

Concrete Batching Plants
Monitoring Programme
Annual Report
2012-2013
Technical Report 2013–10

ISSN: 0114-8184 (Print)
ISSN:1178-1467 (Online)
Document: 1158845 (Word)
Document: 1341340 (Pdf)

Taranaki Regional Council
Private Bag 713
STRATFORD

June 2014

Executive summary

Firth Industries operates 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 as a satellite plant. The site also stores aggregate, sand, and builders mix for retail.

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

Allied Concrete operates a concrete batching plant located on Mould Street, Waitara, in the Waitara catchment. The site operation includes the storage of aggregate, sand, and builders mix.

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

A concert batching site operated by Fletcher Concrete and Infrastructure Limited has been added to the Concrete Batching Plants monitoring programme. Previously the site was part of the Kahouri Catchment Monitoring programme. However, catchment scale monitoring is no longer required and it was recommended that the Fletcher Concrete site be amalgamated into another existing program, such as that presently in place for other concrete plants in the region.

Fletcher Concrete and Infrastructure Limited 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. The site is run by two divisions of Fletcher Concrete and Infrastructure Limited – Firth Industries and Humes Pipeline Systems. The site operation includes 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. The Humes operation is also a sales depot for items manufactured both on and off the site.

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

The Council's monitoring programme for the July 2012-June 2013 monitoring period included two inspections of each site. No samples were collected from the sites during the monitoring period.

During the year, the Companies all demonstrated a high level of environmental performance and compliance with the resource consents. There were no incidents recorded for any of the sites during the 2012-2013 year.

This report includes recommendations for the 2013-2014 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	2
1.1.4 Evaluation of environmental performance	2
1.2 Process description	3
1.2.1 Firth Industries	3
1.2.2 Allied Concrete	4
1.2.3 Fletcher Concrete and Infrastructure Limited	5
1.3 Resource consents	7
1.3.1 Water abstraction permit	7
1.3.2 Air discharge permit	9
1.4 Monitoring programme	9
1.4.1 Introduction	9
1.4.2 Programme liaison and management	10
1.4.3 Site inspections	10
2. Results	11
2.1 Water	11
2.1.1 Inspections	11
2.1.2 Results of discharge monitoring	12
2.1.3 Results of receiving environment monitoring	12
2.2 Air	12
2.2.1 Inspections	12
2.3 Investigations, interventions, and incidents	12
3. Discussion	14
3.1 Discussion of site performance	14
3.2 Environmental effects of exercise of consents	14
3.3 Evaluation of performance	14
3.4 Recommendations from the 2011-2012 Annual Report	16
3.5 Alterations to monitoring programmes for 2013-2014	16
4. Recommendations	17
Glossary of common terms and abbreviations	18
Bibliography and references	19
Appendix I Resource consents held by Firth Industries, Allied Concrete, and Fletcher Concrete	

List of tables

Table 1	Summary of performance for Consent 1273-3 discharge treated washwater from a concrete batching plant (Allied Concrete Waitara)	14
Table 2	Summary of performance for Consent 1274-3 discharge wastewater from a concrete batching plant (Firth Industries, Hawera)	15
Table 3	Summary of performance for consent 5026-2 discharge of stormwater and wastewater from a concrete manufacturing and storage site (Fletcher Concrete, Stratford)	15

List of photos

Photo 1	Location of Firth Industries site, Glover Road, Hawera	4
Photo 2	Location of Allied Concrete site, Mould Street, Waitara	5
Photo 3	Fletcher Concrete site (Firth & Humes Pipeline systems), Stratford	7

1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is the Annual Report for the period July 2012-June 2013 by the Taranaki Regional Council on the monitoring programme associated with resource consents held by Firth Industries (Glover Road, Hawera), Allied Concrete (Mould Street, Waitara) and Fletcher Concrete, and Infrastructure Limited (Mountain Road, Stratford). These companies operate concrete batching plants.

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

One of the intents of the Resource Management Act (1991) 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 Taranaki Regional Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the environmental effects of Firth Industries, Allied Concrete's and Fletcher Concrete's use of water, land, and air, and is the eighth combined annual report by the Taranaki Regional Council for the Companies. (This is the second year the report includes the Fletcher Concrete site).

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the Resource Management Act and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by Firth Industries, Allied Concrete and Fletcher Concrete in the Tangahoe, Waitara, 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 Companies sites.

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

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

Section 4 presents recommendations to be implemented in the 2013-2014 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 Resource Management Act 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 (eg, recreational, cultural, or aesthetic);
- (e) risks to the neighbourhood or environment.

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Taranaki Regional Council is recognising the comprehensive meaning of 'effects' inasmuch as is appropriate for each discharge source. Monitoring programmes are not only based on existing permit conditions, but also on the obligations of the Resource Management Act to assess the effects of the exercise of consents. In accordance with section 35 of the Resource Management Act 1991, the Council undertakes compliance monitoring for consents and rules in regional plans; and maintains an overview of performance of resource users against regional plans and consents. Compliance monitoring, (covering both activity and impact) monitoring, also enables the Council to continuously assess its own performance in resource management as well as that of resource users particularly consent holders. It further 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 companies during the period under review, this report also assigns an overall rating. The categories used by the Council, and their interpretation, are as follows:

- a **high** level of environmental performance and compliance indicates that essentially there were no adverse environmental effects to be concerned about, and no, or inconsequential (such as data supplied after a deadline) non-compliance with conditions.
- a **good** level of environmental performance and compliance indicates that adverse environmental effects of activities during the monitoring period were negligible or minor at most, or, 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, or, there were perhaps some items noted on inspection notices for attention but these items were not urgent nor critical, and follow-up inspections showed they have been dealt with, and inconsequential non compliances with conditions were resolved positively, co-operatively, and quickly.

- **improvement required (environmental) or improvement required (administrative compliance)** (as appropriate) indicates that the Council may have been obliged to record a verified unauthorised incident involving measurable environmental impacts, and/or, there were measurable environmental effects arising from activities and intervention by Council staff was required and there were matters that required urgent intervention, took some time to resolve, or remained unresolved at the end of the period under review, and/or, there were on-going issues around meeting resource consent conditions even in the absence of environmental effects. Abatement notices may have been issued.
- **poor performance (environmental) or poor performance (administrative compliance)** indicates generally that the Council was obliged to record a verified unauthorised incident involving significant environmental impacts, or there were material failings to comply with resource consent conditions that required significant intervention by the Council even in the absence of environmental effects. Typically there were grounds for either a prosecution or an infringement notice.

For reference, in the 2012-2013 year, 35% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 59% demonstrated a good level of environmental performance and compliance with their consents.

1.2 Process description

1.2.1 Firth Industries

Firth Industries, a Division of Fletcher Concrete and Infrastructure Limited, operates concrete batching plant on a site at Glover Road, Hawera.

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. Builders mix and aggregate are retailed from the site.

A concreting operation has been established on the site since at least 1967. Firth Industries have been operating at the site since the 1980s.

Wastewater on the site consists of stormwater from around the concrete batching plant, and water from washing the concrete trucks. Therefore, the wastewater typically contains some cement deposits and other sediments. Wastewater is treated in a 3-pond settling system. Water is recycled from the third 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. Waste concrete is also dumped at the site and is made into large blocks which are on-sold to farmers and local contractors.



Photo 1 Location of Firth Industries site, Glover Road, Hawera

1.2.2 Allied Concrete

Allied Concrete operates a concrete batching plant on a site at Mould Street, Waitara. 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 stormwater from around the concrete batching plant and water from washing the concrete trucks. Therefore, the wastewater typically contains some cement deposits and other sediments. Wastewater is treated in a 4-pond settling system. Water is 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. Waste concrete is also dumped at the site and is made into large blocks which are on sold to farmers and local contractor



Photo 2 Location of Allied Concrete site, Mould Street, Waitara

1.2.3 Fletcher Concrete and Infrastructure Limited

Fletcher Concrete and Infrastructure Limited 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 and Infrastructure Limited – Firth Industries and Humes Pipeline Systems.

The Firth 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. The Humes operation is 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 soakage to groundwater from the new pond had stopped.

Sludge from the settling ponds is removed periodically and stored on-site to dry. Waste concrete is also dumped at the site. Local farmers take the dry material for use as fill material and in 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 & Infrastructure 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 to be fully contained with wastewater being directed to the truck wash out wastewater settling area.



Photo 3 Fletcher Concrete site (Firth & Humes Pipeline systems), Stratford

1.3 Resource consents

1.3.1 Water abstraction permit

Section 15(1)(a) of the Resource Management Act 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.

Allied Concrete holds water permit **1273-3** to cover the discharge of up to 6 cubic metres/day of washwater from a concrete batching plant site into an unnamed tributary of the Waitara River. This permit was issued by the Taranaki Regional Council on 14 November 1996 under Section 87(d) of the Resource Management Act. It is due to expire on 1 June 2015.

There are 4 special conditions attached to this consent.

Condition 1 relates to maintenance and operation of the silt control system.

Condition 2 relates to the mixing zone and discharge effects.

Condition 3 relates to concentration limits in the discharge.

Condition 4 states that the Council may review any or all conditions of consent.

A copy of the permit is attached to this report in Appendix I.

Firth Industries holds water permit **1274-3** to discharge treated wastewater from a concrete batching plant via settling ponds onto and into an unnamed tributary of the Tawhiti Stream in the Tangehoe catchment. This permit was issued by the Taranaki Regional Council on 14 July 2010 under Section 87(d) of the Resource Management Act. 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 2m³ per 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 limits for suspended solids and oil and grease.

Condition 6 relates to mixing zone and effects.

Condition 7 states that the Council may review any or all conditions of consent.

A copy of the permit is attached to this report in Appendix I.

Fletcher Concrete and Infrastructure Limited hold 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 on 7 May 2009 under Section 87(d) of the Resource Management Act. It is due to expire on 1 June 2028.

There are 13 special conditions attached to this consent.

Condition 1 requires consent holder to adopt best practicable option.

Condition 2 states the maximum stormwater catchment area.

Condition 3 states the maximum wastewater volume discharged per day.

Condition 4 requires the stormwater and wastewater system to be as indicated in consent application.

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

Condition 6 states that the discharge after reasonable mixing shall not give rise to pH outside of the allowed range.

Condition 7 states limits for suspended solids, total recoverable hydrocarbons, and chloride.

Condition 8 relates to the mixing zone and discharge effects.

Condition 9 relates to contingency planning.

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 states that the Council may review any or all conditions of consent.

A copy of the permit is attached to this report in Appendix I.

1.3.2 Air discharge permit

Section 15(1)(c) of the Resource Management Act 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.

Firth Industries and Fletcher Concrete hold certificates of compliance for discharges to air as a permitted activity.

Allied Concrete does not hold a permit for the discharge to air as it meets the requirements of Rule 16 of the Regional Air Quality Plan for Taranaki as a permitted activity.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the Resource Management Act sets out obligation/s upon the Taranaki Regional Council to gather information, monitor, and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

The Taranaki Regional 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 Firth Industries, Allied Concrete and Fletcher Concrete site consisted of two primary components.

1.4.2 Programme liaison and management

There is generally a significant investment of time and resources by the Taranaki Regional Council in on-going liaison with resource consent holders over consent conditions and their interpretation and application, in discussion over monitoring requirements, preparation for any reviews, renewals, or new consents, advice on the Council's environmental management strategies and the content of regional plans, and consultation on associated matters.

1.4.3 Site inspections

During the monitoring period, Firth Industries, Allied Concrete and Fletcher Concrete were visited twice in accordance with their annual inspection schedule. 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 surveyed for environmental effects.

2. Results

2.1 Water

2.1.1 Inspections

Firth Industries (Hawera)

9 January 2013

A north west wind was blowing at the time of inspection. The site looked to have had very little use and was in a tidy condition. The bunded area for chemical additives was about a third full of a black liquid (perhaps stormwater mixed with additive) and was in need of emptying (via suction truck). The pond at the back was quite low and nowhere near the discharge pipe. Overall the site looked to be well managed and in a good condition.

8 July 2013

A south westerly breeze was blowing at the time of inspection. The bunded area where the mixers were stored had been pumped out but there was still a trace of darkish water in the bottom that will need to be pumped out before the next inspection. The slurry collection area and runoff pit looked good with nothing escaping. The water collection sump looked to be working well with the recovered water reused through the plant. The site looked tidy with nothing escaping to any outside waterbody. No tracking evident outside of the plant site. Overall the whole site looked to be well maintained and managed.

Allied Concrete (Waitara)

9 January 2013

The yard was tidy and looked to have had minimal use at the time of inspection. The pond system looked to be working well with no evidence of anything having escaped the ponds. The gravel recovery area had minimal gravel in front of it and nothing inside. The bunded area looked good with nothing inside it. No washing from anywhere in the yard or the yard behind the site was going off site. The stream that runs through the yard looked in very good condition. Overall the site looked very tidy and well managed.

8 July 2013

A slight south westerly breeze was blowing at the time of inspection. A cement truck was unloading to the silo at the start of the inspection. No dust was evident leaving the site. The slurry pit at the back of the yard looked to be working. The ponds at the front of the yard have been overflowing to the drain outside with historical evidence of some fines in the head of the outside drain. The ponds will need to be utilised more frequently for provision of washdown or make-up water to ensure nothing can escape the system. The yard area was tidy and there was no evidence of tracking at the main gate. Overall the site looked to be well managed.

Fletcher Concrete (Firth Stratford)

10 January 2013

A strong north westerly wind was blowing at the time of inspection. The site had had very little use for a period of time. The soak holes were not discharging at the time of inspection and did not appear to have for some time. The wash from the gravel heap goes to the creek below the plant with only slight discolouration of the creek. The washdown area and associated settlement ponds were being dried out

and were to be cleaned completely out soon. The yard area and batching area looked very tidy with no runoff occurring and nothing escaping the system. The area where the concrete leftovers are stored looked to be working well.

8 July 2013

A very slight south westerly breeze was blowing at the time of inspection. All ground under the plant looked clean and tidy. The water containment area beside the cement storage tank looked to have only a very slight discharge to the soakholes. The soakholes in turn had only a very small discharge of rainwater discharging to the stream below the plant with no visible discolouration to the stream at all. The large slurry pit at the back of the yard looked to have recently been cleaned out with the firmer product stored in a pile with a runoff catchment pit collecting any runoff from this area. The settlement ponds at the back of the yard where truck washing occurs looked to be in good condition with only clean water in the final two ponds. Very little aggregate wash was evident in the yard (it was not evident that the site was busy) and nothing was escaping this area. Overall the site looked to be well maintained and managed.

2.1.2 Results of discharge monitoring

No discharge monitoring was undertaken at Firth Industries, Allied Concrete or Fletcher Concrete during the 2012-2013 monitoring period as there was no discharge occurring during inspection of the sites.

There appeared to have been some overflow discharge from sink holes at the Fletcher Concrete site at some stage, these had been pumped out soon after the inspection. There had appeared to be no environmental effect from this.

2.1.3 Results of receiving environment monitoring

No sampling of the receiving waters was undertaken, as there were no or only clear discharges, and no indications of adverse effect in receiving waters.

2.2 Air

2.2.1 Inspections

Many industries emit dust from various sources during operational periods. During site inspections the plants were checked for discharges to air. There were no issues with dust at any of the sites during the compliance monitoring period. Rule 16 of the Regional Air Quality Plan sets out various requirements for the environmental performance of concrete plants in respect of discharge to air. These were being met at each site.

2.3 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 holder. During the year matters may arise which require additional activity by the Council eg 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 Taranaki Regional 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 Unauthorised Incident Register (UIR) 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).

3. Discussion

3.1 Discussion of site performance

Firth Industries

The Firth Industries site at Hawera was generally well managed. The site was mainly used as a satellite plant. The recycling ponds appeared to be working effectively and were only filled with clear rainwater. Overall a high level of environmental performance and compliance was achieved throughout the 2012-2013 monitoring period.

Allied Concrete

The Allied Concrete Site at Waitara was generally well managed. The settling ponds had been well maintained and bunding areas were in effective working order. Overall a high level of environmental performance and compliance was achieved throughout the 2012-2013 monitoring period.

Fletcher Concrete

The Fletcher Concrete site at Stratford was generally well managed. The ponds in the concrete truck washing area were well managed and appeared to be operating effectively. Soak holes had been maintained. Overall a high level of environmental performance and compliance was achieved throughout the 2012-2013 monitoring period.

3.2 Environmental effects of exercise of consents

During the 2012-2013 monitoring period there were no significant effects to the environment from any of the sites. There was no discharge from the settling ponds during inspections at Allied Concrete and Firth Industries. There appeared to have been some small discharge occurring from soak holes at some stage at the Fletcher Concrete site, however these were pumped out on 31 May 2012 and any discharge appeared to have had no effect on the receiving waters.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Tables 1-3.

Table 1 Summary of performance for Consent 1273-3 discharge treated washwater from a concrete batching plant (Allied Concrete Waitara)

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintain and operate silt control system	Inspections of site	N/A
2. Mixing zone and effects of receiving water	Inspections of site	N/A
3. Concentration limits	Sampling-No sampling undertaken as no discharge occurring during site inspection	Yes
4. Review conditions of consent	N/A – Consent expires 2015	Yes
Overall assessment of consent compliance and environmental performance in respect of this consent		High

Table 2 Summary of performance for Consent 1274-3 discharge wastewater from a concrete batching plant (Firth Industries, Hawera)

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 – Not discharging during inspection	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 – No samples taken as no discharge was occurring during inspection	Yes
6. Mixing zone effects	Inspections of site	Yes
7. Optional review of conditions	Next optional review date June 2016	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High

Table 3 Summary of performance for consent 5026-2 discharge of stormwater and wastewater from a concrete manufacturing and storage site (Fletcher Concrete, Stratford)

Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Best practicable option	Inspection of site	Yes
2. Maximum catchment area	Inspection of site	Yes
3. Discharge volume limit	Inspection of site and system	Yes
4. System in accordance with info supplied in application	Inspection of site	Yes
5. Hazardous substances storage bunded	Inspection of site	Yes
6. Range pH – 6.9-9.0	Sampling – No sampling undertaken as discharge was clear and causing no discoloration in receiving water	Yes
7. Concentration limits	Sampling – No sampling undertaken as discharge was clear and causing no discoloration in receiving water	Yes
8. Mixing zone effects	Inspections of site, sampling- no sampling undertaken	Yes
9. Contingency planning	Plan received	Yes
10. Stormwater management plan	Plan received	Yes
11. Notification of any changes to processes	No changes	N/A
12. Consent lapse	N/A	
13. Optional review of conditions	Next Optional review date June 2016	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High

During the year, the Companies demonstrated a high level of environmental performance and compliance with the resource consents as defined in Section 1.1.4. During the year under review there were no unauthorised incidents or complaints received regarding operations at the concrete batching plants. All sites appeared to be well managed and tidy.

3.4 Recommendations from the 2011-2012 Annual Report

In the 2011-2012 Annual Report, it was recommended:

1. THAT monitoring of discharges from Firth Industries in the 2011-2012 year continue at the same level as in 2012-2013.
2. THAT monitoring of discharges from Allied Concrete in the 2011-2012 year continue at the same level as in 2012-2013.
3. THAT monitoring of discharges from Fletcher Concrete in the 2011-2012 year continue at the same level as in 2012-2013.

These recommendations were implemented during the year under review.

3.5 Alterations to monitoring programmes for 2013-2014

In designing and implementing the monitoring programmes for air/water discharges in the region, the Taranaki Regional Council has taken into account the extent of information made available by previous authorities, its relevance under the Resource Management Act, the obligations of the Act in terms of monitoring emissions/discharges and effects, and subsequently reporting to the regional community, 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 emitting to the atmosphere/discharging to the environment.

It is recommended that the 2013-2014 monitoring programme for the Concrete Batching Plants remains unchanged from the 2012-2013 monitoring programme.

Recommendations to this effect are attached to this report in Section 4.

4. Recommendations

1. THAT monitoring of discharges from Firth Industries in the 2013-2014 year continue at the same level as in 2012-2013.
2. THAT monitoring of discharges from Allied Concrete in the 2013-2014 year continue at the same level as in 2012-2013.
3. THAT monitoring of discharges from Fletcher Concrete in the 2013-2014 year continue at the same level as in 2012-2013.

Glossary of common terms and abbreviations

The following abbreviations and terms are 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
l/s	litres per second
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
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
UI	Unauthorised Incident
UIR	Unauthorised 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

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

Bibliography and references

Taranaki Regional Council, 2012: 'Concrete Batching Plants Monitoring Programme Annual Report 2011-2012', Taranaki Regional Council Technical Report 2012-57.

Taranaki Regional Council, 2011: 'Concrete Batching Plants Monitoring Programme Annual Report 2010-2011', Taranaki Regional Council Technical Report 2011-97.

Taranaki Regional Council, 2010: 'Concrete Batching Plants Monitoring Programme Annual Report 2009-2010', Taranaki Regional Council Technical Report 2010-101.

Taranaki Regional Council, 2009: 'Concrete Batching Plants Monitoring Programme Annual Report 2008-2009', Taranaki Regional Council Technical Report 2009-109.

Taranaki Regional Council, 2008: 'Concrete Batching Plants Monitoring Programme Annual Report 2007-2008', Taranaki Regional Council Technical Report 2008-25.

Taranaki Regional Council, 2007: 'Concrete Batching Plants Monitoring Programme Annual Report 2006-2007', Taranaki Regional Council Technical Report 2007-43.

Taranaki Regional Council, 2006: 'Concrete Batching Plants Monitoring Programme Annual Report 2005-2006', Taranaki Regional Council Technical Report 2006-78.

Appendix I

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

TRK961273



DISCHARGE PERMIT

**Pursuant to the RESOURCE MANAGEMENT ACT 1991
a resource consent is hereby granted by the
Taranaki Regional Council**

PRIVATE BAG 713
47 CLOTON ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097

Name of
Consent Holder:

ALLIED CONCRETE *21/29/96*
~~READY-MIXED CONCRETE~~
PO BOX 3318 NEW PLYMOUTH

Renewal
Granted Date:

14 November 1996

CONDITIONS OF CONSENT

Consent Granted:

TO DISCHARGE UP TO 6 CUBIC METRES/DAY OF
WASHWATER FROM A CONCRETE BATCHING PLANT SITE
INTO AN UNNAMED TRIBUTARY OF THE WAITARA RIVER AT
OR ABOUT GR: Q19:160-444

Expiry Date:

1 June 2015

Review Date[s]:

June 2003 and June 2009

Site Location:

105 MOULD STREET, WAITARA

Legal Description:

LOT 1 DP11963 WAITARA TOWNSHIP

Catchment:

WAITARA 395.000

Tributary:

UNNAMED TRIBUTARY

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

TRK961273

GENERAL CONDITIONS

- (a) That on receipt of a requirement from the General Manager, Taranaki Regional Council (hereinafter the General Manager), the consent holder shall, within the time specified in the requirement, supply the information required relating to the exercise of this consent.
- (b) That 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) That 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;
 - (ii) charges for the carrying out of the Council's functions under section 35 in relation to this consent; and
 - (iii) charges authorised by regulations.

SPECIAL CONDITIONS

1. THAT the consent holder shall properly and efficiently maintain and operate the silt control system in such a manner that any discharge which may occur will not breach the conditions of this consent and any mitigation works shall be designed and constructed to a high standard. The silt control system shall be operated, as far as practicable, so as to maximise the treatment of the washwater and to minimise the duration and frequency of the discharge.
2. THAT after allowing for reasonable mixing, within a mixing zone extending 25 metres downstream of the washwater discharge point, the discharge shall not give rise to any of the following effects in the receiving waters of the unnamed tributary of the Waitara River:
 - 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.
3. THAT the following concentrations shall not be exceeded in the discharge:

<u>Component</u>	<u>Concentration</u>
pH [range]	6-12
Oil and grease	15 gm ⁻³
Suspended solids	200 gm ⁻³

This condition shall apply prior to the entry of the treated washwater into the receiving water at a designated sampling point[s] approved by the General Manager, Taranaki Regional Council.

TRK961273

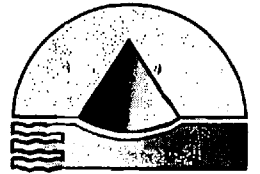
4. THAT the Taranaki Regional Council may review any or all of the conditions of this consent by giving notice of review during the month of June 2003 and/or June 2009, for the purpose of ensuring that the conditions are adequate to deal with any significant adverse effects of the discharge on the environment arising from the exercise of this consent, which were not foreseen at the time the application was considered and which it was not appropriate to deal with at the time.

Signed at Stratford on 14 November 1996

For and on behalf of
TARANAKI REGIONAL COUNCIL

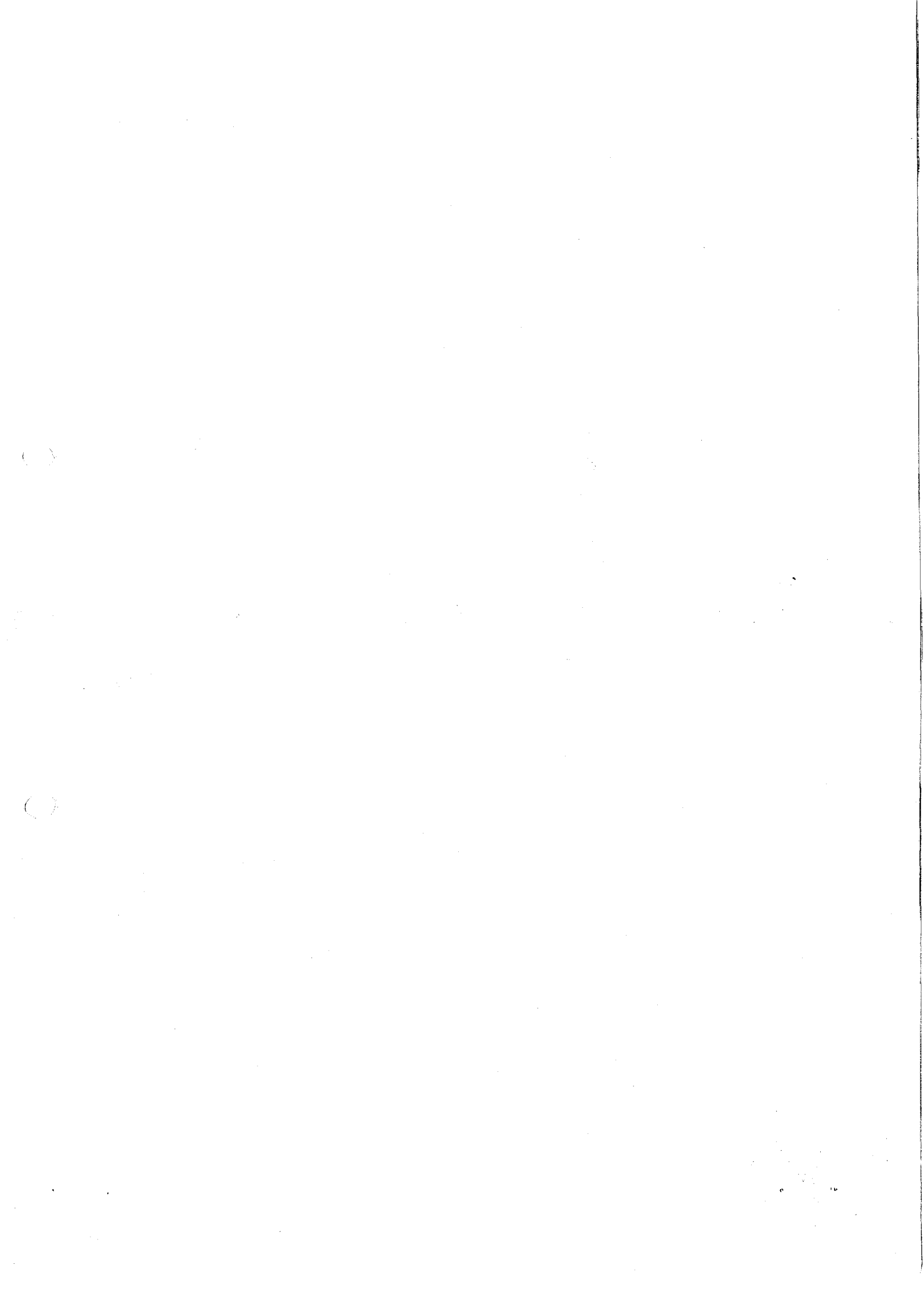


OPERATIONS MANAGER



**TARANAKI
REGIONAL
COUNCIL**

PRIVATE BAG 713
47 CLON ROAD
STRATFORD
NEW ZEALAND
PHONE 0-6-765 7127
FAX 0-6-765 5097





CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE: 06-765 7127
FAX: 06-765 5097
www.trc.govt.nz

Please quote our file number
on all correspondence

**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.

Constituent	Standard
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

CHIEF EXECUTIVE
PRIVATE BAG 713
47 CLOTEN ROAD
STRATFORD
NEW ZEALAND
PHONE: 06-765 7127
FAX: 06-765 5097
www.trc.govt.nz

Please quote our file number
on all correspondence

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

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

www.trc.govt.nz

Doc# 604406-v1

Consent 5026-2

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.

Constituent	Standard
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