



## Case Study

**application** | Base Reinforcement & Wicking  
**location** | Weare, NH  
**product** | Mirafi® H<sub>2</sub>Ri & 160N

**job owner**  
**engineer**  
**contractor**  
**date of installation**

**Town of Weare, NH**  
**Town of Weare, NH**  
**Weare DPW**  
**June 2013**

TenCate develops and produces materials that function to increase performance, reduce costs and deliver measurable results by working with our customers to provide advanced solutions.

### THE CHALLENGE

As part of the Road Reconstruction Program in the Town of Weare, NH, 4200 lf of Flanders Memorial Road was scheduled for reclaiming and reconstruction of the base course which would be followed by a shim and pavement overlay. Flanders Memorial Road meandered through various grade changes with steep inclines and declines which had caused extreme wear and tear. The existing roadway was showing signs of fatigue due to drainage issues, rutting caused by high water tables and most concerning was the frost heave issues that were detrimental to the roadway.

The challenge for the town was to address the frost heave issue and rebuild the road with better rideability quality while making it safer for the increased amount of traffic. Another object was to make the road safer and easier for the



Mirafi® H<sub>2</sub>Ri geosynthetic undergoing installation.

snow plows during the harsh New England winters. It was also important to reconstruct the roadway within a tight budget while providing a roadway that lasts for years to come.

### THE DESIGN

Due to the varying base conditions, it was determined that the roadway sections be excavated 3'. In addition, drainage pipe was to be installed and daylighted to alleviate water issues. In order to improve the base conditions and help with the frost heave issues the Town decided to use TenCate Mirafi® H<sub>2</sub>Ri\*, a high strength reinforcement geosynthetic which would provide the much needed separation, reinforcement, drainage and confinement of the base materials and provide wicking of the wet soils.



Condition of roadway prior to construction.



Placing 12" layer of 1 1/2" < stone.

### THE CONSTRUCTION

Once excavation of the existing 3' was completed, a perforated drainage pipe was installed on the edge of the cut. A layer of Mirafi® H2Ri was placed on the subbase and 12" of 1 ½" minus stone was placed. Mirafi® H2Ri was placed such that the roll ends ended in a trench drain. After compacting this base layer, Mirafi® 160N nonwoven geotextile was placed to act as a separator for another 12" lift of 3" minus crushed ledge rock road base placed on top of it. This layer was rolled and capped with another 12" layer of 1 ½" minus crushed bank run gravel. This layer was compacted and will receive the shim and pavement overlay.

### THE PERFORMANCE

Thanks to TenCate Mirafi® H2Ri geosynthetic, the Flanders Memorial Road is performing much better than previous sections which did not incorporate the high strength fabrics.

The Town of Weare will have a roadway that will last for years to come saving them considerable maintenance dollars which can be used elsewhere.



Placing lift of 3" < over Mirafi® 160N.



First layer of 1 1/2 < before pavement overlay.

\*Patented

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