GOVERNMENT OF NEWFOUNDLAND AND LABRADOR
Department of Transportation and Works
Highway Design Division

SECTION 530

SUPPLY AND INSTALLATION OF TRAFFIC LIGHT CONDUIT

INDEX

530.01 SCOPE

This specification covers the requirements for the supply and installation of electrical conduit for the installation of traffic signal systems.

530.02 MATERIALS

Conduit will be rigid polyvinyl chloride (PVC) conduit suitable for electrical applications. The use of telephone duct will not be permitted. Concrete for encasement of the PVC conduit will be 40 MPa and meet the requirements for sub structure concrete set forth in Section 904 “Concrete Structures”.

530.03 PROCEDURE

All electrical conduit must be installed by a registered electrical contractor. The electrical contractor must obtain a permit from the Department of Government Services and Lands or the local municipality as the case may be, prior to commencing work on the conduit. All inspections that are required are to be arranged with the proper authority by the electrical contractor. Copies of the permit and inspection certificates must be provided to the Engineer.

Conduit shall be laid in continuous lengths as far as possible not less than 1 m below finished grade in a trench. Where joints are necessary, they shall be made with couplings as approved by the Engineer. Conduits shall be placed in the trench on a uniform grade and compacted bed, free of sharp stones. No sharp bends will be permitted. Where two or more conduits are to be laid in a trench, they shall be laid side by side and spaced as shown in the contract drawings.

All conduit ends shall be terminated in junction boxes, pole bases or traffic signal controller foundation. All rigid PVC connections must be made with solvent cement.

The conduit is to be encased in 40 MPa concrete with a minimum cover thickness of 75mm around each conduit in the installation. At least 3 hours shall occur before the trench is backfilled to allow the concrete to stiffen.

Immediately after the concrete has been poured, the Contractor, by using a suitable size testing mandrel, or by other means acceptable to the Engineer, shall prove the complete system to ensure the conduits are clean and free of obstructions.

Except by permission from the engineer, the trenches shall be backfilled prior to completion of the days work and shall not be left open over night.

Except for such material as may be specified for bedding purposes or conduit protection, and unless otherwise directed by the Engineer, material used for backfilling trenches shall correspond in quality and

depth with the material in the faces of the trenches. Each material shall be compacted to 100% of maximum dry density.

The Contractor shall place 6mm twisted nylon fish lines into the conduits for the future easy installation of cables. The ends of the fish line are to be secured to the satisfaction of the Engineer.

All facilities and surface features affected by excavation shall be restored by the Contractor to their original condition or to a condition satisfactory to the Engineer.

530.04 MEASUREMENT FOR PAYMENT

Measurement will be made in metres, rounded to the nearest 0.1 metre, horizontally along the longitudinal axis of the trench and shall be from centre to centre of junction boxes, poles and traffic signal controller foundations for each type of conduit installation.

530.05 BASIS OF PAYMENT

Payment at the contract price shall be full compensation for all labour, equipment and material required to supply and install conduit, including: cutting, removal and disposal of asphalt, excavation of trench, supply and installation of conduit, couplings, elbows, and end caps; supply and installation of fish lines, supply and installation of concrete form work, supply and place concrete, backfilling and compaction of trench, removal of surplus material and repairing of trench area, including reinstatement of the disturbed area to its original condition.