



Case Study

application | Base Course Reinforcement/Separation
location | Raleigh, North Carolina
product | Mirafi® HP370

job owner | City of Raleigh
engineer | Withers and Ravenel
contractor | Brinley's Grading

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

The contractor wanted to complete the road construction during a period of poor weather in January of 2003. They had roughly 1500' of roadway that needed to be completed on Marvino Lane and Country Trail. These were the two main collector roads needed for the 200+ home Cornerstone Subdivision.

THE DESIGN

The city, as a compromise, required the contractor to use a biaxial geosynthetic and 2" more base course than the typical 6" required. A little over 13,000 SY of Mirafi® HP370 was used for the biaxial strength geosynthetic.



HP reinforced intersection at Country Trail and Marvino Lane.



View down Country Trail reinforced with Mirafi® HP370.



Wide 15' panels allowed for efficient placement over the main collector roads. HP geosynthetics are also available in 13.1' rolls that work better for narrower local roads.

THE CONSTRUCTION

The wide rolls allowed the contractor to run the panels three wide with the proper overlap on the wide collector road entering the subdivision. The use of geosynthetics allowed the contractor to easily complete the project on time.

THE PERFORMANCE

Roads that used the Mirafi® HP370 are performing much better than the roads completed during the prior phase without the use of a reinforcement product. In addition, the traffic counts on these collector roads are significantly higher than the roads showing deterioration.



A well graded aggregate base course (ABC) was placed directly over the geosynthetic.

Alligator cracking is already developing on a previously installed and unreinforced roads.



Potholes have even developed on this section of Parkstone Drive.



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365 South Holland Drive Tel 800 685 9990 Fax 706 693 4400
Pendergrass, GA 30567 Tel 706 693 2226 www.mirafi.com

