

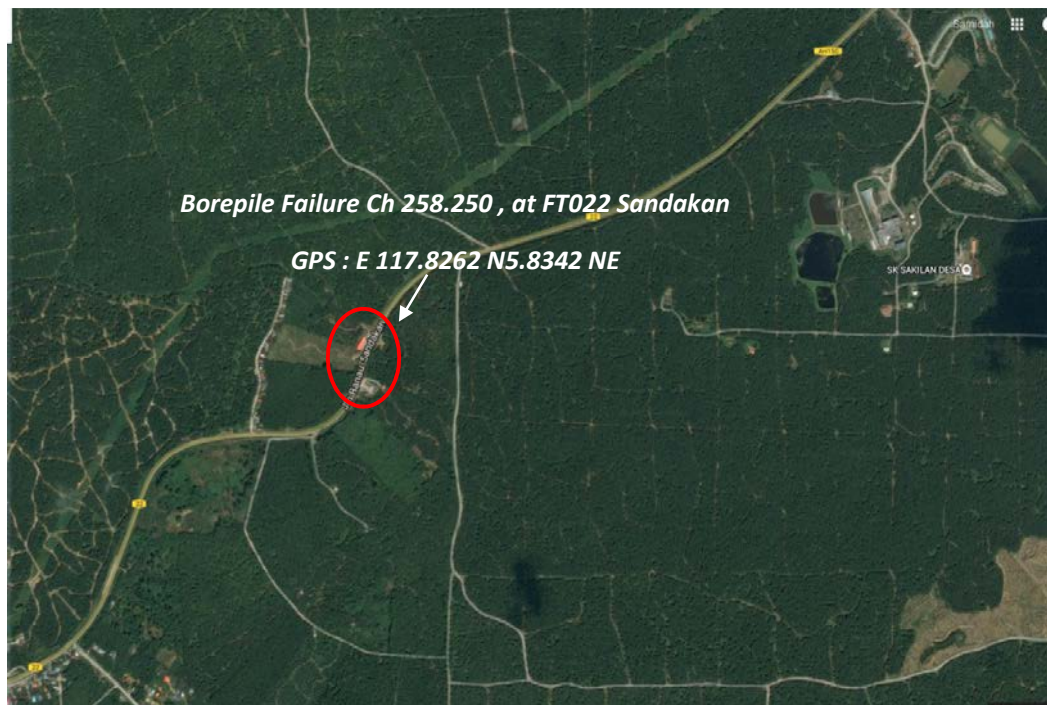
BOREPILE FAILURE AT CH 258.250, JALAN KOTA KINABALU – SANDAKAN (R22), SANDAKAN.

1. INTRODUCTION

This Borepile failure was first reported to UPPJ Sandakan on the 22nd August 2014 where a two inch depression on the road was noticed including movement of roadside drain. However, due to recent heavy rain, the failure had deteriorated further. The depression was recorded now at more than a two feet at out bound of Sandakan Town (RHS of the road). More crack were detected at LHS on 12.11.2015. The RHS of the road was barricaded for public safety.

2. LOCATION

The failure is located at CH 258.250 along Jalan Kota Kinabalu – Sandakan FT022 at Sandakan District. It is about 24 miles from Sandakan town and 8 miles from the Lahad Datu-Sandakan junction (check point, mile 32).





3. SEQUENCE OF EVENT

1ST detected on 22th August 2014.

Depression with two inch dropped on the road and movement of roadside drain detected.



Inspection on 12.08.2015

Pavement and RC structures (Roadside drain and borepile) cracks were visually detected.



Inspection on 11.11.2015

The failure had deteriorated further. The depression is now more than a foot with cracked on the roadside drain and structural crack have become wider and bigger.

Warning sign installed and RHS of road (outbound from Sandakan Town) was closed / diverted.



Inspection 12.11.2015

Further movement was visually detected with more cracks developed at LHS of the road. Slip circle indicating failure can be noticed which stretches up to the opposite side of the sealed shoulder.



Inspection 13.11.2015

RHS depression further deteriorated to more than two feet. LHS of carriageway showed further crack and a depression of about four inch is noticeable. Canvass was laid and premix bund constructed to divert surface runoff water.



4. PROPOSAL

A) FOR STAGE 1 (ROAD DIVERSION)

At the present rate of deterioration in the current rainy season, the road will be cut off completely in a matter of time. In order to avoid stranded road user, as a proactive and preventive measure we proposed to construct a sealed road diversion at LHS as shown at attachment. The estimation cost for construction of the road diversion is **RM 250,000.00**.

Total Length of this diversion road is around 90 meter with 7 meter width and construct with 700mm thickness of pavement structure.

Scope of work for proposed road diversion;

- 1) Relocation of utilities (11KVA SESB post - 4 nos and telco post- 4 Nos)
- 2) Site clearing and excavate to subgrade layer the alignment of proposed road diversion(include demolishing of existing Lhs roadside drain)
- 3) Prepare Subgrade layer
- 4) Supply and lay 300mm thickness of sub base material & 400mm thickness for road base layer
- 5) Sprayed prime coat and laying 50 mm thickness of Asphaltic Binder course
- 6) Sprayed tack Coat and laying 50 mm thickness of Asphaltic wearing course
- 7) Install proper traffic management to guide the road user.

B) STAGE 2 (ENGAGE A CONSULTANT TO DO A PERMANENT DESIGN)

There is an urgent need to conduct a detailed survey and soil investigation to facilitate a proper design to rectify potential danger to the road user. A qualify consultant have to be engaged to study the cause of the failure and propose a remedial measure.

Our first line estimates would cost around RM5.0 Million using reinforced earth with suitable aggregates backfilled as preferred materials.

We hope to be given an opportunity to provide the permanent solution as well as construction of the proposed remedial slope since we have a good track record in the several slopes we constructed in this region.

Plan View & Cross Section for Borepile Failure at Ch 258.250, Jalan Kota Kinabalu - Sandakan R22, Sandakan District

