MICHIGAN

DEPARTMENT OF TRANSPORTATION

SPECIAL PROVISION

FOR

**STRUCTURAL SOIL**

RSD:JN 1 of 3 APPR:JG:YGQ:03-26-24

**a. Description.** This work includes furnishing and placing structural soil mix at the locations shown on the plans and as detailed herein. The structural soil mix material is designed to function as a subbase under sidewalks which will carry pedestrian and light vehicular traffic. It must have the capacity to support emergency and maintenance vehicles and to support tree plantings in areas shown on plans. This material will fill the areas shown on plans and serve as subbase for sidewalks, planter curbs, as well as planting areas.

**b. Materials.** Structural soil mix is composed of crushed stone, clay loam, hydrogel and amendments meeting the requirements of “CU-Structural Soil”, patented by Cornell University (Patent #5,849,069) also known as “CU Soil”. Submit proof of sub-license to the Engineer along with an initial sample of the finished mix, prior to delivery on site.

Furnish the material through a producer sub-licensed by Amereq, the exclusive Licensee of Cornell University for “CU-Structural Soil” from the following regional producers:

Garick, LLC

Cleveland, OH

Di Kuo or Rick Mahoney

800-242-7425

Greendell Mulch & Mix, Inc.

Mooresville, IN

Lisa Boles

317-996-2826

Midwest Trading Horticultural Supplies, Inc.

Virgil, IL

Dave Boyce

630-365-1990

Kurtz Brothers

Westerville, OH

Craig Hoitink

614-206-7235

All material must conform to the specifications designed for manufacture of “CU Structural Soil” and can be found in the Cornell University publication:

*CU-Structural Soil A Comprehensive Guide*, Part IV, pages 46-50.

The publication is available at the following web address:

https://blogs.cornell.edu/urbanhort/outreach/cu-structural-soil/

**c. Construction.**

1. Mixing and Quality Control Testing. Mix all structural soil components, including any organic material, water, or other amendments necessary to meet the requirements of “CU-Structural Soil” by a licensed producer off site prior to delivery. Mixing is not allowed at the project site. Allow sufficient time prior to delivery for the producer’s internal quality control, independent laboratory testing, analysis and if necessary, amendment of the structural soil mix.

2. Delivery, Storage and Handling. Arrange for delivery of the structural soil mix to the site, whether by the producer, or the Contractor’s work force. Deliver at or near optimum compaction moisture content as determined by *AASHTO T99* and protect the structural soil mix from drying out or from excess moisture until placement. Protect the structural soil mix from contamination by toxic materials, trash, debris, water containing cement, clay, silt or materials that alter the particle size distribution.

Do not deliver structural soil mix when rain is forecasted. Store and protect from excess water absorption and/or potential erosion if not placed on the day of delivery.

Furnish the Engineer with a delivery ticket that ensures structural soil mix was obtained from and mixed by a licensed producer. The delivered structural soil mix must match the original furnished sample to ensure consistency.

3. Placement. Place structural soil mix to the line and grade shown on the plans in 10-inch maximum lifts and compact to at least 95 percent of the maximum unit weight under pavement areas, including planter curbs and sidewalks. Ensure all other areas outside of the hard surface areas are compacted as required in the “CU-Structural Soil” specifications or at minimum 90 percent of maximum unit weight.

If any segregation of the structural soil mix components occurs during placement, ensure it is corrected at the Contractors expense.

Ensure the placement of the structural soil mix is conducted in a manner that will not damage the underdrain system. This may include low ground pressure equipment or placement by hand methods. Once the placement of the structural soil mix is complete, ensure all underdrain piping is video inspected to verify there is no damage. Ensure damaged piping is removed and replaced at the Contractors expense.

Protect adjacent curb and gutter, roadways, walks and utilities from damage using a method approved by the Engineer.

Protect the structural soil mix from contamination by toxic materials, trash, debris, water containing cement, clay, silt or materials that will alter the particle size distribution of the structural soil mix. Cover with plastic or plywood or as directed by the Engineer.

**d. Measurement and Payment.** The completed work, as described, will be measured and paid for at the contract unit price using the following pay item:

**Pay Item Pay Unit**

Structural Soil Cubic Yard

**Structural Soil** includes all labor, equipment, materials and video inspection necessary to furnish and install the structural soil mix as described herein. Payment for video inspection of the underdrain system is included in this item of work and will not be paid for separately.