

Specifications for Prefabricated Vertical Drains

A. Description

The Wick Drain contractor shall supply all necessary labor, equipment, and materials and perform all installation of vertical wick drains in accordance with the details shown on the plans and with the requirements of these specifications.

B. Materials

Materials shall be Soil Drain 707, or approved equal.

Prefabricated Vertical Drains shall be made of newly manufactured materials from an approved manufacturer and consist of a polypropylene core with a spun bonded non-woven filter fabric around it.

C. Transportation and Storage

The wick drains shall be labeled per pallet with information regarding product identification, Lot# and manufacture date.

During transportation and storage the material shall be kept from sunlight, mud, dirt, and weather such as a enclosed trailer ,or pallets wrapped in a tinted plastic.

D. Equipment

Drains shall be installed with approved modern equipment of a type that will cause minimum disturbance to the soil during installation

The wick drains shall be installed using a mandrel or sleeve that will be advanced through the soil to the required depth. Constant rates of advancement or static pushing is the preferred method. A vibrator may be used in areas were static methods cannot achieve design depths. The vibrator may only be used in cases were design penetration cannot be achieved using full static force. A drain may be abandoned before reaching design penetration when the rate of installation is less than 6 inches per second with the full static force and full dynamic force applied. Use of falling impact hammers will not be allowed. Jetting will not be allowed, but a provision must be provided for introducing water into the top of the mandrel. The mandrel shall protect the wick drain from tears, cuts, and abrasions during installation.

E. Construction Requirements

Drains will be located, numbered and staked out by the surveyor. The wick drain contractor shall take all reasonable precautions to preserve the stakes. The locations of the wick drains shall not deviate more than 6 inches from the locations indicated on the drawings or directed by the engineer.

Drains shall be installed from the working surface to the design depth shown on the plans, or to such a depth where the soil resists a reasonable effort to further penetration.

The wick drain contractor shall provide the Engineer with suitable means for determining the

depth of a drain at any given time.

Splices or connections to the wick drain rolls shall be done in a workmanlike manner and so as to insure continuity of drain material. The jacket and core shall have a minimum overlap of 6 inches when spliced.

The installed wick drain shall be neatly cut at its upper end with 4 to 8 inches protruding above the working surface.

The contractor shall supply to the Engineer at the end of each working day a total quantity of wick installed that day.

Equipment installing wick drains shall be checked for plumbness and not deviate more than 1 inch per foot from vertical.

F. Pre-augering/ Obstructions

Where obstructions are encountered below the working surface which cannot be penetrated by the installation rig, the wick drain contractor shall complete the drain from the working surface down to the obstruction, and notify the Engineer prior to installing any more drains. At the direction of the Engineer and under his review, the wick drain contractor shall attempt to install a new drain within 18" from the obstructed drain. A maximum of two attempts shall be made as directed by the Engineer. If the drain still cannot be installed to the design depth, the drain location shall be abandoned and the installation rig shall move to the next location, or other action shall be taken as directed by the Engineer.

The Wick Drain contractor shall be paid for all obstructed wick drains installed at the contract unit price.

Where augering is used, the auger shall have a minimum outside diameter equal to the largest horizontal dimension of the mandrel, shoe, or anchor, whichever is greater.

G. Experience

As a minimum experience requirement, the Wick Drain contractor shall have successfully completed five wick drain installation projects of similar size and depths, as well as installing no less than 5,000,000 linear feet in the past five years. The five projects shall be identified by project name, location, project description, size, completion date, and contact name.

F. Method of measurement

Wick drains will be measured by the linear foot for the full length of drain installed, including required wick extending above the working platform.

G. Basis of payment

Payment for wick drains shall be made at the contract price per linear foot or in some cases lump sum. This price shall be full compensation for the cost of furnishing the wick drain material, installing the drain, and all tool, materials, labor, and equipment necessary.