Napier Works Sustainable Site Project

Water Discharge Strategy 2021

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ravensdown

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Contents

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1 Introduction

This Discharge Strategy relates to the stormwater and process water discharges from the Ravensdown Limited Napier Works ("the Site"). The Discharge Strategy is Ravensdown's cornerstone document underpinning a complete review of stormwater and process water management on the Site looking forward to the replacement of the company's permit to discharge stormwater and process water from the Site which expires on 31 May 2022.

In order to continue to operate under this consent, under section 124 of the Resource Management Act 1991 (**RMA**), an application to renew this discharge permit must be lodged with the Hawke's Bay Regional Council on or before 30 November 2021 (six months prior to the expiry date).

While the company is currently operating in reasonable compliance with the conditions of its existing discharge permit, it is recognised that positive and significant improvements are necessary as a basis for requesting a long term (35 year) discharge permit to secure the future of the site, and in recognition of:

- The concept of Te Mana o Te Wai[1], which is enshrined in the National Policy Statement for Freshwater Management (NPSFM 2020).
- New water quality limits and targets being promoted by HBRC in Plan Change 9 (**TANK**) to the Hawke's Bay Regional Resource Management Plan (**RRMP**).
- 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 near to the significant Waitangi Estuary area, which has considerable environmental, historical and cultural values and is now a Regional Park.

The Discharge Strategy considers recent discharge monitoring results relative to the existing resource consent discharge limits compared against known current and developing water quality guidance documents and planning instruments. The regulatory standards for the quality of the discharge have become more stringent since the current discharge permit was obtained. Water quality objectives from regional and national planning documents have been used as a guide for likely discharge expectations. As a precaution, where there are overlapping standards the most conservative standards have been used.

This Discharge Strategy will be used to write a Project Description section of the Assessment of Environmental Effects document describing the changes that will be made across the site, and to process and treatment plant.

2 Existing Stormwater and Process Water Management

The Site is split into four stormwater catchments (Figure 1):

- Catchment 1: Truck wash and exit
- Catchment 2: Despatch and manufacturing
- Catchment 3: Site office, intake store, melting and acid plant north
- Catchment 4: Acid plant south

[1] Te Mana o te Wai refers to the vital importance of water. A resource consent application must demonstrate how it will ensure that freshwater is managed in a way that prioritises a hierarchy of obligations (in this order) - the health and well-being of water, the health needs of people (e.g., drinking water), the ability of people and communities to provide for their social, economic and cultural well-being.

Stormwater runoff from the southern end of the site (between Catchment 4 and the sites settling pond) is collected in roadside swales and infiltrated to ground.

Process water that flows into the stormwater system is generated during acid plant operations and from blowdown water from the cooling towers, south of the acid plant.

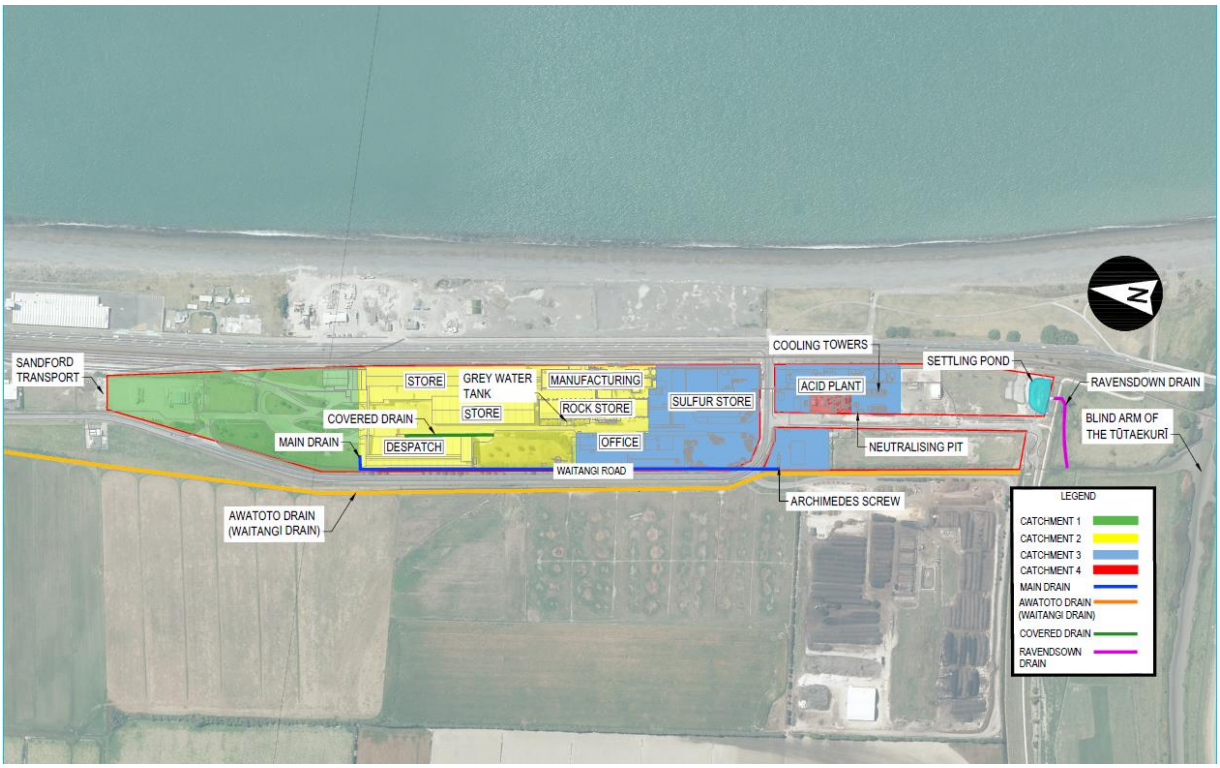

FIGURE 1: STORMWATER CATCHMENTS

The stormwater and process water that is not reused on site, ultimately discharges to the settling pond located at the southern end of the site. Outflows from the settling pond make their way to the Ravensdown Drain which discharges to the Tūtaekurī Blind Arm, then west into the main stem of the Tūtaekurī River. The Tūtaekurī River then flows east to the Waitangi Estuary which discharges into the Pacific Ocean.

3 Baseline Environmental Assessment

Streamlined Environmental completed an ecological and water quality assessment[2] of past and current stormwater and process water discharges, discussed in the context of the current discharge permit. They noted that "*very high compliance has been recorded for discharge flow (100%), pH (94%), TSS (100%), and fluoride (100%)"* and *"Very high compliance has also generally been observed for SRP and DRP"* 95th and 99th percentile limits *(95%, 95%, 95% and 98% respectively)*[3].

Streamlined Environmental also stated "*sites within the mixing zone are characterised by reduced diversity and abundance of benthic fauna, most likely reflecting impacts from the discharge*", and "*concentrations of some metals exceed guideline values both upstream and downstream of the Ravensdown discharge under wet weather*

[2] Phillips, N., De Luca, S., Stewart, M., Leitch, K., McDermott, K., Eivers, R. (2021) Ravensdown Napier Baseline Technical Investigations. RVD1901, Streamlined Environmental, Hamilton, 157 pp, Section 4.4.1.

[3] Excluding 2013 - 2014 (SRP, 95% limit; TP, 95% and 99% limit) and 2017-2018 (SRP, 95% limit), where exceedances were greater than allowable.

conditions. In addition, concentrations of some metals are higher at upstream sites than within the mixing zone or downstream under ambient conditions". This signals that Ravensdown is only one contributor to water quality in the area, and its discharge is part of a cumulative effects environmental baseline, alongside other point sources and diffuse discharges in the upstream catchments.

Overall, Streamlined Environmental concluded there were **minor effects** as a result of Ravensdown's current discharge.

The results of a tracer dye study completed in March 2021 by Streamlined Environmental showed dilution factors of 2-2.8 times in low tide conditions and 3.2-4.9 times in high tide conditions. These results will be used to understand the relationship between discharge water quality and the receiving environment. This dilution is significantly lower than that indicated by a previous investigation at the site (Bioresearches, 2006), which indicated there was almost 100 times dilution of discharges on a falling tide.

4 Discharge Options Assessment

4.1 Technical Focus Group

Ravensdown have 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 is 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.

4.2 Alternative Options Assessment

In the assessment of an application for a discharge permit or coastal permit, section 105(1)(c) of the RMA requires that:

"the consent authority must … have regard to … any possible alternative methods of discharge, including discharge into any other receiving environment."

s105 of the RMA requires that there be a consideration of alternative methods to any discharge, including as to whether the discharge could be into any other receiving environment.

Ravensdown initiated an assessment of alternative options for the treatment and discharge of the stormwater and process water from the site to review both the method of treatment and the receiving environment utilising a multi criteria decision analysis process (MCDA).

Ravensdown and their technical advisors developed a range of eight feasible options to manage the stormwater and process water from the site discharging to three receiving environments (ocean, estuary and land), including a combination of options which would split the high and low risk contaminant areas across the site (Figure 2 and 3 below). Each option was scored against 10 different criteria under four categories - Technical, Consenting and Environmental, Financial and Stakeholder (including Mana Whenua values). The criteria were weighted depending on their relative importance.

The Ravensdown Project Team and Technical Team scored the Technical, Consenting and Environmental, and Financial criteria and invited the members of the TFG and Mana Whenua representatives to provide a score for each option against the "Stakeholder" and "Mana Whenua Values" criteria respectively. As part of this process the members of the TFG agreed to the following objective for the MCDA process:

"To establish the most sustainable long-term solution for the treatment and discharge of stormwater and process water from the Ravensdown Napier Works to enable the continued operation of the site."

This MCDA process led to the preferred option which is the subject of this Discharge Strategy and detailed in Section 5 below.

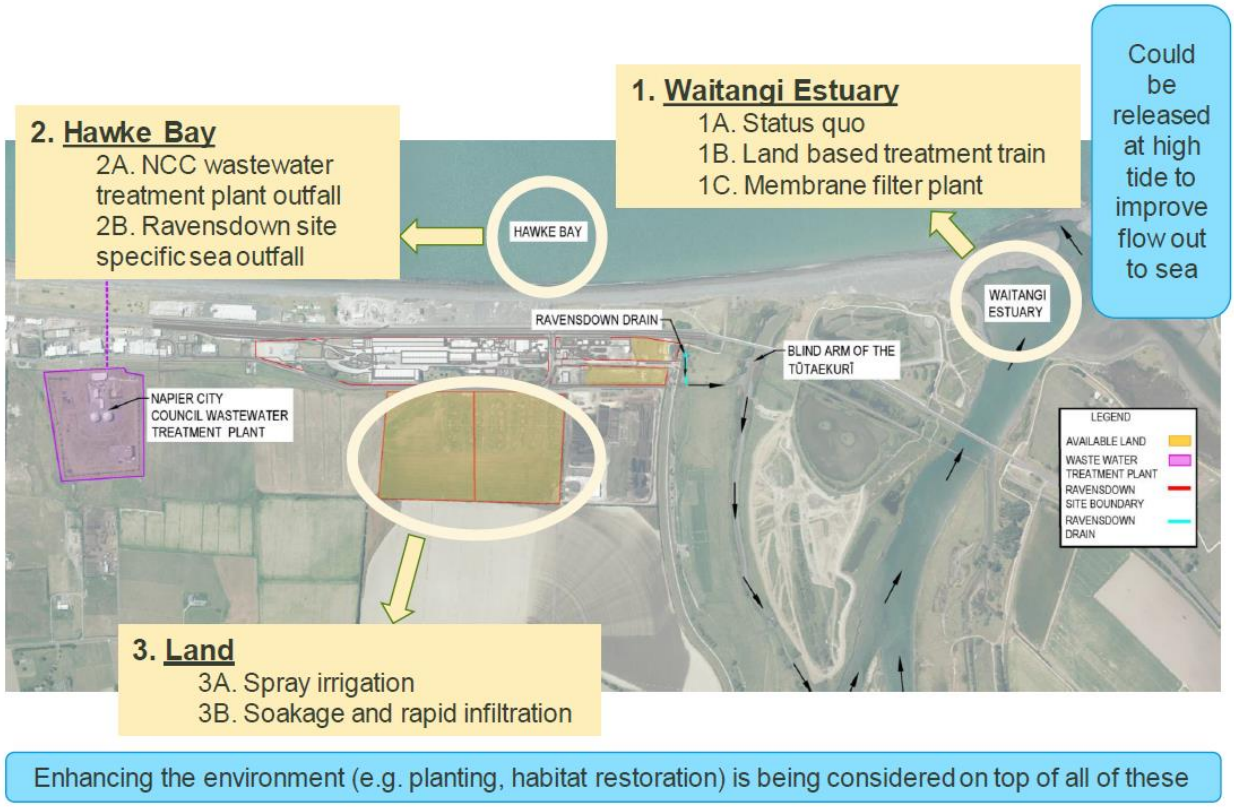

FIGURE 2: DISCHARGE OPTIONS (EXCLUDING THE COMBINATION OF OPTIONS)

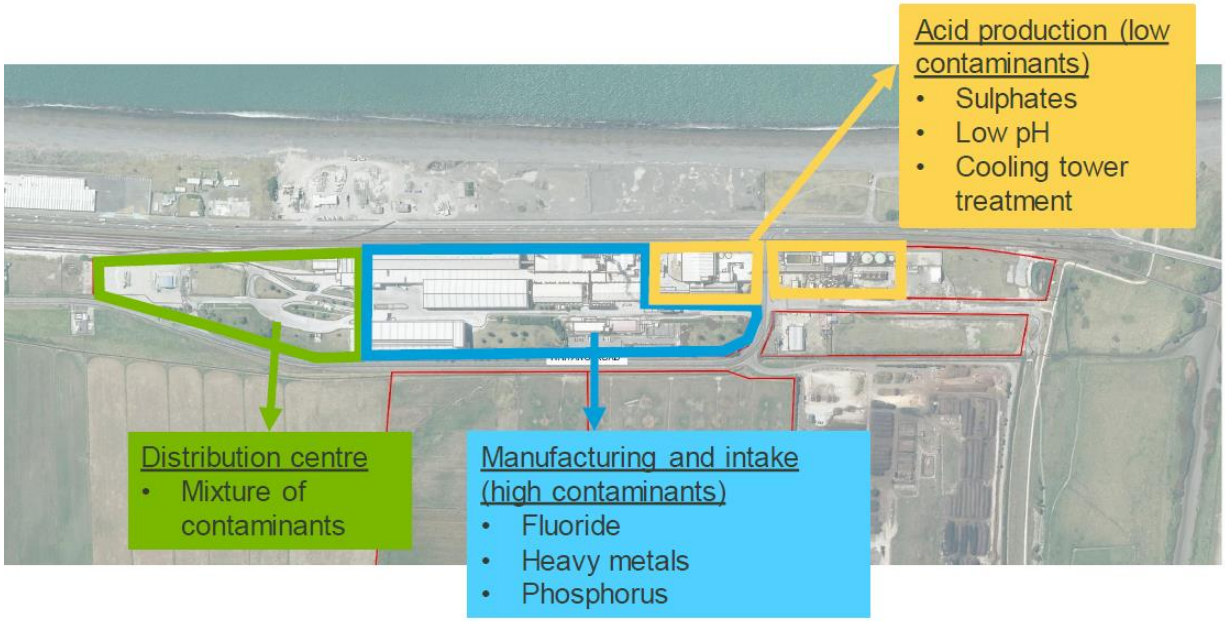

FIGURE 3: HIGH AND LOW RISK CONTAMINANT AREAS - COMBINATION OF OPTIONS

5 Discharge Strategy

5.1 Overview

The management of stormwater and process water needs to align with Ravensdown's organisational goals, meet the expectations of the community, and be consistent with national and regional planning documents. Community and regulatory expectations have changed significantly since the previous resource consent process. The raising of expectations around discharge water quality, and the lower dilution of Ravensdown's discharges in the receiving environment, requires an improvement in the quality of the discharge over a period of time. Ravensdown will balance environmental and business sustainability, with the aim of achieving Best Practice for emissions where possible.

Resource consent conditions will set water quality standards at the point of discharge with agreed timeframes for meeting the targets. Achieving the expected water quality standards will require improvement around site, including housekeeping (source control) and the establishment of, and compliance with maintenance standards, along with new water treatment processes to remove residual contaminants to the low level required.

Treatment of the sites stormwater will use known and proven technologies, with the primary aim of having a robust and reliable stormwater and process water treatment system. One of the most significant challenges associated with the design and operation of any stormwater treatment system is that it is generally infeasible to achieve a "steady state" operation due to large variations in both the quantity and quality of water to be treated. Many traditional wastewater treatment devices, especially those associated with biological treatment, rely on achieving steady state. Where flow-based treatment devices are utilised, non-biological processes will be used as a preference. Where volumetric treatment is possible, for example in wetland treatment systems, biological treatment will be more appropriate.

Under the current site operations, dilution water is utilised to ensure compliance with existing water quality requirements. While the dilution water is effective in meeting these concentration-based guidelines, it does not provide for removal of any contaminant mass from the effluent.

5.2 Habitat Abundance Restoration Project

As part of the Discharge Strategy, Ravensdown will make a long-term commitment to improving the ecological values through planning and establishing a Habitat Abundance Restoration Project ("HARP") within an identified area of the Waitangi Regional Park. This will be an environmental benefit project included in the consent application, completed in partnership with Mana Whenua, TFG members and the HBRC. A separate plan will be included in the consent application detailing the project.

5.3 Adaptive Management Approach

Ravensdown's resource consent application for the discharge of stormwater and process water from the site will be based on an Adaptive Management approach. Adaptive Management has become a recognised response in both statutory planning documents and caselaw. It is used to address uncertainty surrounding risk decisions and enable activity to progress while securing the ongoing effective protection of the environment

Adaptive management is described in the 2012 Board of Inquiry decision into the Transmission Gully Project[4] as "*a system for managing the effects of (generally) large projects where the nature and extent of those effects is uncertain and the outcome of methods proposed to avoid, remedy or mitigate them is similarly uncertain.*

[4] Final report and Decision of the Board of Inquiry into the Transmission Gully Proposal, June 2012, paragraph 170.

Adaptive management regimes are commonly established through conditions of consent incorporating management plans which seek to manage the effects of any given activity in a flexible and responsive manner".

Key factors the Supreme Court[5] have previously said need to be considered in determining whether the approach proposed appropriately diminishes risk and uncertainty are:

- *there will be good baseline information about the receiving environment.*
- *the proposed conditions provide for effective monitoring of adverse effects using appropriate indicators.*
- *thresholds are set to trigger remedial action before the effects become overly damaging.*
- *effects that might arise can be remedied before they become irreversible.*

Ravensdown proposes to establish an Adaptive Management Plan with the intention of incrementally and sustainably reducing the discharge of contaminants from the site, and thereby reducing effects on the receiving environment. This plan will enable Ravensdown to assess the effect of proposed improvements on the discharge water quality before implementing further improvements, with the ultimate goal of discharging water that aligns with community expectations as outlined in the relevant national and regional planning documents.

5.4 Sampling and Monitoring Programme

The cornerstone of the Adaptive Management Plan is a comprehensive sampling programme. This sampling and monitoring programme is intended to:

- Identify localised contaminant sources. This information can be used to develop location-specific source control measures to separate and eliminate the contaminants from stormwater as well as to identify locations for the installation of targeted treatment devices.
- Assess the impact of operational changes. As water treatment measures are installed the sampling and monitoring programme can assess the performance or the treatment measures at their source as well as at the discharge point.
- Monitor compliance with consent conditions. Ongoing monitoring will assess how Ravensdown is meeting any proposed consent conditions.
- Monitor for adverse effects to enable action before they become overly damaging or irreversible.

5.5 Source Control Measures

A key component of the Discharge Strategy and the Adaptive Management Plan is the implementation of source control measures. The proposed source control measures are generally intended to prevent the interaction of stormwater and product. Source control measures can be put into two categories -non-structural (e.g., site management measures) and structural (e.g., changes to buildings to reduce the potential for contaminants to escape).

Site housekeeping measures are the first component of the proposed source control. These measures include routine sweeping of tracked areas, the installation of doors to control dust from intake and despatch operations, and increased training of staff and visitors to minimise spilled or tracked product around the site.

Although housekeeping can minimise the amount of product that is potentially exposed to stormwater, there are a number of locations on site where physical improvements may be constructed to further minimise opportunities for stormwater to come in contact with contaminants. These measures include physical barriers (e.g., kerbing, channels, guttering, etc) that isolates product and stormwater from each other.

[5] Sustain Our Sounds Incorporated V The New Zealand King Salmon Company Limited [2014] NZSC 40 [17 April 2014], paragraph 133.

Another source control measure is constructing modifications to the stormwater system to minimise standing water within the system. Locations where water is allowed to pond may allow for contaminant-laden sediment to build up within the ponded area. This sediment build up can then leach significant levels of contaminants into the stormwater. Instead, water should be directed through the system without ponding to keep sediment suspended until reaching a location (the settling pond) where it may be easily removed.

5.6 Process Water Management

Ravensdown proposes to minimise the routine discharge of contaminated process water to the stormwater system. There are several locations where process water enters the stormwater system as described below.

During acid plant operations, waste process water is generated. This water flows to the neutralisation pit within the acid plant. The water in the neutralising pit is typically acidic and is dosed with caustic soda prior to discharge to the stormwater system. The neutralising pit discharges to the stormwater system between Archimedes and the settling pond meaning it can not be recovered for reuse.

The only other location where significant volumes of process water enters the stormwater system is blowdown water from the cooling towers, south of the acid plant. The water used in the cooling towers is sourced from on-site bores and then dosed with chemicals to manage maintenance of the cooling towers and biological growth. The blowdown water discharges directly to the settling pond.

Both of these flows will be rerouted to ensure the water is reused as much as possible, or treated appropriately.

5.7 Process Water and Stormwater Treatment

Although it is expected that significant reductions in contaminants can be achieved through the implementation of source control measures and process water improvements, the residual contamination will require treatment.

Following the MCDA scoring process and input from the TFG, the Project Team and Technical Team have further advanced the highest scoring option which is a **combination of treatment options with the opportunity for both discharge to land and the estuarine environment** depending on seasonal factors, receiving environment conditions and any weather events that may generate excessive volumes of stormwater.

This approach will manage different parts of the site separately, treating the various contaminants as close to their source as possible. The proposed treatment devices are summarised in Table 1 and Figure 4 below and will be further described in the Project Description. The modifications that can be quickly added to the existing system and are expected to have an immediate and significant impact on quality of the water being discharged from the site are proposed to be implemented as soon as practicably possible after the grant of consent, noting that these initial works will take in the order of one year to complete detailed design and construction (Figure 5 below). A commissioning and monitoring period will follow to confirm the requirements and design of Stage Two where improvements would be implemented within five years of granting of the new discharge permits (Figure 6 below). Ongoing monitoring will be undertaken to confirm if additional treatment devices, source control strategies, or discharge schemes are required over and above the elements identified below.

TABLE 1: PROPOSED TREATMENT DEVICES

TREATMENT DEVICE	TREATMENT / ADAPTIVE MANAGEMENT	PROPOSED IMPLEMENTATION TIMEFRAME
STAGE ONE WORKS		
Clarifier (and Holding Pond)	DRP Some F, Heavy Metals and TSS	One year after grant of new discharge permits
Bioretention Device	N	One year after grant of new discharge permits
Stage One Monitoring	Monitoring of Stage One works in order to determine performance against the discharge permit conditions in Table 2 and inform the design of Stage Two works.	Ongoing for one year following completion of Stage One works
STAGE TWO WORKS		
Settling Pond (New)	TSS	Within five years after grant of new discharge permits
Constructed Wetland	N, P, Heavy Metals	Within five years after grant of new discharge permits
Discharge Pond	Flow	Within five years after grant of new discharge permits
Stage Two Monitoring	Monitoring of Stage One and Two works in order to determine performance against the discharge permit conditions in Table 2 and to determine whether any further works are required to satisfy any of these parameters.	Ongoing for one year following completion of Stage Two works
STAGE THREE WORKS		
Stage Three Works	To be defined if required following Stage Two monitoring.	As soon as practicable after completion of Stage Two monitoring based on an agreed technology condition framework.

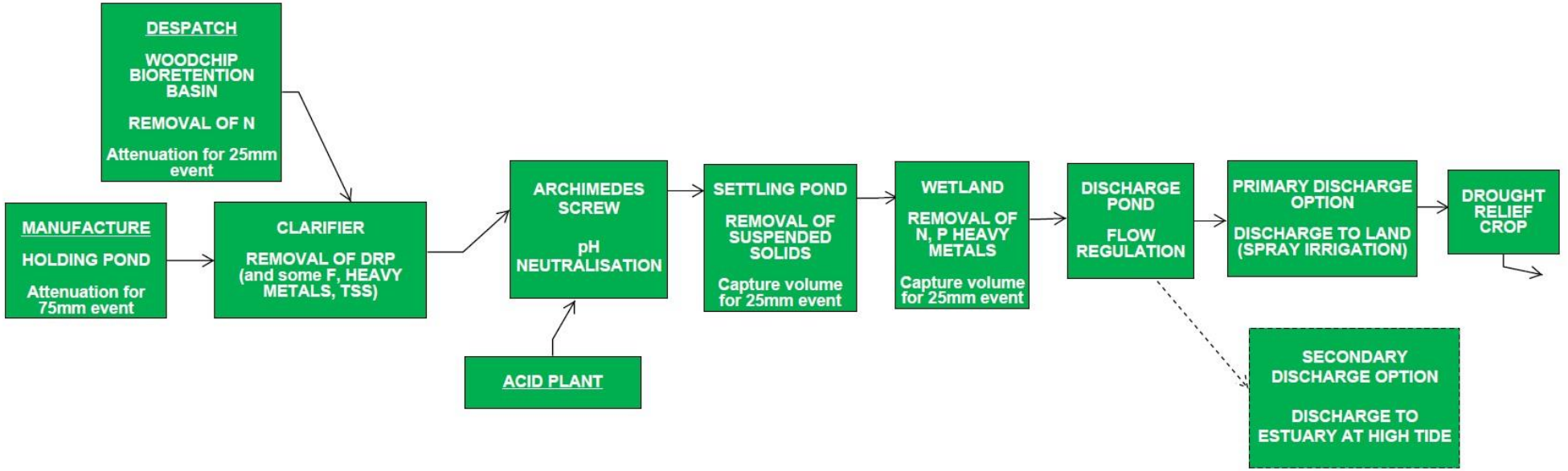

FIGURE 4: PROPOSED INDICATIVE PROCESS WATER AND STORMWATER TREATMENT FLOW CHART

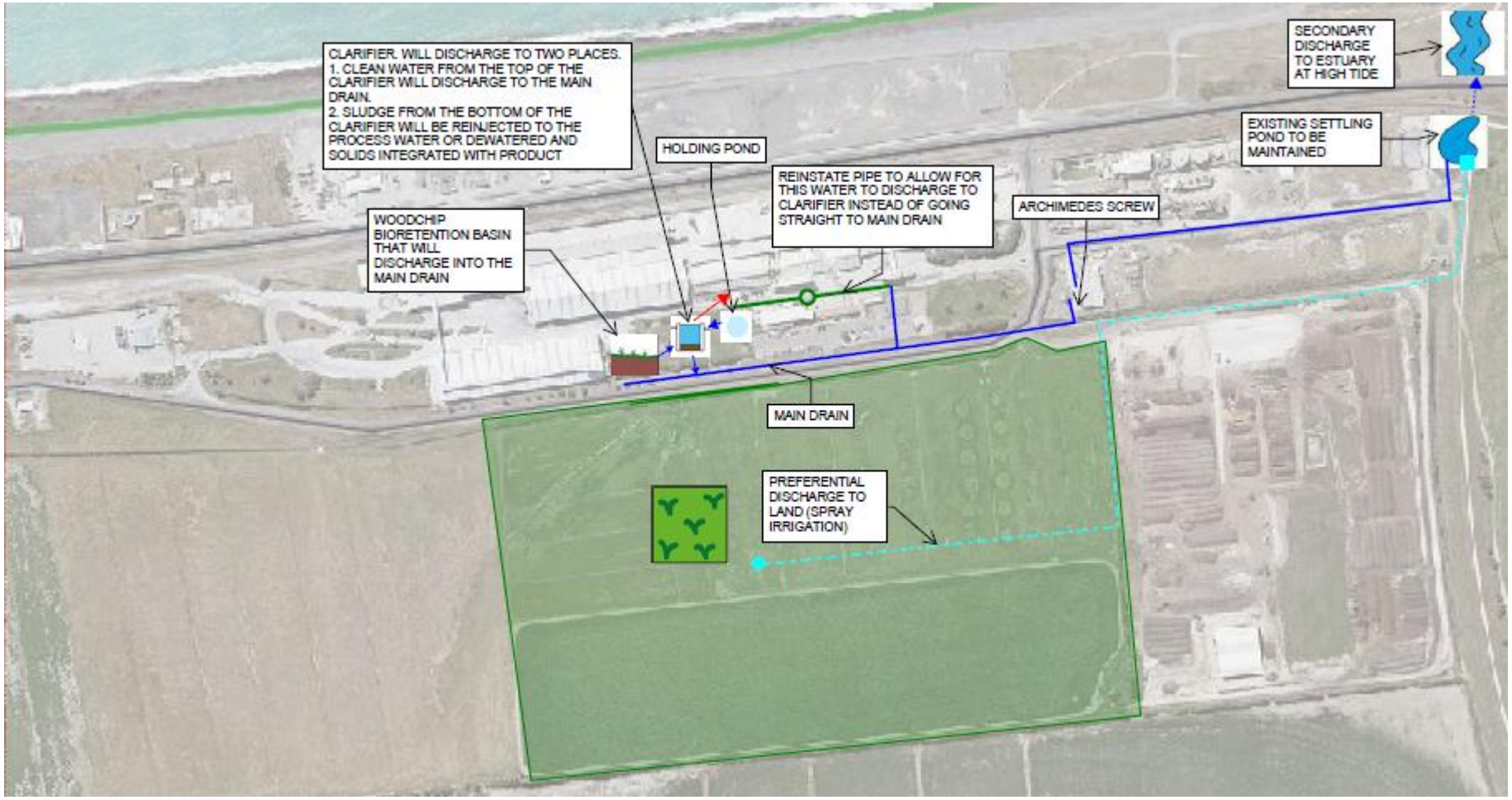

FIGURE 5: PROPOSED PROCESS WATER AND STORMWATER TREATMENT MANAGEMENT- STAGE ONE

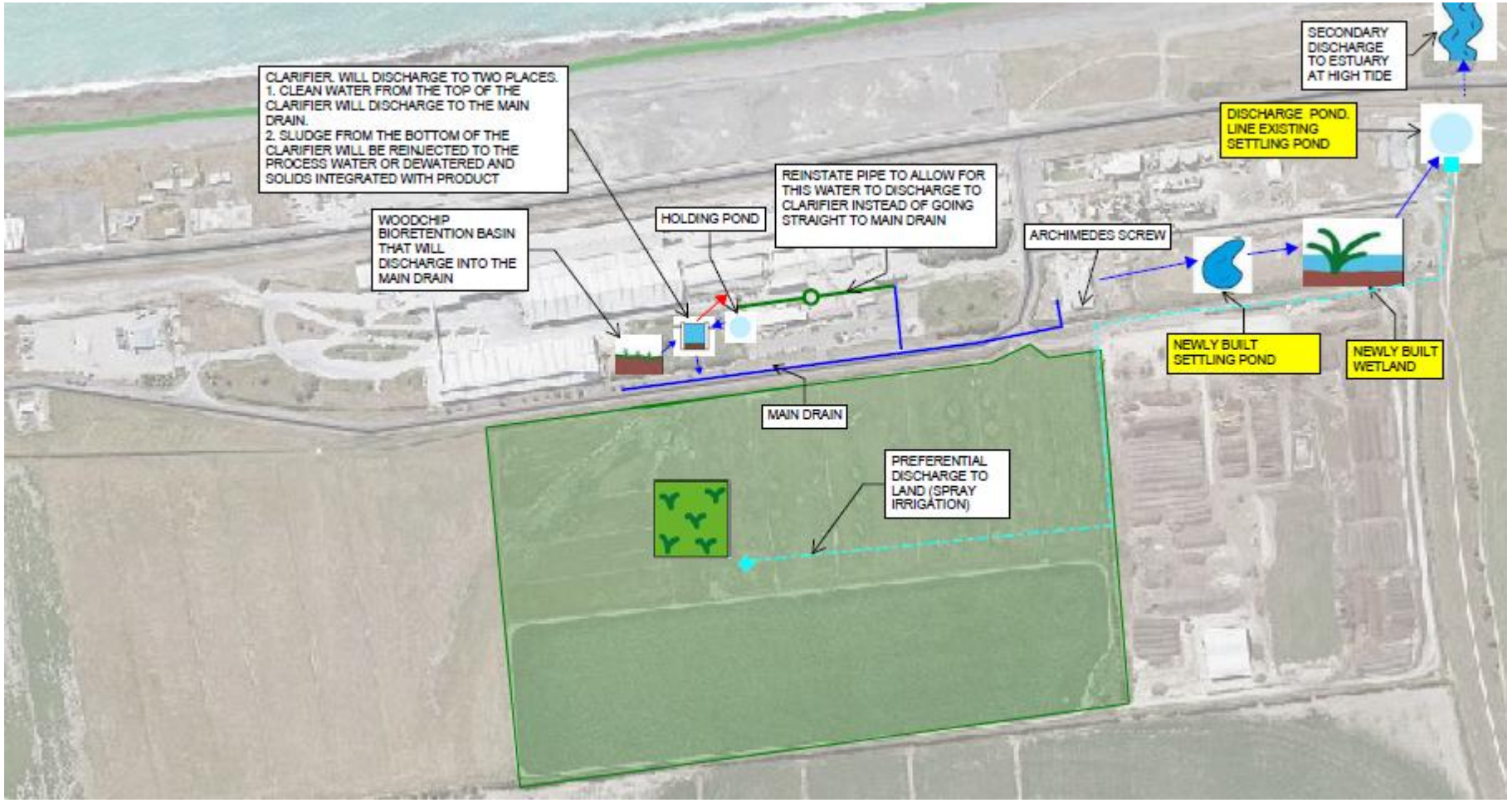

FIGURE 6: PROPOSED INDICATIVE PROCESS WATER AND STORMWATER TREATMENT MANAGEMENT - STAGE TWO [6]

[6]This assumes treatment devices will be operational as outlined in Table 1. A decision will then be made regarding the requirement for additional treatment devices based on the monitoring data.

5.7.1 Land Discharge

The Ravensdown site is located within the Napier groundwater source protection zone, and as a result, discharge of any contaminants to ground would need to be very closely scrutinised to prove no potential risk to Napier's water supply. The Napier City Council have noted their opposition to a discharge to land option however the TFG and Mana Whenua expressed a strong preference for land discharge.

In consideration of this preference, Ravensdown proposes to establish a precision spray irrigation discharge as the preferential discharge from the stormwater system when hydrologic conditions allow for this discharge (i.e., during dry periods). This discharge would pump water from the existing settling pond to the Ravensdown-owned paddocks on the west side of Waitangi Road. Ravensdown own approximately 17.5ha in this area that is available for spray irrigation.

Ravensdown and the project team are undertaking additional analysis around the viability of land-based discharge following the above-outlined treatment process.

The potential for irrigation of high-quality water, particularly during drought conditions, to the Ravensdown land adjacent to site could produce baling fodder crops. Ravensdown will explore the option of donating the produce to drought relief and other causes.

5.7.2 Alternative Discharge Pathway

When it is not possible to use the preferential discharge pathway onto land, Ravensdown will discharge into the Tutaekuri River backwash. The point of discharge will remain at the Ravensdown Drain immediately after the grant of a new discharge permit. Once the proposed HARP wetland area has been established and baseline environmental monitoring has been completed the point of discharge will be relocated inside of the wetland. The discharge flow will share a common line, and therefore be mixed, with the wetland sustaining bore water flow. This arrangement is presented schematically in Figure 7.

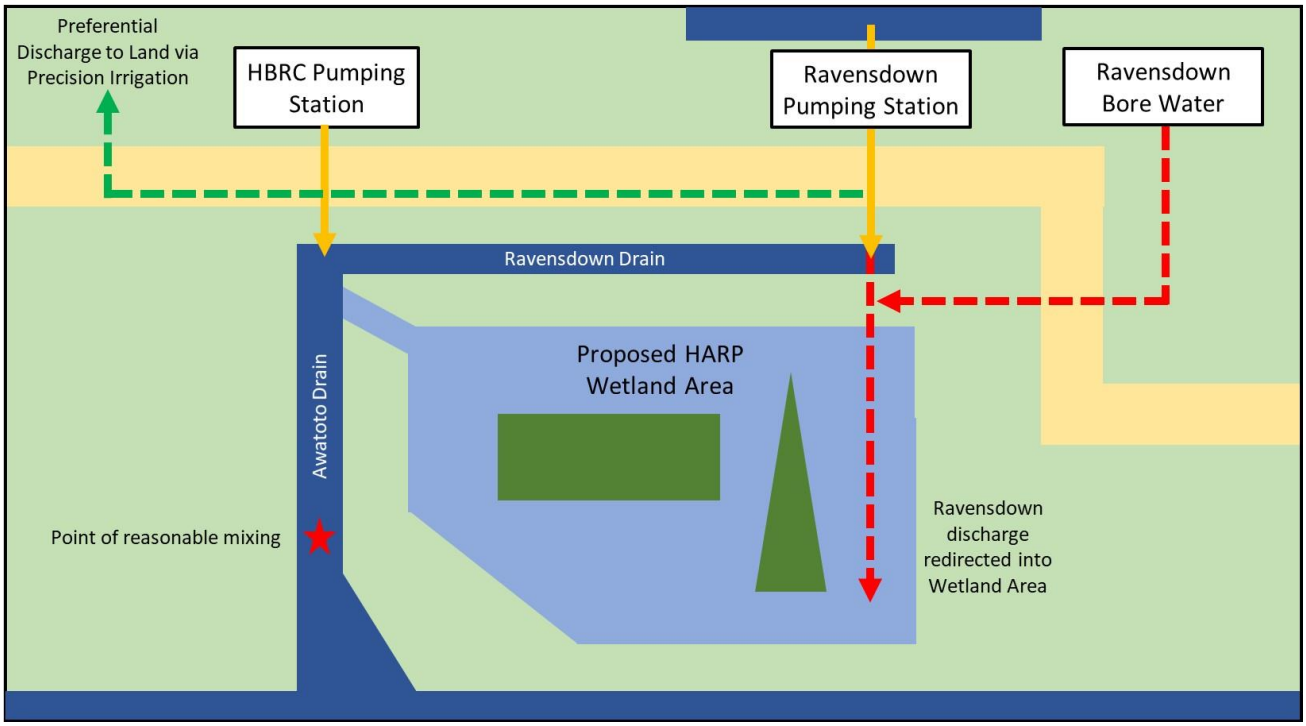

FIGURE 7: SCHEMATIC REPRESENTATION OF RAVENSDOWN FUTURE STATE WATER DISCHARGE ARRANGEMENT.

5.8 Water Quantity Considerations

Although stormwater attenuation is not a primary objective of the design, the proposed stormwater treatment system outlined above will result in significant peak flow attenuation. The proposed system includes a significant storage volume, which captures runoff from at least a 50mm rainfall event and slowly releases it over a period of 48 to 72 hours. Continuous simulation water balance modelling has been conducted for the proposed system based on the historic rainfall record. This modelling indicates that the proposed system will capture up to 99% of rainfall events, and 93% of the volumetric inflow to the system. This will result in broad reductions in peak runoff volumes and the associated flooding effects.

6 Determination of Discharge Water Quality Targets

The potential receiving environment water quality standards are complex as there are overlapping regional and national requirements applying to the Waitangi Estuary, with both coastal and freshwater regulations relevant. The different regulatory documents have differing water quality standards, with different parameters specified, and various methods of measurement.

To add to the complexity, the TANK plan process has not yet been finalised, and the water quality standards set by this plan may change. What's more, the National Policy Statement for Freshwater Management 2020 is relatively new, and further caselaw could develop that may influence when and whether these regulations apply to any discharge to water from the Site.

The Project Teams current understanding is that the different requirements apply simultaneously, and therefore the conservative approach is to use the most stringent water quality standards if there is more than one prescribed. In general, TANK has the most stringent water quality standards and aims to meet these standards (and for some contaminants, showing improvement towards them) by 2040.

A key point to note is that some of the water quality standards set by the National Policy Statement for Freshwater Management 2020 are "national bottom lines", which means that complying with them is more "non-negotiable" when Councils are considering an application for resource consent. However, the TANK Plan requirements are more stringent, so compliance with those standards should mean complying with the national bottom lines.

Water quality standards typically apply "after reasonable mixing". This means that the discharge does not need to meet the water quality standards where it enters the receiving environment, and some dilution in the receiving environment can be applied. Based on the work by Streamlined Environmental, the discharge is likely to be diluted 2 to 2.8 times if the discharge is during low tide, and 3.2 to 4.9 times if the discharge was at high tide. It is therefore feasible for a discharge into the estuary on the falling tide only, taking advantage of the greatest dilution available and in order to minimise any potential effect on receiving water quality.

Table 2 below sets out the likely water quality targets for each key contaminant in Ravensdown's discharge, based on the most conservative regulatory standards, with 4.9 times dilution applied.

TABLE 2: PROPOSED DISCHARGE TARGETS

PARAMETER	CURRENTLY MEASURED	EXISTING CONSENT CONDITIONS	PROPOSED QUALITY CONDITIONS[7][8]	RATIONALE
Total P	Yes Weekly discharge composite sample	95% - **17 mg/L** 99% - **22 mg/L**	Discharge concentration of **0.196 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Soluble Reactive P	Yes Weekly discharge composite sample	95% - **15 mg/L** 99% - **20 mg/L**	Discharge concentration of **0.074 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Fluoride	Yes Weekly discharge composite sample	Maximum **30 mg/L**	Discharge concentration of **24.5 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Total Nitrogen	Yes One week composite per month	Not considered	Discharge concentration of **0.539 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Ammoniacal Nitrogen	Yes One week composite per month	Not considered	Discharge concentration of **0.49 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Nitrate-Nitrogen	Yes One week composite per month	Not considered	Discharge concentration of **0.245 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
pH	Yes Weekly discharge composite sample	**6.5-8.5**	**7.0-8.5**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Suspended Solids	Yes Weekly discharge composite sample	Maximum **100 mg/L**	Discharge concentration of **100 mg/L**	Existing conditions are already in line with TANK requirements.

[7] To be implemented in the timeframes set out in Table 1 of this strategy.

[8] These conditions will be measured using a 95%ile value over any 12-month period.

PARAMETER	CURRENTLY MEASURED	EXISTING CONSENT CONDITIONS	PROPOSED QUALITY CONDITIONS[9][10]	RATIONALE
Heavy Metals	Yes One week composite per six months	No specific concentration limits identified	Al – **0.270 mg/L** Cu – **0.006 mg/L**[11] Cd – **0.027 mg/L** Cr – **0.132 mg/L** Zn – **0.073 mg/L** Ni – **0.343 mg/L**	Proposed condition aligns with community expectations as outlined in the relevant national and regional planning documents.
Flow	Yes Flow meters in place on both discharge lines	Maximum **265 L/s**	To be confirmed after completion of the Site stormwater and process water modelling study and design of the discharge flows to the preferential land irrigation discharge and the alternative Waitangi Estuary discharge (on an ebbing tide).	The discharge strategy is to discharge through spray irrigation to the Ravensdown land as a preferential discharge approach. However, during some times of the year e.g., winter time when groundwater levels are high and crops will not grow it will be necessary to discharge to the Waitangi Estuary on an ebbing tide. The exact flow rates will depend on weather and land conditions from year to year so some flexibility will be required once the design calculations have been completed.

7 Conclusion

This discharge strategy is a culmination of a dedicated six-month process of confirming baseline information and assessing the full range of potential discharge environments for stormwater and process water discharges from the Ravensdown site. An important element in the consideration of this discharge strategy has been the establishment of the TFG, a broadly based stakeholder group comprising people with a wide range of expertise and local knowledge who have provided advice at three workshops held between 15 April 2021 and 16 July 2021.

The resulting discharge strategy is designed to implement a sustainable long term water management and discharge solution that will ensure that water discharges from the site are managed to the water quality parameters set in scientifically based limits and targets that also reflect community expectations, as set in national and regional planning instruments. The strategy is supported by the Ravensdown Senior Management Team and Board.

The rationale for setting the consent condition values in Table 2 has been based on achieving the 2040 targets set in the HBRC staff s42A response report following submissions on TANK. This proposal would see contaminants within the water discharged from the Ravensdown site being progressively reduced to support the ability for the water quality targets in the Waitangi Estuary to be met ahead of the 2040 goal. Given Ravensdown's commitment

[9] To be implemented in the timeframes set out in Table 1 of this strategy.

[10] These conditions will be measured using a 95%ile value over any 12-month period.

[11] Below laboratory detection limits.

to the environment and ongoing sustainability of its operations, it considers that a long-term discharge permit of 35 years is appropriate.