APPENDIX A

Note: The intent of the conditions is complete but they remain draft and will need to be referenced and checked for detailed matters such as cross referencing and reporting dates.

AFFCO General Draft Conditions: Commentary

	Pre-Hearing		Expert agreed	Revised Conditions During Hearing	Comments
Cond No	Suggested Conditions	HRC Draft		**AFFCO proposed (with Horizons tracked changes)**	
1	The Permit Holder must undertake the activities in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015, including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. Where the information is inconsistent with the requirements of specific consent conditions, the conditions prevail.	No change	Accept		
2	The Permit Holder must ensure that all treated wastewater, water quality and soil sampling required under these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater) is collected by a suitably experienced and/or qualified person and analysed by an appropriately accredited, independent laboratory. All analytical methods must be appropriate for treated meatworks effluent, water quality or soil analysis.	No change	Accept		
3	No later than 3 months after the grant of this permit, the Permit Holder must submit to the Manawatu-Whanganui Regional Council's Regulatory Manager an Operation and Management Plan detailing (but not limited to) the following items: a. A description of the land treatment system and the river discharge system, including a site map indicating the location of discharge infrastructure, the land treatment area, and monitoring sites; b. Intended operation and maintenance procedures for the land treatment system and the river discharge system, including how the systems will be operated and maintained to comply with these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater); c. The procedures to be implemented to ensure that, where practicable, treated wastewater is discharged as a priority to land in accordance with the Discharge Permit (to land), including record-keeping procedures to demonstrate that the prioritisation has occurred; d. A plan identifying the location and size of each management block within the land treatment area; e. The measures to be implemented to control, regulate and record irrigation application, including application depths and details about how the management blocks within the land treatment area	No later than 3 months after the grant of this permit, the Permit Holder must submit to the Manawatu-Whanganui Regional Council's Regulatory Manager an Operation and Management Plan detailing (but not limited to) the following items: a. A description of the land treatment system and the river discharge system, including a site map indicating the location of discharge infrastructure, the land treatment area, and monitoring sites; b. Intended operation and maintenance procedures for the land treatment system and the river discharge system, including how the systems will be operated and maintained to comply with these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater); c. The procedures to be implemented to ensure that, where practicable, treated wastewater is discharged as a priority to land in accordance with the Discharge Permit (to land), including record-keeping procedures to demonstrate that the prioritisation has occurred; d. A plan identifying the location and size of each management block within the land treatment area; e. The measures to be implemented to control, regulate and record irrigation application, including application depths and details about how the management blocks within the land treatment area will be managed; f. Pasture, grazing and harvesting management and			

	Pre-Hearing		Expert agreed	Revised Conditions During Hearing	Comments
Cond No	Suggested Conditions	HRC Draft		**AFFCO proposed (with Horizons tracked changes)**	
	will be managed; f. Pasture, grazing and harvesting management and maintenance procedures; g. The frequency of flushing of the irrigation pipes and the circumstances under which pipe flushing will occur; h. Measures to ensure the treated wastewater irrigated remains aerobic; i. On-site responsibilities, including operation and maintenance of the wastewater treatment facilities and pipelines to the river and land discharge points; j. Key operational matters, including daily, weekly and monthly maintenance checks, and the keeping of a maintenance register to record the details of all maintenance events and any system malfunctions; k. Monitoring and reporting procedures required to demonstrate compliance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater); l. A description of any other on-farm operations affecting nutrient loading or leaching within the land treatment area (e.g. grazing, crops, fertiliser application); m. A risk assessment plan and contingency plans in the event of system malfunctions or breakdowns; n. Procedures for receiving, recording and responding to all complaints in accordance with Conditions (17 and 18); o. A protocol for managing accidental discovery of artefacts of historic, archaeological or cultural significance during construction; p. Mitigation and contingency measures for controlling odour, aerosols, ponding and run-off in and from the land treatment area; q. Procedures for the wind speed shut-down required by Condition (5) of Discharge Permit (to air); r. Details of how changes in wastewater composition and volume are to be managed; and s. Measures to ensure that the activities do not result in any erosion or scouring of the bed or banks of the Oroua River.	maintenance procedures **to ensure compliance with the nitrogen and phosphorus loading limits identified in consent xxx, condition xxx;** g. The frequency of flushing of the irrigation pipes and the circumstances under which pipe flushing will occur **to ensure compliance with condition xxx, of consent xxx (discharge to air consent);** h. Measures to ensure the treated wastewater irrigated remains aerobic **to ensure compliance with condition xxx, of consent xxx (discharge to air);** i. On-site responsibilities, including operation and maintenance of the wastewater treatment facilities and pipelines to the river and land discharge points; j. Key operational matters, including daily, weekly and monthly maintenance checks, and the keeping of a maintenance register to record the details of all maintenance events and any system malfunctions; k. Monitoring and reporting procedures required to demonstrate compliance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air and to groundwater); l. A description of any other on-farm operations affecting nutrient loading or leaching within the land treatment area (e.g. grazing, crops, fertiliser application); m. A risk assessment plan and contingency plans in the event of system malfunctions or breakdowns; n. Procedures for receiving, recording and responding to all complaints in accordance with Conditions (17 and 18); o. A protocol for managing accidental discovery of artefacts of historic, archaeological or cultural significance during construction; p. Mitigation and contingency measures for controlling odour, aerosols, ponding and run-off in and from the land treatment area; q. Procedures for the wind speed shut-down required by Condition (5) of Discharge Permit (to air); r. Details of how changes in wastewater composition and volume are to be managed; and s. Measures to ensure that the activities do not result in any erosion or scouring of the bed or banks of the Oroua River. No later than 3 months after the grant of this permit, the Permit Holder must submit to the Manawatu-Whanganui Regional Council's Regulatory Manager an Odour Management Plan.	Accept Accept Accept Reject. Conditions f, g and h are air related. A separate plan is unnecessary and adds another document for operators of the system to consider. It is unclear why this condition is needed in the general conditions and no issues as to odour have been raised in the s42A reports.		

	Pre-Hearing		Expert agreed	Revised Conditions During Hearing	Comments
Cond No	Suggested Conditions	HRC Draft		**AFFCO proposed (with Horizons tracked changes)**	
4	The Permit Holder must not commence the activities which differ from those authorised by Discharge Permit numbers 4219, 4226, and 6191 until the Manawatu-Whanganui Regional Council's Regulatory Manager has certified in writing that the Operation and Management Plan fulfils the requirements of Condition 3	Delete – this condition is not appropriate. The application is for a new proposed	Accept		
5	The Permit Holder must annually review the Operation and Management Plan by 31 October of each year, commencing October 2016, to incorporate any proposed changes to the management of the activities. Following each review, the Operation and Management Plan, including any proposed changes must be submitted to the Manawatu-Whanganui Regional Council's Regulatory Manager for technical re-certification before 30 November of the same year	No change	Accept		
6	The Permit Holder must undertake the activities in accordance with the Operation and Management Plan that is most recently certified pursuant to Conditions 4 or 5. Advice Note: The Regulatory Manager or team representative can be contacted on Freephone 0 505 800 800 or by e mail at compliance.shared@horizons.govt.nz	No change.	Accept		
7	The Permit Holder must ensure that the physical infrastructure of the land treatment system and the land treatment area are inspected every week when operational, and the physical infrastructure of the river discharge system is inspected every month, and that relevant parts of the systems are also inspected whenever any alarms associated with the systems are activated.	No change	Accept		
8	If any blockages and/or breaks are identified in an inspection under Condition 7 or otherwise, the system affected must cease operation until the blockage and/or break is remedied, and the Permit Holder must notify Manawatu-Whanganui Regional Council's Regulatory Manager within 48 hours of identifying the blockage and/or break.	No change	Accept		
9	Records of the inspections made in accordance with Condition 7 and any resulting system maintenance must be kept and made available to the Manawatu-Whanganui Regional Council on request	No change	Accept		
10	By 1 July 2016 the Permit Holder must ensure that there is a minimum of 57,600 m3 of storage capacity available for the storage of treated wastewater. This must be "live storage" (that is, storage that is not used for wastewater treatment purposes and which holds treated wastewater that can be used for discharge purposes when conditions allow) provided in addition to the existing treatment volume. At least 500 mm of freeboard must be provided in addition to the 57,600 m3 capacity required for storage. The Permit Holder must irrigate the volume retained in the live storage as soon as practically possible	By 1 July 201**67 the ~~Consent Holder~~ Permit Holder shall submit a report prepared by suitably qualified and experienced person confirming how the minimum of** 57,600 m3 of storage capacity available for the storage of treated wastewater **is to be maintained throughout the term of this Permit.** This must be "live storage" (that is, storage that is not used for wastewater treatment purposes and which holds treated wastewater that can be used for discharge purposes when conditions allow) provided in addition to the existing treatment volume. At least 500 mm of freeboard must be provided in addition to the 57,600	Reject. It is unclear why a suitably qualified and experienced engineer needs to submit a report. Further, it is unclear why a report needs to be submitted. This issue is not addressed in the S42A reports.		

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		m3 capacity required for storage. The Consent Holder must irrigate the volume retained in the live storage as soon as practically possible			
11	The treated wastewater must meet the following standards prior to discharge to the land treatment area and the Oroua River: a. The concentration of Soluble Carbonaceous five day Biochemical Oxygen Demand (ScBOD5) must not exceed 29 g/m3 in more than 8 out of 12 consecutive samples, or 74 g/m3 in more than 2 out of 12 consecutive samples; b. The concentration of Total Suspended Solids must not exceed 85 g/m3 for more than 8 out of 12 consecutive samples, or 295 g/m3 in more than 2 out of 12 consecutive samples; c. The concentration of Escherischia coli must not exceed 9,500 cfu/100 mL for more than 8 out of 12 consecutive samples, or 20,000 cfu/100 mL in more than 2 out of 12 consecutive samples; d. The concentration of Total Ammoniacal Nitrogen must not exceed 84 g/m3 for more than 8 out of 12 consecutive samples, or shall it exceed 140 g/m3 in more than 2 out of 12 consecutive samples; and e. The concentration of Dissolved Reactive Phosphorus must not exceed 40 g/m3 for more than 8 out of 12 consecutive samples, or 50 g/m3 in more than 2 out of 12 consecutive samples Advice Note : Compliance will be demonstrated based on the samples required by Condition 13 below . There is the potential that water use improvements may result in the same mass being discharged but possibly at a higher concentration. If this occurs then there may be a need for these standards to be revised	No change	Accept		
12	Prior to the commencement of the activities, the Permit Holder must install and maintain a sampling port in the pipeline to the land treatment system and the river discharge system.	No change	Accept		
13	From the commencement of the activities, the Permit Holder must take samples of treated wastewater from the sampling port (installed in accordance with Condition 12), once per month in any month that a discharge to the land treatment area or the Oroua River occurs, and while the discharge is occurring. The sample must be analysed for: a. Soluble Carbonaceous five day Biochemical Oxygen Demand (ScBOD5); b. Total Suspended Solids; c. Total Nitrogen; d. Nitrate Nitrogen (NO3-N); e. Ammoniacal-Nitrogen (NH4-N); f. Nitrite Nitrogen (NO2-N); g. Total Phosphorus; h. Dissolved Reactive Phosphorus (DRP); i. Sodium (Na); j. Potassium (K); k. Magnesium (Mg); l. Calcium (Ca); m. Escherischia coli; and Particulate Organic Matter.	No change	Accept		
14	Prior to the commencement or continuation of the activities, the Permit Holder must install flow meters to measure and record the treated wastewater	No change	Accept		

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	volume discharged to the land treatment area and the Oroua River. The flow meters must be calibrated to an accuracy of plus or minus 5 % or better and must be maintained at this level of accuracy for the term of Discharge Permits (to water, to land, to air, to groundwater).				
15	Within three months of the grant of this permit, and every 5 years thereafter for the duration of Discharge Permits (to water, to land, to air, and to groundwater), the Permit Holder must have the flow meters required by Condition 14 verified in accordance with the manufacturer's specifications to ensure compliance with Condition 14. The Permit Holder must provide to the Manawatu-Whanganui Regional Council's Environmental Protection Manager, an in-situ flow meter verification certificate confirming the validity of the meters within one month of the verification being completed.	No change	Accept		
16	Within three months of the grant of this permit, the Permit Holder must provide the Manawatu-Whanganui Regional Council's Regulatory Manager with near real-time treated wastewater discharge information recorded and collected from the flow meters referred to in Condition 14. This information must be recorded at 15 minute intervals and be provided automatically on a daily basis in a format compatible with the Manawatu-Whanganui Regional Council's database.	No change	Accept		
17	The Permit Holder must maintain and make available to the Manawatu-Whanganui Regional Council's Regulatory Manager on request, a record of complaints which lists all complaints received alleging adverse effects attributable to the activities. The record must include but not be limited to the following: a. Name and address of the complainant (if given); b. The nature and duration of the effect; c. The date and time the effect was detected; d. The location where the effect was detected; e. The prevailing weather conditions e.g. wind speed and direction; f. The likely cause of the effect detected; and Any measures taken to avoid and mitigate the alleged effect	No change	Accept		
18	The Permit Holder must notify the Manawatu-Whanganui Regional Council's Regulatory Manager of any complaints within 72 hours of the complaint being received.	The **~~Consent~~** **Permit** Holder must notify the Manawatu-Whanganui Regional Council's Regulatory Manager of any complaints as soon as practicable and no later than 24 hours of the complaint being received.	Accept in part. A 24 hr reporting time for a complaint is very tight. AFFCO proposes 48 hours as a practical measure given history of no issues.		
18a.		**Upon receiving an odour complaint the ~~Consent~~ Permit Holder shall carry out an investigation as soon as practicable to determine the cause of the odour complaint. If the cause of the odour can be attributed to the Consent Holder then the Consent Holder must carry out any**	Reject. The evidence and section 42A reports is that odour effects will be no more than		

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		necessary action to ensure compliance with Condition 4 of the air discharge permit. The Consent Holder shall provide a report to the Manawatu-Wanganui Regional Council Compliance Team leader, within 24 hours of completing an investigation into an odour complaint. This report shall include, but not be limited to those matters identified in condition xxx of the General conditions.	minor. There is no history of odour complaints.		
19	The Permit Holder must immediately notify the Manawatu-Whanganui Regional Council's Regulatory Manager of, and keep a record of, any spillage of material into the wastewater collection system, the wastewater treatment plant, the land treatment system or the river discharge system that causes any damage to pasture in the land treatment area or creates any objectionable odour beyond the property boundary.	The Permit Holder must immediately notify the Manawatu-Whanganui Regional Council's Regulatory Manager of, **and keep a record of,** any spillage of material into the wastewater collection system, the wastewater treatment plant, the land treatment system or the river discharge system **is likely or will result in a non-compliance with any of the conditions of the activities authorised by resource consents xxx**	Accept in part. AFFCO will redraft to make better sense before the hearing and discuss with Horizons as it is unclear why some of the proposed wording has been deleted.		
20	By 31 October of each year (commencing 31 October 2016) the Permit Holder must provide the Manawatu-Whanganui Regional Council's Regulatory Manager, an annual monitoring report for the 12 month period ending the previous 30 September. The annual monitoring report must include (but not be limited to): a. A summary and interpretation of analyses and records collected in accordance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); b. A comment on compliance with each of these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); c. A summary of inspections made on the physical infrastructure in accordance with Condition 7; d. Results of soil sampling required by Condition 16 of Discharge Permit (to land) and an analysis to determine whether any material change in soil quality has occurred and actions taken to remedy any nutrient deficiency or excess; e. Results of groundwater monitoring required by Conditions 17 and 18 of Discharge Permit (to land) and Condition 12 of Discharge Permit (to groundwater), including an assessment of whether there has been a decline in groundwater quality due to the activities; f. Results of surface water monitoring required by Conditions 8 to 11 of Discharge Permit (to water) including an assessment against the One Plan Schedule E water quality targets, focusing on the soluble inorganic nitrogen concentrations; g. A copy of the complaints register required by Condition 17; h. The number, duration and volume of discharges to the Oroua River; and i. A copy of the wind speed shut-off level review required by Condition 6 of Discharge Permit (to air)	By 31 October of each year (commencing 31 October 2017) the Permit Holder must provide the Manawatu-Whanganui Regional Council's Regulatory Manager, an annual monitoring report for the 12 month period ending the previous 30 September. The annual monitoring report must include (but not be limited to): a. A summary and interpretation of analyses and records collected in accordance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); b. A comment on compliance with each of these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); c. A summary of inspections made on the physical infrastructure in accordance with Condition 7; d. Results of soil sampling required by Condition 16 of Discharge Permit (to land) and an analysis to determine whether any material change in soil quality has occurred and actions taken to remedy any nutrient deficiency or excess; e. Results of groundwater monitoring required by Conditions 17 and 18 of Discharge Permit (to land) and Condition 12 of Discharge Permit (to groundwater), including an assessment of whether there has been a decline in groundwater quality due to the activities; f. Results of surface water monitoring required by Conditions 8 to 11 of Discharge Permit (to water) including an assessment against the One Plan Schedule E water quality targets, focusing on the soluble inorganic nitrogen concentrations; g. A copy of the complaints register required by Condition 17; h. The number, duration and volume of discharges to the Oroua River; i. A copy of the wind speed shut-off level review required by Condition 6 of Discharge Permit (to air)**;** **j. A summary of inspections made on the treatment pond system and any system modifications made in**	Accept	By 31 October of each year (commencing 31 October 2017) the Permit Holder must provide the Manawatu-Whanganui Regional Council's Regulatory Manager, an annual monitoring report for the 12 month period ending the previous 30 September. The annual monitoring report must include (but not be limited to): a. A summary and interpretation of analyses and records collected in accordance with these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); b. A comment on compliance with each of these Conditions and the Conditions of Discharge Permits (to water, to land, to air, and to groundwater); c. A summary of inspections made on the physical infrastructure in accordance with Condition 7; d. Results of soil sampling required by Condition 16 of Discharge Permit (to land) and an analysis to determine whether any material change in soil quality has occurred and actions taken to remedy any nutrient deficiency or excess; e. Results of groundwater monitoring required by Conditions 17 and 18 of Discharge Permit (to land) and Condition 12 of Discharge Permit (to groundwater), including an assessment of whether there has been a decline in groundwater quality due to the activities; f. **Every second year, results of surface water monitoring required by Conditions 8 to 11 of Discharge Permit (to water) including an assessment of;** • **The ammonia, DRP, SIN, E.coli, and scBOD$_5$ monitoring results against the One Plan Schedule E targets. This assessment shall be undertaken on the basis of daily time step mass balance modelling, using the model developed as part of the resource consent application or equivalent model approved by the Regional Council;** • **An assessment of the chlorophyll a monitoring results against the model developed as part of the resource consent application or equivalent model approved by the Regional Council; and** • **Of the effects of the discharge on the macroinvertebrate communities, based on the monitoring undertaken under condition X.** g. A copy of the complaints register required by Condition 17; h. The number, duration and volume of discharges to the Oroua River; i. A copy of the wind speed shut-off level review required by Condition 6 of Discharge Permit (to air)**;** **j. A summary of inspections made on the treatment pond system and any**	

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		accordance with Condition 8 (Discharge Permit to Land where may enter water); k. A copy of the land treatment irrigation and harvest records as required by Condition 19 and 20 of the Discharge Permit (to land); and l. A nutrient budget incorporating details of all applications to land as well as ongoing farm system inputs relevant.	Reject. Not all of the consented area will be receiving wastewater. Unclear the benefit of keeping and providing these records. Accept	system modifications made in accordance with Condition 8 (Discharge Permit to Land where may enter water); k. A copy of the land treatment irrigation and harvest records as required by Condition 19 and 20 of the Discharge Permit (to land); and l. A nutrient budget incorporating details of all applications to land as well as ongoing farm system inputs relevant.	
21	The Permit Holder will consult with neighbours in regards to any changes in its consents or management of it consents that may impact the neighbours. AFFCO Manawatu will provide an opportunity to meet with neighbours to discuss matters relevant to the activities at least once per year.	No change	Accept		
22	In the event of an archaeological site, waahi tapu or koiwi being discovered or disturbed during the activities, the Permit Holder must immediately cease further work in the immediate area and inform Ngati Kauwhata, Tanenuiarangi Manawatu Incorporated, the Manawatu-Whanganui Regional Council's Regulatory Manager, Heritage New Zealand and (in the event that human remains are found) the New Zealand Police. Further work at the site must be suspended while Iwi carry out their procedures for the removal of Taonga. The Manawatu-Whanganui Regional Council's Regulatory Manager will advise the Permit Holder when work can resume. Advice Note: In accordance with Section 14(1) of the Coroners Act 2006, in the event that human remains are found the NZ Police should be contacted immediately and all works in the immediate vicinity will cease until advice is given that works can recommence.	No change.	Accept		
To address issues raised in the Ngati Kauwhata CIA, the following conditions area proposed:					
23				**Optimisation Investigation** The Permit Holder must every 5 years in July, starting July 2021, submit a draft report on the discharge regime and in particular the volume of water applied to land, discharged to water and stored. The report shall record: a) The frequency of discharges to surface water at the times referred in conditions 2a and 2b; b) the volumes applied to land; and c) an evaluation of alternatives that will increase the discharge to land, ideally to 100 % land application, including an economic assessment of the alternatives.	
24				The Permit Holder shall provide a copy of the draft Optimisation Investigation report to Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated and within 2 months of completing the report, the Permit Holder shall invite representatives of Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated to consult and meet on the report. Within 8 months of submitting the draft report the Permit Holder shall supply a copy of the final report, along with the feedback, if any, from consultation with	

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				Ngāti Kauwhata and Tanenuiarangi Manawatu Incorporated and, where that feedback has not been adopted the reasons for not adopting it, to the Manawatu-Wanganui Regional Council's Regulatory Manager.	
25				The Permit Holder must invite Ngāti Kauwhata and Tanenuiarangi Manawatu Inc to work with it (either individually or jointly) in preparing Cultural Health Index Monitoring Protocols within the immediate environs of the AFFCO plant site, including the Oroua River. If the invitation is accepted, within 18 months of the commencement of this consent, the Permit Holder must provide the Manawatu-Wanganui Regional Council's Regulatory Manager with two (unless otherwise agreed) Cultural Health Index Monitoring Protocols, developed in consultation with Ngāti Kauwhata and/or Tanenuiarangi Manawatu Inc respectively. The protocols, as a minimum, must: a. Describe the relationship of Ngāti Kauwhata and/or Tanenuiarangi Manawatu Inc to the land consented for irrigation of wastewater and the adjacent areas of the Otoku Stream and the Oroua River and the the sites of interest to Ngāti Kauwhata and/or Tanenuiarangi Manawatu Inc related to those areas; b. Describe Ngāti Kauwhata and/or Tanenuiarangi Manawatu Inc tikanga relevant to the proposed cultural monitoring, the activities, and the site(s); c. Identify and map (with map references) the site(s) to be monitored (the Permit Holder must be able to legally obtain access to those sites); d. Set out the frequency of monitoring; e. Describe the procedures required to access the application site for the monitoring (in particular health and safety requirements); f. Identify the parameters and methods used for the monitoring; and a. Set out the matters to be included in the Cultural Health Index Monitoring Report and the frequency of the reporting obligations	HRC would like to be provided every 6 months

AFFCO Water Discharge: Draft Conditions: Commentary

Cond No	Suggested Conditions	HRC Draft	Comment on current position – to be updated at the hearing		
1	Discharge Permit Number shall expire on 1 July 2049.				
2	The activity authorised by this Discharge Permit is restricted to the discharge of treated wastewater to the Oroua River (at approximate map reference NZTM (RE79ts) BM34:1819780E, 5543130N) under the following criteria: a) During the period 1 April to 30 November of any year: i. When the river flow is below 7,590 L/s, there shall be no discharge of wastewater; or ii. When the river flow is 7,590 L/s or greater, but less than 16,193 L/s, the discharge rate shall not exceed the lesser rate of 35 L/s or that determined by the equation QOR*(0.005*/[DRP]ww) Where: QOR is the average daily river flow or instantaneous river flow (L/s) in the Oroua River measured at the Kawa Wool monitoring site; and [DRP]ww is the concentration of DRP (g/m3) in the treated wastewater from the most recent sample for which a DRP test result has been received by the Permit Holder; or iii. When the river flow is 16,193 L/s or greater, the discharge rate shall not exceed 3,000 m3/d and 35 L/s. b) During the period 1 December to 31 March of any year, when the river flow is greater than 20,913 L/s, the discharge shall not exceed 3,000 m3/d and 35 L/s. c) Compliance with river flow requirements shall be assessed at 9:00 am on the day of any discharge to the river for the following 24 hour period. Compliance with DRP requirements shall be based on most recent analysis results	The activity authorised by this Discharge Permit is restricted to the discharge of treated wastewater to the Oroua River (at approximate map reference NZTM (RE79ts) BM34:1819780E, 5543130N) under the following criteria: a) During the period 1 April to 30 November of any year: i. When the river flow is below 7,590 L/s, there shall be no discharge of wastewater; or ii. When the river flow is 7,590 L/s or greater, but less than 16,193 L/s, the discharge rate shall not exceed the lesser rate of 35 L/s or that determined by the equation QOR*(0.005*/[DRP]ww) Where: QOR **is ~~the average daily~~ instantaneous** river flow or instantaneous river flow (L/s) in the Oroua River measured at the Kawa Wool monitoring site; and [DRP]ww is the concentration of DRP (g/m3) in the treated wastewater from the most recent sample for which a DRP test result has been received by the Permit Holder; or iii. When the river flow is 16,193 L/s or greater, the discharge rate shall not exceed 3,000 m3/d and 35 L/s. b) During the period 1 December to 31 March of any year; i. when the river flow is greater than 20,913 L/s, the discharge shall not exceed 3,000 m3/d and 35 L/s; and **ii. when the river flow is below 20,913 L/s there shall be no discharge to the Oroua River** c) Compliance with river flow requirements shall be assessed at 9:00 am **and checked every 6 hours following** this on the day of any discharge to the river for the following 24 hour period. Compliance with DRP requirements shall be based on most recent analysis results of treated wastewater. Comment – minor wording changes added for clarity. Considered appropriate to check flows	Reject. Subject to discussions with Horizons as to reliability of its data supply. AFFCO has tried to use this approach but the data from Horizons (link that can be automated) is not sufficiently reliable to make this happen at this stage. Accept Reject. As above automated data cannot be reliably provided by Horizons at this stage. Adds significant work for no benefit with		

			implications for periods overnight and during the weekends.		
2a				The Permit Holder shall endeavour to avoid discharges to surface water below the 20FEP (7,590l/s) in the months of April and May for the duration of this permit. For the purposes of this condition, 'endeavours' shall be demonstrated by management options within the control of the Permit Holder including: a. Maximising land irrigation subject to compliance with condition X of the discharge to land consent; and b. Discharge to the river only occurs when there is less than 25% available storage.	To endeavour to avoid surface water discharges below the 20FEP
2b				By 1 July each year, or until such time as otherwise agreed in writing between AFFCO and the Manawatu-Wanganui Regional Council's Regulatory Manager, detailing the matters listed in Condition 26 a) – f) should a discharge have occurred in that year. The report shall be provided to Horizons and shall include: a. Detailing the extent of discharges above 20 FEP in April and May in the preceding year; b. Providing comment on why the discharge under a) was not avoidable; c. Reporting on the performance / impacts of any measures implemented the previous year related to avoiding or reducing discharges below the 20th FEP; d. Assessing whether the discharge under a) could have been avoided through plant operational efficiency improvements; e. Considering cost implication of any efficiencies, improvements or factors identified; f. Stating any measures that are to be implemented to seek to avoid future discharges below the 20FEP for the forthcoming year; and g. Confirming a timeframe for any measures identified under f) to be implemented. . **Advice Note:** the annual reports required by this condition are to be considered as part of the 5 yearly investigative report required by General Condition 23 and 24	To endeavour to avoid surface water discharges below the 20FEP
3	The treated wastewater must discharge to the Oroua River through the river discharge structure, as detailed on plan ?.	No change	Accept		
4	The maximum daily discharge of meatworks effluent to the Oroua River must not exceed 3,000 m³/day and must not exceed a maximum flow rate of 35 L/s	Delete – not required as flow volumes and rates determined by Condition 2	Accept		
5	The Permit Holder must, before commencing the activity at the new discharge location, erect a sign or signs, that are visible to river users, on the true left bank of the Oroua River adjacent to the discharge point advising of the presence of the treated wastewater discharge. The precise wording and location of the signage must be agreed with the Manawatu-Whanganui Regional Council's Regulatory Manager. The Permit Holder must maintain the signage for the duration of this Permit	The Permit Holder must, before commencing the activity at the new discharge location, erect a sign or signs, that are visible to river users, ~~**on the true left bank**~~ **on both banks** of the Oroua River adjacent to the discharge point advising of the presence of the treated wastewater discharge **when discharge to water is occurring.** The precise wording and location of the signage must be agreed with the Manawatu-Whanganui Regional Council's Regulatory Manager. The Permit Holder must maintain the signage for the duration of this Permit Comment – Considered appropriate to be visible on both sides of the bank to alert users to potential risk, as the actual risk arises when the discharge is occurring the signs would not be needed so could be removed/closed.	Reject. Land access issues and maintenance issues (including vandalism), and the proposed regime at higher flows make this unnecessary and not capable of performance.		This signage needs to reflect were the greatest risk to Oroua River users is and this is through people accessing the Oroua River from the Feilding township side. This risk will be reduced with the proposed change to conditions for best efforts to not discharge below the 20th FEP during April/May. (LB)
6	The zone of reasonable mixing in the waters receiving the treated wastewater is defined as	No change, other than will provide plan number.	Accept		

	that reach of the Oroua River from the wastewater discharge structure to within a distance of 200 m downstream of the river discharge structure, as shown on Plan ? attached to and forming part of this consent.				
7	The discharge authorised by this Discharge Permit must not cause any of the following effects: Any emission of objectionable odour; or a. Any of the following effects in the receiving waters, after a reasonable mixing distance of 200 metres: b. i. the production of any conspicuous oil or grease films, ii. scums or foams, or iii. floatable or suspended materials.	(What AFFCO already had, plus…) ii. bacterial and / or fungal slime growths visible to the naked eye as plumose growths or mats; or iii. the receiving water to become unsuitable for consumption by farm animals; or iv. a reduction in horizontal visibility exceeding 30%; or v. a reduction in QMCI of greater than 20%; or vi. the DO concentration to fall below 70% saturation; or vii. the rolling annual average ammonia concentration to exceed 0.400 g/m3; or viii. the maximum ammonia concentration to exceed 2.1 g/m3; or ix. the Particulate Organic Matter concentration to exceed 5 g/m3 (an average over any 12 month period) when flows are below median flows; or x. the soluble carbonaceous BOD5 concentration due to dissolved organic compounds (that is, material passing through a GF/C filter) to exceed 2 grams per cubic metre at river flows below the 20th FEP; or xii. the maximum cover of visible streambed of periphyton as filamentous algae more than 2cm long to exceed 30% in a run habitat; or xiii. the maximum cover of visible streambed of periphyton as mat algae more than 0.3cm thick to exceed 60% in a run habitat Comment – more specific and measureable standards in line with recent Feilding decision	To respond after further discussions with Horizons.	The discharge authorised by this Discharge Permit must not cause any of the following effects: Any emission of objectionable odour; or a. Any of the following effects in the receiving waters, after a reasonable mixing distance of 200 metres: i. the production of any conspicuous oil or grease films, or ii. scums or foams, or iii. floatable or suspended materials. iv. bacterial and / or fungal slime growths visible to the naked eye as plumose growths or mats; or v. a reduction in horizontal visibility exceeding 30%; or vi. a reduction in QMCI of greater than 20%; or vii. the DO concentration to fall below 70% saturation; or viii. the rolling monthly average ammonia concentration to exceed 0.400 g/m3; or ix. the maximum ammonia concentration to exceed 2.1 g/m3; or x. the monthly average soluble carbonaceous BOD5 concentration due to dissolved organic compounds (that is, material passing through a GF/C filter) to exceed 2 grams per cubic metre at river flows below the 20th FEP; or xi. the maximum cover of visible streambed of periphyton as filamentous algae more than 2cm long to exceed 30% in a run habitat; or xii. the maximum cover of visible streambed of periphyton as mat algae more than 0.3cm thick to exceed 60% in a run habitat; or xiii. the chlorophyll *a* concentration to exceed to 120 mg/m^2 in more than 1 out of 12 consecutive monthly samples **Advice note:** Compliance with the rolling monthly average ammonia, and $scBOD_5$ shall be based on model outputs based on discharge flow rates, Oroua River flows, and effluent concentrations.	Standard for POM removed as the One Plan targets only apply below median flows and the discharge will not occur below median flows. The suitability for consumption by farm animals standard removed as assessing compliance with this standard has proved very problematic in the past Chlorophyll a standard to apply as an absolute however, this is only because two samples per year will be collected and the risk of exceedance is low.
7A				Should the discharge cause, after a reasonable mixing distance of 200 metres the chlorophyll *a* concentration to exceed to 120 mg/m^2 on any sampling occasion then the Permit Holder shall have an appropriately qualified and experienced freshwater ecologist undertake monthly monitoring of the chlorophyll a biomass in runs. Sampling shall be undertaken monthly for 12 consecutive months following the condition being triggered at sites prescribed under condition 11, to assess compliance against condition 7xiii.	
8	The Permit Holder must monitor the following parameters in samples of water from the Oroua River at two sampling locations, comprising one located 200 m upstream of the discharge point, and the second located 200 m downstream of the discharge point: a. ScBOD5; b. Total Suspended Solids; c. Nitrate Nitrogen (N03-N); d. Nitrite Nitrogen (NO2-N); e. Total Ammoniacal-Nitrogen (NH4-N); f. Dissolved Reactive Phosphorus (DRP); g. Escherischia coli; and h. Turbidity. Sampling must be undertaken 3-monthly during the period of discharge (1 April to 30 November)	(What we already started with, but changing parameters and timing to…) i. pH (field measurement); ii. Temperature (field measurement); iii. Dissolved oxygen (field measurement); iv. Total Suspended Solids; v. scBOD5 (Dissolved carbonaceous biochemical oxygen demand being material passed through a GF/C filter); vi. Total Nitrogen; vii. Nitrate Nitrogen; viii. Ammoniacal Nitrogen; ix. Nitrite-Nitrogen; x. Dissolved Reactive Phosphorus; xi. Total Phosphorus; xii. Particulate Organic Matter; xiii. E.coli Sampling must be undertaken monthly	To respond after further discussions with Horizons.	The Permit Holder must monitor the following parameters in samples of water from the Oroua River at two sampling locations, comprising one located 200 m upstream of the discharge point, and the second located 200 m downstream on the true left bank of the discharge point: i. pH (field measurement); ii. Temperature (field measurement); iii. Dissolved oxygen (field measurement); iv. Total Suspended Solids; v. $scBOD_5$ (Dissolved carbonaceous biochemical oxygen demand being material passed through a GF/C filter); vi. Total Nitrogen; vii. Nitrate Nitrogen; viii. Ammoniacal Nitrogen; ix. Nitrite-Nitrogen; x. Dissolved Reactive Phosphorus; xi. Total Phosphorus; *xii. E.coli*	Monitoring of POM removed to reflect the change to the conditions above regarding the POM target not applying above median flow. The monitoring needs to align with the proposed discharge regime hence the recommendation to monitor when discharging and at flows between median and the 20th FEP. Flows above the 20th FEP for monitoring are excluded from monitoring due to many One Plan targets not applying above the 20th FEP and the Health and Safety aspects.

		Comment – to allow for more detailed assessment and allow for potential relationships to be determined. This monitoring frequency is consistent with Horizons Regional Council monitoring		Sampling must be undertaken on a monthly basis when the discharge is occurring and flows are between the median and 20th Flow Exceedance Percentile flows.	
9	The Permit Holder must have an appropriately qualified and experienced freshwater ecologist undertake macroinvertebrate sampling in the Oroua River. The macroinvertebrate assessment must be undertaken following a period of at least three weeks without a flood event and during a period of low flow. The timing of the monitoring must be confirmed by Manawatu-Whanganui Regional Council's Regulatory Manager prior to the commencement of the monitoring. The locations of the assessments and sampling shall be: a. upstream of the discharge point in the first riffle upstream within 100 m of the discharge point; b. downstream of the discharge point in the first riffle within 400 m of the discharge point. Advice Note: A flood event is considered to be when the Oroua River is at 16.08 m³/s and low flow is defined as half median flow at the Kawa Wool site The	The Permit Holder must have an appropriately qualified and experienced freshwater ecologist undertake macroinvertebrate sampling in the Oroua River. The macroinvertebrate assessment must be undertaken following a period of at least three weeks without a flood event and during a period of ~~**low flow**~~ **stable flow and when the discharge has been occurring for at least two weeks.** The timing of the monitoring must be confirmed by Manawatu-Whanganui Regional Council's Regulatory Manager prior to the commencement of the monitoring. The locations of the assessments and sampling shall be: a. upstream of the discharge point in the first riffle upstream within 100 m of the discharge point; b. downstream of the discharge point in the first riffle within 400 m of the discharge point. Advice Note: A flood event is considered to be when the Oroua River is at 16.08 m³/s ~~**and low flow is defined as half median flow at the Kawa Wool site**~~ Comment – Changes to required flow conditions and to ensure that potential effects are being picked up (e.g. discharge has been operating).	To discuss stable flow, and the implications of not having the right conditions for sampling with Horizons (i.e. sampling can't be completed within the allotted time).	The Permit Holder must have an appropriately qualified and experienced freshwater ecologist undertake macroinvertebrate sampling in the Oroua River during October or November on three occasions, but no more than once each year, over the life of the consent. Provided the flow conditions below allow monitoring to occur, the three rounds shall occur during the first three years following granting of the consent. Should the flow conditions not be met, then monitoring shall occur in the following year until three monitoring rounds are completed. The macroinvertebrate assessment must be undertaken following a period of at least three weeks without a flood event and during a period of stable flow and when the discharge has been occurring for at least two weeks. The timing of the monitoring must be confirmed by Manawatu-Whanganui Regional Council's Regulatory Manager prior to the commencement of the monitoring. The locations of the assessments and sampling shall be: a. upstream of the discharge point in the first riffle upstream within 100 m of the discharge point; and b. downstream of the discharge point in the first riffle within 400 m of the discharge point. **Advice Note:** A flood event is considered to be when the Oroua River is at and above 16.08 m³/s. If the consent holder is unable to undertake sampling during any one year due to flow conditions the monitoring shall roll over to the next.	
10	The Permit Holder must ensure that the macroinvertebrate sampling referred to in Condition 9 above is to be undertaken annually between April and May inclusive beginning during the first year following commencement of the consent. The macroinvertebrate sampling must follow Protocols C3 (Hard-bottomed quantitative), P3 (full count with subsampling option) and QC3 (Quality control for full count with subsampling option) from the Ministry for the Environment's "protocols for sampling macroinvertebrates in wade-able streams" (Stark et al. 2001). This shall involve: a) Collection of 7 replicate 0.1 m2 Surber samples at random within a 20 m section of riffle habitat at each sampling site; b) Full count of the macroinvertebrate taxa within each replicate sample to the taxonomic resolution level specified for use of the Macroinvertebrate Community Index (MCI); and c) Enumeration of the results as taxa richness, MCI, QMCI, %EPT taxa and %EPT individuals. Advice Note: Should annual monitoring show no adverse effects, then the Permit Holder may seek a variation to reduce the frequency of monitoring	No change	Accept	The Permit Holder must ensure that the macroinvertebrate sampling referred to in Condition 9 above. The macroinvertebrate sampling must follow Protocols C3 (Hard-bottomed quantitative), P3 (full count with subsampling option) and QC3 (Quality control for full count with subsampling option) from the Ministry for the Environment's "protocols for sampling macroinvertebrates in wade-able streams" (Stark et al. 2001). This shall involve: a) Collection of 5 replicate 0.1 m2 Surber samples at random within a 20 m section of riffle habitat at each sampling site; b) Full count of the macroinvertebrate taxa within each replicate sample to the taxonomic resolution level specified for use of the Macroinvertebrate Community Index (MCI); and c) Enumeration of the results as taxa richness, MCI, QMCI, %EPT taxa and %EPT individuals. **Advice Note:** Should annual monitoring show no adverse effects, then the Permit Holder may seek a variation to reduce the frequency of monitoring	Changed 7 surber samples down to 5.
11	No later than three years after the granting of this Discharge Permit, the Permit Holder must engage an appropriately experienced and qualified freshwater ecologist to undertake an assessment of the percentage cover, biomass, chlorophyll a and community composition of periphyton,	The ~~**Consent**~~ **Permit Holder** must engage an appropriately experienced and qualified freshwater ecologist to undertake an assessment of the percentage cover, biomass, chlorophyll a and community composition of periphyton, filamentous algae and cyanobacterial mats in runs. **Sampling**	To respond after further discussions with Horizons.	The Permit Holder must engage an appropriately experienced and qualified freshwater ecologist to undertake an assessment of the chlorophyll a biomass in runs. Sampling shall be undertaken monthly during October and November 2017, 2018 and 2019 following commencement of discharge to land. The locations of the assessments and sampling shall be:	This condition is changed to monitoring only in October and November in the first three years. This is to allow validation of the periphyton growth model that was used in the application. Monitoring is not recommended in April/May due to the proposed changed conditions that require

	filamentous algae and cyanobacterial mats in runs. This sampling must be undertaken monthly beginning when the discharge to land commences and shall continue for a 12 month period.	**shall be undertaken monthly for 3 consecutive years commencing in 2017 following commencement of discharge to land. An annual report must be submitted to the Manawatu-Whanganui Regional Councils Regulatory Manager by 1 November each year and a final report detailing all results within three months of the final sampling survey.** ~~This sampling must be undertaken monthly beginning when the discharge to land commences and shall continue for a 12 month period.~~ Comment – To better identify potential effects around periphyton growth a longer sampling period is considered appropriate		a. upstream of the discharge point in the first run upstream within 100 m of the discharge point; b. downstream of the discharge point in the first run within 400 m of the discharge point. The collection of a periphyton sample for chlorophyll a analysis using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs & Kilroy 2000). Analysis of periphyton samples must follow the protocols outlined in Appendix 3 of 'A periphyton monitoring plan for the Manawatu/Wanganui Region' (Kilroy et al 2008) and shall involve extraction of chlorophyll a by ethanol. An annual report must be submitted to the Manawatu-Whanganui Regional Councils Regulatory Manager by 1 November each year and a final report detailing all results within three months of the final sampling survey. **Advice note:** this monitoring is to assess the accuracy of the periphyton growth model that was developed as part of the application	best efforts to not discharge to the Oroua River below the 20th FEP. Chlorophyll a sampling methodology moved up from the conditions below so that all periphyton monitoring is captured in the one condition.
12	The sampling required by Condition 11 of this Discharge Permit must include a visual assessment of the percentage cover of both filamentous algae and algal mats (to the nearest 5%) at 5 points across each of four transects encompassing run habitat and extending across the width of the river at each sampling site. The visual monitoring methods must follow the protocols outlined in Appendix 2 of "A periphyton monitoring plan for the Manawatu-Wanganui Region" (Kilroy et al. 2008). Reported estimates must include: a. Percentage cover of visible stream or river bed by bacterial and/or fungal growths (sewage fungus) visible to the naked eye; b. Percentage cover of visible stream bed by filamentous algae more than 2 cm long; c. Percentage cover of visible stream bed by filamentous algae less than 2 cm long; d. Percentage cover of visible stream bed by diatoms or cyanobacteria mats more than 0.3 cm thick; e. Percentage cover of visible stream bed by diatoms less than 0.3 cm thick; and f. Percentage cover of visible stream bed that is clean	No change	Accept	~~The sampling required by Condition 11 of this Discharge Permit must include a visual assessment of the percentage cover of both filamentous algae and algal mats (to the nearest 5%) at 5 points across each of four transects encompassing run habitat and extending across the width of the river at each sampling site. The visual monitoring methods must follow the protocols outlined in Appendix 2 of "A periphyton monitoring plan for the Manawatu-Wanganui Region" (Kilroy et al. 2008). Reported estimates must include:~~ ~~a. Percentage cover of visible stream or river bed by bacterial and/or fungal growths (sewage fungus) visible to the naked eye;~~ ~~b. Percentage cover of visible stream bed by filamentous algae more than 2 cm long;~~ ~~c. Percentage cover of visible stream bed by filamentous algae less than 2 cm long;~~ ~~d. Percentage cover of visible stream bed by diatoms or cyanobacteria mats more than 0.3 cm thick;~~ ~~e. Percentage cover of visible stream bed by diatoms less than 0.3 cm thick; and~~ ~~f. Percentage cover of visible stream bed that is clean.~~	Remove coverage monitoring due to low risk and reliance on chlorophyll a monitoring.
13	The collection of a periphyton sample must be at the same established monitoring sites and transects as defined in Condition 9 above, using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs & Kilroy 2000). Analysis of periphyton samples must follow the protocols outlined in Appendix 3 of 'A periphyton monitoring plan for the Manawatu/Wanganui Region' (Kilroy et al 2008) and shall involve extraction of chlorophyll a by ethanol.	No change	Accept	~~The collection of a periphyton sample must be at the same established monitoring sites and transects as defined in Condition 9 above, using method QM-1b from the Stream Periphyton Monitoring Manual (Biggs & Kilroy 2000). Analysis of periphyton samples must follow the protocols outlined in Appendix 3 of 'A periphyton monitoring plan for the Manawatu/Wanganui Region' (Kilroy et al 2008) and shall involve extraction of chlorophyll a by ethanol.~~	Deleted and moved to condition 11 above.
14	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act, initiate a review of the Conditions of this Discharge Permit in July 2018 and every 5 years thereafter in the month of July for the duration of this Discharge Permit. The review must be for the purposes of avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for consideration of the	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act, initiate a review of the Conditions of this Discharge Permit **every five (5) years in July commencing July 2022 the duration of this Discharge Permit.** The review must be for the purposes of avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for consideration of the	Reject. Annual review is excessive and far beyond the minor level of effects of the proposal. Such reviews add considerable cost on the applicant and the community and		

	following matters: a. The deletion or amendment of these Conditions; b. Evaluation and modification of these Conditions to ensure that discharges to land authorised by Discharge Permit (to land) are used preferentially over discharges to the Oroua River under this Discharge Permit, to the extent practicable; c. The modification of the monitoring program required by the General Conditions; d. The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to Conditions to mitigate adverse effects attributed to any breach of any conditions; and e. The adoption of the Best Practicable Option to prevent or minimise significant adverse effects from the exercise of this Discharge Permit	following matters: a. The deletion or amendment of these Conditions; b. Evaluation and modification of these Conditions to ensure that discharges to land authorised by Discharge Permit (to land) are used preferentially over discharges to the Oroua River under this Discharge Permit, to the extent practicable; c. The modification of the monitoring program required by the General Conditions; d. The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to Conditions to mitigate adverse effects attributed to any breach of any conditions; and e. The adoption of the Best Practicable Option to prevent or minimise significant unanticipated adverse effects from the exercise of this Discharge Permit	given the monitoring proposed and the evidence of Mr Lowe and Dr Ausseil such regular reviews are not required. AFFCO will discuss timing with Horizons prior to the hearing and also wording to make it clear it relates solely to more than minor unanticipated adverse effects.		

AFFCO Riverbed Structure: Draft Conditions: Commentary

Cond No	Suggested Conditions	HRC Draft	Comment on current position – to be updated at the hearing
1	The activities authorised by this Land Use Consent are restricted to: a) The installation, operation, and maintenance, of pipelines and an outlet structure (at approximate map reference NZTopo50 BM34: 1819765E, 5543130N), within 8 metres of the true left bank of the Oroua River and Otoku Stream to convey treated wastewater; b) The installation, operation and maintenance of a bed level control structure in the bed of the Otoku Stream at and immediately upstream from its confluence with the Oroua River; and c) The associated temporary discharge of sediment during construction, on the property legally described as "legal river", ID 4105837 (47.2899 ha), being part of the Oroua River bed adjacent to and west of AFFCO New Zealand Ltd site.	No change	Accept
2	The Consent Holder must undertake the activities in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015 including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. Where the information is inconsistent with the requirements of specific consent conditions, the conditions prevail.	No change	Accept
3	The Consent Holder must complete the construction and commissioning of the works authorised by condition 1(a)-(c) within 4 years from commencement of this consent.	No change	Accept
4	The Consent Holder must ensure the proposed pipeline, outfall structure and bed level control structure is designed in accordance with the Manawatu-Whanganui Regional Council's engineering requirements.	No change	Accept
5	At least 20 working days prior to commencement of the activities, the Consent Holder must provide to the Manawatu/Whanganui Regional Council's Regulatory Manager for certification a copy of the design and specification of all works, as prepared by an appropriately qualified and experienced Engineer. No work may commence until the Manawatu-Whanganui Regional Council's Regulatory Manager certifies in writing that the work may proceed in accordance with the design and specification provided.	No change	Accept
6	At least 20 working days prior to commencement of the activities, the Consent Holder must provide to the Manawatu/Whanganui Regional Council's Regulatory Manager for technical certification an Erosion and Sediment Control Plan (ESCP) to address erosion and sediment control for the land disturbance and vegetation clearance authorised by this Consent. The ESCP must be developed in accordance with the "Greater Wellington Regional Council Guidelines – Guidelines for the Wellington Region 2002 and reprint 2006" and include as a minimum, but not be limited to: a) Details of principles, procedures and practices that will be implemented to minimise the potential for sediment to enter surface water bodies (including drains); b) Provision of a construction timetable for bulk earth disturbance works and establishment of the erosion and sediment control structures;	At least 20 working days prior to commencement of the activities, the Consent Holder must provide to the Manawatu-Whanganui Regional Council's Regulatory Manager for technical certification an Erosion and Sediment Control Plan (ESCP) to address erosion and sediment control for the land disturbance and vegetation clearance authorised by this Consent. The ESCP must be developed in accordance with the "Greater Wellington Regional Council Guidelines – Guidelines for the Wellington Region 2002 and reprint 2006" and include as a minimum, but not be limited to: a) Details of principles, procedures and practices that will be implemented to minimise the potential for sediment to enter surface water bodies (including drains); b) Provision of a construction timetable for bulk earth disturbance works and establishment of the erosion and sediment control structures;	Accept

	c) Provision of a timetable for progressive site rehabilitation, re-vegetation and stabilisation; d) Rainfall response and contingency measures for managing the stability of the disturbed or excavated areas to prevent sediment release into surface water bodies during high rainfall events; e) A site plan showing: a) the location of surface water bodies (including drains); b) extent of proposed soil disturbance (including borrow areas), vegetation clearance, and cut and fill areas; and c) any temporary or permanent stockpile areas; f) Methods and measures to ensure sediment entering surface water bodies is minimised between 1 December to 28 February (includes contact recreation season); and g) Identification and contact details of personnel responsible for the operation and maintenance of the key erosion and sediment control measures.	c) Provision of a timetable for progressive site rehabilitation, re-vegetation and stabilisation; d) Rainfall response and contingency measures for managing the stability of the disturbed or excavated areas to prevent sediment release into surface water bodies during high rainfall events; e) A site plan showing: a) the location of surface water bodies (including drains); b) extent of proposed soil disturbance (including borrow areas), vegetation clearance, and cut and fill areas; and c) any temporary or permanent stockpile areas; f) Methods and measures to ensure sediment entering surface water bodies is ~~minimised between 1 December to 28 February (includes contact recreation season);~~ and g) Identification and contact details of personnel responsible for the operation and maintenance of the key erosion and sediment control measures.	
7	The Consent Holder must ensure that no earthworks authorised by this Land Use Consent commence until the Manawatu/Whanganui Regional Council's Regulatory Manager certifies in writing that the ESCP satisfies the requirements of Condition 6.	No change	Accept
8	The Consent Holder must submit any proposed changes to the ESCP to Manawatu-Whanganui Regional Council's Regulatory Manager for technical certification prior to the implementation of any proposed changes.	No change.	Accept
9	The Consent Holder must undertake the activities in accordance with the ESCP most recently certified pursuant to Condition 7 or 8.	No change.	Accept
10	At least 20 working days prior to undertaking any maintenance works associated with the activities, the Consent Holder must provide to Manawatu-Whanganui Regional Council's Regulatory Manager, details of the proposed works and a methodology for undertaking the works, including provision for compliance with these Conditions.	No change	Accept
11	At least 20 working days prior to commencing the activities, the Consent Holder must submit a flood contingency plan to Manawatu-Whanganui Regional Council's Regulatory Manager. The flood contingency plan must include: a) Mechanisms for advance flood warning; b) Provision of relevant contact phone numbers; and c) Methods for removal of machinery, should this be necessary.	No change.	Accept
12	The Consent Holder must complete the construction of the authorised structures as quickly as possible and ensure that all equipment and materials required to complete construction are present on site prior to any works commencing.	No change.	Accept
13	The Consent Holder may only commence works where: a) There is at least four days of settled and/or dry weather forecast by the New Zealand Meteorological service (MetService) for the Oroua River catchment; and, b) The Consent Holder has notified the Manawatu-Whanganui Regional Council's Regulatory Manager and the Area Engineer Central at least two working days prior to the planned commencement of the works. Advice note: The Regulatory Manager and Area Engineer – Central can be contacted on Freephone 0508 800 800.	No change.	Accept
14	The Consent Holder must ensure that activities which may result in the release of sediment to the Oroua River	Comment – unclear what this condition relates to	See condition 20 below – propose the condition is deleted.

	do not occur between 15 August and 30 November (inclusive).		
15	The Consent Holder must ensure that any material excavated as a result of the activities is lifted clear of all surface water bodies and disposed of in a location where sediment cannot be washed back into surface water.	No change	Accept
16	The Consent Holder must ensure that all bare areas are stabilised within 10 working days of completion of the relevant work.	No change	Accept
17	The Consent Holder must ensure that no holes or mounds are left within any part of the bed of the Oroua River after the completion of the activities. Advice Note: for the purposes of this condition, any raising of ground levels to construct the authorised structures are not a 'mound'.	No change	Accept
18	The activities must not result in the discharge of contaminants that are toxic to aquatic ecosystems. Advice note: This includes leakage of fuel, oil and other contaminants from machinery used for the activities.	No change	Accept
19	The Consent Holder must ensure that the activities do not result in suspended sediment being conspicuous during Saturdays, Sundays and public holidays during 1 December to 28 February (inclusive).	No change	Accept
20	During 1 December to 14 August (inclusive) the Consent Holder must ensure that any of the activities causing the discharge of sediment to the Oroua River must not be undertaken for more than 24 hours in total across any given five consecutive days. Advice Note: Sediment release is not permitted between 15 August and 30 November due to the dotterel nesting habitats present within the Oroua River.	Comment – unclear as to why this condition is put forward, as dotterel not recorded as being present in this area and dates don't line up with general dotterel condition. Dotterel conditions generally relate more to gravel extraction.	Accepted that condition **deleted.**
21	The Consent Holder must ensure that: a) Machinery or vehicles entering any water body have had a stand down period of at least 48 hours since being in contact with another water body other than a water body in the upstream catchment of the Oroua River; b) Following use any machinery or vehicles must have a stand down period of at least 48 hours prior to use in any catchment, other than a water body in the upstream catchment of the Oroua River; and c) Standard check, clean or dry procedures are used for any vehicles, equipment, clothing or footwear that has been in contact with a water body other that a water body in the upstream catchment of the Oroua River within the past 48 hours.	No change.	Accept
22	The Consent Holder must comply with all notices and guidelines issued by Biosecurity New Zealand in relation to avoiding spreading the Pest Organism Didymosphenia geminate, known as "Didymo" (refer to www.biosecurity.govt.nz/didymo).	No change	Accept
23	The Consent Holder must ensure that no uncured cement or cement based products enter the flowing water in any surface water body (including drains) within the application site during the activities. Any uncured cement placed in or near a watercourse must be placed in such a manner that no concrete or cement leaches out and enters the watercourse. Such measures may include: a) Working during summer low flow conditions; or b) Containing the concrete in a watertight form work.	No change	Accept
24	The Consent Holder must ensure that the activities do not cause any objectionable deposition of dust at or beyond the boundary of the site.	No change	Accept

	Advice Note: A deposition of dust will only be considered objectionable after a Manawatu-Whanganui Regional Council officer has considered the Frequency, Intensity, Duration, Offensiveness and Location of the deposited dust (i.e. the FIDOL factors).		
25	In the event of an archaeological site, waahi tapu or koiwi being discovered or disturbed during the activities, the Consent Holder must immediately cease further work in the immediate vicinity and inform Ngati Kauwhata, Tanenuiarangi Manawatu Incorporated, the Manawatu-Whanganui Regional Council's Regulatory Manager, Heritage New Zealand and (in the event that human remains are found) the New Zealand Police. Further work at the site must be suspended while iwi carry out their procedures for removal of taonga. The Manawatu-Whanganui Regional Council's Regulatory Manager will advise the Consent Holder when work at the site can resume. Advice Note: In accordance with Section 14(1) of the Coroners Act 2006, in the event that human remains are found the police should be contacted immediately and all works in the immediate vicinity will cease until advice is given that works can recommence.	No change	Accepted that condition **deleted.**
26	Any structures constructed by the activities will remain the responsibility of the Consent Holder and must be maintained so that: a) Any erosion, scour or instability of the river bed or banks that is attributable to the structures is remedied by the Consent Holder within 10 working days, and b) The structural integrity of the structures remains sound.	No change	Accept
27	In the event that any damage is caused to any Manawatu-Whanganui Regional Council stopbank or river protection works as a result of the activities, the Consent Holder must immediately contact the Manawatu-Whanganui Regional Council's Area Engineer Central and repair the damage to the standard required by the Area Engineer.	No change	Accept

AFFCO Pond Seepage: Draft Conditions: Commentary

Cond No	Suggested Conditions	HRC Draft	Comment on current position – to be updated at the hearing	AFFCO proposed (with Horizons tracked changes)	Comments
1	Discharge Permit Number shall expire on 1 July 2049.				
2	The activity authorised by this Discharge Permit is restricted to: a. The discharge of wastewater components by seepage into land in the vicinity of the ponds identified on Plan Number attached to and forming part of this consent; and b. Any discharge undertaken in accordance with this Discharge Permit must occur on land legally described as: Lot 3, DP 89045 (16.7295 ha).	**This ~~consent~~ permit authorises the discharge into land of wastewater for the purpose of storing and treating wastewater in ponds and to land via seepage from the ponds on property legally described as Lot 3, DP 89045 (hereafter referred to as the property) at approximate map reference BM34 205 432.** **Comment – standard wording to be consistent with other recently granted consents for similar activity.**	Accept.		
3	The Permit Holder must undertake the activities in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015 including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. Where the information is inconsistent with the requirements of specific consent conditions, the conditions prevail. Advice Note: Any change 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 Act.	The **~~Consent~~ Permit** Holder must undertake the activities in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015 including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. **Where there are any inconsistencies between the information provided by the applicant and conditions of the resource consent, the conditions of the resource consent will apply.** Advice Note: Any change 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.	Accept.		
4	No later than 3 months following the granting of this permit, the Permit Holder must submit to the Manawatu Whanganui Regional Council's Regulatory Manager for technical certification an Operation and Management Plan detailing (but not limited to) the following items: a. A description of the ponds (wastewater treatment and storage system), including a site map identifying the location ponds and monitoring sites; b. Monitoring procedures covering all aspects of this Discharge Permit to demonstrate compliance with these Conditions; c. A methodology for desludging the ponds and procedures for avoiding damage of the existing clay liner; and d. Procedures to ensure that reporting requirements are met	No change	Accept		
5	The Permit Holder must annually review the Operation and Management Plan by 31 October of each year, commencing October 2017, to incorporate any proposed changes to the management of the activities. Following each review, the Operation and Management Plan, including any proposed changes must be submitted to the Manawatu-Whanganui Regional Council's Regulatory Manager for technical re-certification before 30 November of the same year.	No change	Accept, but year will need to change as highlighted.		

6	The Permit Holder must undertake the activities in accordance with the Operation and Management Plan that is most recently certified pursuant to Conditions 4 or 5. Advice Note: The Regulatory Manager or team representative can be contacted on Freephone 0505 800 800 or by e - mail at compliance.shared@horizons.govt.nz	No change.	Accept		
7	The Permit Holder must ensure that the physical infrastructure of the pond system is inspected every month. Any damage to pond embankments, or signs of pond seepage must be identified, noted and fixed as soon as practicably possible.	No change	Accept		
8	Records of the inspections carried out in accordance with Condition 7 and any resulting system modifications must be kept and made available to the Manawatu-Wanganui Regional Council's Regulatory Manager on request	Records of the inspections carried out in accordance with Condition 7 and any resulting system modifications **must be recorded in the annual report as required by Condition 20 of the General Conditions**.	Accept		
9	Monitoring of Wastewater. The Permit Holder must establish a site for sampling each of: a. Aerated pond effluent; b. Anaerobic pond effluent; and c. Final (discharged) wastewater. Each sample location must be representative of that effluent type and be close to the discharge point of that pond.	The Consent Holder must establish a site for sampling each of: a. Aerated pond effluent; b. Anaerobic pond effluent; and c. Final (discharged) wastewater. d. Sludge ponds Each sample location must be representative of that effluent type and be close to the discharge point of that pond and be recorded in the management plan required by condition 3 on the general conditions	Accept in part but AFFCO may move this condition to the general conditions. AFFCO rejects reference to sludge ponds. It is not practical to sample in the ponds due to the nature of the sludge removal process.		This condition could be moved to the general conditions or the conditions that regulate the specific discharge activity.
9a			AFFCO will discuss with Horizons a new condition to reflect solids monitoring.	tbc	As per Peter Hills consent
10	The Permit Holder must ensure that samples of wastewater are taken from the locations described in Condition 9 in the months of January, April, July, and October and tested for: a. Nitrate/nitrite Nitrogen (NOx-N) - (Not required for anaerobic effluent sample); b. Ammoniacal-Nitrogen (NH4-N); c. Dissolved Reactive Phosphorus (DRP); d. Acid soluble Sodium (Na); and e. Chloride (Cl-)	The Consent Holder must ensure that samples of wastewater are taken from the locations identified from Condition 9 in the months of January, April, July, and October and tested for: a. Nitrate/nitrite Nitrogen (NOx-N) - (Not required for anaerobic effluent sample); b. Ammoniacal-Nitrogen (NH4-N); c. Dissolved Reactive Phosphorus (DRP); d. Acid soluble Sodium (Na); and e. Chloride (Cl-) The Consent Holder must ensure that samples of pond solids are taken from the locations described in Condition 9 in the months of January, April, July, and October and tested for: a. Total Phosphorus (TP); b. Total Nitrogen (T-N); c. Potassium (K) Comment – pond solids need to be monitored and measured to enable calculation of nutrients being applied to land from this discharge.	Accept in part. The methodology for sampling solids is different to wastewater so suggest a separate condition as above.	The Consent Holder must ensure that samples of wastewater are taken from the locations identified from Condition 9 in the months of January, April, July, and October and tested for: a. Nitrate/nitrite Nitrogen (NOx-N) - (Not required for anaerobic effluent sample); b. Ammoniacal-Nitrogen (NH4-N); c. Dissolved Reactive Phosphorus (DRP); d. Acid soluble Sodium (Na); and e. Chloride (Cl-) The Consent Holder must ensure that samples of pond solids are taken from the locations described in Condition 9 in the months of January, April, July, and October and tested for: a. Total Phosphorus (TP); b. Total Nitrogen (T-N); c. Potassium (K) ~~Comment – pond solids need to be monitored and measured to enable calculation of nutrients being applied to land from this discharge.~~	This condition could be moved to the general conditions or the conditions that regulate the specific discharge activity. New conditions 9a and 10a address struck out text.

10a			AFFCO will discuss with Horizons a new condition to reflect solids monitoring.	tbc	As per Peter Hills consent
11	Groundwater quality must be measured at 5 locations from bores identified on Plan ? attached and forming part of these conditions. Groundwater	**Groundwater Monitoring and Investigations** **The Permit ~~Consent~~ Holder shall monitor groundwater quality measured in six locations. Monitoring shall be undertaken from three existing monitoring bores (325273A, 325275B and 325269C) and three new monitoring bores establish in accordance with Condition xx below.** Comment – additional monitoring bores are recommended based on advice of Mr Thomas to better capture potential effects.	Accept in part. Additional groundwater monitoring acceptable. However, it is noted that there is a double up on what is in the land discharge consent. AFFCO will refine before the hearing.	**Groundwater Monitoring and Investigations** The Permit ~~Consent~~ Holder shall monitor groundwater quality measured in six locations. Monitoring shall be undertaken from three existing monitoring bores (325273A, 325275B and 325269C) and three new monitoring bores establish in accordance with Condition xx below. ~~Comment – additional monitoring bores are recommended based on advice of Mr Thomas to better capture potential effects.~~	
11a		**Within six months of the date of commencement of this consent, the consent holder shall install three new groundwater monitoring wells on the site at or as near as practicable at the locations specified in Appendix 1 and to the following specifications:** **a) The monitoring wells shall have a diameter of a sufficient size to enable samples to be taken and shall be installed at the locations identified in xxxx plan.** **b) The wells shall be drilled to a depth of up to 10 metres below the summer low ground level and/ shall be screened across the full depth of the water table/aquifer, with a screen length of no more than xxx metres.** **c) The borehole casing shall be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water.** **d) A concrete pad at least 0.3 metres radius shall be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore.** **e) The wells shall be installed by a suitable qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001.** **Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the One Plan (2014)**	Accept with refinement, but AFFCO will delete from discharge to land consent before the hearing. Locations may need to be adjusted to avoid other contaminant inputs and AFFCO will refine to avoid current location double up and provide screen length specification.	Within six months of the date of commencement of this consent, the Permit ~~consent~~ holder shall install three new groundwater monitoring wells on the site at or as near as practicable at the locations specified in Appendix 1 and to the following specifications: a. The monitoring wells shall have a diameter of a sufficient size to enable samples to be taken and shall be installed at the locations identified in xxxx plan. b. The wells shall be drilled to a depth of up to 10 metres below the summer low ground level and/ shall be screened across the full depth of the water table/aquifer, with a screen length of no more than xxx metres. c. The borehole casing shall be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water. d. A concrete pad at least 0.3 metres radius shall be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore. e. The wells shall be installed by a suitable qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001. Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the One Plan (2014)	Agree [NT/HL] uncertainty whether current in piezos are in right areas to provide conclusive proof on leakage extent. Especially 325269C which could be in/close to an offal pit. Agree [NT/HL] need to install 3 new monitoring piezos. (and have agreed their general location) Agree [NT/HL] monitoring existing bores 325273A, 325275B, and 325269C. Agree [NT/HL] bores must be properly constructed so that samples can be captured across the full range of groundwater level variations. Need to review data after 2 years. Could use triggers to require more or less monitoring, but there is a lot of current variability and possible external influences. Makes setting sensible values and action difficult. Agree [NT/HL] if monitoring shows effects any remedial action can be dealt with through reviews. Requires location plan for new bores
11b		**The Consent Holder shall notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of any monitoring well's installed under Condition x.** **Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz**	Accept	The ~~Consent~~ Permit Holder shall notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of the additional monitoring well's installed under Condition x. Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz	
12	The Permit Holder must take quarterly groundwater samples in the months of January, April, July, and October in accordance with Condition 12 above and the samples must be analysed for the following: a. Nitrate/nitrite Nitrogen (NOx-N);	The Consent Holder shall take samples quarterly from all bores identified in Condition 11 in the months of January, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.	Accept. It is noted this condition does not require monthly	The Permit ~~Consent~~ Holder shall take samples ~~quarterly~~ from all bores identified in Condition 11 in the months of January, **March,** April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.	Frequency agree [NT/HL], Jan, March, April, July and October. Note that March has been included to provide an indication of potential concentrations during low flow conditions.

	b. Ammoniacal-Nitrogen (NH4-N); c. Dissolved Reactive Phosphorus (DRP); d. Sodium (Na); and e. Chloride (Cl-).		sampling.		
12a				After two years of monitoring in accordance with condition 12, the monitoring frequency shall be reduced to quarterly in the months of January, March, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.	Agree [NT/HL] after 2 years of monitoring under this consent frequency of monitoring of all bores modified to Jan, March, April, July and October.
12aa		**The Consent Holder shall measure and record the static water level in the bore prior to purging and sampling. Samples collected under Condition 12 shall be analyses for the following parameters:** **a. Temperature** **b. pH** **c. electrical conductivity** **d. chloride** **e. nitrate-nitrogen** **f. ammonia-nitrogen** **g. nitrite-nitrogen** **h. dissolved reactive phosphorus** **i. E.Coli**	Accept. AFFCO considers that sodium be included as initially suggested due to the nature of wastes in the area (and possibly include sulphur compounds. To respond after further discussions with Horizons.	**The ~~Consent~~ Permit Holder shall measure and record the static water level in the bore prior to purging and sampling. Samples collected under Condition 12 shall be analyses for the following parameters:** **a. Temperature** **b. pH** **c. electrical conductivity** **d. chloride** **e. nitrate-nitrogen** **f. ammonia-nitrogen** **g. nitrite-nitrogen** **h. dissolved reactive phosphorus** **i. E.Coli** **j. sodium**	
12b		**Results of monitoring collected in accordance with Condition 12a shall be transferred within ten working days of their receipt to the Manawatu-Wanganui Regional Council in a format compatible with the Manawatu-Wanganui Regional Council systems.**	Accept		
12c		**The Consent Holder must monitor the following parameters in samples of water from the Oroua River at four sampling locations, Oroua River upstream of the land irrigation area, Kiwitea Stream,200 m upstream of the discharge point, and the second located 200 m downstream of the discharge point:** **i. pH (field measurement);** **ii. Temperature (field measurement);** **iii. Dissolved oxygen (field measurement);** **iv. Total Suspended Solids;** **v. scBOD5 (Dissolved carbonaceous biochemical oxygen demand being material passed through a GF/C filter);** **vi. Total Nitrogen;** **vii. Nitrate Nitrogen;** **viii. Ammoniacal Nitrogen;** **ix. Nitrite-Nitrogen;** **x. Dissolved Reactive Phosphorus;** **xi. Total Phosphorus;** **xii. Particulate Organic Matter;** **xiii. E.coli** **Sampling must be undertaken monthly** **Note: The sample points 200m upstream and 200m downstream of the discharge point are the same as required for sampling under Auth xxxx (Discharge to Water).**	To respond after further discussions with Horizons. At this stage the S42A reports do not provide justification for the inclusion of this monitoring, especially the use of the nominated four sites.	Delete	Agree [LB/OA] that with conditions below surface water monitoring can be taken out as the intent has changed to monitoring direct groundwater effects in the condition below.
12f		**Permeability Investigations**	To respond after further	**Permeability ~~Investigations~~ Assessment**	

		Within six months of commencement of this Permit the Consent Holder shall submit to the Manawatu-Whanganui Regional Council's Consents Monitoring Team Leader a methodology to investigate the permeability of all the existing treatment ponds. The plan shall include, but not be limited to – **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 24 month period, consideration to be given to measuring pond levels and identify where evaporation rates are to be recorded; or other suitable method to determine permeability of each of the treatment ponds** **b. The methodology proposed shall be peer reviewed by an independent IPENZ engineer** **c. Results from the water balance undertaken in accordance with the peer reviewed methodology shall be submitted to the Horizons Regional Councils Consents Monitoring Team Leader by 1 November 2019.**	discussions with Horizons.	Delete	Agree to disagree re need for permeability assessment. HL – the methods of measuring leakage are not sufficiently accurately to conclude the extent of leakage. Irrespective, effects and action is being suggested elsewhere. Therefore qualification of leakage is not needed, with focus on effects preferable.
				Water Balance If after two years of groundwater monitoring in accordance with condition ?, bores are showing elevated contaminant concentrations attributed to pond leakage, the Permit Holder shall prepare an annual water balance using daily flow and climatic data for the previous 2 years to quantify pond seepage rates. This information shall be incorporated into the Contribution Investigation as detailed in condition ? below.	Slight difference of opinion HL suggestion - If after 2 years of groundwater monitoring bores are showing elevated contaminant concentrations attributed to pond leakage, the Permit holder shall prepare an annual water balance using daily flow and climatic data for the previous 2 years to quantify pond seepage rates. This information shall be incorporated into the annual review, with a qualification of pond leakage. NT suggestion. A water balance based on daily flow rates and climatic data shall be prepared after one year to quantify pond seepage rates. That leakage rate shall be combined with additional water quality data to determine whether further work to reduce or eliminate pond seepage is required.
12g		**By 1 July 2020 the Consent Holder shall submit a report to the Manawatu-Whanganui Regional Council's Consents Monitoring Team Leader, detailing an assessment of environmental effects. The report must be prepared by an independent and suitably experience and qualified water quality scientist(s). The report shall include but not be limited to:** **a. An assessment of the effects on both groundwater and surface water as is able to be determined from the analyses and records collected in accordance with conditions of these Permits** **b. A comment on the contribution (or not) that the discharge is causing the exceedance of, or adding cumulatively (outside the uncertainty of measurement for the sample) to the exceedance of One Plan Schedule targets** **c. An assessment of options to mitigate any more than minor adverse effects, including an assessment from an independent IPENZ engineer as to whether relining existing ponds to a permeability standard of 1x10-9 m/s is practicable (this shall include an economic assessment).**		Delete	
				Contribution Investigation	Agree [NT/HL] after 2 years of groundwater monitoring, if there is a noticeable impact on

				After 2 years of groundwater monitoring in accordance with this permit, the Permit holder shall, if there is a noticeable impact on groundwater concentration caused by seepage from the ponds, undertake an investigation review. The Contribution Investigation shall use the water balance assessment from condition ? and incorporate a mass balance exercise to quantify the contaminant load to the Oroua River during low flow conditions. The assessment shall include determination of permeability and relatively contribution of pond leakage to surface water. The bounds of contributions of pond leakage to the Oroua River should only extend to the Aorangi Bridge. The Contribution Investigation shall consider and propose remedial options if appropriate. Advice note: Remedial action may or may not include lining.	groundwater concentration caused by seepage from the ponds, then the water balance assessment and a mass balance exercise shall be undertaken to quantify the contaminant load to the Oroua River during low flow conditions (this would include determination of permeability and relatively contribution to surface water etc). The bounds of contributions should only extend to the Aorangi Bridge. Advice note: remedial action may include lining, but may also include other options such as new ponds, lining some ponds or other ways to reduce the impact on groundwater. Horizons questions what is “noticeable” but that wording is agreed by Dr Ausseil and Mr Brown.
				The Contribution Investigation required in condition ? shall be peer reviewed by a technically competent expert who can determine if the effects of the discharge require remedial action, and the proposed remedial action in the Contribution Investigation, are appropriate. The remedial action to reduce leakage shall be included in the 5 yearly Optimisation Investigation, as required by condition ? of the general conditions. Advice note: A nominal 50 ppb SIN should be used as a guide as an increased over the summer low flow conditions.	Agree [LB/OA] the contribution shall be assessed by a technically competent expert who can determine if the effects of the discharge require remedial action. A nominal 50 ppb SIN should be used as a guide as an increased over the summer low flow conditions. The remedial action to reduce leakage shall be included in the 5 yearly optimisation investigation.
				On going monitoring in accordance with conditions ? shall continue and Contribution Investigations shall continue on a five yearly cycle should there be ongoing effects and impacts not addressed by remedial action. Ceasing five yearly Contribution Investigations can only occur on the approval from a technically competent expert, whereby surface water contribution effects are acceptable and no further remedial action is needed.	Agree [LB/OA] that on going effects and impacts of remedial actions shall continue to be investigated and implemented until such time that effects are deemed to be acceptable to technically competent expert.
				Technically of competent person……meets approval of HRC compliance manager…..need definition	
13	Groundwater quality must, subject to landowner approval, be measured in the following neighbouring bores which are identified on Plan Number attached and forming part of these conditions and monitored for the analytes listed in Condition 13	Comment – note that this condition has been put forward as a result of consultation with neighbours, it is in effect an Augier condition. But need sampling frequency proposed and a list of what bores propose to monitor. Invite applicant to specify a frequency as was agreed to with neighbours. The bores should be analysed for the same parameters as 12a for consistency and would provide most useful for comparative analysis, however no detail has been given as to what was agreed to be monitored with neighbours. Include as an advice note that this condition in effect is as a result of a side agreement with neighbours. An option to consider could be to include the specified sampling frequency in the management plan and note that sampling frequency could be changed through this rather than a variation to consent provided agreement from neighbours was provided.	Accept in part. Suggest leave as is but rather than ‘must’ note that monitoring is subject to approval of the bore owners. The frequency should be the same as the other bores so that all groundwater monitoring is done at the same time.		
14	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act initiate a review of these conditions every 5 years in the month of July, commencing in July 2018, for the duration of this permit. The review must be for the purposes of	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act initiate a review of these conditions annually in the month of July, commencing in July 2019, for the duration of this permit. The review must be for the purposes of avoiding, remedying or mitigating any adverse	Reject. Annual review is excessive and far beyond the minor level of effects of		

	avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for the consideration of the following matters: a. The deletion or amendment of these Conditions; b. The modification of the monitoring program required by these Conditions; c. The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to conditions to mitigate adverse effects attributed to any breach of any conditions; or d. The adoption of Best Practicable Option to prevent or minimise adverse effects from the exercise of this Discharge Permit.	effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for the consideration of the following matters: a. The deletion or amendment of these Conditions; b. The modification of the monitoring program required by these Conditions; c. The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to conditions to mitigate adverse effects attributed to any breach of any conditions; or d. The adoption of Best Practicable Option to prevent or minimise significant adverse effects from the exercise of this Discharge Permit including any as identified in assessment of effects report required by Condition 12g of this Permit	the proposal. Such reviews add considerable cost on the applicant and the community and given the monitoring proposed and the evidence of Mr Lowe and Dr Ausseil such regular reviews are not required. AFFCO will discuss timing with Horizons prior to the hearing and also wording to make it clear it relates solely to more than minor unanticipated adverse effects.		

AFFCO Land Discharge: Draft Conditions: Commentary

Cond No	Suggested Conditions	HRC Draft	Comment on current position – to be updated at the hearing	AFFCO proposed (with Horizons tracked changes)	Comments
1	Discharge Permit Number shall expire on 1 July 2049.	No change	Accept		
2	The activity authorised by this Discharge Permit are restricted to: a) the discharge of treated wastewater by irrigation onto or into land in the land treatment area; and b) the discharge of treated organic solids onto or into land in the land treatment area.	No change	Accept		
3	Any discharge undertaken in accordance with Condition 2 shall occur on land legally described as:	Whole lot of legal descriptions; no change	Accept		
4	The maximum daily discharge of treated wastewater to the land treatment area shall not exceed 3,000 m^3/ day.	No change	Accept		
5	The maximum daily discharge of treated organic solids to the land treatment area shall not be restricted by volume, but by nitrogen loading, which is limited in Condition 19.	**The consent holder shall ensure** the maximum daily discharge of treated organic solids **is undertaken in a manner that complies with the nitrogen and phosphorus loading limits specified in condition 11. Advise Note: the N and P limits only apply to those areas which are not harvested or cropped.**	Accept		
6	The Permit Holder must undertake the activities in general accordance with the information supplied in the consent application, the Assessment of Environmental Effects dated 31 March 2015 including all concepts, parameters, drawings, activity specifications, proposed mitigation measures, methods concerning how the activity will be conducted and the scale, character and intensity of effects. Where the information is inconsistent with the requirements of specific consent conditions, the conditions prevail. ***Advice Note:*** *Any change 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.*	No change	Accept		
7	The Permit Holder must ensure at all times that the discharge and management of treated wastewater is prioritised in the following order: a) Irrigation to land; b) Storage and buffering; and c) Discharge to the Oroua River in accordance with Discharge Permit Number. ***Advice note:*** *This condition is to show the intent of the Permit Holder to discharge as much as practically possible to land. It reflects the desire of the community and undertaking of the Permit Holder to maximise land application.*	No change	Accept		
8	The Permit Holder must ensure the application rate of treated wastewater onto land or into land does not exceed: a) Travelling boom irrigator: i. 37 mm/h; and ii. 34 mm in any one application. b) Sprinkler irrigators: iii. 4 mm/h; and iv. 12 mm in any one application.	No change	Accept		

	Advice Note: *A hydraulic limit for solids is not appropriate as direct leaching and run off will not occur. Setting an application depth is problematic due to the potential variability of the material and the application method. Consequently limiting the application of material through a nitrogen and phosphorus limit, as proposed in Condition 11, has been adopted.*				
9	The Permit Holder must ensure that the rate, frequency and method of the discharge of wastewater onto and into land does not result in: a) any noticeable contamination of groundwater (when measured between the upstream and downstream monitoring sites as required by Condition 17); b) run-off to surface water or subsurface drains; or c) any ponding on the soil surface (defined as a depth of wastewater greater than 25 mm [covering a continuous area exceeding 10 m2 or a combined area greater than 20 m2] during and following irrigation, or any treated wastewater on the soil surface five hours after irrigation has occurred). ***Advice Note:*** *To establish if there is noticeable contamination of groundwater as a result of treated wastewater being discharged to the site, the results of a minimum of three groundwater monitoring events will be analysed.*	The ~~**Consent**~~ **Permit** Holder must ensure that the rate, frequency and method of the discharge of **treated** wastewater onto and into land does not result in: a) any noticeable contamination of groundwater (when measured between the upstream and downstream monitoring sites as required by Condition 17), **noticeable contamination is defined as a change greater than xxxx;** b) run-off to surface water or subsurface drains; or c) any ponding on the soil surface (defined as a depth of wastewater greater than 25 mm [covering a continuous area exceeding 10 m2 or a combined area greater than 20 m2] during and following irrigation, or any treated wastewater on the soil surface five hours after irrigation has occurred). ***Advice Note:*** *To establish if there is noticeable contamination of groundwater as a result of treated wastewater being discharged to the site, the results of a minimum of three groundwater monitoring events will be analysed.* ***Comment – need to establish an appropriate parameter to define 'noticeable', noted that there are currently background or up gradient effects. Invite the applicant to suggest a suitable measureable standard***	Accept and AFFCO will discuss a definition of "noticeable" before the hearing.	The Permit Holder must ensure that the rate, frequency and method of the discharge of wastewater onto and into land does not result in: a) any noticeable contamination of groundwater (when measured between the upstream and downstream monitoring sites as required by Condition 17); b) run-off to surface water or subsurface drains; or c) any ponding on the soil surface (defined as a depth of wastewater greater than 25 mm [covering a continuous area exceeding 10 m2 or a combined area greater than 20 m2] during and following irrigation, or any treated wastewater on the soil surface five hours after irrigation has occurred). ***Advice Note:*** *To establish if there is noticeable contamination of groundwater as a result of treated wastewater being discharged to the site, the results of a minimum of three groundwater monitoring events will be analysed.*	Agree [NT/HL] that keep to what AFFCO proposed. The 2 year review and regular monitoring reporting will assist with any up and down gradient issues.
10	Prior to the application of treated wastewater to land, the Permit Holder must measure soil moisture levels in representative areas of the land treatment area to ensure that treated wastewater is only applied to land when there is a soil deficit of 2 mm or greater prior to application.	Prior to the application of treated wastewater to land, the ~~**Consent**~~ **Permit** Holder must measure soil moisture levels in representative areas of the land treatment area to ensure that treated wastewater is only applied to land **so that at the completion of irrigation a soil water deficient of 5mm remains on LMU 1 to 3 and at least 1mm remains on LMU 4.** **Comment** – Changes in wording to better reflect management criteria stated in the application		The Permit Holder shall maintain a daily soil moisture balance for each of the four LMU's (LMU1, 2, 3 and 4). This shall be verified with daily data from a soil moisture probe in each LMU.	Agree [DH/HL] run a representative daily water balance for each LMU. And there is a soil moisture probe used to calibrate the water balance in each LMU.
				In addition to condition X above, the Permit Holder shall ensure that any wastewater application does not exceed field capacity. Advice note: field capacity shall be defined as when gravity drainage has ceased.	
11	The Permit Holder must ensure that the nutrient loading resulting from the discharge of treated wastewater and solids onto and into land, does not exceed the following criteria when applied to pasture that is not harvested or areas that are not cropped: (Table and further blurb attached)	No comment other than for consistency refer to treated organic solids	Accept		
12	Should the nutrient loading rates in Condition 11 be exceeded, the equivalent additional mass of nutrient loading over and above that in Condition 11 shall be removed from the area to which it is applied in harvested material. ***Advice Note:*** *Nutrient loading over and above the grazed maximum requires harvesting as hay or silage, or some form of crop removal. The efficacy of the additional removal shall be demonstrated by recording the mass of herbage or crop removed and*	No change	Accept		

	its nutrient concentration. The details of this harvesting regime shall be detailed in the Operation and Management Plan as required by Condition 3 of the General Conditions.				
13	Meeting the requirements of Conditions 11 and 12 shall be determined by calculating the nutrient loading to each block receiving treated wastewater. The nutrient loading will be based on the results of monitoring required in accordance with Condition 13 of the General Conditions (treated wastewater monitoring) and a record of the volume of treated wastewater or solids applied to each paddock.	Comment – have added testing in to Condition 13 of the general conditions otherwise was nothing to measure for the organic solids	Accept		
14	The permit holder must ensure that treated wastewater is not discharged to land closer than: a) 20 m from any watercourse, whether flowing continuously or intermittently, including any open drain; b) 20 m from any property boundary where there are no buildings; or c) 200 m from any dwelling house, milking shed or other building on any property bordering the land treatment area when that building is directly downwind ***Advice Note:*** *this condition does not apply to dwellings and buildings within the application site.*	The permit holder must ensure that treated wastewater **or treated organic solids** are is not discharged to land closer than: a) 20 m from any watercourse, whether flowing continuously or intermittently, including any open drain; b) 20 m from any property boundary where there are no buildings; or c) 200 m from any dwelling house, milking shed or other building on any property bordering the land treatment area when that building is directly downwind ***Advice Note:*** *this condition does not apply to dwellings and buildings within the application site.* ***Comment – buffer distances need to refer to organic solids as well***	Accept		
15	The Permit Holder must not discharge treated wastewater to land: a) Within 48 hours after the application of fertiliser; b) Within 24 hours after any harvesting activity; c) Within 48 hours prior to any harvesting activity; or d) When 50 mm or more rainfall has occurred in the previous 24 hour period as recorded at the WWTP.	Comment – include treated organic solids	Accept		
16	The Permit Holder must take annual composite soil samples from any Land Management Area that has received treated wastewater and solids within the previous 12 month period (starting 1 October and ending 30 September) for the duration of this Discharge Permit. A minimum of ten 75 mm depth composite samples must be obtained, and must be analysed for the following: a) pH; b) Exchangeable Sodium (Na); c) Exchangeable Sodium percentage (Na); d) Exchangeable Potassium (K); e) Exchangeable Magnesium (Mg); f) Exchangeable Calcium (Ca); g) Phosphorus (Olsen); h) Sulphate-S; i) Total Nitrogen; and j) Cation Exchange Capacity.	The Consent Holder must take annual composite soil samples from any Land Management Unit that has received treated wastewater and solids within the previous 12 month period (starting 1 October and ending 30 September) for the duration of this Discharge Permit. **Samples ~~has~~ must be taken from a minimum of 3 paddocks in each Land Management Area.** A minimum of ten 75 mm depth composite samples must be obtained **from each paddock**, and must be analysed for the following: a) pH; b) Exchangeable Sodium (Na); c) Exchangeable Sodium percentage (Na); d) Exchangeable Potassium (K); e) Exchangeable Magnesium (Mg); f) Exchangeable Calcium (Ca); g) Phosphorus (Olsen); h) Sulphate-S; i) Total Nitrogen; and j) Cation Exchange Capacity.	Accept		
16a		**The ~~Consent~~ Permit Holder must take soil samples from all Land Management Units in 2022 ~~and 2027~~ and thereafter at 5 yearly intervals, a minimum of 3 paddocks in each Land Management shall be sampled. A minimum of ten composite samples collected at a 200-300mm depth must be collected from each paddock and analysed for the following:** **a) pH;** **b) Exchangeable Sodium (Na);**	Accept		

		c) Exchangeable Sodium percentage (Na); **d) Exchangeable Potassium (K);** **e) Exchangeable Magnesium (Mg);** **f) Exchangeable Calcium (Ca);** **g) Phosphorus (Olsen);** **h) Sulphate-S;** **i) Total Nitrogen; and** **j) Cation Exchange Capacity.** **Comment: Need to ensure sufficient composites are sampled per paddock to ensure sampling is representative. Sampling further down the profile at longer intervals gives assurance as to potential effects further down the profile.**			
17	Groundwater quality and level shall be monitored at bores identified on Plan ? attached to and forming part of these conditions.	**The Permit ~~Consent~~ Holder shall monitor groundwater quality measured in ~~seven~~ 4 locations ~~Monitoring shall be undertaken from three existing monitoring bores~~ (325413, 325416B, 325016 and 325411) ~~and three new monitoring bores establish in accordance with Condition xx below.~~** **Comment – additional monitoring bores are recommended based on advice of Mr Thomas to better capture potential effects.**	Accept in part. The additional bores are appropriate, but it is unclear why they are in the discharge to land consent and not the pond seepage consent.	The Permit Holder shall monitor groundwater quality in 11 locations. Monitoring shall be undertaken from four existing monitoring bores (325413, 325416B, 325411 and 31 Matai) and 7 new monitoring bores establish in accordance with Condition xx below.	Agree [NT/HL] there are a lot of factors that may result in drainage form current area draining away from bore 325416B. These include: • Topography • Drainage • Soils • Deficit/volume applied • Limited application season • Effluent vs groundwater concentration • Influence of dairy effluent • Influence of stocking However, can't be 100 % sure there is no influence from irrigation, especially 325413. Agree [NT/HL] there are other contributors. Agree [NT/HL] can't rely on bore concentration being representative of irrigation discharge based on data to hand.
17a	-	~~**Within six months of the date of commencement of this consent, the Permit consent holder shall install three new groundwater monitoring wells on the site at or as near as practicable at the locations specified in Appendix 1 and to the following specifications:**~~ ~~**a) The monitoring wells shall have a diameter of not less than 50/100 millimetres / of a sufficient size to enable samples to be taken and shall be installed at the locations identified in xxxx plan.**~~ ~~**b) The wells shall be drilled to a depth of up to 10 metres below the summer low ground level and/ shall be screened across the full depth of the water table/aquifer, with a screen length of no more than xxx metres.**~~ ~~**c) The borehole casing shall be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water.**~~ ~~**d) A concrete pad at least 0.3 metres radius shall be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore.**~~ ~~**e) The wells shall be installed by a suitable qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001.**~~ ~~**Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the**~~	Accept in part but should be in the pond seepage consent (see comments on that consent)	Within six months of the date of commencement of this consent, the Permit holder shall install 7 new groundwater monitoring wells on the site at or as near as practicable at the locations specified in Appendix 1 and to the following specifications: f. The monitoring wells shall have a diameter of a sufficient size to enable samples to be taken and shall be installed at the locations identified in xxxx plan. g. The wells shall be drilled to a depth of up to 10 metres below the summer low ground level and/ shall be screened across the full depth of the water table/aquifer, with a screen length of no more than xxx metres. h. The borehole casing shall be constructed of polyvinyl chloride (PVC) or a similar inert material and shall be capped and secured to prevent entry of surface water. i. A concrete pad at least 0.3 metres radius shall be constructed around the bore head of the monitoring well at ground level, to prevent leakage around the casing. The concrete pad shall slope away from the bore. j. The wells shall be installed by a suitable qualified person(s) and constructed in accordance with the New Zealand Standard for Drilling Rock and Soil NZS 4411:2001. Advice Note: Any new bore requires a controlled activity land use consent under Rule 16-14 of the	Agree [NT/HL] Effects of proposed operation on groundwater is possibly not greater than 'typical' dairy farm. Similar to what Horne has suggested (eg based on Overseer leaching results). Agree [NT/HL] proposed system is typical of nutrient and irrigation rates on farms in area and hence may not need monitoring. However, agree [NT/HL] have given high concentration and ambiguity of result from current operation future monitoring would be appropriate. Agree [NT/HL] that a further 7 monitoring bores are required. Agree [NT/HL] monitoring existing bores 325413, 325416B, 325411 and 31 Matai.

		~~**One Plan (2014)**~~		One Plan (2014)	
17b.		**The <u>Permit</u> ~~Consent~~ Holder shall notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of any monitoring well's installed under Condition x17a.** **Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz**	Accept	**The <u>Permit</u> Holder shall notify the Manawatu-Wanganui Regional Council's Consents Monitoring Team of the installation, location and depth of any monitoring well's installed under Condition x17a.** **Advice Note: The Consents Monitoring Team can be notified via 0508 800 800 or compliance.shared@horizons.gov.nz**	
18	The Permit Holder must take quarterly groundwater samples in the months of January, April, July, and October in accordance with Condition 17 above and the samples must be analysed for the following: a) Total Phosphorus (TP); b) Dissolved Reactive Phosphorus (DRP); c) Total Nitrogen (TN); d) Nitrate Nitrogen (NO3-N) e) Ammoniacal-Nitrogen (NH4-N) f) Chloride (Cl-); g) Escherischia coli; and h) Static water level.	**The <u>Permit</u> ~~Consent~~ Holder shall take samples monthly from all bores identified in Condition 17 until 1 July 2019 and thereafter in the months of January, April, July and October for the remaining duration of the permit. Samples shall be collected in accordance with the MfE Groundwater sampling protocols (2006) or updated protocols document.**	Reject. Unclear why monthly sampling is required. Monitoring to date shows limited variability. Not justified in S42A reports and different to condition 122 as drafted by Horizons for the pond leakage consent.	The Permit Holder shall take samples ~~quarterly~~ from all bores identified in Condition 11 in the months of January, **March,** April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.	Frequency agreed [NT/HL], Jan, March, April July and October.
				After two years of monitoring in accordance with condition ?, the monitoring frequency shall be reduced to quarterly in the months of January, April, July and October in accordance with the MfE Groundwater sampling protocols (2006) or updated document.	Agree [NT/HL] after 2 years of monitoring under this consent frequency of monitoring of all bores modified to Jan, April, July and October.
				After two years of monitoring in accordance with condition ?, sampling from bores 325413, 325416B shall cease.	Agree [NT/HL] monitoring of existing bores 325413 and 325416B, can cease two years after grant of consent.
18a		The Consent Holder shall measure and record the static water level in the bore prior to purging and sampling. Samples collected under Condition <u>18</u>~~12~~ shall be analyses for the following parameters: a. Temperature b. pH c. electrical conductivity d. chloride e. nitrate-nitrogen f. ammonia-nitrogen g. nitrite-nitrogen h. dissolved reactive phosphorus i. E.coli	Accept		
18b		**Results of monitoring collected in accordance with Condition 18a shall be transferred within ten working days of their receipt to the Manawatu-Wanganui Regional Council in a format compatible with the Manawatu-Wanganui Regional Council systems.** **Comment – more detailed sample collection is recommended initially; this will assist with the assessment of effects from the discharge to land activity as well as help identify likelihood of groundwater plumes containing elevated nutrient concentration entering the Oroua River. Three years should be sufficient to establish a pattern and then sampling frequency reduces.**	Accept		
18c	No condition requiring surface water monitoring was proposed.	No change			Agree [LB/OA] that if the irrigation system is operated as intended, the impact on groundwater will be no different to a farming

					operation. If surface water was monitored it would be difficult to pick up the impact of the farming operation compared to the irrigation activity. Further in the area where a discharge may occur from groundwater to surface, as influenced by irrigation, there are a number of known and 'unknown/potential' contributors to water quality. Therefore, justifying meaningful monitoring is very difficult. It would be better to concentrate on ensuring best management practices are followed for the farming and irrigation activities. Agree [LB/OA] no surface water monitoring is required as part of land application system.
19	The Permit Holder must maintain a record of all irrigation activities within the land treatment area. This record must include but not be limited to: a) The date, time, location and volume of each irrigation application; b) The date, time, location, volume and nitrogen loading of any nitrogenous and phosphorus material applied; and c) The date and time of pipeline flushes when they occur.	The **Permit** ~~**Consent**~~ Holder must maintain a record of all irrigation activities **authorised by this resource consent that occur** within the land treatment area. This record must include but not be limited to: a) The date, time, location and volume of each irrigation **and solids** application; b) The date, time, location, volume and nitrogen loading of any nitrogenous **and phosphorus** material applied; and c) The date and time of pipeline flushes when they occur. Records shall be reported in the annual report as required by Condition 20 of the general conditions	Accept		
20	The Permit Holder must maintain a record of all harvest and stock grazing events that occur within the land treatment area. This record must include the date, time, stock numbers, number of bales and mass of harvested material.	The **Permit** ~~**Consent**~~ Holder must maintain a record of all harvest and stock grazing events that occur within the land treatment area. This record must include the date, time, stock numbers, number of bales and mass of harvested material. Records shall be reported in the annual report as required by Condition 20 of the general conditions	Reject. The purpose of stock grazing reporting to be discussed with Horizons as seems excessive.		
21	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act initiate a review of these conditions every 5 years in the month of July, commencing in July 2018, for the duration of this permit. The review must be for the purposes of avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for the consideration of the following matters: a) The deletion or amendment of these Conditions; b) Evaluation and modification of these Conditions to ensure that discharges to land are optimised over discharges to the Oroua River under Discharge Permit Number ?; c) The modification of the monitoring program required by these Conditions; d) The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to conditions to mitigate adverse effects attributed to any breach of any conditions; e) The adoption of Best Practicable Option to prevent or minimise adverse effects from the exercise of this Discharge Permit.	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act initiate a review of these conditions **every five (5) years** in the month of July, commencing in **July 2022**, for the duration of this permit. The review must be for the purposes of avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for the consideration of the following matters: a) The deletion or amendment of these Conditions; b) Evaluation and modification of these Conditions to ensure that discharges to land are optimised over discharges to the Oroua River under Discharge Permit Number ?; c) The modification of the monitoring program required by these Conditions; d) The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to conditions to mitigate adverse effects attributed to any breach of any conditions; e) The adoption of Best Practicable Option to prevent or minimise significant adverse effects from the exercise of this Discharge Permit. Comment – Suggest annual reviews at this stage, so can	Reject. Annual review is excessive and far beyond the minor level of effects of the proposal. Such reviews add considerable cost on the applicant and the community and given the monitoring proposed and the evidence of Mr Lowe and Dr Ausseil such regular reviews are not required. AFFCO will discuss timing with Horizons prior to the hearing and also wording to make it clear it relates solely to more than minor unanticipated adverse effects.		

		consider findings of the various reports that are required and refinement of operation system once more data is collected.			

AFFCO Air Discharge: Draft Conditions: Commentary

Cond No	Suggested Conditions	HRC Draft	Comment on current position – to be updated at the hearing		
1	Discharge Permit Number shall expire on 1 July 2049.	No change	Accept		
2	The activity authorised by this Discharge Permit is restricted to the discharge of aerosols and odour to air associated with the discharge of treated wastewater, pond solids and paunch solids to land.	No change	Accept		
3	Any discharge undertaken in accordance with Condition 2 shall occur on land legally described as:	Whole lot of legal descriptions; no change	Accept		
4	The Permit Holder must ensure that the activity does not result in offensive or objectionable odour or spray drift at or beyond the property boundary. ***Advice Note:*** *An odour or spray drift will only be considered objectionable after a Manawatu-Whanganui Regional Council officer has considered the Frequency, Intensity Duration, Offensive and Location of the odour or spray drift (i.e. the FIDOL Factors).*	The Permit Holder must ensure that the activity does not result in offensive or objectionable odour or spray drift at or beyond the property boundary. ***Advice Note:*** *An odour or spray drift will only be considered objectionable after a Manawatu-Whanganui Regional Council* ***enforcement*** *officer has considered the Frequency, Intensity Duration, Offensive and Location of the odour or spray drift (i.e. the FIDOL Factors).* ***The property boundary is defined as any property identified in Condition 2.***	Accept		
5	The Permit Holder must ensure the activity automatically ceases when the 10 minute average wind speed at the maximum height of the sprayed treated wastewater exceeds 12 m/s or higher from a direction whereby the irrigation is within 200 m of the property boundary. The activity can resume 30 minutes after the wind speed drops below the nominated threshold or the wind direction changes.	The Permit Holder must ensure the activity automatically ceases when the 10 minute average wind speed at the maximum height of the sprayed treated wastewater exceeds 12 m/s or higher from a direction whereby the irrigation is within 200 m of the property boundary. The activity can resume 30 minutes after the wind speed drops below the nominated threshold or the wind direction changes. ***Advice Note: Wind speed as measured by the climate station to be installed in accordance with Condition 7***	Accept	The Permit Holder must ensure the ~~activity~~ **irrigation of treated wastewater** automatically ceases when the 10 minute average wind speed ~~at the maximum height of the sprayed treated wastewater exceeds~~ **as measured by the weather station required under condition 7 exceeds** 12 m/s ~~or higher~~ from a direction whereby ~~the~~ **irrigation is occurring up wind of and** is within 200 m of the property boundary. The activity can resume 30 minutes after the wind speed drops below the nominated threshold or the wind direction changes **such that irrigation is no longer upwind of and within 200 m of the property boundary.** ***Advice Note: Wind speed as measured by the climate station to be installed in accordance with Condition 7***	Based on changes in HL supplementary evidence.
6	The Permit Holder must review the adequacy of the wind speed shut-down level and direction in Condition 5 on an annual basis, commencing 1 October 2016. The results of this review must be provided to Manawatu-Whanganui Regional Council's Regulatory Manager in the monitoring report required by General Condition 20. ***Advice Note:*** *If the current wind speed shut-down level and wind direction is deemed inadequate to avoid odour or spray drift onto adjacent properties following a review under Condition 6, a variation to Condition 5 by way of s127 may be required.*	The Permit Holder must review the adequacy of the wind speed shut-down level and direction in Condition 5 on an annual basis, commencing 1 October **2017**. The results of this review must be provided to Manawatu-Whanganui Regional Council's Regulatory Manager in the monitoring report required by General Condition 20. ***Advice Note:*** *If the current wind speed shut-down level and wind direction is deemed inadequate to avoid odour or spray drift onto adjacent properties following a review under Condition 6, a variation to Condition 5 by way of s127 may be required.*	Accept		

7	Prior to commencing the activity, the Permit Holder must install a climate station near the AFFCO wastewater treatment plant that is capable of continuous real time monitoring of wind speed and direction, air temperature and rainfall. Monitoring must be undertaken in accordance with the Good Practice Guide for Air Quality Monitoring and Data Management, Ministry for the Environment, 2009.	No change	Accept		
8	The climate station required by Condition 7 must be able to: a) Be remotely accessed via a telemetered link; and b) Be connected to the irrigation controller and be able to shut down automatically when wind conditions described in Condition 5 occur.	No change	Accept		
9	The Manawatu-Whanganui Regional Council may, under Section 128 of the Act initiate a review of the Conditions of this discharge Permit every 5 years in the month of July, commencing in July 2018, for the duration of this Discharge Permit. The review must be for the purposes of avoiding, remedying or mitigating any adverse effects on the environment, which may arise from the exercise of this Discharge Permit. The review must allow for the consideration of the following matters: a) The deletion or amendment of these Conditions; b) The amendment or addition of new Conditions as necessary to avoid, remedy or mitigate any adverse effects on the environment, including but not limited to Conditions to mitigate adverse effects attributed to any breach of any Conditions; and c) The adoption of Best Practicable Option to prevent or minimise adverse effects from the exercise of this Discharge Permit.	No change	Accept		