

Condition Schedule APP-2005011178.01 and APP-2018201909.00 – Eketāhuna Wastewater Treatment Plant General Conditions Applying to all Permits

Descriptive Specification

- G1. The activity authorised by these permits shall be undertaken in general accordance with the concepts, parameters, drawings, specifications, statement of intent, proposed mitigation measures and other information supplied in the application received on 1 April 2015 and supplementary documents received:
- a. On 11 December 2015, being a response to the s92 further information request of June 2015;
 - b. On 27 February 2017, being a response to the s92 further information request of November 2016; and
 - c. On 29 June 2018, being a new application (APP-2018201909.00) for the construction of a wetland and associated structures; and
 - d. On 21 September 2018, via email, being a response to the section s92 further information request relating to APP-2018201909.00.

Where the application is inconsistent with the requirements of the conditions, the conditions will prevail.

- G2. The wastewater discharge authorised by these permits shall be limited to:
- a. A maximum 12 month rolling median daily (midnight to midnight) discharge of 640 cubic metres;
 - b. A 95th percentile daily flow of 1,700m³/day,
- at approximate map reference BN35:280-977.¹

Construction and Commissioning of the Wastewater Treatment Plant Upgrade

- G3.1 The Consent Holder shall finalise the details of the Treatment Plant, and the treatment process to be used to treat wastewater so it will meet all the conditions of **ATH-2013010987.01**

- G3.2 The Consent Holder shall prepare a RFP² to call for a design for the Treatment Plant within two months of the commencement of these permits. As a minimum the RFP shall specify the effluent standards to be achieved at all times, which the specified design must be able to meet at all times and outline how influent flows and characteristics shall be monitored

- G3.3 The RFP shall require a procurement strategy to be completed within 13 months of the commencement of these permits. The Consent Holder shall ensure that a

¹ Approximate discharge location following construction of Wetland

² Request for Proposal

contract is awarded for the design of upgrades to the Treatment Plant within four months of release of the RFP. The contract shall include milestone details to ensure all upgrades are installed at the Treatment Plant no later than 12 months from award of construction contract.

G3.4 The Consent Holder shall ensure that a contract is awarded for the design of upgrades to the Treatment Plant within four months of release of the RFP. The contract shall include milestone details to ensure all upgrades are installed at the plant no later than 12 months from award of construction contract.

G3.5 No later than 11 months following award of the construction contract the Consent Holder shall forward the plan for the Commissioning phase of the upgrades and details of performance testing to be undertaken to the Manawatu-Whanganui Regional Council's Consents Monitoring Team.

G3.6 Within two months of the commencement of construction the Treatment Plant upgrades the associated plans shall be forwarded to the Regulatory Manager of the Manawatu-Whanganui Regional Council.

G4. **Within six months of** commencement of these permits the Consent Holder shall prepare, and forward to Manawatu-Whanganui Regional Council's Regulatory Manager, an Operation and Management Plan (OMP) for certification. The OMP shall include but not be limited to:

- a. A description of the entire treatment system facility including a description of each of the respective system components.
- b. A description of routine inspection and maintenance procedures to be undertaken at the Treatment Plant and its operating components, including dates and times when inspections and maintenance is to be undertaken.
- c. Procedures for recording routine maintenance and all repairs that are undertaken.
- d. A description of monitoring, including cultural monitoring, methodology, locations and frequency, and record keeping of that monitoring, including a map showing details of monitoring locations.
- e. Details of the personnel or organisations responsible for undertaking monitoring or who should be present during monitoring (such as iwi), including their contact details.
- f. Procedures for reporting compliance purposes, including the dates when particular reports are to be completed, when they are to be provided to other parties and who those parties are.
- g. A description of procedures for reporting non-compliances to the Manawatu-Whanganui Regional Council.

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| <p>h. Procedures for reviewing and updating the OMP.</p> <p>i. Procedures and actions to be taken when monitored parameters exceed acceptable levels. This includes actions to be taken when DO levels reduce below those specified in Condition A5 of the discharge to air permit, and when water level alarms specified in condition G17 are triggered.</p> <p>ADVICE NOTE:</p> <p>The OOMP prepared in accordance with Condition A1 may be included in the Operations Management Plan provided for by the above condition.</p> |
| <p>G5. Within six months of commencement of the treatment plant upgrades being constructed the consent holder shall provide plans of the treatment facility to Manawatu-Whanganui Regional Council's Regulatory Manager and any required updates to the Operations and Management Plan.</p> |
| <p>G6. Any updates to the Operations and Management Plan shall be forwarded to the Regulatory Manager of the Manawatu-Whanganui Regional Council within two weeks of their completion.</p> |
| <p>G7.1 The OMP required by Condition G4, or any updates of the OMP pursuant to Condition G10, shall be provided to the Manawatu-Whanganui Regional Council's Regulatory Manager or their agent to allow for technical certification.</p> |
| <p>G7.2 The OMP shall be certified when the Regulatory Manager can be assured that it will enable all appropriate technical conditions of these permits to be met.</p> |
| <p>G7.3 If the Regulatory Manager does not respond to the proposed OMP, or any update of that OMP within 30 working days of its receipt, the OMP shall be regarded to be certified.</p> |
| <p>G8. The Consent Holder shall undertake all activities authorised by these permits in full accordance with the certified OMP.</p> |
| <p>G9. The Consent Holder shall ensure that a copy of the OMP, including any amendments, is kept onsite. This copy shall be updated within 5 working days of any amendments being made to the design, operation or management of the treatment system. Any updates to the OMP shall be forwarded to the Manawatu-Whanganui Regional Council within two weeks of an amendment.</p> |
| <p>G10. Any changes to the OMP that relate to clauses (c), (f), or (h) of Condition G4 shall only be undertaken if the amendments are certified by Manawatu-Whanganui Regional Council's Regulatory Manager in accordance with Conditions G7.1 - 7.3</p> |
| <p>G11. Within three months of commencement of these permits, the Consent Holder shall install and maintain signage advising river users that treated wastewater is being discharged at the location of the Wastewater Treatment Plant (before the wetland is completed) and at the wetland, once it is in operation.</p> |

G12. **Within six years** of commencement of these permits, the Consent Holder shall have completed an investigation into alternative methods of treatment and discharge of wastewater, including land based disposal. The alternative disposal feasibility study shall inform the Consent Holder's decision on the best practicable option for treatment and disposal from the Eketāhuna Wastewater Treatment Plant. The findings of the feasibility study shall be provided to the Tararua District Wastewater Forum (TDWF), and to the Regulatory Manager of the Manawatu-Whanganui Regional Council within two months of its completion.

G13. **Within three years** of commencement of the discharge of treated wastewater from the wetland to the Makakahi River, the Consent Holder shall have completed a recreational user's investigation of the Makakahi River at least 500m upstream and 500m downstream of the discharge point and mixing zone.

G14. The Consent Holder shall inspect the Wastewater Treatment Plant at least once weekly for the term of these permits for the purpose of attending to all operational requirements, monitoring and maintenance. A record of these visits and any maintenance undertaken shall be kept in a log book, available to the Manawatu-Whanganui Regional Council's Consents Monitoring Officer upon request.

G15. **By 31 October** in years 2021, 2023 and 2025 the Consent Holder must provide to the Regional Council's Compliance Monitoring Team, details of inflow and infiltration investigations undertaken in the previous two financial years. Details of any forward works programme for repairs or upgrades to the Council network must be included. Any such works must be undertaken in general accordance with the principles of the *Infiltration and Inflow Control Manual, Water New Zealand, 2015* (or relevant updates).

G16. **By 31 October** of each year, the Consent Holder shall provide the Manawatu-Whanganui Regional Council's Consents Monitoring Team and the Tararua District Wastewater Forum (TDWF), an Annual Environmental Report for the 12 month period ending the previous 30 June. The monitoring report shall include but shall not be limited to:

- a. A summary of analyses and records collected in accordance with conditions of these permits, including all sampling conditions;
- b. A summary of the daily inflow and outflow volumes for the oxidation ponds including a comment on the relative volumes and the amount of seepage to groundwater;
- c. An assessment of the analyses and records of all monitoring and sampling required by the conditions;
- d. An assessment of the effects on both groundwater and surface water including an assessment of those water quality analyses under **Conditions DSW9, DSW17, and DLW2.**

- e. A report on the effects of the discharge on the benthic biota of the Makakahi River as required by **Condition DSW20 and DSW21** of the discharge to water permit;
- f. A comment on the extent to which conditions of these permits have been complied with;
- g. A record of any complaints that are received relating to the operation of the oxidation ponds; and
- h. Report on trends as a result of permit monitoring.

G17. **Within 3 months** of the commencement of these consents, the Consent Holder shall install a pond level sensor alarm on Pond 2. The sensor shall provide a continuous measure of pond level to the Supervisory Control and Data Acquisition (SCADA) system. The sensor shall provide the following alarm functions:

- a. Alert level at 500mm below overflow,
- b. High level at 300mm below overflow, and
- c. High-high level (Overflow imminent) at 100mm below overflow.

ADVICE NOTE: In relation to the sensor, the measurement and poling rates need not be high.

Tararua District Wastewater Forum (TDWF)

G18. The Consent Holder shall initiate the inaugural meeting of the Tararua District Wastewater Forum (TDWF) on or before **30 November** in the year that either or both of the Pahiatua (APP-1993001253.02) or Eketāhuna wastewater discharge consents (APP-2005011178.01) commence.

G19. The Consent Holder shall secure the services of an independent facilitator who is responsible for facilitating discussions when the forum meets.

G20. The Consent Holder shall, for all TDWFs, provide the venue and administrative support, including but not limited to recording attendees recording and circulating notes and outcomes discussed at the forum.

G21. Two weeks prior to hosting any meeting of the TDWF, the Consent Holder shall by way of formal correspondence issue invitations in writing to the following parties:

- a. Kahungunu ki Tamaki nui-a-rua Trust and Rangitāne o Tamaki nui a Rua Inc,
- b. Water & Environmental Care Assn. Inc,
- c. Water Protection Society Inc,
- d. MidCentral District Health Board,
- e. Manawatu Estuary Trust,
- f. Wellington Fish and Game,
- g. John Bent, Christina Paton, Te Roopu Taiao o Ngati Whakatere, Corny and Charlotte Andrews,

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| <ul style="list-style-type: none"> h. A representative of Manawatu Whanganui Regional Council as the Regulatory Authority, i. A representative of the Tararua District Council as the Consent Holder, and j. Manawatu River Accord Participants. |
| <p>G22. In addition to Condition G21 above, the permit holder shall place in the Manawatu Standard and the Bush Telegraph a public notice advising of the date, time, location and purpose of the TDWF meeting.</p> |
| <p>G23. The permit holder shall ensure that at least one TDWF meeting occurs annually. Meeting frequency can be amended if participants in the TDWF agree.</p> |
| <p>Review</p> |
| <p>G24. Not less than twelve months prior to the expiry of these consents, the Consent Holder shall invite Kahungunu ki Tamaki nui-a-rua Trust³ and Rangitāne o Tamaki nui a Rua Inc to prepare a Cultural Values Assessment as to the effectiveness of the upgrades authorised by these permits on cultural values.</p> <p>ADVICE NOTE: The Cultural Values Assessment(s), if received, will be used by the Consent Holder to inform its application for re-consenting.</p> |
| <p>G25.1 The Manawatu-Whanganui Regional Council may, pursuant to section 128 of the Act, initiate a review of any conditions of these permits in July 2025. Any review shall be for the purpose of reviewing the effectiveness of the conditions in avoiding, or mitigating any adverse effects on the environment, which may arise as a result of the exercise of this permit. The review of conditions shall be for the purpose of:</p> <ul style="list-style-type: none"> a. The modification of the monitoring programme, including reviewing the frequency of the monitoring or the determinants required; and/or b. Requiring compliance with any relevant rule of an operative Regional Plan; and/or c. The amendment, deletion or addition of new conditions as necessary to avoid, remedy or mitigate any adverse effect on the environment but not limited to conditions to mitigate adverse effects attributed to any breach of any condition; and or d. Addressing any adverse effects on the environment which may arise that are appropriately addressed at a later stage; and/or e. Requiring the Consent Holder to adopt the best practicable option to remove or reduce any adverse effects on the environment; and/or f. Assessing the performance of the wastewater treatment plant in terms of the quality of the effluent being discharged to the receiving environment; and/or g. Reviewing the effectiveness of the standards in the conditions of this permit in addressing the adverse effects on the Makakahi River; and/or |

³ In accordance with the Application pg. 30 (The application only specified Kahungunu, but for completeness Rangitāne have been included as well)

- G25.2 The review may result in any of the following outcomes to ensure that any adverse effects are appropriately mitigated:
- i. The deletion or amendment of any conditions of the permits;
 - ii. The addition of new conditions of consent including conditions imposing more stringent discharge quality standards or more stringent receiving water standards; and/or
 - iii. The addition of new conditions requiring the permit holder to adopt the best practicable option.

ADVICE NOTE: Any review exercised under this condition may result in the wastewater discharge volume and / or rate being reduced and / or restricted, or further restrictions being placed on the discharge volume and / or rate during low flow conditions.

Duration

G26. Discharge to water permit **ATH-2013010987.01**, Discharge to air permit **ATH-2013011395.01**, Water permit (Diversion) **ATH-2018202079.00**, Land use consents **ATH-2018202078.00** and **ATH-2018202080.00** and Discharge to land permits **ATH-2015200247.00** and **ATH-2018202081.00** shall expire seven years after commencement.

Condition Schedule ATH-2013010987.01 – Eketāhuna Wastewater Treatment Plant – Discharge to Water Permit

Descriptive Specification

| Definitions: | |
|---------------------|---|
| cBOD ₅ | Carbonaceous five days Biochemical Oxygen Demand |
| ScBOD ₅ | Soluble Carbonaceous five days Biochemical Oxygen Demand |
| NH ₄ -N | Ammoniacal Nitrogen |
| NO _x N | Total oxidised nitrogen |
| TN | Total Nitrogen |
| TSS | Total Suspended Solids |
| DRP | Dissolved Reactive Phosphorous |
| <i>E.coli</i> | <i>Escherishia coli</i> |
| g/m ³ | Grams per cubic metre |
| MCI | Macroinvertebrate Community Index |
| QMCI | Quantitative Macroinvertebrate Community Index |
| EPT | <i>Ephemeroptera</i> (Mayflies), <i>Plecoptera</i> (Stoneflies) and <i>Tricoptera</i> (Caddisflies) |

DSW1. **Until 30 months from commencement of these permits**, the treated wastewater shall meet the following standards:

- a. The concentration of Ammoniacal-nitrogen (NH₄-N) shall not exceed 5.5 g/m³ in more than 8 out of 12 consecutive samples, and no more than 11 g/m³ in more than 2 out of 12 consecutive samples.
- b. The concentration of soluble carbonaceous BOD₅ (sCBOD₅) shall not exceed 3g/m³ in more than 8 out of 12 consecutive samples; and no more than 6 g/ m³ in more than 2 out of 12 consecutive samples.
- c. The concentration of total suspended solids shall not exceed 21 g/m³ in more than 8 out of 12 consecutive samples, and no more than 27g/m³ in more than 2 out of 12 consecutive samples.

ADVICE NOTE: Compliance shall be based on grab samples taken immediately downstream of the secondary pond.

DSW2. **Until 30 months from commencement of these permits**, the treated wastewater shall meet the following standards in the Makakahi River when flow, as measured at “Makakahi at Hamua” flow recording station, is at or below the 20th flow exceedance percentile flow.

- a. The concentration of *E.coli* shall not exceed 490 MPN/100ml in more than 8 out of 12 samples, and no more than 4,700 MPN/100ml in more than 2 out of 12 consecutive samples.
- b. The concentration of DRP shall not exceed 0.5 g/m³ in more than 8 out of 12 samples, and no more than 2 g/m³ in more than 2 out of 12 consecutive samples.

ADVICE NOTE: Compliance with condition DSW2 will be based on the flow at the “Makakahi at Hamua” flow recording station is less than 8,293 l/s. Compliance shall be based on grab samples taken immediately downstream of the secondary pond.

DSW3. From 30 months from commencement of these permits, the treated wastewater shall meet the following standards:

- a. The concentration of Ammoniacal-nitrogen (NH₄-N) shall not exceed 5.5 g/m³ in more than 8 out of 12 consecutive samples, and no more than 11 g/m³ in more than 2 out of 12 consecutive samples;
- b. The concentration of soluble carbonaceous BOD⁵ (sCBOD⁵) shall not exceed 3 g/m³ in more than 8 out of 12 consecutive samples; and no more than 6 g/m³ in more than 2 out of 12 consecutive samples
- c. The concentration of total suspended solids shall not exceed 15 g/m³ in more than 8 out of 12 consecutive samples, and no more than 30 g/m³ in more than 2 out of 12 consecutive samples.

ADVICE NOTE: Compliance shall be based on grab samples taken immediately prior to the wetland outlet structure.

DSW4. From 30 months from commencement of these permits the treated wastewater shall meet the following standards when the Makakahi River as measured at “Makakahi at Hamua” flow recording station, is at or below the 20th flow exceedance percentile flow:

- a. The concentration of *E.coli* shall not exceed 260 MPN/100ml in more than 8 out of 12 samples, and no more than 1000 MPN/100ml in more than 2 out of 12 consecutive samples.
- b. The concentration of DRP shall not exceed 0.5 g/m³ in more than 8 out of 12 samples, and no more than 1.0 g/m³ in more than 2 out of 12 consecutive samples.

ADVICE NOTE: Compliance with condition DSW4 will be based on the flow at the “Makakahi at Hamua” flow recording station is less than 8,293 l/s. Compliance for DRP shall be based on grab samples taken immediately prior to the wetland outlet structure and for *E.coli* immediately downstream of the UV treatment plant.

DSW5. **From 30 months from commencement of these permits**, all wastewater discharged into the Makakahi River shall pass through the Treatment Plant as identified in the plan in **Condition G3**, comply with the OMP as required by **Condition G4**, and the constructed wetland.

DSW6. The UV disinfection unit shall be equipped with a UV sensor to monitor UV transmission or intensity through the wastewater during operation.

DSW7. The UV sensor shall be monitored continuously, with an alarm notifying the consent holding is the applied UV intensity is operating ineffectively.

DSW8. **From 30 months from commencement of these permits**, the treated wastewater discharge shall not cause any of the following in the Makakahi River at the river flows outlined in Table 1, and after the reasonable mixing distance of 150 metres at approximately BN35:283-977 downstream (Site B) as shown on **Plan APP-200511178.01 A**

- a. the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials; or
- b. bacterial and / or fungal slime growths visible to the naked eye as plumose growths or mats; or
- c. any emission of objectionable odour; or
- d. a change in horizontal visibility, defined as the horizontal sighting range of a black disc, by more than 20%; or
- e. the DO concentration to fall below 80 % saturation; or
- f. the ammoniacal nitrogen (NH₄-N) concentration to exceed 2.1 g/m³ at any time, or to exceed 0.4 g/m³ on an rolling annual average; or
- g. the average POM concentration to exceed 5 g/m³ at flows below median; or
- h. the *Chlorophyll a*. to exceed 120 mg/m² on more than 8% of sampling occasions, on the basis of monthly measurements taken over a period of at least 36 months; or
- i. the cover of filamentous mats greater than 2 cm long to exceed 30% or cover of mats greater than 3mm thick to exceed 60%; or
- j. a reduction in QMCI of greater than 20%; or

- k. the average soluble carbonaceous BOD₅ concentration due to dissolved organic compounds (that is, material passing through a GF/C filter) to exceed 1.5 g/m³ at flows below the 20th FEP.

Table 1

| Condition | Contaminant or Effect (abbreviated, for reference only) | River Flows | Zone of Reasonable Mixing downstream |
|-----------|--|--------------------------------------|--------------------------------------|
| (a) | Films, scums, foams | All | 150 metres |
| (b) | Bacterial/fungal slime growths | All | 150 metres |
| (c) | Objectionable odour | All | 150 metres |
| (d) | Horizontal visibility | All | 150 metres |
| (e) | Dissolved Oxygen | All | 150 metres |
| (f) | Ammonia-nitrogen | All | 150 metres |
| (g) | Particulate organic matter | At or below the median | 150 metres |
| (h) | Periphyton biomass | | 150 metres |
| (i) | Periphyton cover | All | 150 metres |
| (j) | QMCI | All | 150 metres |
| (k) | Soluble carbonaceous BOD ₅ | At or below the 20 th FEP | 150 metres |

ADVICE NOTE: The River flows in Table 1 are those measured at the “Makakahi at Hamua” water level recording station and the 20th flow exceedance percentile (FEP) at the station is 8,293 l/s.

DSW9. Compliance with DSW 8 shall be assessed as follows:

- a. If Condition **DSW8(d)** (change in horizontal visibility of more than 20% between upstream and downstream of the discharge) is exceeded, the Consent Holder shall:
 - i. Immediately repeat the horizontal visibility measurement upstream and downstream of the discharge; and
 - ii. If a greater than 20% reduction in horizontal visibility is confirmed by the second measurement, the consent holder shall assess whether the discharge is the cause for the reduction in horizontal visibility, based on the results of water quality analyses undertaken the same day under **Condition DSW17** of this Permit, and any additional measurements, other observations or photographs
- b. If the consent holder is unable to comply with the limits in Condition **DSW8(f)** (ammoniacal nitrogen), **DSW8(g)** (Particulate Organic Matter) or **DSW8(k)** (ScBOD₅) due to upstream exceedances, the permit holder shall use a Wilcoxon Signed Rank test to determine if there are any statistically significant increases or decreases between upstream and downstream.

- c. If it is determined that there are significant increases or decreases in accordance with the Wilcoxon Signed Rank test ($p=0.05$ or lower), the Permit Holder shall undertake an investigation into the effects of the discharge from the Pahiatua WWTP compared with upstream to investigate the possible cause of the exceedance.
- d. Within one week of the result in clause c (above) being received, notify the Manawatu-Whanganui Regional Council's Regulatory Manager of the exceedance, with a written comment outlining mitigation measures taken and if required, further proposed measures to remedy the problem. The written statement shall include but is not limited to mitigation proposed, and a timeline for proposed remediation.
- e. The findings and if required, further proposed measures to remedy the problem, shall be reported in the annual report required by **Condition G16**.
- f. If the limits in **Condition 8(i) (periphyton cover)** are exceeded downstream of the discharge, the Consent Holder shall assess whether a more than 15 point increase in the percentage cover by filamentous algae over 2 cm long or mat over 0.3 cm thick has occurred between upstream and downstream of the discharge on that sampling occasion. The assessment shall be conducted on the basis of an equivalence test using no less than 20 individual visual observations collected upstream and downstream.
- g. Compliance with the limit in **Condition 8(j) (QMCI)** shall be determined using equivalence testing at the 20% interval.
- h. Compliance with clause **8(h)** (periphyton biomass) shall be assessed on the basis of monthly measurements collected under condition **DSW21**. Any missing monthly measurements due to high flow conditions (defined as $9.54 \text{ m}^3/\text{s}$ in the Makakahi River at Hamua on the day of monitoring shall be assumed to have a biomass of less than $120 \text{ mg}/\text{m}^2$).
- i. If it is determined that there are significant effects occurring, it will be considered as a non-compliance with the respective limit.

ADVICE NOTE: A statistically significant difference is defined as a P value equal to or less than 0.05

DSW10. To enable the sampling of the treated wastewater, easy and safe access to a sampling port(s) shall be provided by the Consent Holder and maintained as close as is practicable to those sampling locations specified in **Condition DSW11**.

DSW11. The Consent Holder shall take monthly grab samples of the wastewater immediately prior to the wetland discharge structure and downstream of the UV treatment unit and the samples shall be analysed for the constituents and at the frequencies listed in Table 2 to assess compliance with **Condition DSW3** and **DSW4** of these consents.

DSW12. **Within three months** of commencement of these consents, the Consent Holder shall have flow meters installed, by an accredited installer. The installer must ensure the flow meters are located on the inflow and outflow line. The flow meters must have a pulse counter output traceably calibrated to +/- 5 % or better. The flow meters shall be capable of providing daily inflow and discharge volumes use as well as a pulse counter output. The flow meters shall be positioned to measure the entire volume of treated sewage effluent discharge into the surface water of the Makakahi River discharged under authorisation of these consents.

DSW13. The Consent Holder shall ensure the flow meters required by **Condition DSW12**, is installed by an Irrigation New Zealand Blue Tick accredited installer and installed in accordance with the standards set out in the Ministry for the Environment Guidelines *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*.

DSW14. **Within three months of** commencement of these consents, the Consent Holder shall install and maintain, in a fully operational condition, a GPRS data logger / telemetry unit compatible with the Manawatu-Whanganui Regional Council's Telemetry system on the discharge line traceable to +/- 5 % or better.

ADVICE NOTE: This unit, which is attached to the pulse counter output, will be monitored by the Manawatu-Whanganui Regional Council to ensure compliance with the resource consent conditions.

DSW15. Where telemetry equipment fails for reasons other than fair wear and tear, replacement or repair will be at the Consent Holder's expense and replacement will be required within seven days.

DSW16. With the exception of network power failure or network maintenance the Consent Holder shall ensure that power supply is maintained at the site at all times.

ADVICE NOTE: If power supply is lost at the site due to Consent Holder negligence or abuse and telemetry units require recalibration by Manawatu-Whanganui Regional Council staff the costs associated will be recovered from the Consent Holder.

River Monitoring

DSW17. The Consent Holder shall take samples from the Makakahi River at approximately T25:380-592; BN35:280-975 90 metres upstream (Site A) and at approximately T25:383-595; BN35:283-977 downstream (Site B) of the discharge point to the Makakahi River, a sample of the discharge at the Discharge Point as shown on **Plan APP-200511178.01 A⁴** attached to and forming part of these consent conditions. The samples shall be analysed for the constituents and at the frequency listed in Table 2 to assess compliance with **Condition DSW8** of these consents.

Table 2: Effluent and River Monitoring

| Constituent | Wastewater - Monthly | River - Monthly |
|------------------------------------|----------------------|-----------------|
| cBOD ₅ | X | |
| ScBOD ₅ | X | X |
| Dissolved oxygen | | X |
| NH ₄ -N | X | X |
| Nitrite | X | X |
| Nitrate | X | X |
| TN | X | X |
| TSS | X | X |
| Turbidity | | X |
| Horizontal visibility (black disc) | | X |
| Particulate organic matter | X | X |
| DRP | X | X |
| Total Phosphorus | X | X |
| <i>E.coli</i> | X | X |
| pH | | X |
| Conductivity | | X |
| Temperature | | X |

ADVICE NOTE: pH, temperature, horizontal visibility and dissolved oxygen shall be measured on site, directly in the River.

ADVICE NOTE: It is preferable that the downstream sample is collected before the upstream sample so that disturbed sediment does not impact the downstream sampling result

DSW18. All wastewater and river water quality analysis shall be undertaken by an appropriate accredited laboratory. All methodologies adopted shall be appropriate for either wastewater or river water analyses respectively and the soluble CBOD₅ shall be GF/C filtered. The methodologies shall be determined in consultation with the Manawatu-Whanganui Regional Council's Regulatory Manager.

⁴ This will be updated depending on discharge location

DSW19. The locations of the assessments and sampling are shown on **Plan APP-200511178.01 A** as detailed below:

- a. the Makakahi River at a site located in a within the upstream reach identified on **Plan APP-200511178.01 A** (Reach A); and
- b. The Makakahi River at a site located in a riffle within the downstream reach (Reach B) identified on **Plan APP-200511178.01 A**
- c. The exact location of monitoring sites shall be determined in consultation with the Manawatu-Whanganui Regional Council's Regulatory Manager to ensure, as much as practicable, that the upstream and downstream sites have comparable physical attributes (depth, velocity, shading and substrate size).

DSW20. **From 30 months from commencement of these permits,**

- a. The Consent Holder shall have an appropriately experienced and qualified freshwater ecologist undertake macroinvertebrate sampling in the Makakahi River. Macroinvertebrate sampling is to be undertaken **annually** between **January to March** inclusive. The macroinvertebrate sampling shall follow Protocols C3 (Hard-bottomed quantitative), P3 (full count with sub-sampling option) and QC3 (Quality control for full count with sub-sampling option) from the Ministry for the Environment's "protocols for sampling macroinvertebrates in wadeable streams" (Stark et al. 2001), or any update of that protocol.
- b. The freshwater ecologist shall ensure the physical characteristics (including but not limited to substrate, depth, velocity, shading) of the upstream and downstream sites shall, as far as practicable, provide a similar/adequate match. The macroinvertebrate sampling shall be undertaken following a period of at least three weeks without a significant flood event (defined as an instantaneous river flow exceeding three times the median flow, defined as 9.54 m³/s in the Makakahi River at Hamua) and during a period of low flow (at least one week below half median flow in the Makakahi River at Hamua defined as 1.59 m³/s).
- c. This shall involve:
 - i. collection of five replicate 0.1 m² Surber samples at random within a 20 m section of riffle habitat at each sampling site;
 - ii. full count of the macroinvertebrate taxa within each replicate sample to the taxonomic resolution level specified for use of the Macroinvertebrate Community Index (MCI);
 - iii. enumeration of the results as taxa richness, MCI, QMCI, %EPT taxa and %EPT individuals; and

iv. Analysis of the QMCI results using equivalence testing at the 20% interval.

DSW21. **From 30 months from the commencement of these permits**, the Consent Holder shall have an appropriately experienced and qualified freshwater ecologist undertake monthly assessments of the percentage cover, biomass, *chlorophyll a*, AFDW and community composition of periphyton, filamentous algae and cyanobacterial mats in riffle habitat, as close as possible to the sites selected under **Condition DSW19** above regardless of flows. The periphyton and algae assessment is to include:

- a. a visual assessment of the percentage cover of both filamentous algae and algal mats (to the nearest 5%) at five points across each of four transects encompassing riffle habitat and extending across the width of the river at each sampling site. The visual monitoring methods shall follow the protocols outlined in Appendix 2 of “A periphyton monitoring plan for the Manawatu-Whanganui Region” (Kilroy et al. 2008). Reported estimates shall include:
 - i. percentage cover of visible stream or river bed by bacterial and/or fungal growths (sewage fungus) visible to the naked eye;
 - ii. percentage cover of visible stream or river bed by filamentous algae more than 2 cm long;
 - iii. percentage cover of visible stream or river bed by diatoms or cyanobacteria mats more than 0.3 cm thick;
 - iv. percentage cover of visible stream or river bed by diatoms less than 0.3 cm thick; and
 - v. percentage cover of visible stream or river bed that is clean.
- b. The collection of a periphyton sample at the same established monitoring sites and transects as defined in **Condition DSW19** above, using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs & Kilroy 2000). Analysis of periphyton samples shall follow the Biggs & Kilroy (2000) guidelines for *Chlorophyll a* analysis, or any update of those guidelines.

DSW22. The Consent Holder shall advise the Manawatu-Whanganui Regional Council's Regulatory Manager if the absence of low flow conditions prevent the monitoring required by **Conditions DSW20 and DSW21** within five days of a decision being made that the monitoring cannot be undertaken.

Operational Restrictions

DSW23. **Within three months** of commencement of these consents, the Consent Holder shall arrange safe access to sampling sites consistent with the requirements of **Conditions DSW17 and DSW19** of these consents. Such safe access shall be maintained at all times for the duration of these consents, with the exclusion of times when high flows in the River may render access hazardous.

Post-Development Assurance

DSW24. At least once every five years, or earlier if there is an unexplained increase in flows, the Consent Holder must review records of wastewater flows received at the treatment plant to ensure there has been no unexplained increase in flows (based on a five year running average) that could adversely affect treatment plant performance. The results of the review must be included in the next annual monitoring report to the Regulatory Manager as required by **Condition G16**. In the event that the review shows that unexplained increased flows could result in adverse effects on treatment plant performance, the permit holder must investigate the reasons for the unexplained increased flows and put in place remedial works as necessary. In the event there is disagreement between the permit holder and consent authority in relation to the need for investigations and/or remedial works, the permit holder must commission an independent review by a suitably qualified expert acceptable to the Consent Authority.

DSW25. The Consent Holder shall notify the Manawatu-Whanganui Regional Council's Consents Monitoring Team within two working days of any non-compliance occurring or when it becomes certain that a breach of consent conditions is about to occur. For conditions requiring compliance with a particular water quality standard, notification is required within two working days of receipt of the water quality analysis from the Laboratory.

Monitoring Provision

DSW26. The Consent Holder shall make results of monitoring undertaken required by **Conditions DSW17 and DSW19** of these consents available to the Manawatu-Whanganui Regional Council's Regulatory Manager on request, and data records for each three month period ending March, June, September and December shall be forwarded to Manawatu-Whanganui Regional Council's Regulatory Manager in a suitable electronic format, within 14 days after the end of each three monthly period.

DSW27. At least six months prior to the assessment of water quality being required pursuant to **Condition DSW 28** the Consent Holder shall engage an independent scientist.

DSW28. **Within six years** of the commencement of the consents the Consent Holder shall engage an independent, suitably qualified expert to undertake an assessment of the water quality, periphyton, and macroinvertebrate monitoring data collected during the monitoring periods.

The assessments shall:

- a. examine the effects of the discharge on the Schedule B values identified in the One Plan for this reach of the Makakahi River;
- b. Consider the results of macroinvertebrate and periphyton monitoring undertaken in accordance with **Conditions DSW20** and **DSW21**;
- c. Consider past and likely future compliance with **Conditions DSW3** and **DSW4**.
- d. Provide recommendations on the monitoring frequency and monitoring parameters for the remainder of the permit; and
- e. Provide recommendations on any changes required to the discharge regime, and effluent quality (including nutrient concentrations and loads discharged to the Makakahi River), so as to minimize adverse effects on the One Plan's Schedule B values for the Makakahi River.

DSW29. The assessment shall be submitted to the Regulatory Manager and the TDWF within one week of its finalisation.

Condition Schedule ATH-2015200247.00 and ATH-2018202081.00 – Eketāhuna Wastewater Treatment Plant – Discharge to Land Permit – Pond and Wetland Seepage

Descriptive Specification

Permeability Investigations

DLW 1. **Within six months** of commencement of this Permit the Consent Holder shall submit to the Manawatu-Whanganui Regional Council's Regulatory Manager a plan to investigate the rate of leakage of all the existing treatment ponds. The plan shall include, but not be limited to:

- a. A methodology for a water balance to be undertaken for each of the ponds. As a minimum inflows and outflows from the treatment system shall be recorded over a 12 month period, as shall local daily rainfall. The methodology shall also include a representative exercise for measuring pond levels and for the measurement and recording of representative evaporation rates; or other suitable method to determine rate of leakage of each of the treatment ponds.
- b. Geotechnical investigations adjacent to the existing ponds.
- c. The methodology proposed shall be peer reviewed by an independent IPENZ Chartered engineer.

DLW 2. **Within 21 months of commencement of this permit**, the Consent Holder shall submit a report to the Manawatu-Whanganui Regional Council's Regulatory Manager and Tararua Wastewater Forum detailing the findings of the permeability investigations into the existing wastewater treatment ponds. The report shall include but not be limited to:

- a. As assessment of calculated seepage rates and assessment of effects on groundwater; and
- b. If required, a recommendation for ongoing monitoring and/or remedial works to ensure seepage is less than 25m³/day; and
- c. If the seepage is greater than 25m³/day then the consent holder shall instruct a suitably qualified expert to design and implement a system to ensure leakage is no more than 25m³/day.

DLW 3. **No later than 18 months from the commencement of these permits**, the wetland base shall be constructed such that the permeability does not exceed 1.4 x 10⁻⁷ m/s. The permeability of the constructed layer shall be confirmed by a suitably qualified engineer.

ADVICE NOTE: The documentation regarding the liner permeability shall be included in the annual report for the relevant year, required by Condition G16.

Wetland Development and Construction Phase

DLW 4. **Within 12 months** of commencement of this permit, the Consent Holder shall submit to the Regulatory Manager of Manawatu-Whanganui Regional Council a technical management plan (TMP) for the development phase of the wetland for certification for the wetland. The wetland is to be designed by an appropriately qualified and experienced expert in general accordance with the application and in particular Appendix III of **APP-2018202081.00** Eketāhuna WWTP Wetland Proposal. The management plan shall include but not be limited to information demonstrating the following matters:

- a. Final details of the construction design of the wetland:
 - i. The design shall demonstrate that, once constructed, the average water depth shall not exceed 300mm and the maximum water depth shall not exceed 500mm.
 - ii. A functional explanation of the hydraulic structures (weirs) that will be utilised to ensure the depths are not exceeded shall be provided.
 - iii. Details of reinforced flood sills for the upstream and downstream ends.
 - iv. A wetland width to length ratio of ideally between 3:1 and 5:1 and not more than 10:1.
 - v. The wetland surface area shall be not less than 5,500m²
- b. The plan shall contain a specific planting plan to demonstrate how the vegetation to be planted shall be established within 6 months of the completion of the bulk earthworks associated with the treatment wetland such that the treated wastewater shall pass through the wetland within **24 months** of commencement of this permit.
- c. Planting in the treatment wetland shall be at a density of two (2) plants per square metre and the entire base of the wetland shall be planted.
- d. The plan shall demonstrate that the topsoil stripped to allow for the formation of the wetland shall be re-laid prior to planting.
- e. The plan shall demonstrate how the treatment plant shall be managed so as to allow for gradual introduction of the treated wastewater to the treatment wetland to allow for planted seedlings to adapt to the fully saturated conditions.

- f. The plan shall demonstrate how the formation of preferential flow paths will be prevented within the wetland, and if preferential flow paths do develop, the process that will be followed to overcome the problem.
- g. Information demonstrating that 95% of the expected maximum treated wastewater flow shall be retained in the wetland for not less than 72 hours.

Remedial Management Plan for Treatment Wetland

- DLW 5. Commencing two years after the treatment wetland is established, the Consent Holder shall take monthly grab samples from the inflow and outflow of the treatment wetland for the following management parameters:
- a. Total Phosphorus (TP)
 - b. Nitrate Nitrogen (NO₃N)
 - c. *E.coli*

DLW 6. The treatment wetland is deemed to be established two years following initial planting, where a year is taken from 1 July to the following 30 June.

DLW 7. In June each year, the analytical results from the last 12 consecutive monitoring samples collected at the outflow of the wetland shall be compared with those collected at the inflow of the wetland using equivalence testing.

- DLW 8. In the event that the last 12 monitoring samples indicate that there was:
- a. less than a 50% decrease in Nitrate Nitrogen concentration between inflow and outflow; or
 - b. an increase in TP between inflow and outflow more than 20%; or
 - c. an increase between inflow and outflow in *E.coli* concentration of more than 50% and exceeding 1000 MPN/100 ml in more than 2 out of 12 consecutive samples
- then:
- d. within 30 working days the Consent Holder shall have completed a survey of the vegetation of the treatment wetland. The survey must be completed by a suitably qualified and experienced independent expert and will:
 - i. assess whether 95% vegetative cover is achieved;
 - ii. assess the vigour of existing plants;
 - iii. assess for invasive weeds; and
 - iv. assess the wetland for compliance against the management plan in **Condition DLW4.**

DLW 9. The Consent Holder shall promptly undertake remedial maintenance as required under **Condition DLW8** by a suitably qualified and experienced independent expert:

- a. including but not limited to, infill and/or replacement planting of plants of diminished vigour and removal of invasive weeds ; and
- b. unless the maintenance requires a material change to the treatment wetland system as designed, in which case the consent holder shall promptly inform the Manawatu-Whanganui Regional Council Regulatory Manager.

DLW 10. These remedial measures must be implemented within 12 months of the survey described in **Condition DLW8**.

DLW 11. The sampling results and any vegetation survey results and recommendations under **Condition DLW 8**, and the maintenance undertaken by the consent holder under **Condition DLW9**, shall be included in the next annual report under **Condition G16**;

ADVICE NOTE: The purpose of this condition is to monitor the management of the treatment wetland only and, in the event of diminished performance below the management parameters, to review the treatment wetland system to ensure it is performing as designed.

DLW 12. Within three months of the construction of the wetland required by DLW3 the Consent Holder shall submit to the Regulatory Manager of the Manawatu-Whanganui Regional Council a management plan detailing annual inspection and maintenance requirements of the wetland for certification. The plan shall include but not be limited to details regarding triggers for pruning, replacement of plants and weeding as identified by the annual inspection. The plan shall be prepared by an appropriately qualified and experienced expert.

ADVICE NOTE: Certification will be on the same basis as **Conditions G7.2 and G7.3** above.

DLW 13. Once established the vegetation shall be pruned not less than once every five years. Material that is pruned shall be removed off site and disposed at an appropriate facility.

DLW 14. Weeding of the treatment wetland shall be undertaken manually.

DLW 15. In-fill planting shall be undertaken annually during the management phase to replace gaps formed due to plant mortality and to maintain vegetative cover of 95% in the wetland.

Condition Schedule ATH-2013011395.01 – Eketāhuna Wastewater Treatment Plant – Discharge to Air Permit

Pre-Development Assurance

- A1. **Within two months** of the granting of this permit, the Consent Holder shall provide an Odour Operation and Management Plan (OOMP) for certification to the Regulatory Manager of the Manawatu-Whanganui Regional Council in accordance with **Conditions G7.1-7.3** above. The purpose of the OOMP shall be to detail the measures the permit holder intends to take to avoid and mitigate the potential for odour from the wastewater treatment plant and ponds. The OOMP shall include, but not be limited to the following:
- a. Details of regular inspections, plant maintenance and cleaning as required to avoid offensive odours;
 - b. Responsibilities of on-site staff;
 - c. Monitoring procedures, including reporting procedures for measuring dissolved oxygen (DO),
 - d. A programme for developing reference diurnal DO profiles during the year;
 - e. Contingency procedures in the event of equipment failures;
 - f. A complaints procedure including:
 - i. Provision of a 24-hour telephone contact number,
 - ii. A stated commitment by the permit holder to respond to odour complaints within a specified time period,
 - iii. Actions to be taken by the permit holder to verify complaints
 - iv. Provision for recording the responses made by the permit holder to complaints, and
 - v. Records of actions taken by the permit holder to address the sources of any verified odour.
 - g. Management procedures for storage and handling of primary screenings and other solid wastes handling; and
 - h. Procedures for monitoring and managing pond sludge levels to minimise the risk of upset conditions in the ponds resulting in offensive odours.

ADVICE NOTE: The OOMP may be included in the Operations Management Plan provided for in **Condition G4** of these consents.

Environmental Standards

- A2. The discharge to air authorised by this consent shall not cause the emission of odour that in the opinion of the Manawatu-Whanganui Regional Council's Consents Monitoring Officer, is offensive or objectionable at or beyond the property boundary of the Eketāhuna Wastewater Treatment Plant site.

ADVICE NOTE: When considering how objectionable any odour is, the Manawatu-Whanganui Regional Council will take into consideration the FIDOL factors: frequency, intensity, duration, offensiveness and location.

A3. The Consent Holder shall keep a complaints register to record complaints relating to discharges of odour or contaminant gases to air arising from the Wastewater Treatment Plant. The register shall include:

- a. The details of the complainant if given;
- b. The location of where the contaminant, e.g. odour, was detected;
- c. A description of the wind speed and direction when the alleged adverse effect was detected by the complainant;
- d. The date and time of the detection;
- e. The most likely cause of the discharge detected;
- f. The dissolved oxygen levels in both ponds; and
- g. If applicable, any corrective action undertaken by the Consent Holder to avoid, remedy or mitigate the adverse environmental effect detected by the Complainant.

A4. The Consent Holder shall advise the Manawatu-Whanganui Regional Council's Consents Monitoring Team within 24 hours of any complaints relating to air discharges being received.

A5. A copy of information recorded in the complaints register shall be included in the Annual Environmental Report required by **Condition G16** of the General Conditions. The Annual Environmental Report shall be provided to the Regulatory Manager by 31 October of each year.

A6. The permit holder shall monitor Dissolved Oxygen in the wastewater storage ponds at a frequency and accuracy to demonstrate that the Dissolved Oxygen measurement within the ponds is at or above 0.5 mg/L.

ADVICE NOTE: A calibrated handheld meter can be used to measure DO levels. Readings should be taken at similar times of the day as detailed in the Odour Operation and Management Plan.

A7. In the event that any dissolved oxygen measurement is less than 0.5 mg/L, the consent holder shall take appropriate action to raise the dissolved oxygen as necessary to avoid the occurrence of an incident likely to cause non-compliance with **Condition A2**.

A8. The consent holder shall advise the Consents Monitoring Team at least fourteen (14) days prior to undertaking any pond desludging works. The consent holder shall include as part of this advice, notice to the Regional Council of the method or methods proposed for sludge removal, the likely duration of the activity and the

methods that will be used to manage the discharge of odour that has the potential to cause non-compliance with **Condition A2**.

**Condition Schedule ATH-2018202078.00, ATH-2018202079.00 and ATH-2018202080.00
– Eketāhuna Wastewater Treatment Plant Earthworks, Bund and Diversion Consents**

| Descriptive Specification | |
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| EW1. | <p>These land use consents and diversion permit authorise the following activities:</p> <ul style="list-style-type: none"> a. Land disturbance including earthworks and cut and fill associated with the creation of a wetland and diversion bund and discharge structure, b. Diversion of the flood flows of the Makakahi River around the wetland and bund structure, <p>with such works shall be undertaken on the property legally described as Lots 41 & 42 DP 1745, Pt Sec 22 Eketāhuna Settlement (the Golf Course) at approximate map reference NZTopo50 BN35:280-977 (hereafter referred to as the property).</p> |
| EW2. | <p>The Consent Holder must undertake the activity in general accordance with the consent application including all accompanying plans and documents first lodged with the Manawatu-Whanganui Regional Council on 29 June 2018.</p> <p>ADVICE NOTE: Where there may be inconsistencies between information provided by the applicant and conditions of the resource consent, the conditions of the resource consent will apply.</p> <p>ADVICE NOTE: Any variance from the location, design concepts and parameters, implementation and or operation may require a new resource consent or a change of consent conditions pursuant to section 127 of the Resource Management Act 1991.</p> |
| EW3. | <p>The Consent Holder shall be responsible for all contracted operations related to the exercise of these resource consents, and shall ensure contractors are made aware of the conditions of these resource consents and ensure compliance with those conditions.</p> |
| EW4. | <p>A copy of these consents shall be kept onsite at all times that physical works authorised by these resource consents are being undertaken and shall be produced without unreasonable delay upon request from a servant or agent of the Manawatu-Whanganui Regional Council.</p> <p>ADVICE NOTE: An electronic version on a smartphone or tablet is acceptable.</p> |
| EW5. | <p>Prior to activities commencing as authorised by this resource consent, the Consent Holder shall appoint a representative(s) who shall be the Manawatu-Whanganui Council's principal contact person(s) in regard to matters relating to these resource consents. The Consent Holder shall inform the Manawatu-Whanganui Regional Council's Regulatory Manager of the representative's name and how they can be contacted, five working days prior to the resource consent being exercised.</p> |

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| | <p>Should that person(s) change during the term of these resource consents, the Consent Holder shall immediately inform the Manawatu-Whanganui Regional Council's Regulatory Manager and shall also give written notice to the Manawatu-Whanganui Regional Council's Regulatory Manager of the new representative's name and how they can be contacted.</p> |
| EW6. | <p>The Consent Holder shall arrange and conduct a pre-construction site meeting and invite the Manawatu-Whanganui Regional Council's Regulatory Manager, the site representative(s) nominated under Condition EW5 of this consent, the contractor, and any other party representing the consent holder prior to any work authorised by this consent commencing on site.</p> <p>ADVICE NOTE: In the case that any of the invited parties, other than the site representative does not attend this meeting, the consent holder will have complied with this condition, provided the invitation requirement is met.</p> |
| EW7. | <p>At least 20 working days prior to the commencement of the activities authorised by this resource consent, the Consent Holder shall provide to the Manawatu-Whanganui Regional Council's Regulatory Manager for certification a copy of the design and specification of all works (diversion bund and discharge structure design plan), as prepared by an appropriately qualified and experienced Engineer.</p> |
| EW8. | <p>At least 20 working days prior to the commencement of the activities authorised by these resource consents, the Consent Holder shall provide to the Manawatu-Whanganui Regional Council's Regulatory Manager a revised and updated "Erosion and Sediment Control Plan" (E&SCP). The E&SCP shall be based upon and include, specific principles and practices which are appropriate for the activities authorised by this consent and contained within the Greater Wellington Regional Council document titled "Erosion & Sediment Control – Guidelines for the Wellington Region dated September 2002 & Reprint 2006". The updated E&SCP shall address the following aspects relating to the works:</p> <ol style="list-style-type: none"> a. Details of all principles, procedures and practices that will be implemented to undertake erosion and sediment control to minimise the potential for sediment discharge from the site, including flocculation; b. The design criteria and dimensions of all key erosion and sediment control structures; c. A site contour plan of a suitable scale to identify; <ol style="list-style-type: none"> i. The locations of waterways; ii. The extent of soil disturbance and vegetation removal; iii. Any "no go" and/or buffer areas to be maintained undisturbed adjacent to watercourses; iv. Areas of cut and fill; |

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| <ul style="list-style-type: none"> v. Locations of topsoil stockpiles; vi. All key erosion and sediment control structures; vii. The boundaries and area of catchments contributing to all stormwater impoundment structures; viii. The locations of all specific points of discharge to the environment; and ix. Any other relevant site information <ul style="list-style-type: none"> d. Construction timetable for the erosion and sediment control works and the bulk earthworks proposed. e. Timetable and nature of progressive site rehabilitation and re-vegetation proposed; f. Maintenance, monitoring and reporting procedures; g. Rainfall response and contingency measures including procedures to minimise adverse effects in the event of extreme rainfall events and/or the failure of any key erosion and sediment control structures; h. Procedures and timing for review and/or amendment to the E&SCP; and i. Identification and contact details of personnel responsible for the operation and maintenance of all key erosion and sediment control structures. |
| <p>EW9. The E&SCP and the diversion bund and discharge structure design plan required by Conditions EW7 and EW8 shall be certified in writing by the Manawatu-Whanganui Regional Council's Regulatory Manager prior to any activities authorised by these resource consents commencing. Certification shall be on the same basis as in Conditions G7.2 and 7.3</p> |
| <p>EW10. The Consent Holder shall undertake all earthworks authorised by this consent in accordance with the certified E&SCP and diversion bund and discharge structure design plan.</p> |
| <p>EW11. Any changes proposed to the E&SCP and diversion bund and discharge structure design plan required by Conditions EW7 and EW8 shall be confirmed in writing by the consent holder and certified in writing by the Manawatu-Whanganui Regional Council's Regulatory Manager or his agent acting in a technical certification capacity, prior to the implementation of any changes proposed.</p> |
| <p>EW12. The Consent Holder shall ensure that a copy of the certified E&SCP and diversion bund and discharge structure design plan, including any certified amendments, is kept onsite and this copy is updated within five working days of any amendments being certified.</p> |
| <p>EW13. The Consent Holder shall contact the Manawatu-Whanganui Regional Council's Regulatory Team five working days prior to the commencement of the</p> |

construction, installation and disturbance works authorised by these consents and on completion of the works.

ADVICE NOTE: The Regulatory Team can be contacted on 0508 800 800, -OR- compliance.shared@horizons.govt.nz

Environmental Standards

EW14. The Consent Holder shall ensure that the soluble aluminium concentration of any discharge from a sediment retention pond or decanting earth bund that is treated with an aluminium based flocculent shall not exceed 0.2 grams per cubic metre.

EW15. The Consent Holder shall ensure that the pH of any discharge from and sediment control structure treated with any flocculent shall be no less than 5.5 or greater than 8.5 pH units.

EW16. The Consent Holder shall ensure that the suspended solids concentration of any discharge from any sediment control device, including but not limited to sediment retention ponds, decanting earth bunds does not exceed 150 grams per cubic metre.

ADVICE NOTE: The above suspended solids consent limit does not apply during storm events where silt laden stormwater is discharging over the emergency spillway.

EW17. The Consent Holder shall ensure that sediment losses discharged from the site during storm events greater than the 5 per cent Annual Exceedance Probability are minimised by adhering to the E&SCP.

EW18. The Consent Holder shall ensure that all cleanfill material deposited at the site is free of pest plants identified in the Manawatu-Whanganui Regional Council Pest Plant Strategy, combustible, putrescible (except that cleanfill material may contain up to 5% by weight putrescible matter), degradable or leachable components, hazardous substances products or materials derived from hazardous waste treatment, hazardous waste stabilisation or hazardous waste disposal practices, materials that may present a risk to human health, or liquid waste.

EW19. The Consent Holder shall ensure that sediment losses to surface water arising from the exercise of these resource consents are minimised during the duration of the works and during the term of this consent. In this regard, erosion and sediment control measures shall be established and maintained in accordance with the certified E&SCP.

EW20. All earthmoving machinery, pumps, generators and ancillary equipment shall be operated in a manner, which ensures spillages of fuel, oil and similar contaminants

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| | <p>are prevented, particularly during refuelling and machinery servicing and maintenance. Refuelling and lubrication activities shall be carried out away from any water body, ephemeral water body, or overland flow path, such that any spillage can be contained so that it does not enter surface water.</p> |
| EW21. | <p>The Consent Holder shall ensure that, as far as practicable, all clean water run-off from stabilised surfaces including catchment areas above the site shall be diverted away from the exposed areas via a stabilised system to prevent erosion. The Consent Holder shall also ensure the outfall(s) of these systems are protected against erosion.</p> |
| EW22. | <p>The Consent Holder shall ensure that all sediment laden run-off from the site is treated by sediment retention structures. These structures are to be fully operational before bulk earthworks commence and shall be maintained to perform at least at 80% of their operational capacity and be designed in accordance with the certified E&SCP.</p> |
| EW23. | <p>The Consent Holder shall ensure that all erosion and sediment control structures are inspected on a weekly basis and within 24 hours of each rainstorm event that is likely to impair the function or performance of the controls.</p> |
| EW24. | <p>The Consent Holder shall carry out monitoring and maintenance of erosion and sediment controls in accordance with the conditions of these resource consents and shall maintain records detailing:</p> <ul style="list-style-type: none"> a. The date, time and results of the monitoring undertaken; and b. The erosion and sediment controls that required maintenance; and c. The date and time when the maintenance was completed. <p>These records shall be provided to the Manawatu-Whanganui Regional Council's Regulatory Manager at all reasonable times and within 72 hours of a written request to do so.</p> |
| EW25. | <p>Earthworks shall not be conducted during the period 1 May to 30 September inclusive during any year that these resource consents are current, apart from necessary maintenance works, unless certified in writing by the Manawatu-Whanganui Regional Council's Regulatory Manager.</p> <p>ADVICE NOTE: Maintenance is defined in the One Plan 2016 (Change 1).</p> |
| EW26. | <p>Requests to undertake earthworks during the period 1 May to 30 September inclusive, for any year that these resource consents are current, shall be submitted in writing to the Manawatu-Whanganui Regional Council by 1 April and shall be in the form of amendments to the certified E&SCP in accordance with Condition EW8 of this consent.</p> |

ADVICE NOTE: In considering a request for the continuation of winter earthworks, the Manawatu-Whanganui Regional Council will consider a number of factors; including:

- a. The nature of the site and the winter soil disturbance works proposed;
- b. The quality of the existing/proposed erosion and sediment controls;
- c. The compliance history of the site/operator;
- d. Seasonal/local soil and weather conditions;
- e. Soil moisture content and runoff/ponding potential;
- f. Effects on the cultural values of tangata whenua;
- g. Sensitivity of the receiving environment; and
- h. Any other relevant factor.

EW27. The works shall remain the responsibility of the Consent Holder and be maintained to ensure that:

- a. any erosion, scour or instability of the stream bed or banks that is attributable to the works carried out as part of this consent is remedied by the Consent Holder within **10 working days**;
- b. fish passage is not impeded as a result of the works; and
- c. the works shall not adversely affect the ability of the stream to convey flood flows or floating or flood borne debris and shall remain substantially free of debris.

Post Development Assurance

EW28. **One month** following completion of wetland construction, the Consent Holder shall ensure that the wetland is fenced off and remains stock proof for the duration of this consent.

EW29. Notwithstanding **Condition 31**, the Consent Holder shall ensure those areas of the site where earthworks have been completed shall be stabilised against erosion as soon as practically possible and within a period not exceeding 14 days after completion of any works authorised by these resource consents. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural) that will minimise sediment runoff and erosion to the satisfaction of the Manawatu-Whanganui Regional Council acting in a technical certification capacity. The Consent Holder shall monitor and maintain the site until vegetation is established to such an extent that it prevents erosion and prevents sediment from entering any water body.

EW30. The removal of any erosion and sediment control measures from any area where soil has been disturbed as a result of the exercise of these resource consents shall only occur after consultation and technical certification has been obtained from the Manawatu-Whanganui Regional Council. In this respect, the main issues that will be considered include:

- a. the quality of the soil stabilisation and/or covering vegetation;
- b. the quality of the water discharged from the rehabilitated land; and
- c. the quality of the receiving water

EW31. Re-vegetation and/or stabilisation of all disturbed areas is to be completed in accordance with the measures detailed in the certified E&SCP.

EW32. The works shall remain the responsibility of the Consent Holder and shall be maintained so that any erosion, scour or instability of the works that is attributable to the works carried out as part of this consent is remedied by the Consent Holder within **ten** working days.

EW33. The Consent Holder shall ensure that the site is appropriately stabilised by **30 April** of each year unless otherwise certified in writing by the Manawatu-Whanganui Regional Council. Stabilisation shall be undertaken by providing adequate measures (vegetative and/or structural and including, pavement, metalling, hydro-seeding, re-vegetation and mulching) that will minimise erosion of exposed soil to the extent practical.