



Officers Report

Appendix 13

WDC Kaiapoi River Rehabilitation Memo

WAIMAKARIRI DISTRICT COUNCIL

MEMO

FILE NO AND TRIM NO: DRA-07 / 151013140852 // Pol-08-51 / 160322025464

DATE: 14 March 2016

MEMO TO: Residential Red Zone Future Use Project

FROM: Janet Fraser, Utilities Planner, on behalf of;
Waimakariri District Council, and
Kaiapoi River Rehabilitation Working Party.

SUBJECT: Use of excavated sediment from the Kaiapoi River in the
Kaiapoi Red Zone

The purpose of this memo is to inform the Residential Red Zone Future Use project about an opportunity to use sediment excavated from the bed of the Kaiapoi River to support potential new land uses within the Residential Red Zone.

An option is included in the Preliminary Draft Waimakariri Residential Red Zone Recovery Plan to use sediment that may be excavated from the Kaiapoi River within the Kaiapoi East regeneration area of the Red Zone (options referenced on pages 40 and 76 of the plan). The use of sediment as proposed in the Plan is supported by the Waimakariri District Council and the Kaiapoi River Rehabilitation Working Party.

The excavated river bed sediment could be used within the Kaiapoi Red Zone for a variety of potential purposes. These include as fill during the formation or construction of future stormwater management, mahinga kai, recreation (including BMX track construction) or business areas.

This proposal has arisen following Working Party investigation into options to manage sediment and improve navigation safety in the Kaiapoi River. As a component of this work, it is looking at options to reuse any material that may be excavated to support works being undertaken on nearby sites. All potential options for use of the excavated material are now being considered. These include use of excavated river bed material within the Red Zone, on adjoining Council reserve land or final disposal to landfill.

This proposal is made on the basis that any excavated material that could be used within the Red Zone would be tested to ensure it is not contaminated. If, for instance, the sediment were to be considered for potential use in mahinga kai areas or wetlands, then the permeability, chemical and structural composition of the material would need to be determined. In addition, the levels of dissolved oxygen and nutrient / organic matter content would be examined.

Should this proposal be supported then the Working Party will test the sediment composition and also test for the following contaminants:

- Metals
- Organo-chlorine pesticides
- Polycyclic aromatic hydrocarbons

The use of Kaiapoi River sediment in the adjoining Red Zone may be considered an appropriate fill option due to the similar origins and characteristics of the river bed and red zone materials. For instance, the sources of the sediment located in the river bed are:

- 1) Erosion from the upstream catchment. This sediment therefore has similar characteristics to soils found in the upstream catchment.
- 2) Sediment conveyed into the Kaiapoi River from the downstream Waimakariri River through tidal backwash.

It is observed the bed and banks of the Kaiapoi River and floodplain of the Kaiapoi township are derived from these same sediment sources.