

Concrete Batching Plants
Monitoring Programme
Annual Report
2016-2017

Technical Report 2017–29

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Executive summary

This report for the period July 2016 to June 2017 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess the environmental performance and consent compliance of three concrete batching plants within the Taranaki Region. The report also details the results of the monitoring undertaken and assesses the environmental effects of their activities. The three concrete batching plants covered by this programme are located in Waitara, Hawera and Stratford.

AML Ltd trades under the name of Allied Concrete Ltd and is hereafter referred to as Allied Concrete. They, operate a concrete batching plant located on Mould Street, Waitara, in the Waitara catchment. The site operation includes the storage and mixing of cement, aggregate, sand, and builders mix.

Allied Concrete holds one resource consent which includes a total of 10 conditions setting out the requirements that they must satisfy. The consent allows for the discharge of wastewater into an unnamed tributary of the Waitara River.

During the year under review, Allied Concrete demonstrated an overall high level of environmental performance.

Firth Industries is a division of Fletcher Concrete and Infrastructure Limited and is hereafter referred to as Firth Industries. They operate a concrete batching plant located on Glover Road, Hawera in the Tangahoe catchment. The site operation involves mixing of cement, aggregate, water and additives in concrete mixing trucks for delivery to end users, and recently it has been used only as a satellite plant. The site is also used for the storage of aggregate, sand and builders mix for retail.

Firth Industries holds one resource consent, which includes a total of seven conditions setting out the requirements that they must satisfy. The consent allows for the discharge of treated wastewater onto and into land and into an unnamed tributary of the Tawhiti Stream.

During the year under review, Firth industries demonstrated an overall high level of environmental performance.

Fletcher Concrete and Infrastructure Limited (Fletcher Concrete) operates a concrete batching plant and pre-cast manufacturing plant on a site just north of Stratford on State Highway 3 in the Kahouri catchment. Activities at the site include the storage and mixing of aggregate, cement, water and additives, as well as the manufacturing of pre-cast drainage soak-hole liners and lids, offal hole lids and troughs. The concrete batching plant is operated by their subsidiary Firth Industries, and the pre-cast facility and sales depot is operated by their subsidiary Humes Pipeline Systems (Humes).

Fletcher Concrete holds one resource consent, which includes a total of 13 conditions setting out the requirements that the consent holder must satisfy. The consent allows for the discharge of stormwater and wastewater onto and into land and into an unnamed tributary of the Kahouri Stream.

During the year under review, Fletcher Concrete and Infrastructure Limited demonstrated an overall high level of environmental performance.

The Council's monitoring programme for the July 2016 to June 2017 monitoring period included two inspections at each site, and sampling of the site discharges and of the receiving waters in the vicinity of each site.

For reference, in the 2016-2017 year, consent holders were found to achieve a high level of environmental performance and compliance for 74% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 21% of consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holders over the last several years, this report shows that the consent holder's performances' remain at a high level in the year under review.

This report includes recommendations for the 2017-2018 year.

Table of contents

		Page
1	Introduction	1
1.1	Compliance monitoring programme reports and the Resource Management Act 1991	1
1.1.1	Introduction	1
1.1.2	Structure of this report	1
1.1.3	The Resource Management Act 1991 and monitoring	1
1.1.4	Evaluation of environmental performance	2
1.1.5	Water discharge permit summary	3
1.1.6	Air emission summary	4
1.2	Monitoring programme	4
1.2.1	Introduction	4
1.2.2	Programme liaison and management	5
1.2.3	Site inspections	5
1.2.4	Chemical sampling	5
1.3	Investigations, interventions, and incidents	5
2	AML Ltd (Trading as Allied Concrete Ltd)	7
2.1	Introduction	7
2.1.1	Process description	7
2.1.2	Water discharge permit	8
2.2	Results	8
2.2.1	Inspections	8
2.2.2	Results of discharge and receiving environment monitoring	9
2.2.3	Investigations, interventions, and incidents	10
2.3	Discussion	10
2.3.1	Discussion of site performance	10
2.3.2	Environmental effects of exercise of consents	10
2.3.3	Evaluation of performance	11
2.3.4	Recommendation from the 2015-2016 Annual Report	11
2.3.5	Alterations to monitoring programmes for 2017-2018	12
2.4	Recommendations	12
3	Firth Industries (Division of Fletcher Concrete and Infrastructure Limited)	13
3.1	Introduction	13
3.1.1	Process description	13

3.1.2	Water discharge permit	14
3.2	Results	14
3.2.1	Inspections	14
3.2.2	Results of discharge and receiving environment monitoring	14
3.2.3	Investigations, interventions, and incidents	15
3.3	Discussion	16
3.3.1	Discussion of site performance	16
3.3.2	Environmental effects of exercise of consents	16
3.3.3	Evaluation of performance	16
3.3.4	Recommendation from the 2015-2016 Annual Report	17
3.3.5	Alterations to monitoring programmes for 2017-2018	17
3.4	Recommendations	17
4	Fletcher Concrete and Infrastructure Limited	18
4.1	Introduction	18
4.1.1	Process description	18
4.1.2	Water discharge permit	19
4.2	Results	20
4.2.1	Inspections	20
4.2.2	Results of discharge and receiving environment monitoring	20
4.2.3	Investigations, interventions, and incidents	22
4.3	Discussion	22
4.3.1	Discussion of site performance	22
4.3.2	Environmental effects of exercise of consents	22
4.3.3	Evaluation of performance	22
4.3.4	Recommendation from the 2015-2016 Annual Report	23
4.3.5	Alterations to the monitoring programme for 2017-2018	23
4.4	Recommendation	24
5	Summary of recommendations	25
	Glossary of common terms and abbreviations	26
	Bibliography and references	27
	Appendix I Resource consents held by Allied Concrete, Firth Industries and Fletcher Concrete	

List of tables

Table 1	Summary of the concrete batching plants' resource consents	4
Table 2	Summary of the number and type of surface water samples collected at each site	5
Table 3	Monitoring results of Allied Concrete receiving water monitoring, 17 May 2017	9
Table 4	Monitoring results of Allied Concrete receiving water monitoring, 20 Jan 2017	9
Table 5	Summary of performance for Allied Concrete consent 1273-4	11
Table 6	Monitoring results of Firth Industries receiving water, 18 May 17	15
Table 7	Summary of performance for Firth Industries consent 1274-3	16
Table 8	Results Fletcher Concrete of receiving water sampling, 20 Jan 2017	20
Table 9	Results of Fletcher Concrete receiving water and discharge sampling, 17 May 2017	21
Table 10	Summary of performance for Fletcher Concrete's consent 5026-2	22

List of photos

Photo 1	Unidentified Galaxiids found in the tributary at the culvert inlet on the Allied Concrete Waitara site	10
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List of Figures

Figure 1	Location of Allied Concrete and associated sampling sites, Mould Street, Waitara	7
Figure 2	Location of Firth Industries site, Glover Road, Hawera	13
Figure 3	Location of Firth Industries sampling sites	15
Figure 4	Location of Fletcher Concrete site (Firth Industries and Humes Pipeline Systems), Stratford	19
Figure 5	Fletcher Concrete (Firth Industries and Humes Pipeline Systems) sampling sites, Stratford	21

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 2016 to June 2017 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by three concrete batching plants in the Taranaki Region, namely AML Limited (Allied Concrete) on Mould Street in Waitara, Firth Industries on Glover Road in Hawera, and Fletcher Concrete and Infrastructure Limited (Fletcher Concrete) on Mountain Road in Stratford.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by Allied Concrete, Firth Industries, and Fletcher Concrete that relate to discharges of stormwater and/or wastewater onto and into land and/or into water within the Waitara, Tangahoe, and Patea catchments respectively.

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 Allied Concrete's, Firth Industries' and Fletcher Concrete's use of water, land and air, and is the 11th combined annual report by the Council for these companies.

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 Allied Concrete, Firth Industries and Fletcher Concrete in the Waitara, Tangahoe and Patea catchments;
- 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 2017-2018 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 a discharger, and may include cultural and socio-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 performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's 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 consent holder'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 interpretations, 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 compliance

High: The administrative requirements of the resource consents were met, or any failures 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 2016-2017 year, consent holders were found to achieve a high level of environmental performance and compliance for 74% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 21% of the consents, a good level of environmental performance and compliance was achieved.

1.1.5 Water discharge permit summary

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.

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.

Therefore, each of the consent holders covered under this programme holds one consent to discharge stormwater, and/or wastewater, onto and into land, and/or into water.

Table 1 provides a summary that includes the consent holders, the purpose of their resource consent, and their review and expiry dates. Further details on each of the consents are given in Sections 2 to 4, and a full copy of each consent can be found in Appendix I of this report.

Table 1 Summary of the concrete batching plants' resource consents

Consent holder	Abbreviated name	Consent Number	Purpose	Review	Expiry
AML Ltd (Trading as Allied Concrete Limited)	Allied Concrete	1273-4	To discharge stormwater and treated washwater from a concrete batching plant site onto and into land and into an unnamed tributary of the Waitara River	June 2021	1 June 2033
Firth Industries (Division of Fletcher Concrete and Infrastructure Limited)	Firth Industries	1274-3	To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment	June 2022	1 June 2028
Fletcher Concrete and Infrastructure Limited	Fletcher Concrete	5026-2	To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment	June 2022	1 June 2028

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consents which are appended to this are appended to this report.

1.1.6 Air emission summary

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.

The air emissions from each of the three sites have previously been assessed as a permitted activity as the activities at the sites comply with the requirements of Rule 13 of the Regional Air Quality Plan for Taranaki (RAQP).

Although not mandatory, Firth Industries and Fletcher Concrete had previously chosen to apply for certificates of compliance, which confirm that, at the time the applications were considered, the emissions to air from the sites complied with the RAQP, and that no resource consents were required to cover emissions to air from the sites at that time.

1.2 Monitoring programme

1.2.1 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 Allied Concrete, Firth Industries and Fletcher Concrete sites consisted of three primary components.

1.2.2 Programme liaison and management

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

- ongoing liaison with the resource consent holder over consent conditions and their interpretation and application;
- 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.

1.2.3 Site inspections

The annual inspection schedule under this programme is for two site inspections per site. With regard to consents for the 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 consent holder were identified and accessed, so that performance in respect of operation, internal monitoring, and supervision could be reviewed by the Council. The neighbourhood was also surveyed for environmental effects.

1.2.4 Chemical sampling

During the year under review Council undertook sampling of both the discharges from the site and/or the water quality upstream and downstream of the discharge point and mixing zone, if discharges were occurring from the site at the time of inspection.

The number and type of samples collected at each of the sites during the year under review are shown in Table 2.

The samples were analysed primarily for contaminants typical of this type of industry, that is, pH, oil and grease and suspended solids.

Table 2 Summary of the number and type of surface water samples collected at each site

Consent holder	Number of discharge samples	Number of receiving water samples
Allied Concrete	0	4
Firth Industries	1	1
Fletcher Concrete	1	4

1.3 Investigations, interventions, and incidents

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 consent holders. 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.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the

environment. The Incident Register includes events where the Company concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

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 company is indeed the source of the incident (or that the allegation cannot be proven).

2 AML Ltd (Trading as Allied Concrete Ltd)

2.1 Introduction

2.1.1 Process description

Allied Concrete operates a concrete batching plant on a site at Mould Street, Waitara in the Waitara catchment. The operation primarily involves the mixing of aggregate, cement, water and additives in a concrete truck mixing bowl, in order to produce concrete, which is then delivered to the end user.

Wastewater on the site consists of potentially contaminated stormwater from around the concrete batching plant and aggregate storage areas, and water from washing the concrete trucks. Therefore, the discharges typically contain some cement deposits and other sediments. The wastewater is treated in a four pond settling system, with water recycled from the fourth pond for use in truck washing and in the concrete making process.

Sludge from the settling ponds is removed periodically and stored on site to dry. Excess concrete from the returning trucks is also off loaded at the site, where it is then made into large blocks that are sold to farmers and local contractors.



Figure 1 Location of Allied Concrete and associated sampling sites, Mould Street, Waitara

Allied Concrete have recently made a number of improvements to their stormwater and wastewater management system. In the instances when the pond system overflows, a silt trap and a rock lined basin have been installed to further treat the discharge. This will optimise treatment efficiency prior to the flow reaching the wetland (referred to as the soakage basin in the Allied Concrete's water management plan). A dish channel has been cut near the main entrance to redirect all stormwater from the front yard into the wetland. It has been confirmed by Council that there is an obstructed outlet in this wetland that connects to the New Plymouth District Council reticulated stormwater system and enters a tributary of the Waitara River adjacent to 86 Mould Street.

A dish drain has also been cut in the rear yard to direct all stormwater from this elevated area into a soakage pond that has been enlarged.

During a consent investigation visit, it was discovered that a small area of the site was not integrated into either of the catchments from which the flows are treated prior to discharge. Accordingly, Allied Concrete has advised the Council that no vehicles or chemicals will be stored in this stormwater catchment in order to avoid the potential for contamination in the stormwater discharging from this area.

An open tributary runs along the southern perimeter of the site and enters a culvert at the access way between the rear and front yards. To prevent untreated stormwater entering the tributary, a block wall barrier flanked by earth bunding has been constructed around the culvert inlet area.

2.1.2 Water discharge permit

Allied Concrete holds water permit **1273-4** to cover the discharge of stormwater and treated washwater from a concrete batching plant site onto and into land and an unnamed tributary of the Waitara River. This permit was originally issued by the Council on 14 November 1996 under Section 87(d) of the RMA. It was renewed on 9 May 2016 and was transferred to AML Ltd on 27 June 2011. It is due to expire on 1 June 2033.

There are 10 special conditions attached to this water permit.

Condition 1 requires the consent holder to adopt the best practicable option.

Condition 2 limits the maximum stormwater catchment area.

Condition 3 requires that the stormwater and wastewater system be as shown in plans submitted in support of the consent application.

Condition 4 requires the consent holder to notify the Council prior to undertaking any works in the soakage trench which may alter the discharge.

Condition 5 limits the discharge concentration of suspended solids and oil and grease.

Condition 6 states that the discharge, after reasonable mixing in the receiving waters, shall meet a variety of standards and shall not give rise to pH outside of the range 6.0-9.0.

Condition 7 requires the consent holder to maintain a contingency plan.

Condition 8 requires the consent holder to maintain a stormwater management plan.

Condition 9 requires the consent holder to notify the Council prior to making any changes to the processes or operations undertaken at the site.

Condition 10 provides for the review of any or all conditions of the consent.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consent which is appended to this report.

2.2 Results

2.2.1 Inspections

20 January 2017

The site was inspected in a gusty south westerly wind. The drain at the front of the property contained some water from recent rainfall. The drain looked clear. Work was being undertaken on site at the time of inspection. The pond levels were low and were not discharging. The aggregate recovery bins appeared to have been recently used and there was no surface runoff occurring. The bunded area was in good condition and no containments were evident in the contained area. All the yard rainfall was directed to the collection

drain at the front of the yard. The company was advised that samples were taken as part of the monitoring round. It was noted that, overall the yard and operational area looked good.

17 May 2017

The site was inspected in a light northerly breeze. The roadside drain was full and was slightly discoloured. The settling ponds were well below the discharge level. The aggregate recovery area was relatively full but no run off was occurring. Runoff was contained in the shed by the bunded area. No runoff was occurring at the bunded crossing at the back of the yard. The stream appeared high but clear. Samples were taken, from the unnamed tributary upstream and downstream of the yard, as part of the wet weather sampling programme. Overall the site appeared to be tidy.

2.2.2 Results of discharge and receiving environment monitoring

During the period under review the quality of the discharges were visually assessed at the time of the inspections. Visual assessments of these discharges indicated that they were compliant with consent conditions.

Receiving water monitoring was undertaken at the time of each of the inspections at the two receiving water monitoring sites (WTR000972 and WTR000973) at the locations shown in Figure 1. The results of this sampling are shown in Table 3 and Table 4.

Table 3 Monitoring results of Allied Concrete receiving water monitoring, 17 May 2017

Parameters	Unit	WTR000972 tributary upstream	WTR000973 tributary 110m downstream
Temperature	Deg. C	15.1	16.1
Conductivity	mS/m	21.5	20.1
pH	-	7.0	6.9
Oil and Grease	g/m ³	<0.5	<0.5
Suspended solids	g/m ³	7	3

Table 4 Monitoring results of Allied Concrete receiving water monitoring, 20 Jan 2017

Parameters	Unit	WTR000972 tributary upstream	WTR000973 tributary 110m downstream
Temperature	Deg. C	16.6	16.1
Conductivity	mS/m	21.9	20.4
pH	-	7.2	7.2
Oil and Grease	g/m ³	-	-
Suspended solids	g/m ³	-	-

The results of this monitoring show that there were no adverse environmental effects as a result of the discharges from the Allied Concrete site and that the conditions of the consent were being complied with at the time of sampling.

2.2.3 Investigations, interventions, and incidents

In the 2016-2017 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Allied Concrete's conditions in their resource consent or provisions in Regional Plans.

2.3 Discussion

2.3.1 Discussion of site performance

The Allied Concrete site at Waitara was found to be well maintained. A number of improvements had been made at the site during the 2014-2015 period with regards to water management. Specifically, the measures of containment and treatment of the site's stormwater and washwater were improved notably. These have continued to be well managed and maintained, and were effective in the year under review

No air related matters were noted during the period under review.

2.3.2 Environmental effects of exercise of consents

There were no significant environmental effects found that were associated with Allied Concrete's operations. Despite the noticeable deposition of concrete fines on the bed of the tributary at the culvert inlet, unidentified Galaxiid, thought possibly to be Banded Kokopu were found at this location during site visit on 11 March 2015 (Photo 1). The presence of these fish is indicative of the stream's life supporting capacity.

Receiving water monitoring found no adverse environmental effects associated with discharges from the site during the year under review.



Photo 1 Unidentified Galaxiids found in the tributary at the culvert inlet on the Allied Concrete Waitara site

2.3.3 Evaluation of performance

A summary of the Allied Concrete's compliance record for the year under review is set out in Table 5.

Table 5 Summary of performance for Allied Concrete consent 1273-4

Purpose: To discharge stormwater and treated washwater from a concrete batching plant site onto and into land and into an unnamed tributary of the Waitara River		
Condition requirement	Means of monitoring during period under review	Condition requirement
1. The consent holder to adopt the best practicable option	Inspections of the site	Yes
2. Limits the maximum stormwater catchment area	Inspections of the site and receiving water	Yes
3. Stormwater and wastewater system plans submitted	Received and reviewed April 2015	Yes
4. Notify the Council prior to undertaking any works in the soakage trench	No notified works	N/A
5. Limits the discharge concentration	Sampling	Yes
6. The discharge, after reasonable mixing in the receiving waters, shall meet a variety of standards	Sampling and visual assessment	Yes
7. Maintain a contingency plan	Received and reviewed April 2015	Yes
8. Maintain a stormwater management plan	Received and reviewed April 2015	Yes
9. Consent holder to notify the Council prior to making any changes to the processes or operations	No notified changes	N/A
10. Provides options for review	Next optional review date June 2021	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the 2016-2017 monitoring year, Allied Concrete demonstrated a high level of both environmental performance and administrative compliance with their resource consent as defined in Section 1.1.4.

2.3.4 Recommendation from the 2015-2016 Annual Report

In the 2015-2016 Annual Report, it was recommended:

THAT monitoring of discharges from Allied Concrete in the 2016-2017 year continues at the same level as in 2015-2016.

This recommendation was implemented.

2.3.5 Alterations to monitoring programmes for 2017-2018

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 2017-2018, the programme remains unchanged.

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 2017-2018.

2.4 Recommendations

1. THAT in the first instance monitoring of consented activities at the Allied Concrete Waitara site in the 2017-2018 year continues at the same level as in 2016-2017.
2. THAT should there be issues with environmental or administrative performance in 2017-2018, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

3 Firth Industries (Division of Fletcher Concrete and Infrastructure Limited)

3.1 Introduction

3.1.1 Process description

Firth Industries operates concrete batching plant on a site at Glover Road, Hawera in the Tangahoe catchment.

The operation primarily involves the mixing of aggregate, cement, water and additives in a concrete truck mixing bowl in order to produce concrete which is then delivered to the end user. Builder's mix and aggregate are also retailed from the site.

A concreting operation was established on this site prior to 1967. Firth Industries have been operating at the site since the 1980's.

Wastewater on the site consists of stormwater from around the concrete batching plant and aggregate storage areas, as well as water from washing the concrete trucks. Therefore, the wastewater typically contains some cement deposits and other sediments. Wastewater is treated in a three pond settling system, with water recycled from the third pond for truck washing and use in the concrete making process.

Sludge from the settling ponds is removed periodically and stored on site to dry. Excess concrete from the returning trucks is also off loaded at the site, and is then made into large blocks that are sold to farmers and local contractors.



Figure 2 Location of Firth Industries site, Glover Road, Hawera

3.1.2 Water discharge permit

Firth Industries holds water permit **1274-3** to discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment. This permit was issued by the Council on 14 July 2010 under Section 87(e) of the RMA. It is due to expire on 1 June 2028.

There are 7 special conditions attached to consent 1274-3.

Condition 1 requires the consent holder to adopt the best practicable option.

Condition 2 states that the discharge must not exceed 2 m³/day.

Condition 3 requires all washwater to be directed for treatment prior to discharge.

Condition 4 requires the consent holder to maintain the treatment system and ensure retention time is adequate to meet requirements of conditions 5 and 6.

Condition 5 states the discharge concentration limits for suspended solids and oil and grease.

Condition 6 designates a mixing zone in the receiving waterbody and prohibits a range of adverse effects from occurring beyond this specified mixing zone.

Condition 7 provides for the review of any or all conditions of the consent.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consent which is appended to this report.

3.2 Results

3.2.1 Inspections

23 January 2017

At the time of the inspection a strong south westerly wind was blowing. The yard appeared to have had very little use. Clean rainwater was found in the sump and in various pools in the yard. Nothing had escaped the bunded area and the entire yard was clean. No discharge was occurring at the time of the inspection. There was no flow at the discharge sampling point or at the downstream Tawhiti Stream monitoring site despite the showery weather on the day of the inspection.

18 May 2017

The inspection was carried out in showery weather with a southerly breeze. The yard appeared to have had little use recently. The bunded area was well contained with no discharges escaping this area. The yard was tidy with only a small amount of sediment containing stormwater flowing into the sump. There appeared to be a discharge into the underground drain from the sump at the time of inspection. The company was advised that samples were taken as part of the wet weather monitoring programme.

3.2.2 Results of discharge and receiving environment monitoring

The monitoring sites associated with the Firth Industries Hawera depot are shown in Figure 3.



Figure 3 Location of Firth Industries sampling sites

During the year under review, discharges from the site were occurring only at the time of the inspection undertaken on 18 May 2017. The results of the sampling are shown in Table 6.

Table 6 Monitoring results of Firth Industries receiving water, 18 May 17

Parameters	Unit	IND001054 Discharge	TWH000257 100m Downstream
Temperature	Deg. C	13.9	13.9
Conductivity	mS/m	19.9	27.7
pH	-	9.7	7.4
Oil and Grease	g/m ³	<0.5	-
Suspended solids	g/m ³	50	250

It is noted that there was an elevated suspended solids concentration in the receiving water downstream of the site on 18 May 2017, however this was not attributable to Firth Industries as the level of suspended solids in the discharge was low.

The results of this monitoring show that there were no adverse environmental effects as a result of the discharges from the Firth Industries site and that the conditions of the consent were being complied with at the time of sampling.

3.2.3 Investigations, interventions, and incidents

In the 2016-2017 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Firth Industries' conditions in their resource consent or provisions in Regional Plans.

3.3 Discussion

3.3.1 Discussion of site performance

Although the inspections suggested that minimal activity had taken place at this site, Firth Industries concrete plant in Hawera was well managed and maintained during the year under review. The settlement ponds appeared to be working effectively at the time of the inspections.

Sample results showed that suspended solids were high in the receiving water. Consent 1274-3 requires the suspended solids concentration of the discharge to be below 200 g/m³. Sampling found that the discharge did not exceed the consent limit, and the high levels of suspended solids found in the receiving water were therefore likely to be the result of other inputs, due to the amount of rainfall on the day the samples were collected.

No air related matters were noted during the period under review

3.3.2 Environmental effects of exercise of consents

Inspection found that operations at the Firth Industries site did not have any significant adverse effects on the receiving environment during the 2016-2017 monitoring period. It was noted that there was no evidence of sediments being discharged from the site into the tributary at the time of inspection or sampling.

3.3.3 Evaluation of performance

A summary of Firth Industries' compliance record for the year under review is set out in Table 7.

Table 7 Summary of performance for Firth Industries consent 1274-3

Purpose: To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspections of the site and systems	Yes
2. Discharge volume limit	Inspection of the site	Yes
3. Washwater to be directed for treatment prior to discharge	Inspections of the site	Yes
4. Maintain silt and sediment system	Inspections of site and records	Yes
5. Concentration limits	Sampling	Yes
6. Mixing zone effects	Inspections of site and receiving water	Yes
7. Optional review of conditions	Next optional review date June 2022	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the 2016-2017 monitoring year, Firth Industries demonstrated a high level of both environmental performance and administrative compliance with their resource consent as defined in Section 1.1.4.

3.3.4 Recommendation from the 2015-2016 Annual Report

In the 2015-2016 Annual Report, it was recommended:

THAT monitoring of discharges from Firth Industries in the 2016-2017 year continues at the same level as in 2015-2016.

This recommendation was implemented.

3.3.5 Alterations to monitoring programmes for 2017-2018

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 2017-2018, the programme remains unchanged.

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 2017-2018.

3.4 Recommendations

1. THAT in the first instance, monitoring of discharges from Firth Industries in the 2017-2018 year continues at the same level as in 2016-2017.
2. THAT should there be issues with environmental or administrative performance in 2017-2018, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

4 Fletcher Concrete and Infrastructure Limited

4.1 Introduction

4.1.1 Process description

Fletcher Concrete operates a concrete batching plant and pre-cast manufacturing plant, including storage and retail of concrete products, on a site just north of Stratford on State Highway 3 (Mountain Road). The site is run by two divisions of Fletcher Concrete, namely Firth Industries and Humes Pipeline Systems (Humes).

This concrete batching site, operated under a consent held by Fletcher Concrete and Infrastructure Limited, was added to the Concrete Batching Plants Monitoring Programme on 1 July 2010. Prior to this, the site was part of the Kahouri Catchment Monitoring Programme, and was amalgamated into the Concrete Batching Plant programme when it was considered that catchment scale monitoring was no longer required for the Kahouri catchment.

The concrete batching plant operation primarily involves the mixing of aggregate, cement, water and additives in a concrete truck mixing bowl in order to produce concrete, which is then delivered to the end user. The Humes operation involves the manufacturing of pre-cast drainage soak-holes and lids, offal hole lids and troughs. Humes was also a sales depot for items manufactured both on and off the site. The business has operated on the site since 1939.

A tributary of the Kahouri Stream runs under the plant site. Washwater from the plant is treated by settlement in two small ponds, followed by soakage in two stone-filled pits. Concrete truck washings are treated separately by settlement in two small ponds in series, followed by two soakage ponds. Washwater may be re-circulated from the fourth pond to increase residence time for settling. Discharges to the stream tributary can occur from both soakage systems. During the 2000-2001 monitoring period the third settling pond was relocated adjacent to the other two ponds. The area around the ponds was fully fenced, and the intention was to start recycling the water from the ponds, once the pond had self sealed and soakage to ground from the new pond had stopped.

Sludge from the settling ponds is removed periodically and stored on site to dry. Excess concrete from the returning trucks is also off loaded at the site. Local farmers take the dry material for use as fill material and to maintain driveways.

Stormwater from yard areas and the roof of the main building currently soaks to ground, or drains through soak holes or grit interceptors before discharging to the unnamed tributary of the Kahouri Stream.

Fletcher Concrete proposes to upgrade the existing stormwater and wastewater management system, as follows:

Additional wastewater from the Humes pre-cast pipe manufacturing plant is to be directed to the concrete batching plant wastewater pond and settling system;

The provision for recycling of truck wash, batching plant and pipe manufacturing wastewater, including two new wastewater holding tanks with the combined capacity of 45,000 litres; and

Two new sludge drying bins and a concrete mould area. These are to be fully contained, with wastewater being directed to the truck wash out wastewater settling area.



Figure 4 Location of Fletcher Concrete site (Firth Industries and Humes Pipeline Systems), Stratford

4.1.2 Water discharge permit

Fletcher Concrete holds discharge permit **5026-2** to discharge stormwater and wastewater from a concrete product and manufacturing storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment. This permit was issued by the Council on 7 May 2009 under Section 87(d) of the RMA. It is due to expire on 1 June 2028.

There are 13 special conditions attached to this consent.

Condition 1 requires the consent holder to adopt the best practicable option.

Condition 2 limits the maximum stormwater catchment area.

Condition 3 states that the discharge of wastewater shall not exceed 5 m³/day.

Condition 4 requires that the stormwater and wastewater system be as shown in plans submitted in support of the consent application.

Condition 5 requires bunding of all above ground hazardous substance storage areas.

Condition 6 states that the discharge, after reasonable mixing in the receiving waters, shall not give rise to pH outside of the range 6.0-9.0.

Condition 7 limits the discharge concentration of suspended solids, total recoverable hydrocarbons, and chloride.

Condition 8 designates a mixing zone in the receiving waterbody and prohibits a range of adverse effects from occurring beyond this specified mixing zone.

Condition 9 requires the consent holder to maintain a contingency plan.

Condition 10 requires the consent holder to maintain a stormwater management plan.

Condition 11 requires the consent holder to notify the Council prior to making any changes to processes or operations which may alter the discharge.

Condition 12 relates to consent lapse.

Condition 13 provides for the review of any or all conditions of the consent.

This summary of consent conditions may not reflect the full requirements of each condition. The consent conditions in full can be found in the resource consent which is appended to this report.

4.2 Results

4.2.1 Inspections

20 January 2017

The inspection was carried out in a south westerly wind. No operations were occurring onsite during the inspection. Surface runoff from the yard flowed into the aggregate trap and then into soak holes with a small discharge to the drain. The ponds were at a low level and were not discharging. No stormwater runoff was occurring in the yard. Nothing was escaping the chemical storage shed which was very tidy. The Company was advised that samples were taken as part of the monitoring round. Overall the site was in very good condition.

17 May 2017

The inspection was carried out in rain with a slight northerly breeze. The plant at the site was not in operation at the time of the inspection. Puddles had formed in the yard and there was a small amount of runoff occurring from the soak holes and yard. The contents of the ponds at the back of the yard were clear and well contained. The Company was informed that site looked to be in good order, and that samples were taken as part of the wet weather sampling programme. Samples were taken upstream of the plant, at the discharge from the site to the drain and downstream of the site discharges. It was noted that the stream was discoloured at all of the sampling sites (including the upstream site).

4.2.2 Results of discharge and receiving environment monitoring

The monitoring sites associated with the Fletcher Concrete Stratford depot are shown in Figure 4

During the year under review, discharges from the site were occurring only at the time of the inspection undertaken on 18 May 2017. Samples were taken of the discharge and receiving environment to determine compliance with consent conditions. The results of this sampling are shown in Table 8 and Table 9.

Table 8 Results Fletcher Concrete of receiving water sampling, 20 Jan 2017

Parameters	Unit	KHI000362 100m upstream	KHI000363 100m downstream
Temperature	Deg. C	12.6	13.7
Conductivity	mS/m	9.2	9.9
pH	-	6.9	7.1
Oil and Grease	g/m ³	-	-
Suspended solids	g/m ³	-	-



Figure 5 Fletcher Concrete (Firth Industries and Humes Pipeline Systems) sampling sites, Stratford

Table 9 Results of Fletcher Concrete receiving water and discharge sampling, 17 May 2017

Parameters	Unit	KHI000362 100m upstream	IND001030 discharge	KHI000363 100m downstream
Temperature	Deg. C	13.2	13.3	13.2
Conductivity	mS/m	7.7	8.0	9.9
pH	-	6.7	6.8	7.0
Oil and Grease	g/m ³	<0.5	<0.5	<0.5
Suspended solids	g/m ³	26	27	18

The results of this monitoring show that there were no adverse environmental effects as a result of the discharges from the Fletcher Concrete site, and that the conditions were being complied with at the time of sampling.

4.2.3 Investigations, interventions, and incidents

In the 2016-2017 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the Fletcher Concrete's conditions in their resource consent or provisions in Regional Plans.

4.3 Discussion

4.3.1 Discussion of site performance

The Fletcher Concrete site at Stratford was generally found well managed and well maintained. The stormwater containment and treatment systems appeared to be working effectively, as were those for the washwater.

No air related matters were noted during the period under review.

4.3.2 Environmental effects of exercise of consents

Operations at the Fletcher Concrete site did not have any significant adverse effects on the receiving environment during the 2016-2017 monitoring period.

4.3.3 Evaluation of performance

A summary of Fletcher Concrete's compliance record for the year under review is set out in Table 10 .

Table 10 Summary of performance for Fletcher Concrete's consent 5026-2

Purpose: To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspection of the site	Yes
2. Maximum catchment area	Inspection of the site	Yes
3. Discharge volume limit	Inspection of the site and discharge system	Yes
4. System in accordance with information supplied with application	Inspection of the site	Yes
5. Hazardous substances storage bunded	Inspection of the site	Yes
6. Receiving water pH range, 6.0-9.0	Sampling	Yes
7. Concentration limits	Sampling and visual assessment of the discharge	Yes
8. Mixing zone effects	Inspections of the site and receiving water	Yes
9. Contingency planning	Plan on file November 2015	Yes

Purpose: To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment.		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
10. Stormwater management plan	Plan on file November 2015	Yes
11. Notification of any changes to processes	No changes	N/A
12. Consent lapse	Consent has been exercised	N/A
13. Optional review of conditions	Next optional review date June 2022	N/A
Overall assessment of environmental performance and compliance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

During the 2016-2017 monitoring year, Fletcher Concrete demonstrated a high level of both environmental performance and administrative compliance with their resource consent as defined in Section 1.1.4.

4.3.4 Recommendation from the 2015-2016 Annual Report

In the 2015-2016 Annual Report, it was recommended:

1. THAT monitoring of discharges from Fletcher Concrete in the 2016-2017 year continues at the same level as in 2015-2016.

This recommendation was implemented.

4.3.5 Alterations to the monitoring programme for 2017-2018

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 2017-2018, the programme remains unchanged.

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 2017-2018.

4.4 Recommendation

1. THAT in the first instance monitoring of discharges from Fletcher Concrete in the 2017-2018 year continues at the same level as in 2016-2017.
2. THAT should there be issues with environmental or administrative performance in 2017-2018, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

5 Summary of recommendations

1. THAT monitoring of discharges from Allied Concrete in the 2017-2018 year continues at the same level as in 2016-2017.
2. THAT monitoring of discharges from Firth Industries in the 2017-2018 year continues at the same level as in 2016-2017.
3. THAT monitoring of discharges from Fletcher Concrete in the 2017-2018 year continues at the same level as in 2016-2017.

Glossary of common terms and abbreviations

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

Bund	A wall around a tank to contain its contents in the case of a leak.
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	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 ³ /day	Cubic metres per day.
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.
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.
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	Resource Management Act 1991 and including all subsequent amendments.

For further information on analytical methods, contact the Council's laboratory.

Bibliography and references

- Taranaki Regional Council (2016): *Concrete Batching Plants Monitoring Programme Annual Report 2015-2016*, Technical Report 2016-78.
- Taranaki Regional Council (2016): *Concrete Batching Plants Monitoring Programme Annual Report 2014-2015*, Technical Report 2015-71.
- Taranaki Regional Council (2014): *Concrete Batching Plants Monitoring Programme Annual Report 2013-2014*, Technical Report 2014-75.
- Taranaki Regional Council (2013): *Concrete Batching Plants Monitoring Programme Annual Report 2012-2013*, Technical Report 2013-10.
- Taranaki Regional Council (2012): *Concrete Batching Plants Monitoring Programme Annual Report 2011-2012*, Technical Report 2012-57.
- Taranaki Regional Council (2011): *Concrete Batching Plants Monitoring Programme Annual Report 2010-2011*, Technical Report 2011-97.
- Taranaki Regional Council (2010): *Concrete Batching Plants Monitoring Programme Annual Report 2009-2010*, Technical Report 2010-101.
- Taranaki Regional Council (2009): *Concrete Batching Plants Monitoring Programme Annual Report 2008-2009*, Technical Report 2009-109.
- Taranaki Regional Council (2008): *Concrete Batching Plants Monitoring Programme Annual Report 2007-2008*, Technical Report 2008-25.
- Taranaki Regional Council (2007): *Concrete Batching Plants Monitoring Programme Annual Report 2006-2007*, Technical Report 2007-43.
- Taranaki Regional Council (2006): *Concrete Batching Plants Monitoring Programme Annual Report 2005-2006*, Technical Report 2006-78.

Appendix I

Resource consents held by Allied Concrete, Firth Industries and Fletcher Concrete

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

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

Name of
Consent Holder: AML Limited (trading as Allied Concrete Limited)
PO Box 3318
New Plymouth 4341

Decision Date: 9 May 2016

Commencement Date: 9 May 2016

Conditions of Consent

Consent Granted: To discharge stormwater and treated washwater from a concrete batching plant site onto and into land and into an unnamed tributary of the Waitara River

Expiry Date: 1 June 2033

Review Date(s): June 2021, June 2027 and in accordance with special condition 10

Site Location: 104 Mould Street, Waitara

Grid Reference (NZTM) 1705887E-5682785N

Catchment: Waitara

*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. 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 stormwater discharged shall be from an area not exceeding 0.956 ha within the area shown on the attached plan.
3. All stormwater shall be directed for treatment through the stormwater treatment systems for discharge in accordance with the documentation provided in support of this application and the special conditions of this permit.
4. The consent holder shall notify Taranaki Regional Council at least 2 working days prior to undertaking any works in the "soakage trench" that may affect the treatment provided by the restriction in the outlet. The notification shall be sent to worknotification@trc.govt.nz and shall include the consent number and details of the mitigations measures to be put in place to ensure there is no reduction in the level of treatment of the discharges from the site.
5. Constituents of the discharge shall meet the standards shown in the following table.

Constituent	Standard
suspended solids	Concentration not greater than 100 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. After allowing for reasonable mixing, within a mixing zone extending to the outlet of the culvert at approximately 1705977E-5682691N, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life;
 - f) a pH outside the range 6.0 to 9.0;
 - g) a change in pH of more than 0.5 pH units.

Consent 1273-4.0

7. The consent holder shall maintain and regularly update the 'Contingency Plan' supplied with this application that details the measures and procedures that will be undertaken to prevent, and to avoid environmental effects from, a spillage or any discharge of contaminants not authorised by this consent. The plan shall be approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity.
8. The site shall be operated in accordance with the 'Management Plan' prepared by the consent holder in support of this application and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The plan shall detail how the site is to be managed to minimise the contaminants that become entrained in the stormwater and shall include as minimum:
 - a) the loading and unloading of materials;
 - b) maintenance of conveyance systems;
 - c) general housekeeping; and
 - d) management of any treatment and interceptor systems.

Note: A Stormwater Management Plan template is available in the Environment section of the Taranaki Regional Council's web site www.trc.govt.nz.

9. 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 the 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 approval under the Resource Management Act, 1991. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to consents@trc.govt.nz.
10. 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:
 - a) during the month of June 2021 and/or June 2027; and/or
 - b) within 3 months of receiving a notification under special condition 9 above;

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 27 June 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: Firth Industries
(Division of Fletcher Concrete & Infrastructure Limited)
P O Box 99904
Newmarket
AUCKLAND 1149

Consent Granted
Date: 14 July 2010

Conditions of Consent

Consent Granted: To discharge treated wastewater from a concrete batching plant via settling ponds onto and into land and into an unnamed tributary of the Tawhiti Stream in the Tangahoe catchment at or about (NZTM) 1710199E-5617961N

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022

Site Location: Glover Road, Hawera

Legal Description: Site location: Lot 2 DP 17199 Blk V Hawera SD
Discharge point: Lot 1 DP 19937

Catchment: Tangahoe

Tributary: Tawhiti

*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 [the Council] all the administration, monitoring and supervision costs of this consent, fixed in accordance to section 36 of the Resource Management Act.

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 discharge shall not exceed a total volume of 2 cubic metres per day.
3. All wash water shall be directed for treatment through the sediment retention pond system prior to discharge from the site.
4. The consent holder shall maintain the sediment retention pond system, including regular removal of the sediment accumulated in ponds, to ensure adequate retention time for the discharge to meet the special conditions 5 and 6 of this consent.
5. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
suspended solids	Concentration not greater than 200 gm ⁻³
oil and grease	Concentration not greater than 15 gm ⁻³

This condition shall apply before entry of the treated wash water into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

6. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not give rise to any or all of the following effects in the receiving water:
 - a) an increase of pH by more than 0.5 pH units;
 - b) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - c) any conspicuous change in colour or visual clarity;
 - d) any emission of objectionable odour;
 - e) the rendering of fresh water unsuitable for consumption by farm animals;
 - f) any significant adverse effects on aquatic life.

Consent 1274-3

7. 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 June 2022 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.

Signed at Stratford on 14 July 2010

For and on behalf of
Taranaki Regional Council

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: Fletcher Concrete & Infrastructure Limited
Private Bag 99904
Newmarket
AUCKLAND

Consent Granted
Date: 7 May 2009

Conditions of Consent

Consent Granted: To discharge stormwater and wastewater from a concrete product manufacturing and storage site onto and into land and into an unnamed tributary of the Kahouri Stream in the Patea catchment at or about (NZTM) 1710131E-5646578N

Expiry Date: 1 June 2028

Review Date(s): June 2016, June 2022 and/or within 3 months of receiving notification under special condition 11

Site Location: 3524 Mountain Road, Stratford

Legal Description: Lots 1 & 2 DP 6111 Lot 1 DP 5823 Blk I Ngaere SD

Catchment: Patea

Tributary: Kahouri

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 stormwater discharged shall be from a catchment area not exceeding 13,700 m².
3. The discharge of wastewater shall not exceed 5 m³/day.
4. The wastewater and stormwater system shall be as indicated in the drawings provided with application 6133 titled *Fletcher Concrete and Infrastructure Ltd Stratford Site Mountain Road* (SH3) S1-00, S1-01, S1-02, S1-03, and S1-03 Diagram 1.
5. Any above ground hazardous substances storage areas shall be bunded with drainage to sumps, or other appropriate recovery systems, and not directly to the stormwater catchment.
6. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to a pH level in the receiving waters outside of the range 6.0-9.0.
7. Constituents of the discharge shall meet the standards shown in the following table.

<u>Constituent</u>	<u>Standard</u>
suspended solids	Concentration not greater than 100 gm ⁻³
total recoverable hydrocarbons	Concentration not greater than 15 gm ⁻³ [as determined by infrared spectroscopic technique]
Chloride	Concentration not greater than 50 gm ⁻³

Consent 5026-2

This condition shall apply before entry of the treated stormwater into the receiving waters at a designated sampling point approved by the Chief Executive, Taranaki Regional Council.

8. After allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the discharge point, the discharge shall not, either by itself or in combination with other discharges, give rise to any or all of the following effects in the receiving water:
 - a) the production of any conspicuous oil or grease films, scums or foams, or floatable or suspended materials;
 - b) any conspicuous change in the colour or visual clarity;
 - c) any emission of objectionable odour;
 - d) the rendering of fresh water unsuitable for consumption by farm animals;
 - e) any significant adverse effects on aquatic life.
9. The consent holder shall maintain a contingency plan. The contingency plan shall be adhered to in the event of a spill or emergency and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council, detail measures and procedures to be undertaken to prevent spillage or accidental discharge of contaminants not authorised by this consent and measures to avoid, remedy or mitigate the environmental effects of such a spillage or discharge.
10. The consent holder shall maintain a stormwater management plan. This plan shall be adhered to at all times and shall, to the satisfaction of the Chief Executive, Taranaki Regional Council document how the site is to be managed in order to minimise the contaminants that become entrained in the stormwater. The plan shall include but not necessarily be limited to:
 - a) the loading and unloading of materials;
 - b) maintenance of conveyance systems;
 - c) general housekeeping; and
 - d) management of the interceptor system.
11. 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 the 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 approval under the Resource Management Act. Notification shall include the consent number, a brief description of the activity consented and an assessment of the environmental effects of any changes, and be emailed to worknotification@trc.govt.nz. Notification by fax or post is acceptable if the consent holder does not have access to email.
12. This consent shall lapse on 30 June 2014, 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.

Consent 5026-2

13. 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:
- a) during the month of June 2016 and/or June 2022; and/or
 - b) within 3 months of receiving a notification under special condition 11 above;

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.

Signed at Stratford on 7 May 2009

For and on behalf of
Taranaki Regional Council

Director-Resource Management