

**ITEM 16551.0301 M - PREDRILLING HOLES FOR PILES - CASING REQUIRED**

**DESCRIPTION**

The work shall consist of drilling, boring, or augering holes and backfilling for piles at the locations and to the depth indicated on the contract plans, or as ordered, in writing, by the Engineer.

All pile holes shall be cased, unless an alternative procedure has been approved by the Engineer.

**MATERIALS**

Casing may be of any material sufficiently rigid to keep the pile hole from collapsing. It is the Contractor's responsibility to choose a material that will prevent collapse.

Backfill shall be as indicated on the Contract Plans.

**CONSTRUCTION DETAILS**

Holes shall be drilled, bored, or augered through in situ soils, rock, boulders, buried obstacles, debris, footings and concrete slabs whether indicated on the plans or not. It is the Contractor's responsibility to provide equipment capable of penetrating to the required elevation. No jetting will be permitted without the express written permission of the Engineer. If the rock elevation varies in the field by more than two feet from that shown on the plans, the Geotechnical Engineering Bureau shall be contacted to determine if the pile tip elevations should be revised.

Holes shall be the diameter as shown on the plans. If no diameter is shown, then the following diameters shall be provided by the Contractor:

Displacement piles. 100 mm greater than the nominal diameter of the pile.

Steel H-piles. 100 mm greater than the maximum diagonal axis measurement of the pile in question.

Holes shall be progressed without noticeable subsiding of the surrounding ground surface. Should noticeable subsidence occur, in the Engineer's opinion, work shall be stopped and the Regional Geotechnical Engineer shall be consulted. Upon consultation with the Regional Geotechnical Engineer, the Contractor shall propose a scheme for progressing the work without subsidence, to be approved by the Engineer.

The casing shall be driven no more than 1.5 m ahead of the hole progression.

Holes shall be cleaned out to the elevation required by the contract documents, or to the elevation established by the Engineer.

Immediately after each pile has been driven to the required tip elevation,, the void between the pile and the sleeve shall be backfilled with material as shown on the plans. The Engineer may require backfill placement after pile placement, but prior to pile driving if, in his opinion, the procedure is required to reduce vibrations.

Unless otherwise required by the contract documents, or the nature of the work, the Contractor may extract the casings or leave them in place after pile installation has been completed. If the casing is extracted prior to pile driving, backfilling shall be done simultaneously with extraction. All extracted casings shall remain the property of the Contractor.

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**METHOD OF MEASUREMENT**

The work will be measured as the number of meters of hole progressed. Measurement will be taken along the centerline of the hole. No payment shall be made for any length of hole progressed below the elevation shown on the plans unless ordered, in writing, by the Engineer.

**BASIS OF PAYMENT**

The unit price bid per meter shall include the cost of all labor, materials and equipment necessary to complete the work.

Progress payments will be made in accordance with the following:

Eighty percent (80%) of the meters for each hole will be authorized for payment upon completion of hole progression as required.

The remainder of the meters for each hole will be authorized for payment upon the completion of backfilling, and extraction of casing if extraction is required.