

EROSION AND SEDIMENT CONTROL PLAN

MATATA REGENERATION PROJECT

WAITEPURU DIVERSION WORKS

This Erosion and Sediment Control Plan (ESCP) outlines mitigation measures proposed to minimise erosion and sediment loss from the Waitepuru debris control and stream diversion works on Manawahe Road in Matata.

All controls shown will be constructed to Environment Bay of Plenty Erosion and Sediment Control Guidelines (2001) standards and subject to inspection and approval from an EBoP representative at the time of works.

Introduction

Earthworks are being carried out to construct two bunds, to control stream flows, restore some flow to the Matata town watercourse, to provide a high flow bypass, and to direct future debris flows away from the developed urban area of Matata. Two new culverts are to be constructed, to restore flow to the town watercourse through the northern debris bund, and to convey higher flows across the railway and State Highway. As part of the works a pond area will be created between the bunds as part of hydraulic control of the stream and culvert system.

The earthworks will be carried out within a 7,500 m² area approximately that consists of a general cut area (between bunds) and four general fill areas (the debris and stream bunds and contouring between Manawahe Road and the railway). The total bulk earthworks volumes are: 7,500 m³ fill excluding topsoil, 20,000 m³ to be excavated, with up to a net 12,500 m³ to be removed from the site.

The works will require:

- Excavation of material and incorporation in the works
- Excavation and removal of some material from site
- Importing of material for incorporation in the works
- Stockpiling of material for use in the works

Sequence of works

The general sequence of the work will be:

- Carry out improvements to the town watercourse, and prepare sediment and erosion control works upstream of railway
- Construct the debris control bunds and stream diversion culvert to town watercourse
- Construct stream diversion bund and return flows to the town watercourse
- Construct culvert outlet basin and bypass channel
- Install new culvert(s) under railway and highway

- Construct new Manawahe Road carriageway, backfill and contour between road and railway

This sequence will reduce the potential impact of construction work on waterways.

Sediment Control

The one sediment control pond is to be constructed in the middle of the earthworks site, upstream of the railway. The pond will have a live volume of approximately 500 m³ approximately to treat runoff from the earthworks area. The pond will have a floating T-bar dewatering decants, an emergency spillway, and a manhole spillway at the outlet. It will discharge to the temporary culverts constructed under the railway after the May 2005 event.

The flow from the main Waitepuru catchment will flow through this pond until construction of the stream diversion bund and restoration of flows to the town watercourse. The existing weir structures in the stream will be maintained during initial earthworks, to provide additional sediment trapping capacity for material carried in flows from the catchment and the new bunds.

Clean water diversion drains will be established to direct overland runoff away from the open earthworks and unfinished areas. These will be directed to the natural drainage system.

As construction proceeds, further minor sediment control measures may be required in the form of cut off drains, silt fences and hay bale barriers.

Earthworks Operations

The construction of the necessary sediment and erosion control facilities will be carried out first. This will involve construction of a temporary sedimentation pond during construction and diversion drains, clean water diversion drains and silt fences.

Earthworks will begin upstream of the railway to create the temporary pond. The perimeter drains from the active earthworks areas, including stockpiles of imported material as necessary, will be constructed to direct and convey runoff to this pond area.

Site clearing and topsoil stripping (as necessary) of the initial earthworks area will be carried out after construction of sediment and erosion facilities. All suitable topsoil will be stockpiled on site for later spreading and use for final stabilisation of the works area.

Permanent earthworks will be completed progressively. As the bund areas are brought to finishing level they will be stabilised. Cut and Fill slopes will be stabilised and re-grassed/mulched as the works proceed.

Based on site observations some of the material to be excavated may be unsuitable for incorporation in the works. Therefore it will be necessary to screen excavated material and to transport unsuitables off site.

During all earthworks operations on the site, the Contractor shall undertake the following:

- All erosion and sediment controls will be regularly inspected, cleaned and reinforced so their integrity and function is not compromised.
- Diversion drains for both clean and dirty runoff will be constructed, and their positions moved as necessary during progression of the works.
- As earthworks areas are brought to finished level they shall be stabilised to EBoP standards.

Open work areas will be kept to a minimum and completed areas of earthworks will be immediately topsoiled and grassed, or mulched to limit sediment runoff while other activities continue on site.

Construction Access

There will be two site access points:

1. From State Highway 2/Pakeha Street across the railway on to the northern end of Manawahe Road.
2. From Manawahe Road to the south.

Access points will require a stabilised construction entrance (per section 5.7 of the EBoP guidelines). Drainage from these entrances will be directed to the sedimentation pond. It is planned and expected that the truck wash systems will limit the amount of mud and soil being removed with vehicle tyres onto the road.

In the unlikely event that soil is found on the surrounding roads the Contractor shall sweep and clean them immediately.

Timing and sequencing of earthworks

It is proposed that all bulk earthworks will be completed in one earthworks season.

Mitigation Measures

Dust

Dust shall be mitigated on site by the Contractor by spraying the ground with a water truck during high winds and/or unusually dry conditions. It is anticipated that dust effects will be minor given the other sediment and erosion control measures in place.

Suspended Solid Monitoring

The Contractor will monitor the sediment control facilities weekly, with special inspections undertaken before, during and after heavy rainfall to ensure the facilities are operating correctly. Visual checks downstream will also be carried out at this time to ensure that there will have been minimal conveyance of sediment from the site into the downstream watercourses.

Site Rehabilitation

On completion of the bulk earthworks all areas of bare land created by earthworks will be stabilised by:

- Topsoiling and grassing bund areas

- Topsoiling and grassing and planting other vegetation in other areas
- Sediment control facilities will be fully maintained until the site has been stabilised.