

ET 3700 - INSTALLATION OF ROCKFILLED CAISSONS

TABLE OF CONTENTS

- 1. Description 2
- 2. Materials 2
 - 2.1. General..... 2
 - 2.2. Rock Fill..... 2
- 3. Equipment..... 1
- 4. Construction Methods 2
- 5. Quality Control 3
- 6. Method of Measurement..... 3
- 7. Basis of Payment..... 3

1. Description

This Specification shall cover the work required under the heading Installation of Rock Filled Caissons as shown in Form B: Schedule of Unit Prices, and shall include the drilling of caisson shafts, rock fill, vibration, and construction of the 1.5 meter compacted clay cap, disposal of excess excavated material from the site, dewatering and all other incidental items related to the installation of the caissons as shown on the drawings. Should unstable shaft conditions occur installation of steel sleeves will be reviewed and approved by the Contract Administrator.

The work to be performed by the Bidder shall include superintendence, labor, materials, and all other activities necessary for and incidental to the satisfactory performance and completion of all work as hereinafter specified.

2. Materials

2.1. General

The Bidder shall be responsible for the supply, safe storage and handling of all materials set forth in this Specification required to complete the work. On-site stock piling of rock fill shall not take place on the lower or mid bank area of the site, but rather on the upper bank areas, including the northern portion of 820 Cloutier Dr in front of the home.

2.2. Rock Fill

The rockfill shall consist of crushed limestone 50 – 150 mm in diameter and shall not contain organic roots or more than 8% silts and clay, or any other deleterious material that could detract for the strength characteristics of the rockfill. The rock shall be comprised of high quality durable white quarried limestone/dolomite.

3. Equipment

All equipment, implements, tools and facilities used shall be of a size and type as required to complete the work in a reasonable time. The Bidder shall keep all equipment in good working order, and have sufficient equipment for replacement at all times, as required.

4. Construction Methods

Rockfill caissons and all other components shall be constructed to the locations, depths and dimensions shown on the drawings in Appendix A, unless directed by the Contract Administrator. ENG-TECH will provide the exact location and layout of the caissons at the time of the caisson installation. The rockfill caisson shall be installed within 0.1 m accuracy; minor field adjustments to the location of the caisson maybe required and approval must be obtained by the Contract Administrator prior to construction. The caisson is to be filled with compacted limestone rock to within 1.5 meters of the top of the caisson. The top 1.5 meters of the caisson will be filled and capped with compacted clay to the finished grade level. The contractor will not be compensated for drilling larger diameter or deeper holes unless approved by the Contract Administrator. The Contractor shall employ methods as required, and as acceptable to the Contract Administrator, to advance caisson shafts through boulders or dense till. ENG-TECH site

personnel shall inform the contractor of the final depth of each caisson. Additional payment shall not be paid for this work.

Upon completion of filling a caisson the rock in the caisson shall be densified by use of a vibro compactor, such as 400 series vibroflots – BD 400 & 500, manufactured by Pennine, or equivalent. The vibratory lance needs to be advanced through the rockfilled shaft bottom, compaction should be done in each 0.6 m lifts incensement, with min. 2 minutes vibration for each lift until the top of the surface is reached. Additional rock may be needed during the vibration followed by placing 1.5 m clay cap with hard compaction.

No excess excavated materials shall be stored on site. Disposal of materials off site will be at the cost of the contractor. The location of the disposal site for the excess material shall be provided to the Contract Administrator for review. Stock piles of excavated materials shall be kept to a minimum by promptly removing excavated material from the site. Immediately remove any stock piled material if instructed to do so by the Contract Administrator. The contractor shall take necessary measures to minimize inflow of surface and ground water into the caisson shafts. Sediment laden water pumped from the caisson shafts shall not be released directly into the river but shall be disposed of in accordance with applicable by-laws and regulations.

Cave-ins of the shaft walls shall not be permitted and the use of steel sleeves maybe used as approved by the Contract Administrator. Payment for the use of steel sleeves is covered under a separate bid item. Soil logs and the test hole location plan are appended to these contract specifications.

5. Quality Control

All workmanship and materials furnished and supplied under this Specification will be subject to inspection by the Contract Administrator, including all operations from the selection and production of materials through the final acceptance of the specific work. The Contractor shall be responsible for the control of all operations to complete the work, except the inspections or approvals that have been previously given.

The Contract Administrator shall have full access for inspection and control of testing of materials at the site to determine whether the materials are being selected and placed or work being conducted in accordance with this Specification.

6. Method of Measurement

The Rock Filled Caisson measurement will be based on the number of caissons installed, visual observations, surveying measurement or any other method deemed acceptable by the Contract Administrator to determine the quantities supplied and placed in accordance with this Specification.

7. Basis of Payment

The construction of the Rock Filled Caisson will be paid for at the Contract Price per Caisson for drilling, dewatering, stockpile and removal and disposal of surplus excavated material from the site, supply of limestone rock fill, vibratory compaction of rock fill and installation of the 1.5 meter compacted clay cap. Supply and Installation of Rock Filled Caissons as shown in Form B: Schedule of Unit Prices, which price shall be

paid in full for each caisson. Sleeving of the Rockfilled Caisson will be in accordance with Form B: Schedule of Unit Prices, Sleeving of Caisson.