

4 May 2015

Horowhenua District Council
Private Bag 4002
LEVIN 5540

File ref: 1/4/HDC
6009 – 6012, 102259
SGS

Attention Gerry O'Neil

Dear Gerry

LEVIN LANDFILL 25 MARCH 2015 ROUTINE SITE INSPECTION AND ASSESSMENT OF OCTOBER 2014 AND JANUARY 2015 QUARTERLY MONITORING RESULTS

A routine site visit of the Levin Landfill was carried out on 25 March 2015. In addition to the information gathered during this site visit data contained in the MWH October 2014 and January 2015 quarterly reports has been used to assess how the landfill has performed with the relevant consent conditions.

As a result of this assessment resource consents 6009, 6010, 6012 and 102259 have been given an overall **Comply - Full** grading. Resource consent 6011 has been graded as **Comply – At Risk**. Please note that since the Landfill is at the time of this invoice complying with the conditions of its resource consents, the compliance monitoring charges are 70 per cent 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 via email stuart.standen@horizons.govt.nz or on 0508 800 800.

Kind regards



Stuart Standen
CONSENTS MONITORING OFFICER

COMPLIANCE REPORT LEVIN LANDFILL

Consent
6009 – 6012 & 102259

Reporting Period
October 2014 – January 2015 Quarterly Reports
25 March 2015 Routine Inspection



May 2015



EXECUTIVE SUMMARY

This compliance report assesses compliance against resource consents 6009, 6010, 6011, 6012 and 102259 for a routine site inspection carried out on 25 March 2015 and environmental monitoring results contained within the October 2014 and January 2015 quarterly monitoring reports.

As a result of this assessment resource consents 6009, 6010, 6012 and 102259 have been given an overall **Comply - Full** grading. This is because relevant conditions associated with these consents were being complied with at the time of the inspection and when assessing monitoring data. Resource consent 6011 has been graded as **Comply – At Risk**. This is because HDC have been complying with conditions of this resource consent however, based on comments in the *MWH Levin Landfill Odour Assessment* report and the sand capping of Stage 2 there is a risk of HDC non-complying with condition 3.

An HRC compliance report dated 1 October 2014 identified an increasing trend in leachate parameters in bore C2DD. The report contained a recommendation for HDC to investigate if this increase and determine if the bore has been sealed appropriately. HDC advised HRC in a letter dated 3 October 2014 that this bore will be investigated by 17 October 2014. To date I am unaware if HRC has received confirmation this task has been carried out and any remedial actions required. Can you please update me by **29 May 2015** regards this issue.

Based on the routine inspection and assessing the quarterly report monitoring data the following points require further information to be provided to HRC.

ELS laboratories do not hold accreditation for Volatile Fatty Acids. Can you please confirm to HRC by 29 May 2015 if HDC has carried out a duplicate sample to satisfy condition 10 of resource consent 6010.

In light of leachate contaminated groundwater entering the Tatana Drain it is required HDC include this information when calculating future mass load calculations in accordance with condition 11(d) of resource consent 6010.

Can you confirm if the Frank's drain is used for domestic supply to ensure the intent of condition 13 of resource consent 6010 is met and can be assessed.

Leachate breakout and settlement observation records for the 2014/15 period are required to be included in the 2015 annual report in accordance with condition 28 and 29 of resource consent 6010.

It is recommended the wilding pines and black berry on the old landfill cap are removed. This is they obstruct the side slope for a visual assessment of the cap.

Condition 3 of resource consent 6011 was graded as **Comply – At Risk**. This is because HDC is complying, since January 2015 and at the time of the inspection. However there is a risk of a non-compliance occurring based on comments contained in the *MWH Levin Landfill Odour Assessment* report.

Comments under condition 5 of resource consent 6011 relates to HDC efforts to reduce or mitigate against odours being discharged beyond the property boundary. Can you please confirm by **29 May 2015** when these tasks are expected to be carried out.

Areas on Stage 1 were identified during the site inspection where clean stormwater could be diverted from Stage three. Can you confirm if HDC plan to install a cut off drain to reduce the volume of leachate generated on site in accordance with condition 10 of resource consent 102259.

GENERAL CONDITIONS APPLICABLE TO THE LEVIN LANDFILL ROUTINE SITE INSPECTION AND THE OCTOBER 2014 AND JANUARY 2015 QUARTERLY REPORT ASSESSMENT

Discharge Permit 6010

General Conditions – Discharge leachate to ground

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

As observed during the site inspection there were no signs landfill leachate had discharged from the lined section of the landfill, leachate pond or closed landfill or discharged overland and contaminated adjoining land.

HRC advised HDC in an email dated 10 April 2015 the non-compliance report dated 31 October 2014 will be rescinded. Therefore this condition will be graded as **Comply – Full**.

3. *The Permit Holder shall commence the following monitoring programme:*

Table A: Landfill Groundwater Monitoring Locations, Parameters, and Frequency – Deep Aquifer Wells

The deep aquifer bores were sampled for the indicator list of parameters during the October sampling round and for the comprehensive list of parameters during the January sampling round. This is in accordance with Table A of this condition. **Comply – Full**

Table B: Summary of Landfill Groundwater Monitoring Locations, Parameters, and Frequency – Shallow Aquifer Wells

The shallow aquifer bores were sampled for the indicator list of parameters during the October sampling round and for the comprehensive list of parameters during the January sampling round. This is in accordance with Table B of this condition. **Comply – Full**

Groundwater levels are to be measured and recorded during each sampling procedure.

Ground water depths for each bore are recorded in the tabulated results in Appendix D of the annual report. **Comply – Full**

Table C: Other Water Monitoring Locations, Frequencies and Parameters

The Hokino Stream was sampled for the indicator list of parameters during the October sampling round and for the comprehensive list of parameters during the January sample round. This is in accordance with Table C of this condition. **Comply – Full**

Table D: Monitoring Point Locations

Bores listed in Table D have been sampled during the October and January sampling rounds. **Comply – Full**

4. *The Permit Holder shall monitor soils in the irrigated areas. The first soil samples from an irrigation area shall be taken in the first year that leachate is irrigated to land in that area and shall be taken prior to irrigation. Thereafter, samples shall be taken on the schedule provided in Table H.*

Table H: Soil Monitoring Locations, Parameters, and Frequencies

Table I: Irrigated Soil Analysis List

As mentioned in a previous compliance report leachate is no longer irrigated to land therefore soil monitoring is no longer required. **Not Assessed**

5. *The results of monitoring under Conditions 3 and 4 of this Permit shall be reported to the Regional Council by 31 August each year for the duration of this Permit.*

Monitoring results are submitted to HRC on a quarterly basis therefore exceeding this consent requirement. **Comply – Full**

6. *The Permit Holder shall ensure the above monitoring programme is undertaken by either the Regional Council, or, an independent organisation approved by the Environmental Protection Manager of the Regional Council.*

Environmental reporting and monitoring is carried out by MWH New Zealand Ltd and Downer in accordance with this condition. **Comply – Full**

7. *The Permit Holder shall inform the Neighbourhood Liaison Group of the identity of the organisation carrying out the monitoring.*

Not Assessed

8. *The Permit Holder shall meet the costs of the monitoring.*

Comply – Full

9. *The Permit Holder shall report the results of the monitoring to the Neighbourhood Liaison Group by 31 August each year for the duration of the Permit.*

Monitoring results are reported to the NLG at the community meetings. **Comply – Full**

10. *If a laboratory is used for water quality analyses which do not have independent accreditation for the parameters measured, then on each sampling occasion duplicate samples from a least one sampling location shall be analysed by a laboratory with independent accreditation for the parameters measured. Continued analysis by the unaccredited laboratory shall be at the discretion of the Regional Council.*

It is noted that ELS Laboratories use a non accredited test for Volatile Fatty Acids. There is no information on HRC files confirming that a duplicate sample has been collected in accordance with this condition requirement. Can you please confirm if HDC has carried out a duplicate sample to satisfy this condition. **Not Yet Assessed**

11. (a) *Should any shallow aquifer groundwater and surface water parameters tested for under Condition 3 of this consent exceed the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for Livestock Watering, the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the result and, where the change can be attributed to landfill leachate, consult with the Regional Council to determine if further investigation or remedial measures are required.*

The MWH quarterly reports compare shallow groundwater and Hokio Stream results against the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines for Livestock watering (ANZECC).

Results show there were no exceedances of the ANZECC guidelines in samples collected from the shallow aquifer during the October and January sampling round.

There were exceedances of the ANZECC faecal coliform limit at all three Hokio Stream sampling sites during the January sampling round. Faecal coliforms were 340 cfu/100ml at the upstream sampling site and 340 and 300 cfu/100ml at the two downstream sampling sites. This indicates the exceedance of the consent limit was due to background faecal coliforms and not due to landfill leachate. Therefore this condition will be graded as **Comply – Full**

- (b) *Should any surface water parameters tested for under Condition 3 of this consent indicate a decline in water quality between monitoring points HS1 and HS3, as referred to in Table E, the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the result and, where the change can be attributed to landfill leachate, consult with the Regional Council to determine if further investigation or remedial measures are required.*

The quarterly reports states, based on leachate indicator parameters, the Hokio Stream is not being impacted by leachate. **Comply – Full**

- (c) *In the event that a report is submitted to the Regional Council pursuant to Conditions 11(a) or 11(b) and the Regional Council has determined that further investigation or remediation measures are required, then:*
- (i) *The Regional Council may require the Permit Holder to develop a mitigation or remediation plan.*

- (ii) *In the event that the Regional Council determines that a mitigation or remediation plan is required, the Regional Council shall advise the Permit Holder of this requirement in writing within two months of receiving the Condition 11(a) or 11(b) report.*
- (iii) *Within six months of receipt of advice in writing from the Regional Council pursuant to Condition 11(c) (ii), the Permit Holder shall submit a mitigation or remediation plan to the Regional Council for approval.*
- (iv) *Any mitigation or remediation plan prepared in accordance with Condition 11(c) shall include a timetable for implementation.*
- (v) *Following approval of a mitigation or remediation plan prepared in accordance with Condition 11(c) (iii), if the Regional Council determines that the adverse effects of the landfill activity itself on the shallow groundwater aquifer or surface water will be more than minor, the Regional Council shall require the Permit Holder to implement the plan within the timeframe specified in the timetable for implementation required by Condition 11(c) (iv).*

(d) The Permit Holder shall annually review the data derived from the groundwater monitoring program and evaluate contaminant mass load projections for discharges from the landfill to the Hokio Stream. The contaminant mass load projections shall be based primarily, but not exclusively, on the monitoring data obtained for the “B” and “C” series bores indicated in Table D of this discharge permit. The annual report required under Condition 5 shall include the following information:

- (i) A summary of the methodology used to calculate the mass load projections.
- (ii) The calculated mass loads transported in the groundwater and comparable mass loads in the Hokio Stream.
- (iii) An analysis of the implications of the mass load calculations with respect to ensuring discharges from the landfill would not result in a decline in the water quality in the Hokio Stream under Condition 3.

In light of leachate contaminated groundwater “day lighting” into the Tatana Drain it is recommended that HDC include these results when calculating the mass load calculations. The latest calculation will be assessed when the 2015 annual report is submitted to HRC.

Not Yet Assessed

(e) Should the groundwater parameters tested for under Condition 3 of this consent, and subsequent evaluation and indicative assessment of contaminant mass loads under Condition 11(d) of this consent indicate that contaminants sourced from either the closed or active areas of the Levin Landfill are likely to result in a future decline in the water quality of the Hokio Stream, as defined under Condition 3, then:

- (i) The Permit Holder shall include in the annual report required by Condition 5 an analysis of the significance of the result.
- (ii) The Regional Council may at any time require the Permit Holder to undertake further investigations and/or conduct a detailed assessment of mass loads to evaluate the actual likelihood of a future decline in water quality of the Hokio Stream as a result of landfill activities as measured under Condition 3. The Permit Holder shall provide a report to the Environmental Protection Manager at the Regional Council documenting the further investigations undertaken or the methodology, procedure and outcomes of the detailed assessment.
- (iii) If the work required under Condition 11(e) (ii) discloses an actual likelihood of a future water quality decline of the Hokio Stream as a result of landfill activities, and the Regional Council determines that this decline in water quality would constitute a more than minor effect on the water quality of the Hokio Stream, the Regional Council shall require the Permit Holder to develop a mitigation or remediation plan.
- (iv) For the purposes of quantifying whether the adverse effects of the landfill activity itself on the water quality of the Hokio Stream will be more than minor, any determination made by the Regional Council may be independently peer reviewed, at the request of either the NLG or the Permit Holder, by an appropriately qualified and experienced person. The request for a peer review must be lodged with the Regional Council within a period of one month following the determination by the Regional Council.

The peer reviewer shall prepare a detailed report which analyses the determination of adverse effects made by the Regional Council, and provide clear recommendations as to whether implementation of a mitigation or remediation plan is required for the purposes of adopting the best practicable option to remove or reduce the more than minor adverse effect on the water quality of the Hokio Stream. This report shall be completed within a period of three months of the request for a peer review.

Should a peer review of the determination be undertaken, the Regional Council shall take into account the outcome of the review in again determining whether this decline in the water quality of the Hokio Stream would constitute a more than minor effect on the water quality of that stream.

- (v) In the event that the Environmental Protection Manager at the Regional Council determines that a mitigation or remediation plan is required, the Regional Council shall advise the Permit Holder of this requirement in writing within two months of receiving the annual report.*
- (vi) Within six months of receipt of advice in writing from the Regional Council pursuant to Condition 11(e) (v) the Permit Holder shall submit a mitigation or remediation plan to the Regional Council for approval.*
- (vii) Any mitigation or remediation plan prepared in accordance with Condition 11(c) or Condition 11(e) (v) shall include a timeframe or threshold for implementation.*
- (viii) Following the completion of the mitigation or remediation plan, if the Regional Council determines that the potential adverse effects of the landfill activity itself on the water quality of the Hokio Stream, as monitored under Condition 3, continue to be more than minor, the Regional Council shall require the Permit Holder to implement the plan within the timeframe specified in the timetable for implementation required by Condition 11(c) (vii) or alternatively when the threshold identified is triggered .*

[Advice Note: Condition 11 may be subject to a review pursuant to s 128 (1)(a) of the Resource Management Act 1991 (see condition 31) and it is anticipated such a review will occur in the event of disagreement by either the Permit Holder or NLG with any determination of the Regional Council in relation to condition 11 (a) – (e)]

This condition will be assessed when the updated 2015 mass balance calculations is submitted to HRC in the 2015 annual report. **Not Yet Assessed**

12. *Should any parameters tested for under Condition 3 of this consent from the deeper gravel aquifer (bores identified as C2dd, E1, E2, the proposed G1d and any other monitoring bore intersecting the deep gravel aquifer), exceed the requirements of the Ministry of Health's Drinking Water Standards for New Zealand 2000, the Permit Holder shall report to the Regional Council as soon as practicable on the significance of the results and, where the change can be attributed to landfill leachate, consult with the Regional Council to determine if further investigation or remedial measures are required.*

The October deep groundwater results show manganese in bore E2D has exceeded the NZDWS. The January results show hardness, aluminum, iron, lead and manganese has exceeded the NZDWS at various bores. These exceedances are associated with natural peat deposits within the area and not from landfill leachate. Therefore this condition will be assessed as **Comply – Full**.

13. *Sampling of the groundwater wells within a 1.5 km radius down-flow or across-flow from the landfill property boundary is to be carried out by the Permit Holders representative upon receiving a written invitation from the bore owners. The frequency of sampling is to be decided through discussion between the bore owner and the Permit Holder. Initial analyses from individual bores are to be tested for the parameters in the Comprehensive Analysis List in Condition 3. Subsequent testing may be performed based on the Indicator Analysis List in Condition 3. Should analysis of water obtained from any groundwater wells used for human drinking water show concentrations of parameters which exceed the requirements of the Ministry of Health's Drinking Water Standards for New Zealand 2000, or repeated sampling from a specific bore indicates a decrease in water quality, the Permit Holder shall report to the Regional Council and the bore owner as soon as practicable on the significance of the results. Where the exceedance or decreasing water quality can be attributed to landfill leachate, the Permit Holder shall consult with the Regional Council and the bore owner to determine if further investigation or remedial measures are required.*

Appendix C of the January quarterly report contains monitoring results collected from the Frank's property. An HDC email dated 14 April 2015 confirms the Frank's sample was collected from a surface water drain. The purpose of this condition is to assess groundwater against drinking water standards. Can you please confirm if the Frank's use the drain as a source for domestic water use to ensure the intent of this condition is met. **Not Yet Assessed**

14. *Any currently active and future lined landfill area shall be closed and remediated by:*

- a) *Compacting refuse to such an extent and consistent with CAE guidelines of 600-800 kg/m³, to ensure post closure settlement is minimised as far as practicable; and*
- b) *Grading to a final slope of less or equal to 1V:3H (1 in 3) on any face; and*
- c) *Ensuring the landfill cap incorporates a layer at least 700 mm thick with a permeability of no greater than 1×10^{-7} m/s, or has a material and layer structure that reduces rainwater infiltration to the waste to an equivalent extent; and*
- d) *Establishing and maintaining a grass or tussock vegetation cover on the capped landfill, unless it can be demonstrated to the Regional Council's satisfaction that a different vegetation cover can produce clear benefits through reducing infiltration to the covered waste. Any vegetation cover should be consistent with an ongoing capacity to monitor and maintain the ongoing integrity of the landfill cap.*

In-situ refuse density shall be determined through annual calculation based on information derived from topographic surveys of the landfill and borrow areas, and

from weighbridge records. The survey shall be carried out within one month of the anniversary of the previous survey.

The old landfill and Stage 1 of the current landfill have been closed and capped in accordance with this condition. **Comply – Full**

Specific Conditions – discharge leachate to ground from existing landfill

15. The Permit Holder shall close and remediate the existing unlined landfill by April 2011 by:

- a) Grading to a final slope on the landfill faces and caps of between 1V:3H (1 in 3) and 1V:40H (1 in 40);
- b) Ensuring the final landfill surface is sloped to promote run-off toward the outside of the landfill footprint and prevent surface water ponding on the landfill cap;
- c) Ensuring the landfill cap incorporates a layer at least 700 mm thick. All material added to the existing cap to bring the thickness up to 700 mm, or for future cap maintenance purposes, is to have a permeability of no greater than 1×10^{-7} m/s;
- d) Establishing and maintaining a grass or tussock vegetation cover on the capped landfill consistent with an ongoing ability to monitor and maintain the integrity of the landfill cap. The vegetation is to be managed to exclude tree species that can potentially develop root systems capable of disrupting the landfill cap and thereby enhancing rainwater infiltration;
- e) Monitoring the landfill cover on an annual basis to identify areas of differential settlement slope stability issues, erosion and changing vegetation patterns, including a topographic survey to ensure Conditions 15(a) to (d) continue to be met; and
- f) The Permit holder shall submit an annual report to the Regional Council by 31 August each year for the duration of this Permit documenting the condition of the unlined landfill and any maintenance carried out during the previous year. The annual report shall address but not be limited to those aspects listed in Conditions 15(a) to (e) above. The annual report shall include a plan of the unlined landfill specifically documenting the shape of the closed landfill and any changes during the previous year. [The annual report can be written in conjunction with the annual report required as part of Condition 14 for Consent Number 6009].

The area of the existing landfill to be remediated is defined as Area A on Figure 1 attached.

As observed during the site inspection the unlined section of the landfill remains closed and capped. **Comply – Full**

16. *Within one month following the remediation of the Levin landfill, the Permit Holder shall report in writing to the Regional Council of the Permit Holder's compliance with Conditions 14 and 15 of this permit.*

Not Assessed

Specific Conditions – Discharge leachate to ground from lined landfill

Environmental Effects

24. *The Permit Holder shall have carried out the works described in Condition 14(a) to (d) of this permit to rehabilitate:*
- a. *Any lined landfill area within four months following the closure of that lined landfill area, if the landfill area is closed before 35 years from the granting of this consent.*
 - b. *Any lined landfill area before 35 years from the granting of this consent.*

[Note: "lined landfill area" is defined as a distinct "cell" or stage of the landfill.]

HDC advised HRC in an email dated 14 April 2015 that Stage 2 has not been completely landfilled and will receive an additional lift of refuse in the future. Therefore, in accordance with condition 14 and 24 Stage 2 is not required to be capped as it is not, at the time of the inspection, closed. As observed during the site inspection Stage 2 has received a layer of intermediate sand capping which does not meet best practice to mitigate against off-site landfill odour issues as stated in the MWH Levin Landfill Odour Assessment report. **Comply – Full**

Monitoring and Reporting

28. *The Permit 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 Regional Council.*

The closed landfill and Stage 1 of the current landfill were inspected during the routine site inspection. No signs of leachate breakout or settlement were detected during the site inspection. **Comply – Full**

29. *The Permit Holder shall record the date, time, observations and any remedial action as a result of Condition 28. The record shall be made available to the Regional Council on request.*

Copies of the above inspections are requested to be provided in the 2015 annual report. **Not Yet Assessed**

Determination – Discharge Permit 6009

Consent is granted to the Horowhenua District Council to **discharge solid waste to land** at the Levin landfill, Hokio Road, Levin, legally described as Lot 3 DP 40743 Blk II Waitohu Survey District, for a term expiring 35 years from the commencement of the consent subject to the following conditions:

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.*

No liquid wastes were discharged to the landfill at the time of the inspection. **Comply – Full**

General Conditions – Discharge Solid Waste to Land

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*

GPS co-ordinates were collected from the edge of the tipping face during the site inspection. Based on these readings the tipping face is 523 square metres which complies with the above consent limit. **Comply – Full**

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

As discussed with the site operator the exposed refuse is covered with sand at the end of each working day. **Comply – Full**

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.*

Not Assessed

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 observed during the site inspection landfill staff removes windblown refuse from the outskirts of the landfill. This refuse is collected in sacks and returned to the landfill as required. **Comply – Full**

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

A gas powered scare gun was operating at the time of the inspection to dissuade seagulls from the site. **Comply – Full**

Can you please confirm in the 2015 annual report how vermin numbers are monitored and controlled on site.

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

As observed during the site inspection the gorse on the landfill property is controlled via spraying. **Comply – Full**

It is recommended the black berry and wilding pines on the side slopes of the closed landfill be controlled. This is not because they are noxious weeds but will rather obstruct the side slopes for a visual assessment of the cap.

9. *The Permit Holder shall maintain a secure facility for any small quantities of hazardous waste, pending a decision on treatment, disposal or transfer to another facility.*

The dedicated chemical lock up store remains on site for use. **Comply – Full**

10. *Hazardous waste stored at the facility described in Condition 9 shall be stored in a sealed and bunded area to avoid adverse effects from spills.*

The lock up store remains in a bunded area. **Comply – Full**

Specific Conditions – Discharge Solid Waste to Land at Existing Landfill

26. *Disposal of site-generated sludge from cess-pits, leachate ponds or other site activities that contain free liquids is acceptable to facilitate site operation, provided this does not adversely affect landfill stability or face operations.*

As discussed during the site inspection the leachate ponds are scheduled to be desludged with the contents to be disposed back into the landfill. This consent condition allows for this to occur subject to maintaining landfill stability or face operations. **Not Assessed**

Determination – Discharge Permit 6011

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

Dry conditions were present during the site inspection. Dust from the rubbish truck movements on the access track were not discharging beyond the property site therefore it was not deemed at the time of the inspection to control dust on the access tracks. **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:*

The tipping face, landfill gas collection pipes associated with Stage 1 and 2, leachate collection sump and the leachate pond was inspected during the site inspection. No offensive odours or dust were detected at these locations during the site inspection.

As discussed with the complainants during a NLG meeting no offensive or objectionable odours have been detected at their residence since the start of 2015. Based on comments contained within the MWH *Levin Landfill Odour Assessment* report this condition will be graded as **Comply – At Risk**. This is because HDC comply with this condition however the MWH report indicates there is a risk of non-compliance occurring as Stage 1 is capped with sand which is not considered best practice to manage landfill odours.

- a. *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*
- b. *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.*

There were no signs of refuse being burnt during the routine inspection (i.e. burn drums or burn piles). **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.*

Landfill gas is collected and destroyed in an open candle stick gas flare. The MWH *Levin Landfill Odour Assessment* report identifies several best practice options to reduce the risk of producing odour discharging beyond the property boundary. HDC advised in an email dated 16 February the following will be carried out to avoid, remedy or mitigate landfill gas odour beyond the boundary:

- Cap Stage 2;
- Install a biofilter on the leachate collection sump;
- Leachate pond desludged by April 2015;

- Implement an odour assessment on the Grange property by March 2015; and
- Install an ambient air quality monitor and weather station.

Can you please confirm the dates the above are expected to be completed. **Not Yet Assessed**

Determination - Resource Consent 6012

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

As observed during the site inspection stormwater falling on Stage 2 and 3 is retained within the liner and treated as leachate. **Comply – Full**

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

See comments under condition 2. **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.*

As observed during the site inspection stormwater from site is discharged to a centralised soakage pit. As noted during a previous site inspection the soakage pit is fully contained within the landfill site boundary thus ensuring sediment is not deposited beyond the property boundary. **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*
- B. *stormwater diversion systems, including all drains and ponds, are kept clear of refuse ; and*
- C. *any sediment ponds are regularly cleaned to ensure effective settling out of suspended solids.*

The stormwater drains were free of debris or refuse at the time of inspection. This would allow for unrestricted flow of stormwater to the soakage pond. **Comply – Full**

Decision – Discharge Permit 102259

3. *The activities authorised by this Permit shall be restricted to the discharge of stormwater to land via ground soakage originating from the existing fill site or any part of the new lined landfill that has had, or is intended to have, refuse placed beneath or upon it, as shown on Plan C102259 attached to and forming part of this Discharge Permit.*

As observed during the site inspection stormwater runoff from the closed landfill and part of Stage 1 is discharged to stormwater soakage areas in accordance with Plan C102259.

Comply – Full

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.*

The stormwater drains associated with the closed landfill, centralised soakage pond and part of Stage 1 was determined to be in serviceable working condition during the site inspection.

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.*

The soakage pond and stormwater drains were free of refuse during the site inspection.

Comply – Full

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 soakage ponds were dry during the site inspection indicating there is no long term soakage performance associated with the soakage pond. **Comply – Full**

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

There was no stormwater ponding in the soakage area identified during the inspection however rainfall had not occurred recently. **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.*

There were no signs stormwater has discharged beyond the lined section of the landfill at the time of the inspection. **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.*

As observed during the site inspection stormwater from closed sections of the landfill are diverted to the centralised section of the closed landfill. **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.*

Areas were identified on Stage 1 where clean stormwater runoff could be diverted from Stage 3 therefore reducing the volume of leachate generated. Can you confirm if HDC plans to install a stormwater cut-off drain on Stage 1 to reduce the volume of leachate generated on site. **Not Yet 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.*

As observed during the site inspection stormwater falling on Stage 3 is retained as leachate within the lined portion of the landfill and not discharged into the stormwater network. **Comply – Full**

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.*

A stormwater soakage pond is available at the time of the inspection. **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.*

A stormwater plan has previously been submitted to HRC. **Comply – Full**

14. *The Permit Holder shall monitor groundwater quality in at least one upgradient and one downgradient bore of the existing landfill stormwater soakage area, and at least one upgradient and two downgradient bores of the new landfill area. The location and number of bores is to be determined in consultation with horizons.mw's Team Leader Compliance. Groundwater samples shall be taken quarterly in January, April, July and October for the term of this Discharge Permit, beginning in October 2002, and analysed for the following parameters:*

PH, Conductivity, Ammonia-N, Nitrate-N, Sodium, Boron, Chloride and Iron

Bores G1S, D2, D3(r), D4, E1S, E2S and F3 are sampled for the above parameters in accordance with this condition. **Comply – Full**

15. *Monitoring bores required in Condition 14 of this Discharge Permit can be incorporated into the monitoring programme of other Levin Landfill Consents (6009-6011 and 7289), providing the information sought is obtained at the frequency specified and reported as required for this Permit.*

The above bores are incorporated into the landfill monitoring programme and assessed against relevant consent conditions. **Comply – Full**

16. *The results of monitoring under Condition 14 of this permit shall be reported to Horizon Manawatu's Team Leader Compliance by 31 August each year for the duration of this Permit beginning 31 August 2003. The annual report shall be supplemented by the raw water quality analysis data being forwarded to the Regional Council as soon as practically possible following the receipt of laboratory analysis certificates.*

The above sampling results are included in the MWH landfill monitoring reports. **Comply – Full**

18. *Should any groundwater and surface water parameters tested for under Condition 14 of this consent exceed the Australian and New Zealand Environment and Conservation Council Water Quality Guidelines (2000) for Livestock Watering, the Permit Holder shall report to horizons.mw's Team Leader Compliance as soon as practicable on the significance of the result, and where the change can be attributed to the landfill operation, consult with horizons.mw's Team Leader Compliance to determine if further investigation or remedial measures are required.*

The October and January monitoring results indicates the groundwater tested under condition 14 has not exceeded the live stock watering guidelines. **Comply – Full**

CONCLUSION AND RECOMMENDATIONS

The assessment of groundwater and surface water monitoring results contained in the October 2014 and January 2015 Levin Landfill quarterly reports shows compliance against relevant resource consent conditions. Based on observations during the 23 March 2015 site inspection and the monitoring results the overall grading of this compliance report is **Comply – Full**.

An HRC compliance report dated 1 October 2014 identified an increasing trend in leachate parameters in bore C2DD. The report contained a recommendation for HDC to investigate if this increase and determine if the bore has been sealed appropriately. HDC advised HRC in a letter dated 3 October 2014 that this bore will be investigated by 17 October 2014. To date I am unaware if HRC has received confirmation this task has been carried out and any remedial actions required. Can you please update me by **29 May 2015** regards this issue.

Based on the routine inspection and assessing the quarterly report monitoring data the following points require further information to be provided to HRC.

ELS laboratories do not hold accreditation for Volatile Fatty Acids. Can you please confirm to HRC by 29 May 2015 if HDC has carried out a duplicate sample to satisfy condition 10 of resource consent 6010.

In light of leachate contaminated groundwater entering the Tatana Drain it is required HDC include this information when calculating future mass load calculations in accordance with condition 11(d) of resource consent 6010.

Can you confirm if the Frank's drain is used for domestic supply to ensure the intent of condition 13 of resource consent 6010 is met and can be assessed.

Leachate breakout and settlement observation records for the 2014/15 period are required to be included in the 2015 annual report in accordance with condition 28 and 29 of resource consent 6010.

It is recommended the wilding pines and black berry on the old landfill cap are removed. This is they obstruct the side slope for a visual assessment of the cap.

Condition 3 of resource consent 6011 was graded as **Comply – At Risk**. This is because HDC is complying, since January 2015 and at the time of the inspection. However there is a risk of a non-compliance occurring based on comments contained in the MWH *Levin Landfill Odour Assessment* report.

Comments under condition 5 of resource consent 6011 relates to HDC efforts to reduce or mitigate against odours being discharged beyond the property boundary. Can you please confirm by **29 May 2015** when these tasks are expected to be carried out.

Areas of Stage 1 were identified during the site inspection where clean stormwater could be diverted from Stage three. Can you confirm if HDC plan to install a cut off drain to reduce the volume of leachate generated on site in accordance with condition 10 of resource consent 102259.

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

Kind regards,

A handwritten signature in blue ink that reads "Stu Standen".

Stuart Standen
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: 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).</i>	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: defines 'minor' as lesser or comparatively small in size or importance).</i> Ongoing (<i>dictionary: continuing to exist).</i>	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: important, noteworthy, consequential).</i> Serious (<i>dictionary: important, demanding consideration, not slight).</i> Ongoing: (<i>dictionary: continuing to exist).</i>	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.