940355 Te Kauwhata Wastewater sewage treatment discharge 1 July 2011 – 30 June 2012
This consent authorises the Consent Holder to: discharge 1080 cubic metres per day of treated wastewater via a rock seepage bed to Lake Waikare.
The consent expired on 30 July 2008.

	Conditions	Comply Yes/No	Comments
*	This consent authorises the Consent Holder to: Discharge 1080 cubic metres per day of treated wastewater	No	Regular non compliance with this condition especially during winter months. Inflow data demonstrates large portion of outflow contribution from rainfall or possibly infiltration to wetland. During heavy wet weather storm events outflow well beyond the normal flow range of the treatment plant continues. The maximum daily outflow was 1853 cubic metres on July 15th. The total number of days where total recorded outflow exceeded 1080m3 was 41.
1	The treatment system comprising a two-oxidation pond system shall be modified to include a tertiary wetland and rock seepage bed, in accordance with the "Assessment of Environmental Effects – Te Kauwhata Oxidation Ponds", prepared for Waikato District Council by Beca Steven, 28 June 1994 and from further information provided by Beca Steven. The modified plant shall be operated and maintained to maximise the treatment efficiency and to the satisfaction of the Waikato Regional Council.	Yes	The treatment upgrade was completed as proposed in resource consent application documents. This was completed in 1995.
2	The consent holder shall retain appropriately experienced personnel to operate the treatment system.	Yes	The treatment plant is managed and operated by appropriately trained and experienced engineers and operators. Experience in wastewater operations of key personnel includes: Lou Larson – Water and Wastewater Manager (18 yrs) Peter Saward – Treatment Plants Engineer (24yrs) Craig Peebles – Treatment Plants Supervisor (18yrs) Parvati Patel – Planning Engineer (10yrs) Chris Harris – Operator (2yrs) Nigel O'Connor – Operator (8yrs) Johannes Mostert – Operator (4yrs) Caleb Powell – Cadet Operator (3yrs)

	Conditions	Comply Yes/No	Comments
3	The consent holder shall forward for approval to the Waikato Regional Council copies of the proposed wetland design along with hydraulic flow and loading design criteria, proposed planting details as well as the planned timetable for installation, such material shall be provided prior to the commencement of site work.	Yes	Detailed design was approved by Waikato Regional Council and implemented by Waikato District Council.
4	The consent holder shall meet with the Richmond Meat works to establish clear criteria for effluent discharge that may be passed to the treatment system covered by this consent. Such criteria shall then be used to form the basis of a trade waste discharge agreement with this company that enables the consent holder to more effectively control the final effluent quality leaving its own treatment system.	n/a	There is currently no meat processing plant operating from the site of the old Richmond Plant. The discharge line from the site is still monitored and no flow has been recorded.
5	The consent holder shall erect signs on the boundary of the site to warn the public that the area is used for waste treatment.	Yes	Warning signs are located on the two access gates to the treatment area.
6	The consent holder shall retain a suitably qualified and experienced person to compile an operations and management manual for the treatment and discharge systems. This manual will detail how the systems are to be operated to ensure that effluent treatment is maximised at all times. As a minimum the manual shall address the following matters: (a) A description of the entire treatment system facility, comprising a two-pond system plus the proposed tertiary wetland and final rock seepage component. (b) Routine maintenance procedures to be undertaken. (c) Management procedures specific to the land based discharge system including responses to wind speed and direction, rainfall and frost conditions on the site. (d) Development, management and maintenance of the wetland area including plant infrastructure and buffer zones. (e) Management of the treatment system to maximise removal of nitrogen in the land based discharge area. (f) Contingency measures in place to deal with unusual events. g) Other actions necessary to comply with the provisions of this resource consent. (h) Procedures for improving and/or reviewing the management plan.	Yes Yes Yes Yes Yes Yes Yes Yes	A new operations manual was created as part of the upgrade and provided to Waikato Regional Council in June 2007.

	Conditions	Comply Yes/No	Comments
7	The manual shall be written to a suitable standard and shall be forwarded to the Waikato Regional Council for its written approval prior to 1st November 1998. The consent holder shall update the manual at least once in every two (2) years that this resource consent is current and also within two (2) months of the completion of trade waste discharge agreements with the Richmond Meat works. Copy of the updated manual shall be forwarded to the Waikato Regional Council within one (1) month of any update being completed.	Yes	Addendums to the manual have been supplied subsequent to un upgraded chemical dosing system was installed in June 2011. A copies of the documents are attached.
8	The treatment and disposal systems shall be operated, maintained and managed in accordance with the operation and management manual.	Yes	Maintenance visits and monthly sample collection are documented on inspection sheets.
9	The activities authorised by this resource consent shall be undertaken in such a manner that they do not produce an objectionable odour at or beyond the outer boundary of the land to which this resource consent relates. For the purpose of this condition, the Waikato Regional Council will consider an odour that is objectionable or offensive to have occurred if any appropriately experienced officer of the Waikato Regional Council deems it so having regard to: (a) The frequency, intensity, duration, amount and location of the effect(s) of the offensiveness of an odour; and/or (b) A written declaration from no less than three individuals that the effect odour was objectionable or offensive. That declaration shall include the individuals' names; and (c) Addresses, the date and time that the nuisance event occurred and when it was detected. Where a declaration is made following a number of discharge events having objectionable or offensive effects, that declaration shall provide details of the frequency, intensity, duration and location of those events. The individuals shall also state the circumstances that led to the declaration (for example, called upon by another individual, detected from a distance). The declaration shall be signed and dated; and/or (d) Relevant written advice or a report from an Environmental Health Officer of a territorial authority or Health Authority.	Yes	Council's CRM database records all complaints from the public. There were no complaints from the public during the consent year regarding the Te Kauwhata WWTP.

<table>
<tr><th></th><th>Conditions</th><th>Comply Yes/No</th><th>Comments</th></tr>
<tr><td>10</td><td>Should an event occur which results in an objectionable or offensive odour, the consent holder shall, within 5 days of being advised of this event by the Waikato Regional Council, provide a written report to the Waikato Regional Council specifying:
(a) The cause or likely cause of the event and any factors that influenced its severity.
(b) The nature and timing of any measures implemented by the consent holder to avoid, remedy or mitigate any adverse effects.
Steps to be taken in future to prevent a recurrence of similar events.</td><td>Yes</td><td>The Waikato District Council Stakeholder Relationship Customer Delivery Team has received no complaints regarding the operation of the plant or discharge of treated effluent from the site during the 2011/2012 reporting year.</td></tr>
<tr><td>11</td><td>The consent holder shall retain an appropriately experienced person to develop an ongoing treatment system discharge quality-monitoring programme. As a minimum the monitoring programme shall include but not restricted to the following:
(a) $cBOD_{5.}$
(b) Suspended Solids (SS).
(c) TKN.
(d) Nitrate Nitrogen.
(e) Ammonia Nitrogen.
(f) Dissolved Reactive Phosphorus (DRP).
(g) Faecal Coliforms.
(h) Daily volume of effluent.
(i) Reporting procedures and dates.
(j) Monitoring to determine compliance with the conditions of this resource consent.
(k) Any other monitoring considered necessary by the programme developer.
(l) Measurement of the effluent shall be on a monthly basis with samples taken both before and after the wetland for the first 5 years of this consent and thereafter only taken after the wetland.
(m) Nitrate levels in groundwater at the boundary of the wetland area.</td><td>Yes</td><td>The monitoring programme is detailed in the approved operations manual and schedule supervised by WDC Treatment Plants Engineer.
The monitoring programme is carried out according to the schedule.

The results indicate the treatment system has generally improved. The treatment system continued achieving an exceptionally high level of suspended solids control and is having no more than a minor effect on receiving waters.

The data shows the wetlands continue to contribute a significant improvement to the overall treatment performance.

Wetland Outlet Median Values
<table>
<tr><th></th><th></th><th>08-09</th><th>09-10</th><th>10-11</th><th>11-12</th></tr>
<tr><td>(a)</td><td>cBOD5</td><td>2.1</td><td>2.3</td><td>2.3</td><td>2.8</td></tr>
<tr><td>(b)</td><td>SS</td><td>6.6</td><td>5.9</td><td>6</td><td>7</td></tr>
<tr><td>(c)</td><td>TKN</td><td>2.45</td><td>2.1</td><td>3.75</td><td>2.4</td></tr>
<tr><td>(d)</td><td>NO_3-N</td><td>0.16</td><td>0.03</td><td>0.21</td><td>0.06</td></tr>
<tr><td>(e)</td><td>NH_4-N</td><td>0.62</td><td>0.51</td><td>1.75</td><td>0.38</td></tr>
<tr><td>(f)</td><td>DRP</td><td>2.95</td><td>3.4</td><td>2.95</td><td>4.05</td></tr>
<tr><td>(g)</td><td>FC</td><td>150</td><td>260</td><td>420</td><td>395</td></tr>
<tr><td>(h)</td><td>Ave M3/day</td><td>492</td><td>570</td><td>702</td><td>656</td></tr>
</table></td></tr>
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<tr><th></th><th>Conditions</th><th>Comply Yes/No</th><th>Comments</th></tr>
<tr><td></td><td></td><td></td><td>The nitrate NO_3-N levels recorded at the monitoring bores are negligible

<table><tr><th>Nitrate NO_3-N</th><th>19-Jul-11</th><th>11-Oct-11</th><th>18-Jan-12</th></tr><tr><td>BH 1</td><td>0.007</td><td>0.012</td><td>0.004</td></tr><tr><td>BH 2</td><td>0.004</td><td>0.004</td><td>0.02</td></tr><tr><td>BH 3</td><td>0.002</td><td>0.062</td><td>0.029</td></tr></table></td></tr>
<tr><td>12</td><td>The programme shall be developed to the satisfaction of the Waikato Regional Council, and shall be submitted to the Regional Council within six (6) months from the date of granting this consent.</td><td>Yes</td><td>The programme was developed to the satisfaction of the Waikato Regional Council.</td></tr>
<tr><td>13</td><td>The consent holder shall retain an appropriately experienced person to develop an ongoing receiving water quality-monitoring programme. This programme shall address the effects of the discharge on receiving water quality. The objectives of this monitoring programme shall incorporate the following but shall not be restricted to:

(a) To monitor parameters as set down under condition 11 of this consent.
(b) To measure the receiving water quality on a quarterly basis with samples taken within 100 metres of the outfall discharge point and within likely flow paths from the discharge.

(c) To arrange an annual meeting between the Fish and Game Council, Department of Conservation and the Waikato Regional Council, to discuss the results of this monitoring, any trends emerging and respective treatment system upgrades that are planned, such meetings shall be within one month of the latest sampling and monitoring reports that have been circulated.</td><td>Yes

Yes

Yes</td><td>As part of the application for a new consent this has been addressed.

Sample records for the previous four quarters are available. Samples are taken from four points within 100m of the discharge outlet stream entering the lake.

Lake Waikare Average of 4 sample sites results

<table><tr><th></th><th>19-Jul-11</th><th>17-Oct-11</th><th>17-Jan-12</th></tr><tr><td>cBOD5</td><td>4.55</td><td>3.8</td><td>11.8</td></tr><tr><td>SS</td><td>86.25</td><td>64.3</td><td>129.3</td></tr><tr><td>TKN</td><td>2</td><td>1.64</td><td>4.2</td></tr><tr><td>NO3-N</td><td>0.213</td><td><0.002</td><td>0.004</td></tr><tr><td>NH4-N</td><td><0.010</td><td><0.010</td><td><0.010</td></tr><tr><td>TP</td><td>0.18</td><td>0.22</td><td>0.28</td></tr><tr><td>FC</td><td>237</td><td>3131</td><td>46</td></tr><tr><td>pH</td><td>7.51</td><td>8.1</td><td>9.4</td></tr><tr><td>Cond (uS)</td><td>134.8</td><td>164.9</td><td>144.9</td></tr></table></td></tr>
</table>

	Conditions	Comply Yes/No	Comments
			<table><tr><td>**Temp**</td><td>9.3</td><td>15.7</td><td>21.4</td></tr></table> A specific annual meeting has not been conducted, however the General Manager Water & Facilities and the consultants assisting with the resource consent renewal met with both organisations on a number of occasions during the reporting year.
14	The consent holder shall compile an annual monitoring report for the year ending 1998 and for each year that this resource consent is current. As a minimum the report shall: (a) Include all the data collected as required under conditions 11 and 17 of this resource consent. (b) Critically analyse the information collected, in terms of compliance and actual or potential effects. (c) Compare data with previously collected results and identify and comment on any emerging trends. (d) Make recommendations on alterations or additions to the monitoring programme, if required. (e) Any other issue considered important by the consent holder.	Yes	Data is recorded and entered on the attached spreadsheet. Data recorded for period July 2011 to June 2012 attached. A summary of the plant operations is also attached.
15	The report shall be to a standard acceptable to the Waikato Regional Council and shall be forwarded to the WRC by 31 March for each year that this resource consent is current.	Yes	A change in consent condition was granted through s127 change to 30 September each year.
16	The consent holder shall give effect to the mitigation measures agreed between the Auckland/Waikato Fish and Game Council in collaboration with the Department of Conservation (Waikato Region) and specifically for the consent holder to provide stock proof fencing on Department of Conservation land along the margin of Lake Waikare as shown on a marked up map which accompanied the agreement with the Fish and Game Council.	Yes	There is stock proof fencing surrounding the site. Within the site stock are only occasionally permitted, electric temporary fencing is then used to protect the lake margin.
17	When the consent holder decides that leachate from the adjacent Te Kauwhata landfill is to be passed into the treatment system covered by this consent then the following actions shall be undertaken prior to such decision being given effect to: (a) Provide the Waikato Regional Council with three (3) months written	Yes Yes Yes	The Waikato District Council is not aware of any non-compliance with this condition of consent. Incorporated in manual approved by Environment Waikato.

	Conditions	Comply Yes/No	Comments
	notice of the decision. (b) Provide a written report on the following: (i) Potential effects of the leachate on both the tertiary wetland and the receiving waters of Lake Waikare. (ii) Proposed mitigations for any adverse effects that is potentially significant. (c) Enact a revision to the treatment system management plan as set down under condition 7 above. (d) Enact a revision to the monitoring programmes as set down under conditions 18 and 21 above. (e) Such revision to the monitoring programme under condition 18 above shall include in addition to all other requirements: (i) The installation of three (3) piezometers to monitor the effects of the system on groundwater quality. (ii) Piezometers installed to monitor the effects of the leachate component in the treated wastewater discharge on ground. Wetland and lake water quality shall be placed in an area likely to be representative of the effects of the discharge. (iii) An additional one (1) piezometer shall be installed and maintained in the vicinity of the treatment site, but in a location unlikely to be affected by the discharge. (iv) The consent holder shall advise the Waikato Regional Council of the number, location and depth of these piezometers, and the reasons for selecting a particular location. (v) Groundwater levels shall be measured in all the piezometers on a quarterly basis, in such a manner so as to ensure that the piezometer does not become contaminated prior to sampling. (vi) Groundwater samples shall be taken and analysed from all the piezometers for leachate contaminants on a quarterly basis for conductivity, nitrate-N, chloride, COD, ammonium-N, total zinc and total iron. (e) The consent holder shall make the results of all sampling undertaken available to the Waikato Regional Council at all reasonable times. And shall include under condition 23 an overview of the sampling analysis and		

Conductivity	Bore 1	Bore 2	Bore 3
19-Jul-11	630	663	656
10-Oct-11	642	675	667
17-Jan-12	611	646	627
Chloride	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11			
10-Oct-11			
17-Jan-12	72	170	91
COD	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11	94	11	199
10-Oct-11	106	10	40
17-Jan-12	98	79	270
Total Fe	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11			
10-Oct-11			
17-Jan-12	61	26	47
Total Zn	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11			
10-Oct-11			
17-Jan-12	0.0116	0.023	0.032
NH_4-N	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11	2.1	0.31	1.8
10-Oct-11	2.5	0.3	1.7
17-Jan-12	2.6	0.29	1.9
NO_3-N	**Bore 1**	**Bore 2**	**Bore 3**
19-Jul-11	0.007	0.004	<0.002

	Conditions	Comply Yes/No	Comments
	any actual or potential effects due to any contaminants from the leachate.		<table><tr><td>10-Oct-11</td><td>0.012</td><td>0.004</td><td>0.062</td></tr><tr><td>17-Jan-12</td><td>0.004</td><td><0.002</td><td>0.009</td></tr></table>
18	The consent holder shall notify the Waikato Regional Council as soon as practicable and, as a minimum requirement, within 12 hours, of the consent holder becoming aware of any exceedence of the limits of this resource consent and of any accidental discharge, plant breakdown, or other circumstances which is likely to result in an exceedence of the limits of this resource consent. The consent holder shall, within seven (7) days of the incident occurring, provide a written report to the Waikato Regional Council, identifying the breach, possible causes and steps to ensure future compliance.	Yes	There were no accidental discharges or major breakdowns during the 2011-2012 year. During heavy rainfall discharge flows exceeded the consent limit. This did not compromise treatment performance.
19	The consent holder shall keep a record of all complaints lodged regarding the treatment system. The records shall include the complainant's name (if this is given), the nature of the complaint, date, and time of the alleged incident and action taken by the consent holder in response to the complaint. The action shall also include steps to be taken to ensure a similar incident does not reoccur.	Yes	Council's CRM database records all complaints from the public. There were no complaints from the public during the consent year regarding the Te Kauwhata WWTP.
20	The consent holder shall be responsible for any erosion control works that become necessary as a result of the exercise of this resource consent.	Yes	No erosion control works were necessary during the reporting period.
21	Bare soil surfaces shall be re-vegetated at the completion of each stage of the upgrade.	Yes	Completed
22	There shall be no visible discharge of oil or grease into or out of the wetland system.	Yes	There have been no reports of any instances that may consider this condition to be breached. Twice weekly checks are done on the wastewater treatment system and any problems noted for the attention of the council's Treatment Plants Engineer. Periodically the primary screen receives noticeable fats and grease but no visible discharge of oil or grease from the treatment ponds or out of the wetland system has been observed.
23	The Waikato Regional Council may, under section 128 of the Resource Management Act, initiate a review of the conditions of this resource consent	Yes	Resource Consent 940355 expired on 30 July 2008. Application for a reviewed consent has been lodged.

	Conditions	Comply Yes/No	Comments
	during the term of this consent for any of the following purposes: (i) To generally review the effectiveness of the conditions of this resource consent in avoiding or mitigating any adverse effects on the environment from the operation and if considered appropriate by the Waikato Regional Council to deal with such effects by way of further or amended conditions; (ii) If necessary and appropriate, to require the holder of this resource consent to adopt the best practicable option to remove or reduce adverse effects on the surrounding environment due to contaminant discharge to Lake Waikare; and (iii) To review the adequacy of and the necessity for monitoring undertaken by the consent holder.		
24	The consent holder shall pay to the Waikato Regional Council any administrative charge fixed in accordance with section 36 of the Resource Management Act 1991, or any charge prescribed in accordance with regulations made under section 360 of the Resource Management Act.	Yes	Fees have been paid.
	The following conditions shall be enforced from the 1 July 2000 to the expiry of this consent.		
25	The total nitrogen-loading rate into the wetland system shall not exceed 50 kilograms per hectare per day.	Yes	The data table annual summary shows the nutrient load discharge average monthly values for total nitrogen and total phosphorous. **Total Nitrogen applied to the Wetland** The maximum value was 12.62 kg/ha/day Median value was 4.91 kg/ha/day **Total Nitrogen discharged to Lake Waikare** The maximum value was 16.69 kg/day Median value was 1.7 kg/day **Total Phosphorous discharged to the Wetland** The maximum value was 2.03 kg/ha/day Median value for the 2010/11 year was 0.05 kg/ha/day **Total Phosphorous discharged to Lake Waikare** The maximum value was 4.52 kg/day

	Conditions	Comply Yes/No	Comments
			Median value for the 2010/11 year was 2.56 kg/day
26	The concentration of suspended solids in discharged from the wetland shall not exceed 50 grams per cubic metre for more than 10 per cent of the samples taken on an annual basis. The frequency of this monitoring shall be as detailed in the consent holders monitoring programme as required by condition 15 of this consent.	Yes	The 90th percentile SS was 9.0 g/m3. The median suspended solids result obtained from the wetland outlet during The 2011-12 year was 7.0 g/m3.
27	The concentration of ammoniacal nitrogen in the discharge shall not exceed 30 grams per cubic metre.	Yes	Compliant NH4-N. The maximum value obtained was 0.92 g/m^3. The median total ammoniacal nitrogen result was 0.38 g/m^3.
28	The concentration of faecal coliforms in the discharge shall not exceed a daily median of 5,000 MPN (Most Probable Number) per 100 millilitres. The median shall be determined from five samples collected during 30 consecutive days.	Yes	The median FC result in the wetland discharge for the reporting period was 395 MPN/100 ml. The median was calculated from the 12 monthly samples collected over the entire reporting period. Values were substantially below consented limits for both the final effluent and also the pond effluent prior to entry to the wetland. Treatment performance quality is high.