

ITEM 17551.9797 M - DRILLED SHAFT FOUNDATIONS (PERMANENT CASING)

REASON FOR DISAPPROVAL:

The special specification for drilled shaft foundations has been revised into a new generic special specification. The following item revises this special specification:

Item 17551.9949nn M, Drilled Shafts.

Item 17551.9950nn M, Drilled Shafts (Low Overhead Clearance).

Item 17551.9802 M, Trial Shafts.

This specification is
disapproved

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DESCRIPTION

Under this work, the Contractor shall furnish the materials and install concrete filled drilled shaft foundations to the elevations and at the locations shown on the plans. Drilled shafts shall use permanent steel casings. The drilled shafts shall have dimensions as shown on the plans or as approved by the Deputy Chief Engineer Structures (D.C.E.S.).

MATERIALS

A. Permanent Casing

Permanent steel casings shall meet the requirements as indicated on the plans or as approved by the D.C.E.S. and shall be capable of withstanding all installation stresses.

B. Concrete

Concrete placed in drilled shaft foundations shall conform to the requirements of Section 501, Portland Cement Concrete-General, Class G. The concrete shall be placed in accordance with the applicable requirements of Section 555.

CONSTRUCTION DETAILS

A. General

The Contractor shall be responsible for the equipment and procedures to satisfactorily install the drilled shaft foundations through the in-situ soil and rock.

The Contractor's construction procedure for installing the drilled shafts, including the method to prevent infiltration of material into the permanent casing, splicing of shafts and welding shall be submitted to the D.C.E.S. for evaluation and approval prior to commencement of work. The D.C.E.S. will render a decision within 15 working days, measured from the receipt of all pertinent information.

B. Location and Elevation

All drilled shaft foundations shall be installed to the elevations and at the locations shown on the plans.

C. Construction Tolerance

The center of a drilled shaft at the cutoff elevation shall not vary from the plan location by more than 75 mm. The drilled shaft shall not vary from the vertical or the specified batter by more than 20 mm per meter, measured from the top of the casing. The Contractor shall provide, for the Engineer's approval, a method by which the Contractor will verify that the vertical tolerance has been satisfied. The actual outside diameter of each permanent steel casing shall not be less than the diameter shown on the contract plans.

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D. Drilling and Excavation

The Contractor shall progress the permanent steel casings to the elevation shown on the plans. The casings shall be progressed in a manner that does not cause disturbance or settlement to the surrounding ground surface or adjacent structures. If any disturbance occurs, the Contractor shall halt his operations and modify his equipment and/or his procedures so that no further disturbance occurs. The Contractor shall repair any damage at his own expense.

The drilled shaft foundations shall be excavated to the bottom of socket elevation shown on the plans. The drilled shafts shall be cleaned to the satisfaction of the Engineer. Excavated material shall be removed from the site or used in a manner acceptable to the Engineer.

E. Concrete Placement

The Contractor shall prove to the Engineer that the drilled shaft is fully clean to the design elevation immediately prior to concrete placement.

Handling and placing Portland Cement concrete shall conform to the requirements of Section 555-3.04 and 3.05, Structural Concrete, except that concrete shall be placed by the tremie method or as approved by the Engineer. The concrete shall be placed in one continuous placement.

METHOD OF MEASUREMENT

The quantity to be paid for under this item shall be the number of linear meters of drilled shafts furnished, installed and accepted. Measurement shall be made along the center of the drilled shaft below the cutoff elevation to the design elevation shown on the plans, or as changed in writing by the Engineer. Measurement will be taken prior to the filling of the drilled shaft.

BASIS OF PAYMENT

The unit price per linear meter shall include the cost of furnishing all labor, material and equipment necessary to complete the work including all required drilling and permanent casing.

The Department will provide partial payment for the drilled shafts. Payment will be made as follows: Fifty percent of the unit bid price will be paid when the permanent casing is installed and cleaned to the design elevation. The remainder will be paid when the work for installing the drilled shaft is satisfactorily completed.