SECTION 605 – UNDERDRAINS

Standard Specification Section 605, Underdrains, contains the contract requirements for placing underdrain pipe and filter material. Underdrains are narrow trenches filled with underdrain filter material that is both pervious to water and capable of protecting the trench from infiltration by the surrounding soil. Commonly, the capacity of the underdrain is enhanced by including a perforated or slotted pipe in the trench. They are normally used to lower the groundwater level, drain slopes, and prevent water from entering the pavement. Edge drains are constructed with the same material. However, their purpose is different as they remove water from the pavement section.

Granular Filter Material
General Requirements

Underdrain Filter Material
1. Underdrain Filter, Types I and II
   Materials used for Underdrain Filter, Types I and II shall meet the requirements of §733-20 Underdrain Filter, Type 1 and §733-20 Underdrain Filter, Type 2 respectively. These materials must be stockpiled in accordance with GCP-17 Procedure for the Control and Quality Assurance of Granular Materials.
2. Underdrain Filter, Type III
   Underdrain Filter, Type III shall meet the gradation and quality requirements of §703-07 Concrete Sand.
3. Measurement
   Underdrain Filter material will be measured in cubic yards, measured to the nearest whole cubic yard. A deduction to the cross-sectional area of the underdrain trench will be made for the pipes (based on nominal diameters) when the combined cross-sectional area exceeds 1.0 sq. ft. No deduction will be made for the cross-sectional area of an existing facility. For the installation of Underdrain Filter, Type I at structures, no deduction will be made for the volume occupied by the underdrain pipe.

Underdrain Pipe
Underdrain pipe will be measured in feet, measured to the nearest whole foot.

Project Procedure
Inspect the construction of stockpiles. Record the material source and stockpile construction features on DWR in SiteManager. Request approval of the stockpile from the Regional Geotechnical Engineer.

The Regional Geotechnical Engineer will supervise the sampling and arrange for the testing of the stockpiles. Test results will be reported on GE-454M “GRANULAR MATERIAL DOCUMENTATION FORM.”

Evidence of Acceptability
1. Compliance with all specification requirements for the item(s) involved, as well as conformance to the pertinent Departmental procedure manuals.
2. For granular material, test results of the stockpile evaluation (Form GE-454M, "GRANULAR MATERIAL DOCUMENTATION FORM") and, when applicable, a copy of the letter approving stockpile transfer, as well as the original GE-454M.
3. If variations to the stockpiling requirements are granted, a copy of the letter from the Director of the Geotechnical Engineering Bureau permitting the variations.
4. Delivery tickets – Each delivery ticket shall identify the Suppliers name, Suppliers granular source number (GSN), date, NYSDOT contract number, stockpile number, and item
number.

References
GCP-17, GEOTECHNICAL CONTROL PROCEDURE *Procedure for the Control and Quality Assurance of Granular Materials.*
[https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/GCP-17b.pdf](https://www.dot.ny.gov/divisions/engineering/technical-services/technical-services-repository/GCP-17b.pdf)

GE-454M, Granular Material Documentation form