BARRY GLASSMAN
HARFORD COUNTY EXECUTIVE

BILLY BONIFACE
DIRECTOR OF ADMINISTRATION

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INVITATION FOR BIDS

BID NO. 15-193
TUDOR HALL ADA IMPROVEMENTS AND PARKING LOT EXPANSION

ADDENDUM NO. 2

April 4, 2016

Ladies and Gentlemen:

The purpose of this addendum is to provide clarification (s) to all prospective bidders.

THE DUE DATE HAS REMAINED UNCHANGED FROM ADDENDUM NO. 1 AND ARE DUE BY 1:00 PM ON APRIL 13, 2016.

PLEASE NOTE THAT THE DRAWINGS ARE POSTED UNDER SUPPORTING DOCUMENTS ON OUR WEBSITE.

This Addendum modifies or clarifies the provisions of the Drawings. The information contained in this addendum shall supersede information found in the previously issued Drawings and From Addendum 1 and shall become part of the Contract Documents.

2.0 GENERAL

2.0.1 Acknowledgement of receipt of this addendum shall be indicated on the Bid Form provided with the original bid package.

2.0.2 This addendum contains clarification of issued documents.

2.0.3 The Cover has been reissued to indicate Addendum 1 and Addendum 2 Drawing Sheet revisions and Additions.

2.1 CIVIL DRAWINGS

2.1.1 Sheet 1 of 3 - Revised Hatch Patterns indicating extent of work, Legend Clarifies Paving Type and ADA Pathway Indicated.

2.1.2 Sheet 2 of 3 – No Revisions.

2.1.3 Sheet 3 of 3 – 2" Overlay Paving Section, Perimeter Paving Section, Milling Detail, (4) Signage Details, Parking & Striping Detail and General Sitework Notes have been added to Drawing.

2.2 RESPONSES TO CONTRACTOR QUESTIONS

2.2.1 **Question:** All overlay (Topcoat) of existing asphalt to be a minimum of 2" compacted asphalt. **Response:** See Revised Civil Drawing Sheet 1 0f 3 for Legend revision and Sheet 3 of 3 for Overlay Detail.

2.2.2 **Question:** If base bid overlay is being done then provide a unit price and an allowance for 500 square yard minimum of paving fabric. **Response:** Provide Unit Price per Square Yard of geotextile fabric. Unit price shall include installed costs of a 1,000 square yards of fabric material. See Specification Section "Geotextile – Limited Applications" for recommended fabric material attached to this addendum.

2.2.3 **Question:** Provide a unit price and an allowance for 100 square yard minimum of demolish and replace failing areas of existing asphalt using the paving section shown on the drawings. **Response:** The paving overlay area has been increased based on the Pre-bid walkthrough. Provide as directed per the Revised Civil Drawings. Include in bid price an allowance of 100 square yards of full demolition, patch and repairing of existing failed paving section. Utilize full paving section as basis for replacement.

2.2.4 **Question:** Specify the graded aggregate base portion of the paving section as CR-6. Cr-6 is a graded aggregate base product but Graded aggregate base (GAB) is a product in itself and is typically used for highway work, but not parking lots. **Response:** Provide as directed per the Full Depth Paving Section Detail.

2.3 SPECIFICATIONS

See added Specification Section 313219 – Geotextile Fabric – Limited Applications.

Should you have additional questions regarding this project, please do not hesitate to contact me at aehall@harfordcountymd.gov .

Sincerely,

Aaron E. Hall
Procurement Agent

AEH:KMD/kmd
cc: Barkley Creighton, DPW/Capital Projects

SECTION 313219 - GEOTEXTILE – LIMITED APPLICATIONS

1. GENERAL

1.1 SECTION INCLUDES

A. Geotextile to stabilize and reinforce an aggregate cover material (subbase, base, select embankment, etc.) of an unpaved or paved roadway.

1.2 RELATED SECTIONS

A. See Civil Drawing Sheets 1 of 3 through 3 of 3.

1.3 UNIT PRICES

A. Method of Measurement: By the square yard including seams, overlaps, and wastage.
B. Basis of Payment: By the square yard installed.
c. Include in base contract a unit price that includes 500 square yards of fabric material. Additions to or deductions from the contract price will be quantified during construction based on the actual square yardage of fabric used on the project.

1.4 REFERENCES

A. AASHTO Standards:

1. T088-10-UL - Particle Size Analysis of Soils
2. T090-00-UL - Determining the Plastic Limit and Plasticity Index of Soils.
3. T099-10-UL - The Moisture-Density Relations of Soils Using a 5.5lb (2.5 kg) Rammer and a 12in (305 mm) Drop.
4. M288-06 - Geotextile Specification for Highway Applications.

B. American Society for Testing and Materials (ASTM):

1. D123 - Standard Terminology Relating to Textiles
2. D276 - Test Method for Identification of Fibers in Textiles
3. D422 - Standard Test Method for Particle-Size Analysis of Soils
4. D4354 - Practice for Sampling of Geosynthetics for Testing
5. D4355 - Test Method for Deterioration of Geotextiles from Exposure to Ultraviolet Light and Water (Xenon-Arc Type Apparatus)
6. D4439 - Terminology for Geotextiles
7. D4491 - Test Methods for Water Permeability of Geotextiles by Permittivity
8. D4595 - Test Method for Tensile Properties of Geotextiles by the Wide-Width Strip Method
9. D4751 - Test Method for Determining Apparent Opening Size of a Geotextile
10. D4759 - Practice for Determining the Specification Conformance of Geosynthetics
11. D4884 - Standard Test Method for Strength of Sewn or Thermally Bonded Seams of Geotextiles

12. D4873 - Guide for Identification, Storage, and Handling of Geotextiles
13. D5321 - Test Method for Determining the Coefficient of Soil and Geosynthetic or Geosynthetic and Geosynthetic Friction by the Direct Shear Method
14. D6241 - Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile-Related Products Using a 50-mm Probe
15. D6706 - Standard Test Method for Measuring Geosynthetic Pullout Resistance in Soil

C. American Association for Laboratory Accreditation (A2LA)
D. Geosynthetic Accreditation Institute (GAI) - Laboratory Accreditation Program (LAP)
E. International Standards Organization (ISO) - 9001:2008
F. National Transportation Product Evaluation Program (NTPEP)

1.5 DEFINITIONS

A. Minimum Average Roll Value (MARV): Property value calculated as typical minus two standard deviations. Statistically, it yields a 97.7 percent degree of confidence that any sample taken during quality assurance testing will exceed value reported.

1.6 SUBMITTALS

A. Submit the following:

1. Certification: The contractor shall provide to the Engineer a certificate stating the name of the manufacturer, product name, style number, and chemical composition of the filaments or yarns and other pertinent information to fully describe the geotextile. The Certification shall state that the furnished geotextile meets MARV requirements of the specification as evaluated under the Manufacturer's quality control program. The Certification shall be attested to by a person having legal authority to bind the Manufacturer. Certifications from Private Label distributors will not be accepted.
2. If an alternate product is submitted full scale performance testing performed by an Independent testing agency shall be provided that quantifies the structural benefit of the geotextile. The benefit must meet or exceed the benefit of the design geotextile.
3. Coefficient of Interaction (C_I) test results performed by a lab with GRI and/or A2La accreditation should be provided to confirm conformance to the specified value.
4. Manufacturer's installation Guidelines shall be provided.
5. One 1' x 1'sample shall be provided.
6. Quality Standards: The contractor shall provide to the Engineer the Manufacturer's Quality Control Plan along with their current A2LA, GAI-LAP, and ISO 9001:2008 certificates.
7. Alternate products must be submitted 15 days prior to bid date to engineer and should include information on five similar projects in size and scope.

1.7 QUALITY ASSURANCE

A. Manufacturer Qualifications:

1. The geotextile Manufacturer shall have all of the following credentials:
   a. ISO 9001:2008 Quality Management System.
   b. Geosynthetic Accreditation Institute (GAI) Laboratory Accreditation Program (LAP).
   c. American Association for Laboratory Accreditation (A2LA).

B. The geotextile Manufacturer shall have a GAI-LAP and A2LA accredited laboratory at the location of production capable of performing the ASTM tests as outlined in the specification.

1.8 DELIVERY, STORAGE, AND HANDLING

A. Geotextile labeling, shipment, and storage shall follow ASTM D4873. Product labels shall be color-coded to specifically identify each product and clearly show the Manufacturer's name, style name, and roll number.

B. Each geotextile roll shall be wrapped with a material that will protect the geotextile from damage due to shipment, water, sunlight, and contaminants.

C. During storage, geotextile rolls shall be elevated off the ground and adequately covered to protect them from the following: site construction damage, precipitation, extended ultraviolet radiation including sunlight, chemicals that are strong acids or strong bases, flames including welding sparks, excess temperatures, and any other environmental conditions that may damage the physical property values of the geotextile.

2. PRODUCTS

2.1 MANUFACTURERS

A. TenCate Geosynthetics Americas
365 South Holland Drive
Pendergrass, GA, USA 30567
1-800-685-9990
1-706-693-2226
1-706-693-4400, fax
www.mirafi.com

B Approved Equal.

2.2 MATERIALS

A. Geotextile:

1. The geotextile shall be woven from super high-tenacity polypropylene yarns with a weave pattern to maximize strength, water flow, soil interaction and soil retention. The yarns shall be from high-tenacity long-chain synthetic polymers composed of at least 95 percent by weight of polyolefins or polyesters. They shall form a stable network such that the filaments or yarns retain their dimensional stability relative to each other, including selvages.
2. The geotextile shall meet the requirements of Table 1. All numeric values in

Table 1 except AOS represent Minimum, MARV, or Typical in the specified direction. Values for AOS represent maximum average roll values.

3. All geotextile products shall have a separation factor of 0.9 or higher per ASTM D422, Modified.
4. Approved geotextiles are as follows: Mirafi® RS280i OR APPROVED EQUAL.

TABLE 1 - SUBGRADE STABILIZATION GEOTEXTILE

Mechanical Properties	Test Method	Unit	Typical Roll Value	Minimum Average Roll Value
Tensile Modulus @ 2% strain (CD)	ASTM D4595	lbs/ft (kN/m)	48000 (700)	30000 (438)
Tensile Modulus @ 5% strain (CD)	ASTM D4595	lbs/ft (kN/m)	42000 (613	32400 (472)
Flow Rate	ASTM D4491	gal/min/ft^2 (l/min/m^2)	85 (3463)	70 (2852)[3]
Permittivity	ASTM D4491	sec^{-1}	0.9	1.2[3]
Pore Size O_{95}	ASTM D6767	microns	345	
Pore Size O_{50}	ASTM D6767	microns	196	
Interaction Coefficient[1]	ASTM D6706	--	0.89[3]	
Index Properties				
Apparent Opening Size (AOS)	ASTM D4751	U.S. Sieve (mm)	40 (0.425)	40 (0.425)[2]
UV Resistance (at 500 hours)	ASTM D4355	% strength retained	90[3]	

[1] Interaction Coefficient value is for sand or gravel based on testing conducted by SGI Testing Services.
[2] ASTM D4751: AOS is a Maximum Opening Diameter Value
[3] Minimum Test Value

2.3 QUALITY CONTROL

A. Manufacturing Quality Control: Testing shall be performed at an on-site laboratory accredited by GAI-LAP and A2LA for tests required for the geotextile, at frequency meeting or exceeding ASTM D4354.

B. Manufacturer's certifications and testing of quality assurance samples obtained using Procedure B of ASTM D4354. A lot size for conformance or quality assurance sampling shall be considered to be the shipment quantity of the given product or a truckload of the given product, whichever is smaller.

3. EXECUTION

3.1 See Manufacturer's Installation guidelines.

END OF SECTION