

# **Ravensdown Napier Works**

## **Habitat Abundance Restoration Project Plan**

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**Document Review**

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## 1. Introduction

The Napier Works Sustainable Site Project (**NWSSP**) embraces a step change on site in the management and treatment of discharges. This step change is reflective of:

- The strong desire for Ravensdown to be outward looking, responsive and respectful towards both its Napier neighbours and wider stakeholders by championing excellence in environmental performance and compliance.
- The location of the Site adjacent to the significant Waitangi Estuary area, and on a main arterial route between Napier and Hastings.
- The new requirements for water quality set out in national and regional planning documents.

Water treatment will consist of a multi-step treatment train, which will be installed in a phased approach. This is outlined in the project *Water Discharge Strategy - Ravensdown (November 2021a)* and *Adaptive Management Plan -Ravensdown (November 2021d)*.

As part of Ravensdown's Discharge Strategy a long-term commitment will be made to improve the ecological values of the area through a HARP (Habitat Abundance Restoration Project) with the restoration of a wetland area south of the Ravensdown Works site in the Waitangi Regional Park.

The concept of a wetland area, to maximise the restoration potential, by establishing a permanent shallow wetland was previously proposed to the Hawkes Bay Regional Council in 2001<sup>1</sup>.

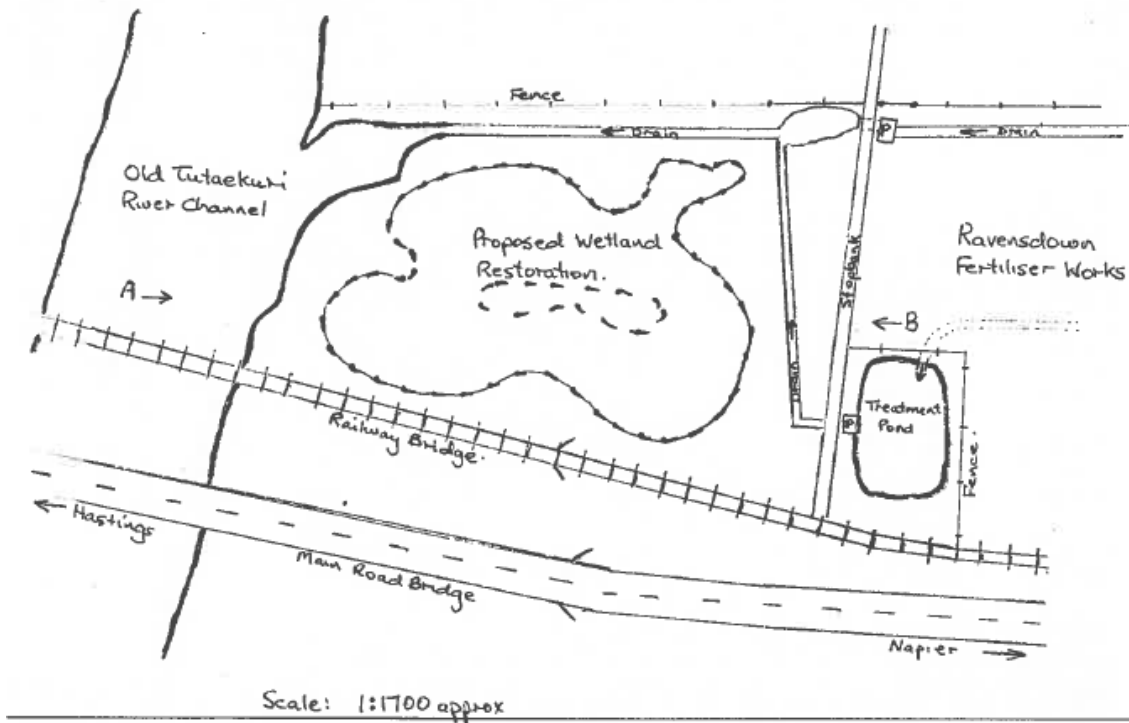


FIGURE 1: ORIGINAL SKETCH OF PROPOSED WETLAND SOUTH OF RAVENSDOWN NAPIER WORKS

<sup>1</sup> Bay Eco Solutions (2001), Ravensdown Fertiliser Works Wetland – Concept Plan

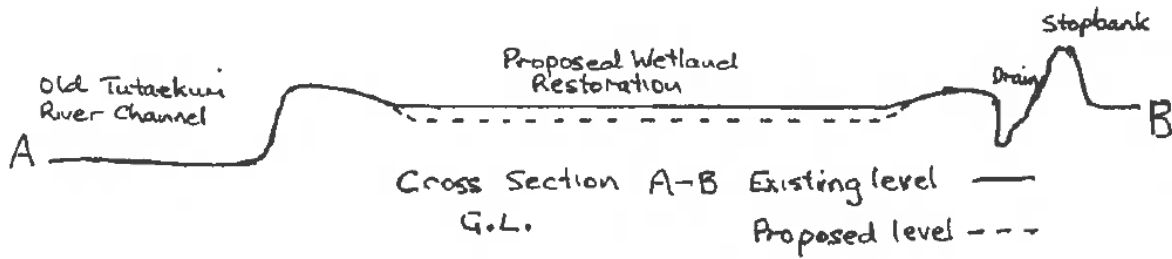


FIGURE 2: CROSS SECTION OF PROPOSED WETLAND SOUTH OF RAVENSDOWN NAPIER WORKS

As part of the consent process Ravensdown formed a Technical Focus Group (TFG), made up of representatives from key stakeholder groups to engage with Ravensdown during the renewal of both the water and air discharge permits. The purpose of the TFG was to provide advice and input to Ravensdown as part of a two-way information sharing process, including input into the assessment of alternative options for the treatment and discharge of the stormwater and process water from the site. During this process it was identified that the diminishing levels of Mahinga Kai within the immediate and outlying areas was a significant cultural concern to Mana Whenua.

A HARP team was subsequently established with several representatives from the TFG. The project objective was developed through this group and a Te Reo translation was provided by Mana Whenua.

Ravensdown also met with key staff from the Open Spaces Team at the HBRC and will partner with the council in the restoration of this wetland area. HBRC have provided a partnership agreement for the project included as Appendix 1. Final sign-off for the development will be sought through the HBRC both as landowners and the consent authority for resource consent associated with the project. Conditions have been proposed as part of Ravensdown’s resource consent applications using an adaptive management approach with targets for increasing habitat abundance for key species. A monitoring programme will also be developed in consultation with Mana Whenua and an Ecologist.



FIGURE 3: SCHEMATIC REPRESENTATION OF THE PROPOSED HARP WETLAND

## 2. Project Objectives

The primary objective developed and agreed by the HARP working group is:

***“Mā te mahi ngātahi te taiao me ngā taonga o te wahapū o Waitangi e whakapai ake”***

***“Wholistically partnering in improvement of the habitat and taonga of the Waitangi Estuary”***

This objective will be delivered by:

1. The development of a wetland area that will provide amenity through natural and cultural landscape values and biodiversity.
2. Acknowledging the mana whenua and history of the area by providing visual displays commemorating the history of the area.
3. Agreeing a suitable name for the wetland that will bring together the values and history of the area.

## 3. Proposed Delivery Mechanisms

Ravensdown have engaged with experienced local wetland experts, John Cheyne and Hans Rook, along with mana whenua and HBRC experts to assist with the wetland design and to provide construction oversight/consultation.

The following provides a list of design requirements:

- A buffer zone of 30m from the toe of the stopbank to the new wetland to allow for service investigation requirements by the HBRC and potential widening or lifting.
- Permanent water to be supplied by a combination of:
  - Ravensdown discharge directly into the wetland area, following treatment of water through a treatment train.
  - Artesian bore supply from Ravensdown’s existing consented bores, or a dedicated bore within the regional park area.
- Allowance for Evapotranspiration at a rate of 0.7 litres per hectare per second. This equates to a maximum of 3,670m<sup>3</sup> per month for 2 hectares that would be required for wetland sustainment.
- Construction of a fish pass/outlet where the Ravensdown Drain enters the Awatoto Drain.
- Shallow water areas less than 0.4 metres to attract waterfowl and wading birds.
- Sloping margins to allow birds to walk out of the water to rest or enter the water for food.
- Open margins, low lying mud banks and half submerged logs to provide loafing spots where waterfowl can rest and sun themselves.
- Irregular and long length edging to provide for feeding, loafing and shelter.
- Islands to provide additional edge as well as the least disturbance for nesting and loafing sites. Islands should not be too tall as this increases their attractiveness to rodents.
- Patches of tall grass and low bushy shrubs close to, or within the wetland providing good nesting sites and for Inaunga spawning.
- A 50/50 proportion of open water and vegetation.
- Overhead cover through emergent vegetation or overhanging trees.
- Flood zone effects through scouring and debris.
- Ecosourcing of plants.

A detailed planting plan will be developed as the project progresses.

Ravensdown have approached both HBRC Open Spaces team and Ngāti Pārau Kaitiaki Rangers to discuss maintenance of the wetland area, and Ravensdown will ensure a suitable contract arrangement will be entered into for the long term maintenance program.

To establish a suitable level of stability within the wetland the advice is that a 12 month period will be required between any initial earthworks to shape the area and introducing water to the wetland. To encourage the establishment of the wetland a Rāhui would be placed on the area. The following table sets out the proposed timeframes.

TABLE 1: PROPOSED IMPLEMENTATION TIMEFRAMES

TIME FROM CONSENT GRANT	PROJECT COMPLETION
Year One	<ul style="list-style-type: none"> <li>▪ Rāhui placed on the area.</li> <li>▪ Earthworks undertaken.</li> <li>▪ Grassing of the wetland</li> </ul>
Year Two	<ul style="list-style-type: none"> <li>▪ Wetland flooded with water</li> <li>▪ Initial planting completed.</li> </ul>
Year Three	<ul style="list-style-type: none"> <li>▪ Maintenance Plan implemented.</li> <li>▪ Further planting.</li> </ul>

## 4. Performance Targets

- Restoration of 2 hectares of land south of the Ravensdown Napier Works, within the Waitangi Regional Park.
- Increased biodiversity and abundance of habitat for key taonga species (measured each five years of the 35 year resource consent period through habitat abundance surveys).
- Effective pest control in the project area (measured through annual trapping statistics).
- Ongoing maintenance and management of the area.

## 5. Project Costs

TABLE 2: SUMMARY OF PROJECT COSTS

ITEM	ANNUAL COST	TOTAL PROJECT COST
Earthworks	\$ 60,000	\$ 60,000
Grassing	\$ 5,000	\$ 5,000
Planting (approximately 4,000 plants in years 2 and 3)	\$ 20,000	\$ 40,000
Management and maintenance (over 35 years) <sup>2</sup>	\$ 15,000 <sup>3</sup>	\$525,000
<b>Total Cost</b>	<b>\$100,000</b>	<b>\$630,000</b>

<sup>2</sup> Annual management and maintenance costs to be based on a contracted weed control and pest control program for the HARP area.

<sup>3</sup> CPI adjusted

# Appendix 1

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