PACKAGE B: TRANSPORTATION BUS PARKING OVERLAY SCOPE OF WORK – Attachment B

The Fort Mill School District (FMSD) is accepting Bids for **Single Prime** Contractor to provide comprehensive services as described, but not limited to, the scope outlined within Attachment B of the Construction Documents. The Contractor's scope of work shall include all demo, paving, and striping identified below and all associated costs included within the submitted bid.

The proposed project will consist of overlaying the existing concrete pavement with asphalt.

- Please see Attachment B for the limits of the proposed project information.
- The project is located at 351 Gillig Rd. Fort Mill, SC 29715.
- Contractor responsible for necessary demo / replacement of identified existing 6" thick concrete areas indicated on page 3 of Attachment B.
    - Contractor shall utilize 3,500psi concrete and finish level with the adjacent existing concrete for repairs.
- Existing concrete pavement shall be thoroughly cleaned.
- Existing control joints shall be cleaned of any debris. Install crack suppression membrane as specified:
    - Crack Suppression Membrane – Rapid Repair System PG100 Pavement Patch Solution
        - See included specification.
- Install necessary tack coat prior to paving activities.
- Proposed area to receive 2" Hot Mix Asphalt Surface Course, Type C (SCDOT STd. Spec. Section 403) overlay is highlighted on page 2 of Attachment B and totaling approximately 28,870sy.
- Perform all necessary striping as indicated per Sheet C4.0.
    - Striping scope shall include entire Car and Bus parking and drive areas as indicated.
        - Car Parking – 116 Spaces
        - Bus Parking – 146 Spaces
        - All indicated traffic directional marking and islands as indicated.
        - Provide 3'-0" wide pedestrian walkway as indicated.
    - Paint shall conform to the requirements of the SCDOT Standard Specifications for Highway Construction and Federal Specification TT-P-1952. Color shall be white unless otherwise indicated.
- All work shall adhere to the latest SCDOT Standards.
- Allowance: $15,000 General Contingency Allowance to be included within Bid. This allowance shall be utilized for additional repairs as needed and approved by the Owner.

Alternate #1: Gravel Parking Lot – Scope of Work:

- Provide cost associated with the construction of 1,500sy gravel parking lot as indicated in Package B construction documents.
- Demo of the existing curb and replacement with valley curb as indicated on the Striping plan.
- Necessary grading to cut 4" of existing material and compaction of subgrade.
- Placement and compaction of 4" of ABC stone where indicated for a total area of 1,500sy.
- Striping of approximately (50) parking spaces on the gravel parking lot. Standard marking paint with 4" White lines.
- Cost shall include all necessary surveying, grading, and stone required for construction.

FMSD: TRANSPORTATION PROJECT
28,870sy of Existing RCC to be Overlayed with 2" of Type 3 Asphalt Surface Course

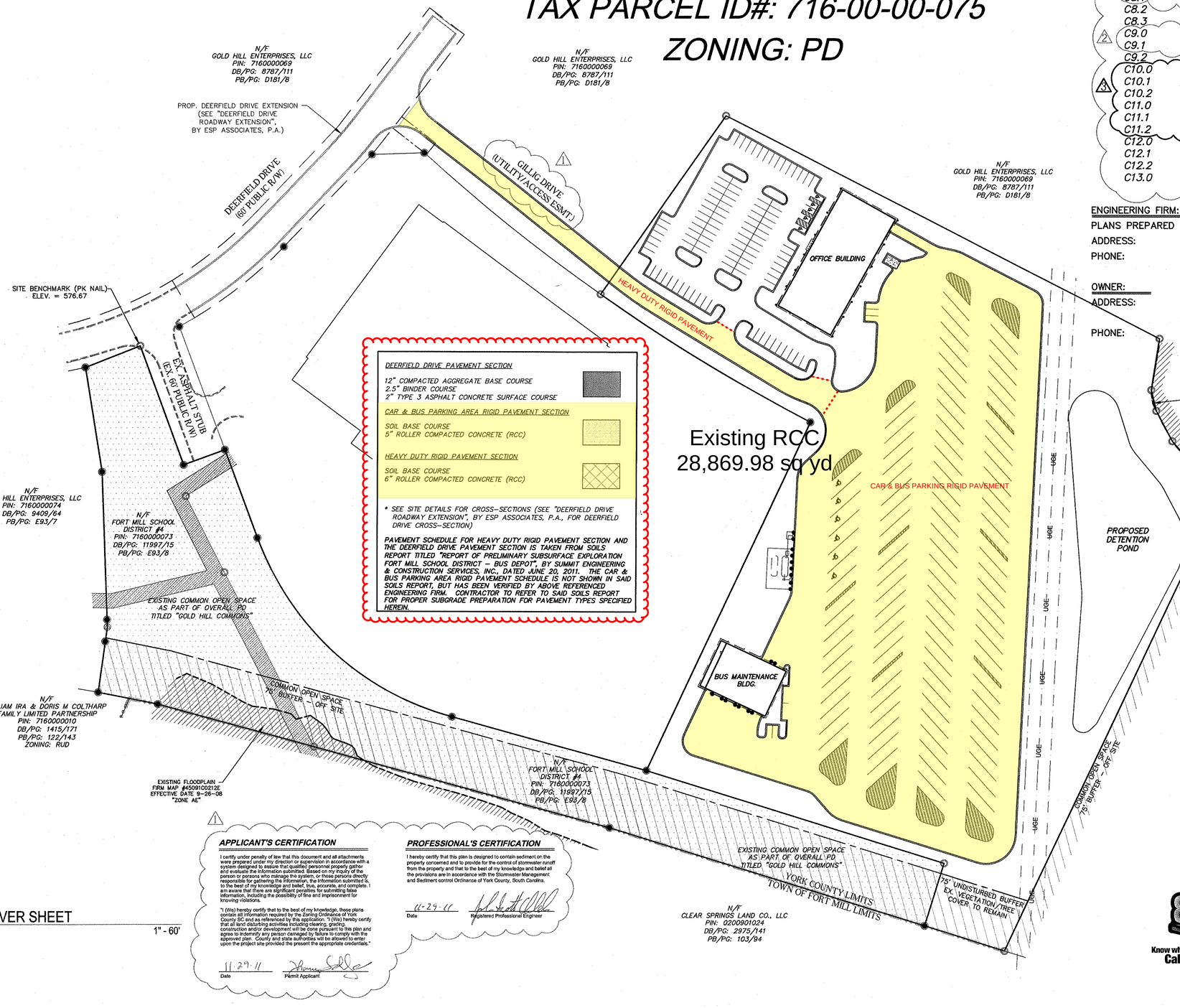
FORT MILL SCHOOLS BUS TRANSPORTATION & MAINTENANCE FACILITY

LOCATED IN

YORK COUNTY, SOUTH CAROLINA

TAX PARCEL ID#: 716-00-00-075

ZONING: PD



1 C2.0 COVER SHEET 1" - 60'

APPLICANT'S CERTIFICATION

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

"I (We) hereby certify that to the best of my knowledge, these plans contain all information required by the Zoning Ordinance of York County SC and as referenced by this application. "I (We) hereby certify that all land disturbing activities including clearing, grading, construction and/or development will be done pursuant to this plan and agree to indemnify any person damaged by failure to comply with the approved plan. County and state authorities will be allowed to enter upon the project site provided the present the appropriate credentials."

11.29.11 Date — Permit Applicant

PROFESSIONAL'S CERTIFICATION

I hereby certify that this plan is designed to contain sediment on the property concerned and to provide for the control of stormwater runoff from the property and that to the best of my knowledge and belief all the provisions are in accordance with the Stormwater Management and Sediment control Ordinance of York County, South Carolina.

11-29-11 Date — Registered Professional Engineer

INDEX OF SHEETS

ENGINEERING FIRM:
PLANS PREPARED BY: ESP ASSOCIATES, P.A.
ADDRESS: 3475 LAKEMONT BLVD., FORT MILL, SC 29708
PHONE: (803) 802-2440

OWNER: FORT MILL SCHOOL DISTRICT #4
ADDRESS: 120 E. ELLIOTT STREET, FORT MILL, SC 29715
PHONE: (803) 548-2527

FOR YORK COUNTY USE ONLY
APPROVED
Subject to York County Code of Ordinances by initials and date below.
Reviewer Date
Zoning: _____ _____
Engineering: _____ _____
Env Comp: _____ _____
Changes/Alterations to this plan may void permit #_____

Know what's below. Call before you dig.

FORT MILL SCHOOLS

FORT MILL SCHOOLS
BUS TRANSPORTATION
& MAINTENANCE
FACILITY

120 E. ELLIOTT ST
FORT MILL, SOUTH CAROLINA 29715

COMPLETE FACILITIES SOLUTIONS
MOSER MAYER PHOENIX ASSOCIATES, PA
326 E. Market Street Suite 200 Greensboro, N.C. 27401 Telephone 336-373-9800 Fax 336-373-0077

NORTH CAROLINA REGISTERED LANDSCAPE ARCHITECT No. 22781 JASON SCOTT CHILDERS 11-29-11
SOUTH CAROLINA ESP ASSOCIATES, PA No. 001144 CERTIFICATE OF AUTHORIZATION

ESP Associates, P.A.
P.O. Box 7030
Charlotte, NC 28241
3475 Lakemont Blvd.
Fort Mill, SC 29708
704.873.7190 (CLT)
803.802.2440 (SC)
www.espassociates.com

REVISIONS

NO.	DATE	DESCRIPTION
1	10-06-11	REVISIONS PER YORK COUNTY, OSF
		AND OWNER COMMENTS
2	11-01-11	REVISIONS PER YORK COUNTY
3	11-25-11	GRADING REVISIONS PER OWNER

DATE	08-19-2011
PROJECT NUMBER	ZE15.400
SCALE	1" = 60'
DRAWN BY	UAG
CHECKED BY	JSC

COVER SHEET

C2.0

LMG CONSTRUCTION & PROJECT MANAGEMENT SERVICES
FOR REFERENCE ONLY
03/04/2024


FMSD Transportation
Concrete Patch Locations
Legend
Gillig Rd
PIC 11
PIC 10
Gillig Rd
PICS 1 & 2
PIC 3
PIC 4
PIC 5
PIC 6 & 7
PIC 8
PIC 9
Google Earth
Image Landsat / Copernicus
N
500 ft

PICTURE #1

PICTURE #2

PICTURE #3

PICTURE #4

PICTURE #5

PICTURE #6

PICTURE #7

PICTURE #8

PICTURE #9

PICTURE #10

PICTURE #11

(5) Aisle Striping Plan

PAVEMENT MARKING SCHEDULE

- (A) VAN ACCESSIBLE HANDICAPPED PARKING SIGN
- (B) ADA HANDICAPPED PARKING SIGN
- (C) 8' WIDE HANDICAP PARKING LINES, 4" SOLID WHITE LINES AT 45° ANGLE WITH 24" O.C. SEPARATION
- (D) 5' WIDE HANDICAP PARKING LINES, 4" SOLID WHITE LINES AT 45° ANGLE WITH 24" O.C. SEPARATION
- (E) PARKING SPACE LINES, 4" SOLID WHITE"
- (F) ISLAND STRIPING LINES, 4" SOLID WHITE LINES AT 45° ANGLE WITH 24" O.C. SEPARATION
- BLUE ADA PARKING SYMBOL
- CONCRETE WHEEL STOP
- TRAFFIC FLOW DIRECTION (REFERENCE ONLY)

BUS PARKING SPACES - 12ft X 40ft (min), 4" SOLID WHITE LINES AT 45deg ANGLE

E

D

C

F

3' WIDE PEDESTRIAN WALKWAY IN YELLOW

- 127 BUS SPACES (14' X 40')
- 3 BUS SPACES (14' X 27'; MIN.)

Alternate #1:
Demo Existing Curb & Replace with Valley Curb for gravel lot entry

ALTERNATE #1: Gravel Parking Lot:
Approximately (50) Spaces for Bus Drivers
- Cut 4" of Existing Grade & Replace with ABC Stone
- Compact Subgrade prior to placement of stone
- Compact Stone following placement

NO PARKING - FIRE LANE

ONLY

RAPID REPAIR™ SYSTEM

High Strength Rapid Repair Products for Cracks, Patch Repairs, and Moisture Barriers

RAPID REPAIR FEATURES AND BENEFITS

- Self-adhesive polymer modified bitumen layer
- Ultrathin, so no bumps
- Fast and easy manual installation
- Slows and reduces long-term cracking
- Increases pavement life
- Lowers maintenance costs
- Fully millable and recyclable
- Moisture barrier

APPLICATIONS

- Paving seams and localized cracks
- Lane widening joint
- PCC joints
- Concrete or wooden bridge decks
- Trench cut repairs

FOUR EASY STEPS FOR INSTALLATION

1. Ensure surface is properly prepared, clean, dry and dust-free
2. Use a track coat or primer on heavily oxidized areas, milled surfaces, and on concrete surfaces
3. Lay pavement patch over area of repair and roll over it with a rubber tire to adhere the patch to the surface
4. Cover with a minimum of 1.5 in. (4 cm) of hot mix asphalt

High Strength Rapid Repair™ System Products

Product	Tensile Strength	Roll Width	Roll Length	Weight	Traffic	Crack Severity
Rapid Repair PG25	25 kN/m	1 ft	200 ft	48.6 lb	Low	Low
Rapid Repair PG25	25 kN/m	2 ft	100 ft	48.6 lb	Medium	Medium
Rapid Repair PG25	25 kN/m	4 ft	50 ft	48.6 lb	High	High
Rapid Repair PG100	100 kN/m	4 ft	50 ft	93.5 lb	High	High

Tensar, a division of CMC
2500 Northwinds Parkway
Suite 500
Alpharetta, GA 30009
TensarCorp.com
800-TENSAR-1

Exclusive distributors in the Americas for:

RAPID REPAIR™

Rapid Repair™ PG100 (GG100) Pavement Patch Solution

Specification Sheet – Rapid Repair™ PG100 (GG100) Pavement Patch Solution

Specifications for Use			
Property	**Test Method**	**Metric**	**Imperial**
Tensile Strength (Ultimate) (MD x XD)*	ASTM D4595	100 x 100 kN/m	570 x 570 lbs/in.
Tensile Elongation (Ultimate)*	ASTM D4595	3%	3%
Mass/Unit Area	ASTM D5261-92	1450 g/m^2	51 oz/yd^2
Melting Point Bitumen Layer	ASTM C338	>93° C	>199° F
Standard Roll Length		15 m	50 ft
Standard Roll Width		1.2 m	4 ft
Grid Size (Center to Center of Strand)		25 x 25 mm	1.0 x 1.0 in.
Material	Fiberglass reinforcement with modified polymer coating and adhered to a polymer modified bitumen adhesive layer		

*Testing performed on the grid only.

The values and tolerances given are obtained in our laboratories and in accredited testing institutions. All imperial values are approximate. The information given in this data sheet is to the best of our knowledge true and correct. However new research and practical experience can make revisions necessary. We reserve the right to make changes at any time. Statements concerning possible use of our product are not intended as recommendations for their use in the infringement of any patent. No patent warranty of any kind, expressed or implied, is made or intended.

Tensar®

Tensar International Corporation
2500 Northwinds Parkway
Suite 500
Alpharetta, GA 30009
tensarcorp.com
800-TENSAR-1

Exclusive distributors in the Americas for: ADFORS SAINT-GOBAIN

Section XXXX

Specification for PG 100, Peel and Stick Pavement Reinforcement Grid for Asphalt Overlays

1. GENERAL

1.1 SECTION INCLUDES

A. Strain relieving, waterproofing adding traffic capacity shall be comprised of a self-adhering polymer modified bitumen layer (peel and stick) and a 100kN high temperature elastomeric polymer coated pavement reinforcement grid. A release film, which is removed prior to placement, covers the self-adhesive mastic.

1.2 UNIT PRICES

A. Method of Measurement: By the square yard (or square meter - as indicated in contract documents) including wastage.

B. Basis of Payment: By the square yard (or square meter - as indicated in contract documents) installed.

1.3 REFERENCES

A. 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. D1777: Standard Test Method for Thickness of Textile Materials
4. D4354: Practice for Sampling of Geosynthetics for Testing
5. D4439: Terminology for Geotextiles
7. D5035: Standard Test Method for Breaking Force and Elongation of Textile Fabrics (Strip Method)
8. D5261: Standard Test Method for Measuring Mass per Unit Area of Geotextiles
9. D6241: Standard Test Method for the Static Puncture Strength of Geotextiles and Geotextile Related Products

1.4 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.

1.5 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, chemical composition of the filaments or yarns and other pertinent information to fully describe the product.

1.6 QUALITY ASSURANCE

A. Pre-Construction Meeting: Prior to the installation of the reinforcement, the Contractor shall arrange a meeting at the site with the manufacturer/supplier's representative and, where applicable, the installer. The engineer shall be notified at least 3 days in advance of the time of the meeting.

B. A manufacturer's representative shall be present, at minimum, for the first day of installation of the reinforcement and available thereafter upon request by the engineer.

1.7 DELIVERY, STORAGE, AND HANDLING

A. Product labeling, shipment, and storage shall follow ASTM D4873. Product labels shall clearly show the manufacturer or supplier name, style name, and roll number.

B. During storage, the product rolls shall be elevated off the ground and adequately covered to protect them from the following: handling, rain, extended UV radiation including sunlight, chemicals that are highly acidic or alkaline, high temperatures, and any other environmental conditions that may damage the physical property values of the product.

2. PRODUCT

2.1 MANUFACTURERS

A. SAINT-GOBAIN ADFORS AMERICA, INC.
14770 East Avenue
Albion, NY 14411

2.2 MATERIALS

A. PG 100 Peel and Stick High Tensile Paving Grid Reinforcement:

1. Strain relieving, increased traffic capacity and waterproofing low elongating reinforcing grid shall be comprised of a self-adhering polymer modified bitumen mastic layer (peel and stick) and a 100kN (571Lbs) tensile fiberglass, high temperature elastomeric polymer coated, pavement reinforcing grid. A release film, which is removed prior to placement, covers the self-adhesive mastic layer. The paving grid reinforcement shall conform to the properties in Table 1.

*Approved reinforcements are as follows:

TABLE 1 – RAPID REPAIR PG100 PAVING GRID REINFORCEMENT

PHYSICAL PROPERTIES			
Property	**Test Method**	**Units**	**MARV***
Tensile strength (min)*	ASTM D4595	kN/m (lbs/in)	100 x 100 (571 x 571)
Tensile Elongation (max)*	ASTM D4595	Percent	<3
Mass per unit area	ASTM D5261-92	g/m2 (oz/yd2)	1,450 (51)
Bitumen Melting Point (min)	ASTM C338	˚C ˚F	93 199
Polymer modified asphalt mastic adhesive Softening Point	ASTM D36	°C (°F)	Greater than 149 (300)

*Testing performed on the grid only.

Table 1 –Material and Strength Properties

	PRODUCT PROPERTIES	METHOD	UNITS	Type 2
Material Properties	Aperture Size (Center to Center)		mm (inch)	25.0 x 25.0 (1.0 x 1.0)
	Percent Open Area	CW-02215 MOD.[1]	%	Greater than or equal to 50
	Fiberglass Coating			Elastomeric Polymer
	Mass / Unit Area	ASTM D5261	g/m² (oz/yd²)	405 (12.0)
	Roll Width		m (ft.)	1.5 (5.0)
Strength Properties	Fiberglass Coating Softening Point	ASTM D36	°C (°F)	Greater than 232 (450)
	Tensile Strength (MD x CD)	ASTM D6637	kN/m (lb./in)	100 x 100 (571 x 571)
	Tensile Strength @2%	ASTM D6637	kN/m (lb./in)	80 x 80 (456 x 456)
	Elongation at Break	ASTM D6637	(%)	Less than 3
	[1] - Army Corp of Engineers test method correlated to light emitted through fabric.			

Table 2 Product Performance Requirements

	TEST DESCRIPTION	TEST METHOD	METHOD OF MEASURE	PERFORMANCE
Performance Requirements	Coating Softening Temperature vs. HMA Asphalt Binder Compaction Temperature	Temperature Comparison	Job Mix Formula Compaction Temperature Requirement	Coating Softening Point > HMA Compaction Temperature
	Field Millability and Recyclability Validation	Field Milling of Asphalt with Glass Grid	References or Reports	Documented Experience
	Asphalt : Grid composite stiffness for durability of composite layers over life of pavement during individual and long-term deformation	3Pt Beam Test at 70°F, Grid with polymer tack at mid depth relative to a control with polymer emulsion tack coat – cyclic stress-controlled loading	Minimum Improvement Factor vs. Control	> 3x
	Fatigue and Rutting Performance	Circular Full Scale APT [1] Testing vs. Control	Rutting and Fatigue	> 2x (rutting) >3x (fatigue)

	Fatigue and Reflective Cracking	MMLS3 Scaled APT [1] Testing vs. Control	Fatigue and Reflective Cracking Testing	>3x
	Full Scale Crack and Durability Test	NCAT Test Track [1] Performance	Number of ESALS	>60 million

[1]: APT – Accelerated Pavement Testing

2.3 QUALITY CONTROL

A. Manufacturing Quality Control: Testing shall be performed at an accredited laboratory.

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 the shipment quantity of the given product or a truckload of the given product, whichever is smaller.

3. EXECUTION

a. The surface on which the peel and stick pavement reinforcing grid is to be placed shall be reasonably free of dirt, water, vegetation or other debris.
b. The Rapid Repair PG 100, peel and stick pavement reinforcing grid shall be placed on a primed drainable surface, and any rutting or low spots in the pavement shall be removed by milling or by the use of a leveling course as shown on the plans.
c. Active Cracks exceeding 1/4 inch in width shall be filled with suitable crack filler. Potholes shall be properly repaired as directed by the engineer. Fillers shall be allowed to cure prior to placement of the engineered pavement reinforcing grid.
d. Neither the primer or asphalt tack coat nor the peel and stick pavement reinforcing grid shall be placed when weather conditions, in the judgment of the engineer, are not suitable. The air temperature shall be 50 F and rising for placement of the asphalt tack coat.
e. Application of a primer or tack coat, if specified, shall be by any method, but should provide full coverage, to promote adhesion of the extent of the peel and stick pavement reinforcing grid. The primer or tack coat should be uniformly applied and no pooling or bare streaks.
f. The primer or tack coat application, if specified, shall be wide enough to cover the entire width of peel and stick pavement reinforcing grid material. The primer or tack coat shall be applied only as far in advance of the peel and stick pavement reinforcing grid material installation as is appropriate to ensure a tacky surface at the time of the peel and stick pavement reinforcing grid material placement.
g. The Rapid Repair PG 100, peel and stick pavement reinforcement grid shall be placed onto the primer or tack coat with minimum folds or wrinkles and before the primer or tack coat has cooled and lost tackiness. As directed by the engineer, wrinkles or folds in excess of 1 inch shall be slit and laid flat or pulled out and replaced. In these repaired areas, additional primer or tack coat shall be applied as needed to achieve a sound bond to the substrate. Damaged peel and stick paving grid shall be removed and replaced, per the manufacturer's recommendations, at the contractor's expense with the same reinforcement material.
h. Brooms, or squeegees shall be used to remove any air bubbles and to maximize the peel and stick pavement reinforcement grid’s contact with the pavement surface and shall be done in accordance with the manufacturer's specifications and to the satisfaction of the engineer.
i. No traffic, except necessary construction traffic or emergency vehicles, shall be driven on the installed Rapid Repair PG 100, peel and stick pavement reinforcement grid, unless approved by the engineer. If traffic on the reinforcement is approved by the engineer, clean

sand shall be lightly broadcasted over the peel and stick pavement reinforcement grid before trafficking, and any loose sand shall be removed prior to paving.

j. The final coat of tack coat shall be placed prior to paving and allowed to break and cure. If the contractor chooses to do so, and with the agreement of the engineer, the peel and stick pavement reinforcement grid can be installed into the full width applied tack coat, as opposed to using a primer or tack coat, as long as the tack coat is allowed to break and cure.

k. Placement of the first lift of the HMA overlay shall closely follow placement of the Rapid Repair PG 100, peel and stick pavement reinforcement grid. On active roadways, all areas in which the peel and stick paving grid has been placed shall be paved during the same day, unless approved otherwise by the engineer. In the event of rainfall on the peel and stick paving grid prior to the placement of the first HMA overlay lift, the peel and stick paving grid shall be allowed to dry before the HMA is placed.

l. The compacted thickness of the first lift of the HMA overlay on the Rapid Repair PG 100, peel and stick paving grid shall not be less than 1.5 inches. Where the total HMA overlay thickness is expected to be less than 1.5 inches, peel and stick pavement reinforcing grid shall not be placed.

END OF SECTION