

South Taranaki District Council
Eltham Central Landfill
Baseline Monitoring Programme
Annual Report
2014-2015

Technical Report 2015–75

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Executive summary

In 1996 the South Taranaki District Council (STDC) instigated plans to establish a large landfill in the Eltham area. The purpose of this site was to ultimately accept waste from the South Taranaki and Stratford Districts. The plan was changed to allow for a regionalised approach to waste disposal and the site is now currently a proposed option as the replacement regional landfill once the facility at Colson Road, New Plymouth has reached capacity. The final decision is subject to review of all alternatives to be undertaken by the district councils of the region. The (proposed) Eltham Central landfill site is situated in the Waingongoro catchment on Rotokare Road approximately two kilometres south of Eltham. This report sets out the results of the baseline monitoring activities undertaken in the 2014 to 2015 period.

The STDC holds a total of five consents which contain 77 special conditions. These consents cover all aspects of the construction and operation of the landfill. At present none of the consents held by STDC in relation to landfill construction and operation have been exercised. The consents have extended lapse periods to allow for an interim period prior to exercise.

Consent conditions specify that baseline monitoring of the ground and surface receiving waters are to be undertaken to obtain data for comparison to that gathered from compliance monitoring surveys when the landfill has commenced operations.

The monitoring showed that surface water quality was comparable to that found during the previous monitoring period and was indicative of good water quality when compared to that expected in similar streams in the area.

As baseline monitoring has been undertaken for a number of years, monitoring during the 2014-2015 year had been scaled back to consist of the collection and analysis of six surface water samples.

This report outlines all of the consents held by the STDC, reports on the baseline monitoring activities carried out in the 2014-2015 period, and discusses these results along with the previously obtained groundwater monitoring results.

STDC demonstrated a high level of administrative compliance with its resource consents. No rating is given for environmental effects as none of the consents have been exercised.

No incidents were recorded by Council in regards to this site during the period under review.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

This report includes recommendation for the 2015-2016 year along with recommendations regarding the reinstatement of additional baseline monitoring two years prior to the commencement of consented activities at the site.

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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 the Annual Report for the period July 2014-June 2015 by the Taranaki Regional Council (the Council) on the monitoring programme associated with resource consents held by the South Taranaki District Council (STDC) for a proposed regional landfill. STDC has consents to establish and operate a landfill situated on Rotokare Road, two kilometres south of Eltham in the Waingongoro catchment.

This report covers the results and findings of the baseline monitoring programme implemented by the Council in respect of the resource consents held by STDC that relate damming, diverting and installing structures in tributaries of the Waingongoro Stream, discharges to water, air and land associated with the establishment and operation of a proposed regional landfill in the Waingongoro catchment. It is noted that this report is for baseline environmental monitoring of the existing environment at the site as none of the consents associated with the landfill have been exercised.

One of the intents of the *Resource Management Act 1991* (RMA) is that environmental management should be integrated across all media, so that a consent holder's use of water, air, and land can be considered from a single comprehensive environmental perspective. Accordingly, the Council generally implements integrated environmental monitoring programmes and reports the results of the programmes jointly. This report discusses the condition of the existing environment prior to any environmental effects from the Eltham Central landfill's use of water, land and air, and is the eighth combined report by the Council for the STDC.

1.1.2 Structure of this report

Section 1 of this report is a background section. It sets out general information about compliance monitoring under the RMA and the Council's obligations and general approach to monitoring sites through annual programmes, the resource consents held by the STDC for the Eltham Central landfill the nature of the monitoring programme in place for the period under review, and a description of the activities and operations conducted in the Waingongoro catchment.

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

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

Section 4 presents recommendations to be implemented in the 2015-2016 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);
- (e) risks to the neighbourhood or environment.

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

1.1.4 Evaluation of environmental and administrative performance

Besides discussing the various details of the performance and extent of compliance by the consent holder during the period under review, this report also assigns a rating as to the consent holder's 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 interpretations, are as follows:

Environmental Performance

- **High:** No or inconsequential (short-term duration, less than minor in severity) breaches of consent or regional plan parameters resulting from the activity; no adverse effects of significance noted or likely in the receiving environment. The Council did not record any verified unauthorised incidents involving significant environmental impacts and was not obliged to issue any abatement notices or infringement notices in relation to such impacts.
- **Good:** Likely or actual adverse effects of activities on the receiving environment were negligible or minor at most. There were some such issues noted during monitoring, from self reports, or in response to unauthorised incident reports, but these items were not critical, and follow-up inspections showed they have been dealt with. These minor issues were resolved positively, co-operatively, and quickly. The Council was not obliged to issue any abatement notices or infringement notices in relation to the minor non-compliant effects; however abatement notices may have been issued to mitigate an identified potential for an environmental effect to occur.

For example:

- High suspended solid values recorded in discharge samples, however the discharge was to land or to receiving waters that were in high flow at the time;
- Strong odour beyond boundary but no residential properties or other recipient nearby.
- **Improvement required:** Likely or actual adverse effects of activities on the receiving environment were more than minor, but not substantial. There were some issues noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent minor non-compliant activity could elevate a minor issue to this level. Abatement notices and infringement notices may have been issued in respect of effects.
- **Poor:** Likely or actual adverse effects of activities on the receiving environment were significant. There were some items noted during monitoring, from self reports, or in response to unauthorised incident reports. Cumulative adverse effects of a persistent moderate non-compliant activity could elevate an 'improvement required' issue to this level. Typically there were grounds for either a prosecution or an infringement notice in respect of effects.

Administrative compliance

- **High:** The administrative requirements of the resource consents were met, or any failures to do this had trivial consequences and were addressed promptly and co-operatively.
- **Good:** Perhaps some administrative requirements of the resource consents were not met at a particular time, however this was addressed without repeated interventions from the Council staff. Alternatively adequate reason was

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

- **Improvement required:** Repeated interventions to meet the administrative requirements of the resource consents were made by Council staff. These matters took some time to resolve, or remained unresolved at the end of the period under review. The Council may have issued an abatement notice to attain compliance.
- **Poor:** Material failings to meet the administrative requirements of the resource consents. Significant intervention by the Council was required. Typically there were grounds for an infringement notice.

For reference, in the 2014-2015 year, 75% of consent holders in Taranaki monitored through tailored compliance monitoring programmes achieved a high level of environmental performance and compliance with their consents, while another 22% demonstrated a good level of environmental performance and compliance with their consents.

1.2 Process description

STDC has established a proposed landfill site in Eltham at Rotokare Road, on the east side of State Highway 3 and approximately two kilometres south of the Eltham Township. The site of the proposed landfill is a 92 ha farm that is owned by STDC and will continue to be farmed until construction of the landfill commences. The landfilling operation will utilise approximately 5 ha of the site at any one time and the site has a capacity of 2,200,000 m³. Access to the site is proposed to be from Rotokare Road. The proposed landfill will be a fully engineered facility with a 1.5 mm high density poly ethylene (HDPE) liner laid over a 600 mm layer of compacted clay. Leachate will be collected by leachate lines and transferred to the sewer pipeline that runs between the Eltham oxidation ponds and the Hawera waste water treatment plant (WWTP).

Consents 5347, 5348, 5349, 5350, and 5351 were granted on 15 March 2000 with the expectation that, within three years, landfill space available to STDC at other landfill sites in the district would be full and that the Eltham site would commence operation (exercise of consent) within the five year lapse period set in the consents for the site.

However, during the intervening period, a plan was developed and agreed on by the three district councils in the region that saw a regionalised approach to waste management being implemented by the district councils. Part of this plan was to route all municipal waste in the region to Colson Road landfill in New Plymouth, with the eventual closure of all other municipal landfills in the region. When the Colson Road landfill approaches its projected capacity the plan calls for Eltham Central landfill to be commissioned to take over as the regional landfill for Taranaki.

This plan, whilst presenting the region with the best option for future waste disposal, is subject to a final review of other alternative sites (whether inside or outside the region).

In July 2005 the STDC was granted changes to consent conditions to increase the consent lapse periods from 5 years to 20 years. These changes allow for the extended timeframes resulting from the change of designation from proposed district to proposed regional landfill.

The site itself consists of a large bowl shaped valley, which makes it well suited to use as a landfill site. The proposed landfill foot print contains the headwaters of an unnamed tributary that eventually feeds into the Waingongoro River, approximately two kilometres to the northwest of the site. Several groundwater bores and freshwater sampling sites have been established for the purposes of baseline monitoring.

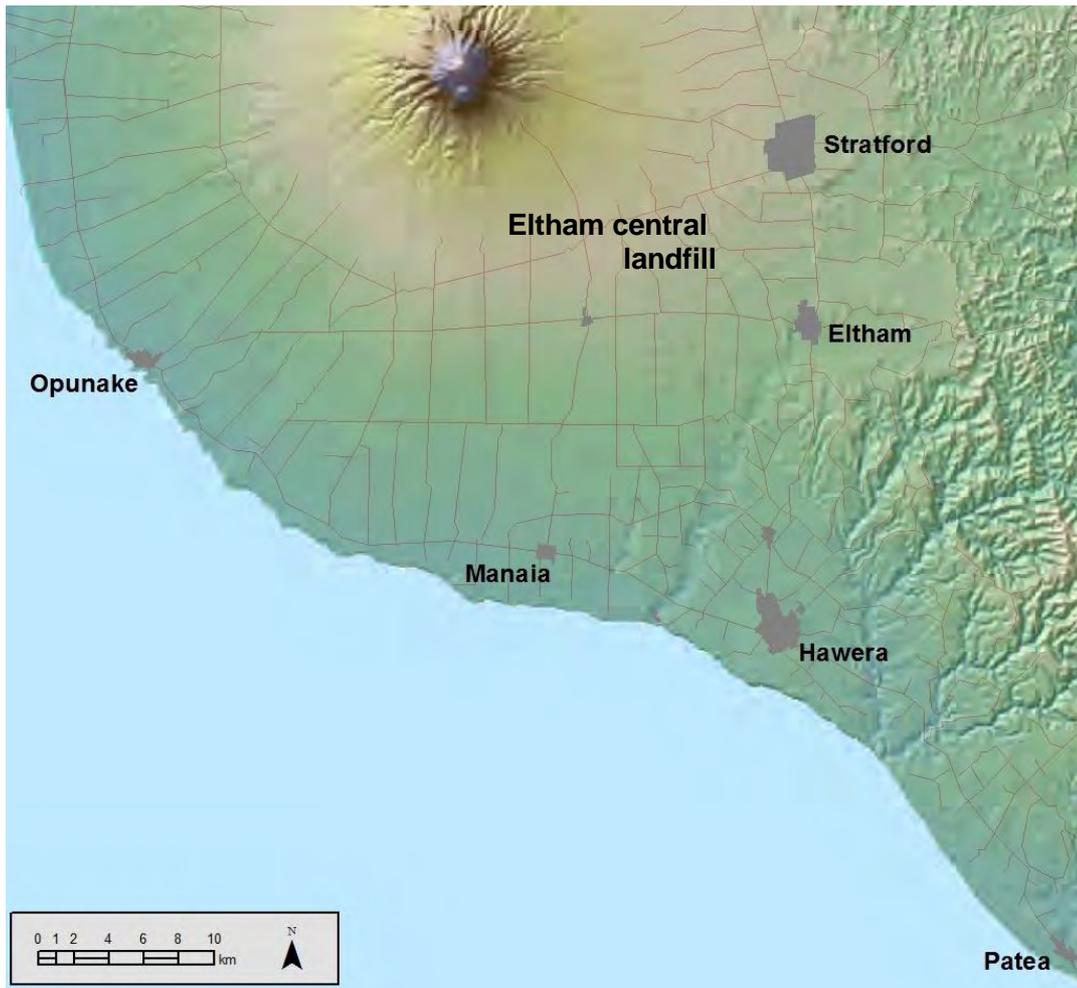


Figure 1 Regional map of Taranaki showing the location the Eltham Central landfill site



Photo 1 Eltham Central landfill site (north westerly view from the east side of the site)



Photo 2 Eltham Central landfill site (westerly view from the east side of the site)



Photo 3 Eltham Central landfill site (south westerly view from the east side of the site)

1.3 Resource consents

Table 1 Summary of resource consents held by the STDC for the Eltham Central landfill

Consent	Description	Review dates	Expiry
5347-1	To discharge contaminants onto and into land	June 2017 June 2023 June 2029	June 2034
5348-1	To discharge emissions into the air		
5349-1	To discharge stormwater		
5350-1	To dam and divert water		
5351-1	To erect, place and maintain structures in the beds of the unnamed tributaries		

The permits are discussed further in sections 1.3.1 to 1.3.5 below, with copies attached to this report in Appendix 1.

1.3.1 Water permit

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.

Maintaining sufficient volumes of water within streams and rivers to protect aquatic habitat is a primary concern of the Council with respect to water permits.

The STDC holds consent **5350-1** to dam and divert water around the Central landfill and into the headwaters of the Waingongoro River.

This permit was issued by the Council on 15 March 2000 under Section 87(d) of the RMA. It is due to expire on 1 June 2034.

Condition 1 requires the submission of a Landfill Management Plan three months prior to the exercise of the consent and states that this plan must be adhered to at all times.

Conditions 2 and 3 relate to stormwater control and diversion to prevent or minimise erosion and land instability.

Condition 4 requires the rehabilitation of land destabilised or eroded by earthworks and construction.

Condition 5 requires an Annual Monitoring Plan to be provided by the consent holder, with the initial plan to be provided to the Council at least six months prior to any dam construction.

Condition 6 stipulates that all structures and earthworks are to be certified by a registered engineer, with a copy of the certificates provided to the Council.

Condition 7 sets out the requirements for a Neighbourhood Liaison Committee.

Condition 8 specifies that the consent will lapse after a 20 year period if the consent is not exercised.

Condition 9 restricts the matters for which variations to the consent may be sought.

Condition 10 contains review provisions.

1.3.2 Water discharge permit

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.

The STDC holds consent **5349-1** to discharge up to 15,000 m³/day of uncontaminated stormwater and 4,000 m³/day of treated stormwater onto and into land and into an unnamed tributary of the Waingongoro River. This permit was issued by the Council on 15 March 2000 under Section 87(e) of the RMA. It is due to expire on 1 June 2034.

Condition 1 requires the submission of a Landfill Management Plan three months prior to the exercise of the consent and states that this plan must be adhered to at all times.

Condition 2 prohibits the discharge of any leachate.

Conditions 3, 5, 6 and 15 deal with the management and certification of the on site stormwater systems and prohibit the direct discharge of contaminated stormwater.

Condition 4 requires the adoption of the best practicable option to prevent or minimise effects.

Conditions 7 and 8 specify the mixing zone, prohibit specific effects and give parameter limits for certain components in the receiving waters.

Conditions 9, 10 and 11 relate to the minimisation of the disturbance of vegetation, erosion and destabilising of land due to construction and stormwater runoff, and require remediation if necessary.

Conditions 13 and 14 relate to site monitoring. These conditions require that an Annual Monitoring Plan be provided by the consent holder, with the initial plan to be provided to the Council at least six months prior to exercise of the consent. The results must also be provided to the Council by 31 August each year.

Condition 16 sets out the requirements for a Neighbourhood Liaison Committee.

Condition 17 specifies that the consent will lapse after a 20 year period if the consent is not exercised.

Condition 18 restricts the matters for which variations to the consent may be sought.

Condition 19 contains review provisions.

1.3.3 Air discharge permit

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

The STDC holds consent **5348-1** to discharge emissions into the air from landfilling activities. This permit was issued by the Council on 15 March 2000 under Section 87(e) of the RMA. It is due to expire on 1 June 2034.

Condition 1 requires the submission of a Landfill Management Plan three months prior to the exercise of the consent and states that this plan must be adhered to at all times.

Condition 2 requires the adoption of the best practicable option to prevent or minimise effects.

Conditions 3, 4 and 5 specify the nature of prohibited discharges to air and require that dust is controlled.

Conditions 6 and 7 prohibit burning and composting on the site.

Condition 8 relates to gas venting and extraction, prohibiting this to occur within 200 m of the site boundary.

Condition 9 requires all practicable steps be taken to minimise the discharge of contaminants from the site, and includes specific requirements in relation to the method of disposal, compaction and daily cover.

Conditions 10, 11, 12, 14 and 15 relate to monitoring and record keeping. These conditions:

- require that an Annual Monitoring Plan be provided by the consent holder, with the initial plan to be provided to the Council at least six months prior to exercise of the consent,
- specify the minimum monitoring required,
- require the installation of meteorological station be installed along with specifying the timing of the installation and parameters to be recorded,
- specifies the records that are to be kept, their availability and the reporting of them to the Council.

Conditions 13 and 16 relate to the handling of complaints and the formation of a Neighbourhood Liaison Committee.

Condition 17 specifies a lapse period of 20 years if the consent is not exercised.

Condition 18 restricts the matters for which variations to the consent may be sought.

Condition 19 is a review condition.

1.3.4 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.

The STDC holds consent **5347-1** to discharge contaminants onto and into land. This permit was issued by the Council on 20 July 2000 under Section 87(e) of the RMA. It is due to expire on 1 June 2034.

Conditions 1 and 2 require the submission of a Landfill Management Plan three months prior to the exercise of the consent and state that this plan must be adhered to at all times.

Condition 3 requires that the consent holder meets the costs of the Council retaining a Technical Advisor, and outlines the work that the Advisor may be contracted to undertake on the Council's behalf.

Conditions 4 and 5 relate to landfill construction.

Conditions 7, 8, 9, 10, 11, 12 and 13 specify the types of waste that may and may not be accepted, and the way in which certain waste materials must be managed.

Conditions 14, 15 and 16 relate, in general terms, to the manner in which the wastes are to be discharged and managed.

Conditions 17 and 18 specify monitoring requirements. The consent holder is required to submit an Annual Monitoring Plan to the Council at least six months prior to exercise of the consent. These conditions specify the minimum level of monitoring

that must be undertaken and stipulate who the results must be reported and/or made available to.

Conditions 19, 20, and 21 control the areas from which stormwater may be discharged, leachate containment and on site monitoring.

Conditions 22 and 23 relate to record keeping and notification.

Condition 24 sets out the requirements for the set up of a Neighbourhood Liaison Committee.

Condition 25 specifies that the consent will lapse after a 20 year period if the consent is not exercised.

Condition 26 restricts the matters for which variations to the consent maybe sought.

Condition 27 contains review provisions.

1.3.5 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.

The STDC holds consent **5351-1** to erect, place and maintain structures in the beds of unnamed tributaries of the Waingongoro River for construction and maintenance. This permit was issued by the Council on 20 July 2005 under Section 87(e) of the RMA. It is due to expire on 1 June 2034.

Condition 1 requires the submission of a Landfill Management Plan three months prior to the exercise of the consent and states that this plan must be adhered to at all times.

Conditions 2 sets outs the environmental effects that the exercise of this consent shall not give rise to.

Conditions 3, 4 and 5 deal with the minimisation of erosion and rehabilitation at the site.

Condition 6 requires an Annual Monitoring Plan to be provided by the consent holder, with the initial plan to be provided to the Council at least six months prior to the exercise of the consent.

Condition 7 specifies that the works be certified by a registered engineer and that a copy of the certification documents are to be provided to the Council.

Condition 8 requires removal and reinstatement when structures are no longer required.

Condition 9 sets out the requirements for the set up of a Neighbourhood Liaison Committee.

Condition 10 specifies a lapse period of 20 years if the consent is not exercised.

Condition 11 restricts the matters for which variations to the consent may be sought.

Condition 12 contains review provisions.

1.4 Monitoring programme

1.4.1 Introduction

Section 35 of the RMA sets out obligations upon the Council to gather information, monitor and conduct research on the exercise of resource consents, and the effects arising, within the Taranaki region and report upon these.

The 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 Eltham site in the 2014-2015 year consisted of sampling of the surface waters.

1.4.2 Programme liaison and management

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

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

1.4.3 Site inspections

Site inspections were only scheduled to be carried out to monitor landfill construction and operation. As these have been delayed, routine compliance monitoring inspections have been put in abeyance until preparations for construction begin.

The Eltham landfill site was however visited once during the monitoring period for an on site meeting and to view the proposed location for a new meteorological station.

1.4.4 Chemical sampling

The Council undertook baseline monitoring of the receiving waters below the proposed landfill site.

The programme included the sampling of three surface water sites on two occasions, however, the second survey was undertaken on 10 July 2015 and therefore will be discussed in the report covering that period.

1.4.5 Biomonitoring surveys

Biomonitoring was undertaken last in May 2012.

In summary, that survey found that overall, the results were indicative of poor to fair preceding water quality but were well within the recorded historical range for each site, and also within the range of results for 'control' sites in similar streams at altitudes between 200 and 249 m above sea level. These results were reflective of the nature of this seepage fed, weedy, soft bottomed slow flowing stream.

The survey further extended macroinvertebrate fauna data providing baseline information for future evaluation of the effects of the proposed Central landfill at Eltham, near the headwaters of a small, spring fed tributary toward the middle of the Waingongoro River catchment.

Monitoring will next be undertaken prior to construction of the landfill.

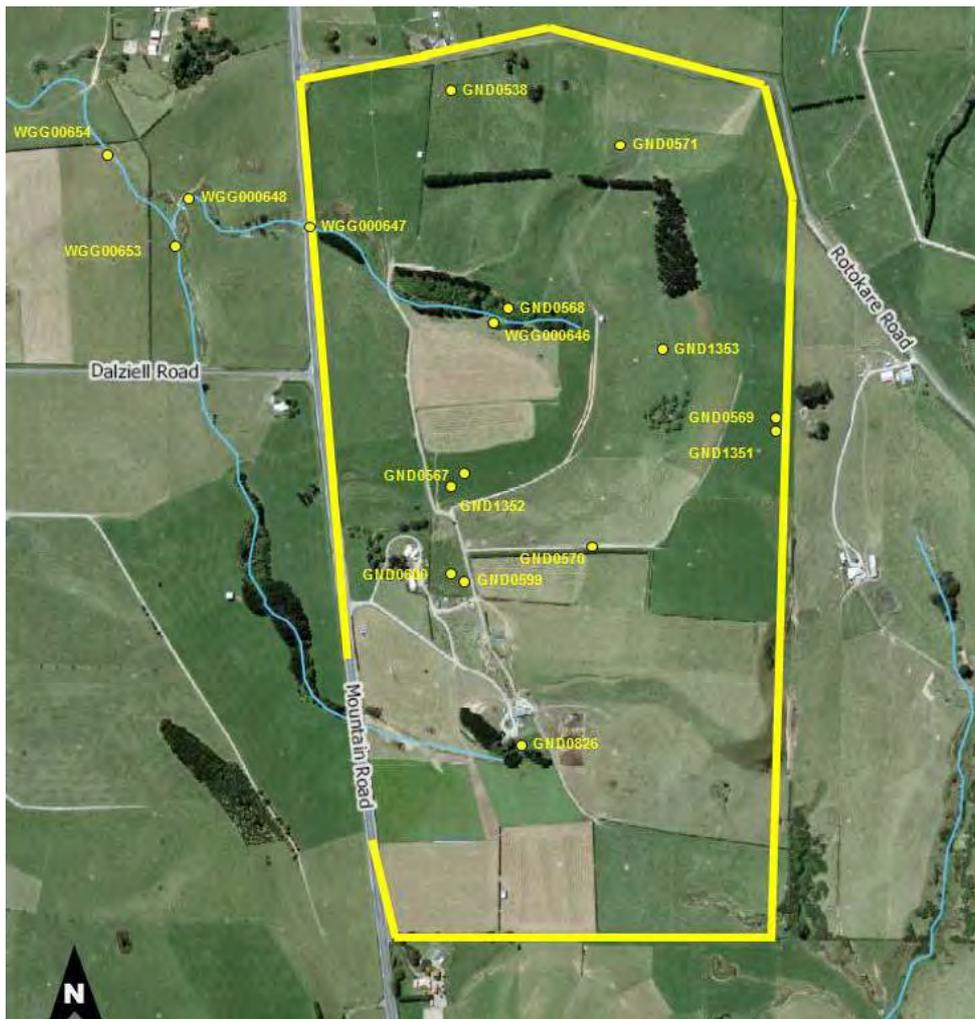


Figure 2 Aerial view of the Eltham Central landfill site and sampling points

2. Results

2.1 Water

2.1.1 Inspections

No formal inspections were undertaken during the monitoring period as the consents have not been exercised. However, the site was visited on 8 July 2014 and no significant issues were noted during this visit.

8 July 2014

The site was visited primarily to discuss relocation of weather station. The proposed new location was identified, and was considered acceptable to Council staff. The inspecting officer was informed that a meeting was to be held within STDC later that afternoon to discuss the way forward regarding the on site weather station. It was agreed that the Council would be notified of the outcome of the meeting.

At inspection it was found that the only work that had been undertaken on site was the planting of trees around the edges of the proposed fill area. STDC staff indicated that work would be undertaken to clear growth of grass around the trees, as it was potentially restricting their growth. The Council was also advised that it was expected that the landfill might be in use within about 5 years, and that preparation works may start in about three and a half years or there about.

The existing weather station was visited and it was observed that grass had grown taller than the level of the rain gauge, and that there were grass seedlings growing in the rain gauge.

2.1.2 Results of surface water monitoring

Sampling of three sites was undertaken on two occasions (15 April 2015 and 10 July 2015). The results of the survey undertaken in April 2014 are presented in Table 2, however the results of the sampling undertaken on 10 July 2015 will be presented in the report covering the 2015-2016 period.

Table 2 Results of surface water sampling at the Eltham Central landfill

Parameter	Unit	30 August 2013		
		WGG000647 landfill trib d/s of site	WGG000653 u/s landfill trib	WGG000654 d/s landfill trib
Alkalinity	g/m ³	56	61	56
Conductivity	mS/m	22.6	24.9	25
Hardness	g/m ³ .CaCO ₃	66	78	75
Unionised ammonia	g/m ³ -N	0.00006	0.00014	0.00017
Ammoniacal nitrogen	g/m ³ -N	0.018	0.041	0.031
pH	pH	7.1	7.0	7.2
Suspended solids	g/m ³	12	12	8
Temperature	Deg C	11.3	15.5	15.4
Acid soluble zinc	g/m ³	<0.005	<0.005	<0.005
Dissolved zinc	g/m ³	<0.005	<0.005	<0.005

The results for most parameters of the surface water are as expected for the site in its current use (dairy farming). The levels of zinc, alkalinity and conductivity are low and stable. The results from this monitoring period are comparable to those found over the previous monitoring period and indicate good water quality.

As the site contains the whole catchment for the headwaters of the unnamed tributary, monitoring the effects of future landfill operations on the surface waters will be relatively straightforward.

Historical surface water data for the proposed landfill site for selected parameters is shown in Figures 3-6.

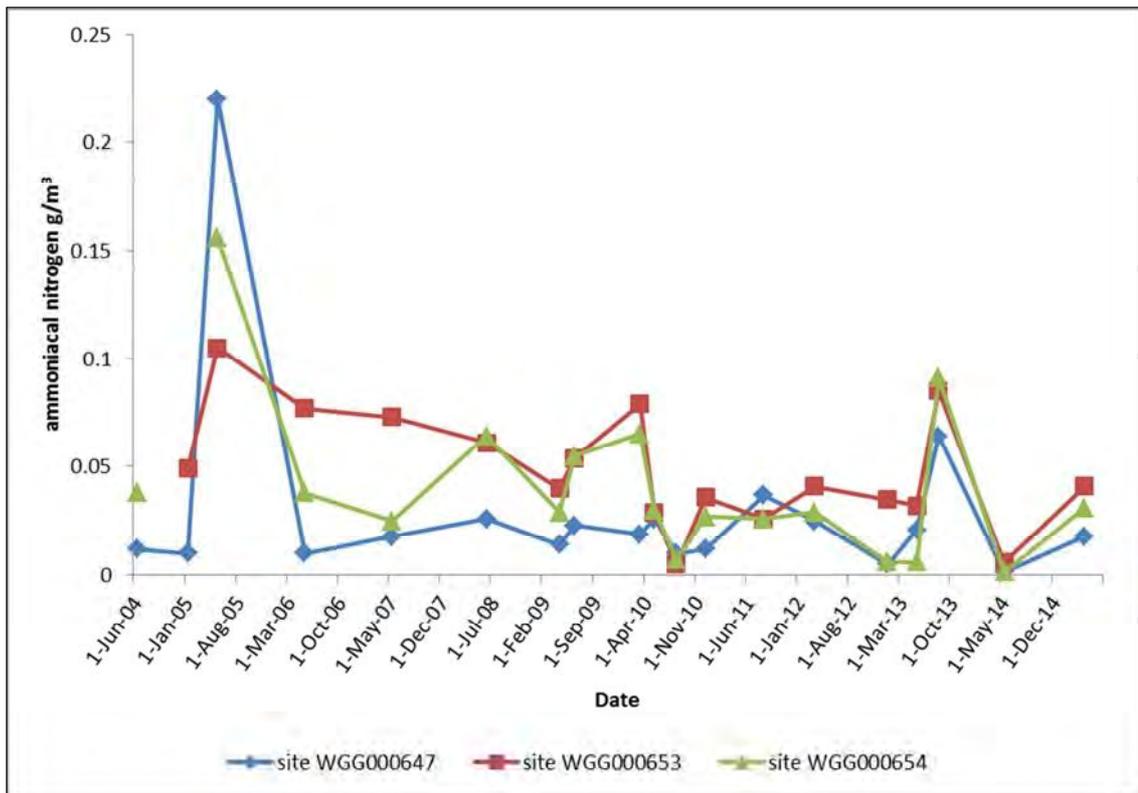


Figure 3 Ammoniacal nitrogen levels found in surface water at the Central landfill site, 2004-2015

As the graph shows, all of the sites exhibit comparative fluctuations in the levels of ammoniacal nitrogen. All the results are for surface waters in pastoral areas, and when taken in conjunction with pH and temperature measurements, the level of free ammonia has never exceeded 0.001 g/m^3 at any of the sites, This is well within the 0.025 g/m^3 guideline for aquatic ecosystem protection.

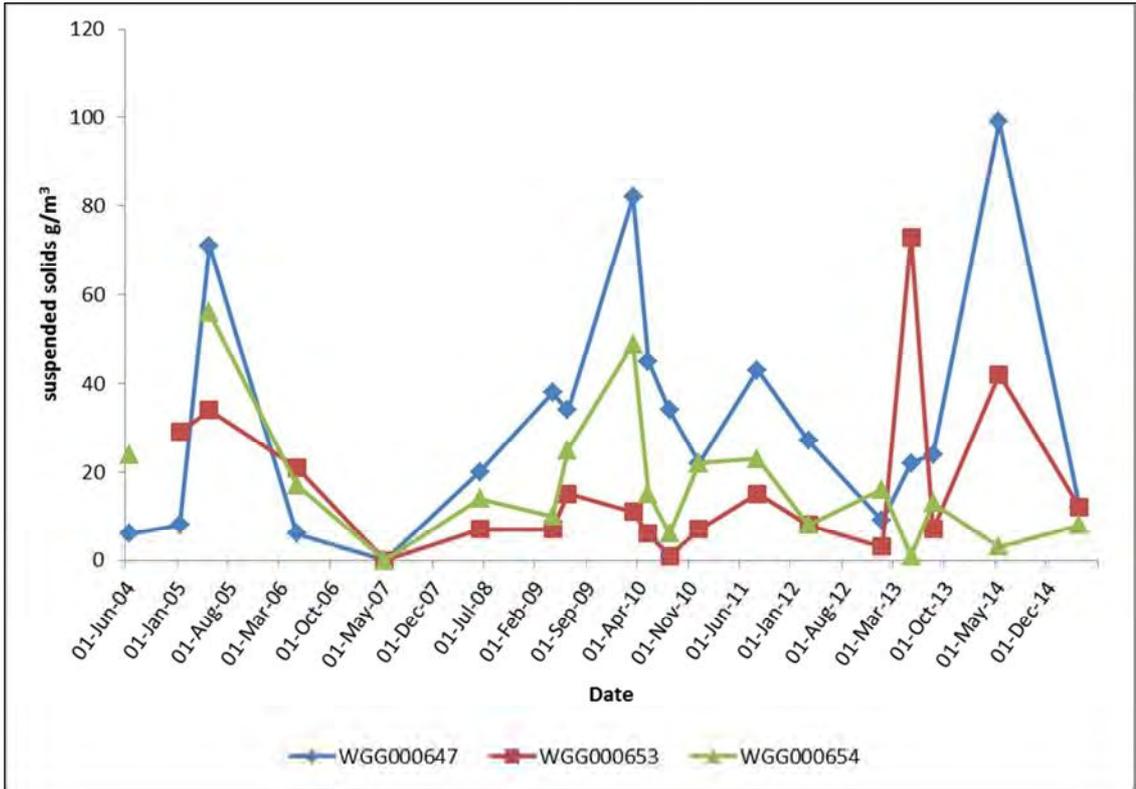


Figure 4 Suspended solids levels found in surface water at the Central landfill site, 2004-2015

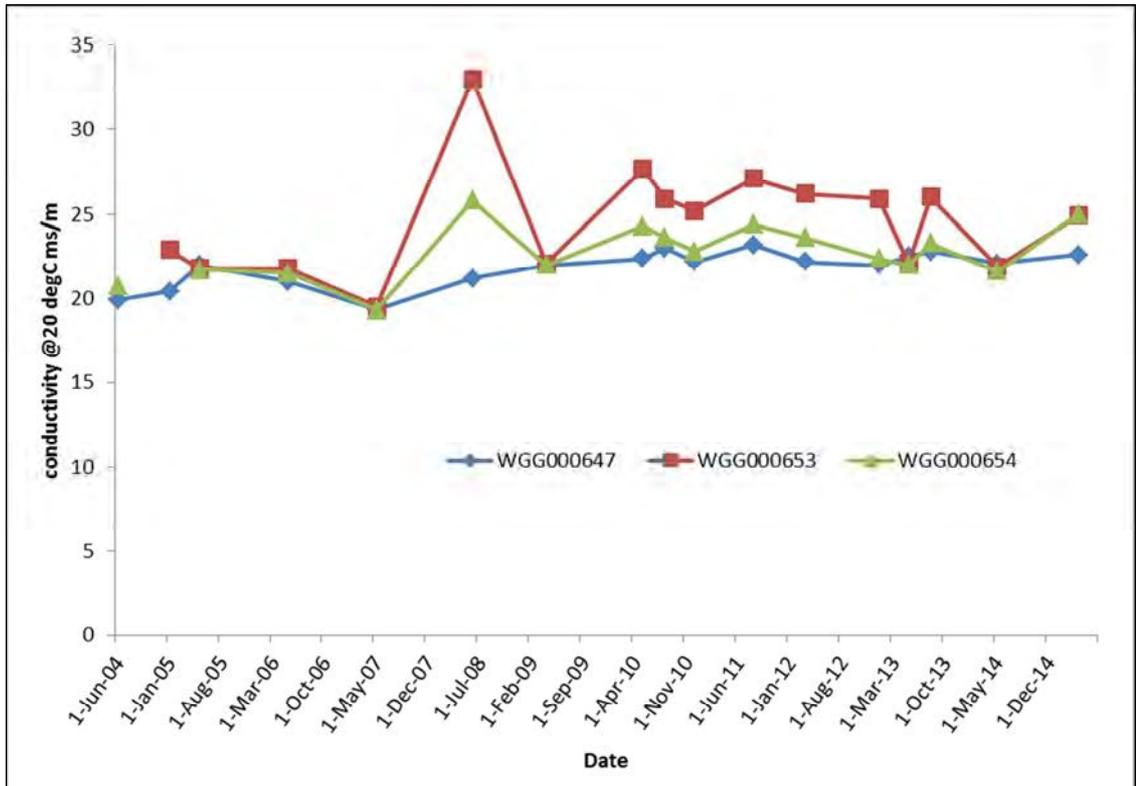


Figure 5 Conductivity levels found in surface water at the Central landfill site, 2004-2014

The level of suspended solids also fluctuate over time with a range of <2 to 99 g/m³ recorded over all the sites. The unnamed tributaries on this site are generally small, clear running, low energy brooks with silty beds, however with increased rainfall the suspended solids level can rise quite quickly as silt is stirred up from the beds and edges of the streams, which becomes entrained in the flow. Overall the level of suspended solids indicates good water quality in the stream system.

Apart from a slight comparative spike in conductivity levels in the results for June 2008 in the downstream sites, the overall levels are quite stable. All but three results are in the 18-25 mS/m range, which indicates that there are only moderate to low levels of dissolved metals in this stream system.

Overall water quality downstream of the proposed landfill site is quite good and is comparable to that expected in similar streams in the area.

2.1.3 Groundwater monitoring

Groundwater monitoring has previously consisted of sampling of three shallow groundwater bores and measuring the groundwater levels in up to nine bores. The bore locations are shown in Figure 2.

2.1.3.1 Groundwater level and flow

This monitoring has been put in abeyance until the two years prior to construction activities commencing at the site.

Groundwater level readings were last taken at six bores in the 2013-2014 period. There have been a total of 151 readings taken from up to nine bores since 2005. As time has gone on some of the bores have fallen into disrepair and could not be sampled.

The data collected to June 2014 is shown in Figure 6.

As Figure 6 shows, the level of groundwater for each bore appears to have been relatively stable and have not displayed any significant seasonal variations.

In Figure 7 a vector model is presented that uses two surfaces generated from the average water levels of two bore sets selected from the shallower bores on the site. The two sets of bores used to generate the vector surfaces are shown in Table 3. It is noted that the vector model only gives a simplified indication of shallow groundwater flow direction from the limited data available.

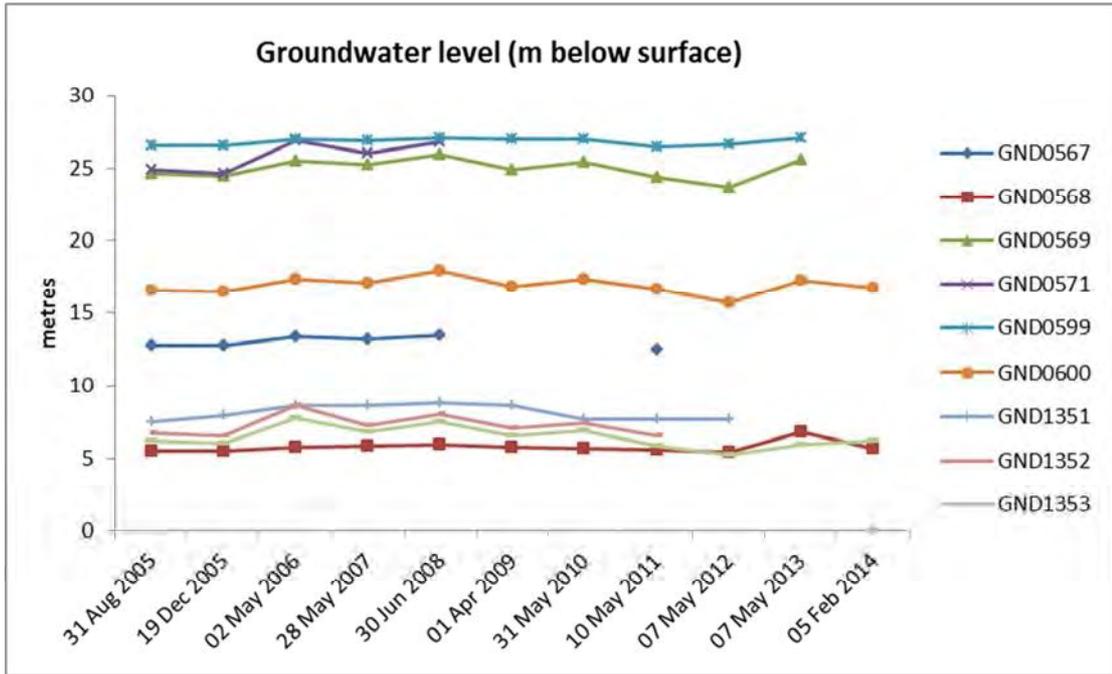


Figure 6 Groundwater levels found at the Eltham Central landfill, 2005-2014

Table 3 Data sets used to generate the groundwater flow vector model

Northern Surface			Southern Surface		
Bore	Bore elevation(m)	Average water level above Datum (m)	Bore	Bore elevation (m)	Average water level above Datum (m)
GND0571	92	66.166	GND1351	91.9	83.54
GND0568	69.7	63.95833	GND0600	125	107.9767
GND1353	80	73.18	GND1352	71.5	64.10667
GND1351	91.9	83.54			

This simple model agrees with the information supplied with the original application, which stated that the shallow groundwater flow within the landfill is largely affected by topography and generally drains toward the headwater of the unnamed tributary of the Waingongoro Stream (shown in blue). Bore GND1351 is very close to the boundary of the Tangahoe Catchment, and groundwater at this location may tend to drain south east to the headwaters of the nearby Tawhiti Stream. Overall, it would appear that most of the shallower groundwater flow from within the landfill basin area will tend to flow west toward State Highway 3 (Mountain Road) feeding the Waingongoro tributary system and the shallow aquifer immediately west of the highway.

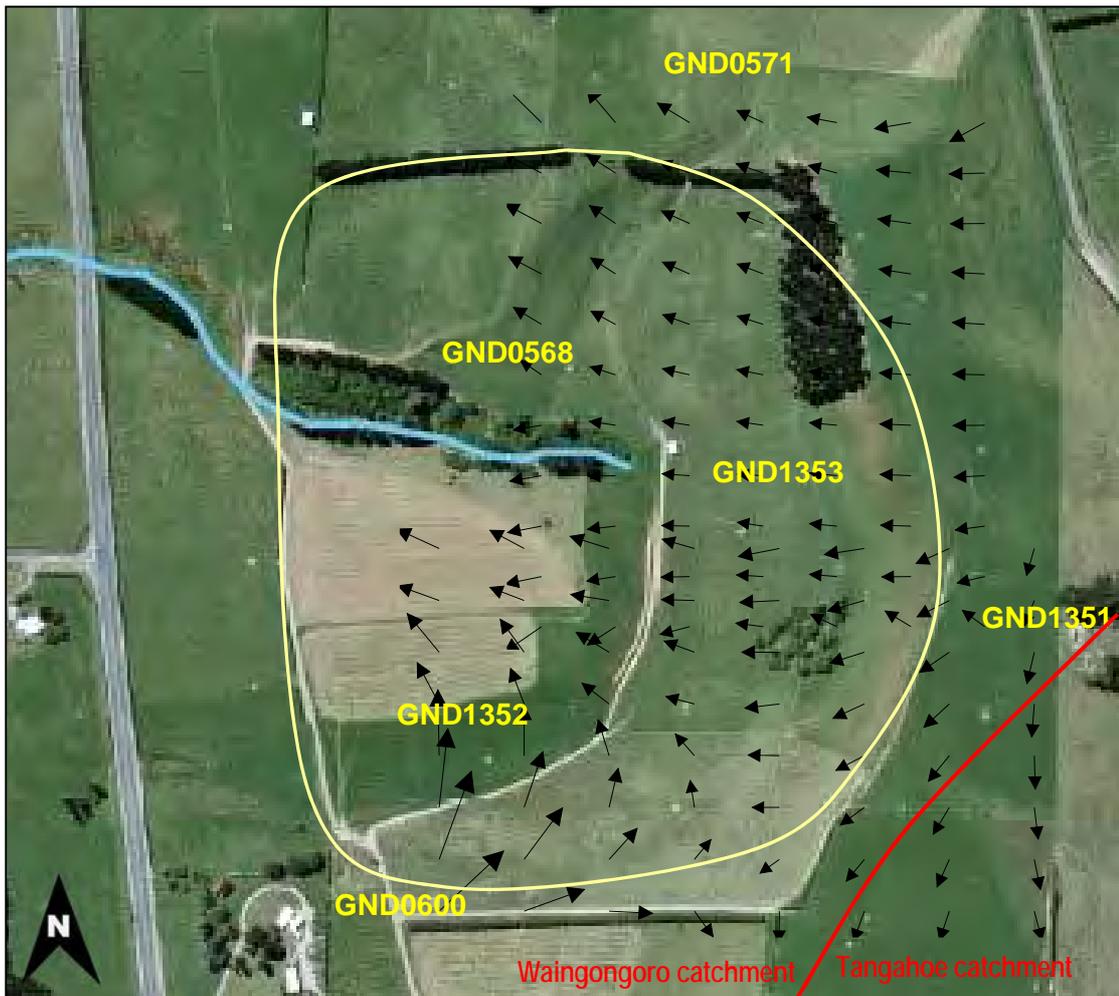


Figure 7 Simplified groundwater flow direction models at the Eltham Central Landfill site

2.1.3.2 Chemical parameters

Chemical monitoring of the groundwater has also been put in abeyance until two years prior to the construction activities commencing.

The last time chemical monitoring of the groundwater was undertaken at this site was in the 2013-2014 year. The graphs provided in Figures 8-13 illustrate the trends over time for a number of selected parameters. The data collected so far is baseline data prior to any consented activity at the site. The variations in groundwater quality can therefore be considered as natural, or at most, the results of subtle pressures exerted on groundwater quality by the grazing and dairying activities currently undertaken at the site. However, further evaluation of the effect of recharge flow from the surrounding hills and of the vertical component of groundwater may be needed in order to enhance the understanding of the distribution of groundwater quality prior to the exercise of the consents.

Conductivity levels over the whole site range between 15 and 35 mS/m. This indicates that the groundwater has relatively low levels of dissolved solids and that groundwater quality is quite good in this regard. Over the period that the groundwater has been monitored, the conductivity level for each bore also appears to be quite stable. The only exceptions to this are bores GND0600 and GND0567

which have exhibited a tendency to increase over time. Bore GND0567 is no longer sampled due the deteriorated physical condition of the bore so it is not known if this rise has continued.

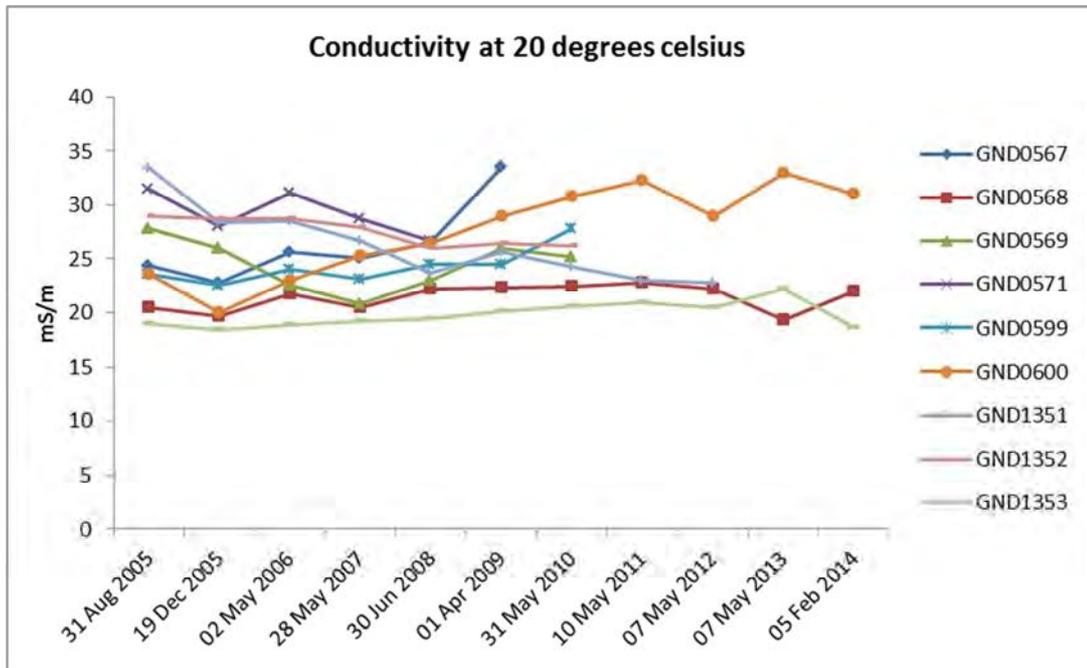


Figure 8 Conductivity found in the groundwater at Eltham Central landfill

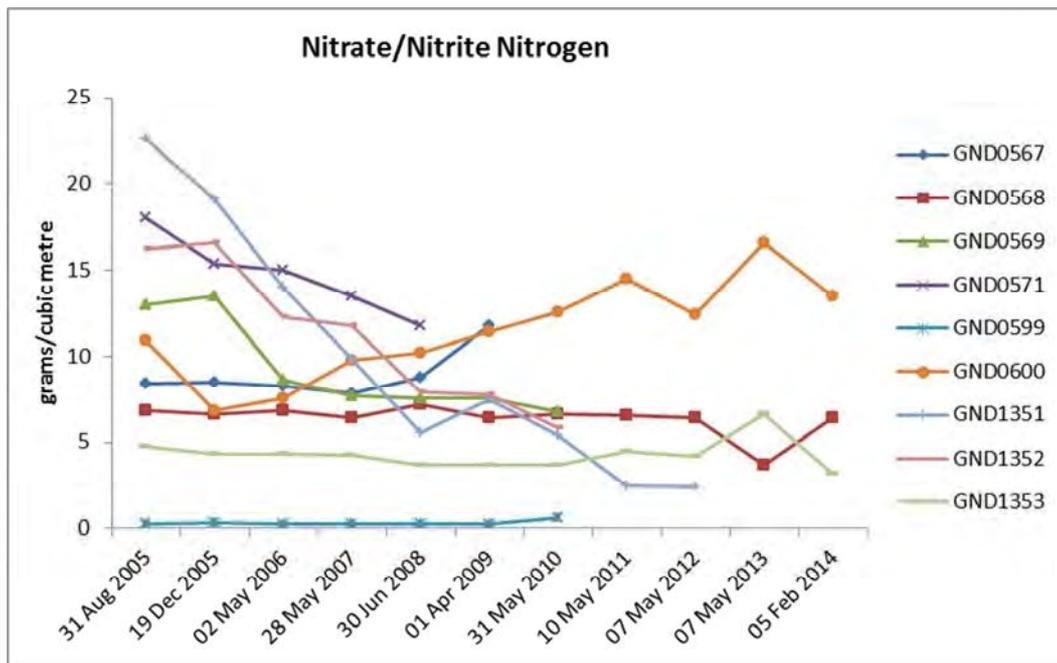


Figure 9 Nitrate/nitrite levels found in the groundwater at Eltham Central landfill

Nitrite and nitrate levels show some variability with some sites showing slight increases and others showing decreases in concentration (Figure 9). Bore GND0599 is the exception and groundwater from this bore has had very low and stable levels of nitrite/nitrate (and a higher pH) when compared to the other sites. However this bore is far deeper than the others (83 m) and reaches into the Tangahoe formation, which may explain these differences in nitrite/nitrate levels. All the other bores are

between 9 and 36 metres deep and draw water from an aquifer in the shallower volcanic layers, and are therefore more likely to be affected by current surface activities such as the application of fertiliser and grazing.

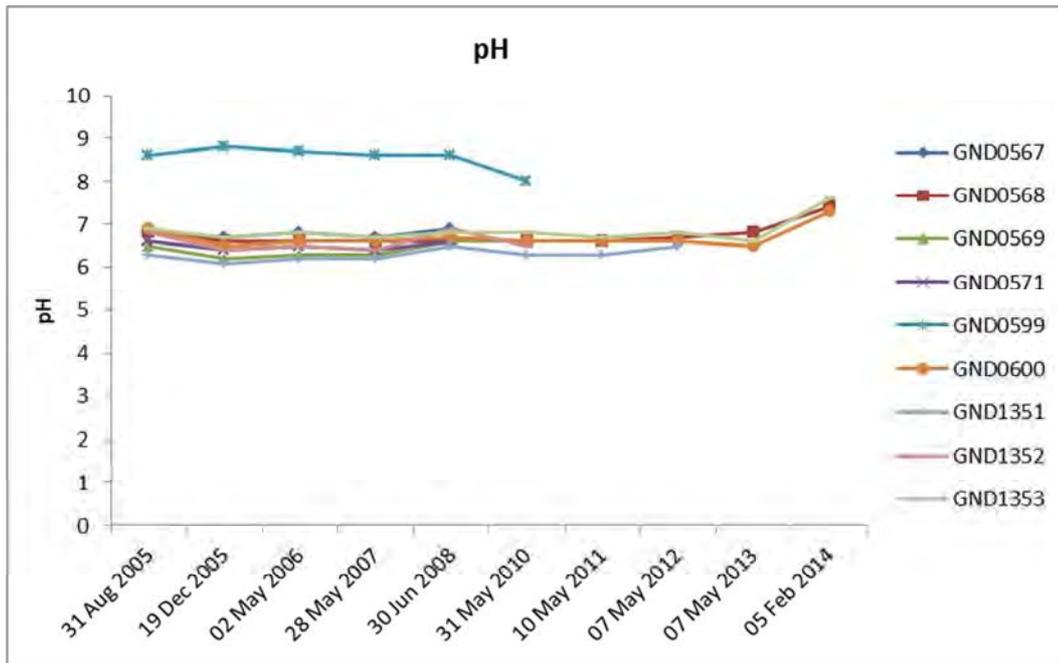


Figure 10 pH found in the groundwater at Eltham Central landfill

As the graph in Figure 10 shows, the pH level of the shallow aquifer appears stable over time. Also noted is that across all bores the pH level is very similar with an overall average across all sites over the 2005-2014 period being 6.8. The deeper Tangahoe formation bore (GND0599) exhibits a significantly higher pH with an average of 8.6. The pH for this bore also appears to be relatively stable over time.

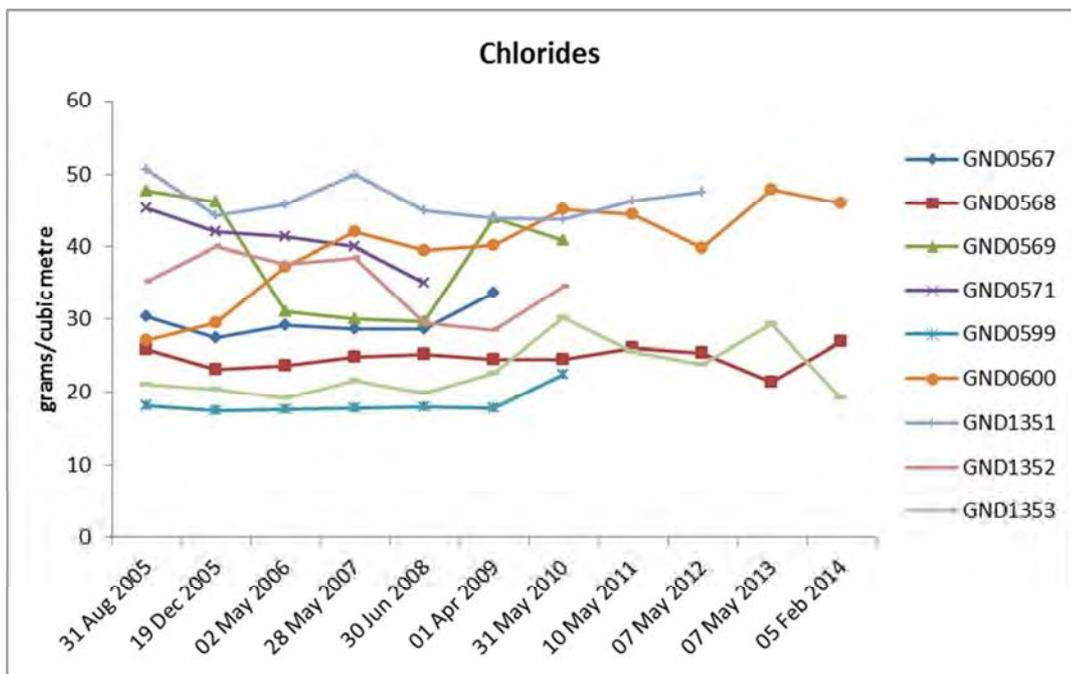


Figure 11 Chloride levels found in the groundwater at Eltham Central landfill

Chlorides and hardness are in the normal ranges for Taranaki groundwater (Figure 11). As with other parameters, the deeper Tangahoe formation bore (GND0599) exhibits slightly more stability than the shallower bores.

The fluctuations in acid soluble iron are quite pronounced in bores GND0569, 0571 and 1351 (Figure 12). However, this analytical method is sensitive to contamination from any suspended solids included in the sample that would otherwise be immobile in the groundwater. By including analyses for dissolved iron, as well as acid soluble iron when this monitoring is recommenced, this may level out such spikes in concentration.

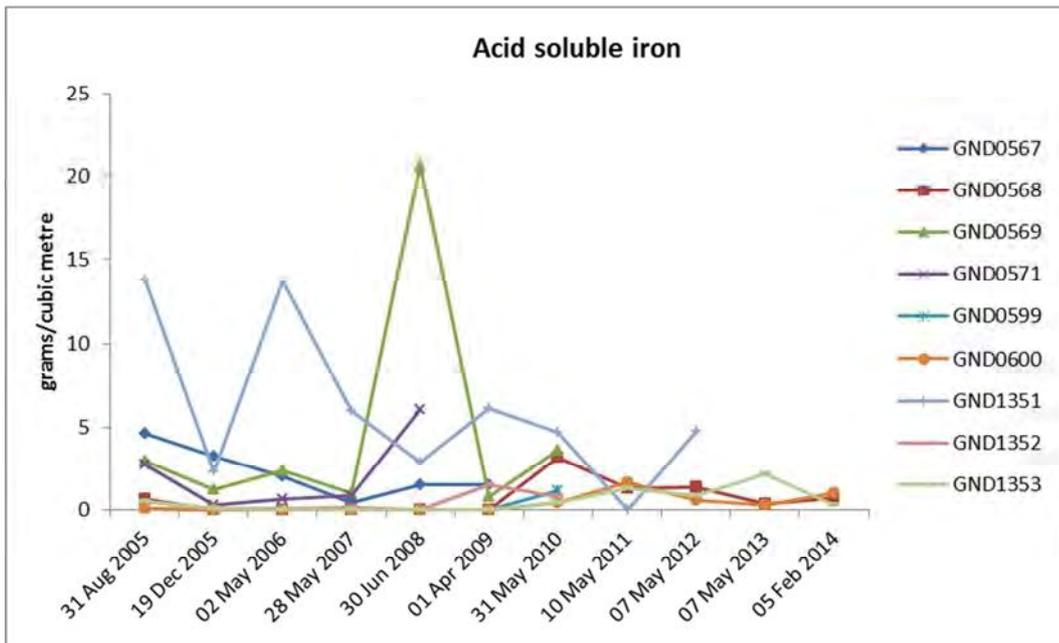


Figure 12 Acid soluble iron levels found in the groundwater at Eltham Central landfill, 2005-2014

2.1.3.3 Ongoing groundwater monitoring requirements

An issue that needs to be addressed prior to the exercise of the consents is the fact that many of the bores will soon require maintenance and in some cases may need to be relined or re-drilled. It is noted that many of the current bores are likely to be sitting within the footprint of the landfill construction area and therefore may have to be appropriately retired prior to, or during construction of the liner or other structures, to prevent them becoming a potential conduit for contaminants to enter groundwater. These bores were originally installed for geotechnical and engineering purposes such as groundwater level and flow direction, and there may be sufficient water level data collected already to serve this purpose. In any case, the existing bores can in the short term, remain in their current state and be dealt with according to the recommendations below once it is confirmed that the site will be developed for landfilling.

Currently, the information on file indicates that bore GND0571 is outside the proposed footprint of the landfill. This bore is badly damaged to the point of being non functional and this should be repaired to enable it to be used for on going consent monitoring. Bores GND0567 and GND1352 are also damaged and can not be

sampled for water quality or levels. As condition 10(a) of consent 5348 requires that the head space in the water monitoring bores B1 and B3 is sampled, these bores will need to be repaired prior to consent being exercised.

Condition 17(b) of consent 5347 also requires the installation of at least one bore down gradient of the proposed leachate holding sump and it would be a more appropriate use of resources to have this bore installed rather than engage in costly repair work on duplicated bores inside the landfill footprint. Two additional permanent down gradient bores should also be installed two years prior to the exercise of the consent to allow collection of baseline groundwater quality and level data before they are used for long term consent monitoring.

Table 4 outlines the current condition of the bores, their location in regards to the landfill footprint and gradient, and a recommendation for that particular bore.

The recommendations are based on the position of the bore in relation to the landfill foot print, its current state of repair and consent requirements. The yellow shaded rows highlight where action is required to enable the continuation of baseline monitoring, and is the minimum requirement to enable on going monitoring to be undertaken when the consent is exercised.

Table 4 Current status of the groundwater bores on the Eltham Central landfill site

STDC Bore Code	TRC Bore Code	Inside foot print?	Up/down gradient of	Current Status	Recommendation
BH1	GND0569	No	Up	Metal toby and risers need repair, sampling difficult.	Repair toby, riser and liner approximately two years prior to landfill operations commencing
BH1a	GND1351	No	Up	Metal toby and risers need repair sampling difficult.	
BH2	GND0568	Yes	Down	Functional	Use for consent monitoring if possible. Appropriately retire bore when landfill operations encroach.
BH3	GND0567	Yes	Mid	Bore liner blocked or kinked, not able to get sample or level reading.	Repair toby, riser and liner and continue to use two years prior to landfill operations commencing for baseline and future consent monitoring.
BH3a	GND1352	Yes	Mid	Bore liner blocked or kinked, a not able to get sample or level reading.	Repair toby, riser and liner and continue to use two years prior to landfill operations commencing for baseline and future consent monitoring.
BH5	GND0571	No	Up	Toby and riser have broken, liner probably broken below surface, Not functional for sampling or for taking water levels	Repair toby, riser and liner and continue to use two years prior to landfill operations commencing for baseline and future consent monitoring.
BH6	GND1353	Yes	Mid	Functional- maintenance of toby lid required	Repair toby cap. Continue to use for baseline monitoring. Use for consent monitoring if possible. Appropriately retire bore when landfill operations encroach.

STDC Bore Code	TRC Bore Code	Inside foot print?	Up/down gradient of	Current Status	Recommendation
BH7	GND0599	No	Deep aquifer Tangahoe formation	Toby and riser replaced 2009	Continue to use for baseline and future consent monitoring
BH7a	GND0600	No	Up	Toby and riser replaced 2009	Continue to use for baseline and future consent monitoring
Two new bores below proposed leachate holding sump		No	Down	Not installed	Install bores two years prior to landfill operations commencing and use for ongoing baseline and consent monitoring

STDC to date have being co-operative in making repairs, such as the repairs carried out on bores GND0599 and 0600. STDC were asked to defer the more major repair work until a review of the existing data had been undertaken.

This review found that Council has being taking groundwater level measurements approximately three times a year since 2005. It was considered that sufficient information had been collected at this time to allow the groundwater monitoring to cease until such time as it is confirmed that the landfill is to be going ahead.

On this basis, if the proposed landfill is likely to become a reality, the recommendations given in Table 4 would need to be implemented by STDC to fulfill their obligations under consents 5347 and 5348.

2.2 Air monitoring

No air monitoring or inspections were carried out during the 2014-2015 year as the landfill is not in operation. Once the Eltham Central landfill commences operations an air quality monitoring programme will be implemented to monitor dust deposition, particulate matter, methane levels, hydrogen sulphide levels and odour. However, it is noted that the consent holder is required to undertake landfill gas dispersion modelling prior to the discharge consents being exercised. To support this modelling, STDC has had a weather station in place at the site since 2000. However, it has been ascertained that this data may not be suitable for the purpose of odour dispersion modelling, as the weather station was only serviced once per year. This matter has been raised with the consent holder and they have undertaken to collect more robust data prior to the site being developed, as per condition 11 of consent 5348-1. The proposed location for the new station was confirmed as acceptable to the Council in July 2014.

2.3 Investigations, interventions, and incidents

The monitoring programme for the year was based on what was considered to be an appropriate level of monitoring, review of data, and liaison with the consent holder. During the year matters may arise which require additional activity by the Council, for example provision of advice and information, or investigation of potential or actual

courses of non-compliance or failure to maintain good practices. A pro-active approach that in the first instance avoids issues occurring is favoured.

The Council operates and maintains a register of all complaints or reported and discovered excursions from acceptable limits and practices, including non-compliance with consents, which may damage the environment. The Incident Register (IR) includes events where the consent holder concerned has itself notified the Council. The register contains details of any investigation and corrective action taken.

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

In the 2014-2015 period, the Council was not required to undertake significant additional investigations and interventions, or record incidents, in association with the STDC's conditions in resource consents or provisions in Regional Plans.

3. Discussion and conclusions

The Eltham Central landfill site baseline results are not remarkable in themselves. Surrounding farming activities exert subtle and varying pressures on surface water and groundwater quality as would be expected. The results do however show that there are no unusually high values for any given water quality indicator. Water quality overall is good for the headwaters of a small stream tributary in a dairying catchment.

3.1 Evaluation of performance

A tabular evaluation of performance is given in Tables 5 to 9. As the consents have not been exercised many of the conditions are not applicable.

Table 5 Summary of performance for discharge to land consent 5347-1

Purpose: <i>To discharge contaminants onto and into land at the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall prepare a landfill management plan	Review of Council records – to be provided three months prior to exercise of consent	Plan provided with application- will be updated prior to exercise
2. The consent holder and all staff shall adhere to a management plan	Inspection and liaison with consent holder – consent not exercised	N/A
3. The consent holder shall meet cost of a technical advisor on development and operations	Review of Council records	N/A
4. The consent holder shall construct a landfill liner to certain specifications	Site inspection – consent not exercised	N/A
5. The landfill liner must be certified by a registered engineer	Review of Council records, certification documents to be provided to the Council – consent not exercised	N/A
6. The consent holder shall keep records of wastes accepted	Inspection and liaison with consent holder – consent not exercised	N/A
7. Certain wastes to be handled by specified guidelines.	Inspection and liaison with consent holder – consent not exercised	N/A
8. Contaminated soils accepted at site shall be covered as soon as practical	Inspection and liaison with consent holder – consent not exercised	N/A
9. Appointment of person to control entry of waste to the site	Inspection and liaison with consent holder – consent not exercised	N/A
10. Certain wastes not to be accepted	Inspection and liaison with consent holder – consent not exercised	N/A
11. Other special wastes to meet certain criteria	Inspection and liaison with consent holder – consent not exercised	N/A
12. Wastes that do not meet TCLP test or exceed certain contaminant limits not to be accepted	Inspection and liaison with consent holder – consent not exercised	N/A

Purpose: <i>To discharge contaminants onto and into land at the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
13. Special waste to handled as specified	Inspection and liaison with consent holder – consent not exercised	N/A
14. Prevent contaminants entering surrounding land	Inspection and liaison with consent holder – consent not exercised	N/A
15. Compact and cover waste to certain specifications	Inspection and liaison with consent holder – consent not exercised	N/A
16. Supply report on stage closure	Inspection and liaison with consent holder – consent not exercised	N/A
17. Provide, comply with and maintain an STDC annual monitoring plan	Review of Council records – to be provided at least six months prior to exercise of consent	Baseline monitoring in progress
18. Results of STDC monitoring to be supplied	Review of Council records – consent not exercised	N/A
19. Prevent surface run-off into tributaries	Inspection and liaison with consent holder – consent not exercised	N/A
20. Undertake review and remedial actions should leachate cause contamination	Inspection and liaison with consent holder – consent not exercised	N/A
21. Inspect landfill for leachate breakout at least once a month	Inspection and liaison with consent holder – consent not exercised	N/A
22. Keep records on any remedial actions taken	Inspection and liaison with consent holder – consent not exercised	N/A
23. Keep records on any investigations and engineering works	Site specific monitoring programme – programme management	N/A
24. Liaise and meet with Neighbourhood Liaison Group	First meeting to be held one month prior to exercise of consent	N/A
25. Lapse provision	Lapse not due until 2020	N/A
26. Limits areas from which refuse can originate from. Taranaki including Mokau and Awakino	Inspection and liaison with consent holder – consent not exercised	N/A
27. Review condition	Next optional review in 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		High

Table 6 Summary of performance for air discharge consent 5348-1

Purpose: <i>To discharge emissions into the air from landfilling activities at the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall prepare a landfill management plan	Review of Council records – to be provided three months prior to exercise of consent	Plan provided with application- will be updated prior to exercise
2. The consent holder shall adopt best practical option	Inspection and liaison with consent holder – consent not exercised	N/A
3. Discharges not to result in objectionable or offensive odours or airborne contaminants beyond the boundary	Inspection and liaison with consent holder – consent not exercised	N/A
4. Discharges not to result in objectionable or offensive levels of dust, beyond the boundary	Inspection and liaison with consent holder – consent not exercised	N/A
5. Dust suppression on roads to used	Inspection and liaison with consent holder – consent not exercised	N/A
6. No burning at site	Inspection and liaison with consent holder – consent not exercised	N/A
7. No composting at site	Inspection and liaison with consent holder – consent not exercised	N/A
8. No extraction venting of landfill gas within 200 metres of site boundary	Inspection and liaison with consent holder – consent not exercised	N/A
9. Avoid discharges entering surround environment	Inspection and liaison with consent holder – consent not exercised	N/A
10. Provide, comply with and maintain an STDC annual monitoring plan	Review of Council records – to be provided at least six months prior to exercise of consent	Baseline monitoring in progress
11. Establish meteorological site and use data to develop gas dispersion model for hydrogen sulphide	Inspection and liaison with consent holder – 12 months data required commencing within one year of exercise of consent. Consent not exercised	Weather station to be replaced and relocated, more data required
12. Modelling to be done to parameters supplied I appendix of the application	Review of Council records – 12 months data required commencing within one year of exercise of consent. Consent will not be exercised with the next year	N/A-modelling not done yet
13. Keep records on any complaints received	Inspection and liaison with consent holder – consent not exercised	N/A
14. Provide results of monitoring plan	Review of Council records – consent not exercised	N/A
15. Keep records of any site investigations and engineering works	Inspection and liaison with consent holder – consent not exercised	N/A
16. Liaise and meet with Neighbourhood Liaison Group	Inspection and liaison with consent holder – consent not exercised	N/A
17. Lapse provision	Lapse not due until 2020	N/A

Purpose: <i>To discharge emissions into the air from landfilling activities at the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
18. Limits areas from which refuse can originate from. Taranaki including Mokau and Awakino	Inspection and liaison with consent holder – consent not exercised	N/A
19. Review condition	Next optional review in 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		High

Table 7 Summary of performance for dam and diversion consent 5350-1

Purpose: <i>To dam and divert water around the South Taranaki District Council Central Landfill, Eltham, in the headwaters of an unnamed tributary of the Waingongoro River</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall prepare a landfill management plan	Review of Council records – to be provided three months prior to exercise of consent	Plan provided with application- will be updated prior to exercise
2. System designed to minimise erosion in channels	Inspection and liaison with consent holder – consent not exercised	N/A
3. System designed to minimise land instability	Inspection and liaison with consent holder – consent not exercised	N/A
4. Rehabilitation of any land made unstable	Inspection and liaison with consent holder – consent not exercised	N/A
5. Provide, comply with and maintain an STDC annual monitoring plan	Review of Council records – to be provided at least six months prior to exercise of consent	Baseline monitoring in progress
6. Design and construction of system to be certified by registered engineer	Review of Council records – consent not exercised	N/A
7. Liaise and meet with Neighbourhood Liaison Group	Inspection and liaison with consent holder – consent not exercised	N/A
8. Lapse provision	Lapse not due until 2020	N/A
9. Limits areas from which refuse can originate from. Taranaki including Mokau and Awakino	Inspection and liaison with consent holder – consent not exercised	N/A
10. Review condition	Next optional review in 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		High

Table 8 Summary of performance for stormwater discharge consent 5349-1

Purpose: <i>To discharge up to 15,000 m³/day of uncontaminated stormwater and 4,000 m³/day of treated stormwater from the South Taranaki District Council Central Landfill, Eltham, onto and into land and into an unnamed tributary of the Waingongoro River</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall prepare a landfill management plan	Review of Council records – to be provided three months prior to exercise of consent	Plan provided with application- will be updated prior to exercise
2. No leachate to be discharged	Inspection and liaison with consent holder – consent not exercised	N/A
3. Leachate storage lagoon bunded to prevent stormwater infiltration	Inspection and liaison with consent holder – consent not exercised	N/A
4. Adopt best practical option	Inspection and liaison with consent holder – consent not exercised	N/A
5. No direct discharge of contaminated stormwater to receiving waters	Inspection and liaison with consent holder – consent not exercised	N/A
6. Stormwater holding be installed	Inspection and liaison with consent holder – consent not exercised	N/A
7. Discharge not give rise to certain effects in receiving waters	Inspection and liaison with consent holder – consent not exercised	Baseline monitoring in progress
8. Contaminants in receiving waters not to exceed certain limits	Inspection and liaison with consent holder – consent not exercised	Baseline monitoring in progress
9. System designed to minimise erosion in channels	Inspection and liaison with consent holder – consent not exercised	N/A
10. System designed to minimise land instability	Inspection and liaison with consent holder – consent not exercised	N/A
11. Rehabilitation of any land made unstable	Inspection and liaison with consent holder – consent not exercised	N/A
12. Minimise disturbance of riparian plants and undertake planting as set out in application.	Inspection and liaison with consent holder – consent not exercised	N/A
13. Provide, comply with and maintain an STDC annual monitoring plan	Review of Council records – to be provided at least six months prior to exercise of consent	Baseline monitoring in progress
14. Results of STDC monitoring to be supplied	Review of Council records – consent not exercised	N/A
15. Design and construction of system to certified by registered engineer	Inspection and liaison with consent holder – consent not exercised	N/A
16. Liaise and meet with Neighbourhood Liaison Group	Inspection and liaison with consent holder – consent not exercised	N/A
17. Lapse provision	Lapse not due until 2020	N/A

Purpose: <i>To discharge up to 15,000 m³/day of uncontaminated stormwater and 4,000 m³/day of treated stormwater from the South Taranaki District Council Central Landfill, Eltham, onto and into land and into an unnamed tributary of the Waingongoro River</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
18. Limits areas from which refuse can originate from. Taranaki including Mokau and Awakino	Inspection and liaison with consent holder – consent not exercised	N/A
19. Review condition	Next optional review in 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		High

Table 9 Summary of performance for structures consent 5351-1

Purpose: <i>To erect, place and maintain structures in the beds of unnamed tributaries of the Waingongoro River for the construction and maintenance of the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
1. The consent holder shall prepare a landfill management plan	Review of Council records – to be provided three months prior to exercise of consent	Plan provided with application- will be updated prior to exercise
2. Construction and maintenance not give rise to certain effects	Inspection and liaison with consent holder – consent not exercised	N/A
3. Structures designed to minimise land instability	Inspection and liaison with consent holder – consent not exercised	N/A
4. Rehabilitation of any eroded areas	Inspection and liaison with consent holder – consent not exercised	N/A
5. Minimise disturbance of riparian plants and undertake planting as set out in application.	Inspection and liaison with consent holder – consent not exercised	N/A
20. Provide, comply with and maintain an STDC annual monitoring plan	Review of Council records – to be provided at least six months prior to exercise of consent	Baseline monitoring in progress
6. Design and construction of system to certified by registered engineer	Inspection and liaison with consent holder – consent not exercised	N/A
7. Removal of structures and reinstatement when structures no longer required.	Inspection and liaison with consent holder – consent not exercised	N/A
8. Liaise and meet with Neighbourhood Liaison Group	Inspection and liaison with consent holder – consent not exercised	N/A
9. Lapse provision	Lapse not due until 2020	N/A
10. Limits areas from which refuse can originate from. Taranaki including Mokau and Awakino	Inspection and liaison with consent holder – consent not exercised	N/A

Purpose: <i>To erect, place and maintain structures in the beds of unnamed tributaries of the Waingongoro River for the construction and maintenance of the South Taranaki District Council Central Landfill, Eltham</i>		
Condition requirement	Means of monitoring during period under review	Compliance achieved?
11. Review condition	Next optional review in 2017	N/A
Overall assessment of consent compliance and environmental performance in respect of this consent		N/A
Overall assessment of administrative performance in respect of this consent		High

STDC demonstrated a high level of administrative compliance with its resource consents as defined in Section 1.1.4. No rating is given for environmental effects as no discharges or stream works have occurred.

3.2 Alterations to the 2015-2016 monitoring programme

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

It is proposed that, in the event that the proposals to construct a Central landfill site at Eltham are confirmed:

- STDC immediately implement the recommendations on bore remediation given in Table 4,
- baseline groundwater monitoring resumes,
- biomonitoring resumes with at least one survey to be conducted prior to operations commencing, and
- the weather station be installed at least 18 months prior to exercise of the consents

Otherwise, in the intervening time, it is proposed that the monitoring programme remains unchanged.

3.3 Exercise of optional review of consents

The next optional review date for the landfill consents is in June 2017.

4. Recommendations

1. THAT in the event that the proposals to construct a Central landfill site at Eltham are confirmed, that STDC immediately implement the recommendations on bore remediation given in Table 4 of this report and that groundwater monitoring resumes.

2. THAT in the event that it is likely the landfill will become operational, biomonitoring shall recommence with at least one survey to be undertaken prior to operations commencing.
3. THAT at least 18 months prior to the landfill commencing operations, a weather station be installed by the consent holder, as required by consent 5348-1.
4. Baseline monitoring of the Eltham Central landfill site in 2015-2016 be continues as programmed for 2014-2015

Glossary of common terms and abbreviations

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

Biomonitoring	Assessing the health of the environment using aquatic organisms.
Conductivity	Conductivity, an indication of the level of dissolved salts in a sample, usually measured at 20°C and expressed in mS/m.
g/m ³	Grams per cubic metre, and equivalent to milligrams per litre (mg/L). In water, this is also equivalent to parts per million (ppm), but the same does not apply to gaseous mixtures.
Incident	An event that is alleged or is found to have occurred that may have actual or potential environmental consequences or may involve non-compliance with a consent or rule in a regional plan. Registration of an incident by the Council does not automatically mean such an outcome had actually occurred.
Intervention	Action/s taken by Council to instruct or direct actions be taken to avoid or reduce the likelihood of an incident occurring.
Investigation	Action taken by Council to establish what were the circumstances/events surrounding an incident including any allegations of an incident.
IR	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.
mS/m	Millisiemens per metre.
Mixing zone	The zone below a discharge point where the discharge is not fully mixed with the receiving environment. For a stream, conventionally taken as a length equivalent to 7 times the width of the stream at the discharge point.
NH ₄	Ammonium, normally expressed in terms of the mass of nitrogen (N).
NH ₃	Unionised ammonia, normally expressed in terms of the mass of nitrogen (N).
NO ₃	Nitrate, normally expressed in terms of the mass of nitrogen (N.)
pH	A numerical system for measuring acidity in solutions, with 7 as neutral. Numbers lower than 7 are increasingly acidic and higher than 7 are increasingly alkaline. The scale is logarithmic i.e. a change of 1 represents a ten-fold change in strength. For example, a pH of 4 is ten times more acidic than a pH of 5.
Physicochemical	Measurement of both physical properties (e.g. temperature, clarity, density) and chemical determinants (e.g. metals and nutrients) to characterise the state of an environment.
Resource consent	Refer Section 87 of the RMA. Resource consents include land use consents (refer Sections 9 and 13 of the RMA), coastal permits (Sections 12, 14 and 15), water permits (Section 14) and discharge permits (Section 15).
RMA	<i>Resource Management Act</i> 1991 and including all subsequent amendments.
SS	Suspended solids.
Temp	Temperature, measured in °C (degrees Celsius).

UI Unauthorised Incident.
Zn* Zinc.

*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 the Council's laboratory.

Bibliography and references

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- South Taranaki District Council (1998): *Proposed Central Landfill, Eltham- Application for South Taranaki District Council and Taranaki Regional Council*
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- Taranaki Regional Council (2006): *South Taranaki District Council Central landfill Baseline Monitoring Programme Triennial Report 2004-2007. Technical Report 06-117*
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- Taranaki Regional Council (2013): *South Taranaki District Council Central landfill Baseline Monitoring Programme Annual Report 2012-2013. Technical Report 13-42*
- Taranaki Regional Council (2014): *South Taranaki District Council Central landfill Baseline Monitoring Programme Annual Report 2012-2013. Technical Report 14-114*

Appendix I

Resource consents held by STDC for the Eltham Central landfill

Consent 5347-1



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

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

Please quote our file number
on all correspondence

Name of Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Change To Conditions Date:  20 July 2005 [Granted: 15 March 2000]

Conditions of Consent

Consent Granted: To discharge contaminants onto and into land at the South Taranaki District Council Central Landfill, Eltham at or about GR: Q20:222-936

Expiry Date: 1 June 2034

Review Date(s): June 2005, June 2011, June 2017, June 2023, June 2029

Site Location: Central Landfill, Rotokare Road, Eltham

Legal Description: Pt Sec 26 Sec 27 Blk XIV Ngaere SD

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*
www.trc.govt.nz

Working with people • Caring for our environment

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. That :

- a) the consent holder shall prepare a Landfill Management Plan addressing proposed operation, management and monitoring at the landfill for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such Plan (excluding that part of the Plan that deals with contingency events) to be prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council three months prior to the exercise of this consent. The initial Management Plan shall be reviewed by the General Manager in consultation with the Neighbourhood Liaison Group. The adverse environmental effects arising from implementation of the Management Plan, and any subsequent version required under Condition 1(b), shall be no greater than those arising from the implementation of the draft plan provided with the application dated May 1998 and in any case shall be within the limits set by the conditions on this consent;
- b) the Management Plan shall be reviewed and updated at not greater than two yearly intervals, in consultation with the General Manager, Taranaki Regional Council, and the Neighbourhood Liaison Group;
- c) the consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the management plan, unless it can be demonstrated to the reasonable satisfaction of the General Manager, Taranaki Regional Council, that any changes in those procedures, requirements, and obligations will result in the same or any lesser adverse environmental effect than already allowed; and
- d) in case of any contradiction between the management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

Consent 5347-1

2. That the consent holder shall ensure that:
 - a) the operation of the landfill and the disposal of wastes shall be carried out at all times in accordance with the requirements of the Landfill Management Plan prepared as required in Condition (1) above or subsequent version of that document which does not lessen environmental protection standards;
 - b) all site staff working at the landfill are regularly trained on the content and implementation of the Landfill Management Plan, the maximum period between training sessions being 12 months. New staff are to be trained on recruitment and the training record made available to the General Manager, Taranaki Regional Council upon request; and
 - c) in order to avoid adverse effects arising from the exercise of this consent, all site staff are advised immediately of any revision or additions to the Landfill Management Plan.
3. That the consent holder shall meet the reasonable cost of the Taranaki Regional Council retaining a Technical Advisor, suitably qualified and knowledgeable in landfill development and operational procedures, to advise the General Manager, Taranaki Regional Council on aspects of the operation of the landfill related to disposal of solid waste and the installation and maintenance of the leachate collection system, and the ability to achieve compliance with the conditions of consent. Apart from other activities undertaken by the Technical Advisor, the Advisor shall undertake annual reviews, or other such reviews as reasonably determined by the General Manager, Taranaki Regional Council, of the landfill operations for the first 6 years and thereafter at a frequency determined by the General Manager, Taranaki Regional Council, in consultation with the Neighbourhood Liaison Group.
4. That the consent holder shall:
 - a) construct a composite liner in all areas where refuse is to be placed. The liner shall be constructed with a layer of compacted clay with a permeability of less than 1×10^{-8} m/sec and a minimum thickness of 600 mm, overlain by a membrane of high density polyethylene HDPE at least 1.5 mm thick. The consent holder may use materials and a specification other than described above, provided that any such materials shall perform to the same or higher standard than those specified and provided further that the consent holder shall first obtain the written approval of the General Manager, Taranaki Regional Council; and
 - b) provide for collecting leachate from the liner and transferring it to a pond within the landfill property boundary, such pond to be lined with a composite liner as specified in Condition 4(a) above;
 - c) ensure there is no discharge of refuse or leachate to land or water in any area without the liner as required in Conditions 4a and 4b above; and
 - d) remove sufficient daily cover and remove at least 20% of the intermediate cover to ensure downward migration of leachate, before placing refuse on an existing cell.

Consent 5347-1

5. That the construction, installation, placement, integrity and expected performance of landfill lining systems, groundwater drainage systems, and leachate interception, collection, holding and recirculation systems on any part of the site shall be certified by a registered engineer, a copy of such certification to be provided to General Manager, Taranaki Regional Council, prior to discharge of waste in those areas.
6. That the consent holder shall maintain a manifest / declaration system that shall record the following information on the waste received for disposal. This information is to be forwarded to the General Manager, Taranaki Regional Council on a 6-monthly basis no later than the 10th working day of the following month:
 - a) general description in volume or quantity in cubic metres or kilograms per day of domestic, commercial and industrial waste received from other than transfer stations; and
 - b) general description in volume or quantity (in cubic metres or kilograms) of all waste received at the landfill from transfer stations.

Where the consent holder reasonably considers any information required under this condition is confidential, it may notify the General Manager, Taranaki Regional Council, accordingly so that reasonable measures can be taken to protect confidentiality.

7. That the consent holder shall ensure that:
 - a) Medical waste is managed in accordance with NZS4304;
 - b) Animal parts are buried immediately upon receipt
 - c) Asbestos is managed in accordance with the Asbestos Regulations;
 - d) Waste that is potentially a health hazard shall be placed in a hole specifically excavated and immediately covered with appropriate cover material. The location of special waste holes shall be recorded by survey.
8. That any contaminated soils that are accepted at the landfill and whose contaminant concentration exceeds those levels specified in any New Zealand Standard or guidelines as being appropriate for industrial unpaved sites shall be covered over as soon as practicable such that the risk to human and environmental health is avoided.
9. That the consent holder shall appoint a person to control entry of waste into the landfill.
10. That the consent holder shall not dispose of waste of an explosive, flammable, reactive, toxic, radioactive, corrosive or infectious nature other than minor quantities of such waste where they are ordinarily part of and found in general wastes. In addition, the consent holder shall not dispose of wastes deemed unacceptable under Conditions 11 and 12.

Consent 5347-1

11. That further to Condition 10 of this consent, the wastes which are acceptable or unacceptable are as follows:
 - a) General waste is solid waste generated from residential, commercial and industrial sources. General waste covers all waste not otherwise defined below. It is acceptable and may contain minor quantities of special or prohibited waste which are normally part of the waste stream;
 - b) Difficult wastes are wastes which are acceptable but due to their physical nature require specific disposal management. These wastes include offal, dead animal bodies, wire rope, documents and bulky items;
 - c) Special Wastes contain substances that may adversely affect the final landfill or leachate or landfill gas quality. Their acceptance in the landfill shall be based on an assessment of the nature of the waste and its effects on the landfill and its receiving environment in accordance with the requirements of Condition 12 of this consent;
 - d) Liquid wastes shall not be accepted other than those liquids which are in small containers that are impractical to empty ;
 - e) Sludges may be accepted, as long as they contain no separated liquids.
12. That no waste shall be accepted for disposal which may cause a significant potential or actual adverse environmental effect. In the absence of other criteria, no wastes shall be accepted:
 - a) if a TCLP test extract exceeds 2,500 times the level specified in any New Zealand Standard or guideline as being appropriate for stock watering purposes; or
 - b) if containing any contaminant exceeding 300 times the level specified in any New Zealand Standard or guideline as being appropriate for soil for agricultural use unless such wastes have been treated so as to comply with conditions as above and are not placed within the top 4 metres lift of refuse beneath any final landfill cap at any point.
13. That in order to maintain the integrity of the liner and to minimise the risk of discharge of contaminants, the consent holder shall ensure that special wastes as defined in Condition 11(c) shall not be deposited within 5 metres of the liner or the top 4 metres lift of refuse beneath the final landfill cap at any point or within 10 metres of the edge of the landfill.
14. That the consent holder shall take all practicable measures to avoid the discharge of contaminants from within the landfill site to surrounding land. To this end, the consent holder shall ensure:
 - a) refuse is spread in thin layers and is compacted on the same day refuse is received;
 - b) the amount of refuse exposed at any one time is confined to a practicable minimum; and
 - c) exposed refuse is covered regularly with appropriate material and in any case no less frequently than daily.

Consent 5347-1

15. That the consent holder shall:
 - a) compact refuse to such an extent that post closure settlement is minimised, targeting a compacted refuse density averaging at least 700 kg/m^3 as far as practicable;
 - b) progressively, as parts of the landfill are completed, cover exposed refuse with not less than 650 mm of earth material, of which 500 mm is compacted to a permeability of less than $1 \times 10^{-7} \text{ m/sec}$, and no less than 150 mm comprises topsoil, and establish and maintain pasture on those completed areas at the landfill; and
 - c) within two months following the closure of any landfill stage, grade the tipping face to achieve a final slope less than or equal to 1V:3H (1 in 3) on any face.
16. That within one month following completion of each stage at the landfill, the consent holder shall report in writing to the General Manager, Taranaki Regional Council of the consent holder's compliance with Condition 15 of this consent.
17. That the consent holder shall maintain and comply with an Annual Monitoring Plan prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council and prepared in consultation with the Neighbourhood Liaison Group. The Annual Monitoring Plan may be amended by the General Manager following consultation with the consent holder. The Plan shall describe in detail practices for water and soil chemistry monitoring, shall contain guidelines for the determination of whether contamination is occurring including "alert" and "response" levels for individual contaminants and shall make reference to the Management Plan, to be prepared as required in Condition 1 of this consent. The initial Monitoring Plan is to be received by the General Manager, Taranaki Regional Council, at least six months prior to any discharge of solid wastes authorised by this consent. The initial Monitoring Plan is to include:
 - a) further baseline monitoring [biological, chemical and physical] of surface water quality and groundwater prior to commencement of landfilling;
 - b) quarterly monitoring of groundwater levels and water quality of each of the existing monitoring bores shown in Figure 4 of the application documentation dated May 1998, plus the installation and monitoring of at least one further bore downslope of the leachate storage lagoon at a site approved by the General Manager, Taranaki Regional Council;
 - c) biological, physical and chemical monitoring of surface water quality twice per year in the two unnamed tributaries of the Waingongoro River at site(s) approved by the General Manager, Taranaki Regional Council;
 - d) measurement of volume of leachate removed from the site monthly;

Consent 5347-1

- e) annual testing of leachate for the following components: pH, conductivity, alkalinity, chloride, sulphate, carbonate, bicarbonate, ammonia-N, nitrate-N, reactive dissolved phosphorus; COD, BOD₅; aluminium, arsenic, boron, cadmium, calcium, chromium, copper, iron, magnesium, manganese, mercury, sodium, nickel, potassium, lead, zinc; volatile organic compounds, semi-volatile organic compounds [volatile and semi-volatile organic compound scans to include but not be restricted to benzene, benzo-a-pyrene, phenol, perchlorethylene, and naphthalene], organochlorine pesticides screen, organophosphate pesticide screen, and polyaromatic hydrocarbon screen;
 - f) quarterly testing of leachate for the following components: pH, conductivity, alkalinity, chloride, sulphate, carbonate, bicarbonate, ammonia-N, nitrate-N, reactive dissolved phosphorus; COD, BOD₅; aluminium, arsenic, boron, cadmium, calcium, chromium, copper, iron, magnesium, manganese, mercury, sodium, nickel, potassium, lead, zinc;
 - g) quarterly sampling and testing of groundwater from on-site bores as noted in Condition 17(b) above as follows: Comprehensive testing (April) - pH, conductivity, alkalinity, chloride, sulphate, carbonate, bicarbonate, ammonia-N, nitrate-N, reactive dissolved phosphorus; COD, BOD₅; aluminium, arsenic, boron, cadmium, calcium, chromium, copper, iron, magnesium, manganese, mercury, sodium, nickel, potassium, lead, zinc, benzo-a-pyrene, benzene, phenol, perchlorethylene, and naphthalene; Indicator testing (July, October, January) - pH, conductivity, COD, boron, iron, manganese, chloride, ammonia-N, nitrate-N;
 - h) annual sampling and testing of surface water supplies and bores on neighbouring properties, located as noted in Appendix 10 of the application documentation dated May 1998, subject to the agreement of the respective owners, as follows: pH, benzene, zinc, alkalinity, conductivity, chloride, ammonia-N, nitrate-N, nitrite-N, boron, COD, iron, manganese; and
 - i) analysis shall be conducted by a laboratory with appropriate accreditation for those parameters measured.
18. That the results of the Annual Monitoring Programme for the year ending 30 June be provided to the General Manager Taranaki Regional Council by 31 August of each year following the monitoring, and be made available to the Neighbourhood Liaison Group, and to any other interested party.
19. That the consent holder shall prevent surface runoff of water or contaminants to the unnamed tributaries of the Waingongoro River from any surface area being used or previously used for the deposition of refuse, or for extraction of soil, clay, or other cover material, or prepared for the deposition of refuse, unless such surface area has been covered and rehabilitated.

Consent 5347-1

20. That where any leachate or other contaminants associated with the consent holder's activities or processes associated with the landfill significantly affect surface and ground water, the consent holder shall:
- a) undertake appropriate remedial action as soon as practicable as described in the consent holder's Management Plan required by Condition 1, or other such action reasonably required by the General Manager, Taranaki Regional Council;
 - b) as soon as reasonably practicable, notify the General Manager, Taranaki Regional Council, of the escape of wastes;
 - c) shall review the Monitoring Programme and Management Plan and incorporate such reasonable modifications as are considered necessary by the General Manager, Taranaki Regional Council; and
 - d) where water supplies are significantly affected, immediately provide alternative supplies as reasonably required by the General Manager, Taranaki Regional Council.

"Significantly affected" for the purposes of this condition shall be determined by the General Manager Taranaki Regional Council, by reference to the monitoring data and taking into account the purpose for which the water is to be used.

21. That the consent holder shall inspect the landfill for leachate break out, settlement and other adverse environmental effects at least once per month until such time as discharge of refuse to the landfill ceases. Thereafter, the frequency of inspection shall be determined in consultation with the General Manager, Taranaki Regional Council.
22. That the consent holder shall record the date, time, observations and any remedial action as a result of Condition 21. The record shall be made available to the Neighbourhood Liaison Group and the General Manager, Taranaki Regional Council on an annual basis.
23. That the consent holder shall ensure that records are kept of any site investigations for any engineering works associated with this consent, and that these records are forwarded to the General Manager, Taranaki Regional Council.
24. That the consent holder and staff of the Taranaki Regional Council shall meet, with representatives of the Neighbourhood Liaison Group to discuss any matter relating to the exercise of this resource consent, in order to facilitate ongoing consultation, such meetings to be according to the following schedule:
- (a) one month prior to the exercise of this consent;
 - (b) thereafter at intervals of three months for the first eighteen months after the date of exercise;
 - (c) thereafter at one interval of no more than six months; and
 - (d) thereafter at intervals of no more than twelve months;

unless all parties agree that changes to the intervals are acceptable.

The Technical Adviser may attend one meeting per year for the first six years and thereafter at a frequency determined by the General Manager, Taranaki Regional Council

Consent 5347-1

- ★ 25. That this consent shall lapse on the expiry of twenty [20] years after the date of commencement 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.
- ★ 26. That the consent holder shall not apply for any further variation of its resource consent seeking to permit the discharge of waste into the Eltham landfill from beyond Taranaki Region (i.e. beyond the waste-stream presently accepted by New Plymouth, South Taranaki and Stratford District Councils) and for avoidance of doubt includes the peripheral townships of Awakino and Mokau. Any further variations will be restricted to health and safety and/or applications to enhance the environmental performance of the Eltham landfill due to improvements in engineering methods and available technology relevant to landfill construction and operation or as a result of monitoring.
27. That the Taranaki Regional Council may, under section 128(1)(a) of the Resource Management Act 1991, serve notice of review of conditions of this consent in June 2005, June 2011, June 2017, June 2023, and June 2029 and within 18 months of the exercise of this consent, for the purpose of:
- i) assessing the ongoing adequacy of the Monitoring Programme and methods of implementation outlined in Condition 17 of this consent; and
 - ii) assessing the effectiveness of conditions in avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to land.

The review of conditions may allow for:

- a) modification of the Monitoring Programme and methods of implementation outlined in Condition 17 of this consent;
- b) deletion, additions or changes to General Condition (d) and Conditions 3, 4, 7, 8, 11, 13, 14, 15 and 20.

Signed at Stratford on 20 July 2005

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Consent 5348-1



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

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

Please quote our file number
on all correspondence

Name of
Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Change To
Conditions Date:  20 July 2005 [Granted: 15 March 2000]

Conditions of Consent

Consent Granted: To discharge emissions into the air from landfilling activities at the South Taranaki District Council Central Landfill, Eltham at or about GR: Q20:222-936

Expiry Date: 1 June 2034

Review Date(s): June 2005, June 2011, June 2017, June 2023, June 2029

Site Location: Central Landfill, Rotokare Road, Eltham

Legal Description: Pt Sec 26 Sec 27 Blk XIV Ngaere SD

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*
www.trc.govt.nz

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Consent 5348-1

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. That:
 - a) the consent holder shall prepare a Landfill Management Plan addressing proposed operation, management and monitoring at the landfill for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such Plan (excluding that part of the Plan that deals with contingency events) to be prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council three months prior to the exercise of this consent. The initial Management Plan shall be reviewed by the General Manager in consultation with the Neighbourhood Liaison Group. The adverse environmental effects arising from implementation of the Management Plan, and any subsequent version required under Condition 1(b), shall be no greater than those arising from the implementation of the draft plan provided with the application dated May 1998 and in any case shall be within the limits set by the conditions on this consent;
 - b) the Management Plan shall be reviewed and updated at not greater than two yearly intervals, in consultation with the General Manager, Taranaki Regional Council, and the Neighbourhood Liaison Group;
 - c) The consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the management plan, unless it can be demonstrated to the reasonable satisfaction of the General Manager, Taranaki Regional Council, that any changes in those procedures, requirements, and obligations will result in the same or any lesser adverse environmental effect that already allowed; and
 - d) in case of any contradiction between the management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

Consent 5348-1

2. That the consent holder shall at all times adopt the best practicable option [as defined in section 2 of the Act] to prevent or minimise any actual or likely adverse effect on the environment arising from emissions from the landfill operation.
3. That the discharge of contaminants into the air from the landfill shall not result in offensive or objectionable odours or dangerous or noxious ambient concentrations of any airborne contaminant, in the opinion of an appropriately qualified enforcement officer of the Taranaki Regional Council, at or beyond the boundary of the site.
4. That the discharge of contaminants into the air from the landfill shall not result in either dust or other particulate matter that is offensive or objectionable, in the opinion of an appropriately qualified enforcement officer of the Taranaki Regional Council, at or beyond the boundary of the site.
5. That the consent holder shall ensure that dust is controlled on access roads and on the landfill as necessary.
6. That there shall be no burning of waste at the site.
7. That there shall be no composting of waste at the site.
8. That there shall be no extraction venting of untreated landfill gases within 200 metres of the boundary of the site.
9. That the consent holder shall take all practicable measures to avoid the discharge of waste or contaminants from within the landfill site to the surrounding environment. To this end, the consent holder shall ensure:
 - a) refuse is spread in thin layers and is compacted on the same day refuse is received;
 - b) the amount of refuse exposed at any one time is confined to a practicable minimum; and
 - c) exposed refuse is covered regularly with appropriate material and in any case no less frequently than daily.

Consent 5348-1

10. That the consent holder shall maintain and comply with an Annual Monitoring Plan, prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council, and prepared in consultation with the Neighbourhood Liaison Group, setting out details of monitoring to be carried out and containing guidelines for the determination of whether contamination is occurring. The Annual Monitoring Plan may be amended by the General Manager following consultation with the consent holder. The initial Monitoring Plan is to be received by the General Manager, Taranaki Regional Council, at least six months prior to any discharge under this consent. The initial Monitoring Plan is to include:
 - a) annual sampling of landfill gas constituents for a period of five years and thereafter at five yearly intervals from a suitable landfill gas well using a tech tube or equivalent method to the satisfaction of the General Manager Taranaki Regional Council. The head space in the water monitoring bores B1 and B3, as shown in Figures 5 and 8 of Appendix 4 of the application documentation dated May 1998, and in the leachate pump chamber shall also be sampled;
 - b) samples shall be monitored and analysed for: hydrogen sulphide, methane and carbon dioxide, vinyl chloride, benzene, perchlorethylene and xylene;
 - c) every five years another landfill gas well shall be installed in waste placed in the preceding five years and monitored as in (a) and (b) above;
 - d) monitoring of each well shall cease when there is a significant reduction in the level of landfill gas [to the reasonable satisfaction of the General Manager, Taranaki Regional Council];
 - e) analysis shall be conducted by a laboratory with appropriate accreditation for those parameters measured; and
 - f) monthly odour surveys around the perimeter of the site or a lesser frequency as agreed to by the Neighbourhood Liaison Group.
11. That a meteorological station be established, at a site to the reasonable satisfaction of the General Manager, Taranaki Regional Council, to measure and record, for a period of no less than 12 months commencing within one year of the development of the site, wind speed, wind direction, temperature and net radiation . The results are to be used to undertake dispersion modelling to predict ground level concentrations of hydrogen sulphide or other gaseous or airborne contaminants around the site.
12. That in fulfilment of Condition 11 above the meteorological parameters are to be measured as specified in Appendix 10 to the application documentation dated May 1998.

Consent 5348-1

13. That the consent holder shall keep a record of any complaints received relating to discharges to air with respect to the landfill activity. The complaints record shall include the following where possible:
 - a) name and address of complainant;
 - b) nature of complaint;
 - c) date and time of the complaint and alleged event;
 - d) weather conditions at the time of the event; and
 - e) any action taken in response to the complaint.

14. That the results of the Annual Monitoring Plan, the complaints record, and the meteorological data, for the year ending 30 June be provided to the General Manager Taranaki Regional Council by 31 August of each year following the monitoring, and be made available to the Neighbourhood Liaison Group, and to the public.

15. That the consent holder shall ensure that records are kept of any site investigations for any engineering works associated with this consent, and that these records are forwarded to the General Manager, Taranaki Regional Council.

16. That the consent holder and staff of the Taranaki Regional Council shall meet with representatives of the Neighbourhood Liaison Group to discuss any matter relating to the exercise of this resource consent, in order to facilitate ongoing consultation, such meetings to be according to the following schedule:
 - a) one month prior to the exercise of this consent;
 - b) thereafter at intervals of three months for the first eighteen months after the date of exercise;
 - c) thereafter at one interval of no more than six months;
 - d) thereafter at intervals of no more than twelve months;

unless all parties agree that changes to the intervals are acceptable.

The Technical Adviser may attend one meeting per year for the first six years and thereafter a frequency determined by the General Manager, Taranaki Regional Council.



17. That this consent shall lapse on the expiry of twenty [20] years after the date of commencement 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.



18. That the consent holder shall not apply for any further variation of its resource consent seeking to permit the discharge of waste into the Eltham landfill from beyond Taranaki Region (i.e. beyond the waste-stream presently accepted by New Plymouth, South Taranaki and Stratford District Councils) and for avoidance of doubt includes the peripheral townships of Awakino and Mokau. Any further variations will be restricted to health and safety and/or applications to enhance the environmental performance of the Eltham landfill due to improvements in engineering methods and available technology relevant to landfill construction and operation or as a result of monitoring.
19. That the Taranaki Regional Council may, under section 128(1)(a) of the Resource Management Act 1991, serve notice of review of conditions of this consent in June 2005, June 2011, June 2017, June 2023, and June 2029 and within 18 months of the exercise of this consent, for the purpose of:
- i) assessing the ongoing adequacy of the Monitoring Programme and methods of implementation outlined in Condition 10 of this consent; and
 - ii) assessing the effectiveness of conditions in avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to air.

The review of conditions may allow for:

- a) modification of the Monitoring Programme and methods of implementation outlined in Condition 10 of this consent; and
- b) deletion, additions or changes to conditions 2, 3, 4 and 9 and General Condition (d).

Signed at Stratford on 20 July 2005

For and on behalf of
Taranaki Regional Council



Director Resource Management

Consent 5349-1



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

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Name of
Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Change To
Conditions Date:  20 July 2005 [Granted: 15 March 2000]

Conditions of Consent

Consent Granted: To discharge up to 15,000 cubic metres/day of uncontaminated stormwater and 4,000 cubic metres/day of treated stormwater from the South Taranaki District Council Central Landfill, Eltham, onto and into land and into an unnamed tributary of the Waingongoro River at or about GR: Q20:222-936

Expiry Date: 1 June 2034

Review Date(s): June 2005, June 2011, June 2017, June 2023, June 2029

Site Location: Central Landfill, Rotokare Road, Eltham

Legal Description: Pt Sec 26 Sec 27 Blk XIV Ngaere SD

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*
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Consent 5349-1

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. That:
 - a) the consent holder shall prepare a Landfill Management Plan addressing proposed operation, management and monitoring at the landfill for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such Plan (excluding that part of the Plan that deals with contingency events) to be prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council three months prior to the exercise of this consent. The initial Management Plan shall be reviewed by the General Manager in consultation with the Neighbourhood Liaison Group. The adverse environmental effects arising from implementation of the Management Plan, and any subsequent version required under Condition 1(b), shall be no greater than those arising from the implementation of the draft plan provided with the application dated May 1998 and in any case shall be within the limits set by the conditions on this consent;
 - b) The Management Plan shall be updated at not greater than two yearly intervals, to the satisfaction of the General Manager, Taranaki Regional Council, and following consultation with the Neighbourhood Liaison Group;
 - c) The consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the management plan, unless it can be demonstrated to the reasonable satisfaction of the General Manager, Taranaki Regional Council, that any changes in those procedures, requirements, and obligations will result in the same or any lesser adverse environmental effect than already allowed; and
 - d) in case of any contradiction between the management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

Consent 5349-1

2. That no leachate discharge shall be permitted by the exercise of this consent.
3. That in order to give effect to Condition 2, the consent holder shall ensure that the leachate storage lagoon is bunded to ensure no entry of stormwater to that lagoon.
4. That the consent holder shall at all times adopt the best practicable option [as defined in section 2 of the Act] to keep uncontaminated stormwater separate from contaminated stormwater.
5. That no contaminated stormwater be discharged directly to the unnamed tributaries of the Waingongoro River.
6. That stormwater holding ponds be installed.
7. That after allowing for reasonable mixing in a zone that extends downstream no further than the western boundary of the site ["the mixing zone"], the discharge shall not give rise to all or any of the following effects in the receiving water:
 - (a) the production of 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 freshwater unsuitable for consumption by farm animals; and
 - (e) any significant adverse effects on aquatic life.
8. That the exercise of this consent shall not cause the water quality of the tributary streams, beyond the mixing zone, to exceed the following criteria:

Parameter	Limit
pH	6.0-9.0
Copper (dissolved)	0.01 g/m ³
Iron (dissolved)	1.0 g/m ³
Manganese (dissolved)	0.01 g/m ³
Zinc (dissolved)	0.1 g/m ³
Dissolved reactive phosphorus	0.5 g/m ³
Nitrate nitrogen	10 g/m ³
Ammonia nitrogen	1.8 g/m ³
Suspended solids	100 g/m ³
Faecal coliforms	1000 n/100 ml

Consent 5349-1

9. That all stormwater diversion and containment channels shall be designed, constructed and maintained so as to prevent or minimise erosion of the channel.
10. That the earthworks and construction associated with the landfill and the stormwater diversion and containment channels shall be designed, constructed and maintained so as to minimise instability of the surrounding land.
11. That the consent holder shall repair and rehabilitate any land made unstable and any erosion occurring due to the construction or maintenance of the diversion channels or landfilling operations associated with the exercise of this consent.
12. That the consent holder shall minimise disturbance to riparian vegetation during the exercise of this consent, and shall undertake, at a minimum, planting within the site in accordance with those areas shown in Figures 5a, 5b, 5c, and 5d of the Assessment of Environmental Effects accompanying the application dated May 1998.
13. That the consent holder shall maintain and comply with an Annual Monitoring Plan prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council and prepared in consultation with the Neighbourhood Liaison Group. The Plan shall describe in detail practices for water monitoring. The Annual Monitoring Plan may be amended by the General Manager following consultation with the consent holder. The initial Monitoring Plan is to be received by the General Manager, Taranaki Regional Council, at least six months prior to any discharge under this consent. The initial Monitoring Plan is to include:
 - a) biological and water quality monitoring twice per year in the two unnamed tributaries of the Waingongoro River at site(s) to the reasonable satisfaction of the General Manager, Taranaki Regional Council;
 - b) monitoring of the parameters as set out in Condition 8 above, and also alkalinity, BOD₅, and conductivity; and
 - c) analysis shall be conducted by a laboratory with appropriate accreditation for those parameters measured.
14. That the results of the Annual Monitoring Programme for the year ending 30 June be provided to the General Manager Taranaki Regional Council by 31 August of each year following the monitoring, and be made available to the Neighbourhood Liaison Group, and to any other interested party, and to the public.
15. That the construction, installation, placement, integrity and expected performance of stormwater collection, drainage and holding systems on any part of the site shall be certified by a registered engineer, a copy of such certification to be provided to the General Manager, Taranaki Regional Council, prior to and on completion of construction of any such systems, and prior to the disposal of any waste in those areas.

Consent 5349-1

16. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with representatives of the Neighbourhood Liaison Group to discuss any matter relating to the exercise of this resource consent, in order to facilitate ongoing consultation, such meetings to be according to the following schedule:
- (a) one month prior to the exercise of this consent;
 - (b) thereafter at intervals of three months for the first eighteen months after the date of exercise;
 - (c) thereafter at one interval of no more than six months; and
 - (d) thereafter at intervals of no more than twelve months;

unless all parties agree that changes to the intervals are acceptable.

The Technical Adviser may attend one meeting per year for the first six years and thereafter at a frequency determined by the General Manager, Taranaki Regional Council.



17. That this consent shall lapse on the expiry of twenty [20] years after the date of commencement 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.



18. That the consent holder shall not apply for any further variation of its resource consent seeking to permit the discharge of waste into the Eltham landfill from beyond Taranaki Region (i.e. beyond the waste-stream presently accepted by New Plymouth, South Taranaki and Stratford District Councils) and for avoidance of doubt includes the peripheral townships of Awakino and Mokau. Any further variations will be restricted to health and safety and/or applications to enhance the environmental performance of the Eltham landfill due to improvements in engineering methods and available technology relevant to landfill construction and operation or as a result of monitoring.

Consent 5349-1

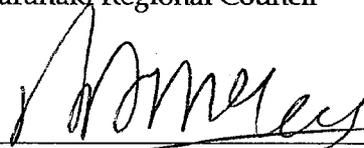
19. That the Taranaki Regional Council may, under section 128(1)(a) of the Resource Management Act 1991, serve notice of review of conditions of this consent in June 2005, June 2011, June 2017, June 2023, and June 2029 and within 18 months of the exercise of this consent, for the purpose of:
- i) assessing the ongoing adequacy of the Monitoring Programme and methods of implementation outlined in Condition 13 of this consent; and
 - ii) assessing the effectiveness of conditions in avoiding, remedying or mitigating adverse effects on the environment from the discharge of contaminants to land and water.

The review of conditions may allow for:

- a) modification of the Monitoring Programme and methods of implementation outlined in Condition 13 of this consent; and
- b) deletion, additions or changes to Conditions 7 and 8 and General Condition (d).

Signed at Stratford on 20 July 2005

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Consent 5350-1



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

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on all correspondence

Name of
Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Change To
Conditions Date:  20 July 2005 [Granted: 15 March 2000]

Conditions of Consent

Consent Granted: To dam and divert water around the South Taranaki District Council Central Landfill, Eltham, in the headwaters of an unnamed tributary of the Waingongoro River at or about GR: Q20:222-936

Expiry Date: 1 June 2034

Review Date(s): June 2005, June 2011, June 2017, June 2023, June 2029

Site Location: Central Landfill, Rotokare Road, Eltham

Legal Description: Pt Sec 26 Sec 27 Blk XIV Ngaere SD

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*
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Consent 5350-1

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. That:
 - a) the consent holder shall prepare a Landfill Management Plan addressing proposed operation, management and monitoring at the landfill for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such Plan (excluding that part of the Plan that deals with contingency events) to be prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council three months prior to the exercise of this consent. The initial Management Plan shall be reviewed by the General Manager in consultation with the Neighbourhood Liaison Group. The adverse environmental effects arising from implementation of the Management Plan, and any subsequent version required under Condition 1(b), shall be no greater than those arising from the implementation of the draft plan provided with the application dated May 1998 and in any case shall be within the limits set by the conditions on this consent;
 - b) the Management Plan shall be reviewed and updated at not greater than two yearly intervals, in consultation with the General Manager, Taranaki Regional Council, and the Neighbourhood Liaison Group;
 - c) the consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the management plan, unless it can be demonstrated to the reasonable satisfaction of the General Manager, Taranaki Regional Council, that any changes in those procedures, requirements, and obligations will result in the same or any lesser adverse environmental effect than already allowed; and
 - d) in case of any contradiction between the management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

Consent 5350-1

2. That all stormwater diversion and containment channels shall be designed, constructed and maintained so as to prevent or minimise erosion of the channel in all circumstances.
3. That the earthworks and construction associated with the landfill and the stormwater diversion and containment channels shall be designed, constructed and maintained so as to minimise instability of the surrounding land.
4. That the consent holder shall repair and rehabilitate any land made unstable and any erosion occurring due to the construction or maintenance of the diversion channels or landfilling operations associated with the exercise of this consent.
5. That the consent holder shall maintain and comply with an Annual Monitoring Plan prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council and prepared in consultation with the Neighbourhood Liaison Group. The Annual Monitoring Plan may be amended by the General Manager following consultation with the consent holder. The initial Monitoring Plan is to be received by the General Manager, Taranaki Regional Council, at least six months prior to any dam construction under this consent. The initial Monitoring Plan shall describe in detail practices and sites for water monitoring.
6. That the construction, installation, placement, integrity and expected performance of the damming and diversion systems on any part of the site shall be certified by a registered engineer, a copy of such certification to be provided to the General Manager, Taranaki Regional Council, prior to and on completion of the construction of any such systems in those areas.
7. That the consent holder and staff of the Taranaki Regional Council shall meet with representatives of the Neighbourhood Liaison Group to discuss any matter relating to the exercise of this resource consent, in order to facilitate ongoing consultation, such meetings to be according to the following schedule:
 - (a) one month prior to the exercise of this consent;
 - (b) thereafter at intervals of three months for the first eighteen months after the date of exercise;
 - (c) thereafter at one interval of no more than six months; and
 - (d) thereafter at intervals of no more than twelve months;

unless all parties agree that changes to the intervals are acceptable.

The Technical Adviser may attend one meeting per year for the first six years and thereafter a frequency determined by the General Manager, Taranaki Regional Council.

- 
8. That this consent shall lapse on the expiry of twenty [20] years after the date of commencement 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.



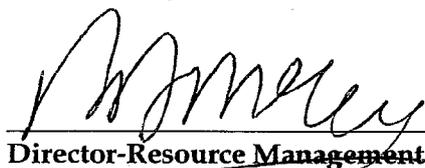
9. That the consent holder shall not apply for any further variation of its resource consent seeking to permit the discharge of waste into the Eltham landfill from beyond Taranaki Region (i.e. beyond the waste-stream presently accepted by New Plymouth, South Taranaki and Stratford District Councils) and for avoidance of doubt includes the peripheral townships of Awakino and Mokau. Any further variations will be restricted to health and safety and/or applications to enhance the environmental performance of the Eltham landfill due to improvements in engineering methods and available technology relevant to landfill construction and operation or as a result of monitoring.
10. That the Taranaki Regional Council may, under section 128(1)(a) of the Resource Management Act 1991, serve notice of review of conditions of this consent in June 2005, June 2011, June 2017, June 2023, and June 2029 and within 18 months of the exercise of this consent, for the purpose of:
- i) assessing the ongoing adequacy of the Monitoring Programme and methods of implementation outlined in Condition 5 of this consent; and
 - ii) assessing the effectiveness of conditions in avoiding, remedying or mitigating adverse effects on the environment from the damming and diversion of water.

The review of conditions may allow for:

- a) modification of the Monitoring Programme and methods of implementation outlined in Condition 5 of this consent; and
- b) deletion, additions or changes to General Condition (d).

Signed at Stratford on 20 July 2005

For and on behalf of
Taranaki Regional Council



Director-Resource Management

Consent 5351-1



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

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Please quote our file number
on all correspondence

Name of Consent Holder: South Taranaki District Council
Private Bag 902
HAWERA

Change To Conditions Date:  20 July 2005 [Granted: 15 March 2000]

Conditions of Consent

Consent Granted: To erect, place and maintain structures in the beds of unnamed tributaries of the Waingongoro River for the construction and maintenance of the South Taranaki District Council Central Landfill, Eltham at or about GR: Q20:222-936

Expiry Date: 1 June 2034

Review Date(s): June 2005, June 2011, June 2017, June 2023, June 2029

Site Location: Central Landfill, Rotokare Road, Eltham

Legal Description: Pt Sec 26 Sec 27 Blk XIV Ngaere SD

Catchment: Waingongoro

*For General, Standard and Special conditions
pertaining to this consent please see reverse side of this document*
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Consent 5351-1

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. That:
 - a) the consent holder shall prepare a Landfill Management Plan addressing proposed operation, management and monitoring at the landfill for the purpose of demonstrating among other things the means by which compliance with the conditions set in this consent shall be achieved, such Plan (excluding that part of the Plan that deals with contingency events) to be prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council three months prior to the exercise of this consent. The initial Management Plan shall be reviewed by the General Manager in consultation with the Neighbourhood Liaison Group. The adverse environmental effects arising from implementation of the Management Plan, and any subsequent version required under Condition 1(b), shall be no greater than those arising from the implementation of the draft plan provided with the application dated May 1998 and in any case shall be within the limits set by the conditions on this consent;
 - b) the Management Plan shall be updated at not greater than two yearly intervals, in consultation with the General Manager, Taranaki Regional Council, and the Neighbourhood Liaison Group;
 - c) the consent holder shall adhere to and comply with the procedures, requirements, obligations and all other matters specified in the management plan, unless it can be demonstrated to the reasonable satisfaction of the General Manager, Taranaki Regional Council, that any changes in those procedures, requirements, and obligations will result in the same or any lesser adverse environmental effect than already allowed; and
 - d) in case of any contradiction between the management plan and the conditions of this resource consent, the conditions of this resource consent shall prevail.

Consent 5351-1

2. That the construction and maintenance authorised by this consent, in conjunction with the exercise of any other consent associated with the landfill, shall not give rise to all or any of the following effects in the unnamed tributaries of the Waingongoro River at the western boundary of the site:
 - a) the production of 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 freshwater unsuitable for consumption by farm animals; and
 - e) any significant adverse effects on aquatic life.
3. That the earthworks and construction associated with the erection, placement and maintenance of structures shall be designed, constructed and maintained so as to minimise instability of the stream banks and the surrounding land.
4. That the consent holder shall repair and rehabilitate any land made unstable and any erosion occurring due to the construction or maintenance of the structures.
5. That the consent holder shall minimise disturbance to riparian vegetation during the exercise of this consent, and that any areas of such vegetation disturbed shall be reinstated and additional areas planted within the site in accordance with those areas shown in Figures 5a, 5b, 5c, and 5d of the Assessment of Environmental Effects accompanying the application dated May 1998.
6. That the consent holder shall maintain and comply with an Annual Monitoring Plan prepared to the reasonable satisfaction of the General Manager, Taranaki Regional Council and prepared in consultation with the Neighbourhood Liaison Group. The Annual Monitoring Plan may be amended by the General Manager following consultation with the consent holder. The initial Monitoring Plan is to be received by the General Manager, Taranaki Regional Council, at least six months prior to any streambed structure construction under this consent. The initial Monitoring Plan shall describe in detail practices and sites for water monitoring.
7. That the construction, installation, placement, integrity and expected performance of the structures in the streambeds on any part of the site shall be certified by a registered engineer, a copy of such certification to be provided to the General Manager, Taranaki Regional Council, prior to and on completion of the construction of any structures in those areas.

Consent 5351-1

8. That the consent holder shall remove any structure(s) in waterways and reinstate the area if and when any structure(s) is no longer required.
9. That the consent holder and staff of the Taranaki Regional Council shall meet as appropriate, and at least once per year, with representatives of the Neighbourhood Liaison Group to discuss any matter relating to the exercise of this resource consent, in order to facilitate ongoing consultation, such meetings to be according to the following schedule:
 - a) one month prior to the exercise of this consent;
 - b) thereafter at intervals of three months for the first eighteen months after the date of exercise;
 - c) thereafter at one interval of no more than six months; and
 - d) thereafter at intervals of no more than twelve months;

unless all parties agree that changes to the intervals are acceptable.

The Technical Adviser may attend one meeting per year for the first six years and thereafter at a frequency determined by the General Manager, Taranaki Regional Council.



10. That this consent shall lapse on the expiry of twenty [20] years after the date of commencement 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.



11. That the consent holder shall not apply for any further variation of its resource consent seeking to permit the discharge of waste into the Eltham landfill from beyond Taranaki Region (i.e. beyond the waste-stream presently accepted by New Plymouth, South Taranaki and Stratford District Councils) and for avoidance of doubt includes the peripheral townships of Awakino and Mokau. Any further variations will be restricted to health and safety and/or applications to enhance the environmental performance of the Eltham landfill due to improvements in engineering methods and available technology relevant to landfill construction and operation or as a result of monitoring.

Consent 5351-1

12. That the Taranaki Regional Council may, under section 128(1)(a) of the Resource Management Act 1991, serve notice of review of conditions of this consent in June 2005, June 2011, June 2017, June 2023, and June 2029 and within 18 months of the exercise of this consent, for the purpose of:

- i) assessing the ongoing adequacy of the Monitoring Programme and methods of implementation outlined in Condition 6 of this consent; and
- ii) assessing the effectiveness of conditions in avoiding, remedying or mitigating adverse effects on the environment from the construction and maintenance of structures.

The review of conditions may allow for:

- a) modification of the Monitoring Programme and methods of implementation outlined in Condition 6 of this consent; and
- b) deletion, additions or changes to General Condition (d) and Condition 2.

Signed at Stratford on 20 July 2005

For and on behalf of
Taranaki Regional Council



Director Resource Management