

19 June 2017



Horowhenua District Council
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LEVIN 5540

File ref: 1/4/HDC
6009, 6010, 6011, 6012, 102259
HSS

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Attention Gallo Saidly, Paul Gaydon & Ryan Hughes

Dear Sirs,

LEVIN LANDFILL COMPLIANCE INSPECTION – 6 FEBRUARY 2017 TO 1 JUNE 2017

Routine site inspections of the Levin Landfill (landfill) were carried out on 14 February 2017 and 12 May 2017 by Horizons Regional Council (HRC) Consents Monitoring Officers. These inspections were undertaken to assess the onsite operations related to landfill cover, leachate and stormwater management and to view recent improvements made to the leachate and landfill gas (LFG) collection system. This compliance assessment does not assess the monitoring data contained in the landfill quarterly or comprehensive reports. A subsequent report will be drafted following a full review of this information.

The attached report relates to the above site visits, it also draws on a number of proactive and reactive odour assessments undertaken to verify a number of odour complaints received by HRC in relation to the landfill. The overall assessment period covered by this report is 6 February to 1 June 2017. The attached report provides an assessment of the relevant conditions for this reporting period.

As a result of this assessment the landfill has been given an overall **Comply – Full** for consent 6009, **Comply** for consents 6010, 6012 and 102259 and a **Significant Non – Compliance** for consent 6011.

Please note that since the Levin Landfill is at the time of this invoice not complying with the conditions of its resource consents, the compliance monitoring charges are 100% of the full charge as detailed in the attached cost sheet.

Please find attached a copy of Horizons Regional Council's Compliance Assessment Guidelines for your reference.

If you have any queries about the attached report, please contact me on Freephone 0508 800 800, or via email hamish.sutherland@horizons.govt.nz.

Kind regards,

A handwritten signature in black ink, appearing to read "Hamish Sutherland".

Hamish Sutherland
SENIOR CONSENTS MONITORING OFFICER

Kairanga

Marton

Palmerston North

Taihape

Taumarunui

Wanganui

Woodville

COMPLAINT REPORT

LEVIN LANDFILL

Resource Consents

6009, 6010, 6011, 6012 & 102259

Reporting Period

6 February to 1 June 2017



19 June 2017



Prepared By

Hamish Sutherland

SENIOR CONSENTS MONITORING OFFICER

Reviewed By

Pita Kinaston

TEAM LEADER CONSENTS MONITORING

EXECUTIVE SUMMARY

This compliance report assesses compliance against resource consents 6009, 6010, 6011, 6012 and 102259 which are held by Horowhenua District Council (HDC) for the operation of the Levin Landfill (landfill), situated on Hokio Beach Road. The assessment period covered by this report is from 6 February 2017 to 1 June 2017. During this period Horizons Regional Council (HRC) Consents Monitoring Officers have undertaken two site inspections on 14 February 2017 and 12 May 2017 respectively. These inspections were undertaken to assess the onsite operational conditions for the landfill, specifically conditions related to capping/cover, leachate management, stormwater management and odour.

In addition to the site inspections outlined above HRC have undertaken a number of proactive and reactive odour assessments, in response to odour complaints, related to the landfill. These complaints have primarily been from a complainant, at one address, who shares a mutual boundary with the landfill.

In determining whether an odour is objectionable (and therefore non-compliant with Condition 3 of resource consent 6011) HRC consents monitoring officers consider the FIDOL factors, which are Frequency, Intensity, Duration, Offensiveness and Location. To assess the complaints HRC has had to establish these factors with respect to the landfill. In doing this HRC has worked with the primary complainant requesting they keep an odour diary. This odour diary has been used by HRC in conjunction with its own observations and assessments to determine the **Significant Non – Compliance** status against Condition 3. This approach is consistent with best practice in assessing odour as per the Ministry for the Environment Guidelines titled, *“Good Practice Guide for Assessing and Monitoring Odour”*, dated 2016.

As a result of the inspections and assessments outlined above the following compliance gradings have been allocated;

- Discharge Permit 6009 – discharge solid waste to land = **Comply – Full.**
- Discharge Permit 6010 – discharge landfill leachate onto and into land = **Comply**
- Discharge Permit 6012 – divert stormwater from around the Levin landfill = **Comply**
- Discharge Permit 102259 – discharge stormwater to land and potentially to groundwater via ground soakage = **Comply**
- Discharge Permit 6011 – discharge landfill gas, odour and dust to air = **Significant Non - Compliance**

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SCOPE OF REPORT

This compliance report assesses the Levin Landfill (Landfill) against resource consents 6009, 6010, 6011 and 102259. This report covers an assessment period of 6 February 2017 to 1 June 2017. In completing this report two site inspections have been undertaken on 14 February 2017 and 12 May 2017. In conjunction with this HRC has undertaken various assessments to determine compliance with resource consent 6011 which governs the Landfills discharges of landfill gas, odour and dust to air.

This report does not assess the quarterly or comprehensive monitoring reports required by the above consents. This information will be reviewed and covered in a subsequent report.

BACKGROUND

The Levin Landfill is located on Hokio Beach Road in the Horowhenua District, 4 kilometres west of Levin. The landfill site is located in undulating sand country surrounded by pastoral farming land, 3 kilometres from the coast and 6 kilometres from State Highway 1. The site is approximately 72 hectares in area.

The Hokio Stream (the single outlet for Lake Horowhenua) runs in close proximity to the northern boundary of the landfill site as it flows west to the sea over a distance of approximately 2.5 kilometres. There are a number of rural residences located to the north-east of the landfill site and the small coastal settlement of Hokio Beach is located approximately 1.5 kilometres to the north-west. The Ngatokowaru marae (Ngati Pareraukawa, Ngati Raukawa) is located approximately 500 metres north-east of the landfill property, while the Kawiu marae (Muaupoko) is on the northern shore of Lake Horowhenua.

The original resource consents were granted to Horowhenua District Council (HDC) in 1998. These covered the closed landfill and the new lined landfill.

In 2004 the then Parliamentary Commissioner for the Environment (the Commissioner), received complaints from several members of the local community expressing concern about the management and associated environmental effects of the Levin Landfill. The commissioner suggested a review was in order. Between 2004 and 2007 there was a lot of to and fro between HDC and Horizons and the various consultants that were employed in relation to these concerns.

The Commissioner had originally indicated that their formal investigations would be postponed until the consent review had been completed; however, given delays in progressing the review, in July 2007 the new Commissioner decided to commence an investigation and prepare a report for the benefit of all parties in an aim to resolve the matters at hand.

The Commissioner’s report acknowledged that Horizons had made a decision to publicly notify a new consent review which would supersede previous negotiations between Horizons and HDC. Notwithstanding the proposed review, the Commissioner considered that there was significant merit in releasing their findings at that particular time given the concerns of the local community and the importance of the outcome of the proposed review.

The Parliamentary Commissioner for the Environment report (August 2008) and supporting technical assessment undertaken by Tonkin and Taylor (dated 25 March 2008) included key recommendations which were taken into consideration by the Commissioner in forming their final recommendations.

The report provided guidance for the review of the landfill’s resource consents including recommendations on compliance monitoring by Horizons and the monitoring and operation of the landfill by HDC, including liaising with the Neighbourhood Liaison Group.

A formal review was initiated which was completed by 2010 and resulted in the current resource consent conditions under the following resource consents.

Resource consent number	Nature of resource consent
6010/1	Discharge of landfill leachate onto and into land
6009/1	Discharge of solid waste onto land
6011/1	Discharge of landfill gas, odour and dust to air
7289/1	Discharge of liquid waste onto and into land
102259/1	Discharge of stormwater to land and potentially to groundwater via soakage

Recently a further review of the relevant resource consent conditions was completed; however, this is subject to an appeal therefore the current resource consent conditions apply.

MONITORING CARRIED OUT / REQUIRED

The assessment period covered by this report is 6 February 2017 to 1 June 2017. During this assessment period two site inspections have been undertaken by HRC to determine compliance with the on site operational conditions of resource consents 6009, 6010, 6011 and 102259. These inspections were undertaken on 14 February 2017 and 12 May 2017. In particular these inspections were to assess the on site management of conditions related to capping/cover, leachate management, stormwater management, litter and odour.

Over the above assessment period HRC Consents Monitoring Officers have undertaken a series of reactive and proactive odour assessments. These assessments have been undertaken on a property that shares a mutual boundary with the Landfill. Eight completed assessment forms are available and have been used to determine the presence of odour beyond the consented Landfill boundary and the intensity and nature of that odour with respect to location.

In conjunction with the odour assessments outlined above HRC has provided the residents who reside at the property adjoining the Landfill an odour diary. This report has used this odour diary to determine the frequency and regularity of odours leaving the consented Landfill boundary and covers a period of 6 February 2017 to 12 May 2017.

GENERAL CONDITIONS APPLICABLE TO DISCHARGE PERMIT 6009 – DISCHARGE SOLID WASTE TO LAND

1. *This permit does not authorise the disposal of liquid waste to land at the Levin Landfill.*

Liquid waste is defined as:

Septic tank waste, grease trap waste, sewage and any material that contains free liquids.

The presence of free liquids may be determined by either of the following methods, whichever is most practicable at the time:

- i. *The “Paint Filter Test”; or*
- ii. *Material which may be loaded, transported and deposited at the landfill without the risk of free liquid seeping from the material, and without the risk of having the deposited material flow under gravity down any slope on the landfill shall be deemed to not contain free liquids.*

During the 14 February 2017 site inspection several separate loads were brought to the landfill and were inspected. All of these loads were deemed to not contain free liquids as per condition (1)(ii). At the time of this inspection the landfill operation was complying with this condition. **Comply-Full.**

2. *The Permit Holder shall take all practicable measures to avoid the discharge of waste from within the landfill to surrounding land. To this end, the Permit Holder shall ensure:*

- a. *The amount of refuse exposed at any one time is confined in dimension to 800 square metres of tipping face; and*

At the time of my inspections the active tipping face was around 35 meters by 20 meters which is less than the consented area above. **Comply-Full.**

- b. *Exposed refuse is covered at the end of each day that refuse is received at the landfill.*

The timing of the inspections were in the middle of the day therefore I was unable to verify this condition. Please ensure daily cover is applied in accordance with this condition. It is noted that the Landfill Management Plan states primary cover of waste should be provided daily except where no significant adverse impact would occur without the cover. For clarification it is expected that the consent holder will adhere to Condition 3b. **Not Assessed.**

3. *If refuse is discharged from within the active landfill areas to land outside the legal boundary of the landfill property, the Permit Holder shall ensure that such waste is cleared and removed to the landfill as soon as practicable.*

The Levin Landfill has litter fences on the periphery of the landfill cells to help control any airborne refuse leaving the site. During both inspections the litter fences were clean; in addition to this I did not see any rubbish beyond the litter fences. **Comply – Full.**

4. *The Permit Holder will monitor the landfill at least once every two weeks for the build up of litter, paper and other deposits outside the active landfilling areas, and remove such material as required.*

As discussed above, the landfill has litter fences to intercept any rubbish blown from the active landfilling areas. This material is collected regularly by onsite staff and returned to the active landfilling areas. During my inspections I noticed the litter fences were clear with full collection bags spaced along the litter fence line indicating the litter fences were regularly cleared. **Comply – Full.**

5. *The Permit Holder shall regularly inspect for the presence of vermin, birds and other pests take appropriate measures to control them.*

The onsite staff utilise a gas-powered bird scarer with an occasional shooting to manage birds and cats. Rat stations are also installed around the litter fences. During both inspections birds were seen on the operational Landfill cells. The gas powered bird scarer was seen but not heard during both inspections therefore it is not clear whether it is in operation. The Landfill Management Plan is silent with regard to recording the instances of any inspections for the presence or vermin, birds and other pests. It is recommended the consent holder record and report on any inspections and any action taken, to achieve full compliance with this condition. **Comply – At Risk.**

6. *The Permit Holder shall regularly inspect the landfill for noxious weeds, and take appropriate measures to control those noxious weeds.*

At the time of my inspection there were no obvious populations of noxious or invasive weeds such as gorse, broom or ragwort. The consent holder has provided an invoice showing a helicopter was used to spray gorse on 27 February 2017. The Landfill Management Plan is silent with regard to recording the instances of inspections for noxious weeds and the measures used to control them. It is recommended the consent holder amend the Landfill Management Plan to reflect this. **Comply – Full.**

GENERAL CONDITIONS APPLICABLE TO DISCHARGE PERMIT 6010 – DISCHARGE LANDFILL LEACHATE ONTO AND INTO LAND

1. *Charges, set in accordance with section 36(1)c of the Resource Management Act 1991, and section 690 A of the Local Government Act 1974, shall be paid to the Regional Council for the carrying out of its functions in relation to the administration, monitoring and supervision of this resource consent and for the carrying out of its functions under section 35 (duty to gather information, monitor, and keep records) of the Act.*

[Note: Section 36(1)c of the Act provides that Council may from time to time fix charges payable by holders of resource consents. The procedure for setting administrative charges is governed by section 36(2) of the Act and is currently carried out as part of the formulation of the Council's Annual Plan.]

Not Assessed.

2. *Landfill leachate shall not contaminate adjoining land.*

At the time of the inspections the leachate collection area at the toe of stage 3, the new bio-filter, the leachate ponds and the periphery of stage 2 were inspected. During the inspection on 12 May 2017 it was raining. The the stormwater drains along the internal haul roads and the outside of the litter nets were inspected. A leachate breakout was noted halfway along the eastern edge of stage 2. This was raised with HDC who took immediate measures to repair the capping and drain the leachate back into the landfill. Although leachate had escaped from the lined area of the landfill I could find no evidence that leachate had escaped onto adjoining land or the stormwater system. For the purpose of assessing this condition adjoining land is considered to be adjoining properties outside the legal boundary of the Landfill.

The consent holder shall ensure landfill cover is regularly inspected to prevent leachate breakouts. It is noted that the Landfill Leachate Management Plan requires onsite staff to advise the Solid Waste Engineer of any required maintenance of problems with the leachate system and any maintenance preformed shall be recorded on a Daily Inspection Sheet provided under Appendix C of the Landfill Leachate Management Plan. To provide assurance and achieve full compliance with this condition it is recommended that completed Daily Inspection Sheets are provided to HRC for review.

Comply – At Risk.



Figure 1 – Approximate location of leachate breakout on 12 May 2017.

GENERAL CONDITIONS APPLICABLE TO DISCHARGE PERMIT 6011 – DISCHARGE LANDFILL GAS, ODOUR AND DUST TO AIR

2. *The Permit Holder will ensure dust is controlled on access roads and on the landfill, if necessary, by watering or other methods.*

The access road up to the site office within the landfill is sealed. The main access roads within the landfill are metaled. During my site visits there had been recent rain which prevented dust generation. HRC have not received any complaints in relation to dust from the landfill access roads. Please ensure access to a water truck is available in the event dust becomes an issue onsite. **Comply – Full.**

3. *There shall be no discharge of odour or dust from the landfill that in the opinion of a Regional Council Enforcement Officer is noxious, dangerous, offensive, or objectionable beyond the property boundary. The Permit Holder will also ensure that:*

When deciding whether an odour is offensive or objectionable HRC enforcement officers must consider the frequency, intensity, duration, offensiveness/character and location of an odour event. These parameters are known as the FIDOL factors and are described in **Table 1** below. Odour is monitored by officers using odour complaint & assessment forms. In completing these forms the officer uses an interval method, noting the odour intensity every 10 seconds for 10 minutes. The officer will indicate the hedonic tone of the odour and note the type of land use affected by the odour. This information is recorded on the assessment form along with weather information. To determine the frequency and duration of odour events an officer may request that an odour diary is kept by affected complainants. This approach is consistent with best practice in assessing odour as per the Ministry for the Environment Guidelines titled, “*Good Practice Guide for Assessing and Monitoring Odour*”, dated 2016.

Frequency	How often an individual is exposed to the odour.
Intensity	The strength of the odour. Measured on a scale of 0 to 6.
Duration	The length of exposure.
Offensiveness/character	The character relates to the ‘hedonic tone’ of the odour, which may be pleasant, neutral or unpleasant. On a scale of -4 (Extremely unpleasant) to 4 (Extremely pleasant).
Location	The type of land use and nature of human activities in the vicinity of an odour source.

Table 1: Description of the FIDOL factors.

HRC has received a number of complaints in relation to odour from the Levin Landfill. These complaints have primarily been from a complainant, at one address, who shares a mutual boundary with the landfill. To assess compliance with this condition HRC has worked with the primary complainant requesting they keep an odour diary. A review of this odour diary shows 81 entries between 6 February 2017 and 12 May 2017 this is summarised below in **Figure 2**.

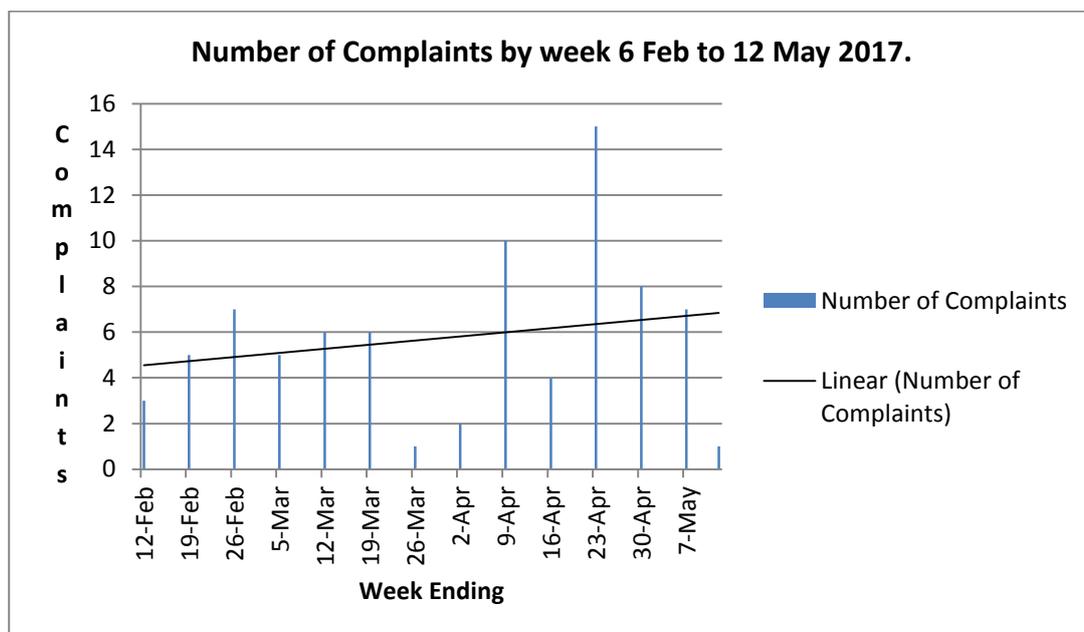


Figure 2: Number of complaints by week 6 February – 12 May 2017.

In conjunction with this HRC consents monitoring officers have undertaken proactive and reactive odour assessments at various times to compare with the odour diary. From these assessments eight completed assessment forms are available, these are summarised in **Table 2** below. Of these assessments there were five occasions where odour was detected. Of these five occasions one assessment concluded that odour was detected; however, the officer did not consider it would be objectionable at any location for any duration or frequency, two assessments detected odour and concluded it would not be objectionable unless it became continuous and two assessments detected odour and concluded it would be objectionable if it occurred on a regular or frequent basis.

Odour Nature/Assessment Type.	No Odour.	Odour detected but not objectionable.	Odour detected not objectionable UNLESS continuous.	Odour detected and would be objectionable if occurred regularly or frequently.	Odour detected and would be objectionable even in short duration.	Total
Proactive Assessment	2	1	2	0	0	5
Reactive Assessment	1	0	0	2	0	3
Total	3	1	2	2	0	8

Table 2: Results of odour assessment forms completed by HRC Consents Monitoring Officers 14 March – 1 June 2017.

One of the above assessments, undertaken by an HRC officer on the evening of 28 May 2017 at the complainants' residence, noted land fill gas odour at a constant intensity of 1-2 out of 6. This was for the duration of the assessment, which was 20 minutes. Despite the relative low intensity the officer considered the odour to be objectionable because of its tone and it's proximity to the complainants' residence.

Review of the primary complainants' odour dairies from 6 February to 12 May 2017 show odour events occurring on a frequent basis. These events are typically in the 1-3 intensity range; however, there have been several events in the 5-6 intensity range.

HRC's own assessments undertaken at the primary complainants' address have demonstrated the presence of land fill gas odour that is, at times, objectionable and beyond the consented boundary of the Levin landfill. Review of the odour dairies kept by the primary complainant, whom HRC believe to be reasonable people, have demonstrated this odour is occurring on a regular or frequent basis. A compliance report completed by HRC on 9 February 2015 provided a Significant Non – Compliance grading for this condition based on odour dairies kept by the primary complainants.

After considering the available information, that includes odour dairies from the primary complainant and HRC's own odour assessments, it is my opinion that during this assessment period odour from the Landfill has been objectionable beyond the property boundary. Accordingly a Significant Non – Compliance grading has been given for this condition. Also, given this is a repeat Significant Non – Compliance grading the landfill has been graded as Significantly Non – Complying with resource consent 6011. **Significant Non-Compliance.**

3a. *On-site and off-site Health and Safety Effects of landfill gas being emitted by the old landfill should be quantified by sampling groundwater monitoring wells for evidence of landfill gas when groundwater samples are taken from the wells. As a minimum, the gases tested for are to include methane, carbon dioxide and oxygen; and*

This data will be assessed by a subsequent compliance report covering the quarterly and comprehensive reports. **Not Assessed.**

3b *Any building constructed on the landfill site is adequately ventilated.*

Not Assessed.

4. *There shall be no deliberate burning of waste or other material at the landfill. If fires occur at the landfill they shall be extinguished as quickly as possible.*

Inspections of the landfill have shown no evidence that the burning of waste is occurring onsite. There have been no complaints received by HRC in relation to this. **Comply – Full.**

5. *The Permit Holder shall take all practicable steps to avoid, remedy or mitigate significant adverse effects of the discharge of landfill gases to air.*

As previously stated by this report HDC has been through a review for the conditions of the Landfill resource consents. Accordingly HDC has undertaken various measures to avoid, remedy or mitigate significant adverse effects of the discharge of landfill gases to air; these measures include:

- Construction of a bio-filter at the leachate sump collection area, which is now complete.
- Construction of a pipe to take leachate directly to trade waste by-passing the leachate pond, which is now complete.
- A Windsor landfill gas flare is onsite and in the process of being commissioned, this is expected to be complete in July.
- Cover on the batters of stage 2 is being improved with additional clay being added with additional material being sourced via district roading projects as it becomes available.

As it appears to be silent in this regard it is recommended HDC update their Landfill Management Plan to incorporate procedures to manage and monitor the landfill gas wells and flare when it is fully commissioned, to optimise LFG capture and destruction. A means of surveying the Landfill for any weaknesses/LFG breakouts in the capping layer should also be incorporated. **Comply – On Track.**

6. *The Permit Holder shall keep a record of any complaints received. The complaints record shall include the following, where possible:*

- a. Names and addresses 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.*

The record shall be made available to the Regional Council on request.

The Permit Holder shall also keep a record of landfill gas monitoring results including:

- a. Date and time of sampling;*
- b. The concentrations of gasses detected.*
- c. Weather conditions at the time of sampling.*

The monitoring results shall be made available to the Regional Council on a quarterly basis.

To determine compliance with this condition HRC requests that all records required by Condition 6(a) to (e) covering this assessment period (6 February 2017 to 1 June 2017) held by HDC be provided prior to **30 June 2017**. All monitoring results required will be assessed in a subsequent compliance report following a review of the quarterly and comprehensive reports. **Not Assessed.**

GENERAL CONDITIONS APPLICABLE DISCHARGE PERMIT 6012 DIVERT STORMWATER FROM AROUND THE LEVIN LANDFILL

2. *Stormwater run-off contaminated by leachate to an extent that it may cause adverse environmental effects shall be regarded as leachate.*

During the 12 May 2017 site inspection a leachate breakout was detected along the stage 2 litter fence. Leachate had been collected by stormwater as it ran off the clay capping and was contained in a small area of ponding immediately adjacent to the litter fence. Fortunately the area of ponding was not flowing to the stormwater system preventing it from causing any adverse environmental effects. HDC were advised of the issue and the area of ponding was drained back into the landfill and bunding put in place to prevent a re-occurrence. Please ensure any diversion bunds and or drains on the operational landfill cell are regularly inspected to prevent leachate out breaks.

HDC is requested to advise by **30 June 2017** what steps it will take to ensure this is appropriately managed into the future. **Comply – At Risk.**

3. *Stormwater falling on any operational cell shall be regarded as leachate.*

Stages 2 and 3 are the current operational cells at the landfill. Stormwater that falls on these areas is captured by the leachate collection system and treated as leachate and therefore pumped to trade waste. **Comply - Full.**

4. *The Permit Holder shall carry out such stormwater or sediment control measures as are necessary to ensure that sediment is not carried and deposited beyond the boundaries of the site.*

During both site visits it was noted that all access roads were stabilised by aggregate or sealed and well maintained. The other potential source of sediment was from clay capping however this area is maintained to drain back into the landfill cells and ultimately be collected by the leachate collection system. Any stormwater with the potential to leave site is collected by stormwater pond 1 which is situated in a natural dune depression. **Comply – Full.**

5. *The Permit Holder shall ensure that:*

- A. *stormwater drains within the site are maintained to ensure that the flow of stormwater around the landfill is unrestricted and the potential for stormwater contamination is reduced; and*

As discussed above during the second visit on 12 May 2017 I detected a leachate breakout halfway along the eastern edge of stage 2 which was mixing with ponded stormwater immediately adjacent to the landfill cell. Leachate had escaped from the lined area of the landfill no evidence was found to indicate leachate had entered the stormwater system or had escaped onto adjoining land.

On this occasion contaminated stormwater did not leave the site however the breakout highlighted the potential for stormwater contamination should contaminated stormwater enter the stormwater system. For this reason a comply-at risk grading has been allocated for this condition.

Accordingly HDC are required to advise by **30 June 2017** what steps it will take to ensure this risk area is actively managed to ensure compliance with this condition. **Comply – At Risk.**

- B. *stormwater diversion systems, including all drains and ponds, are kept clear of refuse ; and*

The stormwater drains inspected during my site inspections were maintained and free of refuse. **Comply – Full.**

- C. *any sediment ponds are regularly cleaned to ensure effective settling out of suspended solids.*

Stormwater pond 1 was not viewed during my inspections. When a timeline is provided for improvements to prevent leachate breakouts along the eastern edge of stage 2 a follow up inspection will be scheduled and this area inspected. **Not Assessed.**

GENERAL CONDITIONS APPLICABLE DISCHARGE PERMIT 102259 – DISCHARGE STORMWATER TO LAND AND POTENTIALLY TO GROUNDWATER VIA GROUND SOAKAGE

4. *All works and structures relating to this Discharge Permit shall be designed and constructed to conform to best engineering practices and shall at all times be maintained to a safe and serviceable standard.*

During my second inspection there was substantial rain. At this time the stormwater drains that I inspected were free of obstructions and ponding thereby indicating they are designed and maintained to a serviceable standard. **Comply – Full.**

5. *The Permit Holder shall ensure that the stormwater system, including all drains and ponds, is kept clear of refuse at all times.*

I inspected various stormwater drains during both inspections but not stormwater pond 1; therefore this condition can not be fully assessed. There was no refuse in the stormwater drains I inspected. **Not Assessed.**

6. *The Permit Holder shall ensure the stormwater soakage ponds are inspected regularly and maintained to optimise their performance at all times. This shall include de-sludging or remediating the ponds as required.*

The stormwater management plan requires stormwater drains to be inspected not less than monthly; however, it is silent with respect to maintenance of the stormwater soakage ponds. It is recommended that the management plan is amended to include this information and maintenance of the ponds is undertaken accordingly. **Not Assessed.**

7. *There shall be no ponding in the stormwater soakage areas 12 hours after the last rain event.*

Not Assessed

8. *There shall be no runoff or existing discharge of stormwater beyond the property boundary that has originated on any landfill area or new lined landfill area that has had, or is intended to have, refuse placed on it.*

The catchment area serviced by stormwater pond 1 does not include stormwater from stage 2 or 3. Stormwater generated on these areas is collected by the leachate collection system. **Comply – Full.**

9. *As far as practically possible, the Permit Holder shall ensure that all stormwater from the existing landfill area is directed to a centralised soakage area to the south of the existing fill, as shown on Plan C 102259.*

Onsite stormwater drains are directed along the internal haul roads towards stormwater pond 1.

Comply – Full.

10. *Where it is practical and economical to do so, the Permit Holder shall ensure that within the operational landfill cell the minimum amount of stormwater shall be allowed to come into contact with refuse. This shall be effected by constructing impermeable barriers, diversion drains or bunds on the side slopes and within the base of the landfill.*

All stormwater that falls on the operational landfill is treated as leachate and collected by the leachate collection system. For the purpose of compliance with this condition it is expected that diversion drains and bunds are constructed to ensure stormwater falling on any operational cell stays within that operational cell and is collected by the leachate collection system; this is addressed by Condition 11 below. **Not Assessed.**

11. *There shall be no contamination of stormwater with leachate. Leachate includes any stormwater within an operational cell that is not separated from refuse by a barrier as defined in Condition 10.*

Due to the definition of leachate offered by Condition 3 in resource consent 6012, any stormwater that falls on an operational cell is considered leachate. Therefore in the event stormwater fell on an operational cell, which discharged to an area outside the cell, this would be considered a non compliance with this condition.

Following the reasoning above, the observations made of a leachate breakout during my site inspection on 12 May 2017 is a breach of this condition as it entered clean ponded stormwater adjacent the operational cell. It is noted that HDC took immediate action to remediate this breakout and construct diversion bunds to prevent a re-occurrence. It is also noted the scale of the breakout was small and the effects can be considered less than minor as they were isolated to the ponding stormwater. Consideration of these factors has resulted in a minor non-compliance grading having been issued for this condition on this occasion. **Minor Non – Compliance.**

12. *The Permit Holder shall ensure that a suitable stormwater soakage area is available for a given design storm and the area of the operational cell from which the stormwater is collected.*

All stormwater that currently falls on an operational cell is treated as leachate and is collected via the leachate collection system. **Comply – Full.**

13. *Areas designated for stormwater discharge to land and their catchment and reticulation system shall be identified and located on site plans and their dimensions submitted for approval by horizons.mw's Team Leader Compliance prior to their use.*

This condition has previously been assessed and complied with therefore has not applicable.

Not Applicable.

CONCLUSION

Two site inspections to the landfill have been completed by HRC Consents Monitoring Officers. These inspections occurred on 14 February 2017 and 12 May 2017 respectively and were undertaken to determine compliance with onsite conditions as outlined in the report above. As a result of these assessments the landfill obtained the following Resource Consent compliance gradings overall, based on the conditions assessed;

- Discharge Permit 6009 – discharge solid waste to land = **Comply – Full.**
- Discharge Permit 6010 – discharge landfill leachate onto and into land = **Comply**
- Discharge Permit 6012 – divert stormwater from around the Levin landfill = **Compy**
- Discharge Permit 102259 – discharge stormwater to land and potentially to groundwater via ground soakage = **Comply**

Due to odour complaints received by HRC in relation to the landfill proactive and reactive odour assessments of the landfill have been undertaken. HRC has worked closely with a primary complainant who owns a property with a mutual boundary to the landfill. HRC has asked that the primary complainant keep an odour diary. HRC has used this odour diary in conjunction with its own assessments to determine the nature of the odour taking in to consideration the FIDOL factors, outlined above in the introduction section above. After careful consideration of this information HRC has determined that the landfill is significantly non-complying with condition 3 of resource consent 6011. Due to this condition having been previously significantly non – complied in a HRC compliance report dated 9 February 2015 the effects of this odour can be considered ongoing. On this basis the landfill following Resource Consent compliance grading overall;

- Discharge Permit 6011 – discharge landfill gas, odour and dust to air = **Significant Non - Compliance**

Please find attached a copy of Horizons Regional Council's Compliance Assessment Guidelines for your reference.

RECOMMENDATIONS:

It is recommended the consent holder undertake the following actions to ensure the landfill complies with its resource consents;

Discharge Permit 6009 – discharge solid waste to land.

- The Landfill Management Plan is silent with regard to recording the instances of any inspections for the presence or vermin, birds and other pests. It is recommended the consent holder record and report on any inspections and any action taken, to achieve full compliance with condition 5.
- The Landfill Management Plan is silent with regard to recording the instances of inspections for noxious weeds and the measures used to control them. It is recommended the consent holder amend the Landfill Management Plan to reflect this.

Discharge Permit 6010 – discharge landfill leachate onto and into land.

- To provide assurance and achieve full compliance with condition 2 it is recommended that completed Daily Inspection Sheets are provided to HRC for review.

Discharge Permit 6012 – divert stormwater from around the Levin landfill.

- During the 12 May 2017 site inspection a leachate breakout was detected along the stage 2 litter fence. Accordingly HDC is requested to advise by **30 June 2017** what steps it will take to ensure this is appropriately managed into the future and maintain compliance with conditions 2 and 5.

Discharge Permit 102259 – discharge stormwater to land and potentially to groundwater via ground soakage.

- During a site inspection on 12 May 2017 a leachate breakout was noticed adjacent to the litter fence along the eastern edge of stage 2 (see **Figure 1**). As discussed above HDC is requested to advise by **30 June 2017** what steps it will take to ensure this is appropriately managed into the future and prevent further non – compliance.

Discharge Permit 6011 – discharge landfill gas, odour and dust to air.

- It is recommended HDC update their Landfill Management Plan to incorporate procedures to manage and monitor the landfill gas wells and flare, when fully commissioned, to optimise LFG capture and destruction. A means of surveying the Landfill for any weaknesses/LFG breakouts in the capping layer should also be incorporated and regularly undertaken to ensure compliance with condition 5.
- To determine compliance with condition 6 HRC requests that all records required by condition 6(a) to (e) covering this assessment period (6 February to 1 June 2017) held by HDC be provided prior to **30 June 2017**.

If you have any queries about the attached report, please contact me on 0508 800 800

Kind regards,



Hamish Sutherland

SENIOR CONSENTS MONITORING OFFICER

Table 1. Compliance Assessment Guideline for Individual Consents

Site Compliance Grade	Examples
Comply - Exceeds	<ul style="list-style-type: none"> • Consent holder has implemented practices, procedures, systems that are over and above that required by the resource consent or consents for the site which are having a tangible environmental benefit.
Comply - Full	<ul style="list-style-type: none"> • Complying with all conditions of consent; and/or • A non-compliance has occurred beyond the control of the consent holder; and/or
Comply	<ul style="list-style-type: none"> • One Minor Non-Compliance with a condition of the resource consent.
Comply – At Risk	<ul style="list-style-type: none"> • At Risk grading identified against key condition(s) of one or more of consents for the site.
Comply – On Track	<ul style="list-style-type: none"> • At risk grading identified AND site has entered into a Compliance Pathway Agreement (CPA) to reduce system risks and achieve best practice.
Non-Compliance	<ul style="list-style-type: none"> • There have been two ‘first time’ Non -Compliances with the conditions of consent; and/or • There has been one repeat Minor Non-Compliance with the same or similar condition.
Significant Non-Compliance	<ul style="list-style-type: none"> • There has been at least one Significant Non-Compliance Rating with a condition; and/or • There has been at least two repeat Non- Compliance Ratings associated with the same or similar condition; and/or • There have been three or more ‘first time’ Non Compliance Ratings.
Not assessed	<ul style="list-style-type: none"> • Monitoring has not been undertaken of this consent during the reporting period.

Table 2. Compliance Assessment Guideline for Individual Conditions

Condition Compliance Grade	Adverse Effects Scale	Examples (not exhaustive)
Comply – Excellent	Nil.	Consent holder has implemented practices, systems, and procedures that are over and above that required by the resource consent and are having tangible environmental benefit.
Comply - Full	Nil.	Conditions of consent are fully complied with. Sampling out of sequence or late due to circumstances outside of consent holders control (e.g. flow related sampling).
Comply – At Risk	Nil – de-minimus. (<i>dictionary</i> : de-minimus - need not be considered. In terms of the RMA the term means an effect which is less than minor, of no consequence, so trifling that it should be disregarded).	Compliant at time of inspection but management / system deficiencies indicate there is a real risk of a non-compliance occurring (e.g. insufficient effluent storage, poor irrigator performance).
Comply – On Track	Nil – de-minimus.	System has been identified as At Risk, but the consent holder has agreed to enter into a Compliance Pathway Agreement (CPA) to ensure compliance is consistently achieved. Consent holder is currently complying with conditions of consent.
Minor Non-Compliance	De-minimus to less than minor.	One-off failure to comply with a condition of consent (e.g. One off minor exceedance in key parameter in 6-months worth of sampling (allows for two minor exceedances in a 12-month period). Intent of condition met however data and / or report provided late (no later than 6 weeks). First up failure to install a water meter for a small take (stockwater), provide management plan or environmental information (e.g. water quality information) within required timeframes.
Non - Compliance	More than minor and / or ongoing (<i>dictionary</i> : defines ‘minor’ as lesser or comparatively small in size or importance). Ongoing (<i>dictionary</i> : continuing to exist).	Four minor exceedances of key parameters for one year’s worth of sampling / data. Repeat failure to provide a report or monitoring data. Repeat Failure to undertaken sampling. Failure to install water meter for a more than minor take (e.g. irrigation).
Significant Non-Compliance	More than minor to significant, serious and / or ongoing. Significant (<i>dictionary</i> : important, noteworthy, consequential). Serious (<i>dictionary</i> : important, demanding consideration, not slight). Ongoing: (<i>dictionary</i> : continuing to exist).	Water quality results indicate there is a potential for or an actual effect which is more than minor that is not authorised by the resource consent. Unauthorised discharge of wastewater / effluent into water or onto land where it may enter water, excessive ponding of effluent on the land surface. Repeated failure to provide a report/monitoring data/ management plans/install water metering equipment etc. Repeated failure to undertake sampling. Repeated failure to comply with authorised discharge or water take volumes.
Not Applicable		Applies to conditions that are no longer applicable. Generally relates to historic conditions that may require provision of a management plan, which has been provided and consent requires no further action.
Not Assessed		Monitoring not undertaken of consent condition.

