

ITEM 0222101

TRENCHING AND BACKFILLING TYPE II

DESCRIPTION

This work shall include trenching and backfilling in roadways having concrete base material.

Work under this item shall consist of trenching, backfilling and satisfactory disposal of all surplus excavated material, the removal of which is necessary for the proper installation of conduit at the locations shown on the plans or as ordered by the Engineer.

It shall also include the encasement of conduit in sand, placement of processed traprock base on sand, restoration of concrete base and the bituminous pavement.

REFERENCED ITEMS

Items 0103701, 0104101, 010430 and 010680

REQUIRED SUBMITTALS

None

MATERIALS

Sand: 95 to 100 percent of the sand bedding material shall pass through No. 4 square mesh sieve.

Processed Traprock Base: Shall conform to Item 0103701.

Concrete Pavement Base: Shall conform to Item 0104101.

Bituminous Pavement: Shall conform to Item 0104702.

Underground Warning Tape: The warning tape shall be model "THORTEC" as manufactured by THOR ENTERPRISES INC. of Sun Prairie, WI or equal. It shall be of the RED color and SIX (6) inches in width and imprinted with "CAUTION - TRAFFIC SIGNAL CABLE BURIED BELOW".

CONSTRUCTION METHODS

Use of Vermeer or ditch witch trenching method is prohibited. Trenches shall be

the depth and cross-section shown on the plans. If the depth is not specified, the top of conduit/duct bank shall be a minimum of 36 inches below finished grade. After the excavation is completed, the Contractor shall notify the Engineer; and no conduit shall be placed in the excavated area until the Engineer has approved the depth and cross-section of the excavation.

When crossing the existing underground Trolley Tracks, the steel and concrete shall be removed to accommodate the conduit installation. The excavation of this material will be paid under the item "Rock-in-Trench Excavation 0'-4' Deep".

When backfilling over rigid metal conduit there shall be four (4) inches of sand placed around the conduit and the rest of the trench shall be backfilled with processed traprock material up to a depth of 6 inches from the bottom of the concrete base. All backfill shall be placed in layers of not more than six (6) inches in depth after compaction and shall be thoroughly compacted by means of pneumatic tampers. All surplus material shall be removed and disposed of. The Underground Warning Tape shall be installed in the trench 12 inches above the top of conduit.

In pavement with concrete base, the original cut shall be cut back at least one foot onto undisturbed sub grade on each side prior to replacing concrete. If the pavement has steel reinforcement, the reinforcement shall be carried through the cut with at least twelve (12) inches of lap and shall be securely wired. The top surface shall be cut straight and square for at least six (6) inches beyond the new concrete base. The top of the concrete patch shall be the same level as the adjoining concrete. All pavement removal, excavation, backfill and restoration shall be performed in accordance with all laws and shall meet the requirements of the appropriate item applicable to that work, or in absence of such item, to the satisfaction of the engineer.

MILLING AND PAVING

For all trenches of a length of fifty (50) feet or greater, a milling and pavement replacement operation may be ordered by the engineer. The pavement surrounding and including the excavation shall be milled to a depth of 2 inches for the width of the traffic lane in which the excavation was made or for a width of 10 feet, whichever is greater. The milled area shall extend a minimum of 10 feet beyond the beginning and end of the excavation. The milled edges shall be vertically faced and not tapered. The entire milled areas, including edges, shall be swept and tack coated with approved material at the appropriate rate. The milled area will then be overlaid with class 1 bituminous concrete, compacted with a steel drum roller of at least 10 tons to a thickness of 2 inches. The surface of the new overlay shall flush with the adjacent existing pavement. Pavement joints shall be sealed with an approved asphaltic material. All pavement markings shall be replaced with same

kind within the restoration area. This work will be performed and paid for in accordance with the requirements of items 010400, 0104702 and 010680.

When trenching for the installation of a conduit for service the contractor shall contact Northeast Utilities for locating the existing spare laterals at the curb or locating the nearest electrical handhole or manhole.

When trenching for the installation of a conduit to the nearest SBC manhole for traffic signal projects, the contractor shall contact of SBC Conduit Inspector for identifying the exact location to enter the manhole. The conduit entry hole shall be drilled, not pounded, in the manhole walls. Telephone manhole cover shall not be removed or entered without the presence of the SBC inspector. Advance notification to SBC is required for scheduling an inspector for the job. Before entering the SBC manholes testing and ventilating manholes must fulfill all OSHA and SBC standards.

When trenching to connect the new conduit to an existing conduit or a utility conduit, and when trenching in the vicinity of an identified utility, it shall be the Contractor's responsibility to dig a test pit to verify the exact location of existing conduit(s).

METHOD OF MEASUREMENT

This work will be measured for payment by the number of linear feet of trenching and backfilling completed and accepted. If rock in definite ledge formation, boulders, portions of boulders, concrete structures are encountered, the Contractor shall strip it of sufficient overlying material to allow for proper measurement, and shall notify the Engineer that the rock surface is ready for measurement. If the Contractor fails to give such notice, the Engineer will presume the measurements taken at the time he first saw the material in question will give the true quantity of rock excavation.

BASIS OF PAYMENT

This work will be paid for at the contract unit price per linear foot for "TRENCHING AND BACKFILLING TYPE-II", which price shall include all materials, tools, equipment and labor necessary to complete the excavation in conformity with the plans or as ordered.

It shall also include sawcut, excavation, milling and paving, trench restoration, disposal of surplus material, sand encasement, underground warning tape, processed traprock, test pits to verify the location of existing utilities or conduit in the vicinity, restoration of pavement or structure and trenching to locate the

existing spare CL&P duct bank for service feeds and drilling into utility structures for the installation conduit.

When rock conforming to the description given under Method of Measurement is encountered within the limits of trenching, its removal will be classified; and the accepted quantities of rock in trench excavation will be paid for at the contract unit price per cubic yard for "Rock in Trench Excavation".

<u>PAY ITEM</u>	<u>DESCRIPTION</u>	<u>PAY UNIT</u>
0222101	Trenching and Backfilling- Type-II	LF