

Ample Group Ltd
Monitoring Programme
Annual Report
2018-2019

Technical Report 2019-37

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Taranaki Regional Council
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Executive summary

Ample Group Limited (the Company) operate an abattoir and rendering plant, located on Mountain Road at Stratford, in the Kahouri Stream catchment, a tributary of the Patea River. The Company currently processes only beef. Wastewater is treated in a two pond system, which is either irrigated to land when conditions allow, or to the Kahouri Stream, ideally during high flow conditions. This report for the period July 2018 to June 2019 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the Company's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of the Company's activities.

The Company holds six resource consents, which include a total of 92 conditions setting out the requirements that the Company must satisfy. The Company holds one consent to allow it to take and use water, two consents to discharge effluent and stormwater into the Kahouri Stream, two consents to discharge wastewater and degenerating product to land, and one consent to discharge emissions into the air at this site.

During the monitoring period, Ample Group Limited demonstrated an overall level of environmental performance that requires improvement.

The Council's monitoring programme for the year under review included four inspections, eight water samples collected for physicochemical analysis, two wastewater samples collected for physicochemical analysis, four hydrological gaugings and two, three site biomonitoring surveys.

The monitoring indicated that while environmental performance was good in some areas, there were also several areas of concern. There were processes in place to minimise the contamination of stormwater, and to minimise the generation of wastewater, but this needs to be further improved as the majority of wastewater appears to be sourced from groundwater infiltration of the wastewater ponds. Water abstraction levels were well within consent limits. The discharge of wastewater into the Kahouri Stream did not meet the required dilution level but did not cause any recorded impact on the macroinvertebrate communities of this stream. The irrigation of wastewater onto land could be further improved, with more irrigation to land as opposed to wastewater discharged to the Kahouri Stream, and better rotation of paddocks to prevent excessive amounts of wastewater being discharged onto the same paddock. Consistent with previous years water quality monitoring indicated an increase in unionised ammonia and ammoniacal nitrogen in the unnamed tributary as it flowed through the western paddocks, although not to the extent that would likely have an impact on the stream biota. This increase was likely due to the historical over application of nitrogen to these paddocks by a previous company. The rendering plant did not operate during the period under review and this has significantly reduced odour issues with no odour complaints related to the site. Furthermore, disposal of dead stock/material is being achieved by sending all material offsite as opposed to burying waste, further reducing the potential for odour to be generated at the site, and the flow of contaminates to groundwater.

There were three incidents of non-compliance during the period under review. Firstly, there was an incident in relation to a faulty flow meter and the subsequent loss of flow records due to the lack of a working flow meter. The flow meter was used to assess water abstraction from the Kahouri Stream. This prevented some of the assessment of several consent conditions. The issue was investigated, an infringement notice against the Company issued, and a new flow meter suitable for the conditions installed and verified by a suitably qualified person. Secondly, the wastewater records indicated that there were several instances of discharges to land that exceeded the maximum allowable 15 day rolling average. Thirdly, the wastewater records indicated that discharges to the Kahouri Stream did not meet the 1:100 dilution factor. For the latter two incidents the Company has been sent a 14 day letter requesting an explanation for the breaches, and further

enforcement action may follow. As a result of the issues, the Company's environmental performance rating for the year under review has been downgraded.

During the year, the Company demonstrated a level of environmental and administrative performance that requires improvement.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder, this report shows that the consent holder's performance has declined in the year under review and their administrative performance remains at a level that requires improvement.

This report includes recommendations for the 2019-2020 year.

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1 Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2018 to June 2019 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by Ample Group Limited (the Company). The Company operates an abattoir and rendering plant situated on Mountain Road (SH3) at Stratford, in the Kahouri Stream catchment, a tributary of the Patea River. These resource consents were previously held by Gold International Meat Processors Limited, but were transferred to the new owner on 18 January 2016.

The report includes the results and findings of the monitoring programme implemented by the Council in respect of the consents held by the Company that relate to abstractions and discharges of water within the Kahouri Stream catchment, and the air discharge permit to cover emissions to air from the site.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land should be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of the Company's use of water, land and air, and is the fourth annual report by the Council for the Company. Previously, a single report was produced for Gold International Meat Processors Limited (for the period 2014-2015) and Taranaki Abattoirs Limited (for the period 2010-2014). Before 2010, monitoring of the site was reported in a Kahouri Stream Catchment report, which included a number of industries. All previous reports covering activities at the site are included in the bibliography and references section at the end of this report as well as the report.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about:

- consent compliance monitoring under the RMA and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by Company/companies in the Kahouri Stream Catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Company's site/catchment.

Section 2 presents the results of monitoring during the period under review, including scientific and technical data.

Section 3 discusses the results, their interpretations, and their significance for the environment.

Section 4 presents recommendations to be implemented in the 2019-2020 monitoring year.

A glossary of common abbreviations and scientific terms, and a bibliography, are presented at the end of the report.

1.1.3 The Resource Management Act 1991 and monitoring

The RMA primarily addresses environmental 'effects' which are defined as positive or adverse, temporary or permanent, past, present or future, or cumulative. Effects may arise in relation to:

- a. the neighbourhood or the wider community around an activity, and may include cultural and social-economic effects;
- b. physical effects on the locality, including landscape, amenity and visual effects;
- c. ecosystems, including effects on plants, animals, or habitats, whether aquatic or terrestrial;
- d. natural and physical resources having special significance (for example recreational, cultural, or aesthetic); and
- e. risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the Company, this report also assigns them a rating for their environmental and administrative performance during the period under review.

Environmental performance is concerned with actual or likely effects on the receiving environment from the activities during the monitoring year. Administrative performance is concerned with the Company's approach to demonstrating consent compliance in site operations and management including the timely provision of information to Council (such as contingency plans and water take data) in accordance with consent conditions.

Events that were beyond the control of the consent holder and unforeseeable (that is a defence under the provisions of the RMA can be established) may be excluded with regard to the performance rating applied. For example loss of data due to a flood destroying deployed field equipment.

The categories used by the Council for this monitoring period, and their interpretation, are as follows:

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.

Good: Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.

Improvement required: Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.

Poor: Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

High: The administrative requirements of the resource consents were met, or any failure to do this had trivial consequences and were addressed promptly and co-operatively.

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

Improvement required: Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.

Poor: Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2018-2019 year, consent holders were found to achieve a high level of environmental performance and compliance for 83% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 13% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

The Company operates an abattoir and rendering plant situated beside State Highway 3 at the Kahouri Stream Bridge, about one kilometre north of Stratford. The facility generally operates Monday to Friday and currently slaughters cattle and historically slaughtered sheep and pigs.

Meat meal and tallow are also by-products that could be manufactured onsite through the rendering plant, but this was not operational during the monitoring period. The rendering plant processes soft and hard offal from the adjacent abattoir. Material is processed in one of two batch cookers. Heating requirements are supplied from two package boilers. Cooked material is discharged into a percolator pan and the product centrifuged to remove surplus tallow. Solid material is milled and bagged. Tallow is refined and stored in

¹ The Council has used these compliance grading criteria for 15 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

bulk. The batch melter used has a capacity of 1,500 kg raw material. Cooker gases are routed to a trash cyclone, then to an indirect condenser, with non-condensable gases passed to a compost filter before discharge to atmosphere.

The rendering plant was not operated during the review. Water supply for the site comes from two sources. Water for stock and yard washing used to be drawn at a small weir on an unnamed tributary of the Kahouri Stream, but a variation to the consent in 2008 allowed the point of take to be from the Kahouri Stream proper, approximately 200 m upstream of the abattoir, whilst water for slaughter and process areas comes from the Stratford municipal supply.

The wastewater treatment system is a conventional two-pond system, which is essentially a scaled-up version of those used to treat farm dairy wastes. It consists of an anaerobic pond of approximately 2,000 m³ volume followed by an aerobic pond about of 3,200 m² in area. In 2011, this system experienced a large upgrade. The treated wastewater, which was originally discharged to an unnamed tributary of the Kahouri Stream, was now being irrigated to land when conditions allowed, or discharged to the Kahouri Stream during high flows, when adequate dilution existed. Initially, only the land around the abattoir received irrigated wastewater, but in 2013 the irrigation area was expanded significantly, to include the area on the other side of Mountain Road (Photo 1).

Wastewater comes from three main sources, namely the slaughterhouse, stockyards and rendering plant. Slaughterhouse wastewater passes through a screening system that removes gross solids and then flows by gravity to the anaerobic pond. Drainage from the partially covered stockyards is also gravity-fed to the treatment system. Waste liquor and floor washings from the rendering process are pumped up to the drainage system. Boiler condensate is disposed of in a soak hole.

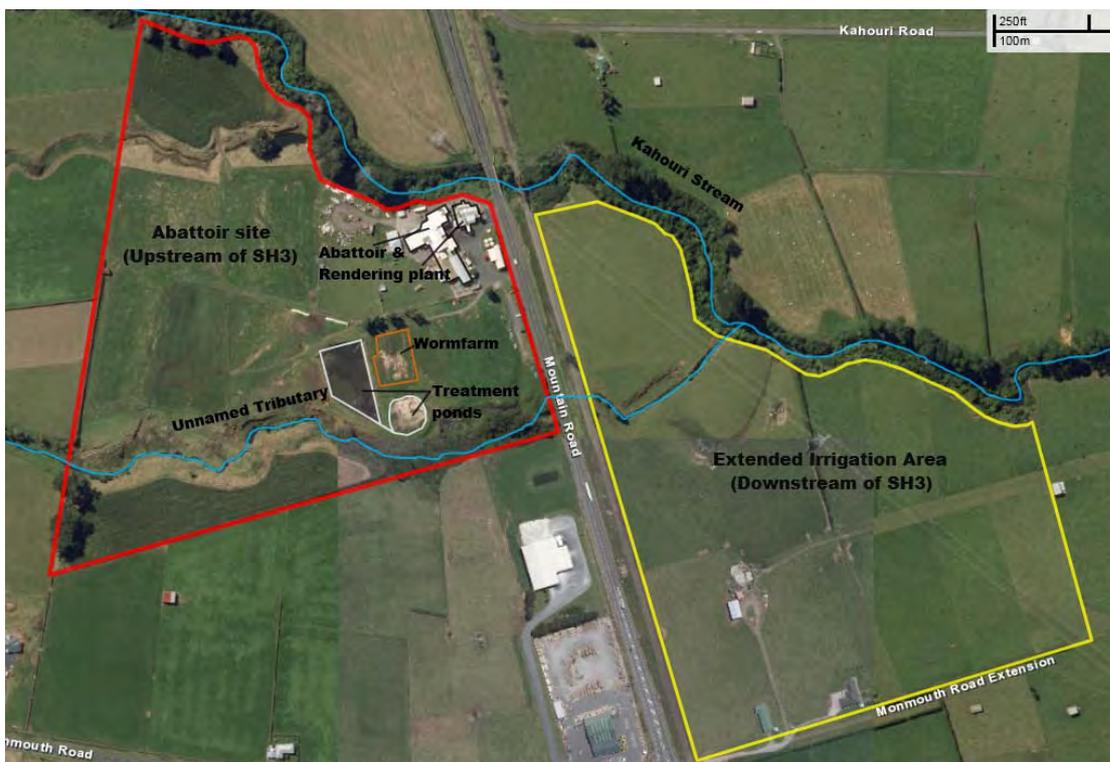


Photo 1 The Company's site, including irrigation areas

The Company disposes of material unsuitable for rendering by composting in a paddock next to the effluent treatment system, an area commonly referred to as the worm farm. The composted material is then spread over pasture. Runoff from this area is also directed to the wastewater treatment system. The Company no longer buries material suitable for rendering onsite.

1.3 Resource consents

The Company holds six resource consents, the details of which are summarised in the table below. Summaries of the conditions attached to each permit are set out in Section 3 of this report.

A summary of the various consent types issued by the Council is included Appendix I, as are copies of all permits held by the Company during the period under review.

Table 1 Summary of the various consent types issued by the Council

Consent number	Purpose	Granted	Review	Expires
<i>Water abstraction permits</i>				
5176-2	To take water from the Kahouri Stream for stock and yard washing purposes	7 July 2016	June 2022	1 June 2034
<i>Water discharge permits</i>				
7662-1	To discharge treated wastewater directly into the Kahouri Stream	7 November 2011	June 2020	1 June 2028
7660-1	To discharge uncontaminated stormwater to land	7 November 2011	June 2022	1 June 2028
<i>Air discharge permit</i>				
4055-3	To discharge emissions to air, in association with meat processing, rendering and associated activities	7 November 2011	June 2020	1 June 2028
<i>Discharges of waste to land</i>				
5221-2	To discharge treated wastewater from a treatment system onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream	7 November 2011	June 2020	1 June 2028
6570-1	To cover the discharge of degenerating raw product onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.	24 March 2005	NA	1 June 2022

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents within the Taranaki region. The Council is also required to assess the effects arising from the exercising of these consents and report upon them.

The Council may therefore make and record measurements of physical and chemical parameters, take samples for analysis, carry out surveys and inspections, conduct investigations and seek information from consent holders.

The monitoring programme for the Company's abattoir and rendering plant site consisted of four primary components as set out in sections below. It should be noted that not all components of the monitoring programme were implemented, as the sites productivity was relatively low.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Council in:

- ongoing liaison with resource consent holders over consent conditions and their interpretation and application;
- in discussion over monitoring requirements;
- preparation for any consent reviews, renewals or new consent applications;
- advice on the Council's environmental management strategies and content of regional plans; and
- consultation on associated matters.

1.4.3 Site inspections

The Company's abattoir and rendering plant site was visited eight times during the monitoring period. The site visits comprised of four compliance monitoring inspections and four hydrological inspections. With regard to consents for the abstraction of or discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses, including contaminated stormwater and process wastewaters. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the Company were accessed so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The hydrological inspections were undertaken in order to maintain the rating curve for the staff gauge located at the Mountain Road Bridge and if required, download flow data from the datalogger.

1.4.4 Chemical sampling

The Council undertook sampling of the discharges from the site. The irrigated wastewater discharge to land was sampled on two occasions. The samples were analysed for calcium, conductivity, potassium, potassium adsorption ratio, magnesium, sodium, ammoniacal nitrogen, nitrates, pH, sodium adsorption ratio, temperature, total nitrogen and total phosphorus.

The wastewater discharged to the Kahouri Stream was scheduled to be sampled on two occasions, but due to low rainfall and the Company responding to Council advice/consent condition to preferentially irrigate to land, only limited discharges to the Kahouri Stream occurred during the year under review. Samples were to be analysed for biological oxygen demand (carbonaceous (discharge only), total and filtered carbonaceous), chloride, conductivity, dissolved reactive phosphorus, *E.coli*, faecal coliforms, unionised ammonia, ammoniacal nitrogen, pH, suspended solids, temperature, total nitrogen, total phosphorus and turbidity.

In addition to sampling in relation to the point source discharges, sampling was undertaken when no point source discharge was occurring. This sampling was undertaken in an attempt to understand the degree of leaching that may be occurring in relation to the irrigation of wastewater or burial of poor quality product. This sampling was undertaken on two occasions at four sites. These sites were located near where the site boundary crossed the upstream and downstream ends of the Kahouri Stream and unnamed tributary. These samples were analysed for conductivity, dissolved reactive phosphorus, faecal coliforms, unionised ammonia, ammoniacal nitrogen, nitrate, pH, suspended solids, temperature, total nitrogen and turbidity.

1.4.5 Biomonitoring surveys

A biological survey was performed on two occasions at three sites in the Kahouri Stream to determine whether the discharge of treated wastewater from the site has had a detrimental effect upon the macroinvertebrate communities of the stream.

2 Results

2.1 Water

2.1.1 Inspections

On 8 November 2018 the first compliance monitoring inspection was undertaken. The staff gauge at Kahouri Stream was at 0.580 m. No irrigation or discharge to the river was occurring at the time of the inspection. Concreted surfaces were clean and tidy. No emissions or odour were emanating from the plant. The worm farm was well grassed and not generating any odour. Several recent deposits of paunch were evident with old deposited paunch establishing grass. The upper pond had large amounts of tallow and did not look like it had been reaching the lip of the pond. The lower pond staff gauge was 2.5m, with a meter reading of 033477 m³. Overall, the plant was clean and tidy. A significant plug of sand/fine gravel was found at the upstream boundary of the Kahouri Stream, but not downstream of the plant. This may be due to natural erosion events or earthworks undertaken upstream of the site with poor sediment controls. The downstream passage of the sediment slug will likely impact on stream macroinvertebrate communities at the two downstream sites at some stage.

On 9 January 2019 the second compliance monitoring inspection was undertaken. There was no freeboard available at the aerobic pond (staff gauge 3.0 m), which needed to be lowered and the Company was advised to do this. The consent states sufficient freeboard has to be made available by 5 pm of each working day. The worm farm had a large amount of new paunch. Old paunch was becoming grassed over and there was no odour being generated. The cut and carry paddocks had recently been harvested for bailage. In general the site was neat and tidy and no odour was evident.

On the 30 April 2019 the third compliance monitoring inspection was undertaken. At the time of the inspection there was no irrigation to land or discharge to the Kahouri Stream. There was sufficient freeboard available at the aerobic pond (staff gauge 1.5 m) and the anaerobic pond also had capacity. The worm farm was well grassed with little odour being generated. Concreted areas were mostly clean and tidy though a very minor amount of blood and product was seen on the concreted area behind the plant. No odour was noticeable beyond the plant boundary.

On the 4 June 2019 the fourth compliance monitoring inspection was undertaken. At the time of the inspection there was irrigation to land. There was sufficient freeboard available at the aerobic pond (staff gauge 1.6 m) and the anaerobic pond also had capacity. The worm farm was well grassed with little odour being generated. Concreted areas were mostly clean and tidy. No odour was noticeable beyond the plant boundary.

The first hydrological inspection was completed on 6 November 2018. The stage was 0.574 m with a flow of 0.274 m³/s.

The second hydrological inspection was completed on 24 January 2019. The stage was 0.504 m with a flow gauged flow of 0.114 m³/s. Sites upstream of current staff gauge were investigated to provide safer access for staff. The current position of the staff gauge will provide the best hydrological site for gauging. There was a discussion about installing a telemetered site to provide real time data of river level that will eliminate the need to observe the staff gauge.

The third hydrological inspection was completed on 5 March 2019. The stage was 0.470m with a flow of 0.071 m³/s. Investigated malfunction with flow meter that was advised by the Company, unloaded data. Last data received was on the 19th of January 2019. A new flowmeter will need to be installed and verified by the 20th of April 2019.

The forth hydrological inspection was completed on 27 June 2019. Inspected the required work for special condition 6 and 7 of consent R2/7662-1. The stage was at: 0.623m with flow of 0.467 m³/s.

2.1.2 Results of abstraction and discharge monitoring

Various sites are monitored for discharge or receiving environment water quality monitoring. The site locations are summarised in Table 2 and shown in Figure 1.

Table 2 Detail for those sites monitored for discharge or receiving environment water quality

Sample source	Site	Site code	Site Description
Discharge to Kahouri Stream	D1	IND003002	Wastewater discharge pumped to Kahouri Stream
Irrigated effluent	I1	IND004008	Effluent irrigated to land
Kahouri Stream	K1	KHI000295	Upstream property boundary
	K2	KHI000300	Downstream property boundary and approx. 90 m downstream of wastewater discharge (SH3)
	K3	KHI000305	65 m downstream of KHI000300
Unnamed tributary	T1	KHI000294	Upstream property boundary
	T2	KHI000302	Approx. 50 m downstream of previous wastewater discharge

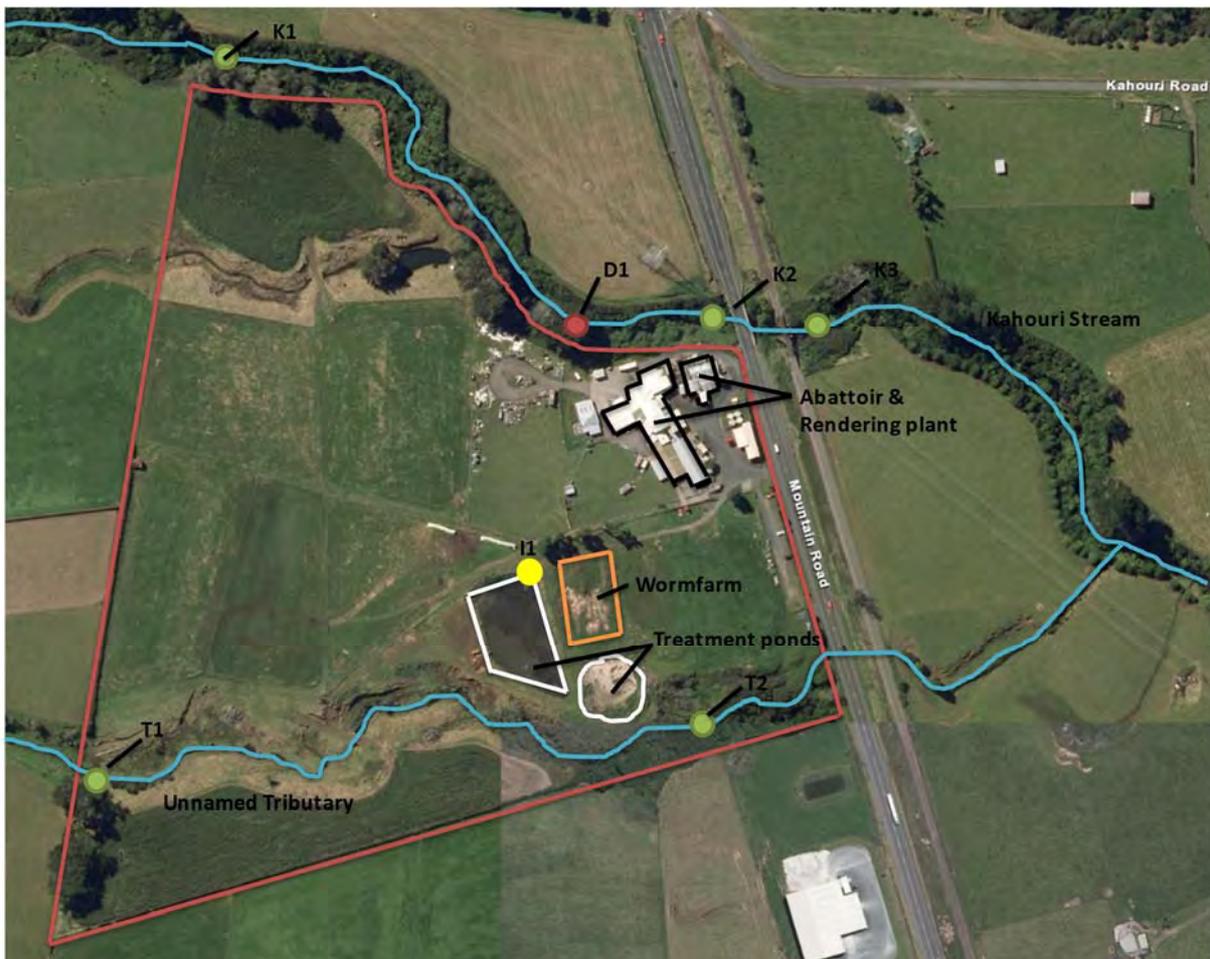


Figure 1 Sites monitored for discharge or receiving environment water quality

2.1.2.1 Irrigated effluent & wastewater discharge to Kahouri Stream

The irrigated effluent was sampled on two occasions by the Council (site I1). This sampling was undertaken for two reasons, to estimate the nutrients (total nitrogen and phosphorus) being discharged to land (and consequently not directly to the Kahouri Stream), and to determine compliance with consent conditions, specifically the restriction on the sodium adsorption ratio (SAR) of the discharge, which is intended to prevent soil losing its structure. If irrigation water with a high SAR is applied to soil the sodium in the water can displace the calcium and magnesium in the soil. This will cause a decrease in the ability of the soil to form stable aggregates and results in a loss of soil structure. This will also lead to a decrease in infiltration and permeability of the soil to water leading to problems with crop production.

Table 3 shows that the SAR consent limit of 15 was complied with both samples recording a low ratio. These were similar results to the preceding monitoring period which at the time also had low ratios.

Table 3 Chemical monitoring results for the irrigated wastewater (site I1) for the 2018-2019 monitoring period

Parameter	Summary of previous data				2018-2019	
	N	Median	Min	Max	14/01/19	6/05/19
Total Nitrogen (g/m ³)	14	77.6	11.5	461.0	11.5	30.0
Total phosphorus (g/m ³)	14	8.9	0.7	85.2	5.6	4.5
Ammoniacal nitrogen (g/m ³ -N)	14	56.1	2.5	123.0	1.8	22.0
Sodium absorption ratio (SAR)	14	1.6	0.8	2.6	1.9	1.5

The nutrient concentrations in the irrigated effluent are presented in Table 3 and Figure 2. The results were low for both total nitrogen and total phosphorus which is in keeping with previous results since the Company took over operations in 2016. This is presumably due to a low kill volume, which would be consistent with previous years, and other sources of water diluting the wastewater. Overall, the quality of wastewater to land has been high over recent years.

2.1.3 Provision of consent holder data

The Company has provided data on abstraction rates, the discharge of effluent to water, irrigation of effluent to land, and the discharge of any other nitrogenous wastes to land. This data is presented in the following sections.

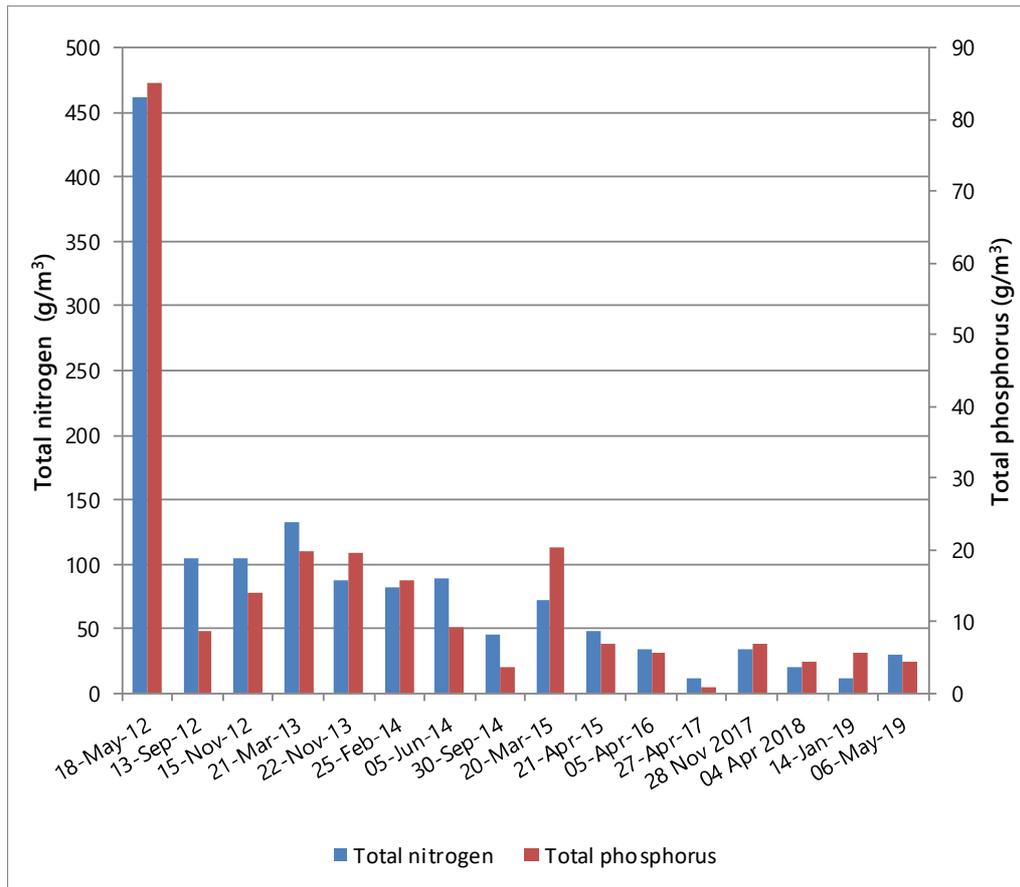


Figure 2 Concentrations of total nitrogen and total phosphorus in the irrigated wastewater

2.1.3.1 Abstraction data

The Company abstracts water from the Kahouri Stream, under consent 5176-2. Under this consent, they are required to maintain a verified flow meter and datalogger at the point of abstraction and make these records available to the Council. Council staff have downloaded data from the onsite datalogger. The datalogger records data at 15 minute intervals and provides data on abstraction volume and flow rate. The results are presented in Figure 3 and Figure 4. Downloaded data was only available from 1st July 2018 to 19th January 2019 for the monitoring period under review. A hydrology inspection found that the flow meter was damaged which has resulted in the loss of data from January onwards. The Company has been issued an infringement notice due to the loss of flow data, the flowmeter has since been replaced and verified with a model that should be less likely to be damaged, and it is expected that no further loss of hydrology data should occur.

The rate of abstraction is limited to a rate of 3.25 L/s continuous flow and a volume of 178 m³/day, with no abstraction allowed when the Kahouri Stream flow is less than 55 L/s immediately downstream of the intake point. Figure 3 shows that the Company has complied with the maximum daily rate restriction for the period when records were available. The highest daily volume abstracted was 32 m³, which is less than one fifth of the daily maximum limit. Figure 4 shows that the Company has complied with the maximum continuous flow rate limit for the period when records were available. The highest recorded flow rate was 2.41 L/s, which was less than three quarters of the flow rate limit.

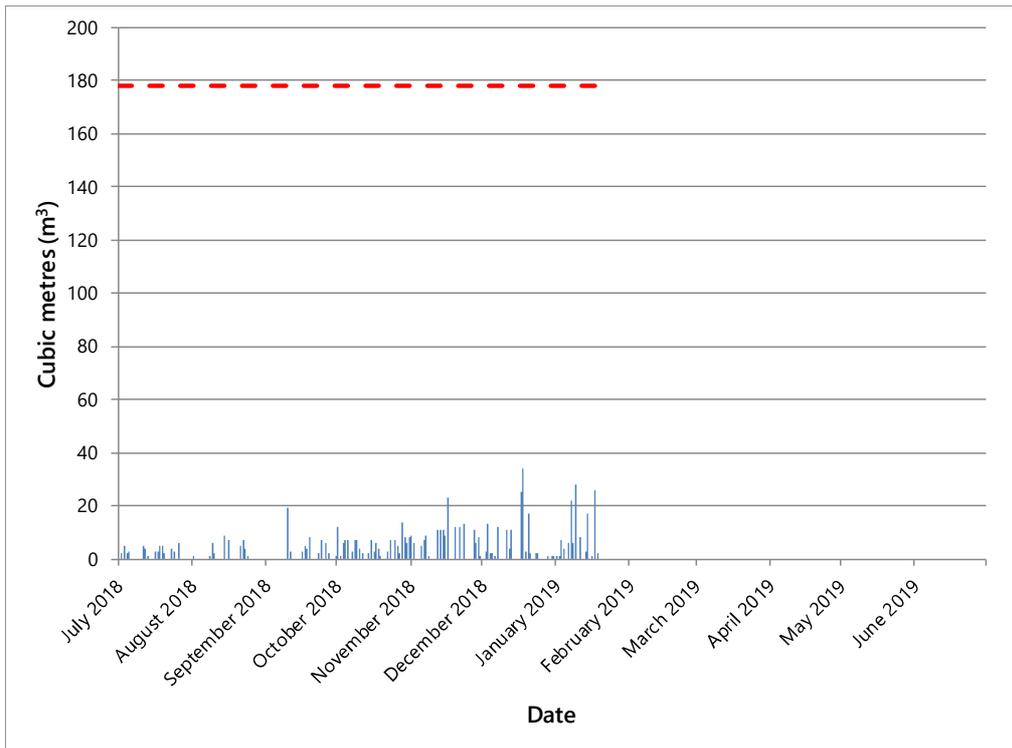


Figure 3 Daily abstraction volume for the 2018-2019 period, with volumes from 1st July 2018 to 19 January 2019, from the Kahouri Stream (compliance limit red dashed line)

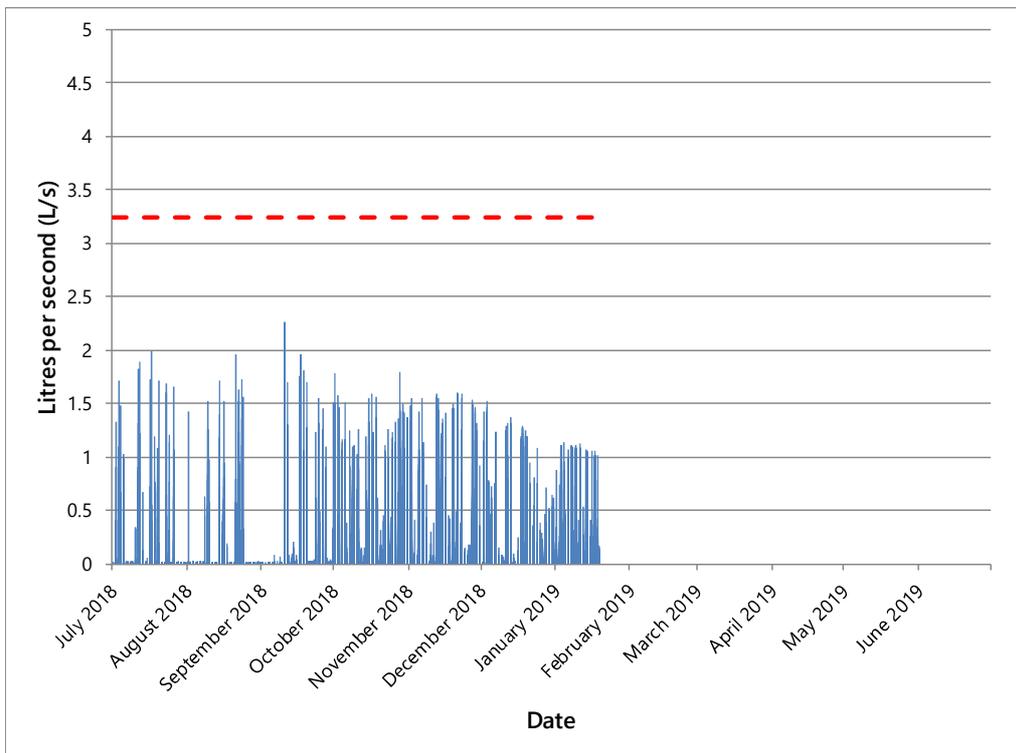


Figure 4 Abstraction rate for the 2018-2019 period, with flow rates from 1 July 2018 to 19 January 2019, from the Kahouri Stream (compliance limit red dashed line)

2.1.3.2 Irrigated wastewater

The irrigation of wastewater has occurred over two areas in the past, but in the 2018-2019 period, the majority of the irrigation occurred on land west of Mountain Road (SH3) owned by the Company.

Wastewater was irrigated to seven paddocks 1, 3, 4, 5, 6, 7, and 8 on the western side of SH3 and two paddocks on the eastern side, J1 and J2 (Figure 5). The Wastewater Irrigation Management Plan relevant to the 2018-2019 period identified the land surrounding the abattoir as cut and carry. This means that the land was not to be stocked, and the feed grown on this land was to be harvested and removed, to be fed to stock offsite. With no stock contributing nitrogen in the form of urine and faeces to land a higher nitrogen application rate can be applied. The consent allows for the application of up to 600 kg of nitrogen per hectare per year to cut and carry paddocks, while a lower limit of 200 kg of nitrogen per hectare per year applies to the land east of SH3, as this land is also used by the landowner to run stock.



Figure 5 The irrigation areas, showing the cut and carry paddocks (green) and regular paddocks (blue) (please note that the boundary lines are indicative only and may be subject to change)

Table 4 presents both the volume of wastewater and estimated total nitrogen applied to land in the 2018-2019 period. The total nitrogen loading has been estimated using the nitrogen concentration from the irrigated wastewater samples. According to Company data nine paddocks were used. Due to a combination of low overall wastewater volumes and low nitrogen content from the irrigated wastewater, nitrogen volumes that paddocks received were far below the 600 kg and 200 kg/hectare/year limits. It should be noted that the quality of this wastewater can vary both between occasions, and throughout the day. In addition, the sporadic use of the stirrer will also influence the nitrogen content of the effluent. Therefore, the figures provided in Table 4 are indicative only.

Table 4 Total volume of wastewater and total nitrogen applied to land during the reported period

Parameter	Paddock number								
	1	3	4	5	6	7	8	J1	J2
Total volume (m ³)	380	886	510	580	250	1150	2140	880	540
Total N (kg/ha)	9.62	7.57	6.96	18.2	7.86	30.2	44.4	9.22	3.71

There is also a restriction on the application depth within any area of irrigation, which is not to exceed 24 mm over any 15 day period. Table 5 presents a summary of the application depth for the reported period. Of the nine paddocks that received wastewater, eight exceeded the maximum application depth of 24 mm over a 15 day period. Essentially, every 240 m³ of wastewater needs to be irrigated over one hectare of land in a 15 day period in order to comply with this condition.

The intention of this condition, which is consistent with appendix VIIA of the Regional Freshwater Plan, is to avoid surface ponding, runoff into waterways, leaching and groundwater contamination. Exceeding this limit may also lead to damaged pasture. Although inspections of the irrigation area did not note any runoff, nor was there any excessive ponding, the consent holder does need to manage the irrigation system with this condition in mind. Particularly since paddocks 5, 7 and 8 exceeded the limit by a substantial margin. In essence, there needs to be better management of the rotation system to ensure that the appropriate amount of wastewater is irrigated to each paddock to be compliant with the resource consent condition and to minimise any environmental harm. However, it should also be noted that irrigation to pasture is preferable over discharges directly to the Kahouri Stream, and the nutrient loadings of the wastewater are low. This was presumably due to limited stock processing and significant amounts of other water (stormwater and groundwater) entering the wastewater ponds, which has been shown previously to be the main contributor to the wastewater ponds as wastewater discharge volumes are correlated with rainfall. If the Company prevented ingress of outside sources of water entering the wastewater system then issues with wastewater volume would likely be greatly reduced, or alternatively having more storage capacity would make it easier to discharge wastewater appropriately. It should be noted that condition 8 of resource consent 7662-1 requires uncontaminated stormwater to be prevented from entering the wastewater system, though groundwater is most likely the major source of uncontaminated water into the ponds and not stormwater.

Table 5 Paddock size and application depth statistics for the paddocks that received irrigated wastewater during the reported period

Application depth	Paddock number								
	1	3	4	5	6	7	8	J1	J2
Paddock size (ha)	0.82	2.43	1.52	0.66	0.66	0.79	1.00	1.98	3.02
Max 15 day application depth (mm)	46.3	33.3	33.6	87.9	37.9	79.4	87	27.8	9.9

2.1.3.3 Other nitrogenous wastes

From time to time the consent holder may discharge vermicast from the wormfarm to land and blood from the abattoir. A record of each discharge must be kept, and these have been provided to Council. No vermicast was spread during the reported period and the consent holder has indicated that blood is now transported to an offsite rendering plant.

2.1.3.4 Discharge to the Kahouri Stream

When the discharge consent was originally applied for, the applicant (Taranaki Abattoirs) committed to restricting the discharge rate to 3.3 L/s. Although this was not included as a consent condition, the consent did require that no discharge was to occur when flows in the Kahouri Stream were less than 330 L/s to enable compliance with the 1:100 dilution ratio also required by consent. In terms of the quality of the records provided, the current year was an improvement on previous years, with only four instances over eight days of discharges to the river not having staff gauge readings recorded. There were still some discrepancies with the data provided, for example with several occasions of both discharges to the Kahouri Stream and to land recorded for the same discharge. When the discharge figures are assessed, it was possible to calculate statistics for the discharge rates. The statistics are based on each discharge event, and

then converted to daily statistics, as some discharges occurred continuously for a number of days. These statistics are in Table 6. Discharges averaged 18 L/s.

The average discharge significantly exceeded the 3.3 L/s originally proposed (Table 6). Although this is not non-compliant with the consent, as the consent does not specify a maximum discharge rate, the relatively high discharge rates make complying with the 1:100 dilution extremely difficult as the Kahouri Stream would need to be at very high flows in order to achieve the required dilution factor.

Table 6 Wastewater discharge parameters

Parameter	Discharge rate (L/s)
Minimum	9.26
Maximum	35.35
Average	18.18
Median	17.35

Wastewater discharges to the Kahouri Stream complied with the minimum flow condition where no discharges are allowed below 330 L/s flow. However, the wastewater discharges did not comply with the 1:100 dilution ratio condition (Figure 7). The stream flow must be hundred times greater than the discharge rate to comply with the consent. Therefore, if the discharge rate is 18 L/s, the stream flow would need to be 1,800 L/s.

There were eight days where no flow (via staff gauge measurement) was recorded, and 22 days were the discharge was less than 1:100 dilution. Based on the discharge rates and past non-compliance with the consent the Company still needs to substantially decrease the wastewater flow rate to the Kahouri Stream, and to ensure discharges only occur when the stream is in fresh/flood. Currently, there were several instances when discharges have occurred when the stream flow has been relatively low. Environmental affects as measured by macroinvertebrate health have been minor though, presumably due to the wastewater discharged into the stream being relatively dilute due to the large amounts of surface water/groundwater inputs into the wastewater ponds.

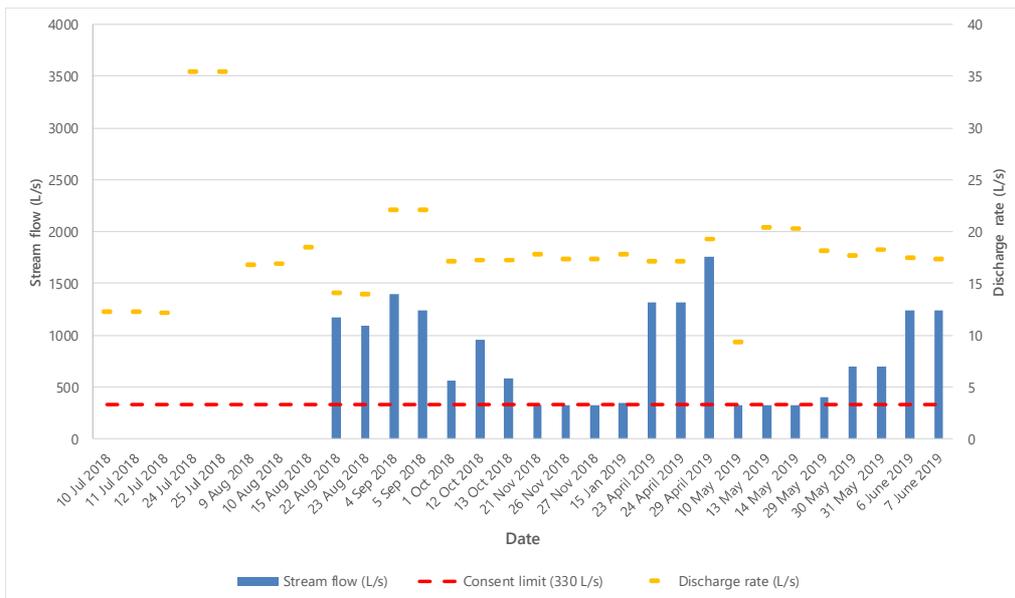


Figure 7 The average volume of wastewater discharged to the Kahouri Stream in relation to minimum stream flow consent limit, actual stream flow, and the 1:100 dilution consent limit

Another important consent condition requires that as far as practicable, discharge to the Kahouri Stream should be minimised and discharges to land are maximised. This means that even at times when adequate dilution is present in the Kahouri Stream, wastewater shall be irrigated to land, unless the land is saturated, and consequently is incapable of accepting the discharge. Figure 6 shows that the majority of wastewater was discharged to water except for the three summer months (note rainfall data was obtained from unaudited data). This is still an improvement on previous years and it should be noted that the number of instances of discharges to the Kahouri Stream have decreased, but unfortunately, when discharges have occurred, large volumes have been discharged. A good example of this is for the month of June when only one discharge to water occurred over a two day period, but it was larger than eight separate discharges to land.

Figure 6 also shows a relationship with monthly rainfall (from the rainfall recorder located at Cloten Rd, Stratford) and the volume of wastewater. There was a strong relationship between the volume of wastewater generated and rainfall. This indicates that a significant proportion of the wastewater is sourced from stormwater, most likely through runoff from unroofed areas of the yard, and also runoff from the wormfarm, and groundwater ingress into the ponds. It is likely that shallow groundwater is entering the treatment ponds which has been observed in the second pond. The Company has indicated that it has tried to minimise stormwater ingress but the current results indicate that further improvements are required.

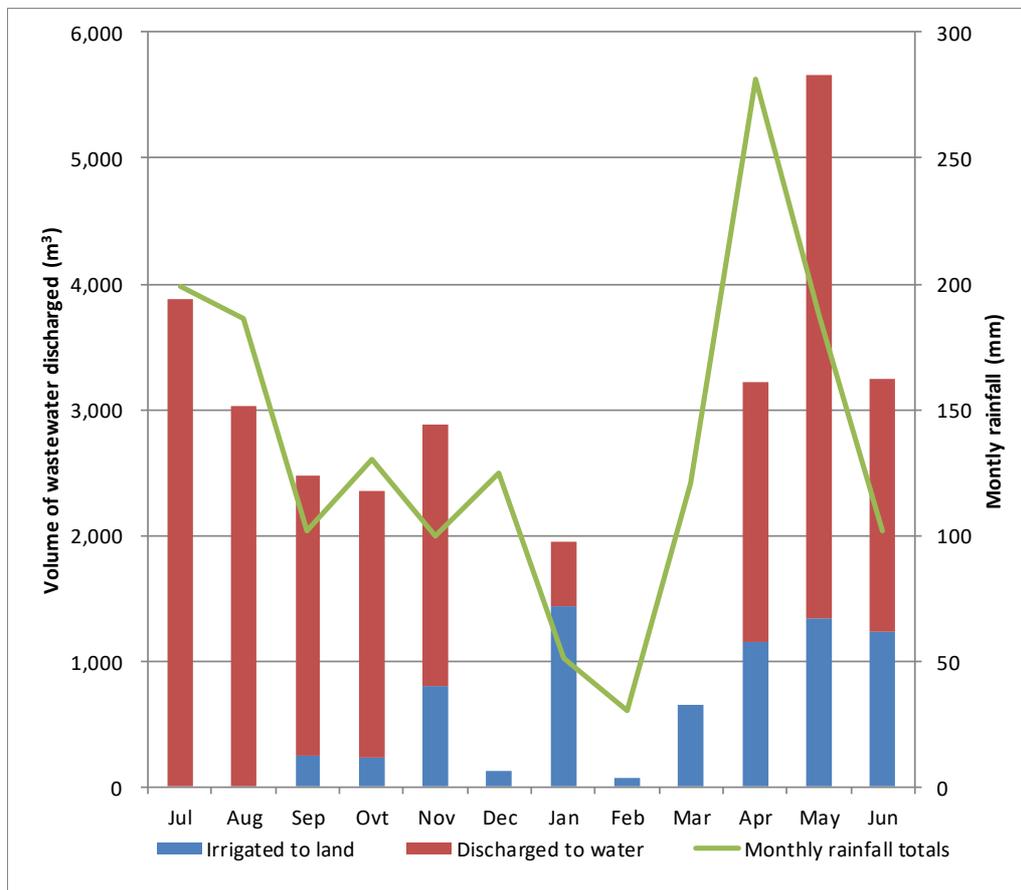


Figure 6 The volume of wastewater irrigated to land and discharged to water, compared with the monthly rainfall totals

Figure 7 presents a summary of the proportion of wastewater irrigated to land since November 2011. It shows that the majority of wastewater is discharged to the Kahouri Stream though the volumes discharged to land have increased from the preceding three monitoring periods which was a positive result. It has been reinforced to the Company that it is expected to see the volume dislodged to land continue to increase.

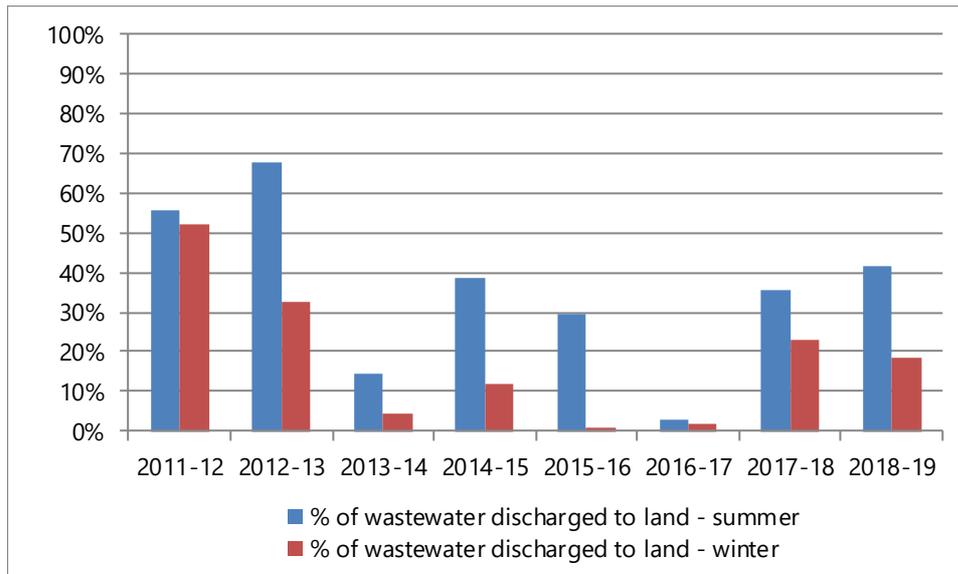


Figure 7 The percentage of wastewater irrigated to land over summer and winter since November 2011

2.1.3.5 Provision of management/contingency plans

Various consents held by the Company include requirements for the preparation of contingency or management plans. Some of these plans are required to be revised every few years. The consent that licenses the irrigation of wastewater to land requires the provision of a Wastewater Irrigation Management Plan, and that this plan be reviewed every two years. The Company has a contingency plan, which is intended to meet the requirements of resource consent 4055-3 (special condition 3) and resource consent 6570-1 (special condition 5). The most recent version of this plan was received in November 2013 from a previous consent holder, and is still in draft form, and it needs to be updated by the Company.

2.1.4 Water chemistry – Synoptic survey

Two synoptic surveys were carried out on the 9 January 2019 on 4 June 2019 in an attempt to quantify the impacts of any potential diffuse discharge(s) from the site, sourced from (for example) the irrigation of effluent to land or by burial of poor quality product that was not suitable for rendering. Sites K1, K2, T1 and T2 were sampled (Figure 1). The results indicate that any diffuse seepage from the site is having very little influence on the Kahouri Stream, with very little change in the parameters tested from the upstream site (K1) to the downstream site (K2) (Table 7).

The unnamed tributary showed a typical increase in unionised ammonia and ammoniacal nitrogen from upstream to downstream. During the first survey there was also an increase in *E.coli* which may indicate surface water contamination, but there was no concurrent significant increase in turbidity, nor was there an increase in *E.coli* found in the second survey. Waterfowl have been observed in the tributary and could be the source of the increased *E.coli* level. The unionised ammonia and ammoniacal nitrogen increases are likely the a result of diffuse discharges, which is most likely related to the historic, excessive, irrigation of wastewater by Taranaki Abattoirs, a company formally located at the site and prior to the Company taking control of the site, resulting in too much nitrogen being applied to land. The burial of poor quality product too close to the stream could also cause the observed results, though the Company is required to bury material well away from any waterways. Both activities have the potential to contaminate the shallow groundwater, which could flow to the unnamed tributary.

For the 2014-2015, 2015-2016 and 2016-2017 periods no irrigation occurred in the western paddock area located adjacent on the Company's land. There was limited irrigation for the 2017-2018 period. It can take

some time for the effects of contaminated groundwater to fully manifest in surface water, due to the slow rate that groundwater is replaced by clean water. The unionised (free) ammonia concentration at both downstream sites on both occasions was well below 0.025 g/m³, indicating that there were no toxic impacts on the stream.

Table 7 Water quality sample results from the Kahouri Stream and Tributary of the Kahouri Stream at sites on the upstream and downstream boundary of the property

Parameter	9/01/2019				4/06/2019			
	Kahouri Stream		Tributary		Kahouri Stream		Tributary	
	U/S	D/S	U/S	D/S	U/S	D/S	U/S	D/S
Unionised Ammonia (g/m ³ -N)	0.00019	0.00018	0.00037	0.00141	0.00014	0.00014	0.00006	0.00015
Turbidity (NTU)	2.5	2.3	2.9	2.7	1.98	2.7	2.5	2.6
pH	7.8	7.8	7.8	7.7	7.4	7.3	7.3	7.4
Electrical Conductivity (mS/m)	11.9	11.8	11.7	11.8	14.2	15.2	15.9	10.3
Total Suspended Solids (g/m ³)	< 3	< 3	< 3	4	3	5	5	5
Temperature (°C)	15.0	15.1	16.4	16.5	10.9	11.6	11.6	10.9
Total Nitrogen (g/m ³)	0.99	0.97	0.78	0.86	1.37	1.51	1.47	1.29
Total Ammoniacal Nitrogen (g/m ³ -N)	0.011	0.011	0.022	0.095	0.031	0.037	0.014	0.030
Nitrate-N + Nitrite-N (g/m ³ -N)	0.80	0.81	0.64	0.68	1.18	1.34	1.32	1.16
Total Kjeldahl Nitrogen (g/m ³)	0.19	0.16	0.14	0.18	0.2	0.17	0.15	0.13
Dissolved Reactive Phosphorus (g/m ³)	0.021	0.023	0.009	0.007	0.01	0.006	0.005	0.010
<i>Escherichia coli</i> (MPN / 100 mL)	172	272	222	1,414	156	120	107	261

2.1.4.1 Biological monitoring

Spring and summer macroinvertebrate surveys were undertaken for the purpose of monitoring the health of the macroinvertebrate communities of the Kahouri Stream in relation to wastewater management at the site, primarily the discharge of treated wastewater to the stream.

The Council's standard 'kick-sampling' technique was used to collect streambed macroinvertebrates from three sites in the Kahouri Stream on 8 November 2018 and on 25 March 2019 to investigate the effects of the Company's discharges on macroinvertebrate health. Macroinvertebrates were identified, the number of different types of taxa counted (taxa richness), and MCI and SQMCI scores were calculated for each site.

The MCI is a measure of the overall sensitivity of the macroinvertebrate community to the effects of nutrient pollution in streams. It is based on the presence/absence of taxa with varying degrees of sensitivity to pollution. The SQMCI takes into account taxa abundance as well as sensitivity to pollution, and may reveal more subtle changes in communities. Significant differences in either the MCI or the SQMCI between sites indicate the degree of adverse effects (if any) of the discharges being monitored and enable the overall health of the macroinvertebrate communities to be determined. EPT taxa quantifies the number of mayflies, stoneflies and caddisflies present in the sample, and this can also be expressed as a proportion of the total number of taxa (%EPT) which is another useful statistic to gauge macroinvertebrate health.

It should be noted that special condition 13 of the relevant consent (7662-1) includes the following statement:

"The difference in macroinvertebrate community between the upstream control site and the potential impact site immediately below the mixing zone will be examined in order to determine if the discharge has resulted in a 'significant adverse effect on aquatic life'. This will include examining any change in the Semi-Quantitative Macroinvertebrate Community Index [SQMCI], overall composition of the community [including %EPT] and Macroinvertebrate Community Index [MCI]. Should this examination identify a significant adverse effect caused by the discharge, this will constitute a breach of this condition."

The analysis of results was undertaken with this statement in mind.

During the spring survey, the Kahouri Stream sites had moderate macroinvertebrate community richnesses with very little variation among sites. This indicates that there was no evidence of discharges from the site negatively affecting macroinvertebrate communities recently.

MCI scores indicated that the macroinvertebrate communities at sites 1 and 2 were in 'very good' health and site 3 was in 'good' health. While current MCI and SQMCI indicated no significant decline from historic medians at sites 2 or 3, both sites had a significant decline in MCI when compared to site 1. All three sites were in 'excellent' health in regards to SQMCI scores. There were no significant differences in SQMCI scores among sites. The large discrepancy between the MCI and SQMCI scores was due to reasonably high levels of 'rare' taxa that influenced the MCI scores but had very little effect on the SQMCI scores; meaning that all three sites were numerically dominated by pollution sensitive taxa. This indicates a healthy macroinvertebrate communities in the Kahouri Stream; however, several pollution tolerant taxa were present in the two impact sites compared with the control site. This suggests minor nutrient enrichment downstream of the discharge, but not at a level that would cause concern given there was no sewage fungus observed at any of the sites.

Overall, this survey indicates that there was no significant deterioration in macroinvertebrate community health in a downstream direction.

During the summer survey, the three sites had moderate macroinvertebrate community richnesses with very little variation among sites. Taxa richnesses were very similar between sites and to historical medians. This indicates that there was no evidence of recent discharges from the site negatively affecting macroinvertebrate communities.

MCI scores indicated that the macroinvertebrate communities at sites 1 and 3 were in 'good' health and site 2 was in 'very good' health. There were no significant differences between sites or between historic medians. The SQMCI scores indicated very healthy macroinvertebrate communities with all three sites in 'very good' health due to the high abundance of the 'sensitive' mayfly *Coloburiscus*; numerically dominating the macroinvertebrate communities present there. There were no significant differences in SQMCI scores between sites or between historic medians. SQMCI results were largely congruent with MCI results. EPT percentages were very similar between sites and were all above 50% suggesting good preceding water quality. The lack of sewage fungus at any of the sites also indicates little enrichment downstream of the discharge.

Overall, this survey indicates that there was no evidence that discharges from the Ample Group Limited meat works had impacted on macroinvertebrate community health in the Kahouri Stream.

Copies of biomonitoring reports for this site are available from the Council upon request.

2.2 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the Company. During the year matters may arise which require

additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

For all significant compliance issues, as well as complaints from the public, the Council maintains a database record. The record includes events where the individual/organisation concerned has itself notified the Council. Details of any investigation and corrective action taken are recorded for non-compliant events

Complaints may be alleged to be associated with a particular site. If there is potentially an issue of legal liability, the Council must be able to prove by investigation that the identified individual/organisation is indeed the source of the incident (or that the allegation cannot be proven).

Table 3 below sets out details of any incidents recorded, additional investigations, or interventions required by the Council in relation to the Company's activities during the 2018-2019 period. This table presents details of all events that required further investigation or intervention regardless of whether these were found to be compliant or not.

Table 8 Incidents, investigations, and interventions summary table

Date	Details	Compliant (Y/N)	Enforcement Action Taken?	Outcome
05/04/19	Water intake data not being recorded due to faulty flow meter	N	Infringement notice	Installed new flow meter
17/09/19	Wastewater volumes to land were too high	N	14 day letter	Pending response to letter
17/09/19	Insufficient levels of wastewater dilution to the Kahouri Stream	N	14 day letter	Pending response to letter

3 Discussion of site performance

In general, the Company's facilities were well kept but improvements could be made to the wastewater system.

Biological sampling has found that discharges have complied with conditions relating to instream effects. Discharges were not affecting stream health. Water quality discharges met the requirements of the consent. However, review of the data indicates that wastewater discharge rates have been significantly higher than was signalled during the consent renewal process and this has contributed to wastewater discharges to Kahouri Stream not meeting the dilution rate required by the consent.

A review of the irrigation records indicates that nitrogen application has been well within consents limits, with no paddocks receiving more than the consented limit. Furthermore sodium absorbance ratios in wastewater to land were also well within the consent limit. Irrigation predominately occurred on the area west of Mountain Road. Of the nine paddocks that received wastewater, eight had an application depth that exceeded the limit of 24 mm in a 15 day period and better paddock rotation combined with reducing wastewater volumes by limiting stormwater and groundwater ingress is required.

The discharge records indicated that the majority of the wastewater was discharged to the Kahouri Stream. There have been gradual improvements in the last couple of years increasing the amount discharged to land which is encouraging. However, more wastewater still needs to be irrigated to land with less discharges to the Kahouri Stream. Furthermore, care needs to be taken to ensure that there is adequate capacity in the wastewater ponds.

There were no air quality complaints received and no odour issues identified during inspections.

Record keeping has improved in terms of the wastewater records but staff gauge readings were still not recorded for several discharges at the start of the monitoring year. There were also several instances when records provided to the Council stated that wastewater was discharged to a paddock and the Kahouri Stream at the same time, as well as other minor discrepancies and missing data. Abstraction records had over five months of missing data due to a faulty flow meter which resulted in an infringement notice being issued.

Housekeeping was found to be good through most of the plant during inspections, with the yards kept clean and tidy. Contaminants were usually contained within the wastewater catchment, as opposed to the stormwater catchment.

The current consent holder no longer disposes of blood onsite. The worm farm has the potential to cause some odours to occur offsite and this area needs to be managed carefully to reduce the likelihood of this particularly during the summer months. This area also needs to be managed, so as to prevent birds from accessing material, and carrying it offsite. The Company notifies the Council when disturbance in the worm farm area is planned, as the disturbance has the potential to increase the discharge of odour.

Council has a Wastewater Management Plan (2010), as required by consent 5221-2 and a contingency plan (2013), as required by consent 4055-3. Both plans are well out of date and need to be reviewed by the Company as they both refer to a previous consent holder and the Company may wish to operate differently, such as changing the designation of the western paddocks from cut and carry to grazing.

3.1 Environmental effects of exercise of consents

The discharge of wastewater to the Kahouri Stream has not caused any recorded impact on the macroinvertebrate communities of this stream. Discharges to the Kahouri Stream did not meet the consented dilution volume, though nutrient levels in the wastewater were likely to be low. The continuous and maximum daily abstraction rates did not exceed the consent limit for the period where data was available. Monitoring of Kahouri Stream did not indicate any adverse effects as a result of the abstraction.

The irrigation of wastewater to land was undertaken with no significant adverse effects on the environment. Water quality monitoring indicated no significant differences in the water quality of the Kahouri Stream upstream and downstream of the site. There continued to be a small increase in ionised ammonia and ammoniacal nitrogen in the unnamed tributary as it flows through the cut and carry paddocks. This increase is not such that it would have any negative effect on the stream biota.

In relation to air emissions, there were no incidents related to odours and no odours were noticed during site inspections beyond the Company's boundary. The fact that the rendering plant was closed was likely to significantly reduce odour emissions though other sources of odour such as paunch processing were still present.

3.2 Evaluation of performance

A tabular summary of the consent holder's compliance record for the period under review is set out in Table 9 to Table 14.

Table 9 Summary of performance for consent 7662-1

Purpose: To discharge treated wastewater directly into the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Notification prior to any changes to processes	Council notified	N/A
3. Prohibits the consent to be exercised while consent 0108-4 is current	Inspections	Yes
4. Install flow meter	Inspections	Yes
5. Meter verification documentation submitted	Liaising with consent holder	Yes
6. Install staff gauge in Kahouri Stream	Inspections	Yes
7. Maintain staff gauge rating curve	Inspections	Yes
8. Minimise clean water entering treatment system	Review of records, inspections	Yes
9. Manage worm bed to minimise discharge to treatment system	Inspections	Yes
10. Prohibits the operation of aerators and stirrer while discharge occurs	Inspections	Yes
11. Discharge shall only occur when flow rates are 330 L/s or greater	Review of records, inspections	Yes
12. Minimum dilution ratio of 1 part wastewater to 100 parts receiving water	Review of records, water quality sampling	No
13. Effects on receiving water beyond the 50 m mixing zone	Water quality sampling, inspections	Yes

Purpose: To discharge treated wastewater directly into the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
14. Suspended solids and turbidity limits	Water quality sampling	Yes
15. Safe site access	Inspections	Yes
16. At least 200 mm of freeboard available at end of working day	Inspections	N/A
17. Install and maintain a permanent marker within the aerobic pond	Inspections	Yes
18. Preference given to discharge to land	Inspections, review of records	No
19. Manage wastewater treatment system to maximise quality	Inspections	Yes
20. Total BOD limit	Discharge quality sampling	N/A
21. Install and maintain a tap on the wastewater line	Inspections	Yes
22. Monitor and record the discharge	Liaison with consent holder, review of records	Yes
23. Riparian management plan	Liaison with consent holder, inspections	Yes
24. Notification of environmental incidents	Liaison with consent holder, inspections	N/A
25. Lapse of consent	Consent exercised within lapse period	N/A
26. Optional review of consent	Not exercised	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent Overall assessment of administrative performance in respect of this consent		Improvement required Improvement required

N/A = not applicable

Table 10 Summary of performance for consent 6570-1

Purpose: To discharge degenerating raw product onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Exercise of consent shall be undertaken in accordance with application documentation	Inspections	Yes
3. Notification prior to exercise of consent	Council notified	Yes
4. Notification prior to burials	Council notified	N/A

Purpose: To discharge degenerating raw product onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
5. Supply burial management plan	Contingency plan received	No
6. Only raw material to be disposed of in burial pits	Inspections	N/A
7. Emergency circumstances discharges to land	Inspections	N/A
8. No contaminants to enter surface water	Inspections and water quality sampling	Yes
9. Prohibits adverse effects on groundwater	Inspections	N/A
10. Consent holder to maintain and keep records	Request by Council for data	Yes
11. Discharge to be covered within four hours	Inspections	N/A
12. Minimum of 800mm of compacted soil to be placed on discharge wastes	Inspections	N/A
13. Site contoured	Inspections	N/A
14. Pasture re-established	Inspections	N/A
15. Lapse of consent	Consent exercised within lapse period	N/A
16. Optional review of consent	Not exercised	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 11 Summary of performance for consent 5221-2

Purpose: To discharge treated wastewater from a treatment system onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Notification prior to any changes to processes	Council notified	N/A
3. Install flow meter	Inspections	Yes
4. Meter verification documentation submitted	Liaising with consent holder	Yes
5. Follow wastewater irrigation management plan	Inspections	Yes

Purpose: To discharge treated wastewater from a treatment system onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
6. Update wastewater irrigation management plan	Liaising with consent holder	No
7. Review wastewater irrigation management plan	Liaising with consent holder	No
8. Designate a person to manage the irrigation system	Liaising with consent holder, inspections	Yes
9. Operation of aerator and stirrer	Inspections	Yes
10. Restrictions on nitrogen levels	Liaising with consent holder, inspections	Yes
11. Wastewater irrigation management plan submitted prior to nitrogen loading	Liaising with consent holder, inspections	Yes
12. Wastewater application must not exceed 24 mm	Review of records	No
13. Sodium absorption ratio shall not exceed 15	Irrigated wastewater quality sampling	Yes
14. Prohibits discharge to water from irrigation	Inspections	Yes
15. Restrictions on the wastewater discharge spray zone	Inspections	Yes
16. Prohibits discharge beyond the boundary of the property	Inspections	Yes
17. Preference given to discharge to land	Inspections, review of records	No
18. Application of pond solids to avoid discharge to water	Inspections	Yes
19. Daily discharge records	Review of records	Yes
20. Notification of any environmental incidents	Liaising with consent holder, inspections	Yes
21. Notification information	Liaising with consent holder, inspections	Yes
22. Optional review of consent	Not exercised	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Improvement required
Overall assessment of administrative performance in respect of this consent		Improvement required

N/A = not applicable

Table 12 Summary of performance for consent 7660-1

Purpose: To discharge uncontaminated stormwater to land, in association with meat processing, rendering and associated activities.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Prevent discharge from contamination	Inspections	Yes
3. Constituents of the discharge	Inspections, water quality sampling	Yes
4. Optional review of consent	Not exercised	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		Good
Overall assessment of administrative performance in respect of this consent		Good

N/A = not applicable

Table 13 Summary of performance for consent 4055-3.

Purpose: To discharge emissions to air, in association with meat processing, rendering and associated activities		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Consent holder to maintain a contingency plan	Inspections	Yes
3. Submit contingency plan	Liaising with consent holder	No
4. Notification of any changes to plant processes	Liaising with consent holder	Yes
5. Prohibits fish being received or processed onsite	Inspections	Yes
6. Only offal from purpose killed animals shall be received and processed onsite	Inspections	Yes
7. Prohibits putrescible materials to be stored onsite	Inspections	Yes
8. Emissions must be extracted to the biofilter	Inspections	N/A
9. Discharge temperature must not exceed 35°C	Data review	N/A
10. Calibration of the temperature detector	Liaising with consent holder	N/A
11. Record the non-condensable gas line	Liaising with consent holder, inspections	N/A
12. Minimise emissions	Inspections	Yes

Purpose: To discharge emissions to air, in association with meat processing, rendering and associated activities		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
13. Prohibits objectionable or offensive odour beyond the boundary of the site to the extent where this odour causes an adverse effect	Inspections	Yes
14. Prohibits objectionable or offensive dust beyond the boundary of the site	Inspections	Yes
15. Consent holder to notify Council of any adverse environmental incidents.	Liaising with consent holder, inspections	Yes
16. Optional review of consent	Not exercised	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 14 Summary of performance for consent 5176-2

Purpose: To take water from the Kahouri Stream for stock and yard washing purposes.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections	Yes
2. Abstraction rates	Data review	Partial
3. Water meter and datalogger installed and maintained	Council notified, inspections	No
4. Documentation from a suitably qualified person certifying water measuring and recording equipment	Council notified	Yes
5. Advise Council of broken down or non operational equipment	Council notified, inspections	No
6. Accessible and retrievable records	Inspections	Yes
7. Abstraction records	Data review	Partial
8. Minimum flow in Kahouri Stream	Inspections	Yes
9. Intake screened	Inspections	Yes
10. Staff gauge	Inspection	Yes
11. Consent given effect	Council notified, data review	Yes
12. Optional review of consent	Not exercised	N/A

Purpose: <i>To take water from the Kahouri Stream for stock and yard washing purposes.</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
Overall assessment of consent compliance and environmental performance in respect of this consent		Good Improvement required
Overall assessment of administrative performance in respect of this consent		

N/A = not applicable

During the year, the Company demonstrated a level of environmental and administrative performance that requires improvement, as defined in Section 1.1.4. During the year under review there were three incidents recorded that related to the Company's activities. The previous monitoring report indicated that the consent holder needed to give a higher priority to administrative performance and consent compliance. The results of the monitoring undertaken in the 2018-2019 period indicates that improvement is still needed. An improvement in the Company's environmental performance is now also required.

Table 15 Evaluation of environmental performance over time

Year	Consent no	High	Good	Improvement required	Poor
2010	0108-4	-	1	-	-
	4055-3	-	1	-	-
	5176-1	-	1	-	-
	5221-2	1	-	-	-
	6570-1	-	1	-	-
2011	0108-4	-	1	-	-
	4055-3	-	1	-	-
	5176-1	-	1	-	-
	5221-2	1	-	-	-
	6570-1	-	1	-	-
2012	0108-4	-	1	-	-
	4055-3	-	1	-	-
	5176-1	-	1	-	-
	5221-2	-	1	-	-
	6570-1	-	1	-	-
2013	4055-3	-	1	-	-
	5176-2	-	1	-	-
	5221-1	-	-	1	-
	6570-1	-	-	1	-
	7660-1	-	1	-	-

Year	Consent no	High	Good	Improvement required	Poor
	7662-1	-	1	-	-
2014	4055-3	1	-	-	-
	5176-2	1	-	-	-
	5221-1	-	1	-	-
	6570-1	-	1	-	-
	7660-1	1	-	-	-
	7662-1		1	-	-
2015	4055-3	1	-	-	-
	5176-2	1	-	-	-
	5221-1	-	1	-	-
	6570-1	-	1	-	-
	7660-1	1	-	-	-
	7662-1		1	-	-
2016	4055-3	1	-	-	-
	5176-2	1	-	-	-
	5221-1	-	1	-	-
	6570-1	1	-	-	-
	7660-1	1	-	-	-
	7662-1	-	1	-	-
2017	4055-3	1	-	-	-
	5176-2	-	-	1	
	5221-2	-	1	-	-
	6570-1	-	1	-	-
	7660-1	-	1	-	-
	7662-1	-	1	-	-
2018	4055-3	1		-	-
	5176-2	-	1	-	-
	5221-2	-	1	-	-
	6570-1	1	-	-	-
	7660-1	-	1	-	-
	7662-1	-	1	-	-
2019	4055-3	1	-	-	-

Year	Consent no	High	Good	Improvement required	Poor
	5176-2	-	1	-	-
	5221-2	-	-	1	-
	6570-1	1	-	-	-
	7660-1	-	1	-	-
	7662-1	-	-	1	-
Totals		17	35	5	0

3.3 Recommendations from the 2017-2018 Annual Report

In the 2017-2018 Annual Report, it was recommended:

1. THAT monitoring of consented activities at Ample Group Limited in the 2018-2019 year be altered by:
 - a. Reducing the number of wastewater to land samples from four to two; and
 - b. Removing dissolved oxygen sampling.
2. THAT should there be issues with environmental or administrative performance in 2018-2019, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the Council works closely with the Company in the 2018-2019 monitoring year to ensure administrative performance, particularly in regard to recording hydrological and wastewater data.
4. THAT the Council works closely with the Company in the 2018-2019 monitoring year to ensure environmental performance, particularly in regard to wastewater discharge volumes to the Kahouri Stream and paddocks.
5. THAT the option for a review of resource consents in June 2019, as provided for by conditions of consents 5221-2, 7662-1 and 4055-3, not be exercised, on the grounds that the consents are adequate to deal with the activities currently undertaken.

The new monitoring regime was implemented in the 2017-2018 year with two wastewater to land samples collected. In terms of administrative performance there was discussion with the Company in relation to record keeping and there was some improvement in terms of recording staff gauge records. In terms of environmental performance there was a small improvement in regards to discharging wastewater to land but discharge volumes to the Kahouri Stream and to land generally remain too high and more work by the Company is needed to achieve recommendations.

3.4 Alterations to monitoring programmes for 2019-2020

In designing and implementing the monitoring programmes for air/water discharges in the region, the Council has taken into account:

- the extent of information already made available through monitoring or other means to date;
- its relevance under the RMA;
- the Council's obligations to monitor consented activities and their effects under the RMA;
- the record of administrative and environmental performances of the consent holder; and
- reporting to the regional community.

The Council also takes into account the scope of assessments required at the time of renewal of permits, and the need to maintain a sound understanding of industrial processes within Taranaki exercising resource consents.

It is proposed that for 2019-2020, the monitoring remain the same as for the 2018-2019 period.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2019-2020.

3.5 Exercise of optional review of consent

Resource consents 5221-2, 7662-1 and 4055-3 provide for an optional review of the consent in June of any year. Conditions of these consents allow the Council to review the consent, if there are grounds.

For consent 5221-2, these grounds are as follows:

- a. Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to water quality issues; and
- b. To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects relating to the wastewater discharges from the site.

For consent 7662-1, these grounds are as follows:

- a. Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to water quality issues;
- b. To take into account any Act of Parliament, regulation, national policy statement [including the National Policy Statement for Freshwater Management 2011], regional policy statement or regional rule which relates to limiting, recording, mitigating, setting or amending any limits or other criteria relating to nutrients, ecological health or other water quality parameters; and
- c. To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects relating to the wastewater discharges from the site.

In considering whether to initiate a review of consent 7662-1, the Council will take into account any views received from the DOC and Fish and Game New Zealand (Taranaki Region).

For consent 4055-3, these grounds are as follows:

- a. Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to odour discharges from the site; and
- b. To determine any measures that may be appropriate to comply with condition 1 of this consent and which are necessary to address any adverse effects of odour from the site.

Based on the results of monitoring in the year under review, and in previous years as set out in earlier annual compliance monitoring reports, it is considered that there are no grounds that require a review to be pursued or grounds to exercise the review option.

4 Recommendations

1. THAT monitoring of consented activities at Ample Group Limited in the 2019-2020 year continue at the same level as in 2018-2019.
2. THAT should there be issues with environmental or administrative performance in 2019-2020, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
3. THAT the Company in the 2019-2020 monitoring year prioritise administrative performance, particularly in regard to recording hydrological and wastewater data.
4. THAT the Company in the 2019-2020 monitoring year prioritise environmental performance, particularly in regard to wastewater discharge volumes to the Kahouri Stream and paddocks.
5. THAT the option for a review of resource consents in June 2020, as provided for by conditions of consents 5221-2, 7662-1 and 4055-3, not be exercised, on the grounds that the consents are adequate to deal with the activities currently undertaken.

Glossary of common terms and abbreviations

The following abbreviations and terms may be used within this report:

Biomonitoring	Assessing the health of the environment using aquatic organisms.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
BODF	Biochemical oxygen demand of a filtered sample.
Bund	A wall around a tank to contain its contents in the case of a leak.
CBOD	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in $\mu\text{S}/\text{cm}$.
Cumec	A volumetric measure of flow- 1 cubic metre per second ($1 \text{ m}^3\text{s}^{-1}$).
DO	Dissolved oxygen.
DRP	Dissolved reactive phosphorus.
E.coli	<i>Escherichia coli</i> , an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample.
FC	Faecal coliforms, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Fresh	Elevated flow in a stream, such as after heavy rainfall.
$\text{g}/\text{m}^2/\text{day}$	grams/metre ² /day.
g/m^3	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.

Incident Register	The Incident Register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
m ²	Square Metres.
MCI	Macroinvertebrate community index; a numerical indication of the state of biological life in a stream that takes into account the sensitivity of the taxa present to organic pollution in stony habitats.
mS/m	Millisiemens per metre.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NH ₄	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH ₃	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO ₃	Nitrate, normally expressed in terms of the mass of nitrogen (N).
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act</i> 1991 and including all subsequent amendments.
SS	Suspended solids.
SQMCI	Semi quantitative macroinvertebrate community index.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.
UI	Unauthorised Incident.

*an abbreviation for a metal or other analyte may be followed by the letters 'As', to denote the amount of metal recoverable in acidic conditions. This is taken as indicating the total amount of metal that might be solubilised under extreme environmental conditions. The abbreviation may alternatively be followed by the letter 'D', denoting the amount of the metal present in dissolved form rather than in particulate or solid form.

For further information on analytical methods, contact a Science Services Manager.

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Technical Report 93-17.

Appendix I

Resource consents held by Ample Group Ltd

(For a copy of the signed resource consent
please contact the TRC Consents department)

Consent number	Purpose	Granted	Review	Expires
<i>Water abstraction permits</i>				
5176-2	To take water from the Kahouri Stream for stock and yard washing purposes	7 July 2016	June 2019	1 June 2034
<i>Water discharge permits</i>				
7662-1	To discharge treated wastewater directly into the Kahouri Stream	7 November 2011	June 2019	1 June 2028
7660-1	To discharge uncontaminated stormwater to land	7 November 2011	June 2022	1 June 2028
<i>Air discharge permit</i>				
4055-3	To discharge emissions to air, in association with meat processing, rendering and associated activities	7 November 2011	June 2019	1 June 2028
<i>Discharges of waste to land</i>				
5221-2	To discharge treated wastewater from a treatment system onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream	7 November 2011	June 2019	1 June 2028
6570-1	To cover the discharge of degenerating raw product onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream.	24 March 2005	NA	1 June 2022

Water abstraction permits

Section 14 of the RMA stipulates that no person may take, use, dam or divert any water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or it falls within some particular categories set out in Section 14. Permits authorising the abstraction of water are issued by the Council under Section 87(d) of the RMA.

Water discharge permits

Section 15(1)(a) of the RMA stipulates that no person may discharge any contaminant into water, unless the activity is expressly allowed for by a resource consent or a rule in a regional plan, or by national regulations. Permits authorising discharges to water are issued by the Council under Section 87(e) of the RMA.

Air discharge permits

Section 15(1)(c) of the RMA stipulates that no person may discharge any contaminant from any industrial or trade premises into air, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising discharges to air are issued by the Council under Section 87(e) of the RMA.

Discharges of wastes to land

Sections 15(1)(b) and (d) of the RMA stipulate that no person may discharge any contaminant onto land if it may then enter water, or from any industrial or trade premises onto land under any circumstances, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Permits authorising the discharge of wastes to land are issued by the Council under Section 87(e) of the RMA.

Land use permits

Section 13(1)(a) of the RMA stipulates that no person may in relation to the bed of any lake or river use, erect, reconstruct, place, alter, extend, remove, or demolish any structure or part of any structure in, on, under, or over the bed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Land use permits are issued by the Council under Section 87(a) of the RMA.

Coastal permits

Section 12(1)(b) of the RMA stipulates that no person may erect, reconstruct, place, alter, extend, remove, or demolish any structure that is fixed in, on, under, or over any foreshore or seabed, unless the activity is expressly allowed for by a resource consent, a rule in a regional plan, or by national regulations. Coastal permits are issued by the Council under Section 87(c) of the RMA.

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
3396 Mountain Road
RD 24
Stratford 4394

Decision Date: 7 November 2011

Commencement Date: 7 November 2011

Conditions of Consent

Consent Granted: To discharge emissions to air, namely odour and dust, in association with meat processing, rendering and associated activities including waste treatment and disposal activities

Expiry Date: 1 June 2028

Review Date(s): June of any year

Site Location: 3326 Mountain Road and 17 Monmouth Extension, Stratford

Legal Description: Sec 62 Manganui Dist Blk XIII Huiroa SD, Pt Sec 12 Blk XIII Huiroa SD and Pt Sec 2-4 Blk I Ngaere SD

Grid Reference (NZTM) 1709506E-5647939, 1709815E-5647783N,
1709874E-5647570N, 1709423E-5647438N and
between 1709871E-5647776N, 1710911E-5647381N,
1710905E-5647127N, 1710301E-5647038N,
1710241E-5647326N, 1710019E-5647280N

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

General conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

2. On-site operations shall be undertaken in accordance with the *Contingency Plan for Taranaki Abattoir Co. (1992) Ltd and Stratford By Products Ltd*, submitted with the application (which details the management procedures to be undertaken on site to mitigate adverse odour effects), or any subsequent reviews.

Note: Where there may be inconsistencies between the information provided within the Plan and conditions of this consent, the conditions apply.

3. The consent holder shall update and submit to the Taranaki Regional Council, the *Contingency Plan for Taranaki Abattoir Co. (1992) Ltd and Stratford By Products Ltd* every two years so that, to the satisfaction of the Chief Executive of the Taranaki Regional Council, the Plan details how discharges to air from the site will be managed to ensure compliance with conditions 13 and 14 of this consent. The Plan shall include but not necessarily be limited to:

- a) A description of the environmental effects being managed;
- b) The identification of key personnel responsible for managing and implementing the management system for mitigating adverse effects;
- c) A description of the activities on site and describe the main potential sources of odour emissions;
- d) A description of storage and treatment procedures (including specification of storage times and preservative dosing concentrations) for ensuring that only high quality raw material is processed;
- e) The identification and description of the odour and dust mitigation measures in place;
- f) The identification and description of relevant operating procedures and parameters that need to be controlled to minimise emissions;
- g) A description of contingency procedures for addressing emergency situations at the plant (such as equipment failure or spillage of raw material or chemicals) which could result in a discharge to air of odorous emissions that are offensive and objectionable beyond the boundary of the plant;
- h) A description of monitoring and maintenance procedures for managing the odour mitigation measures including record keeping of control parameters and maintenance checks; and
- i) Details of staff training proposed to enable staff to appropriately manage the odour mitigation measures.

Consent 4055-3

4. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to undertaking any alterations to the plant, operations or processes which may significantly change the nature or quantity of contaminants discharged to air from the site. Any such change shall then only occur following receipt of any necessary approvals under the Resource Management Act 1991.

Process control

5. No fish or fish parts shall be received or processed on site.
6. Only offal derived from purpose killed animals shall be received and processed on site.
7. No putrescible materials shall be stored or left in any manner on site which causes them to putrefy and create an odour nuisance.
8. Emissions produced during and on the release of all rendering cooks shall be extracted to the biofilter for treatment prior to discharge.
9. The inlet temperature of the extracted air at the duct ahead of the biofilter shall not exceed 35°C for more than 15 minutes continuously at any one time.
10. The consent holder shall calibrate the temperature detector and recorder on the non-condensable gas line on a yearly basis. The calibration results shall be provided to the Chief Executive, Taranaki Regional Council.
11. The consent holder shall maintain the temperature detector and recorder on the non-condensable gas line so that it is in effective working order at all times.
12. The consent holder shall minimise the emissions and impacts of contaminants discharged into air from the site by the proper and effective operation, supervision, maintenance and control of all equipment and processes.

Odour

13. There shall be no objectionable or offensive odour to the extent that it causes an adverse effect at or beyond the boundary of the site.

Notes: For the purposes of this condition:

- The site is defined as Sec 62 Manganui Dist Blk XIII Huiroa SD (Consent holder's site), and Pt Sec 12 Blk XIII Huiroa SD and Pt Secs 2-4 Blk I Ngaere SD (Gilbert Farms' site); and
- Assessment under this condition shall be in accordance with the *Good Practice Guide for Assessing and Managing Odour in New Zealand, Air Quality Report 36, Ministry for the Environment, 2003.*

Dust

14. The discharges authorised by this consent shall not give rise to suspended or deposited dust at or beyond the boundary of the site that, in the opinion of at least one enforcement officer of the Taranaki Regional Council, is offensive or objectionable. For the purpose of this condition, discharges in excess of the following limits are deemed to be offensive or objectionable:
- a) dust deposition rate of 0.13 g/m²/day; and/or
 - b) suspended dust level of 3 mg/m³.

Note: For the purposes of this condition the site is defined as Sec 62 Manganui Dist Blk XIII Huiroa SD

Incident notification

15. Any incident related to this consent that results, or could result, in an adverse effect on the environment shall be notified to the Taranaki Regional Council as soon as practicable, together with the reasons for the incident, and measures taken to mitigate the effects of the incident and prevent a recurrence.

Note: For notification purposes, at the grant date of this consent, the Taranaki Regional Council's phone number is 0800 736 222 (24 hour service).

Review

16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June in any year for any of the following purposes:
- a) Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to odour discharges from the site; and
 - b) To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects of odour from the site.

Transferred at Stratford on 18 January 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Water Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
PO Box 193
Stratford 4352

Decision Date: 7 July 2016

Commencement Date: 7 July 2016

Conditions of Consent

Consent Granted: To take water from the Kahouri Stream for stock and yard washing purposes

Expiry Date: 1 June 2034

Review Date(s): June 2019 and every 3 years thereafter

Site Location: 3396 Mountain Road, Stratford

Grid Reference (NZTM) 1709640E-5647873N

Catchment: Patea

Tributary: Kahouri

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

1. At all times the consent holder shall adopt the best practicable option to prevent or minimise any actual or likely adverse effect on the environment associated with the abstraction of water from the Kahouri Stream, including, but not limited to, the efficient and conservative use of water.
2. The rate of taking shall not exceed 3.25 litres per second, and the volume taken in any 24 hour period ending at midnight (New Zealand Standard Time) shall not exceed 178 cubic metres.
3. Before 1 September 2016 the consent holder shall install, and thereafter maintain a water meter and a datalogger at the site of taking (or a nearby site in accordance with Regulation 10 of the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*. The water meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of $\pm 5\%$. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times.

Note: Water meters and dataloggers must be installed, and regularly maintained, in accordance with manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance water meters and dataloggers have a limited lifespan.

4. The consent holder shall provide the Chief Executive, Taranaki Regional Council with a document from a suitably qualified person certifying that water measuring and recording equipment required by the conditions of this consent ('the equipment'):
 - a. has been installed and/or maintained in accordance with the manufacturer's specifications; and/or
 - b. has been tested and shown to be operating to an accuracy of $\pm 5\%$.

The documentation shall be provided:

- a) within 30 days of the installation of a water meter or datalogger;
 - b) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and
 - c) no less frequently than once every five years.
5. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person and a maintenance report provided to the Chief Executive, Taranaki Regional Council within 30 days of the work occurring.

Consent 5176-2.0

6. Any water meter or datalogger shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval. In addition the data logger shall be designed and installed so that Taranaki Regional Council officers can readily verify that it is accurately recording the required information.
7. The records of water taken:
 - a. be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;
 - b. specifically record the water taken as 'zero' when no water is taken; and
 - c. for each 12-month period ending on 30 June, be provided to the Chief Executive, Taranaki Regional Council within one month after end of that period.
8. No taking shall occur when the flow in the Kahouri Stream immediately downstream of the intake point is less than 55 litres per second.
9. The consent holder shall ensure that the intake is screened to avoid fish (in all stages of their life-cycle) entering the intake or being trapped against the screen.
10. A staff gauge shall be installed and a low flow rating curve established and maintained that determines the flow in the Kahouri Stream immediately downstream of the take site. The cost of the installation, and the establishment and maintenance of the rating shall be met by the consent holder.
11. This consent shall lapse on 30 September 2021, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
12. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2019 and at 3 yearly intervals thereafter for the purposes of:
 - a. ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - b. requiring continuous measuring and recording of the flow immediately downstream of the take site; and/or
 - c. requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

Signed at Stratford on 7 July 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
3396 Mountain Road
RD 24
Stratford 4394

Decision Date: 7 November 2011

Commencement Date: 7 November 2011

Conditions of Consent

Consent Granted: To discharge treated wastewater, pond solids from a wastewater treatment system, vermicast and blood onto and into land

Expiry Date: 1 June 2028

Review Date(s): June of any year

Site Location: 3326 Mountain Road and 17 Monmouth Road Extension,
Stratford

Legal Description: Sec 62 Manganui Dist Blk XIII Huiroa SD, Pt Sec 12 Blk XIII
Huiroa SD and pt Sec 2-4 Blk I Ngaere SD

Grid Reference (NZTM) Between 1709506E-5647939, 1709815E-5647783N,
1709874E-5647570N, 1709423E-5647438N and
between 1709871E-5647776N, 1710911E-5647381N,
1710905E-5647127N, 1710301E-5647038N,
1710241E-5647326N, 1710019E-5647280N

Catchment: Patea

Tributary: Kahouri

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

General conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approvals under the Resource Management Act 1991.

Pre-activity requirements

3. Before exercising this consent the consent holder shall install, and thereafter maintain, a flow meter. The flow meter shall measure the volume of the discharge to land to an accuracy of $\pm 5\%$.

Notes: Flow meters must be installed, and regularly maintained, in accordance with the manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance flow meters have a limited lifespan.

A single flow meter may be installed for the purposes of meeting this condition and condition 4 of consent 7662-1 provided that the records submitted in accordance with condition 19 of this consent and condition 22 of consent 7662-1 clearly differentiate between the two receiving environments.

Flow meter certification

4. The consent holder shall provide the Chief Executive, Taranaki Regional Council with documentation from a suitably qualified person certifying that the flow meter:
 - a) has been installed and/or maintained in accordance with the manufacturers' specifications; and/or
 - b) has been tested and shown to be operating to an accuracy of $\pm 5\%$.

The documentation shall be provided:

- (i) within 30 days of the installation of a flow meter;
- (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the flow meter may not be functioning as required by this consent; and
- (iii) no less frequently than once every five years.

Management plan

5. The consent shall be exercised in accordance with the procedures set out in the Wastewater Irrigation Management Plan (submitted as further information to the application). In the case of any contradiction between the Plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.
6. Within one month of the grant date of this consent, the consent holder shall amend and re-submit the Wastewater Irrigation Management Plan described in condition 5 of this consent so that, to the satisfaction of the Chief Executive, Taranaki Regional Council, the Plan details how the discharge will be managed to ensure that the conditions of this consent will be met. The Plan shall be amended to include, but not necessarily be limited to, the following details:
 - a) how the irrigation areas will be identified [e.g. paddock numbering system or large land areas broken down into 1 ha lots and numbered] and a plan/drawing showing the location and extent of each identified area. This system shall be used for record keeping purposes under condition 19;
 - b) the surface area of each irrigation area identified under clause a) above;
 - c) identification of the location and extent of irrigation main lines and hydrant locations on an aerial plan/drawing; and
 - d) the surface area of land required for a range of wastewater discharge volume scenarios, or a calculation which shows how the required land area will be worked out each time irrigation is initiated, to ensure that condition 10 will be met.
7. The Wastewater Irrigation Management Plan described in condition 5 of this consent shall be subject to review by the consent holder every two years from the commencement of consent, or upon two months notice by either the consent holder or the Taranaki Regional Council so that, to the satisfaction of the Chief Executive Taranaki Regional Council, the Plan details how discharges to land will be managed to ensure that the conditions of this consent are complied with. The Plan shall include but not necessarily be limited to:
 - a) the results of investigating the practicalities of increasing the land area available for irrigation and/or increasing wastewater application loading rates through implementing cut and carry areas, including the provision of supporting evidence for the outcome of the investigation;
 - b) designated application areas and buffer zones for streams and the property boundaries;
 - c) selection of appropriate irrigation methods for different types of terrain;
 - d) application rate and duration;
 - e) application frequency and nitrogen loading rate;
 - f) farm management and operator training;
 - g) soil and herbage management;
 - h) prevention of runoff and ponding;
 - i) minimisation and control of offsite odour and spray drift effects;
 - j) operational control and maintenance of the spray irrigation system;
 - k) monitoring of the effluent [physicochemical];
 - l) monitoring of soils and herbage [physicochemical];
 - m) monitoring of groundwater beneath and beyond the irrigated area [physicochemical] (if required in accordance with condition 11 of this consent);
 - n) monitoring of local water supplies and remediation;
 - o) mitigation measures, including riparian planting and fencing;

Consent 5221-2

- p) reporting monitoring data;
- q) monitoring of the tributaries draining the property;
- r) procedures for responding to complaints;
- s) notification to the council of non-compliance with the conditions of this consent;
- t) procedures for recording maintenance and repairs;
- u) procedures for draining and flushing the irrigation mainlines and laterals to prevent anaerobic conditions.

The objective of the plan shall be to minimise discharges to the Kahouri Stream under consent 7662-1 and maximise discharges to land.

A copy of the reviewed Plan shall be provided to the Department of Conservation and Fish and Game New Zealand (Taranaki Region), and the Taranaki Regional Council will take into account any comments received (within a two week timeframe from when the Plan was provided).

Note: For ease of assessment, the consent holder shall highlight the areas of the reviewed Plan where changes have been made from the previous Plan.

8. The consent holder shall designate a person with the necessary qualifications and/or experience to manage the wastewater irrigation system. This person shall be regularly trained on the content and implementation of the Wastewater Irrigation Management Plan, and shall be advised immediately of any revision or additions to the wastewater irrigation management plan.

Application restrictions

9. The aerator and stirrer shall be operated within the final pond of the wastewater treatment system while wastewater is being irrigated to land.
10. Over any 12 month period the Total Nitrogen applied to any hectare of land as a result of the wastewater, pond solids, blood and/or vermicast discharges and any other nitrogen inputs [e.g. urea] shall be no more than:
 - a) 200 kg for areas used for grazing; and
 - b) 600 kg for areas used for cut and carry, subject to condition 11 below.
11. Prior to applying a Total Nitrogen loading that exceeds 200 kg/ha/year in accordance with condition 10 (b) above, the consent holder shall amend and re-submit the Wastewater Irrigation Management Plan described in condition 5 so that, to the satisfaction of the Chief Executive, Taranaki Regional Council, the Plan details how the discharge will be managed to ensure that the conditions of this consent will be met. The Plan shall be amended to include, but not necessarily be limited to, procedures for monitoring and reporting on soil and groundwater quality.
12. The wastewater application depth within any area of irrigation shall not exceed 24 mm over any 15 day period.
13. The sodium absorption ratio [SAR] of the wastewater shall not exceed 15.

Consent 5221-2

14. There shall be no discharge to water as a result of irrigating wastewater to land. In order to ensure there is no such discharge:
 - a) no irrigation shall occur closer than 25 m to any surface water body;
 - b) the discharge shall not result in surface ponding that remains for more than three hours after the discharge has ceased;
 - c) the discharge shall not occur on land with a slope that is likely to result in runoff; and
 - d) notwithstanding condition 12, the discharge shall not occur at a rate at which it cannot be assimilated by the soil/pasture system.
15. The extent of the wastewater discharge spray zone shall be at least:
 - a) 25 metres away from the bank of any surface waterbody;
 - b) 50 metres away from any bore, well or spring used for water supply;
 - c) 150 metres away from any dwellinghouse situated off the site, unless the written approval of the owner/occupier has been obtained to allow the discharge at a closer distance; and
 - d) 15 metres from State Highway 3.
16. No discharges, including spray drift, shall occur at or beyond the boundary of any property on which the discharge is occurring.
17. As far as practicable, discharges to the Kahouri Stream shall be minimised and discharges to land under consent 5221-2 maximised. This means that even at times when 1:100 dilution can be achieved in the Kahouri Stream, discharges shall be irrigated to land unless the land is saturated and consequently is incapable of accepting the discharge.
18. The application of pond solids, vermicast and/or blood to land shall be undertaken in a manner which avoids a discharge to surface water.

Records

19. The consent holder shall record the following information on a daily basis in association with irrigating the wastewater to land:
 - a) the date and pumping hours;
 - b) the volume of discharge [as measured in association with the flow meter required under condition 3];
 - c) the surface area of land irrigated;
 - d) the location[s] irrigated, using the system identified and approved under the Wastewater Irrigation Management Plan;
 - e) the application depth over the location[s] irrigated; and
 - f) the volume of Total Nitrogen applied over the location[s] irrigated [kg/ha] on any day, and a running total for each irrigation location for each calendar year.

This record shall be in an electronic format and submitted to the Taranaki Regional Council. The record format and frequency that the records are to be submitted is to be undertaken as advised by the Chief Executive, Taranaki Regional Council.

In addition, the consent holder will record the date, time and volume of other materials discharged to the irrigation area, including pond solids, blood and/or vermicast discharges and any other nitrogen inputs [e.g. urea], and will provide such records to the Chief Executive, Taranaki Regional Council, by 1 June of each year.

Incident notification

20. Any incident related to this consent that results, or could result, in an adverse effect on the environment shall be notified to the Taranaki Regional Council as soon as practicable, together with the reasons for the incident, and measures taken to mitigate the effects of the incident and prevent a recurrence.
21. Note: For notification purposes, at the grant date of this consent, the Taranaki Regional Council's phone number is 0800 736 222 [24 hour service].

Review

22. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June in any year for any of the following purposes:
 - a) Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to water quality issues; and
 - b) To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects relating to the wastewater discharges from the site.

Transferred at Stratford on 18 January 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
 3396 Mountain Road
 RD 24
 Stratford 4394

Decision Date: 24 March 2005

Commencement Date: 24 March 2005

Conditions of Consent

Consent Granted: To discharge degenerating raw product onto and into land in the vicinity of an unnamed tributary of the Kahouri Stream in the Patea catchment

Expiry Date: 1 June 2022

Review Date(s): June 2016

Site Location: 3396 Mountain Road, Stratford

Legal Description: Sec 62 Manganui Dist Blk XIII Huiroa SD

Grid Reference (NZTM) 1709720E-5647640N

Catchment: Patea

Tributary: Kahouri

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- b) Unless it is otherwise specified in the conditions of this consent, compliance with any monitoring requirement imposed by this consent must be at the consent holder's own expense.
- c) The consent holder shall pay to the Council all required administrative charges fixed by the Council pursuant to section 36 in relation to:
 - i) the administration, monitoring and supervision of this consent; and
 - ii) charges authorised by regulations.

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 3576. In the case of any contradiction between the documentation submitted in support of application 3576 and the conditions of this consent, the conditions of this consent shall prevail.
3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to the exercise of this consent.
4. The consent holder shall notify the Chief Executive, Taranaki Regional Council as soon as practicable in advance of all burials.
5. By 1 June 2005, the consent holder shall provide a waste burial management plan, to the approval of the Chief Executive, Taranaki Regional Council, outlining the management of the system, which shall demonstrate the ability of the consent holder to comply with consent conditions and shall address the following matters:
 - a) nature of wastes discharged;
 - b) discharge control;
 - c) waste cover;
 - d) addition of hydrated lime to stabilise the wastes;
 - e) minimisation and control of odour effects offsite;
 - f) stormwater control;
 - g) site re-instatement and after care (including maintaining the integrity of the cover material);
 - h) site contouring;
 - i) procedures for responding to complaints;
 - j) notification to the Council of non-compliance with the conditions of this consent.
6. Only raw degenerating material shall be disposed of to the burial pit(s).
7. Raw degenerating material shall only be discharged onto and into land at the site in an emergency situation and only after other options, such as diversion to an alternative site, have been pursued to the satisfaction of the Chief Executive, Taranaki Regional Council.
8. The exercise of this consent, including the design and management of the burial site and system, shall not lead to or be liable to lead to contaminants entering a surface water body.

Consent 6570-1

9. No adverse effects shall occur to groundwater in the vicinity of the discharge, as a result of this consent
10. The consent holder shall keep records of quantities and types of wastes discharged, and the dates of exercising this consent and shall make such records available to the Chief Executive, Taranaki Regional Council upon request.
11. The discharged material shall be covered within a period of four hours or less so as to avoid the generation of offensive offsite odours.
12. At the completion of the disposal operation a low permeability, clean, compacted soil cover with a minimum thickness of 800 millimetres shall be placed over the discharged wastes.
13. The cover material and surrounding land shall be contoured such that all stormwater is directed away from the disposal area to the satisfaction of the Chief Executive, Taranaki Regional Council.
14. The disposal area shall be rehabilitated and pasture re-established to the satisfaction of the Chief Executive, Taranaki Regional Council.
15. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.
16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2005 and/or 2006 and/or 2007 and/or 2008 and/or 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Transferred at Stratford on 18 January 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
3396 Mountain Road
RD 24
Stratford 4394

Decision Date: 7 November 2011

Commencement Date: 7 November 2011

Conditions of Consent

Consent Granted: To discharge uncontaminated stormwater from a site used for meat processing and rendering onto and into land in a manner where it may enter the Kahouri Stream

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: 3326 Mountain Road, Stratford

Legal Description: Sec 62 Manganui Dist Blk XIII Huiroa SD

Grid Reference (NZTM) Between 1709729E-5647762N, 1709817E-5647767N,
1709834E-5647703N and 1709781E-5647688N

Catchment: Patea

Tributary: Kahouri

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

General condition

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.

Water quality

2. Stormwater discharged under this consent shall be prevented from becoming contaminated from onsite processes, including by ensuring that contaminants from the rendering and/or abattoir processes do not enter the 'clean' areas of the site [being areas which do not discharge to the wastewater treatment system].
3. Constituents of the discharge shall meet the following standards shown in the following table:

Constituent	Standard
pH	Within the range of 6.0 to 9.0
Suspended solids	Concentration not greater than 100 gm ⁻³
Total recoverable oil and grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the uncontaminated stormwater into a stormwater pipe and/or into or onto land at a designated sampling point[s] approved by the Chief Executive, Taranaki Regional Council.

Review dates

4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2016 and/or 2022 for any of the following purposes:
 - a) Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to water quality issues; and
 - b) To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects relating to the wastewater discharges from the site.

Transferred at Stratford on 18 January 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Discharge Permit
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Ample Group Limited
3396 Mountain Road
RD 24
Stratford 4394

Decision Date: 7 November 2011

Commencement Date: 7 November 2011

Conditions of Consent

Consent Granted: To discharge treated wastewater directly into the Kahouri Stream

Expiry Date: 1 June 2028

Review Date(s): June of any year

Site Location: 3326 Mountain Road, Stratford

Legal Description: Sec 62 Manganui Dist Blk XIII Huiroa SD

Grid Reference (NZTM) 1709705E-5647806N

Catchment: Patea

Tributary: Kahouri

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*

General condition

- a. The consent holder shall pay to the Taranaki Regional Council all the administration, monitoring and supervision costs of this consent, fixed in accordance with section 36 of the Resource Management Act 1991.

Special conditions

General conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The consent holder shall notify the Chief Executive, Taranaki Regional Council, prior to making any changes to the processes or operations undertaken at the site, or chemicals used or stored on site that could alter the nature of the discharge. Any such change shall then only occur following receipt of any necessary approvals under the Resource Management Act 1991.

Pre-activity requirements

3. This consent shall not be exercised while consent 0108-4 (which authorises the discharge of wastewater to an unnamed tributary of the Kahouri Stream) is still current.

Note: this condition does not apply during the testing phase of commissioning the system that will be used for discharging under this consent.

4. Before exercising this consent the consent holder shall install, and thereafter maintain, a flow meter. The flow meter shall measure the volume of the discharge to the Kahouri Stream to an accuracy of $\pm 5\%$.

Notes: Flow meters must be installed, and regularly maintained, in accordance with the manufacturer's specifications in order to ensure that they meet the required accuracy. Even with proper maintenance flow meters have a limited lifespan.

A single flow meter may be installed for the purposes of meeting this condition and condition 3 of consent 5221-2 provided that the records submitted in accordance with condition 22 of this consent and condition 19 of consent 5221-2 clearly differentiate between the two receiving environments.

Flow meter certification

5. The consent holder shall provide the Chief Executive, Taranaki Regional Council with documentation from a suitably qualified person certifying that the flow meter :
 - a) has been installed and/or maintained in accordance with the manufacturers' specifications; and/or
 - b) has been tested and shown to be operating to an accuracy of $\pm 5\%$.

The documentation shall be provided:

- (i) within 30 days of the installation of a flow meter;
- (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the flow meter may not be functioning as required by this consent; and
- (iii) no less frequently than once every five years.

Staff gauge installation and flow curve establishment

6. The consent holder shall ensure that a staff gauge is installed and maintained to effectively display the water level in the Kahouri Stream at or around the point of discharge to an accuracy of 0.005 m.
7. The consent holder shall, as soon as practicable, ensure that sufficient stream flow measurements are undertaken to maintain a 'rating curve' that accurately translates the water level, as displayed on the staff gauge referenced in condition 6, to stream flow at or around the point of discharge.

Note: Work required by conditions 6 and 7 will be undertaken by the Taranaki Regional Council and all reasonable costs will be recovered from the consent holder through the annual compliance monitoring programme that is in place for the activity.

Minimisation of wastewater

8. All uncontaminated stormwater shall be prevented from entering the wastewater treatment ponds as far as practicable.
9. The worm bed area shall be managed to minimise leachate discharges to the pond treatment system as far as practicable (e.g. by covering the worm beds and/or vegetating land surfaces between worm bed rows) to the satisfaction of the Chief Executive, Taranaki Regional Council.

Discharges to the Kahouri Stream (at all times)

10. The aerator and stirrer shall not be operated within the wastewater treatment system while discharging to the Kahouri Stream.
11. Notwithstanding conditions 12 and 18 below, discharges to the Kahouri Stream shall only occur when stream flows are 330 L/s or greater.
12. A minimum dilution ratio of 1 part wastewater to 100 parts receiving water shall be maintained at all times in the receiving waters of the Kahouri Stream at the point of discharge.

13. Discharges into the Kahouri Stream shall not give rise to the following effects in the Kahouri Stream, beyond a mixing zone of 50 m:
- a) a level of filtered carbonaceous BOD₅ of more than 2.00 gm⁻³;
 - b) a level of unionised ammonia of greater than 0.025 gm⁻³;
 - c) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - d) any conspicuous change in the colour or visual clarity;
 - e) any emission of objectionable odour;
 - f) the rendering of fresh water unsuitable for consumption by farm animals;
 - g) any significant adverse effects on aquatic life; and
 - h) the generation of undesirable heterotrophic growths (sewage fungus).

Note: The difference in macroinvertebrate community between the upstream control site and the potential impact site immediately below the mixing zone will be examined in order to determine if the discharge has resulted in a 'significant adverse effect on aquatic life'. This will include examining any change in the Semi-Quantitative Macroinvertebrate Community Index (SQMCI), overall composition of the community (including %EPT) and Macroinvertebrate Community Index (MCI). Should this examination identify a significant adverse effect caused by the discharge, this will constitute a breach of this condition.

14. After allowing for reasonable mixing, within a mixing zone extending 50 m downstream of the discharge point, the discharge shall not give rise to either of the following effects in the receiving waters of the Kahouri Stream:
- a) an increase in suspended solids concentration in excess of 5 gm⁻³, when the stream turbidity as measured upstream of the discharge point is equal or less than 5 NTU (nephelometric turbidity units); or
 - b) an increase in turbidity of more than 50% when the stream turbidity as measured upstream of the discharge point is greater than 5 NTU (nephelometric turbidity units).
15. The consent holder shall establish and maintain a safe access way to the Kahouri Stream to enable water quality samples to be taken at the compliance point stated in conditions 13 and 14 above, and at a suitable control site upstream, the location of which is to be advised by the Chief Executive, Taranaki Regional Council.

Discharges to the Kahouri Stream after hours

16. At least 200 mm (426 m³) of freeboard must be made available within the aerobic pond at 5 pm of each working/operational day.
17. The consent holder shall install and maintain a permanent marker within the aerobic pond to show the level where the wastewater should be at or below in order to achieve the required freeboard stated under condition 16 above.

Restrictions on times of discharge

18. As far as practicable, discharges to the Kahouri Stream shall be minimised and discharges to land under consent 5221-2 maximised. This means that even at times when 1:100 dilution can be achieved in the Kahouri Stream, discharges shall be irrigated to land unless the land is saturated and consequently is incapable of accepting the discharge.

Note: This condition to minimise discharges to water does not apply to discharges outside of operational hours. Notwithstanding this, a 1:100 dilution must be met at all times, including outside of operational hours, in accordance with condition 12.

Treated wastewater quality

19. The wastewater treatment system shall be managed to maximise the quality of the wastewater discharged to the Kahouri Stream.
20. After treatment in the wastewater treatment system, the discharge shall not have a concentration of total carbonaceous BOD5 greater than 110 gm-3.

This condition shall apply before the discharge enters the Kahouri Stream at a designated sampling point(s) approved by the Chief Executive, Taranaki Regional Council.

21. The consent holder shall install a tap on the wastewater line, between the aerobic pond and the discharge point, to allow for the taking of samples in association with condition 20 above.

Records

22. The consent holder shall monitor and record the following information on a daily basis in association with discharging wastewater to the Kahouri Stream:
- a) the date, the time, pumping hours and the rate of discharge for when discharges are manually initiated and halted, or the date or dates (when over a weekend) and the rate of discharge for automated discharges after hours;
 - b) the volume of discharge (as measured in association with the flow meter required under condition 4); and
 - c) the staff gauge reading, stream flow rate and dilution ratio (wastewater : receiving water) for when discharges are manually initiated and halted (i.e. not including automated discharges after hours). The stream flow rate shall be based on the rating curve established under condition 7.

This record shall be in an electronic format and submitted to the Taranaki Regional Council. The record format and frequency that the records are to be submitted is to be undertaken as advised by the Chief Executive, Taranaki Regional Council.

Note: if the discharge rate is varied on any day, then the records shall record the above information for each discharge event.

Mitigation

23. For the mitigation purposes of this consent and consent 0108-4, the consent holder shall undertake the following:
- a) ensure that Taranaki Regional Council riparian management plan LM10/73 is reviewed by a Taranaki Regional Council Land Management Officer within one month of the grant date of this consent;
 - b) complete riparian planting and fencing on both sides of all watercourses on the site in accordance with the riparian management plan reviewed under clause (a) above by 30 September 2013; and
 - c) maintain the areas of riparian planting and fencing undertaken in accordance with clause (b) above for the duration of this consent, by ensuring the ongoing replacement of plants which do not survive, the eradication of weeds until the plants are well established, and the exclusion of stock from the planted areas.

Incident notification

24. Any incident related to this consent that results, or could result, in an adverse effect on the environment shall be notified to the Taranaki Regional Council as soon as practicable, together with the reasons for the incident, and measures taken to mitigate the effects of the incident and prevent a recurrence.

Note: For notification purposes, at the grant date of this consent, the Taranaki Regional Council's phone number is 0800 736 222 (24 hour service).

Lapse and review dates

25. This consent shall lapse on 7 November 2016, unless the consent is given effect to before the end of that period.
26. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June in any year for any of the following purposes:
- a) Ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, and in particular to address any more than minor adverse effects relating to water quality issues;
 - b) to take into account any Act of Parliament, regulation, national policy statement (including the National Policy Statement for Freshwater Management 2011), regional policy statement or regional rule which relates to limiting, recording, mitigating, setting or amending any limits or other criteria relating to nutrients, ecological health or other water quality parameters; and

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- c) To determine any measures that may be appropriate to comply with condition 1 of this consent, and which are necessary to address any adverse effects relating to the wastewater discharges from the site.

In considering whether to initiate a review, the Taranaki Regional Council will take into account any views received from the Department of Conservation and Fish and Game New Zealand (Taranaki Region).

Transferred at Stratford on 18 January 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management