

**TECHNICAL SPECIFICATION 330
INFILTRATION SYSTEMS**

330.1 SCOPE OF WORK

This technical specification covers the furnishing of all labor, materials, testing, submittals, tools, and equipment necessary to install infiltration systems of the type, size and length as shown on the plans, at the locations and to the lines and grades designated on the plans, or as directed by the Engineer, and in conformity with these specifications and manufacturer's requirements.

330.2 MATERIALS

The materials for this work shall conform to the following:

The chambers, bridges and endplates shall conform to the High Capacity Chamber System as manufactured by Infiltrator Systems Incorporated of Old Saybrook, CT or approved equal. The components of the system shall conform to the dimensions as shown on the details and shall be manufactured with high density polyethylene. The top of each chamber unit shall be arch-shaped and the bottom completely open. The sidewalls of the chamber shall be louvered to a height of approximately 1 inch allowing for free flow within the chamber bed. The top of the sidewall shall be located at the bottom of the arch which spans the top of the chamber. The nominal dimensions of each chamber shall be 16 inches in height, 34 inches wide at the base, and 75 inches long.

Chambers shall conform to H-20 load rating standards of the American Association of State Highway and Transportation Officials (AASHTO), and shall be capable of supporting 32,000 pounds/axle with 18 inches of properly compacted cover (excluding asphalt pavement).

Each unit shall have interlocking latches to allow for indefinite extension of units into rows. A 1.25 inches overlap shall be provided at joints between units.

Each chamber shall be provided with a knockout port capable of receiving 4 inch diameter pipe. The knockout port shall be located on the center of the chamber.

Crushed stone shall meet the requirements of Form 817, M.01.01, No. 3.

Gravel, when required, shall meet the requirements of Technical Specification 205 – “Bank Run Gravel”.

Borrow, when required, shall meet the requirements of Technical Specification 110 – “Borrow”.

The geotextile shall be a non-woven, 3.3± lb/ft² geotextile such as Amoco 45/53, Mirafi 140-N or equivalent and shall meet the requirements of Form 817 Section M. 08.01.19.

330.3 SUBMITTALS

The following submittals shall be submitted to the Engineer for review and approval prior to installation:

- Material certifications /manufacturer(s) cut sheets for all infiltration system components
- Gradation test results for crushed stone
- Gradation test results for gravel
- Gradation test results for borrow
- Manufacturer(s) cut sheet(s) for geotextile(s)

330.4 CONSTRUCTION METHODS

Excavate the chamber bed to the required chamber dimensions plus a minimum of 12 inches more on each side. Compact the bed using a vibratory roller to a minimum of 95% of the dry density achieved by AASHTO T180, Method D. If in loose sandy soils, flood the excavated area to achieve required compaction.

Place a minimum depth of 24 inches of 1.5 to 2 inch crushed stone in 6 inch lifts and compact the stone using at least two passes per lift with a vibratory roller with full dynamic force applied to a uniformly level surface.

The infiltration systems shall be installed and assembled in accordance with the manufacturer's recommendations and requirements.

Holes are to be cut in the bridge end plates that will receive pipes. The pipes shall be cut so that they extend approximately 2 inches beyond the plate into the system.

After installation of the system, place the crushed stone (1.5 to 2 inches) around the perimeter of the bed to the top of the chamber in 6 inch layers and compact each layer with two passes of a vibratory plate compactor. Place the geotextile over the stone across the entire area of the chamber bed.

Carefully place suitable backfill material along the outside perimeter of the chamber bed. The backfill material shall be well graded with no organic material or shrink-swell clays and no stones over 3 inch in diameter. Do not drop the backfill material directly onto chambers and do not use wheeled vehicles on the chamber bed. Push the backfill material onto the chambers with a small bulldozer. The first lift above the chambers should be approximately 6 inches in depth to allow sufficient cover for the backfill machinery. The backfill must be spread lengthwise and not across their width. Compact backfilling to subgrade, with lifts not exceeding 6 inches, to a

minimum depth cover of 18 inches over the tops of the chambers. The backfill must be placed on the bed's shoulder and spread out and pushed as the first layer. Each lift must be compacted with a vibratory roller to 95% the dry density achieved by AASHTO T180, Method D.

Locator tape is to be placed 12 inches to 18 inches above the infiltrator.

330.5 MEASUREMENT

Measurement for the Infiltration System will be based on the actual number of linear feet of infiltration chambers completed and accepted and measured in place from end plate to end plate. The excavation necessary for the work, the crushed stone, geotextile and the backfill is considered part of the linear footage of the chambers and will not be measured for payment.

Measurement for backfill provided from sources outside the projects limits as well as excavation of unsuitable material outside of chamber bed limits shall be by the cubic yard measured in place.

330.6 PAYMENT

Payment for this item will be based on the contract unit price per Linear Foot of Infiltration System completed and accepted in place, including all labor, materials, testing, submittals, tools, and equipment necessary to complete the work as specified.

Removal and disposal of any unsuitable materials shall be paid under Technical Specification 105 – “Excavation, Placement and Disposal of Surplus Material”. Backfilling with suitable materials shall be paid under Technical Specification 205 – “Bank Run Gravel” and/or Technical Specification 110 – “Borrow”. Payment for excavation is only applicable for removal of unsuitable materials below the specified trench depth. Payment for backfill is for replacement of all unsuitable materials, but only if suitable materials are not available on the project site.

PAY ITEM	PAY UNIT
Infiltration System	L.F.