

POTHOLE REPAIRS TO PAVEMENT MATTHEWS, NORTH CAROLINA, USA

ROAD PAVEMENT REINFORCEMENT—FATIGUE CRACKING REPAIRS

Product: Road Mesh™

Problem

Fulwood Road is a busy highway in the Town of Matthews, NC. The highway wearing course was approaching the end of its fatigue life and required maintenance resurfacing. Although the road did not have any potholes, there were areas where the asphalt had cracked due to fatigue.

CFP Inc, Maccaferri's distributor based in Charlotte, NC, realized this would be an ideal trial area for Road Mesh™ asphalt reinforcement. Ralph Messera, Matthews' Director of Public Works, and Johnny Gray, Director of Street Maintenance, agreed.

Solution

Under normal circumstances, the cracks would be filled or cut out and patched, prior to the resurfacing. The Road Mesh™ would structurally reinforce the pavement, effectively retarding the crack propagating through the new overlay.

The Town of Matthews wanted to test the system without any milling at all. This would remove one of the maintenance operations, realizing further time and cost savings. Therefore, the rehabilitation consisted of;

- Fill cracks (larger than 1/4") to existing pavement level
- Place and secure Road Mesh™ to existing pavement
- Lay new 2" thick asphalt wearing course

Two areas were treated with Road Mesh™; a 25' long section and a 40' long section. Panels of the mesh were cut and placed over the cracked area, so that 6' (1.83m) of mesh extended beyond the edges of the cracked area. To stop it moving during paving operations, the Road Mesh™ was secured to the pavement surface using 2.5" (63.5mm) long Hilti™ sleeved nails drilled into the pavement surface.

The entire pavement surface was then paved with 2" (50mm) asphalt wearing course and then rolled.

The repaired section is now being monitored closely.

Client:

CITY OF MATTHEWS, NORTH CAROLINA

Main contractor:

CITY OF MATTHEWS PUBLIC WORKS DEPT.

Designer:

CITY OF MATTHEWS PUBLIC WORKS DEPT.

Products used:

ROAD MESH™

Date of construction

OCTOBER 2004



Existing fatigued area



Road Mesh™ secured using Hilti™ fixings

The cost of installing the mesh is a fraction of the standard 'cut and patch' repair cost, without considering the indirect cost of closing a section of the road for the businesses and population of Matthews.

The installation of the mesh was done at the same time as the paving operation, minimizing disturbance.

Independent research has proven that by structurally reinforcing the pavement, Road Mesh™ reduces rutting, shoving and fatigue cracking as well as extending maintenance intervals.

MACCAFERRI



Detail of crack beneath Road Mesh™



Fixed Road Mesh™ ready to receive wearing course



Placing asphalt using wheeled paver



Placing new wearing course



Rolling asphalt wearing course



Road Mesh™ overlap to reduce construction joint cracking

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