3. The Contractor may begin backfilling the conduit trench when the concrete reaches 3000 psi compressive strength after
- 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.

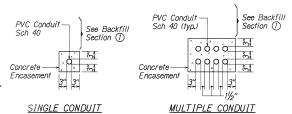
CAUTION-STATE TRAFFIC SIGNAL AND/OR CAUTION-STATE TRAFFIC SIGNAL AND/OR HWY LIGHTING BURIED BELOW HWY LIGHTING BURIED BELOW -5 mils thick (min.) 11/5" series "C" Plastic Warning Tape

For additional information see note no. 2.

METAL DETECTABLE YELLOW PLASTIC WARNING TAPE

Trench Width Sawcut through and remove Sawcut Prior all existing material bound by to Trenchina asphalt or portland cement A.C. Sawcut through and remove Pav't. all existing material bound by asphalt or portland cement \*,,01 A.C. Base Sours Prime Coat \* Minimum thickness or match existing "A" whichever is areater ----Metal Detectable Yellow ype Var Plastic Warning Tape, See Note No. 2. Concrete 0 0 0 0 Encasement 0 0 0 0 PVC Conduits Sch. 40 (typ.) Prior to installing Conduits, (See Duct Sect.) level \$ compact bottom of trench to 95% compaction

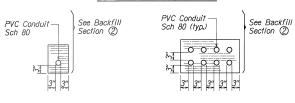
## (1) TYPICAL BACKFILL SECTION WITH CONCRETE ENCASED DUCTS



DUCT SECTIONS - CONC. ENCASED

FED. ROAD DIST. NO. FED. AID PROJ. NO. SHEET NO. STATE FISCAL YEAR HAW. STP-0750(11) 2000 15 Trench Width 12" Restore to Match Exist.\* Exist. Ground-\* Add 6-Inches top soil and sod if necessary. This work shall be incidental to direct Metal Detectable Yellow Plastic Warning Tape. buried conduits. See Note No. 2. 0 0 0 0 0 0 0 0 Prior to installing Conduits, PVC Conduits Sch. 80 (typ.) level \$ compact bottom of trench to 95% compaction (See Duct Sect.)

## (2) TYPICAL BACKFILL SECTION DIRECT BURIED DUCTS



SINGLE CONDUIT

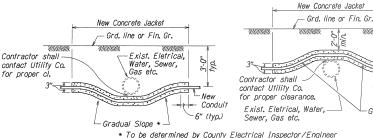
MULTIPLE CONDUIT

DUCT SECTIONS - DIRECT BURIED

New Conduit

6" (typ.)

Gradual Slope \*



\* To be determined by County Electrical Inspector/Engineer CONDUIT BY-PASS DETAIL AT VARIOUS UTILITIES

Not to Scale

DEPARTMENT OF TRANSPORTATION

## **DUCTLINE DETAILS**

KUNIA ROAD Traffic Signals at Kunia Regional SIGNIT Operations Center

Fed. Aid Project No. STP-0750(11) Not to Scale Date: May, 2000 SHEET No. 1 OF 1 SHEETS

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