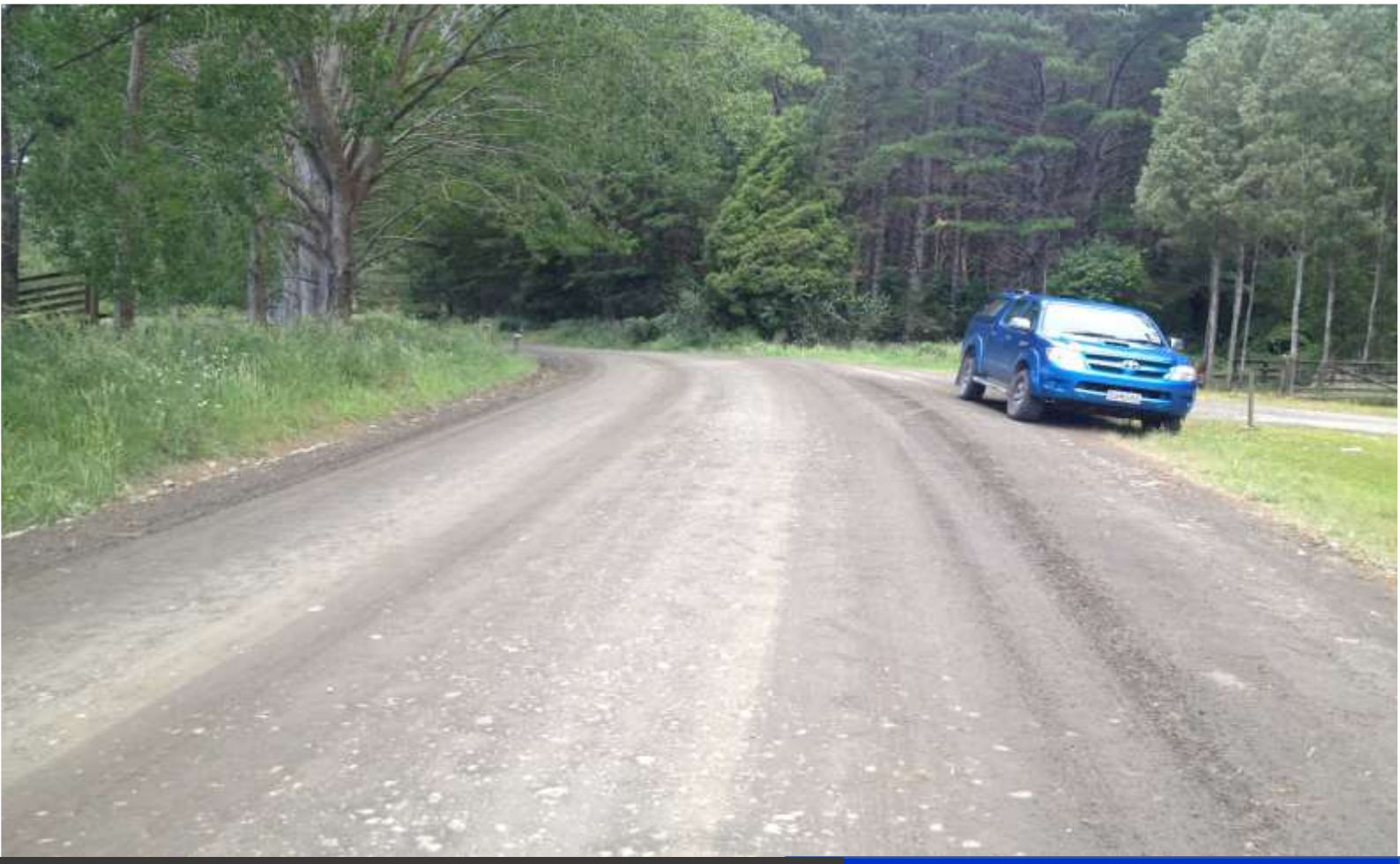
CASE STUDY - HSC

ROAD STABILIZING, DUST SUPPRESSION AND POT HOLE REPAIR

SPAINS ROAD, NZ

HSC – HYGROSCOPIC SOIL CEMENT STABILIZER



PRODUCT	HSC – HYGROSCOPIC SOIL CEMENT
ENGINEER	NOT REQUIRED
CLIENT	FAR NORTH DISTRICT COUNCIL, NZ
CONTRACTOR	HARRISON CONTRACTORS
LOCATION	NORTHLAND, NEW ZEALAND

WHERE SCIENCE MEETS THE EARTH

PROJECT-
Spains Road in Kaitaia, Northland is built over a peat subgrade. Peat is characterized by large porosity and low density with a large water and organic matter content causing issues such as dust, potholes, corrugations, heaving and gravel loss.
HSC was chosen because of its hygroscopic properties and its ability to greatly strengthen and stabilize weak soils and also its capacity for rehealing. The Clients expectation was 12-18 months however, the pavement was still well bound and suppressing dust 40 months following installation.

DESIGN
Stabilization of existing flexing peat subgrade and treatment of potholes
Application Rate: 4 kgs HSC per sqm & 10% HSC to the weight of the aggregate for pot hole repair
Gravel added: treated the insitu
Depth Treated: 75mm & potholes up to 50mm deep
Aggregate was a Sandy fine gravel
Equipment used: Grader, 10 ton Roller, Water Cart, Powder Spreader Truck, labourers, shovels, rakes, whacker packer

BENEFITS TO THE PROJECT:

- No imported aggregate was required as the insitu material was treated.
- An inexpensive eco-friendly solution for stabilizing and dust suppressing weak subgrades and pavements with high organic properties. The same product used for pothole fill.
- HSC improves the engineering properties of the treated soil and is proven to eliminate the cost of grading and re-sheeting on gravel roads for extended periods.
- Pavements can be designed so that they can be regraded and compacted.
- HSC Pothole performed very well in the task set out. The edges held tight to the pavement even though the stabilized aggregate in the hole varied from 5mm – 50mm deep.
- HSC has the ability to stay flexible and bind itself to the existing pavement.

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