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Report to Environment Committee
from Bruce Croucher, Resource Quality Officer

Rimutaka Summit Remediation Scheme

1. Purpose

To present to the Committee the details of the remediation of the Rimutaka Summit Yard.

2. Background

In the last Long Term Financial Strategy (LTFS) the Council made provision in its budget to clean up contaminated sites on land which it either owned or occupied. This was seen as a way for the Council to "clean-up its own home" and set an example for other landowners.

The only site identified as needing significant remedial works was the Rimutaka Summit Yard which is managed by the Landcare Division.

The Rimutaka Summit Yard was used by the railways until the 1950s. The area was then planted in forest which was logged last year. The Council's Parks and Forest Department then decided to develop the area as open space for public use.

During initial landscaping work, ash, clinker and metal scraps were found on the site. These contaminated materials are believed to have resulted from the railways' activities formerly undertaken at the site. They may also include waste from the old railways' workshop in the Hutt Valley.

Analysis of samples taken from the site showed high concentration of aluminium, manganese, lead, copper, zinc and iron.

Following the analysis of the samples, a site inspection was undertaken to determine the risks posed to the watercourse from the heavy metals. It was observed that a drain passed under the railway formation and into the contaminated fill. This means that

there is a high probability that metals are being leached from the fill and discharged to the stream. During the site inspection a number of pieces of fibrous materials were observed and a sample was taken for analysis. The results of the analysis showed this material to be asbestos. As a precautionary measure, pending the results of the analysis, a site walk over was undertaken and all the visible fibrous materials were covered with a layer of soil. However, to enable safe public use of this space some form of remediation/management of the contaminated fill is required

3. **Remediation Plan**

A remediation plan was developed with the following objectives in mind: -

- (1) To mitigate the risk to people using the site by preventing any direct contact with the contaminated materials;
- (2) To minimise leaching of contaminants from the fill area;
- (3) To minimise the environmental effects of the remediation;
- (4) To produce a cost effective solution;
- (5) To provide an outcome which is in harmony with the surrounding area and sympathetic to the intended land use.

The remediation plan which was developed (see attachment) involved: -

- (1) Encapsulation of contaminated materials using locally sourced impervious materials;
- (2) Using cut off drains and a stream diversion to minimise the ingress of water into the contaminated fill;
- (3) Health and safety measures to minimise the risk to contractors and people using the incline from the contaminated materials;
- (4) Monitoring of contractors and the environment to ensure that the health and safety measures are working effectively.

The remediation plan was developed with the Council's Parks and Forests Department to ensure that it met their requirements for the proposed end use of the site.

4. **What's Happened?**

The Wellington Regional Council's Engineering Consultancy Department was commissioned to undertake a site survey. The survey drawings provided the information required for the detailed design of the capping layer and the stream diversions.

The Engineering Consultancy Department designed the remediation scheme and prepared the tender documents.

The objectives of the remediation design were to:

- reduce the footprint of contaminated areas;
- reduce the amount of capping material required;
- ensure that the slope faces are stable; and
- prevent erosion of the capping layer by the stream.

The engine bodies that were present on the contaminated areas, plus two that were uncovered during the excavation, were washed down to remove any contaminants and relocated on to a specially prepared pad within the summit yard sidings area. The engineered capping layer comprising approximately 400mm of clay was placed over the contaminated materials. The clay was sourced from local clay stockpiles and laid in two thin layers. Each layer was compacted using a roller ensuring the capping is durable and impervious. The clay capping was then covered with an approximately 100mm thick layer of imported topsoil

The stream that currently runs through the contaminated materials was diverted into a different tributary of the same river and the culvert passing through the contaminated materials was sealed at both ends. A cut off drain was constructed up gradient of the site to prevent ingress of groundwater into the contaminated fill. An infiltration pit was constructed at the base of the contaminated material allowing any water infiltrating into the contaminated materials the water to dissipate to ground rather than discharge to the stream. The infiltration pit has a monitoring well so its effectiveness and the water quality can be measured.

The works on the site took approximately three weeks to complete and all practical measures were taken to ensure that the track remained open to the public and to minimise the risk posed by the contaminated materials.

5. **Further Work**

The clean up of the site and the capping of the contaminated materials has been completed. In the spring the site will be fertilised and sown with grasses to minimise the amount of silt discharged to the stream. The infiltration pit will be monitored and samples of any water present will be taken and analysed for contaminants.

6. **Cost of Remediation**

The costs of the remediation, including all the monitoring costs, are estimated to be \$72,000. This will be paid for out of the existing Resource Investigations Department budget.

7. **Communication**

During the works, signs were erected at the summit yards to warn the public of the risk posed by the contaminated materials and the works undertaken on the site.

8. Recommendation

That the report be received and its contents noted.

Report prepared by:

Approved for submission:

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Attachments: 1