STDC Waiinu Beach Settlement

Monitoring Programme
Annual Report
2023/24
Technical Report 2024-09

Taranaki
Regional Council

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Executive summary

The South Taranaki District Council (STDC) operates a wastewater treatment system located at the Waiinu Beach Settlement, in the Waitōtara catchment. This report for the period July 2023 to June 2024 describes the monitoring programme implemented by Taranaki Regional Council (the Council) to assess STDC'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 STDC's activities.

During the monitoring period, South Taranaki District Council demonstrated an overall high level of environmental performance and high level of administrative performance.

STDC holds one resource consent, which allows the discharge of treated domestic wastewater from the Waiinu Beach Wastewater Treatment Plant to land. This consent includes a total of 16 conditions setting out the requirements that STDC must satisfy.

The Council's monitoring programme for the year under review included three site inspections of the wastewater treatment system, which included bacteriological and groundwater sampling. Three additional seasonal groundwater sampling surveys were also carried out. The monitoring showed that the wastewater treatment system was well maintained. As in recent years, the monitoring indicated that the discharges from the wastewater treatment system had no adverse effects on coastal water quality.

Daily irrigation flows from the wastewater treatment plant were within the consent limit throughout the 2023/24 monitoring year. Issues with exceedances and odour have been encountered in the past. STDC now have a proposed plan to decommission the community septic tanks in the system and have the houses flow directly to the wastewater treatment plant (WWTP). Achievement of the proposal is only possible with the installation of an inlet screen, necessary to ensure no inorganics enter the WWTP and affect the treatment system. This work will be undertaken in the summer of 2024/25 and will be another preventative measure for odour and exceedance issues that have occurred at the treatment plant thus far.

There were no unauthorised incidents of non-compliance in respect of this consent holder during the period under review.

For reference, in the 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor.

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 remains at a good level in the year under review.

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1. Introduction

1.1 Compliance monitoring programme reports and the Resource Management Act 1991

1.1.1 Introduction

This report is for the period July 2023 to June 2024 by Taranaki Regional Council (the Council) describing the monitoring programme associated with a resource consent held by the South Taranaki District Council (STDC). STDC operates a wastewater treatment system situated at the Waiinu Beach Settlement in South Taranaki.

This report covers the results and findings of the monitoring programme implemented by the Council in respect to a consent held by STDC that relates to the discharge of treated sewage effluent to land in the Waitōtara catchment. This is the 31st annual report to be prepared by the Council to cover STDC's water discharges and their effects.

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 *Resource Management Act 1991* (RMA) and the Council's obligations;
- the Council's approach to monitoring sites though annual programmes;
- the resource consent held by STDC in the Waitōtara catchment;
- the nature of the monitoring programme in place for the period under review; and
- a description of the activities and operations conducted in the Waiinu Beach Settlement.

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 2024/25 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 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 2023/24 year, consent holders were found to achieve a high level of environmental performance and compliance for 864 (89%) of a total of 967 consents monitored through the Taranaki tailored monitoring programmes, while for another 75 (8%) of the consents a good level of environmental performance and compliance was achieved. A further 26 (3%) of consents monitored required improvement in their performance, while the remaining two (<1%) achieved a rating of poor. [1]

1.2 Process description

The Waiinu Beach Settlement wastewater treatment system was installed in 1992 and replaced in December 2019 by the current Submerged Aerated Filtration (SAF) plant. The plant is designed to service a population of up to 600 campers and 305 residents over the peak holiday period. Primary treatment of wastewater is provided by 21 communal septic tanks. Effluent from the septic tanks is gravity fed to a wet well at the SAF plant which delivers the influent via pumps to the SAF plant. The influent is pumped to the balance tanks and solids removal tank. The balance tank delivers timed doses to the 1st stage primary septic tank which is then gravity fed into the 2nd stage primary septic tank, for the first stage treatment of the wastewater. The septic tanks provide sufficient residence time to ensure sufficient BOD reduction has occurred. Effluent is then gravity fed to the Anoxic Tanks which provide up to 85% of total nitrogen reduction.

After the anoxic tanks, the effluent is split evenly into both aeration tanks where fine bubble aeration diffusers are installed at the base of the tanks to ensure efficient oxygen distribution and thus providing a high rate of biomass production for BOD reduction and nitrification. Treated effluent from the aeration tanks flow through to the clarification tanks, where the effluent settles. The treated effluent is transferred into the UV dosing tank before treatment by the UV unit. The wastewater is then treated with ferric chloride for phosphorous reduction. After treatment for phosphorous reduction, the wastewater is stored in irrigation tanks before discharge to the land application field. A flow meter records the discharge to the disposal fields.

The shallow groundwater receiving the treated effluent flows more than 200m toward the beach. The monitoring of groundwater and coastal seawater quality allows the effectiveness of the wastewater treatment

[1] The Council has used these compliance grading criteria for more than 20 years. They align closely with the 4 compliance grades in the MfE Best Practice Guidelines for Compliance, Monitoring and Enforcement, 2018

system to be assessed (Figure 1). The Waiinu Beach settlement is supplied with water from a 45m deep bore, to the west of the settlement. There are no other users of shallow groundwater in the area.

Figure 1 Locations of sampling sites and wastewater treatment system at Waiinu Beach Settlement

1.3 Resource consents

STDC holds one resource consent, 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 is a copy of the permit held by STDC during the period under review.

Table 1 Summary of resource consents held by STDC

Consent number	Purpose	Granted	Review	Expires
Water discharge permits				
3769-4.1	To discharge treated domestic wastewater from the Waiinu Beach Waste Water Treatment Plant to land	03 February 2021	June annually	1 June 2034

1.4 Monitoring programme

1.4.1 Introduction

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

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

The monitoring programme for the Waiinu Beach Settlement 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

The Waiinu Beach Settlement wastewater treatment system was visited three times during the summer monitoring period for site inspections. With regard to the consent for the discharge to water, the main points of interest were plant processes with potential or actual discharges to receiving watercourses. Air inspections focused on plant processes with associated actual and potential emission sources and characteristics, including potential odour, dust, noxious or offensive emissions. Sources of data being collected by the Company were 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 Bacteriological monitoring

The Council undertook routine sampling of the coastal waters at two sites on three occasions during the monitoring year (Figure 1). Samples were analysed for temperature, enterococci and conductivity.

Water quality is of significant interest at this site as Waiinu Beach receives moderate recreational use over the bathing season. In 2003, the Ministry for the Environment (MfE) developed the *Guidelines for Recreational Water Quality* to assess the safety of water for contact recreation. The coastal guidelines focus on enterococci as these bacteria have the ability to survive in marine water, providing the closest correlation with health effects in New Zealand coastal waters (MfE, 2003). 'Alert' and 'Action' guideline levels are summarised in Table 2 and are based on keeping illness risk associated with recreational use to less than 2% of users.

Electrical conductivity, which reflects the total ionic content of water, was measured as a supporting variable as it correlates well with total dissolved solid concentrations (Davies-Colley, 2013).

Table 2 Summary of the Marine Guidelines for Recreational Water Quality (MfE, 2003)

	Indicator	Mode		
		Surveillance	Alert	Action
Marine	Enterococci (cfu/100ml)	No single sample >140	Single sample >140	Two consecutive single samples >280

1.4.5 Groundwater monitoring

The Council undertook groundwater monitoring at two locations (Figure 1) on six occasions during the monitoring year. GND2676 is the up-gradient bore and GND2674 is the down-gradient bore. This is to monitor potential effects of the effluent disposal field on shallow groundwater. The samples were analysed for carbonaceous biochemical oxygen demand, chemical oxygen demand, *Escherichia coli (E.coli)*, enterococci, faecal coliforms, pH, total suspended solids, various nitrogen species and total phosphorus.

During the year under review, sampling was undertaken in line with two of the summer inspection dates, along with four additional sampling rounds in April, June, July and October.

2. Results

2.1 Site inspections

Three inspections were undertaken at the Waiinu Beach Settlement on the 15th December 2023, 25th January 2024 and 22nd February 2024. Approximately 10 campsites were occupied in December and February with 30 campsites occupied in January. The following was found to be occurring: the septic system was operating well with no ponding or slumping evident on all occasions. All land areas associated with the operation including the main processing plant, public toilet and dump station as well as both dispersal areas were in good order. During two of the three inspections, a moderate odour was observed around the main septic plant which continued to be noticeable several metres north-west beyond the plant fence; exacerbated by a fairly strong south-easterly wind. No other negative environmental effects were noted attributable to the operation of the septic system.

2.2 Results of bacteriological monitoring

On three separate occasions, seawater samples were collected at two coastal sites located at either end of Waiinu Beach (Figure 1). A summary of historical bacteriological results from January 1992 to June 2023 is presented in Table 3. The results of the routine bacteriological monitoring undertaken during the 2023/24 summer monitoring period are presented in Table 4. Enterococci counts were very low across samples collected during the year under review, with all results being below the detection limit. Over the course of the monitoring period, all of the samples analysed had enterococci counts below the MfE 'Surveillance' guideline level (Table 2), and were mostly similar to historical median values.

Table 3 Summary of previous bacteriological results from 1992 to 2023

	Western end of beach – SEA907093		Eastern end of beach – SEA907098	
	Enterococci (cfu/100ml)	Conductivity (mS/m@20° C)	Enterococci (cfu/100ml)	Conductivity (mS/m@20° C)
Number of samples	94	88	94	88
Minimum	<1	4,443	<1	4,410
Maximum	310	5,400	1,400	5,438
Median	3	5,150	3	5,090

Table 4 Bacteriological monitoring results for Waiinu Beach during 2023/24 monitoring period

	Western end of beach – SEA907093		Eastern end of beach – SEA907098	
	Enterococci (MPN[2]/100 ml)	Conductivity (mS/m@20° C)	Enterococci (MPN/100 ml)	Conductivity (mS/m@20° C)
25 Jan 2024	<10	5180	<10	5170
22 Feb 2024	<10	5270	<10	5180
10 April 2024	<10	5190	<10	5180

2.3 Results of groundwater monitoring

A summary of key groundwater results collected from May 2020 to June 2023 is presented in Table 5. During the 2023/24 monitoring year, groundwater was sampled from two monitoring bores on six occasions (Table 6). Both Enterococci and *E. coli* counts were low across all samples collected during the year under review, which indicates it is unlikely that the Waiinu Beach WWTP is affecting groundwater quality down

[2] Units of measurement changed from cfu to MPN in December 2018 when analysis was transferred to Hills Laboratory, the results can be interchanged because cfu and MPN are considered equivalent.

gradient of the disposal fields. Results from other tests (listed in section 1.4.5) throughout the year under review indicated good groundwater quality.

Table 5 Summary of previous groundwater sampling results collected by STDC and TRC from May 2020 to June 2023

	BH4 (GND2676)				BH2B (GND2674)			
	pH	**Conductivity[a] (µS/cm)**	**Enterococci (cfu/100ml)**	***E. coli* (cfu/100ml)**	**pH**	**Conductivity[a] (µS/cm)**	**Enterococci (cfu/100ml)**	***E. coli* (cfu/100ml)**
Number of samples	23	19	18	23	22	18	22	22
Minimum	6.5	401	<1	<1	7.0	469	<1	<1
Maximum	7.9	607	9	140	8.2	629	10	28
Median	7.5	469	<1	<1	7.6	563	<1	<1

Table 6 Results of Waiinu Beach Settlement groundwater sampling during 2023/24 monitoring year

	BH4 (GND2676)				BH2B (GND2674)			
	pH	**Conductivity[a] (µS/cm)**	**Enterococci (cfu/100ml)**	***E. coli* (cfu/100ml)**	**pH**	**Conductivity[a] (µS/cm)**	**Enterococci (cfu/100ml)**	***E. coli* (cfu/100ml)**
07 July 2023	7.2	413	2	<1	8.2	523	1	<1
26 October 2023	7.6	432	<1	<1	8.0	537	<1	<1
25 January 2024	7.4	476	1	<1	8.0	550	<1	<1
22 February 2024	7.5	466	<1	<1	8.0	530	<1	<1
10 April 2024	7.8	542	<1	<1	8.0	523	<1	<1
11 June 2024	7.9	607	<1	<1	7.6	546	<1	<1

Note: a Specific conductivity by field meter.

2.4 Provision of consent holder data

STDC provided records of daily effluent volumes discharged to the soakage field between 30 June 2023 and 30 June 2024 (Appendix III). The WWTP daily irrigation flow showed no exceedances of the consent limit (100 m^3/day) during the 2023/24 monitoring year.

The Waiinu WWTP is performing well and continued to produce good quality effluent.

2.5 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 STDC. 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 2023/24 monitoring period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with STDC's conditions in their resource consent or provisions in Regional Plans.

3. Discussion

3.1 Discussion of site performance

During the three site inspections of the 2023/24 monitoring period the site appeared to be well maintained. No ponding or visual issues were detected during any of the inspections although a persisting odour was noted around and beyond the boundary of the processing plant on two of the three inspections. STDC have responded to odour control solutions positively, implementing numerous preventative measures.

Since the installation of the WWTP, irrigation flow exceedances have occurred during two consecutive monitoring years (2021/22 and 2022/23). These exceedances were found to generally be directly related to excessive rainfall. STDC have responded positively to these exceedances in the past, undertaking investigations for potential groundwater infiltration.

Work carried out in December 2023 identified infiltration of groundwater into the septic system, which was rectified soon after. The original strategy to secure inlet and outlet connections of all 21 community septic tanks was overruled with a new plan to bypass the septic tanks altogether. As of May, a proposal has been put forward for the installation of an inlet screen. The installation is expected to help reduce blockages within the plant and allow the removal of septic tanks from the treatment system, thus removing anaerobic sewage entering the initial wet well. The proposed plan has been put in place to reduce odour and prevent exceedances in the future. It is expected that work takes place in the summer of 2024/25.

All water monitoring was compliant, with no evidence of any environmental effects. Monitoring will continue to determine compliance, with monthly reports still being received by the Council.

3.2 Environmental effects of exercise of consents

The operation of the wastewater treatment system at the Waiinu Beach Settlement was not found to have any adverse effects on groundwater quality at Waiinu Beach Settlement during the 2023/24 monitoring period. Routine monitoring of both seawater and groundwater samples continued to return low faecal indicator bacteria counts, which suggests there is no contamination occurring between the wastewater treatment plant and the coast.

Despite no complaints recorded by the Council during the period under review, it was noted there were issues with odour during two of the three inspections to which STDC have highlighted are largely exacerbated by weather events. The district council has responded positively with a proposed plan in place. Work is to be undertaken in the summer of 2024/25.

3.3 Evaluation of performance

A tabular summary of the consent holder's compliance record for the year under review is set out in Table 7. Table 8 sets out a summary of environmental performance by STDC over time.

Table 7 Summary of performance for consent 3769-4.1

Purpose: ***To discharge treated domestic wastewater from the Waiinu Beach Wastewater Treatment Plant to land***		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
1. Exercise of consent to be carried out in accordance with information supplied	Site inspections of system and receiving waters	Yes
2. Consent holder to adopt best practicable option to minimise effects on the environment	Bacteriological sampling and site inspections	Yes

Purpose: *To discharge treated domestic wastewater from the Waiinu Beach Wastewater Treatment Plant to land*		
Condition requirement	**Means of monitoring during period under review**	**Compliance achieved?**
3. Consent holder to advise the Council prior to making any significant changes to the system	Communication with STDC and site inspections	Yes
4. Discharge to not exceed 100m^3 in any 24 hour period ending at midnight	Data provided by STDC	Yes
5. Consent holder to maintain a meter and datalogger at site of discharge. Records to be made available to Chief Executive on request	Data provided by STDC	Yes
6. Records of discharge to be in a suitable format and to be provided within one month after the end of the 12-month period ending 30 June	Data provided by STDC	Yes
7. To be no surface run-off, ponding, or contamination of surface water	Bacteriological sampling and site inspections	Yes
8. Consent holder shall suitably maintain and operate the wastewater treatment system	Site inspections – no evidence of non-compliance during inspections	Yes
9. Disposal field shall be located in accordance with information supplied	Management and Contingency Plan provided 16 June 2020	Yes
10. The discharge authorised by this consent shall be treated by UV disinfection	Site inspections	Yes
11. There shall be no offensive or objectionable odour beyond the boundaries	Site inspections	Yes, however moderate odour observed in 2/3 inspections beyond plant boundary
12. Consent holder shall ensure that there is an accessible point where treated effluent can be sampled	Accessible point in upgraded system	Yes
13. Contingency plan to be provided to the satisfaction of Chief Executive	Contingency plan provided 16 June 2020	Yes
14. Site shall be operated in accordance with a 'Management Plan'	Management plan provided 16 June 2020	Yes
15. Consent holder shall report to the Council before 31 July annually, the results of the monitoring undertaken in accordance with condition 14	Provided by Mott MacDonald	Yes
16. Optional review provision regarding environmental effects	Not required	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 Evaluation of environmental performance over time **(only go back 5 years)**

Year	Consent numbers	High	Good	Improvement req	Poor
2019/20	3769-4.0	1	x	x	x
2020/21	3769-4.0, 3769-4.1	1	x	x	x
2021/22	3769-4.1	x	1	x	x
2022/23	3769-4.1	x	1	x	x
2023/24	3769-4.1	1	x	x	x

During the year, the Company demonstrated a high level of environmental and high level of administrative performance with the resource consents as defined in Appendix II. The daily irrigation flow from the WWTP showed no exceedances of the consent limit (100m^3/day) during 2023/24 monitoring year. STDC are engaging in ongoing work scheduled to be undertaken in the 2024/25 summer period which should mitigate any exceedances and odour issues in the future. This will be monitored closely over the 2024/25 monitoring year.

3.4 Recommendations from the 2022/23 Annual Report

In the 2022/23 Annual Report, it was recommended:

1. THAT in the first instance, the monitoring of consented activities at Waiinu Beach Settlement in the 2023/24 year continues at the same level as in 2022/23; and
2. THAT should there be issues with environmental or administrative performance in 2023/24, monitoring may be adjusted to reflect any additional investigation or intervention as found necessary.

Recommendation one was implemented, while it was not considered necessary to carry out additional monitoring or investigation as per recommendation two.

3.5 Alterations to monitoring programmes for 2024/25

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.

There are no planned changes for the 2024/25 monitoring programme.

It should be noted that the proposed programme represents a reasonable and risk-based level of monitoring for the site(s) in question. The Council reserves the right to subsequently adjust the programme from that initially prepared, should the need arise if potential or actual non-compliance is determined at any time during 2024/25.

4. Recommendations

1. THAT in the first instance, the monitoring of consented activities at Waiinu Beach Settlement in the 2024/25 year continues at the same level as in 2023/24; and
2. THAT should there be issues with environmental or administrative performance in 2024/25, 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:

'Action' mode	Two consecutive single samples greater than 280 enterococci/100ml.
'Alert' mode	Single sample greater than 140 enterococci/100ml.
Bacteriological	Micro-organisms selected as indicators of faecal material indicators.
Bathers	Those who enter the water, and either partially or fully immerse themselves.
Bathing season	Generally, the bathing season extends between 1 November and 31 March.
Beach	The shore or any access point to the sea.
BF	Beaufort Wind Scale.
BOD	Biochemical oxygen demand. A measure of the presence of degradable organic matter, taking into account the biological conversion of ammonia to nitrate.
CBOD	Carbonaceous biochemical oxygen demand. A measure of the presence of degradable organic matter, excluding the biological conversion of ammonia to nitrate.
cfu	Colony forming units. A measure of the concentration of bacteria usually expressed as per 100ml sample.
COD	Chemical oxygen demand. A measure of the oxygen required to oxidise all matter in a sample by chemical reaction.
Conductivity	An indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/cm.
Contact recreation	Recreational activities that bring people physically in contact with water, involving a risk of involuntary ingestion or inhalation of water.
E.coli	Escherichia coli, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre sample.
Ent	Enterococci, an indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100 millilitre of sample.
Faecal coliforms	An indicator of the possible presence of faecal material and pathological micro-organisms. Usually expressed as colony forming units per 100ml sample.
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 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.
Median	Central value when values are arranged in order of magnitude.
MPN	Most probable number. A measure of the concentration of bacteria usually expressed as per 100ml sample.
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 subsequent amendments.
'Surveillance' mode	No single sample greater than 140 enterococci/100ml.
Temperature	Measured in °C (degrees Celsius).
Water quality	The bacteriological condition of a water body as it relates to human health, measured using indicator bacteria.

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

For further information on analytical methods, contact a manager within the Environment Quality Department.

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Appendix I

Resource consents held by South Taranaki 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:	South Taranaki District Council Private Bag 902 Hawera 4640	
Decision Date (Change):	3 February 2021	
Commencement Date (Change):	3 February 2021	(Granted Date: 1 December 2017)

Conditions of Consent

Consent Granted:	To discharge treated domestic wastewater from the Waiinu Beach Waste Water Treatment Plant to land
Expiry Date:	1 June 2034
Review Date(s):	June annually
Site Location:	Nukumaru Parade, Waiinu Beach
Grid Reference (NZTM)	1749195E-5585813N & 1749460E-5585590N
Catchment:	Waitotara

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 exercise of this consent shall be undertaken generally in accordance with the documentation submitted in support of the original application and any subsequent applications to change conditions. In case of any contradiction between the documentation submitted in support of previous applications and the conditions of this consent, the conditions of this consent shall prevail.

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 prevent or minimise any actual or likely adverse effect on the environment associated with the discharge.

3. The consent holder shall advise the Taranaki Regional Council prior to making any change in the processes undertaken at the site which could significantly alter the nature of the discharge. The advice shall be given by emailing consents@trc.govt.nz.

4. The discharge shall not exceed 100 m^3 in any 24 hour period ending at midnight (New Zealand standard time).

5. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the consent holder shall maintain a meter and a datalogger at the site of discharge. The flow meter and datalogger shall be tamper-proof and shall measure and record the rate and volume of the discharge to an accuracy of ± 5%, at intervals not exceeding 15 minutes. Records of the date, the time and the rate and volume the discharge, shall be made available to the Chief Executive, Taranaki Regional Council on request.

6. The records of discharge shall:
   a) be in a format that, in the opinion of the Chief Executive, Taranaki Regional Council, is suitable for auditing; and
   b) for each 12-month period ending on 30 June, be provided to the Chief Executive, Taranaki Regional Council within one month after end of that period.

7. There shall be no surface run-off, ponding, or contamination of surface water resulting from the discharge of treated wastewater to land.

8. The wastewater treatment system shall be operated and maintained according to the manufacturer's guidelines and/or operations management plan (whichever is most appropriate).

9. The disposal field shall be located within the boundaries shown in Appendix 1 and in accordance with the information submitted in support of this application and subsequent information provided with the *S127 RMA application (9 October 2020)*.

10. The discharge authorised by this consent shall be treated by UV disinfection.

11. There shall be no offensive or objectionable odour beyond the boundaries of the subject property shown in Appendix 1.

12. The consent holder shall ensure that there is a point where the treated effluent can be sampled before it is discharged to the effluent land application area. The consent holder shall provide access for the Taranaki Regional Council to enable a sample to be taken as required.

13. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the consent holder shall prepare, maintain and regularly update a 'Contingency Plan' which details measures and procedures that will be undertaken to prevent and/or to avoid environmental effects from a spillage or any discharge of contaminants not authorised by this consent. The plan and any amended versions shall be provided to the Chief Executive of the Taranaki Regional Council and Te Kaahui o Rauru.

14. From the date that the upgraded Waiinu Beach Township Waste Water Treatment Plant is commissioned the site shall be operated in accordance with a 'Management Plan' prepared by the consent holder and approved by the Chief Executive, Taranaki Regional Council, acting in a certification capacity. The Management Plan shall detail how the site is to be managed and monitored and shall include as minimum:

    a) monitoring the wastewater effluent quality and rate of the discharge;
    b) management of the wastewater treatment system;
    c) general housekeeping; and
    d) reporting.

    The consent holder shall provide a copy of the current Management Plan to Te Kaahui o Rauru.

    Advice note: The Management Plan may include other information that the consent holder considers appropriate, such as how cultural matters are being addressed in the management of the Waste Water Treatment Plant.

15. The consent holder shall report to the Taranaki Regional Council before 31 July annually detailing results of the environmental monitoring undertaken in accordance with condition 14 above. The consent holder shall provide a copy of the annual environmental monitoring to Te Kaahui o Rauru.

16. In accordance with section 128 and section 129 of the Resource Management Act 1991, the Taranaki Regional Council may serve notice of its intention to review, amend, delete or add to the conditions of this resource consent by giving notice of review during the month of June annually for the purposes of:

    a) ensuring that the conditions are adequate to deal with any adverse effects on the environment arising from the exercise of this resource consent, which were either not foreseen at the time the application was considered or which it was not appropriate to deal with at the time; and/or
    b) requiring any data collected in accordance with the conditions of this consent to be transmitted directly to the Taranaki Regional Council's computer system, in a format suitable for providing a 'real time' record over the internet.

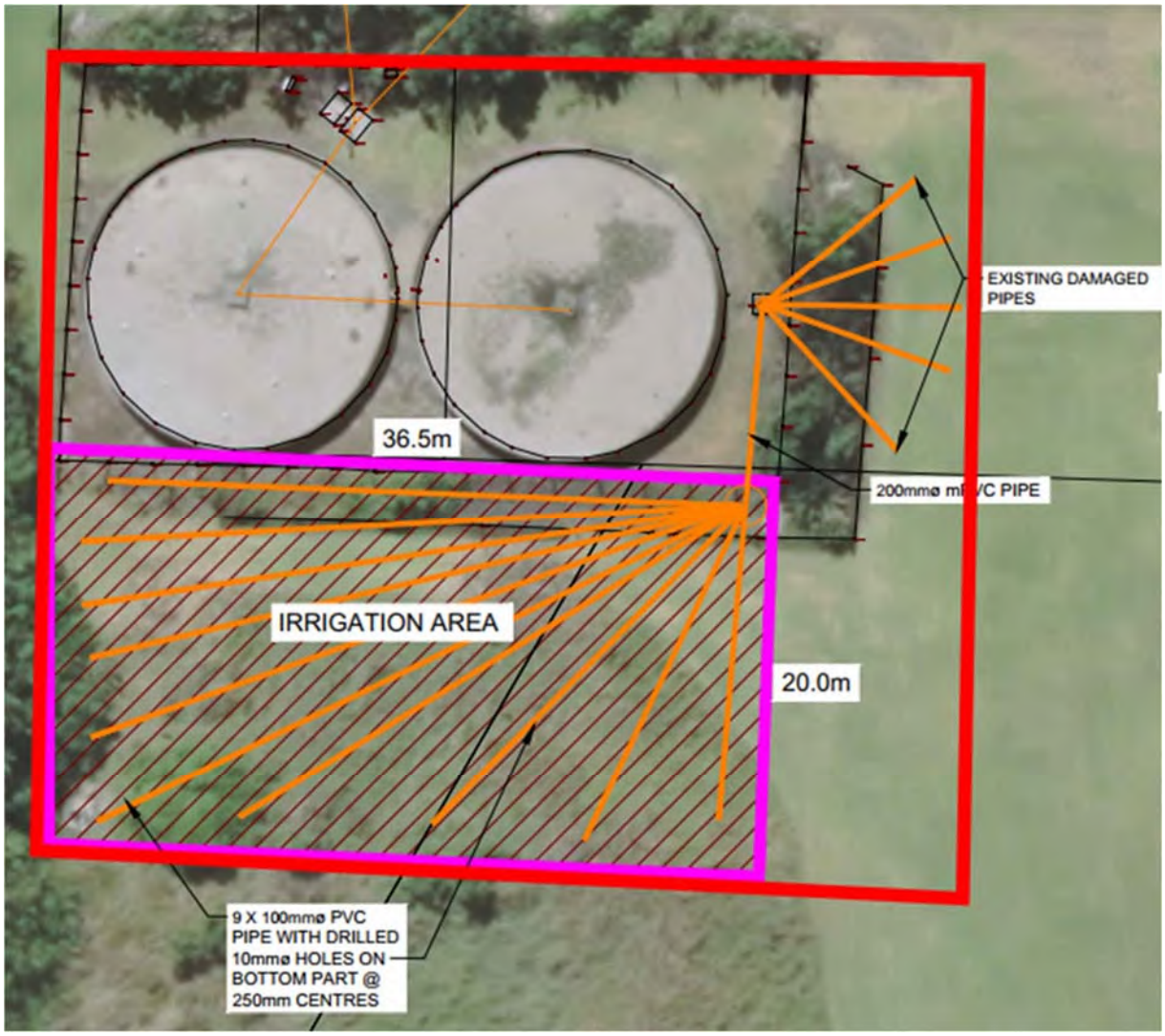
Signed at Stratford on 3 February 2021

For and on behalf of
Taranaki Regional Council

_____

A D McLay
Director - Resource Management

Appendix 1: Site boundary of WWTP within red lines



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.

Appendix III

Daily effluent flow data provided by South Taranaki District Council for July 2023–June 2024

Date	Irrigation Flow (m^3/day)
1/06/2023	76.8
2/06/2023	78.6
3/06/2023	87.4
4/06/2023	82.7
5/06/2023	77.4
6/06/2023	68.8
7/06/2023	67.2
8/06/2023	65.5
9/06/2023	62.7
10/06/2023	66.9
11/06/2023	65.0
12/06/2023	62.7
13/06/2023	59.8
14/06/2023	54.2
15/06/2023	49.9
16/06/2023	46.0
17/06/2023	45.2
18/06/2023	49.4
19/06/2023	46.3
20/06/2023	43.4
21/06/2023	44.1
22/06/2023	44.0
23/06/2023	47.6
24/06/2023	53.2
25/06/2023	50.5
26/06/2023	49.2
27/06/2023	43.3
28/06/2023	40.6
29/06/2023	37.0
30/06/2023	42.0
1/07/2023	43.3
2/07/2023	46.5
3/07/2023	46.1
4/07/2023	44.1
5/07/2023	44.5
6/07/2023	45.5
7/07/2023	42.9
8/07/2023	46.6
9/07/2023	47.8
10/07/2023	50.6
11/07/2023	50.2
12/07/2023	49.0
13/07/2023	52.7
14/07/2023	49.0
15/07/2023	52.7
16/07/2023	47.6
17/07/2023	45.4
18/07/2023	40.6
19/07/2023	40.3
20/07/2023	39.0
21/07/2023	36.0
22/07/2023	43.1
23/07/2023	41.4
24/07/2023	41.2
25/07/2023	40.0
26/07/2023	40.0
27/07/2023	39.8
28/07/2023	38.0
29/07/2023	46.6
30/07/2023	43.0
31/07/2023	38.1
1/08/2023	38.0
2/08/2023	43.6
3/08/2023	44.6
4/08/2023	46.0
5/08/2023	47.6
6/08/2023	46.5
7/08/2023	44.3
8/08/2023	42.6
9/08/2023	43.9
10/08/2023	48.0
11/08/2023	55.6
12/08/2023	56.0
13/08/2023	61.3
14/08/2023	57.1
15/08/2023	55.4
16/08/2023	56.0
17/08/2023	57.7
18/08/2023	56.3
19/08/2023	41.0
20/08/2023	60.2
21/08/2023	57.0
22/08/2023	54.7
23/08/2023	55.4
24/08/2023	54.6
25/08/2023	53.6
26/08/2023	64.9
27/08/2023	58.0
28/08/2023	50.1
29/08/2023	49.8
30/08/2023	48.7
31/08/2023	48.0
1/09/2023	50.4
2/09/2023	52.0
3/09/2023	52.0
4/09/2023	48.2
5/09/2023	45.6
6/09/2023	43.0
7/09/2023	49.6
8/09/2023	50.0
9/09/2023	52.0
10/09/2023	52.0
11/09/2023	31.0
12/09/2023	44.4
13/09/2023	45.7
14/09/2023	41.0
15/09/2023	43.7
16/09/2023	49.2
17/09/2023	50.0
18/09/2023	45.6
19/09/2023	44.1
20/09/2023	43.0
21/09/2023	42.0
22/09/2023	44.2
23/09/2023	57.2
24/09/2023	56.9
25/09/2023	51.4
26/09/2023	54.0
27/09/2023	52.2
28/09/2023	49.5
29/09/2023	54.1
30/09/2023	56.3
1/10/2023	58.7
2/10/2023	52.0
3/10/2023	53.5
4/10/2023	56.6
5/10/2023	57.0
6/10/2023	56.0
7/10/2023	53.2
8/10/2023	58.2
9/10/2023	48.0
10/10/2023	48.0
11/10/2023	47.0
12/10/2023	45.1
13/10/2023	49.1
14/10/2023	48.1
15/10/2023	48.0
16/10/2023	45.0
17/10/2023	53.4
18/10/2023	58.0
19/10/2023	60.0
20/10/2023	55.0
21/10/2023	59.2
22/10/2023	64.5
23/10/2023	69.7
24/10/2023	52.7
25/10/2023	56.9
26/10/2023	47.0
27/10/2023	53.9
28/10/2023	61.0
29/10/2023	56.1
30/10/2023	47.4

31/10/2023	50.0
1/11/2023	44.8
2/11/2023	46.8
3/11/2023	44.3
4/11/2023	51.3
5/11/2023	52.9
6/11/2023	60.2
7/11/2023	49.1
8/11/2023	52.0
9/11/2023	47.0
10/11/2023	51.0
11/11/2023	55.7
12/11/2023	52.0
13/11/2023	45.5
14/11/2023	43.0
15/11/2023	48.8
16/11/2023	51.6
17/11/2023	46.5
18/11/2023	55.6
19/11/2023	62.0
20/11/2023	54.0
21/11/2023	52.9
22/11/2023	48.9
23/11/2023	44.0
24/11/2023	50.0
25/11/2023	52.7
26/11/2023	50.9
27/11/2023	50.8
28/11/2023	43.9
29/11/2023	49.2
30/11/2023	41.8
1/12/2023	44.0
2/12/2023	51.9
3/12/2023	52.7
4/12/2023	48.3
5/12/2023	42.0
6/12/2023	46.0
7/12/2023	47.0
8/12/2023	48.0
9/12/2023	51.2
10/12/2023	50.0
11/12/2023	48.2
12/12/2023	44.0
13/12/2023	43.9
14/12/2023	42.3
15/12/2023	44.0
16/12/2023	51.5
17/12/2023	52.7
18/12/2023	46.0
19/12/2023	45.8
20/12/2023	42.0
21/12/2023	48.5
22/12/2023	50.0
23/12/2023	51.9
24/12/2023	55.5
25/12/2023	55.1
26/12/2023	58.3
27/12/2023	67.1
28/12/2023	64.1
29/12/2023	62.0
30/12/2023	63.0
31/12/2023	49.8
1/01/2024	67.8
2/01/2024	66.1
3/01/2024	57.4
4/01/2024	53.0
5/01/2024	47.9
6/01/2024	54.9
7/01/2024	56.0
8/01/2024	53.0
9/01/2024	53.6
10/01/2024	55.9
11/01/2024	48.5
12/01/2024	43.8
13/01/2024	46.1
14/01/2024	49.1
15/01/2024	49.0
16/01/2024	42.4
17/01/2024	39.5
18/01/2024	40.0
19/01/2024	49.2
20/01/2024	59.9
21/01/2024	56.9
22/01/2024	52.3
23/01/2024	39.0
24/01/2024	35.0
25/01/2024	32.0
26/01/2024	36.6
27/01/2024	35.0
28/01/2024	41.4
29/01/2024	34.0
30/01/2024	35.0
31/01/2024	40.0
1/02/2024	33.2
2/02/2024	31.0
3/02/2024	66.0
4/02/2024	59.0
5/02/2024	50.9
6/02/2024	51.3
7/02/2024	35.8
8/02/2024	37.0
9/02/2024	36.4
10/02/2024	37.0
11/02/2024	37.0
12/02/2024	34.5
13/02/2024	32.4
14/02/2024	30.0
15/02/2024	33.6
16/02/2024	33.7
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30/03/2024	45.6
31/03/2024	50.0
1/04/2024	49.3
2/04/2024	39.8
3/04/2024	35.0

4/04/2024	34.0
5/04/2024	32.0
6/04/2024	30.0
7/04/2024	42.8
8/04/2024	36.2
9/04/2024	31.9
10/04/2024	32.0
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14/04/2024	40.4
15/04/2024	36.3
16/04/2024	29.9
17/04/2024	32.0
18/04/2024	30.0
19/04/2024	33.0
20/04/2024	31.9
21/04/2024	38.9
22/04/2024	34.0
23/04/2024	33.7
24/04/2024	33.0
25/04/2024	38.5
26/04/2024	51.0
27/04/2024	47.4
28/04/2024	44.0
29/04/2024	36.1
30/04/2024	40.7
1/05/2024	22.8
2/05/2024	26.2
3/05/2024	30.0
4/05/2024	37.2
5/05/2024	22.0
6/05/2024	48.1
7/05/2024	32.0
8/05/2024	34.0
9/05/2024	38.3
10/05/2024	29.1
11/05/2024	35.8
12/05/2024	39.5
13/05/2024	47.0
14/05/2024	24.5
15/05/2024	33.0
16/05/2024	38.0
17/05/2024	34.0
18/05/2024	37.6
19/05/2024	35.0
20/05/2024	38.4
21/05/2024	33.6
22/05/2024	36.8
23/05/2024	37.0
24/05/2024	34.9
25/05/2024	28.0
26/05/2024	34.1
27/05/2024	31.0
28/05/2024	33.0
29/05/2024	32.4
30/05/2024	33.0
31/05/2024	35.0
1/06/2024	43.8
2/06/2024	52.2
3/06/2024	50.2
4/06/2024	42.7
5/06/2024	13.0
6/06/2024	30.7
7/06/2024	28.6
8/06/2024	39.0
9/06/2024	24.1
10/06/2024	45.5
11/06/2024	27.0
12/06/2024	36.0
13/06/2024	35.4
14/06/2024	41.1
15/06/2024	36.0
16/06/2024	42.1
17/06/2024	50.6
18/06/2024	22.1
19/06/2024	28.9
20/06/2024	28.0
21/06/2024	45.5
22/06/2024	35.8
23/06/2024	36.3
24/06/2024	48.0
25/06/2024	41.9
26/06/2024	30.0
27/06/2024	36.0
28/06/2024	52.4
29/06/2024	67.1
30/06/2024	51.0