

Stratford District Council

Water Supplies

Monitoring Programme

Annual Report

2021-2022

Technical Report 2021-32



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Taranaki Regional Council
Private Bag 713
Stratford

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Executive summary

The Stratford District Council (SDC) operates three water treatment plants (WTPs) in the Stratford District that supply water to Stratford, Midhirst, and Toko.

This report for the period July 2021 to June 2022 describes the monitoring programme implemented by the Taranaki Regional Council (the Council) to assess SDC's environmental and consent compliance performance during the period under review. The report also details the results of the monitoring undertaken and assesses the environmental effects of SDC's activities.

During the monitoring period, SDC demonstrated a high level of environmental performance and high level of administrative performance.

Stratford District Council hold three resource consents, which allow them to take and use water, three consents to discharge backwash onto land and into water, and three consents for land use permits, to allow for repair and maintenance of structures and to dam water behind concrete weirs. These consents include a total of 59 conditions setting out the requirements that SDC must satisfy.

The Council's monitoring programme for the year under review included an annual inspection of all of SDC's water treatment plants, weirs and discharges, a review of abstraction and discharge data, and collection of a sample from the Stratford WTP backwash pond.

The monitoring showed that SDC's activities were being carried out in compliance with their consent conditions. As in previous years, the monitoring indicated that there were no adverse environmental effects to the surrounding environment due to their activities. There were no unauthorised incident/s recording non-compliance in respect of this consent holder during the period under review.

For reference, in the 2021-2022 year, consent holders were found to achieve a high level of environmental performance and compliance for 88% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 10% of the consents, a good level of environmental performance and compliance was achieved.

In terms of overall environmental and compliance performance by the consent holder over the last several years, this report shows that the consent holder's performance remained at a high level.

This report includes recommendations for the 2022-2023 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 and administrative performance	2
1.2	Process description	2
1.2.1	Stratford water supply	2
1.2.2	Midhirst water supply	2
1.2.3	Toko water supply	3
1.3	Resource consents	3
1.4	Monitoring programme	4
1.4.1	Introduction	4
1.4.2	Programme liaison and management	5
1.4.3	Site inspections	5
1.4.4	Chemical sampling	5
1.4.5	Data review	5
1.4.6	Hydrological monitoring	5
2	Results	6
2.1	Water	6
2.1.1	Inspections	6
2.1.1.1	Stratford WTP	6
2.1.1.2	Midhirst WTP	6
2.1.1.3	Toko WTP	6
2.2	Results of discharge monitoring	6
2.3	Abstraction data	6
2.4	Hydrological Data	9
2.5	Leak detection and water conservation	9
2.5.1	Stratford WTP	9
2.5.2	Midhirst WTP	10
2.5.3	Water use efficiency and conservation measures	10
2.6	Incidents, investigations, and interventions	11

3	Discussion	12
3.1	Discussion of site performance	12
3.2	Environmental effects of exercise of consents	12
3.3	Evaluation of performance	12
3.3.1	Stratford WTP	12
3.3.2	Midhirst WTP	16
3.3.3	Toko WTP	17
3.4	Recommendations from the 2020-2021 Annual Report	18
3.5	Alterations to monitoring programmes for 2022-2023	18
4	Recommendations	19
	Glossary of common terms and abbreviations	20
	Bibliography and references	21
	Appendix I Resource consents held by Stratford District Council	
	Appendix II Categories used to evaluate environmental and administrative performance	

List of tables

Table 1	Summary of current consents held by SDC in relation to public water supplies	3
Table 2	Sample from backwash pond at Stratford (site STW0002034)	6
Table 3	Summary of compliance with abstraction data and abstraction limits	7
Table 4	Flow gaugings undertaken for the Stratford WTP scheme	9
Table 5	Summary of performance for consent 0068-4	12
Table 6	Summary of performance for Consent 0195-3	13
Table 7	Summary of performance for Consent 5353-2	14
Table 8	Summary of performance for Consent 2452-2	14
Table 9	Summary of performance for Consent 6549-1	15
Table 10	Summary of performance for Consent 1276-3	16
Table 11	Summary of performance for Consent 1331-3	16
Table 12	Summary of performance for Consent 1337-3	17
Table 13	Summary of performance for Consent 6605-1	18

List of figures

Figure 1	Location of SDC's water supply consents in the Stratford District	4
Figure 2	SDC Patea WTP abstraction with Patea at Skinner Rd flow 2021-2022	8

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 2021 to June 2022 by the Council describing the monitoring programme associated with resource consents held by Stratford District Council (SDC) for its water treatment plants (WTPs). SDC operate three public WTPs servicing the Stratford, Midhirst and Toko areas.

This report covers the results and findings of the monitoring programme implemented by the Council in respect of the consents held by SDC that relate to abstractions and discharges of water, and the maintenance of in-stream structures for its WTPs. This is the 25th Annual Report to be prepared by the Council to cover SDC's water abstractions, discharges and their effect.

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 *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites through annual programmes;
- the resource consents held by SDC in relation to its WTPs;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted at SDC's WTPs and associated structures.

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 2022-2023 monitoring year.

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

1.1.3 The Resource Management Act 1991 and monitoring

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

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

In drafting and reviewing conditions on discharge permits, and in implementing monitoring programmes, the Council is recognising the comprehensive meaning of 'effects' in as much as is appropriate for each activity. Monitoring programmes are not only based on existing permit conditions, but also on the

obligations of the RMA to assess the effects of the exercise of consents. In accordance with Section 35 of the RMA, the Council undertakes compliance monitoring for consents and rules in regional plans, and maintains an overview of the performance of resource users and consent holders. Compliance monitoring, including both activity and impact monitoring, enables the Council to continually re-evaluate its approach and that of consent holders to resource management and, ultimately, through the refinement of methods and considered responsible resource utilisation, to move closer to achieving sustainable development of the region's resources.

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the consent holders, this report also assigns a rating as to each Company's environmental and administrative performance during the period under review. The rating categories are high, good, improvement required and poor for both environmental and administrative performance. The interpretations for these ratings are found in Appendix II.

For reference, in the 2021-2022 year, consent holders were found to achieve a high level of environmental performance and compliance for 88% of the consents monitored through the Taranaki tailored monitoring programmes, while for another 10% of the consents, a good level of environmental performance and compliance was achieved.¹

1.2 Process description

1.2.1 Stratford water supply

The municipal water supply is abstracted from the Patea River (main supply) and the Konini Stream (supplementary supply) by means of weirs on these watercourses. The Konini weir requires boards to be installed over the summer low flow period to divert the flow down the fish pass, allowing for fish passage and enabling them to take water to supplement their take from the Patea. At the WTP located on Cardiff Road, water is filtered using membrane filters and then treated with chlorine and fluoride for domestic supply before being pumped to a nearby reservoir. The water supply is reticulated to approximately 2,300 separate customers.

Filter backwash is discharged via a large pond. The outlet from the pond is an inverted pipe located at the opposite end of the pond from the inlet. The discharge from the pond emerges from the pipe to fall over a small waterfall. At the base of the waterfall the discharged water runs down a natural cobbled channel beneath native riparian vegetation for approximately 10 metres before entering the Patea River, downstream of the intake weir.

1.2.2 Midhirst water supply

The Midhirst community WTP, which supplies to 92 properties, originally supplied the former Midhirst dairy factory. Water is pumped from the Te Popo Stream (through a small filter attached to a flexible hose within the stream), to a settling tank at the treatment plant. After settling, the water is filtered and treated with chlorine, following that, the water is pumped to a reservoir, which has a probe switch to initiate pumping at the treatment plant when the water level in the reservoir is low. The reservoir is believed to have capacity for five days' water for the Midhirst community. From the reservoir, the treated water returns to the treatment plant where a booster pump drives it into the Midhirst reticulation system at an acceptable mains pressure.

¹ The Council has used these compliance grading criteria for more than 18 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

A large storage tank onsite acts as a reservoir for firefighting. The filtered backwash water is discharged from the WTP onto land via a soak hole.

1.2.3 Toko water supply

The Toko rural water supply, which supplies 32 properties, was originally the water supply for the former Toko dairy factory. Water is pumped from a bore to a small shed where it is chlorinated and then filtered. After it has been filtered, the water is pumped to two tanks on a hill above Toko. The tanks have probe switches to initiate pumping when the water levels in the tanks are low. The pumps are operated so as to work gradually for longer periods rather than at high rates for short periods. The filter is backwashed once per week to a series of two soak holes.

1.3 Resource consents

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

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

Table 1 Summary of current consents held by SDC in relation to public water supplies

Consent number	Purpose	Granted	Review	Expires
<i>Water abstraction permits</i>				
0195-3.0	To take and use water from the Patea River and the Konini Stream to provide a public water supply to Stratford	16 Oct 2017	June 2025	1 Jun 2034
1276-3.0	To take water from the Te Popo Stream a tributary of the Manganui River in the Waitara catchment for Midhirst community public water supply purposes	9 Jun 2003	-	Expired – s124 protected
1337-3.0	To take and use groundwater from a bore in the vicinity of the Toko Stream in the Patea catchment for Toko rural water supply purposes	17 Jun 2005	-	Expired – s124 protected
<i>Water discharge permits</i>				
0068-4.0	To discharge settled filter backwash water from the Stratford Municipal WTP via a settling pond into the Patea River	24 Jun 2016	June 2028	1 Jun 2034
1331-3.0	To discharge treated filter backwash water from the Midhirst WTP onto land via a soak hole	27 May 2016	June 2027	1 Jun 2033
6605-1.1	To discharge treated filter backwash water from the Toko WTP into a soak hole adjacent to the Manawawiri Stream	27 May 2016	-	Expired – s124 protected
<i>Land use permits</i>				

Consent number	Purpose	Granted	Review	Expires
2452-3.0	To dam water in the Konini Stream with a 1 metre concrete weir for the Stratford town water supply	25 Sep 2017	June 2025	1 Jun 2034
5353-2.0	To dam water in the Patea River with a 2.3 metre concrete weir for the Stratford town water supply	25 Sep 2017	June 2025	1 Jun 2034
6549-1.0	To repair and maintain an existing weir structure in the Konini Stream a tributary of the Paetahi Stream in the Patea catchment	31 Jan 2005	-	Expired – s124 protected

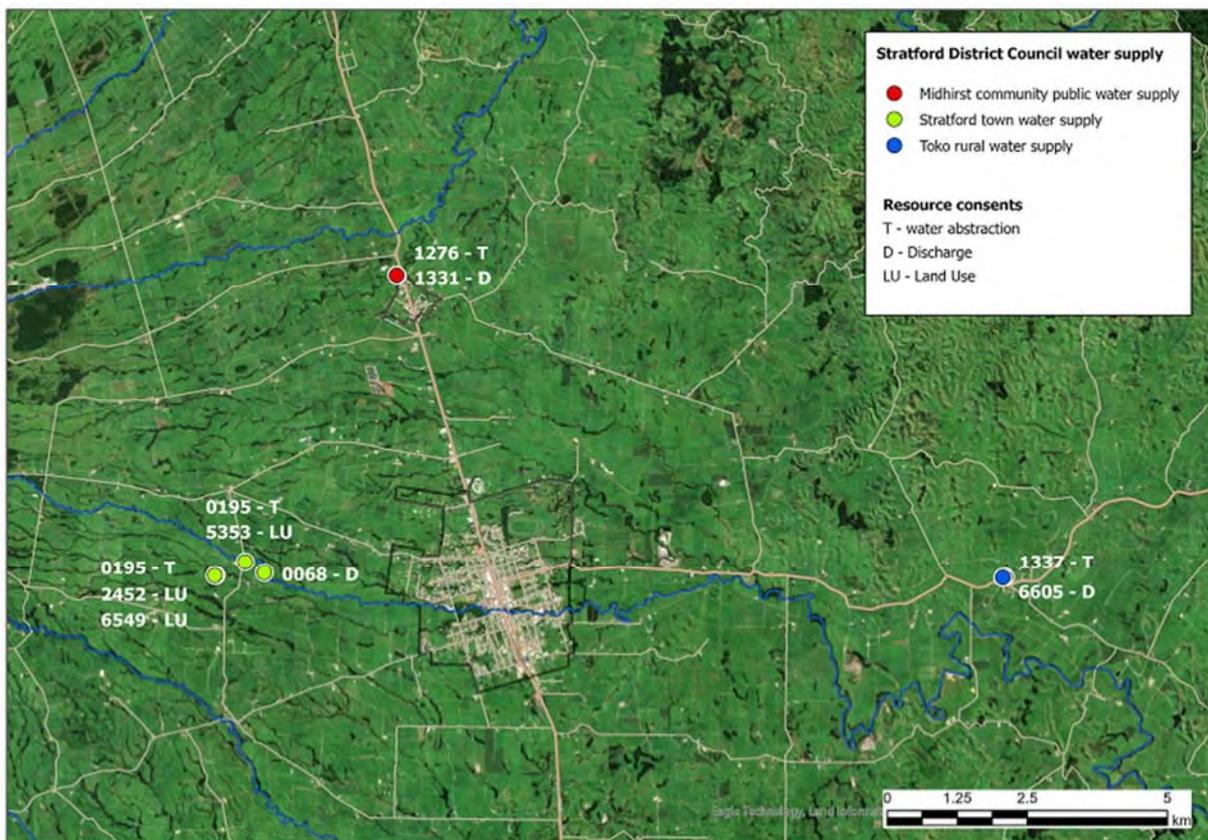


Figure 1 Location of SDC's water supply consents in the Stratford District

1.4 Monitoring programme

1.4.1 Introduction

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

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

The monitoring programme for SDC's WTPs consisted of four primary components.

1.4.2 Programme liaison and management

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

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

1.4.3 Site inspections

All of SDC's WTPs, and their associated structures, were each visited during the monitoring period. With regard to consents for the abstraction of, or discharge to, water; the main points of interest were backwash discharges, intake structures, and water metering equipment. Sources of data being collected by SDC 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.

1.4.4 Chemical sampling

The backwash discharge at the Stratford WTP was sampled once, and the sample analysed for free available chlorine, pH, suspended solids and turbidity.

1.4.5 Data review

All of the water abstraction consents held by SDC in regard to WTPs contain a condition which requires SDC to keep records of abstraction volumes and make these records available to the Council upon request. Live data from Stratford, Midhirst, and Toko WTPs is telemetered to Council databases. All data is reviewed to assess compliance in regard to volumes and abstraction rates of water taken.

1.4.6 Hydrological monitoring

A requirement of SDC's Stratford WTP consent is to ensure regular low flow gaugings are undertaken near to the site of take, so that a reasonable estimation of mean annual low flow can be made. Flow gaugings occur on the Patea River and Konini Stream above the intake structures over the summer "low flow" period.

2 Results

2.1 Water

2.1.1 Inspections

Inspections occurred at each of the WTP plants on 9 May 2022 and focussed on flow meters, abstraction rates/volumes, discharges, and, where applicable, the condition of weirs and fish passes.

2.1.1.1 Stratford WTP

The pond at the Stratford WTP was inspected and a discharge sample was collected. Water was clear and uncoloured, and flowing freely over the weir at the Patea River. The intake was open and a flush was performed while onsite to clear leaf litter and debris. Currently no fish pass access is required here and none has been provided. No issues were noted around the intake. At the Konini Stream contingency site the intake was closed. Water was clear and uncoloured, with water freely flowing over the weir and the fish passage was unobstructed.

2.1.1.2 Midhirst WTP

No issues were noted with the soak hole, and no discharges to the stream were observed. The Te Popo Stream was running at a low flow and was clear and uncoloured. There was some ponding occurring around the edge of the WTP building. The chemical shed was clean and tidy.

2.1.1.3 Toko WTP

The bore had been running for 1.5 hours, from 3.00 am, on the day of the inspection with 15 m³ of water withdrawn. Of this 14 m³ had been pumped to the reservoir, which was full at the time of the inspection. No issues were noted with the soak holes and no discharges were occurring.

2.2 Results of discharge monitoring

A sample of the filter backwash discharge from the Stratford WTP settling pond was collected on 9 May 2022.

Table 2 Sample from backwash pond at Stratford (site STW0002034)

Parameter	Unit	Result	Consent 0068-3 limits
Free chlorine	g/m ³	0.004	0.1
pH	pH	7.4	6.0 – 9.0
Suspended solids	g/m ³	<3	20
Turbidity	FNU	1.2	-

Results were found to be within the limits set by consent conditions (Table 2).

2.3 Abstraction data

SDC provided data from all three plants via telemetry. The data was assessed against either daily volumes and /or instantaneous take rates depending on consent conditions. A summary of compliance in regard to abstraction data is given in Table 3 and Figure 2.

Table 3 Summary of compliance with abstraction data and abstraction limits

Site	Consent	Maximum rate (consented rate) L/s	Maximum volume (consented volume) m ³ /day	Annual Volume Usage m ³
Stratford (Patea)	0195-3	60 (61)	4723 (n/a)	1,254,438
Stratford (Konini)		19 (20)	1484 (n/a)	118,023
Midhirst	1276-3	3.9 (5.0)	277 (432 Apr-Oct) 159 (254 Nov-Mar)	45,027
Toko	1337-3	2.4 (5.6)	66 (80)	9,367

Consent 0195-3 requires that when the flow in the Patea River at Skinner Rd falls below 725 L/s that SDC reduce the take from the Patea River to 41 L/s and start taking from the Konini Stream at a rate no greater than 20 L/s. Under these conditions SDC are required to ensure that the combined abstraction remains below 61 L/s, unless there has been plant failure and there is the need to restock the reservoirs. If this occurs SDC may take at a rate of up to 81 L/s. SDC were compliant with this consent condition, as shown in Figure 2.

The abstraction data for this consent is in fact a calculation, as the intake pipe is some 9 m deep in the ground and cannot be accessed to record abstraction rates. The abstraction is determined by the flowmeter readings taken out of the grit tank and then subtracting the backwash flow data. SDC have funding to upgrade this system in the 2022-2023 period, and will be replacing the line from the weir to the WTP. When this work occurs, SDC will install a flowmeter to record the flow abstracted from the river.

The Midhirst WTP has two abstraction volume limits dependent on the time of year. From April to the end of October, the limit is 432 m³/day and from November to the end of March it is 254 m³/day, as an average per calendar month. The highest average daily volume was recorded in March with 159 m³/day. The consent also stipulates a maximum annual abstraction of no more than 90,000 m³/year, which SDC complied with, only taking 45,027 m³ for the year.

The Toko WTP was compliant with their consent, taking at a maximum rate of 2.4 L/s and maximum daily volume of 66 m³/day, which was within their consented limits of 5.6 L/s (rate) and 80 m³/day (daily volume).

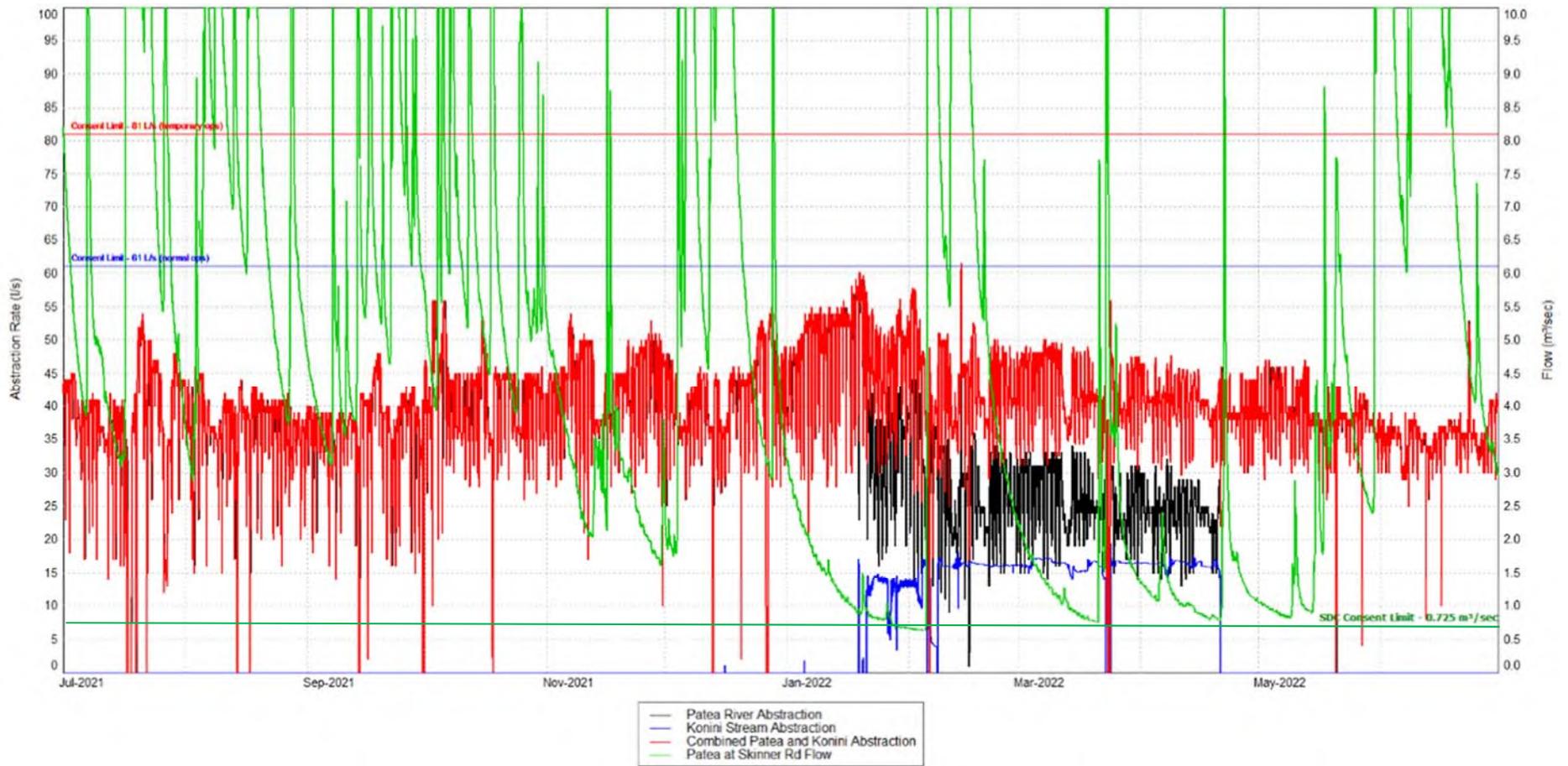


Figure 2 SDC Patea WTP abstraction with Patea at Skinner Rd flow 2021-2022

2.4 Hydrological Data

Flow gauging was completed on the Patea River and Konini Stream on 14 January and 15 March 2022, the results are shown in Table 4.

Table 4 Flow gaugings undertaken for the Stratford WTP scheme

Date	Patea at Cardiff Rd Flow (L/s)	Konini at Cardiff Rd Flow (L/s)
14 January 2022	142	178
15 March 2022	147	81

At the time of these gaugings, abstraction was occurring from the Patea River only on 14 January and from both on 15 March. Flow conditions at each sampling run, were low and the water was cool and clear.

2.5 Leak detection and water conservation

2.5.1 Stratford WTP

Special condition 11 of consent 0195-3 requires;

Each year the consent holder shall prepare a report detailing:

- (a) the work done to detect and minimise leaks in the area supplied, and*
- (b) water use efficiency and conservation measures undertaken in the area supplied.*

Leak detection minimisation

The five main methods the SDC uses to address leak detection and minimisation are:

- Leak detection surveys;
- Response to reported leaks within the reticulation network;
- PRV station data;
- Quarterly water meter readings; and
- Assisting to locate leaks on private property.

Leak detection surveys are a method used to identify areas of high water losses within the network. The method is untargeted and was not employed during the monitoring period.

Pressure reducing valves (PRVs) and zoning meters have been installed across the reticulation network. These include four locations on the eastern side of the rail corridor, within the Stratford Township. Prior to the installation of these, when leaks were experienced in mainlines, the eastern extent of the reticulation network experienced significant water losses. Since the installation, if leaks occur, the volume of water lost is significantly less than prior to the installation over the same time period.

The PRV stations are metered, with the intention that over time, it will allow SDC to monitor average daily flows across the network and identify any increase in usage within a particular network zone, potentially caused by undetected leaks. This will allow SDC to focus their response resources in a targeted way.

Responding to leaks reported by the public is on-going, with SDC having set targets and response times for responding to leak complaints and repairs. These targets are based on how urgent the leaks are deemed to be. This is reported to their Elected Members each month as required by Department of Internal Affairs.

SDC regularly assists residents to locate water leaks on their properties, by loaning water meters to property owners, so they can investigate their infrastructure, for any potential issues. The use of water meters on

commercial, rural and high water using properties has been very effective at identifying leaks. Meters are read quarterly and higher than normal daily usage is picked up. SDC liaises with these property owners to identify and fix leaks.

In the 2021/2022 financial period, SDC has invested in electronic meters to replace the existing mechanical ones, which once installed, will have the functionality to alert for acute excessive water use.

From time to time, SDC uses its social media platform on Facebook, Antenna and/or newspaper advertisement and CentralLink to advise the public on water efficiency and conservation practices, as well as alerting them to any potential issues with the networks or supplies.

2.5.2 Midhirst WTP

Special condition 7 of consent 1276-3 requires;

The consent holder shall on an annual basis prepare a report detailing:

- (a) the work done to detect and minimise leaks in the area supplied; and*
- (b) water use efficiency and conservation measures undertaken in the area supplied.*

Leak detection minimisation

The three main methods SDC uses to address leak detections and minimisations are:

- Leak detection surveys;
- Response to public reported leaks in a timely manner; and
- Assist with locating leaks on private property.

Due to Covid related issues, no ultra-sonic leak detection survey was undertaken during the period under review. However the network is predominantly PVC pipework less than 35 years old and not subject to high pressures, making it less susceptible to leak issues. SDC had set targets to respond to and repair/isolate leaks, which they generally achieved for the monitoring year.

The properties within the Midhirst water supply are all metered and quarterly readings of the meters identifies any abnormal daily consumption that is usually caused by a leak. In the 2021-2022 period, three properties were identified as having leaks. SDC staff worked with these property owners to ensure the leaks were fixed in a timely manner.

2.5.3 Water use efficiency and conservation measures

SDC uses the following methods to address efficiency and conservation needs:

- Water metering;
- Network management;
- Benchmark water loss surveys;
- Water restrictions during low summer flows; and
- Customer notices and advice.

The meters that have been installed on individual properties have shown to be a very effective method of achieving water conservation (up to 20% reduction). In SDC's Long Term Plan 2021-2031 SDC have budgeted for universal water metering to be implemented across all three supply schemes.

Bench loss is a recognised tool used nationally by which each district council must calculate and report on the efficiency of its water reticulation network. The standard measures the loss/wastage within the system and is expressed as a percentage of water loss versus the water produced. SDC have a Council wide target over the three WTP's to achieve less than 25% water loss, for the monitoring period under review they achieved 17.3%. Stratford had 10.8% loss, while Midhirst had 13.9% loss. Toko WTP had 27% loss due to a

leak that went undetected in the berm outside a business in Toko and there is also believed to be some unmetered connections taking water.

Clause 15.4 of Stratford District Council's Water Supply Bylaw 2019 allows SDC to impose water restrictions, or prohibit the use of water for any specified purpose, for any specified period, for all its customers. In the period under review SDC imposed a total of 77 days of restrictions commencing 19 January 2022.

2.6 Incidents, investigations, and interventions

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual causes of non-compliance or failure to maintain good practices. A pro-active approach, that in the first instance avoids issues occurring, is favoured.

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

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

In the 2021-2022 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with SDC's conditions in resource consents or provisions in Regional Plans.

3 Discussion

3.1 Discussion of site performance

In the period under review SDC demonstrated a high level of performance in relation to its WTPs. Abstraction rates and volumes were complied with 100% of the time.

Reports detailing work done to detect and minimise leaks, and water use efficiency and conservation measures undertaken, as per condition 11 of consent 0195-3 and condition 7 of 1276-3 were provided by SDC.

3.2 Environmental effects of exercise of consents

The backwash pond at the Stratford WTP was sampled and found to comply with consent conditions and no adverse environmental effects were observed in the Patea River during inspection.

It has previously been noted that the weir in the Patea River is likely to present a barrier to the passage of trout. However, this effect may be beneficial in providing a trout-free reserve for native fish upstream of the weir. Consent 5353-1 required the installation of a structure at the weir that provides unrestricted passage of fish by 1 July 2005. However, as a requirement of the new consents granted for the Patea hydro-electric dam (located downstream of the weir), 'target species' juveniles are to be manually transferred into the headwaters of the Patea Catchment from the lower river. One of the release sites is located immediately upstream of the weir. To date, the trap and transfer has not been as effective as hoped, with modifications currently being made by the company to improve the trapping effectiveness of these target species. The success of the upstream transfer programme will be assessed once the improvements have been made to the trap and transfer system, at which point, it will be determined whether this fish pass requirement should remain on hold. If the transfer of juvenile fish into the headwaters is abandoned, it is likely that a fish pass will need to be installed.

Monitoring of the Toko and Midhirst WTPs indicated that these plants were not having any adverse effects on the environment.

Overall no adverse effects were noted during the monitoring period.

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 5-13.

3.3.1 Stratford WTP

Table 5 Summary of performance for consent 0068-4

Purpose: To discharge settled filter backwash water from the Stratford municipal WTP via a settling pond into the Patea River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adopt best practice	Inspection	Yes
2. Discharge shall not give rise to certain effects in the Patea River below the mixing zone	Inspection and sampling	Yes

Purpose: To discharge settled filter backwash water from the Stratford municipal WTP via a settling pond into the Patea River		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Limits on pH, suspended solids and chlorine in the discharge	Sampling and data review	Yes
4. Provide access to discharge point	Inspection	Yes
5. Optional review provision	Next option for review - June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 6 Summary of performance for Consent 0195-3

Purpose: To take and use water from the Patea River and the Konini Stream to provide a public water supply to Stratford		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limit on abstraction rates during normal flows	Review of data	Yes
2. Extra taking allowed during reservoir refilling	Liaison with consent holder	Yes
3. Notification when take exceeds 61 L/s under condition 2	Liaison with consent holder	Yes
4. Implementation of water conservation measures/restrictions when flow in Patea at or below certain flows	Liaison with consent holder – restrictions imposed as required	Yes
5. Undertake low flow gaugings	Monitoring programme	Yes
6. Installation of a water meter and data logger	Inspection	Yes
7. Certification and verification of equipment	NES verification February 2021	Yes
8. Notification of equipment failure	Liaison with consent holder	N/A
9. Equipment to be accessible to Council staff	Inspection	Yes
10. Records to be telemetered to Council database within 2 hours	Data review	Yes
11. Provide report on leak detection and conservation by 1 September annually	Report received	Yes

Purpose: To take and use water from the Patea River and the Konini Stream to provide a public water supply to Stratford		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
12. Annual financial contributions to offset environmental effects	Review of accounts	N/A ²
13. Intakes to screened to prevent entrainment of fish	Inspection	Yes
14. Review condition	Next option for review - June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 7 Summary of performance for Consent 5353-2

Purpose: To dam water in the Patea River with a 2.3 metre concrete weir for the Stratford town water supply		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintain the weir so that it remains sound and fit for purpose	Inspection	Yes
2. Repair any erosion or scour of the river bed or banks caused by the weir	Inspection	Yes
3. Optional review provision re environmental effects	Next option for review - June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 8 Summary of performance for Consent 2452-2

Purpose: To dam water in the Konini Stream with a 1 metre concrete weir for the Stratford town water supply		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Maintain the weir so that it remains sound and fit for purpose	Inspection	Yes
2. Repair any erosion or scour of the river bed or banks caused by the weir	Inspection	Yes

² SDC were required to make four annual payments from the time the consent was granted and was fulfilled in September 2021.

Purpose: To dam water in the Konini Stream with a 1 metre concrete weir for the Stratford town water supply		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. The weir shall not restrict the passage of native fish or juvenile or adult trout	Inspection and triennial spawning survey	Yes
4. Optional review provision re environmental effects	Next option for review - June 2025	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 9 Summary of performance for Consent 6549-1

Purpose: To repair and maintain an existing weir structure in the Konini Stream a tributary of the Paetahi Stream in the Patea catchment		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Notify Council prior to works	No maintenance undertaken during monitoring period	Yes
2. Any instream works shall take place only between 1 November and 30 April inclusive	No maintenance undertaken during monitoring period	Yes
3. Adopt best practice	No maintenance undertaken during monitoring period	Yes
4. Minimisation of stream bed disturbance during works	No maintenance undertaken during monitoring period	Yes
5. Exercise consent in as per application documents	Inspection	Yes
6. Shall not cause erosion of the river channel	Inspection	Yes
7. Limits on effects of the structure to in stream environment	Inspection and triennial fish spawning survey	Yes
8. Review condition	No further option for review. Consent expired June 2022. Will not be replaced, as is deemed as a permitted activity.	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

3.3.2 Midhirst WTP

Table 10 Summary of performance for Consent 1276-3

Purpose: To take water from the Te Popo Stream a tributary of the Manganui River in the Waitara catchment for Midhirst community public water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Exercise of consent in accordance with information submitted in support of application	Inspection and liaison with consent holder	Yes
2. Adoption of best practicable option	Inspection and liaison with consent holder	Yes
3. Limit on abstraction rate	Abstraction data provided	Yes
4. Average monthly rate of abstraction not to exceed 254 m ³ /day between November-March	Abstraction data provided	Yes
5. Rate of abstraction not to exceed 432 m ³ /day between April-October	Abstraction data provided	Yes
6. Total amount of water taken not to exceed 90,000 m ³ /annum	Abstraction data provided	Yes
7. Annual report on leaks and water efficiency and conservation	Received	Yes
8. Screening of intake structures	Inspection	Yes
9. Installation and operation of meter to record abstraction volumes and provide data	Review of data	Yes
10. Monitoring of flows – no extreme low flows in monitoring year	Monitoring of flows	N/A
11. Review condition	No further option to review	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 11 Summary of performance for Consent 1331-3

Purpose: To discharge treated filter backwash water from the Midhirst WTP into the Te Popo Stream in the Waitara Catchment via a soak hole		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limit on discharge rates	Data review	Not assessed
2. Proper and efficient maintenance of soak hole system	Inspection	Yes

Purpose: To discharge treated filter backwash water from the Midhirst WTP into the Te Popo Stream in the Waitara Catchment via a soak hole		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
3. Optional review provision	Next option to review in June 2027	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

3.3.3 Toko WTP

Table 12 Summary of performance for Consent 1337-3

Purpose: To take and use groundwater from a bore in the vicinity of the Toko Stream in the Patea catchment for Toko rural water supply purposes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Adoption of best practicable option	Inspection and review of data	Yes
2. Consent to be exercised in accordance with the application	Inspection and review of data	Yes
3. Notification of Council prior to exercise of consent	Not applicable	N/A
4. Limit on abstraction rate and daily volume	Review abstraction data	Yes
5. Installation and operation of meter to record abstraction volumes and provide data	Inspection and review of data	Yes
6. Lapse provision	Not applicable	N/A
7. Optional review provision	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

Table 13 Summary of performance for Consent 6605-1

Purpose: To discharge treated filter backwash water from the Toko WTP into the Toko Stream in the Patea catchment via soak holes		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. Limit on discharge volume	Data review	Not assessed
2. Maintenance and operation of soak hole system to ensure compliance with consent conditions	Inspection	Yes
3. Discharge not to exceed 0.1 g/m ³ free chlorine at any time	Inspection/sampled?/records?	Yes
4. Optional review provision	No further option for review prior to expiry	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		High
Overall assessment of administrative performance in respect of this consent		High

N/A = not applicable

During the year, SDC demonstrated a high level of environmental and administrative performance.

3.4 Recommendations from the 2020-2021 Annual Report

In the 2020-2021 Annual Report, it was recommended:

1. THAT in the first instance, monitoring of consented activities at Stratford District Council's water treatment plants in the 2021-2022 year continue at the same level as in 2020-2021.
2. That the triennial fish spawning survey is discontinued provided the stop-boards continue to be removed from the Konini weir at the end of summer.
3. THAT should there be issues with environmental or administrative performance in 2021-2022, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.
4. THAT the option for a review of resource consents 0068-4, 0195-3, 5353-2, and 2452-2 in June 2022, as set out in conditions of the consents, not be exercised, on the grounds that the current conditions are adequate.

Recommendations one, two and four were implemented, while it was not considered necessary to undertake additional monitoring as per recommendation three.

3.5 Alterations to monitoring programmes for 2022-2023

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.

No significant changes are planned for 2022-2023 monitoring programme.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the sites 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 2022-2023.

4 Recommendations

1. THAT in the first instance, monitoring of consented activities at Stratford District Council's water treatment plants in the 2022-2023 year continue at the same level as in 2021-2022.
2. That Stratford District Council will notify the Council when the boards are installed and removed from the Konini weir.
3. THAT Stratford District Council will notify the Council when replacing the water line and upgrading the flow metering system at the Stratford WTP.
4. THAT should there be issues with environmental or administrative performance in 2022-2023, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Glossary of common terms and abbreviations

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

Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 25°C and expressed in mS/m.
Cumec	A volumetric measure of flow- 1 cubic metre per second (1 m ³ s ⁻¹).
Fresh	Elevated flow in a stream, such as after heavy rainfall.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
Incident register	The incident register contains a list of events recorded by the Council on the basis that they may have the potential or actual environmental consequences that may represent a breach of a consent or provision in a Regional Plan.
L/s	Litres per second.
MALF	Mean annual low flow (of a river or stream).
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
NTU	Nephelometric Turbidity Unit, a measure of the turbidity of water.
O&G	Oil and grease, defined as anything that will dissolve into a particular organic solvent (e.g. hexane). May include both animal material (fats) and mineral matter (hydrocarbons).
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act</i> 1991 and including all subsequent amendments.
Temp	Temperature, measured in °C (degrees Celsius).
Turb	Turbidity, expressed in NTU.

For further information on analytical methods, contact an Environment Quality Manager.

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Appendix I

Resource consents held by Stratford District Council

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

Water abstraction permits

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

Water discharge permits

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

Air discharge permits

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

Discharges of wastes to land

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

Land use permits

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

Coastal permits

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

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

Name of
Consent Holder: Stratford District Council
PO Box 320
Stratford 4352

Decision Date: 24 June 2016

Commencement Date: 24 June 2016

Conditions of Consent

Consent Granted: To discharge settled filter backwash water from the Stratford Municipal Water Treatment Plant via a settling pond into the Patea River

Expiry Date: 1 June 2034

Review Date(s): June 2022, June 2028

Site Location: 296 Cardiff Road, Cardiff

Grid Reference (NZTM) 1706560E-5645161N

Catchment: Patea

*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 actual or likely adverse effect on the environment associated with the discharge of contaminants from the site.
2. After allowing for a mixing zone of 50 metres downstream of the discharge point (at approximately 1706560E-5645161N), the discharge shall not give rise to any of the following effects in the Patea 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; and
 - (e) any significant adverse effects on aquatic life.
3. Constitutes of the discharge shall meet the standards shown in the following table.

Constituent	Standard
Suspended solids	Concentration not greater than 20 gm ⁻³
Free available chlorine	Concentration no greater than 0.1 gm ⁻³
pH	Within the range 6.0 to 9.0

4. The consent holder shall ensure that there is always clear and safe foot access to the point where the discharge enters the Patea River.
5. 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 2022 and/ or June 2028, 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 24 June 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: Stratford District Council
PO Box 320
Stratford 4352

Decision Date: 25 September 2017

Commencement Date: 16 October 2017

Conditions of Consent

Consent Granted: To take and use water from the Patea River and the Konini Stream to provide a public water supply to Stratford

Expiry Date: 1 June 2034

Review Date(s): June 2019 and 3-yearly intervals thereafter

Site Location: Cardiff Road, Cardiff

Grid Reference (NZTM) 1706218E-5645354N (Patea intake & dam)
1705702E-5645109N (Konini intake & dam)

Catchment: Patea

Tributary: Paetahi
Konini

*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. Subject to condition 2, the total rate of taking shall not exceed 61 litres per second, and:
 - (a) the rate of taking from the Konini Stream shall not exceed 20 litres per second; and
 - (b) when the flow in the Patea River at the 'Skinner Road' flow site has, at some time on each of the three previous days, been less than 780 litres per second the rate of taking from the Patea River shall not exceed 41 litres per second.
2. The total rate of taking may be up to 81 litres per second, with no more than 20 litres per second taken from the Konini Stream, if taking at that rate is necessary to replenish the reservoir following a plant failure.
3. If taking exceeds 61 litres per second as provided for by condition 2 the consent holder shall immediately notify the Chief Executive, Taranaki Regional Council. Notification shall include the details of the plant failure and be emailed to worknotification@trc.govt.nz.
4. When the flow in the Patea River, measured at Skinner Road is less than 780 litres per second the consent holder shall implement water conservation measures to reduce water demand, and when the flow has, at some time on each of the three previous days, been less than 556 litres per second the taking of water shall be restricted to the minimum amount necessary to maintain the health of people and animals (i.e. garden watering and other non-essential uses are prohibited).
5. The consent holder shall ensure that regular low flow gaugings are undertaken near to each of the take sites, so that a reasonable estimate of mean annual low flow at each site can be made.
6. Before exercising this consent the consent holder shall install, and thereafter maintain a water meter at each site of taking (or a nearby site in accordance with Regulation 10 of the *Resource Management (Measurement and Reporting of Water Takes) Regulations 2010*. The water meter and associated equipment shall be tamper-proof and shall measure and record the rate and volume of water taken to an accuracy of $\pm 5\%$. Records of the date, the time and the rate and volume of water taken at intervals not exceeding 15 minutes, shall be made available to the Chief Executive, Taranaki Regional Council at all reasonable times.

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

Consent 0195-3.0

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

The documentation shall be provided:

- (i) within 30 days of the installation of a water meter or datalogger;
 - (ii) at other times when reasonable notice is given and the Chief Executive, Taranaki Regional Council has reasonable evidence that the equipment may not be functioning as required by this consent; and
 - (iii) no less frequently than once every five years.
8. If any measuring or recording equipment breaks down, or for any reason is not operational, the consent holder shall advise the Chief Executive, Taranaki Regional Council immediately. Any repairs or maintenance to this equipment must be undertaken by a suitably qualified person and a maintenance report provided to the Chief Executive, Taranaki Regional Council within 30 days of the work occurring.
9. Any water meter or datalogger shall be accessible to Taranaki Regional Council officers at all reasonable times for inspection and/or data retrieval. In addition the data logger shall be designed and installed so that Taranaki Regional Council officers can readily verify that it is accurately recording the required information.
10. The records of water taken shall:
 - (a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing;
 - (b) specifically record the water taken as 'zero' when no water is taken; and
 - (c) be transmitted to the Taranaki Regional Council's computer system within two hours of being recorded.
11. Each year the consent holder shall prepare a report detailing:
 - (a) the work done to detect and minimise leaks in the area supplied, and
 - (b) water use efficiency and conservation measures undertaken in the area supplied.

The report shall be provided to the Chief Executive, Taranaki Regional Council before 1 September each year and cover the previous 1 July to 30 June period.

Consent 0195-3.0

12. The consent holder shall mitigate or offset the environmental effects of the taking by making four annual payments of \$10,000 (plus GST) to the Taranaki Regional Council as a financial contribution for the purpose of funding environmental enhancement projects. The environmental enhancement projects are, to be in the upper Patea River catchment, and would include:
 - (a) fencing, planting, creation and enhancement of wetlands; and
 - (b) riparian planting, with first and second order streams as a priority.

The amount to be paid shall be adjusted annually according to the consumer price index, or similar, to account for the effects of inflation, and be made no later than 1 September each year.
13. The consent holder shall ensure that the intakes are designed and located to avoid fish entering the intake or being trapped against the screen.
14. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2019 and at 3-yearly intervals thereafter, for the purposes of 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 25 September 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of Consent Holder: Stratford District Council
P O Box 320
STRATFORD 4352

Decision Date [Change]: 24 May 2011

Commencement Date [Change]: 24 May 2011 [Granted: 9 June 2003]

Conditions of Consent

Consent Granted: To take water from the Te Popo Stream a tributary of the Manganui River in the Waitara catchment for Midhirst community public water supply purposes at or about (NZTM) 1708930E-5650525N

Expiry Date: 1 June 2021

Review Date(s): June 2015

Site Location: Mountain Road, Midhirst

Legal Description: Lot 7 DP 14836 Blk XIII Huiroa SD [Site of take]

Catchment: Waitara

Tributary: Manganui
Te Popo

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

General conditions

- a) On receipt of a requirement from the Chief Executive, Taranaki Regional Council (hereinafter the Chief Executive), 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 exercise of this consent shall be conducted in accordance with the information submitted in support of application nos. 84/51, 91/162, 2233 and 6750, and to ensure that the conditions of the consent are met at all times.
2. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise any adverse effects on the environment as a result of the exercise of this consent.
3. The peak extraction rate shall not exceed 5 litres/second.
4. The amount of water taken in summer [1 November to 31 March] shall not exceed an average of 254 cubic metres/day during any calendar month.
5. The amount of water taken in winter [1 April to 31 October] shall not exceed 432 cubic metres/day.
6. The amount of water taken during any year ending 30 June shall not exceed 90,000 m³.
7. The consent holder shall, on an annual basis, provide a report detailing:
 - a) the work done to detect and minimise leaks in the area supplied, and
 - b) water use efficiency and conservation measures undertaken in the area supplied.

The report shall be provided to the Chief Executive, Taranaki Regional Council before 1 September each year and cover the previous 1 July to 30 June period. The first report shall be provided by 1 September 2011.

8. All intake structures shall be screened to avoid the entrainment of fish.

Consent 1276-3

9. The consent holder shall install and operate a measuring device capable of accurately recording daily rates of abstraction and shall measure, record and make such records available to the Chief Executive, Taranaki Regional Council, upon request.
10. That the Taranaki Regional Council reserves the right to temporarily suspend or reduce the abstraction during extreme low flow events, in order to protect the biological communities in the stream, in accordance with 329 of the Resource Management Act 1991.
11. 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 2009 and/or June 2015 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 24 May 2011

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: Stratford District Council
PO Box 320
Stratford 4352

Decision Date: 27 May 2016

Commencement Date: 27 May 2016

Conditions of Consent

Consent Granted: To discharge treated filter backwash water from the Midhirst Water Treatment Plant onto land via a soak hole

Expiry Date: 1 June 2033

Review Date(s): June 2021, June 2027

Site Location: Midhirst Water Treatment Plant, Mountain Road, Midhirst

Grid Reference (NZTM) 1708926E-5650535N

Catchment: Waitara

Tributary: Manganui
Te Popo

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

Consent 1331-3.0

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 discharge shall not exceed 10 cubic metres per day.
2. The consent holder shall maintain and operate the soak hole system in a manner that will ensure that the discharge does not cause the soak hole to overflow.
3. 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 June 2021 and/or June 2027, 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 27 May 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

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

Name of
Consent Holder: Stratford District Council
 P O Box 320
 STRATFORD

Consent Granted 17 June 2005
Date:

Conditions of Consent

Consent Granted: To take and use groundwater from a bore in the vicinity of
 the Toko Stream in the Patea catchment for Toko rural
 water supply purposes at or about GR: Q20:298-068

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: East Road, Toko

Legal Description: Lot 1 DP 15670 Blk III Ngaere SD

Catchment: Patea

Tributary: Toko

Consent 1337-3

General conditions

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

Special conditions

1. The consent holder shall at all times adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to prevent or minimise any adverse effects on the environment from the exercise of this consent.
2. The exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of application 2743 and shall ensure efficient and effective use of water. In the case of any contradiction between the documentation submitted in support of application 2743 and the conditions of this consent, the conditions of this consent shall prevail.
3. The consent holder shall notify the Chief Executive, Taranaki Regional Council, in writing at least seven days prior to the exercise of this consent.
4. The volume of groundwater abstracted shall not exceed 80 cubic metres per day at a rate not exceeding 5.6 litres per second.
5. The consent holder shall install and operate a device capable of accurately recording daily rates of abstraction and shall measure, record and make such records available to the Chief Executive, Taranaki Regional Council, upon request.
6. This consent shall lapse on the expiry of five years after the date of issue of this consent, unless the consent is given effect to before the end of that period or the Taranaki Regional Council fixes a longer period pursuant to section 125(1)(b) of the Resource Management Act 1991.

Consent 1337-3

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 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 17 June 2005

For and on behalf of
Taranaki Regional Council

Director-Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Stratford District Council
PO Box 320
Stratford 4352

Decision Date: 25 September 2017

Commencement Date: 25 September 2017

Conditions of Consent

Consent Granted: To dam water in the Konini Stream with a 1 metre concrete weir for the Stratford town water supply

Expiry Date: 1 June 2034

Review Date(s): June 2019 and at 3-yearly intervals thereafter

Site Location: Cardiff Road, Cardiff

Grid Reference (NZTM) 1705702E-5645109N

Catchment: Patea

Tributary Paetahi
Konini

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

Consent 2452-3.0

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 maintain the weir so that it remains sound and fit for purpose.
2. The consent holder shall repair any erosion or scour of the river bed or banks caused by the weir and take reasonable steps to stop it recurring.
3. The weir shall not restrict the passage of native fish or juvenile or adult trout.
4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2019 and at 3-yearly intervals thereafter, 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 25 September 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Stratford District Council
PO Box 320
Stratford 4352

Decision Date: 25 September 2017

Commencement Date: 25 September 2017

Conditions of Consent

Consent Granted: To dam water in the Patea River with a 2.3 metre concrete weir for the Stratford town water supply

Expiry Date: 1 June 2034

Review Date(s): June 2019 and at 3-yearly intervals thereafter

Site Location: Cardiff Road, Cardiff

Grid Reference (NZTM) 1706218E-5645354N

Catchment: Patea

*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 maintain the weir so that it remains sound and fit for purpose.
2. The consent holder shall repair any erosion or scour of the river bed or banks caused by the weir and take reasonable steps to stop it recurring.
3. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June 2019 and at 3-yearly intervals thereafter, for the purpose of:
 - (a) ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
 - (b) include conditions relating to fish passage, including a requirement to install a fish pass, if relocation of native species does not result in established populations upstream of the weir.

Signed at Stratford on 25 September 2017

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Land Use Consent
Pursuant to the Resource Management Act 1991
a resource consent is hereby granted by the
Taranaki Regional Council

Name of
Consent Holder: Stratford District Council
P O Box 320
STRATFORD

Consent Granted
Date: 31 January 2005

Conditions of Consent

Consent Granted: To repair and maintain an existing weir structure in the
Konini Stream a tributary of the Paetahi Stream in the
Patea catchment at or about GR: Q20:157-068

Expiry Date: 1 June 2022

Review Date(s): June 2010, June 2016

Site Location: Cardiff Road, Cardiff, Stratford

Legal Description: Pt Secs 25 DP 3759 Blk IV Kaupokonui SD

Catchment: Patea

Tributary: Paetahi
Konini

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 notify the Taranaki Regional Council at least 48 hours prior to the commencement and upon completion of the initial activity and again prior to and upon completion of any subsequent maintenance works which would involve disturbance of or deposition to the riverbed or discharges to water.
2. Any instream works shall take place only between 1 November and 30 April inclusive, except where this requirement is waived in writing by the Chief Executive, Taranaki Regional Council.
3. The consent holder shall adopt the best practicable option, as defined in section 2 of the Resource Management Act 1991, to avoid or minimise the discharge of silt or other contaminants into water or onto the riverbed and to avoid or minimise the disturbance of the riverbed and any adverse effects on water quality.
4. The consent holder shall ensure that the area and volume of riverbed disturbance shall, so far as is practicable, be minimised and any areas which are disturbed shall, so far as practicable, be reinstated.
5. The exercise of this consent shall be under taken generally in accordance with the documentation submitted in support of application 3542. In the case of any contradiction between the documentation submitted in support of application 3542 and the conditions of this consent, the conditions of this consent shall prevail.
6. The structure[s] which are the subject of this consent shall not cause erosion of the river channel, and measures shall be taken by the consent holder to prevent erosion of the river channel.
7. After allowing for reasonable mixing, being a mixing zone extending seven times the width of the Konini Stream at the point of discharge, any discharge of contaminants shall not give rise to any of the following effects in the Konini Stream:
 - 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;

Consent 6549-1

- 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.
8. 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 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 31 January 2005

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: Stratford District Council
PO Box 320
Stratford 4352

Decision Date
(Change): 27 May 2016

Commencement Date
(Change): 27 May 2016 (Granted Date: 29 April 2005)

Conditions of Consent

Consent Granted: To discharge treated filter backwash water from the Toko Water Treatment Plant into a soak hole adjacent to the Manawawiri Stream

Expiry Date: 1 June 2022

Review Date(s): June 2016

Site Location: East Road, Toko

Grid Reference (NZTM) 1719740E-5645072N

Catchment: Patea

Tributary: Toko
Manawawiri

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

General conditions

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

Special conditions

- 1. The discharge shall not exceed 15 cubic metres per day.
- 2. The consent holder shall maintain and operate the soak hole system in manner to ensure that the discharge does not cause the soak hole to overflow.
- 3. The discharge shall not exceed 0.1 g/m³ free available chlorine at any time.
- 4. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during June 2010 and/or June 2016, for the purpose of ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time.

Signed at Stratford on 27 May 2016

For and on behalf of
Taranaki Regional Council

A D McLay
Director - Resource Management

Appendix II

Categories used to evaluate environmental and administrative performance

Categories used to evaluate environmental and administrative performance

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

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

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

Environmental Performance

High: No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving 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 during investigations of incidents reported to the Council by a third party 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 during investigations of incidents reported to the Council by a third party. 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 during investigations of incidents reported to the Council by a third party. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative performance

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

Good: Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively

adequate reason was provided for matters such as the no or late provision of information, interpretation of 'best practical option' for avoiding potential effects, etc.

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

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