

<p>General Conditions</p> <p>1. The activity authorised by these permits shall be undertaken in general accordance with the application and Assessment of Environmental Effects received on 2 December 2022 and supplementary documents received on 2 December 2022 <u>and December 2023</u>.</p>	<p>Standard in general accordance conditions</p>
<p>WWTP Operations and Management Plan</p> <p>2. Within six months of commencement of these permits the consent holder shall prepare and forward to the Manawatu-Whanganui Regional Council's Regulatory Manager, an Operation and Management Plan (OMP) for technical certification. The OMP shall include but not be limited to:</p> <ul style="list-style-type: none"> a. A description of the entire treatment system facility b. Plans of the treatment facility c. A description of routine inspection and maintenance procedures to be undertaken with respect to the treatment plant and conveyance system to the irrigation storage facility d. Procedures for recording routine maintenance and all repairs that are undertaken e. A description of monitoring and record keeping of that monitoring, including a map showing details of monitoring locations f. <u>Description of odour management procedures</u> g. Compliance reporting procedures h. A description of procedures for reporting non-compliances to Horizons Regional Council i. Procedures for reviewing and updating the Operations and Management Plan j. An emergency response plan <p>Any updates to the Plan shall be forwarded to Horizons Regional Council within two months of their completion.</p>	<p>Purpose of this condition is to collate the information relating to operation of the wastewater treatment facility. A separate condition is proposed in relation to the irrigation at the site.</p>
<p>Wastewater Treatment Plant Conditions</p> <p>3. Within 3 months of these permits commencing, the Permit Holder shall install a pond level sensor alarm on Pond 2. The sensor shall provide a continuous measure of pond level to the SCADA system. The sensor shall provide the following alarm functions:</p> <ul style="list-style-type: none"> a. Low level alarm b. High level alarm 	<p>Purpose is to control levels so that ponds are not at risk of overflowing or dropping to such a level that treatment levels would be impacted. This relates to the ponds at the treatment facility only.</p>
<p>4. The treated wastewater shall meet the following standards:</p> <ul style="list-style-type: none"> a. The concentration of Total Nitrogen shall not exceed 25g/m³ in more than 8 out of 12 consecutive samples, and no more than 35 g/m³ in more than 2 out of 12 consecutive samples; b. The concentration of Total BOD5 (BOD5) shall not exceed 30 g/ m³ in more than 8 out of 12 consecutive samples; and no more than 50 g/ m³ in more than 2 out of 12 consecutive samples c. The median value of Total Nitrogen daily load shall not exceed 4.3kg/day. <p>Advice Note: Total Nitrogen load to be derived by calculating median of sample result x daily flow across all annual results. Results from monitoring to be used in calculated assessment against condition 6 of discharge to land consent</p>	<p>Purpose is to ensure that appropriate treatment is maintained and relates to key nutrient and pathogen parameters to be controlled. Will allow for demonstrating compliance with nitrogen loading rates. Based on the performance review technical memo, these were used in assessment of effects in the AEE.</p>
<p>Monitoring</p> <p>5. Wastewater samples has be analysed for the following, sampling is to occur monthly –</p> <ul style="list-style-type: none"> a. E coli b. Ammoniacal Nitrogen c. Nitrate N d. Nitrite N e. pH f. Total Suspended Solids g. Sodium 	<p>Monitoring a wider range of parameters as these can assist with interpretation of functioning of the treatment plant. Not that these parameters can be assessed and discussed in the annual report.</p>
<p>Review</p>	

<p>6. The Manawatu-Wanganui Regional Council may, pursuant to section 128 of the Act, initiate a review of any conditions of these permits in the month of July 2028, 2031 and 2041. Without limiting section 128 (1)(a)(i)-(ii) of the Act, any review shall be for the following specified purposes:</p> <ul style="list-style-type: none"> a. Assessing the adequacy of the monitoring programme; and/or b. Assessing the effectiveness of the conditions in these consents in avoiding, remedying or mitigating any more than minor unanticipated adverse effects on the environment; and/or c. Modification of the monitoring programme; and/or d. Deletion, addition or changes to the conditions of these consents. <p>These discharge permits shall expire on 1 July 2049</p> <p>Land Use Consent for land disturbance a term of 3 years is sought.</p>	
<p>Discharge to Land Discharge to Land Permit – Irrigation</p> <p>1. Prior to the irrigation of treated wastewater at the irrigation site the permit holder shall provide an Irrigation Management Plan (IMP) for certification to the Regulatory Manager of the Manawatu-Whanganui Regional Council The purpose of the IMP shall be to detail the measure the permit holder intends to take to avoid and mitigate the potential effects associated with the irrigation of treated wastewater. The IMP shall include, but not be limited to the following:</p> <ul style="list-style-type: none"> a. Detailing the management objectives for each of the irrigation management zones as follows – <ul style="list-style-type: none"> i. General Management Zone ii. Edge Management Zone iii. Dune Management Zone iv. Western Dune Plain Mitigation Area v. Southern Ecological Enhancement Area b. A plan identifying the location and size of each management zone within the land irrigation area c. A plan identifying the general irrigator type for each irrigation management zone d. Detailing the irrigation scheduling procedures for each zone e. Details of any automated alarm systems f. A plan showing where soil moisture readers will be located g. Location of the weather station to be installed (condition 4) h. Vegetation management details, including any weed management, harvesting and maintenance procedures i. Measures to ensure the stored treated wastewater remain aerobic j. The frequency of flushing the irrigation pipes and circumstances under which pipe flushing will occur k. On-site responsibilities, including operation and maintenance l. Key operational matters, including details of maintenance and frequency of maintenance activities m. Monitoring and reporting procedures n. Procedures for updating the IMP 	<p>Specifically for the irrigation area</p>
<p>2. The wastewater discharge via irrigation to land shall generally not exceed:</p> <ul style="list-style-type: none"> - Maximum volume per day 1,603m³/day - Maximum application rate 7mm/day <p>Unless otherwise required for contingency purposes, as defined in the Irrigation Management Plan required by Condition 1.</p>	
<p>3. The permit holder shall install not less than two soil moisture sensors</p>	<p>Used to help with irrigation scheduling</p>

<p>4. Prior to irrigation occurring at the site the permit holder shall install and maintain a weather station to monitor rainfall and evapotranspiration</p> <p>5. Prior to irrigation occurring at the site the permit holder shall install and maintain flow and pressure meters on the irrigation mainline</p>	<p>An onsite weather station is proposed so that, in conjunction with the soil moisture sensors, irrigation scheduling and control. Onsite data allows for robust decision making onsite.</p>
<p>Nitrogen Management:</p> <p>6. Total nitrogen from WW and inorganic fertiliser to land shall not exceed 150 kgN/ha/year</p>	<p>Given the levels of nutrients to be applied, for certain stages of plant growth additional nutrient input may be required.</p> <p>As a comparison the NES-FM restricts synthetic fertilizer as a permitted activity to 190kg N. Stock to be excluded from the site</p>
<p>Spray Drift Management:</p> <p>7. The permit holder shall ensure that irrigation equipment is operated in such a manner that aerosols and spray drift are contained within the site boundaries.</p> <p>Advice Note: Details regarding management for spray drift as outlined in the Edge Management Zone as described in the IMP.</p>	
<p>Irrigation Site Monitoring Bores</p> <p>8. The permit holder shall maintain the monitoring bores at the locations within the land irrigation site shown on xxx attached to and forming part of these conditions.</p> <p>9. The permit holder shall measure and record the static water levels in the monitoring bores prior to sampling. Samples collected under Conditions x and x shall be analysed for the following:</p> <ol style="list-style-type: none"> Dissolved Reactive Phosphorus (DRP) Total Nitrogen (TN) Nitrate Nitrogen (NO₃-N) Nitrite Nitrogen (NO₂N) Escherichia coli (E. coli) Dissolved oxygen (field measurements) Electrical Conductivity (EC) (field measurements) Static water level pH (field measurement and laboratory measurement) <p>10. Prior to the application of treated wastewater the permit holder shall take samples from all bores in the months of February, June and September in accordance with Condition 9</p> <p>11. Following commencement of irrigation of treated wastewater the permit holder shall take samples from all bores quarterly.</p>	<p>Condition 10 was recommended to help get baseline info as basis for condition 12.</p>
<p>12. In the event that the difference in average concentration between up and downgradient bores (upgradient bores are Bore 2 and 3, and downgradient are Bores 4 and 5) show an annual mean difference of 2.0 milligrams per litre nitrate-nitrogen over any consecutive two year period from the median of the first 12 months of sampling then the permit holder shall increase monitoring frequency to bimonthly (every two months) for a period of 12 months. Within 3 months of completion of the increased frequency of sampling the permit holder shall submit a report detailing results and interpretation of the additional monitoring and include recommendations for additional mitigation, if required, to be incorporated in to the IMP.</p>	<p>This condition is intended to be trigger for determining if any additional treatment needed or not. Adaptive management approach.</p>
<p>Discharge to Dunelands</p> <p>13. Prior to the discharge of treated wastewater to the <u>central</u> dunelands the permit holder shall submit a monitoring plan to the Regulatory Manager of the Manawatu-Whanganui Regional Council. The plan shall include but not be limited to –</p> <ol style="list-style-type: none"> Baseline Delineation of the dunes Details of weed management to be undertaken Irrigation scheduling criteria Details of monitoring and reporting on of shape of the dunes 	<p>Allows for ongoing monitoring and reporting of the dunes</p>

<p>14. Following a period of 10 years of irrigation to the dunelands the permit holder shall submit a report to the Regulatory Manager of the Manawatu-Whanganui Regional Council detailing a summary of the results of monitoring undertaken as outlined in the plan required by Condition 13. The report shall make recommendations for changes to management, if required.</p> <p>Advice Note: Any harvesting of the production pines planted in the dunelands area would be harvested in accordance with a harvest management plan prepared in accordance with the NES-Forestry.</p>	
<p>15. Prior to the discharge of treated wastewater to the southern dunelands and western dune plain mitigation area the permit holder shall submit a planting and weed management plan for the southern ecological enhancement zone and western dune plain mitigation area. The plan shall include but not be limited to –</p> <ol style="list-style-type: none"> Details of planting, including staging of planting, to occur within the southern duneland and wetland 14 Details of planting, including staging of planting, to occur within wetlands Weed management Construction methodology for the offset wetland Details of ongoing monitoring, to include not less than biennial delineation monitoring of wetlands Details of triggers, identified through specified monitoring, that would require assessment of management controls for the biodiversity areas <p>Note: Wetlands would be expected to change in shape and area over time with the ongoing irrigation</p>	<p>Plan to demonstrate how area will be established over time. Allowing for staged approach so that within the site could be used as a nursery if required.</p> <p>Plan to identify triggers for adjustments to management practices, so an adaptive management approach is incorporated</p>
<p>Discharge to Land Permit – Seepage from ponds</p> <p>Pond monitoring</p> <p>16. The permit holder shall maintain the monitoring bores BH2, BH3, BH4, and BH5 at the locations shown on xxx attached to and forming part of these conditions.</p> <p>17. The permit holder shall measure and record the static water levels in the monitoring bores prior to sampling. Samples collected under Conditions x and x shall be analysed for the following:</p> <ol style="list-style-type: none"> Dissolved Reactive Phosphorus (DRP) Total Nitrogen (TN) Nitrate Nitrogen (NO₃-N) Nitrite Nitrogen (NO₂N) Escherichia coli (E. coli) Dissolved oxygen (field measurements) Electrical Conductivity (EC) (field measurements) Static water level pH (field measurement and laboratory measurement) <p>Samples shall be collected quarterly for a period of three years following commencement of consent. If after the initial three year period there is no statistical change in parameter monitoring frequency to be reduced to quarterly every three years.</p>	<p>Ongoing monitoring is proposed for GW quality. Note that BH1 would not be used as in location where storage pond will be located.</p>
<p>Annual Reporting</p> <p>The permit holder shall compile a monitoring report for the land irrigation activities authorised by this permit and submit that report to the Council Regulatory Manager by 31st August each year for the duration of this permit. As a minimum the annual monitoring report shall:</p> <ol style="list-style-type: none"> summarise all of the data collected as required under the conditions of this permit and discuss any trends or changes in environmental effects evident from the monitoring data, both within the annual periods and compared to previous years; identify and discuss any instances of non-compliance with the conditions of this permit and recommend measures to achieve compliance in future; provide nitrogen application rates for all irrigated area, in terms of kilograms of nitrogen per hectare per annum report and discuss any operational improvements made to the irrigation processes; make recommendations on alterations or additions to the monitoring programmes; report and discuss any complaints received regarding the wastewater disposal activities; make recommendations for any changes to the IMP 	<p>Annual report includes assessment of trends and recommendations to amend management.</p> <p>This will include assessment against monitoring of the biodiversity areas so that adjustments can be made to management within these areas if required.</p>




