



Drainage Road Maintenance N3 between Estcourt & Frere

Case Study

Project: Special Maintenance on N3
Client: N3 Toll Concession
Consultant: WSP Civil & Structural Engineers
Contractor: Kevin Pickard Projects

Date: June 2011
Product: **Megaflo™ 300**
Quantity: 10 400 m

Problem

On assessment of this busy section of the national highway, WSP Civil & Structural Engineers realised a large amount of water was trapped below the surface within the layer-works causing premature failure of the asphalt overlay. In this, the second phase of the maintenance, a solution was sought to alleviate this water build-up. This problem was of particular concern between the previously installed concrete finish and the existing asphalt overlay. The cause of the pooling was the lack of subsoil drainage between the road pavement and the cutting. This was the case on both sides of the road.



Rock saw digging the trench

Solution

Megaflo™, a 300mm high panel drain system, was used because of the system's ability to drain quickly. Its robustness and ease of installation which would ensure quick completion of this phase of the project. Specifically designed for road edge drains, **Megaflo™** is a high strength, high flow, panel collector and conduit drain system wrapped a **bidim®** filter jacket. This system provides optimum filtering performance in most soils to provide the ideal subsoil drainage solution. Additionally, **Megaflo™** is ideal for retrofitting as it causes minimal disturbance to the existing road pavement.

A rock-saw was used to dig a 450 mm deep trench between the shoulder and the slow lane of the designated stretch of highway.



***Megaflo™** installed with backfill*



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Once **Megaflo™** was installed, the trench was backfilled with a 9 mm no fines concrete and finished off with an asphalt plug. A strip of **Sealtac™** was then applied to act as a moisture barrier. The system now allows the layer works to drain to a depth of 450 mm.

Benefits

This phase of the project was completed without major disruption to traffic. The time- and cost-saving achieved was beneficial to both the client and the contractor.



Section of N3 with before final asphalt layer applied