



13 September 2024

✦ Louise Van Jaarsveldt
Environmental Officer
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159 Dalton Street
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Dear Louise

PRELIMINARY SITE INVESTIGATION: AWATOTO PUMP STATION, AWATOTO, NAPIER

1.0 Introduction

Pattle Delamore Partners Limited (PDP) has been engaged by Hawke's Bay Regional Council (HBRC) to undertake a Preliminary Site Investigation (PSI; desktop site history review) for the Awatoto Pump Station, located on the property legally described as Lot 1 DP 6287, Awatoto, Napier. The Awatoto Pump Station is also known as the Mission Pump Station as it is located in the Mission drainage catchment. The pump station is located where the Mission and Awatoto drains meet, between Ravensdown Limited (Ravensdown) and BioRich Limited (BioRich) in Awatoto, Napier. The pump station moves water from the drains, past the stop bank and into the Tūtaekurī section of the Waitangi Estuary. The location of the Awatoto Pump Station (the site) is highlighted in Figure 1 in Appendix B.

We understand that the pump station is to be upgraded as it was inundated during Cyclone Gabrielle. As part of the upgrade works, it is proposed to excavate approximately 750 m³ of soil to build a secure foundation for the new pump station. We understand that as part of the redevelopment, earthworks will extend over an area of approx. 15 m by 10 m and to a depth of 5 m below ground level (bgl). Most of this excavated material may be moved offsite to an approved disposal facility.

The objective of the investigation was to identify any potential sources of contamination from past and/or present land use activities at the site, which could be listed on the HAIL¹ (Ministry for the Environment; MfE, 2023).

The scope of the investigation comprised a review of available site history information including historical aerial photographs and images, Napier City Council (NCC) and HBRC property information, and a site visit.

The PSI has been prepared in general accordance with the Ministry for the Environment (MfE) *Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand*

¹ *The Hazardous Activities and Industries List guidance: Identifying HAIL land* (HAIL; MfE, 2023) is a compilation of activities and industries that are considered likely to cause land contamination resulting from hazardous substance use, storage or disposal. The HAIL is intended to identify most situations in New Zealand where hazardous substances could cause, and in many cases have caused, land contamination.

(Revised 2021) (MfE, 2021) and has been certified by a Suitably Qualified and Experienced Practitioner (SQEP) as outlined by the NESCS². A certifying statement to this effect is attached in Appendix A.

2.0 Investigation Area Details

The site details are summarised below in Table 1. A copy of the Record of title is included in Appendix C.

Table 1: Investigation Area Identification	
Address	N/A
Legal Description	Lot 1 Deposited Plan 6287
Property Owner	Hawke's Bay Regional Council
Grid Reference – Awatoto Pump station	x - 1936904 y - 5613851 (NZGD2000)
Property Area	530,000 m ²
Site Investigation Area	150 m ² (approx.)
Zoning	Main Rural / Main industrial / River Conservation
Land Use	Drains and stop bank
Surrounding Land Use	North - Ravensdown and BioRich are located to the north of the site with the Awatoto drain located between the two industries; East - Ravensdown stormwater pond with railway and State Highway 51 (SH51) then Hawke Bay beyond; South – stop bank with river conservation area and river estuary (junction of Tūtaekurī and Ngaruroro Rivers beyond); and West – The Mission drain, stop bank and BioRich with agricultural land beyond.

A site visit was undertaken by a PDP professional on 28 August 2024. Photographs taken during the site visit are included in Appendix D. The PDP professional was escorted around the pump station site by HBRC staff who were familiar with the site. The HBRC staff indicated that during Cyclone Gabrielle the flood waters reached top of the doors of the pump station (approximate height of 2 m above ground level). Photographs 1 and 2 show the building as a reference and highlight the level of the flood waters in comparison to the surrounding area.

The pump station building appears to be old and has plaster cladding (Photograph 3). Photograph 4 shows a concrete slipway into the junction of the Awatoto and Mission drains. The intake area can be seen behind the wooden fence and the buildings associated with the Ravensdown operations are visible in the background of Photograph 5. The BioRich composting business is located just on the other side of the drain from the pump station (see Photograph 6). The site was clear except for a few piles of concrete

² Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soils to Protect Human Health) Regulations 2011 (referred to as the NESCS).

rubble and waste materials (Photographs 7 and 8). The surface area around the pump station building consisted of sandy gravel. There were power poles with overhead lines crossing the site.

3.0 Environmental Setting

The Geological & Nuclear Sciences (GNS) 1:250 000 Geological Map of New Zealand indicates that the site is underlain by a combination of Holocene shoreline, estuary and river deposits. The deposits are described as “unconsolidated marine gravel, sand and mud on modern beaches,” “unconsolidated mud, sand and peat” and “poorly consolidated alluvial gravel, sand and mud” (respectively).

A review of the HBRC online well information on 21 August 2024 indicated that the surrounding subsurface geology is generally alternate layers of silt, blue clay, blue sand, blue gravel with shells and peat/vegetation and wood. A copy of a selection of well reports from the area surrounding the site are included in Appendix E. The location of the reported wells closest to the site are also included in Figure 1.

The site is located within the Heretaunga Plains Aquifer area, and on the Tūtaekurī River floodplain. A branch of the Tūtaekurī River is located approximately 250 m south of the site and Hawke Bay is approximately 300 m to the east. The regional groundwater flow direction is assumed to be east toward Hawke Bay, but the drainage system and pump stations possibly influence shallow groundwater movement.

The pump station is part of a network associated with a vast drainage system. The catchments (Mission and Brookfield) associated with the pump station do not have gravity drainage to the river, so drainage of the catchment is reliant on pump stations. The catchment immediately north of the pump station (Mission Catchment) drains the Awatoto Industrial area and rural areas.

According to the HBRC GIS well information database, there are a number of wells located within 500 m radius of the site. Noting the depths of nearby wells, it is likely they are used for nearby industrial operations with use also for environmental monitoring purposes. Beyond 500 m, the wells appear to be predominantly used for irrigation purposes.

The site is located near the coast and on a flood plain, so is subject to wind from all directions.

4.0 Desktop Review of Investigation Area History

A desktop assessment was undertaken to provide an overview of any potential contaminants of concern that may be present within the site as a result of any documented past and present activities. The following information was sourced in order to establish the history of the site:

- ✧ Historical aerial photographs and images;
- ✧ HBRC information; and
- ✧ Napier City Council (NCC) information.

4.1 Historical Aerial Photographs and Images

A desktop review of available historical aerial images was undertaken. Aerial photographs dating from 1939 to 1996 were accessed via the Retrolens website (<http://retrolens.nz/>) on 20 August 2024 and historical aerial images from 2005 to 2023 were accessed from Google Earth Pro on 22 August 2024. The February 2023 image was accessed via Land Information New Zealand (LINZ) web site on 22 August 2024. The historical aerial images reviewed are summarised below in Table 2 below. A selection of historical aerial images are also included in Appendix F.

Table 2: Historical Aerial Photography

1939	The general layout of the site in 1939 is different to the current configuration. A small pale object, possibly resembling a shed, is present on what is currently identified as the Awatoto drain, which is in a different location to the current pump station structure. The immediate surrounds of the small shed appear to be vegetated. An object that has a similar configuration to the current Mission drain, appears to be connected to the object that has a similar configuration to the current Awatoto drain by something resembling a smaller drain. The smaller drain is located to the west of the small shed. There appears to be a similar pattern of drains and stop banks surrounding the site, and there are structures resembling the current railway and SH51 to the east of the site. The surrounding land appears to be vacant and resembles pastoral farming to the north of the site. An object resembling the current Tūtaekurī River can be seen south of the site.
1943	The configuration of the site and surrounding land is similar to that seen in the 1939 aerial photograph and it is much easier to identify structures. The pale object resembling a shed looks more like a shed in the 1943 aerial photograph.
1950	The configuration of the site and surrounding land is similar to that seen in the 1943 aerial photograph. However, there appears to be some earthworks immediately to the south/south-east of the shed which may be associated with removal of vegetation.
1962	The configuration of the site and surrounding land is similar to that seen in the 1950 aerial photograph. However, there appears to be some structures present to the north-east of the site in the area currently associated with the Ravensdown operation. There is also a structure to the east of the site which resembles the current stormwater pond associated with the Ravensdown operation.
1964	The site configuration has changed slightly since 1962. The pale shed like structure, which was identified on the Awatoto drain appears to have been removed and a shed like structure is now located just south-east of where the two drains intersect, in the location of the current pump station. The surrounding land has a similar configuration to that seen in the 1962 aerial photograph.
1969	The configuration of the site and surrounding land is similar to that seen in the 1964 aerial photograph. There appears to be a shape resembling a stockpile of material (possibly raw fertiliser product) located north-east of the site on the current Ravensdown site and a track leads towards the site from close to this stockpile.
1972	The configuration of the site and surrounding land is similar to that seen in the 1969 aerial photograph.
1977	The configuration of the site and surrounding land is similar to that seen in the 1972 aerial photograph.
1980	The configuration of the site and surrounding land is similar to that seen in the 1977 aerial photograph. However, there appears to have been extensive earthworks, within and just east and north of the site. There also appears to be a structure resembling a road, which starts near the shed and runs west, parallel to the Mission drain.

Table 2: Historical Aerial Photography

1982	The configuration of the site and surrounding land is similar to that seen in the 1980 aerial photograph. However, there is a shape similar to the current pump bay that appears to extend north, from the shed, over a part of the drain system. The immediate area around this extension appears to have been cleared.
1996	The configuration of the site and surrounding land is similar to that seen in the 1982 aerial photograph. However, the site and surrounds appear to be vegetated. The stockpiled material on the Ravensdown site appears to have been removed or at least reduced in size.
2005	The configuration of the site and surrounding land is similar to that seen in the 1996 aerial photograph. However, land to the north and north-west of the site appears to be changing. There are patterns on the land to the north that resemble earthworks. There is also a shape to the north that resembles a stockpile of material. A similar stockpile can be seen to the north-east on the current Ravensdown site.
2009	The configuration of the site and surrounding land is similar to that seen in the 2005 aerial photograph. However, there appears to be a structure immediately to the west of the shed on the site, which resembles the current slipway. There are also changes to the land to the north-west of the site. This land has a similar configuration to the current BioRich operation.
2016	The configuration of the site and surrounding land is similar to that seen in the 2009 aerial photograph. The land to the north-west of the site resembles the current BioRich operation.
2021	The configuration of the site and surrounding land is similar to that seen in the 2016 aerial photograph. There appears to be more undefined objects immediately around the shed.
2023 (February)	The configuration of the site and surrounding land is similar to that seen in the 2021 aerial photograph, except there is evidence of flood damage (post Cyclone Gabrielle). There are objects around the site that resemble earth moving equipment and it appears as though the water in the drains is being channelled to the east, into the Ravensdown stormwater pond, then south through the stopbank and into an existing drain and then the river. The colour of the surrounding land indicates that the land is covered in mud/silt and the colour of the water in the drains indicates a lot of sediment in the water.
2023 (April)	The configuration of the site and surrounding land is similar to that seen in the earlier 2023 aerial photograph. The drainage path observed in the February 2023 image has been filled in between the site and the Ravensdown stormwater pond and the pond and the drain on the other side of the stopbank. The surrounding land is greener but the water in the drain is still discoloured. North of the site there are shapes resembling small stockpiles of material, possibly silt from the flooding.

4.1 Hawke's Bay Regional Council Information

A borehole log (01-AW) for the site was provided by HBRC and a copy is included in Appendix G. The borehole was excavated on 1 July 2024 by Geotech Drilling and the soil profile was recorded by WSP. The borehole log indicates that there is about 2 m fill consisting of sandy gravel, underlain by a layer of sand then silt to the end of hole at 15.45 m bgl. The silt was interbedded with clays, sands, organics and shells. Standing water level (shallow groundwater) was measured at 0.9 m bgl the day after the drilling was completed. The coordinates on the bore log indicate that the bore was drilled to the east of the pump station building. The location of the bore, based on the coordinates on the bore log, is included in Figure 1. Based on the location, it is assumed that the bore was located in the flood channel observed in the February 2023 aerial image.

4.1.1 Reports on HBRC Pump stations

HBRC provided a copy of the Inspiratus report "*Drainage Catchment Review – Mission & Brookfield's Catchment*" dated February 2024. The report documents the building of a 1-D catchment model for the Mission and Brookfield's catchments. Neither catchments have gravity drainage to the river, and are totally reliant on the pump stations. The Mission (Awatoto) pump station currently has three pumps. The report indicates that there were plans dated June 1971 for the pump station, but records suggest that there may have been a pump station on the site as early as 1956. The pump station was modified around 1986 with the old screen and wingwalls being removed and the wetwell forebay being extended out and a new screen being mounted facing west.

The report recommends demolishing the existing pump station and replacing it with a completely new facility. The proposed new facility will be much larger than the existing pump station.

4.1.2 Archaeology

HBRC provided a copy of the Archaeology Hawke's Bay report "*HBRC Archaeological Screening: Pump Stations, Hawke's Bay*" dated June 2024. The report indicates that there are currently two recorded archaeological sites within approximately 300 m of the proposed replacement Awatoto pump station:

V21/258 – WWII Pillbox – the report indicates that the archaeological site will not be impacted by the proposed upgrade.

V21/299 – Te Awapuni Pā, chapel and burial ground associated with William Colenso's mission station – the report indicates that there is an unquantified 'moderate' risk that archaeological features or materials associated either with V21/299 or unrelated activities occurring at the river mouth could be encountered during the work. The report recommends that the pump station demolition and replacement could be undertaken under an Accidental Discovery Protocol.

4.1.3 Selected Land Use Register

An online search was made on 27 August 2024 via HBRC website for information from their Selected Land Use Register (SLUR). The HBRC SLUR is used to hold information about sites that have used, stored or disposed of hazardous substances, based on activities detailed on the HAIL (MfE, 2023). It should be noted that the SLUR is not complete and new sites are regularly being added as HBRC receives information or conduct their own investigations into current and historical land uses.

The site is not listed on the SLUR. However, the properties to the north of the site that belong to Ravensdown Limited are listed as:

- ✧ Verified HAIL - Risk not qualified – HAIL ID A3 – Commercial analytical laboratory sites; and
- ✧ Verified HAIL - Risk not qualified – HAIL ID A6 – Fertiliser manufacture or bulk storage.

An email from HBRC compliance on 22 August 2024 confirmed that the information on the website is correct. A copy of the email is included in Appendix G.

4.1.4 Resource Consents

The HBRC GIS database was reviewed for resource consents recorded within a 500 m radius of the site boundary. There were a total of nine land use consents to drill a bore and eight current consents/permits for activities surrounding the site. There were no consents found for the site. The eight current consents reviewed from around the site consisted of:

Discharge permit – Ravensdown Limited - To discharge contaminants into the air from the operation and maintenance of a sulphuric acid and fertiliser manufacturing plant at Awatoto including all ancillary activities – 19 December 2022 (AUTH-127374-01).

Discharge permit – Ravensdown Limited - To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin (refer to Plan D) – 19 December 2022 (AUTH-127375-01).

Water Permit – Ravensdown Limited - To temporarily take groundwater by dewatering associated with the construction of new stormwater and process water treatment facilities – 19 December 2022 (AUTH-127889-01).

Land use Consent – Bio-Rich Limited - to install a pipeline structure parallel to and beneath the Awatoto drain (along Waitangi Road) within the Heretaunga Plains Flood Control – February 2022 (AUTH-128018-01).

Discharge permit – Ravensdown Limited - To temporarily discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertilizer manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin – 17 May 2023 (AUTH-129645-01 and AUTH-129790-01).

Coastal Permit – HBRC- to install environmental monitoring devices in, on, or over the foreshore and seabed and occupy space in the Coastal Marine Area in Porangahau Estuary Significant Conservation Area (SCA), Tukituki River Mouth SCA, Waitangi Estuary SCA, Ahuriri Estuary SCA, Wairoa Estuary and Coastal Wetlands SCA, and Maungawhio Lagoon/Pukenui Beach SCA and to undertake other activities directly associated with the monitoring devices that may be restricted by Section 12 and 12A of the RMA – 7 February 2011 (CL100586C and CL110013O).

Water Permit – BioRich Limited - to take and use water from well no. 5672 (100 mm diameter) for the purpose of irrigating 17.5 hectares of process crops and pasture, 10 hectares of compost, washing down and building supply – 11 December 2013 – (WP130408T).

Water Permit – Ravensdown Limited - to take water from well nos. 15986 and 15989 (150 mm diameters) for the following industrial uses and environmental purposes:

- ⋆ The manufacture of sulphuric acid and fertilisers;
- ⋆ The treatment of stormwater and process water including sustaining constructed treatment wetlands and the maintenance of crop cover on the discharge to land area (shown on the Plan B); and
- ⋆ Sustain an artificial freshwater wetland within the Waitangi Regional Park (shown on the Plan D).
- ⋆ 19 December 2022 – (AUTH-127885)

A copy of the consents listed is included in Appendix G.

4.2 Napier City Council Information

4.2.1 Landfill Records

The site is not located within an area identified on the NCC online Hazards GIS layer – *Fill Hazard/Actual contaminated sites/Potentially contaminated Sites/Remediated sites*. The nearest fill/contaminated site recorded on the NCC map is located approximately 4.2 km north-west. As the site is close to the boundary between Napier and Hastings Councils the Hastings District Council online Hazards GIS layer was also reviewed. The nearest recorded fill/contaminated site is located approximately 4.7 km south of the site.

4.2.2 Review of Napier City Council Property File Documents

A request for the property files for Lot 1 DP 6287 on the NCC website, indicated no match in the database.

5.0 Summary of Investigation Area History

The available historical information for the site shows it has been used as part of a drainage system since at least 1939. A shed has been present on the site since at least 1939. It is assumed that this shed was part of the drainage system. The location of the shed changes between 1962 and 1964. During this time the shed is moved to a location similar to its current location. The immediate area around the shed appears to change from 1972 onwards, which fits in with the information provided in the Inspiratus report, which documented that there were plans for a pump station in 1972. This could indicate that the pump station was upgraded during this time. The Inspiratus report indicates that the pump station was modified around 1986 with the old screen and wingwalls being removed and the wetwell forebay being extended out and a new screen being mounted facing west. This corresponds to changes observed in the historical aerial photographs.

Based on the time frames, it is possible that initially the pumps in the pump station required fuel to operate and this fuel may have been stored onsite, beside the building. It was also observed that the pump station building is old and has cladding that may contain asbestos. It is also possible that lead paint may have been used during the life of the building.

The surrounding land use has been rural/agricultural since at least 1939. Between 1950 and early 1960s there appears to be development of the Ravensdown property to the immediate north-east, and in the 1962 aerial photograph, the current Ravensdown stormwater pond appears to be present. Stockpiles of what could be fertiliser can be seen on the Ravensdown land, near the site, from 1969 onwards. Ravensdown has discharge permits for contaminants into the air from the operation and maintenance of a sulphuric acid and fertiliser manufacturing plant at Awatoto including all ancillary activities, and to discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto onto or into land and into the Waitangi Estuary. The Ravensdown operation is listed by HBRC as HAIL A3 and A6, associated with commercial laboratories and fertiliser manufacture or bulk storage.

BioRich, to the immediate north-west, started their operation between 2005 and 2009 based on the historical aerial images. The operation is not under any cover and includes stockpiles of compostable material. They have a water permit to take groundwater to wash down the area and irrigate compost.

One of the significant recent documented changes to the site occurred during Cyclone Gabrielle in February 2023. The whole site and surrounding land was inundated when the river broke through the stopbanks. Anecdotal data from HBRC staff indicated that the site and surrounds was under about 2-3 m of flood waters at the height of the cyclone. The aerial image from the LINZ website indicates that the stopbank was breached beside the Ravensdown stormwater pond and a new channel(s) formed between the Mission catchment and the river. The aerial image shows machinery beside a new channel connecting the pump station with the stormwater pond.

The aerial images from after Cyclone Gabrielle indicate that flood waters flowed through the BioRich and Ravensdown sites before finally draining out through the damaged stopbank. This would have had the effect of transferring and dispersing materials from around the catchment to other properties and into the drainage system. It also resulted in a layer of silt being spread on the site and surrounding land. The aerial photograph from April 2023 shows patterns around the site and surrounding area that indicate multiple vehicle movements and stockpiles of soil. The flood channels linking the Mission, Awatoto drains to the Ravensdown stormwater pond, and the river were filled by April 2023. The bore log for borehole 01-AW indicated that the bore may have been drilled through the filled channel. Approximately 2 m of sandy gravel fill was recorded in the top of the borehole. Observations made during the recent PDP site visit confirmed that sandy gravel was present on the surface of the site.

Based on the available information, the potential contamination sources from past and present land use activities may be restricted to the following for the overall site:

- ∴ 'Landfill sites' (HAIL G3) - for the deposition of uncharacterised fill associated with filling the flood channel(s) after Cyclone Gabrielle.
- ∴ 'Any land that has been subject to the migration of hazardous substances from adjacent land in sufficient quantity that it could be a risk to human health or the environment' (HAIL reference H) – associated with the movement of materials from adjacent industrial and agricultural/horticultural sites by wind (dust) and by flood waters, notably the Ravensdown site to the immediate north-east. The site is the discharge point for the Mission catchment.

These two possible HAIL activities would need to be confirmed through a soil sampling investigation. In addition to the two above identified possible HAIL activities, noting the age of the pump station building, the possibility exists for it to contain asbestos (possible HAIL activity E1) as part of its building fabric and also to contain lead paint (possible HAIL activity I), and for these contaminants to impact the surrounding site soils in sufficient quantity to pose a risk to human health. These possible HAIL activities would need to be confirmed through undertaking further investigation at the site including an assessment of the building materials and adjacent site soils. Whilst noting these possible HAIL activities, it should be noted that the flooding and clean up from Cyclone Gabrielle may have moved much of the original topsoil that may have contained any asbestos and/or lead paint residues historically released from the building.

The primary persistent contaminants of concern associated with the identified HAIL activities over the site include (but not necessarily limited to) heavy metals, organochlorine pesticides (OCPs) and asbestos. With regard to contaminants associated with Cyclone Gabrielle, it is possible for a wide array of contaminants to be present within site soils above local background concentrations including those associated with the Ravensdown and BioRich operations.

6.0 Consideration of the NESCS

The NESCS seeks to control activities on contaminated land so as to protect human health. The regulations apply to land, which is described as having, has had or is more likely than not to have had an activity or industry described in the HAIL undertaken on it. As mentioned in Section 5.0 of this letter, possible HAIL activities have been identified within the site. Therefore, under regulation 5(7), the NESCS regulations need to be taken into consideration for the proposed redevelopment.

The NESCS sets out regulations for the following activities as described in sub-clauses (2) – (6) of regulation 5:

- (2) *An activity is removing a fuel storage system from the piece of land or replacing a fuel storage system in or on the piece of land.*
- (3) *An activity is sampling the soil of the piece of land, which means sampling it to determine whether or not it is contaminated and, if it is, the amount and kind of contamination.*
- (4) *An activity is disturbing the soil of the piece of land.*
- (5) *An activity is subdividing land.*
- (6) *An activity is changing the use of a piece of land which, means changing it to a use that, because the land is as described in sub clause (7), is reasonably likely to harm human health.*

Based on the proposed development, the NESCS may apply to soil disturbance (sub-clause 4 above).

6.1 Soil Disturbance

Soil disturbance is a permitted activity under regulation 8(3) provided that controls are put in place to minimise contact with soil during the disturbance, that the soil be reinstated to an erosion-resistant state within one month of completion of the works and that disposal of removed soil is at a facility authorised to receive such waste. The NESCS also sets limits on the volume of soil disturbance (no more than 25 m³ per 500 m² is disturbed), soil removal (no more than 5 m³ per 500 m² is removed from the site (property) per year) and duration of works (no longer than two months).

Currently, no specific plans have been provided to detail the duration of earthworks and exact volume of soil disturbance involved to upgrade the pump station. Once this has been established, an assessment can then be made with regards to whether the bulk earthworks can be completed as a permitted activity in accordance with the NESCS regulations. Discussions with HBRC indicated that it was likely that excess soil from the upgrade would be transported offsite to HBRC storage sites.

6.2 NESCS Consenting Summary

Based on a review of the available site history information, and due to the presence of possible HAIL activities at the site, a potential risk exists to human health. If the upgrade works are unable to meet the permitted activity requirements for soil disturbance, then further assessment (e.g. soil sampling investigation) maybe required. Irrespective, a soil sampling investigation maybe required to characterise the soils to be excavated to inform offsite disposal requirements and health and safety management measures for site contractors and future site occupiers.

7.0 Conclusions

PDP has reviewed site history information for the Awatoto Pump Station, located on the property legally described as Lot 1 DP 6287 (i.e., the site). The objective of the investigation was to identify any potential HAIL activities/sources of contamination from past and/or present land use activities at the site and to assess compliance with the NESCS for the upgrade of the pump station.

The investigation included a review of available site history information including historical aerial photographs, NCC and HBRC information, and a site walkover.

In summary, the available historical information for the site shows that it has been used as part of the wider catchment drainage system since at least 1939. A pump station building has been on the site from this period but it was moved to its current location between 1962 and 1964. The pump station was upgraded in 1986 based on information provided in the Inspiratus report and changes noted in the aerial photographs. The surrounding land use has been predominantly rural/horticultural. The aerial photography indicates that the land to the north of the site has been developed as part of Ravensdown's operations sometime between 1952 and 1962, and the area currently operated by BioRich started operation between 2005 and 2009.

Cyclone Gabrielle in February 2023 inundated the site and the Mission catchment, including the BioRich and Ravensdown operations. The flood waters covered the site and left a layer of silt. A channel was formed near the pump station leading to the Ravensdown stormwater pond and then through the stopbank to the river beyond. This channel helped drain the catchment and was subsequently filled in with sandy gravel.

Through the process of this review, potential HAIL activities have been identified at the site, as follows:

- ✧ HAIL reference G3 - for the imported fill associated with filling the flood channel after Cyclone Gabrielle.
- ✧ HAIL reference H - associated with the movement of materials from adjacent Awatoto Industrial area and agricultural/horticultural sites by wind (dust) and by flood waters.

The above HAIL activities would need to be confirmed through a soil sampling investigation. In addition to the two above identified HAIL activities, it is possible that the site soils contain other contaminants above local background concentrations, primarily as a result of the effects of Cyclone Gabrielle.

Based on a review of the available site history information, and due to the presence of likely HAIL activities at the site, a potential risk exists to human health. If the pump station upgrade works are unable to meet the NESCS permitted activity requirements for soil disturbance, then further assessment (e.g. soil sampling investigation) maybe required. Irrespective, a soil sampling investigation maybe required to characterise the soils to be excavated to inform offsite disposal requirements and health and safety management measures for site contractors and future site occupiers.

8.0 References

Archaeology Hawke's Bay, June 2024. *HBRC Archaeological Screening: Pump Stations, Hawke's Bay*.

GNS Science. (2012). Geological Map of New Zealand [Data set]. GNS Science.

Inspiratus, February 2024. *Drainage Catchment Review – Mission & Brookfield's Catchment*.

Ministry for the Environment. 2023. *Hazardous Activities and Industries List guidance: Identifying HAIL land*. Wellington: Ministry for the Environment.

Ministry for the Environment, 2021. *Contaminated Land Management Guidelines No. 1: Reporting on Contaminated Sites in New Zealand (Revised 2021)*. Ministry for the Environment, Wellington.

Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011.

9.0 Limitations

This letter has been prepared by Pattle Delamore Partners Limited (PDP) on the specific instructions of Hawke's Bay Regional Council for the limited purposes described in the letter. PDP accepts no liability if the letter is used for a different purpose or if it is used or relied on by any other person. Any such use or reliance will be solely at their own risk.

This letter has been prepared on the basis of information provided by Hawke's Bay Regional Council and others (not directly contracted by PDP for the work), including Napier City Council. PDP has not independently verified the provided information and has relied upon it being accurate and sufficient for use by PDP in preparing the letter. PDP accepts no responsibility for errors or omissions in, or the currency or sufficiency of, the provided information.

Owing to the limited nature of this assessment (as described in the Introduction), there may be soil and/or groundwater contamination conditions at the site that have not been identified and which have not been considered in this letter. The associated risk may be able to be reduced by undertaking further research or subsoil investigation.

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Yours faithfully

PATTLE DELAMORE PARTNERS LIMITED

Prepared by

Reviewed and Approved by

Sally McKinnon
Service Leader - Contaminated Land

Guy Knoyle
Technical Director - Contaminated Land

Appendix A - Certifying Statements

Certifying Statements

I, Guy Knoyle of Pattle Delamore Partners Limited, certify that:

1. This preliminary site investigation meets the requirements of the *Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011* (the NESCS) because it has been:
 - a. done by a suitably qualified and experienced practitioner, and
 - b. reported on in accordance with the current edition of *Contaminated land management guidelines No 1 – Reporting on contaminated sites in New Zealand*, and
 - c. the report is certified by a suitably qualified and experienced practitioner.
2. This preliminary site investigation concludes that the NESCS regulations are considered to be applicable for the activities covered by the NESCS (i.e. soil disturbance) associated with the upgrade of the pump station.

Evidence of the qualifications and experience of the suitably qualified and experienced practitioner who has done this investigation and certified this report is provided below.

This certification applies to the date of this report.

Signed

Guy Knoyle

Technical Director – Contaminated Land

Guy Knoyle – Project Director

Guy is an environmental scientist with over 28 years of experience in undertaking environmental and contaminated land assessments. He has a BSc (Joint Honours) in Environmental Science and Zoology, and a MSc in Applied Hydrobiology, both from the University of Wales, College of Cardiff. Guy currently project manages contaminated land assessments and monitoring programmes for a diverse range of sites including commercial/industrial and largescale residential developments, former market gardens, horticultural and timber treatment sites, pesticide storage depots, landfills, the petroleum industry, former gas works sites and illicit methamphetamine laboratories, with experience attained over several hundred sites.

Guy has experience involved in a wide range of environmental issues, across a broad range of media including soil, sediment, surface water, groundwater, and ground gas; and for a wide range of contaminants including heavy metals, petroleum hydrocarbons, and asbestos.

Guy's knowledge has also allowed him to present technical evidence on behalf of various clients, as part of a multi-disciplinary team, at District Court, High Court and Environment Court mediation and at numerous joint territorial and regional authority hearings.

Guy has familiarity with and understanding of the current contaminated land regulation and practice in New Zealand including assessments against the NESCS, and in the consenting of contaminated sites.

Appendix B – Figures





Appendix C – Record of Title



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy




R.W. Muir
Registrar-General
of Land

Identifier **HB105/280**
Land Registration District **Hawkes Bay**
Date Issued 12 November 1940

Estate Fee Simple
Area 53.3540 hectares more or less
Legal Description Lot 1 and Part Lot 2 Deposited Plan 6287
Registered Owners
Hawke's Bay Regional Council

Interests



BLK I CLNE S. D.

H.B. 105/282

Whataaanga Blk.

No. 1

Lot 1

130' 3" 30"

Total Area : 131' 3" : 14' 42"

Scale : 5 Chains to an Inch.
Edged by P. G. G. 27/6/22

METRIC AREA IS 53.3539 ha

Edwards
District Land Registrar.
Transmission 100482
to the Hawke's Bay
Catchment Board
Entered 29-10-1951
at 3 pm
O.K. 9/12

H.B. 105/281
Awatoto

Sub Sec. 53

O.S. 24.42

Reserve
Railway

Waitangi River

THIS REPRODUCTION (ON A REDUCED SCALE)
CERTIFIED TO BE A TRUE COPY OF THE
ORIGINAL REGISTER FOR THE PURPOSES OF
SECTION 215A LAND TRANSFER ACT 1952.



Appendix D – Site Photo Log



Photograph 1: The photograph is taken from the eastern section of the site looking west towards the pump station building, which can be seen behind the blue vehicle.



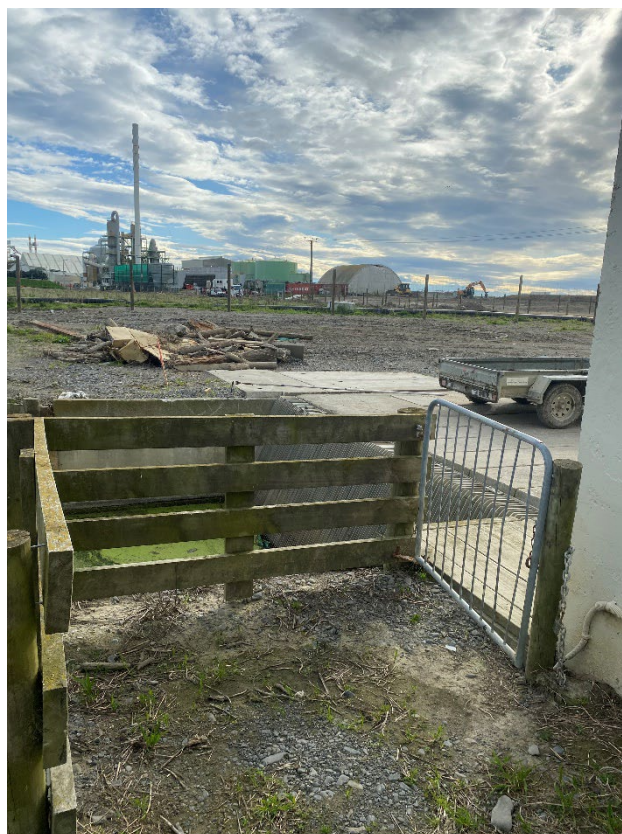
Photograph 2: The photograph is taken from the eastern section of the site looking west with the stopbank on the left and the pump station building on the right of the photograph.



Photograph 3: The photograph is of the wall of the pump station building.



Photograph 4: The photograph is taken from beside the pump station building, looking west along the Mission drain.



Photograph 5: The photograph is taken from beside the pump station building looking north. The building associated with the Ravensdown operations can be seen in the background.



Photograph 6: The photograph is taken from beside the pump station building looking north-west. The mounds of compost associated with the BioRich operation can be seen on the other side of the drain.



Photograph 7: The photograph is taken from beside the pump station building looking north-west. The pile of rubbish in the middle of the photograph is left over from Cyclone Gabrielle.



Photograph 8: The photograph is taken from beside the pump station building looking north-west. The clear area in the middle of the photograph is the area that was opened up to channel water from the drains to the river after Cyclone Gabrielle.

Appendix E – Well Information

IDENTIFICATION		WELL INFORMATION	
WQ Site		Drill Date	19/12/2008
NZTM Easting	1937051.96	Driller	WARMINGTON DRILLING
NZTM Northing	5613620.943	Casing Diameter (mm)	100
Method	Map estimate	Bore Depth (m)	27.4500007629395
Address	SH2 WAITANGI BRIDGE	Well Depth (m)	27
		Screen top (m)	5
		Screen bottom (m)	7
		Open hole top (m)	
		Open hole bottom (m)	
		Water access	Unknown

Aquifer Information

Initial Water Level	
Initial Water Level Date	
Aquifer Lithology	Other
Aquifer Condition	Unknown
Comments	

Aquifer Test

Bore Log

From Depth (m)	To Depth (m)	Lithology
0	3.4	grey SAND with silt
3.4	11	grey SAND with gravel
11	25.4	grey SAND
25.4	27.45	grey CLAY with silt

IDENTIFICATION		WELL INFORMATION	
WQ Site		Drill Date	30/04/2004
NZTM Easting	1936674.686	Driller	Baylis Brothers Limited
NZTM Northing	5613307.506	Casing Diameter (mm)	100
Method	Hand-held GPS	Bore Depth (m)	40.5999984741211
Address	STATE HIGHWAY 2, AWATOTO	Well Depth (m)	40.5999984741211
		Screen top (m)	39.2999992370605
		Screen bottom (m)	40.5999984741211
		Open hole top (m)	
		Open hole bottom (m)	
		Water access	Unknown

Aquifer Information

Initial Water Level	
Initial Water Level Date	
Aquifer Lithology	Gravels
Aquifer Condition	Flowing confined
Comments	Screen: slotted API. Free flowing artesian with 9" jet above casing top. Casing stick up 200mm above ground level.

Aquifer Test

Bore Log

From Depth (m)	To Depth (m)	Lithology
0	0.5	TOPSOIL
0.5	3.5	brown CLAY
3.5	12.6	blue CLAY
12.6	14.3	blue SAND with shell
14.3	27.1	blue CLAY (sloppy and firm layers)
27.1	28.1	blue SAND with gravel
28.1	29.3	blue CLAY with peat/veg/wood (wood)

29.3	33	brown CLAY
33	36.1	blue SAND
36.1	36.4	blue GRAVEL
36.4	37	blue CLAY
37	39	blue SAND with gravel (some running and soft)
39	40.6	blue GRAVEL with sand

IDENTIFICATION		WELL INFORMATION	
WQ Site		Drill Date	24/06/2008
NZTM Easting	1936874.684	Driller	Honnor Drilling Limited
NZTM Northing	5613933.193	Casing Diameter (mm)	50
Method	Hand-held GPS	Bore Depth (m)	6
Address	201 WAITANGI ROAD, AWATOTO	Well Depth (m)	5.69000005722046
		Screen top (m)	
		Screen bottom (m)	
		Open hole top (m)	
		Open hole bottom (m)	
		Water access	Yes

Aquifer Information

Initial Water Level	-1.5
Initial Water Level Date	25-06-2008
Aquifer Lithology	Gravels
Aquifer Condition	Unconfined
Comments	

Aquifer Test

Bore Log

From Depth (m)	To Depth (m)	Lithology
0	4	TOPSOIL with clay
4	6	fine blue GRAVEL

IDENTIFICATION		WELL INFORMATION	
WQ Site		Drill Date	31/05/2007
NZTM Easting	1936804.63	Driller	Honnor Drilling Limited
NZTM Northing	5613883.12	Casing Diameter (mm)	100
Method	Hand-held GPS	Bore Depth (m)	48
Address	201 WAITANGI ROAD, AWATOTO	Well Depth (m)	45.5999984741211
		Screen top (m)	
		Screen bottom (m)	
		Open hole top (m)	
		Open hole bottom (m)	
		Water access	Yes

Aquifer Information

Initial Water Level	6
Initial Water Level Date	31-05-2007
Aquifer Lithology	Gravels
Aquifer Condition	Flowing confined
Comments	

Aquifer Test

Test Date	31-05-2007
Report Number	
Maximum Pumping Rate (l/s)	
Maximum DrawDown (m)	
Duration (hours)	
Number Of Pumping Steps	
Aquifer Thickness (m)	
Transmissivity (m ² /d)	
Storativity	
Hydraulic Conductivity (m/d)	
Specific Capacity ((l/s)/m)	

Bore Log

From Depth (m)	To Depth (m)	Lithology
0	2	FILL
2	5	brown SILT with clay
5	30	blue CLAY with peat/veg/wood (Very little timber)
30	35	SAND with shell (Artesian condition)
35	41	blue CLAY
41	48	blue GRAVEL (Water bearing)

IDENTIFICATION		WELL INFORMATION	
WQ Site		Drill Date	30/08/2012
NZTM Easting	1937006.761	Driller	Honnor Drilling Limited
NZTM Northing	5614099.402	Casing Diameter (mm)	150
Method	Hand-held GPS	Bore Depth (m)	68
Address	808 Waitangi Rd, Awatoto	Well Depth (m)	57.4300003051758
		Screen top (m)	48.20999990844727
		Screen bottom (m)	57.4300003051758
		Open hole top (m)	
		Open hole bottom (m)	
		Water access	Unknown

Aquifer Information

Initial Water Level	6.5
Initial Water Level Date	28-08-2012
Aquifer Lithology	Gravels
Aquifer Condition	
Comments	15986

Aquifer Test

Test Date	28-08-2012
Report Number	
Maximum Pumping Rate (l/s)	85
Maximum DrawDown (m)	
Duration (hours)	2
Number Of Pumping Steps	
Aquifer Thickness (m)	
Transmissivity (m ² /d)	
Storativity	
Hydraulic Conductivity (m/d)	
Specific Capacity ((l/s)/m)	

Bore Log

From Depth (m)	To Depth (m)	Lithology
0	1	TOPSOIL (Driveway Seal)
1	2	SAND
2	9	blue GRAVEL
9	13	blue SAND with gravel
13	38	blue CLAY with peat/veg/wood
38	45	fine blue GRAVEL
45	68	brown GRAVEL

Appendix F - Historical Aerial Photographs and Images



Historical Aerial Photograph: 6 May 1939 (Source - Retrolens). The site is highlighted in red.



Historical Aerial Photograph: 13 September 1943 (Source - Retrolens). The site is highlighted in red.



Historical Aerial Photograph: 21 September 1950 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 14 May 1962 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 5 September 1964 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 4 August 1969 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 5 October 1972 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 9 September 1977 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 17 December 1980 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 6 December 1982 (Source - Retrolens). The site is highlighted in red



Historical Aerial Photograph: 17 December 1996 (Source - Retrolens). The site is highlighted in red



Historical Aerial Image – January 2005 (Source – Google Earth Pro). The site is highlighted in red



Historical Aerial Image – July 2009 (Source – Google Earth Pro). The site is highlighted in red



Historical Aerial Image – March 2016 (Source – Google Earth Pro). The site is highlighted in red



Historical Aerial Image – December 2021 (Source – Google Earth Pro). The site is highlighted in red



Historical Aerial Image – 19-20 February 2023 (Source – LINZ). The site is highlighted in red



Historical Aerial Image – April 2023 (Source – Google Earth Pro). The site is highlighted in red



Appendix G – Hawkes Bay Regional Council Information

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Awatoto Pumpstation

Coordinates: 1936948 E 5613848 N
 Ref. Grid: NZTM
 R.L.: 1.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING			NOTES / OTHER TESTS	INSTALLATION DETAILS	
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING	BASE OF HOLE & WATER LEVEL			
Fill	Sandy medium to coarse GRAVEL, dark grey. Tightly packed; wet; poorly graded; gravel, sub-angular to sub-rounded, sandstone; sand, medium to coarse.													
			1				VE	0			SWL 0.90m 2/07			
			0										0.90m - standing water level measured morning after completing drilling.	
			2	10	4// 2/4/2/2	SPT	100							
Heretaunga Formation Alluvium	Fine SAND; greyish brown. Loosely packed; wet; uniformly graded. SILT, with minor clay and sand; grey. Soft; wet; low plasticity; sand, fine.													
							Sonic	75						
							Sonic	100			SWL 2.70m 1/07			
		3										Lab: 2.6-2.8m - PSD (with hydrometer); Atterberg Limit Set. 2.70m - standing water level measured immediately after borehole completion.		
			4		0// 1/1/1/1	SPT	100							
	3.50m - clay appears absent; low plasticity.	-2												
	Silty fine SAND, with trace clay; grey. Loose; wet; well graded.		4				Sonic	100						
	4.50m - silt, some.													
			5		1// 1/2/1/1	SPT	100							
	5.25m - silty. 5.40m - silt, some. 5.60m - silty.	-4					Sonic	100						
	5.95m - silt, minor. 6.00m - becomes medium dense.	6											Lab: 5.0-5.2m - PSD (with hydrometer); Atterberg Limit Set.	
	6.50-6.60m - with trace shells, white, fractured.													
Sandy SILT, with trace organics; brownish grey. Soft to firm; wet; low plasticity; sand, fine; organics, wood/plant speckled remains, fibrous, highly decomposed.		7					Sonic	100						
Fine SAND, with minor silt; grey. Loosely packed; wet; uniformly graded.														
Sandy SILT; grey. Stiff; wet; non-plastic; sand, fine.	-6													
8.00-8.05m - with organic inclusions, wood fragments, fibrous, moderately fresh.		8												
Fine SAND, with trace shells; grey. Loose; wet; uniformly graded.														

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data able to be retrieved (core breakage when applying vane tests).

Started: 1/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 1/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Awatoto Pumpstation

Coordinates: 1936948 E 5613848 N
 Ref. Grid: NZTM
 R.L.: 1.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING			NOTES / OTHER TESTS	INSTALLATION DETAILS
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING	BASE OF HOLE & WATER LEVEL		
Heretaunga Formation Alluvium	Shelly fine to medium SAND; grey. Very loose. <i>(continued)</i>						Sonic	100					Bentonite backfill
	10.30m - shells become absent.				1	2// 0/0/0/1	SPT	100					
	Sandy SILT, with minor clay; grey. Very soft; wet to saturated; low plasticity; sand, fine.	11											
		-10					Sonic	100					
	Fine SAND; grey. Medium dense to dense; wet; uniformly graded.	12			29	2// 5/9/7/8	SPT	100					
	SILT, with some clay; grey. Soft to firm; wet; low plasticity.	13					Sonic	100					
	13.40m - clay appears absent.	-12			8	2// 1/2/2/3	SPT	100					
	14.00-14.10m - with some shells.	14					Sonic	100					
	Sandy SILT; grey. Soft; wet; low plasticity.	15			8	4// 2/2/2/2	SPT	100					
	END OF BOREHOLE AT 15.45m - Target Depth Reached	-14											
		16											
		17											
		-16											
		18											
		19											
		-18											

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 1/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 1/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Awatoto Pumpstation

Coordinates: 1936948 E 5613848 N
Ref. Grid: NZTM
R.L.: 1.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 01-AW.1
0.0 - 4.95m



Photo 01-AW.2
4.95 - 7.5m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 1/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 1/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Awatoto Pumpstation

Coordinates: 1936948 E 5613848 N
 Ref. Grid: NZTM
 R.L.: 1.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

PHOTOGRAPHS



Photo 01-AW.3
7.5 - 10.1m



Photo 01-AW.4
10.1 - 12.8m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 1/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 1/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Awatoto Pumpstation

Coordinates: 1936948 E 5613848 N
Ref. Grid: NZTM
R.L.: 1.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 01-AW.5
12.8 - 15.45m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 1/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 1/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Brooksfield Pumpstation

Coordinates: 1936948 E 5613246 N
 Ref. Grid: NZTM
 R.L.: 1.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING		NOTES / OTHER TESTS	INSTALLATION DETAILS
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING		
Fill	Sandy fine to coarse GRAVEL, with minor silt; light brownish grey. Tightly packed; moist; well graded; sand, fine.											
	0.75m - becomes dry.						Sonic	50			SWL 0.70m 2/07 SWL 1.00m 3/07	
Heretaunga Formation Alluvium	SILT, with trace organics; grey. Very soft; wet; low plasticity; organics, woody, fibrous inclusions, moderately fresh.	0	1		0	1// 0/0/0/0	SPT	100				
			2				Sonic	100				
	SILT, with some clay and trace sand; with some silt; grey. Very soft; wet; low plasticity; sand, fine.		3		0	0// 0/0/0/0	SPT	100				
	3.50m - becomes firm, with trace organics, fibrous, wood inclusions, moderately fresh.	-2	4				Sonic	100				
	SILT, with minor clay and trace organics; grey. Very soft; wet; low plasticity; organics, amorphous.		5		0	0// 0/0/0/0	SPT	100				
	Organic SILT; grey with dark brown flecks. Firm; moist; low plasticity; organics, fibrous, slightly spongy, plant matter, highly decomposed. 5.35m - organics become mostly amorphous, completely decomposed.	-4	6				Sonic	100				
	SILT, with minor fine sand; grey. Soft; moist to wet; low plasticity.		7		0	0// 0/0/0/0	SPT	100				
	Sandy SILT; grey. Soft; wet; low plasticity; sand, fine.		8				Sonic	100				
	Fine SAND, with minor silt and trace clay; grey. Loose to medium dense; wet; uniformly graded.	-6	9		14	3// 2/3/3/6	SPT	75				
	8.20m - sand, fine to medium; with trace shells.		10				Sonic	100				
	8.80m - sand, fine.		11									
	9.00m - becomes loose to very loose.		12		4	2// 1/0/1/2	SPT	100				
	9.50-9.55m - thin SILT lense; grey; wet.		13				Sonic	100				

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data able to be retrieved (core breakage when applying vane tests).

Started: 2/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 2/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Brooksfield Pumpstation

Coordinates: 1936948 E 5613246 N
Ref. Grid: NZTM
R.L.: 1.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m) DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING		NOTES / OTHER TESTS	INSTALLATION DETAILS
				SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING		
Heretaunga Formation Alluvium	9.90-9.95m - thin SILT lense; grey; wet. Fine SAND, with minor silt and trace clay; grey. Loose to medium dense; wet; uniformly graded.(continued) 10.30-10.33m - thin SILT lense; grey; wet.			0	2// 0/0/0/0	Sonic	100				Bentonite backfill
	10.90-11.20m - shelly.	11				SPT	100				
		-10				Sonic	100				
		12		6	4// 1/1/2/2	SPT	100				
	Sandy SILT; grey. Very soft; wet; low plasticity.	13				Sonic	100				
	SILT, with minor clay; grey. Soft; wet; low plasticity.	-12		23	6// 4/6/6/7	SPT	100				
		14				Sonic	100				
	Sandy SILT; grey. Very soft; wet; non-plastic; sand, fine.	15		6	0// 2/2/0/2	SPT	100				
	Silty fine SAND; grey. Medium dense; wet; well graded.										
	END OF BOREHOLE AT 15.45m - Target Depth Reached	-14									
		16									
		17									
		-16									
		18									
		19									
		-18									

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 2/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 2/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Brooksfield Pumpstation

Coordinates: 1936948 E 5613246 N
Ref. Grid: NZTM
R.L.: 1.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS

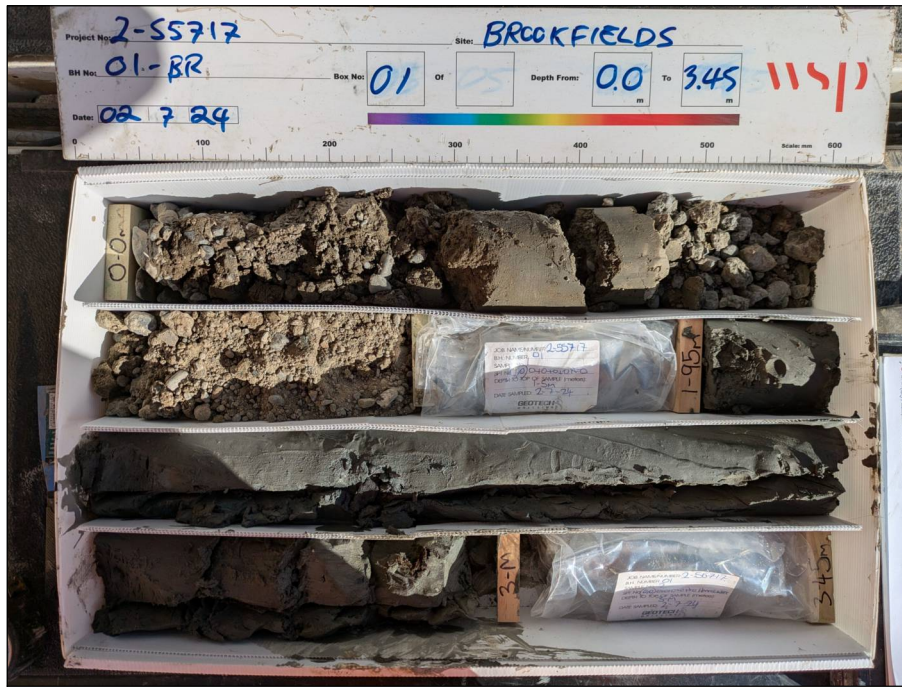


Photo 01-BR.1
0.0 - 3.45m



Photo 01-BR.2
3.45 - 6m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 2/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 2/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Brookfield Pumpstation

Coordinates: 1936948 E 5613246 N
 Ref. Grid: NZTM
 R.L.: 1.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

PHOTOGRAPHS



Photo 01-BR.3
6.0 - 8.9m



Photo 01-BR.4
8.9 - 11.5m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 2/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 2/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Brookfield Pumpstation

Coordinates: 1936948 E 5613246 N
Ref. Grid: NZTM
R.L.: 1.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS

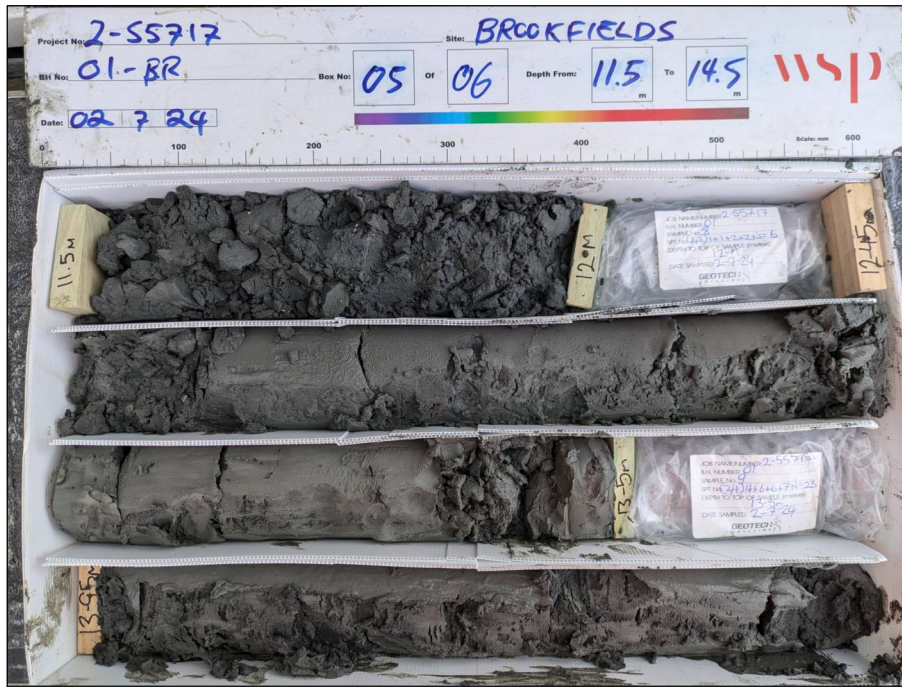


Photo 01-BR.5
11.5 - 14.5m



Photo 01-BR.6
14.5 - 15.45m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 2/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 2/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 6.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING		NOTES / OTHER TESTS	INSTALLATION DETAILS					
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING		BASE OF HOLE & WATER LEVEL	Bentonite backfill				
Fill	SILT, with some sand; light brown. Stiff; moist; low plasticity; sand, fine.	6			15	5// 3/4/4/4	Sonic	50			0.00-4.50m - Approximate height of stopbank - base of fill uncertain.						
		1		SPT			100										
		2		Sonic			100										
		4		SPT			100										
Heretaunga Formation Alluvium	SILT, with trace organics; grey speckled black. Very stiff; moist; low plasticity; organics, rootlets and amorphous.	4			6	2// 1/1/2/2	Sonic	100	Sonic core drilling		Lab: 5.3-5.5m - PSD (with hydrometer); Atterberg Limit Set.						
		3		SPT			100										
		4		Sonic			100										
		2		SPT			100										
		5.00m - becomes firm.	5			5	2// 1/1/1/2	SPT					100		6.20m - standing water level measured immediately after borehole completion.		
			5		Sonic			100									
		5.75m - becomes stiff.	6					3					0// 0/1/1/1			SPT	100
			0		Sonic											100	
		6.50m - with minor clay.	7			1	1// 1/0/0/0									SPT	100
			7		Sonic											100	
		Fine SAND, with some silt; grey. Loosely packed; wet; uniformly graded.						6				0// 1/1/2/2	SPT	100			
		Clayey SILT; grey. Soft; wet; high plasticity.											Sonic	100			
		-2							Lab: 8.1-8.3m - PSD (with hydrometer); Atterberg Limit Set.								
	Fine SAND; with some silt; grey. Loose; wet; uniformly graded.	9															
	Clayey SILT; with trace sand; grey. Firm; moist; high plasticity; sand, fine.																

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 6.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m) DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING		NOTES / OTHER TESTS	INSTALLATION DETAILS
				SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING		
Heretaunga Formation Alluvium	Clayey SILT; with trace sand; grey. Firm; moist; high plasticity; sand, fine. (continued)	-4		0	0// 0/0/0/0	Sonic	100	Sonic core drilling		SPT: sinking under hammer weight.	Bentonite backfill
	Pumiceous fine to medium SAND; grey. Loosely packed; wet; poorly graded.	-11				SPT	100				
	SILT, with some clay and organics; grey speckled dark brown. Firm; wet; low plasticity; organics, fibrous, woody fragments, highly decomposed. 11.50m - organics absent.	-12				Sonic	100				
	Silty fine SAND, with trace organics (as above); grey. Loose; wet; well graded.	-13		5	0// 0/1/2/2	SPT	100				
	Sandy SILT; grey. Soft; wet; low plasticity; sand, fine, present in thin interlayers typically appear <25mm thick.	-14		28	6// 10/8/5/5	SPT	100				
	Fine SAND with minor silt; grey. Medium dense; wet; well graded.	-15				Sonic	100				
		-16		12	3// 3/4/3/2	SPT	100				
		-17									
		-18									
		-19									
	END OF BOREHOLE AT 15.45m - Target Depth Reached	-15.45									

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 3/07/2024

Drilling Co.: Geotech Drilling

Logged by: R. Loomes

Finished: 3/07/2024

Drilling Rig: Sonicsampdrill CRS-T

Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 6.5 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

PHOTOGRAPHS

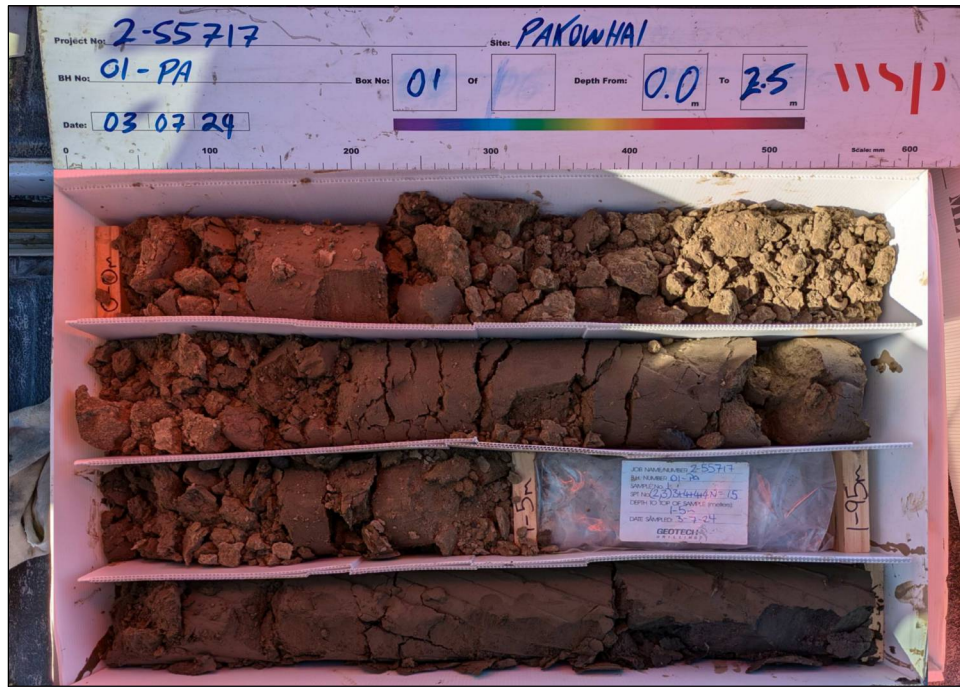


Photo 01-PA.1
0.0 - 2.5m



Photo 01-PA.2
2.5 - 5.3m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 3/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 3/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
Ref. Grid: NZTM
R.L.: 6.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 01-PA.3
5.3 - 8.1m



Photo 01-PA.4
8.1 - 10.95m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 3/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 3/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
Ref. Grid: NZTM
R.L.: 6.5 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 01-PA.5
10.95 - 13.95m



Photo 01-PA.6
13.95 - 15.45m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 3/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 3/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 1.2 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING		NOTES / OTHER TESTS	INSTALLATION DETAILS
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING		
Fill	Sandy, silty, fine to coarse GRAVEL; brown. Tightly packed; moist; poorly graded; gravel, rounded, sandstone; sand, fine.		0				Sonic	20				
	SILT, with some clay and minor gravel; light brownish grey with some orange mottles. Very soft; wet; moderate plasticity; gravel, fine, sub-angular, mudstone, highly weathered.		2		3	1// 0/1/1/1	SPT	50				
Heretaunga Formation Alluvium	SILT, with some clay; light brownish grey. Very soft; wet; moderate plasticity.						Sonic	100			SWL 3.10m 3/07	
	SILT, with some organics and clay; grey speckled black. Soft; wet, low plasticity; organics, amorphous.											
	Clayey SILT; grey. Firm; moist; high plasticity.		-2		1	0// 0/0/0/1	SPT	100				
	SILT, with some clay; grey. Firm; moist; low plasticity.											
	Pumiceous fine SAND; light grey. Loosely packed; wet; uniformly graded.		-4				Sonic	100				
	Clayey SILT; grey. Soft; moist; high plasticity.											
	Organic SILT; brownish grey speckled dark brown. Soft; wet; low plasticity; organics, mostly amorphous with some intact wood fragments (fibrous).		-5		0	0// 0/0/0/0	SPT	100				
	PEAT/WOOD, with some silt; dark brown. Firm, fibrous, slightly decomposed, not compressible by hand.											
	SILT, with some clay and trace organics; grey speckled dark brown. Soft; wet; low plasticity; organics, amorphous.						Sonic	100				
	5.80m - with some fine sand.		-6									
	Silty fine SAND; grey. Very loose; wet; well graded.				1	0// 0/0/0/1	SPT	100				
	Sandy SILT; grey. Soft; wet; low plasticity; sand, fine.		-7				Sonic	100				
	Fine SAND, with minor silt and trace shells; grey. Medium dense; wet; poorly graded.		-8		11	1// 2/3/3/3	SPT	100				
	Silty fine SAND; grey. Medium dense; wet; well graded.		-9		15	3// 5/3/3/4	SPT	100				
	SILT; grey. Soft; wet; low plasticity.						Sonic	100				

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data able to be retrieved (core breakage when applying vane tests).

Started: 4/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 4/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 1.2 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

GEOLOGY	MAIN DESCRIPTION / DETAIL DESCRIPTION	R.L. (m)	DEPTH (m)	GRAPHIC LOG	TESTS		CORE		DRILLING			NOTES / OTHER TESTS	INSTALLATION DETAILS	
					SPT 'N' VALUE	SPT BLOW COUNTS OR SHEAR VALUE	CORE TYPE	TOTAL CORE RECOVERY (%)	DRILLING METHOD	CASING	BASE OF HOLE & WATER LEVEL			
Heretaunga Formation Alluvium	Sandy SILT, with some shells; grey. Firm; wet; non-plastic; sand, fine.						Sonic	100				SPT:sinking under hammer weight.	Bentonite backfill	
	Clayey SILT; grey. Soft; wet; high plasticity.				0	0// 0/0/0/0	SPT	100						
	Silty fine SAND, with some shells; grey. Loosely packed; wet; well graded.	-10					Sonic	100						
	SILT; grey. Soft; wet; low plasticity.				0	1// 0/0/0/0	SPT	100				SPT:sinking under hammer weight.		
	Sandy SILT; grey. Soft; wet; low plasticity; sand, fine, present in thin interlayers typically appear <25mm thick.	-12					Sonic	100						
	SILT, with some clay; grey. Soft; wet; low palsticity.													
	Sandy SILT; grey. Soft; wet; low plasticity; sand, fine, present in thin interlayers typically appear <25mm thick.				0	1// 0/0/0/0	SPT	100				SPT:sinking under hammer weight.		
	Silty fine SAND; grey. Loosely packed; wet; well graded.						Sonic	100						
	Sandy SILT, with trace shells; grey. Soft; wet; non-plastic; sand, fine.													
	Fine SAND, with trace shells; grey. Medium dense; wet; uniformly graded.	-14			21	4// 2/4/7/8	SPT	100						
END OF BOREHOLE AT 15.45m - Target Depth Reached														
				</										

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 4/07/2024
 Drilling Co.: Geotech Drilling
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Finished: 4/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
Ref. Grid: NZTM
R.L.: 1.2 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 02-PA.1
0.0 - 3.8m



Photo 02-PA.2
3.8 - 6.45m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 4/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 4/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
Client: Hawke's Bay Regional Council
Project No.: 2-S5717
Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
Ref. Grid: NZTM
R.L.: 1.2 m
Datum: NZ Vertical Datum 2016
Depth: 15.45 m
Inclination: Vertical

PHOTOGRAPHS



Photo 02-PA.3
6.6 - 9.45m



Photo 02-PA.4
9.45 - 12m

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
Hand-held shear vane measurements attempted in cohesive soils - no reliable data
able to be retrieved (core breakage when applying vane tests).

Started: 4/07/2024
Drilling Co.: Geotech Drilling
Logged by: R. Loomes

Finished: 4/07/2024
Drilling Rig: Sonicsampdrill CRS-T
Checked by: S. Hill

Project: HBRC Pumpstation(s) Development
 Client: Hawke's Bay Regional Council
 Project No.: 2-S5717
 Location: Pakowhai Pumpstation

Coordinates: 1934971 E 5612525 N
 Ref. Grid: NZTM
 R.L.: 1.2 m
 Datum: NZ Vertical Datum 2016
 Depth: 15.45 m
 Inclination: Vertical

PHOTOGRAPHS



Photo 02-PA.5
12 - 15.45m

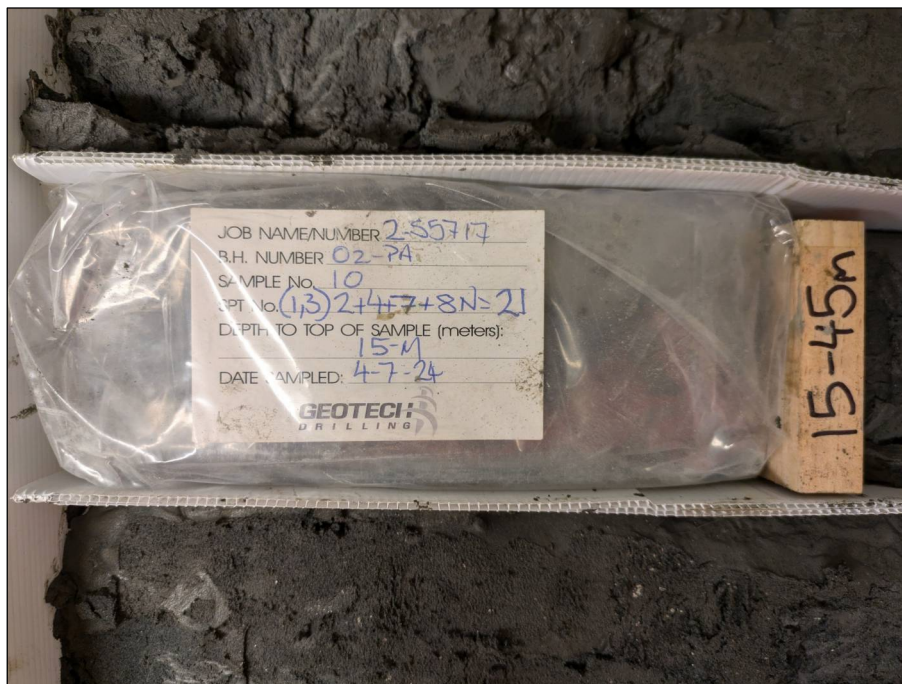


Photo 02-PA.6
15 - 15.45m SPT sample (stored additional within BOX06)

Notes:

SPT Hammer No. 322914-34. SPT hammer energy ratio 96%
 Hand-held shear vane measurements attempted in cohesive soils - no reliable data
 able to be retrieved (core breakage when applying vane tests).

Started: 4/07/2024
 Drilling Co.: Geotech Drilling
 Logged by: R. Loomes

Finished: 4/07/2024
 Drilling Rig: Sonicsampdrill CRS-T
 Checked by: S. Hill

Common Abbreviations and Symbols

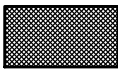
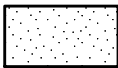
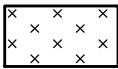
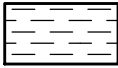
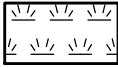
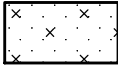
Drilling Method / Sample Type:

DT	Dual Tube	SPT	Split Spoon SPT
HA	Hand Auger	SC	Solid Cone SPT
HQ	HQ Triple Tube	PT	Thin-wall Push Tube
PQ	PQ Triple Tube		
OB	Open Barrel		
SNC	Sonic Drilling		
VE	Vacuum Excavation		
WD	Wash Drilling		

Field / Laboratory Tests:

SV	Field Shear Vane	UUTx	Unconsolidated Undrained Triaxial
PP	Pocket Penetrometer	CUTx	Consolidated Undrained Triaxial
PSD	Particle Size Distribution	UCS	Uniaxial Compressive Strength
Oed	1D Consolidation	PL	Point Load

Graphic Log Symbols for Soils and Rocks (after BS 5930:1981)

Soils	Rocks		
	Sedimentary	Metamorphic	Igneous
 Fill  Boulders and cobbles  Gravel  Sand  Silt  Clay  Peat NOTE: Composite soil types are depicted by combined symbols, e.g.:  Silty sand	<		

Soil Descriptions

Soil and rock descriptions follow the NZ Geotechnical Society (2005) "Guideline for the Field Classification and Description of Soil and Rock for Engineering Purposes".

Grain Size Terms

Major	Subdivision	Particle Size
Boulders		> 200 mm
Cobbles		60 mm - 200 mm
Gravel	Coarse	20 mm - 60 mm
	Medium	6 mm - 20 mm
	Fine	2 mm - 6 mm
Sand	Coarse	0.6 mm - 2 mm
	Medium	0.2 mm - 0.6 mm
	Fine	0.06 mm - 0.2 mm
Silt		0.002 mm - 0.06 mm
Clay		< 0.002 mm

Proportional Terms (Coarse Soils)

Fraction	Term	% of soil mass	Example
Major	(UPPER CASE)	Major constituent	GRAVEL
Subordinate	(lower case)	> 20	Sandy
Minor	with some...	12 - 20	with some sand
	with minor...	5 - 12	with minor sand
	with trace of...	< 5	with trace of sand

Consistency / Density Terms

Consistency	S _u (kPa)	Density	R _D (%)	SPT (N)
Very Soft	< 12	Very loose	< 15	< 4
Soft	12 - 25	Loose	15 - 35	4 - 10
Firm	25 - 50	Medium Dense	35 - 65	10 - 30
Stiff	50 - 100	Dense	65 - 85	30 - 50
Very Stiff	100 - 200	Very Dense	> 85	> 50
Hard	> 200			

SPT values are uncorrected

Soil Descriptions *(continued)*

Particle Shape Terms:

Rounded	Subrounded	Subangular	Angular
			

Rock and Discontinuity Descriptions

Strength:

ES	Extremely Strong
VS	Very Strong
S	Strong
MS	Moderately Strong
W	Weak
VW	Very Weak
EW	Extremely Weak

Weathering:

UW	Unweathered
SW	Slightly weathered
MW	Moderately weathered
HW	Highly weathered
CW	Completely weathered
RS	Residual soil

Spacing:

VW	Very wide (>2 m)
W	Wide (600 mm - 2 m)
MW	Moderately wide (200 mm - 600 mm)
C	Close (60 mm - 200 mm)
VC	Very close (20 mm - 60 mm)
EC	Extremely close (<20 mm)

Discontinuity Type:

B	Bedding	_____
J	Joint	_____
C	Cleavage	
F	Foliation	_____
DD	Drilling Defect	
GZ	Gouge Zone	██████
SHZ	Shattered Zone	XXXXXX
SZ	Shear Zone	~~~~~
CZ	Crush Zone	~~~~~
DZ	Decomposed Zone	
IZ	Infilled Zone/Seam	▣▣▣▣

Discontinuity Roughness:

RO	Rough
SM	Smooth
SL	Slickensided

Discontinuity Shape:

ST	Stepped
UN	Undulating
PL	Planar

Discontinuity Aperture:

T	Tight
VN	Very Narrow (0 - 2 mm)
N	Narrow (2 mm - 6 mm)
MN	Moderately Narrow (6 mm - 20 mm)
MW	Moderately Wide (20 mm - 60 mm)
W	Wide (60 mm - 200 mm)
VW	Very Wide (> 200 mm)

Bedding Descriptions

Bedding Thickness Terms:

Term	Thickness
Thinly laminated	< 2 mm
Laminated	2 mm - 6 mm
Very thin	6 mm - 20 mm
Thin	20 mm - 60 mm
Moderately thin	60 mm - 200 mm
Moderately thick	0.2 m - 0.6 m
Thick	0.6 m - 2 m
Very thick	> 2 m

Bedding Inclination Terms:

Term	Inclination
Sub-horizontal	0° - 5°
Gently inclined	6° - 15°
Moderately inclined	16° - 30°
Steeply inclined	31° - 60°
Very steeply inclined	61° - 80°
Sub-vertical	81° - 90°
From horizontal	

Sally McKinnon

From: JP Neethling <JP.Neethling@hbrc.govt.nz>
Sent: Thursday, 22 August 2024 12:54 pm
To: Sally McKinnon
Cc: Louise Van Jaarsveldt
Subject: FW: Pump stations - Preliminary Site Investigations

Please see below.

Thanks,

JP



JP Neethling

Senior Project Manager
06 835 9200 | 027 421 1406

Hawke's Bay Regional Council | Te Kaunihera ā-rohe o Te Matau a Māui
159 Dalton Street, Napier 4110 | hbrc.govt.nz

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Let us know how we're doing, give your feedback here.

This communication, including any attachments, is confidential. Refer to the disclaimer on our website.

From: Michelle Mackintosh <Michelle.Mackintosh@hbrc.govt.nz>
Sent: Thursday, August 22, 2024 12:01 PM
To: JP Neethling <JP.Neethling@hbrc.govt.nz>
Subject: RE: Pump stations - Preliminary Site Investigations

Thanks JP, please see contaminated land summary below:

Awatoto Pumpstation (Lot 1 DP 6287):

This site is currently not listed on Hawke's Bay Regional Council's Listed Land Use Register, and Council does not hold any information relating to hazardous activities at this address. This does not mean that an activity with the potential to cause contamination has never occurred, or is not currently occurring there.

Please note adjacent parcels belonging to Ravensdown Ltd (Lot 2 DP 16060 and Part Section 32 Block I Clive SD) are listed on Hawke's Bay Regional Council's Listed Land Use Register as follows:

Site ID: SLS-10706
Address: Waitangi Road, Napier, Ravensdown Ltd
HAIL activity: A6. Fertiliser manufacture or bulk storage
Sub-category: Verified HAIL
Sub-category description: Risk Not Quantified



Brookfields Pumpstation (Lot 1 DEEDS 929):

This site is also not currently listed on Hawke's Bay Regional Council's Listed Land Use Register. No adjacent sites are known to be HAIL.

Pakowhai Pumpstation (Part PUNINGA 4A3 BLK XII HERETAUNGA S D -INT IN R O W):

This site is also not currently listed on Hawke's Bay Regional Council's Listed Land Use Register. No adjacent sites are known to be HAIL.

Let me know if there's anything else I can help with.

Thanks,

Michelle



Michelle Mackintosh

Environmental Compliance Officer - Urban & Industrial
0800 108 838 | 06 835 9200

Hawke's Bay Regional Council | Te Kaunihera ā-rohe o Te Matau a Māui
159 Dalton Street, Napier 4110 | hbrc.govt.nz

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**HBRC Compliance
Section is ISO
9001:2015 certified**

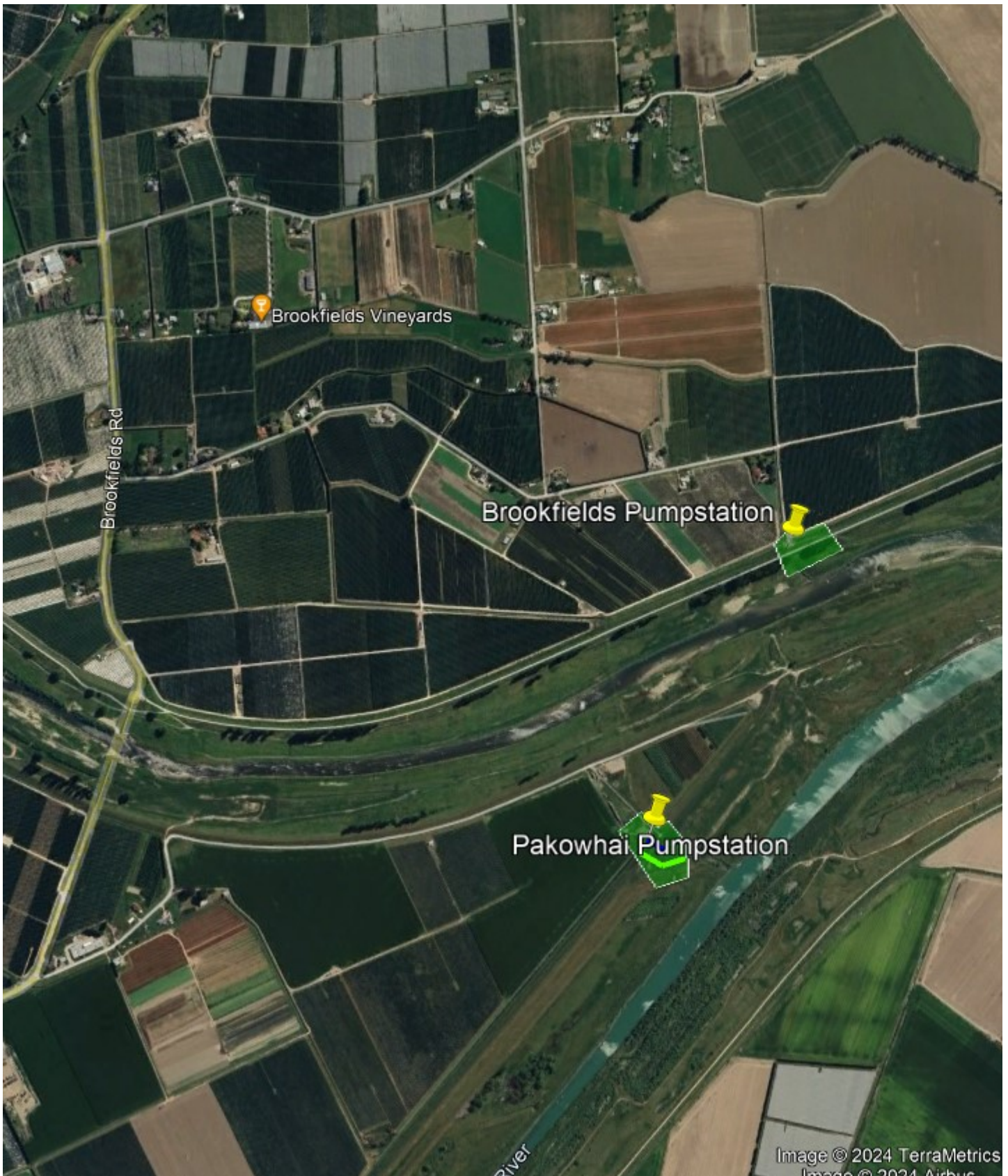
Let us know how we're doing, give your feedback here.

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From: JP Neethling <JP.Neethling@hbrc.govt.nz>
Sent: Thursday, August 22, 2024 9:57 AM
To: Michelle Mackintosh <Michelle.Mackintosh@hbrc.govt.nz>
Subject: RE: Pump stations - Preliminary Site Investigations

I can send a kmz file as well if that helps.

Please see below:



JP Neethling
Senior Project Manager
06 835 9200 | 027 421 1406



Let us know how we're doing, give your feedback here.

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From: Michelle Mackintosh <Michelle.Mackintosh@hbrc.govt.nz>

Sent: Thursday, August 22, 2024 9:28 AM

To: JP Neethling <JP.Neethling@hbrc.govt.nz>

Subject: RE: Pump stations - Preliminary Site Investigations

Hi JP,

I can take a look for you, do they have addresses? Or if you could do a snip of where they are on a map that would be great.

Thanks,

Michelle



Michelle Mackintosh

Environmental Compliance Officer - Urban & Industrial

0800 108 838 | 06 835 9200

Hawke's Bay Regional Council | Te Kaunihera ā-rohe o Te Matau a Māui

159 Dalton Street, Napier 4110 | hbrc.govt.nz

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Let us know how we're doing, give your feedback here.

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From: JP Neethling <JP.Neethling@hbrc.govt.nz>

Sent: Wednesday, August 21, 2024 12:14 PM

To: Michelle Mackintosh <Michelle.Mackintosh@hbrc.govt.nz>

Subject: RE: Pump stations - Preliminary Site Investigations

Hi Michelle

I hope you are well.

We are currently preparing a PSI report for the NIWE Pumpstation Projects upgrades. Do you have any information about the contaminated land at the listed sites below?:

1. Awatoto pump station – Lot 1 DP 6287
2. Brookfield Pumpstation – Lot 1 DEEDS 929
3. Pakowai Pumpstation - Part PUNINGA 4A3 BLK XII HERETAUNGA S D -INT IN R O W

I'm happy to come to you if that helps.

Thanks.



JP Neethling

Senior Project Manager

06 835 9200 | 027 421 1406

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Let us know how we're doing, give your feedback here.

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From: Sally McKinnon <sally.mckinnon@pdp.co.nz>

Sent: Wednesday, August 21, 2024 8:47 AM

To: Louise Van Jaarsveldt <Louise.VanJaarsveldt@hbrc.govt.nz>

Cc: JP Neethling <JP.Neethling@hbrc.govt.nz>

Subject: RE: Pump stations - Preliminary Site Investigations

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Good morning Louise

Thank you for your help.

I can access all the data online but I am always aware that there is somethings not online. If you could talk to your team (I think it is compliance?) about the contaminated land search? I can do it, but I know it costs.

Thank you for Paul's number, I will get in touch with him.

Cheers

Sally

From: Louise Van Jaarsveldt <Louise.VanJaarsveldt@hbrc.govt.nz>

Sent: Wednesday, August 21, 2024 8:41 AM

To: Sally McKinnon <sally.mckinnon@pdp.co.nz>

Cc: JP Neethling <JP.Neethling@hbrc.govt.nz>

Subject: RE: Pump stations - Preliminary Site Investigations

Morning Sally,

JP and I will do some digging and get back to you as soon as possible.

Also please say if you struggle to get access to the sites and I can see if someone else can assist with the site visits.

Paul' mobile number is 027 457 1306, he is the senior engineering officer for our Ops team.

Thanks

Louise



Louise Van Jaarsveldt
Environmental Officer
06 835 9200 | 027 572 2116

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Let us know how we're doing, give your feedback here.

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From: Sally McKinnon <sally.mckinnon@pdp.co.nz>

Sent: Tuesday, August 20, 2024 1:18 PM

To: Louise Van Jaarsveldt <Louise.VanJaarsveldt@hbrc.govt.nz>

Subject: Pump stations - Preliminary Site Investigations

Caution: This email is from outside of Hawke's Bay Regional Council.

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Hi Louise

Are you able to get me any of the property files HBRC has for:

1. Awatoto pumpstation – Lot 1 DP 6287
2. Brookfield Pumpstation – Lot 1 DEEDS 929
3. Pakowai Pumpstation - Part PUNINGA 4A3 BLK XII HERETAUNGA S D -INT IN R O W

There is not much available through Napier City Council and Hastings District Council, so I am just checking what HBRC has, as a matter of due diligence. This may include any investigations associated with the pump stations, when the pumpstations were constructed, any issues with the pump stations, were they run by generator at any point in time, were the pumpstations rebuilt / upgraded at any time. We use this to confirm what we are seeing in aerial photographs, and to see if there are any triggers regarding HAIL.

Kind Regards

Sally

Sally McKinnon | Contaminated Land
PATTLE DELAMORE PARTNERS LTD
Level 2* | 9 Customs Quay, Ahuriri, Napier 4110
Mob - +64 211 950 980

* The Napier Office is located on Level 2 of 9 Customs Quay. Access is via the door at the rear of the building on the east side of the building. Access to the building is by swipe card only.

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HBRC ARCHAEOLOGICAL SCREENING: PUMP STATIONS, HAWKE'S BAY

LEGISLATION

Under the current legislation (HNZPTA 2014) all archaeology is protected. This includes both recorded archaeology (that which we know is present) and unrecorded archaeology (that which remains to be formally identified).

PRELIMINARY SCREENING

This document is a high-level desk top screening only. It does not constitute a full Archaeological Assessment of Effects and at time of initial release did not involve a site visit UNLESS a Site Visit section is presented. The purpose of the screening is to help the recipient in determining the appropriate or legally required archaeological inputs during the preliminary planning stages of the screened project(s). At the completion of each project screening a progression recommendation is made, based on the information presented and the archaeologists' understanding of the potential risks. It is the recipient's responsibility to follow the advice and recommendations made.

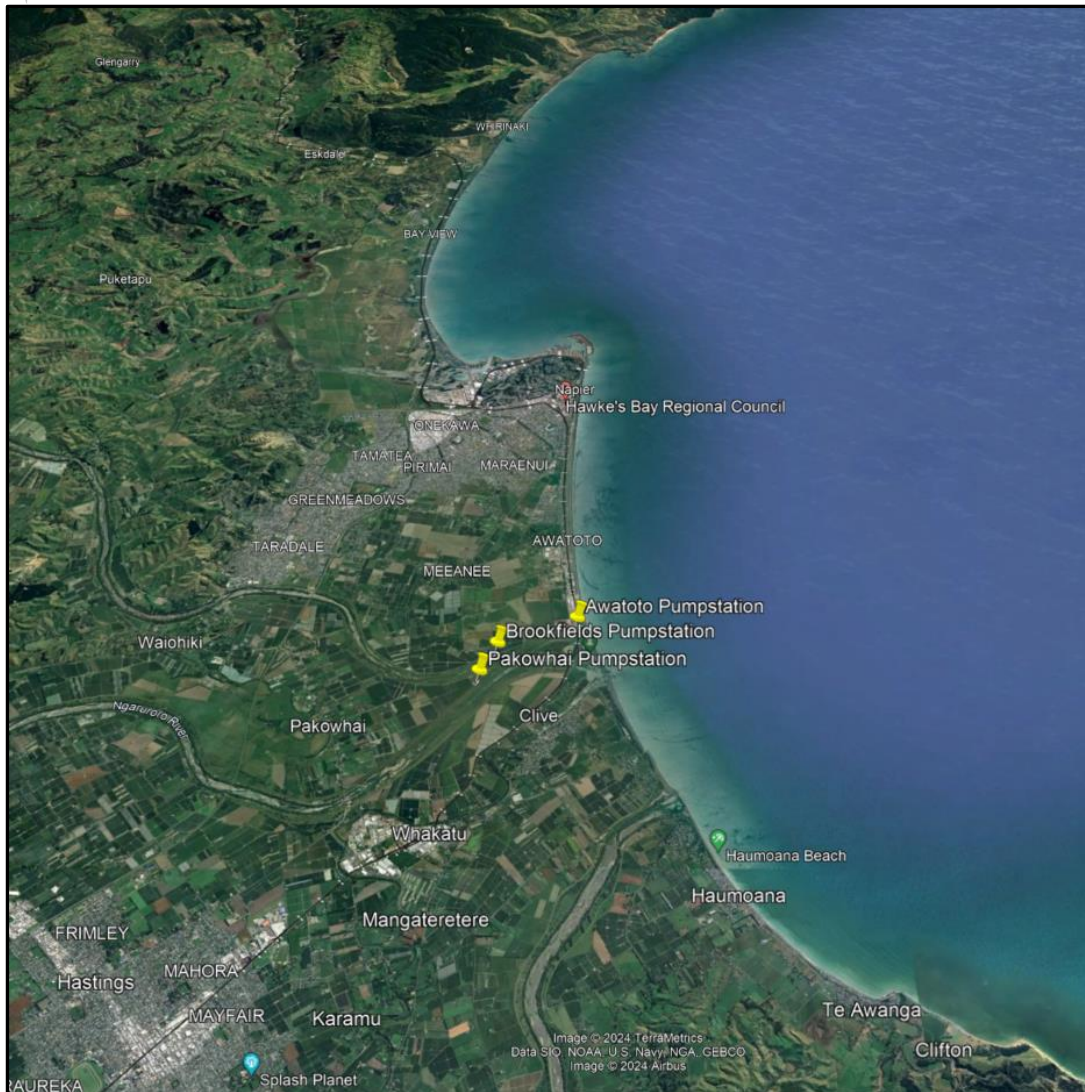
BACKGROUND

An archaeological risk screening of three proposed replacement pump stations has been requested from Archaeology Hawke's Bay Ltd (AHB) by J.P. Neethling for Hawke's Bay Regional Council (HBRC).

LOCATION

This screening relates to the following pump station sites:

- Awatoto
- Brookfields
- Pakowhai



Locations of the three pump stations in broad context.

PROPOSED WORK

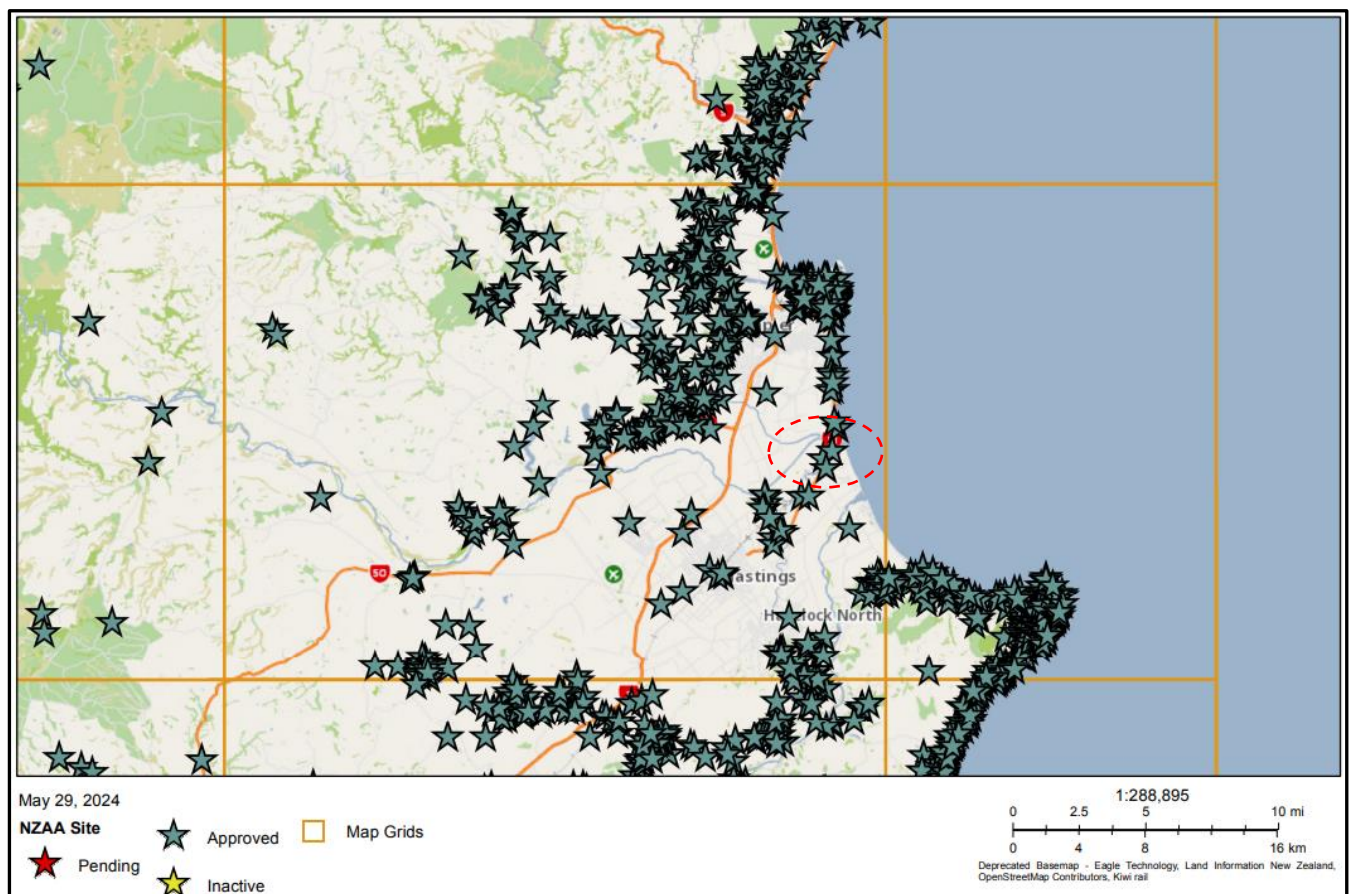
The proposed work involves the demolition of the existing pump station building(s) at each location and the construction of two new buildings per location (as provided by J.P. Neethling via e-mail 15/05/2024).

- Building 1: foundation (approximately) 13 m x 4.5 m x 4.5 m deep
- Building 2: foundation (approximately) 14 m x 7 m x 1 m deep (excluding pile depths)
- General earthworks: excavation of foundations to indicated depths and introduction of introduced fill- note depths remain subject to geotechnical confirmation so may go deeper or shallower. Further cut and fill earthworks to an unspecified extent will be required to create access platforms.

OVERVIEW OF ARCHAEOLOGICAL POTENTIAL

Traditionally river corridors and river mouth environments were utilized for resource gathering and as transportation routes, either by foot or waka. Prior to and since Cyclone Gabrielle there have been several instances of archaeological sites having been encountered at significant depth below current ground levels (> 1 m) along river or stream corridors e.g. during the Whakatū Arterial Link project (V21/464, V21/463, V21/465, V21/461, V21/462) and during the Springfield Stopbank repairs (V21/531)

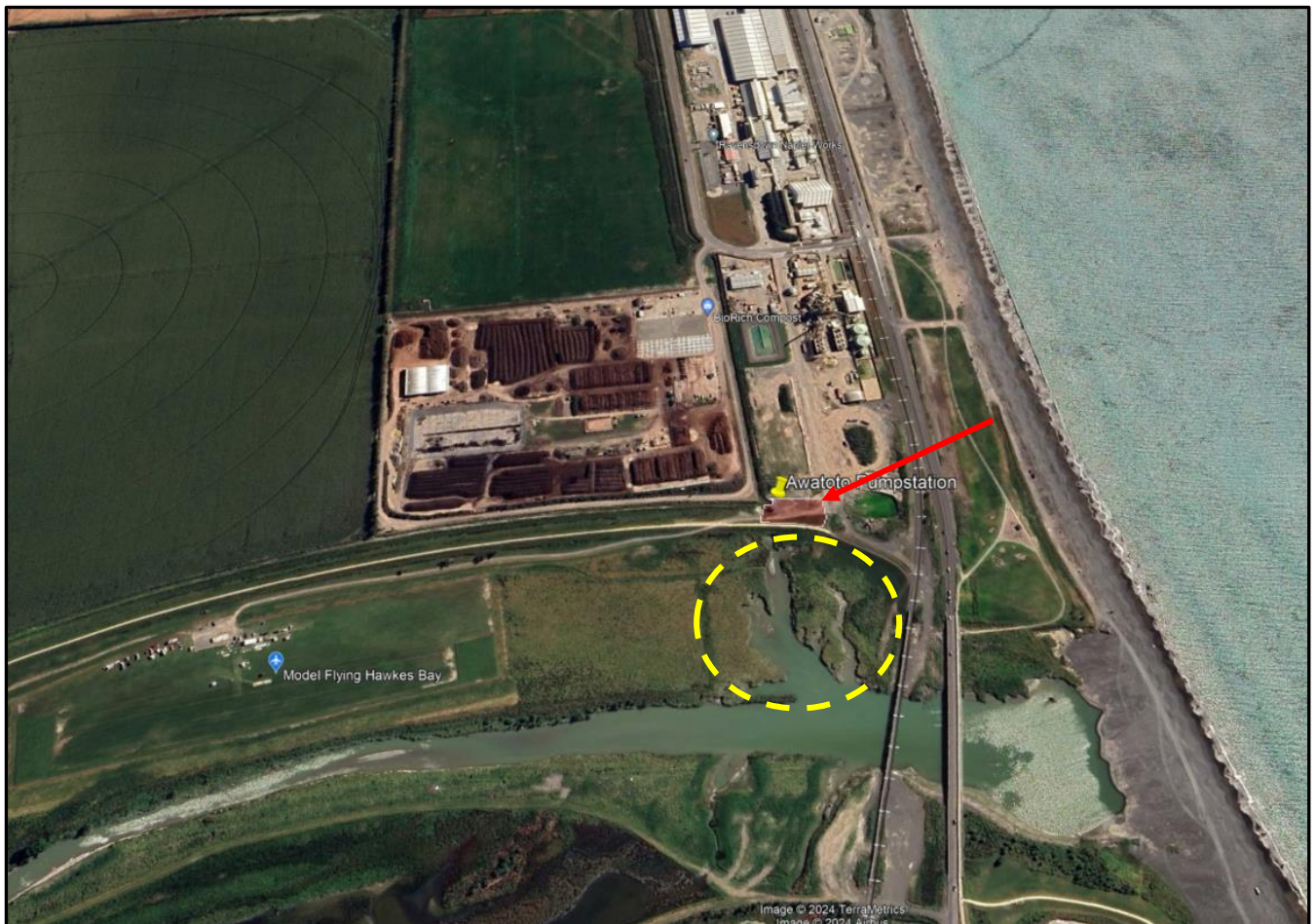
These pump stations lie adjacent to the present day Tutaekuri and Ngaruroro Rivers. These rivers are in places much modified from their pre 1900 course, with three now essentially exiting at the one river mouth. Therefore, the location, size and form of the current rivers cannot be assumed to closely reflect that of the pre-1900 environment. Further, because of Cyclone Gabrielle (Feb 2023) the river mouth area was significantly altered with gouging of banks and the creation of numerous new inlets.



Wider archaeological landscape of proposed pump station projects (red dash) (ArchSite).

AWATOTO PUMP STATION

The Awatoto pump station is located adjacent to the Tutaekuri, Ngaruroro and Clive River mouth. This area has been considerably modified by industrial activity throughout the 20th Century and has also been impacted by river redirection work. During Cyclone Gabrielle the Awatoto area was significantly impacted by the volume of water from three flooding rivers being funneled to this one exit point. The physical changes to the river mouth include newly formed inlets gouged out during the flooding (see below).



Awatoto Pump Station location in local context, arrowed red shade indicated project area, yellow dash = newly formed inlets (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are two currently recorded archaeological sites within approximately 300 m of the proposed replacement Awatoto pump station:

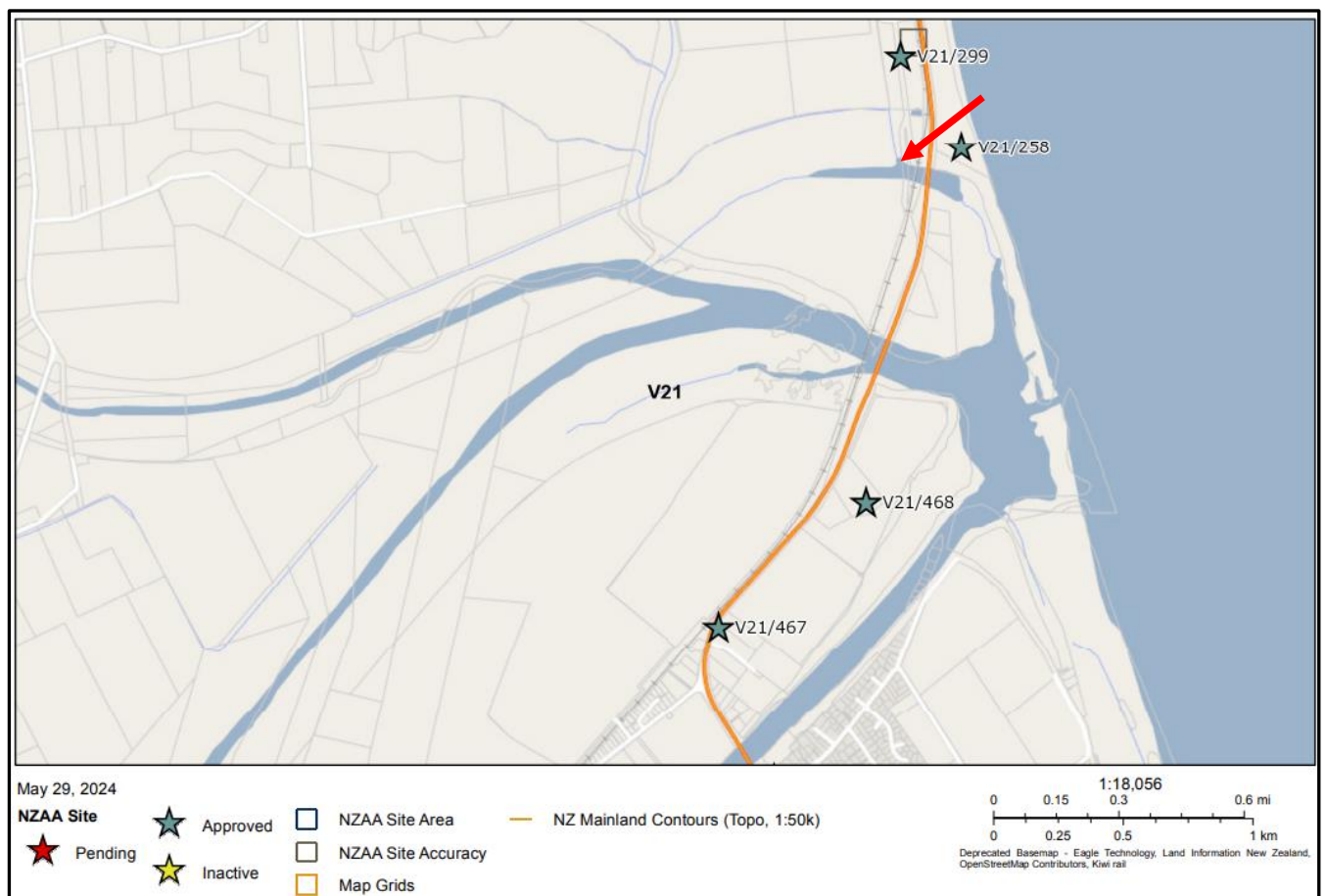
V21/258 – WWII Pillbox

V21/299 – Te Awapuni Pā, chapel and burial ground associated with William Colenso's mission

station.

Recorded site V21/258 is a WWII military pillbox, is observable from the surface and has a highly defined and localized footprint. This archaeological site will not be impacted by the proposed work.

Recorded site V20/299 is described as Te Awapuni Pā and is recorded as having a chapel and burial ground that are associated with William Colenso's mission station. This would suggest that this is potentially an extensive site as pā often had activity areas much more expansive than the pā palisades or defenses might indicate. The additional chapel and burial ground potentially extended this site further. However, this site is recorded from historic documents only, there is no physical evidence at the surface, and aside from anecdotal records of human remains being encountered during work at the Ravensdown factory (mid – late 20th C?), no archaeological evidence of the pā, chapel or burial ground has been recovered to date.

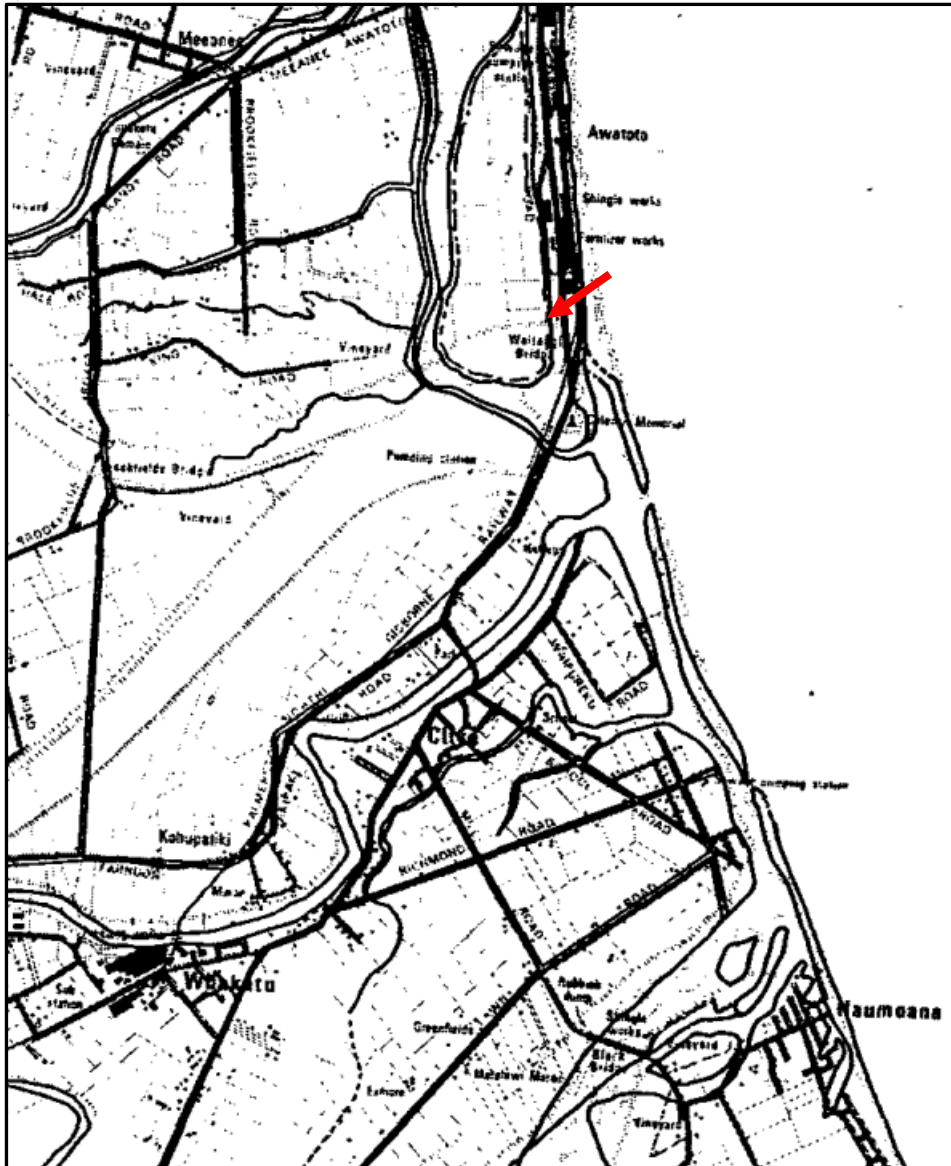


Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

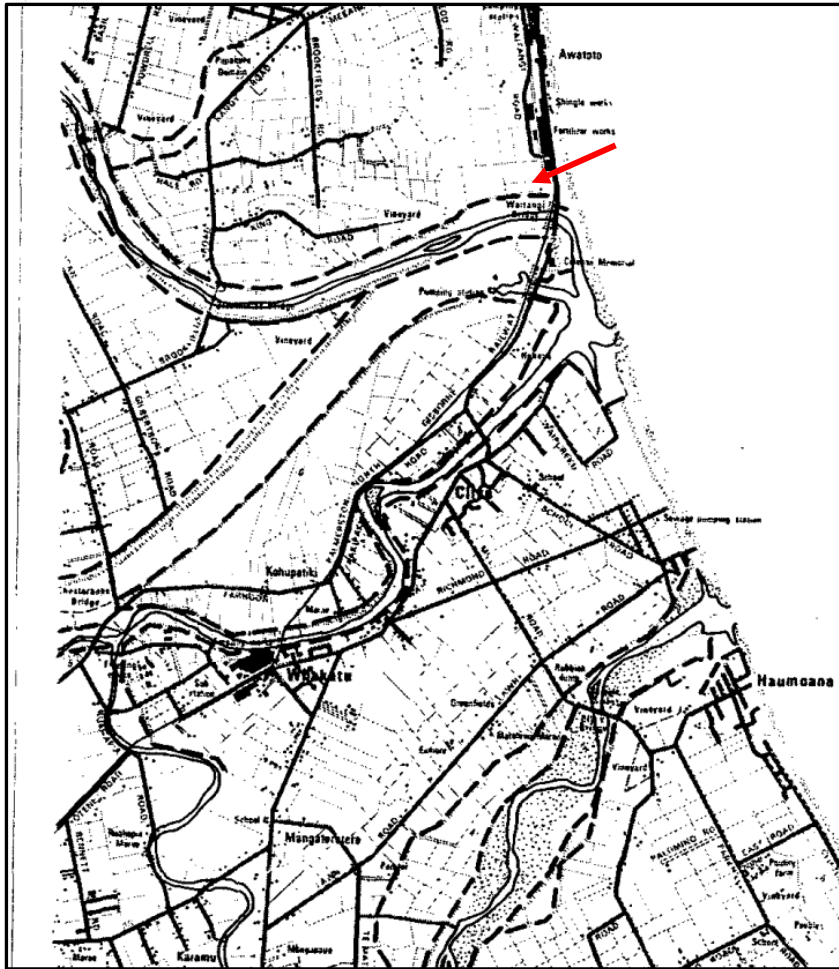
HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 there were multiple streams and three major rivers: Ngāruroro, Clive and Tukituki all feeding into an extensive long narrow estuary running from the Waitangi Bridge to Haumoana, separated from the sea by a narrow gravel bar.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The extensive estuary had been closed off with one river mouth for the Tutaekuri and Clive Rivers between Waitangi Bridge and Clive; and a second for the Tukituki at Haumoana.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work. The earliest images of use found were from 1939 and shows the area prior to the major industrial activity of the 20th C. and during a flood event. By this time the river mouth stopbanks had been formed and the wetland, river and stream channels closest to the pump station appear largely consistent with those up until Cyclone Gabrielle. There was no indication in any of the images of unrecorded archaeology or features that might be associated with V21/299.



Awatoto area and river mouth within 1939 flood landscape (Retrolens taken 15/06/1939).



Indicative location of proposed work within 1939 landscape (Retrolens).



Indicative location of proposed work within 1969 landscape (Retrolens).



Indicative location of proposed work within 1980 landscape (Retrolens).

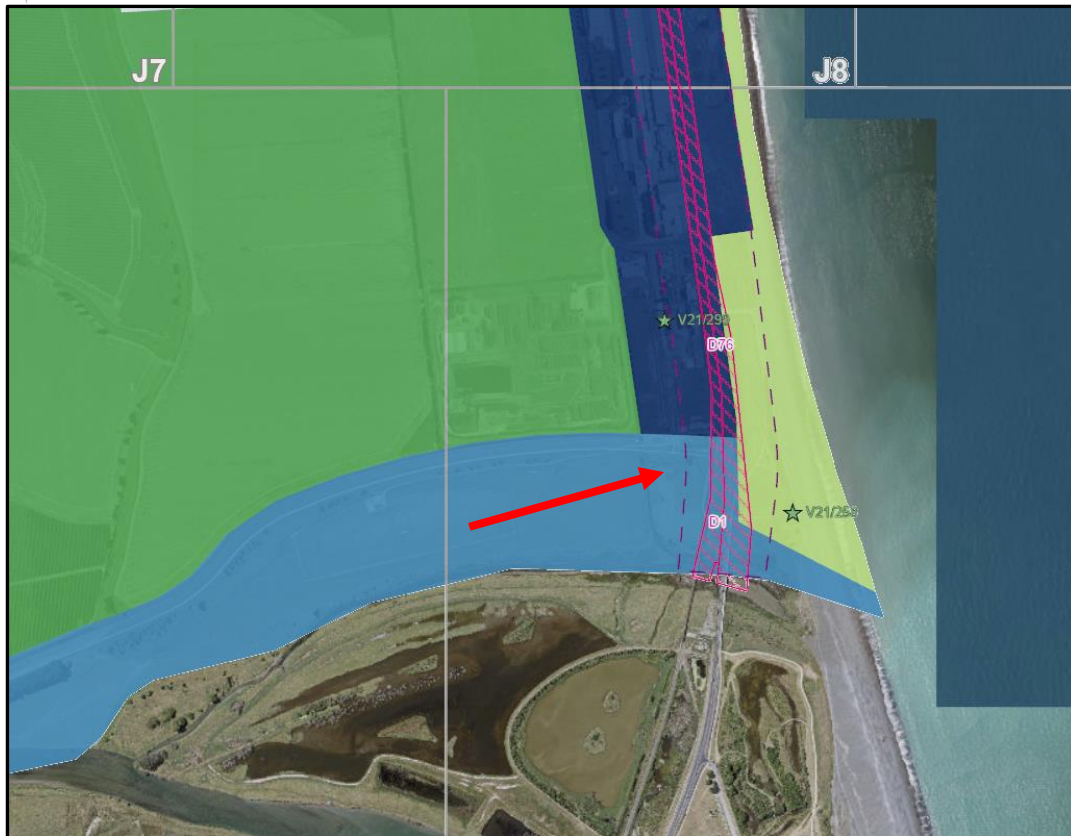


Location of proposed work within 2021 landscape (GoogleEarthPro).

DISTRICT PLANS

The area of proposed work lies within the Napier City Council region and is zoned as River Conservation. There are no items of cultural or historical significance aside from the two recorded archaeological sites, identified in the immediate area on the Operative District Plan¹.

¹ <https://napier.isoplan.co.nz/eplan/property/0/0/42>



Indicative location of proposed work (arrowed) in relation to NCC District Plan.

DISCUSSION

The proposed replacement pump station has two recorded archaeological sites within approximately 300 m. One, V21/ 258, is known to be outside the area of proposed work. Recorded site V21/299 has not had any surface or subsurface indicators identified since it's recording based on historic documents. Although this site is potentially sufficiently large that it could have extended to the area of proposed work, there is no evidence to suggest this to date. Unfortunately, the flood history of the Heretaunga Plains has obscured from view the types of surface archaeological indicators that are usually seen such as dips, hollows and banks; and materials such as burnt stone, shell, ceramic and glass. Over the past 5 – 10 years there has been an increasing realization that much of the archaeology of the Heretaunga Plains is buried beneath past flood depositions. Where earthwork is limited to the upper 300 – 500 mm of ground these archaeological horizons may not be revealed and remain intact beneath the modern landscape. However, where deeper foundations, footprints or excavations are required these archaeological horizons can unexpectedly be revealed.

SUMMARY STATEMENT

The proposed work does not directly impact any currently recorded archaeology. Nor is there

any evidence to date known to the writer that there is a high risk of encountering currently unrecorded archaeology within the proposed building footprints. However, there is an unquantified 'moderate' risk that archaeological features or materials associated either with V21/299 or unrelated activities occurring at the river mouth could be encountered during the work. Any such encounter, without an approved Archaeological Authority in place, could result in significant delays to the project whilst an Authority is sought and the required investigations carried out.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

Hawke's Bay RC are encouraged to consider the risks associated with an ADP approach in terms of project delays should currently unrecorded archaeology be encountered. If an Archaeological Authority were required mid-project this could result in delays in the order of 4 - 6 months for document preparation, iwi consultation and HNZPT processing times. Alternatively, a pre-emptive Archaeological Authority could be applied for, potentially incurring costs and time delays (pre-start) that later prove to be unnecessary.

BROOKFIELDS PUMP STATION

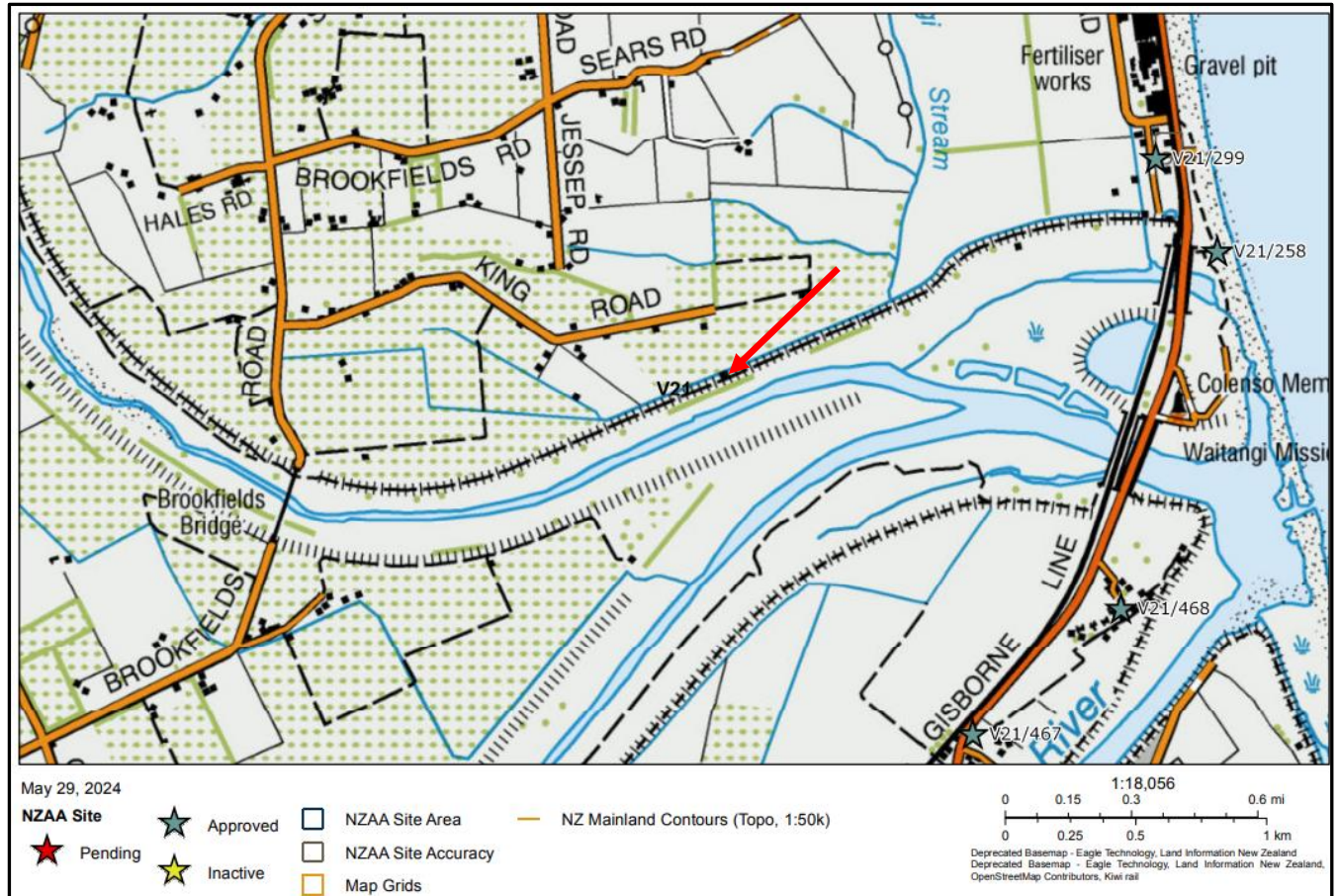
Brookfields pump station is located adjacent to the Tutaekuri River corridor. The area is primarily used for horticulture, viticulture and orchards. The redirected Tutaekuri runs to the south, whilst the redirected Ngaruroro joins the Tutaekuri channel to the east (see below).



Brookfields Pump Station location in local context, arrowed red shade indicated project area (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are currently no recorded archaeological sites within 1 km of the proposed replacement Brookfields pump station. The nearest recorded sites lie > 1.5 km east and include V21/258 and V21/299.



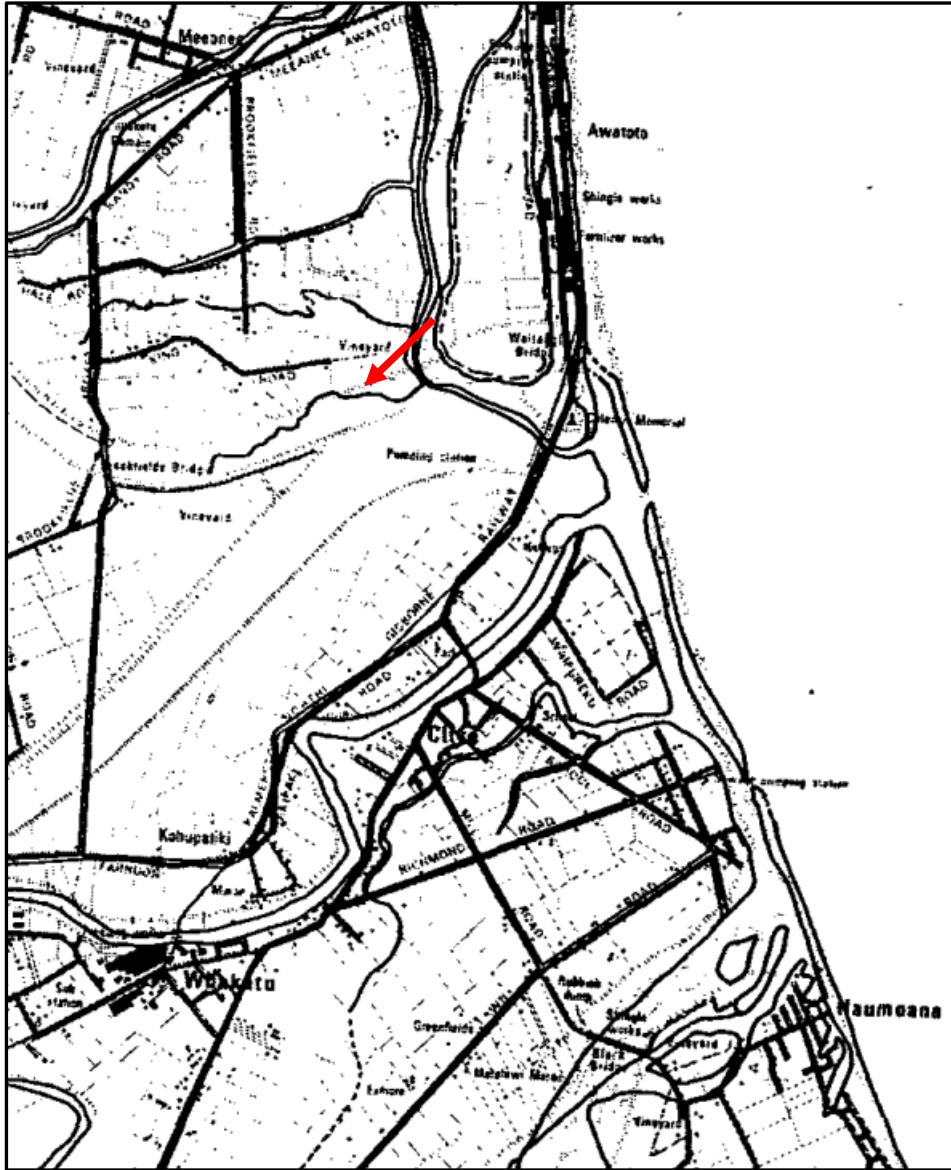
Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 the Brookfield pump station location is near a small stream. This environment of meandering streams and wetlands was potentially high in resource value and therefore archaeological risk.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The Brookfield pump station location is now

adjacent to the newly formed Tutaekuri river channel. It is assumed that the creation of the new river channel would have involved extensive invasive earthwork that would have destroyed any archaeological features or horizons in this area.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

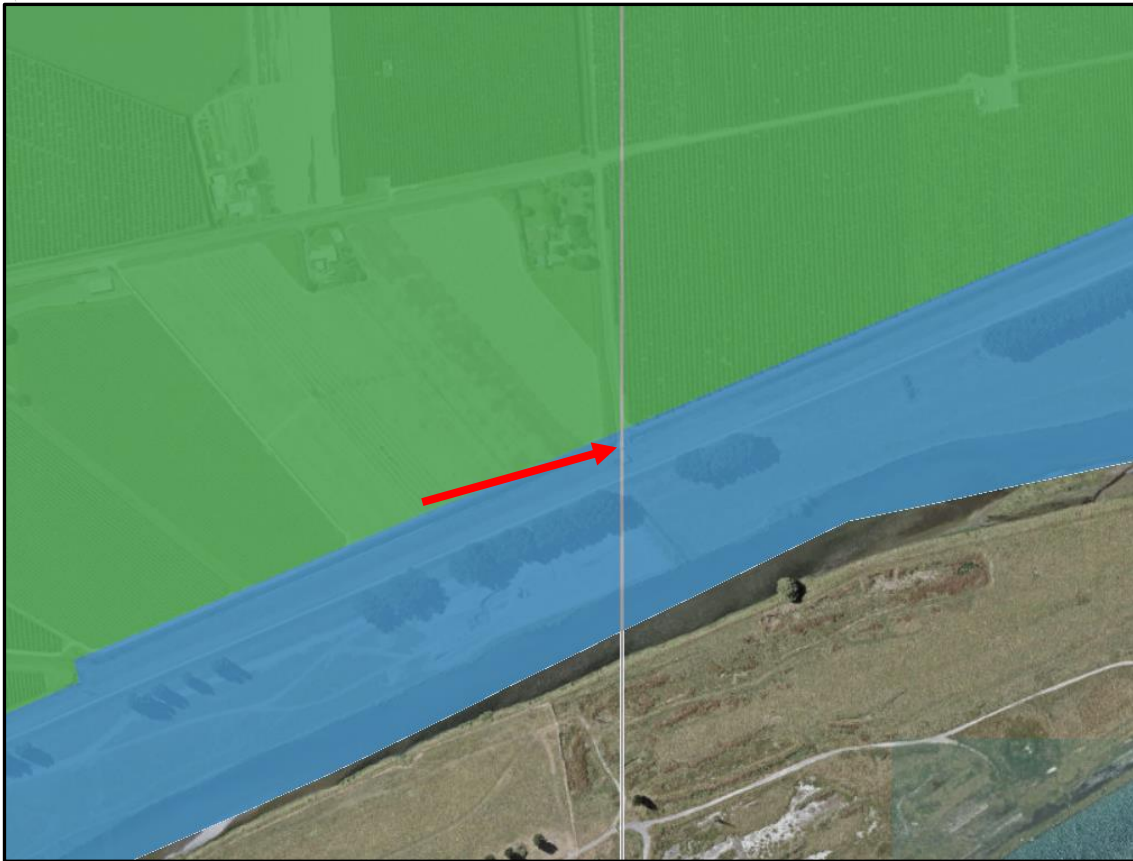
Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work.

Although there are several images that cover the area, none showed anything of archaeological interest.

DISTRICT PLANS

The area of proposed work lies within the Napier City Council region and is zoned as River Conservation. There are no items of cultural or historical significance identified in the immediate area on the Operative District Plan².

² <https://napier.isoplan.co.nz/eplan/property/0/0/42>



Indicative location of proposed work (arrowed) in relation to NCC District Plan.

DISCUSSION

The proposed replacement pump station has no recorded archaeological sites within 1 km, the nearest recorded sites being > 1.5 km distant. Prior to the mid-20th C the Brookfields pump station location sat adjacent to a small stream and potentially within an environment of high archaeological resources. However, with the realignment of the Tutaekuri River through this area any archaeology, even that buried at depth, would likely have been destroyed.

SUMMARY STATEMENT

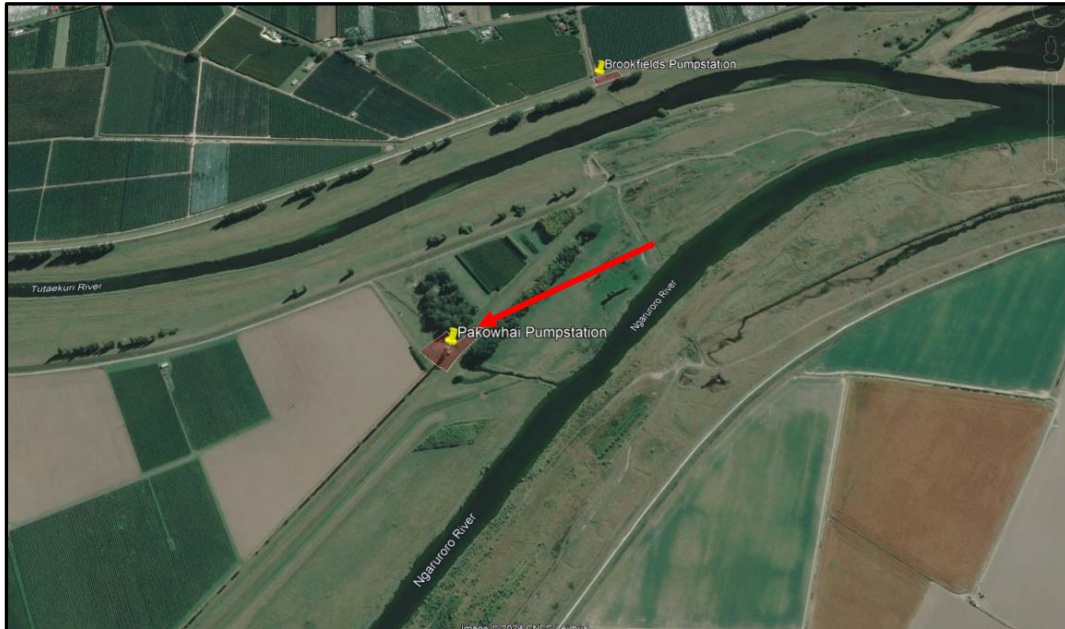
The proposed work does not directly impact any currently recorded archaeology. The realignment of the Tutaekuri River at this location would likely have destroyed any archaeology encountered. Therefore, although the wider landscape carries an unquantified risk of flood buried archaeological horizons being encountered, the 20th C modifications in this location reduce the archaeological risk to low or very low.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

PAKOWHAI PUMP STATION

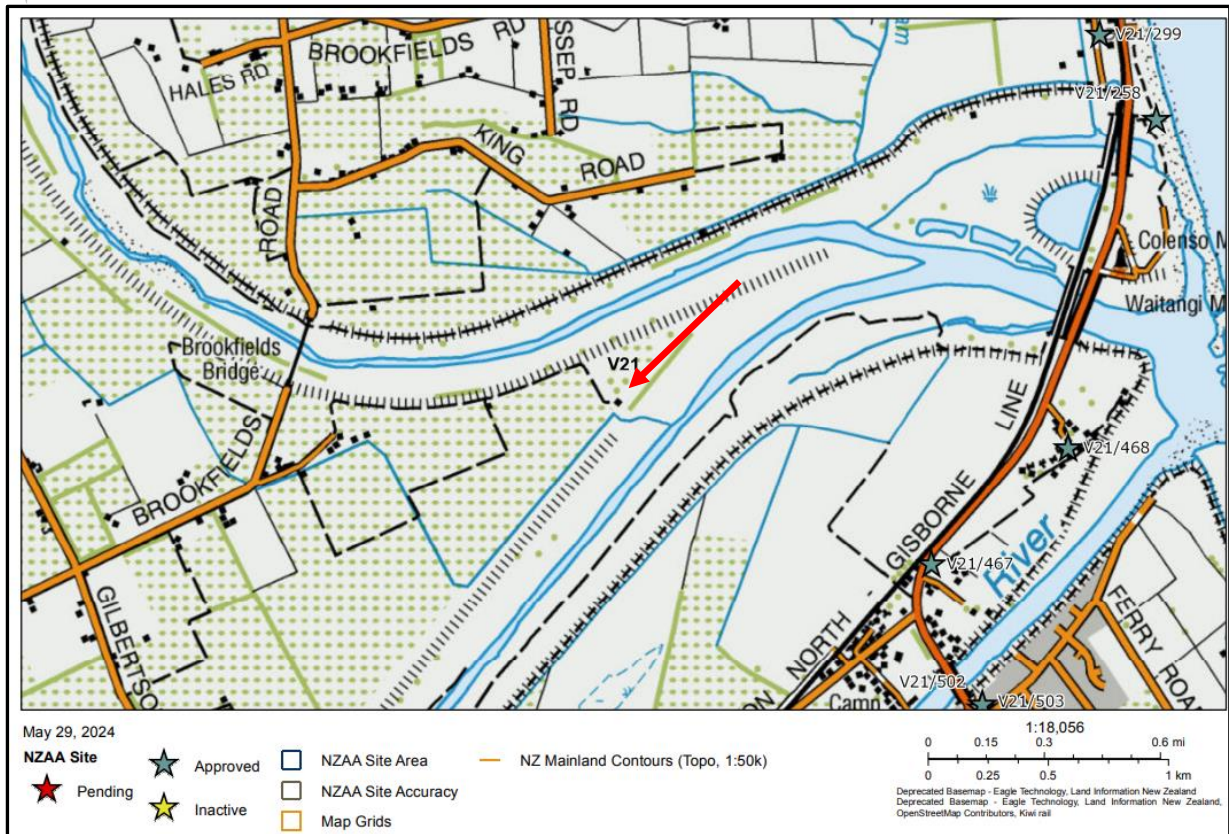
Pakowhai pump station is located between the present day Tutaekuri and Ngaruroro River corridor. The area is primarily used for horticulture, viticulture and orchards. The redirected Tutaekuri runs to the north, whilst the redirected Ngaruroro joins the Tutaekuri channel to the east (see below).



Pakowhai Pump Station location in local context, arrowed red shade indicated project area (Google Earth Pro & kmz data provided by J.P. Neethling).

ARCHSITE

There are currently no recorded archaeological site within 1 km of the proposed replacement Pakowhai pump station. The nearest recorded sites lie > 1.5 km south east and include V21/467 and V21/503.

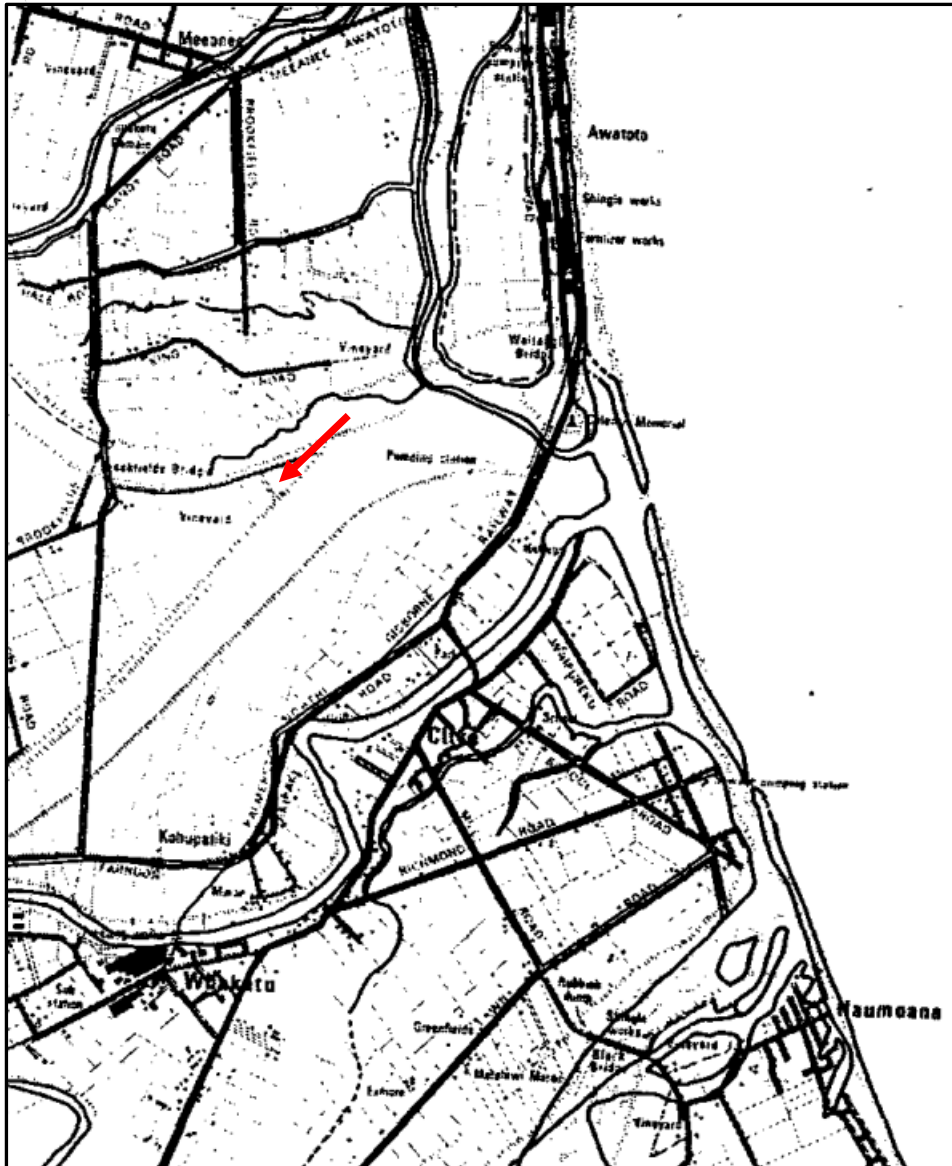


Archsite excerpt showing the recorded archaeological sites in the immediate vicinity of the pump station location (arrowed).

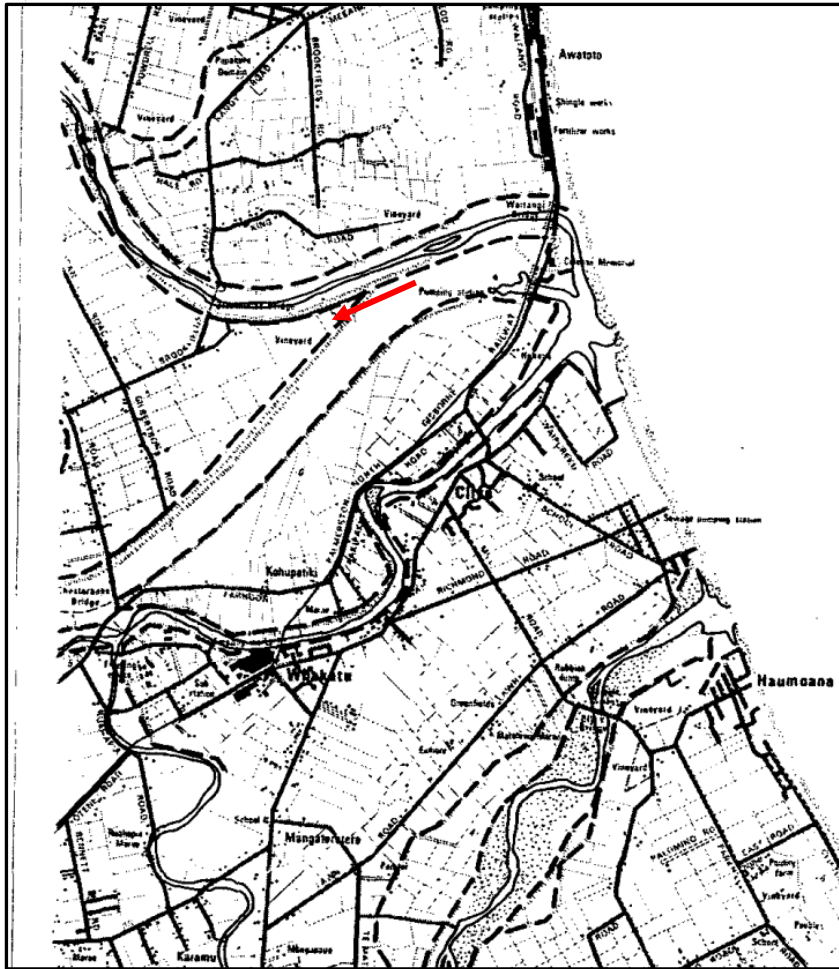
HISTORIC MAPS

Historic maps are very useful for understanding past landscapes, especially in areas such as this where river courses have been significantly modified both by natural and engineered means. A series of Hawke's Bay Rivers Board map excerpts included in the V21/299 Site Record form shows the changes to the river mouth and river corridors between 1875 and 1990. In 1875 the Pakowhai pump station location is near a small stream. This environment of meandering streams and wetlands was potentially high in resource value and therefore archaeological risk.

By 1958 the Tutaekuri had been diverted to its current path and the proposed Ngaruroro diversion had been seemingly confirmed. The Pakowhai pump station location is now between the newly formed Tutaekuri and proposed (later constructed) Ngaruroro river channels. It is assumed that the creation of the new river channels would have involved extensive invasive earthwork that would have destroyed any archaeological features or horizons in this area.



Hawke's Bay Rivers Board plan excerpt showing 1875 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.



Hawke's Bay Rivers Board plan excerpt showing 1958 rivers and coastal environment in the Awatoto to Haumoana area, project area arrowed.

HISTORIC AERIAL IMAGES

Several Retrolens historic aerial images dating from the 1930s to 1990s were scanned for information relating to the recent history of modifications to the pump station location and for potential unrecorded archaeological sites that might be affected by the proposed work. Although there are a number of images that cover the area, none showed anything of archaeological interest.

DISTRICT PLANS

The area of proposed work lies within the Hastings District Council region and is zoned as Rural and River Hazard. There are no items of cultural or historical significance identified in the immediate area on the Operative District Plan³.

³ <https://eplan.hdc.govt.nz/eplan/property/2051389/1772783/5702598/5557738/0/1213>



Indicative location of proposed work (arrowed) in relation to HDC District Plan.

DISCUSSION

The proposed replacement pump station has no recorded archaeological sites within 1 km, the nearest recorded sites being circa 1.5 km distant. Prior to the mid-20th C the Pakowhai pump station location sat near a small stream and potentially within an environment of high archaeological resources. However, with the realignment of the Tutaekuri and Ngaruroro Rivers through this area any archaeology, even that buried at depth, would likely have been destroyed.

SUMMARY STATEMENT

The proposed work does not directly impact any currently recorded archaeology. The realignment of the Tutaekuri and Ngaruroro Rivers at this location would likely have destroyed any archaeology encountered. Therefore, although the wider landscape carries an unquantified risk of flood buried archaeological horizons being encountered, the 20th C modifications in this location reduce the archaeological risk to low or very low.

RECOMMENDATIONS

The pump station demolition and replacement could be undertaken under Accidental Discovery Protocol (ADP).

RECOMMENDATIONS SUMMARY

Pump Station	Recommendation	Further Action
Awatoto	ADP / Precautionary Authority	HBRC consider the risks to the project if unrecorded archaeology is encountered vs potentially unnecessary costs of applying for and complying with a precautionary Authority.
Brookfields	ADP	None Required
Pakowhai	ADP	None Required

DISCLAIMER

It should be noted that even where the archaeological risk posed by this project is ultimately determined as low, this does not guarantee that archaeological features or materials will not be encountered.

Any such features or materials encountered are protected under the HNZPTA 2014 and if encountered are required to be reported and dealt with appropriately. This could result in significant delays to the work program. Therefore, HBRC are recommended to consider the completing an Archaeological Authority application process prior to works commencing as a risk management measure.

It is recommended that the individual potential Applicants / Authority Holders are briefed on this process PRIOR to commissioning any Assessment of Effects and Authority Application.

An Archaeology Hawke's Bay Ltd information sheet can be provided at the appropriate juncture, or alternatively the HNZPT website can be consulted for further information:

<http://www.heritage.org.nz/>.



RESOURCE CONSENT

Discharge Permit

In accordance with the provisions of the Resource Management Act 1991, and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Ravensdown Limited

Private Bag 6012

Napier 4142

To discharge contaminants into the air from the operation and maintenance of a sulphuric acid and fertiliser manufacturing plant at Awatoto including all ancillary activities.

LOCATION**Address of site**

200 Waitangi Road, Awatoto

Legal description

Site of activities: SECS 26 44 50 56 60 PT SECS 32 43 LOT 4 DP 8546 LOTS 1 2 DP 16060 BLK I CLIVE SD, LOTS 6 & 7 DP 25683

Map reference

E1936936 N5614522 (NZTM)

CONSENT DURATION

This consent is granted for a period expiring on 19 December 2057.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 19th of December 2027, if it is not exercised before that date.

Martin Williams

Hearing Commissioners

Under authority delegated by Hawke's Bay Regional Council
19th December 2022

Conditions

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
3. There shall be no discharge of particulate matter (including dust) or odour that causes an offensive or objectionable effect beyond the boundary of the site.
4. Notwithstanding any other condition of this consent, there shall be no discharge to air from the site of gases, airborne liquid or other airborne contaminants beyond the site, that causes adverse effects on human health, ecosystems or property.

Advice Note:

For the purpose of this condition the term site shall mean 'land and all assets on it'.

Product Storage

5. All bulk materials stored on site shall be kept inside a building.
6. The consent holder shall ensure regular sweeping of yard and road areas using vacuum cleaning to minimise emissions of dust beyond the boundary of the site.

Acid Plant

7. The Acid Plant stack shall be no less than 55 metres above ground level, the furnace pre-heat stack no less than 18 metres above ground level, and the auxiliary boiler stack no less than 15.8 metres above ground level.
8. The emission rate of Sulphur Dioxide (SO₂) from the Acid Plant stack shall not exceed 1.5 kilograms (kg) per minute (two minute average) and:
 - a) 60 kg/hour (one hour average) at any time until completion of the construction and commissioning of the replacement Acid Plant Converter. The commissioning of the replacement converter shall be undertaken as soon as practicable and no later than 1 January 2026.
 - b) 40kg/hr (one hour average) at any time following construction and commissioning of the replacement Acid Plant Converter.
9. The combined discharge rate of Sulphur Trioxide (SO₃) and Sulphuric Acid (H₂SO₄) (expressed as SO₃) from the acid plant stack shall not exceed:
 - a) 2 kg/hr as a 1-hour average at any time;
 - b) 0.5 kg/hr for at least 50% of the monitored 1-hour averages in any 3 month period.
10. The discharge from the acid plant may contain up to 150 milligrams per cubic metre (mg/m³) at NTP SO₃ / H₂SO₄ expressed as SO₃ for not more than 4 hours after igniting sulphur in the case of a cold start and not more than 1 hour in the case of a warm start up. This shall be measured in accordance with USEPA method 8 or another method as approved by Council.

Advice note:

The NTP (Normalised Temperature and Pressure) for the purposes of this consent is based on 0 degrees Celsius at 1 atmosphere pressure.

11. An acid plant cold start up sulphur ignition shall not occur:
 - a) between the hours of 1:00 am and 10:00 am on clear still mornings when the wind speed is less than 2 m/s and there is no cloud; and
 - b) when the wind direction is between 030 and 155 degrees (onshore winds).

Advice note:

For the purposes of this consent, an acid plant cold start refers to starting the acid plant from cold, this occurs following a complete shutdown when the acid plant is starting from ambient temperatures and diesel is used to pre-heat the plant. An acid plant warm start refers to starting the acid plant when the plant is already warm, this occurs following a short plant stop, usually less than 8 hours, when the temperature in the acid plant has been maintained above a critical limit.

12. The discharge from the acid plant stack shall be clear at all times, except that a visible white plume may occur within four hours of igniting sulphur in the case of a cold start up and within one hour in the case of a warm start up.
13. The discharge from the acid plant shall not occur during wind directions between 030 and 155 (onshore winds) between the months of August to May inclusive, when either of the following meteorological conditions occur:
 - a) The relative humidity measured on-site at 10 metres above ground level is 92% or greater, wind speed at 10 metres above ground level is 3 m/s or less and it is not raining; or
 - b) The relative humidity measured on-site at 10 metres above ground level is 95% or greater, wind speed at 10 metres above ground is greater than 3 m/s and it is not raining.
14. Except as allowed for by condition 11 the Acid plant discharge shall cease within 30 minutes of the above meteorological conditions identified in condition 13 being detected and shall not recommence until these conditions have not occurred for a period of at least 30 minutes. Plant operators shall be alerted when the measured relative humidity at 10 metres above ground during onshore winds (030-155 degrees) exceeds 90%, and careful observation of meteorological conditions and the visible plume discharge shall occur during such conditions. A record shall be kept of the dates, time periods and meteorological conditions when the acid plant operation ceases according to this condition. This record shall be provided to the Council on request and otherwise annually.
15. A system shall be maintained that automatically shuts off the sulphur feed to the burner so that the discharge to air rate of SO₂ from the sulphuric acid production process does not exceed the emission rates set out in condition 8.
16. The diesel oil burning rate in the auxiliary boiler shall not exceed 580 litres per hour.
17. The concentration of hydrogen sulphide (H₂S) shall not exceed 7 µg/m³ (with a 1 hour averaging time) in the ambient air at or beyond the boundary of the premises as a result of emissions from the consent holder's property.

Advice note:

Monitoring of H₂S shall only be required if any complaints are received. Such monitoring shall assess wind and other environmental conditions at the time of the complaint along with other likely sources to determine if onsite management at the Ravensdown Napier Works may be required to remedy or mitigate the effect.

Manufacturing Plant

18. Stack Height

- a) Prior to the commissioning of the new combined Manufacturing stack, discharges from each den scrubber shall be via stacks with a height of no less than 38 metres above ground level.
 - b) Prior to the commissioning of the new combined Manufacturing stack discharges from the hygiene scrubber shall be via a stack with a height of no less than 36 metres above ground level.
 - c) The combined Manufacturing stack shall be installed and operational by 1 January 2024 with a discharge height, including cowling, of no less than 50 metres above ground level as measured from the base of the stack.
19. All extracted emissions from the superphosphate manufacturing process shall be discharged through either the den stacks or the hygiene stack, or the combined manufacturing stack following its commissioning.
 20. The rate of particulate matter discharged from any Bradley mill shall not exceed 1 kg/hr per mill, and 2 kg/hr in total when two or more mills are in operation.
 21. The sum of the fluoride compounds discharged from the den stacks and the hygiene stacks, (prior to the commissioning of the combined manufacturing stack) measured in the samples taken in accordance with condition 32 expressed as fluoride on a one-hour average basis, shall not exceed:
 - a) a maximum discharge rate of 1.5 kg/hr; and
 - b) 1 kg/hr in more than 50% of samples taken in any 12-month period.
 22. The sum of the fluoride compounds discharged from the combined manufacturing stack (after commissioning) measured in the samples taken in accordance with condition 32 expressed as fluoride on a one hour average basis, shall not exceed a maximum discharge rate of 1 kg/hr.
 23. The pH of the condensate from the den and hygiene stacks or the Manufacturing stack, shall be no lower than 2.7 except in the period August to September when the pH shall be no lower than 4.0.
 24. As part of the annual vegetation monitoring programme undertaken under condition 49 the visual assessment process shall monitor any changes in the flowering period of susceptible crops (peaches, apricots, nectarines) within a 2km radius of the Napier Works. If there is a change in the peak flowering period of more than 10% of these susceptible crops that falls outside 1 August to 30 September period for two years in any five year period then the consent holder shall adjust the timeframe for pH being no lower than 4.0 as described in condition 23 above to correspond with the new flowering period.
 25. An automated water deluge system for the manufacturing den mixer shall be used to minimise contaminant discharges in the event of failure of the mixing process.

Cooling Towers

26. The evaporative cooling towers shall be regularly dosed with micro-biocides to maintain the concentration of the micro-biocide in the cooling water at the level recommended by the supplier that prevents the establishment of Legionella bacteria. Records shall be kept to demonstrate compliance with this condition and shall be provided to the Council on request.

Source Control Management (SCMP)

27. The consent holder shall undertake actions as described in the *Ravensdown Napier Works Source Control Management Plan December 2022* or subsequent revisions required by condition 13 of the general conditions relating to both land and water discharge permits, to reduce the concentrations of fugitive airborne contaminants from the site.

Onsite Monitoring

28. The consent holder shall operate a meteorological station in a location that reasonably represents meteorological conditions on the site. The station shall continuously record, wind speed, wind direction, temperature and relative humidity, and display them in real time in the manufacturing control room and the acid plant control room. The location and the resolution, accuracy and averaging time of monitoring equipment shall be agreed in writing by the Council. All processed data shall be archived and made available to the Council on request.
29. All sampling and surveys shall be carried out by an independent suitably qualified person, or by the consent holder or its representative where the Council has agreed to this in writing. Where the consent holder or its representative carries out testing or monitoring, an independent suitably qualified person shall audit the monitoring and testing methodology at least once per year, unless otherwise agreed in writing by the Council, and shall provide a written report describing the extent of compliance with the required protocol. A copy of this report shall be provided to the Council as part of the Annual Report.
30. All analyses in accordance with conditions on the consent shall be carried out by an independently accredited laboratory to ISO/IEC Guide 25, or to the satisfaction of the Council.
31. The consent holder shall continuously (i.e., at intervals not exceeding 1 minute) measure the rate of SO₂ discharge in the emissions from the acid plant stack. The method of measurement shall be in accordance with ISO10396:2007 (*Stationary source emissions – Sampling for the automated determination of gas emission concentrations for permanently – installed monitoring systems*) or an alternative method, approved in writing by the Council. Testing results shall be reported in the Annual Report as a mass emission rate in units of kg/hr as both 1-minute and 1-hour averages.
32. The consent holder shall measure the rate of discharge of SO₂, SO₃ and H₂SO₄ in the emissions from the acid plant stack, at least twice per year at times when acid is being produced. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.
33. The consent holder shall measure the discharge rate of fluoride in the emissions from manufacturing stacks during superphosphate manufacture and no test may commence within one hour of starting acidulation. The method of measurements shall be in accordance with USEPA Method 13B (“Total fluoride specific ion electrode”) or an alternative method approved, in writing, by the Council. The testing frequency shall be:
 - a) Fortnightly until completion of the construction and commissioning of the combined manufacturing stack.
 - b) Weekly for the six-month period following commissioning of the combined manufacturing stack.
 - c) Monthly following the six month period outlined in condition 33(b) above or at such further reduced frequency as the Council may agree in writing.
34. The consent holder shall measure the rate of discharge of SO₂ in the emissions from the manufacturing stacks monthly. The measurement is to be carried out during superphosphate manufacture and no test may commence within one hour of starting acidulation. This monitoring shall be undertaken in accordance with USEPA Method 8 (“Determination of sulphuric acid mist and sulphur dioxide emissions from stationary sources”) or an alternative method that is approved, in writing, by the Council.
35. The rate of particulate matter discharged from each mill shall be measured at least once every 6 months. The method of sampling and analysis shall comply with USEPA Method 5 or Method 17,

ISO 9096:2003 or ASTM D3685-98, or a similar iso-kinetic method to the satisfaction of the Council. The testing time for each sample shall be 2- hours continuous, and at least three samples shall be collected. Results shall be adjusted to 0°C, 101.3 kilopascals, on a dry gas basis, and as a mass emission from each stack expressed as kg/hr.

36. The Bradley Mill baghouses shall be operated with broken bag detectors. A central alarm system shall be operated to warn the plant operator of a bag breakage or any change in pressure that may indicate a broken filter bag. The bag filters serving the Bradley mills shall also be manually inspected on a regular basis and shall be replaced where the inspection reveals excessive wear. Records shall be kept of Bradley mill shutdowns, manual inspections and filter bag replacements. These records shall be provided to the Council on request.
37. Discharges from the Bradley Mill baghouses shall be from stacks that discharge vertically into air with a minimum discharge height of 1 m above the roof ridge height of the Manufacturing Plant building within 18 months from the commencement date of this consent. The Bradley Mill discharge stacks shall not be impeded by any obstruction above the stack that decreases the vertical efflux velocity below that which would occur in the absence of such obstruction.
38. The pH of the condensate from the manufacturing stack(s) shall be measured monthly. The method by which the condensate is to be measured shall be approved in writing by the Council.

Offsite and Ambient Monitoring

39. The consent holder shall measure ambient fluoride, in accordance with the monitoring plan required by condition 57 and based on a continuous filter exposure period of 7-days. The results shall be reported as average concentration ($\mu\text{g}/\text{m}^3$) over that 7-day sample period. Measurements shall be taken at the following sites, listed below:

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard	28452407	6175251
Plumpton Park	2844864	6177075
Ravensdown Back Paddock	2846499	6175772
Ravensdown Front Paddock	2846745	6176068
<i>New site east of Ravensdown Napier Works</i>	<i>Location to be defined in consultation with HBRC</i>	
<i>New site in the vicinity of the Napier City Council Cross Country Drain pumping station</i>	<i>Location to be defined in consultation with HBRC</i>	

40. The location of the sites are shown on HBRC Conditions Plan A. Locations may be modified after securing the agreement of the relevant landowner and with the written approval of the Council. The concentration of fluoride in ambient air measured in accordance with condition 39 shall not exceed $0.8 \mu\text{g}/\text{m}^3$ (7 day average) at areas used for horticultural production (including Brookfields Orchard and Plumpton Park locations as detailed in condition 35).
41. The 7-day average concentration of fluoride measured at the Ravensdown Back Paddock and *[new northern site]* monitoring site (location as detailed in condition 39), shall not exceed $1.7 \mu\text{g}/\text{m}^3$.
42. The 7-day average concentration of fluoride measured at the Ravensdown Front Paddock and *[new eastern site]* monitoring sites (locations as detailed in condition 39), shall not exceed $5.5 \mu\text{g}/\text{m}^3$.

43. The consent holder shall ensure ambient fluoride measurement is undertaken in accordance with AS3580.13.2 – 1991 (“Method 13.2: Determination of fluorides – Gaseous and acid soluble particulate fluorides – Manual, double filter paper sampling”) or an alternative method approved, in writing, by the Council.
44. Ambient fluoride measurement undertaken in accordance with condition 39 shall occur at a height of 2.4 metres above ground level.
45. Fugitive SO₂ monitoring:
 - a) The consent holder shall install and operate at least two ambient SO₂ monitors around the acid plant in order to detect fugitive SO₂ emissions. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in condition 39 and shall be agreed in writing by the Council prior to establishment. The concentration of SO₂ in ambient air shall be monitored continuously (at least every minute) by UV fluorescence analysis, according to the method of measurement AS3580.4.1 – 1990 (“Method 4.1: Determination of sulphur dioxide – direct reading instrumental method”), or an alternative method agreed to in writing by the Council; and
 - b) In the event that ambient concentrations of SO₂ measured at either of the monitoring sites described by condition 45 (a) exceed 350 µg/m³ as a 10-minute average, immediate action shall be taken to ensure that measured SO₂ concentrations are reduced to less than 350 µg/m³ as a 10 minute average. A record shall be kept of all occurrences when measured SO₂ concentrations exceed this limit and the corrective action taken. This record shall be provided to the Council on request and otherwise annually.
 - c) Any exceedance of the Resource Management (National Environmental Standards for Air Quality) Regulations 2004 (NES) for SO₂ shall be reported as soon as practicable after detection.
46. Concentrations of PM_{2.5} and PM₁₀ in ambient air shall be monitored continuously at two sites according to a method of measurement that complies with the monitoring requirements in the NES, or an alternative method agreed to in writing by the Council. The monitoring shall begin within 3 months of commencement of this consent. The monitoring sites shall be located east of Ravensdown Napier Works, and at the Ravensdown Back Paddock monitoring site as described in condition 39 and shall be agreed in writing by the Council prior to establishment. Results shall be provided as a 24-hour average. Any exceedance of the NES for PM_{2.5} and PM₁₀ shall be reported as soon as practicable after detection.
47. The consent holder shall undertake continuous dust monitoring at two locations, one on the eastern and one on the western side of the Manufacturing Plant, in accordance with AS/NZS 3580.12.1.2015. ‘Methods of sampling and analysis of ambient air – Part 12.1: Determination of light scattering integrating nephelometer method’ to determine effectiveness off the SCMP. Details of the two continuous dust monitoring site locations, monitoring trigger concentration values and management responses, and maintenance and calibration requirements for the instruments are to be set out in the monitoring plan required condition 57 of this consent.
48. The consent holder shall undertake a Window Clarity survey on receipt of a reasonable request from a property owner within 1 km of the manufacturing plant stack using the methodology outlined in the BRANZ report DCZ059 (25 June 2004). Any windows found to be affected to ‘pen test level 3’ or where Light Gloss Units (LGU) are equal or less than 115 as described in BRANZ report DCZ059, shall be replaced by the consent holder if the property owner wishes the glass to be replaced.
49. The consent holder shall undertake a vegetation monitoring programme that has been approved by the Council in accordance with the monitoring plan required condition 57 of this consent. The programme shall provide for the following matters:
 - a) A visual assessment of vegetation; and

- b) A determination of foliar fluoride concentrations; and
- c) The timing of the vegetation monitoring programme (which shall occur during the months of November to May inclusive for the duration of the consent, unless otherwise agreed in writing by the Council); and
- d) The monitoring methodology which shall be agreed in writing by the Council; and
- e) The location of any monitoring, including but not limited to the following sites.

Site	Easting (NZMG)	Northing (NZMG)
Brookfields Orchard, Kings Road	28452407	6175251
Plumpton Park Orchard, Awatoto Road	2844864	6177075
Simkin Orchard, Awatoto Road	2844899	6177531
T&G, Willowbank Road	2845130	6177681
Johnny Appleseed Orchard, Brookfields Road, Meeanee	2844016	6174605
Dewer Orchard, Awatoto Road	2845361	6176994
Johnny Appleseed Orchard, King Road, Meeanee	2845210	6175167
Brookfields Winery, Brookfields Road	2843841	6175700
Control Site	Location to be defined in consultation with HBRC	

Advice Note:

The location of the monitoring sites, frequency of monitoring and analytes monitored may only be modified as appropriate with the written agreement of the Council based on any future landuse or property ownership changes which may occur through the life of the consent.

50. The consent holder shall undertake monitoring of fluoride of unharvested forage as set out in condition 50 (a) and (b) below. The results of sampling in condition 50 (a) and (b) shall be reviewed by a suitably qualified expert and compared to the relevant thresholds set out in the Table below taken from the Australia and New Zealand Environment Council (1990): National Goals for Fluoride in Ambient Air and Forage (ANZEC Guideline).
- a) Monthly monitoring of fluoride of unharvested forage for a 12 month period following the commencement of these consents at one site each in the North-western and South-western corners of the irrigation area shown on Plan B attached to this consent.
 - i. The results of the sampling in accordance with condition 50 (a) shall be compared to the results of the samples taken in accordance with condition 17 of the discharge to land consent. If there is no significant difference between the two sample sets then no further monitoring of unharvested forage in accordance with condition 50 (a) shall be required.
 - ii. If there is a significant difference between the two sample sets set out in condition 50 (a)(i) and the 12-month average guideline set out in the Table below is exceeded, monthly fluoride monitoring of two sites of grazed pasture within 1 km of the manufacturing stack discharge shall be undertaken for a further 12 months.

- b) Monitoring of fluoride of unharvested forage in May and July for five years following the commencement of these consents at two sites within the irrigation area shown on Plan B attached to this consent.
- i. If the two-month average guideline set out in the Table below is exceeded in either the May or July sample each year, fluoride monitoring of two sites of grazed pasture within 1 km of the manufacturing stack discharge as agreed with the landowner(s), will be undertaken on two occasions at monthly intervals commencing within 10 working days following the receipt of the sample result(s).

Australia and New Zealand Environment Council (1990): National Goals for Fluoride in Ambient Air and Forage (ANZEC Guideline).

ANZEC Threshold (12-month average guideline)	ANZEC Threshold (two-month average guideline)
40 micro grams of F per gram of dry tissue (or equivalent).	60 micrograms of F per gram of dry tissue (or equivalent).

51. The results of the monitoring set out in condition 50 (a) and (b) above shall be assessed by a suitably qualified expert who shall prepare a report identifying reasonable land management practices that the consent holder shall ensure are implemented to remedy and or mitigate risk to livestock through ingesting fluoride above the ANZEC thresholds. A copy of this report along with any land management or other actions agreed between the consent holder and any affected neighbour shall be provided to the Council (Manager Compliance) within six months of the completion of monitoring set out in condition 50 (a)(ii) and (b)(i) above.

Mana Whenua Recognition and Participation

52. Conditions 26 to 31 of Appendix 1 of the general conditions relating to both land and water discharge permits shall also apply to the exercise of this discharge permit.

Reporting

53. The consent holder shall advise the Council at least 24 hours in advance of a planned warm or cold restart of the acid plant. The Council shall be advised of the proposed time when sulphur will be ignited.
54. At monthly intervals the consent holder shall provide the Council with a report if any exceedance of limits of any conditions of this consent has occurred along with an explanation of the reasons for the exceedance.
55. The consent holder shall produce a report every year (the "Annual Report") that presents and summarises all information on the monitoring required by this consent. The report shall include, but not necessarily be limited to:
- a) Results of monitoring of dust, PM_{2.5}, PM₁₀, SO₂, fluoride and acidic compounds;
 - b) The fluoride and foliar monitoring report;
 - c) Any odour or dust complaints;
 - d) A description of any potential and actual effects that have been identified;
 - e) Identification of trends of monitoring information;
 - f) A summary of any air emission control equipment modifications;
 - g) Recommendations for system improvements; and

- h) The Annual Report shall be prepared for the period beginning July and ending June of the following year and provided to the Council before 31 October each year.

56. The consent holder shall maintain a log of all complaints received directly from the public. The log shall include:

- a) The date, time, and nature of the complaint;
- b) The telephone number, and address of the complainant (if provided);
- c) Weather information (including an estimate of wind speed and direction);
- d) Details of key operating parameters at the time of the complaint; and
- e) The remedial action taken, as appropriate, to prevent further incidents.

Complaints and any immediate actions taken by the consent holder shall be reported to the Council as soon as practicable and within 48 hours of receipt and the log of complaints shall be made available to the Council on request.

Management and Monitoring Plan

57. The consent holder shall prepare and submit to the Council for approval within six months of the date of commencement of this consent and within six months from the commissioning of the combined Manufacturing stack, an Air Discharge Management and Monitoring Plan with the Objective of detailing how all discharges to air from the site and their effects will be measured, assessed and managed in accordance with these conditions. The Management and Monitoring Plan shall be complied with at all times during the exercise of this consent, and shall include:

- a) Management of:
 - i. Dust including particulate;
 - ii. Sulphur dioxide;
 - iii. Acidic discharges;
 - iv. Fluoride;
 - v. Odour;
- b) Sampling methods;
- c) Analytical methods;
- d) Reporting requirements;
- e) Sampling locations;
- f) Sampling frequencies;
- g) Staff education and training in relation to the activities authorised by this consent;
- h) Auditing and peer review; and
- i) Monitoring of:
 - i. Manufacturing stack monitoring requirements;
 - ii. Acid plant stack monitoring requirements;
 - iii. Grinding mill stack monitoring requirements;
 - iv. Ambient SO₂, and particulate matter monitoring;
 - v. Offsite ambient fluoride monitoring requirements;

- vi. Offsite vegetation fluoride monitoring requirements; and
 - vii. Dust deposition monitoring requirements along the Waitangi Waterway, Waitangi Road.
58. The consent holder shall review the Air Discharge Management and Monitoring Plan to include new management and monitoring actions or to amend or cancel existing management and monitoring actions as set in the approved plan. The trigger for a review of this plan shall be in response to matters raised in the Annual Report required by section 6 of the SCMP (Monitoring and Reporting) and conditions 55(g) and 59 of this consent. The consent holder shall submit the Plan Revision to the Council for approval within three months of the review trigger occurring.

Technology Review

59. At years 10, 20 and 30 following the commencement of this consent, the consent holder shall commission a suitably qualified and experienced expert to prepare a Best Practicable Option (BPO) technology review (covering the matters described under the definition of Best Practicable Option in the RMA) of the plant and systems that are utilised on the site for managing air discharges. The BPO Technology Review Report shall contain information on the suitability and practicability of any new best practice technology or operational procedure being applied at similar plants internationally, and must make recommendations as to whether and when any such technology or procedures should be applied as a continual improvement measure to the consent holders operations. A copy of the BPO Technology Review Report shall be provided to the Council (Manager Compliance).
60. Within three months of the completion of each BPO Technology Review Report the consent holder shall invite all those parties who made a submission regarding the 30 November 2021 Napier Works Sustainable Site Project applications to a presentation of the report, along with a summary of the previous Annual Report results and its position on any continual improvement measures recommended in the BPO Technology Review Report. The consent holder shall also through a public notice process advertise the date, time and venue of the presentation so any other interested person can participate.

Administration

Notification of Changes to Details

61. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

62. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

63. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

64. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

65. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

Review

66. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:

- a) To deal with any adverse effect on the environment, including those associated with climate change, which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
- b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
- c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate; and
- d) To require the adoption of the best practicable option to remove or reduce any effects on the environment and to implement recommendations of technology reviews required by condition 59 that are not put in place by the consent holder.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010, and with all relevant plans and policies.

CONSENT HISTORY

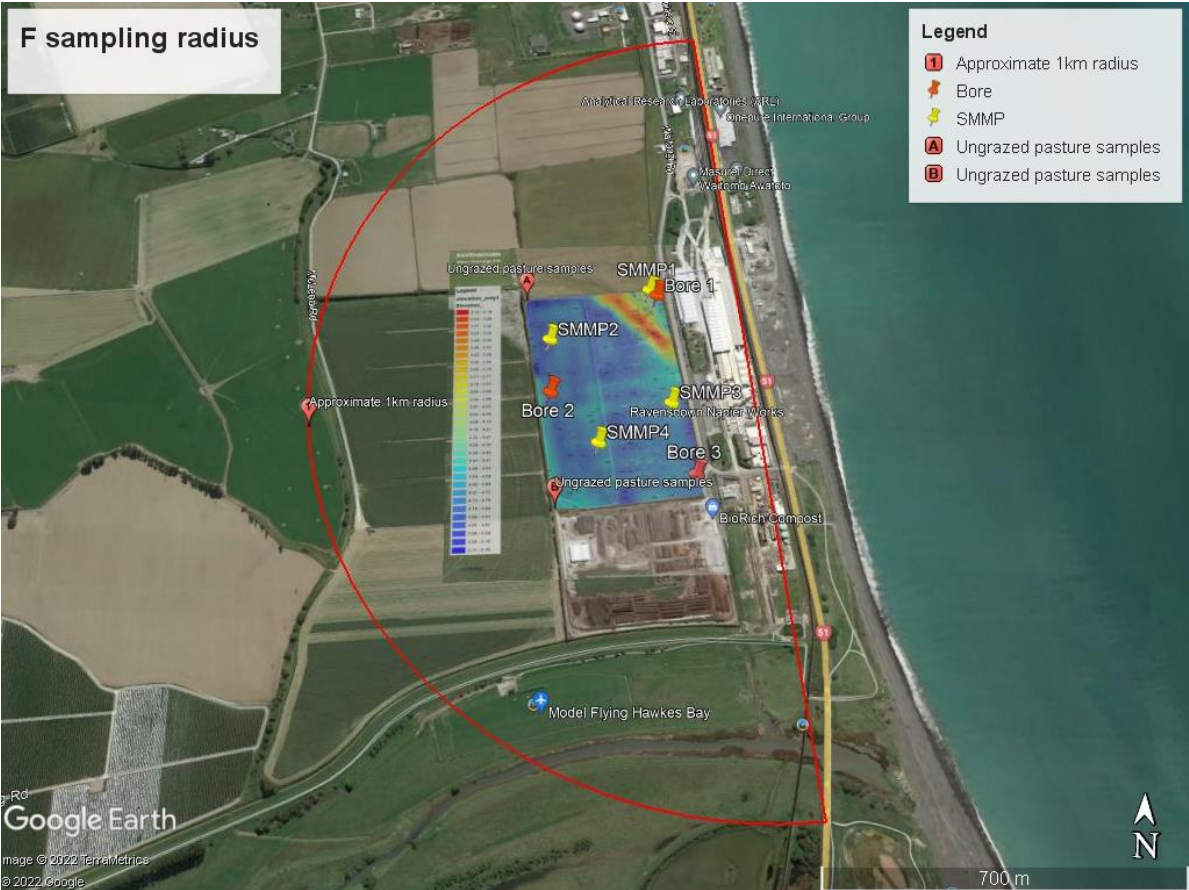
Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
AUTH-127374-01	19/12/2022	Consent initially granted	28	Regional Resource Management Plan (2006)
AUTH-127374-01	12/01/2023	S133A (RMA) minor corrections	28	Regional Resource Management Plan (2006)

Plans

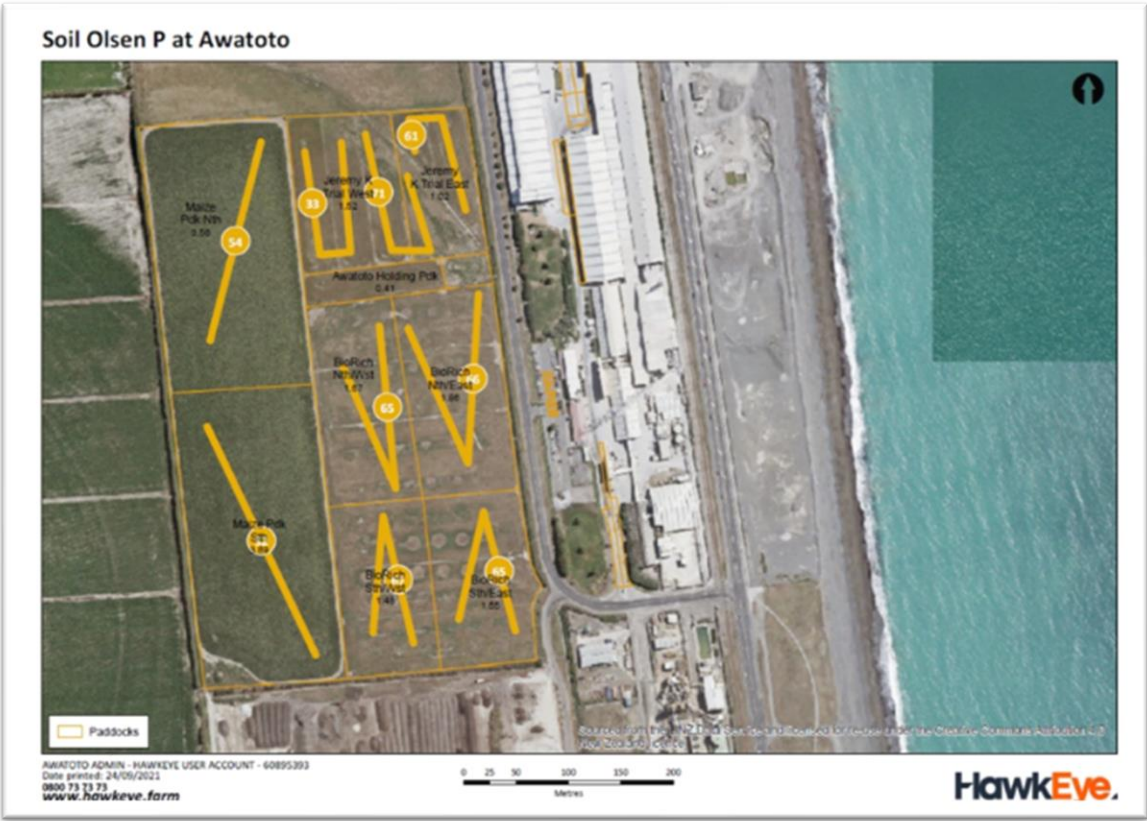
Plan A – Ambient air monitoring locations



Plan B – Land Discharge area, Soil Moisture Monitoring and Groundwater Monitoring Bore Locations



Plan C – Land Discharge Soil Sampling Locations





RESOURCE CONSENT

Discharge Permit

In accordance with the provisions of the Resource Management Act 1991, and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a non-complying activity to:

Ravensdown Limited

Private Bag 6012
Napier 4142

To discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertiliser manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin (refer to Plan D).

LOCATION**Address of site**

200 Waitangi Road, Awatoto

Legal description

Site of activities and discharge: SECS 26 44 50 56 60, PT SECS 32 43 LOT 4 DP 8546, LOTS 1 & 2 DP 16060 BLK I CLIVE SD, Lot 1 DP 6287, Section 57 Block I Clive SD, Part Section 52 Block I Clive SD.

Map reference

E1937000 N5613818 (NZTM)

CONSENT DURATION

This consent is granted for a period expiring on 19 December 2057.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 19th of December 2027, if it is not exercised before that date.

Martin Williams

Hearing Commissioners

Under authority delegated by Hawke's Bay Regional Council

19th December 2022

Conditions

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The discharge into surface water from the site shall be in accordance with the general conditions attached as Appendix 1 to this consent, and to either the Ravensdown Drain or to the Habitat Abundance Restoration Programme (HARP) wetland area at GPS Co-ordinates NZTM 2000 5613817 1937000.

Advice Note:

For the purposes of this consent “discharge” refers to stormwater, process water and groundwater added to the stormwater and process water treatment system for the purpose of sustaining constructed wetland and stormwater and process water treatment system device vegetation and non-commercial crops used in the treatment process.

3. The rate of discharge shall not exceed 265 litres per second.
4. The consent holder shall ensure that all works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard so that they do not cause erosion or scour of the beds or banks of any receiving water bodies (including drains).

APPENDIX 1 - GENERAL CONDITIONS RELATING TO BOTH LAND AND WATER DISCHARGE PERMITS

Preamble

The purpose of these consents is to enable the ongoing operation of the Ravensdown Napier Works. The effects of the authorised activities have been considered in the context of the current and likely future state of the receiving environments, including other activities and how they contribute to those environments. The intent is that the undertaking of activities by the consent holder in accordance with the conditions of these consents will positively contribute to Te Mana o te Wai.

Water Discharge Hierarchy

1. The discharge shall be managed as follows:
 - a) Discharge shall be to land via spray irrigation whenever this meets the soil moisture content condition in the land discharge permit of less than 85 percent;
 - b) During times when discharge to land is not permitted (due to soil moisture exceeding 85 percent) under the land discharge permit conditions, discharge shall be to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) (refer Plan D) only between three hours before and three hours after high tide as at the Port of Napier tide gauge (“high tide discharge”); and
 - c) Outside of the discharge times in condition 1.b, discharge to the Ravensdown Drain or Habitat Abundance Restoration Area (HARP) at any time on site storage capacity is likely to be exceeded.

Advice Note:

For the avoidance of doubt the intent of the water discharge hierarchy is to maximise the discharge of treated water to land and therefore minimise the discharge of treated water to the Ravensdown Drain or Habitat Abundance Restoration Area.

Adaptive Management Plan Process

2. The discharge shall be undertaken in accordance with the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, December 2022* and any subsequent revisions.
3. Until the Stage 1 stormwater and process water treatment system improvements are implemented, the discharge shall be via the stormwater and process water system that existed at the site on 30 November 2021.
4. If required to ensure the discharge meets the water quality discharge parameters set out in Table 1 of general condition 20, further stormwater and process water treatment system improvements and/or source control actions shall be implemented in accordance with the recommendations and timeframes recommended by the Comprehensive Review and the Adaptive Management Plan required by general condition 25(l).

Design Requirements

5. Following completion of the Stage 2 stormwater and process water treatment system improvements the site water treatment system shall have capacity to treat the first 75 millimetres of rainfall falling on the site.
6. All stormwater and process water treatment systems installed at the site in accordance with this consent shall be designed by a suitably qualified professional engineer, experienced in that field, to assist in meeting all standards and design requirements of this consent, and as set out in the application (as specified in the documents referenced in condition 1 of this consent).
7. Final Design Plans of the stormwater and process water treatment system for each stage of stormwater and process water treatment system improvements shall be provided to the Council (Manager: Compliance) for certification that they are consistent with the conditions of this consent prior to construction commencing. If 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the water treatment system design it shall be deemed certified and construction may commence.
8. The final design plans shall demonstrate the following:
 - a) The storage volume, levels and dimensions of the stormwater and process water treatment and attenuation devices sufficient to demonstrate that the stormwater and process water treatment devices have been designed in accordance with good practice guidance.
 - b) The system has been designed to incorporate state of the art control and alarm systems linked to the onsite SCADA system to ensure that any faults are immediately reported to the operations team onsite and can be remedied in as short a time as possible.
 - c) That following the completion of the Stage 2 stormwater and process water treatment system improvements the discharge will meet the requirements of Table 1 of general condition 20.
9. The stormwater and process water treatment system shall be constructed in accordance with the design plans certified in accordance with general condition 7.

Engineering Plans – Post Construction

10. Following the completion of construction of each stage of the stormwater and process water treatment system improvements, the consent holder shall provide Council with accurate as-built plans of the stormwater and process water treatment system, prepared by a suitably qualified and experienced professional engineer, confirming that the stormwater and process water treatment infrastructure has been installed in accordance with the certified final design plans.

Maintenance

11. The consent holder shall maintain the stormwater and process water system in accordance with good practice to maintain the water quality and water quantity performance required by this consent.
12. The consent holder shall record the details of all inspections and works undertaken under general condition 11. Those records shall be made available for inspection by the Council (Manager Compliance) on request.

Source Control Management (SCMP)

13. The consent holder shall undertake the actions described in the *Ravensdown Napier Works Source Control Management Plan December 2022* or subsequent revisions, to reduce the concentrations and load of contaminants entering stormwater at the site within the timeframes specified in Section 8 (Site improvement Action Schedule) of the SCMP following the commencement of the consent.

Habitat Abundance Restoration Project

14. The consent holder shall undertake the habitat restoration works as set out within the *Ravensdown Napier Works, Habitat Abundance Restoration Project Plan December 2022*.
15. Prior to the commencement of construction, the consent holder will engage suitably qualified experts to prepare:
 - a) A Restoration Plan that will meet the requirements of the Schedule 2 of the Resource Management (National Environmental Standards for Freshwater) Regulations 2020; and
 - b) The detailed design of the HARP wetland area and the associated habitat to meet general condition 14 and in particular to ensure the design requirements of the Habitat Abundance Restoration Project are always met.
16. The Restoration Plan and the HARP Detailed Design Report shall be provided to the Council (Manager Compliance) for certification that general condition 15 has been met.
17. To ensure that the HARP wetland is managed so as to avoid algal bloom events and unionised ammonia toxicity, the consent holder shall undertake total ammonia, temperature and pH measurements on a weekly basis between 1 November and 30 April of each year.
18. Nutrient and toxic contaminant loads from the Ravensdown discharge and bore flows to the HARP wetland shall be managed to avoid adverse effects associated with toxicity and significant adverse effects associated with nutrient enrichment.
19. In the event that adverse effects outlined in Condition 18 occur, the consent holder shall:
 - a) Immediately engage a suitably qualified water quality expert to advise on any immediate remediation that may alleviate the effects.
 - b) Within three months of the event, and in consultation with the Council ecology team and the Awapuni Reference Komiti, develop a plan for remediating the adverse effects.
 - c) Submit the remediation plan for certification by the Council (Manager Compliance) that the Remediation Plan will be effective.
 - d) Implement the Remediation Plan action and time frames recommended in the plan.

Water Quality Discharge Parameters to Water and Land

20. The consent holder shall ensure that:

- a) From the time of commencement of this consent the discharge (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the 2007 discharge permit parameters in Table 1 in any 12-month period.
- b) Discharges to land or water (at the point of discharge GPS Co-ordinates NZTM 2000 1936998 east, 5613831 north) shall comply with the relevant parameters in Table 1 (Discharge Parameters – Any Tide Discharge (post Stage 2) and Discharge Parameters – High Tide Discharge (post Stage 2)) for 95 percent of monitoring results in any 12-month period after the completion and monitoring of Stage 2 (six years following the commencement of this consent) as set out in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, December 2022*.

Table 1 – Discharge water quality analytes and parameters

Contaminant	2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
Total Phosphorus	Less than 17 mg/L 95% of the time and less than 22 mg/L 99% of the time	N/A	N/A	N/A
Soluble reactive phosphorus	Less than 15 mg/L 95% of the time and less than 35 mg/L 99% of the time	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Total ammoniacal nitrogen ¹	N/A	0.28	0.49	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrate nitrogen	N/A	Improving trend toward 0.14	Improving trend toward 0.245	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Nitrite	N/A	0.546	0.9555	Regional Coastal Environment Plan, Rule 17

¹ Based on unionised ammonia at pH8 and 20 deg C.

Contaminant	2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
Total nitrogen	N/A	Improving trend toward 0.308	Improving trend toward 0.539	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Total suspended solids (TSS)	100	70	122.5	Regional Coastal Environment Plan, Schedule D, Part II Standards that apply to specific catchments
pH	6.5 – 8.5	7.0-8.5	7.0-8.5	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary
Fluoride	30	14	24.5	Site specific value – Hickey 2004
Aluminium	N/A	0.154	0.2695	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Copper	N/A	0.00364	0.00637	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal

Contaminant	2007 Discharge Permit Parameters (milligrams per litre)	Discharge Parameters – Any Tide Discharge (post Stage 2) and Land (milligrams per litre)	Discharge Parameters – High Tide Discharge (post Stage 2) (milligrams per litre)	Source For Parameter Value
				Environment Plan
Cadmium	N/A	0.0154	0.02695	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Chromium	N/A	0.0756	0.1323	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Nickel	N/A	0.196	0.343	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan
Zinc	N/A	0.042	0.0735	TANK Plan Change, s42A Addendum report, Table 26.5.2, Waitangi Estuary / Regional Coastal Environment Plan

21. Prior to the establishment of the HARP the zone of reasonable mixing shall be the Ravensdown Drain and 90 metres down the Awatoto Drain (GPS Co-ordinates NZTM 2000 1936918 east, 5613708 north). At the completion of Stage 2 of the Adaptive Management Plan and HARP wetland, the consent holder shall commission a suitably qualified expert to undertake a dye study to confirm the zone of reasonable mixing in the HARP wetland has been achieved as designed to meet general conditions 14 to 19 of this Appendix.

Advice note:

The discharge parameters used in Table 1 were derived utilising the dilution factors calculated following the completion of the March 2021 mixing zone dye study reported in Ecology Baseline Study, Streamlined Environmental Limited, August 2021.

Discharge Monitoring

22. The consent holder shall carry out the following monitoring:

- a) A sampling station shall be maintained at the Discharge Pond outlet and be accessible to Council officers or its agents at all times.

A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in general condition 22(a), at least once per week when discharge is occurring and tested for the following parameters:

- i. pH
- ii. Total phosphorus
- iii. Soluble reactive phosphorus
- iv. Fluoride
- v. Total suspended solids
- vi. Total nitrogen
- vii. Nitrate nitrogen
- viii. Nitrite
- ix. Ammoniacal nitrogen

All composite samples collected by automatic sampler shall be immediately cooled to at least 4 degrees Celsius. Bottles used for the analysis of ammoniacal nitrogen, total phosphorus and total nitrogen shall be pre-acidified with 1 mL of 50% H₂SO₄ (to every 1 L discrete bottle).

The pH and temperature shall be continuously recorded at 1-hour intervals whenever the discharge is occurring, recorded at the discharge point.

Results shall be recorded on a mass per unit volume of discharge basis and the volume of discharge shall also be recorded. The records shall be forwarded to the Council at monthly intervals, along with an assessment of compliance against Table 1 of general condition 20.

- b) A representative, flow-proportional, composite sample (sampled continuously over a period of one week) shall be collected from the sampling station, referred to in condition 22(a), at six monthly intervals and tested for the following parameters:

- i. Dissolved copper
- ii. Dissolved zinc
- iii. Dissolved cadmium
- iv. Dissolved chromium
- v. Dissolved aluminium
- vi. Dissolved nickel
- vii. Total sulphur

Results shall be taken on a mass per unit volume of discharge basis and the volume of discharge taken shall also be recorded. The records shall be forwarded to the Council at six monthly intervals.

- c) All sampling in accordance with the conditions of this consent shall be carried out by a person suitably qualified and experienced in environmental monitoring.
- d) All analyses in accordance with conditions of this consent shall be carried out by a laboratory that is IANZ accredited, or that is authorised by the Council (Manager: Compliance).
- e) The consent holder shall calibrate and operate any meters required for monitoring in accordance with the manufacturer's specifications.
- f) In the event the values in general condition 20 Table 1 are exceeded the Consent Holder may have the sample re-tested to confirm that the exceedance was not due to a testing error. In these circumstances the exceedance only needs to be reported to the Consent Authority in accordance with general condition 22 if the re-tested sample confirms the exceedance.

Waitangi Waterway Monitoring

- 23. For a two year period following the commencement of these consents, the consent holder shall undertake monthly water quality monitoring for phosphorus and fluoride (only when water is present in the waterway) at three locations along the Waitangi Waterway adjacent to the Ravensdown site. Details of the monitoring and the locations are to be set out in a monitoring plan to be approved by the Council.
- 24. Following this two-year period the consent holder shall commission a report by a suitably qualified expert to assess the trends shown by this monitoring and the effectiveness of the SCMP actions. If the results from the two-year period of water quality and dust deposition monitoring (as required by condition 57(i)(vii) of the air discharge consent) show that dust originating from the Ravensdown site is not reaching the Waitangi Waterway then the sampling can be discontinued. If dust is still entering the Waitangi Waterway from the Ravensdown site after this two year period of monitoring then the SCMP shall be reviewed and updated to target identified dust sources for remediation and the Waitangi Waterway water quality and dust monitoring (as required by condition 57(i)(vii) of the air discharge consent) shall continue until such time that the effects of dust from the Ravensdown site are not measured in the Waitangi Waterway. This process of reporting and SCMP review shall be repeated following five years of the commencement of this consent (five years being the timeframe set in the SCMP for the completion of all source control measures identified).

Reporting

- 25. The consent holder shall prepare an annual report for the period of July to June each year and, by the 30 November following that period, submit it to the Council. The report shall summarise monitoring and compliance against the consent conditions and discuss any non-compliance and recommended necessary actions to achieve compliance. The report shall include, at a minimum:

Compliance Monitoring Reporting

- a) A summary of the volume of the discharge, the location it has been discharged to, and details of any discharge to surface water that was not on a High Tide Discharge.
- b) A summary of the results of groundwater quality monitoring from the irrigation area.
- c) The results of any assessment of effects of the irrigation discharge, if one is undertaken in accordance with condition 12 of the discharge to land permit, and a summary of the progress against any actions identified.

- d) A summary of the results of the discharge sampling undertaken at the site.
- e) An assessment of the discharge monitoring results against the relevant water quality parameters for the site, and a summary of any exceedances of these parameters.
- f) A record of any known non-compliance with conditions of this consent and the actions taken to remedy this non-compliance.
- g) An update on implementation of the Source Control Management Plan action schedule.
- h) A register of complaints relating to the authorised discharge made during the report period, and a record of how complaints were addressed.
- i) A progress summary of the implementation the Cultural Values Reports recommendations (see Schedule 1) and any other relevant matters arising from the Awapuni Reference Komiti.
- j) A summary of actions undertaken as part of the HARP over the previous 12 months.
- k) An outline of the staff education and training modules undertaken in relation to the activities authorised by this consent.

Adaptive Management Plan Reporting

- l) The reporting shall include the following information on the Adaptive Management process:
 - i. A progress summary of the stormwater and process water treatment system improvements that have been implemented at the site over the reporting period confirming adherence with the timetable established in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, December 2022*.
 - ii. If following the completion of Stage 2 stormwater and process water treatment system improvements and after an initial three month monitoring period, any water quality parameters set in this Appendix are exceeded, the consent holder shall commission a suitably qualified expert to undertake a Comprehensive Review of the options available to resolve the remaining parameter exceedances. A report prepared to document this Comprehensive Review shall be provided to the Consents Manager HBRC within six months after the completion of the Stage 2 stormwater and process water treatment system improvements, and shall include:
 - i. the options assessed;
 - ii. a best practicable options analysis prepared using methodology in Section 2 of the RMA;
 - iii. the reasons for the water quality improvement selected to resolve the issue;
 - iv. the proposed timeframes for implementing any water quality improvements selected, and the reasons for this timeframe.
 - iii. The consent authority shall consider the Comprehensive Review Report and certify that the recommended additional treatment proposed is fit for purpose to resolve the remaining parameter exceedances in an appropriate timeframe.

Mana Whenua Recognition and Participation

- 26. Within three months of the commencement of these consents the consent holder shall seek nominations to establish an Awapuni Reference Komiti to assist the consent holder to undertake the functions set out in general condition 31.

27. The consent holder will invite mana whenua hapū (Ngāti Pārau, Ngāti Hori, Ngāti Hinemoa, Ngāti Hawea) in consultation with the following organisations to nominate six representatives for the Awapuni Reference Komiti:

- a) Ngāti Pārau Hapū Trust;
- b) Kohupatiki Marae;
- c) Te Taiwhenua o Heretaunga;
- d) Te Taiwhenua o Te Whanganui Ā Orotu.

Advice Note:

For the avoidance of doubt the Awapuni Reference Komiti is not intended to have any representative function for marae and hapū affiliated to these organisations listed above, other than in relation to the exercise of these consents.

28. When calling for nominations from the organisations listed in general condition 27 a) to d) above, the consent holder shall provide a draft Terms of Reference for the Awapuni Reference Komiti that reflects the objectives, functions and responsibilities outlined in general condition 30 below. The consent holder shall forward a draft version of the Terms of Reference to the nominated Awapuni Reference Komiti members for consideration with a request to provide feedback within two calendar months. The Terms of Reference will provide for the following matters outlined in a) to i) below, as a minimum:

- a) Administration support.
- b) Proceedings and schedule of meetings.
- c) The term and succession of Komiti members.
- d) Appointment of Komiti chair.
- e) Duties and functions of Komiti members.
- f) A flexibility mechanism to enable any future iwi and hapū management structures.
- g) Manaakitanga.
- h) Provision for mātauranga Māori through mauri monitoring throughout the term of the consent.
- i) The role of Kaihāpai Taiao, including working with the consent holder and providing counsel to integrate mātauranga Māori in the delivery of the adaptive management process and associated monitoring, alongside other ongoing kaitiakitanga matters throughout the term of the Resource Consents.

29. The consent holder shall convene the first meeting of members nominated for the Awapuni Reference Komiti within three months following the call for nominations with the purpose of ratifying the Terms of Reference. A copy of the final Terms of Reference shall be supplied to the Council (Manager Compliance).

30. The objectives, functions and responsibilities of the Awapuni Reference Komiti shall be to assist the consent holder as follows.

- a) To develop effective measures that recognise and implement the recommendations contained within the Cultural Values reports; *Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021 and Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Parau Hāpu, November 2021* (see Schedule 1).
- b) To champion the wider opportunity for habitat abundance enhancement including potential for further habitat enhancement projects in addition to the HARP through liaison with businesses within the wider Waitangi Estuary catchment, including HBRC as the asset owner of the Mission Pump Station.

- c) To liaise with the Ravensdown Innovation and Strategy team on their work associated with climate change research relating to the company vision of “*Smarter Farming for a Better New Zealand*” set out in the “*Ravensdown Integrated Report 2022*”.
 - d) To facilitate information flow between the consent holder and mana whenua hapū regarding the activities associated with these consents at a Komiti meeting to be held October each year. The mechanisms for this information flow will be:
 - i. To receive a presentation on the content of the annual reports (prepared in draft form) set out in general condition 25 prior to their finalisation and submission to the Council by 30 November each year; and
 - ii. To identify any issues of concern that may arise during the activities associated with these consents in order to discuss and recommend any appropriate additional measures outside of the consent conditions which may need to be considered by the consent holder to address any issues raised in relation to impacts on mauri.
 - e) To assist the consent holder in recruiting a suitably qualified and experienced Kaihāpai Taiao to work as part of the consent holders team exercising the consents, including to support the reporting to the Awapuni Reference Komiti and implementing the works associated with the Adaptive Management Plan Process (general condition 2), Habitat Abundance Restoration Project (general condition 14) and Whataangaanga Cultural Heritage Project (general condition 31).
31. Within three months of the commencement of these consents the consent holder shall commission the preparation of a “Whataangaanga Cultural Heritage Project Plan” by a suitably qualified and experienced expert, engaged with the assistance of the Awapuni Reference Komiti, as a means of delivering Recommendation 1.3 of the report “Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021” (see Schedule 1 of these general conditions). The consent holder shall finalise the Whataangaanga Cultural Heritage Project Plan within two years of the commencement of these consents and will provide a copy to the Council (Manager Compliance).

Site Decommissioning Plan

32. If the consent holder discontinues the use of the plant for a period more than three years within the consent term it shall prepare a Site Decommissioning Plan taking into account whether the site is being mothballed for future use or closed and decommissioned. In either circumstance the Site Decommissioning Plan shall be prepared as a draft by suitably qualified experts, and shall include the following matters:
- a) The safety of all structures during any decommissioning.
 - b) Remediation of any qualifying contaminated land after the completion of a Detailed Site Investigation prepared under the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011 (NESCS) and the Health and Safety at Work (Asbestos) Regulations 2016.
 - c) An outline of all resource consents required for the decommissioning proposed including an Assessment of Environmental Effects prepared under the schedule 4 of the RMA.

Technology Review

33. At years 10, 20 and 30 following the commencement of this consent, the consent holder shall commission a suitably qualified and experienced expert to prepare a Best Practicable Option (BPO) technology review (covering the matters described under the definition of Best Practicable Option in the RMA) of the plant and systems that are utilised on the site for managing storm water and process water discharges. The BPO Technology Review Report shall contain information on the suitability and

practicability of any new best practice technology or operational procedure being applied at similar plants internationally, and must make recommendations as to whether and when any such technology or procedures should be applied as a continual improvement measure to the consent holders operations. A copy of the BPO Technology Review Report shall be provided to the Council (Manager Compliance).

34. Within three months of the completion of each BPO Technology Review Report the consent holder shall invite all those parties who made a submission regarding the 30 November 2021 Napier Works Sustainable Site Project applications to a presentation of the report, along with a summary of the previous Annual Report results and its position on any continual improvement measures recommended in the BPO Technology Review Report. The consent holder shall also through a public notice process advertise the date, time and venue of the presentation so any other interested person can participate.

Review

35. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment, including those associated with climate change which may arise from the exercise of the consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the discharge is consistent with requirements in a regional plan or a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To require the adoption of the best practicable option to remove or reduce any effects on the environment and to implement recommendations of technology reviews required by condition 34 that are not put in place by the consent holder;
 - e) In the event that the Stage 1 and 2 treatment works set out in the *Ravensdown Napier Works: Water Discharge Adaptive Management Plan, Decmber 2022* do not result in compliance with all of the water discharge conditions set out in this Appendix following the monitoring check undertaken in Year 6 of the adaptive management period or after the Comprehensive Review process set out in general condition 25 (l) above.

Administration

Notification of Changes to Details

36. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

37. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

38. “Non routine” monitoring will be undertaken if there is cause to consider (e.g., following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

39. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council’s Annual Plan process.

Debt Recovery

40. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010, and with all relevant plans and policies.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule / Regulation	
			Number	Plan
AUTH-127375-01	19/12/2022	Consent initially granted	9	Regional Coastal Environment Plan (2014)
			54 (c)	National Environment Standard for Freshwater (2020)
AUTH-127375-01	12/01/2023	S133A (RMA) minor corrections	9	Regional Coastal Environment Plan (2014)
			54 (c)	National Environment Standard for Freshwater (2020)

Plans

Plan D – Plan Showing Water Discharge point, Ravensdown Drain and HARP Area



Schedule 1: Recommendations - Cultural Values Reports

Whataangaanga and Surrounds; Cultural Values, Names and Associations, November 2021

1. That Ravensdown invest in Rangatiratanga - Leadership through a long-term relationship with mana whenua to achieve all cultural outcomes over the long term². This relationship includes:
 - 1.1 The proposed habitat abundance restoration project as stage one is just stage one of a bigger project; and
 - 1.2 That the partnership brings in other industry operating at Whataangaanga for ongoing enhancement staged projects: Mana, Mauri Tu; Taiao.
 - 1.3 A second concurrent project runs in conjunction with the restoration project; Names and associations is project two that researches the names and associations used through time, for the area of the estuary, and interprets the findings consistent with the cultural outcomes of Whakapapa; Ahi kaa; Mahi Toi; Tohu.

and
2. That Ravensdown, in acknowledgement of the waka culture of the early inhabitants of the area; and of the positive social impact associated with waka today, invests in restoring the culture of waka on the rivers. Manaakitanga - fostering potential.
3. That Ravensdown, in partnership with Mana whenua; establish a Whakatipu Kaitiaki policy to provide scholarships and internships specifically targeting rangatahi Māori, actively investing in mana whenua capacity and capability to engage with the environmental and other issues related to the Ravensdown operations.

Ravensdown Napier Resource Consent Renewal Cultural Impact Assessment, Ngāti Pārau Hapū, November 2021

1. Ngāti Pārau hapū supports the proposed site for disposal of stormwater and process water through irrigation across 17.5 ha of farmland.
2. Ngāti Pārau hapū are committed to working with Ravensdown to ensure a healthy estuarine environment for the Waitangi Estuary and wetlands area. Ngāti Pārau insists that they be kept appraised of, and included in the Habitat Abundance Restoration and ongoing monitoring.
3. That Ravensdown invest in future Mana Whenua Kaitiaki (environmentalists), through an on-going and active partnership with Mana Whenua to achieve the environmental and cultural aspirations of Mana Whenua, Ravensdown and that of the community.

² Long-term in this context begins with the duration of the resource consent i.e. 35 years



RESOURCE CONSENT

Water Permit

In accordance with the provisions of the Resource Management Act 1991, and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Ravensdown Limited

Private Bag 6012
Napier 4142

To temporarily take groundwater by dewatering associated with the construction of new stormwater and process water treatment facilities.

LOCATION**Address of site**

200 Waitangi Road, Awatoto

Legal description

SECS 26 44 50 56 60 PT SECS 32 43 LOT 4 DP 8546 LOTS 1 2 DP 16060 BLK I CLIVE SD, LOTS 6 & 7 DP 25683

Map reference

E1936825 N5614540 (NZTM)

CONSENT DURATION

This consent is granted for a period expiring on 19 December 2032.

Martin Williams

Hearing Commissioners

Under authority delegated by Hawke's Bay Regional Council
19th December 2022

Conditions

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. Prior to the take of groundwater for dewatering the consent holder shall prepare a Construction Environmental Management Plan (CEMP) with the objective of ensuring the take of dewatering water shall be managed to minimise environmental effects. The dewatering section of the CEMP shall be prepared by a person who is suitably qualified and experienced in managing groundwater takes.
3. The dewatering section of the CEMP shall:
 - a) Set out how the take of groundwater for dewatering shall be undertaken to minimise environmental effects;
 - b) Set out the measures that will be implemented so that the take of groundwater for dewatering does not cause subsidence or damage to any structures on adjacent properties;
 - c) Set out how the take of groundwater for dewatering shall be undertaken so that it does not reduce the water available in any nearby bore;
 - d) Set out how the dewatering shall be undertaken so that the rate of dewatering is as low as reasonably practicable.

Advice Note:

It is expected that one CEMP will be prepared which will cover the requirements of all construction phase activities for this project, including take and discharge of dewatering water and excavations.

4. The CEMP shall contain the following information regarding the dewatering take:
 - a) The anticipated rate of dewatering;
 - b) Details of the method that will be used to take groundwater;
 - c) Methods that will be used to avoid environmental effects during the dewatering;
 - d) Procedures for observing and monitoring the take, including the frequency of monitoring, location of monitoring, method of monitoring, and who will be responsible for the monitoring;
 - e) Details of reporting that will be undertaken in accordance with this consent.
5. The dewatering sections of the CEMP shall be provided to the Council at least 20 working days prior to the dewatering discharge commencing, for certification they meet the objective set in Condition 2 and cover the matters set out in Conditions 3 and 4. The take of groundwater for dewatering shall not commence until certification of the dewatering sections of the CEMP has been received from Council. Notwithstanding this, if 20 working days have passed and no correspondence has been received from the Council regarding the adequacy of the CEMP, the take of groundwater for dewatering may commence.
6. Groundwater take for dewatering shall be undertaken in accordance with the dewatering sections of the CEMP.
7. If an event occurs on-site that may lead to contamination of groundwater, the consent holder shall notify Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

The Regional Council's 24 hour Pollution Hotline should also be contacted on 0800 108 838.

8. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a serviceable standard.
9. The conditions of this consent may be reviewed by the Council during the month of May of any year pursuant to sections 128 to 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The conditions may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
 - e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

AdministrationNotification of Changes to Details

10. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

11. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

12. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

13. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

14. It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010, and with all relevant plans and policies.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
AUTH-127889-01	19/12/2022	Consent initially granted	55	Regional Resource Management Plan (2006)
AUTH-127889-01	12/01/2023	S133A (RMA) minor corrections	55	Regional Resource Management Plan (2006)



RESOURCE CONSENT

Land use Consent

In accordance with the provisions of the Resource Management Act 1991(RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Bio-Rich Limited

103 Valley Road
RD 4
Hastings 4174

to install a pipeline structure parallel to and beneath the Awatoto drain (along Waitangi Road) within the Heretaunga Plains Flood Control

LOCATION

Address of site: 201 Waitangi Road, Awatoto, Napier

Legal description (site of structure): Lot 1 DP 341000, Adjacent to Lots 6 and 7 DP 25683, Lot 2 DP 25683, and Lot 1 DP 21301

Map reference (NZTM): See table attached as Appendix 1

CONSENT DURATION

This consent is granted for a period expiring on 31 May 2025.

Sophia Edmead

Senior Consents Planner

POLICY AND REGULATION GROUP

Under authority delegated by Hawke's Bay Regional Council

February 2022

CONDITIONS

Design Standards

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall undertake all operations in accordance with the following documents provided in support of the application (and as shown in Appendix 1).
 - a) HBRC Application Forms A and B, received by Council 20/12/2022.
 - b) *"Appendix 1 BioRich Sediment Management Plan"* dated 03/12/2022. Received by Council 20/12/2022.
 - c) *"BioRich response to HBRC S92_Information_Request_Letter-31012022-APP-127250"* dated 3/02/2022. Received by Council 03/02/2022.
 - a) *"S92_Information_Request_Letter-31012022-APP-127250 – Extracted design drawings with measurements marked showing offset of the pipeline from the Awatoto Drain"* dated 03/02/2022. Received by Council 03/02/2022.

If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

3. The pipeline shall be drilled to a minimum depth of 1 meter below the base of the Awatoto Drain.
4. No works shall occur within the bed of the Awatoto Drain.
5. The design and installation of the pipeline shall be such that it does not cause any long-term erosion of the bed or banks of the waterbody.

Pre-Construction

6. The consent holder shall give the Council (Manager Compliance) at least two working days' notice of the intention to commence the works and shall advise the Council of having finished the works immediately following their completion.
7. Prior to the commencement of works authorised by this consent, to ensure worksite spills are managed appropriately, the consent holder shall produce a Spill Management Plan (SMP) appropriate for the activities being undertaken on site. The SMP must:
 - a) include procedures for preventing contaminants such as hydrocarbons or chemicals entering any waterbody in the event of a spill; and,
 - b) be prepared by a suitably qualified person; and,
 - c) be provided to the Council prior to commencement of the works.

The consent holder and any contractors engaged to undertake work on their behalf shall abide by the SMP and a copy of this SMP must be present on site at all times while the work is being undertaken.

8. Spill kits appropriate for the nature of activities undertaken in accordance with this consent shall be kept on the site at all times in conspicuous locations and shall be used to prevent contaminants escaping to water.
9. The consent holder shall take all practical measures to limit the amount of sediment and prevent contaminants from entering the Awatoto Drain during the construction works. Such measures include, but are not limited to:
 - a) Any surplus soil, cleared vegetation or debris, shall be deposited at least 20 m from any waterbody or deposited or contained in a manner to reasonably prevent the transportation or deposition of disturbed matter into any waterbody.
 - b) The wash water from containers and tools shall not be discharged into any waterbody and the washing of equipment shall not occur in any waterbody.
 - c) Refuelling and carrying out machinery maintenance away from waterbody.
 - d) The use of silt fences and other erosion control methods shall be in accordance with the Council 2009: *Guidelines for Waterways: Erosion and Sediment Control Guidelines*.
10. The consent holder shall ensure that at the completion of the works, any newly established surfaces and any grassed slopes or vegetated areas that were cleared or damaged as a result of the activity, are revegetated in order to prevent sediment from entering the waterbody.
11. The consent holder shall submit a Construction Methodology and Sediment Control Plan to the Council (Manager Compliance) for approval at least 10 working days prior to the commencement of the works. The plan shall include:
 - a) how the construction works will be carried out on site; and,
 - b) the procedures that will be in place to limit sediment from entering the waterbody during the construction works, taking into account the Hawke's Bay Regional Council Waterway Guidelines: Erosion and Sediment Control (April 2009),
 - c) a maintenance and inspection regime for temporary and permanent sediment controls,
 - d) the contact details of the person responsible for inspecting and maintaining sediment controls; and,
 - e) a site plan confirming the location of temporary and permanent sediment controls.

Construction Period

12. The works shall be carried out in accordance with the Construction Methodology and Sediment Control Plan approved by Condition 11.
13. No activity authorised by this consent shall give rise to all or any of the following effects within the receiving waters after reasonable mixing:

- a) The production of any conspicuous oil or grease films, scums, or foams or floatable or suspended materials; and,
 - b) Any conspicuous change in the colour or natural visual clarity, c) Any emission of objectionable odour; and,
 - c) Any significant adverse effects on aquatic life.
14. The consent holder shall keep a photographic record of the stream berm and bank where works for the installation of the pipeline occurs. The record shall comprise of date stamped photographs of the area prior to construction commencing, photographs during construction, and photographs of the area after construction has been completed. The photographic record shall be provided to the Council (Manager Compliance) upon request.
15. That where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
- a) Immediately take all practicable steps to contain and then remove the contamination from the environment; and,
 - b) Immediately notify the Council of the escape; and,
 - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
16. The consent holder shall conduct the works only during periods when there are low flows in the waterbody.
17. Any wet concrete cast on site shall be fully contained during casting and cast in a dry work area.
18. No concrete shall be dumped into bed of any waterbody.
19. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on site at all times while the work is being undertaken.
20. If an event occurs on-site that may lead to the contamination of groundwater, the Consent Holder shall notify the operators of the A1 Awatoto Pump Station (Napier City Council), the Hohepa Homes Bore (Hohepa Home) and the Hawke's Bay Regional Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.
- Advice note:** Such an event might include for example the accidental discharge of contaminants during direct drilling. The Napier City Council can be contacted on 06 835 7579, and Hohepa Homes can be contacted on 06 8700 426. The Regional Council 24-hour Pollution Hotline should also be contacted on 0800 108 838.
21. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and the Heritage New Zealand Pouhere

Taonga, and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained.

Post Construction

22. The consent holder shall ensure that at the completion of the construction works, any newly established surfaces and any grassed slopes or vegetated areas that were cleared or damaged as a result of the activity, are revegetated to the satisfaction of the Council (Manager Compliance) in order to prevent sediment from entering the waterbody.
23. Within 10 working days of having completed the installation of the pipeline, the consent holder shall provide to the Council (Manager Compliance):
 - a) Dated photographs of the completed works site; and,
 - b) A plan of the completed pipeline,
 - c) Evidence¹ of the depth of the pipeline having been installed at least 1m below bed of the Awatoto Drain at the crossing point at E 1936697 – N 5615596; and,
 - d) GPS coordinates for the locations of the pipeline crossing structures.

Review

24. The conditions of this consent may be reviewed by Council during the month of May of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
 - b) To require the adoption of the best practicable option to remove or reduce any adverse effects on the environment.
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.

ADVICE NOTES

- I. Sediment control measures shall take into account the principles and practices set out in the Hawke's Bay Regional Council Waterway Guidelines: Erosion and Sediment Control (April 2009) and any subsequent publications released in replacement of this document. If during the works it becomes evident that for an unforeseen reason the consent holder cannot operate in accordance with the

¹ Evidence may be provided in the form of photographic evidence, or a cross-section displaying the RL of the Awatoto Drain and the pipeline crossing

methodology outlined in the Construction Methodology and Sediment Control Plan, the consent holder must advise the Council (Manager Compliance) of an alternative method that is to be used prior to continuing the works.

- II. All information required by the conditions of this consent can be provided to the council by email to ComplianceReturns@hbrc.govt.nz
- III. The Resource Management (National Environmental Standards for Freshwater) Regulations 2020 (NES-F) came into force of 3 September 2020. The NES-F includes Regulations that relate to the protection of existing inland and coastal wetlands, to protect streams from infilling and to ensure that fish passage is maintained or improved. The consent holder should ensure they are familiar with these Regulations and any additional requirements that they may prescribe.
- IV. **This consent does not convey, provide, or infer any right of access to private land. This must be agreed with the property owner.**

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the requirements of any relevant NPS, Regulations, NES regulations and with all relevant plans and policies.

MONITORING NOTE

Routine monitoring

Routine monitoring inspections will be undertaken by Council officers on at least one occasion during construction and/or after the completion of works. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-Routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent,

whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

CONSENT HISTORY

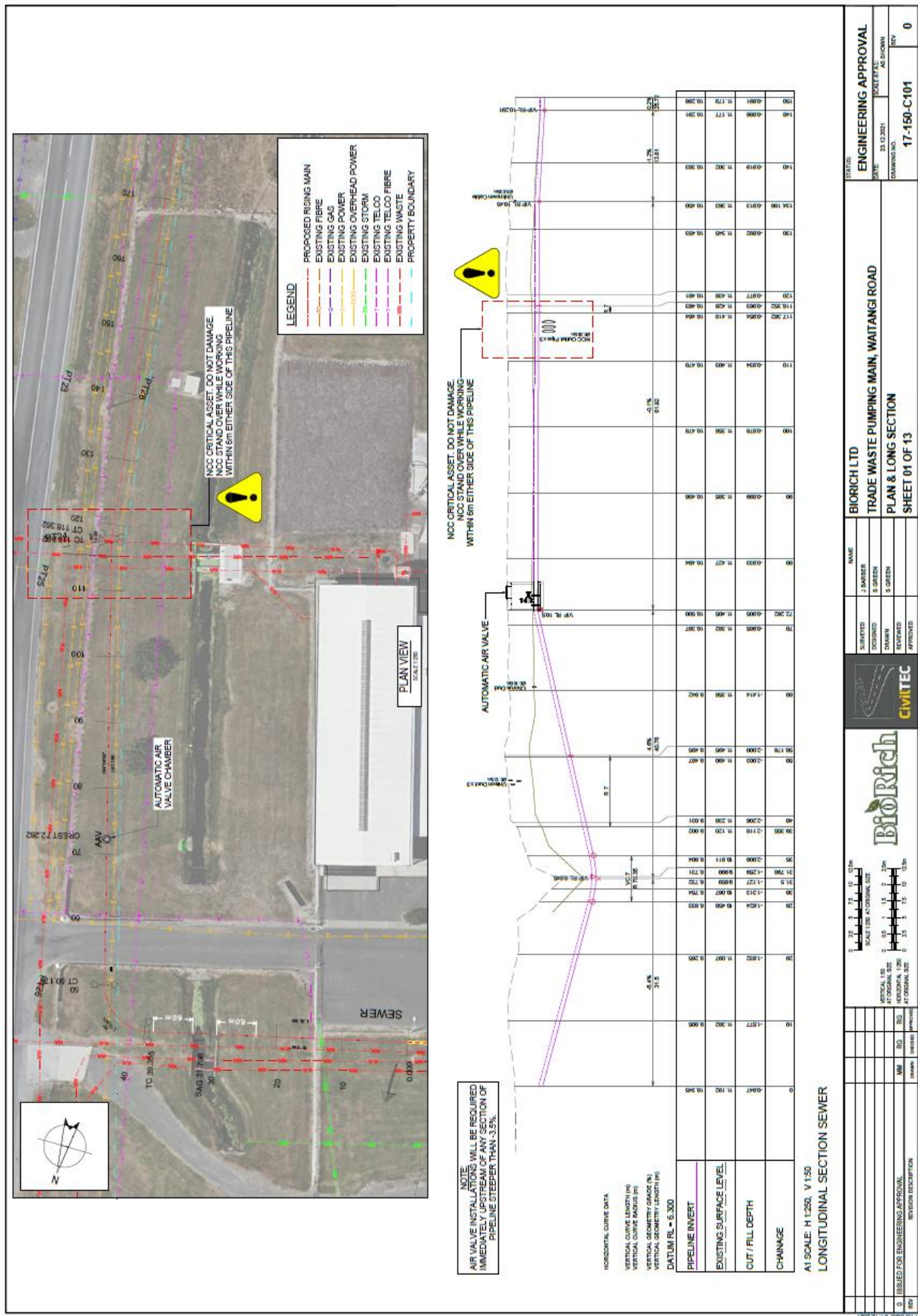
Authorisation No.	Date	Event	Relevant Rule	Relevant Plan
AUTH-128018-01	02/03/2022	Consent initially granted	69	Regional Resource Management Plan
AUTH-128018-01	10/03/2022	Condition 23(c) – evidence at E 1936697 – N 5615596 only	s133A	RMA 1991

APPENDIX 1. PIPELINE LOCATIONS AND CORRESPONDING DESIGN PLANS

Design Plan Drawing No.	Location	Crossing Point
17-150-C101 ²	Within 6 m at the crossing point only	E 1936697 – N 5615596
17-150-C004	Within 6 m from chainage 960 to 1360	N/A
17-150-C005	Within 6 m from chainage 1360 to 1440	E 1936833 – N 5614222

² See corresponding drawings attached as Appendix 2

APPENDIX 2. DESIGN PLANS

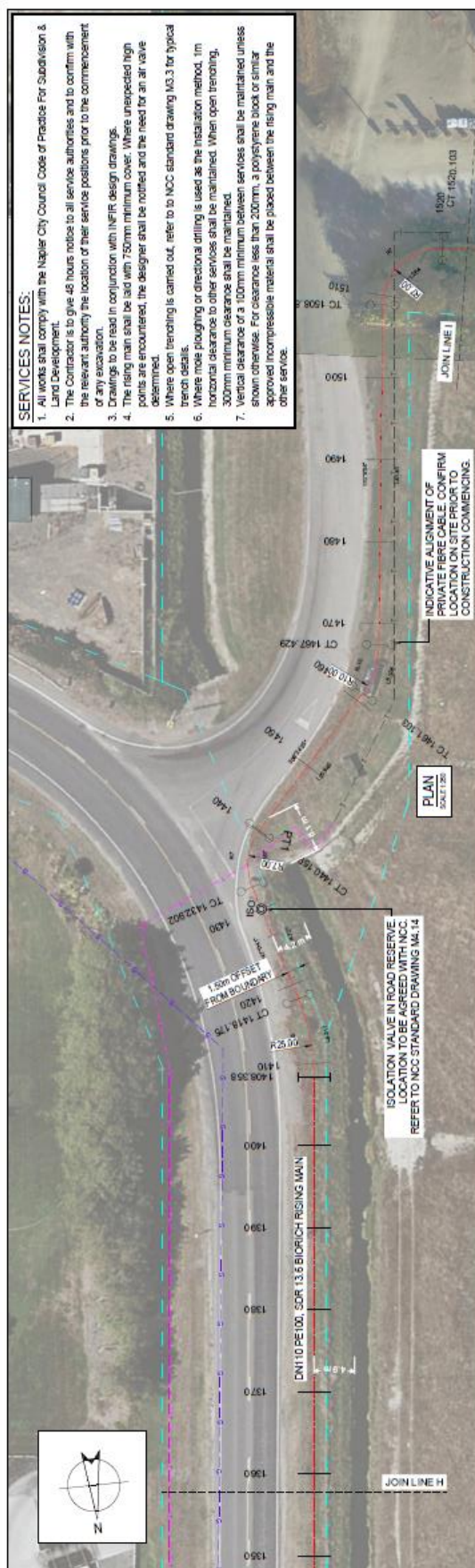






SERVICES NOTES:

1. All works shall comply with the Nagpur City Council Code of Practice for Subdivision & Land Development.
2. The Contractor is to give 48 hours notice to all service authorities and to confirm with the relevant authority the location of their service positions prior to the commencement of any excavation.
3. Drawings to be read in conjunction with NEIR design drawings.
4. The rising main shall be laid with 750mm minimum cover. Where unexpected high points are encountered, the designer shall be notified and the need for an air valve ascertained.
5. Where open trenching is carried out, refer to NCC standard drawing M3.3 for typical trench details.
6. Where more ploughing or directional drilling is used as the installation method, 1m horizontal clearance to other services shall be maintained. When open trenching, 300mm minimum clearance shall be maintained.
7. Vertical clearance of a 100mm minimum between services shall be maintained unless shown otherwise. For clearance less than 200mm, a polystyrene block of similar approved noncompressible material shall be placed between the rising main and the other service.



0250 0 2.5 5 7.5 10 12.5m SCALE 1/250 AT ORIGINAL SIZE BiRich 												DESIGNED J. DANBER		REVIEWED		NAME BIORICH LTD		STATUS ENGINEERING APPROVAL					
TRADE WASTE PUMPING MAIN, WAITANGI ROAD												DATE 25.12.2021		SCALE 1:250		REV 0							
CONSTRUCTION PLAN												DRAWING NO. 17-150-C005		REV 0									
SHEET 5 OF 6												ISSUED FOR ENGINEERING APPROVAL		THIS DRAWING IS THE PROPERTY OF CIVILTEC									



RESOURCE CONSENT

Discharge Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a non-complying activity to:

Ravensdown Limited

Private Bag 6012

Napier 4142

To temporarily discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertilizer manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin.

LOCATION

Address of site: 200 Waitangi Road, Awatoto, Napier

Legal description (site of discharge): Lot 1 DP 6287

(site of treatment pond): Lot 2 DP 16060

Map reference (NZTM): 1936921 E & 5613820 N

CONSENT DURATION

This consent is granted for a period expiring on 30th November 2024.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 30th November 2024, if it is not exercised before that date

Malcolm Miller
Consents Manager

POLICY AND REGULATION GROUP
Under authority delegated by Hawke's Bay Regional Council
17th May 2023

CONDITIONS**General**

1. The consent holder shall undertake all operations in accordance with the following documents provided in support of the application,
 - a) Application forms A and B received by Council on 18 April 2023.
 - b) *'Napier Works Cyclone Remediation Works: Temporary Settlement Pond and Stormwater / Process Water Discharge Resource Consent Applications and Assessment of Environmental Effects'* prepared by Mitchell Daysh and dated 18 April 2023.
 - c) *'Ravensdown Temp Discharge Structure'* Revision A or *'Alternative Design Ravensdown Temp Discharge Structure'* Revision A, both prepared by Mike Finlayson and dated 3 May 2023.
 - d) Settlement pond design as per email titled *"Imported Fill Volumes"* received by Council 27 April 2023 sent from Anita Anderson.
2. The discharge authorised by this consent shall:
 - a) Not exceed 265 litres per second; and
 - b) Comply with the water quality discharge parameters set out in General Condition 20 of AUTH-127375-01.
3. The consent holder shall carry out monitoring in accordance with General Conditions 22, 23 and 25(a and d-i) of AUTH-127375-01.
4. The results of monitoring undertaken in accordance with Condition 3 shall be reported to the Awapuni Reference Komiti.
5. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
6. The consent holder shall construct a permanent settlement pond as soon as practicable, and at the latest 18 months from the grant of this consent and cease the discharge from this temporary pond at the time.

Design, Construction and Post-Construction

7. Prior to the commencing construction of the outlet discharge structure to the Ravensdown Drain, the consent holder shall provide to Council (Manager Compliance) for approval a design of:
 - a) the outlet discharge structure in accordance with the outlet structure conceptual design plans (dated 3 May 2023 Revision A) and located within the Ravensdown Drain;
 - b) the stop bank pipe crossing (i.e. including air valve /air break detail, etc.);
 - c) the pedestrian/cycle ramp crossing atop the stop bank to a width of 1.5 m and in accordance with the NZ Cycle trail design guide for a grade 1 cycle trail; and
 - d) an overall stormwater system plan.
8. The consent holder shall construct and maintain the:
 - a) outlet discharge structure;

- b) stop bank pipe crossing; and
- c) pedestrian/cycle ramp crossing

in accordance with the plans approved by Condition 7 and in a manner that minimises disturbances causing erosion and sedimentation.

9. Other than as specified by Condition 8, the consent holder shall install and maintain the stormwater management system as described in the documents referenced in Condition 1 and as shown in Appendix 1.
10. Unless agreed by Council (Manager Compliance) in writing prior, the construction works set out in Conditions 8 and 9 shall not result in the penetration of the stopbank.
11. Upon completion and no later than three (3) months following the construction of the items listed in Conditions 8 and 9, the consent holder shall provide to Council (Manager Compliance) accurate As-built plans of each item listed within Conditions 8 and 9.

Temporary Discharge to Ravensdown Drain

12. The consent holder shall discharge from the stormwater management system to the outlet structure located in the Ravensdown Drain designed and installed in accordance with Conditions 7, 8 & 9.
13. At the time the discharge commences via the method enabled by Condition 12, the consent holder shall inform Council (Manager Compliance) in writing of the commencement of the discharge.
14. The discharge shall be managed in accordance with the water discharge hierarchy and the adaptive management plan set out in General Conditions 1 and 2 of AUTH-127375-01. Ravensdown will provide HBRC with weekly written progress updates, and host site visits as requested.

Maintenance of Pedestrian/Cycle Ramp Crossing

15. For the entire duration of this consent, the consent holder shall maintain pedestrian/cycle ramp crossing in accordance with the information referenced in Condition 1 and design plans approved in accordance with Condition 7.

General Site Stormwater Management

16. The consent holder shall ensure that the diversion and discharge of stormwater as authorised by this resource consent does not cause or exacerbate any flooding or ponding of water on any neighbouring properties (including any road reserve).
17. The consent holder shall be responsible for all person(s) and contracted operations related to the exercise of this consent/permit and ensure that all persons on site are aware of the conditions of consent and ensure compliance with the permit/consent conditions. A copy of this consent and the plans specified in Conditions 1 shall be present and readily available on site at all times.
18. Spill kits suitable for the types of materials, chemicals, hazardous substances, and contaminants held on the site shall be kept on the site at all times in a conspicuous location. Each spill kit shall be used to prevent contaminants entering stormwater systems and containing and removing spills on the sealed area and unsealed impervious areas. The spill kits shall be regularly inspected and maintained to ensure that it is available for use at all times, readily accessible in the event of a spill, and staff shall be trained in spill response procedures, including the use of the spill kits.
19. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager

Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and the Heritage New Zealand Pouhere Taonga and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained.

Discharge Decommissioning and Surrender of Consent

20. At the time of expiry of this consent (or prior at the consent holder's choosing), the consent holder shall surrender this consent.
21. No more than three (3) months after the expiry of this consent or prior at the consent holders own choosing, the consent holder shall remove all parts of the stormwater management system outside the property boundary of Lot 2 DP 16060 (i.e. pipes, the outlet discharge structure, etc.) and associated pedestrian/cycle pipe crossing and remediate the site to the satisfaction of Council (Manager Compliance).

Review

22. The conditions of this consent may be reviewed by Council during any month of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
 - b) To require the adoption of the best practicable option to remove or reduce any effects on the environment.
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
 - d) To impose a discharge standard if it is considered necessary.
 - e) To require the installation of an effluent meter to confirm compliance with the authorised discharge volume.
 - f) To modify or add any condition to ensure the activity is undertaken in accordance with operative plans.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 and with all relevant plans and policies.

ADVICE NOTES

1. That where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately take all practicable steps to contain and then remove the contamination from the environment; and,
 - b) Immediately notify the Council of the escape; and,

- c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
- 2. A building consent is required from the territorial authority (e.g. Napier City Council). A land use consent may also be required from that Council.
- 3. All information required by the conditions of this consents can be emailed to ComplianceReturns@hbrc.govt.nz
- 4. The consent holder is responsible for any ongoing costs associated with meeting the conditions of this consent

MONITORING BY THE COUNCIL

Routine monitoring

Routine monitoring inspections will be undertaken by Council officers on at least one occasion during construction and/or after the completion of works. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

Consent Impact Monitoring

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

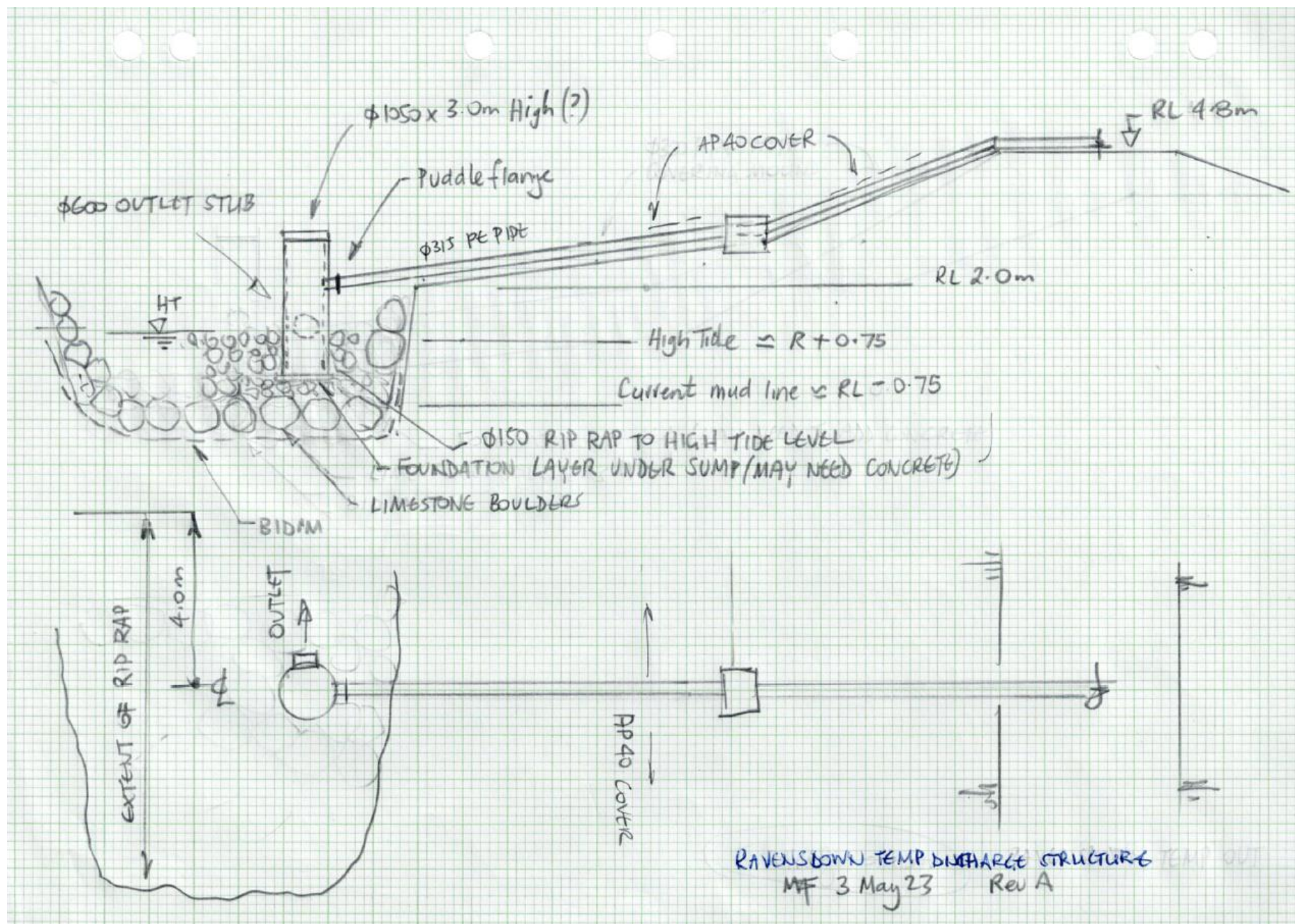
DEBT RECOVERY

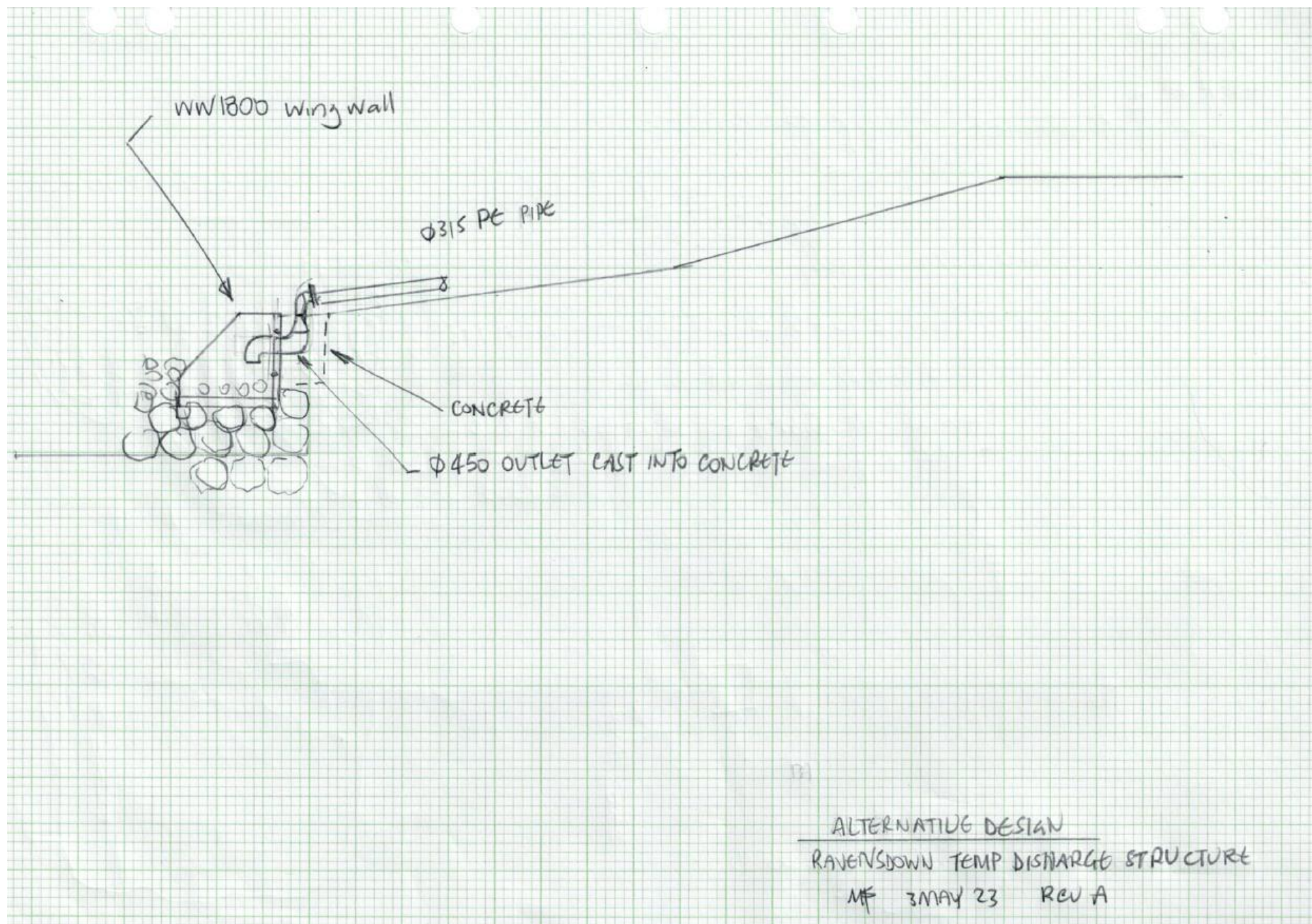
It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

CONSENT HISTORY

Authorisation No.	Date	Event	Relevant Rule	Relevant Plan
AUTH-129645-01	17/05/2023	Consent initially granted	9 Regulation 54	Regional Coastal Environment Plan National Environmental Standards for Freshwater 2020
AUTH-129790-01	17/05/2023	Consent initially granted	71	Regional Resource Management Plan

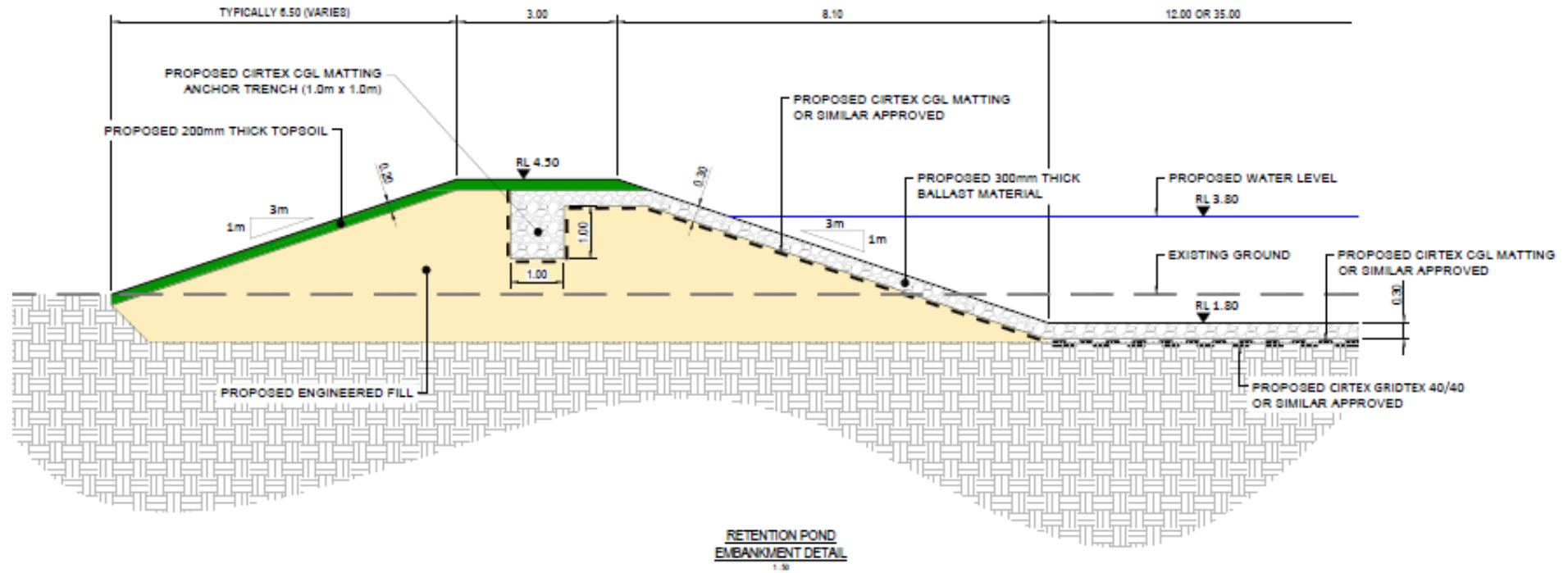






Option 6 – Build an Above Ground Temporary Pond







RESOURCE CONSENT

Discharge Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a non-complying activity to:

Ravensdown Limited

Private Bag 6012

Napier 4142

To temporarily discharge treated stormwater and process water and associated contaminants from a sulphuric acid and fertilizer manufacturing plant at Awatoto onto or into land and into water (Waitangi Estuary) in the Coastal Margin.

LOCATION

Address of site: 200 Waitangi Road, Awatoto, Napier

Legal description (site of discharge): Lot 1 DP 6287

(site of treatment pond): Lot 2 DP 16060

Map reference (NZTM): 1936921 E & 5613820 N

CONSENT DURATION

This consent is granted for a period expiring on 30th November 2024.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 30th November 2024, if it is not exercised before that date

Malcolm Miller
Consents Manager

POLICY AND REGULATION GROUP
Under authority delegated by Hawke's Bay Regional Council
17th May 2023

CONDITIONS**General**

1. The consent holder shall undertake all operations in accordance with the following documents provided in support of the application,
 - a) Application forms A and B received by Council on 18 April 2023.
 - b) *'Napier Works Cyclone Remediation Works: Temporary Settlement Pond and Stormwater / Process Water Discharge Resource Consent Applications and Assessment of Environmental Effects'* prepared by Mitchell Daysh and dated 18 April 2023.
 - c) *'Ravensdown Temp Discharge Structure'* Revision A or *'Alternative Design Ravensdown Temp Discharge Structure'* Revision A, both prepared by Mike Finlayson and dated 3 May 2023.
 - d) Settlement pond design as per email titled *"Imported Fill Volumes"* received by Council 27 April 2023 sent from Anita Anderson.
2. The discharge authorised by this consent shall:
 - a) Not exceed 265 litres per second; and
 - b) Comply with the water quality discharge parameters set out in General Condition 20 of AUTH-127375-01.
3. The consent holder shall carry out monitoring in accordance with General Conditions 22, 23 and 25(a and d-i) of AUTH-127375-01.
4. The results of monitoring undertaken in accordance with Condition 3 shall be reported to the Awapuni Reference Komiti.
5. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
6. The consent holder shall construct a permanent settlement pond as soon as practicable, and at the latest 18 months from the grant of this consent and cease the discharge from this temporary pond at the time.

Design, Construction and Post-Construction

7. Prior to the commencing construction of the outlet discharge structure to the Ravensdown Drain, the consent holder shall provide to Council (Manager Compliance) for approval a design of:
 - a) the outlet discharge structure in accordance with the outlet structure conceptual design plans (dated 3 May 2023 Revision A) and located within the Ravensdown Drain;
 - b) the stop bank pipe crossing (i.e. including air valve /air break detail, etc.);
 - c) the pedestrian/cycle ramp crossing atop the stop bank to a width of 1.5 m and in accordance with the NZ Cycle trail design guide for a grade 1 cycle trail; and
 - d) an overall stormwater system plan.
8. The consent holder shall construct and maintain the:
 - a) outlet discharge structure;

- b) stop bank pipe crossing; and
- c) pedestrian/cycle ramp crossing

in accordance with the plans approved by Condition 7 and in a manner that minimises disturbances causing erosion and sedimentation.

9. Other than as specified by Condition 8, the consent holder shall install and maintain the stormwater management system as described in the documents referenced in Condition 1 and as shown in Appendix 1.
10. Unless agreed by Council (Manager Compliance) in writing prior, the construction works set out in Conditions 8 and 9 shall not result in the penetration of the stopbank.
11. Upon completion and no later than three (3) months following the construction of the items listed in Conditions 8 and 9, the consent holder shall provide to Council (Manager Compliance) accurate As-built plans of each item listed within Conditions 8 and 9.

Temporary Discharge to Ravensdown Drain

12. The consent holder shall discharge from the stormwater management system to the outlet structure located in the Ravensdown Drain designed and installed in accordance with Conditions 7, 8 & 9.
13. At the time the discharge commences via the method enabled by Condition 12, the consent holder shall inform Council (Manager Compliance) in writing of the commencement of the discharge.
14. The discharge shall be managed in accordance with the water discharge hierarchy and the adaptive management plan set out in General Conditions 1 and 2 of AUTH-127375-01. Ravensdown will provide HBRC with weekly written progress updates, and host site visits as requested.

Maintenance of Pedestrian/Cycle Ramp Crossing

15. For the entire duration of this consent, the consent holder shall maintain pedestrian/cycle ramp crossing in accordance with the information referenced in Condition 1 and design plans approved in accordance with Condition 7.

General Site Stormwater Management

16. The consent holder shall ensure that the diversion and discharge of stormwater as authorised by this resource consent does not cause or exacerbate any flooding or ponding of water on any neighbouring properties (including any road reserve).
17. The consent holder shall be responsible for all person(s) and contracted operations related to the exercise of this consent/permit and ensure that all persons on site are aware of the conditions of consent and ensure compliance with the permit/consent conditions. A copy of this consent and the plans specified in Conditions 1 shall be present and readily available on site at all times.
18. Spill kits suitable for the types of materials, chemicals, hazardous substances, and contaminants held on the site shall be kept on the site at all times in a conspicuous location. Each spill kit shall be used to prevent contaminants entering stormwater systems and containing and removing spills on the sealed area and unsealed impervious areas. The spill kits shall be regularly inspected and maintained to ensure that it is available for use at all times, readily accessible in the event of a spill, and staff shall be trained in spill response procedures, including the use of the spill kits.
19. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager

Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and the Heritage New Zealand Pouhere Taonga and shall not recommence works in the area of the discovery until the relevant Heritage New Zealand Pouhere Taonga and tangata whenua approvals to damage, destroy or modify such sites have been obtained.

Discharge Decommissioning and Surrender of Consent

20. At the time of expiry of this consent (or prior at the consent holder's choosing), the consent holder shall surrender this consent.
21. No more than three (3) months after the expiry of this consent or prior at the consent holders own choosing, the consent holder shall remove all parts of the stormwater management system outside the property boundary of Lot 2 DP 16060 (i.e. pipes, the outlet discharge structure, etc.) and associated pedestrian/cycle pipe crossing and remediate the site to the satisfaction of Council (Manager Compliance).

Review

22. The conditions of this consent may be reviewed by Council during any month of any year pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
 - a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
 - b) To require the adoption of the best practicable option to remove or reduce any effects on the environment.
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.
 - d) To impose a discharge standard if it is considered necessary.
 - e) To require the installation of an effluent meter to confirm compliance with the authorised discharge volume.
 - f) To modify or add any condition to ensure the activity is undertaken in accordance with operative plans.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007 and with all relevant plans and policies.

ADVICE NOTES

1. That where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately take all practicable steps to contain and then remove the contamination from the environment; and,
 - b) Immediately notify the Council of the escape; and,

- c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
- 2. A building consent is required from the territorial authority (e.g. Napier City Council). A land use consent may also be required from that Council.
- 3. All information required by the conditions of this consents can be emailed to ComplianceReturns@hbrc.govt.nz
- 4. The consent holder is responsible for any ongoing costs associated with meeting the conditions of this consent

MONITORING BY THE COUNCIL

Routine monitoring

Routine monitoring inspections will be undertaken by Council officers on at least one occasion during construction and/or after the completion of works. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

Consent Impact Monitoring

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council may levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Annual Plan process.

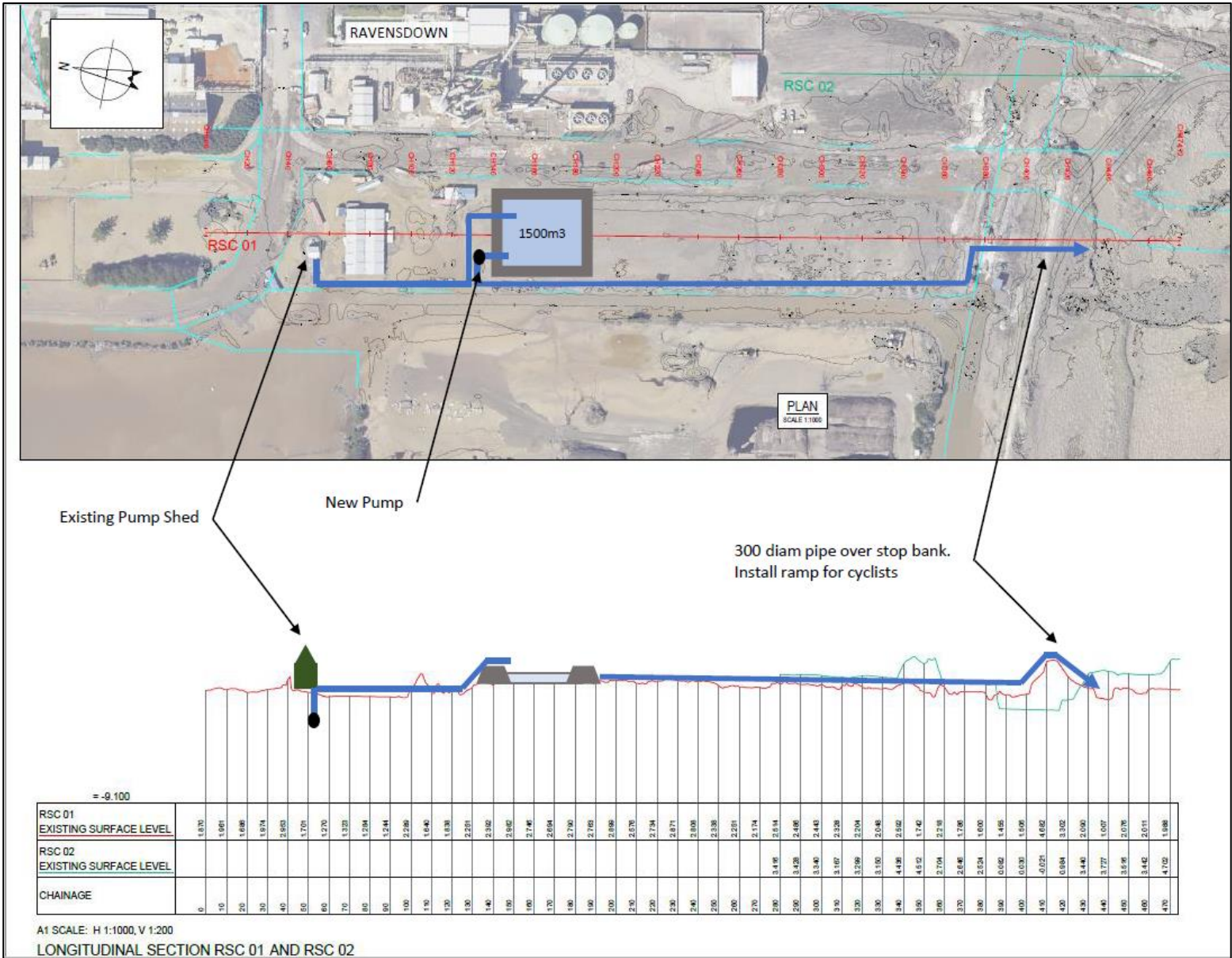
DEBT RECOVERY

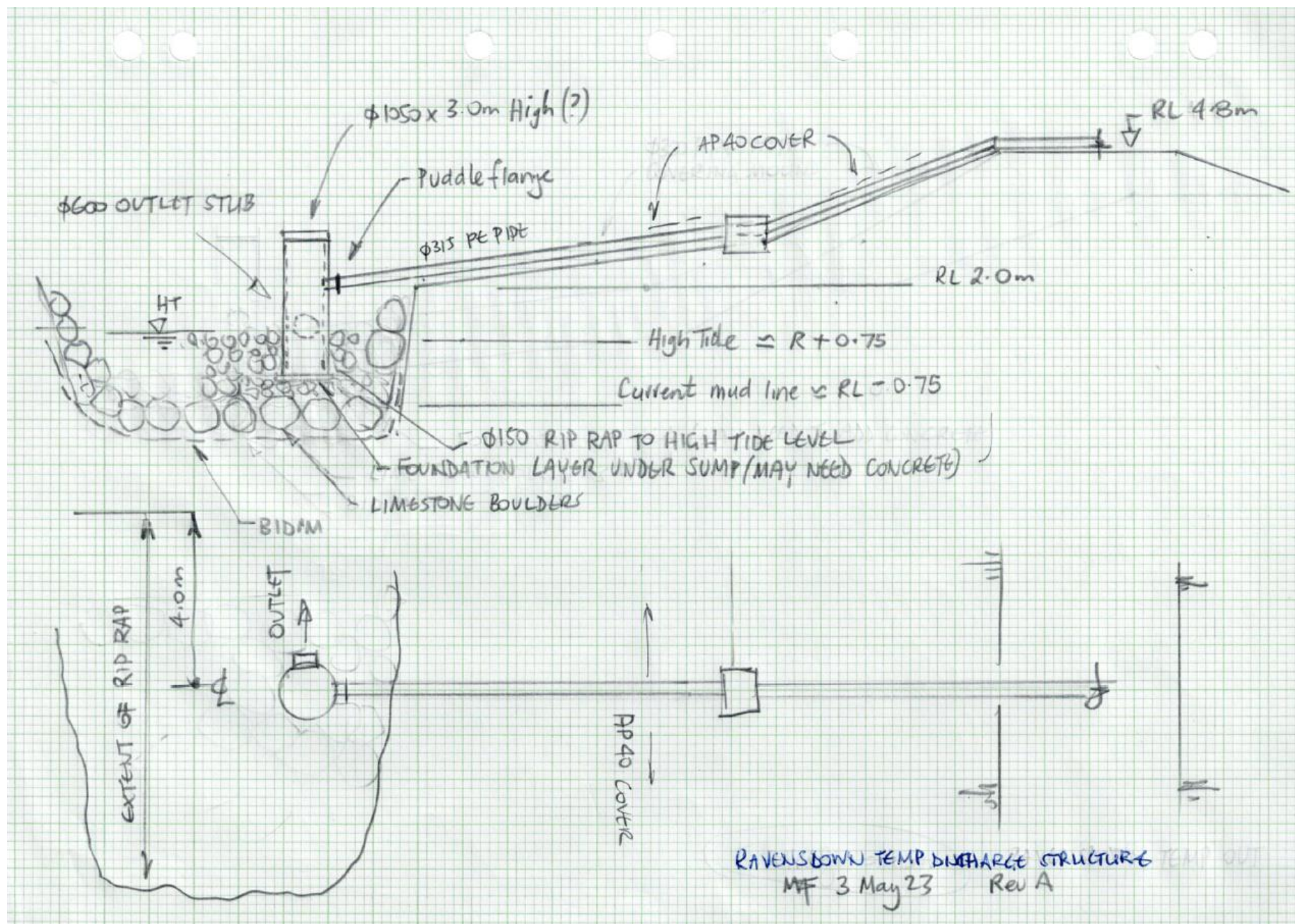
It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

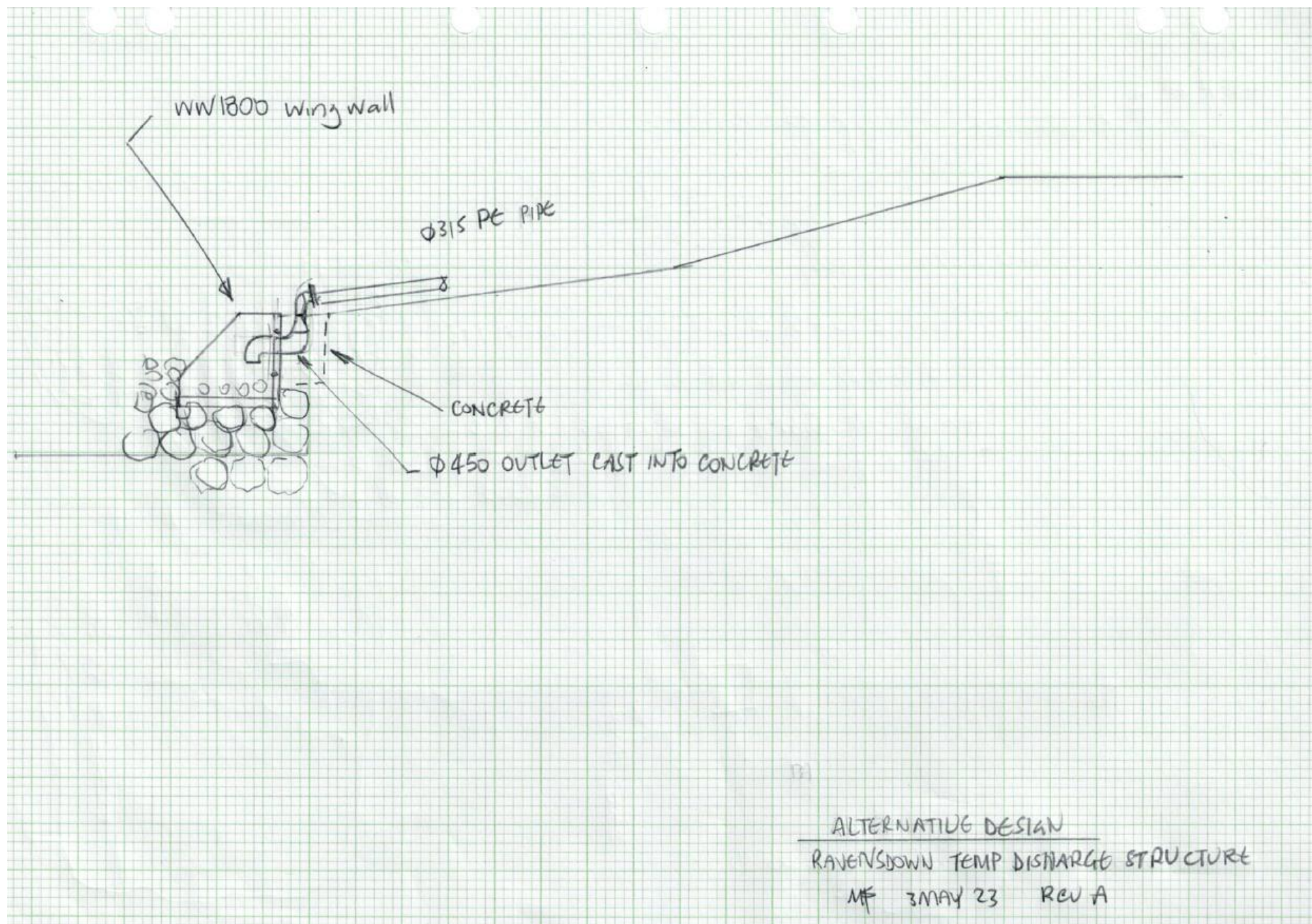
CONSENT HISTORY

Authorisation No.	Date	Event	Relevant Rule	Relevant Plan
AUTH-129645-01	17/05/2023	Consent initially granted	9 Regulation 54	Regional Coastal Environment Plan National Environmental Standards for Freshwater 2020
AUTH-129790-01	17/05/2023	Consent initially granted	71	Regional Resource Management Plan

APPENDIX 1: STORMWATER MANAGEMENT SYSTEM





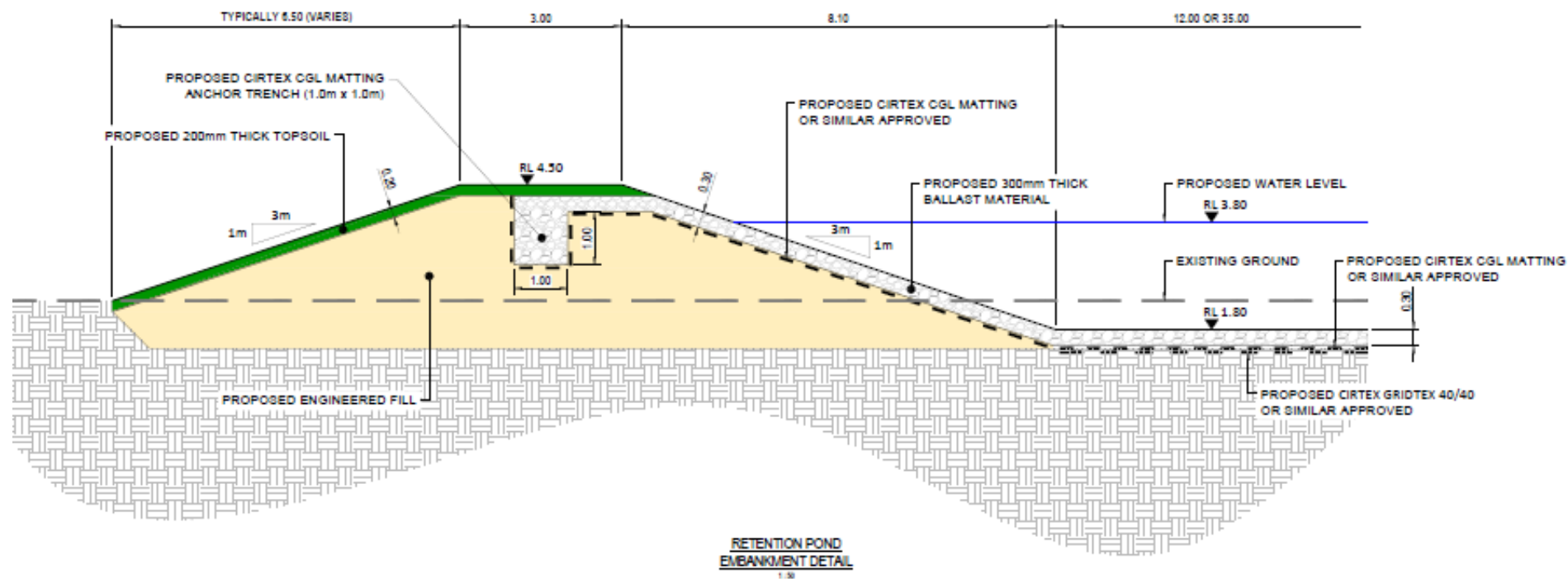


Option 6 – Build an Above Ground Temporary Pond



2023


ravensdown





RESOURCE CONSENT

Coastal Permit

In accordance with the provisions of the Resource Management Act 1991(RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Hawke's Bay Regional Council

Private Bag 6006
Napier 4112

to install environmental monitoring devices in, on, or over the foreshore and seabed and occupy space in the Coastal Marine Area in Porangahau Estuary Significant Conservation Area (SCA), Tukituki River Mouth SCA, Waitangi Estuary SCA, Ahuriri Estuary SCA, Wairoa Estuary and Coastal Wetlands SCA, and Maungawhio Lagoon/Pukenui Beach SCA and to undertake other activities directly associated with the monitoring devices that may be restricted by Section 12 and 12A of the RMA.

LOCATION

Address of sites: Porangahau Estuary, Tukituki River Mouth, Waitangi Estuary, Ahuriri Estuary, Wairoa Estuary and Coastal Wetlands, and Maungawhio Lagoon/Pukenui Beach

Legal description (site of structure): Crown Land

Map reference: Listed in Appendix 1

CONSENT DURATION

This consent is granted for a period expiring on 31 May 2031.

LAPSING OF CONSENT

This consent shall lapse in accordance with s.125 on the 31 May 2016, if it is not exercised before that date.

A handwritten signature in black ink, appearing to read "Charlotte Drury".

Charlotte Drury
Senior Consents Officer

RESOURCE MANAGEMENT GROUP
Under authority delegated by Hawke's Bay Regional Council
7th February 2011

CONDITIONS

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall undertake all operations in accordance with the following documents provided in support of the application:
 - a) Anna Madarasz-Smith, Assessment of Environmental Effects Monitoring Devices in Significant Conservation Areas (December 2010).

If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

3. The consent holder shall give the Council (Manager Compliance) at least two working days notice of the intention to install or remove the monitoring devices.
4. The consent holder shall take all practical measures to prevent contaminants from entering coastal marine area during the works.
5. That where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately take all practicable steps to contain and then remove the contamination from the environment, and;
 - b) Immediately notify the Council of the escape, and;
 - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
6. The design and installation of the environmental monitoring devices shall be undertaken in a manner that avoids any restriction to public access as far as practicable.
7. While the environmental monitoring devices are in place, buoys or other suitable marking instruments shall be installed to indicate to the public the location of the devices.
8. The design and installation of the monitoring devices shall be such that it does not cause any scour or long-term erosion of the foreshore or sea bed.
9. The design and installation of the monitoring devices shall be such that it does not cause any long-term disturbance of the flora and fauna in and on the foreshore and seabed.
10. The consent holder shall construct the structures using methods and materials non-toxic to aquatic life.
11. On completion of installation or removal of the monitoring devices, the foreshore and seabed shall be restored to no lesser state than it was before the works commenced.
12. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and the

New Zealand Historic Places Trust, and shall not recommence works in the area of the discovery until the relevant Historic Places Trust and tangata whenua approvals to damage, destroy or modify such sites have been obtained.

13. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on site at all times while the work is being undertaken.

REVIEW OF CONSENT CONDITIONS BY THE COUNCIL

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with s.36 of the RMA.

Times of service of notice of any review: During the month of May, of any year.

Purposes of review:

- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
- To require the adoption of the best practicable option to remove or reduce any adverse effects on the environment.
- To require monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.

REASONS FOR DECISION

The activity will have minor actual or potential adverse effects on the environment and is not contrary to any relevant plans or policies. The activity is also consistent with the purpose and principles of the Resource Management Act 1991.

MONITORING NOTE

Routine monitoring

Routine monitoring inspections may be undertaken by Council officers on at least one occasion during construction and/or after the completion of works. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-Routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on, by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent, section 10, section 10A, or section 20.

DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to the monitoring of this resource consent shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
CL100586C and CL110013O	07/02/2011	Consent initially granted	6.4.14	Regional Coastal Plan (June 1999)
			101 and 171	Proposed Regional Coastal Environment Plan (January 2011)

APPENDIX 1: LOCATION OF SITES - SIGNIFICANT CONSERVATION AREA BOUNDARIES**ASCV 1 Porangahau Estuary**

That part of the Coastal Marine Area enclosed by a line commencing 600 m south of the termination of Beach Rd. at a point 40°18.7'S and 176°40.0'E; proceeding 1.0 km east to a point 40°18.7'S and 176°40.8'E; then following the coast in a north-easterly direction at a distance of 1.0 km from MHWS to a point 40°14.2'S and 176°45.0'E; then proceeding northwest to a point 40°13.8'S and 176°44.5'E; then proceeding along the Coastal Marine Area boundary to the point of commencement.

ASCV 10 Tukituki River Mouth

That part of the Coastal Marine Area enclosed by a line commencing on the true left of the Tukituki River at a point 39°36.15'S and 176°55.95'E; then proceeding along the Coastal Marine Area boundary to a point at 39°35.6'S and 176°56.5'E; then proceeding along the line of ELWS to a point 39°36.05'S and 176°56.8'E; then following the Coastal Marine Area boundary to the point of commencement.

ASCV 11 Waitangi Estuary

That part of the Coastal Marine Area enclosed by a line commencing on the true left of the Clive River at a point 39°34.95'S and 176°55.0'E; then proceeding along the Coastal Marine Area boundary to a point at 39°33.65'S and 176°55.5'E; then proceeding along the line of ELWS to a point 39°34.35'S and 176°55.85'E; then following the Coastal Marine Area boundary to the point of commencement.

ASCV12 Ahuriri Estuary

That part of the coastal marine area enclosed by a line commencing on the true right of the estuary at a point 39°29.3'S and 176°53.35'E; then proceeding in a northwesterly direction to a point 39°29.05'S and 176°53.3'E; then following the coastal marine area boundary to the point of commencement.

ASCV15 Wairoa Estuary and Coastal Wetlands

All that part of the Coastal Marine Area confined by the line of Mean High Water Springs between that point on the coast at NZMS 260-X19-900281. in the west, including both banks of the Wairoa river upstream to the effective Coastal Marine Area Boundary at the state highway bridge, and that point on the coast at NZMS 260-X19-095288 in the east, and extending seaward to a line running parallel to it, one nautical mile from shore.

ASCV20 Maungawhio Lagoon/Pukenui Beach

All that part of the Coastal Marine Area contained by the line of Mean High Water Spring from a point at the northern end of Pukenui Beach at NZMS 260-Y19-332317, including the Maungawhio Estuary and the Kopuawhara stream up to the effective Coastal Marine Area Boundary, as far south as a point at NZMS 260-Y19-344249; and by a line running parallel to the shore, between those two points along the 5 metre depth contour, as indicated on NZHO Chart NZ 55.



RESOURCE CONSENT

Coastal Permit

In accordance with the provisions of the Resource Management Act 1991(RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Hawke's Bay Regional Council

Private Bag 6006
Napier 4112

to install environmental monitoring devices in, on, or over the foreshore and seabed and occupy space in the Coastal Marine Area in Porangahau Estuary Significant Conservation Area (SCA), Tukituki River Mouth SCA, Waitangi Estuary SCA, Ahuriri Estuary SCA, Wairoa Estuary and Coastal Wetlands SCA, and Maungawhio Lagoon/Pukenui Beach SCA and to undertake other activities directly associated with the monitoring devices that may be restricted by Section 12 and 12A of the RMA.

LOCATION

Address of sites:

Porangahau Estuary, Tukituki River Mouth, Waitangi Estuary, Ahuriri Estuary, Wairoa Estuary and Coastal Wetlands, and Maungawhio Lagoon/Pukenui Beach

Legal description (site of structure): Crown Land

Map reference: Listed in Appendix 1

CONSENT DURATION

This consent is granted for a period expiring on 31 May 2031.

LAPSING OF CONSENT

This consent shall lapse in accordance with s.125 on the 31 May 2016, if it is not exercised before that date.

A handwritten signature in black ink, appearing to read "Charlotte Drury".

Charlotte Drury
Senior Consents Officer

RESOURCE MANAGEMENT GROUP
Under authority delegated by Hawke's Bay Regional Council
7th February 2011

CONDITIONS

1. All works and structures relating to this resource consent shall be designed and constructed to conform to the best engineering practices and at all times maintained to a safe and serviceable standard.
2. The consent holder shall undertake all operations in accordance with the following documents provided in support of the application:
 - a) Anna Madarasz-Smith, Assessment of Environmental Effects Monitoring Devices in Significant Conservation Areas (December 2010).

If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.

3. The consent holder shall give the Council (Manager Compliance) at least two working days notice of the intention to install or remove the monitoring devices.
4. The consent holder shall take all practical measures to prevent contaminants from entering coastal marine area during the works.
5. That where, for any cause (accidental or otherwise), contaminants associated with the consent holder's operations escape to water other than in conformity with the consent, the consent holder shall:
 - a) Immediately take all practicable steps to contain and then remove the contamination from the environment, and;
 - b) Immediately notify the Council of the escape, and;
 - c) Report to the Council, in writing and within 7 days, describing the manner and cause of the escape and steps taken to control it and prevent its reoccurrence.
6. The design and installation of the environmental monitoring devices shall be undertaken in a manner that avoids any restriction to public access as far as practicable.
7. While the environmental monitoring devices are in place, buoys or other suitable marking instruments shall be installed to indicate to the public the location of the devices.
8. The design and installation of the monitoring devices shall be such that it does not cause any scour or long-term erosion of the foreshore or sea bed.
9. The design and installation of the monitoring devices shall be such that it does not cause any long-term disturbance of the flora and fauna in and on the foreshore and seabed.
10. The consent holder shall construct the structures using methods and materials non-toxic to aquatic life.
11. On completion of installation or removal of the monitoring devices, the foreshore and seabed shall be restored to no lesser state than it was before the works commenced.
12. In the event of any archaeological site or waahi tapu being uncovered during the exercise of this consent, activities in the vicinity of the discovery shall cease. The consent holder shall contact the Council (Manager Compliance) to obtain contact details of the relevant tangata whenua. The consent holder shall then consult with the relevant local hapu or marae and the

New Zealand Historic Places Trust, and shall not recommence works in the area of the discovery until the relevant Historic Places Trust and tangata whenua approvals to damage, destroy or modify such sites have been obtained.

13. The consent holder shall ensure that any contractors engaged to undertake work authorised by this consent abide by the conditions of this consent. The person responsible for the work on site shall be familiar with the consent conditions and a copy of this consent shall be present on site at all times while the work is being undertaken.

REVIEW OF CONSENT CONDITIONS BY THE COUNCIL

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with s.36 of the RMA.

Times of service of notice of any review: During the month of May, of any year.

Purposes of review:

- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time, or which became evident after the date of issue.
- To require the adoption of the best practicable option to remove or reduce any adverse effects on the environment.
- To require monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate.

REASONS FOR DECISION

The activity will have minor actual or potential adverse effects on the environment and is not contrary to any relevant plans or policies. The activity is also consistent with the purpose and principles of the Resource Management Act 1991.

MONITORING NOTE

Routine monitoring

Routine monitoring inspections may be undertaken by Council officers on at least one occasion during construction and/or after the completion of works. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-Routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on, by or on behalf of that person, whether or not the activity is in accordance with a rule in a plan, a resource consent, section 10, section 10A, or section 20.

DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to the monitoring of this resource consent shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
CL100586C and CL110013O	07/02/2011	Consent initially granted	6.4.14	Regional Coastal Plan (June 1999)
			101 and 171	Proposed Regional Coastal Environment Plan (January 2011)

APPENDIX 1: LOCATION OF SITES - SIGNIFICANT CONSERVATION AREA BOUNDARIES**ASCV 1 Porangahau Estuary**

That part of the Coastal Marine Area enclosed by a line commencing 600 m south of the termination of Beach Rd. at a point 40°18.7'S and 176°40.0'E; proceeding 1.0 km east to a point 40°18.7'S and 176°40.8'E; then following the coast in a north-easterly direction at a distance of 1.0 km from MHWS to a point 40°14.2'S and 176°45.0'E; then proceeding northwest to a point 40°13.8'S and 176°44.5'E; then proceeding along the Coastal Marine Area boundary to the point of commencement.

ASCV 10 Tukituki River Mouth

That part of the Coastal Marine Area enclosed by a line commencing on the true left of the Tukituki River at a point 39°36.15'S and 176°55.95'E; then proceeding along the Coastal Marine Area boundary to a point at 39°35.6'S and 176°56.5'E; then proceeding along the line of ELWS to a point 39°36.05'S and 176°56.8'E; then following the Coastal Marine Area boundary to the point of commencement.

ASCV 11 Waitangi Estuary

That part of the Coastal Marine Area enclosed by a line commencing on the true left of the Clive River at a point 39°34.95'S and 176°55.0'E; then proceeding along the Coastal Marine Area boundary to a point at 39°33.65'S and 176°55.5'E; then proceeding along the line of ELWS to a point 39°34.35'S and 176°55.85'E; then following the Coastal Marine Area boundary to the point of commencement.

ASCV12 Ahuriri Estuary

That part of the coastal marine area enclosed by a line commencing on the true right of the estuary at a point 39°29.3'S and 176°53.35'E; then proceeding in a northwesterly direction to a point 39°29.05'S and 176°53.3'E; then following the coastal marine area boundary to the point of commencement.

ASCV15 Wairoa Estuary and Coastal Wetlands

All that part of the Coastal Marine Area confined by the line of Mean High Water Springs between that point on the coast at NZMS 260-X19-900281. in the west, including both banks of the Wairoa river upstream to the effective Coastal Marine Area Boundary at the state highway bridge, and that point on the coast at NZMS 260-X19-095288 in the east, and extending seaward to a line running parallel to it, one nautical mile from shore.

ASCV20 Maungawhio Lagoon/Pukenui Beach

All that part of the Coastal Marine Area contained by the line of Mean High Water Spring from a point at the northern end of Pukenui Beach at NZMS 260-Y19-332317, including the Maungawhio Estuary and the Kopuawhara stream up to the effective Coastal Marine Area Boundary, as far south as a point at NZMS 260-Y19-344249; and by a line running parallel to the shore, between those two points along the 5 metre depth contour, as indicated on NZHO Chart NZ 55.



RESOURCE CONSENT

Water Permit

In accordance with the provisions of the Resource Management Act 1991 (RMA), and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

BioRich Limited

103 Valley Road
RD 4
Hastings 4174

to take and use water from well no. 5672 (100 mm diameter) for the purpose of irrigating 17.5 hectares of process crops and pasture, 10 hectares of compost, washing down and building supply.

LOCATION

Address of site

201 Waitangi Road, Awatoto,
Napier

Legal description

Site of take: Lot 1 DP 341000
Site of use: Lot 1 DP 341000, Lots
6 & DP 25683
and as illustrated on the Site Map
adjacent

Map reference

NZMG [2846763, 6175512]; NZMS
[V21]

LAPSING OF CONSENT

This consent shall lapse in
accordance with section 125 of
the RMA on 31 May 2018 if it
is not given effect to before
that date.

CONSENT DURATION

This consent is granted for a period
expiring on 31 May 2027.

Site Map



A handwritten signature in blue ink, appearing to read 'Malcolm Miller'.

Malcolm Miller
Manager Consents

RESOURCE MANAGEMENT GROUP

Under authority delegated by Hawke's Bay Regional Council

11th December 2013

CONDITIONS

1. The rate of taking shall not exceed **25 litres per second**.
2. The volume taken shall not exceed the following:
 - a) **9,077 cubic metres in any 7 day period**; and
 - b) **139,280 cubic metres within the 12 month period**, 1 July to 30 June in consecutive calendar years; and
 - c) For irrigation, that required to replace soil moisture depleted by evapotranspiration over the irrigated area.
3. A water meter shall be installed prior to the exercise of this consent, and maintained to measure the volume of water taken to an accuracy of +/- 5%. The device shall be installed and maintained in accordance with the Council's "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (as attached).
4. From commencement of this consent, the consent holder shall read the water meter at 7-day intervals and shall provide the Council with a record of the following:
 - a) the meter reading (in cubic metres);
 - b) the date and time of each reading;
 - c) the point of take that the record relates to.
5. The consent holder shall provide the information listed in Condition no later than 7 days after the end of each calendar month (see Advice Note I).
6. The consent holder shall, upon request by the Council (Manager Resource Use), supply details of the crop type and areas irrigated under this consent.
7. No water shall be taken during "no take" periods specified by the Council for the purpose of obtaining accurate hydrological measurements, provided that:
 - a) the "no take" period specified by Council is no longer than twenty four (24) hours in duration;
 - b) the Council gives at least 7 days notice to the consent holder of the start and finish time of the "no take" period; and
 - c) consecutive "no take" periods are separated by an interval of at least 14 days.
8. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
9. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application

for this resource consent. In the event that there is conflict between the information supplied with the application and any consent condition(s), the condition(s) shall prevail.

REVIEW OF CONSENT CONDITIONS BY THE COUNCIL

The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder (unless specified otherwise), in accordance with section 36 of the RMA.

Times of service of notice of any review: During the month of May, in any year.

- Purposes of review:
- To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - To require that the installation and reading of the water-measuring device is consistent with any policies or rules in a regional plan or National Environmental Standard;
 - To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate or inadequate;
 - To ensure that the volume of water authorised by the consent is consistent with actual water needs for an efficient take and is physically able to be taken;
 - To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - To modify or add any condition to ensure that water is allocated in accordance with an operative plan.

REASONS FOR DECISION

The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010, and with all relevant plans and policies.

ADVICE NOTES

Water take records

- I. Where no water is taken over an extended period the Council (Manager Resource Use) may authorise that records be provided at intervals exceeding one month.

Resource Management (Measurement and Reporting of Water Takes) Regulations 2010 - Approval for Weekly Record Keeping

- II. In accordance with Regulation 9 of the Resource Management (Measurement and Reporting of Water Takes) Regulations 2010, this shall serve as written notice that the Council grants approval to the consent holder to keep records of measurements of the

volume of water taken under the permit on a weekly (7-day period) basis (instead of each day). This approval applies for the period ending 10 November 2016.

Wellhead construction

- III. To minimise the risk of contaminants entering groundwater, well headworks are required to be constructed to ensure that there are no openings through which contaminants might enter the well. This would include ensuring that there are no gaps around pipework and cables at the wellhead.

Notification of Changes to Details

- IV. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent change, including any sale / purchase of the property and any change to contact details.

MONITORING NOTE

Routine monitoring

Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of **any** routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine monitoring

"Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA shown below.

Section 17(1) of the RMA states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

- a) *any of sections 10, 10A, 10B, and 20A; or*
- b) *a national environmental standard, a rule, a resource consent, or a designation.*

Consent Impact Monitoring

In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

DEBT RECOVERY

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating

to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
WP130408T	11/12/2013	Consent initially granted	55	Regional Resource Management Plan (Operative as at August 2006)



TE KAUNIHERA Ā-ROHE O TE MATAU-A-MĀUI

RESOURCE CONSENT

Water Permit

In accordance with the provisions of the Resource Management Act 1991, and subject to the attached conditions, the Hawke's Bay Regional Council (the Council) grants a resource consent for a discretionary activity to:

Ravensdown Limited

Private Bag 6012

Napier 4142

to take water from well no's. 15986 and 15989 (150 mm diameters) for the following industrial uses and environmental purposes:

- The manufacture of sulphuric acid and fertilisers;
- The treatment of stormwater and process water including sustaining constructed treatment wetlands and the maintenance of crop cover on the discharge to land area (shown on the Plan B); and
- Sustain an artificial freshwater wetland within the Waitangi Regional Park (shown on the Plan D).

LOCATION

Address of site

200 Waitangi Road, Awatoto

Legal description

Site of take: Pt Sec 32 Blk 1 Clive SD

Site of use: Pt Sec 32 Blk 1 Clive SD

Map reference – Site Map

Well 15986: V21 2846951 6175828

Well 15989: V21 2846957 6175810

CONSENT DURATION

This consent is granted for a period expiring on 31 May 2057.

LAPSING OF CONSENT

This consent shall lapse in accordance with section 125 of the RMA on the 19th of December 2027, if it is not exercised before that date.

Site Map



Martin Williams

Hearing Commissioners

Under authority delegated by Hawke's Bay Regional Council

19th December 2022

Conditions

1. The activities authorised by this consent shall be undertaken generally in accordance with the Assessment of Environmental Effects dated 30 November 2021 and associated management plans and other information supplied as part of the application for this resource consent. If a conflict arises between any conditions of this consent and the application, the conditions of this consent will prevail.
2. The combined rate of taking from all wells shall not exceed 80 litres per second.
3. The combined volume taken, shall not exceed the following:
 - a) 13,477 cubic metres in any 7 day period; and,
 - b) 666,455 cubic metres within the 12 month period, 1 July to 30 June in consecutive calendar years;

The maximum 7-day and 12 month period volumes for each of the uses is set out in the table below:

Site Water Use	Proposed Volume	
	Weekly (m ³)	Annual (m ³)
Site base load ¹	2,820	
Manufacture of sulphuric acid and fertilisers	7,945	
Sustaining treatment wetland	175	
Maintaining crop cover on irrigation area	1,900	
Subtotal for Operations	12,840	633,240²
Sustaining HARP wetland	637 ³	33,215
Total	13,477	666,455

¹ Site Base Load is domestic usage and site wash water.

² Assuming 48 weeks per year of manufacturing.

³ Using an evapotranspiration rate of 0.7 L/s/Ha and a water surface area of 1.5Ha

4. Water meter(s) shall be installed to monitor the volumes associated with each use outlined in the Table in condition 3 above, prior to the exercise of this consent, and shall be operated and maintained to measure the volume of water taken to an accuracy of +/- 5%.
5. The device(s) required by condition 4 shall be installed and maintained in accordance with the Council's "Technical Specifications and Installation Requirements for Flow Meters" (February 2010) (see Advice Note I).
6. Water take and use data supplied to the Council in accordance with the conditions of this consent shall be collected by a water measuring device or system that has been verified by a suitably qualified person to be accurate to within +/-5% at that point of take within the following time periods:
 - a) For existing devices or systems: within the previous 5 water years (water year is 1 July – 30 June); or,

- b) For new devices or systems: before the end of the first water year (ending 30 June) for that water permit.
7. All water measuring devices or systems shall be re-verified by a suitably qualified person as accurate to within +/-5% within a maximum of 5 years from the date of the previous verification.
 8. From commencement of this consent, the consent holder shall read the water meter at 7-day intervals and shall provide the Council with a record of the following
 - a) the meter reading (in cubic metres); and,
 - b) the date and time of each reading; and,
 - c) the point of take that the record relates to; and,

These records shall be provided to the Council no later than 7 days after the end of each calendar month (see Advice Note II).

9. The consent holder shall, upon request by the Council (Manager Compliance), supply details of the use of water occurring under this consent, including (but not limited to) a full description of all processes that the water is used in, a description of the products that are produced on the site, and confirmation that condition 15 is complied with.
10. All works and structures relating to this resource consent shall be designed and constructed to conform to best engineering practices and at all times maintained to a safe and serviceable standard.
11. The consent holder shall undertake all operations in accordance with any drawings, specifications, statements of intent and other information supplied as part of the application for this resource consent. In the event that there is conflict between the information supplied with the application and any consent condition(s), the condition(s) shall prevail.
12. The consent holder shall ensure that a backflow prevention device is installed and maintained to prevent contaminants from entering the aquifer through the bores. The consent holder shall provide the details and specifications of the back flow prevention devices/systems to Council (Manager Compliance) prior to the exercising of this consent. The device shall be installed, maintained and tested in accordance with the manufacturer's specifications. Records of testing and maintenance shall be kept and provided to the Council (Manager Compliance) upon request.
13. If an event occurs on-site that may lead to contaminants entering groundwater, the Consent Holder shall notify the Napier City Council and the Council (Manager Compliance) of the event as soon as reasonably practicable after the event occurs.

Advice Note:

Such an event might include for example chemical spillage or backflow/loss of chemicals to the well. Napier City Council can be contacted on 835 7579. The Regional Council 24 hour Pollution Hotline should also be contacted on 0800 108 838.

14. To minimise the risk of contaminants entering groundwater, the consent holder shall:
 - a) Ensure that well headworks are constructed and maintained to prevent any leakage and/or movement of water or contaminants between the ground surface and groundwater, and shall ensure that there are no openings through which contaminants might enter the well. This shall include (but not be limited to) ensuring that there are no gaps around any pipework and/or cables at the wellhead.
 - b) Ensure that the well is maintained and serviced by a suitably qualified and experienced person at a frequency suitable for ensuring that condition 14(a) is met, and provide records of this maintenance and servicing to the Council (Manager Compliance) upon request.

- c) In the absence of sufficient records to demonstrate to the satisfaction of the Council (Manager Compliance) that condition 14(a) is met, the consent holder, upon request by the Council (Manager Compliance), shall engage at their cost a suitably qualified and experienced person to inspect and certify that the wells(s) meet the requirements of condition 14(a). The certification shall be provided to the Council (Manager Compliance) within 7 days of its receipt.

Advice note:

For the purposes of this condition, an acceptable “suitably qualified and experienced person” is a professional well driller or well engineer (or equivalent), with demonstrable experience in the field of wellhead security, design, construction and maintenance.

15. Water may not be used under this consent for commercial ‘water bottling’, where water bottling is defined as the: “taking and using water for bottling in bottles, bladders or other containers for human consumption where bore water makes up at least 90% of the content of the container”.

Review

16. The Council may review conditions of this consent pursuant to sections 128, 129, 130, 131 and 132 of the RMA. The actual and reasonable costs of any review undertaken will be charged to the consent holder, in accordance with section 36 of the RMA. The consent(s) may be reviewed for any of the following purposes:
- a) To deal with any adverse effect on the environment which may arise from the exercise of this consent, which it is appropriate to deal with at that time or which became evident after the date of issue;
 - b) To require that the installation and reading of the water-measuring device or water meter data reporting system is consistent with any policies or rules in a regional plan, a National Environmental Standard;
 - c) To modify any monitoring programme, or to require additional monitoring if there is evidence that current monitoring requirements are inappropriate, inaccurate or inadequate;
 - d) To ensure that the rate and volume of water authorised by the consent is consistent with actual water needs for an efficient take for the consented purpose and is physically able to be taken;
 - e) To require, if necessary, the installation of a backflow prevention device to ensure that no contaminant can enter the aquifer through the bore;
 - f) To modify and/or add conditions of consent in order to ensure that it is consistent with the operative provisions of a regional plan. This shall include (but not be limited to) conditions specifying any maximum or minimum levels, minimum flows and associated implementation timeframes, and/or abstraction rates or volumes (including allocation limits).

Advice Notes

Water Meter Technical Specifications

- I. The following documents are available from the Council’s website “Technical Specifications and Installation Requirements for Flow Meters” (February 2010) (www.hbrc.govt.nz/services/water/water-metering/meters/) and “HBRCs Requirements for the use of Portable pumps used to report water use” (February 2013) (www.hbrc.govt.nz/assets/Document-Library/Technical-Publications/Technical-Specifications-and-Installation-Requirements-for-portable-pumps-March-2013.pdf). The Telemetry System Installation Form is provided to telemetry installers by the Council upon request.

Administration

Notification of Changes to Details

- II. It is the responsibility of the consent holder to inform the Council (Manager Consents) if any details regarding this consent, including any sale / purchase of the property and any change to contact details.

Routine Monitoring

- III. Routine monitoring inspections will be undertaken by Council officers at a frequency of no more than once every year to check compliance with the conditions of the consent. The costs of any routine monitoring will be charged to the consent holder in accordance with the Council's Annual Plan of the time.

Non-routine Monitoring

- IV. "Non routine" monitoring will be undertaken if there is cause to consider (e.g. following a complaint from the public, or routine monitoring) that the consent holder is in breach of the conditions of this consent. The cost of non-routine monitoring will be charged to the consent holder in the event that non-compliance with conditions is determined, or if the consent holder is deemed not to be fulfilling the obligations specified in section 17(1) of the RMA, which states:

Every person has a duty to avoid, remedy, or mitigate any adverse effect on the environment arising from an activity carried on by or on behalf of the person, whether or not the activity is carried on in accordance with

a) any of sections 10, 10A, 10B, and 20A; or

b) a national environmental standard, a rule, a resource consent, or a designation.

Consent Impact Monitoring

- V. In accordance with section 36 of the RMA (which includes the requirement to consult with the consent holder) the Council will levy additional charges for the cost of monitoring the environmental effects of this consent, either in isolation or in combination with other nearby consents. Any such charge would generally be set through the Council's Annual Plan process.

Debt Recovery

It is agreed by the consent holder that it is a term of the granting of this resource consent that all costs incurred by the Council for, and incidental to, the collection of any debt relating to this resource consent, whether as an individual or as a member of a group, and charged under section 36 of the RMA, shall be borne by the consent holder as a debt due to the Council, and for that purpose the Council reserves the right to produce this document in support of any claim for recovery.

REASONS FOR DECISION

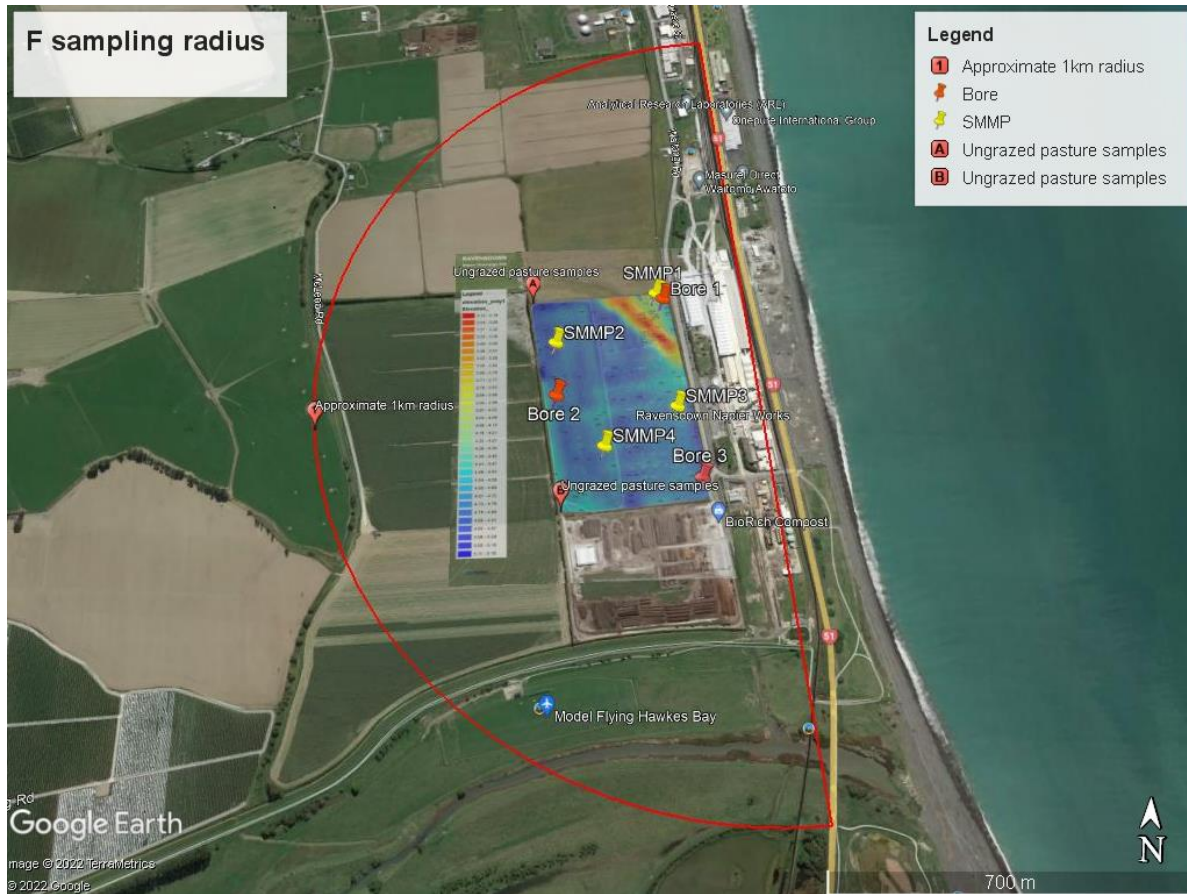
The effects of the activity on the environment will not be more than minor. Granting the consent is consistent with the purpose and principles of the RMA, the National Policy Statement for Freshwater, the Resource Management (National Environmental Standards for Sources of Human Drinking Water) Regulations 2007, the Resource Management (Measurement and Reporting of Water Takes Regulations) 2010, and with all relevant plans and policies.

CONSENT HISTORY

Consent No. (Version)	Date	Event	Relevant Rule	
			Number	Plan
AUTH-127885-01	19/12/2022	Consent initially granted	TANK 11	Regional Resource Management Plan (2006)
			35	Regional Coastal Environment Plan (2014)

Plans

Plan B – Land Discharge area, Soil Moisture Monitoring and Groundwater Monitoring Bore Locations



Plan D – Plan Showing Water Discharge point, Ravensdown Drain and HARP Area

