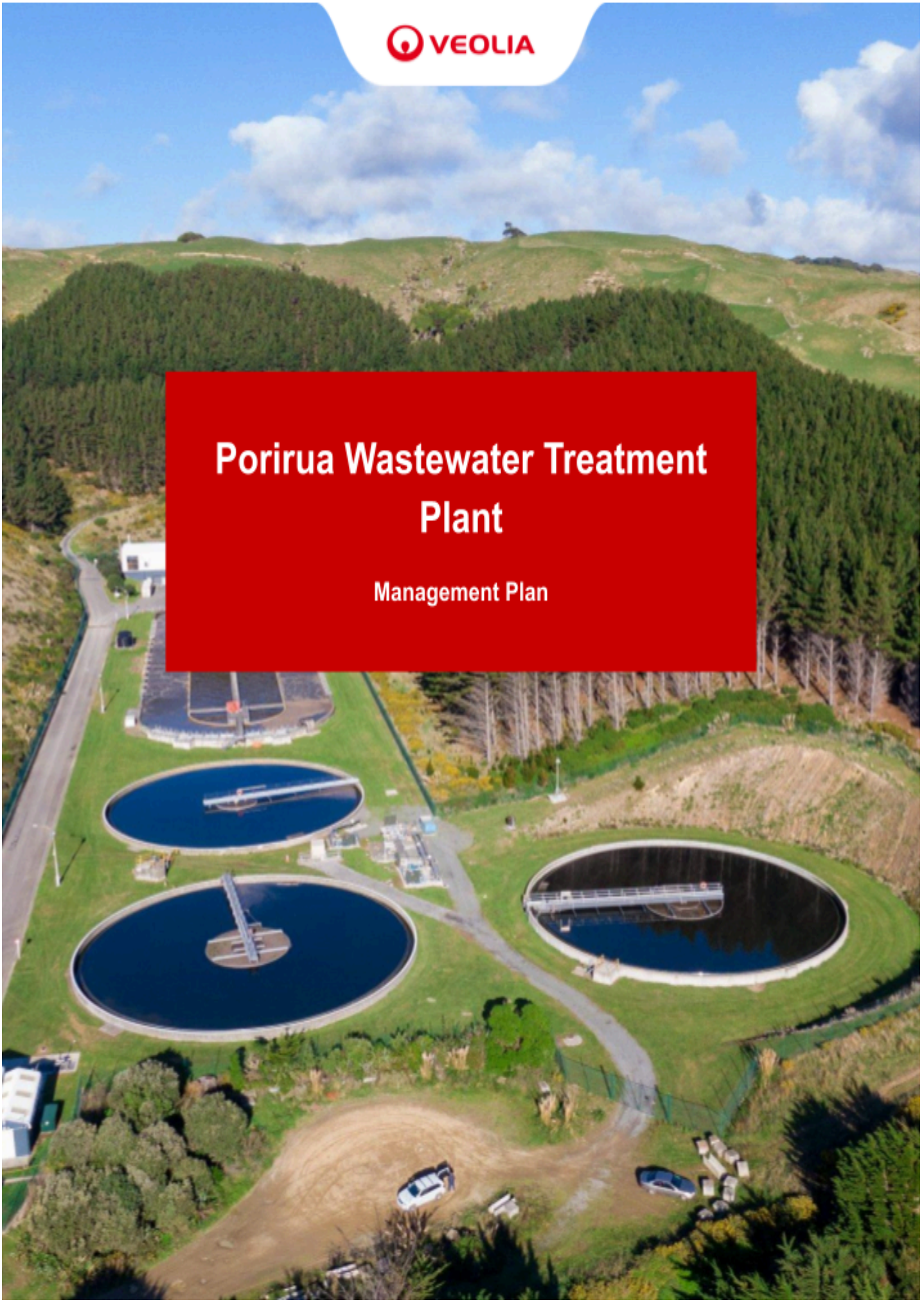
VEOLIA
Porirua Wastewater Treatment Plant
Management Plan

CONTROL SHEET

Document Title: Porirua Wastewater treatment plant - Management Plan

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0	Draft	25/09/2023	Draft circulated internally to reviewers for comment.
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2	Final	11/10/2023	First issue following WWL review
3	Rev.1	24/04/2024	Review to incorporate the Monitoring plan and Odour management plan update

EXECUTIVE SUMMARY

The objective of this Management Plan is to provide a framework for the operation, odour and risk management of the Porirua Wastewater Treatment Plant (WWTP) to ensure compliance with the conditions of the resource consents WGN200229 [36816] and WGN200229 [36727].

The Management Plan includes the following plans required by the Resource consents:

- **Operations Management and Contingency Plan (OMCP)** as per Resource consent WGN200229 [36816] Condition 20 shall include the following information:

Content Requirements	**Relevant Section**
A brief description of the wastewater treatment plant and its treatment and discharge system	Section 1
A description of typical inspection and maintenance procedures.	Section 2.1; 2.2; Appendix II and II
Procedures for recording: i. any non-routine issues, incidents or malfunctions identified during inspections. ii. the measures undertaken to rectify such non-routine issues, incidents, or malfunctions	Section 2.3
A description of contingency plans in the event of plant malfunction. Contingency plans shall be specified for each stage of wastewater treatment and shall include details of the procedures to be followed to mitigate, as far as possible, the reduction in treated wastewater quality that may otherwise result from the plant malfunction.	Section 2.4; Appendix V
A description of the complaints procedures, including contact details for a nominated person(s) who will manage enquiries and complaints about the WWTP. The contact details shall be identified on the consent holder's website.	Section 2.6
Procedures for notifying the Wellington Regional Council and Regional Public Health regarding any incidents or plant malfunction that may result in a reduction in the treated wastewater quality.	Section 3
A description of the information to be maintained on the consent webpage, including but not limited to the matters referred to in condition 27A	Section 5

- **Odour Management Plan (OMP)**

As per Resource consent WGN200229 [36727]. Condition 7A includes the following to be covered by the OMP:

Content Requirements	**Relevant Section**
A plant description, including discussion of each individual treatment plant element and its function, supported by a layout plan and identification of odour sources as a result of normal and abnormal operations.	Section 1
Plant management procedures relevant to odour control, including equipment maintenance and operation to minimise odour; and procedures for transport of potentially odorous material to and from the WWTP.	Section 2
Dissolved oxygen alarm levels for the aeration basin.	Section 4.2
The average wind speed trigger associated with the operation of the inlet vent fan as set out in conditions 8A and 8D.	Section 4.2
Contingency measures to deal with plant malfunctions including redundancy and spares held on site for critical parts.	Section 2
On-site odour monitoring requirements and boundary odour surveys.	Section 4.2; Appendix IV
A complaints procedure, including actions on receipt of complaints and associated reporting requirements.	Section 2.6
A framework for the management and/or selective harvesting of the forested slopes surrounding the WWTP to maintain a healthy and effective tree cover at all times.	Section 2.2.5
Staff responsibilities and training.	Section 2.5
The requirements of the consent conditions with respect to odour management, including requirements to review and update the OMP.	Section 4 and 6

- **Risk Communication Strategy**

As per Resource consent WGN200229 [36816] Condition 26A. the information to be included is:

Content Requirements	**Relevant Section**
Describe the potential health risks due to a discharge from the wastewater treatment plant (WWTP) under different operating conditions or as a result of an incident as described in condition 22A	Section 3
Establish procedures for the formal notification to Te Rūnanga o Toa Rangatira, Greater Wellington Regional Council, Regional Public Health and Porirua City Council.	
Establish procedures to provide information about the potential health risks to community groups, potentially affected and/or interested persons, and the general public.	

- **Monitoring Plan**

As per Resource consent WGN200229 [36816] Condition 5E the consent holder shall prepare a Monitoring plan in conjunction with the Porirua wastewater treatment plant working group WWTPWG.

TABLE OF CONTENTS

1. Background

1.1. Plant Description

The Porirua WWTP was constructed in 1989, located in Titahi Bay, Porirua City, and it serves the area from Northern Wellington up to Pukerua Bay. A site map can be found in figure 1.

Figure 1. Location of the Porirua Wastewater Treatment Plant

Wastewater undergoes several treatment stages to ensure that it meets the treated wastewater standards as stated in the consent. The raw wastewater coming from Tangere Drive and Rukutane pumping stations undergoes screening prior to biological treatment in an extended aeration-activated sludge process (oxidation ditch).

Solids are then separated using the three secondary clarifiers. Final effluent is then disinfected by ultraviolet disinfection prior to coastal outfall discharge located in Rukutane Point.

The solids and screenings generated from the plant are being dewatered and disposed of at Spicer Landfill.

The hydraulic capacity of the Porirua WWTP was upgraded, and now the plant can fully treat wastewater up to 1,550 L/s. The existing bypass and overflow stream physical structure will remain, but it is very unlikely to be used. There is a new bypass stream going into the bypass screening system and then to the oxidation ditch which can be made online if needed. The reason for maintaining the existing overflow stream is to provide protection in case the inlet valves going into the four milli screens fail to open. For planned maintenance on the milliscreen building, the new bypass stream can be put online.

The operation of the Porirua WWTP is automatically controlled by the programmable logic controller (PLC). The supervisory control and data acquisition (SCADA) system takes information from

analytical equipment at the WWTP controlled by the PLC and records it. The process overview layout shown in SCADA is shown in Figure 2.

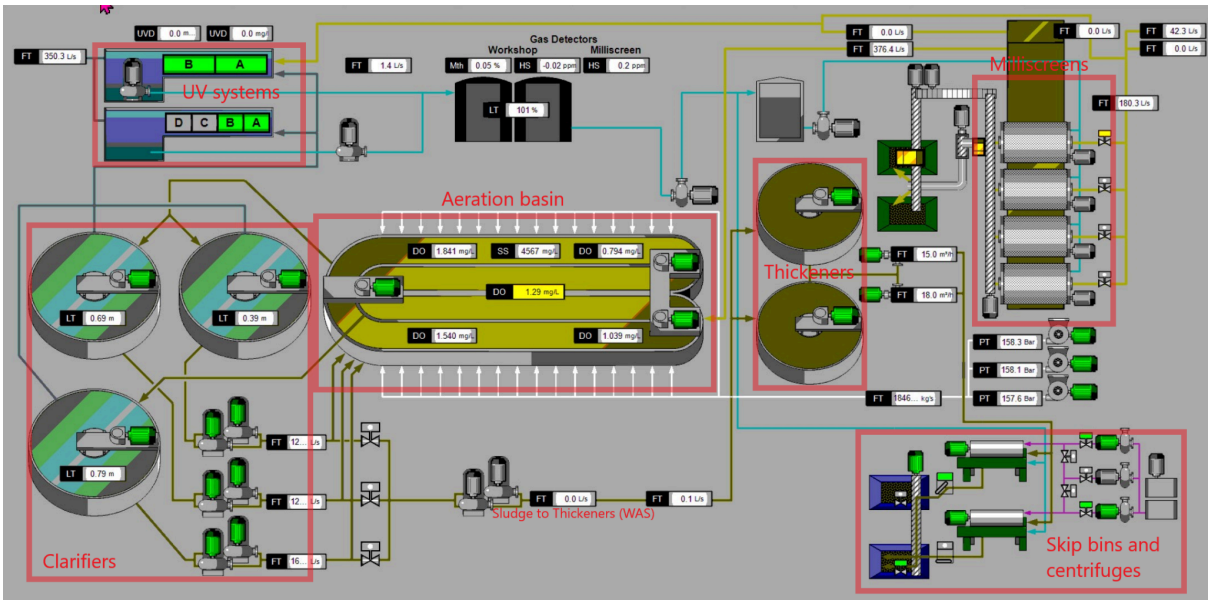

Figure 2. Porirua WWTP process overview (SCADA snip)

Data from SCADA is also extracted from the system and stored in an online data management system (ODMS) known as PI ODMS. It serves as a backup for the data in SCADA and allows users to manipulate the information without using the SCADA platform.

A process flow diagram for the liquid stream is shown in Figure 3.

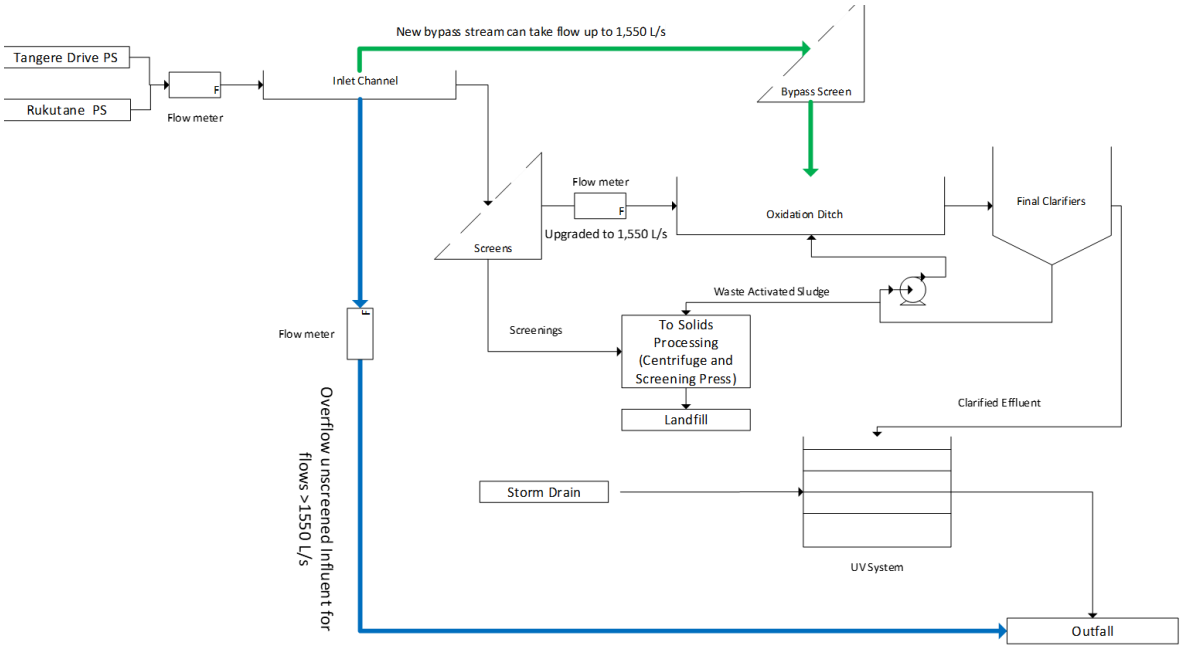

Figure 3: Process Flow Diagram

1.2. Treatment Process Description

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) as shown in Figure 4.

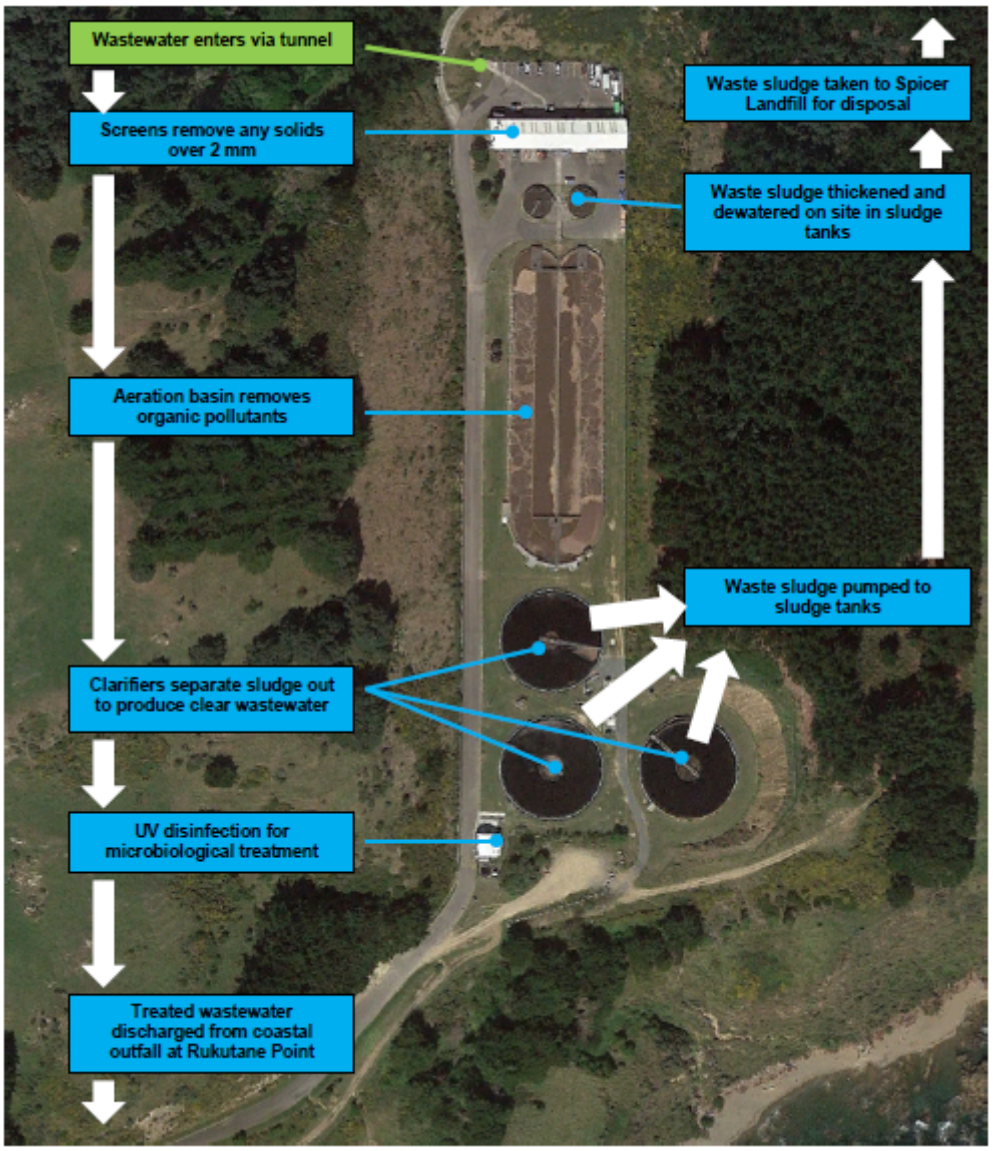

Figure 4. Porirua WWTP process layout

The individual treatment processes within the plant are described below:

- Liquid Stream:

➢ Incoming Wastewater Tunnel Inlet

The wastewater is pumped to the WWTP via two pump stations- Tangare drive and Rakutane Point and enters the plant via a trunk sewer conveyance tunnel. It is ventilated using a large fan, with odour discharged via a short (~ 3m) vent/stack (Figure 5) located to the southeast of the main plant building. The primary purpose of the ventilation system is to control corrosion within the tunnel section nearest to the plant and reduce H2S concentrations within the plant building to minimise the risk of workers being exposed to high concentrations of H2S. As a

part of the interim odour control measures of the site, the inlet tunnel vent fan will be turned off when the weather station records northerly winds. A hydrogen sulfide (H_2S) monitor is installed in the inlet tunnel vent to continuously monitor the quality of air being discharged.

If the flow going into the treatment plant is above 1,550 L/s , the excess flow will be going to the overflow line and will be discharged to the Rukutane outfall. Please note that the pump stations that feeds into Porirua WWTP has a pumping capacity of less than 1,550 L/s so the use of the overflow line is very unlikely.

Figure 5. Tunnel Inlet Vent

- Screening: Incoming wastewater into the plant is being screened via four rotary milliscreen.(Figure 6) The screens have an aperture size of 2 mm which effectively removes physical debris (screenings) in wastewater. The screenings are then dewatered for landfill disposal and screened effluent goes to the next stage which is biological treatment. If the four milliscreens are unavailable, a bypass stepscreen can be utilised for screening the incoming wastewater.

Figure 6. Milliscreens with fibreglass covers

The milliscreens have fibreglass covers to minimise the odour being released. The odour from the milliscreens is extracted using an axial fan and discharges the air via a 10 m tall stack

(Figure 7) located on the northwestern corner of the main plant building. A hydrogen sulfide (H2S) monitor is installed in the milliscreen building stack to continuously monitor the quality of air being discharged.

Figure 7. Milliscreen Building Discharge Stack

- Biological Treatment: Screened effluent flows by gravity for biological treatment. The plant employs extended aeration activated sludge process wherein organic contaminants are removed from the wastewater using microorganisms (“bugs”). Air is introduced to the system through the blowers which are required by the bugs to thrive. The mixture of the bugs and wastewater is called mixed liquor. The solids in the mixed liquor are measured by the operators 3 times a week, and the optimum amount for good plant performance is around 3500 milligrams per litre. As a byproduct of this treatment, more bugs (activated sludge) are produced and need to be regularly removed from the system.

  The potential for offensive or objectionable odour to be emitted from the aeration basin (Figure 8) is low. While the four elements of the basin in total have a large surface area open to the atmosphere, the on-line oxygen monitors in the aeration tank automatically control the blowers delivering air to the aerator diffusers and thus the oxygen concentration of the mixed liquor is maintained at an optimum level. Dissolved oxygen (DO) levels are monitored and will produce an alarm if abnormal conditions in the aeration process were detected which the operator will respond. In this way, the maintenance of optimal oxygen levels in the aeration basin is assured. Anaerobic conditions leading to odour generation are thus prevented from arising in the aeration basin.

Figure 9: Aeration Basin

- Secondary Clarification: The mixed liquor enters the three clarifiers (Figure 10) for solid separation through gravity. Clear effluent is sent to the next stage while the thickened sludge at the bottom of the clarifier is either returned to the biological treatment or removed from the process. The amount of sludge in the bottom of the clarifiers is measured by the blanket probes and trended on SCADA, the ideal sludge blanket levels are 1.5 metres from the bottom of the clarifiers.

  The potential for objectionable odour release from the three clarifiers at the WWTP is low. The clarifier tanks are desludged on a daily basis and the weirs and launders are cleaned regularly by the use of high-pressure hoses on the rotating arms on an as-needed basis. The optimum operation of the clarifiers is ensured by regular inspection followed up, as necessary, by action to prevent the accumulation of any solids and algae which might give rise to odour emissions.

Figure 10: Secondary Clarifiers

- Ultraviolet disinfection: Effluent from the clarifiers is directed through a UV inlet channel where it will be split between the Duron and the TAK UV channels (Figure 11). The two UV channels are isolated with actuated penstocks. The Duron UV System will act as the duty unit up to 750

L/s. . The existing TAK UV system acts as a stand-by unit to provide treatment up to the plant's design capacity of 1,550 l/s. As the effluent passes through the UV lamps the microorganisms within the water are exposed to UV radiation to render them inactive.

Figure 11: Ultraviolet System Building

- Solids Stream:

➢ Sludge thickening – excess activated sludge (waste activated sludge or WAS) from the process is removed by wasting from the clarifiers. There are two gravity thickeners (Figure 12) in the plant which are used to settle the solids from the mixture. The thickened WAS is being fed to the centrifuges while the supernatant is returned to the aeration basin. The sludge thickeners are open to the atmosphere but the risk of odour from this process is low. The thickeners are operated continuously which significantly reduces the risk of odour. In case of the thickener and dedicated equipment failure, the second unit is used for the sludge processing.

Figure 12: Sludge Thickeners

➢ Sludge Dewatering – Two centrifuges (Figure 13) are used to remove the excess water content from the thickened WAS. Dewatered sludge is produced and is sent to the landfill for disposal. The excess water being removed is returned to the upstream of the process for treatment. The centrifuges are fully enclosed to minimise the release of odour.

The dewatered solids that leave the centrifuges have a soil-like consistency and have a relatively low odour potential when undisturbed. The sludge is removed daily in covered skips

to further minimise odour discharges. The bins are covered when removed from the Site to reduce the potential for odour nuisance as it is transported to Spicer landfill.

Figure 12: Centrifuges

- Screenings Processing – Screenings from the milliscreen are being washed by recycled fully treated wastewater and compacted using a screening press (Figure 13) which reduces the potential of odour being released. The compacted screenings are then sent to the landfill for disposal while the wash water is being returned to the process. The bins are also covered and transported to Spicer Landfill.

Figure 13: Nogwash system

Potential odour sources in the treatment plant and their respective mitigating measures have been summarised in section 4.1.

1.3. Resource consent

There are three resource consents for the operation of the WWTP. They are as follows:

- WGN200229 [36816] - Coastal discharge permit conditions
- WGN200229 [36727] - Governs the discharge of contaminants to air (namely odour) from the operation of the Porirua WWTP.
- WGN980083 (03) – land occupation of the outfall

A copy of the resource consent is included in Appendix I.

1.4. Community Liaison Group (CLG)

A community liaison group (CLG) was created as part of the resource consent. This group consists of the following parties:

- Representatives of Te Rūnanga o Ngāti Toa Rangatira.
- Representatives of Wellington Regional Council.
- Representatives of Regional Public Health.
- A representative of Te Awarua o Porirua Harbour and Catchments Community Trust.
- A representative of the Titahi Bay Residents' Association.
- A representative of the Titahi Bay Community Group.
- A representative of the neighbouring landowners and residents.

The CLG meets annually or as required for events that occur at the WWTP. Its primary purpose is to act as a forum for disseminating information between the group members and act as a conduit to the wider community. There may be other parties not listed above attending the CLG.

1.5. Odour Community Liaison Group (OCLG)

An Odour community liaison group (OCLG) is established and maintained to act as a forum for consultation and liaison with the community, and to inform its members on the performance of the Porirua WWTP in relation to the conditions of the resource consents, the results of any odour surveys undertaken, odour complaints related to the operation of the plant, and improvements proposed to be made to the WWTP that will influence the discharge of odour. A meeting of the OCLG will be held once a year. At the time of writing, the OCLG was yet to be established, however, the following parties will be invited to participate:

- Residents of the Pikarere Farm subdivision
- Representatives of the Wellington Regional Council
- Representatives of Regional Public Health
- A representative of the Titahi Bay Residents' Association
- A representative of the Titahi Bay Community Group

There may be other parties not listed above attending the OCLG.

2. 0 Operations and Maintenance

There are three main parties involved in the operation of the Porirua WWTP:

- Veolia Water
- Wellington Water (WWL)
- Porirua City Council (PCC)

Veolia is responsible for carrying out the operational procedures, equipment maintenance, regular odour assessments, and staff training, to assure plant performance and compliance.

Operators are in charge of daily monitoring of the plant and findings are recorded in the operations log book.

The plant utilises a computerised maintenance management system which records and creates work orders for various maintenance activities conducted.

If there is an issue in the plant that needs to be taken care of via non-routine maintenance as highlighted during regular inspection, the operator will immediately notify the duty manager or the operations coordinator. The work shall be planned to be undertaken depending on the urgency with a work order being generated for it. All works shall be recorded in the operations incident log. The Operations Coordinator or Veolia manager needs to sign off all maintenance (routine and non-routine) work orders before they can be marked as completed.

2.1. Operations

Veolia Water has dedicated operators responsible for the day-to-day operation of the Porirua WWTP. The hours of operation are 7:30 am to 4:00 pm (weekdays) and the plant is not manned outside of these hours.Operation outside of these hours is covered by the dedicated on-call team (operator and manager). Planned site visits are conducted by the on-call operator during weekends with emergency call-outs triggered by the pager alarms. Daily and weekly routine activities are carried out to maintain the equipment clean and operational to avoid breakdowns and possible generation of odour, i.e. Milliscreens clean-ups. A copy of these routine checks can be found in Appendix II.

2.1.1. Transport of Odorous Materials

The Porirua WWTP produces an average of 30 tonnes per day of dewatered sludge, and 4 tonnes per month of screenings. The duty operator operates and manages the centrifuges production and the skip bins for the day. Typically, 8 bins of dewatered sludge are disposed of per day during the week, 4 bins on Saturday, none on Sunday, and a screenings bin is usually disposed of on Wednesday morning.

The sludge and screenings are currently transported using covered bins for disposal in the Spicer Landfill.

2.2. Maintenance

Veolia Water has dedicated operators responsible for the day-to-day operation of the Porirua WWTP. Planned maintenance and specialist work that requires additional input is provided internally by the in-house maintenance technicians and contractors.

2.2.1. Routine Maintenance

Planned maintenance and specialist work that requires additional input is provided internally by the in-house maintenance technicians and contractors. A copy of the daily and weekly duties of the operators can be found in Appendix ii.

If there is an issue in the plant that needs to be taken care of via non-routine maintenance as highlighted during regular inspection, the operator will immediately notify the team leader or the operations coordinator or duty manager. The work shall be planned to be undertaken depending on the urgency with a work order being generated for it. All works shall be recorded in the operations incident log. The operations coordinator or Veolia manager needs to sign off all maintenance (routine and non-routine) work orders before they can be marked as completed.

2.2.2. Planned maintenance

The Veolia Asset Management System (VAMS) is used to schedule and plan all maintenance and operational activities across the sites where Veolia operates. This system provides a schedule of planned work and identifies all the tasks and the frequency each task is completed.

A summary of the planned maintenance schedule can be found in Appendix II. These tasks are reviewed as required to tailor the need in the operations of the plant.

2.2.3. Critical Spares

In order to deal with plant malfunctions and maintain the normal operation of the plant, the following critical spares are kept on-site:

Critical spare	Area of use	Quantity
Aeration mixing gear box	Mixers in the aeration basin	1
Centrifuge rotating assembly	Centrifuges for sludge dewatering	1
Drive wheel	Secondary clarifiers travelling bridge	1
RAS pumps	Sludge pumping	2
WAS pump	Sludge pumping	1
Ballasts, lamps, and quartz sleeves	UV system	1

2.2.4. Redundancy

The following redundancies are parts of the plant's design for contingency in order to respond to a planned or unplanned maintenance, and a plant malfunction.

- 4 Milliscreens - 2 to 3 required for normal operation
- 1 Stepscreen available in case the 4 milliscreens were offline
- 3 Blowers - 1 to 2 required for normal operation
- 2 UV systems - Duron unit operates as the on-duty system and TAK unit as a back up during high flows.

2.2.5. Forest area management

As a part of the Porirua WWTP Air Discharge consent, a management framework is required for harvesting of the harvested slopes surrounding the WWTP to maintain a healthy and effective tree cover at all times.

Porirua City Council is responsible for maintaining the forested area. Wellington Water and Veolia will coordinate with PCC with regards to satisfying this consent condition.

2.3. Record Keeping

2.3.1 Operational record

The operators as a part of their daily duties keep a daily operational record of notable events happening in the treatment plant.

There is also an operations incident log for the plant's operation which records the following:

- Site
- Date and time of the incident
- Contact details of any customer or stakeholder involved
- Incident Description
- Possible consequence of the incident whether it affects the assets, environment and/or health and safety
- Priority of the incident
- Description of operator's response to the incident
- Date and time of response
- Description of the resolution
- Parties being notified
- Form of notification
- Details of the notification

The updated operations incident log is being provided to Wellington Water monthly with notable events also discussed on the plant's consent required reports.

2.3.2 Notifications

If an event caused a breach of resource consent or was a health and safety incident, the operator provides an incident notification. For this purpose, notification forms including the information required by the relevant resource consent are available.

Regional council shall be notified as soon as practicable but within 24 hours of any non-routine issues or plant malfunction that adversely affects the discharge to the coastal marine area or has a potential risk of odour complaints, any unauthorised discharge, or any discharges of partially treated wastewater.

Any incident which is considered as a health and safety risk shall be communicated to the members of the public as soon as possible.

A follow up report detailing the investigation of the incident and any corrective actions that will be or have been undertaken. These reports are being provided to Wellington Water. Also, incident reports related to resource consent breaches are submitted to GWRC.

2.4. Contingency Plan

The plant keeps a site risk register which records the risks identified in the plant and the corresponding control measures. Identified risks per treatment stage and their corresponding mitigation measures are listed in Appendix iv.

Staff training is also an integral part for the plant's contingency planning. The operators of the plant are also trained by Veolia to competently perform their duties. This ensures that the operators will have the ability to respond to any incidents in the plant as expected. Veolia's learning and development framework includes the following:

- Induction
- V-learning (on-line learning modules)
- Competency-based learning
- Compliance training
- On-the-job training
- Role-specific training (external and internal)

2.5. Staff Responsibility and Training

Induction

All staff and contractors undertaking work on-site undergo site induction covering the detailed information on the following topics:

- Smoking on site
- Drugs and Alcohol on site
- Veolia Life Saver Rules
- Emergency Evacuation Point and Procedures
- Amenities
- Restricted Areas
- First Aid
- Security and Access Arrangements
- Hazard, Incident and Injury Reporting
- Identified Hazards
- Bulk Chemicals on site
- Safety Data Sheets
- Environmental Aspects and Impacts
- Veolia Conditions for Contractors

Training

All Veolia Operators participate in the same standby duty roster and it is therefore necessary that operators all be familiar with the operation of the plant. In addition to the in-house on-the-job training, staff are provided with continuous health and safety training as well as any other skills required or refreshers. All staff are encouraged and subsidised to undertake National Certificates and Diplomas in wastewater treatment.

All Veolia staff are required to undergo training as defined in the training matrix. The training matrix summarising the internal and externally done training (including the Resource consent requirements refresher) can be found in Appendix vi.

Responsibilities

The following personnel are involved in the Operation of the Porirua WWTP. The responsibilities are defined under the Regional Wastewater Treatment Plant Services Contract (further referred as Contract). Additionally, the term Contract is used in the context of describing the five sites operated under the Regional Wastewater Treatment Plant Services Contract - Moa Point wastewater treatment plant, Carey's Gully sludge dewatering plant, Western wastewater treatment plan, Seaview wastewater treatment plan, Porirua wastewater treatment plan.

- Operations Manager

    - Provide value added leadership to the Operations team including the timely completion of performance and development reviews (PDRs) and training plans;
    - Ensure the effective operations and the quality of service of the Wellington wastewater operations;
    - Ensure all operations and maintenance activities for all the sites are undertaken in compliance with the Contract and completed to the required standards, within the required timeframes;
    - Ensure the required monitoring, control and reporting is undertaken in compliance with the Contract;
    - On-going review together with the coordinators of operational performance anticipating and identifying compliance risks before they occur and taking action to address these areas;
    - As required, implement and manage projects to improve and optimise performance of the treatment plants;
    - Complete the associated administrative work in an accurate and timely manner;
    - Coordinate and prepare reports, together with the Safety and Compliance Officer, relating to operations and environmental transgressions/failures;
    - Assist the Contract Manager and Assets and Maintenance manager to prepare justifications of extraordinary works;
    - Monitor and control expenditure on operating and maintenance budgets and take steps to improve performance ensuring direct and indirect reporting staff are aware of budget constraints;
    - Coordinate, and support the Assets and Maintenance Manager and Capital Works Manager to prioritise, organise and deliver key asset management projects;
    - Assist the Contract Manager and Safety, Risk & Compliance Officer with the preparation of the monthly report;
    - Assist Contract Manager in preparing annual budgets;
    - Support the Contract Manager with respect to liaising with relevant parties (internal and external) on operational matters;
    - Undertake and document (audit trail) the necessary checks and balances to ensure the works are supervised and controlled;
    - Encourage a proactive commitment to health and safety within the Contract and in partnership with our contractors to work effectively for the achievement of workplace zero harm;
    - Participate in the duty manager on-call roster;
    - Attend the WWTP Community Liaison Group (CLG) meetings when required;
    - Undertake such general duties as required for the effective provision of services to the client and customers.

- Northern Operations Coordinator

- Ensure the wastewater operations and maintenance activities for the Seaview and Porirua sites are undertaken in compliance with the Contract and completed to the required standards.
- Ensure the required monitoring, control and reporting is undertaken in compliance with the Contract.
- Provide leadership, coordination and support to the maintenance operators and hands on Team Leader.
- Complete the associated administrative work in an accurate and timely manner.
- On-going review of operational performance anticipating and identifying compliance risks before they occur and taking action to address these areas.
- Assist the Operations Manager - Wellington in the preparation of reports relating to operations and environmental transgressions/failures.
- VAMS oversight - ensure recording of adequate and correct information, labour hours, costs, signed off and closing of work orders.
- Assist the Operations Manager - Wellington and Assets and Maintenance manager to prepare justifications of extraordinary works.
- Monitor and control expenditure on operating and maintenance budgets and take steps to improve performance ensuring direct and indirect reporting staff are aware of budget constraints.
- Assist Operations Manager - Wellington in preparing annual budgets for each of the plants you oversee.
- Management functions include the maintenance of records, system audits, ordering of materials and equipment, facilitation of local toolbox, health and safety and operations meetings, review of operation and maintenance manuals, coordination of staff leave requests and training.
- Undertake and document (audit trail) the necessary checks and balances to ensure the works are supervised and controlled.
- Encourage a proactive commitment to health and safety within the Contract and in partnership with our contractors to work effectively for the achievement of workplace zero harm;
- Participate in the duty manager on-call roster.
- Undertake such general duties as required for the effective provision of services to the client and customers.

Northern Operations Team leader

The role is responsible for hands-on assistance / organising local site operators and contractors to ensure the delivery of the service on time and within budget.

- Ensure the wastewater operations and maintenance activities for Porirua, and Seaview (When required) sites, also ensuring compliance with the Contract and completed to the required standards, by organising operational / mechanical duties for the WwTP Maintenance Operators and contractors.
- On-going review of operational performance anticipating and identifying compliance risks before they occur and working with the Northern Contracts Coordinator in delivering the best outcomes,and processes.
- Ensure all operational administrative requirements are met:
- Ensure all requirements of VANZ Occupational Health and Safety (OH&S) and Safety, Health, Environmental and Quality (SHEQ) Policy Statements are met by:
- Assist the Northern Contracts Coordinator in the preparation of reports relating to operations and environmental transgressions/failures.
- Participate in the Duty On-call duty roster.

- Operator x2

- Contractual and resource consents compliance - meeting discharge quality standards, monitoring of operations.
- Routine plant Maintenance of all plant equipment (Planned, Routine, Breakdown). Generating Work Orders to suit.
- Identifying and Escalating problems both maintenance and process
- Undertaking designated operations duties.
- Fault finding and repairs to equipment, ability to use workshop equipment to undertake repairs.
- Working with internal staff, sharing of knowledge and skills.
- Organising / Ordering consumables, materials and spares (this includes Polymers)
- Ability to work at remote locations.
- Participating in the On-Call duty operator Roster.
- Contribute to the management of Health and Safety, Quality Assurance and Environmental Management Systems, while applying these procedures in all aspects of work,
- To comply with VW-ANZ Behaviour Framework. This framework (CRIPT) involves all employees being Customer Focused, having Responsibility in the workplace, offering new ideas through Innovation, setting goals and disciplining oneself through Performance, and working together through Team Work,
- Comply with the requirements of Veolia’s Occupational Health and Safety and Environmental Policy Statements, including participation at local toolbox and health and safety meetings,
- Adhere to all written and verbal instructions, procedures and information issued by Veolia relating to both health and safety and environmental issues and with all relevant clauses of the Integrated Business Management System Manual,
- Comply with the requirements of the company's business management system and the Quality Policy for drinking water, wastewater treatment and disposal to contribute to the company's commitment to provide safe, high quality drinking water and wastewater services that consistently meets or exceeds the requirements of the Contracts,
- All employees are responsible for reporting any problems with the business management system, particularly in relation to the management of occupational health and safety, environment and drinking water,
- To undertake such general duties as and when required for the effective provision of services to the client.

2.6. Complaints Procedure

Complaints to the Porirua Wastewater Treatment plant can be sent to the following contact details:

Veolia Duty Manager (First Point of Contact):
Phone: 0800 928 371

Wellington Water:
Phone: 04 912 4470
Email: customer@wellingtonwater.co.nz

Veolia's duty manager contact number operates 24/7, as such, complaints can be directly forwarded to them especially if the complaint is urgent and/or happened after office hours.

When a complaint is received, the following information will be recorded:

- The complainant's name
- Contact details of the complainant
- Nature of the complaint (odour etc.)
- Date and time of the incident
- Location of the incident
- In case of the odour complaints additional information is required:
    - The wind direction and speed
    - The plant operating conditions at the time of the complaint

Complaints shall be actioned within 24 hours upon receipt and the records being written to the plant's operational incident log.

For odour complaints, the Veolia operations team will do an odour survey on the site as soon as possible. A copy of the odour survey form can be found in appendix iii. A written report detailing the reasons for the incident, measures to mitigate the incident and measures to prevent recurrence shall be forwarded to the Manager within seven working days.

Odour and/or wastewater discharge complaints will be forwarded to the regional council and this shall happen within 24 hours. A written report detailing the reasons for the incident, measures to mitigate the incident and measures to prevent reoccurance shall be forwarded to GWRC within seven working days.

3. Risk Communication Strategy

As per Resource consent WGN200229 [36816] Condition 26A. The purpose of this strategy is to:

- Describe the potential health risks due to a discharge from the wastewater treatment plant (WWTP) under different operating conditions or as a result of an incident as described in condition 22A
- Establish procedures for the formal notification to Te Rūnanga o Toa Rangatira, Greater Wellington Regional Council, Regional Public Health and Porirua City Council.
- Establish procedures to provide information about the potential health risks to community groups, potentially affected and/or interested persons, and the general public.

Risk information will be provided in response to the discharge of partially treated or untreated effluent. The information will assist the affected parties in making informed decisions about their activities within the coastal area adjoining and adjacent to the Porirua WWTP discharge point at Rukutane Point.

The strategy will be reviewed on an “as required” basis in response to feedback from the Community Liaison Group, any changes to the operation of the WWTP, and the impacts on public health.

3.1. Roles and Responsibilities of Agencies for Discharges

A number of agencies have responsibilities for managing public health risks due to discharges. The key agencies are the Regional Council (GWRC), Local Council (PCC via Wellington Water), and the Public Health Unit (Regional Public Health). The basis for the roles and responsibilities set out in this strategy are found in the Ministry for the Environment (MfE) “Microbiological Water Quality Guidelines for Marine and Freshwater Recreational Areas” (updated June 2003), the Health Act 1956, and the resource consent under the Resource Management Act 1991.

The response to a discharge with potential public health risk involves the following:

- GWRC ensures that the resource consent is implemented in a way to manage risks to the environment (including risk to human health);
- PCC (via Wellington Water) is responsible for informing the public regarding a risk and has duties to ensure that all proper steps are taken to abate or remove the risks to health;
- Regional Public Health (and specifically the Medical Officer of Health) provide advice and ensure proper steps are taken by Territorial Authorities to protect the health of the community and provide information on the risk;

This response ensures there is an assessment of public health risk and that the public is informed of these risks so that they can make informed decisions about whether to undertake recreational activities in the water (including gathering of kaimoana).

3.2. Type of Events

The following are possible situations that can result in unconsented discharges:

- Planned or unplanned maintenance activities;
- Plant malfunction.

3.2.1. Plant Malfunction

Plant malfunction may include the following:

- Planned maintenance;
- unplanned maintenance; and
- equipment failure

These events could cause process issues within the plant that could reduce the quality of the effluent discharged to the CMA. An example of a plant malfunction is the discharge of sludge from the clarification process (i.e. sludge carry-over). The activated sludge would increase the concentration of suspended solids in the effluent and cause a high faecal coliform bacteria count.

A plant malfunction could also reduce the capacity of the plant and cause a bypass and/or overflow.

3.2.2. Unconsented Discharge

Unconsented discharges may occur at the WWTP. An unconsented discharge is a release from any location not designated in the resource consent. The following are some examples of unconsented discharges:

- Discharges to land (i.e. from aeration basin, clarifiers, etc.); or
- Discharges to the stormwater drain (i.e. from the reclaimed effluent tanks, aeration basin, clarifiers, UV plant, etc).
- Bypass and overflow discharges during dry weather
- Discharge of undisinfected effluent due to UV system failure.

These events may be caused by plant malfunctions.

3.3. Communication Procedure

3.3.1. Initial Notification

3.3.1.1. Notification by SCADA

When the SCADA system at the Porirua WWTP detects a bypass or overflow flow rate an alarm is triggered. This alarm causes a text message to be sent out by the paging system. The message will be as follows:

Bypass - PR_Almx1028 M/screen bypass ON
Overflow - PR_Almx1051 Porirua Inlet Channel Overflow

In addition to the duty operator and duty manager, the alarm text message will also be sent to the following:

Manager, Wastewater Contracts	021 240 7130
Senior Wastewater Process Analyst	021 198 2769
Contract Sampler	021 449 460

3.3.1.2. Notification by Operator

When the duty operator has been alerted that a discharge has occurred at the Porirua WWTP, they will identify the type of event either through routine maintenance inspections, trends on SCADA, or the SCADA alarm.

The duty operator will contact the duty manager. They will inform the duty manager of the type of discharge and the start time.

3.3.1.3. Notification by Duty Manager

The duty manager will immediately send an email notification upon discovering a discharge from the Porirua WWTP. This notification shall be sent to the following:

anz.porirua.wwtp.notifications.all.groups@veolia.com

This is the group email for all interested parties.

The notification must include the date, time, type of discharge, potential reason for discharge, and location of the discharge. The notification template can be found in Appendix V.

3.3.1.4. Notifications Received From the Public

Members of the public may contact the call centre when they discover a potential discharge from the WWTP. These notifications should not be treated as formal notifications of a discharge. In the event a member of the community contacts the call centre regarding a potential discharge event, performing the following:

The call centre shall record the following information from the caller:

- Name,
- Contact details,
- Date and time the potential discharge was discovered, and
- Location of the potential discharge.

Once this information has been recorded, the call centre will enact the following calling tree. The call centre will contact each individual in decreasing priority until someone on the tree has personally received the message. If contact has not been made, then repeat the calling tree until someone has personally received the message.

Priority	Name	Contact Detail
1st	Duty Manager (Veolia)	0800 928 371
2nd	Operations Manager (Veolia)	027 466 0567
3rd	Contract Manager (Veolia)	027 267 9435
4th	Senior Wastewater Advisor (WWL)	021 198 2769
5th	Contract Manager (WWL)	021 240 7130

Table 1: Calling Tree

3.3.1.5. Notification by Wellington Water Customer Hub

Interested parties will receive a notification via email or text message from the hub as soon as possible which gives the public the information about any incident that will potentially affect the members of the public. The recipients of this information are Porirua WWTP interested parties, Wellington Water, Regional Council and Regional Public Health.

3.3.1.6. Notifications by Wellington Water Communications Team

Incident notification will be posted in Wellington Water's webpage and can also be seen in Wellington Water's social media channels.

3.3.2. Signage

There are two types of signs for the Porirua WWTP: permanently open signs and permanent closeable signs. The following will describe when the two different types of signs are applied.

3.3.2.1. Permanently Open Signage

There is a permanent sign located at the Rukatane Point outfall.

3.3.2.2. Permanent Closeable Signage

The permanent closeable signs are governed by Wellington Water. When any type of discharge occurs, notification is given to Wellington Water by Veolia. Wellington Water will ensure that the signs are opened. Signs will remain open for a period of 48 hours following the end of the discharge event.

The following map is the location of where all the signage is placed.

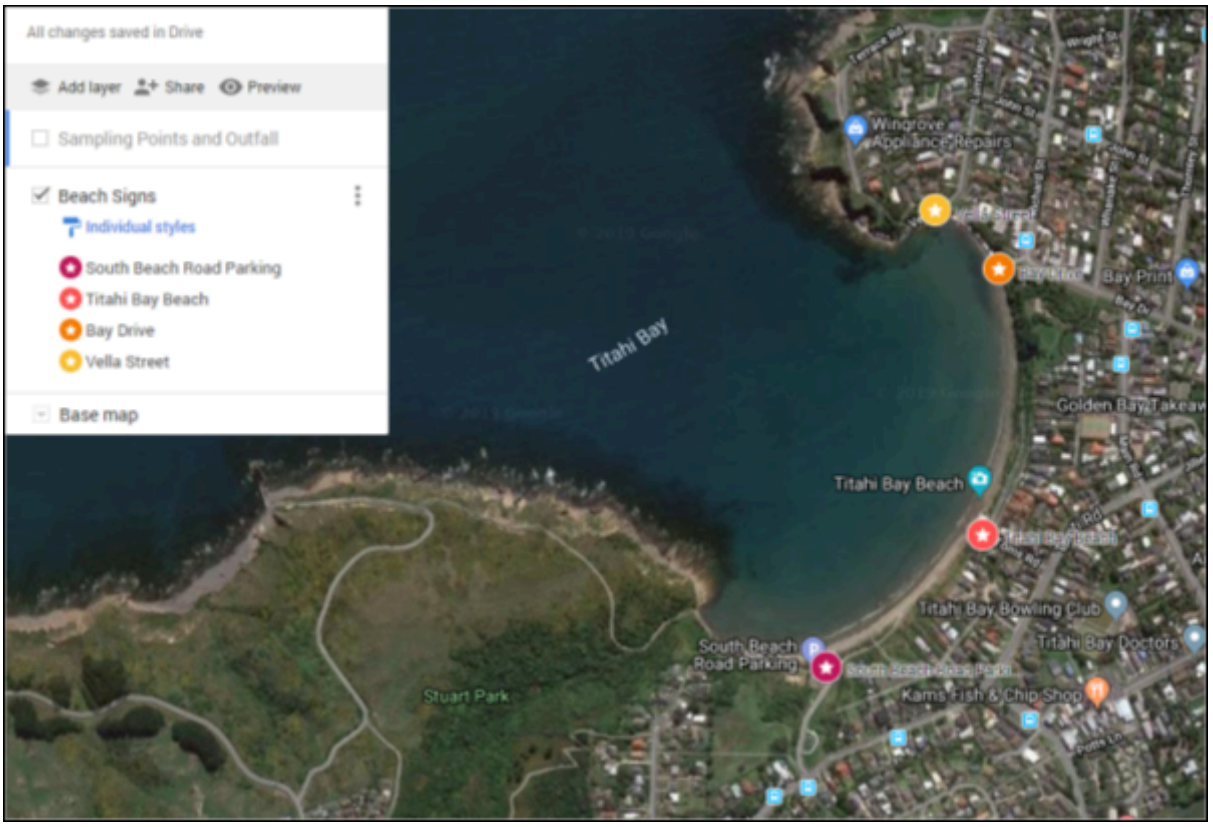

Figure 4: Sign Locations in Titahi Bay

3.3.3. Discharge Monitoring and Sampling

Various discharge parameters and shoreline samples are collected as part of a monitoring campaign to determine the effect of the discharge on Titahi Bay.

3.3.3.1. Discharge Monitoring

When any type of overflow discharge occurs, there are several parameters that must be recorded. They are as follows:

- duration of the overflow discharge;
- average and maximum overflow discharge flow rates;
- total volume of the overflow discharge; and
- total volume of treated wastewater discharged during the overflow discharge event.

3.3.3.2. Shoreline Monitoring

Samples are collected 24, and 48 after the discharge commenced. The locations of sampling are as follows:

A. At or about 140 metres generally east of the outfall.
B. At or about 200 metres generally southwest of the outfall.
C. Titahi Bay Beach at Toms Road.
D. Control site, Whitireia Park

If the discharge is due to an overflow event, a plant malfunction, or is unconsented then the shoreline monitoring campaign will need to be initiated. Contact the sampling contractor to collect the shoreline samples. The following information must be recorded when samples are collected:

- Date

- Time
- Weather
- Wind condition
- Tidal condition
- pH
- Salinity
- Dissolved oxygen
- Water temperature

The samples collected from sites (a) to (d) must be analysed for enterococci. In addition, the samples collected from sites (a), (b) and (d) must be analysed for total ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, dissolved reactive phosphorus, total nitrogen and total phosphorous as per condition 15 of the resource consent.

3.3.4. Final Notification

After the discharge has ceased, a formal notification is submitted to Wellington Water Wastewater Contracts Team and Greater Wellington Regional Council.

A form for the formal notification can be found in Appendix v.

To complete the Final Notification form, perform the following:

- Select “Porirua WWTP” from the drop-down list in cell C6.
- Select the notifier from the drop-down list in cell G6.
- Fill in the “Location” with “Porirua WWTP to Rukatane Point”
- Fill in the “Cause” with the cause of the discharge. This could range from heavy rain to a plant malfunction.
- Select “Y” if the discharge was consented and “N” if the discharge was unconsented from the drop-down list in cell G14. Please note that the “Consent Number” is automatically populated.
- Fill in the “Weather Conditions” with the weather conditions on the day of the discharge.
- Fill in the “Actions Taken” with the actions undertaken by the duty operator and duty manager.
- Fill in the “Comments” section with any additional comments.
- Fill in the “Discharge Parameters” section with the requested information. This can be obtained from SCADA. Please note that the “Duration” and “Dilution Ratio” are automatically populated.

4. Odour Management

4.1. Potential Odour Sources

Potential odour-generating sources related to wastewater treatment activities and infrastructure are listed in Table 2 below.

Item	Source	Mitigation Comments
1	Inlet tunnel fan	The inlet H2S levels in the inlet tunnel vent and the milliscreen building stack are constantly monitored.
2	Main building: ● Milliscreens ● Centrifuges ● Sludge load-out bay ● Fugitive emissions (ventilation slats, etc)	Odour is similar to wastewater odours (faecal/manure/sewage odour). The building has ventilation fans over covered inlet area which disperses foul air to the atmosphere through a stack. Bins for screenings and sludge are located in the basement and are not fully covered, which may discharge some odour to air.
3	Thickeners	They have a very weak musky/earthy odour. The thickeners are vented to the atmosphere.
4	Aeration basin	The aeration basin is forced aerated and vented to the atmosphere. The discharged gas has a very weak musky/earthy odour. Constant DO concentration is maintained in the aeration basin to make sure that the sufficient level of aeration is maintained. The DO level concentration is set up in the control system, if the DO concentration is out of this range, alarms are triggered. (low limit is 1 mg/L).
5	Skip Bay Area	The duty operator operates and manages the sludge production from the centrifuges and skip bins for the day. The normal operation is usually 8 bins per day, screenings bin disposed of on Wednesday morning, and 4 sludge bins on Saturday. Sludge disposal is currently managed by Waste management.
6	Other Assets	Air release from other assets should be minor or zero. A risk occurs if sludge or untreated wastewater is discharged accidentally (ie: untreated or partially treated wastewater discharged to land).
7	Abnormal emissions	Abnormal emissions may occur during the Mitigation measures maintenance, break-downs and malfunction of the equipment on site. Mitigation measures to reduce the risk of odour are listed in the Appendix iv.

Table 2: Potential odour-generating sources

4.2. Monitoring and Recording

The following interim measures are in place for the odour control as required by the resource consent WGN200229 [36727] Condition 8A.

Interim odour control measures

a. *Monitors that continuously measure Hydrogen Sulphide (H_2S) in the discharge from the inlet tunnel vent and milliscreen building stack were installed;*
b. *New weather station that shall, at a minimum, measure wind speed and direction at a height of 5 to 10 m and shall be connected to the WWTP control system was installed. The meteorological monitoring instruments does:*
    i. *Measure wind speed as 1-minute scalar averages with maximum resolution of 0.1 metres per second (m/s), have an accuracy of at least within +/-0.2 m/s, and a stall speed no greater than 0.5 m/s.*
    ii. *Measure wind direction as 1-minute vector averages with maximum resolution of 1.0 degree and accuracy of at least within +/- 1.0 degree, and a stall speed no greater than 0.5 m/s;*

    The monitor is sited in accordance with AS/NZS 3580:14-2014 (Methods for sampling and analysis of ambient air – Part 14 Meteorological monitoring for ambient air quality monitoring applications). If the station cannot be located in accordance with AS/NZS 3580:14-2014 an alternative location shall be agreed to the satisfaction of the Manager;
c. *The operation of the inlet tunnel vent fan was reconfigured so that between 05:00 hours and 23:00 hours it automatically turns off when the weather station measures winds between 315° to 45°, that are less than the wind speed trigger - 3 m/s*

The following section will define these monitoring areas and how they are performed.

4.2.1. H2S Monitors

The inlet H2S levels in various locations across the Porirua WWTP site are being constantly monitored and recorded by SCADA. This data is also available in the PI ODMS database.
There are two types of H2S monitors installed at Porirua WWTP:

H2S loggers used for the H2S monitoring only
- Inlet tunnel vent
- Milliscreen building stack

The inlet tunnel and Milliscreen building stack H2S monitoring provides information on the conditions occurring in the network and in the main plants building. Main function of these loggers is to gather data which will be used for the odour treatment upgrade project.

H2S monitors used for the monitoring with integration into the alarming system
- Staff area
- Workshop
- Milliscreen area (fixed H2S detectors)

H2S monitoring in these areas is done for the Health and Safety purposes. Limit of 5 ppm is pre-set in the control system and once reached, an alarm is raised. The alarm initiates the building evacuation process.

4.2.2. Weather Station

A weather station has been installed for the Porirua WWTP. This weather station collects meteorological data such as wind speed and wind direction and passes this information via an XLR which has two relay outputs that can be closed when the wind speed meets predefined conditions i.e. coming from a particular direction, a particular speed, etc. This setup allows the internal logic of the weather station to communicate with the telemetry unit via ultra-high frequency to the plant approximately 800m away.

The weather station transmits the following signals to the SCADA system for indication and logging.

Tag	Description	Min	Max	Unit
PC_D_WTP_AT150_01	Weather Station Relative Humidity	0	100	%
PC_D_WTP_AT150_02	Weather Station Wind Speed	0	55	m/s
PC_D_WTP_AT150_03	Weather Station Wind Direction	0	359	Deg
PC_D_WTP_AT150_04	Weather Station Rainfall	0	100	mm
PC_D_WTP_PT150_01	Weather Station Atmospheric Pressure	90	110	kPa
PC_D_WTP_TT150_01	Weather Station Temperature	-20	50	C

Table 3. Weather station parameters

4.2.3. Inlet Tunnel Vent Fan Operation

The data provided by the weather station will be collected on SCADA and used to trigger the tunnel vent fan to turn off during day time hours (5am to 11pm) and adverse meteorological conditions ie. winds from the northeast and northwest with a speed of less than 3m/sec as an hourly average. The fan turns back on once the conditions defined above aro net met.

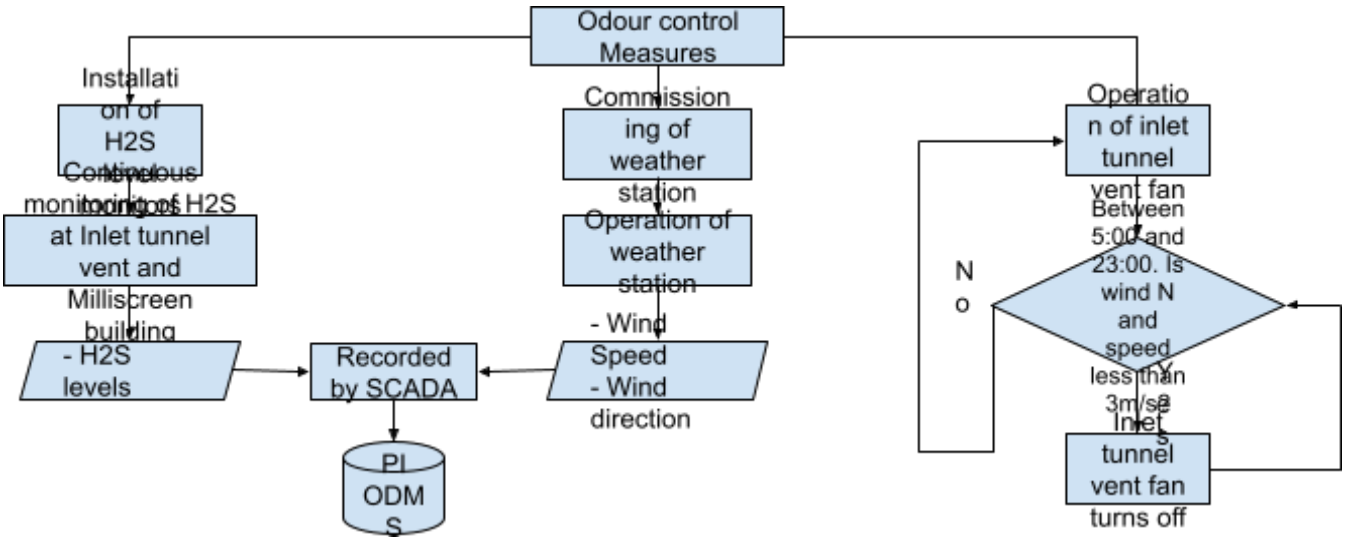

Figure 5. Odour control measures

4.2.4. Dissolved Oxygen in the Aeration Basin

The aeration basin is forced aerated and vented to the atmosphere. The discharged gas has a very Appendix iv weak musky/earthy odour.

Constant dissolved oxygen (DO) concentration is maintained in the aeration basin to make sure that the sufficient level of aeration is maintained. The DO level concentration is set up in the control system and is maintained at a level of equal or higher than 1 part per million (ppm). If the DO level goes below 1 ppm, an alarm will be triggered. Once the alarm is triggered, the investigation is initiated by the site operator following the instructions defined in the Standard Operation Procedure. Mitigation measures (blowers redundancy) are listed in Appendix iv.

DO is being constantly monitored and recorded by SCADA. This data is also available in the PI ODMS database.

4.3. Odour Control Procedure

Odour survey shall be undertaken followed by a preparation of the report on the survey findings. The survey shall:

- Be conducted by a Independent Suitably Qualified and Experienced Professional *(suitably qualified and experienced professional that is not employed by the consent holder or an organisation contracted to operate the Porirua Wastewater Treatment Plant)*
- Be conducted in accordance with the Ministry of the Environment “Good Practice Guide for Managing and Assessing the Effects of Odour (2016) and German Standard VDI 3940-2:2006- Measurement of Odour Impact by Field Inspection: Measurement of the Impact Frequency of Recognisable Odours-Plume measurement, February 2006”
- Cover a minimum period of days, including at least 4 days when the surveying was undertaken during northerly winds, between 315° to 45°, of less than, or equal to the wind speed trigger- 3 m/s.
- Take into account any complaints that have been received about the odour from the WWTP.

The survey report shall be provided to the Manager.

Key objective of the survey is to identify whether the odour from the plant is noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary at Porirua WWT site being Lot 1 DP 62407.

The following procedure defines the actions resulting from outcomes the survey:

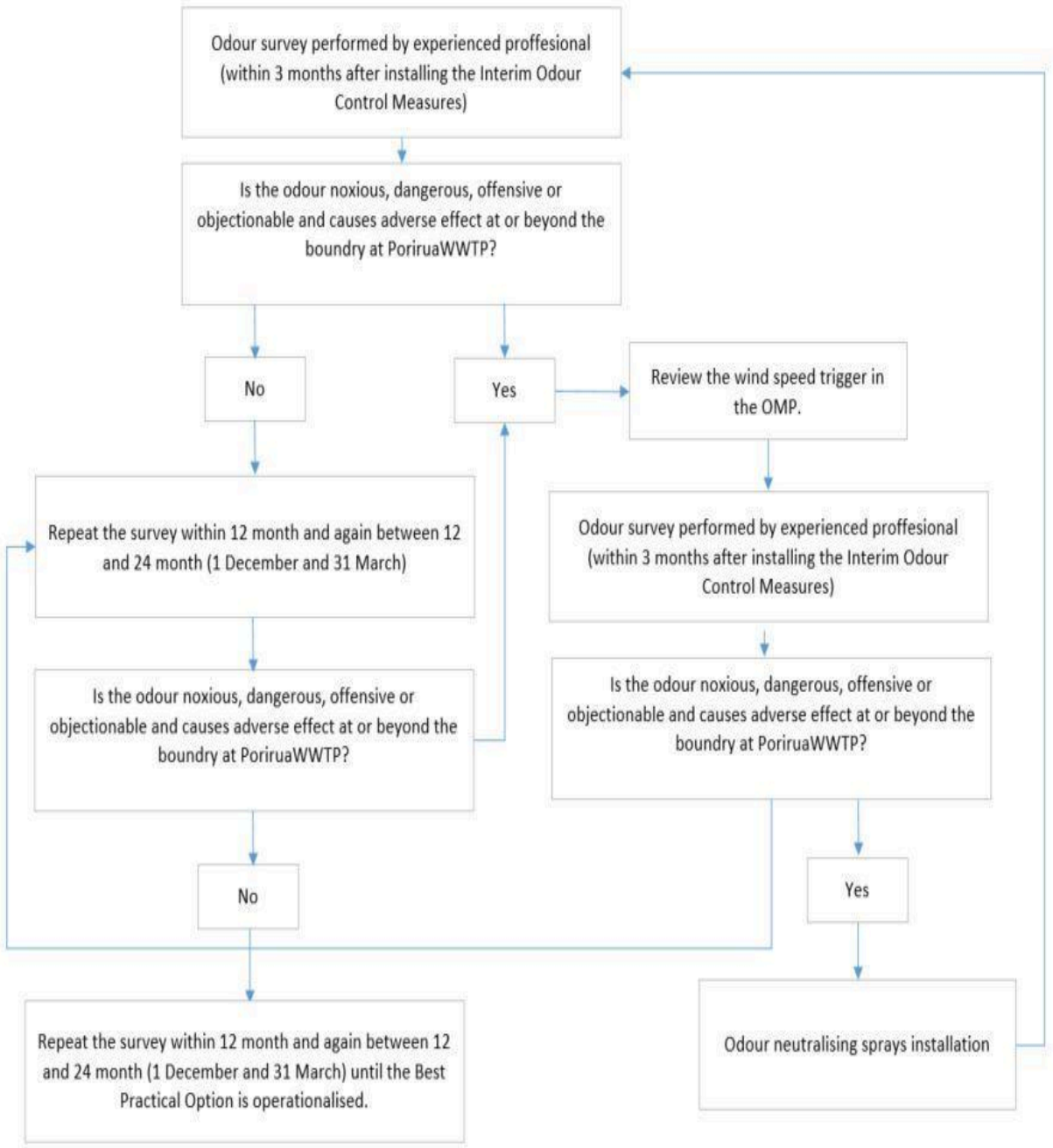

Figure 6. Odour control procedure

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4.4. Odour Control - Future Works

Wellington Water is currently undertaking a best practicable option (BPO) assessment for the facility's odour control system. The aim of this activity is to identify options to minimise the odour from the plant.

Wellington Water will continuously inform the OCLG members and the regional council regarding the status of this activity.

5. Monitoring plan

This monitoring plan is designed to work and be considered in conjunction with the Porirua wastewater treatment plant working group (WWTPWG). The objectives of this monitoring plan are:

- Provide timely feedback on plant performance
- Provide for the timely detection of spikes, trends or other changes in discharge and /or environment quality.
- Inform changes to treatment processes if adverse spikes, trends or changes occur.
- Demonstrate compliance with the conditions of consent.
- Measure the type, scale and magnitude of discharge effects on receiving water quality, ecology and kai moana species specified in condition 5J(c) of the Resource consent WGN200229 [36816].
- Inform plans for improving wastewater systems and processes.
- Seek to minimise the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira.

The Monitoring Plan will be reviewed at least every 5 years in conjunction with the WWTPWG. All updated versions of the Monitoring Plan will be submitted to the Manager for certification that they comply with the requirements of Condition 5F of the Resource consent WGN200229 [36816].

5.1 Quality Control

Monitoring the operation of the treatment plant is an important step to maintaining an optimally treated effluent quality and thus minimising the effects on the environment from the discharge of the treated effluent.

The operational monitoring principles include Operator checks as well as regular raw wastewater and treated effluent quality monitoring.

5.1.1 Data Records

Veolia uses a database called PI ODMS which records all the monitoring parameters of the Porirua WWTP. The data recorded by PI ODMS comes from four (4) sources:

- SCADA system which is connected to the PLC of the plant.
- Internal lab monitoring analysis
- External lab compliance monitoring parameters
- Emailed (Extract Transform Load) data (ie. Power consumption, sludge weights, screenings tonnage, etc).

5.1.2. Quality Monitoring Procedures

All sampling techniques and analyses employed and undertaken in respect of the conditions of the resource consent are performed by an International Accreditation New Zealand (IANZ) registered laboratory.

5.2 Wastewater Treatment Plant Monitoring

5.2.1. Wastewater Treatment Plant Operations

The operation of the Porirua WWTP is automatically controlled by the programmable logic controller (PLC). The supervisory control and data acquisition (SCADA) system takes information from analytical equipment at the WWTP controlled by the PLC and records it.

Data from SCADA is also extracted from the system and stored in an online data management system (ODMS) known as PI ODMS. It serves as a backup for the data in SCADA and allows users to manipulate the information without using the SCADA platform. The SCADA system allows the following:

- SCADA data integration: Ensure real-time collection and logging of critical process parameters by the SCADA system.

- Real-time visualisation: Utilise the SCADA interface for visually monitoring various processes and alarms in real-time.

- Historical trends: Analyse historical data trends stored in the SCADA system to identify patterns and conduct retrospective analyses.

- Alarms and notifications: Configure SCADA alarms to promptly alert deviations in critical parameters, enabling swift responses

- Remote access: Leverage the SCADA remote's access capability to supervise the plant beyond its physical location, facilitating remote management.

- Reporting: SCADA feeds the PI ODMS and ID databases to generate reports summarising key data, easing decision-making and also for regulatory reporting compliance.

5.2.2. SCADA system monitoring

5.2.2.1 Automatic alarming system

A number of instruments is in place to allow for real time monitoring of treatment process parameters. The instrumentation is integrated into the SCADA system and where applicable, alarm limits are defined. Everytime the pre-defined alarm value is reached (for example maximum level), alarm is raised and subsequent action is triggered. Details on instrumentation used for the process monitoring is given in table 1.

Monitoring instrument	Area	Alarms	Calibration frequency *
Flow meter sensor	Screened Effluent into Aeration basin	No alarms (limits)-monitoring only	1 yearly
Level sensor	Aeration basin	High level alarm	1 yearly
Dissolved oxygen probe A	Aeration basin	Low DO alarm	1 yearly
Dissolved oxygen probe B	Aeration basin	Low DO alarm	1 yearly
Dissolved oxygen probe C	Aeration basin	Low DO alarm	1 yearly
Dissolved oxygen probe D	Aeration basin	Low DO alarm	1 yearly
Suspended Solids probe	Aeration basin	No alarms (limits)-monitoring only	1 yearly
Sludge Blanket Level sensor	CLARIFIER #1	High blanket alarm	1 yearly

Sludge Blanket Level sensor	CLARIFIER #2	High blanket alarm	1 yearly
Sludge Blanket Level sensor	CLARIFIER #3	High blanket alarm	1 yearly
Flowmeter sensor	Duron UV channel	No alarms (limits)-monitoring only	1 yearly
Flowmeter sensor	TAKUV channel	No alarms (limits)-monitoring only	1 yearly
UV transmittance probe	Duron UV channel	Value below 45%	1 yearly
Level sensor	UV Inlet Channel	UV by-pass active	1 yearly
Level sensor	UV Inlet Channel	UV by-pass active	1 yearly

Table 1 List of Instrumentation

*Alarms for instrument malfunction are integrated into SCADA and in case of failure, an alarm is raised.

5.2.2.2 Operator's supervision

SCADA system and alarms generated are visualised in the SCADA system accompanied by a sound alarm. Additionally, every alarm generated by SCADA is sent via a pager system to the on-call team, who are responsible for the plant's monitoring outside of normal operating hours and can monitor the site SCADA system remotely. In the case of a critical alarm an operator is available to attend site 24/7 For every work week the on-call team consist of the following:

- On-call operator
- On-call manager

Functionality of the pager system is routinely checked by an automatically generated health test alarm at 8pm, followed by remote SCADA checks by the on-call operator.

5.2.3 Influent Monitoring

5.2.3.1. Flow Rate

The plant's influent flow is taken from the sum of discharge flow from Tangere Pump Station and Rukatane Pump Station which feeds into the treatment plant. The data is recorded by SCADA and stored in PI ODMS.

5.2.3.2. Influent Quality Monitoring

An influent 24-hour composite sample is taken daily by an autosampler. The inlet autosampler is located to the southeast of the main plant building by the inlet pipeline about 15 m before the milliscreens building. The composite sample is analysed for BOD5 and suspended solids. These analysis are performed by an International Accreditation New Zealand (IANZ) registered laboratory.

Figure 1. Inlet Autosampler

5.2.4. Aeration Basin

Constant Dissolved Oxygen concentration is measured and maintained in the aeration basin to make sure that a sufficient level of aeration is maintained. The DO level concentration is set up in the control system, if the DO concentration is out of this range, alarms are triggered. (low limit is 1 mg/L).

DO is being constantly monitored and recorded by SCADA. This data is also available in the PI ODMS database.

5.2.5. Effluent Monitoring

5.2.5.1. Flow Rate

Effluent flow rate is monitored by flowmeters in the Duron and TAK UV systems. These flows are automatically recorded by SCADA system for trend analysis and real time monitoring.

The flowrates are reported in real-time through PI ODMS and reported on in the quarterly and annual reports against consented conditions.

5.2.5.2. Treated Effluent Quality Monitoring

An effluent 24-hour composite sample is taken daily by an autosampler. The outlet autosampler is located by the pre-UV system. The composite sample is analysed for BOD5 and suspended solids. A pre-UV grab sample is taken and analysed for UVT daily and Faecal coliforms twice a week. Two daily grab samples are taken and analysed for Faecal coliforms and Enterococci. These analysis are performed by an International Accreditation New Zealand (IANZ) registered laboratory.

Figure 2. Outlet Autosampler

5.2.5.3. UVT

Daily grab sample is taken from the common pit after the UV systems, this sample is analysed for UV transmissivity. Also, a UVT probe was installed in the Duron UV system channel to constantly monitored the UV transmittance of the effluent before being discharged in Rukutane point. The data is recorded by SCADA and stored in PI ODMS, allowing early detection of non-compliance with Resource consent.

The hourly average trend is also calculated by SCADA at 5-minute intervals and an alarm was set up to inform when this value is below the compliance limit of 45%. Therefore, the Manager will be notify as soon as practicable and an investigation will be initiated to meet the requirements under condition 12D of the consent.

5.2.6. Resource Consent Compliance Monitoring Schedule

The following is the monitoring schedule for influent and effluent resource consent compliance:

Sample location	Parameter	Type of sample	Frequency	Limit
Influent	Viral Testing (F-RNA bacteriophage)	Grab	Monthly	NA
Effluent	BOD5	Composite	Daily	Geometric mean <30mg/L Percentile <75mg/L
	Suspended solids	Composite	Daily	Geometric mean <30mg/L Percentile <75mg/L
	Faecal coliforms	Grab	Daily	2,000 cfu/mL
	Enterococci	Grab	Daily	NA
	UV Transmissivity	Grab	Daily	NA
	Total Ammonia Nitrogen	Composite	Weekly	NA
	Viral Testing (F-RNA bacteriophage)	Grab	Weekly	NA
	Nitrate Nitrogen	Composite	Monthly	NA
	Nitrite Nitrogen	Composite	Monthly	NA
	Dissolved Reactive Phosphorus	Composite	Monthly	NA
	Total Nitrogen	Composite	Monthly	NA
	Total Phosphorus	Composite	Monthly	NA
	Total Arsenic	Composite	Monthly	0.023 mg/L
	Total Cadmium	Composite	Monthly	0.055 mg/L
	Total Chromium	Composite	Monthly	0.044 mg/L
	Total Copper	Composite	Monthly	0.013 mg/L
	Total Lead	Composite	Monthly	0.07 mg/L
	Total Mercury	Composite	Monthly	0.044 mg/L
	Total Nickel	Composite	Monthly	0.08 mg/L
	Total Zinc	Composite	Monthly	0.001 mg/L
	Phenol	Composite	Monthly	2.7 mg/L

These analysis are performed by an International Accreditation New Zealand (IANZ) registered laboratory. The results are recorded in PI ODMS and ID databases, and reported on in the quarterly and annual reports against consented conditions.

5.2.7. Sampling procedures

5.2.7.1 Samples collection

Sample collection is undertaken by a dedicated site operator as per sampling schedule. Every week, there is one operator responsible for the samples collection. Operators alternate based on a duty roster.
Training for the correct sampling technique is part of the onboarding training process. Information on good sampling practices together with all on-site specific sampling information (equipment, sampling points etc.) are provided in the Porirua WWTP Sampling procedure document.

5.2.7.2 Samples transport

External company is contracted to transport the samples to the third-party accredited laboratory. For the transport, sample bottles are stored in ice pack cooled bins. For every sample, chain of custody document is completed. Chain of custody is signed by the sampling person and person accepting the samples in the laboratory. Chains of custody are stored in the Client's portal of the external laboratory.

5.3 Receiving Water Monitoring

The effluent from the Porirua WWTP is discharged from the existing outfall in Rukutane Point (map reference NZTM: 1753097.5447922).

Representatives receiving water samples are collected monthly at the following locations:

a. At or about 140 metres generally east of the outfall.
b. At or about 200 metres generally southwest of the outfall.
c. Titahi Bay Beach at Toms Road.
d. Control site.

These samples are analysed for:

Sample location	Parameter
a, b, and d	Enterococci
	pH
	Salinity
	Dissolved Oxygen
	Temperature
	Total Ammonia Nitrogen
	Nitrate Nitrogen
	Nitrite Nitrogen
	Dissolved Reactive Phosphorus
	Total Nitrogen
	Total Phosphorus
	Wind
	Tide
	Weather
c.	Enterococci

	pH
	Salinity
	Dissolved Oxygen
	Temperature
	Wind
	Tide
	Weather

These analysis are performed by an International Accreditation New Zealand (IANZ) registered laboratory. The results are recorded in PI ODMS and ID databases, and reported on in the quarterly and annual reports against consented conditions.

5.3.1. Receiving water visual monitoring

Daily visual inspections of the outfall at Rukutane point are performed by the on site operator to make sure the discharge of treated wastewater do not cause the following effects in the receiving waters:

a. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.
b. Any conspicuous change in colour or visual clarity.
c. Any emission of objectionable odour from the discharge to water.
d. Any significant adverse effect on aquatic life.

Photos of the outfall vicinity are taken on a daily basis. If the Operator detects any of the effects listed above in the receiving waters, escalation process is initiated. The Operator will immediately notify the Duty Manager or the Operations Coordinator who will notify the Manager as soon as practicable. Shoreline Sampling campaign will be initiated as well to assess the environmental effects.

5.3.2. Discharge Monitoring and Sampling

Various discharge parameters and shoreline samples are collected as part of a monitoring campaign to determine the effect of the discharge on Titahi Bay when an unconsented discharge may occurred under plant malfunction conditions.

When any type of overflow discharge occurs, there are several parameters that must be recorded. They are as follows:

- duration of the overflow discharge;
- average and maximum overflow discharge flow rates;
- total volume of the overflow discharge; and
- total volume of treated wastewater discharged during the overflow discharge event.

Samples are collected within 24 hours of the discharge commencing, and approximately 48 hours after the discharge commenced if it is safe to do so. The locations of sampling are as follows:

A. At or about 140 metres generally east of the outfall.
B. At or about 200 metres generally southwest of the outfall.
C. Titahi Bay Beach at Toms Road.

D. Control site, Whitireia Park

If the discharge is due to an overflow event, a plant malfunction, or is unconsented then the shoreline monitoring campaign will need to be initiated. Contact the sampling contractor to collect the shoreline samples. The following information must be recorded when samples are collected:

- Date
- Time
- Weather
- Wind condition
- Tidal condition
- pH
- Salinity
- Dissolved oxygen
- Water temperature

The samples collected from sites (a) to (d) must be analysed for enterococci. In addition, the samples collected from sites (a), (b) and (d) must be analysed for total ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, dissolved reactive phosphorus, total nitrogen and total phosphorus as per condition 15 of the resource consent.

The discharge monitoring, sampling and notifications procedures are also stated in the Porirua Management plan as part of the Risk Communication Strategy.

5.3.3. Water Quality and Ecological Survey

A suitable qualified ecologist will be engaged to conduct a visual survey of the quantity and size range of Paua, Kina and Lobster along the six transects used in the Cawthron (2019) ecological survey. The survey will be undertaken before the third anniversary of the commencement of the resource consent and also will be included within the scope of any ecological survey undertaken in accordance with condition 28 and 29 of the consent.

An ecological survey of the receiving waters for the discharge will be undertaken as per the timeline set in condition 29. The survey shall involve the collection of information on 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 methods should be comparable with those used for the ecological survey included as Appendix F in the application. The results of the survey shall be incorporated into a report prepared by a suitably qualified and experienced coastal ecologist.

5.3.4. Kaitiaki Monitoring Programme

The Kaitiaki Monitoring Programme is still yet to be developed. This plan will be updated once the programme has been prepared.

5.3.5. Alarm Monitoring Response

When the SCADA system at the Porirua WWTP detects a fault or a parameter out of normal operation level, an alarm is triggered. This alarm causes a text message to be sent out by the paging system.

When the duty operator has been alerted that a fault has occurred at the Porirua WWTP, they will identify the type of event either through routine maintenance inspections, trends on SCADA, or the

SCADA alarm.

If the alarm requires to be escalated, the duty operator will contact the duty manager. They will inform the duty manager of the type of event.

5.4 Odour Monitoring and Recording

Odour monitoring and recording to comply with Resource Consent WGN200229 [36727] are outlined in the Porirua Wastewater Treatment Plant Management Plan.

- H2S monitors for monitoring of Inlet tunnel vent and Milliscreen building stack. The data is recorded by SCADA and also available in PI ODMS and ID databases.
- Weather Station for collection of meteorological data and inlet tunnel vent fan operation.
- Dissolved Oxygen in the Aeration basin

6. Porirua WWTP Website

Porirua Wastewater Treatment Plant has a dedicated webpage that will contain the information required by the consents. The webpage can be accessed using the link: Porirua WWTP Webpage

The information that will be maintained in the webpage are:

For Coastal Discharge Permit WGN200229[36816]:

a. The Monitoring Plan required under condition 5E.
b. The Assessment of Options report required under condition 5H.
c. Quarterly and Annual reports required under conditions 18 and 19.
d. The OMCP required under condition 20.
e. Reports prepared under condition 22A.
f. Ecological survey reports prepared in accordance with condition 28 and 29.
g. Monitoring and technology review reports prepared in accordance with conditions 31 to 33.
h. The RCS prepared in accordance with condition 26A.
i. The most recent consent authority compliance monitoring report.
j. An up-to-date Complaints Register prepared in accordance with condition 23.

For Air Discharge Permit WGN200229[36727]:

a. The Odour Monitoring Plan required under condition 7A.
b. The Odour Survey Report required under condition 8B, 8C, 8E, 8F, 8H, or 8M.
c. The Best Practicable Option Review required under condition 8K.
d. Any incidents under condition 6.
e. An up to date Complaints Register prepared in accordance with condition 5.
f. The Communications Plan prepared in accordance with condition 12.
g. The most recent consent authority compliance monitoring report.

The details of the conditions of the consent can be found in Appendix I.

7. Amendments to the Management Plan

Any amendment to this management plan will be triggered by the following:

1. Consent required amendment.
2. Amendment recommended by the Porirua WWTP Working Group
3. Any changes in the operation of the plant

Regional council will review and approve any amendments regarding this document.

Appendix i: Resource consent

Porirua Wastewater Treatment Plant
Coastal Discharge Permit consent conditions WGN200229 [36816]

Discharge permit to discharge treated wastewater to the coastal marine area from the operation of the Porirua Wastewater Treatment Plant.

INTERPRETATION

Wherever used in the conditions, the following terms shall have the prescribed meaning:

Discharges of partially treated wastewater means discharges that include wastewater which has bypassed the aeration basin and/or the clarifier parts of the treatment process, but does not include a discharge as a result of a sludge carryover or an overflow which bypasses the entire treatment process. The discharge of partially treated wastewater to the coastal marine area is not within the scope of this consent.

Independent Suitably Qualified and Experienced Professional means a suitably qualified and experienced professional that is not employed by the consent holder or an organisation contracted to operate the Porirua Wastewater Treatment Plant (WWTP).

Manager means the Manager, Environmental Regulation, Wellington Regional Council.

Minimise means reduce to the smallest amount reasonably practicable.

Normal Working Day means a day of the week that is not a weekend or public holiday.

Sludge carryover means a discharge of part of the sludge blanket from the clarifiers. A sludge carryover discharge to the coastal marine area is not within the scope of this consent.

General conditions

1A. The location, design, implementation and operation of the works shall be in general accordance with the consent application and its associated plans and documents lodged with the Wellington Regional Council on:

- 6 April 2020 (Application);
- Revised application dated April 2021;
- Further information received on 30 April 2021; and
- Consent holder's evidence presented at the hearing.

Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

Note: Any change from the location, design, implementation and/or operation of the works may require a new resource consent, or a change of consent conditions pursuant to Section 127 of the Resource Management Act 1991.

1B. The consent holder shall ensure that a copy of this consent, and all documents and plans referred to in this consent, is kept on site at all times and presented to any Wellington Regional Council Compliance Officer upon request. The consent holder shall verbally brief all operators or contractors on the requirements of the conditions of this consent within one month of granting this consent, and then on induction for any new operators or contractors.

2. The discharge point shall be from the existing outfall at or about map reference NZTM: 1753097. 5447922.

3. The average daily inflow volume into the wastewater treatment plant, measured over a 12-month period from 1 July to 30 June each year, shall not exceed 38,016 cubic metres per day, and the maximum daily inflow volume shall not exceed 129,600 cubic metres per day.

4. The consent holder shall continuously monitor and record the daily volume of the inflow to and effluent from the wastewater treatment plant. The records shall be supplied to the Manager in accordance with conditions 18 and 19, and on request of the Manager.

5. Any discharges of partially treated wastewater that result from inflow to the wastewater treatment plant exceeding the plant's capacity, shall cease on or before the commencement date of this consent.

5A. 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.

Partnership with Ngāti Toa Rangatira

5B.
a. Within 1 calendar month of this consent commencing the consent holder shall invite Te Rūnanga o Toa Rangatira to nominate 2 representatives to join a Porirua Wastewater Treatment Plant Working Group (WWTPWG).
b. If this invitation is accepted then the consent holder shall establish the WWTPWG, appoint two representatives to the WWTPWG, and fulfil the obligations set out in conditions 5C to 5H.
c. If the invitation is not accepted within 1 calendar month then conditions 5C to 5H apply to the extent modified by conditions 5I and 5J.
d. If the invitation is not accepted, then it shall remain open for the duration of the consent and may be accepted at any time.

5C. The overall purpose of the WWTPWG shall be to seek the continuous improvement of the wastewater treatment plant discharge to the receiving environment, including with respect to the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira. To fulfil this purpose, the WWTPWG shall:

a. Work in conjunction with the consent holder to prepare the monitoring plan required under conditions 5E and 5F, or as modified by condition 5J.
b. Review the quarterly and annual reports required under conditions 18 and 19 of this consent, including the adverse effects of the discharge on the cultural values of Ngāti Toa Rangatira.
c. Commission advice on minor capital works and operational changes, including changes to the Operational Management and Contingency Plan (OMCP), to address matters identified from the review of the quarterly and annual reports under clause (b) above.
d. Having taken account of advice received in accordance with clause (c) above, assess if any option would in the WWTPWG's view represent the Best Practicable Option (as defined under the RMA, but having particular regard to the effects on the cultural values of Ngāti Toa Rangatira) to address matters identified under clause (b) above, and, if such an option is identified, recommend that the consent holder adopt this option.
e. Consider if the monitoring required under this consent is appropriate and, if it concludes that the monitoring requirements should be amended, recommend that the consent holder seek a change to the relevant consent conditions under section 127 of the Resource Management Act.
f. Consider and make recommendations with respect to whether the consent holder should initiate a full Monitoring and Technology Review Report earlier than required by condition 33.
g. Work in conjunction with the consent holder on the completion of the assessment of methods or other options to mitigate the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira required under condition 5G.

h. Work in conjunction with the consent holder on the completion of the Monitoring and Technology Review required under conditions 31 to 35.

5D. In relation to the WWTPWG, the consent holder shall:

a. Convene, host and record the minutes of the WWTPWG meetings, to be held no fewer than two times per year.
b. Provide minutes of the WWTPWG meetings to the Manager.
c. Provide the quarterly monitoring report required under condition 18 to the WWTPWG at the same time as it is provided to the Manager.
d. Provide the annual report required under condition 19 to the WWTPWG at the same time as it is provided to the Manager.
e. Support the WWTPWG by providing it with access to the technical advice necessary for it to fulfil the purpose set out in condition 5C.
f. Consider recommendations from the WWTPWG that are made in accordance with condition 5C and provide written explanation to the WWTPWG regarding whether it will or will not implement the recommendation. This written explanation shall also be provided to the Manager.

5E. Within 6 months of the commencement of this consent, the consent holder shall prepare a Monitoring Plan, in conjunction with the WWTPWG. The Monitoring Plan shall include monitoring objectives that align with, but not necessarily be limited to, the following:

a. Provide timely feedback on plant performance.
b. Provide for the timely detection of spikes, trends or other changes in discharge and /or environment quality.
c. Inform changes to treatment processes if adverse spikes, trends or changes occur.
d. Demonstrate compliance with the conditions of consent.
e. Measure the type, scale and magnitude of discharge effects on receiving water quality, ecology and kai moana species specified in condition 5J(c).
f. Inform plans for improving wastewater systems and processes.
g. Seek to minimise the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira.

The Monitoring Plan shall be submitted to the Manager for certification that it complies with the requirements of Condition 5F. The Monitoring Plan shall be reviewed at least every 5 years in conjunction with the WWTPWG. All updated versions of the Monitoring Plan shall be submitted to the Manager for certification that they comply with the requirements of Condition 5F.

5F. a. The Monitoring Plan shall set out how the monitoring required under conditions 4, 5J(c), 6 to 11, 12C, 12D, 14 to 16, and 28 to 29, and to ensure that compliance with condition 13 of this consent will be delivered.
b. At the commencement of this consent, the consent holder shall 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 (as shown in maps OTS-068-38 and OTS-068-39 attached to this consent). If Te Rūnanga o Toa Rangatira accepts this invitation, then the Kaitiaki Monitoring Programme shall be included in the Monitoring Plan.

5G. As soon as possible, but within 4 years of the commencement of this consent the consent holder, working with the WWTPWG, shall complete an assessment of options or other methods:

a. To minimise the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira.
b. To work towards removal of the human waste element (including human blood and tissue) from the treatment plant discharge to coastal waters.

The options assessed shall include, but not necessarily be limited to:

c. Opportunities to restrict the volume of water contaminated by human waste, e.g. through mechanisms like inflow and infiltration programmes and water demand management.
d. Opportunities for beneficial re-use and recovery of wastewater, elements of the wastewater, and/or by-products of the wastewater treatment process.
e. Technical engineering, and non-technical treatment solutions, that meet cultural and spiritual standards for wastewater treatment and discharge.

The identification and assessment of options shall have particular regard to data collected as part of the Kaitiaki Monitoring Programme and the significance of any adverse effects identified through the Kaitiaki Monitoring Programme. If Te Rūnanga o Toa Rangatira has not yet accepted the invitation to prepare the Kaitiaki Monitoring Programme, then the identification and assessment of options shall have particular regard to the data collected under condition 5J (c)(i).

5H. Within 12 months of the completion of the assessment required under condition 5G, the consent holder shall submit a report to the Manager describing:

a. The assessment undertaken in accordance with condition 5G.
b. The methods that will be implemented by the consent holder to minimise the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira.
c. A defined programme of work to implement the methods identified in clause (b) above. The methods shall be implemented as soon as reasonably practicable within the term of the consent.
d. Whether the representatives nominated by Te Rūnanga o Toa Rangatira on the WWTPPG agree with:
    i. the description of the assessment completed in accordance with sub-clause (a)
    ii. the mitigation methods that were considered
    iii. the decision(s) the consent holder has made about which minimisation measures it will implement
    iv. the proposed programme of work
e. The reasons that the Te Rūnanga o Toa Rangatira member(s) on the WWTPPG disagree with any elements of the report, if there is any disagreement.

5I If the invitation made in accordance with condition 5B has not been accepted within 1 month then the consent holder shall establish an alternate WWTPWG. The consent holder shall appoint two members to the alternate WWTPWG and nominate, to the satisfaction of the Manager, two other independent members. At least one of the independent nominees shall have expertise in Te Ao Māori and Mātauranga Māori, and ideally one of the independent nominees would have experience or expertise with respect to wastewater treatment or the environmental effects of wastewater.

5J If the alternate WWTPWG is established in accordance with condition 5I then:

a. The purpose and functions of the WWTPWG shall be as described in condition 5C, except as otherwise directed in the following clauses.
b. The consent holder shall meet the obligations under condition 5D and in addition regularly invite Te Rūnanga o Toa Rangatira to provide feedback to the WWTPWG relative to each purpose or function listed in condition 5C. If any feedback is received from Te Rūnanga o Toa Rangatira, then this shall be recorded in the minutes of the WWTPWG along with an explanation of how the WWTPWG has responded to the feedback.
c. The consent holder shall prepare, implement and review a Monitoring Plan in accordance with conditions 5E and 5F, except that the requirement in condition 5F (b) shall be replaced with the following:
    i. The consent holder shall engage a suitably qualified coastal ecologist to conduct a visual survey of the quantity and size range of paua, kina and lobster along the six transects used in

the Cawthron (2019) ecological survey. The survey shall be undertaken once before the third anniversary of the commencement of the consent and also be included within the scope of any ecological survey undertaken in accordance with condition 28.

d. The consent holder shall complete an assessment of options or other methods as required under condition 5G and submit a report as required under condition 5H, except that before commencing the assessment under condition 5G the consent holder shall consult with Te Rūnanga o Toa Rangatira about how it wishes to be involved in the review. Having undertaken the consultation, the consent holder shall prepare a plan for the involvement of Te Rūnanga o Toa Rangatira in the review, which shall be to the satisfaction of the Manager.

e. If after the alternate WWTPWG has been established, Te Rūnanga o Toa Rangatira subsequently accepts the invitation made in accordance with condition 5B, then the alternate WWTPWG shall be disestablished and the 'full' WWTPWG shall be established under condition 5B, and all other conditions apply to the WWTPWG with any necessary modifications in light of the time that has elapsed and the steps that have already been taken since the commencement of the consent.

Wastewater Quality

6. The consent holder shall, to the satisfaction of the Manager, identify a suitable place to sample the wastewater after it leaves the treatment plant but prior to it entering the Rukutane Point outfall. That sampling point shall be used for the sampling required by conditions 7 to 10.

7. The consent holder shall each day, including weekends and public holidays, obtain a representative 24-hour flow-proportioned composite sample of the wastewater from the location identified in accordance with condition 6. This sample shall be analysed for total suspended solids and biochemical oxygen demand.

8. The consent holder shall each day, including weekends and public holidays, between the hours of 9am and 5pm, obtain a representative grab sample of the wastewater from the location identified in accordance with condition 6. Prior to certification of the enterococci trigger under condition 21B this sample shall be analysed for UV transmissivity, faecal coliforms and enterococci. Following certification of the enterococci trigger under condition 21B the sample shall be analysed for enterococci and UV transmissivity.

9. The consent holder shall on at least one occasion each month, on a normal working day, obtain a representative 24-hour flow-proportioned composite sample of the wastewater from the location identified in accordance with condition 6. This sample shall be collected on the same day as the representative receiving water samples are collected under condition 14. This sample shall be analysed for:

   a) Nitrate Nitrogen
   b) Nitrite Nitrogen
   c) Dissolved Reactive Phosphorus
   d) Total Nitrogen
   e) Total Phosphorus
   f) Total Arsenic
   g) Total Cadmium
   h) Total Chromium
   i) Total Copper
   j) Total Nickel
   k) Total Lead
   l) Total Zinc
   m) Total Mercury
   n) Phenol

9A. The consent holder shall on at least one occasion each week, on a normal working day, obtain a representative 24-hour flow-proportioned composite sample of the wastewater from the location identified in accordance with condition 6. This sample shall be analysed for Total Ammonia Nitrogen.

10. The consent holder shall:

a. At least once a calendar month between the hours of 9am and 5pm, obtain a representative grab sample of the influent to the wastewater treatment plant.
b. At least once a week between the hours of 9am and 5pm, obtain a representative grab sample of the wastewater from the location identified in accordance with condition 6.

These samples shall be analysed for a suitable viral indicator, such as F-RNA bacteriophage. The requirement in this condition may be varied by certified updates to the Monitoring Plan under condition 10A.

10A. The requirement in condition 10 shall be reviewed by the consent holder after 30 June 2024. The review shall be undertaken by suitably qualified and experienced professional(s) and should determine whether:

a. Any value has been gained from the monitoring of the viral indicator relative to that associated with the routine monitoring of enterococci;
b. The body of data gathered since the commencement of the consent is sufficient to enable the public health risk associated with the discharge to be determined from bacteria indicator monitoring data; and
c. The monitoring associated with the viral indicator should be continued, suspended, continued at an alternative frequency, or replaced by an alternative monitoring schedule.

A report on the review shall be provided to the Manager. Any recommended monitoring changes shall be included in an updated version of the Monitoring Plan which shall be submitted to the Manager for certification in accordance with conditions 5E and 5F.

11. All sampling techniques employed in respect of the conditions of this consent shall be acceptable to the Wellington Regional Council. All analyses undertaken in connection with this consent shall be performed by an International Accreditation New Zealand (IANZ) registered laboratory, or otherwise as specifically approved by the Wellington Regional Council.

12. The quality of the wastewater sampled in accordance with condition 7 of this consent shall not exceed the following limits:

a. Suspended solids – The geometric mean of 90 consecutive daily suspended solid values shall not exceed 30 g/m^3 and no more than 10% of 90 consecutive daily values shall exceed 75 g/m^3;
b. Biochemical oxygen demand –The geometric mean of 90 consecutive daily biological oxygen demand values shall not exceed 30 g/m^3 and no more than 10% of 90 consecutive daily values shall exceed 75 g/m^3.

12A. Concentrations of metals and other compounds in the sample required under condition 9 shall not exceed:

Metals/metalloids and phenols

a. Total Arsenic 0.023 g/m^3
b. Total Cadmium 0.055 g/m^3
c. Total Chromium 0.044 g/m^3
d. Total Copper 0.013 g/m^3
e. Total Nickel 0.07 g/m^3
f. Total Lead 0.044 g/m^3
g. Total Zinc 0.08 g/m^3

h. Total Mercury 0.001 g/m^3
i. Phenol 2.7 g/m^3

UV performance, monitoring and UV transmissivity

12B. All banks of UV lamps within each UV disinfection system shall be operated at greater than 98% power output for at least 95% of the time of operation of the relevant disinfection system each calendar month. Percentage power output to each UV system shall be calculated on the basis of the average over each discrete 15 minute period as measured at the Programmable Logic Control output.

Notes:

1. *The WWWTP currently (at the commencement of this consent) operates with two UV disinfection systems, i.e the original TAK UV disinfection system and a newer Duron UV disinfection system.*
2. *For the purposes of this condition, the term 'time of operation' means the period of time that each system is required to be operated to disinfect the wastewater flow through the plant. Unless there is maintenance or repairs, the new Duron system will be the duty system and will operate continuously. The time of operation for the original TAK system will be substantially less, as this system will only operate during high wastewater flows or while the Duron system is undergoing maintenance or repair.*
3. *The requirement to operate the UV disinfection systems at 98% power output at least 95% of the time, recognises that for short periods there will be unavoidable instances during which maintenance, repairs and replacements are to be undertaken.*

12C The consent holder shall maintain a UV Transmissivity monitoring probe in the Duron UV system. The probe shall be linked to the treatment plant's SCADA system, with records of the hourly average UV transmissivity kept by the consent holder based on values observed at 5-minute intervals.

12D If the hourly average UV transmissivity recorded in accordance with 12C reduces below 45% then the consent holder shall:

a. Notify the Manager as soon as practicable; and
b. Initiate an investigation that meets the following requirements.

The investigation shall:

i. Be undertaken by a suitably qualified and experienced professional.
ii. Consider the results of the suspended solids monitoring, UV transmissivity from the daily grab samples, and other relevant plant performance measurements routinely taken by the consent holder.
iii. Assess the likely cause of the UV transmissivity reducing below 45%.
iv. If considered necessary, recommend further investigations, improvements, operational actions (including changes to the OMCP) or upgrades to reduce the risk of similar UV transmissivity records occurring in the future.
v. Include an implementation programme for the recommendations, if any, set out in accordance with (iv).
vi. Within 10 working days of the hourly average UV transmissivity falling below 45%, the consent holder shall inform the Manager of the outcomes of the investigation and which of the recommendations made in accordance with (iv) and (v) above it proposes to implement or has already implemented.

12E Maintenance of the UV systems shall be carried out in such a manner that, during maintenance of either of the UV systems, all treated wastewater shall pass through the UV system not undergoing maintenance.

Receiving water

13. The discharge shall not cause any of the following effects in the receiving waters beyond a 200-metre radius of the discharge point:

    a. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.
    b. Any conspicuous change in colour or visual clarity.
    c. Any emission of objectionable odour from the discharge to water.
    d. Any significant adverse effect on aquatic life.

14. The consent holder shall collect representative receiving water samples from approximately 150 mm below the surface of water that is at least 500mm deep, once each calendar month at the following locations:

    a. At or about 140 metres generally east of the outfall.
    b. At or about 200 metres generally southwest of the outfall.
    c. Titahi Bay Beach generally at Toms Road.
    d. A control site, at a location to the satisfaction of the Manager.

    Coordinates for all sampling sites shall also be recorded using a handheld GPS and provided in annual monitoring reports required under condition 19.

    For each water sample collected under this condition, the consent holder shall record the site name, date, time, weather, wind, tidal conditions, pH, salinity, dissolved oxygen and water temperature at each sampling location.

15. The samples collected from sites (a) to (d) in condition 14 shall be analysed for enterococci. In addition, the samples collected from sites (a), (b) and (d) shall be analysed for total ammonia nitrogen, nitrate nitrogen, nitrite nitrogen, dissolved reactive phosphorus, total nitrogen and total phosphorous.

16. In the event of an incident notified under condition 22A and / or a discharge of partially treated wastewater, the consent holder shall:

    a. Notify the Manager as soon as practicable of the timing of the discharge, and the reason for the incident and / or the partially treated discharge.
    b. Take samples at the locations specified in condition 14 as soon as it is safe to do so, within 24 hours of the discharge commencing, and also approximately 48 hours after the discharge commenced, if it is safe to do so.
    c. Analyse the samples in accordance with condition 15.
    d. Assess compliance with condition 13.

    Note: Contact the Environmental 24 hour Hotline on 0800 496 734 and send details of the discharge to notifications@gw.govt.nz.

Reporting

18. The consent holder shall produce a quarterly monitoring report and shall forward the report to the Manager within one calendar month of the completion of the quarter. The format of the report shall be to the satisfaction of the Manager and shall include details of the monitoring and information required under the Monitoring Plan requirements of condition 5F(a) and the Kaitiaki Monitoring Programme.

19. The consent holder shall produce an annual report and shall forward the report to the Manager within three calendar months of the anniversary of the commencement of the consent. The format of the report shall be to the satisfaction of the Manager and shall include:

    a. Details of the monitoring required under the Monitoring Plan requirements of condition 5F(a), and the Kaitiaki Monitoring Programme.

aa. Details of any incidents that have been notified in accordance with condition 22A or 16.
b. Statistical analysis of the trends in the monitoring data comparing to monitoring data from previous years.
c. Analysis of any spikes or step changes apparent in the annual monitoring data, including commentary on how such spikes or step changes relate to operational matters, including incidents, malfunctions or operational improvements.
d. Comparison of the annual monitoring data with the conditions of this consent and with operational matters, including incidents, malfunctions and operational improvements.
e. Comparison of the annual monitoring data with relevant national, or regional water quality policies, standards or guidelines in effect at the time.
f. A summary of any incidents of plant malfunction or inadequate function, including resulting from operator error, that result in the quality of discharged wastewater not complying with condition 12 and 12D.
g. For all incidents identified in (f) reporting is to address whether the plant malfunction, or inadequate function, or operator error has been appropriately remedied to prevent future occurrences of such incidents and to set out the improvements to plant operation and procedures and/or equipment necessary and any other measures that are required to prevent future occurrences.
h. A review of any equipment or means to ensure UV treatment plant operation can be continuously maintained during a power outage, without the need for manual connection / starting of a generator. If there are viable solutions, the report should include recommendations such as appropriate procedures, and/or equipment and timing for the improvements to be made.
i. The reporting required in (f) to (h) is to be carried out by a chartered professional engineer experienced with operation of the Porirua WWTP or with similar plants.
j. Minutes of all meetings of the WWTPWG and Community Liaison Group (CLG).
k. A summary of the progress made by the permit holder with respect to:
    i. The assessment of options or other methods under condition 5F.
    ii. An ecological survey of the receiving waters under conditions 28 and 29.
    iii. A monitoring and technology review under conditions 31 to 34.
l. A summary of any reviews undertaken with respect to the OMCP.
m. The complaints register maintained under condition 23.

If a Kaitiaki Monitoring Plan has been prepared, on each anniversary of the commencement of the consent the consent holder shall invite Te Rūnanga o Toa Rangatira to prepare an analysis of the trends in the data collected in accordance with the Kaitiaki Monitoring Plan. If this invitation is accepted and actioned, then the analysis of Te Rūnanga o Toa Rangatira shall be included in the annual report. A copy of the report shall also be forwarded to the members of the CLG.

Operations and Management

20. Within 3 calendar months of the commencement of this consent, the consent holder shall submit an Operational Management and Contingency Plan (OMCP) to the Manager for certification that it complies with the requirements of condition 21. The OMCP shall be updated as required, or at the request of the Manager, and reviewed every 5 years as a minimum. All updated versions of the OMCP shall be submitted to the Manager for certification that they comply with the requirements of conditions 21, 21A and 21B.

21. The objective of the OMCP is to provide a framework for the operation and management of the wastewater treatment plant to ensure compliance with the conditions of this consent. As a minimum, the OMCP shall include:

    a. A brief description of the wastewater treatment plant and its treatment and discharge system.
    b. A description of typical inspection and maintenance procedures.

c. Procedures for recording:
    i. any non-routine issues, incidents or malfunctions identified during inspections.
    ii. the measures undertaken to rectify such non-routine issues, incidents or malfunctions.
d. A description of contingency plans in the event of plant malfunction. Contingency plans shall be specified for each stage of wastewater treatment and shall include detail of the procedures to be followed to mitigate, as far as possible, the reduction in treated wastewater quality that may otherwise result from the plant malfunction.
e. A description of the complaints procedures, including contact details for a nominated person(s) who will manage enquiries and complaints about the WWTP. The contact details shall be identified on the consent holder's website.
f. Procedures for notifying the Wellington Regional Council and Regional Public Health regarding any incidents or plant malfunction that may result in reduction in the treated wastewater quality.
g. A description of the information to be maintained on the consent webpage, including but not limited to the matters referred to in condition 27A.

21A. Within 6 calendar months of the commencement of the consent, the consent holder shall invite Te Rūnanga o Toa Rangatira to work with it on a review of the OMCP. The purpose of the review shall be to assess how Ngāti Toa Rangatira tikanga can be integrated into the operation of the treatment plant and discharge. The consent holder shall consider whether to amend the OMCP in accordance with any recommendations arising from the review. Should the consent holder choose not to adopt any recommendations from the review then a report explaining the reasons why shall be provided to the WWTPWG, Te Rūnanga o Toa Rangatira and the Manager within 3 calendar months of the completion of the review.

21B. Before 1 August 2024, the consent holder shall update the OMCP to include a 'trigger value' for the concentration of enterococci in the treated wastewater (as sampled in accordance with condition 8). The purpose of the 'trigger value' is to initiate a review of the performance of the UV disinfection system. By 1 August 2024 the consent holder must submit the updated OMCP to the Manager for certification that the trigger value has been satisfactorily determined taking account of:

a. Historical data on indicator bacteria concentrations in the treated wastewater.
b. Data on indicator bacteria concentrations in the treated wastewater following the UV disinfection and hydraulic upgrades that are required to be completed by 30 June 2023.
c. How the performance of the UV disinfection system fluctuates due to normal variations in the biological process and normal aging of the treatment facilities and variation of UV transmissivity.
d. How the performance of the UV disinfection system can reasonably be expected to reduce over the consent duration as a result of the increase in inflow anticipated in the resource consent application.

22. The consent holder shall implement the OMCP once it has been certified by the Manager.

Incident notification requirements

22A. The consent holder shall notify the Manager as soon as practicable but within 24 hours of any non-routine issues or plant malfunction that adversely affects the discharge to the coastal marine area, any other unauthorised discharge, or any discharges of partially treated wastewater. The consent holder shall provide written details as soon as practicable of the reasons for the issue, measures taken to prevent its reoccurrence, the results of receiving water quality monitoring undertaken in accordance with condition 16, details of how compliance with condition 13 was assessed and the results of that assessment, and any other relevant matters.

Notes:

1. *Contact the Environmental 24 hour Hotline on 0800 496 734 and send details of the incident notification to notifications@gw.govt.nz.*
2. *Any unauthorised discharges or incidents that occur that are not within the scope of the consent application may result in enforcement action by Greater Wellington Regional Council. Such incidents that are not within scope of the application include, but are not limited to, bypass discharges that occur after 30 June 2023, and plant malfunctions and/or sludge carryovers that affect the quantity and/or quality of treated wastewater to the coastal marine area.*

Complaints

23. The consent holder shall maintain a register of any complaints it receives about the operation of the Wastewater Treatment Plant and discharge. The register shall record:

    a. The date, time and duration of the alleged event/incident that has resulted in the complaint.
    b. The location of the complainant when the complaint was detected by the complainant.
    c. The possible cause of the complaint including any relevant event/incident and its duration.
    d. Any remedial action undertaken by the consent holder in response to the complaint.

    The complaints register shall be made available to the Manager upon request.

24. In the event of any non-routine issues or plant malfunction that adversely affects the discharge to the coastal marine area, any other unauthorised discharge, or any discharges of partially treated wastewater, the consent holder shall maintain a sign or signs on the shore in the vicinity of the outfall and if necessary at other locations to the satisfaction of the Manager. The sign shall be established as soon as practicable. Each time a new sign is required, the consent holder shall consult with Regional Public Health regarding the wording of the sign prior to being submitted for certification by the Manager. The sign shall:

    a. Provide clear identification of the location and nature of the discharge.
    b. Provide information on the potential risk to public health from bathing, surfing and the collection and consumption of shellfish in the vicinity of the discharge.
    c. Provide a 24-hour contact phone number.
    d. Be visible to the public visiting the area.

    Note: At the time of granting this consent, there is an existing sign in place at the outfall which has been approved by Regional Public Health. However, if signage changes in the future the consent holder will need to obtain approval from the Greater Wellington Regional Council and consult with Regional Public Health.

Community Liaison Group

25. The consent holder shall maintain a Community Liaison Group (CLG). The CLG shall act as a forum for consultation and liaison with the community and be used as a vehicle to provide information regarding the Porirua WWTP. More specifically the CLG shall be used to inform its members on:

    a. The performance of the Porirua WWTP relative to the conditions of this consent.
    b. The results of wastewater and receiving water monitoring and the ecological survey required under the conditions of this consent.
    c. Complaints received about the operation of the WWTP and of any incidents, unauthorised discharges, or any discharges of partially treated wastewater notified under condition 22A or 16.
    d. Progress with respect to a monitoring and technology review undertaken in accordance with conditions 31 to 35.

e. Improvements proposed to be made to the WWTP, that will influence the quality of the treated wastewater.

26. The consent holder shall invite persons to join the CLG from the following groups:

a. Representatives of Te Rūnanga o Ngāti Toa Rangatira.
b. Representatives of Wellington Regional Council.
c. Representatives of Regional Public Health.
d. A representative of Te Awarua o Porirua Harbour and Catchments Community Trust.
e. A representative of the Titahi Bay Residents' Association.
f. A representative of the Titahi Bay Community Group.
g. A representative of the neighbouring landowners and residents.

The consent holder may invite any other parties to attend the CLG.

26A. Within three months of the commencement of the consent, the consent holder shall review the current Risk Communication Strategy (RCS) to ensure that it sets out how it will communicate with the residents of Titahi Bay about wastewater discharges from the treatment plant, and in particular how it will communicate about health risks associated with bypasses, plant malfunctions and unconsented discharges. In reviewing the RCS, the consent holder shall seek the views of the CLG and Regional Public Health.

The strategy shall:

a. Describe the potential health risks due to a discharge from the wastewater treatment plant under different operating conditions or as a result of an incident as described in condition 22A.
b. Describe procedures for the formal notification to Te Rūnanga o Toa Rangatira, Greater Wellington Regional Council, Regional Public Health and Porirua City Council.
c. Describe procedures to provide information about the potential health risks to community groups, potentially affected and/or interested persons, and the general public.

The strategy shall be 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. A copy of the communication plan and any updates shall be provided to the Manager as soon as practicable following any updates.

27. The consent holder shall provide reasonable organisation and administrative support to the CLG and a meeting of the CLG shall be held at least once every calendar year. Minutes of any CLG meetings held shall be forwarded to the Manager.

27A. The consent holder shall maintain a webpage that provides the community with access to information and reports relevant to this consent. As a minimum the following information and reports shall be uploaded to this webpage:

a. The Monitoring Plan required under condition 5E.
b. The Assessment of Options report required under condition 5H.
c. Quarterly and Annual reports required under conditions 18 and 19.
d. The OMCP required under condition 20.
e. Reports prepared under condition 22A.
f. Ecological survey reports prepared in accordance with condition 28 and 29.
g. Monitoring and technology review reports prepared in accordance with conditions 31 to 33.
h. The RCS prepared in accordance with condition 26A.
i. The most recent consent authority compliance monitoring report.
j. An up to date Complaints Register prepared in accordance with condition 23.

Ecological survey

28. The consent holder shall commission an ecological survey of the receiving waters for the discharge. The survey shall involve the collection of information on 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 methods should be comparable with those used for the ecological survey included as Appendix F in the application. The results of the survey shall be incorporated into a report prepared by a suitably qualified and experienced coastal ecologist.

29. A survey and report required under condition 28 shall be completed and submitted to the Manager:

    a. Between the 8th and the 9th anniversary of the commencement of this consent; and
    b. Between the 14th and the 15th anniversary of the commencement of this consent.

Monitoring and technology review

30A. The consent holder shall each year re-run its WWTP process model using latest information, including the most recent population projections. The outputs from the model shall be provided to the WWTPWG and the Manager prior to each anniversary of the commencement of the consent.

30B. If the annual process model re-run predicts that the concentration of total ammonia nitrogen in the treated wastewater will exceed the threshold in condition 33 (b) within 5 years, then within 3 years the consent holder shall complete a project to design and commit funding for a WWTP upgrade or improvement intended to maintain the concentration of total ammonia nitrogen within the threshold in condition 33 (b).

Notes:

1. *For the purpose of this condition, 'design' means designed to a level of detail that would enable construction or implementation without the need for further design to be undertaken.*
2. *The option designed under condition 30B will be considered as part of the Monitoring and Technology Review process under condition 33 (b), if such a review is triggered by the concentration of total ammonia nitrogen in wastewater samples.*

31. At the times determined by condition 33, the consent holder shall undertake a review of the treatment processes and discharge infrastructure at the Porirua WWTP and of the monitoring required under this consent. This review shall address:

    a. Ongoing compliance with the requirements of this consent particularly in relation to any reported non-compliance with consent conditions.
    b. Compliance of the discharge of wastewater with any relevant national, or regional water quality policies, standards or guidelines in effect at the time.
    c. The results of the monitoring undertaken in accordance with this consent including the adequacy and scope of such monitoring.
    d. A summary of any improvements made to the Porirua WWTP and, as relevant to the implementation of this consent, to the wastewater network since the granting of this consent.
    e. A summary of the actual or potential effects of the discharge from the WWTP to the coastal marine area, including effects on the values of significance to Ngāti Toa Rangatira, and a comparison with the level of effect anticipated in the resource consent application.
    f. A review of whether adverse effects within the zone of reasonable mixing and the extent of the zone of reasonable mixing are minimised in accordance with the policies of the regional plan and in relation to:
        i. The production of any conspicuous oil or grease films, scums or foams, or floatable or suspended material.

ii. Any conspicuous change in colour or visual clarity.

g. An outline of technological options or other methods which may be available to reduce adverse effects identified in accordance with clause (e) and (f), having particular regard to the conclusions of the assessment and report required under conditions 5G and 5H. With respect to managing the effects of total ammonia nitrogen, the options identified shall include any option designed in accordance with condition 30B.

h. An assessment of whether any option or method identified in accordance with clause (g), or combination of options and methods identified in accordance with clause (g), represent the Best Practicable Option (BPO) (as defined under the Resource Management Act) for preventing and minimising the effects of the discharges.

32. The results of the review undertaken in accordance with condition 31 shall be incorporated into a report prepared by an independent suitably qualified and experienced professional in wastewater treatment and disposal. The report shall clearly state the critical recommendations arising from the review and the timeline that the wastewater specialist considers should be followed for the implementation of the critical recommendations. The report shall have particular regard to the overall purpose of the WWTPWG expressed by condition 5C.

33. The monitoring and technology review and report required under conditions 31 and 32 shall be completed and submitted to the Manager for certification that it complies with the requirements of conditions 31 and 32:

a. Within 12 calendar months of the ecological survey reports, required under condition 29, being submitted to the Manager; and

b. Within 9 calendar months of the concentration of total ammonia nitrogen exceeding 6 g/m^3 in more than 5 of 26 consecutive wastewater samples required to be collected and analysed under condition 9A.

However, a monitoring and technology review and report is not required to be undertaken under 33 (b) if a review and report under condition 33 (b):

c. Is already underway; or

d. Has been completed within the previous 24 calendar months and the critical recommendations of that previous report are still being implemented in accordance with the timeline detailed under condition 32; or

e. Has been completed within the previous 24 calendar months and the critical recommendations have been implemented in accordance with the timeline detailed under condition 32, however the Manager agrees that the critical recommendations of that previous report are not yet fully effective.

33A. The consent holder shall implement all critical recommendations in the monitoring and technology review report in accordance with the timeline included in that report, unless it can demonstrate, to the satisfaction of the Manager that the critical recommendations are unnecessary, that their intent could be achieved through a different method, or that an alternative timeline is reasonably required for their implementation.

34. To inform the review undertaken under condition 31 the consent holder shall undertake:

a. An assessment of the Emerging Organic Contaminants in the inflow to, and discharge from, the WWTP, including a review of recent published research literature to update the threshold effect concentrations.

b. A desktop assessment of the risks posed by microplastics.

c. A Direct Toxicity Assessment to measure the aggregate effect to organisms from all contaminants contained in the treated wastewater, including the Emerging Organic Contaminants assessed in (a) above.

The assessments in (a) and (b) shall be undertaken by suitably qualified experts and completed so that the results are comparable with results of similar testing included in the application documents. The assessments under 34 (a) and (b) do not need to be undertaken for a review under condition 33 (b).

35. Notwithstanding the scope of the review set out in condition 31, if the monitoring and technology review is undertaken in response to the concentration of total ammonia nitrogen in the treated wastewater, then it shall be limited to the consideration of the adverse effects of the total ammonia nitrogen and the technological options or other methods which may be available to reduce those adverse effects.

UV disinfection performance

35A. If:

a. Prior to certification of the enterococci trigger under condition 21B, monitoring undertaken in accordance with condition 8 identifies that the concentration of faecal coliforms in the treated wastewater has exceeded 2,000 cfu per 100 millilitres on 2 or more consecutive days; or
b. Following certification of the enterococci trigger under condition 21B, monitoring undertaken in accordance with condition 8 identifies that the enterococci concentration in the treated wastewater has exceeded the enterococci trigger value set in accordance with condition 21B on 2 or more consecutive days,

then the consent holder shall:

i. Notify the Manager as soon as practicable after receipt of results showing that the faecal coliforms or enterococci trigger has been exceeded for 2 consecutive days; and
ii. Initiate an investigation that meets the following requirements.

The investigation shall:

c. Be undertaken by a suitably qualified and experienced professional.
d. Consider the results of the UV transmissivity monitoring undertaken in accordance with condition 8.
e. Assess the likely cause of the exceedance of the faecal coliforms or enterococci trigger value.
f. 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.
g. Include an implementation programme for the recommendations, if any, set out in accordance with (f).

Within 1 calendar month of the receipt of results showing that the faecal coliforms or enterococci trigger has been exceeded for 2 consecutive days, the consent holder shall inform the Manager of the outcomes of the investigation and which of the recommendations made in accordance with (f) and (g) above it proposes to implement.

Review

36. Wellington Regional Council may review any or all conditions of this consent by giving notice of its intention to do so pursuant to sections 128 and 129 of the Resource Management Act 1991, in the six calendar months following:

a. The fifth, tenth, and fifteenth anniversary of the commencement of this consent; or
b. The receipt of a monitoring and technology review report completed under conditions 31 to 35; or
c. The receipt of a report submitted in accordance with condition 5H; or
d. Being informed of investigation outcomes under condition 35A.

A review may be undertaken for any of the following reasons:

i. To review the adequacy of, and if necessary, amend the monitoring requirements outlined in this consent.

ii. To review the effectiveness of the conditions in avoiding, remedying or mitigating any adverse effects of the consent holder's activities and, if considered appropriate by Wellington Regional Council, deal with such effects by way of further or amended conditions.
iii. After a monitoring and technology review report has been submitted to the Wellington Regional Council in accordance with condition 33, to review the Best Practicable Options assessment contained in that report and respond to the consent holder's decision to adopt or not adopt the BPO and the consent holder's implementation plan.
iv. To align the conditions and enable consistency with any relevant operative regional plans, National Environmental Standards, regulations or Acts of Parliament.
v. After a report has been submitted to the Wellington Regional Council in accordance with Condition 5H, to review the permit holder's decision with respect to the measures that will be adopted to minimise the adverse effects of the discharge on values of significance to Ngāti Toa Rangatira and the programme of work to implement the mitigation measures.
vi After the consent holder has informed the Manager of the outcomes of an investigation under condition 35A, to review the consent holder's decision with respect to what if any investigation recommendations it proposes to implement.
vii To review the approach and effectiveness of CLG and community information reporting conditions.
viii To review monitoring and reporting dates, or date ranges, to better achieve the purposes of the consent (including as expressed in condition 5C) or to align with amendments to the Monitoring Plan certified via condition 5E.

The review of conditions shall allow for the deletion or amendment of conditions of this consent; and the addition of such new conditions as necessary to avoid, remedy or mitigate any significant adverse effects on the environment.

Nothing in this condition shall prevent the Council from, at any time, renumbering consent conditions to improve clarity and consistency.

Duration

37. The duration of this consent shall be 18 years from commencement.

Porirua Wastewater Treatment Plant
Air Discharge Permit consent conditions WGN200229 [36727]

Discharge permit to discharge contaminants to air (odour) from the operation of the Porirua Wastewater Treatment Plant

INTERPRETATION

Wherever used in the conditions above, the following terms shall have the prescribed meaning:

Independent Suitably Qualified and Experienced Professional means a suitably qualified and experienced professional that is not employed by the consent holder or an organisation contracted to operate the Porirua Wastewater Treatment Plant (WWTP)

Manager means the Manager, Environmental Regulation, Wellington Regional Council.

Minimise means reduce to the smallest amount reasonably practicable.

1. The location, design, implementation and operation of the works shall be in general accordance with the consent application and its associated plans and documents lodged with the Wellington Regional Council on:

    - 6 April 2020 (Application);
    - Revised application dated April 2021;
    - Further information received on 30 April 2021; and
    - Consent holder's evidence presented at the hearing.

    Where there may be contradiction or inconsistencies between the application and further information provided by the applicant, the most recent information applies. In addition, where there may be inconsistencies between information provided by the applicant and conditions of the consent, the conditions apply.

    Note: Any change from the location, design, implementation and/or operation of the works may require a new resource consent or a change of consent conditions pursuant to Section 127 of the Resource Management Act 1991.

2. The consent holder shall ensure that a copy of this consent, and all documents and plans referred to in this consent, is kept on site at all times and presented to any Wellington Regional Council Compliance Officer upon request. The consent holder shall verbally brief all operators or contractors on the requirements of the conditions of this consent within one calendar month of granting this consent, and then on induction for any new operators or contractors.

3. Up to and including 31 May 2025, or an alternative date agreed to the satisfaction of the Manager in accordance with condition 8L, the consent holder shall minimise the adverse effects of odour discharges by applying the interim odour control measures in accordance with conditions 8A to 8JA. After 31 May 2025, or an alternative date agreed to the satisfaction of the Manager in accordance with condition 8L, there shall be no noxious, dangerous, offensive or objectionable discharges of odour to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407.

5. The consent holder shall keep a record of any complaints received. The complaints will be forwarded to the Manager within twenty-four hours of the complaint being received by the consent holder. The consent holder shall record:

    a. The complainant's name (if provided).
    b. The location of the odour incident.
    c. The time of the odour incident.

d. The wind direction and speed.
e. The plant operating conditions at the time of the complaint.

6. Any incident that may cause or has caused adverse effects on the environment at or beyond the site boundary shall be notified to the Manager within twenty-four hours. This includes any incidents that result in complaints. A written report detailing the reasons for the incident, measures to mitigate the incident and measures to prevent recurrence shall be forwarded to the Manager within seven working days.

   Note: The Wellington Regional Council will notify the consent holder as soon as practicable about any odour notifications received that are attributed to the consent holder.

7. The consent holder shall prepare an Odour Management Plan (OMP) and submit it for certification by the Manager that it meets the objective and content requirements set out in condition 7A within three calendar months of granting this consent.

7A. The objective of the OMP shall be to provide a framework for the operation and management of the wastewater treatment plant to ensure that odours are minimised and properly managed to ensure compliance with the conditions of this consent. The contents of the OMP shall include:

   a. A plant description, including discussion of each individual treatment plant element and its function, supported by a layout plan and identification of odour sources as a result of normal and abnormal operations.
   b. Plant management procedures relevant to odour control, including equipment maintenance and operation to minimise odour; and procedures for transport of potentially odorous material to and from the WWTP.
   c. Dissolved oxygen alarm levels for the aeration basin.
   d. The average wind speed trigger associated with the operation of the inlet vent fan as set out in conditions 8A and 8D .
   e. Contingency measures to deal with plant malfunctions including redundancy and spares held on site for critical parts.
   f. On-site odour monitoring requirements and boundary odour surveys.
   g. A complaints procedure, including actions on receipt of complaints and associated reporting requirements.
   h. A framework for the management and/or selective harvesting of the forested slopes surrounding the WWTP to maintain a healthy and effective tree cover at all times.
   i. Staff responsibilities and training.
   j. The requirements of the consent conditions with respect to odour management, including requirements to review and update the OMP.

   Note:

   It is expected that the wind speed trigger referenced in clause (d) above will be between 3 to 5 metres per second. However, flexibility has been provided in setting this trigger as the appropriate trigger level will be influenced by factors such as the location of the weather station, the height of the anemometer, potential sheltering effects on the anemometer and wastewater treatment plant operational considerations, and further optimisation of the trigger may be required to the trigger under condition 8D.

Amendments to the Odour Management Plan

8. The consent holder may request amendments to the certified OMP by submitting the amendments in writing for certification by the Manager that the amendments meet the objective and content requirements set out in condition 7A. The amendments sought shall not be implemented until the consent holder has received notice in writing that the amended OMP has been certified by the Manager.

Interim Odour Control Measures

8A. Within 3 calendar months of the commencement of this consent, the consent holder shall:

a. Install monitors that continuously measure Hydrogen Sulphide (H_2S) in the discharge from the inlet tunnel vent and milliscreen building stack.

b. Install a new weather station that shall, at a minimum, measure wind speed and direction at a height of 5 to 10 m and shall be connected to the WWTP control system.

The meteorological monitoring instruments shall:

i. Measure wind speed as 1-minute scalar averages with maximum resolution of 0.1 metres per second (m/s), have an accuracy of at least within +/-0.2 m/s, and a stall speed no greater than 0.5 m/s.

ii. Measure wind direction as 1-minute vector averages with maximum resolution of 1.0 degree and accuracy of at least within +/- 1.0 degree, and a stall speed no greater than 0.5 m/s.

The monitor shall be sited in accordance with AS/NZS 3580:14-2014 (Methods for sampling and analysis of ambient air – Part 14 Meteorological monitoring for ambient air quality monitoring applications). If the station cannot be located in accordance with AS/NZS 3580:14-2014 an alternative location shall be agreed to the satisfaction of the Manager.

c. Reconfigure the operation of the inlet tunnel vent fan so that between 05:00 hours and 23:00 hours it automatically turns off when the weather station measures northerly winds, between 315° to 45°, that are less than the wind speed trigger included in the OMP.

8B. Within 3 calendar months of the installation of the improvements set out in condition 8A, the consent holder shall:

a. Commission an independent suitably qualified and experienced professional to undertake an odour survey and prepare a report on their findings.

The survey shall:

i. be conducted in accordance with the Ministry for the Environment 'Good Practice Guide for Managing and Assessing the Effects of Odour (2016)' and 'German Standard VDI 3940-2:2006—Measurement of Odour Impact by Field Inspection: Measurement of the Impact Frequency of Recognisable Odours—Plume Measurement, February 2006'.

ii. cover a minimum period of 7 days, including at least 4 days when the surveying was undertaken during northerly winds, between 315° to 45°, of less than, or equal to the wind speed trigger included in the OMP.

iii. take into account any complaints that have been received about odour from the WWTP.

b. Provide the odour survey report to the Manager along with confirmation of the next steps, if any, that will be undertaken under the Interim Odour Control conditions.

8C. In the event that the odour survey required under condition 8B concludes that odour from the WWTP is not noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall repeat the survey within 12 calendar months following the initial survey and again between 12 and 24 calendar months following the initial survey. The surveys undertaken under this condition shall occur between 1 December to 31 March and meet the requirements of condition 8B.

8D. If an odour survey report completed under either condition 8B or 8C concludes that odour from the Porirua WWTP is noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall review the wind speed trigger in the OMP and submit a revision to the OMP in accordance with condition 8.

8E. Within 3 calendar months of the amendment to the OMP described in condition 8D, the consent holder shall repeat the requirements of condition 8B.

8F. In the event that the odour survey required under condition 8E concludes that odour from the WWTP is not noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall repeat the survey within 12 calendar months following the initial survey and again between 12 and 24 calendar months following the initial survey. The surveys undertaken under this condition shall occur between 1 December to 31 March and meet the requirements of condition 8B.

8G. If an odour survey report completed under either condition 8E or 8F concludes that odour from the Porirua WWTP is noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then within 3 calendar months of the report being provided to the Manager, odour neutralising sprays shall be fitted to, or fitted adjacent to, both the inlet tunnel vent and milliscreen building stack. The odour neutralising sprays shall be used in conjunction with the automated turning off of the ventilation fan. The operating regime of the ventilation fan and odour neutralising spray system, including whether the two systems operate concurrently or at alternative times, shall be optimised to minimise off-site odour.

8H. Within 3 calendar months of the installation of the improvements set out in condition 8G, the consent holder shall repeat the requirements of condition 8B.

8I. In the event that the odour survey required under condition 8H concludes that odour from the WWTP is not noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall repeat the survey within 12 calendar months following the initial survey and again between 12 and 24 calendar months following the initial survey. The surveys undertaken under this condition shall occur between 1 December to 31 March and meet the requirements of condition 8B.

8J The interim odour control measures shall be operated until the Best Practicable Option (as defined under the RMA) is operationalised in accordance with condition 8L. At the time that the Best Practicable Option is operationalised the interim odour control measures may cease unless they form part of the Best Practicable Option.

8JA If during the operation of the interim odour control measures, monitoring of H_2S within buildings at the WWTP identify levels that exceed the standards in Table 4 of the Workplace Exposure Standards and Biological Exposure Indices, then the consent holder may adjust the wind speed trigger for the inlet tunnel vent fan control or discontinue this control measure altogether, as necessary to comply with the Exposure Standards. If at this point, odour neutralising sprays are not already in use, the consent holder shall commence use of such sprays as soon as is practicable. The consent holder shall also update the Odour Community Liaison Group about any such amendments to the interim control measures.

Best Practicable Option Review

8K The consent holder shall commission an investigation of the best practicable option to mitigate the odour effects associated with the WWTP. The investigation shall:

a. Be undertaken by an independent suitably qualified and experienced professional.
b. Involve consultation with the members of the Odour Community Liaison Group (OCLG).
c. Assess all potential odour sources at the WWTP including but not limited to, the tunnel vent stack, the milliscreen extraction stack, sludge centrifuges and the milliscreen building ventilation.
d. Identify options to minimise the odour from the WWTP, including via a stand-alone system on each single source, a combined odour control system for all sources, or options in between.
e. Identify the Best Practicable Option, which may include a combination of odour control measures, to minimise odour from the WWTP.

8L The results of the investigation undertaken in accordance with condition 8K shall be incorporated into a report that shall be submitted to the Manager by 31 October 2023 or an agreed alternative date to the

satisfaction of the Manager. The report shall set out a programme for the installation and operationalisation of the Best Practicable Option by 31 July 2025, or an agreed alternative date to the satisfaction of the Manager.

Note: In considering whether to agree to an alternative date the Manager shall have particular regard to:

- *The installation date of the H_2S monitor and ability to secure sufficient data to inform the BPO assessment.*
- *The significance of any on-going adverse odour effects on the properties neighbouring the WWTP.*
- *The effectiveness of the interim odour control measures.*
- *The timeframe reasonably required to design and install the Best Practicable Option.*

8M Within 3 calendar months of the Best Practicable Option being operational, the consent holder shall repeat the requirements of condition 8B.

8N In the event that the odour survey required under condition 8M concludes that odour from the WWTP is not noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall repeat the survey within 12 calendar months following the initial survey and again between 12 and 24 calendar months following the initial survey. The surveys undertaken under this condition shall occur between 1 December to 31 March and meet the requirements of condition 8B.

8O In the event that the odour survey required under condition 8M concludes that odour from the WWTP is noxious, dangerous, offensive or objectionable to the extent that it causes an adverse effect at or beyond the boundary of the Porirua WWTP site, being Lot 1 DP 62407, then the consent holder shall commission an independent suitably qualified and experienced professional to review the effectiveness of the Best Practicable Option and identify any further improvements that shall be undertaken to mitigate odour nuisance effects. A report setting out the recommended further improvements and the programme for their installation and operationalisation shall be submitted to the Manager within 2 calendar months of the completion of the odour survey required under condition 8L.

Odour Community Liaison Group

9. The consent holder shall establish and maintain an Odour Community Liaison Group (OCLG). The OCLG shall act as a forum for consultation and liaison with the community and be used as a vehicle to provide information regarding the Porirua WWTP. More specifically the OCLG shall be used to inform its members on:

    a. The performance of the Porirua WWTP relative to the conditions of this consent.
    b. The results of any odour or boundary surveys undertaken.
    c. Odour complaints received about the operation of the WWTP.
    d. Improvements proposed to be made to the WWTP, that will influence the discharge of odour.

10. The consent holder shall invite persons to join the OCLG from the following groups:

    a. Residents of the Pikarere Farm subdivision
    b. Representatives of Wellington Regional Council
    c. Representatives of Regional Public Health
    d. A representative of the Titahi Bay Residents' Association
    e. A representative of the Titahi Bay Community Group

    The consent holder may invite any other parties to attend the OCLG.

11. The consent holder shall provide reasonable organisation and administrative support to the OCLG and a meeting of the OCLG shall be held at least once every calendar year. Minutes of any OCLG meetings held shall be forwarded to the Manager.

Note: For clarity, the OCLG and CLG (required under consent WGN200229 [36816]) can jointly meet, i.e. separate meetings are not required.

Communications Plan

12. The consent holder shall maintain a communications plan, which sets out how it will liaise with the residents of the Pikarere Farm subdivision area. This plan shall:

a. Detail how the consent holder will engage with the residents on an on-going basis about matters associated with the discharge and the effectiveness of the OMP;
b. Include details of a dedicated telephone number (hotline) for neighbours to contact the consent holder during plant operating hours.

A copy of the communication plan and any updates shall be provided to the Manager.

12A The consent holder shall maintain a webpage that provides the community with access to information and reports relevant to this consent. As a minimum the following information and reports shall be uploaded to this webpage:

a. The Odour Monitoring Plan required under condition 7A.
b. The Odour Survey Report required under condition 8B, 8C, 8E, 8F, 8H, or 8M.
c. The Best Practicable Option Review required under condition 8K.
d. Any incidents under condition 6.
e. An up to date Complaints Register prepared in accordance with condition 5.
f. The Communications Plan prepared in accordance with condition 12.
g. The most recent consent authority compliance monitoring report.

Note: For clarity, the webpage can be shared with the one required under WGN200229 [36816] i.e. two webpages are not required.

Review

13. Wellington Regional Council may review any or all conditions of this consent by giving notice of its intention to do so pursuant to section 128 of the Resource Management Act 1991, in the six months following the fifth, tenth, and fifteenth anniversary of the commencement of this consent, and/or in the six months following the receipt of a report completed under conditions 8L or 8O, for any of the following reasons:

a. To review the adequacy of, and if necessary, amend the monitoring requirements outlined in this consent.
b. To review the effectiveness of the conditions in avoiding, remedying or mitigating any adverse effects of the consent holder's activities and, if considered appropriate by Wellington Regional Council, deal with such effects by way of further or amended conditions.
c. To align the conditions and enable consistency with any relevant operative regional plans, National Environmental Standards, regulations or Acts of Parliament.
d. After a report has been submitted to the Wellington Regional Council in accordance with Conditions 8L or 8O, to review the consent holder's decision with respect to what, if any, mitigation measures will be implemented to mitigate adverse odour effects.
e. To review the approach and effectiveness of Odour Liaison Group and community reporting conditions.

f. To review monitoring and reporting dates, to better achieve the purposes of the consent.

The review of conditions shall allow for the deletion or amendment of conditions of this consent; and the addition of such new conditions as necessary to avoid, remedy or mitigate any significant adverse effects on the environment.

Nothing in this condition shall prevent the Council from, at any time, renumbering consent conditions to improve clarity and consistency.

Duration

14. The duration of this consent shall be 18 years from commencement.

Appendix ii: Operational and maintenance procedures

The Porirua WWTP is designed for automatic operation, however, regular housekeeping and maintenance is essential to ensure that the plant maintains its performance integrity and provides a trouble-free and safe working environment.

The following schedule is a general guideline on maintenance/service for the wastewater treatment plant. Actual maintenance schedules could be determined by the treatment plant operators based on their experience in the daily running of the plant.
For more detailed information on individual equipment refer to manufacturer's maintenance manuals.

Daily Maintenance:

- Check dissolved oxygen probes in the Aeration Basin and clean/calibrate if necessary.
- Walk around the plant daily for general inspection and in particular check levels of chemicals in respective storage tanks.
- Check housekeeping around the plant in particular any chemical spills, sludge spills etc. and clean where necessary.
- Check rotating equipment for excessive noise and investigate according to manufacturer's recommendations.
- Check the clarifier for any floating sludge
- Carry out sampling requirements
- Check UV baffle plate and outlet weir
- Check distribution of air in the Aeration Basin. If localised continuous surging occurs in the activated sludge tank check for ruptured membranes.
- Check output from blowers.
- Check output from pumps, particularly RAS pumps.
- Check security fencing.

Weekly Maintenance:

- Check compressed air system filter regulators and drain if excessive moisture content is present.
- Check chemical metering pumps and inspect that discharge pressure and capacity are at maintained values.
- Check and lubricate the inlet screens according to the manufacturer's manual.
- Check and maintain field instrumentation according to the manufacturer's manual.
- Check blower operation according to the manufacturer's manual.

Monthly Maintenance:

- Check Centrifuge bearing temperature with a thermometer. If bearings are hot check lubricant according to the manufacturer's manual.
- Check and clean activated sludge fine bubble aeration system, if required, according to assessment procedure detailed in weekly maintenance.
- Check operation of flow transmitters and carry out maintenance if required according to the manufacturer's manual.
- Check lubrication and operation of helical rotor type pumps i.e. poly dosing and sludge transfer.
- Check operation of the poly batching system as detailed in the manufacturer's manual.
- Check valve operation generally around the wastewater treatment plant and check special requirements recommended in manufacturer's manuals.
- Check and grease monorail and gantry crane.
- Check fuel tank level on generator. Run generator on load.

Quarterly Maintenance:

- Check lubrication and grease bearings on all rotating equipment according to the individual manufacturer’s manual.
- Check the condition of primary clarifier wheels and replace if necessary.

Annual Maintenance:

- Carry out full inspection on the blower as defined in the manufacturer's manual.
- Carry out full inspection on Centrifuge in particular the rotating assembly as defined in the manufacturer's manual.
- Carry out full inspection and maintenance on all rotating equipment as defined in manufacturer’s manuals.
- Carry out tests on instrument interlocks to ensure correct operation.
- Carry out functional checks on modulating valves as defined in manufacturer’s manuals.
- Carry out calibration checks on analytical equipment as defined in manufacturer’s manuals.
- Check condition on activated sludge tank aeration system and replace diffuser membranes if required.
- Carry out inspection and maintenance of clarifier mechanism in particular rake arms and dolly wheels and replace if necessary.
- Carry out inspection on the poly Batching System as defined in the manufacturer's manual.

VANZ Water

Duty operator Daily Duties - Porirua

Issue

Week Commencing Date:	M	T	W	T	F	S	S
• Vehicle check to be done on Monday (MEK314) - Vehicle to be cleaned before handover to new duty operator							
• Morning site walkover - Audible, Visual / Sensory check - Report any plant failures to the Team Leader and log in the Daily Ops log.							
• Daily plant record and Ops log to be completed							
• Check the alarm list on SCADA, investigate any plant failures, record and report.							
• Check compressors downstairs - Ensure cutoff and dryer is functional - Drain water from receiver tank - Change duty							
• Operate and manage centrifuge production and skip bins for the day - Maximum of 8 bins a day - Screenings bin on Wednesday morning as part of daily 8 - Saturday production, 4 bins							
• Check Milliscreens for rag ropes, remove and clean as required.							
• Afternoon site walkover : - All doors and windows are closed and locked - All lights are turned off - Skip cradle airlines isolated - Wash hoses are isolated - Check milliscreens before departing site							
• Centrifuges set for the following days production - Timed start / Auto complete control - TWAS feed set - Diff speed set - Polymer dose set - Both gates open - Sludge auger set to centre - Greasing done (2 pumps both machines inlet & outlet)							
• Cleaning of UV - Once per week on Fri							
• Conduct clarifier dips - Morning only Sat/Sun							
• Operator initial							

VANZ Water

Secondary operator Daily Duties - Porirua

Issue

Week Commencing Date:	M	T	W	T	F	S	S
• Vehicle check to be done on Monday (MGE688) - Vehicle to be cleaned on Thursday afternoon							
• Capture samples for External lab analysis - Ready for pickup by 9am							
• Lab testing to be carried out and data input to online spreadsheet - Mon/Wed/Fri full lab - Tue/Thu cake samples only - Cake samples to be done on any day the centrifuges are in production							
• Conduct clarifier dips - Twice per day Mon to Fri							
• Check and clean TAK UV baffle plate • Check and clean UVT sensor							
• Check the scum pit level							
• Undertake any housekeeping duties: rubbish pickup when needed, empty bins.							
• Check compressor in UV building - Ensure cutoff is functional - Drain water from receiver tank							
• Check operation of eye wash stations - Once per week							
• Check outfall, capture photo and upload to google drive folder							
• Assist with any maintenance tasks							
• Operator initial							

Porirua WWTP Weekly Record Sheet

VEOLIA

Wellington Template | Uncontrolled when printed | Review Period: 3 Yearly

"Yellow Cells Are Yesterdays values"	Date & Day						
DAY	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Date							
	Operator						
Operator Initial							
	Weather Data						
Weather Condition							
Wind Velocity (km/hr)							
Wind Direction							
Outside Temperature							
Daily Rainfall (mm)							
	Influent Inlet Works						
Influent Flow Rate (L/s)							
Raw Influent (m^3/day total)							
Bypassed influent (m^3/day total)							
Overflow influent (m^3/day total)							
	Milliscreens						
Duty cycle		1x Weekly (Change duty cycle on Monday)					
Total Run hrs / #1							
Total Run hrs / #2							
Total Run hrs / #3							
Total Run hrs / #4							
	Aeration Basin						
DO A (mg/L)							
DO B (mg/L)							
DO C (mg/L)							
DO D (mg/L)							
DO Average (mg/L)							
MLSS mg/L							
	Air Blowers						
Main Pipe Outlet Temperature							
Blower #1 Outlet Temp							
Blower #2 Outlet Temp							
Blower #3 Outlet Temp							
Blower #1 Run hours		1x Weekly					
Blower #2 Run hours							
Blower #3 Run hours							
	Clarifiers						
RAS Inflow % setpoint							
CL #1 & #2 split flow (%)							
CL #3 split flow (%)							
Blanket level CL #1 (M)	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM
Blanket level CL #2 (M)	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM
Blanket level CL #2 (M)	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM	AM / PM
RAS CL#1 (m^3/day total)							
RAS CL#2 (m^3/day total)							

Porirua WWTP Weekly Record Sheet

VEOLIA

Wellington Template | Uncontrolled when printed | Review Period: 3 Yearly

"Yellow Cells Are Yesterdays values"	Date & Day						
DAY	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Date							
RAS CL#3 (m^3/day total)							
WAS (m^3/day total)							
	UV Plant (Duron)						
Flow Rate (l/s)							
Duty Select							
Total Dose							
lamps not working (Bank A)							
lamps not working (Bank B)							
lamps not working (Bank C)							
lamps not working (Bank D)							
	Potable Water						
Potable Water meter reading (m^3)		1x Weekly					
	Emulsion						
Emulsion IBC Level							
IBC's in stock							
Check Bunding is empty							
Batch pump stroke (%)							
Batch pump water flow (L/h)							
Static mixer #1 flow (L/m)							
Static mixer #2 flow (L/m)							
	Centrifuge (#1)						
Control Mode							
TWAS Feed flow (m^3/hr)							
TWAS Concentration (%)							
Poly Feed Rate (kg)							
Bowl speed (rpm)							
Torque %							
Diff speed setpoint							
Bearing Temp (Liquid end)							
Bearing Temp (Solids end)							
	Centrifuge (#2)						
Control Mode							
TWAS Feed flow (m^3/hr)							
TWAS Concentration (%)							
Poly Feed Rate (kg)							
Bowl speed (rpm)							
Torque %							
Diff speed (rpm)							
Bearing Temp (Liquid end)							
Bearing Temp (Solids end)							
	Sludge						
Total bins out (#)							
Sludge Tonnes out (T)							
Volume Daily Total (m3)							
Truck Rego or Driver Name							
	Generator						

Porirua WWTP Weekly Record Sheet

Wellington Template | Uncontrolled when printed | Review Period: 3 Yearly

"Yellow Cells Are Yesterdays values"	Date & Day						
DAY	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday	Sunday
Date							
Fuel level							
Battery voltage (24V)							

Appendix iii: Odour Survey Form

VEOLIA

ODOUR MEASUREMENT RECORD

Site being monitored:		Assessors Name:		Date:	

Reason for investigation:		Location of Assessment:	
Initial impressions:		Initial Character:	
Time of the initial impression:		Initial general hedonic tone:	
Initial odour intensity:		Plume width (if known):	

Odour samples every ten seconds. The time between the ten seconds is disregarded (interval method). Breathe normally rather than sniffing. Use the Scale of intensity as a guide.

Start time:	

Scale of Intensity		Mins		Intensity	Character/notes	Mins		Intensity	Character/notes	Mins		Intensity	Character/notes
6	Extremely strong	1st	0			1st	0			1st	0		
5	Very strong		10				10				10		
4	Strong		20				20				20		
3	Distinct		30				30				30		
2	Weak		40				40				40		
1	Very weak		50				50				50		
0	No odour	2nd	0			2nd	0			2nd	0		
			10				10				10		
			20				20				20		
			30				30				30		
			40				40				40		
			50				50				50		
		3rd	0			3rd	0			3rd	0		
			10				10				10		
			20				20				20		
			30				30				30		
			40				40				40		
			50				50				50		

Weather Data

Use the Land Beaufort Wind Scale and Measuring Cloud cover as a guide

Wind Direction:	
Wind Velocity:	
Cloud Cover:	
Temperature:	

Land Beaufort Wind Scale

B No	Description	How to Recognise
0	Calm	Smoke rises straight up
1	Light Air	Smoke Drifts
2	Light Breeze	Wind felt on face; leaves rustle
3	Gentle Breeze	Flags flap; twigs move all the time
4	Moderate Breeze	Papers blow; small branches move
5	Fresh Breeze	Small trees sway
6	Strong Breeze	Large branches move; wind whistles
7	Near Gale	Whole trees sway

Measuring cloud cover

During the day the sun is always shining, so the amount of sunshine reaching the ground depends on the amount and duration of any cloud cover. The amount of cloud cover is usually given in units called oktas. Each okta represents one eighth of the sky covered by cloud.

Okta No	Description
0	Clear Sky
1	Sunny
2	Mostly sunny
3	
4	Half the sky is covered in cloud
5	
6	Mostly cloudy
7	Considerable cloudiness
8	Overcast
9	Fog/mist

Based on your assessment on this occasion, which of the following applies

	I did not detect any odour
	I did detect odour and consider it would not be objectionable at any location for any duration or frequency
	I did detect odour and consider it would be objectionable, if it became continuous
	I did detect odour and consider it would be objectionable if it occurred on a regular or frequent basis
	I did detect odour and consider it to be objectionable even in periods of short duration

FINAL CHECKLIST (assessment of Offsite Odour)

Is it considered odour may be from offsite source		**Yes** (provide details below)	Notes of offsite odour:
		No	

Appendix iv: Key Risk and Mitigation Measures

Area	Risk Description				Controls	
Activity / Task / Job	**Risk Description (What can go wrong)**	**Risk Causes**	**Risk Impact/Consequence (What happens if the risk occurs)**	**Risk Owner**	**Existing Controls (What existing controls are in place?)**	**Control Owner**
Influent	Influent quantity and quality out of specs	Unauthorised discharge in network Increase in population density	High flow and load on plant, loss of DO in process tanks, die off of biomass. potential loss of process	WWL	Daily composite sampling and testing.	Veolia
					Porirua City Council trade waste officer to inspect industry compliance with by-laws	PCC
					Building consents required for the industries.	PCC
Plant Maintenance and Operation	Lack of understanding/ experience on plant operations and maintenance	Equipment failure and non-compliance with resource consents and contract.	Extra time needed to diagnose faults and issues. Increased costs for contractor time	Veolia	Experienced operators and contractors	Veolia
					O&M manuals are available	Veolia
					Support from process engineer and wider Veolia family.	Veolia
Pretreatment	Milliscreen failure	Screens blinding	Conveyors overloaded with water, minor flooding inside plant	Veolia	Generator back up wash system during power failures.	Veolia
					Scheduled PM tasks on milliscreen system.	Veolia
					Stepscreen kept on site for contingency	Veolia
Pretreatment	Milliscreen failure	Screens mechanical fail	Reduced screening capacity, potential for minor flooding inside plant	Veolia	4 x screens installed only 3 needed	Veolia
					Stepscreen kept on site for contingency	
					Regular PM inspections and maintenance	Veolia
Pretreatment	Overflow	Plant failure or channel blockage	Dry weather discharge of wastewater to sea. Impacting on marine life; aesthetics; odour; cultural significance. Risk of prosecution, fines and imprisonment. Negative effect on company reputation.	Veolia	Regular inspection of the influent channel	Veolia
					PMs on overflow flow meter	Veolia
					Modifications to the inlet channel to remove potential obstruction catalysts	Veolia
Pretreatment	Screenings handling blockage/overflow	Screenings handling failure	Noggerath or conveyor stop, screenings discharged to ground. operator time and resource to clean up	Veolia	Noggerath installation to reduce screenings issues.	Veolia
					Routine PM inspections and maintenance of conveyors and Noggerath	Veolia

					Bypass on noggerath system.	Veolia
					Alarm on feed to noggerath to alert operators about potential blockages	Veolia
Pretreatment	Screenings handling mechanical failure	Mechanical failure	Noggerath or conveyor stop, screenings discharged to ground. operator time and resource to clean up. cost to repair	Veolia	Routine PM inspections and maintenance	Veolia
					Spare parts are available on-site	Veolia
					Bypass on Noggerath system.	Veolia
Biological Treatment	Biomass loss	Toxic influent	Process failures affecting quality. Discharge of poor quality effluent to sea. Possible impact on recreational use of beaches; marine life; cultural value of sea; aesthetics. Risk of prosecution, fines, Negative effect on company reputation.	WWL and Veolia	Trade waste officer monitoring the industries and ensure they are complying with by-laws.	PCC
					Influent sampling	Veolia
Biological Treatment	Low dissolved oxygen levels	Blower system failure. DO measurement failure.	Process failures affecting quality. Discharge of poor quality effluent to sea. Possible impact on recreational use of beaches; marine life; cultural value of sea; aesthetics. Risk of prosecution, fines, Negative effect on company reputation.Risk of odorous conditions occurring.	Veolia	3 blowers installed on-site. This provides redundancy.	Veolia
					Generator installed on-site to supply power to blowers in the event of a power failure.	Veolia
					Routine PMs and maintenance performed on the system.	Veolia
Biological Treatment	Mixer failure	Loss of circulation in the tank. Settling inside of aeration basin.	Settlement in process tank leading to poor treatment. Discharge of poor quality effluent to sea. Possible impact on recreational use of beaches; marine life; cultural value of sea; aesthetics. Risk of prosecution, fines, Negative effect on company reputation.	Veolia	3 mixers installed in aeration basin to maintain the circulation.	Veolia
					Rountine PMs and maintenance performed by experienced staff.	Veolia
					Spare mixer gearbox available.	Veolia
Biological Treatment	Poor dissolved oxygen control	Diffuser failure. DO measurement failure.	Process failures affecting quality. Discharge of poor quality effluent to sea. Possible impact on recreational use of beaches; marine life; cultural value of sea; aesthetics. Risk of prosecution, fines, Negative effect on company reputation. Risk of odorous conditions occurring.	Veolia	Spare diffusers on-site.	Veolia
					DO monitoring on the aeration basin.	Veolia
					Perform routine PMs and maintenance on the system.	Veolia

Biological Treatment	Aeration basin overtopping	Blocked discharge channel, clarifier off-line during high flow	Partially treated wastewater flowing to ground resulting in possible prosecution	Veolia	Routine PMs and maintenance performed on the system.	Veolia
					Operation by competent staff.	Veolia
Biological Treatment	Aeration basin leaking	Cracking evident in structure	Partially treated wastewater flowing to ground possible prosecution	Veolia	Routine PMs and maintenance performed on the system.	Veolia
					Concrete inspection by external specialist.	Veolia
Clarification	Scum build up on surface, dilute WAS, sludge carry over	Scraper arm failure	Reduced RAS/WAS removal affecting final effluent clarity making disinfection system inefficient. less efficient thickening of sludge	Veolia	Routine PMs and maintenance performed on the system.	Veolia
					Spare parts on-site.	Veolia
Clarification	Clarifier sludge carry over	Equipment failure	Reduced RAS/WAS removal affecting final effluent clarity making disinfection system inefficient.	Veolia	Routine PMs and maintenance performed on the system.	Veolia
					Duty standby	Veolia
					Ongoing installation of sludge blanket monitors	WWL and Veolia
Clarification	Clarifier sludge carry over	Process failure.	Reduced RAS/WAS removal affecting final effluent clarity making disinfection system inefficient.	Veolia	Daily monitoring of sludge blanket level	Veolia
					Process monitored by experience and competent staff.	Veolia
					Ongoing installation of sludge blanket monitors	WWL and Veolia
Clarification	Tank leaks	Cracking evident in structure	Partially treated wastewater flowing to ground possible prosecution	Veolia	Routine PMs and maintenance performed on the system.	Veolia
					Concrete inspection by external specialist.	Veolia
					Additional clarifiers in the system	Veolia
Clarification	Scum tank discharge	Design fault	Odour, poor quality of effluent, expensive workarounds	Veolia	Sucker truck to remove scum	Veolia
Clarification	Scum trapped inside stilling ring	Design fault	Odour, poor use of operator time to clean down	Veolia	Regular cleaning	Veolia
Control Supervision	PLC failure	Loss of plant automation	manual operation of the plant	Veolia	Routine monitoring by SCADA engineer.	Veolia

					Redundancy of the CPU for the PLC.	Veolia
					UPS for the PLC.	Veolia
Control Supervision	Coms failure	Loss of Remote SCADA access	Loss of plant information and visibility	Veolia	Buffer data stored locally until comms re-established.	Veolia
					Alarm programmed to alert operations team when comms goes down.	Veolia
Disinfection UV	Lamp failure	Poor disinfection	High fecal counts in final effluent	Veolia	Routine lamp replace and cleaning.	Veolia
					Spares on site	Veolia
Disinfection UV	System control failure	Uncontrolled disinfection	High fecal counts in final effluent	Veolia	Routine PMs and maintenance performed on system.	Veolia
					Trained and competent staff operating the system.	Veolia
Effluent Discharge	Blinding of baffle plate	Treated effluent flows to storm drain	Unconsented discharge possible prosecution	Veolia	Routine PMs and maintenance of the baffle plate.	Veolia
Effluent Discharge	Effluent bypassing the UV system	Bypass penstock failure	High fecal counts in final effluent	Veolia	Routine PMs and maintenance on penstock.	Veolia
Emergency Power Supply	Fail to start when required, for reasons like poor diesel, flat batteries, electrical fault, mechanical fault	Power Failure	Poor process performance.	Veolia	Routine inspections and maintenance performed on the system.	Veolia
					Annual inspection of fuel sources.	Veolia
Foul Air Extraction	Extractor Fan Failure	H2S build up inside plant buildings	Hazardous for plant staff. Damage to electrical components and asset deterioration	Veolia	Routine inspection and PMs performed on the ventilation system.	Veolia
					H2S monitors installed in the plant which are routinely inspected and maintained.	Veolia
					Alarms on SCADA to alert for potential high H2S levels in the building.	Veolia
Service Water	Loss of supply	Loss of amenities, loss of poly system operation	unable to dewater sludge	Veolia	Wellington Water shall inform Veolia if there's any scheduled water supply interruption	WWL
					Schedule the water interruption during off peak time	WWL

Polymer	Transfer pump breakdown	Unable to process enough sludge to meet demand.	unable to dewater sludge	Veolia	Routine inspections and PMs performed on the system	Veolia
Polymer	Poly not delivered	Unable to process enough sludge to meet demand.	unable to dewater sludge	Veolia	SLA for chemical supply	Veolia
					2 potential supplies of poly	Veolia
Residuals Treatment and Transfer	Overfilled skips	Truck unable to pick up skip	Manual redistribution of load	Veolia	Trained and competent staff managing the skips	Veolia
Residuals Treatment and Transfer	Odorous sludge	Sludge not accepted by landfill	Alternative disposal methods	Veolia	Minimal storage time for sludge on-site.	Veolia
					Process engineer monitoring the system to ensure proper performance of the biological process.	Veolia
					Trained and competent operations staff monitoring the dewatering process.	Veolia
Sludge thickening	Tank structure cracks	Earthquake or ground movement	Sludge leaking to the ground	Veolia	Redundancy in the tanks and affected thickener can be drained-down and isolated for repair Regular structural checks	Veolia
Sludge thickening	Travelling bridge failure	Mechanical fault	Reduced performance of the thickener	Veolia	Preventive maintenance tasks Redundancy in the tanks and affected thickener can be drained-down and isolated for repair	Veolia
Sludge thickening	Sludge feed pumps failure	Mechanical fault	Reduced sludge removal from the treatment process Potential odour due to the excessive sludge accumulation in the aeration basin	Veolia	Redundancy in the pumps. Preventive maintenance tasks Spare parts kept on-site	Veolia
Sludge Treatment	Centrifuge breakdown/maintenance	Unable to process enough sludge to meet demand.	Unable to remove WAS. Build up of MLSS in process systems. poor process control.	Veolia	Routine inspections and PMs	Veolia
					Operated by trained and competent staff	Veolia
					Spares on-site	Veolia
Sludge Treatment	Conveyor breakdown/maintenance	Limited options for residuals handling	Constraints on residuals - worst case can't load skips until it's repaired	Veolia	Routine inspection and PMs on the conveyor system.	Veolia

Recycled Effluent	Storage tanks overflow	Unconsented release of treated effluent	Release of treated effluent to the ground.	Veolia	Level control system installed on the tanks	Veolia
					Routine inspections and PMs	Veolia
Recycled Effluent	Insufficient RE. Leaks on pipework (etc)	Inability to wash screens Increase useage of potable water	Increased cost of potable water Increased risk of blinding screens	Veolia	Routine inspections and PM on system.	Veolia
Residuals Treatment and Transfer	poor thickening	operation	Poor centrifuge performance	Veolia	Routine inspections and PMs on the system.	Veolia
Compressed air	Mechanical failure on system	No air supply	Loss of plant air supply for pneumatically driven system. Loss of UV system.	Veolia	Redudancy installed on-site.	Veolia
					Routine inspections and PMs on systems.	Veolia
					Spare compressors on-site.	Veolia
Control Supervision	Poor information for operations and troubleshooting	Lack of current SOP and O&M manuals	Efficient operation of plant	Veolia	Oversight by experienced and competent staff.	Veolia
					O&M Manuals	Veolia

Appendix V: Discharge notification template

Temporary Wastewater Discharge & Notification Form

Site:	Porirua WWTP	**Notifier:**	
Phone:	0800-928-371	**Phone:**	
Date:		**E-mail:**	

Discharge Information		
Type of discharge (e.g. Partially treated wastewater, Fully treated wastewater, etc.) Location		
Cause		
Consent	Number	
	Consented? (Y/N)	
Weather Conditions		
Actions Taken		
Comments		

Is there any direct contact between wastewater and the following: (Y/N)	
Human food sources (i.e. puha, watercress, grazing pastures)	
Human drinking water supply source	
Surface or ground water systems	
Human recreation activities both land and water	

Discharge Parameters		**Units**	**Result**
Date	Start	DD/MM/YYYY HH:MM	
	Stop	DD/MM/YYYY HH:MM	
Duration		hh:mm	

Average Flow	Plant Inlet	litres per second	
	Discharge to Coastal Marine Area	litres per second	
Maximum Flow	Plant Inlet	litres per second	
	Discharge to Coastal Marine Area	litres per second	
Total Treated Volume		cubic metres	
Discharge Volume	Coastal Marine Area	cubic metres	
Dilution Ratio		--	#DIV/0!

Interested Party	**Contact Details**	
	Phone Number	**Email Address**
Wellington Water	04 912 4400	customer@wellingtonwater.co.nz WWTPManager@wellingtonwater.co.nz
Greater Wellington Regional Council	0800 496 734	notifications@gw.govt.nz
Regional Public Health	04 570 9002	healthprotection@huttvalleydhb.org.nz

Appendix vi: Training Matrix

ON THE JOB TRAINING RECORD
WELLINGTON REGIONAL WASTEWATER TREATMENT - OPERATION STAFF

Review Date

Wellington Regional Wastewater Plants		Contract Management Group	Employee name	
			Awareness - Date Achieved	Refresher Due
CONSENT AND CONTRACT COMPLIANCE - (Annual Refreshers)				
Porirua WWTP	Reporting Requirements Notifications (Wet Weather, Odour, Equipment Failure, Exceedances) Contractual Compliance	*		
Porirua WWTP	WGN200229 [36727] Discharge Contaminants to Air WGN200229 [36816] Discharge Treated Effluent	*		
COMPLIANCE TRAINING (External)				
NZ Red Cross	First Aid	*		
Axiom	Chemical Safety at work Foundation			
Axiom	Safe Chemical Handling and Storage			
Axiom/Vertical Horizons	Working at Heights			
Axiom/Vertical Horizons	Confined Space Entry			
Draeger	Gas Detector	*		
Axiom/Vertical Horizons	Elevated Work Platform			
Axiom/Vertical Horizons	Slinging Loads - Pre-requisite for Truck Loader and Gantry Crane			
Axiom/Vertical Horizons	Truck Loader Crane (* Note: TEM-3303 ROC to be used for new Users)			
Axiom/Vertical Horizons	Gantry Crane			
BA	Breathing Apparatus			
CS	Construct Safe	*		
Permit to Work	Receiver			
COMPLIANCE TRAINING (Internal)				
Bridge: Veolia Onboarding Induction	Frontline or Corporate Employee Program	*		
Bridge No	Always Safe Culture	*		
Bridge No	Customer 1st	*		
Bridge No	Contractor Management	*		
Bridge No	Chain of Responsibility	*		
Bridge No	Evacuation and Fire Warden Training	*		
Bridge No	Manual Handling (part of SHEQ Essentials Course)	*		
Bridge No	Environmental Awareness	*		
OPERATIONS PROCEDURES / SAFE OPERATING PROCEDURES / WORK INSTRUCTIONS				
Porirua				
Operation Procedures				
Por 1	Understanding Biological Process	*		
Por 2	Millscreen Isolation			
Por 3	Secondary Clarifier Isolation			
Por 4	Sludge Blanket measurement			
Por 5	Baffle Plate Clean			
Por 6	Sampling Procedure			
Por 7	Hazardous materials delivery and storage			
General - Process Training	Treatment process principles training			
General - Procedures	Water Loss - Wellington Operations			
	Communications Faults / Loss			
	Wgtn Ops Water Loss			
ROLE SPECIFIC REQUIREMENTS				
Level 4	New Zealand Certificate in Water Treatment (Level 4)			
Level 5	New Zealand Diploma in Water Treatment (Level 5)			
	Principles & Trends WasteWater Treatment			
Full	Full Electrical License			
Elect Recert	Electrical Recertification			
Elect refresh	Electrical Refresher Training			
Explosive	National Certificate in Electrical Apparatus in Explosive Atmospheres			
HSR 1	Health & Safety Rep - Level 1			
HSR 2	Health & Safety Rep - Level 2			
HSR 3	Health & Safety Rep - Level 3			
HSR 4	Health & Safety Rep - Level 4			

ON THE JOB TRAINING RECORD
WELLINGTON REGIONAL WASTEWATER TREATMENT - OPERATION STAFF

Review Date

Wellington Regional Wastewater Plants		Contract Management Group	Employee name	
			Assessment - Date Achieved	Refresher Due
CONSENT AND CONTRACT COMPLIANCE – (Annual Refreshers)				
ICAM	ICAM			
4WD	4WD Training			
Class 2	Class 2 License			
Traffic Controller Level 1				
Forklift	Forklift Driver			
Respirator Wearers	Respirator Fit Test			
Harness Retrieval	IPS Harness Retrieval			
CORPORATE POLICIES				
POL - 01	Workplace Injury Management	*		
POL - 02	Water Quality	*		
POL - 03	Sustainability	*		
POL - 04	Road Transport - Chain of Responsibility (CoR) Policy	*		
POL - 05	Quality	*		
POL - 06	Workplace Health and Safety	*		
POL - 07	Learning and Development	*		
POL - 08	Governance Risk and Compliance	*		
POL - 09	Fitness for Work	*		
POL - 10	Environmental	*		
POL - 11	Diversity	*		
POL - 12	Asset Management	*		
HIGH RISK MANAGEMENT STANDARDS (Internal Procedures)				
	Life Saving Rules	*		
STA 115	Hazardous Materials and Chemicals	*		
STA 205	Traffic Management	*		
STA 235	Work at Heights	*		
STA 384	Lifting	*		
STA 32	Electrical Safety	*		
STA 42/458	Lock Out Tag Out	*		
STA 343	High-Pressure Water Jetting			
STA 366	Hot Work	*		
STA 34	Confined Spaces	*		
STA 82	Excavation and Trenching			
EMERGENCY RESPONSE PLAN (ERP)/PROCEDURAL TRAINING				
Introduction	Introduction	*		
Part A	ERP Part A National Outline Plan	*		
Part B	Part B Contacts List	*		
PART C GENERIC				
ERP	Major Chemical or Diesel Spills	*		
ERP	Site Evacuation / Fire Response	*		
ERP	Pandemic	*		
ERP	Incidents Involving Fatality or Critical Injury	*		
ERP	Damage to Underground Services	*		
ERP	External Threats	*		

ON THE JOB TRAINING RECORD
WELLINGTON REGIONAL WASTEWATER TREATMENT - OPERATION STAFF

Review Date

Wellington Regional Wastewater Plants		Contract Management Group	Employee name	
			Awareness - Date Achieved	Refresher Due
CONSENT AND CONTRACT COMPLIANCE - (Annual Refreshers)				
CRP	Chlorine Gas Leaks	*		
CRP	Loss of Communications	*		
CRP	Severe Weather	*		
CRP	Earthquake	*		
CRP	Health and Environmental Incident	*		
CRP	Power Outages	*		
CRP				
CRP				
CRP				
CRP				
CRP				
PART D WELLINGTON				
CRP	Short Outfall Events (Moa Point WWTP)	*		
CRP	Burnt Sludge Pipeline	*		
CRP	Earthquakes	*		
CRP	Diesel spills	*		