Hearing Before:
Greater Wellington Regional Council

Porirua Wastewater Treatment Plant

Resource Consent Applications

The proposed renewal of existing consents for discharge of treated sewage to coastal water, and associated discharge to air from the treatment plant

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DECISION REPORT OF INDEPENDENT HEARING PANEL

Dated: 21 June 2023

Result: The consents are granted subject to the conditions in:

- Attachment 1 (consent for discharge of treated wastewater to coastal water)
- Attachment 2 (consent for discharge to air).

Approved for release and publication on the website of Greater Wellington Regional Council by Mark Ashby (hearing Chair) while reserving the power to make minor corrections and amendments to the grant of resource consent if required under the Resource Management Act s133A. If that occurs the corrections will be published and circulated.

Glossary

Acronym/Term	Definition
CIA	Cultural Impact Assessment
CMA	Has the same meaning as 'coastal marine area' in section 2 of the RMA
CP	Coastal permit (for discharge of wastewater)
DP	Discharge permit (for discharge to air)
EIC	Evidence in Chief
GWRC	Greater Wellington Regional Council

Acronym/Term	Definition
MHWS	Mean High Water Springs
NES-F	National Environmental Standards for Freshwater
NZCPS	New Zealand Coastal Policy Statement
PCC	Porirua City Council
PNRP	Proposed Natural Resources Plan (Notified Version)
RCP	Operative Regional Coastal Plan
RMA	Resource Management Act
RPS	Regional Policy Statement
WWTP	Wastewater Treatment Plant

Overview of Project and Hearing

1 Overview

1.1 Introduction

1.1.1 Our decision is to grant consent to the two applications, subject to conditions as discussed in Section 30 and set out in Attachments 1 and 2.

1.1.2 This report concerns a proposal to renew existing consents for discharge of treated sewage to coastal water, and associated discharge to air from the Treatment Plant. It also refers to our determination that consent is not required under the National Environmental Standards for Freshwater (NES-F). A question about that possibility arose during the course of the hearing, due to the proximity of the coastal outfall to an identified area of wetland on the coastal margin.

1.1.3 Under the RMA, the Project requires the coastal and air discharge resource consents to be issued by Greater Wellington Regional Council (GWRC), in accordance with relevant regional plan provisions. The site of the wastewater Treatment Plant is designated in the Porirua City district plan and no resource consents are required from Porirua City Council. The site of the coastal discharge is from a short outfall pipe, beyond the line of mean high water springs (MHWS) and is therefore not subject to Porirua City Council's consenting jurisdiction.

1.1.4 The statutory aspects of the proposal are initially outlined in Section 4 below. The granting of resource consents is a process under the Resource Management Act ("the Act" or "RMA").

1.1.5 Our reasoning and conclusions are contained in this report (also see Section 1.3 for an outline of the report structure).

1.1.6 To assist in our understanding of the environment and the Project, we undertook a site visit on 10 June 2022. For the visit, we commenced at the wastewater Treatment Plant and were accompanied on a tour of all operations by a Veolia[1] operations manager. We were accompanied by GWRC hearing administrators but not by the GWRC reporting officer or representatives of the Applicant. From the Treatment Plant, we also walked to the outer southeast margins of the site boundary to help understand the distance of some submitters from the Plant. We travelled to and observed the outfall at Rukutane Point, and also went to Tītahi Bay beach.

[1] Veolia manages the Plant on behalf of Wellington Water and the Plant's owners (Porirua City Council / Wellington City Council)

1.2 Roles and responsibilities of the parties

1.2.1 The roles and responsibilities of the parties, other than submitters in opposition or support, were set out within various application and hearing documentation. It is, however, useful to repeat these here for the sake of clarity.

1.2.2 Porirua City Council (PCC) is the holder of the existing resource consents, with Wellington Water Limited (WWL) being the Applicant's agent.

1.2.3 Regional consents are required for the Project as the proposal breaches rules in relevant regional plans pertaining to Section 15 of the Act, which itself relates to discharges into water and air. GWRC is the consent authority that must determine whether to grant or decline the resource consent applications.

1.2.4 As independent commissioners, our remit provides us with full autonomy to make the necessary decisions and impose conditions of consent.

1.3 Report structure

1.3.1 Resource consent applications require a decision to be made, either granting consent (with or without conditions), or declining consent.

1.3.2 Statutorily, although the air and coastal discharges are separate consent applications, their intertwined effects concern many submitters. For those reasons, we have taken an integrated approach to some aspects of the assessment, and a separate approach where that is necessary to recognise differences between the two consents. In most situations, our report refers generically to the 'proposal', 'project', 'works' or similar variations.

1.3.3 At various places we include references to the consent conditions. To distinguish between conditions of the two consents, and enhance clarity, in our decision we preface conditions with either "coastal" or "air" – e.g., "coastal Condition 33".[2]

1.3.4 We have identified certain issues, and associated conditions, as being common across the two consents. We have split out the main cross-consent issues (being related to iwi concerns, and to community information) as a separate section of the report. Where necessary, we have amended the proposed conditions to ensure an integrated approach to these issues across the two consents.

2 Location and Proposed Works

2.1 Location and Existing Environment

2.1.1 The proposed location of the works is set out in the Application documents, and Section 6 of the GWRC's s42A Officer's report for the coastal and air discharges prepared by Ms Conland. In summary, the Project focuses on the Wastewater Treatment Plant ("WWTP") located off Moki Street in Tītahi Bay, Porirua (see Figure 1 below). The site is approximately

[2] The Resource Management Act (section 87) refers to consented discharges into coastal waters as a "coastal permit". The Act refers to consented discharges to air as a simply a "discharge permit".

51 hectares and largely surrounded by pine trees Planted on slopes that rise up towards the west, south and east of the site.

2.1.2 As noted in the Applicant's assessment of environmental effects (AEE), the predominant winds are from the north-west and west-north-west direction, with wind speeds in the range of 5 and 30 knots. The ambient air quality in the area is high due to the prevalent winds and limited number of odour sources in the area. To the west, south and east of the site are rural, rural residential and residential activities. To the south of the site, there are 5 lifestyle blocks of approximately 5 hectares. According to the application, the building platforms, and now houses, on these lots are located a minimum of 450m from the milliscreening building. To the east of the site are approximately 77 residential houses on Pikarere and Moki Streets. The application states that these houses are a minimum of 500m from site.

Figure 1 - Aerial of Porirua WWTP Site

2.1.3 A description of the existing environment can be found in full within Sections 2 and 3 of the Applicant's AEE.

2.2 Environmental Characteristics

Physical Character and Values of the Coastline

2.2.1 Porirua's open coast includes a large area of exposed, rocky shore and shallow subtidal reef habitat with high biodiversity of animals and Plants. The marine habitats in the area are of moderate to high ecological value, and generally in good condition, consistent with the non-intensive use of land in the contributing catchment. A submerged isthmus known

as 'The Bridge' is located 500 m to the west of the outfall. The Bridge is an area of shallower sea, with a rock floor covered in places by patches of small stones, extending between the mainland and Mana Island. The Bridge is designated as an area of important conservation value in the GWRC's Regional Coastal Plan ("RCP") for its marine flora and fauna of national significance and as a significant geological feature in the Proposed Natural Resources Plan ("PNRP"). The location of the former Korohiwa whaling station sits directly below the WWTP and adjoins The Bridge.

2.2.2 The stretch of rocky coast, from the outfall to the wastewater Treatment Plant at Rukutane Point to the Tītahi Bay beach, is recognised as a regionally significant geological feature in the PNRP, containing interbedded greywacke and argillite Flysch sequence.

2.2.3 The coastal habitat of Tītahi Bay is a relatively sheltered, crescent shaped beach consisting mainly of sand but with cobbles at its midpoint and rock headland at either end. The margins of the beach include relatively steep dunes with marram grass and flax and there is an artificial seawall at the southern end.

2.2.4 Whitireia Peninsula, north-west of Tītahi Bay, forms the western side of the entrance to Porirua Harbour. The Peninsula is recognised as a site with significant mana whenua values. It is an important archaeological site including a pā, terraces and middens which represent Māori occupation dating up until about the 1840s. Much of the area is now included in Whitireia Park and co-managed by GWRC and Ngāti Toa.

Recreation Use & Values

2.2.5 Within the more immediate receiving environment, Tītahi Bay is a popular surfing site, particularly for beginners, and an important swimming beach, with the Tītahi Bay Surf Lifesaving Club centrally located. The beach and offshore waters experience high levels of use by a diverse local and wider community, for a wide variety of shore and water-based activities.

2.2.6 Several locally significant surf breaks are located south of the discharge, at Tirau Bay and Open Bay. There is a regionally significant[3] surf break (Stevo's), at Wairere – the southern end of Open Bay – approximately 3km by sea from the discharge point.

2.2.7 Most of the coast in the area has easy public access, and almost all has some form of access. Fishing is popular offshore along the Bridge and from many rocky coastal areas.

2.2.8 Pāuatahanui Inlet is popular for various water sports including small boat sailing, swimming, shellfish harvesting, flat water kayaking, waka ama, wind surfing, bird watching and conservation work – particularly at the Pāuatahanui Wildlife Reserve.

Mana Whenua

2.2.9 The Ngāti Toa Rangatira rohe spans a large number of local authorities. Their rohe includes the location of the discharge consents (and the wider receiving environment) and also includes the catchment from which the discharges originate. Importantly, the Ngāti Toa

[3] Proposed Natural Resources Plan, Schedule K

Rangatira rohe does not simply focus on the landward areas within its boundaries, but also includes the waters and resources of Te Moana o Raukawa (Cook Strait). Te Moana o Raukawa is at the heart of the Ngāti Toa Rangatira rohe and forms an integral part of their historical association and political dominance of the Cook Strait region. Table 1 sets out the values and features of the west coast of Porirua scheduled in the PNRP.

Table 1 - Values and Features of the West Coast of Porirua[4]

PNRP Scheduled Features, Locations and Values	
Schedule B: Ngā Taonga Nui a Kiwa – Ngāti Toa Rangatira	
Feature / Location	Te Awarua-o-Porirua (Porirua Harbour including contributing streams)
Values	<u>Ngā Mahi a ngā Tūpuna:</u> At Porirua, Ngāti Toa settlements were located exclusively in the coastal area around the harbour and outer catchment. The natural flows and processes of the harbour are a defining feature of traditional life. <u>Te Mahi Kai:</u> The abundance of natural life historically supported by the harbour provided a wealth of kai moana. This is recorded in numerous historical accounts by Ngāti Toa and early foreign visitors. The streams that feed into the harbour also provided a plentiful supply of freshwater fish, forest foods and rongoā. <u>Te Mana o te Tangata:</u> The abundance of kai moana provided by the harbour is renowned by iwi Māori and recorded in legend. In addition to providing sustenance for Ngāti

[4] Scheduled in the regional Proposed Natural Resources Plan

PNRP Scheduled Features, Locations and Values	
	Toa and guests, kai moana gathered from the harbour was an important commodity for trade and gifts. There are numerous accounts and images to support this. <u>Te Manawaroa o te Wai:</u> Despite excessive land reclamations, modification, and environmental damage the harbour continues to support a variety of endemic wildlife; including endangered species. There is vast potential for environmental restoration and this is a primary objective for Ngāti Toa. The only remaining traditional settlements of Ngāti Toa in the Wellington region are located in the coastal area around the harbour at Takapūwāhia and Hongoeka. Environmental issues continue to have a direct and significant impact on successive generations. <u>Te Mana o Te Wai:</u> A defining feature of Ngāti Toa settlement in the Wellington area and integral to Ngāti Toa identity. Wāhi Mahara: Numerous sites in and around the harbour foreshore bear testament to not only the history of Ngāti Toa, but also the formative history of New Zealand.
Schedule C3: Sites of significance to Ngāti Toa Rangatira.	
Feature / Location	Whitireia
Values	Papa kāinga, kāinga, pā, mahinga kai, taunga ika, wāhi tapu, urupā, Te Ara o Kupe, tohu whenua, wāhi whakarite, mahinga kai, kai moana, mahinga mataitai, mara kai
Schedule E: Sites with significant historic heritage values.	
Feature / Location	Korohiwa Whaling Station
Values	Archaeological site
Schedule F2c: Significant Habitats for indigenous birds in the coastal marine area	
Feature / Location	Mana Island foreshore:
Values	Supports the only breeding population of shore plover in the Wellington region, comprising up to 20% of the global population of this species. Supports little penguins with access to one of less than half a dozen relatively large and secure nesting colonies remaining in the Wellington region. Five threatened or 'at risk' species are known to be regular visitors to this site: shore plover, little penguin, red-billed gull, white fronted tern and pied shag

PNRP Scheduled Features, Locations and Values	
Feature / Location	Onepoto Arm, Porirua Harbour
Values	The Onepoto Arm is one of only a handful of relatively large estuaries in the Wellington region and is therefore a regionally important stop-off site for several migrant shorebird species such as SI pied oystercatcher and bar tailed godwit. At least nine threatened or 'at risk' species are known to be resident or regular visitors to this site: royal spoonbill, pied shag, black shag, SI pied oystercatcher, variable oystercatcher, bar tailed godwit, pied stilt, banded dotterel, red-billed gull and Caspian tern.
Feature / Location	Pāuatahanui Inlet, Porirua Harbour
Values	Pāuatahanui Inlet is one of only a handful of relatively large estuaries in the Wellington region and is therefore a regionally important stop-off site for several migrant shorebird species such as SI pied oystercatcher and bar tailed godwit. At least eleven threatened or 'at risk' species are known to be resident or regular visitors to this site: royal spoonbill, pied shag, black shag, little black shag, SI pied oystercatcher, variable oystercatcher, bar tailed godwit, pied stilt, banded dotterel, redbilled gull and Caspian tern.
Schedule F5: Habitats with significant indigenous biodiversity values in the coastal marine area.	
Feature / Location	Subtidal rocky reefs. Most of the south west coast
Values	Significant indigenous biodiversity
Feature / Location	Giant kelp (Macrosystis pyrifera). Patchy distribution
Values	Significant indigenous biodiversity
Schedule J: Significant geological features in coastal marine area.	
Feature / Location	Mana Bridge, remnant marine terrace drowned in Holocene Postglacial marine transgression.
Values	Regionally significant
Feature / Location	Tītahi Bay Pleistocene aged (last interglacial 120,000-80,000 yr) fossil forest.
Values	Regionally significant
Feature / Location	Whitireia shore platforms; interbedded sandstone and mudstone flysch
Values	Regionally significant

PNRP Scheduled Features, Locations and Values	
Feature / Location	Tītahi Bay Triassic interbedded greywacke and argillite Flysch sequence. Southern side of Tītahi Bay from end of boat sheds to point.
Values	Regionally significant

Ecology

2.2.10 Schedule F5 of the PNRP identifies habitats with significant indigenous biodiversity values in the coastal marine area, several of which are present along Wellington's south-west coastline and are relevant to this assessment. High value habitats present in the area include subtidal rocky reefs and giant kelp (Macrocystis pyrifera). Porirua Harbour is identified in the PNRP as a site of significant marine biodiversity.

2.2.11 The ecology assessment has identified five algae and eight invertebrate species that are classified as Threatened or At Risk and could potentially occur in the receiving environment. Two Threatened and two At Risk sharks could also potentially occur in the outfall location, but in passage rather than as residents. Nine species of marine mammals have been recorded in the coastal area from Cook Strait to Taranaki, including five species classified as Threatened or At Risk. Most species are seasonal migrants. Maui's dolphins, and possibly blue whales, are resident in this region but Maui's dolphins have not been recorded along the Kapiti coastline.

2.2.12 Porirua's western coastline has moderate exposure to winds, wave action and tidal currents which result in it being a dispersive rather than depositional environment. The area surrounding the existing outfall is predominantly bedrock with patches of pebbles and shelly sand, grading to sand-dominated habitat at a distance of 150m from shore. The rocky habitats have an abundant and diverse algal flora and associated invertebrate fauna.

Landscape and Natural Character

2.2.13 The existing outfall is part of a broader landscape that forms Porirua's southern coastal edge between Tītahi Bay and Green Point (Komangarautawhiri), extending towards Makara to the southern boundary of Porirua's south-west coast.

2.2.14 Within the terrestrial part of the coastal environment, there is limited modification along much of the coastal edge with the exception of the outfall and associated structures and the WWTP itself. The area has Special Amenity landscape values due to:

1) High natural science values associated with an intact coastal landform, steep rocky headlands with pockets of regenerating coastal vegetation in the rural gullies and on the rocky cliff escarpments, including at nearby Stuart Park
2) High sensory values derived from the exposure to the high prevailing westerly winds and sunsets which emphasise the dramatic landforms around the coast.

2.2.15 The terrestrial area has an overall moderate-high level of natural character due to the prominent rocky headlands with steep exposed cliffs, exposed to severe gales and salt laden winds with wild and scenic experiential values, vegetation dominated by pasture

with some pockets of regenerating native vegetation, and recognizing the presence of structures such as the tunnel portal, in-ground inspection chamber at ground level and pump station.

3 The Consents Sought

3.1 Consent History and Expiry

3.1.1 Porirua City Council holds three consents related to the wastewater Treatment Plant near Rukutane Point. The consents are for discharge of treated effluent to coastal water; discharge of odour to air; and occupation of the coastal marine area by a short outfall structure.

3.1.2 The coastal discharge consent expired on 6 July 2020. The discharge to air consent expired on 31 May 2020. The coastal occupation consent does not expire until 28 June 2034 and is not a subject of the consent applications.

3.1.3 In advance of the expiry dates for the coastal and air discharges, Wellington Water (acting for Porirua City Council), at the end of 2017 commenced a programme of identifying and assessing alternatives. This programme led, by the end of 2019, to selection of the proposed solution taking into account the concept of "Best Practicable Option" as defined by the Act.

3.1.4 As noted in the GWRC section 42A report, section 124 of the Act provides for a consent holder to continue to operate under an existing consent until a new consent is granted or declined and all appeals are determined. The Applicant applied to exercise that right, and the Council exercised its discretion by confirming that the existing consents could continue to operate until the current application process reaches its conclusion.

3.1.5 Milestones in the process between expiry of the consents and the issuing of our decision are set out below.

3.1.6 The discharge to air consent application was received 27 February 2020. The coastal discharge application was received 6 April 2020. Further information was requested from the Applicant, which was received 30 October 2020.

3.1.7 The period for submissions on the publicly notified consent opened 25 May 2021 and closed on 28 July 2021. In September 2021, the Applicant sought a deferral of the hearing, so that investigations could made into a series of short duration sludge carry over events[5]. The in-person hearing was delayed until 13 June 2022. Between June 2022 and the official close of the hearing process in May 2023, the panel sought and received additional input from the Applicant and submitters.

3.1.8 In our opinion, the time between expiry of the consents in 2020 and the issuing of our decision in 2023 should be a material consideration when setting the consent duration (see

[5] Paragraph 1.7, Outline of Legal Submissions for Wellington Water Limited, 13 June 2022, Dentons Kensington Swan, counsel for Wellington Water Limited

section 30.2 of our decision report). This is especially so, in light of submitter objections to the duration sought by the Applicant.

3.2 Coastal Discharge Consent

Existing consent

3.2.1 The existing coastal discharge consent was granted 6 July 2000 and permits an average discharge flow of 24,000 m^3 per day and a peak discharge of 92,800 m^3 per day. It includes 25 conditions, with substantive limits on the discharge being:

- BOD_5: < 30g/m^3
- Suspended solids: < 30g/m^3
- Faecal coliform bacteria: mean of 1,000 / 100 millilitres
- Specific limits for a range of compounds (primarily heavy metals)
- A 200 metre radius mixing zone from the Rukutane Point outfall

3.2.2 The consent also requires the following actions:

1) Monthly monitoring of enterococci and faecal coliform bacteria at six shoreline locations between Tītahi Bay Beach and Te Korohiwa Rocks.
2) Additional monitoring in the event of a discharge partly or untreated sewage due to Plant malfunction.
3) Quarterly reporting to the regional council.
4) A contingency plan for re-establishing biological activity at the Plant, in the event of plant malfunction.
5) A risk communication strategy to notify all potentially affected persons of the existence and potential health effects of the discharge.
6) Investigation and implementation of ways to minimise infiltration and stormwater ingress into the sewerage system.
7) Establishment of community liaison group.

New consent

3.2.3 The matters sought to be covered by the new consent were set out in the Application documents and Section 7 of the GWRC s42A Officer's report. In summary, those matters were:

1) The proposals seek to achieve a maximum peak daily discharge volume of 129,600 m^3 per day, which equates to the upgraded WWTP peak capacity of 1,500 ℓ/s operating continuously for 24 hours. The proposals intend to achieve a maximum average daily discharge volume of 38,016 m^3 per day, which equates to the projected average flow of 440 ℓ/s occurring continuously for a 24-hour period.
2) The Applicant has undertaken capacity improvements which will allow full secondary treatment and UV disinfection of all inflows to the WWTP. The first improvement was the installation of a Duron UV treatment system which allows disinfection of flows up

to 1,500 ℓ/s. The second improvement was an upgrade of the hydraulic capacity of the piping from the milliscreens to the aeration basin to increase the flow capacity to 1,500 ℓ/s. These improvements were scheduled for completion by the end of June 2023[6].

3.2.4 The wastewater quality modelled by the Applicant for 2018 and 2043 is provided in Table 2 below.

Table 2 - Modelled Treated Wastewater Quality for 2018 and 2043

Parameter	Units	2018				2043			
		Summer		Winter		Summer		Winter	
		Median	90%ile	Median	90%ile	Median	90%ile	Median	90%ile
Flow	m^3/day	26,500	31,800	26,500	31,800	38,200	45,800	38,200	45,800
BOD	mg/ℓ	3.9	4.9	5.15	6.5	6.1	7.8	9.2	15.7
TSS	mg/ℓ	15	18.7	15	18.7	21	24.5	21	24.5
Ammonia	mg/ℓ	1.1	1.7	2.7	6.5	2.75	4.8	13.45	25.8
TN	mg/ℓ	3.1	4.1	6.1	8.7	5.2	7.6	15.7	28.3
TP	mg/ℓ	2.5	2.63	2.5	2.63	2.6	2.67	2.6	2.67

3.2.5 Proposed conditions initially presented at the hearing required the monitoring of treated wastewater prior to discharge, and of coastal receiving water at coastal shoreline sites 200m east and 200m southwest of the outfall, at Titahi Bay Beach, and at a control site. The conditions also required wastewater leaving the Plant to be analysed for total suspended solids, faecal coliforms, enterococci, a viral indicator, nutrients, heavy metals and phenol. Consent limits for a number of those parameters were proposed.

3.2.6 The monitoring of coastal receiving waters was to include the analysis of nutrients and enterococci. The proposed conditions also required that, beyond a 200 metre radius from the discharge point, there could be no:

- Production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material
- Conspicuous change in colour or visual clarity
- Emission of objectionable odour from the discharge to water
- Significant adverse effect on aquatic life

[6] In late May 2023, the Applicant confirmed the work will be fully complete by June 30

3.2.7 The results from the regular monthly monitoring were to be reported to GWRC quarterly. Data from both the wastewater and receiving water monitoring results would then be used to:

1) To determine if the ecology survey needed to be undertaken earlier than the 'default' completion date.
2) Determine if the wastewater quality was deteriorating at the rate anticipated based on the projected population growth and increase in WWTP inflow.
3) Determine if the receiving water was being adversely affected as a result of a reduction in the wastewater quality.
4) Inform a monitoring and technology review.

3.2.8 To define the limits of the proposed discharge and to provide certainty in relation to commitments made in this application, a range of standard consent conditions are proposed. These conditions cover:

1) The location of the discharge.
2) The proposed maximum average daily inflow volumes (38,016 m^3) and peak daily inflow volumes (129,600 m^3).
3) The requirement to continuously monitor the WWTP inflow.
4) The requirement for discharges of partially treated wastewater, which result from inflow to the WWTP exceeding the Plant's capacity, to cease at the commencement date of this consent.
5) Wastewater quality compliance requirements, associated monitoring (consistent with current sampling requirements) and reporting requirements.
6) The requirement to comply with the requirements of section 107 of the RMA.
7) The requirement to maintain signage in the vicinity of the outfall which identifies the risk to public health from contact recreation and the collection of shellfish in the vicinity of the outfall.
8) The preparation and implementation of an Operational Management and Contingency Plan. The objective of the OMCP is to provide a framework for the operation and management of the wastewater Treatment Plant in accordance with good industry practice. Proposed conditions set out the minimum content of the OMCP and that it shall be certified by the Regional Council.
9) The continuation of the Community Liaison Group (CLG) already established under the existing consent, which involves stakeholders in the WWTP and provides an avenue through which these stakeholders can be informed about the operation, maintenance and upgrade of the WWTP and its compliance with the conditions of the resource consent.

3.2.9 Engagement has been undertaken with the local community since 2014, and more recently through a comprehensive public consultation exercise in 2019. A Community Liaison Group (condition 25) will continue to be utilised as a forum for consultation and liaison with the community for the future.

3.2.10 A survey of the biota of the intertidal and shallow-subtidal habitats adjacent to the existing outfall at Rukutane Point, at Round Point to the west of the existing outfall and at a reference location 300m east of the existing outfall. The survey results will be used to assess the effects of the wastewater discharge on the flora and fauna of intertidal and shallow-subtidal habitats, and to identify any changes in community composition or taxa abundance compared with the 2019 survey, including any evidence of eutrophication or toxicity. The 'default' completion date for the ecological survey will be 9 years after the commencement of the consent.

3.2.11 All data collected under the consent's monitoring requirements would inform a review of the monitoring requirements and the WWTP operation and technology. The purposes of the monitoring and technology review are to:

1) Identify the actual adverse environmental effects that are caused by the future WWTP discharge.
2) Identify whether any new technologies or advances in management practices would provide more effective mitigation of the adverse environmental effects.
3) Confirm that the monitoring regime remains appropriate, including whether based on experience elsewhere additional attributes should be monitored.

3.2.12 More specifically, its proposed that the monitoring and technology review would:

1) Have a default completion date of the tenth anniversary of the commencement of the resource consent.
2) Take into account compliance with other resource consent conditions, compliance with relevant national and regional policy, standards or guidelines, the results of receiving water monitoring undertaken under the consent conditions.
3) Set out improvements made to the WWTP since the commencement of the resource consent.
4) Based on receiving water quality monitoring and ecological survey results, summarise the actual adverse effects that are arising from the wastewater discharge.
5) Outline technological options and other methods which may be available to reduce the adverse effects.
6) Assess whether any option or combination of options represents the Best Practicable Option (as defined under the RMA) to prevent or minimise the effects of the discharges.
7) Culminate in a report, the Monitoring and Technology Review Report (MTRR), submitted to GWRC.

3.2.13 A revised set of coastal discharge consent conditions was provided to us by the Applicant and Council. That suite of conditions was prepared, having regard to:

- Evidence and information presented at the hearing
- Matters discussed and agreed by the relevant experts at Joint Witness Conferencing
- Comments provided by submitters on a draft final set of conditions
- Revisions put forward in the Applicant's right of reply

3.2.14 Where necessary, we comment on the revised coastal discharge condition suite in the following sections, and specifically in section 18 of our decision. Attachment 1 contains the final coastal discharge conditions, including as modified by our findings.

Future Design Flows

3.2.15 Through the consent application, PCC sought resource consent for a period of 20 years. Over the consent duration, wastewater flow to the WWTP will increase due to projected population growth in the catchment. The wastewater flows associated with the application are based on a predicted contributing population of 121,000 in the year 2043.[7]

3.2.16 Some submitters questioned the quality of the data used to forecast population growth in the Porirua area and claimed that population forecast numbers are significantly under-estimated. Figures of up 140,000 in 2043, based on the intensification of urban growth, were provided to us by Titahi Bay Residents Association (TBRA).[8]

3.2.17 Evidence for the Applicant[9] notes that the flow rate projection is conservative, as per capita flows are based on data from a wet year. In addition, future flow estimates are a directly proportional extrapolation from the population projections, and therefore likely to be an over-estimation of future wastewater production. The likely over-estimate is because average wastewater production per capita is expected to reduce over time, as more efficient household sanitary fittings are installed, and newer houses and their connecting networks are built with more water-tight wastewater drainage pipes. The updated population modelling has been prepared by an independent expert provider (Sense Partners), analysed for relative allocation to the Porirua wastewater catchment by Stantec NZ Ltd, and reviewed internally by the Wellington Water Land Development Team Leader – Growth Planning.[10]

3.2.18 We find that the future population and flow estimates have been prepared on a sound basis and are appropriate for the purposes of the application.

3.3 Air Discharge Consent

Existing consent

3.3.1 The existing air discharge consent was granted in May 2000. It includes 11 conditions, with the substantive ones being that:

1) There must be no discharges to air, at or beyond the boundary, that are noxious, dangerous offensive or objectionable.

[7] s2.6 Resource consent application and assessment of effects, Wellington Water, April 2020

[8] Point 3 of TBRA submission (submission number 1253)

[9] paras 7.4 &7.5 EIC S. Hutchison

[10] para 15.14 Ibid

2) The Council can require the consent holder to carry out monitoring of airborne pathogens.
3) A complaints record must be kept and incidents notified to the Council.

3.3.2 The conditions of the existing air discharge consent contain no requirements as to the nature or location of the air discharge(s), including no limit on air discharge volume.

New consent

3.3.3 The new consent seeks to continue discharging odour from the wastewater Treatment Plant, without any limits such as volume of discharge, and without any requirement for odour treatment. However, the application proposed new conditions for the consent which in summary include:

1) There must be no discharges to air, at or beyond the boundary, that are noxious, dangerous offensive or objectionable.
2) Aeration basin alarm limits for dissolved oxygen.
3) A complaints record must be kept and incidents notified to the Council.
4) Preparation of an Odour Management Plan (OMP).
5) Establishment of a community liaison group.
6) A communication plan for liaison with residents of the Pikarere Farm subdivision.

3.3.4 A revised set of air discharge consent conditions was provided to us by the Applicant and Council. That suite of conditions was prepared, having regard to:

1) Evidence and information presented at the hearing.
2) Matters discussed and agreed by the odour experts at Joint Witness Conferencing.
3) Comments provided by submitters on a draft final set of conditions.
4) Revisions put forward in the Applicant's right of reply.

3.3.5 Where necessary, we refer to the revised air discharge condition suite in the following sections, but more particularly in sections 21 and 22 our decision. Attachment 2 contains the final air discharge conditions, including as modified by our findings.

4 Regional Consents Required

4.1.1 The Applicant seeks resource consent from GWRC under the decisions version of the PNRP, the Operative Regional Coastal Plan (RCP), and the National Environmental Standards for Freshwater (NES-F).

4.1.2 Under section 15 of the Act, consent (a coastal permit) is required for discharge of a contaminant or water into water. The same section requires consent for the discharge from any industrial or trade premises into air (an air discharge permit). The Act defines industrial or trade premise to include "any premises used for the storage, transfer, treatment, or disposal of waste materials or for other waste-management purposes, or used for composting organic materials". It therefore applies to the wastewater Treatment Plant.

4.1.3 Ms Conland's original s42A report (pages 32 and 33) lists the specific rules which the application is subject to. Those rules are summarised below:

Operative Regional Coastal Plan

Rule 58 (Discretionary) – any discharge of human sewage to the coastal marine area which has not passed through soil or a wetland.

Proposed Natural Resources Plan

Rule R41 (Discretionary) – any discharge of contaminants into air from the storage, conveyance and pumping of wastewater processes where those activities are not enclosed.

5 NES-Freshwater Consent Not Required

5.1.1 The need for consent under the National Environmental Standards for Freshwater (NES-F) was considered at one point during the proceedings. The matter is recorded here for the sake of completeness.

5.1.2 In his verbal presentation at the hearing, Mr Warburton (Submitter 947) referred to the possible presence of a natural wetland in the coastal margin near the Rukutane Point outfall. Mr Peterson, for the Applicant, advised us that the existence of wetland vegetation in that location had not been assessed when preparing the discharge consent application.

5.1.3 Subsequently, via a supplementary statement dated 20 June 2022, Mr Warburton provided further clarification about the location and character of the wetland. His statement raised the possibility that if a wetland was found to be present, consent may be required under regulations of the NES-F.

5.1.4 In response, the panel issued Minute 4 which required the Applicant and GWRC to take actions to confirm the existence of the wetland and to determine the necessary consent process, if any. Expert reports were prepared, which confirmed the existence of a small natural wetland area – partially above and partially below the line of mean high water springs (MHWS).

5.1.5 The expert ecology report[11] described the wetland as: *"a small (2m by 20m linear) saline natural wetland. It is 50% above and 50% below mean high water springs. It is in a gravel and cobble substrate with no evidence of sewage fungi, slimes or sediments. It is around 70m from the outfall pipe and 60m north of the concrete barrier."*

5.1.6 As a result of those investigations, the Applicant concluded that NES-F consent was required. Ms Conland, on behalf of GWRC, agreed that consent as a discretionary activity under regulation 47 of the NES-F was required[12]. A consent application therefore was lodged in mid-November 2022, to which GWRC responded by issuing a request for further

[11] *Titahi Bay Wastewater Treatment Plant Outfall Coastal Vegetation Feature*, Boffa Miskell, 20 August 2022

[12] *Response to Minutes #4 and #12 of the Hearing Panel*, Michelle Conland on behalf of GWRC, 8 November 2022

information, with the expectation that the Applicant's reply would be received by mid-January 2023.

5.1.7 The panel did not see, and had no need to see, that application or the council's further information request.

5.1.8 While the application process was in train, the Ministry for the Environment issued an update to the NES-F. The Applicant concluded that the changes to the NES-F, which was issued on 5 December 2022 and came into effect on 5 January 2023, meant that consent under the NES-F was no longer required.

5.1.9 However, despite the 5 January 2023 amendments to NES-F, the Applicant did not immediately withdraw the wetland application at that time, in case the panel reached a different view. Once the panel's Minute 15 finding had been issued[13], the Applicant indicated that the wetland application would be withdrawn[14].

5.1.10 As a result, the Applicant withdrew its NES-F application. The Joint Witness Statement (JWS) of the Applicant and GWRC planners, dated 23 December 2022, set out the planners' understanding of why NES-F consent was not required. In particular, the planners noted that:

> *"As the discharge from the WWTP outfall does not change the water level range or hydrological function of the wetland (this occurs as a result of tidal movement and wave action not influenced by the discharge), we agree that once the amendments take effect, the application lodged on 14 November will no longer be necessary."*[15]

5.1.11 On 1 January 2023, Mr Warburton (submitter 947) sent a memorandum to GWRC which, among other matters, queried the NES-F conclusions of the Planning JWS. The panel reviewed the issue raised by Mr Warburton and agreed that some definitive legal clarification was required about interpretation of the NES-F. For that reason, we requested that GWRC obtain independent legal advice on our behalf. GWRC engaged legal counsel for that purpose on 25 January 2023.

5.1.12 The legal opinion of DLA Piper was provided to us on 8 February 2023, and uploaded to the application webpage on 9 February. Main findings of the legal opinion, which the panel wholly accepts, is that:

1) Activities are not regulated by the NES-F (post the 5 January amendments) if the water level range or hydrological function of a wetland is not changed, or is not likely to be changed.
2) In the case of the wastewater Treatment Plant, and for the same reason as above, whether or not changes to the discharge are for the purpose of "upgrading" or "operating and maintaining" is not a relevant question. That is, there is no impact on the water level range or hydrological function of the wetland.

[13] 22 February 2023

[14] Para 7.2(c), Legal submissions in reply for Wellington Water Limited, 1 March 2023

[15] Paragraph 13, *Joint Statement of Planning Experts*, 23 December 2022

5.1.13 In our Minute 15 (22 February 2023), we noted and accepted the GWRC legal advice.

5.1.14 Mr Warburton, in providing us with his comments on the consent conditions proposed by the Applicant and GWRC, also took the opportunity to comment further on the NES-F issue[16]. The panel carefully considered his views as expressed, but we reject his interpretation in favour of the expert legal opinion provided by DLA Piper. We also especially note and accept the finding of the expert ecology assessment (see para 5.1.5 above) that the wetland shows *"no evidence of sewage fungi, slimes or sediments"*.

5.1.15 Although there is now no application for consent under the NES-F (and none is required), the panel has treated the information obtained as part of the coastal wetland investigation as relevant background material. It has helped us to understand that part of the environment in the vicinity of the outfall.

5.1.16 Mr. Warburton provided photographic evidence that suggested a small wetland near the WWTP outfall was a receptacle of scum and oil/grease films that he believed, likely came from the discharge. He was also concerned that the alignment of MHWS had not been defined in relation to the wetland. The panel reviewed the photographs Mr. Warburton provided and acknowledges his concerns. However, we note that he is not an ecological expert.

5.1.17 Ecological expertise was provided by Wellington Water, who commissioned an assessment of the wetland. [17] In terms of the alignment of MHWS, the assessment states:

> *"While I did not survey at high tide it was apparent to me because of the gradients, the Plants and the debris line of high tide, that the lower 50% or so of the feature is below MHW (where the remuremu and sea primrose are found) and the upper 50% is (I believe) above the normal high tide mark (Oioi and a seedling taupata).*
>
> *Therefore, for a short duration 20-30 minutes (the tide at its fullest) the lower half of the feature is submerged in sea water twice a day."*
>
> And,
>
> *"I consider that half the feature (technically) is within the CMA and half is a natural "inland" wetland therefore technically I assume the NPS FM can apply to half the feature – which ecologically is absurd".*

5.1.18 In relation to effects on the wetland the assessment notes:

> *"The feature has been present for at least the last 20 years and I suggest since at least the 1970's. Prior to around 1989 the discharge was not treated but also the volume was less than today - and so the feature is likely to have been present under a range of "contaminant" concentrations. That process has not removed or caused any obvious vegetation quality issue. The terrain does not suggest that the feature should be greater in extent and is not because of any issue."*
>
> and concludes,

[16] *Comment on Conditions Recommended by Contractors Engaged by GWRC and PCC*, 14 February 2023

[17] *Titahi Bay Wastewater Treatment Plant outfall coastal vegetation feature*, report by Vaughan Keesing, Boffa Miskell, August 2022

"There will, however, be no adverse effects because of the treated wastewater discharge".

6 Hearing Processes

6.1 Consultation

6.1.1 The Applicant's AEE noted that engagement with the general public on issues related to the proposal had been undertaken through the review of the Porirua Harbour and Catchment Strategy (2019), Community Perception Survey, (2014) and the Community Satisfaction Survey (2019). In addition, in November 2018, Wellington Water released a media statement announcing plans to upgrade the Porirua wastewater system and sought feedback from the community. A dedicated website was established which outlined key project details, provided background documents, FAQs, news items and contact details for those wanting to provide their views or find out more.

6.1.2 A series of meetings were held with community groups from April through to September 2019. The meetings were followed up by widely publicised public open days during November of that year. The application included (Table 7.1) a summary of feedback received during the open days. Also in November 2019, site visits of the Treatment Plant were provided – an offer which was taken up by about 40 people.

6.1.3 The Applicant notified and sought the views of Te Rūnanga o Toa Rangatira (Ngāti Toa Rangatira), being the sole iwi exercising kaitiakitanga within the area affected by the Treatment Plant consents. Ngāti Toa Rangtira is also a mandated authority for fisheries and has applied for recognition of customary marine title in the area under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACA). The outcome of consultation with Ngāti Toa Rangatira is discussed further in Section 8 of our decision. Ngāti Toa Rangatira prepared a Cultural Impact Assessment (CIA) in relation the consent applications.

6.1.4 Wellington Water and GWRC established a project collaborative group to ensure Ngāti Toa Rangtira and key stakeholders had input to the alternatives assessment process that preceded the project. The collaborative group included: Wellington Water; Greater Wellington Regional Council; Porirua City Council; Wellington City Council; Ngāti Toa Rangatira; Regional Public Health; Porirua Harbour Trust; Te Awarua o Porirua Whaitua Committee. Section 7 of the application describes stakeholder engagement – including in relation to both the collaborative group and wider public consultation processes.

6.2 Public Notification and Submissions

6.2.1 The application was publicly notified in the Kapi Mana News on Tuesday 25 May 2021, and the Dominion Post and Independent Herald on Wednesday 26 May 2021. In addition, four signs were installed at the site of the Treatment Plant and Tītahi Bay Beach and notice of the application was served on a number of affected or interested parties.

6.2.2 Originally the submission period was to close on 30 June 2021. Following requests, the Applicant sought that the submission period be extended to allow additional time for mana whenua, members of the public and other parties to review the application documents prior to making a submission. This request to extend the submission period

was granted under s37A by GWRC Environmental Regulation for a further 20 working days to 28 July 2021.

6.2.3 A total of 1371 submissions were received. Eleven submissions were received in support or conditional support of the proposal, 1351 submissions were received in opposition and five neutral submissions were received. Four submissions did not indicate whether they supported or opposed the application, although of those, three indicated that the decision they sought was to decline the application.

6.2.4 The submissions identified a range of potential effects arising from the application which we have considered, at various places in our report, when making our findings. Those effects are:

- Effects on coastal water quality
- Effects on the marine receiving environment
- Effects of partially treated wastewater or bypass discharges
- Effects on cultural values
- Air quality effects

6.3 Commissioners' Minutes

6.3.1 We issued 17 Minutes, as follows:

- Minute 1 (20 May 2022) was a standard Minute regarding the exchange of evidence and hearing procedures.
- Minute 2 (27 May 2022) provided an extension of time for the lodging of Dr Northcott's evidence (due to Covid). We also invited submitters to provide a supplementary response to Dr Northcott's evidence (once received) either before or at the hearing.
- Minute 3 (21 June 2022) directed expert conferencing on matters related to Ecology, Public Health, and Odour. In particular we asked the experts to address:
  - the management and ecological effects of ammonia-N.
  - matters related to the performance of hydrodynamic modelling and its influence on QRMA (quantitative microbial risk assessment).
  - the nature and staging of odour management.
- Minute 4 (23 June 2022) accepted a supplementary statement provided by submitter Mr Warburton. Arising from that statement, we required the Applicant and GWRC to investigate the existence of a possible coastal wetland, advise us of its legal status, and advise on any consent implications.
- Minute 5 (28 June 2022) requested further information from the Applicant in relation to a number of matters, including:
  - Operational matters which may contribute to poor performance, such as unintentional sludge blanket overflows from the wastewater Treatment Plant. This includes information related to:
    - A surface plume incident in January 2022

    - Backup power supply at the Treatment Plant
    - Recording and measurement of UV transmissivity
    - Recording of treated wastewater turbidity prior to discharge
  - Actions related to recommendations arising from various reports, including:
    - October 2021 Stantec Clarifier Investigation report
    - November 2021 Stantec Solids Stream Upgrade report
    - December 2021 Frost and Jaduram independent review report
  - A request for the Applicant to propose a condition providing for an independent reviewer role in relation to monitoring and reviewing Plant performance.

- Minute 6 (28 June 2022) responded to correspondence from three submitters:
  - Pikarere Farm – requesting an opportunity to respond to the Joint Witness Statement of the air quality experts. We declined to provide that opportunity but noted that all parties to the hearing would have the opportunity to comment on a draft final set of consent conditions.
  - Tītahi Bay Residents Association and Your Bay Your Say – both submitters provided supplementary information. We accepted the information as it provided further clarification of matters covered by the submitters at the in-person hearing.
- Minute 7 (20 July 2022) corrected an administrative error on GWRC's "Have Your Say" webpage.
- Minute 8 (22 August 2022) responded to matters raised by submitter Mr Warburton. Those matters were:
  - A request that submitters should be involve in addressing the matters covered by Minute 4 (coastal wetland). We declined that request as Minute 4 was a specific direction to the Applicant and GWRC only.
  - Advice from Mr Warburton about other (non-WWTP) discharges via the Rukutane Point outfall. We directed the Applicant and GWRC to review Mr Warburton's assertions and provide us with their response.
  - Advice from Mr Warburton about the likely location of MHWS. We noted that his advice would be taken into account when making decisions about outcomes from the coastal wetland identification we required via Minute 4.
  - Advice from Mr Warburton about a complaint he lodged with the Ombudsman's office about the landward boundary of the coastal marine area, which we noted.
- Minute 9 (23 August 2022) responding to outcomes arising from Joint Witness conferencing on dispersion modelling, and QRMA. We had directed conferencing on those matters via Minute 3. In their JWS, the dispersion modelling experts noted remaining areas of disagreement and set out two options for moving forward. In our Minute we stated no preference for either option but directed that they pursue one or other. We also noted that rerunning of the dispersion modelling, by whatever method chosen, would then also require the QRMA to be reviewed.

- Minute 10 (19 September 2022) alerted all parties to a situation that could potentially be perceived as a conflict of interest, involving the Chair and Dr Claire Conwell (acting for GWRC), whereby Dr Conwell's employer SLR had acquired Commissioner Ashby's employer (4Sight Consulting). The Minute advised the circumstances and the measures to be taken to avoid conflict of interest.
- Minute 11 (12 October 2022) addressed matters of information provision, timetabling and process. It also responded to a statement provided by submitter Mr Warburton with regard to other Rukutane Point discharges not flowing from the wastewater Treatment Plant.
- Minute 12 (20 October 2022) related to the coastal wetland issue covered by Minutes 4 and 11. It noted that the Applicant's assessment of the wetland had been provided, with the conclusion that consent was required in terms of the NES-F.
- Minute 13 (21 November 2022) related to the JWS on Dispersion Modelling which had been received from the experts representing the Applicant. GWRC, and submitter Your Bay Your Say. The Minute also noted that the Applicant had now lodged an application for NES-F consent in relation to the coastal wetland, and that the overall process of considering the wastewater Plant discharge application would wait for the wetland consent process to 'catch up' so that all matters could be decided together.
- Minute 14 (27 January 2023) advised all parties that the deadline for submitter comments on the consent conditions proposed by the Applicant and GWRC planners had been extended to 17 February (advance notice of this had already been provided to all parties via email and the application webpage). We also noted a memorandum received from submitter Mr Warburton, in relation to the coastal wetland and a possible for need for consent under the NES-F. The NES-F had been recently amendment by government and, to assist our interpretation of it, we advised that the panel had sought independent legal advice.
- Minute 15 (22 February 2023) noted the receipt of comments from submitters on the consent conditions proposed by GWRC and the Applicant, and advised of our determination (based on legal advice) that no consent was required under the NES-F in relation to a coastal wetland. We also advised of the expected dates for the Applicant's written right of reply, and release of the panel's decision report.
- Minute 16 (14 April 2023) related to the advice sought and received on a proposed UV transmissivity condition and the opportunity for other parties to comment on the proposed condition.
- Minute 17 (9 May 2023) advised the receipt of the Applicant's right of reply (closing legal submissions), receipt of the Applicant's condition advice and submitter comments on UVT conditions and of the official close of the hearing and date for the release of the panel's decision report.

6.4 Issue of Decision and Extension of Time

6.4.1 As noted above, the panel formally closed the hearing on 9 May 2023. We indicated that the decision report would be issued on Tuesday 30 May, being 15 working days after close of the hearing.

6.4.2 However, due to prior panel commitments and the complexity of the decision, we decided to seek an extension to that timeframe. Under section 37A(4) of the Act, the Applicant agreed to an extension of the timeframe, not exceeding double the 15 working days allowed. In other words, our decision was to be delivered on or before Wednesday 21 June 2023.

6.4.3 Our decision report was released after review by GWRC. The review by GWRC was for the purposes of familiarisation with the report, or correcting technical or factual errors – not for the purpose of requesting amendments.

7 Hearing Overview

7.1 Hearing Schedule

7.1.1 The hearing was held over four days (13 – 16 June 2022) in the council chamber at Porirua City. The hearing was formally closed on 9 May 2023 via Minute 17 after we received and considered all further information requested via other Minutes, as well as the Applicant's formal right of reply and feedback on proposed consent conditions.

7.2 Appearances

7.2.1 We record the following appearances on behalf of the various parties.

For the Applicant	**Expertise / Employer**
▪ David Cameron	▪ Water Quality and Ecology / Stantec
▪ Emma Newcombe	▪ Ecology Surveys / Cawthron Institute
▪ James McKibbin	▪ Network Management / Wellington Water Ltd.
▪ Jessica Daly	▪ Wastewater Treatment Plant Processing Modelling / Beca
▪ John Oldman	▪ Dispersion Modelling / DHI Water and Environment
▪ Peter Loughran	▪ Public Health Effects / Stantec
▪ Peter Stacey	▪ Air Discharge Effects (Odour) / Air Quality Consulting NZ
▪ Richard Peterson	▪ Planning / Stantec
▪ Robert Greenaway	▪ Recreation / R&R Consulting (NZ)
▪ Ron Haverland	▪ Wastewater Treatment Plant Process / Beca
▪ Stephen Hutchison	▪ Project Overview and the Wastewater Network / Wellington Water Ltd.
▪ Grant Northcott	▪ Emerging Contaminants / Northcott Research Consultants
For Greater Wellington Regional Council	**Expertise / Employer**
▪ Claire Conwell	▪ Water Quality / SLR Consulting NZ
▪ Deborah Ryan	▪ Air Quality / Pattle Delamore Partners
▪ Stephen Dougal Greer	▪ Coastal Scientist / eCoast
▪ Michelle Conland	▪ Resource Advisor / independent consultant
▪ Peter Cressey	▪ Science Leader / Institute of Environmental Science and Research

For Submitters	Position
▪ Michelle Warshawksy ▪ Graeme Ebbett	▪ Tītahi Bay Residents' Association
▪ Michelle Warshawksy ▪ Marie Wright	▪ Your Bay Your Say (YBYS)
▪ Remy Zyngfogel	▪ Oceanographer / Calypso Science Ltd., representing Your Bay, Your Say
▪ Jim Mikoz	▪ Wellington Recreational Marine Fishers Association
▪ James King	▪ Tītahi Bay Surf Riders
▪ Jill McKenzie	▪ Medical Officer of Health / Regional Public Health
▪ Onur Oktem Lewis ▪ Naomi Soloman	▪ Te Rūnanga o Toa Rangatira
▪ Dan Stevenson	▪ Pikarere Farm Limited
▪ Paula Birnie	▪ Local Resident
▪ Brian Warburton	▪ Local Resident

7.2.2 We heard from the Applicant and their expert witnesses on the first and second days of the hearing. We heard from submitters on the second and third days of the hearing.

7.2.3 On the third (final) day of the hearing, we also heard from the Council Reporting Officer and the council's supporting expert witnesses.

7.3 Evidence and Statements

7.3.1 The evidence of experts, and matters referred to in statements of other parties, is referred to or has otherwise been had regard to in the conclusions and findings of the panel. All written evidence and statements were uploaded to GWRC's application webpage.

7.3.2 We record here that some facts highly relevant to our understanding of the operation and effects of the wastewater Treatment Plant only became apparent to the panel via the determined input of submitters. In particular, information about the nature and extent of historical and ongoing non-compliance. Some of those facts will have been known to various expert witnesses and should therefore have been presented to us through their evidence.

8 Mana Whenua

8.1.1 We consider it important to record and highlight issues relevant to mana whenua. This is not required to resolve issues, but to explain that the discharges are located within a coastal environment that is highly significant to mana whenua as detailed in the CIA which formed part of the Application. At section 22 of the decision report we have also addressed effects on mana whenua interests in the context of cross-consent (coastal and air discharge) issues.

8.1.2 Ngāti Toa Rangatira are mana whenua and exercise kaitiakitanga within the area affected by the discharges.

8.1.3 Ngāti Toa Rangatira descend from the Tainui waka which made landfall at Kawhia on the West Coast of the North Island in around 1350. Ngāti Toa Rangatira remained domiciled there for centuries before migrating to Te Moana o Raukawa (Cook Strait) in the early 1820s. The Ngāti Toa Rangatira area of interest spans Te Moana o Raukawa, the lower

North Island from Rangitīkei in the north (including Kāpiti Coast, Hutt Valley and Wellington and Kāpiti and Mana Islands), large areas of the Marlborough Sounds and much of the northern part of the South Island. The traditional interests and associations of Ngāti Toa Rangatira include Te Whanganui-a-Tara, as has been formally acknowledged by the Crown in Treaty settlement legislation.

8.1.4 Ngāti Toa Rangatira cultural interests and associations with the area have been formally recognised in their own separate Deed of Settlement set out in the Ngāti Toa Rangatira Claims Settlement Act 2014.

Cultural Impact Assessment

8.1.5 The Applicant has provided (as part of the Application) a CIA, prepared by Ms Miria Pomare, on behalf of Ngāti Toa Rangatira. The major concerns associated with the WWTP construction and operation, cited by the CIA are:

The Existing Outfall

1) Continued interference with mauri in the coastal environment due to the presence of the outfall structure. This disrupts the traditional relationship of Ngāti Toa Rangatira with the area and continues to undermine the ability of whanau to maintain customary fishing and other practices.
2) The establishment of the WWTP and outfall at Rukutane Point has compounded issues as Ngāti Toa Rangatira is no longer able to access mahinga kai and kaimoana along the full extent of the coastline, as they had been able to do in the past. The loss of this resource for customary fishing and gathering of coastal resources is significant for Ngāti Toa Rangatira as it had always been maintained as a very productive mahinga kai and was easily accessible from the coast.
3) The effect of the outfall over the last 30 years in terms of restricting the access and customary use of resources by Ngāti Toa Rangatira has effectively alienated a whole generation of their people from this particular part of the coastal environment. Consequently, the ability of Ngāti Toa Rangatira to sustain the quality of their traditional relationship with the area and thereby ensure intergenerational knowledge transfer has been significantly undermined.
4) Unable to fulfil their kaitiakitanga responsibilities which is critical in the maintenance and enhancement of the environment's mauri.

Effects of the Discharge

5) In the immediate vicinity of the outfall, Ngāti Toa Rangatira are clearly inhibited from exercising their customary fishing rights and traditional practices. Ngāti Toa Rangatira divers have had to adapt to the presence of the discharge over the years by adopting the tikanga of avoiding the outfall area for shellfish gathering.
6) The inaccessibility of the outfall area for customary purposes over the last 30 years has continued to undermine the traditional relationship of Ngāti Toa Rangatira with the area and has prevented opportunities for maintaining and improving customary use of the coastal marine environment.

7) The most significant impacts of the discharge from a tikanga Māori perspective, however, relate to the deep cultural and spiritual aversion of direct discharges of human waste (via wastewater) to natural water, regardless of the level of treatment. The discharge of human waste into waterways, the estuary and sea over the years has caused great concern to Ngāti Toa Rangatira for cultural, environmental and public health reasons.

8) Although the Porirua WWTP has led to improvements in local sewage disposal, the cultural and spiritual aversion to mixing human waste with water has never been addressed and has instead continued to be exacerbated over the years by the discharge of increasing volumes of wastewater to the sea.

9) Ngāti Toa Rangatira remains fundamentally opposed to the practice of disposing human waste to water as this is an affront to tikanga Māori which requires the filtration of human waste through land (to remove the 'tapu') before it can be discharged to water. 'Tapu' was a powerful concept in traditional Māori society and its application to human waste was intended to protect people from potential health risks. This traditional concept has been carried through into the contemporary world and, for Ngāti Toa Rangatira , the tikanga of 'no discharge to water' continues to set the benchmark for addressing contemporary wastewater issues.

8.1.6 The CIA states that the subsequent effects of the outfall and discharge will further inhibit the ability of Ngāti Toa Rangatira to fulfil their kaitiakitanga responsibilities in relation to the coastline, and effectively undermines their responsibility to maintain and enhance the mauri of the coastal marine environment. Ngāti Toa Rangatira consider that their cultural values are adversely affected by the existing discharge and outfall structure, and the proposed operation of the WWTP for an additional 20 years will potentially exacerbate existing effects, to the extent that they become significantly worse throughout the duration of the WWTP's operation.

Collaborative Group

8.1.7 The Applicant set up a Collaborative Group in late 2017 during the alternatives assessment process. This Collaborative Group consisted of Porirua City Council, Wellington Water Ltd, Te Rūnanga o Toa Rangatira and key stakeholders to provide a mechanism for these groups to actively participate in the alternatives assessment.

8.1.8 Key aspects of the alternatives assessment and the role of the Collaborative Group included:

1) Support provided to the group by a technical team with a wide range of expertise.

2) The alternatives assessment began with a wide range of options for the WWTP including a full range of receiving environments for the discharge (e.g. land, marine water, groundwater and surface freshwater).

3) The assessment of integrated network and Treatment Plant options, which enabled system wide implications, environmental effects and costs to be considered.

4) Maintaining a detailed and transparent record of the considerations undertaken and decisions made.

The Ngāti Toa Rangatira Submissions

8.1.9 The written Ngāti Toa Rangatira submission was expressed as a neutral position. The iwi acknowledged that the 20-year duration sought by the Applicant is less than the potential 35 years allowed by the Act while still providing some permanence to continued operation of the Treatment Plant. Notwithstanding that position, Ngāti Toa Rangatira noted a preference that the resource consent duration is kept to a 'reasonable' period. The submission noted a number of factors driving that position, and in particular stated that *"the resource consent will need to be agile enough to reflect and cover the future operating environment and at the very least reviewed in light of the reform[18] (i.e., once implemented) to ensure consistency".*

8.1.10 At the hearing, Ms Naomi Soloman (Pou Toa Matarau) and Ms Onur Oktem Lewis (Principal Resource Management Advisor) spoke on behalf of Te Rūnanga o Toa Rangatira.

8.1.11 They spoke of their role as kaitiaki which instils a reciprocal obligation to nurture and protect the environment and to ensure that it can sustain future generations. Ms Soloman spoke of the opposition to the WWTP thirty years ago and noted that their concerns remain the same today as they were then. She reiterated that they are working on a whole network approach, not just the discharge point at Rukutane Point, to assist in achieving their goals.

8.1.12 Ms Soloman also acknowledged that the way wastewater is treated in Aotearoa and the resource management system fails to address ongoing breaches of their tikanga caused by the cultural and spiritual abhorrence of disposing of human waste to their Moana. She had ongoing concerns as to whether life-supporting capacity or mauri of the receiving environment will be safeguarded through the renewal of consents, and whether the traditional relationship of Ngāti Toa Rangatira with their taonga will be provided for given the potential adverse effects on intergenerational transmission of cultural knowledge.

8.1.13 Ms Soloman noted that they support in part the conditions that were developed together with Wellington Water and were attached to the Application. These conditions arise out of the recommendations of the CIA and ensure that iwi can partake in the process and are aware of the operational aspects of the Plant. The reason they support in part is that whilst these conditions will help support and produce good practice and behaviour in the operation of the Plant, they are not fully sure that they will be effective, nor are they guaranteed to be implemented, nor will they address the iwi's fundamental concern of ensuring that the Moana is safe. However, they noted their intention to continue working with the Applicant in good faith, seeking proactive and innovative solutions in the ways that wastewater is managed.

[18] We assume this to include both resource management reform and any future legislative and administrative shape that 'three waters' management might take

8.1.14 We consider that the following quote from CIA is a succinct summary of the Ngāti Toa Rangatira position:[19]

> *It is clear that the mauri of the receiving environment is not being adequately protected, in a spiritual sense, from the desecration of human waste discharges; this is contrary to tikanga Māori and RMA obligations of active protection. Nevertheless, it is recognised that WWL has acted in good faith and has made efforts to become better informed in its decision making, and where Te Ao Māori can be integrated into future decision making. This goes some way towards achieving the reciprocity of partnership envisaged by the Treaty. The continued operation of the WWTP will not introduce any new grievances, but nor does not extinguish any historical grievances.*

8.1.15 In later commentary on the proposed conditions[20], provided after the in-person hearing, Ms Soloman reasserted Ngāti Toa Rangatira concerns regarding the consent duration. She felt that if the iwi agrees to the consent, it means they are 'ok' for wastewater to continue to be discharged to their moana for another 20 years. For this reason, they support a shorter timeframe.

9 Other Submissions from the Community

9.1.1 We note here a "collective submission" received 5 May 2023, in response to the proposed wording of conditions related to UV transmissivity and monitoring. The submission was from Paula Birnie, Hadley Bond, Marie Wright, Graeme Ebbett, Brian Warburton, Your Bay Your Say, Titahi Bay Surf Riders, Michelle Warshawsky, and Titahi Bay Residents Association.

Your Bay Your Say – Submission 1157

9.1.2 Your Bay Your Say (YBYS) lodged Submission 1157. At the hearing, we heard from YBYS via Marie Wright and Michelle Warshawsky who also lodged personal submissions (128 and 1266). Ms Wright and Ms Warshawsky delivered 1,276 submissions opposing or otherwise expressing concern about the re-consenting. YBYS also engaged an expert oceanographer, Mr Remy Zyngfogel. Mr Zyngfogel has specialist expertise in the analytical and numerical modelling of oceanic and coastal processes. We have taken account of and addressed Mr Zyngfogel's expert evidence at other places in our decision.

9.1.3 YBYS is a community group representing many residents and others concerned about the wastewater Treatment Plant and the re-consenting process. At the hearing, Ms Wright and Ms Warshawsky provided us with a comprehensive slide-based presentation of YBYS's views.

9.1.4 As was made clear in one of the YBYS presentation slides[21], their purpose in organising YBYS and responding to the application was that: *We wanted better transparency and*

[19] Page 22, Cultural Impact Assessment for the continued operation of the Porirua Wastewater Treatment Plant & Outfall, Te Rūnanga o Toa Rangatira, November 2019

[20] In response to the panel's Minutes 11 and 14 invitations to submitters to comment on conditions

[21] Slide 14, presentation the hearing panel by Marie Wright and Michell Warshawsky, on behalf of Your Bay Your Say

awareness for the upcoming re-consent process and we wanted accountability for the contamination of our beautiful bay, which was frequently polluted with dry and wet weather events that we see and smell.

9.1.5 YBYS broadly opposed the application and sought that consent either be declined, or that it be granted with a term of no more than 5 years and be contingent on a major redesign to address past and ongoing failures in wastewater treatment. They are strongly of the view that the Best Practicable Option identified and sought to be consented by the Applicant, is unacceptable, as it prioritises affordability over the health and well-being of communities, mana whenua values, and the environment. YBYS promoted the idea of the discharge outfall being moved to another, deeper, location further from the shore.

9.1.6 YBYS also provided us with information after the in-person hearing. This included:

- Population information in and attached to an email dated 23 June 2022
- Response to the proposed UVT condition (plus background information)
- Response to the suites of conditions recommended by GWRC and the Applicant
- Documents related to incidents and compliance

Titahi Bay Residents Association – Submissions 1253 and 1302

9.1.7 The Titahi Bay Residents Association (TBRA) lodged Submissions 1253 and 1302. TBRA also lodged Submission 1267 jointly with YBYS. Graeme Ebbett and Michelle Laurenson / Warshawsky participated in the presentation made by TBRA.

9.1.8 Submission 1253 outlined the same or similar concerns as Submission 1157 from YBYS. Mr Ebbett, Chair of the TBRA, spoke to Submission 1302 at the hearing – including a focus on matters related to wastewater Treatment Plant process capability and control. Mr Ebbett has a professional history related to instrumentation and control, although he chose not to speak in an expert witness capacity. Regardless, the panel acknowledges and appreciates his experience.

9.1.9 Mr Ebbett stressed that the consent conditions should aim for avoidance rather than mitigation, and one of the main contentions of TBRA[22] is *that measures offered to avoid, remedy or mitigate are insufficient … Avoiding is foremost …*

9.1.10 Mr Ebbett stated TBRA's primary contention as being the ongoing failure of the wastewater Treatment Plant to give effect to Policy 32(2) of the NZ Coastal Policy Statement (NZCPS). That is:

> *… in managing discharge of human sewage, do not allow:*
>
> *(a) discharge of human sewage directly to water in the coastal environment without treatment.*

9.1.11 TBRA's submission asked that the wastewater Treatment Plant be upgraded and operated on a risk avoidance approach. This would include providing enough storage on site, such that it would act as a buffer to contain 4 – 13 hours of peak to average flows. In addition,

[22] Paragraph 25, TBRA Hearing Notes, tabled at hearing

TBRA advocated for the Plant to move from manual operation to automated 'fail safe' operation. In advocating for greater automation of the Plant, Mr Ebbett referred us to the reported findings of Environment Court Judge Dwyer[23], in relation to a successful prosecution of Wellington Water for illegal discharge from the Plant in October 2018. In that instance, a "multiplicity of errors", including staff responses, had contributed to the overflow.

9.1.12 TBRA also provided the panel with a supplementary statement dated 23 June 2022. The statement (and appendices) expanded on and provided further explanation of some of the matters raised in TBRA's submission and touched at the in-person hearing. In comments on proposed conditions, TBRA sought that the consent be limited to 5 years.

Wellington Recreational Marine Fishers Association – Submission 1315

9.1.13 The Wellington Recreational Marine Fishers' Association (RMFA) lodged submission 1315. RMFA was represented at the hearing by its President, Mr Jim Mikoz.

9.1.14 RMFA sought that the application to continue discharging from the Rukutane Point outfall be declined. The submission noted the Association's support for discharge from an alternative location. However, relocation of the outfall is not part of the consent application and outside the scope of our decision making authority.

9.1.15 The RMFA submission, and the in-person presentation by Mr Mikoz, provided comment on a wide range of matters. In brief summary those matters included (but are not limited to) concerns about environmental knowledge and the quality of assessment undertaken; sampling, monitoring and modelling; specific contaminants; communication with the community; and the NZCPS.

Titahi Bay Surfriders – Submission 1338

9.1.16 Titahi Bay Surfriders (TBS), which we were told has over 1,000 members[24], was represented by Mr James King. The TBS submission focussed on the impact of the wastewater discharge on amenity / health for surfers and other recreational users of the coastal water. Mr King noted adverse effects arising from what he assumed was some form of odour suppressant added to the discharge. He also noted issues related to public health risk communication.

9.1.17 The TBS submission noted its support for the submissions of Ngāti Toa Rangatira, YBYS, TBRA, and Regional Public Health. TBS sought a consent duration of 10 years, with a significant review after 5 years.

Paula Birnie – Submission 550

9.1.18 Ms Paula Birnie lodged a personal submission and also appeared at the hearing. Ms Birnie is a past member of the Titahi Bay Community Trust which is no longer in operation. Her

[23] Appendix A of TBRA Hearing Notes, tabled at the hearing

[24] On its Facebook page

submission noted past and ongoing issues with Treatment Plant performance, expressed doubts about the Applicant's ability to deliver on upgrades, and also doubted the effectiveness of the proposed upgrades. Ms Birnie also provided us with supplementary information dated 3 August 2022.

9.1.19 Ms Birnie called for greater transparency around roles, responsibilities and accountability. In particular, she sought that the information be made public via a website, noting that it may help to improve a history of mistrust between residents and the Applicant.

Pikarere Farm – Submission 1395

9.1.20 Mr Dan Stevenson, a director and shareholder of Pikarere Farm Limited (PFL), is a longstanding resident of Titahi Bay. He lodged submission 1395 on behalf of PFL and also lodged a personal submission 1363. At the hearing, Mr Stevenson was supported by Mr Bernon[25] – a resident of the Pikarere Farm subdivision – with respect to his personal experiences of sometimes significant odour issues.

9.1.21 Mr Stevenson provided us with detailed comments on the air discharge consent application, supported by an appendix of information including relevant technical reports prepared by third parties. The PFL submission also included a useful timeline of air discharge volume / rate, and how the discharge has increased over specific periods.

9.1.22 The PFL submission, supported, by Mr Bernon's personal observations, is that the discharge odour is discernible, offensive and objectionable at and beyond the boundary of the site. The submission stated that the Plant's vent, at the foot of gullies leading up to the farm and subdivision, is the likely odour source.

9.1.23 The PFL submission sought conditions that are substantive and that enable appropriate enforcement, including in relation to:

1) A definition of the odour as being offensive and objectionable regardless of the nature or extent.
2) An online up to date complaints record being maintained.
3) A detailed Odour Management Plan (OMP) with costings for odour management and Plant, that is submitted prior to any decision being made.

Mr Warburton – Submission 947

9.1.24 Mr Brian Warburton is a resident of Titahi Bay. At the hearing, he provided us with a written statement dated 2 June 2022.

9.1.25 In response to the panel's invitation[26] for comment on the evidence of Dr Northcott, Mr Warburton provided a supplementary statement dated 9 June 2022. He provided a statement on pumpstation overflow at Rukutane Point (dated 29 September 2022), and

[25] Mr Bernon did not submit on the notified application

[26] See section 6.3.1 above, in relation to Minute 2

also a statement of comments on the conditions recommended by GWRC and the Applicant (14 February 2023).

9.1.26 In his original submission, and in the hearing statement, Mr Warburton concluded that:

> *"Because the proposal for which consents are sought will create adverse effects on marine biodiversity and is not an activity endorsed by section 6 of the RMA, nor by the provisions of the relevant regional plans, nor by the NZ Coastal Policy Statement, the application for consents to the proposal must be declined."*

9.1.27 He also drew our attention to the potential existence of a natural wetland, located east of the Rukutane Point outfall, and the possibility that consent may be required under the NES-F for effects of the coastal discharge on that wetland. Mr Warburton expanded on that possibility via a supplementary statement dated 20 June 2022. That led to the panel issuing Minute 4, through which we required the Applicant and GWRC to respond to the matters raised by Mr Warburton. The wetland matter, and the outcome, are detailed in section 5 of our decision report.

Regional Public Health – Submission 1362

9.1.28 Regional Public Health (RPH), represented by Dr Jill McKenzie at the hearing, lodged a neutral submission. RPH submitted to ensure health risks are considered and noted that minimising the impact of wastewater discharges is critical for good health. RPH also acknowledged the existence of 'indirect' effects – including a sense of loss around how polluted water is perceived.

9.1.29 RPH supported the mitigation of public health risks from occasional Plant overflows through:

- An Operational Management Plan that includes contingency plans in the event of Plant malfunction.
- Review of the Treatment Plant technology and monitoring programme within 10 years of issue of resource consent.
- Further improvement to the Treatment Plant during the term of the consent.
- A robust and effective public health risk communication plan regarding overflows.

9.1.30 With respect to odour, RPH wish to see consent conditions requiring implementation of an Odour Management Plan (OMP) including a complaints register, source identification and investigation procedure.

9.1.31 RPH considers that public health risk can be adequately managed if the standard of treatment of at least 3-log virus concentration reduction is maintained at the Treatment Plant. This is the overall degree of treatment proposed for the wastewater Treatment Plant.

9.1.32 RPH agreed that the upgrade process at the Treatment Plant, supported by planned upgrades in the wider wastewater and stormwater networks, is the Best Practicable Option with the funding currently available.

9.1.33 RPH recommended that that consent conditions should include a requirement for the Applicant to develop and implement a Public Notification Strategy of discharge overflow

events. In addition to direct notification of some parties, the strategy should use a number of different methods for communicating with potentially impacted people.

10 Other Matters

10.1 Environmental Incidents and Enforcement

10.1.1 Much of the following text is adapted from our Minute 11 (12 October 2022) where the panel expressed concern about the extent of historical and ongoing non-compliance. To help address those concerns, our Minute requested the Applicant and GWRC to review aspects of the proposed approach to conditions.

10.1.2 We made those requests because, during the in-person hearing and in subsequent information received, it became clear to the panel that the wastewater Treatment Plant faces ongoing issues related to technology, Plant management, and monitoring of effects.

10.1.3 The Treatment Plant has had an ongoing history of incidents. The panel was concerned that, to a degree, compliance incidents had become 'business as usual' – although we noted and accepted the Applicant's expressed intentions and planning for upgrades.

10.1.4 We were particularly concerned about the history of sludge carryover discharges and other compliance issues, as summarised in GWRC's section 42A report and highlighted by Submitters during the hearing. Measures had been proposed to prevent those from occurring, and as the s42A report noted, enforcement action can be taken in the event of non-compliance. However, as expressed in our Minute, we believe the emphasis should be on proactive preventative measures and proof of their efficacy, rather than reactive measures taken in response to non-compliance events.

10.1.5 The RMA provides GWRC with compliance and enforcement powers. However, these powers are of little use 'after the fact', once adverse environmental effects have occurred, if actions are not taken to avoid or minimise the risk of a repeat incident. In our view, Plant upgrades focused on better environmental outcomes need to be expedited as a matter of urgency. We also note that enforcement action places a significant burden on the Regional Council.

10.1.6 The Applicant sought authorisation of a 'monitor, review, respond' approach and a twenty-year consent duration. There are inherent uncertainties in that approach. As noted in the evidence of Mr Hutchison, changes needed to meet long-term goals for wastewater discharges to water, including key milestones and dates have not yet been identified by Wellington Water. We were told that infrastructure changes, if required, will be identified through the 'Monitoring and Technology Review' proposed via conditions of the resource consent. In response to questioning, it also became clear to us that the process of issue identification, solution design, funding, and then implementation can take many years – during which time the issue remains unmitigated.

10.1.7 To help address the uncertainty and delay around responding to currently known and to future issues, our Minute 11 requested that the Applicant and GWRC work to bring greater rigour to consent conditions for the proposed 'monitor, review, respond' approach. We suggested that, as a minimum, this should include milestone dates for implementing

solutions to known issues. We also said there could be 'contingency conditions' that facilitate an early response to the threatened exceedance of environmental thresholds so that delays (including design, funding, and construction) in solution implementation are short-circuited. For some environmental thresholds, we noted our assumption that early contingent design and pre-procurement steps could be taken so that if monitoring suggests a threshold will be crossed at a future point, then solutions can be implemented before that event occurs.

10.1.8 In light of the matters outlined above, we also requested the Applicant and GWRC planners to consider whether there was a need to amend the length of the proposed consent duration, or to specify stages within the duration, and to specify enforceable actions where stages are not achieved.

10.1.9 In the Planning JWS, the planners responded to those matters, noting their opinion that the 20 year duration sought by the Applicant remained appropriate due to:

- The consent conditions (as proposed at that time) containing sufficient checks and balances
- The regional significance of the WWTP and the value of the consent holder's existing investment

10.1.10 Also in response to Minute 11, the planners recommended strengthening of various review processes already in the consent conditions. The panel accepts that these amendments were useful improvements and they have found their way into the decision conditions. The conclusions of the planners in the JWS were supported by a technical memo[27] and other information, which we have had regard to in reaching our findings.

10.2 Matters Out of Scope

10.2.1 There were matters raised within submissions and in subsequent correspondence that fall outside the ambit of the relevant planning documents and the consents being applied for. These matters included:

1) Biosolids Disposal – The application does not consider effects associated with the landfill disposal of biosolids produced by the Treatment Plant.
2) New Zealand Coastal Policy Statement 2010 – Policy 14 'Restoration of Natural Character'. We consider that this policy is not applicable given that the application does not relate to the consenting of existing or proposed structures.
3) The need to seek consent under the NES-F, in relation to presumed effects on an area of coastal wetland. This matter was investigated and found to not be applicable (see section 5).
4) Relocation of the outfall from Rukutane Point to any other alternative location. Consent for outfall relocation was not sought, and it is therefore not something we can reach a decision on.

[27] Annexure E, Joint Statement of Planning Experts, 23 December 2022

5) Any works required in relation to the wider wastewater network.

10.2.2 We are not able to make any direct decisions based on out-of-scope matters, but some of these matters have usefully informed our wider understanding of the environment and issues.

11 Expert Technical Conferencing

11.1.1 No formal conferencing of technical experts was undertaken before the hearing.

11.1.2 In Minute 3, we directed expert conferencing on the matters outlined in 6.3.1 above. As an outcome of conferencing, we received Joint Witness Statements from the various experts as outlined below.

11.1.3 We note here the role of technical experts in relation conferencing. In doing so, we take our lead from the Environment Court Practice Note 2014[28]. In particular, the practice note includes *Appendix 3 – Protocol for Expert Witness Conferences*. In their briefs of evidence, each expert at the hearing was required to acknowledge they had read and understood the Code of Conduct for expert witnesses (2014 practice note), and that they would follow the requirements of that code.

11.1.4 We note the following directions from the practice note Code of Conduct, and its Appendix 3 in relation to conferencing:

1) An expert witness has an overriding duty to impartially assist the Court[29] on matters within the expert's area of expertise.
2) An expert witness is not, and must not behave as, an advocate for the party who engages the witness. Expert witnesses must declare any relationship with the parties calling them or any interest they may have in the outcome of the proceeding.
3) Every expert witness participating in a conference must agree to comply with the Code of Conduct for such witnesses, and not act as an advocate for the party who engages the witness. The expert witness must exercise independent and professional judgement and must not act on the instructions or directions of any person.
4) The experts are to confer in the absence of the parties and their legal counsel, except with the express consent of the Court.
5) The experts are not to be instructed as to what may or may not be agreed at the conference.
6) The experts must confer in their roles as experts and are not to act as advocates for the parties who engage them.
7) The experts must only confer on matters within their fields of expertise.

[28] This was the practice note in force at the time of the in-person hearing. An updated practice note took effect from 1 January 2023 but we are not aware of any substantive differences in the Court's approach to expert witness conferencing, by comparison with the previous (2014) practice note.

[29] In this case, the hearing panel

8) While the experts participating in the conference may agree on matters within their fields of expertise, it should be understood that their agreement will not necessarily bind any party to a particular overall outcome, or to the wording of conditions.

11.1.5 We are satisfied that the expert witness conferencing respected the intent of the Code of Conduct.

11.2 Ecology and Ammonia-N conferencing

11.2.1 Joint witness conferencing was attended by the ecology experts on 7 July 2022, who focussed their considerations on the setting and monitoring of an appropriate ammonia-N threshold; the triggers for requiring a Monitoring and Technology Review Report (MTRR) to be prepared; the role of the MTRR; and on identifying appropriate monitoring parameters and methods to assist the planners with drafting consent conditions.

11.2.2 Agreement was reached on most of the matters considered. In summary, the experts agreed that:

1) Wastewater discharges to open coastal waters do not commonly cause ammonia toxicity.
2) A threshold for ammonia toxicity should be applied to treated wastewater rather than the receiving environment.
3) A suitable trigger for ammonia toxicity is more than 5 of 26 consecutive (rolling) weekly samples exceeding 6 g/m^3.
4) An ammonia trigger breach should lead directly to a requirement for a MTRR that is narrowly focused on ammonia toxicity.
5) MTRRs with a broader focus should also be carried out following ecological surveys at year 9 and by year 15.
6) Receiving water samples should continue to be collected by wading from the shore at a water depth of between 0.5 and 1m.
7) Total nitrogen (TN) and total phosphorous (TP), pH, salinity, dissolved oxygen, temperature and other general observations should be added to the water quality parameters required to be monitored.
8) A requirement to monitor coastal water quality 48 hours after bypass events should be retained.

11.2.3 An issue of contention was whether the monitoring of biological oxygen demand (BOD) should be continued. In Dr Conwell's opinion, BOD monitoring should be required because it was included as a recommended parameter in a recent Department of Internal Affairs cost estimates report prepared for Three Waters review and implementation, it is routinely analysed, and it provides an overall measure of pollution potential. Dr Conwell recommended a BOD limit of 30 mg/ℓ assessed as the 90 day rolling geomean. Mr. Cameron disagreed, stating that *"BOD monitoring is redundant if TSS monitoring is in place"*.

11.2.4 A further issue of contention was whether a trigger value should be applied to arsenic concentrations. In Dr Conwell's opinion, one should be set at 10 times the ANZG (2018)

default low reliability trigger value to account for dilution, and keeping consistent with the other metal/metalloid parameters listed. Mr Cameron had concerns about applying a low reliability guideline.

11.3 Hydrodynamic modelling conferencing

11.3.1 Expert conferencing on hydrodynamic modelling was initially carried out on 30 June 2022, with a JWS provided to the panel dated 1 July 2022. The outcomes of that conferencing left some potentially significant matters unresolved. However, the experts agreed that side-by-side comparisons of predicted dilutions from the DHI and Calypso Science models would quantify the uncertainty of the predictions that have been used for the QMRA.

11.3.2 The panel therefore directed the experts to make that comparison[30].

11.3.3 The further modelling was carried out and led to a second JWS dated 10 November 2022. We acknowledge that the extra modelling was a significant amount of additional work, and the panel would like to thank all those involved. The JWS provided in relation to that work included a summary which has had regard to both the original modelling by the Applicant, and the differing methodology outlined to us by Mr Zyngfogel during the in-person hearing.

11.3.4 We note that the three experts were in broad agreement on most matters, but Mr Zyngfogel recorded some remaining items of concern. Notwithstanding those concerns, the panel notes that the new dispersion modelling outcomes are likely to be more accurate than the original modelling, and that the original modelling was conservative.

11.3.5 For that reason, we did not specifically require further review of the QMRA – as it was based on the conservative outputs of the original modelling.

11.3.6 The modelling experts were also asked to consider the distance required from the outfall to achieve reasonable mixing. They agreed that the definition of “reasonable” mixing is dependent on the contaminant being considered, and that on average the treated wastewater plume is likely to be fully vertically mixed less than 200m from the discharge with additional mixing occurring out to 200m. However, the experts noted that they were not able to state whether the dilutions achieved along the edge of the existing 200 m mixing zone represented “reasonable mixing”. In their opinion, that matter should be assessed by other experts such as ecologists.

11.4 Public health (QMRA) conferencing

11.4.1 Joint witness conferencing was attended by the public health experts on 5 July 2022, who focussed their attention on high discharge events. They provided the panel with a JWS that outlined key matters they agreed on, leading to an overall conclusion that “the potential health risks for members of the public undertaking contact recreational activities during

[30] See Minute 9, 23 August 2022

high discharge events (primarily surfers) are likely to be acceptable with respect to public health". No substantive areas of disagreement were identified.

11.4.2 Further conferencing was held between 27 October and 23 November 2022 to consider the results of additional hydrodynamic modelling and the JWS of Dispersion Modelling Experts, dated 10 November 2022. A second JWS dated 24 November 2022, reconfirmed the conclusions of the initial JWS. It noted that the additional hydrodynamic modelling estimated greater dilution than the original model, so the QMRA was conservative. The performance of the UV disinfection was also considered, with the experts agreeing that the UV system in combination with secondary treatment will provide log reduction values at or above the maximum values used in the QMRA. Based on that they concluded *"Consequently, the conclusion of the QMRA should be considered as conservative with respect to the potential impact of the wastewater discharge on public health".*

11.4.3 In place of an indicator bacteria compliance limit, joint positions #6 and #7 in the 23 August Public Health Joint Statement recommended:

1) The inclusion of a compliance limit relating to the power output to each UV system.
2) Routine monitoring of enterococci to serve as an additional quality control check on the performance of the UV disinfection system (we address this recommended additional measure further below).

11.4.4 It was understood through the planning experts conferencing[31] that these recommendations jointly respond to the assumptions inherent in the application (Appendix J - QMRA and Appendix N – WWTP Virus Reduction) and in Mr Loughran's evidence[32] that:

1) When in use, each UV system will be run at full power (or as close to it as practicable).
2) Power output to the UV systems will be a key determinant of their effectiveness.
3) Factors other than power output, such as suspended solids, also influence the effectiveness of UV disinfection.

11.4.5 To reflect joint positions #6 and #7, the December 2022 Joint Statement of Planning Experts recommended amendments that would:

1) Remove clause (b), relating to faecal coliforms, from compliance limit coastal Condition 12.
2) Add a new coastal Condition 12B) requiring that during its 'time of operation' each month, each UV system shall be operated with at least 98% power output, at least 95% of time. These percentage values have been based on advice from Mr Loughran and Mr Hutchison[33] and allow for standard maintenance 'down-time' that is required to keep the UV system operational and for other power output variations which are part of 'normal' operation.

[31] para 56 Joint statement of Planning Experts 23/12/22

[32] Para 10.15 Loughran EIC

[33] para 57 Ibid

3) Add new coastal Conditions 21B and 35A to provide the additional quality control check on the performance of the UV disinfection system.

11.4.6 We address those recommendations in our findings on operation and compliance conditions (section 15 of our report).

11.5 Odour Management conferencing

11.5.1 Joint witness conferencing was attended by the odour experts on 6 July 2022. Present were Peter Stacey for the Applicant, and Deborah Ryan for GWRC. Following the panel's directions in Minute 3, the conferencing scope was limited to considering the nature and staging of odour control upgrade.

11.5.2 In Minute 3 we noted the Applicant's proposal of a staged approach to investigating and resolving the issue of odour experienced by Pikarere Farm block residents. Ms Ryan for GWRC was in general agreement with those actions but considered that the order and timing of the approach could be revised, potentially benefitting the residents with a quicker resolution of the issue. We therefore directed the experts, via conferencing, to *consider the nature and staging of odour management to achieve the best practicable outcome in the shortest period of time*.

11.5.3 In response, via the JWS, the experts agreed that the installation and operation of a monitoring and fan control system should be completed by 31 January 2023. Ultimately, that date has been delayed until three months after commencement of the consent – meaning it will be by September 2023 that system is installed.[34]

11.5.4 The experts also recommended a consent condition for an investigation and optioneering review. As a minimum, the review would include odour discharges and options for control, where appropriate, from the tunnel vent stack, milliscreen extraction stack, sludge centrifuges and the building ventilation. They proposed a consent condition setting 31 May 2023 for GWRC agreement to be provided to the recommendations of the review. This deadline has passed, and the consent conditions set a revised date of 31 October 2023.[35]

11.5.5 The experts recommended full implementation of a programme that provides design, procurement and commissioning of odour control measures by 31 May 2025. This date has remained unaltered in the air discharge consent.

11.6 Planning conferencing

11.6.1 The Planning conferencing addressed recommended consent conditions and duration, including in relation to the matters raised in the panel's Minute 11 (see section 10.1 above). The planners also re-evaluated mana whenua objectives and policies of the relevant planning documents based on the statement provided to the hearing by Te

[34] See air Condition 8A, Attachment 2 of the decision

[35] See air Condition 8L, Attachment 2 of the decision

Rūnanga o Toa Rangatira, and conditions relevant to Ngāti Toa Rangatira participation in the proposed working group and kaitiaki monitoring.

11.6.2 We consider that the Applicant and GWRC planning experts (Richard Peterson and Michelle Conland) followed a thorough process in considering and developing proposed consent conditions. They met on 1 July 2022, following adjournment of the hearing, to discuss planning matters arising from the hearing, and to consider what information was needed from other experts to enable preparation of a revised set of conditions. As an outcome of their meeting, the planners put relevant questions (focussed on conditions) to other experts to consider in their own conferencing. At a further meeting of the planners on 21 July 2022, they agreed additional questions to be put to the public health experts.

11.6.3 The JWS notes that the planners held two meetings with the odour experts to discuss conditions. Those meetings took place on 4 August and 18 October 2022.

11.6.4 The Planning JWS also advises that Mr Peterson consulted with Mr Hutchison of Wellington Water regarding the panel's request that the Applicant consider ways to provide further certainty and to achieve 'short circuiting' of the time taken to implement review findings (e.g, Plant upgrades). Outcomes from that are reported in the JWS and reflected in some of the conditions.

11.6.5 Final conferencing between the planning experts took place on 6 and 20 December 2022, and the JWS was circulated to all parties on 23 December 2022.

11.6.6 The planners agreed on the interpretation of the recently amended NES-F, with their core conclusion mirroring that of the independent legal opinion later obtained by the panel. That is, the NES is no longer applicable as the discharge from the WWTP outfall does not change the water level range or hydrological function of the wetland.

11.6.7 The JWS notes two instances of disagreement between the Ecology experts, where there is no Planning reason to favour either position. These are in relation to:

- Inclusion of BOD monitoring and a BOD compliance limit.
- Inclusion of Total Arsenic as a compliance condition.

11.6.8 The panel therefore deliberated on the alternative positions, with the outcome reported in section 15 of our decision report.

11.6.9 The JWS also notes an instance where the planners have proposed a technical condition that was not specifically recommended by other experts. This is the inclusion of an interim faecal coliform trigger, which would apply prior to certification of the enterococci trigger under coastal Condition 21B.

11.6.10 Again, the panel deliberated on this matter, with the outcome report in section 15.

The Treatment Plant

12 The Treatment Plant

12.1 Site History

12.1.1 Wastewater from the Porirua Basin (Porirua City and the northern suburbs of Wellington City) has been discharged at Rukutane Point since 1951 when an outfall, adjacent to the existing one, was constructed by the Ministry of Works to serve the Government housing development in Porirua. The discharge was untreated.

12.1.2 In response to the resulting contamination of Tītahi Bay, numerous investigations and water right applications were made for treatment options and alternative discharge points over a 26-year period from the 1960s to the 1980s. For various reasons, these proposals were not proceeded with.

12.1.3 In the mid-1980s, the opportunity arose for Porirua City Council to purchase a section of Pikarere Farm as a WWTP site. This opportunity was taken, and after a year construction period the existing Plant was officially opened in September 1989. As it was clear that any application for a new water right to discharge wastewater from a location closer to the Treatment Plant would be opposed and appealed, it was decided to retain the Rukutane Point outfall some 700 metres to the north-east of the WWTP.

12.1.4 When the WWTP opened in 1989, the discharge of treated wastewater at Rukutane Point operated under Water Right 84/8 granted in accordance with the Water and Soil Conservation Act 1967.

12.1.5 With the expiry of that Water Right, and the implementation of a new consenting regime under the RMA from 1991, an application for a Coastal Permit under the RMA was lodged. A Coastal Permit was granted in July 2000 and this is the resource consent under which the discharge of treated wastewater from Rukutane Point currently operates. Alterations were made to the conditions of the existing consent in 2005 (Conditions 15 and 16 relating to monitoring of faecal coliforms) and in 2015 (Condition 6A relating to reviewing the consent under s128 of the RMA).

12.1.6 Since the WWTP opened in 1989 it has undergone various upgrades. The most recent upgrades, since the commencement of the existing consent in July 2000, have been to maintain and improve treated wastewater discharge quality and capacity. Key elements of the upgrades are summarised in Table 3.

12.1.7 Separately, within the wider wastewater network, a series of options has been considered to reduce the frequency and volume of overflows, including:

- Inflow and infiltration reduction.
- Expediting replacement or repair (potentially through lining) of key sections of the public pipe network.

- Installing storage tanks that will hold a portion of the peak flow during heavy rainfall events and release it back into the pipe network once wastewater flows in the network begin returning to normal.

12.1.8 As an example, we understand that construction commenced in May 2023 on a 7 million litre wastewater storage tank near the city centre. It will be completed in 2026. The tank is designed to temporarily store wastewater during periods of heavy rainfall. The stored wastewater will be gradually released back into the network when there is capacity, reducing the frequency of partially treated or untreated overflows.[36]

Table 3 - Summary of Porirua WWTP Upgrades since 2000[37]

Upgrade Project	Completed	Description
UV disinfection	2003	Installation of a UV disinfection Plant with a capacity of 928 ℓ/s.
Milliscreens	2006	Replacement of the four rotating drum milliscreens with a change to the aperture to 2mm to provide screening of the raw wastewater. This provided operational benefits to reduce screen cleaning requirements and reduce over-wash of wastewater into the screenings conveyor
Screenings conveyors and press	2006	Installation of new screenings conveyors and press to improve the reliability of the system and to reduce the water content of screenings discharged to landfill.
Centrifuges	2006	Installation of two sludge dewatering centrifuges to replace the original belt presses. The centrifuges have improved reliability and resulted in a drier sludge cake and hence less volume to be transported and landfilled.
Main Switch Board (MSB)	2012	The MSB was upgraded to provide updated equipment and improved reliability.
Aeration blowers	2013	Installation of three direct drive aeration blowers to increase the aeration capacity and allow for population growth. The project included the installation of additional aeration basin diffusers to improve the removal efficiency of organic and ammonia loads.
Clarifier	2013	Construction of a third 40m diameter secondary clarifier and new outlet weirs from the aeration basin. This increased the total hydraulic capacity of the aeration basin outlet weir and three clarifiers to 1500 ℓ/s and resulted in an improved discharge quality by reducing solids carryover in the wastewater discharge during high flows.

[36] WWL storage tank information link

[37] Adapted from: Table 2-1, *Porirua WWTP – Discharge of Wastewater, Resource Consent Application*, April 2020

Upgrade Project	Completed	Description
RAS & WAS pumps	2015	Installation of new Return Activated Sludge (RAS) and Waste Activated Sludge (WAS) pumps. The RAS pump upgrade included individual pumps on each clarifier and allowed better control over sludge blanket depths in the clarifiers and hence less risk of solids carryover to the discharged wastewater.
Aeration feed pipe hydraulic upgrade	2016	Upgrade of the feed pipe to the aeration basin with the removal of the 450 mm flowmeter and replacing with a straight section of 600mm pipe and installation of a 900 mm flowmeter upstream. This has increased the hydraulic capacity of flows to the aeration basin from 740 ℓ/s to in excess of 1000 ℓ/s and reduced the number of bypasses of screened wastewater around the aeration basin
Emergency Generator	2017	The emergency generator was upgraded with a greater capacity to supply the equipment load to the main building and to provide improved reliability. A new 15,000 litre above ground diesel storage tank was also installed. The UV building is on a separate main switch board and could be supplied with a mobile emergency generator.
Diffuser upgrade	2017-2019	Over a three-year period, the diffuser grids in the aeration basin were modified to enable them to be removed and reinstalled safely and quickly for maintenance purposes. In addition to this, the layout of the diffuser grids was optimised to provide for additional diffusers in the first aeration zone where the air demand is the greatest. This improves the treatment performance.
Screenings press	2017	Installation of a new screenings press to provide dewatering and compaction of the screenings prior to landfilling.
Aeration Blowers	2019	Installation of three new high-speed turbo blowers to provide greater aeration air capacity and improved reliability.
UV Disinfection	2019 – 2023	Supply of UV disinfection equipment to increase the capacity of the disinfection Plant to in excess of 1500 ℓ/s. The project is ongoing with the next phase being the award of the contract for the construction of a UV channel, electrical upgrades and installation of the equipment. As well as increasing the Plant's capacity for UV treatment, this upgrade will reduce maintenance requirements, improve reliability and improve the standard of disinfection.

12.2 Key Elements of the Treatment Plant

12.2.1 The WWTP provides preliminary treatment (screening of incoming solids greater than 2mm), secondary treatment (removal of organic pollutants and separation of sludge from

clear wastewater), and tertiary treatment (UV disinfection of micro-organisms). The key elements of the Plant comprise:

- Stage 1 – Input of wastewater into the screening facility.
- Stage 2 – Screens remove any solids over 2mm.
- Stage 3 – An aeration basin removes organic pollutants.
- Stage 4 – Clarifiers separate sludge out to produce clear wastewater.
- Stage 5 – Waste sludge is pumped to sludge tanks, whilst clear wastewater is transferred to the UV disinfection facility.
- Stage 6 – UV disinfection of the water to undertake microbiological treatment.
- Stage 7 – Treated wastewater is discharged from coastal outfall at Rukutane Point.

12.3 Wastewater Treatment Processes

12.3.1 The wastewater Treatment Plant (WWTP) is operated by Veolia Water on behalf of Wellington Water. The WWTP treats wastewater collected from Porirua City and the northern catchments of Wellington City. The WWTP provides preliminary treatment (screening of incoming solids greater than 2mm), secondary treatment (removal of organic pollutants and separation of sludge from clear wastewater), and tertiary treatment (UV disinfection of micro-organisms). A process diagram of the Plant layout is shown by Figure 2.

12.3.2 The recently completed hydraulic capacity upgrade increases the flow capacity from the milliscreens to the aeration basin, allowing full secondary treatment of all flows, up to the maximum inflow volume of 1,550 ℓ/s. That upgrade prevents the bypass of partially treated sewage which has previously occurred during peak wet weather events. It is important to note that the network can currently only convey around 1,300 ℓ/s to the WWTP. The current 30-year Long Term Plan staging of the Network Improvement Programme will not increase the maximum flow to the WWTP from the existing 1,300 ℓ/s to 1,500 ℓ/s until around 2036-37.[38]

Secondary Treatment

12.3.3 The role of the secondary treatment at the WWTP is to reduce loads of suspended solids and associated organic material, nutrients, toxic chemicals and microbial contaminants (such as protozoa, bacteria and viruses) that could degrade the surrounding coast by producing visible plumes, promoting eutrophication or causing ecological toxicity and human health effects.

12.3.4 Secondary treatment is by an activated sludge process whereby a portion of the settled sludge from the clarifier tanks is returned to the aeration basin to maintain the biomass of microorganisms which consume the incoming wastewater as “food”. The returned sludge is termed the Return Activated Sludge (RAS). A portion of this sludge is removed from the

[38] para 10.11 EIC S. Hutchison

process (the Waste Activated Sludge (WAS)). Air (oxygen) is introduced to maintain the correct conditions for the microorganisms to break down organic material and to convert ammonia to nitrites and nitrates. The Porirua WWTP aeration tank is configured in a single "carousel style" with the two outer lanes being the aerated zones and the two inner lanes anoxic with no introduced oxygen (where nitrates are converted to nitrogen gas).

12.3.5 The mixture of wastewater and biological solids (Mixed Liquor) from the aeration basin is discharged to the three clarifiers where the solids are separated from the wastewater. The solids settle to the bottom of the clarifier tank and are removed and discharged as RAS and WAS. Scum and oils and grease that float on the surface of the clarifier is collected with the skimmer and removed from the discharged wastewater. The clarified wastewater passes over the weirs of the clarifiers to the UV (ultraviolet light) disinfection Plant.

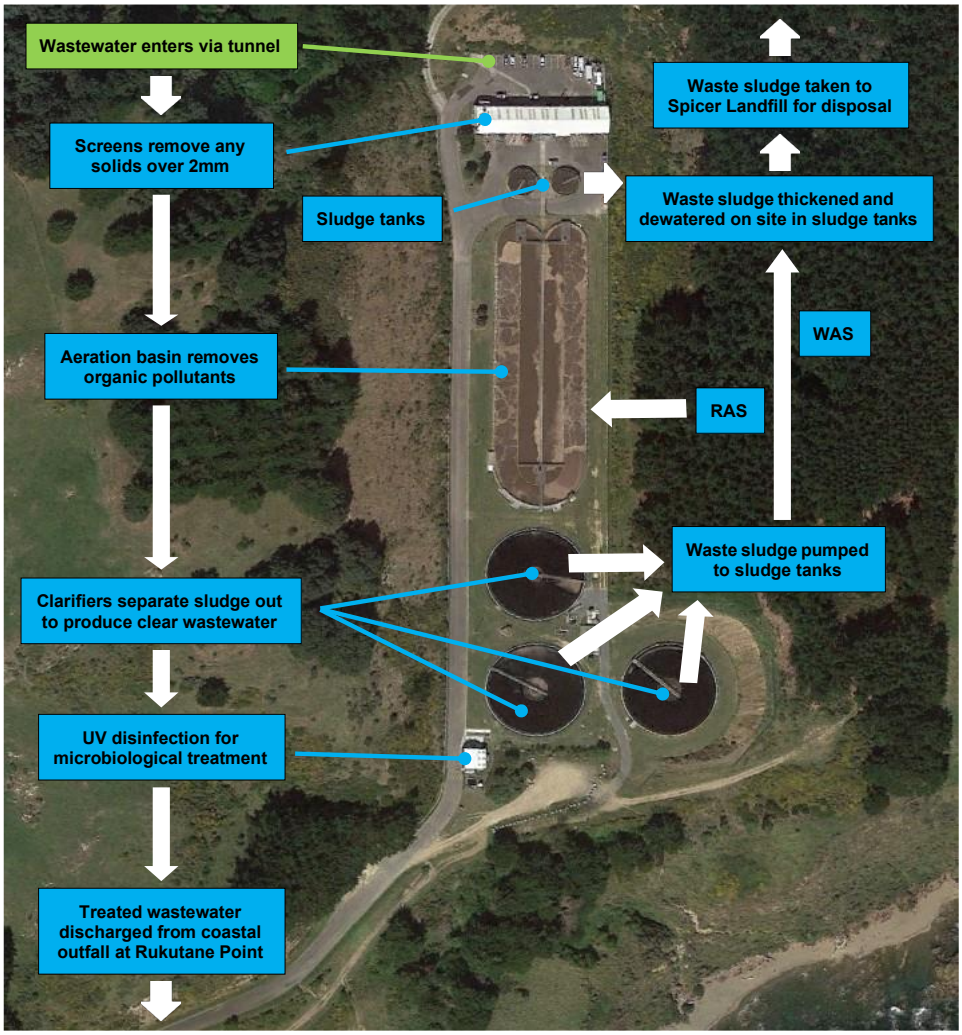

Figure 2 - Porirua WWTP process diagram[39]

[39] Adapted from: Figure 2-4, *Porirua WWTP – Discharge of Wastewater, Resource Consent Application*, April 2020

Ultraviolet (UV) Treatment

12.3.6 The secondary treatment processes at the WWTP provide a relatively clear wastewater, which is an important requirement for good UV performance. The effective transmission of UV light through the wastewater ensures that an appropriate dose of UV light is delivered to target microorganisms and that the "shielding" effects from other suspended particles are minimised. Total suspended solids (TSS) can also absorb UV radiation reducing the effectiveness of the disinfection process. A TSS concentration of less than 30 g/m^3 with a UV transmissivity greater than 60% (i.e. unfiltered secondary wastewater) are considered good target parameters for UV systems at WWTPs[40].

12.3.7 UV disinfection systems use light to inactivate pathogens that can cause respiratory infections and diseases in humans that ingest them, by altering their genetic code to prevent reproduction[41]. UV is an effective disinfectant of bacteria and protozoa, and partially effective for viruses with a relatively short "contact" time (approximately 20-30 seconds)[42]. UV also has the advantage of not forming any chemical by-products or toxic residuals (as is the case with other disinfection methods such as chlorine).

12.3.8 The UV system at the Plant consists of a new, recently installed Duron UV unit used in duty mode which treats a flow up to 930 ℓ/s. There is also an older TAK system, installed in 2003 which only operates when flows exceed 930 ℓ/s, allowing disinfection of total flows to a capacity of 1,550 ℓ/s or while the Duron system is undergoing maintenance or repair.

Power Supply

12.3.9 The potential for power failures to adversely affect Plant operations and performance is mitigated through the WWTP having a back-up generator. However, the UV Plant has to be restarted manually.

12.3.10 At Paragraph 9 of Minute 5, the panel requested a description of the back-up power systems, and alert systems for failure of powered equipment. This was provided by Wellington Water as follows[43]:

> *The Porirua wastewater Treatment Plant has a backup generator on site that supplies the majority of the Plant in the event of an interruption to the mains power supply. This is initiated automatically in the event of a power failure. However, the UV disinfection systems are on a separate transformer and do not have standby power, which is similar to many Treatment Plants.*
>
> *... The UV system needs to be started manually following power being restored. In addition, a connection on the outside of the UV building allows a portable generator to supply the UV lamps in the event of an extended power outage. In the event of a power outage, or malfunctions which stop the operation of the UV Plant, a SCADA alarm is initiated with a pager callout to the duty operator.*

[40] Section 2.3 Porirua WWTP Discharge of Wastewater Resource consent application and assessment of environmental effects, April 2020

[41] para 6.16 EIC R. Haverland

[42] AEE section 2.3

[43] Memo on Porirua WWTP performance-response to Minutes 5 &6, Wellington Water 18/8/22

12.3.11 We find it sub-optimal that, in the event of a loss of power, operation of the UV system relies on a manual restart and connection of a portable generator. This could be compounded by time elapsed through a pager call out to the duty operator. The conditions proposed by the Applicant and GWRC include condition 22A in relation to notification of a non-routine issue or Plant malfunction that *"adversely affects the discharge to the coastal marine area".* In theory, this could eventually lead to an upgrade to UV emergency power supply as a measure *"taken to prevent its reoccurrence"*. To ensure a focus on this issue, we have added a requirement, in Condition 19, for a review and recommendations of procedures, equipment and timing to address the risk of UV treatment not being continuous.

13 Operation and Compliance Issues

13.1.1 There were a number of submissions that expressed concern about: past performance of the Plant, adequacy of the design, whether other technology would be more appropriate, inadequacy of operation, future compliance, interface with the wastewater network operation and design, quantum and measurement method for flows to and from the Plant.

13.1.2 Many of the matters raised in submissions regarding Plant performance and monitoring are addressed within our decision report and the consent conditions. We set out significant issues below.

13.2 Wastewater Treatment Issues

13.2.1 During periods of sustained wet weather, stormwater inflow and groundwater infiltration throughout the wastewater network can result in flows that exceed the capacity of pipes and pump stations. This can lead to discharges from the public network and private pipes to the stormwater system and streams, to Porirua Harbour, and to the open coast (including Tītahi Bay). Such discharges reduce water quality and increase public health risks.

13.2.2 The Treatment Plant 's degree of compliance has historically been poor in relation to both the quantity and quality of wastewater discharged. While the average quality of the discharge has mostly been compliant, the 90-percentile values have not. This outcome reflects the deterioration in performance that has occurred during sustained wet weather, when the hydraulic capacity of the Plant is exceeded and a proportion of the flow bypasses part of the treatment process.

13.2.3 The non-compliance specifically applies to the following standards:

- Average daily flow.
- Maximum flow (exceeded once in April 2017).
- Faecal coliforms 90-percentile (coastal Condition 11(b)(i)).

13.2.4 This notwithstanding, the quality of the discharge has improved considerably in recent years and is set to improve further as the final increased hydraulic capacity works have now been implemented. Assuming that there is no loss of power to the UV disinfection

system (see paragraph 12.3.9 above), the capacity upgrade will allow full treatment of all flows received at the WWTP.

13.3 Past compliance and enforcement actions

13.3.1 Historic incidents arising from the performance and operation of the WWTP under the previous consent have resulted in multiple compliance and enforcement actions being taken by GWRC. Those actions are summarised in the S42A Officer's report:

> *'The compliance and enforcement action taken to date in regard to the current consent WGN980083 [33805] includes:*
>
> - *Abatement notice A588 issued to PCC on 31 August 2011. The abatement directed 'Prohibited from commencing unauthorised discharges of contaminants, namely raw effluent, to the coastal marine area from the Porirua Wastewater Treatment Plant'*
> - *Abatement Notice A717 issued to PCC on 12 October 2013. The abatement directed 'Prohibited from commencing unauthorised discharges of contaminants, namely effluent from the Porirua Wastewater Treatment Plant, to land, and to land in circumstances where it may enter water'*
> - *Wellington Regional Council prosecution against PCC on 12 June 2014. In this case prosecution sentencing directed PCC to pay a fine of $39,375 to Takapuwahia Stream Restoration Project. As well as an additional sum of $2,500 to be paid to the GWRC.*
> - *A formal warning was issued to WWL on 2 March 2016 for the discharge of contaminants to land where it may have entered water at Porirua Wastewater Treatment Plant on 17 November 2015*
> - *Wellington Regional Council prosecution against WWL (CRI-2019-091-000710) on 13 September 2019. In this case prosecution sentencing directed WWL to pay a penalty fine of $67,500 to GWRC.*
> - *Abatement Notices A960 and A961 issued to Veolia, and WWL 9 August 2021. These abatement notices directed that the receiver must 'Operate and maintain the Porirua Wastewater Treatment Plant to a standard adequate to meet the conditions of WGN980083 [24384]5 as required by condition 4'.*
> - *Formal warnings were sent to Veolia and WWL on 20 October 2021. These formal warnings were in regard to non-compliance with the effluent quality parameters set under condition 11 WGN980083 [33805].'*

13.3.2 This history, together with information provided by Submitters including photographs of wastewater plumes (actually or apparently) emanating from the coastal outfall[44, 45], were particularly concerning to the panel. However, we agree with the Reporting Officer that

[44] Hearing presentation by submitters Marie Wright and Michelle Warshawsky, together (1266) and on behalf of Your Bay Your Say (1157)

[45] Photograph provided at the hearing by Mr Bernon (1359)

'previous non-compliance is not a reason for declining a resource consent application', but there was a need for more stringent and clearer consent conditions[46].

13.3.3 We also note that there are number of conditions within the coastal discharge consent requiring actions to be carried out by the Applicant in the future in event of effluent quality not complying with consent conditions or issues associated with Plant performance that adversely affect the discharge to the coastal marine area. These include:

1) the preparation and implementation of an OMCP required by Conditions 20 to 22 which includes preparation of contingency plans in the event of Plant malfunction and measures undertaken to rectify incidents or malfunctions.
2) Annual reporting per Condition 19 which requires description of the results of ongoing monitoring of the treated effluent quality and for the applicant to explain any non-compliances of effluent quality and how they are to be avoided in the future with a description of any upgrades of the Plant that are necessary to achieve this.
3) Monitoring and technology reviews required by Conditions 30A, 30B, 31-35. These include comprehensive reviews of the performance of the Treatment Plant with regard to effluent quality, review of effects on the coastal marine area and development of recommendations if necessary, relating to coastal effects and Treatment Plant performance.

13.4 Odour Management Issues

13.4.1 The air discharge consent application notes that ambient air quality is high, reflecting the site's exposure to regular winds and the limited number of contaminant sources.

13.4.2 As outlined in section 3.3 above, the existing air discharge consent has few conditions. However, of specific note, is the requirement in Conditions 6 and 7 that there must be no discharges to air, at or beyond the boundary, that are noxious, dangerous offensive or objectionable.

13.4.3 The odour experts presented us with evidence to make it clear that, at times, the odour received at or beyond the boundary is not acceptable.

14 Plant Performance Actions taken by Wellington Water

14.1 Improvements to Plant Performance

14.1.1 Plant performance was addressed on behalf of the Applicant by Mr Hutchison in his evidence or in the Wellington Water Response to panel Minutes 5 and 6.

14.1.2 The Porirua WWTP has been progressively upgraded since the current consent was granted in July 2000. The upgrades have aimed to maintain and improve the quality and capacity of treated wastewater discharge. A number of components have been upgraded or replaced to improve treatment performance and reliability of operation.

[46] S42A Officer's report Para. 57 –60.

Bypass of partially treated flows after heavy rain

14.1.3 An interim hydraulic upgrade of the Plant was completed in September 2022 to ensure the treatment of all wastewater flows to the Plant including flows during wet weather. Wellington Water reported that during heavy rain on 30 September 2022 the Plant performed well with discharged wastewater water quality parameters well within consent condition limits[47].

Sludge carryover

14.1.4 A detailed investigation into sludge carryover events was carried out in 2021,[48] and identified a number of contributing factors. Wellington Water has implemented some of the recommendations from the investigation, including lowering the concentration of the mixed liquor suspended solids ('MLSS') and installing an automated monitoring system in the clarifiers. As a result of the investigation and the subsequent works, Mr Hutchison advised us that Wellington Water is satisfied that the key issues are now in hand and do not substantially affect the consent application as lodged.[49] Wellington Water also provided advise that there had been no reported sludge carryover from the Plant since October 2021.[50]

14.1.5 The hearing panel sought further information regarding an incident on 24 January 2022, when a visible ocean plume was noticed, as shown on a photograph provided to us at the hearing by Mr Bernon. Mr Bernon is a resident of the Pikarere Farm subdivision and appeared with Mr Stevenson in support of his submission.

14.1.6 In response to that photograph and Mr Bernon's comment at the hearing, paragraph 8 of our Minute 5 asked the Applicant to explain the nature of the visible plume and its cause with respect to the operation of the Treatment Plant.

14.1.7 In a memo from Messrs Hutchison and Garrity of Wellington Water dated 18 August 2022, Wellington Water described the results of an initial review of possible reasons for the visible plume. The memo noted there had been no alarms from the Plant, no other complaints received from the public, and no identified malfunction or other cause for concern with Plant operation.

14.1.8 Further, more detailed investigations by Wellington Water, including compilation and review of Plant operating and effluent monitoring data, supported the initial findings that the Plant was operating normally and there was almost certainly no sludge blanket carryover.

14.1.9 In summary the memo advised that:

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[47] Memo from Peterson and Hutchison 21/10/22 in an appendix to the JWS Planning dated 23/12/22

[48] Porirua WWTP Solids Investigation: Solids Stream Upgrade, Stantec, 2021

[49] para 5.13 EIC S. Hutchison

[50] Memo From J. Cacnio to R. Peterson & S. Hutchison, Wellington Water, 21/10/22, in Joint Statement of Planning Experts, 23 December 2022

The cause of a visible plume is not clear as the Treatment Plant was operating normally, and producing effluent with very low suspended solids. We would speculate that the visible plume could have been due to differences in salinity between the seawater and the treated wastewater given the light wind conditions for part of that day.

14.1.10 We accept the Applicant's advice that the plume was not caused by a Plant malfunction. However, we are not convinced that the visible plume was due to differences in salinity between the seawater and the treated wastewater. We note that we do not consider it possible from the photograph provided by Mr Bernon to determine whether, or not, the plume extended beyond the 200 m mixing zone.

Review of Treatment Plant operating model

14.1.11 An independent review of the Treatment Plant operating model, covering all four wastewater Treatment Plant s operated by Wellington Water, was carried out in 2021[51]. It made various recommendations, including in relation to Plant operation and achieving compliance with consent conditions.

14.1.12 Wellington Water's formal implementation of the review recommendations has been ongoing since late February 2022. The highest priority was given to those recommendations directly linked to Plant operation and achieving compliance with consent conditions. Wellington Water advise that Veolia has also completed many of the items for which it is responsible. Veolia will now be able to finalise aspects of the review relating to critical spares, renewals and proactive maintenance.[52] We were advised that all the review recommendations will be completed by 30 June 2023.[53]

Operation and Maintenance Contingency Plan

14.1.13 Coastal Conditions 20 to 22 require the permit holder to develop an OMCP, submit it to GWRC for certification, operate the WWTP in accordance with the plan, and regularly review the plan. A draft OMCP was included in the evidence of Mr Hutchison. The OMCP includes the following:

1) A description of the WWTP.
2) Typical inspection and maintenance procedures.
3) Procedures for recording non-routine issues or malfunctions, and steps taken to address them.
4) Contingency plans in the event of a malfunction (for each stage of wastewater treatment, in order to mitigate the reduction in wastewater treatment quality that would otherwise result).
5) Complaints procedures.

[51] Independent review of the wastewater regional wastewater treatment Plant operating model", prepared by R. Frost and R. Jaduram, December 2021

[52] Memo on Porirua WWTP performance-response to Minutes 5 &6, Wellington Water, 18/8/22

[53] GWRC email to the commissioners,30 May 2023

6) A Risk Communication Strategy (RSC) which includes procedures for notifying GWRC and RPH and key persons in the event of an incident.

14.2 Ongoing Review of WWTP Performance

14.2.1 In Minute 5 the panel noted its concern about the recent and at that time ongoing problems with Treatment Plant performance and suggested a regular independent review as follows:

> *The panel notes the complexity of the Treatment Plant processes and operation, and the lack of full automation. We are concerned about the history and possibility of future sludge overflows and the unacceptability of these from cultural, environmental and health perspectives. We also note the recent and ongoing upgrade work and the large number of improvements to the Treatment Plant components and associated Plant operation recommended by various independent technical reports. However, we also note the possible fragmentation of responsibility for Plant operation, maintenance and capital renewal and possible lack of accountability for the Treatment Plant performance.*
>
> *We accordingly wish to explore whether an additional consent condition could ensure implementation of draft condition 5A which states "the consent holder shall on an ongoing basis monitor and review the Plant performance to maintain appropriate treated wastewater quality in accordance with conditions 12, 12A and 13."*
>
> *The type of condition we have in mind would require a regular ongoing independent review covering the following matters:*
>
> - *Reviewer: such as a suitably qualified and experienced independent wastewater engineer.*
> - *Review period: such as 2 yearly or at more frequent intervals if required.*
> - *Review matters: such as Treatment Plant performance and compliance, as a check on relevant (named) consent conditions – for both the wastewater and air discharge consents.*
> - *Other matters: such as whether the Plant has suffered any significant problems which have or could have resulted in adverse effects on the environment.*
>
> *If the review identifies non-compliance with conditions, or that significant problems have occurred, we suggest that the reviewer should investigate Plant performance to ascertain the reasons for the non-compliance and provide a written report on the following:*
>
> - *Reasons for non-compliance.*
> - *Recommended remedial actions required to prevent further or ongoing non- compliance. This could include, where relevant:*
>   - *operator training requirements and timelines for implementation.*
>   - *operator manning and competence levels and timeline for implementation.*
>   - *automation of Plant equipment and processes and timeline for implementation.*
>   - *asset maintenance and upgrade including timelines for implementation.*
>   - *any other matters considered necessary to achieve compliance with the consent conditions.*

We suggest that the condition should require (subject to the approval of the GWRC manager) the consent holder to implement the recommended remedial actions unless it can be demonstrated, to the satisfaction of GWRC that it will carry out alternative actions which will ensure future compliance with consent conditions.

If the Applicant considers that a review condition of this nature is not practicable or necessary, we request reasons for reaching that conclusion.

14.2.2 Wellington Water's response to the panel's suggestion was as follows:

Wellington Water considers that the proposed regular independent review would be unnecessary, as there are already sufficient and rigorous review provisions in place. Wellington Water has clearly demonstrated that it will implement suitable reviews when problems arise, as we have done for the Veolia contract issues and more recently for a Fluoride issue. The review of the Veolia Contract has been undertaken to address the very concerns the Panel has raised. Real progress has been made in this space, and further changes are imminent, however this can take time. There is a team of professional staff working on the Veolia contract management, a team of professionals from Veolia, a new governance structure in place to oversee that, a steering group overseeing the recent independent review actions, and GWRC officers receiving and considering the regular compliance reporting and with the power to require reviews or other assessment as they consider may be required. In our view, a further layer of regular monitoring and review would be premature, considering that the recent work in this space has not been given a chance to demonstrate whether it has successfully resolved the issues identified. Wellington Water is confident in the changes being made following the contract review, and in the above mentioned teams to deliver, without the added cost and administration of biennial reviews.

14.2.3 We acknowledge Wellington Water's view that a further layer of regular monitoring and review may be premature and would add cost. However, we are of the opinion that the provided draft consent conditions do not provide sufficient clarity or direction to ensure ongoing improvement of Plant performance in response to non-compliance with draft coastal Condition 12 for effluent quality.

14.2.4 We consider that improved outcomes can be achieved, at little cost, by adding to the requirements of draft coastal Condition 19 for annual monitoring. We have provided new clauses (f) and (g) in coastal Condition 19 to achieve this. Those clauses require a review by a Wellington Water wastewater engineer of any non-compliances to provide recommendations on improvements in Plant operational procedures and /or equipment necessary to prevent further non compliances.

Summary of WWL responses to operational issues

14.2.5 The response to past operational issues and provision for ongoing WWTP operation to achieve consent compliance, as provided by the Applicant, and as provided for in consent conditions, is summarised as follows:

1) Significant recently completed upgrades to the UV system and WWTP hydraulic capacity.
2) A number of recently completed upgrades related to clarifier operation and MLSS management together with implementation of an ongoing programme for solids management.

3) Progress with implementation of recommendations of the 2021 review of the wastewater Treatment Plant operating model including completion of significant maintenance and reliability assessments at the WWTP.
4) Preparation of a draft OMCP and the requirement for this to be reviewed and certified by GWRC.
5) Ongoing review of the WWTP performance required by consent conditions, with specific requirement for an annual review by a wastewater engineer of any consent non compliances, to provide recommendations on improvements in Plant operational procedures and /or equipment necessary to prevent further non compliances.

14.3 Panel Overview of Operations and Compliance Issues

14.3.1 The panel shares the concern of many submitters regarding the poor past performance of the Treatment Plant and the associated numerous breaches of consent conditions. We note that Wellington Water has responded to these matters by way of external reviews, the recommendations of which are being implemented, together with initiating a significant programme of Plant process and equipment upgrades – a number of which have recently been completed.

14.3.2 In the opinion of Ngāti Toa Rangatira, the performance standard that the Plant is aiming for is at the lower end because it does not have adequate capacity for different types of wet weather events, which is not acceptable from a cultural perspective. They pointed out that they are uncomfortable if the consent is aimed at 'normal weather events' and not wet weather events, as this does not reflect reality. We accept that bypass flows during heavy wet weather events have been an ongoing feature of the Treatment Plant operation.

14.3.3 However, we note our understanding, from the information presented to us, that the upgrades completed in in June 2023 allow the WWTP to handle all inflows – with full secondary treatment and UV disinfection.

14.3.4 We acknowledge the complexity of the WWTP which requires a high level of expertise to operate and careful ongoing management to ensure it performs adequately now and in the future.

14.3.5 We note the expertise of Wellington Water and Veolia staff and accept the evidence of expert engineers on behalf of the Applicant that the WWTP utilises appropriate technology and will be able to provide treatment of wastewater now and in the future which achieves effluent quality which complies with consent conditions. Our conclusion in this regard relies on the timely and successful implementation of the technology review process mandated by consent conditions. We also rely on skilled management of the Plant by its operators.

14.3.6 In forming our opinions, we have had regard to expert evidence; information put before us by Submitters during the hearing process; and to the views of Submitters in relation to proposed conditions. The panel has concluded that consent is capable of being granted, subject to modification of consent conditions as attached to our decision (see Attachment 1).

14.3.7 In section 15 below, we discuss our conclusions about operations and compliance conditions. We also include some of our responses to submitter comments on conditions.

15 Panel Findings on Operation and Compliance Conditions

15.1 Overview

15.1.1 This section of our decision addresses coastal conditions that related to the operation of the wastewater Plant and compliance management. Some of our findings on conditions are related to comments invited from submitters in early 2023. Note that we do not find it necessary to comment or provide findings in relation to every topic or condition.

15.1.2 As such, our comments cover the subject matter of the following headings (topics) and condition ranges in Attachment 1 (Coastal Discharge Consent). That is:

- General conditions: coastal Conditions 1A to 5A
- UV performance, monitoring and UV transmissivity: coastal Conditions 12B to 12E
- UV disinfection performance: coastal Conditions 21B and 35A
- Operations and management: coastal Conditions 20 to 22
- Incident notification requirement: coastal Condition 22A
- Complaints: coastal Condition 23 to 24
- Monitoring and technology review: coastal Conditions 30A to 35

15.1.3 In addition, due to the interrelated nature of many conditions, our comments of necessity may refer to conditions outside of the topic or condition range.

15.2 General conditions

15.2.1 The paragraphs below relate to some of the coastal conditions within the group 1A to 5A.

Condition 3

15.2.2 Submitters expressed concern about coastal Condition 3, in that it relies on the use of average flows and inflow volumes. However, we accept the evidence of the Applicant that the existing monitoring of inflow and effluent is sufficient to address submitter concerns in this regard. We also understand from the Applicant's evidence that with the recent hydraulic upgrades, bypasses are no longer possible and monitoring these flowlines would therefore not be necessary.

15.2.3 Submitters expressed concern about the Treatment Plant capacity, as defined by Condition 3. In this matter we concur with the Applicant's reply legal submission on this as follows:

> *Capacity issues: Concerns or misconceptions as to the capacity and operation of the WWTP were addressed in Wellington Water evidence and discussed at the hearing. The evidence is clear that peak capacity of the network is the constraint on peak flow to the WWTP. Wellington Water presently has no intention to increase peak network capacity beyond 1,500 l/s. If it did wish to do so in the future, it would need to first amend the WWTP consent or it would be non- compliant.*

The permanent hydraulic upgrades are due for completion in April 2023. However, a temporary diversion system has been in place since September which ensures the hydraulic capacity of the WWTP is currently 1,500 L/s.

15.2.4 The evidence of Mr Hutchison is that wastewater flows into the Plant are essentially the same as flows out; he also noted that inflow monitoring is more accurate than outflow monitoring.[54] This means that recording outflows will not provide any information on any bypass of Stage 1 and 2 treatment trains, as this is an internal mechanism which will not affect final outflows. This fact together with Mr Hutchison's evidence that flow data from the flow meter on the outlet is unreliable leads us to decide that requiring outflow monitoring is not useful or necessary.

15.2.5 With regard to average flows, we do not accept the contention of TBRA that the peak flow limit is averaged over the year and thus diluted. While the 'average daily flow limit' in coastal Condition 3 is necessarily calculated as an average over time (in this case yearly), the maximum *daily* inflow limit is not an average.

15.3 UV performance, monitoring and UV transmissivity

15.3.1 Over the course of the hearing, coastal consent conditions were added to cover the operation and performance of the UV treatment system in accordance with the joint positions of the planning experts and matters raised by the panel.

15.3.2 For public health purposes, the planning experts agreed to the inclusion of a condition (12B) requiring that during their 'time of operation' each month, each UV system must be operated with at least 98% power output, at least 95% of time.[55]

15.3.3 The panel were concerned about a lack of conditions requiring continuous real-time monitoring of effluent UV transmissivity, and a trigger for low transmissivity. We therefore sought more information on this matter,[56] and prepared related draft conditions for the Applicant to consider. In addition, information was requested about continuous turbidity monitoring.

15.3.4 In response, the Applicant offered alternative conditions that would require UV transmissivity to be monitored, with records of hourly averages kept, and procedures to be followed if transmissivity was below 45%. In relation to turbidity monitoring, the Applicant advised us that it was not required to maintain the performance of the UV treatment system.[57, 58] The panel accepts the Applicant's advice, and their alternative proposed conditions, with two amendments and one addition.

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[54] para 15.49 Evidence of S. Hutchison

[55] Planning experts JWS, para 57

[56] Commisioner's Minute 5

[57] Memorandum of counsel for Wellington Water Limited Dated 31 March 2023

[58] Memo to the Panel from S. Hutchison and P. Garrity, dated 18/08/2022. Porirua WWTP performance – response to minutes 5 and 6.

15.3.5 Resulting coastal Conditions 12B to 12D therefore specify requirements for the operation of the UV disinfection system, that include:

1) setting a minimum power limit (98%) and a running standard (95% of time) for the original TAK, and new Duron UV disinfection systems during their times of operation (which take into account unavoidable instances when maintenance, repairs and replacements are undertaken);
2) automated monitoring of UV transmissivity through a UV monitoring probe linked to the plant's process control system; and
3) a process for responding to low wastewater transmissivity (levels below 45%, based on average readings over an hour), which has the potential to adversely affect public health risk by reducing the efficacy of UV treatment.

15.3.6 Our amendments and additions include:

1) Changes to coastal Conditions 12C and 12D, that specify hourly averages for transmissivity are to be calculated using 5-minute readings (in accordance with the methods used in the supplementary statement of Mr Loughran)[59]
2) The addition of a new coastal Condition 12E as proposed by the panel in our Minute 16. The Applicant did not advise it is inappropriate, and we consider it is necessary. Coastal Condition 12E requires that when maintenance of one UV system is being carried out, the Plant is operated in a way that ensures all treated wastewater still passes through the UV system not undergoing maintenance.

15.3.7 We also note that YBYS queried whether the tertiary treatment system (ultraviolet light) will operate reliably under coastal Condition 12B. On that matter we find that the condition provides clear operational parameters, which must be met. Failure to comply with those parameters would be a breach of consent, and potentially result in enforcement action.

15.4 **11.4UV disinfection performance**

15.4.1 The paragraphs below mostly relate to coastal conditions 21B and 35A but also a related review provision under coastal Condition 36.

Enterococci / UV trigger

15.4.2 New coastal Conditions 21B and 35A were recommended through conferencing of the planning experts to provide an additional quality control check on the performance of UV system, as recommended by the public health experts. This quality control check is based on enterococci concentrations in the treated wastewater (i.e. effluent) that will be required to be monitored under coastal Condition 8.[60]

15.4.3 The proposed additional control check involves four elements as follows.

[59] Supplementary statement of Mr Loughran regarding UV Transmissivity at para 15 (dated 11/4/23)

[60] paras 57 and 58 Joint Statement of Planning Experts 23/12/22

1) Collection of treated wastewater samples on a daily basis and their analysis for enterococci.
2) Setting of a trigger value for the enterococci concentration (coastal Condition 21B). This trigger value would be set once one year of enterococci concentration data is obtained following the completion of the UV and hydraulic upgrades, i.e. the trigger would be set after June 2024. The trigger value would take into account the trends and fluctuations in enterococci concentrations over that year (as well as historic indicator bacteria data). It would also take into account how the performance of the UV disinfection system fluctuates due to normal variations in the biological process and the normal aging of the treatment facilities, and how it can be reasonably expected to reduce from its year 1 and 2 performance level over the consent duration as a result of the increase in inflow anticipated in the resource consent application.
3) The third element of the additional control check is the comparison of the daily enterococci concentrations against the trigger value and the requirement to undertake an investigation should two consecutive samples exceed the trigger value (coastal Condition 35A). The investigations would determine the reasons for exceedance and make recommendations. The consent holder shall inform the Manager of the outcomes of the investigation and which of the recommendations it proposes to implement.
4) The final element of the proposed additional quality control check is an interim faecal coliform trigger, which would apply prior to certification of the enterococci trigger under coastal Condition 21B. This was not recommended by the public health experts, however, the joint statement of planning experts considered it to be appropriate to ensure that there is not a gap before the enterococci trigger is in effect. They have recommended that the interim trigger is 2,000 cfu per 100 ml and that an investigation is triggered via this interim measure if the concentration of faecal coliform in two or more consecutive daily samples of the treated wastewater exceeds this level (coastal Condition 35A).

15.4.4 In response to the amended conditions YBYS raised concerns about trigger values, and in particular: how the enterococci trigger is to be derived; the value of the interim faecal coliform trigger relative to the guideline values (PNRP and MfE/MoH recreational guidelines) and Moa Point consent conditions; and how the triggers are going to be applied.

15.4.5 The panel notes that the purpose of the triggers is to assess the performance of UV disinfection system and responding to exceedances. The panel has carefully reviewed the conditions, the position of submitters, and Wellington Water's legal submissions in reply to the matters raised.

15.4.6 The Applicant's legal submissions state:

> *"Interim Faecal Levels: Condition 35A does not provide for 'allowable exceedances', but instead provides a 'trigger' for further steps to be taken if the samples (taken 'each day', under Condition 8) exceed the trigger value (or interim trigger value) for two or more consecutive days. Counsel are advised that the Guidelines referred to provide levels that apply post-mixing, whereas the interim faecal level and trigger value will apply to the effluent itself. The interim level in JWS*

condition 35A.a is based on the current level in the existing consent, to provide consistency of data to 'allow comparison of the two indicators before transitioning to sole use of enterococci as a bacterial indicator'. It should also be noted that:

This is an interim level only; the trigger value set under condition 21B could well be lower; and

Both limits will apply as part of a regime that is focussed on power output; that is a different approach to that taken in the other consents referred to."[61]

15.4.7 We adopt that explanation and find the conditions in question to be appropriate for the purpose intended.

GWRC Review – Condition 36

15.4.8 Conditions 21B and 35A jointly require investigation and reporting to assess the causes of the enterococci trigger being exceeded and make associated recommendations for actions. Via conferencing, the planning experts recommended that specific provisions within coastal Condition 36 for a s128 review of that investigation and reporting process. The review would be triggered if the Regional Council considers the consent holder's response to investigation recommendations to be unsatisfactory.[62] We support that approach.

15.5 Operations and management

15.5.1 The paragraphs below relate to some of the coastal conditions within the group 20 to 22.

15.5.2 Coastal Condition 20 requires the OMCP to be provided within three months of the commencement of the consent which we consider reasonable given the need to update the draft OMCP in light of the final consent conditions.

15.5.3 YBYS commented on matters related to the incorporating enterococci into the OMCP (coastal Condition 21B(a) to (d)). The panel has carefully reviewed the condition and found the wording proposed by the Applicant to be appropriate given the condition's purpose. Further, the panel does not accept the YBYS assertion that the proposed monitoring to determine the trigger is disproportionately focussed on tertiary treatment.

15.5.4 In relation to coastal Conditions 21(a) to (f) YBYS sought that the OMCP should, at a minimum, cover all the recommendations outlined in the Independent Review of the Wastewater Regional Plant Operation Model[63]. However, we note that these recommendations are aimed at the contract between Wellington Water and Veolia. As such, we do not consider it appropriate to include these in the OMCP.

15.5.5 The panel has carefully reviewed coastal Condition 21B and found the wording proposed by the Applicant to be appropriate for updating the OMCP to include a trigger for enterococci in the treated wastewater. The panel does not accept the YBYS assertion that the proposed monitoring to determine the trigger is disproportionately focussed on

[61] Legal submissions in reply for Wellington Water Limited. Para. 6.12 and 6.13 [footnotes not included]

[62] para 62 Joint statement of Planning Experts 23/12/22

[63] *Independent Review of the Wellington Water Regional Wastewater Treatment Plant Operating Model,* December 2021

tertiary treatment, noting that the trigger value is to be determined taking into account a number of factors including fluctuations in the biological processes.

15.6 Incident notification requirement

15.6.1 The paragraphs below relate to coastal Condition 22A and some related conditions.

15.6.2 YBYS considered that the wording of Condition 22A is ambiguous and that a two hour time limit should be placed on the taking of samples after an incident. However, we consider this condition to be sufficiently clear and a two hour time limit on taking of samples may not be practicable, or safe, in every circumstance.

15.6.3 YBYS referred to other matters in relation to Conditions 22A and 24, which deal with incident notification and complaints. It is not clear what the submitters' concerns are and how they relate to the conditions in question. The panel therefore adopts the Applicant's proposed wording.

15.7 Complaints

15.7.1 YBYS requested that proposed Condition 24 should require incident notification signs to be displayed two hours after a bypass event, and that the public is advised of the bypass cause. We consider that a strict time requirement such as that sought by YBYS is not workable in all circumstances. However, we have modified coastal Condition 24 to require signs to be installed and maintained as soon as practical at the outfall, and if necessary, at other locations, subject to the satisfaction of the GWRC Manager.

15.7.2 With respect to advising the public of the cause of a bypass we note this is provided for by way of reporting requirements set out in the RSC and also that coastal Condition 19 (f), (g) and (h) address responses to discharges of wastewater not complying with coastal Condition 12 and associated response measures with respect to Plant operation and procedures. In addition, we have amended coastal Condition 27A to require Wellington Water's Porirua WWTP webpage to include, among other things, any incident reports required by coastal Condition 22A. Furthermore, the CLG would be informed of any such incidents at its meetings, as per coastal Condition 25.

15.8 Monitoring and technology review

15.8.1 Mr Warburton queried coastal Condition 30A, which requires a re-run of the WWTP process model "each year". He considered this should be clarified as being each calendar year. However, we note that the remainder of the condition requires the outputs from the model re-run to be provided to the WWTPWG and the GWRC manager "prior to each anniversary of the commencement of the consent".

15.8.2 Tying the condition to a calendar year is therefore not necessary. The commencement of the consent will occur once our decision is issued and the 15 working day period for receipt of appeals has passed (and no appeals are received). If appeals are received, then the commencement date will not be until the appeals are resolved. The commencement date, once settled, will be the cut-off date for the provision of the model re-run outputs to the WWTPWG and the GWRC Manager.

Coastal Discharge Consent

16 Coastal Discharge Effects

16.1 Overview

16.1.1 Key issues to be considered in relation to adverse effects are identified in the AEE and Section 42A report. In this decision, those effects have been grouped into the following themes:

- Public health effects
- Coastal water quality and ecological effects
- Recreation effects
- Landscape and natural character effects

16.1.2 Importantly, the panel notes that the Application does not provide for discharges of untreated wastewater or for sludge carryover discharges. We also note that coastal Condition 5 requires bypass discharges of partially treated wastewater that result from inflow to the wastewater Treatment Plant exceeding the Plant's capacity, to cease from the commencement date of the consent. Effects of those discharges have therefore been set aside in our consideration of coastal discharge effects. The Applicant has advised that the work to avoid such discharges has been completed as part of the hydraulic upgrade project.

16.1.3 Having said that, the unauthorised discharge of partially or untreated wastewater is a matter of significant concern to Submitters. It is also a matter that GWRC has spent considerable time and resources on addressing. The Council has repeatedly provided formal warnings and served abatement notices. It successfully prosecuted Wellington Water in 2014 and 2019. Those actions are summarised in the Section 42A Officer's report, which also highlights that another investigation was ongoing at the time the report was being prepared.

16.1.4 Wellington Water's history of unauthorised discharges was also a matter of significant concern to the panel. We gave considerable thought to the issue, and it was the subject of multiple requests for further information.

16.2 Benefits and Positive Effects

16.2.1 We were advised that the benefits of reconsenting the coastal discharge include:

- Continued treatment of wastewater drawn from Porirua and the northern suburbs of Wellington.
- Improved capacity to cope with increasing population levels.
- Reduced occurrences of discharge of untreated wastewater and sludge carryovers.

16.2.2 The AEE highlights that wastewater treatment and disposal from the Porirua WWTP has an important role in providing for the health and safety of the residents of the northern suburbs of Wellington and Porirua, and that Porirua and Wellington cities would not be able to accommodate their projected population growth without upgrades to their wastewater system. The Section 42A report also highlights that upgrades to the hydraulic capacity and UV systems of the WWTP, will improve treatment and discharge quality.

16.2.3 An extensive alternatives assessment has been undertaken, which has been discussed with key stakeholders over several years. The assessment confirms that the preferred solution is to upgrade the existing infrastructure at Porirua, as opposed to identifying an alternative facility elsewhere or development of a new WWTP.

17 Expert Evidence and Submitter Experience

17.1 Benefits and Positive Effects

17.1.1 The Application notes that the benefits of the Treatment Plant arise from the conveyance of wastewater away from residential, commercial and industrial areas to the Treatment Plant, and from there to the ultimate receiving environment.

17.1.2 Mr Peterson's EIC discusses the benefits of the Porirua wastewater system when he provides his assessment of the objectives and policies of the PNRP. Ultimately, he reiterated the AEE in that the benefits of the Porirua wastewater system relate to public health and assisting the community to provide for its environmental, economic, social and cultural well-being. These benefits only arise through the operation of the wastewater system.[64]

17.1.3 Ms Conland's s42A report identifies that the conveyance of untreated wastewater from the residential dwellings, commercial and industrial businesses to the Porirua WWTP for treatment and disposal provides an important role for the health and safety of the residents of the northern suburbs of Wellington and Porirua. She also acknowledges that the upgrading of the hydraulic capacity of the Plant as well as the UV disinfection system and capacity will improve the quality of the treatment and discharge.

17.1.4 She noted that the Applicant's extensive alternative assessment of treatment and discharge locations and methods concluded that this proposal is the Best Practicable Option to provide treatment while minimising the adverse effects on the environment.

17.1.5 Ms Conland identified that Treatment Plant is classified as Regionally Significant Infrastructure and as such, regard must be given to the benefits that treating and disposing of wastewater provides to the community in terms of the safe treatment and disposal of wastewater subject to the recommended conditions.

17.1.6 Ms Conland further noted that the PNRP recognises the benefits of regionally significant infrastructure and specifically the treatment, dilution and disposal of wastewater. She identified that Objective 12A seeks that regionally significant infrastructure be enabled

[64] Richard Peterson, Evidence in Chief, Appendix B, assessment in relation to NZCPS Objective 6

that meets the needs of present and future generations. The Treatment Plant is existing infrastructure that is in the process of being upgraded to better meet the needs of present and future generations. The system currently serves a population of about 80,000 people (projected to rise to 120,000 by 2043) from the northern suburbs of Wellington and also Porirua. The Treatment Plant benefits these communities through the treatment and discharge of their wastewater. [65]

17.1.7 Some submitters noted benefits of the Treatment Plant and discharge. For instance, Te Awarua o Porirua Harbour and Catchments Community (submitter 1309) noted that the consent was a small but important part of improvements to the receiving waters of the Porirua Harbour and catchments.

17.1.8 Dr McKenzie (for RPH) considered that the entire municipal wastewater reticulation and treatment system is a public health good but also recognises that the scope of this consent is limited to the operation and discharge from the Treatment Plant.

17.1.9 Overall, the panel accepts that the continuing operation of the Treatment Plant provides significant benefits to the health and welfare of the community. Completed and proposed upgrades will enable growth while reducing the discharge of untreated wastewater. It will also reduce health risks associated with the discharge of treated wastewater.

17.2 **Public Health Effects**

Expert Evidence

17.2.1 Microbial water quality and human health effects were assessed using hydrodynamic modelling of the dispersal and dilution of treated wastewater coupled with a QMRA.

17.2.2 There was general agreement among the experts that this was the most appropriate tool for assessing health risk. However, concerns were raised about some elements of the hydrodynamic modelling and QMRA. A key issue was differences in calibration predictions obtained by the hydrodynamic model produced for Wellington Water by DHI Water and Environment Ltd (DHI), which was used in the QMRA, and the model produced by Calypso Science for YBYS.

17.2.3 The panel therefore directed hydrodynamic modelling[66] and public health experts[67] to conference separately (with the public health experts covering the QMRA). We outline conference outcomes above in section 11 and simply note here that, based on the original QMRA, the public health experts agreed that "*potential health risks for members of the public undertaking contact recreational activities during high discharge events (primarily surfers) are likely to be acceptable with respect to public health*"; and, revised model outcomes from the hydrodynamic experts were considered to be more accurate than the original modelling, and showed that the original modelling was conservative.

[65] Ms Conland s42A para 327

[66] John Oldman for the Applicant, Dougal Greer for GWRC, Remy Zyngfogel for Your Bay Your Say

[67] Peter Loughran for the Applicant, Peter Cressey for GWRC

Submissions

17.2.4 Effects on microbial water quality and human health was a key matter of concern for the panel.

17.2.5 Numerous Submitters highlighted that the coast is used for a wide range of activities, including surfing, swimming, various boating activities, shellfish collection, fishing and the general enjoyment of beaches and coastal paths. The evidence of Wellington Water's expert on recreation, Mr James Greenaway, also emphasised that the coast around the discharge includes "*intensely used recreational settings, including Titahi Bay*".[68]

17.2.6 Submitters were particularly concerned about the public being exposed to waters that potentially contain discharged wastewater. Mr James King for Titahi Bay Surfriders informed the panel that surfing is carried out all year round and in most weather conditions and noted that warning signs do not deter surfers. His submission indicates that the surf in Titahi Bay is often best during bad weather and high rainfall. Mr King also described seawater in the area as having an abnormal organic or metallic taste.

17.2.7 Ms Michelle Warshawsky, a 'non wetsuit' ocean swimmer and qualified swim coach, who swims in Titahi Bay for her health and wellbeing, told the panel that she and other swimmers also spend long periods in the water. Mr King, Ms. Wright and Ms Warshawsky for YBYS, and others were particularly concerned about the reliability of the quantitative microbial risk assessment (QMRA) done for Wellington Water.

17.2.8 Ms Wright and Ms Warshawsky also informed the panel that the proposed 200m mixing zone is where ocean swimming, surfing, kite surfing takes place and surf life-savers train. They raised concerns about guideline exceedances and sought to have the extent of the mixing zone reduced to 100 m.

Public Health Conditions

17.2.9 The Applicant's draft conditions related to the management of public health effects evolved over the course of the hearing. The Applicant accepted changes recommended in the JWS of the planning experts, who received input from the public health experts. In summary, and among other things, the conditions accepted by the Applicant include requirements for/related to:

1) Daily testing of a treated wastewater grab sample for ultraviolet (UV) transmissivity and microbial indicators of health risk (coastal Conditions 6 and 8).
2) Monthly testing of influent to the WWTP, and weekly testing of treated wastewater, for a suitable viral indicator (coastal Condition 10).
3) Conducting a review after 30 June 2024 to determine if ongoing monitoring of a viral indicator is necessary and should be continued, suspended, or continued at an alternative frequency, or replaced with a suitable alternative (coastal Condition 10A).

[68] EIC James Greenaway, para. 5.1

4) Operating each UV disinfection system at 98% power output for at least 95% of the time each calendar month (coastal Condition 12B).
5) Establishing a trigger value for the concentration of enterococci in treated wastewater by 1 August 2024 (coastal Condition 21B).
6) Monthly receiving water quality monitoring of enterococci concentrations (coastal Conditions 14 and 15), with additional monitoring required in the event of any unauthorised discharges (such as partially treated wastewater), or non-routine issues or Plant malfunctions affecting the coastal discharge (coastal Conditions 16 and 22A).
7) Quarterly and annual reporting (coastal Conditions 18-19).
8) Responding to exceedances of an interim trigger value, or the trigger value derived under coastal Condition 21B (coastal Condition 35A).
9) Notification of non-routine issues or malfunctions that adversely affect the coastal marine area (coastal Condition 22A).
10) Complaint procedures and signage (coastal Conditions 23-24).
11) A Risk Communication Strategy (coastal Condition 26A).
12) UV disinfection (coastal Condition 35).
13) Provision for the consent to be reviewed by GWRC (coastal Condition 36).

Findings – Public health effects of fully treated wastewater.

17.2.10 Putting unauthorised discharges aside, the Panel's consideration of the effects of the coastal discharge on microbial water quality and human health was informed by our earlier consideration of matters related to proposed Plant operations, including treatment performance and associated conditions (see Section 15),

17.2.11 Based on the above we accept the conclusion of the Applicant and S42A Officer's report that the effects of discharging fully treated wastewater on public health will be no more than minor.

17.3 Coastal water quality and ecological effects

Expert Evidence

17.3.1 Effects on coastal water quality and ecology were assessed through:

- Characterising current and predicted future wastewater quality
- Direct toxicity assessment of treated wastewater samples
- An assessment of emerging organic contaminants (EOCs)
- Assessing benthic ecological effects

17.3.2 Available data is summarised in the AEE and evidence of Wellington Water's experts. The water quality, EOC, direct toxicity, and marine ecology assessments were reviewed by GWRC's expert in marine ecotoxicology, Dr Clair Conwell. No other experts provided evidence on those matters.

Ecology

17.3.3 Dr Emma Newcombe provided evidence on the ecological assessment carried out by scientists from the Cawthron Institute. Broad-scale and fine-scale surveys were used to characterise the habitats and organisms present in the area. Sampling methods included:

1) A sidescan survey to provide a map of the types of seabed present, such as areas of bedrock, boulders, cobbles, coarse and fine sediments.
2) A drop camera survey to verify the features seen in the sidescan images and to obtain a record of organisms living on the surface of the seabed.
3) Observations and measurements of substratum, sessile and mobile organisms (including macroalgae) along transects run across intertidal reefs, and along reef transects 50 m out into the shallow-subtidal area.
4) Grab sampling to obtain data on sediment characteristics and quality, and sediment dwelling benthic macrofaunal at an offshore site beyond the inshore reefs.

17.3.4 The Cawthron Institute's ecological assessment[69] included the analysis and interpretation of the data collected and included the provision of raw data. Ecological effects were assessed using a modified version of the Environmental Institute of Australia and New Zealand Ecological Impact Assessment (EcIA) guidelines. The risk of impacts from the discharge on hard-substratum and soft sediment habitats were assessed as being less than minor. Overall, Dr Newcombe concluded that:

> *"The existing outfall is not having a discernible effect on the shallow-subtidal flora and fauna, and I consider that effects of the discharge will continue to be minimal. Monitoring is planned between eight and nine years, and potentially again prior to the 15th anniversary, plus an additional survey can be triggered by ammonia concentrations at the mixing zone boundary. I consider that this monitoring and appropriate responses (as per proposed consent conditions) will result in a low risk of adverse effects. The overall risk of harm to marine mammals has been assessed as negligible."*[70]

Direct toxicity

17.3.5 Evidence on the direct toxicity assessment of treated wastewater samples and the assessment of EOCs (including microplastics) was provided by Dr Grant Northcott, an expert with 32 years of experience in researching the sources, fates and effects of organic contaminants in the environment. In terms of ecological effects, the overall conclusion of Dr Northcott was:

> *"The DHI dispersion modelling (explained in more detail in the evidence of Mr John Oldman) shows the effluent is diluted 5 to 10-fold within the immediate vicinity of the discharge point and increases to 50-fold within a few hundred metres of the discharge point. At this distance from the discharge point EOCs sourced from the effluent outfall represent no risk to aquatic organisms."*[71]

[69] Appendix F of the AEE

[70] Emma Newcombe EIC para 15.1

[71] Grant Northcott EIC para. 9.8

17.3.6 Wellington Water's expert in water quality and ecology, Mr David Cameron, provided evidence on the general characteristics of wastewater from the Treatment Plant and summarised the expected water quality and ecological effects of the existing and proposed discharge[72] out to 2043 as follows:

a) Less than minor adverse effect from changes in coastal water temperature, pH and oxygen depletion.

b) Less than minor effects from suspended sediment in the water column and deposited sediment on the seabed.

c) Less than minor effects from changes in coastal water salinity.

d) Potentially more than minor adverse effects from increased nutrient concentrations on abundances of plankton algae, benthic algae, herbivorous zooplankton and benthic invertebrates, if wastewater flows and loads increase as predicted.

e) Potentially more than minor toxicity effects from increased ammonia concentrations on benthic organisms in intertidal and shallow subtidal habitats, if wastewater flows and loads increase as predicted.

Potentially more than minor toxicity effects from other unspecified wastewater constituents, including emerging organic contaminants, if wastewater flows and loads increase as predicted.

Less than minor adverse effects from bioaccumulation of contaminants such as lead mercury, cadmium and arsenic because discharge concentrations are low and there is no accumulation of these contaminants on the seabed around the outfall.

17.3.7 Dr Conwell concluded that the AEE and supporting technical reports used appropriate methods to identify the key issues for effects on water quality and benthic ecology[73]. She agreed:

1) With the conclusions of the direct toxicity assessment, which found any residual risk of toxicity would be mitigated by a 182-fold dilution of the effluent in the receiving environment.
2) That the assessment of EOCs comprehensively demonstrated the risk to biota in the receiving environment is low to negligible. However, she also noted that three EOCs exceeded predicted no effect concentrations (PNEC) (bisphenol-A, 17b-estradiol, estrone). Of those, estrone required the most dilution (36-fold) to meet the PNEC threshold.
3) With the analytical approach and findings of the marine benthic ecology report, which concluded that the existing discharge has not had a marked ecological effect, and that effects on long term habitat loss/alteration, nutrient enrichment, and impacted (reduced) salinity would be less than minor.

17.3.8 The panel considered the expert evidence alongside the concerns raised by submitters regarding ecological effects, and the adequacy of the ecological assessment. We find that the general water quality and ecological assessments were carried out appropriately and

[72] David Cameron EIC para. 10.56

[73] Claire Conwell, EIC para. 17

accept Mr Cameron and Dr Conwell's conclusions regarding the ecological effects of the existing discharge. Our consideration of future effects is provided below.

Future marine ecological effects

17.3.9 Wellington Water expects wastewater flows and loads to increase as the Porirua and Wellington north population grows. Mr Cameron highlighted that this will potentially cause concentrations of dissolved organic nitrogen, dissolved reactive phosphorus, total ammonia nitrogen, and possible other contaminants to increase.[74]

17.3.10 Predicted increases in ammonia-N were a particular concern for the panel. Modelling by Ms Jessica Daly predicted that if modifications to the Plant aeration basin are not carried out, winter ammonia concentrations over the proposed 20-year term of consent will increase.[75] She advised the panel that concentrations will increase directly in response to population, up until the capacity of the Plant to process ammonia is reached, after which the rate of increase will accelerate. Should the predicted change occur, Dr Newcombe estimated that ammonia-N concentrations could increase from existing concentrations below guidelines values at the boundary of the mixing zone, to concentrations exceeding the guideline by 5 or 6 times.[76] The panel notes that concentrations within the mixing zone would clearly be higher.

17.3.11 Wellington Water proposed managing the effects of those increases through conditions that provide for adaptive management, based on a "monitor, review and respond framework". The experts generally agreed with the proposed approach.

17.3.12 However, the panel were concerned that the proposed framework was too complex and potentially insensitive to potential ecological effects. We were also concerned about its ability to detect worsening trends early enough to trigger and implement preventative actions before marked adverse effects occurred. The experts were therefore directed to conference on the ecological effects and management of ammonia-N.

17.3.13 We summarise conference outcomes above in section 10. The panel also notes that the matters agreed by the ecological experts were considered in the JWS of the planning experts. The planners agreed to a revised set of conditions that address the outcomes of the ecological conferencing. However, the planning JWS does not make a recommendation regarding two matters where agreement among ecological experts could not be reached (i.e. on whether monitoring biological oxygen demand should be required, and whether a low reliability trigger value for arsenic should be used).

Zone of reasonable mixing

17.3.14 The technical basis of the Applicant's proposed 200 m mixing zone was a matter the panel also had concerns about. We therefore sought additional advice from the hydrodynamic

[74] David Cameron, EIC para. 11.1

[75] Jessica Daly, EIC para. 6.12

[76] Emma Newcombe, EIC para 9.26

modellers. Unfortunately, that did not prove fruitful.

17.3.15 The difficulty with defining an appropriate mixing zone is well summarised in the Wellington Water's legal submissions in reply, along with a submission on why Wellington Water considers the existing 200m mixing zone appropriate.

> *"As noted in Table 1, despite the Panel's prompting, the dispersion experts have not expressed a definitive opinion as to what constitutes a zone of 'reasonable mixing'. Messrs Oldman, Greer, and Zyngfogel agreed that the mixing processes within 200m from the shoreline outfall were 'highly variable, and strongly dependent on the near shore currents, water depth, and temporarily variable metocean conditions.' Further, the experts commented that due to the complexity of the receiving environment, any attempt to adhere to a technically defined mixing zone would result in an 'complex mixing zone shape.'*
>
> *It is therefore submitted that a technically defined mixing zone is not an appropriate approach, due to the spatial variability, differing from one point in time to another. Further, none of the dilution experts have been comfortable specifically advocating for an alternative or smaller mixing zone. Accordingly, Wellington Water submits that the existing 200m mixing zone remains appropriate." [footnotes removed]*

17.3.16 The panel was swayed by the submission of Wellington Water, as it was clear that mixing will not be a static process in such a dynamic environment and acknowledge the reluctance of the modelling experts to recommend a smaller boundary distance. We therefore adopt a 200 m limit for the mixing zone. However, we note that there is potential for the size of the mixing zone to be changed over the term of consent, through coastal Condition 31(f). That condition requires a review of whether the zone of reasonable mixing is appropriate and whether it can be reduced in accordance with the policies of the PNRP which require that the zone of reasonable mixing be minimised.

Submissions

17.3.17 Effects on coastal water quality and the potential for the discharge to cause adverse effects on marine life was highlighted as a matter of concern by multiple Submitters. For instance, submissions on the discharge noted:

> *"It will destroy our lovely beach and hurt our marine life" (Elizabeth Ronberg)*
>
> *"Allowing for the wastewater Plant to discharge untreated sewage into the ocean is ecologically harmful…" (Elizabeth Carrigan-Grant)*

17.3.18 Some Submitters raised concerns about the adequacy of the ecological assessments. For instance, Mr Jim Mikoz, on behalf of the Wellington Recreational Marine Fishers Association, provided a lengthy critique of the assessment in written and verbal submissions, and claimed to have identified serious inadequacies in the scientific assessments of effects.

Water Quality and Ecology Conditions

17.3.19 The Applicant accepted changes to their draft conditions related to water quality and ecology, as recommended by the planning experts with input from other relevant experts. In summary, the conditions accepted by the Applicant include requirements for/related to:

- The preparation of a Monitoring Plan (coastal Condition 5E).
- Monitoring treated wastewater quality and wastewater volumes (coastal Conditions 3, 4, 6, 7, 9, 9A, 11, 12).
- Contaminant concentration limits or trigger values (coastal Conditions 12, 12A, 33b).
- Monitoring receiving water quality (coastal Conditions 13 to 16).
- Reporting requirements (coastal Conditions 18 and 19).
- Incident notification requirements (coastal Condition 22A).
- Ecological surveys (coastal Conditions 28 and 29).
- Monitoring and technology reviews, that among other things, include requirements for addressing elevated ammonia-N concentrations, assessing emerging contaminants of concern, conducting a direct toxicity assessment (coastal Conditions 30A to 35).

Findings

17.3.20 The panel accepts the conclusion that the ecological effects of the existing discharge are less than minor, and that compliance with the proposed consent conditions will maintain future ecological effects within acceptable limits.

1) We have taken a precautionary approach where agreement among the ecological experts could not be reached. As such, we have determined that monitoring of biological oxygen demand should be required, as should the trigger value for arsenic.
2) We also find that the inclusion of conditions specific to a small wetland north of the outfall are not warranted.

17.4 **Recreation Effects**

Expert Evidence

17.4.1 Activities carried out in the Bay are also summarised in evidence of Mr Robert Greenway[77]:

> *"Tītahi Bay is a popular surfing site, particularly for beginners, and an important swimming beach, with the Tītahi Bay Surf Lifesaving Club located centre-stage. The Bay has high levels of use for a wide variety of shore- and water-based activities, including walking, dog walking, paddling, windsurfing, events and general family beach recreation, as well as small boat activity, such as kayaking and stand-up paddle boarding ('SUP'), and fishing. Three sites at Tītahi Bay are monitored by the GWRC for water quality for bathing.*
>
> *Several locally significant surf breaks are located south of Tītahi Bay and the outfall discharge, at Tirau Bay and Open Bay as well as the regionally significant 'Stevo's' at Wairere (see Figure 1 in Attachment 1).*

[77] Robert Greenaway EIC para 8.3 to 8.5

Most of the coast in the study area has easy public access, and almost all has some form of access. Fishing is popular offshore along the Mana Island marine bridge ('The Bridge') – which is largely outside the immediate receiving environment – and from many rocky coastal areas."

17.4.2 Mr Greenaway goes on to conclude that the study area *in toto* is regionally significant for recreation, but there did not appear to be any nationally significant attributes.[78] He goes on the note that:

Many interviewees lived locally and treasured the ability to immediately access a natural setting with good beaches, good walking options and excellent fishing, including out to Mana Island. Walking tracks were considered to be extensive with many quality settings.

17.4.3 Mr Greenway assessed effects on recreation based on the magnitude of the effect and the value of the area (setting) for recreation. He notes:

In terms of perception, my literature review and interviews indicate that recreational users of the study area tend to not participate when health warnings are in place, or after rainfall events when they make their own assessment of health risks. However, the data also indicate that many people ignore both signage and risks associated with rainfall. I have therefore assumed people's perception to match what the QMRA assessment finds, noting that many people are potentially less cautious than the QMRA metrics.[79]

17.4.4 Overall Mr Greenaway concludes that the discharge will have minor adverse effects on coastal and marine recreation, primarily based on QMRA results indicating that the risk of illness at all of the modelled sites (including those 200m from the discharge) is at the "no observable adverse effects level" for contact recreation and shellfish gathering. He also notes that that improvements to the WWTP discharge are unlikely to alter health risks associated with recreation or shellfish-gathering, because many other sources of contamination also affect the area.[80]

17.4.5 No other expert evidence was received on recreational effects.

Submissions

17.4.6 Submitter information on coastal recreational activities carried out in the vicinity of the wastewater outfall is already discussed in the Sections 8.2 (Submitter Appearances and Overview) and 11.3 (Public Health Effects), and is not repeated here. However, the panel accepts that the recreation and amenity values of the Titahi Bay area are highly prized by residents and acknowledges that recreational users have clear concerns about wastewater being discharged near to where their activities are carried out.

Recreation Conditions

17.4.7 Conditions relevant to recreational activities overlap with those related to other issues and are covered under the Public Health, Marine Water Quality and Ecological Effects, and

[78] Robert Greenaway EIC para 8.13

[79] Robert Greenaway EIC para 9.3

[80] Robert Greenaway EIC para 9.13

Community Engagement and Communications sections.

Findings

17.4.8 While the panel acknowledges the high recreational values of Titahi Bay and surrounding areas, we accept the conclusion of Mr Greenaway that the discharge will have minor adverse effects on coastal and marine recreation.

17.5 Landscape and Natural Character Effects

Expert Evidence

17.5.1 An assessment of landscape and natural character effects was provided in Appendix G of the AEE. The assessment of discharge effects includes a short period while the Plant capacity upgrade is being completed, and subsequent operations where all wastewater arriving at the Treatment Plant is fully treated.

17.5.2 In relation to natural character, the assessment states:

> *"In this case, the proposed discharge would have no effect on the existing condition of the natural environment with respect to the rocky escarpment or coastal reefs as there are no new structures required. The discharge should not alter the existing experiential attributes given there will be no discernible difference to that from the existing levels of discharge with no evident difference in water quality at the outfall.*
>
> *The Cawthron study indicates that there are no discernible differences in the prevalence or diversity of coastal species in the coastal waters surrounding the existing discharge as compared to the wider area. It can therefore be reasonably expected that there is likely to be little or no discernible effect on the coastal biotic, or abiotic or experiential elements components arising from the proposed discharge to coastal waters (as compared to a situation of no discharge, for example if the consent was not replaced).*
>
> *A possible abiotic effect arising from the discharge would be a slight change in surface texture of the water in very calm conditions due to freshwater – being lighter than salt-laden water - floating on the surface. This may appear as a smooth patch of water in the area of the discharge at close range. The conditions which give rise to this effect would be very rare, given the strong wave action that occurs at the site. It is therefore unlikely that the increased level of discharge volume would create any discernible difference (either as compared to the existing discharge, or, logically, as compared to a no discharge scenario).*
>
> *The effects on natural character from the proposed discharge are therefore assessed as* ***very low*** *given that with the proposed mitigation measures the discharge is unlikely to result in any changes to the abiotic, biotic and experiential values of the coastal marine area."*

17.5.3 The assessment provides the following conclusion on landscape effects:

> *"Landscape or seascape character in this case, is derived from the distinct and recognisable pattern of elements that occur consistently in a particular landscape. It reflects particular combinations of geology, landform, soils, vegetation, land use and features of human settlement. It creates the unique sense of place defining different areas of the landscape.*

It is expected that the proposed discharge will not alter any biotic, abiotic or experiential values as described above. The effects on the character of the seascape are assessed as very low to the point of negligible."

17.5.4 Visual effects were also assessed as low to negligible.

Submissions

17.5.5 As noted earlier, the panel heard concerns and received photographs from submitters about the effects of wastewater plumes emanating from the coastal outfall[81, 82]. In most cases, the plumes were attributed to the discharge of sludge carryovers. In other cases, the causes could not be reliably identified. Michelle Warshawsky and Marie Wright informed us at the hearing, that on calm days a surface plume can be visible for 3 to 4 hours.

17.5.6 The potential for adverse effects on natural character were raised in the submission of Mr Michael Gunson. Mr Gunson was particularly concerned about the contribution of surf breaks to natural character and the effects of discharging partially treated or untreated wastewater would have on Titahi Bay's seascape.

Findings

17.5.7 With the above amendments to consent conditions included, we find that effects on landscape and natural character will be low.

18 Panel Findings on Coastal Discharge Conditions

18.1 Overview

18.1.1 This section of our decision addresses conditions that related to the nature of the discharge and the receiving environment. Some of our findings on conditions are related to comments invited from submitters in early 2023. Note that we do not find it necessary to comment or provide findings in relation to every topic or condition.

18.1.2 As such, our comments cover the subject matter of the following headings (topics) and ranges in Attachment 1 (coastal Discharge Consent). That is:

- Wastewater quality: Conditions 6 to 12A
- Receiving water: Conditions 13 to 16
- Reporting: Conditions 18 and 19
- Ecological survey: Conditions 28 and 29
- Monitoring: conditions 30A to 35

[81] Hearing presentation by submitters Marie Wright and Michelle Warshawsky, together (1266) and on behalf of Your Bay Your Say (1157)

[82] Photograph provided at the hearing by Mr Bernon (1359)

18.1.3 In addition, due to the interrelated nature of many conditions, our comments of necessity may refer to conditions outside of the topic or condition range.

18.1.4 For completeness Conditions 1 – 5A are general conditions that do not require findings on. Conditions 5B – 5J are addressed in full below in the Cross-Consent section of our Decision (section 22).

18.2 Wastewater quality

18.2.1 The paragraphs below relate to some of the coastal conditions within the group 6 to 12A.

Condition 6

18.2.2 Various submitters, including YBYS and TBRA, were clear in their desire for ongoing monitoring and reporting of the outflow from the WWTP. As noted by Mr Warburton at the hearing, *"Without this data, the consenting authority will have no metrics about the scope of the activity for which consent is sought".*

18.2.3 We are satisfied that the final conditions wording, where coastal Conditions 4 and 6 work together, require monitoring of the outflow from WWTP at a location after the outflow leaves the Treatment Plant, but before it enters the outfall and coastal waters. We believe that this addresses the issue raised by submitters. In the same context, the submission of Ngāti Toa Rangatira on the proposed conditions notes this as a positive development especially for the purposes of emergency overflows bypassing the WWTP Stage 1 and Stage 2 treatment trains, and for flows that bypass Stage 2 treatment where this could impact on the UVT system effectiveness.

Condition 7

18.2.4 YBYS queried coastal Condition 7, seeking greater clarity on where samples are to be taken from (coastal Condition 6) and whether sampling is to be obtained on weekends and public holidays.

18.2.5 The Applicant proposed wording to address Condition 7, which we accept, amending the condition to clarify that each day includes weekends and public holidays. We note that in some other conditions, the term 'normal working day' is used. The Applicant has separately clarified that this excludes weekends and public holidays. We have therefore added "normal working day" as a defined term.

Condition 10

18.2.6 YBYS expressed concern about coastal Condition 10 only applying to influent flow. The panel notes that new coastal Condition 10(a) applies to influent, but 10(b) applies to effluent taken from the sampling point to be established in accordance with coastal Condition 6. Subsequent amendments by the Applicant added clarity on that matter. We accept those changes.

18.2.7 We agree with the Applicant's amendment of coastal Condition 10, to make it clear that coastal Condition 10(b) refers to a sample from the wastewater after it leaves the Treatment Plant.

18.2.8 Flow proportioned samples are required to be taken each week, and analysed for total ammonia nitrogen. We concur with the Applicant's legal reply submission on this as follows:

> *The location point is addressed by Condition 6. "Acceptable levels" for nitrate nitrogen, dissolved reactive phosphorus, total nitrogen, total phosphorus have not been proposed by the experts, as these contaminants are only required to be monitored, and therefore do not have compliance limits.*

Conditions 12 and 12A

18.2.9 YBYS sought clarity on where the samples associated with the parameter limits specified in Coastal Conditions 12 and 12A were to be obtained from. The panel notes that the conditions clearly refer to sampling in accordance with or required by coastal Conditions 7 and 9, respectively, which state that samples shall be obtained from the location identified in accordance with condition 6. The panel does not consider further specification is necessary.

18.2.10 With respect to coastal Conditions 12 and 12A, the panel accepts the recommendations of Dr Conwell in the JWS of ecological experts, that BOD should be monitored, and that the ANZG (2018) guideline for arsenic be used to establish a trigger value for arsenic.

18.3 **Receiving water**

18.3.1 The paragraphs below relate to some of the coastal conditions within the group 13 to 16.

Condition 13

18.3.2 YBYS raised general concerns about the effects of unauthorised discharges causing discharge plumes. In past cases, discharge plumes were largely attributed to the discharge of sludge carryovers or causes that could not be reliably identified. The proposed consent conditions do not provide for discharges of untreated wastewater or for sludge carryover discharges. We have also imposed consent Condition 5, which requires discharges of partially treated wastewater that result from inflow to the wastewater Treatment Plant exceeding the Plant's capacity, to have ceased by the commencement date of the consent. We have been advised (May 2023) that upgrade works to achieve that outcome are on track to be completed by 30 June 2023.

18.3.3 Coastal Condition 13 also requires the consent holder to prevent the discharge from causing: the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material; conspicuous changes in colour or visual clarity; any emission of objectionable odour from the discharge to water; or any significant adverse effect on aquatic life beyond the mixing zone. That includes the effects of plumes from unknown causes.

18.3.4 However, the panel was concerned about how those requirements would be monitored, and about reporting and responding to events with the potential to breach coastal Condition 13. The panel has therefore made related amendments to the Applicant's proposed coastal Condition 5F(a). Those changes require the Monitoring Plan to set out,

how the monitoring required to ensure compliance with coastal Condition 13, will be delivered. Related amendments have also been made to coastal Conditions 16 and 22A that cover assessing and reporting non-routine issues or Plant malfunctions that can adversely affect discharges to the coastal marine area.

18.3.5 In addition, coastal Condition 31 (f) and (g) have been amended to require:

1) The proposed review of the zone of reasonable mixing to include a consideration of whether adverse effects within the zone, and the extent of the zone, are minimised in accordance with the policies of the regional plan and in relation to the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material, and any conspicuous change in colour or visual clarity.
2) To include the results of that review in the proposed outline of technological options or other methods which may be available to reduce the adverse effects identified.

18.3.6 With respect to comments received from YBYS on coastal Condition 13, we concur with the Applicant's legal submission on this as follows:

> *It is unclear how the YBYS comments relate to the details of the reasonable mixing zone. However, the consent does not 'assume or guarantee' that such events will never in fact occur, but makes it clear that they are not authorised by the resource consent. Condition 22A requires notification and monitoring (in accordance with condition 16) to be undertaken in the event of any unauthorised discharge.*

Condition 14

18.3.7 YBYS was concerned about coastal Condition 14 and sought: precise wording from the MfE/MoH guidelines to be used to describe sampling methods; fixed GPS locations for receiving water quality monitoring sites; additional sites within the mixing zone and in Titahi Bay; and for a range of additional information to be provided with each sample.

18.3.8 Mr Warburton also sought changes to the wording on coastal Condition 14 in relation to sampling and water depths.

18.3.9 The panel notes that the methods provided in the proposed conditions are already generally consistent with the guidelines, and that the ecology experts agreed that *"Shoreline sites located 200m southwest and 140m east of the outfall (200m east is not accessible by foot) would be appropriate for monitoring water quality within and at the edge of the mixing zone."* We also acknowledge the agreed position of the public health experts who advised us that the discharge poses an acceptable risk with respect to public health. Consequently, we have no compelling reason to require additional Titahi Bay sites to be monitored.

18.3.10 We consider it reasonable for GPS coordinates to be provided for all monitoring sites, and for the conditions to require water sample collection from approximately 15 cm as per the guidelines. Changes reflecting our findings have been made to coastal Condition 14.

Condition 15

18.3.11 YBYS commented on coastal Condition 15, and appeared to seek an enterococci standard for coastal water quality and the analysis of specified nutrients in coastal water samples.

18.3.12 The panel notes that the conditions offered by the Applicant require:

1) Daily monitoring of enterococci concentrations in treated wastewater prior discharge (coastal Conditions 6 and 8).
2) Additional monthly monitoring at four coastal sites (coastal Conditions 14 and 15).
3) The setting of enterococci trigger levels for discharge concentrations (coastal Condition 21B).
4) Notification of trigger exceedances and requirements for an investigation of the performance of the UV disinfection system to identify their likely causes and, if considered necessary, recommend further investigations, improvements, operational actions or upgrades to reduce the risk of similar exceedances of the trigger value occurring in the future, and an implementation programme for the recommendations (coastal Condition 35A).

18.3.13 The panel considers those to be appropriate measures for tracking and responding to issues related to enterococci, and based on the evidence of the public health experts sees no need for a further coastal standard for enterococci.

18.3.14 In relation to nutrients the panel adopts the Applicant's right of reply *"It is not immediately clear what the submitters' concerns are* [in relation to coastal Condition 15]*, however condition 14a does now include the requirement to sample for the nutrients listed by YBYS. These conditions have been drafted based on the advice of water quality experts."*[83]

Condition 16

18.3.15 Having reviewed how compliance with coastal Condition 13 is to be assessed during unauthorised discharge events, the panel found that the proposed conditions do not adequately address that matter. We therefore amended coastal Condition 16 and 22A to require an assessment of the matters listed in coastal Condition 13 in the event of unauthorised discharges, non-routine issues or Plant malfunctions that affect the coastal discharge, and for those details to be reported under coastal Condition 22A. We also amended coastal Condition 27A to require reports prepared under 22A to be among those posted to the Wellington Water webpage.

18.3.16 YBYS noted wording ambiguity in coastal Condition 16 regarding the timing of additional monitoring. The panel agrees with YBYS that 24 hours is a lengthy period, but we are also mindful that the safety of the personnel doing the sampling is an overriding factor. We have amended the condition to require sampling as soon as it is safely possible to do so within 24 hours of an incident.

18.3.17 The wording of coastal Condition 16(b) requiring samples to be taken as soon as practicable within 24 hours is in our view reasonable, given health and safety risks in adverse weather. We consider that the incidents requiring additional samples as set out in coastal Condition 22A sufficiently describe the discharges that may cause adverse effects.

[83] Legal submissions in reply for Wellington Water Limited. Para. 6.18

18.4 Reporting

18.4.1 The paragraphs below relate to some of the coastal conditions 18 and 19.

18.4.2 We have augmented coastal Condition 18 to note that the Monitoring Plan requirements also include the requirements set out in coastal Condition 5F(a). Condition 5F(a) itself has been amended to include the UVT monitoring required in coastal Condition 12C.

18.4.3 YBYS sought that coastal Condition 19 should include a requirement for the annual reporting to include a summary of inflow and infiltration throughout the wastewater network. We appreciate, as YBYS states, that it is well documented in the evidence that what occurs in the network has a direct impact at the Plant. However, we consider that reporting on the wider wastewater network is outside the scope of this consent.

18.5 Ecology survey and monitoring

18.5.1 The paragraphs below relate to some of the coastal conditions within the group 28 to 35.

18.5.2 YBYS expressed concern about the frequency and design of ecological surveys. YBYS sought to have surveys within a 100 m mixing zone and at 300 m conducted at 4-yearly intervals.

18.5.3 Including via conferencing, the ecological experts considered the risk of the discharge causing adverse ecological effects, agreed on a framework for ecological monitoring, and on a process for proactively responding to increases in ammonia-N. Those measures were incorporated into the conditions agreed to by the Applicant. The panel is satisfied that ecological effects will be appropriately managed through those conditions.

18.5.4 Mr Warburton sought clarity on the reason for undertaking the ecological assessment required under coastal Conditions 28 and 29 and how the outputs are to be used. The panel notes that the outputs of that assessment are linked through coastal Condition 33 to the monitoring and technology review and the report required under coastal Conditions 31 and 32. We are satisfied with that linkage.

18.5.5 Mr Warburton also sought an addition to coastal Condition 28 to ensure the ecological survey explicitly encompasses the natural wetland identified within 100m of the Rukutane Point outfall and an addition to coastal Condition 13 that would require specified effects on natural coastal wetlands to be avoided.

18.5.6 Notwithstanding Mr Warburton's concerns regarding scum and oil/grease films, the panel accepts the conclusions of the expert wetland assessment (see section 5 of our decision). We are particularly swayed by the observation that the feature has been present for at least the last 20 years and the vegetation does not show any obvious quality issues. Although we conclude that Mr Warburton concerns specific to the coastal wetland are not warranted, we have amended coastal Condition 31 to include a review any adverse effects arising from RMA section 107 matters (see section 27 of our decision).

Air Discharge Consent

19 Air Discharge Effects

The Treatment Plant

19.1.1 Each of the Plant elements / processes has a degree of odour associated with it. The Application described the odour as being mostly localised in nature. However, we heard evidence to the contrary and report on odour issues experienced by the public later in our decision.

19.1.2 The Plant elements / processes, which can contribute to odour, include:

- Ventilation stack
- Inlet works with rotary drum milliscreens
- A large extended aeration basin
- Three clarifiers
- UV disinfection
- Final discharge of treated wastewater via a shoreline outfall pipe that currently discharges to the shoreline at Rukutane Point some 700m to the north-east of the WWTP

19.1.3 Treatment of the solids extracted from the wastewater stream includes two gravity thickeners with a final dewatering step using centrifuges. The resulting biosolids are transported by trucks with covered skips and disposed of at the Spicer Landfill. These biosolids are also a potential source of odour. The Application, and our remit, does not extend to considering odour effects related to biosolids disposal at the Landfill.

19.1.4 There is also an 880kW diesel fuelled, standby generator. Under the PNRP, discharge to air from a generator of that capacity is a permitted activity and we have therefore not considered the generator in our decision making.

Matters Investigated

Panel Minutes

19.1.5 Minute 3 directed the air quality experts to specifically conference regarding the odour issue experienced at properties within the Pikarere Farm block. They did so, and we report on their JWS in section 11.

19.1.6 Minute 5 noted the hearing statement of Mr Bernon, a resident of the Pikarere Farm subdivision, who provided us with a photograph from January 2022. The photograph showed an apparent surface plume in coastal waters and Mr Bernon advised us that a strong odour was received at his home at the same time. We asked the Applicant to investigate and comment on the cause of the odour.

January 2022 incident

19.1.7 In response to Minute 5, the Applicant provided a detailed reply regarding the incident noted by Mr Bernon. In summary, the Applicant advised us there was no surface plume (arising from an incident such as sludge carry over) in coastal water at that time. The Applicant based that advice on various Plant measurements taken at the time. It was further speculated that the visible plume may have been due to differences in salinity between the seawater and the treated wastewater given the light wind conditions for part of that day.

19.1.8 Although not specific to this incident, we note the observation of Michelle Warshawsky and Marie Wright, during their presentation to us, that on calm days a surface plume can be visible for 3 to 4 hours.

19.1.9 In the absence of any other incident, the Applicant considered that the odour noted by Mr Bernon would have been related to odour generated at the Plant during light winds. The Applicant advised that improvements in odour treatment may be necessary to prevent similar occurrences.[84] That advice post-dates the agreed findings of the odour experts reported in their JWS.

20 Expert Evidence and Submitter Experience

20.1 Applicant Evidence

20.1.1 Peter Stacey, an expert odour modeller and assessor, presented evidence on behalf of the Applicant. He was not responsible for preparing the assessment of odour effects that supported the air discharge consent application. We accept that his evidence therefore differs from the original position of the Applicant as expressed via the consent application.

20.1.2 Mr Stacey noted the unacceptability of odour impacting on residences within the Pikarere Farm subdivision. To address that acknowledged effect, he advised us of a staged odour improvement programme. In his opinion, a staged approach is necessary due to the difficulty of the determining the level of odour reduction required before an odour nuisance is no longer caused.

20.1.3 In Mr Stacey's opinion, and based on his assessment of wind data, winds that could blow odours from the Plant towards residential receptors to the south (Pikarere Farm) are likely to occur between 42% and 50% of the time. However, he noted that odour nuisance is most likely in light winds (<3m/sec) which occur 17% of the time at the Porirua automatic weather station.[85]

20.1.4 Mr Stacey advised us that Wellington Water has only three recorded odour complaints, but he acknowledged that Mr Bernon (a Pikarere Farm subdivision resident) had complained on at least 13 occasions. Mr Stacey had met with Mr Bernon and with Mr Stevenson

[84] Page 3, *Porirua WWTP Performance – Response to Minutes 5 and 6*, Wellington Water, 18 August 2022

[85] This weather station is 2.3km to the southeast, with significant topography between it and the PWWTP / Pikarere Farm subdivision

(Pikarere farm owner) to understand their experience of odour effects. Odour surveys were also undertaken. Mr Stacey reported that the surveys provided sufficient evidence to justify the concerns of Mr Bernon and Mr Stevenson.

20.1.5 Measurements of hydrogen sulphide (H_2S) were taken at various parts of the WWTP in 2022. Mr Stacey noted that hydrogen sulphide is not the only odorous compound released, but it is a suitable proxy for identifying the significance of the odour discharge. In summary, odour concentrations at the Tunnel Inlet and the Milliscreen Stack were found to be many times greater than would be expected if there were an odour treatment system. Other components of the WWTP were not found to have problematic odour discharge concentrations.

20.1.6 Modelling was undertaken by Mr Stacey to determine contributions from the Tunnel Inlet and the Milliscreen Stack to the receipt of offsite odours. The modelling predicted a maximum 1-hour H_2S concentrations at the Pikarere Farm subdivision of 23 µg/m³ (from the Tunnel Inlet) and 24 µg/m³ (from the Milliscreen Stack). There could be a maximum combined concentration of up to 47 µg/m³ from the two sources. Mr Stacey noted that odour is detectable at much lower levels, and that the MfE Ambient Air Quality Guideline level for H_2S is 7 µg/m³.

20.1.7 Under a FIDOL[86] assessment, Mr Stacey found that the odour intensity at the Pikarere Farm subdivision could range from weak to strong. His evidence about the duration of odour effects is less conclusive but he found that nuisance effects during an incident are unlikely to be greater than 2 to 3 hours. In terms of offensiveness, he noted that an odour characterised as being distinct to very strong, and lasting for any significant period of time, could be considered offensive or objectionable. He agreed with the Pikarere Farms submission that off-site odours received from the WWTP can, at times, be offensive and objectionable. Mr Stacey described this situation as "clearly unacceptable".[87]

20.1.8 Mr Stacey's evidence acknowledged that improvements need to be made to the Plant to reduce off-site odour to acceptable levels. He therefore proposed a 'staged improvement programme'. The programme's initial focus was on easily achieved, short timeframe improvements likely to result in the highest levels of improvement. Later stages would address more complex / longer lead-time improvements.

20.2 Council Evidence

20.2.1 Deborah Ryan, an odour expert with experience in compliance – especially for local authorities, presented evidence on behalf of GWRC. Ms Ryan was the principal author of the Ministry for the Environment's *Good Practice Guide for Assessing and Managing Odour in New Zealand* (2003) and was peer reviewer for the Ministry for the Environment's *Good Practice Guide to Assessing Discharges to Air from Industry* (2008).

[86] Frequency, Intensity, Duration, Offensiveness and Location

[87] Paragraph 14.3, Peter Stacey EIC

20.2.2 Ms Ryan provided two briefs of evidence. Her EIC[88], dated 19 May, was appended to the GWRC section 42A officer's report. The other,[89] dated 15 June, responded to relevant EIC of the Applicant (Peter Stacey, Ron Haverland, and Richard Peterson).

20.2.3 In her EIC, incorporated as part of the s42A report, Ms Ryan stated that it would normally be good engineering practice to treat odour from concentrated sources (e.g. the 10 metre high stack), via a biofilter or scrubber. Notwithstanding that, she accepted the information as provided in the Application, that there are no odour issues beyond the boundary. She noted the submission of Pikarere Farms but considered there was no indication of a widespread odour issue indicating that the building ventilation stack odour discharge or the tunnel vent should be treated. However, based on evidence of Mr Stacey received before the hearing, she modified her EIC assessment via her Addendum evidence.

20.2.4 Ms Ryan's Addendum evidence recommended that the Applicant be required to proceed directly to designing and installing an odour control system or systems for both the stack sources (the Tunnel Inlet and the Milliscreen Stack). She subsequently modified that position via the joint witness conferencing that took place on 6 July 2022.

20.2.5 Ms Ryan's Addendum evidence also responded to the proposed consent conditions. She recommended specific content for the proposed Odour Management Plan (OMP), including procedures for minimising and managing odour extraction fan failure risk. In addition, she considered that parts of the Applicant's staged programme could be brought forward by some months.

20.2.6 In Minute 3, which preceded the Joint Witness Conferencing, the panel stated that:

> *"We consider that the current odour management issue referred to above is a compliance matter that sits outside of the reconsenting process. For that reason, and subject to any resolution achieved through conferencing, we advise the Applicant to proceed with resolving the issue as soon as possible. We see no need for management / mitigation actions to sit 'on hold', waiting for our ultimate decision on the resource consent applications."*

20.2.7 An outcome of the conferencing was agreement between the experts (Stacey and Ryan) that staging of the odour control system, or systems, would benefit from an investigation and optioneering stage to identify the Best Practicable Option for odour treatment. [90]

20.3 Submitter Experience

20.3.1 Pikarere Farm (Mr Stevenson, Submitter 1395) lodged an extensive submission on the air discharge consent application. At the hearing Pikarere Farm was supported by residents of the Pikarere Farm subdivision, in particular Mr Bernon. Mr Bernon described his experience of ongoing odour issues received at his residence uphill of the wastewater Treatment Plant.

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[88] *Technical Assessment of Deborah Ryan on Behalf of Greater Wellington Regional Council*, 19 May 2022

[89] *Addendum to the Primary Brief of Evidence of Deborah Ryan on Behalf of Greater Wellington Regional Council*, 15 June 2022

[90] *Joint Statement of Odour Experts*, 6 July 2022

20.3.2 In his submission, Mr Stevenson noted the finding of a STNZ report[91] that the combined ventilation outputs are in excess of 800,000m^3 / day. Mr Stacey, for the Applicant, agreed with that figure. Mr Stevenson also noted that the discharge volume significantly increased over the period measured by the STNZ reports.

20.3.3 We consider that the current odour management issue referred to above is a compliance matter that sits outside of the reconsenting process. For that reason, and subject to any resolution achieved through conferencing, in Minute 3 we advised the Applicant to proceed with resolving the issue as soon as possible. We expressed the view that there was no need for management / mitigation actions to sit 'on hold', waiting for our ultimate decision on the resource consent applications.

20.3.4 Tītahi Bay Surfriders (Submitter 1338) – spoke about the supposed odour suppressant. In his presentation to us at the hearing, James King of the Surf Riders described a sickly-sweet smell.

21 Panel Findings on Air Discharge Conditions

21.1.1 We received no comments from submitters on the air discharge consent conditions proposed by the Applicant.

21.1.2 The panel finds that the consent conditions are generally appropriate, although we have modified them for reasons described in section 22.5 of our report. The air discharge conditions now share similarities with the coastal discharge conditions, with regard to the common issue of community engagement.

[91] Source Testing New Zealand

Cross-Consent Matters

22 Cross-Consent Matters

22.1.1 This part of our decision covers certain matters that have common relevance across the coastal and air discharge consents. The two areas of particular relevance across the consents are:

- Partnership with Ngāti Toa Rangatira
- Community engagement

22.1.2 Our purpose in identifying these cross-consent matters is to ensure that the coastal and air discharge consent conditions reflect an integrated approach to management of important relationships.

22.1.3 In taking that approach, we have been influenced by the views of Submitters, and by the historically poor relationship between the Applicant and the people whose lives are intertwined with the receiving environments.

22.2 Partnership with Ngāti Toa Rangatira – Effects and Issues

Background

22.2.1 Ngāti Toa Rangatira are mana whenua and exercise rangatiratanga and inherent kaitiakitanga responsibilities over their rohe or tribal domain which includes the application site. Ngāti Toa Rangatira authored a CIA which they say is written to give effect to their rangatiratanga – the CIA accompanied the Application. The CIA set out the effects of the outfall and the effects of the discharge on their cultural values. Their cultural values include maintenance or enhancement of the mauri, mahinga kai, customary fishing, and traditional practices such as waka launching, voyaging, baptisms, blessings, swimming and other recreational activities. The CIA highlighted that the inability to exercise these traditional practices, places at risk the transfer of knowledge about and associated with them. The absence of such relationships adversely affects iwi identity and the cultural wellbeing of whanau.

22.2.2 The CIA stated that due to the nature of the discharge (sewage or human waste) and the cultural significance of their taonga and receiving environment – Te Moana o Raukawa (Cook Strait) – the adverse cultural effects are considered to be potentially significant and over the duration of the consent are likely to have more than a minor effect on their cultural values and receiving environment.

22.2.3 The CIA proposed conditions of consent to mitigate actual and potential adverse effects on cultural values. However, the CIA notes that these measures cannot fully provide for the tino rangatiratanga of Ngāti Toa Rangatira in relation to the exercise of environmental management. The measures proposed in the CIA are:

- A Wastewater Management Partnership Group

- An Environmental Review Panel with provision for Ngāti Toa Rangatira involvement
- Research initiatives
- A kaitiaki monitoring programme
- A 10 year term of consent

Evidence

22.2.4 Te Rūnanga o Toa Rangatira Pou Toa Matarau Ms Naomi Soloman spoke to the hearing, she was also accompanied by Ms Onur Oktem-Lewis.[92] Ms Soloman noted that Ngāti Toa Rangatira opposed the establishment of the Porirua WWTP which occurred some thirty years ago – impacts to their cultural values were known and indicated then and they still exist today.

22.2.5 Ms Soloman stated that their concerns will be exacerbated by the projected population growth in Porirua unless significant upgrades to the wastewater Treatment Plant and network are undertaken. She acknowledged the commitment of Wellington Water to address this problem through a two-pronged process involving the renewal of consents for the WWTP and a separate process focussed specifically on upgrading the network to prevent discharge overflows.

22.2.6 Ngāti Toa Rangatira has worked with Wellington Water since 2017, including the development of the Application, the alternatives assessment process, and the development of conditions. The parties (Ngāti Toa Rangatira, Wellington Water and PCC) developed conditions that, to the extent possible, were intended to address effects on the values of significance to Ngāti Toa Rangatira, based on the recommendations in the CIA detailed above.[93]

22.2.7 Ms Soloman[94] acknowledged that the way wastewater is treated in Aotearoa under the resource management system, fails to address ongoing breaches (the cultural and spiritual abhorrence) of mana whenua tikanga caused by the disposing of human waste to their Moana. This meant that the consenting process placed Ngāti Toa Rangatira in a compromised position of selecting the least harmful option. Often the reason for this is because the iwi is told 'there is no other way', or that more culturally sensitive options are too costly. In effect, although public health and environmental standards may be met or enforceable under consent conditions, cultural values continue to be adversely impacted.

22.2.8 Ms Soloman and Ms Oktem-Lewis confirmed at the hearing that overall, they were comfortable with the conditions as drafted, albeit noting the discomfort around tikanga

[92] Principal Resource Management Advisor and Principal Planner for Te Rūnanga o Toa Rangitira

[93] The agreed conditions are set out in the Applicant's Reply dated 1 March 2023 at para 3.9

[94] N Soloman hearing speaking notes page 4

identified above. They were however firm that the duration of the consent should be limited to 10 years.[95]

22.2.9 The Planners' JWS considered the duration of consent by reviewing the various checks and balances that are built into the recommended consent conditions, including those amendments provided in the JWS. They considered that in combination, the conditions provide sufficient checks and balances[96] over the recommended 20 year consent duration. They highlighted that this is also in accordance with objectives and policies of the RPS and the PNRP. The planners agreed the provisions within those documents recognise and have particular regard to the benefits of the WWTP as regionally significant infrastructure. They also agreed that, in accordance with s104(2A), a 20-year term would give appropriate regard to the value of the investment of the existing consent holder.

22.2.10 During the hearing we asked the Applicant to consider alternative conditions that would apply if Te Rūnanga o Toa Rangatira decide not to accept the invitation[97] to join the Porirua Wastewater Treatment Plant Working Group (WTPWG). We did so, based on our opinion that if Te Rūnanga o Toa Rangatira does not accept the invitation, then the originally recommended conditions would not adequately respond to the policy directions of the RPS and the PNRP. Furthermore, such an outcome would effectively place the Applicant in the position of not having to do anything to address effects on cultural values.

22.2.11 The Planning JWS subsequently set out refinements that we agree will strengthen the obligations of the consent holder and bring them more closely into line with the planning framework, this is referred to in the JWS as the 'alternative pathway / Plan B'.[98] This pathway will operate as a contingency in the event that the invitation to join the Porirua WTPWG is not accepted by Ngāti Toa Rangatira within one month, and it also provides confidence that the cultural policy framework of the relevant planning documents will at least be partially met. The alternative pathway conditions ensure that, as a minimum, independent Te Ao Māori and Mātauranga Māori expertise will be provided, and that some information about the discharge's effect on the taonga species identified by the CIA will also be provided.

22.2.12 The Planning JWS also provided a re-assessment of the Application against the mana whenua / tangata whenua objectives and policies in the NZCPS and the PNRP in light of the discussion above.[99] The re-assessment found that various conditions provide mechanisms for Ngāti Toa Rangatira to participate in the functions of the WTPWG, and that overall 'to the extent possible within the resource management framework and within the scope of the resource consent application, the proposal is consistent with NZCPS Objective 3 and Policy 2 to: take into account of the principles of the Treaty of Waitangi; recognise the role

[95] This was further reiterated in correspondence from Te Runanga o Toa Rangatira Inc Pou Toa Matarau Paula Collins (dated 3 May 2023).

[96] Planning JWS dated 23 December 2022 at para 77 and 78

[97] R Peterson EIC 26 May 2022 Condition 5B

[98] Described in the Planning JWS dated 23 December 2022 at para 18-22

[99] Planning JWS dated 23 December 2022 outlined at para 23-26 and detailed in Annexure C to the JWS

of tangata whenua as kaitiaki and provide for tangata whenua involvement of the coastal environment.'

22.2.13 Ultimately, we considered that the WTPWG conditions are important in ensuring that the consent appropriately responds not only to the conditions agreed to by Ngāti Toa Rangatira, but also to the national and regional policy directions with respect to mana whenua / tangata whenua values, Māori relationships with resources and taonga, and kaitiakitanga. The planners stated that their agreed conditions mean the proposal is now more consistent with the PNRP policies, although still not fully consistent.[100]

22.3 Partnership with Ngāti Toa Rangatira – Findings

22.3.1 We consider that a 'do nothing' approach to the incorporation of cultural values in ongoing decision making is not acceptable.

22.3.2 We appreciate that Ngāti Toa Rangatira, prior to the hearing, had expressed general acceptance of the conditions and did not comment further on them during the hearing process. We say generally because Ngāti Toa Rangatira clearly find the discharge of human wastewater, to the culturally sacred waters of Te Moana o Raukawa, to be repugnant. To 'agree' to the discharge would essentially place them in conflict with their tikanga and their kawa and hence be extremely difficult. The position of conflict and compromise of Ngāti Toa Rangatira was also reflected in their desire for a 10 year consent duration. We acknowledge the torn position faced by the iwi.

22.3.3 Although noting the Ngāti Toa Rangatira acceptance of the originally proposed conditions, we find that the final conditions attached to our Decision respond more appropriately to the direction of the national and regional planning documents (NZCPS and the PNRP) with regard to cultural matters. The final conditions are more appropriate in terms of the language used and the outcomes sought, although they are not necessarily fully consistent with national and regional direction.

22.3.4 For example, the final conditions make it clear that with respect to the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira, the consent holder must assess options and implement improvements.[101] This is in relation to minimising adverse effects of the discharge on values of significance to Ngāti Toa Rangatira.

22.3.5 As noted in paragraphs 22.2.10 and 22.2.11 above, the conditions also require that Ngāti Toa Rangatira is invited to join the WTPWG. It is our hope that Te Rūnanga o Toa Rangatira will accept that invitation, noting that the invitation remains open for the duration of the consent. However, if Te Rūnanga o Toa Rangatira does not accept that invitation within 1 month, there is a 'back stop' condition that will ensure an independent person with expertise in Te Ao Māori and Mātauranga Māori is appointed to the WTPWG.[102]

[100] Planners' JWS dated 23 December 2022 Annexure C page 2

[101] Condition 5G(a) and (b), and 5H(b)

[102] Condition 5I

22.3.6 The conditions also require preparation of a monitoring plan that, among other matters, requires surveys of the taonga species paua, kina and lobster.[103] The consent holder is also required to invite Ngāti Toa Rangatira to prepare a Kaitiaki Monitoring Programme to assess the effects of the discharge from a Mātauranga Māori perspective.[104] If that invitation is not taken up by Ngāti Toa Rangatira, then regard will be had to the data collected on paua, kina and lobster, as outlined above. The Kaitiaki Monitoring Programme (or in its absence, data on paua, kina and lobster) will feed into the assessment of options and implementation of improvements referred to in paragraph 22.3.4 above.

22.3.7 Notwithstanding actions taken under the 'back stop' conditions referred to in the paragraphs above, if Ngāti Toa Rangatira subsequently choose to join the WTPWG, then the 'alternate' appointment of an independent person with expertise in Te Ao Māori and Mātauranga Māori will be disestablished. All other 'original' WTPWG conditions will apply, with any necessary modifications in light of the time elapsed, and any steps already taken, since commencement of the consent.[105]

22.3.8 With regard to consent duration, we agree with the Planners' JWS assessment that the checks and balances built into conditions (subject to our amendments), is acceptable and responds to the policy provisions in the PNRP as noted above. Our decision on a shorter duration than recommended by the planners and sought by the Applicant (see section 30.2) reflects, in part, the need to address cultural values. We are also wholly supportive of incorporating cultural values into the ongoing work of options assessment, management, and monitoring.

22.4 Partnership with Ngāti Toa Rangatira – Conditions

22.4.1 The CIA recommendations which were incorporated into the condition set agreed to between the Applicant and Ngāti Toa Rangatira were designed to address effects on the values of significance to them. During the course of the hearing some refinements were made to the relevant conditions – the effect of these has been to strengthen the relevant obligations and bring them more closely into line with the planning framework.[106] These include:

1) The collaborative WTPWG coastal Conditions 5B – 5J. The functions of which include an annual review process that makes specific reference to consideration of adverse effects on values of significance to Ngāti Toa Rangatira (coastal Condition 5C).
2) The Kaitiaki Monitoring Programme (coastal Condition 5F) and related reporting detailed in coastal Condition 19.
3) The assessment (after 4 years) of options to minimise adverse effects on values of significance to Ngāti Toa Rangatira, and work towards the removal of human waste

[103] Condition 5J(c)(i)

[104] Condition 5F(b)

[105] Condition 5J(e)

[106] Described in the Planning JWS, dated 23 December 2023, at para 23-26.

(human blood and tissue) from the WWTP discharge to coastal waters (coastal Condition 5F).

4) The review of the OMCP to integrate Ngāti Toa Rangatira tikanga in the Treatment Plant operation and discharge (coastal Condition 21A).

5) The express inclusion of effects on values of significance to Ngāti Toa Rangatira, and conclusions of the options assessments at (3) above, as considerations for the 'monitoring technological review' (MTRR) within coastal Condition 31(e) and (g) which is required in approximately the 10th and 15th years of the consent, if not triggered earlier (coastal Conditions 33 and 29).

22.4.2 The express inclusion of the MTRR process (at Condition 31(e)) and assessment of options to minimise adverse effects on values of significance to Ngāti Toa Rangatira (at (3 above)) are among the reasons for GWRC to review the consent (coastal Condition 36).

22.5 Community Engagement

22.5.1 Broadly, three aspects relating to community engagement and the communications strategy / plan were identified in submissions and during the course of the hearing. These were requests and support for:

- Continuation of the Community Liaison Group and additional members.
- Establishment of a 'new' community group for odour issues.
- A robust communications strategy/plan for the wider community.

The Community Liaison Group

22.5.2 The Community Liaison Group (CLG) was established as a requirement of the previous / existing consent[107] and mandated to include representatives from the Titahi Bay Residents and Ratepayers Progressive Association, RPH, and the community as determined by the Risk Communication Strategy.[108] The consent holder was required to prepare an annual written public report about the consultation activities undertaken, and a copy of that report was also forwarded to each member of the CLG.

22.5.3 The submission of Te Awarua-o-Porirua Harbour and Catchments Community Trust[109] requested that the Trust be a named member of the CLG. The Trust sought inclusion because of its role in advocacy and guardianship relating to the restoration of the health of the streams and marine waters of the area. In evidence, Ms Conland for GWRC agreed that the Trust's inclusion would be appropriate and added their name to the list of parties referred to in the relevant consent condition. She further stated that the consent holder may invite any other parties to attend the CLG. This differs slightly to the previous consent whereby membership of the CLG was specified in the condition.

[107] Condition 24 of WGN980083 [33805]

[108] Condition 22 of WGN980083 [33805]

[109] Submitter 1309

22.5.4 In evidence, Mr Peterson for the Applicant also supported the continuation of the CLG to provide an avenue through which stakeholders can be informed about the operation, maintenance and upgrade of the WWTP and its compliance with the conditions of the resource consent. He explained that proposed coastal Conditions 25, 26 and 27 set out the requirements for the consent holder to establish and maintain a CLG. These conditions identify that the purpose of the group is to provide a forum through which the consent holder can inform participants about performance of the WWTP relative to consent conditions, monitoring results, complaints, the monitoring and technology review, and WWTP improvements.

22.5.5 Coastal Condition 26 attached to our Decision requires the consent holder to invite key stakeholders and Submitters to join the group (being substantially the same parties who are members of the CLG established under the previous / existing consent), but notes that it does not restrict membership should other interested groups or individuals be identified in the future. Mr Peterson agreed with Ms Conland that Te Awarua-o-Porirua Harbour and Catchments Community Trust should be added to the list of parties invited to join the CLG.[110]

22.5.6 There was wide support from Submitters (including from RPH and YBYS), GWRC and the Applicant for continuation of the CLG.

Public Communications

22.5.7 Notification of discharge related issues, and the provision of transparent information and data, was raised in submissions and spoken to at the hearing. Particular submissions and presentations included those of Gillian Warren, Graham Findlater, Titahi Bay Surfriders, YBYS and the Titahi Bay Residents Association[111].

22.5.8 A clear theme that we heard in the hearing was the difficulty that people and their organisations have in accessing information about the WWTP operations. The information of interest includes the Plant's compliance, and potential sludge carryovers / other Treatment Plant malfunctions that may affect people's amenity and health risks in using the coastal environment. The submission of Ms Warren referred to the need for information and data measurements to be transparent and accessible, enabling surfers and others to know where the worst impacted and therefore riskiest parts of the Bay may be.

Public communications – real time information

22.5.9 Submitters also wanted the ability to access the information in as near to 'real' time as possible. Mr James King (Titahi Bay Surfriders) spoke at the hearing, reiterating that people surf in all weather conditions, and that often the best surf occurs during storm events. He also spoke about the Auckland 'Safeswim' website. We understand that this website provides live information on water quality and swimming conditions. There was

[110] Mr R Peterson EIC paras 12.20 – 12.21 and 16.27

[111] Submission numbers 1348, 1342, 1338, 1157 and 1253 respectively

acknowledgement from Mr King of the difficulties presented by the time delay between a WWTP incident, the ability to take samples, getting those samples tested, and then assessing the results. Mr King acknowledged that while 'real' time may not be possible – as near to real time should be possible. Titahi Bay Surfriders submitted that where the weather and or sea conditions make sampling dangerous, a record of the circumstances should be made and communicated via appropriate channels.

22.5.10 Ms Conland[112] in her officer's report, and Dr Conwell in evidence, both discussed the ability to provide 'real time' information and the problems with monitoring for bypass events. They acknowledged that monitoring is largely constrained by the health and safety logistics of sampling in the coastal marine area (CMA) during periods of adverse weather. They expected that sampling would not immediately take place during or after a discharge incident if sea conditions could compromise the safety of personnel. They also acknowledged that surfers are out in these adverse weather events as the ideal surfing conditions often coincide with adverse wet weather events.

22.5.11 In evidence for RPH, Dr McKenzie stated the importance of people understanding that, for activities undertaken during or after significant rainfall, there is a heightened health risk in recreational water use. We were told that, to reduce the level of risk, RPH advises that people should wait for 48 hours after significant rainfall before entering the water for recreational activities.

22.5.12 In evidence, Mr Hutchison[113] reiterated the difficulties of taking samples during adverse weather events in this coastal location – and hence the constraint on providing real time information. He noted the range of difficulties primarily related to health and safety of the persons involved, which was consistent with the opinions of Ms Conland and Dr Conwell. However, Mr Hutchison also agreed there will be instances where sampling can safely be undertaken earlier than 24 hours after a discharge incident. Coastal Condition 16 now provides for sampling to be undertaken as soon as practicable (accounting for health and safety requirements) within 24 hours of a notified incident, and 48 hours after the incident, if safe to do so. Mr Hutchison saw limited value in hourly sampling (as requested in the submission of the Titahi Bay Surfriders) in terms of providing any additional information regarding the possible health risks for recreation activities. However, he conceded that providing monitoring results in a more timely and publicly accessible manner is something that has merit and was being investigated.

Public communications – risk strategy

22.5.13 RPH noted that ongoing upgrades to the wider wastewater and stormwater public (and private) network systems will be necessary to prevent overflows at the WWTP. The need for upgrades will be exacerbated over time, due to increased flows arising from climate change and population growth in Porirua. In that context, RPH recognised the significant

[112] M Conland S42A para 192

[113] S Hutchison EIC para 15.45

challenges in managing wastewater overflows. As mitigation, RPH sought the development of a robust and effective public health risk communication plan.

22.5.14 RPH emphasised the importance of effective communications with the public regarding overflows, and recommended that if consent is granted, the Applicant should be required to develop and implement a Public Notification Strategy for discharge incidents. RPH submitted that the Strategy should include notification of local iwi, the CLG members, and key contacts in recreational water user groups. It should also use several different methods for communicating with potentially impacted people.

22.5.15 In oral submissions, Dr McKenzie (RPH) drew our attention to the existing Strategy[114] and recommended that it should be mandated as a condition of consent. In response, the officer's addendum report[115] recommended changes to proposed coastal Condition 26A. The condition had previously referred to a public communications plan, but Ms Conland recommended it be refocused on the Risk Communication Strategy (RCS) – including procedures for public risk notifications. Her recommended changes were subsequently adapted in joint witness conferencing between the planning experts, and that final condition is attached to our Decision.

22.5.16 In evidence, Mr Hutchison[116] referred to coastal Condition 22 of the July 2000 consent, noting that the RCS required by that condition was updated by WWL in 2015 with input from RPH, and that this document will be further reviewed and updated. He stated that the document will be incorporated into the Operational Management and Contingency Plan (OMCP) required by proposed coastal Condition 20 and that a complaints register and process is mandated by proposed coastal Condition 23. He noted that the same complaints register and process was included in the proposed air discharge consent conditions.

22.5.17 Mr Peterson supported the recommended conditions with one minor amendment being that the RCS is reviewed on an 'as required' basis in response to feedback from the CLG, any changes to the operation of the WWTP, and the impacts on public health. This amendment has been incorporated into proposed coastal Condition 26A.

22.5.18 Ms Conland[117] also recommended that the Applicant develop a communications plan or plans. These plans should set out how, on an ongoing basis, the Applicant will liaise with the residents of Pikarere Farm subdivision about WWTP air discharges,[118] and with Titahi Bay residents about wastewater discharges. In her opinion, having such a plan would provide certainty to residents about where and when discharge information can be obtained.

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[114] As Appendix D of Mr S Hutchisons EIC titled 'Porirua WWTP Risk Communication Strategy, Nov 2021

[115] Para 38, Addendum to the s42A Report of Michelle Conland, 16 June 2022

[116] S Hutchison EIC paras 15.39-15.40 and 15.42

[117] Ms Conland S42A para 265

[118] Discussed in detail in the odour section of this decision report

22.5.19 Ms Marie Wright and Ms Michelle Warshawsky[119] of YBYS spoke about their recent work collaborating with Wellington Water to develop digital platforms for the Streams and Bays Community Groups Project Plan. The intention of that work is to achieve better access to accurate data. YBYS suggested that the same approach could be replicated for the Porirua WWTP. YBYS proposed specific amendments to coastal Conditions 16 and 22A covering who should be notified in the event of a WWTP discharge incident, and the timeframes for that notification to occur. YBYS also sought that any and all complaints made to the GWRC Environmental 24 hour Hotline be given a reference number and logged in a register. In relation to coastal Condition 24 YBYS requested that signage be consistent with other Treatment Plant s. The group's submission supported the CLG as a conduit, and the Communications and Risk Communication Strategy as a mechanism, to ensure better public awareness and ability to access relevant information.

Public communications – webpage

22.5.20 Ms Paula Birnie spoke to the hearing and recommended that reporting under the OMCP should be accessible to the CLG and others on a public website.

22.5.21 Mr Warburton, commenting on conditions recommended in the Planners' JWS,[120] requested the creation and maintenance a dedicated webpage where the consent holder would upload (and update where necessary) key and relevant documents to which this consent refers. He also listed as a minimum the documents that he considered should be uploaded.

22.5.22 The Applicant's Reply agreed that a dedicated webpage would be beneficial to the community and noted that the Plant currently has a website and Wellington Water are working to improve this resource for the community.[121] Coastal Condition 27A has been developed to address the matters raised by Ms Birnie and Mr Warburton.

22.6 Community Engagement – Findings and Conditions

22.6.1 The air and coastal discharge consents include conditions in relation to the CLG, public health Risk Communication Strategy (the wastewater discharge), Communications Plan (the air discharge), and the public webpage in response to Submitter concerns.

22.6.2 We agree with RPH and other Submitters that there is a need for a robust RCS for the wider community – focussed on communicating about the health risks associated with unconsented discharges. A public health RCS was developed in response to a condition of the July 2000 consent, although that requirement was only in relation to the wastewater discharge. We agree with the continued requirement for a Strategy and with the detail of its purpose, content, and review requirement as set out by coastal Condition 26A. The air discharge consent includes a requirement for a Communications Plan (air Condition 12)

[119] Your Bay Your Say (submission 1157)

[120] Memorandum from Brian Warburton 15 February 2023

[121] Link to WWL Porirua Wastewater Treatment Plant webpage

which is focussed on more general communications, which we accept is appropriate to the circumstances of that consent.

22.6.3 We see value in the CLG also being informed about air discharge consent matters. This would enable the CLG to be informed of a more complete picture of the operations of the Treatment Plant and we have included this requirement in coastal Condition 25.

22.6.4 We agree with and see community benefit in Ms Birnie and Mr Warburton's requests for a public webpage dedicated to the Porirua WWTP, where Wellington Water will upload key relevant documentation related to the consent. As with the CLG we see benefit in air discharge consent matters also being uploaded to the webpage for people to access. The webpage would effectively become a 'one stop shop' for information about the operation of the Treatment Plant and this is included in coastal Condition 27A and air Condition 12B.

22.6.5 In relation to the CLG, coastal Condition 25 requires the consent holder to maintain a CLG to act as a forum for consultation and liaison with the community and be used as a vehicle to provide information regarding the Porirua WWTP. This condition has been strengthened to include (among other things) a requirement to report to the CLG any incidents, unauthorised discharges, or any discharges of partially treated wastewater notified under coastal Condition 22A and any air discharge consent matters.

22.6.6 In relation to CLG coastal Conditions 25 (a) to (e) and 27, annual consent reporting requirements are within Condition 19 including reference to Condition 5F(a) which we consider sufficient. We have in Condition 27A included a requirement to provide the most recent consent authority compliance monitoring on the webpage. We consider the requirement per Condition 27 for a meeting of the CLG to be held at least once every calendar year is appropriate.

22.6.7 Coastal Condition 26 refers to the CLG group membership, acknowledging that other parties may be invited to attend.

22.6.8 In relation to coastal Condition 22A regarding wastewater incident notification, there is a requirement that the consent holder must notify the Manager as soon as practicable of any non-routine issues or Plant malfunctions, and this is linked to coastal Condition 16 which requires sampling to occur as soon as it is safe to do so, ideally within 24 hours of the discharge commencing – and again approximately 48 hours after the incident.

22.6.9 The public health RSC requirements are contained within coastal Condition 26A. The condition requires the consent holder to seek the views of the CLG about how the Strategy will be used to communicate the potential health risks associated with bypasses, Plant malfunctions and unconsented wastewater discharges. The condition links the Strategy with the CLG and coastal Condition 22A (wastewater incidents).

22.6.10 Coastal Condition 27A requires the consent holder to maintain a dedicated webpage that provides the community with access to information and reports relevant to the coastal and air discharge consents as discussed above.

22.6.11 Coastal Condition 27A as proposed by the planning experts specified, at 'a minimum', the following information and reports:

a) The Monitoring Plan required under coastal Condition 5E.

b) The assessment of options report required under coastal Condition 5H.
c) Quarterly and annual reports required under coastal Conditions 18 and 19.
d) The OMCP required under coastal Condition 20.
e) Ecological survey reports prepared in accordance with coastal Conditions 28 and 29.
f) Monitoring and technology review reports prepared in accordance with coastal Conditions 31 to 33.

22.6.12 Reflecting Submitter concerns expressed during the hearing, and comments provided on the proposed conditions,[122] we consider it in the public interest to expand that list, by adding a requirement that the webpage also includes:

g) Incident reporting required by coastal Condition 22A.
h) The RCS required by coastal Condition 26A.
i) The most recent consent authority (GWRC) compliance monitoring report.
j) An up to date Complaints Register prepared in accordance with coastal Condition 23

22.6.13 We see value in the air consent having the same requirement for reporting via a webpage. For clarity we do not expect two webpages to be maintained. Rather, the webpage required by coastal condition27A would be supplemented by upload of the documents listed in air Condition 12B. As a minimum, we find that the following air discharge consent information and reports should be uploaded to the joint webpage:

- The Odour Management Plan required under air Condition 7.
- A Complaints Register prepared, and maintained, in accordance with air Condition 5.
- Any report prepared under air Condition 6.
- The Odour Survey Report prepared under air Condition 8B.
- The results of the odour Best Practicable Option review prepared under air Conditions 8K and 8L.
- The odour Communications Plan required by air Condition 12.

22.6.14 Overall, we find that the conditions referred to in this section of our decision will work together and provide a robust process for informing and notifying the public about potential risks related to WWTP incidents. The condition framework requires incidents to be reported by the consent holder to GWRC and the CLG. We consider that this goes some way to alleviating the submitter concerns identified above. The webpage will allow the public to have the ability to access relevant information, responding to concerns about access to information and better public awareness.

[122] Mr Warburton and Ms Birnie in particular

Statutory Matters

23 Section 104(1)(b) Consideration of Statutory Instruments

We accept that relevant provisions from the following statutory instruments have been appropriately identified by the planning experts. We have had regard to these in reaching our decision and making our recommendation.

23.1 New Zealand Coastal Policy Statement (NZCPS)

23.1.1 The relevant objectives and policies of the NZCPS were set out in the Application at Appendix K these being Objectives 1-4 and Policies 2, 11, 13, 15, 18, 21 and 23. Ms Conland agreed with this assessment but considered that Objective 6 and Policy 3 were also relevant.

23.1.2 Objective 6 seeks to enable people and communities to provide for their social, economic and cultural wellbeing and their health and safety while recognising a number of matters. Policy 3 relates to adopting a precautionary approach which in her opinion is relevant as the ongoing effects of the discharge are uncertain, especially in relation to certain aspects such as viral contamination, EOCs, and as a result of a lack of kaitiaki monitoring.[123]

23.1.3 In relation to Objective 6, Ms Conland acknowledged the benefits to the health and safety of the residents of disposing wastewater safely however noted that the discharge also has the potential to affect the health and safety of those people who use this part of the CMA as a resource. She did however point out that the discharge of human sewage to water adversely affects the cultural wellbeing of the community, including Ngāti Toa Rangatira.[124]

23.1.4 Mr Peterson in his EIC agreed that Objective 6 is relevant and considered that the proposal was consistent with it. He provided no comment on Policy 3 – the precautionary approach.

23.1.5 We agree that the objectives and policies mentioned above are relevant to the Application and overall we concur with the assessment provided by Ms Conland and Mr Peterson, taking into account the discussion below.

NZCPS Policy 11 – Indigenous Biological Diversity

23.1.6 Of particular importance is Policy 11 in relation to indigenous biological diversity. Species which are regarded as threatened or at risk are protected by NZCPS Policy 11(a)(i) or 11(a)(ii), whilst indigenous habitats are protected by Policy 11(a)(iii) or 11(b)(iii).

23.1.7 Ms Conland and Dr Conwell noted that an assessment of Policy 11(a) was included in the Application but that Policy 11(b) had not been assessed, and this was the subject of a s92

[123] Paragraph 280, s42A Officers Report

[124] Paragraph 279, s42A Officers Report

request. The Applicant's response indicated that an assessment was undertaken in relation to avoiding adverse effects on the specified values, but the technical assessments concluded that there were no significant adverse effects. For that reason, the policy was not addressed further. The Applicant advised that the intent of Policy 11(b) was set out in the AEE (Wastewater) under section 5.8 which addressed the potential effects on aquatic life and section 5.13 which addresses how any more than minor adverse effects will be addressed should they occur.

23.1.8 Mr Warburton spoke to Policy 11(a) (and Policy 39A of the PNRP) stating that they were particularly relevant and both require avoidance of effect*s on "indigenous taxa listed as threatened or at risk*". He did not consider that the Applicant had provided unequivocal statements that either threatened or at-risk taka are not present, or threatened or at-risk taxa are present but effects on them will be avoided – he concluded that the Applicant's evidence suggests that they are likely present and the effects on them is likely to be less than minor, but not avoided.[125] In his mind less than minor is not the same as avoidance.

23.1.9 Mr Peterson considered that the proposal was consistent with this policy. In his assessment of this policy he drew on the evidence of Mr Cameron, Dr Newcombe and Mr Greenaway. In reaching his conclusion he considered each of the following values referenced in the policy separately:

- Ecosystems, natural habits.
- Water based recreation and shellfish gathering.
- Cultural activities.

Policy 23 – Discharge of Contaminants

23.1.10 Ms Conland said that the assessment contained in Appendix K of the Application was correct in that there is no untreated discharge of human sewage. In relation to the assessment of alternatives, a full consideration of alternative methods, sites and routes has been undertaken. This directly involved Ngāti Toa Rangatira and their values informed the assessment of these alternatives.[126]

23.1.11 Mr Peterson noted in his evidence that the proposed conditions allow partially treated discharges to intermittently occur until June 2023. From June 2023, following commissioning of capacity upgrades, the WWTP will provide secondary treatment and UV disinfection to all untreated wastewater that is conveyed to it.

23.1.12 Given the timing of this decision we have amended coastal Condition 5 to require discharges of partially treated wastewater to cease entirely, from the date of commencement of the consent.

23.1.13 The Planners JWS considered further the alignment with planning provisions specific to the values and concerns of Ngāti Toa. In relation to this policy there is a requirement to not

[125] Paragraphs 33 – 36, Mr Warburton's hearing speaking notes

[126] Paragraph 285, s42A Officers Report

allow the discharge of treated human sewage to water in the coastal environment unless the decision is informed by an understanding of tangata whenua values and the effects on these values.

23.1.14 With respect to this direction, the Planners JWS noted the following points:

1) Representatives of Ngāti Toa Rangatira were directly involved in the assessment of alternatives which informed the resource consent application. Their values have informed the assessment of these alternatives.
2) Te Rūnanga o Toa Rangatira prepared a CIA to inform the resource consent application for the wastewater discharge.
3) Subsequent to the Application being lodged, conditions have been developed in conjunction with Te Rūnanga o Toa Rangatira to address issues identified in the CIA.
4) Further understanding of the cultural values of Ngāti Toa Rangatira lues was provided during the hearing.

23.1.15 Based on this further assessment they considered that the proposal is consistent with Policy 23.

Finding

23.1.16 The panel notes the general alignment between the planning experts in relation to the NZCPS and agree with Ms Conland that Objective 6 and Policy 3 are relevant to this proposal.

23.1.17 With regard to Mr Warburton's comments on Policy 11(a) we are mindful that the Cawthron survey work did not identify any macroalgal species and habitats in the area of the outfall however as Dr Newcombe identified those species and habitats in 11(a)(i), (ii) and (iv) cannot be excluded. We are confident that the monitoring and technology review conditions and specifically if the predicted concentration of total ammonia nitrogen will exceed the threshold, then the Applicant is required to upgrade or improve to maintain the threshold in Condition 33(b). We are also mindful that when considering the word avoid within the NZCPS and its use in section 5(2)(c) of the RMA does not necessarily prohibit an activity, if it has a minor or transitory adverse effect.

23.1.18 We acknowledge the further assessment of provisions provided in the Planners JWS and agree that the decision is informed by an understanding of tangata whenua values and the effects on these values.

23.1.19 We agree that the discharge is not untreated however we acknowledge that it is still considered to be repugnant to Ngāti Toa Rangatira as described in their CIA and discussed at the hearing. We consider that the suite of conditions will work together to assess options to mitigate the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira and provide them with greater involvement in the management of the adverse effects of the wastewater discharge.

23.2 National Environmental Standard – Freshwater

23.2.1 The potential for the National Environmental Standard for Freshwater (NES-F) to be relevant was brought to our attention by submitter Mr Warburton. He identified the likely existence of natural wetland on the coastal margin, eastward of the discharge pipe at Rukutane Point.

23.2.2 The panel therefore requested the Applicant to investigate the existence of the wetland and advise us of its status under the NES-F. That is, was there a need for resource consent to be gained under the NES-F regulations? The Applicant carried out the required investigation, confirmed the existence and characteristics of the wetland, and determined that consent was required.

23.2.3 However, before an application seeking resource consent could be finalised, Ministry for the Environment released an amended version of the NES-F. The Applicant contended that, on the basis of the amendments, consent was no longer required. Submitter Mr Warburton queried that interpretation and, after our own review, the panel decided to seek independent legal advice on interpretation of the NES-F.

23.2.4 DLA Piper provided the independent legal advice and concluded that consent is not required under the NES-F and we accept that advise.

23.3 Wellington Regional Policy Statement

23.3.1 Ms Conland's section 42A report provides a thorough assessment of the proposed activities against the RPS provisions. Her assessment was grouped into themes which included water quality and aquatic ecosystem health, biodiversity and ecology, natural character, features and landscapes, regionally significant infrastructure, Te Tiriti o Waitangi and matters of significance to tangata whenua, and discharges of odour. We concur with her assessment overall, subject to the following comments.

23.3.2 Ms Conland notes that the Application did not assess Objective 1 – this is the only provision in the RPS relevant to odour and seeks that discharges do not adversely affect amenity values and people's wellbeing.

23.3.3 Mr Peterson in his EIC provided an assessment of Objective 1. Relying on Mr Stacey's evidence he identified that the WWTP has the potential to have particular adverse odour effects on the rural residential properties to the south of the WWTP. Mr Stacey considered that the adverse effects can be adequately mitigated through a staged improvement programme which Mr Peterson developed into conditions and given this he was of the mind that the proposal is consistent with Objective 1.

23.3.4 The recommended conditions, as Ms Conland notes, are intended to avoid or mitigate the effects of odour on the residents and community beyond the boundary of the Plant. She noted that Ms Ryan concluded that the effects of the discharge of odour are likely to be no more than minor and hence the proposal is considered to be generally consistent with this objective.

23.3.5 In relation to Objective 8 which seeks that public access is enhanced Ms Conland opined that the Application does not enhance public access. The Application noted that there is an

existing restriction and the proposal seeks to reduce the level of this limitation, and improve access to the CMA, by improving the UV disinfection and eradicating partially treated discharges. Ms Conland did not believe that this would be the case due to the cultural effects and avoidance of areas where human wastewater is discharged, regardless of the level of treatment.

23.3.6 Ms Conland and Mr Peterson were in agreement that the Application is not consistent with Objectives 26 to 28. The outcome that these objectives seek is that: Mauri is sustained, particularly in relation to coastal and fresh waters (Objective 26). Mahinga kai and natural resources used for customary purposes are maintained and enhanced, and these resources are healthy and accessible to tangata whenua (Objective 27). The cultural relationship of Māori with their ancestral lands, water, sites, wāhi tapu and other taonga is maintained (Objective 28).

23.3.7 Policy 48 of the RPS seeks to achieve the Objectives 26 to 28 by having particular regard to the principles of the Treaty of Waitangi and to Waitangi Tribunal Reports and settlement decisions when considering resource consent applications. The CIA notes in particular the principle of active protection which requires going beyond mere consultation with tangata whenua to include the active protection of 'taonga'. Historically this has not occurred at this location and the mauri of the receiving environment has not been adequately protected. The CIA states that the continued operation of the WWTP will not introduce any new grievances, but nor does not extinguish any historical grievances. Ngāti Toa Rangatira acknowledged that the Applicant has acted in good faith including making effort to be better informed which goes towards the reciprocity of partnership envisaged by the Treaty.

23.3.8 The Planners JWS provided further assessment of Objectives 24 to 28 and Policy 48 and concluded that the proposal goes part way to meeting these provisions. They considered that proposed coastal Condition 5F would require the consent holder to invite Te Rūnanga o Toa Rangatira to prepare a Kaitiaki Monitoring Programme which assesses the effects of the discharge, from a mātauranga Māori perspective, on Te Moana o Raukawa and Te Awarua-o-Porirua Harbour. And that if Te Rūnanga o Toa Rangatira does not accept the invite, they recommend that the consent holder is required to collect data on the quantity and size range of paua, kina and lobster (as mahinga kai species). Proposed coastal Conditions 5G and 5H would require the consent holder to work with the Working Group to assess options to mitigate the effects of the values of Ngāti Toa Rangatira and work towards the removal of human waste (including human blood and tissue) from the discharge.

23.3.9 The hearing statement of Ms Soloman said that the effectiveness of these conditions is limited by the ability of the resource management system to address 'on-going breaches' of Ngāti Toa Rangatiratikanga caused by the cultural and spiritual abhorrence of disposing human waste to the moana, the compromised position of having to select the least harmful option that Ngāti Toa Rangatira is forced to accept, and the lack of 100% certainty in the conditions.

Finding

23.3.10 In relation to the discharge of odour we concur that the proposal is generally consistent with Objective 1. The conditions attached to our Decision will ensure that any effects of odour on the residents and community beyond the boundary of the Plant will be avoided or mitigated appropriately.

23.3.11 We agree with Ms Conland that public access in this area will not be enhanced and while the discharge itself may be improved through better treatment it will remain culturally offensive to Ngāti Toa Rangatira.

23.3.12 In relation to Objectives 26 to 28 we agree that the proposal is not fully consistent. No matter the level to which adverse effects are reduced, the continued discharge of wastewater to coastal waters is unlikely to 'sustain' the mauri of the waters or enhance mahinga kai in a manner that is fully consistent with the tikanga and values Ngāti Toa Rangatira. Overall, we consider that the conditions provide the opportunity to better understand and reduce the adverse effects of the discharge on the mauri of the coastal waters, mahinga kai and other natural resources used for customary purposes.

23.4 Proposed Natural Resources Plan and Operative Regional Plans

23.4.1 GWRC decision on the PNRP was notified on 31 July 2019 – all rules have immediate legal effect under section 86B of the Act. Ms Conland stated that as this Application was lodged after 31 July 2019, this version of the PNRP is relevant to determining the resource consents required and their activity status. She noted that some of the provisions had been amended, added or deleted through consent orders since her initial assessment and she had noted where this was the case in her s42A report.

23.4.2 The key provisions of the PNRP are comprehensively detailed in Ms Conland's s42A report and of relevance to this Application relate to:

- Ki uta ki tai: mountains to sea – integrated catchment management
- Beneficial use and development, and regionally significant infrastructure
- Māori relationships and sites of significance to Mana Whenua
- Water quality (zone of reasonable mixing)
- Wastewater discharges
- Biodiversity, aquatic ecosystem health and mahinga kai
- Recreation and public access, Māori customary use, coast
- Natural character, natural features and landscapes
- Air quality

23.4.3 We note that both Ms Conland and Mr Peterson were in general agreement in terms of their assessment and the consistency of the proposal with these provisions however we make the following observations.

23.4.4 As with other statutory plans discussed above both planners identified that the Application is generally not consistent with the provisions that relate to the recognition and provision

of the mauri of coastal waters and the relationship of Māori and their culture and traditions with their ancestral lands, water, sites, wāhi tapu and other taonga.

23.4.5 Specifically, the CIA and the Application noted that the proposal is not consistent with Objective O3 and P17 which relate to sustaining the mauri of coastal waters and where it has been depleted enhance natural resources and processes to replenish mauri.

23.4.6 In addition, Ms Conland opined that the proposal is not consistent with O14, and P19 due to the adverse effects of the discharge on the values of Ngāti Toa Rangatira and its relationship with Nga Taonga Nui a Kiwa. The CIA notes that the inability of Ngāti Toa Rangatira to use the area for customary purposes over the last 30 years has continued to undermine their traditional relationship with the area and has prevented opportunities for maintaining and improving customary use of the coastal marine environment.[127]

23.4.7 The Planners JWS[128] considered that the approach goes part way to delivering the outcomes sought through Objective O3, O12, Policy P18, Policy P19 and Policy P20 and Policy P91 in that:

1) The relationship of Ngāti Toa Rangatira with the receiving environment has been recognised through the alternatives assessment and in the Application, and is provided for in the proposed conditions.

   The mauri of the receiving environment has been recognised as being important.

2) The proposed Kaitiaki Monitoring Programme (condition 5F(b)) and the proposed assessment of options (condition 5G) will improve understanding and mitigation of the effects of the discharge on mauri, mahinga kai and customary uses.

23.4.8 However, taking account of the submission made by Te Rūnanga o Toa Rangatira to the hearing, the Planners JWS considered that no matter the level to which adverse effects are reduced, the continued discharge of wastewater to coastal waters will likely always mean that the outcomes sought through Objectives O3 and O12, and Policies P18, P19, P20 and P91 will not be achieved in a manner that is fully consistent with Ngāti Toa Rangatira tikanga and values.

23.4.9 In relation to the water quality provisions Ms Conland identified that she agreed with the assessment of Objectives O23, 24 and 25, including that these objectives relate to the water body as a whole, rather than objectives for a specific applicant to achieve.

23.4.10 The CIA notes that the Application is not consistent with providing for Māori customary use and as such the direction of Objective O24 is that the water quality should be improved.

23.4.11 Ms Conland also identifies that the narrative objective for mahinga kai in Table 3.8 of Objective O25 is not met. She notes that where an outcome sought in Table 3.8 is not met, the coastal marine area is to be improve over time to meet that objective. She agrees with the Applicant that based on the ecological assessment that accompanied the Application

[127] Ms Conland S42A para 334

[128] Planners JWS page 9

the objectives of O25 relating to biodiversity and aquatic ecosystem health are currently being met in the vicinity of the discharge.[129]

23.4.12 In relation to Policy 39B the AEE (Wastewater) identified that, with the proposed mitigation, there will be no significant adverse effects on the Schedule F5 sites (habitats with significant indigenous biodiversity values in the coastal marine area), or aquatic ecosystem health in general. In addition, there is a functional and operational need for the treatment Plant to discharge at the location.

23.4.13 Policy 72 relates to the zone of reasonable mixing where it shall be minimised (reduced to the smallest amount practicable) and regard must be given to the mixing of the discharge and the identified values of this water.

23.4.14 Ms Conland notes that the 200 m radius mixing zone includes habitats identified in Schedule F5 of the PNRP. The area within the mixing zone also has recreation value and includes values of significance to Ngāti Toa Rangatira in relation to Te Moana o Raukawa, as set out in Schedule B. However, and as noted in the AEE (Wastewater), these habitats and values would also be within the radius of a smaller mixing zone. The question of whether the mixing zone is minimised, that is reduced to the smallest amount practicable was the subject of further conferencing with the hydrodynamic modellers where they were not able to state whether the dilutions achieved along the edge of the existing 200 m mixing zone represented 'reasonable mixing'. They determined that the matter should be assessed by other experts such as the ecologists.

23.4.15 Given the assessed effects on the water quality and ecology, as well as the impending improvements in the quality of the discharge, it was Ms Conland's opinion that this is something that could be reassessed following the next ecology review when there will be more data available.

23.4.16 In relation to the recreation and public access, Māori customary use, coast provisions Ms Conland agreed with the Applicant's assessment but considered that Policy P7 is also relevant. Policy P7 notes the cultural, social and economic benefits of using land and water for contact recreation and Māori customary use.[130] Policy P10 states that use and development shall avoid, remedy or mitigate any adverse effects on contact recreation and Māori customary use. While the benefits of using land and water for contact recreation and Māori customary use are acknowledged, there remain adverse effects on Māori customary use as a result of the discharge. While these effects can be mitigated to a certain extent with treatment, the CIA makes it clear that the discharge of human sewage adversely affects customary use of this area, regardless of treatment. In terms of recreational uses, the QMRA showed that the WWTP discharge presents no risk to recreational activities or illness from eating shellfish. However, there are other sources of contamination in the area which means that the shellfish are not safe to eat.[131]

[129] Ms Conland s42A para 341

[130] Ms Conland S42A para 361

[131] Ms Conland S42A para 362

23.4.17 The Planners JWS[132] noted that the proposed conditions provide mechanisms through which:

1) Adverse effects on Māori customary use can be reduced overtime, i.e. there is the opportunity to improve the coastal water with respect to Māori customary use as required under Objective O24; and
2) Through the Working Group, the work to reduce adverse effects can be informed by the Huanga identified by Ngāti Toa Rangatira.

23.4.18 The Planners JWS identified that the proposed conditions do not, and likely cannot on their own, guarantee that such mitigation and improvements will be achieved. They recommended some amendments to Conditions 5G, 5H and 35 (d) to provide more certainty of improvements with respect to the effects of the discharge on the values of Ngāti Toa Rangatira.

23.4.19 Objectives O40 and O41 relate to the outcomes for the air discharge. Mr Peterson noted that Mr Stacey identified that the operation of the WWTP has the potential to have adverse odour effects on the areas surrounding the WWTP especially the rural residential properties to the south of the WWTP. Mr Stacey considered that these adverse effects can be adequately mitigated through a staged improvement programme representing good management practices.

Finding

23.4.20 We concur with the Planners JWS in that no matter the level to which adverse effects are reduced, the continued discharge of wastewater to coastal waters will likely always mean that the outcomes sought through the relevant objectives and policies will not be achieved in a manner that is fully consistent with the tikanga and values of Ngāti Toa Rangatira. We do however consider that the proposed conditions represent a significant step towards the achievement of the outcomes sought in objectives and policies and will provide more certainty to Ngāti Toa Rangatira.

23.4.21 In relation to the receiving environment which contains various ecosystem and habitat values, and individual species that are require protection we find that the risk of adverse effects on these values can be adequately addressed through the proposed conditions and hence we consider that the proposal is consistent with relevant objectives and policies.

23.4.22 The water quality in Titahi Bay is degraded with respect to microbiological contamination resulting in the need for 'enhancement'. We note that the WWTP discharge is one of multiple sources of microbiological contamination in Titahi Bay and agree that the various upgrades will reduce the microbiological contamination from the Treatment Plant during peak wet weather flows. We consider that this proposal is consistent with water quality objectives and policies.

23.4.23 In relation to the mixing zone, we find that 200 m is appropriate at this time. We say "at this time" because we have amended Condition 31(f) which requires a review of whether

[132] Planners JWS page 12

adverse effects within the zone of reasonable mixing and the extent of the zone of reasonable mixing is minimised.

23.4.24 The recreation values in the receiving environment are regionally significant. The provisions direct that these values should be maintained or enhanced to which we consider the proposal to be consistent with.

23.4.25 Overall, we find that the proposal is generally consistent with the relevant objectives and policies of the PNRP.

23.5 Operative Regional Coastal Plan

23.5.1 Both Ms Conland and Mr Peterson provided an assessment of the relevant Regional Coastal Plan provisions for completeness given at that time some appeals on the PNRP were still outstanding – particularly those relating to water quality.

23.5.2 Ms Conland notes that the proposal is consistent with the provisions of the RCP for infrastructure, water quality, marine ecology, and public access. The Application is inconsistent with the provisions of the RCP in relation to Policy 4.2.2 which directs that development should be encouraged to locate in areas where natural character is not compromised.

23.5.3 Mr Peterson's assessment draws on the Natural Character and Visual Effects Assessment prepared by Boffa Miskell which accompanied the Application. This assessment identifies that the terrestrial area in the vicinity of the outfall has moderate to high and, with respect to the Rukutane Escarpment, high natural character values. The assessment identifies that the coastal marine area in the vicinity of the discharge, Rocky Reef South, has high natural character. It concluded that:

A) The scale and nature of the proposal relating to the discharge is such that any potential effects would be very low.

B) The effects are such that they do not trigger any non-compliance with any objectives, policies or rules of the statutory provisions in the planning documents relating to landscape, visual or natural character effects in the coastal environment.

23.5.4 Mr Peterson's assessment also noted that there is a risk of adverse effects on the ecological components of natural character arising should predicted increases in ammonia in the treated wastewater eventuate. However, he considered that appropriate measures are proposed to appropriately mitigate this risk.

23.5.5 Both expert planners identified the relevant objectives related to tangata whenua values as being 4.1.13 – 4.1.16. Mr Peterson also identified Objective 10.1.3 as being relevant. Ms Conland noted that the Application is not consistent will all of these objectives however noted that engagement between Ngāti Toa Rangatira, PCC and Wellington Water is ongoing with respect to mitigation measures, including opportunities for Ngāti Toa Rangatira to exercise kaitiakitanga in the area of the discharge, which is consistent with these objectives.

23.5.6 In relation to Objective 10.1.3 Mr Peterson considers that the development of the conditions with Ngāti Toa Rangatira represent significant steps towards the outcomes

sought. He states that the proposed conditions do not directly mitigate the adverse effects on the values of Ngāti Toa Rangatira in themselves. They instead provide mechanisms through which adverse effects on mauri, mahinga kai and the relationship of Ngāti Toa Rangatira with the coastal waters can be reduced overtime.

Finding

23.5.7 We concur with Ms Conland in that the objectives and policies in the RCP are more general or lenient than those in the PNRP, and as such, we consider that the Application is generally consistent with the RCP, despite the matters in relation to tangata whenua values.

24 Section 104(1)(c) Consideration of Other Matters

24.1.1 Section 11.4 of Ms Conland's s42A report noted that the Te Awarua o Porirua Whaitua Implementation Plan (WIP), dated April 2019, is a relevant matter under s104 (1)(c) of the RMA.

24.1.2 The Te Awarua o Porirua Whaitua Implementation Plan sets out the recommendations of the Whaitua Committee after a four year consultative process in response to the National Policy for Freshwater Management (NPSFM).

24.1.3 Ms Conland acknowledges that much of this plan relates to freshwater however she identifies that there are recommendations for the wastewater network which will influence flows to the Treatment Plant, as well as enterococci limits for the coastal water due to the interconnected nature of rivers and the coast. She identifies that the coastal water objective for enterococci sets the current state as B with an objective to maintain this state into the future.[83]

24.1.4 In relation to enterococci, the conditions require:

1) Daily monitoring of enterococci concentrations in treated wastewater prior discharge (Conditions 6 and 8).
2) Additional monthly monitoring at four coastal sites (Conditions 14 and 15).
3) The setting of enterococci trigger levels for discharge concentrations (Condition 21B)
4) Notification of trigger exceedances and requirements for an investigation of the performance of the UV disinfection system to identify their likely causes and, if considered necessary, recommend further investigations, improvements, operational actions or upgrades to reduce the risk of similar exceedances of the trigger value occurring in the future, and an implementation programme for the recommendations (Condition 35A).

24.1.5 The panel considers those to be appropriate measures for tracking and responding to changes with the potential to reduce WIP state for enterococci.

25 Section 104(2A) – Value of Investment

25.1.1 Section 104(2A) of the Act requires us to consider the value of the existing investment in the wastewater Treatment Plant. This section comes into play via section 124 of the Act, as

the application relates to the exercise of an existing resource consent while applying for a new consent. Section 104(2A) states that:

> *When considering an application affected by section 124 or 165ZH(1)(c), the consent authority must have regard to the value of the investment of the existing consent holder.*

25.1.2 The book value replacement cost of the wastewater Treatment Plant is $57 million.[133] The Applicant's assessment of environmental effects also noted that:[134]

> *Porirua City Council and its ratepayers have invested in a substantial and significant infrastructure asset in terms of the existing WWTP. Significant investment continues to be made as part of the regular maintenance and upgrade of this asset and further investment is on-going in the form of the upgrades to the UV disinfection system and other capacity upgrades due for completion in mid-2023. It is important that Council has financial security for this substantial infrastructural asset and is also able to provide future flexibility to accommodate domestic and business / trade waste growth.*

25.1.3 The evidence of Mr Hutchison elaborated further on the nature of ongoing investment, informing us about the Network Improvement Programme (NIP). Development of the NIP workstream was ongoing with Ngāti Toa Rangatira and others at the time of the hearing.[135] Major projects as part of the NIP include a very large wastewater storage tank near Porirua City Centre (due for completion late 2023); upgrades in Eastern Porirua over the next 6 – 7 years; and other works such increasing capacity on the trunk sewer from Paremata.[136]

25.1.4 In summary, the panel accepts that there is a very large existing and planned investment in the Porirua wastewater network. More importantly, the network is a complex system, and from a value perspective the individual parts cannot be viewed in isolation. However, for the substantive purposes of our decisions, we can only consider the two discharges and the Plant that produces them.

25.1.5 The value (positive benefit) of the Treatment Plant in a public health sense is addressed elsewhere in our decision.

26 Section 104B – Discretionary Activity

26.1.1 Both the air and coastal discharge consents are deemed to be Discretionary Activities under the PNRP.

26.1.2 Section 104B of the RMA sets out the matters we must have regard to in considering the Application. For completeness, the components of this provision are as follows:

> *104B Determination of applications for discretionary or non-complying activities:*
>
> *After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority—*

[133] Section 2.3, AEE

[134] Section 10, AEE

[135] Paragraph 5.6, Statement of evidence of Stephen John Hutchison for Wellington Water Limited

[136] Paragraph 8.6, Statement of evidence of Stephen John Hutchison for Wellington Water Limited

(a) may grant or refuse the application; and

(b) if it grants the application, may impose conditions under section 108.

27 Sections 105 and 107 – Discharge

27.1.1 With regard to discharges, the Act requires us to consider certain matters. These are set out by sections 105 and 107.

105 Matters relevant to certain applications

(1) If an application is for a discharge permit or coastal permit to do something that would contravene section 15 or section 15B, the consent authority must, in addition to the matters in section 104(1), have regard to—

(a) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and

(b) the Applicant's reasons for the proposed choice; and

(c) any possible alternative methods of discharge, including discharge into any other receiving environment.

(2) If an application is for a resource consent for a reclamation, the consent authority must, in addition to the matters in section 104(1), consider whether an esplanade reserve or esplanade strip is appropriate and, if so, impose a condition under section 108(2)(g) on the resource consent.

107 Restriction on grant of certain discharge permits

(1) Except as provided in subsection (2), a consent authority shall not grant a discharge permit or a coastal permit to do something that would otherwise contravene section 15 or section 15A allowing—

(a) the discharge of a contaminant or water into water; or

(b) a discharge of a contaminant onto or into land in circumstances which may result in that contaminant (or any other contaminant emanating as a result of natural processes from that contaminant) entering water; or

(ba) the dumping in the coastal marine area from any ship, aircraft, or offshore installation of any waste or other matter that is a contaminant —

if, after reasonable mixing, the contaminant or water discharged (either by itself or in combination with the same, similar, or other contaminants or water), is likely to give rise to all or any of the following effects in the receiving waters:

(c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials:

(d) any conspicuous change in the colour or visual clarity:

(e) any emission of objectionable odour:

(f) the rendering of fresh water unsuitable for consumption by farm animals:

(g) any significant adverse effects on aquatic life.

(2) A consent authority may grant a discharge permit or a coastal permit to do something that would otherwise contravene section 15 or section 15A that may allow any of the effects described in subsection (1) if it is satisfied—

(a) that exceptional circumstances justify the granting of the permit; or

(b) that the discharge is of a temporary nature; or

(c) that the discharge is associated with necessary maintenance work—

and that it is consistent with the purpose of this Act to do so.

(3) In addition to any other conditions imposed under this Act, a discharge permit or coastal permit may include conditions requiring the holder of the permit to undertake such works in such stages throughout the term of the permit as will ensure that upon the expiry of the permit the holder can meet the requirements of subsection (1) and of any relevant regional rules.

27.1.2 Briefly, the nature of the discharges are odour and treated wastewater, as described in Section 2 of wastewater discharge AEE. The s42A report indicates that the receiving environment for the air discharges is not very sensitive[137] due to its location which is relatively isolated from the residential areas, and prevailing winds.

27.1.3 However, the coastal receiving environment for the wastewater discharge is sensitive due to its importance to Ngāti Toa Rangatira and their historical associations with the area. On the other hand, it is a good location in terms of dispersion and dilution. The conclusion on sensitivity is consistent with the submission by Ngāti Toa Rangatira, while the conclusion on dispersion and dilution is consistent with expert evidence (see section 11.3).

27.1.4 Alternative discharge options were considered by Wellington Water, with details provided in Section 6 of the air discharge AEE, and Section 11 and Appendix C of the wastewater discharge AEE. We note that alternative options to the coastal discharge included a discharge to land with a seasonal shoreline outfall discharge and existing standard of treatment (Table 7 in Appendix C). Significant issues were identified for that option including:

1) The potential land sites were either of direct cultural value to Ngāti Toa Rangatira or in catchments which are of value to Ngāti Toa Rangatira.
2) The land disposal option was unsuitable from a physical context.
3) The potential land disposal sites would be only useful for relatively short periods of the year.
4) It was the most expensive option.

27.1.5 We recognise and acknowledge the cultural and spiritual abhorrence of Ngāti Toa Rangatira to the selected coastal discharge option, as set out earlier in Section 16.1. However, the panel is satisfied that appropriate alternatives were considered, and that the methods used to identify the Best Practicable Options in relation to the wastewater and air discharge locations were reasonable.

Section 107

27.1.6 Section 107 matters are considered in Section 5.5 of the AEE. Briefly the AEE concludes that, for the reasons it provides:

1) Conspicuous oil or grease film or scum would occur within the mixing zone very infrequently, but they are not expected to occur beyond a 200m mixing radius.

[137] Notwithstanding the adverse odour effects reported to us by residents of the Pikarere Farm subdivision

2) The wastewater discharge can form foam in the immediate area of the outfall, visible up to 50m from the outfall, and confined by nearby rock outcrops and the concrete deflection wall.

3) During normal dry weather operation, the discharge will cause no reduction in water clarity, and negligible change in water colour, brightness or light penetration at the point of discharge and at distances further afield.

4) During periods of peak wet weather flow, the discharge is expected to cause a measurable reduction in receiving water clarity, and a visible change in water colour at up to a 200m distance from the outfall, but negligible change at Ti Korohiwa Rocks or Titahi Bay south beach. These effects will be temporary, gradually dissipating as the flow peak passes.

27.1.7 We considered the following matters to be relevant to our deliberations on s107 matters:

1) The information in the AEE, outlined in 21.1.5 above.

2) The assessments of technical experts that indicate adverse effects on aquatic life will not be significant (see Section 17.3).

3) The information provided by submitters and the level of concern expressed about visible plumes.

4) Whether the discharge is related to exceptional circumstances, is of a temporary nature, or associated with necessary maintenance work.

5) The exclusion of key causes of plumes from the scope of the consent (e.g. sludge carryovers), and the potential for enforcement action to be taken should they occur.

6) Condition 13, which requires the consent holder to prevent the discharge from giving rise to the matters listed in s107(1)c, d, e, and g.

7) How compliance with Condition 13 will be determined.

27.1.8 The panel heard Submitter concerns about the discharge creating visible wastewater plumes in coastal waters, and received photographs showing plumes emanating from the coastal outfall.[138, 139] We accept that such plumes adversely affect coastal water quality around the outfall, that that this is a serious matter of concern for Submitters.

27.1.9 A term of 20 years is sought for the discharge consent. Therefore, the discharge cannot be considered an exceptional circumstance or associated with necessary maintenance work. However, in the s42A report, Ms Conland separates periods where the discharge would give rise to the matters listed in s107(1)c, d, e, and g, from periods where it would not, stating:

> *"I consider that if the discharge produces any conspicuous oil or grease films, scums or foams, or floatable or suspended materials, or affects the colour or visual clarity of the water after*

[138] Hearing presentation by submitters Marie Wright and Michelle Warshawsky, together (1266) and on behalf of Your Bay Your Say (1157)

[139] Photograph provided at the hearing by Mr Bernon (1359)

reasonable mixing it is likely to be temporary, and associated with peak wet weather flows. In addition, once the discharges no longer bypass the aeration basin and clarifier, the water quality will improve and the effects in section 107(1) are less likely to occur. The discharge during peak wet weather flows will not continue beyond June 2023 at the latest. Again, this meets the definition of a temporary discharge. As such, the discharge from the outfall to the CMA will meet the requirements of section 107(2) and can be granted."

27.1.10 Similar arguments are not presented in the assessment of s107 matters in the AEE,[140] or in the planning evidence of Mr Peterson, or in legal submissions on behalf of Wellington Water.

27.1.11 A key question for the panel was therefore whether s107(2)b applies to the discharge (which for the reasons described above is not temporary), or the quality and volume of the discharge (which varies over time, with temporary periods when discharge quality and volume may give rise to any or all of the matters listed in S107(1)c, d, e, and g). We note that the RMA (1991) interpretation of 'discharge' simply states *"discharge includes emit, deposit, and allow to escape"*. This implies that the term discharge is associated with an action (or inaction), rather that the characteristics of the discharge. We are therefore of the view that the discharge is not temporary, and as such conclude that we would be unable to grant consent if the discharge gave rise to any or all of the matters listed in S107(1)c, d, e, and g.

27.1.12 As discussed earlier, in past cases the plumes were largely attributed to the discharge of sludge carryovers. However, in some cases the causes could not be reliably identified. During the hearing Michelle Warshawsky and Marie Wright, informed us that on calm days such surface plumes can be visible for 3 to 4 hours.

27.1.13 We note that the proposed consent conditions do not provide for discharges of untreated wastewater or for sludge carryover discharges. Consent Condition 5, as proposed by the Applicant, also required bypass discharges of partially treated wastewater that result from inflow to the wastewater Treatment Plant exceeding the Plant's capacity, to cease before 30 June 2023. We have been advised (May 2023) that the works are on track to be completed by that date. We have amended Condition 5 to require discharges of untreated wastewater to cease by the commencement date of the consent.

27.1.14 Further, coastal Condition 13 requires the consent holder to prevent the discharge from giving rise to the matters listed in s107(1)c, d, e, and g beyond the 200 m mixing zone. That includes limiting the effects of plumes from unknown causes.

27.1.15 The application of those conditions should eliminate the cause of visible plumes or limit their effects to within the mixing zone. However, the panel was concerned about how those requirements would be monitored, and about reporting and responding to events with the potential to breach coastal Condition 13. The panel has therefore made related amendments to Wellington Water's proposed coastal Condition 5F(a). Those changes require the Monitoring Plan to set out, how the monitoring required to ensure compliance with coastal Condition 13, will be delivered. Related amendments have also been made to

[140] Section 8.3 of the AEE.

coastal Conditions 16 and 22A that cover assessing and reporting non-routine issues or Plant malfunctions that can adversely affect discharges to the coastal marine area, and to coastal Condition 31 (f) and (g) to require:

1) The proposed review of the zone of reasonable mixing to include a consideration of whether adverse effects within the zone, and the extent of the zone, are minimised in accordance with the policies of the PNRP and in relation to the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material, and any conspicuous change in colour or visual clarity.
2) The inclusion of the results of that review in the proposed outline of technological options or other methods which may be available to reduce the adverse effects identified.

Finding on s105 and s107

27.1.16 Based on the above considerations, the panel finds that the requirements of sections 105 and 107 are met and therefore that the discharge consents can be granted.

28 Part 2 RMA Assessment

28.1 Part 2 Analysis

28.1.1 In making a consent decision, Section 104(1) of the RMA requires our consideration to be subject to Part 2 of the Act (being Sections 5 to 8).

28.1.2 In their assessment and expert evidence, the planners provided robust analyses of the application against Part 2 of the RMA.

28.1.3 RMA Section 6 identifies matters of national importance. Relevant to this proposal is:

1) Preserving the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
2) The protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
3) The maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
4) The relationship of Māori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga.

28.1.4 RMA Section 7 'other matters' have been given particular regard to including:

- Kaitiakitanga and the ethic of stewardship:
- The maintenance and enhancement of amenity values:
- Intrinsic values of ecosystems:
- Maintenance and enhancement of the quality of the environment:
- The effects of climate change.

28.1.5 RMA Section 8 identifies the principles of the Treaty of Waitangi shall be taken into account.

28.1.6 Both expert planners considered that, in relation to Part 2 matters, any relevant effects will be avoided, remedied or mitigated to an acceptable level provided that the consent conditions are adopted.

28.1.7 In relation to Section 6 matters we consider that the natural character of the coast will be maintained, and the conditions will enable any effects to be identified and managed. The ecological surveys will monitor any decline in significant habitats identified in Schedule F5. Public access along the coastal marine area would be maintained although we agree with Ms Conland that the effects of the discharge and in particular the cultural effects in relation to the discharge of human sewage means that the public are less likely to access this area.

28.1.8 The CIA prepared on behalf of Te Rūnanga o Toa Rangatira set out their history and associations with the area and the effects of the activity on their cultural values. We agree that historically the relationship of Ngāti Toa Rangatira has not been adequately recognised or provided for which as the CIA states it has resulted in an undermining of customary practises and the ability to exercise kaitiakitanga in relation to the receiving environment. The CIA also acknowledges that the relationship has been partially recognised by the Applicant through the commissioning of the CIA but that providing for this relationship will take a long time while improvements in environmental quality occur in order for mauri to be restored. It is our intention that the conditions of consent including the 'alternative pathway' have particular regard to kaitiakitanga and reinforce the importance of their relationship and recognise and provide for their culture and traditions with their ancestral lands, water, sites, wāhi tapu, and other taonga.

28.1.9 Particular regard to the maintenance and enhancement of amenity values of the area will occur through better treatment of the discharge and monitored through consent conditions. The intrinsic values of ecosystems and the maintenance and enhancement of the quality of the environment are key considerations for the WWTP and the conditions of consent. We acknowledge Ms Conland's comments that there is a concern that the effects of the discharge will increase through time however there are a number of measures to ensure that the adverse effects of the discharge will be managed appropriately despite an increase in the population and other matters. We also acknowledge the effect that climate change can have on rainfall events and the capacity of the Treatment Plant, and the increased frequency or magnitude of heavy rainfall events will need to be appropriately managed over the term of the consent.

28.1.10 The CIA identifies that regarding the principles of the Treaty of Waitangi (Te Tiriti o Waitangi) *"WWL has acted in good faith and has made efforts to become better informed in its decision making, and where Te Ao Māori can be integrated into future decision making. This goes some way towards achieving the reciprocity of partnership envisaged by the Treaty. The continued operation of the WWTP will not introduce any new grievances,*

but nor does not extinguish any historical grievances".[141] Mr Peterson's EIC informed us that since the application was lodged Wellington Water, Porirua City Council and Te Rūnanga o Toa Rangatira developed a draft Terms of Reference which seek to ensure that the partnership established during the options selection process continues throughout the term of the consent. We consider that this together with the proposed conditions of consent all contribute to the principles of the Treaty of Waitangi being taken into account.

[141] Page 22, Cultural Impact Assessment

Decision and Conditions

29 Decision

29.1.1 After having regard to all relevant matters, we find that the purpose of the RMA is best served by GWRC granting the resource consents on terms set by the conditions contained in Attachments 1 and 2.

29.1.2 Key reasons for our decision include:

1) Porirua WWTP is regionally significant infrastructure. Porirua City Council and its ratepayers have made a large investment in the Treatment Plant, and continue to invest in the Plant through its ongoing operation and through capacity and performance upgrades. The Plant is critical to the maintenance of public health and providing for growth and development in and around Porirua. The Plant cannot continue operating without consents to discharge odour and treated wastewater.
2) The potential for adverse effects associated with odour and wastewater discharges will be mitigated through comprehensive sets of conditions.
3) We accept the evidence of expert engineers that the WWTP utilises appropriate technology and will provide air and effluent quality that complies with consent conditions.
4) As required by consent conditions, opportunities to improve treatment technology will continue to be assessed and implemented over the life of the consents, including in response to modelled and surveyed emerging adverse effects.
5) Subject to compliance with conditions, our findings on the adverse environmental effects of the air and wastewater discharges are:
    - The adverse effects of odour will be no more than minor.
    - The adverse effects of the wastewater discharge on:
        - public health will be no more than minor.
        - marine ecology and water quality will be less than minor.
        - coastal and marine recreation will be minor.
        - landscape and natural character will be low.

29.1.3 We acknowledge the concerns of, and outcomes sought by Ngāti Toa Rangatira. In particular, we recognise the cultural and spiritual abhorrence of Ngāti Toa to the selected coastal discharge option and the desire of Ngāti Toa Rangatira to limit the term of consent to 10 years. However, the panel is satisfied that appropriate alternatives were considered, and that the methods used to identify the Best Practicable Options in relation to the wastewater and air discharge locations were reasonable.

29.1.4 Our decision on duration takes into account the checks and balances built into conditions. Key to that is a requirement for the consent holder to seek a partnership with Ngāti Toa Rangatira through the establishment of a Porirua WTPWG. It is our hope that Te Rūnanga o

Toa Rangatira will accept an invitation to participate in the working group, noting that the invitation remains open for the duration of the consent.

29.1.5 We also find that:

1) We are able to grant consents in accordance with s105 and s107 of the RMA.
2) Matters from Part 2 of the RMA have been taken into account.
3) The proposal is generally consistent with the relevant objectives and policies of the RCP, PNRP, and NZCPS.
4) No consent is required under the NES-F.

30 Conditions and Duration

30.1 Conditions

30.1.1 As noted elsewhere in our decision, that the JWS of the Applicant and GWRC Planning experts provided us with a proposed set of consent conditions, including refinements agreed to by the expert planners on behalf of the parties they represent. We sought comment from Submitters[142] on those proposed conditions.

30.1.2 The Applicant's closing legal submissions / right of reply[143] provided us with a response to those condition comments made by Submitters. Having received that document, we then requested the Applicant to provide us with a tracked version of the proposed conditions.[144] Taking that document as a starting point, we have made revisions to some conditions as indicated elsewhere in our decision. The conditions are issued as two separate documents attached to our decision, being:

- Appendix 1 in relation the coastal discharge permit
- Appendix 2 in relation to the air discharge permit

30.1.3 Elsewhere in our decision report[145] we have set out the main amendments and additions made by the panel, after having regard to:

- The proposed condition suites, as set out by the expert Planners' JWS
- Comments made by Submitters, as invited by the panel via Minutes 15 and 16
- Matters covered by the Applicant in their written right of reply
- The panel's own assessment of required / beneficial amendments and additions

30.1.4 To avoid confusion in the cross referencing between conditions (and with condition references in the legal submissions), we have retained the same condition numbering as per the Planning JWS conditions. This is even though some condition numbers have now

[142] Only from submitters who appeared in person at the hearing

[143] Received 2 March 2023

[144] Received 7 March 2023

[145] See in particular, sections 15, 18, and 21

been removed, consistent with the recommendations in the planners' JWS, and some conditions have been added post the JWS. We appreciate that a renumbering of the conditions would be sensible. However, due to the complexity of that task, we have chosen to leave that matter with the consent authority and the consent holder. To facilitate a possible renumbering, we have added the following sentence to the RMA s128 review conditions of both consents.

> *Nothing in this condition shall prevent the Council from, at any time, renumbering consent conditions to improve clarity and consistency.*

30.2 Duration

30.2.1 The maximum duration that can be set for a discharge consent is 35 years. The Applicant, acknowledging concerns from Ngāti Toa Rangatira and the community, sought a 20-year term. However, as noted elsewhere in our report, there are Submitters who consider a 20-year duration to be too long.

30.2.2 Submitter opinions about duration ranged from 5 years (YBYS), through to 10 years (Te Rūnanga o Toa Rangatira; Titahi Bay Surf Club). The evidence of Mr Peterson for the Applicant provided us with a discussion of duration, as did Ms Conland's GWRC officer's report, the expert Planners' JWS, and the Applicant's closing legal submissions.

30.2.3 Ms Conland stated that:[146]

> *the concerns over a longer term of consent[147] can, in my opinion, be allayed with the adaptive monitoring approach in the monitoring and technology review condition, which incorporates the results of the weekly and monthly monitoring as well as the ecological survey. She noted that: as a backstop, there is also section 128 of the RMA, which allows GWRC to 'call in' or review the consent in certain circumstances. The review condition also provides for the consent to be reviewed by GWRC in the event of a change to the limits or discharge standards of [a] regional plan, or if unanticipated adverse effects eventuate.*

30.2.4 With respect to duration, the panel is in general agreement with the views expressed by the Applicant and GWRC. That is, a term shorter than 35 years is appropriate in striking a balance between certainty for the Applicant, while also respecting the views of the community (Ngāti Toa Rangatira in particular) regarding the ongoing discharge of wastewater into Te Moana o Raukawa. We also understand the views of other parties, that a 20-year term is a relatively long period of time when considering adverse environmental and community effects, and when seen in the preceding context of poor Plant performance over a long period of time.

30.2.5 The Applicant is already on a journey of implementing the approach mandated by the consent conditions proposed in the application. For example, hydraulic upgrades to the

[146] Paragraph 420, Section 42A report

[147] Commissioners' comment: 20 years, as opposed to a shorter period such as the 10 years sought by some submitters

Plant will be fully complete by 30 June 2023, lowering the risk of adverse events such as sludge carry over.

30.2.6 The conditions and approach had been discussed over a period of time[148] with parties including Ngāti Toa Rangatira, with a degree of acceptance that the approach and conditions would go some way towards recognising and providing for cultural values – although not avoiding tikanga that human waste should not be discharged to water. That dialogue about the approach to ongoing management and development of the wastewater Treatment Plant preceded lodgement of the application for resource consent, and its public notification in May 2021. Both the Applicant and the community support a move away from 'business as usual' and an aspiration for better environmental outcomes.

30.2.7 In the circumstances, we find that a shorter consent duration of 18 years[149] is appropriate. This slightly shorter duration, than sought by the Applicant, reflects:

1) The considerable work that has been done since 2016 on developing the approach to adaptive monitoring and technology review.
2) The desire of Ngāti Toa Rangatira and the wider community for a duration less than 20 years.
3) The elapsed time since expiry of the existing consents in mid-2020, notification of the discharge consent applications in mid-2021, and commencement of the hearing in mid-2022.
4) The ability of GWRC to 'call in' the discharge consents earlier for various reasons, including unanticipated adverse effects.
5) The time and cost implications of reconsenting after a significantly shorter duration (such as 10 years), without a clear indication it would enhance environmental outcomes beyond those that will otherwise be achieved.[150]

30.2.8 In setting a shorter (18 year) consent duration, we are reluctant to also readjust the various reporting dates referred to in consent conditions. The interrelationships between reporting dates and triggers in the conditions are complex. In addition, we have not called for or received evidence on this matter that would allow us to make a fully informed decision.

30.2.9 Ms Conland's officers report tells us that *the recommendation* [of Doctor Conwell] *to include surveys and reviews at one third-intervals for the duration of the consent is in part to address the 20-year duration for which the consents are being sought.*[151] The ecology surveys (coastal Conditions 28 and 29) were originally set to occur between the 5th and 7th, and the 12th and 14th anniversaries of the consent being issued. Later conferencing between the ecology experts, and adopted by the planning experts, revised those dates to

[148] A project collaborative group was established in 2016

[149] Commencing from the date of our decision

[150] By the adaptive framework of environmental monitoring and technology review, as mandated by the consent conditions.

[151] Paragraph 213, Section 42A report

be between the 8th and 9th, and the 14th and 15th anniversaries. We infer from those changes that there is some leeway in fixing dates or date ranges.

30.2.10 In any event we have concluded that a review of the dates is not a matter of urgency as, under any reasonable approach to revising timing, the need to do so is some years away. The 5 yearly review of the Monitoring Plan (coastal Condition 5E) will provide an opportunity for timing to be considered and reviewed if necessary.

30.2.11 For the various reasons outlined above, we have chosen not to adjust survey and reporting dates in our decision. Instead, our decision makes it explicit that a review of reporting dates is a matter the council can address via section 128 RMA. We have done so via amendments to coastal Condition 36 and air Condition 13.

30.2.12 We do not prejudge the outcome of any s128 review, or of the 5 yearly Monitoring Plan review. After considering relevant circumstances the council may determine that dates should stay the same, or that they should change.

31 Acknowledgements

31.1.1 We would like to thank the participants for their constructive engagement in the process. Although the outcomes of our decision and recommendation may not be what some submitters sought, we acknowledge the significant effort that they have put into engaging with the process. We acknowledge all individual written submissions and personal appearances which we found valuable in providing additional context for the issues we needed to consider.

31.1.2 The careful assessment, investigation and response to individual issues and environmental effects by the Applicant and other parties was appreciated.

31.1.3 We would also like to acknowledge the collaborative work of the technical experts and planners involved in this matter. Finally, we gratefully acknowledge the assistance to the panel provided by the hearing administrators before, during and after the hearing.

Mark Ashby (Chair)  Nigel Mark-Brown 

Elizabeth Burge  Shane Kelly 

Date: 21 June 2023