March 28, 2013

ADDENDUM NO. 2

TO

BID DOCUMENTS FOR
S. FOURH AVE. INPROVEMENTS PROJECT
FOR THE
CITY OF ANN ARBOR, MICHIGAN

The following changes, additions, and/or deletions shall be made to the Bid Documents for the S. Fourth Ave. Improvements Project, for the City of Ann Arbor, Michigan, Bid No. 4280.

The information contained herein shall take precedence over the original documents and all previous addenda, and is appended thereto. **This Addendum includes 5 page(s) and 0 drawing(s).**

The Contractor is to acknowledge receipt of this Addendum No. 2 on page P-1 of the Bid Documents prior to submitting its Proposal.

Changes in the Bid Documents which are outlined below are referenced to a page or drawing in which they appear conspicuously. The Bidder is to take note in its review of the documents and include these changes as they affect work or details in other areas not specifically referenced here.

Item #1: Contract Documents, Detailed Specification; Pages DS-16 through DS-19;
Replace pages DS-16 through DS-19 with the attached pages ADD-2-2 through ADD-2-5

DETAILED *SPECIFICATION*

FOR

ITEM #208 – STONE RESERVOIR
ITEM #209 – BIAXIAL OR TRIAXIAL GEOGRID
ITEM #210 – INFILTRATION TRENCH

DESCRIPTION AND MATERIALS

This work includes subgrade preparation, furnishing and installation of reservoir aggregate, infiltration trench, and geosynthetic materials, as specified herein, as shown on the Plans, and as directed by the Engineer.

RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions, City of Ann Arbor Standard Specification, and MDOT 2012 Standard Specifications for Construction (as well as applicable Special Provisions as referenced herein) apply to this Section.

PERFORMANCE REQUIREMENTS

B. Subgrade Stabilization: The Contractor shall be responsible for providing materials and labor to stabilize subgrade to support paving and construction equipment and limit rutting to meet minimum requirements specified herein.

SUBMITTALS

C. Aggregates/Sand:
   1. Source: Must be MDOT approved.
   2. Aggregate gradation and percent voids (porosity).

D. Admixtures: Certification from MDOT approved supplier.

QUALITY CONTROL/QUALITY ASSURANCE

E. Installation Personnel Qualifications:
   1. Trained and experienced in the fabrication and installation of the materials and equipment.
   2. Knowledgeable of the design.

F. Testing: The City's representative shall perform testing to ensure compliance with the materials specifications as required by the Engineer.

G. Weight Slips:
   1. Furnish weight slips for material incorporated in the Project.
   2. Verify that the required tonnage has been applied by calculating and submitting yield for each day of work.

DELIVERY, STORAGE AND HANDLING

H. Handle and store materials in a manner which will prevent deterioration, damage, contamination with foreign matter, and damage by weather or elements, and according to Manufacturer's directions.

I. Protection: Use all means necessary to protect the materials of this Section before, during, and after installation.

J. Reject damaged, deteriorated or contaminated material and immediately remove from the Site. Replace rejected materials with new materials at no additional cost to Owner.

MATERIALS

K. Aggregate/Sand Materials:
   1. Reservoir Course:
      a. MDOT 6A
         1) Reservoir course materials and placement shall meet the requirements of MDOT Special Provision 12SP303(A), except as modified herein.
         2) Minimum 90% crushed.
         3) Voids ≥ 30%.
         4) Gradation as follows:

Sieve	% Passing
1.5-inch	100
1.0-inch	95-100
0.5-inch	30-60
#4	0-8
Loss by Wash	1.0 max

      b. Thickness in accordance with Drawing for cross section.
      c. If approved aggregate has less than 30% voids, increase thickness to accommodate design volume as directed by the Engineer.
   2. Infiltration Trench:
      a. MDOT 2NS Sand, CIP
      b. Thickness: as shown on Plans.

L. Geogrid Reinforcement
   1. Polypropylene biaxial or triaxial grid
   2. Minimum Properties:
      a. Minimum Rib Thickness: 0.03 inches (0.76 mm)
      b. Tensile Strength @2% Strain (ASTM D6637): 280 lbs/ft
      c. Tensile Strength @5% Strain (ASTM D6637): 580 lbs/ft
      d. Ultimate Tensile Strength (ASTM D6637): 850 lbs/ft
      e. Flexural Stiffness (ASTM D5732): 250,000 mg-cm
      f. Resistance to Installation Damage (ASTM D5818 & D6637): 93%
      g. Tensar BX1100 or approved equal.

CONSTRUCTION METHODS

PREPARATION

A. Subgrade Preparation:
   1. Avoid compaction of subgrade soil unless directed or approved by Engineer.
   2. Scarify compacted or disturbed subgrade soils to a minimum depth of 6 inches with York rake; or equivalent method and light tractor.
   3. Remove accumulation of fine materials due to ponding or surface erosion with light equipment.
   4. Conform to line, grade, and elevations indicated.
      a. Excavate, fill, re-grade, and scarify areas damaged by erosion, ponding or traffic compaction.
      b. Use light equipment.

5. Proof Roll:
    a. To identify soft or unstable areas.
    b. Use light equipment, avoid over compacting subgrade.
6. Do not place geotextile or permeable media bed until subgrade surface has been inspected and approved by Engineer.

B. Infiltration Trench
1. Begin installation of infiltration trench immediately after approval of subgrade preparation.
2. Do not place sand or aggregate materials on a frozen base, subbase, or subgrade.
3. Place sand backfill for infiltration trench in uniform layers such that when compacted, they have the thicknesses shown on the Plans, or as directed by the Engineer.
4. The loose measure of any layer -- not more than 9-inches nor less than 4-inches.
5. Compact sand backfill to a minimum of 95% of the maximum density as per City of Ann Arbor Standard Specifications

C. Permeable Media Installation:
1. Place geogrid and reservoir course immediately after installation of infiltration trench.
2. Remove any accumulation of debris or sediment which has taken place after approval of subgrade and installation of infiltration trench prior to installation of the geogrid, at the contractor's expense.
3. Place geogrid in accordance with Manufacturer's standards and recommendations.
    a. Overlap Adjacent Strips: Minimum 16 inches.
    b. Prevent runoff or sediment from entering the storage bed.
4. Place reservoir course to grades indicated on Drawings.
    a. Maximum Lift Thickness: 10 inches.
    b. Minimum Lift Thickness: 6 inches.
    c. Compact each layer to a minimum of 95% of the maximum density as per City of Ann Arbor Standard Specifications.
    d. Fine grade as necessary to conform to elevations and cross section indicated on the Drawings.
    e. Roll aggregate layer with paving roller until smooth, as directed by Engineer.

D. Do not place bituminous material until the aggregate surface has been inspected, proof rolled and approved by Engineer.

MEASUREMENT AND PAYMENT

The items of work included in this Detailed Specification shall include all labor, material and equipment needed to accomplish all the work described in this detailed specification, which includes, but is not limited to: furnishing, placement, and compaction of all sand and aggregate materials and furnishing and placement of geogrid;

All costs for furnishing and operating vacuum-type street cleaning equipment, backhoes, jackhammers, air compressors, and other equipment necessary to complete the work shall be included in the bid prices for these items of work or in the item of work "General Conditions."

The completed work as measured for these items of work will be paid for at the Contract Unit Prices for the following Contract (Pay) Items:

PAY ITEM	**PAY UNIT**
Stone Reservoir	Cubic Yard
Biaxial or Triaxial Geogrid	Square Yard
Infiltration Trench	Lineal Foot

The unit prices for these items of work shall include all labor, material, and equipment costs to perform all the work specified in the Standard Specifications and as modified by this Detailed Specification.