

From: [CTPI 49-Sch4-Name]@ageconsultants.com.au]
Sent: Monday, 5 July 2010 1:09 PM
To: robsonandassociates@flexinet.com.au
CC: Michael Grant; [CTPI 49-Sch4-Name]
Subject: RE: [Fwd: FW: FW: T5 testing with A29]
Attachments: Summary of Perrochet and Musy Estimates.xls; Header

[CTPI 49-Sch4-Name]

I've done some basic calcs of groundwater seepage to a single drain of 100m in length running under the base of the proposed new cell landfill.

I have assumed there is a head of 0.6m above the drain level and the aquifer is 15m in thickness.

The estimated flow rate to the single drain for a range of different permeabilities is shown in the attached table. The drawdown for the length of drain is also shown.

The attached chart shows the estimated seepage rates are low and the drainage products you are proposing to use can handle the flows easily.

Regarding the drain spacing you can see from the chart that as the permeability reduces, so does the drawdown zone created by the drain. Therefore selecting the drain line spacing is a bit more uncertain.

Assuming an average hydraulic conductivity of 1×10^{-7} m/sec you would need the drains at about 18m centres.

Where would you like me to go from here? I can write this up in a memo if you wish.

regs

[CTPI 49-Sch4-Name]

-----Original Message-----

From: robsonandassociates@flexinet.com.au
[mailto:robsonandassociates@flexinet.com.au]
Sent: Tuesday, 29 June 2010 11:31 AM
To: [CTPI 49-Sch4-Name]
Cc: [CTPI 49-Sch4-Name]
Subject: [Fwd: FW: FW: T5 testing with A29]

[CTPI 49-Sch4-Name]

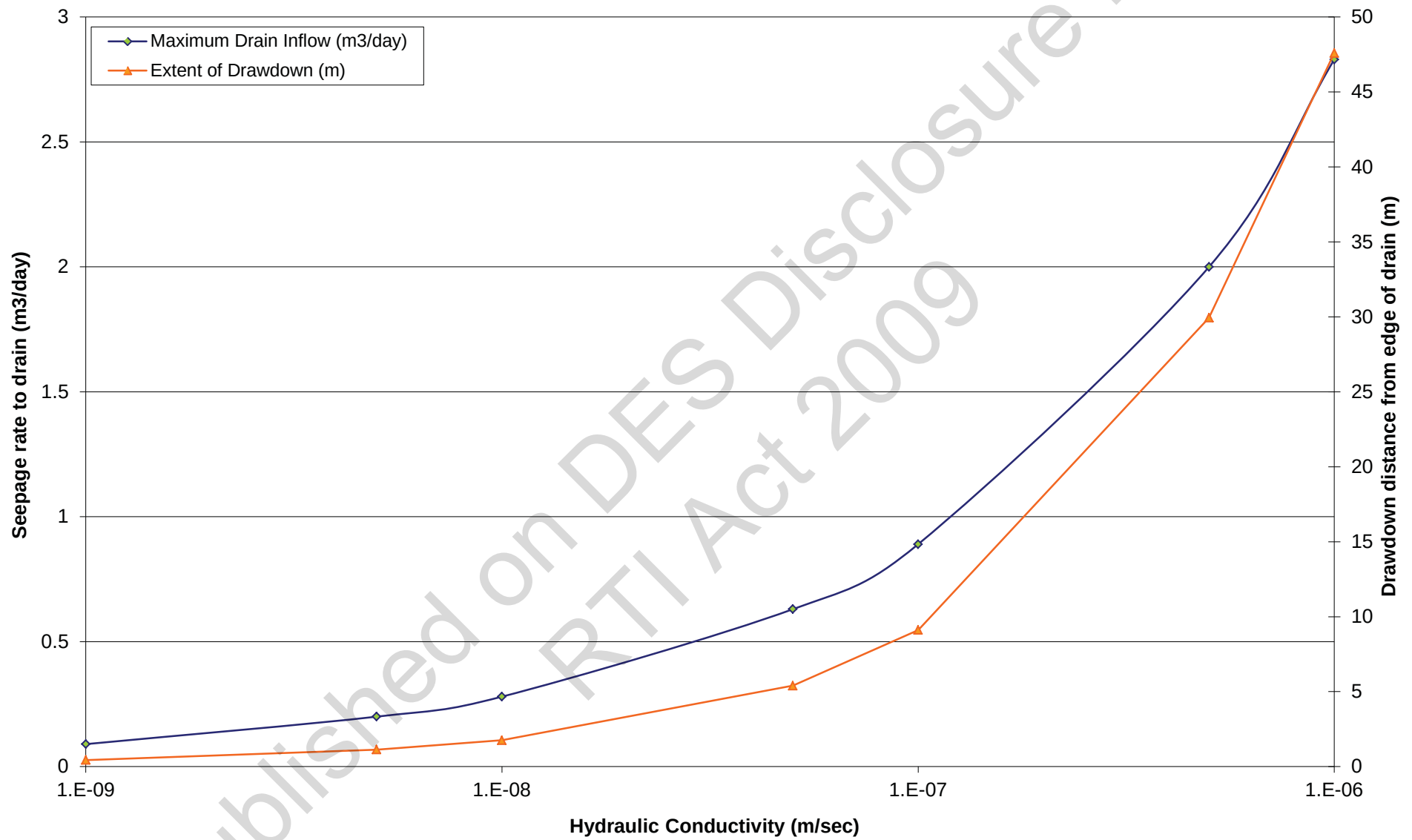
Please find attached email from [CTPI 49-Sch4-Name] (Geofabrics) for your information.

Regards,

[CTPI 49-Sch4-Name]

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Email scanned by PC Tools - No viruses or spyware found.
(Email Guard: 7.0.0.18, Virus/Spyware Database: 6.15350)



From: KARLE Matt [Matt.Karle@des.qld.gov.au]
Sent: Wednesday, 7 December 2011 5:15 PM
To: ian.wolff@gympie.qld.gov.au; Michael Grant
CC: BRAIN Tim (DES)
Subject: Bonnick Road - Draft conditions
Attachments: Draft conditions of approval.pdf; Header

Michael,

Following extensive consultation with colleagues within the Department, and review of guidelines etc, the attached Draft is provided to Gympie Regional Council for review and comment.

I provide this Draft to Gympie Regional Council at this stage to afford council officer Ian Wolffe opportunity to review and comment on the Draft before departing on leave. Internal reviews and drafting are still being undertaken by Departmental officers.

Further to our discussion earlier today, options regarding the application are as follows:

Given the application included both ERA's in the one application DERM can:

1. Approve the entire project;
2. Approve only part of the project;
3. Refuse the entire project

Referring to Section 287, subsection 5 of SPA 2009, I don't believe DERM as concurrence agency has any other option.

You mentioned during the meeting recently that the two aspects of the project were integrated into one application on DERM's advice. Discussion with colleagues subsequent to that meeting have not revealed why DERM required the two ERA's to be integrated into one application. Hence, I don't see any reason why GRC couldn't apply for the Transfer Station again in the future, in the event a Part Approval is issued on this occasion.

A part approval may assist to expedite a decision about the landfill.

I provide the above information for discussion purposes only. DERM has not made a final decision on the project, and hence the above discussion should be received in the spirit for which it is intended – that being to assist explore options regarding this project in the shorter term.

Any comment about the attached Draft would be appreciated at your earliest opportunity. Once received, DERM will proceed to finalise internal reviews. If there is a need to provide another version of the Draft, DERM is agreeable to do so before a final decision is made.

I will send, as a separate email, an extension by agreement which will propose an extension date to the 31st January 2012 as per Council's suggestion earlier today.

Regards

Matt Karle
Principal Environmental Officer (Wide Bay Burnett)
Environmental Services North
South East Region
Department of Environment and Resource Management
Ph: (07) 4121 1618
Email: matt.karle@derm.qld.gov.au

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Sustainable Planning Act 2009

DERM Permit ¹ number:

Assessment manager reference (if any):	MRG:VMK01396
Date application received:	21 December 2010
Permit type:	concurrence agency response
Date of decision:	<insert date>
Decision:	For a concurrence agency response Part Approval – ERA 60 - Land filling operations - Approved. ERA 62 – Transfer Station - Refused Conditions must attach to any development approval
Relevant laws and policies:	<i>Environmental Protection Act 1994</i> and any related statutory instruments and subordinate legislation>
Jurisdiction(s):	<i>Sustainable Planning Regulation 2009</i> – Schedule 7, table 2, item 1

Development Description(s)

Property/Location		Development
Bonnick Road, Gympie	Lot 542, MCH801883	ERA 60 – Waste Disposal, 2(c) – Operating a facility for disposing of, in a year, more than 5000t to 10,000t

Reason(s) for inclusion of conditions

In accordance with section 289 of the *Sustainable Planning Act 2009*, the reason(s) for inclusion of conditions stated in this permit required by the concurrence agency response for the application are as follows.

The conditions are included pursuant to section 73B of the Environmental Protection Act 1994.

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Delegate

Tim Brain

Delegate, Chief Executive administering the *Environmental Protection Act 1994*.

Department of Environment and Resource Management

Published on DES Disclosure Log
RTI Act 2009

CONDITIONS

Schedule 1A - Activity

Existing landfill and Landfill Extension

- (A1-1) This development approval relates to land filling on land described as Lot 542, on Plan MCH801883.
- References throughout these conditions to the existing landfill refers to the area of landfill depicted in Figure XX at Schedule XXX.
 - References throughout these conditions to the Landfill Extension refers to the area of landfill depicted in Figure XX at Schedule XXX.
 - Where a condition does not specify an area, the relevant condition apply's to the approved premises generally, and will not be restricted to either the existing landfill or landfill extension.

Prevent and/or Minimise Likelihood of Environmental Harm

- (A2-1) In carrying out the environmentally relevant activity, you must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm being caused. Any environmentally relevant activity that, if carried out incompetently or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner and at least in accordance with the conditions of this approval.

Maintenance of Measures, Plant and Equipment

- (A3-1) The holder of this development approval must:
- (i) install all measures, plant and equipment necessary to ensure compliance with the conditions of this approval; and
 - (ii) maintain such measure, plant and equipment in a proper and efficient condition; and
 - (iii) operate such measures, plant and equipment in a proper and efficient manner.

Records

- (A4-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.

Investigation into Alternative Waste Management Practices

- (A5-1) You are required to investigate alternative waste management practices to maximise, where possible, recycling and diversion of waste from being disposed to landfill.
- For the purpose of satisfying this condition in accordance with the waste management hierarchy and principles of the *Environmental Protection (Waste Management) Policy 2000*, you must conduct:
- (i) a strategic waste management assessment, and include as a target, an aim to achieve a recycling landfill diversion rate of at least 70%; and
 - (ii) reporting actual recycling diversion rates and any progress made in achieving the 70% target to the administering authority with each annual return.

Closure and Post-Closure Care

- (A6-1) Prior to cessation of waste deposition t any landfill unit ceases, a final cover system to the landfill unit must be progressively installed such that when waste deposition into the landfill unit ceases:
- (i) infiltration of water into the landfill unit is prevented;
 - (ii) the likelihood of any erosion occurring to either the final cover system or the land filled materials is prevented; and
 - (iii) un-controlled release of landfill gas is actively managed.

- (A6-2) Post-closure care of the landfill must be conducted following the cessation of the deposition of waste in the landfill unit, for:
- (i) a period of 30 years; or
 - (ii) such shorter period until the landfill unit and surrounding site are geo-technically stable and that no release of waste materials, leachate, landfill gas or other contaminants to the environment is likely.
- (A6-3) A site management plan pursuant to Chapter 7, Part 8, Division 5 of the Environmental Protection Act 1994 must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the landfill unit. The site management plan must include, but is not to be limited to, the future land use and actions you intend to take for compliance with the closure and post-closure care requirements of this approval.

Security

- (A7-1) All reasonable and practical measures must be implemented to ensure unauthorised access to the premises to which this development approval relates is prevented.

Fire Prevention

- (A8-1) Clear access to a water supply for fire fighting vehicles must be provided at all times.
- (A8-2) An effective fire break must be provided and maintained.

Notification

- (A9-1) Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants not in accordance with the conditions of this approval
- (A9-2) Notwithstanding condition (A9-1), within 10 days of becoming aware of any release of contaminants not in accordance with the conditions of this approval, provide the following written advice to the administering authority:
- the full analysis results; and
 - details of investigation or corrective actions taken; and
 - results of any subsequent analysis carried out to verify the success of any corrective actions taken.
 - the name of the operator, including their approval / registration number;
 - the name and telephone number of a designated contact person;
 - quantity and substance released;
 - any vehicle involved and its registration details;
 - person/s involved;
 - the location and time of the event / release or monitoring result;
 - the suspected cause of the event or release;
 - a description of the effects of the release on the receiving environment.

Spill Kit

- (A10-1) An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes associated with the Environmentally Relevant Activity must be kept at the site.

Information

- (A11-1) Erect at the entrance and/or other prominent locations, signs maintained in good repair, written in a language appropriate for the user population and giving the following information:
- the name of the site and a telephone contact number for site information;

- that disposal of waste is prohibited without the direction or permission of the landfill operator; and
- details of the facility opening hours, and the nearest facilities where persons can lawfully dispose of waste.

Site Based Management Plan

(A12-1) From commencement of the approved activity, a site based management plan (SBMP) must be implemented. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all ERAs that are carried out.

The SBMP must address the following matters:

- Environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals.
- Identification of environmental issues and potential impacts.
- Control measures for routine operations to minimise likelihood of environmental harm.
- Contingency plans and emergency procedures for non-routine situations.
- Organisational structure and responsibility.
- Effective communication.
- Monitoring of contaminant releases.
- Conducting environmental impact assessments.
- Staff training.
- Record keeping.
- Periodic review of environmental performance and continual improvement

Site Development Plan

(A13-1) As part of the SBMP required by condition (A12-1) the holder of this development approval must develop and implement a Site Development Plan (SDP). The SDP must be reviewed on an annual basis and be kept up to date so that it covers at least the subsequent 5 years development of the landfill. The SDP must address at least the following issues:

- dimensions of landfill units used for waste disposal or storage; and
- an accurate level survey of any area to be utilised for the disposal or storage of wastes. The levels must be reduced to a common datum and related to contour plans; and
- the approximate dimensions of each landfill unit and dimensions of the active waste disposal face; and
- the in situ permeability of earthen materials which are to be used for capping and/or lining of waste disposal areas and into which excavations will be made for the purposes of waste disposal; and
- approximate location of any leachate dam, sedimentation pond, and / or pump wells to be used or other plant and equipment installed as part of a leachate collection, storage and recirculation system; and
- location of any stormwater drains or diversion embankments existing or to be constructed; and
- location of any areas to be capped, the proposed final surface levels and contours, final drainage system and species of vegetation to be planted as part of a rehabilitation program.
- location of bores required by condition (C6-1)

END OF CONDITIONS FOR SCHEDULE 1A

Schedule 1B - Air

Nuisance

- (B1-1) The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause a nuisance at any nuisance sensitive place.

Dust Nuisance

- (B2-1) The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.
- (B2-2) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, you must undertake dust and particulate monitoring to investigate environmental nuisance caused by dust and/or particulate matter, and the results notified within 14 days to the administering authority following completion of the monitoring. Monitoring must include:
- (i) for a complaint alleging dust nuisance, dust deposition; and
 - (ii) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere over a 24hr averaging time; and
 - (iii) be carried out in at a place(s) relevant to the potentially affected dust sensitive places *and* upwind control sites.

Management of Landfill Gas

- (B3-1) The release of landfill gas must not cause environmental harm.
- (B3-2) Landfill gas is not considered to cause environmental harm if:
- (i) a landfill gas collection system is installed and maintained when the landfill unit is sufficiently elevated to allow adequate draining of gas lines; and
 - (ii) landfill gas monitoring shows that the release of methane does not exceed the following limits:
 - (a) 500 ppm at a height of 50 mm above the final and/or intermediate cover surface including the batter slopes of the landfill unit;
 - (b) 25 percent of the lower explosive limit when measured in facility structures (but excluding facility structures used for landfill gas control and landfill gas recovery system components); and
 - (c) the lower explosive limit at the landfill facility boundary.

Landfill Gas Monitoring

- (B4-1) The assessment of compliance with the methane limits at a height of 50 mm above the final and intermediate cover surface of the landfill unit prescribed by (B3-2) must be undertaken at the following locations:
- (i) on a grid pattern where the grid lines are no more than 50 m apart; and
 - (ii) at any other locations where visual observations indicate potentially elevated concentrations of landfill gas, for example cracks, seeps in cover and distressed vegetation.
- (B4-2) A landfill gas monitoring network must be installed for each landfill unit to assess compliance with methane limits for facility structures and at the boundary prescribed by (B4-1). The network must consist of gas monitoring devices, such as monitoring bores and be developed by a person possessing appropriate qualifications and experience in the fields of hydrogeology and landfill gas monitoring program design to be able to competently make recommendations about these matters.

- (B4-3) Conduct and keep records of landfill gas monitoring that is performed at the following frequencies:
- (i) at least annually to assess compliance with the methane limit at a height of 50 mm above the cover surface of the landfill unit prescribed by condition (B3-2); and
 - (ii) at least annually to assess compliance with methane limits for facility structures and at the boundary prescribed by condition (B3-2).

END OF CONDITIONS FOR SCHEDULE 1B

Schedule 1C - Water

Contaminant Releases to Waters

- (C1-1) Only clean, uncontaminated stormwater runoff from final landforms that are fully vegetated and rehabilitated, is permitted for direct release from the approved premises.
- (C1-2) Stormwater runoff from disturbed areas must be directed to a sedimentation pond, which must be sufficiently constructed, operated and maintained to contain the runoff expected from a 24 hour storm with an average recurrence interval of 1 in 10 years.
- (C1-3) Contaminants other than settled/treated stormwater from the sedimentation pond overflow must not be directly or indirectly released from the premises to which this development approval relates to any waters (including groundwater) or the bed and banks of surface waters.
- (C1-4) Settled/treated stormwater runoff from the sedimentation pond must only be released in compliance with the release limits listed in Schedule 1C Table 1 from the following discharge location:
- W2: overflow from sedimentation pond to a tributary of Peter and Paul Gully.

Surface Water Monitoring

- (C2-1) Monitoring of contaminant releases must be undertaken at the monitoring points described below for each discharge location and records kept, for the quality characteristics and at the frequency specified in Schedule 1C – Table 1:
- Monitoring points:
- W1- clean water bypass around the landfill discharging to Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1; and
 - W2- overflow from the sedimentation pond depicted in landfill concept development plan in Schedule 1I – Figure 1.
 - W3- ambient monitoring upstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1
 - W4- ambient monitoring downstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1
- (C2-2) All determinations of water quality from the monitoring prescribed by condition (C2-1) above must be made in accordance with methods prescribed in the *Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009*, available from the Department of Environment Resource Management.

Schedule 1C – Table 1 (Release Limits)

Monitoring Point	Quality Characteristics	Release Limit		Monitoring Frequency
		Minimum	Maximum	
W1, W2, W3 and W4	pH	NS	NS	Weekly in the event of a release
W1, W2, W3 and W4	Suspended solids	N/A*	NS	Weekly in the event of a release
W1, W2, W3 and W4	Temperature	NS	NS	6 Monthly
W1, W2, W3 and W4	Electrical Conductivity	NS	NS	6 monthly
W1, W2, W3 and W4	Dissolved Oxygen	NS	NS	
W2, W3 and W4	Biological Oxygen Demand	NS	NS	6 Monthly
W2, W3 and W4	Chloride	NS	NS	6 monthly
W2, W3 and W4	Sodium	NS	NS	6 monthly
W2, W3 and W4	Nitrate			
W2, W3 and W4	Ammonia	NS	NS	6 monthly
W2, W3 and W4	Iron (dissolved)	NS	NS	6 monthly
W2, W3 and W4	Manganese	NS	NS	6 Monthly

*N/A means not applicable

*NS means not specified

Landfill as a 'Bioreactor' Investigation

- (C3-1) An investigation into the successful operation of both the existing landfill and the landfill extension as a Bioreactor must be undertaken and completed within 2 months from the effective date of this Development Approval. The investigation must include (but not necessarily be limited to) the following matters:
- anticipated goals to be derived from operating the landfill as a bioreactor;
 - measures and procedures that will minimise the generation of leachate;
 - existing leachate quality for the parameters stated in Schedule C Table 2
 - estimates of existing leachate quantity;
 - leachate quality and quantity that ensures the landfill effectively operates as a bioreactor;
 - estimated changes in leachate quality and quantity during the life of the landfill that demonstrates the landfill is effectively operating as a bioreactor;
 - changes in leachate quality and quantity that would suggest the landfill is not effectively operating as a bioreactor;
 - methods of leachate recycling that maximise the successful performance of the landfill as a bioreactor;
 - circumstances where leachate must be removed from the site (quality or quantity)
 - disposal and treatment options for leachate that must be removed from the site;
 - assess of the capability of any external disposal or treatment facility that may receive leachate removed from the site, taking into consideration (among other things):
 - a) the treatment or disposal capability of the facility;
 - b) any environmental safeguards inherent in the selected treatment or disposal facility; and
 - c) any environmental discharges from the selected treatment or disposal facility to the environment, and whether receipt of leachate from the landfill will affect the performance of

the facility, and / or cause harm to the receiving environment.

Schedule C Table 2 – Leachate quality parameters

pH
Temperature
Electrical Conductivity
Chloride
Sodium
Ammonia
Nitrate
Zinc
Iron
Manganese

- (C3-2) The findings of the above investigation must be used to develop a management and monitoring procedure for the landfill to ensure the landfill operates effectively and efficiently as a bioreactor.
- (C3-3) Implement the leachate management and monitoring procedure required by Condition (C3-2) within 3 months of the effective date of this concurrence response.
- (C3-4) Results of the investigation required by Condition (C3-1) and the leachate management and monitoring procedure required by Condition (C3-2) must be submitted to the administering authority within 3 months of the effective date of this Development approval.

Leachate Collection

- (C4-1) A leachate collection system must be installed and maintained to effectively:
- (i) collect leachate generated in the landfill extension;
 - (ii) provide connectivity between the existing landfill and the existing landfill;
 - (iii) convey collected leachate to a designated collection or recovery point;
 - (iv) provide an access point for leachate quality and quantity monitoring; and
 - (v) ensure the depth of leachate within the landfill extension is contained within a liner system, including occasions when the quantity of leachate fluctuates.
- (C4-2) Leachate collected by the leachate collection system under the landfill extension must not be returned to the existing landfill.

Groundwater

- (C5-1) Waste must not be deposited within 2m of underlying groundwater.
- (C5-2) A groundwater depressurisation system must be installed to ensure groundwater levels beneath the Landfill Extension do not adversely impact on the integrity or performance of any containment liner for the Landfill Extension.
- (C5-3) The groundwater depressurisation system required by Condition (C5-2) must be:
- Designed and approved as acceptable by a suitably qualified, experienced and independent person.
 - Certified as being constructed as per the design.
 - Monitored and maintained as necessary to ensure compliance with conditions (C5-2).
- (C5-4) The groundwater depressurisation system must be designed, installed and operational prior to the deposit of any waste in the Landfill Extension.
- (C5-5) The groundwater depressurisation system must also provide leachate leak detection to the landfill extension, during both the life of the landfill and for a period up to 30 years post closure, or as otherwise defined in the post closure management plans required by Conditions (A6-2) and (A6-3).
- (C5-6) The groundwater depressurisation system must be designed and constructed to provide an access point/s that allows for;
- monitoring and sample collection at a designated collection sump;
 - the location of which must be representative of the entire groundwater depressurisation system; and
 - which is not otherwise contaminated by other sources (namely the collection sump for the leachate collection system).
- (C5-7) Any sample collected from the depressurisation system monitoring point must be analysed for the characteristics and at the monitoring frequency prescribed in Schedule C Table 3.
- (C5-8) Any liquid collected by the depressurisation system must not be released to Peter and Paul Gully.

Schedule C - Table 3 Monitoring requirements for Groundwater Depressurisation system

Quality Characteristic	Monitoring Frequency
Water Level	Monthly
Temperature	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
pH	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Ammonia	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Electrical Conductivity - EC	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Nitrogen	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Biological Oxygen Demand (BOD)	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or

	c)	Prior to liquid being removed from the site
Aluminium	aa) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Iron	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Organic Carbon (TOC)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Chemical Oxygen Demand (COD)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Sulphate (SO ₄)	a) b) c)	Before Land filling at the landfill extension commences Quarterly when liquid is detected at the access point, and monthly thereafter, until no liquid remains at the access point; or Prior to liquid being removed from the site
Chloride (Cl)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Organic Halogen (TOX)	a) b)	Before land filling at the landfill extension commences Annually thereafter
Calcium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Magnesium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Sodium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Potassium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Alkalinity (CaCO ₃)	a) b)	Before land filling at the landfill extension commences Annually thereafter
Redox - Eh	a) b)	Before land filling at the landfill extension commences Annually thereafter
Manganese	a) b)	Before land filling at the landfill extension commences Annually thereafter
Cadmium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Chromium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Copper	a) b)	Before land filling at the landfill extension commences Annually thereafter
Nickel	a) b)	Before land filling at the landfill extension commences Annually thereafter
Lead	a) b)	Before land filling at the landfill extension commences Annually thereafter

Groundwater Monitoring

- (C6-1) A Groundwater monitoring network must be installed for each landfill unit. The network must be:
- installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters; and
 - include a sufficient number of "bore(s) of compliance", constructed in accordance with the "Minimum Construction Requirements for Water Bores in Australia" (Agricultural and Resource Management Council of Australia and New Zealand 1997), that are located not more than 150 metres from the landfill unit or the boundary of the landfill facility whichever is the closer, and provides the following:

- representative groundwater samples from the uppermost aquifer and from the lower (confined) aquifer; and
- background groundwater quality in hydraulically up-gradient or background bore(s) that have not been affected by any release of contaminants to groundwaters; and
- the quality of groundwater down gradient of any release of contaminants to groundwater including groundwater passing the relevant bore(s) of compliance.

- (C6-2) Conduct monitoring and keep records of groundwater quality. All determinations of groundwater quality must be:
- made in accordance with methods prescribed in the Water Quality Sampling Manual and, where appropriate, in accordance with standards ISO 5667-11 1993 or AS/NZ 5667.11: 1998 Water Quality – Sampling – Guidance on sampling at Groundwaters and ISO 5667-18: 2001 Water Quality Sampling – Part 18 – Guidance on Sampling of Groundwater at Contaminated Sites;
 - conducted for the water quality characteristics and at the frequency in Schedule 1C - Table 3;
 - taken from sufficient monitoring points and/or wells to obtain representative samples of groundwater both up-gradient and down-gradient of the potential influence;
 - carried out with sufficient regularity and spatial and temporal replication to make statistically valid conclusions about the presence or absence of a release;
 - carried out with sufficient number of sampling events to determine ambient water quality and natural variability prior to any development of the site occurring;
 - followed by an assessment of whether or not there has been any statistically significant adverse change compared to background values at locations hydraulically down gradient of the landfill unit for each quality characteristic in Schedule 1C - Table 3.

Schedule 1C – Table 3

Quality Characteristic	Frequency	
	During Land filling	Pre-Land filling Baseline Monitoring
pH	Monthly	Monthly prior to the commencement of the landfill extension.
Electrical Conductivity	Monthly	
CO ₃	Quarterly	
Cations (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)	Quarterly	
Anions (Cl ⁻ , HCO ₃ ⁻ , SO ₄ ²⁻)	Quarterly	
Redox Parameters (Eh, ORP)	Quarterly	
Heavy Metals (Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sn, Sb, Se, Ti, Zn)	Quarterly	
Organics (VOC, SVOC, TPH)	Quarterly	
Total Organochlorines	Quarterly	
Total Organophosphates	Quarterly	
Ammonia (NH ₄)	Quarterly	
Total Kjeldahl Nitrogen (TKN)	Quarterly	
Nitrate (NO ₃)	Quarterly	
Biological Oxygen Demand (BOD)	Quarterly	

- (C6-3) On any occasion that samples are obtained in accordance with condition (1C7) the holder of this development approval must measure and record standing groundwater levels in metres accurate to 0.01 metres. The elevation of the reference point, relative to Australian Height Datum, for use in any groundwater level measurement must be determined to an accuracy of 0.01 metres.

Monitoring Review and Summary

- (C7-1) All monitoring required by this Development Approval must be reviewed on an annual basis by an independent person with suitable qualifications and experience to summarise the results and interpret the results regarding any impacts revealed by the monitoring on the values of the receiving water environment.
- (C7-2) The review and interpretation of water monitoring results required by Condition (C7-1) must be provided as a report to the administering authority on an annual basis, preferably when the Registration Certificate is renewed each year.

Prohibition of Use of Certain Materials for Dust Suppression

- (C8-1) The following materials must not be used for dust suppression purposes:
- used oil; and
 - landfill gas condensate; and
 - any other material that has been in contact with waste, such as leachate or stormwater runoff from any exposed waste.

Landfill Cell and Pond Construction

- (C9-1) All ponds used for the storage or treatment of contaminants (including any sediment pond) at or on the authorised place must be constructed, installed and maintained:
- (i) so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water);
 - (ii) using suitable banks and / or diversion drains so as to exclude clean stormwater runoff from entering the pond or structure,
 - (iii) using suitable banks to exclude any rising waters from Peter and Paul Gully during a flood event, sufficient to exclude at least a Q100 flood event;
 - (iv) so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and
 - (v) so as to ensure the stability of the ponds' construction.
- (C9-2) Soils and other materials used in the construction of any waste disposal cells or subcells, above ground embankments, sediment pond and final cover must achieve an *in situ* hydraulic conductivity which is sufficiently low and be of sufficient thickness so as to prevent or minimise the release of contaminants. As a minimum, permeabilities for various landfill features must at least comply with the corresponding limits specified in Schedule 1C – Table 3.
- (C9-3) The landfill extension must be incorporate a liner system, capable of containing waste and leachate within the landfill development, and minimise the potential for leachate to be released from the approved premises as seepage.
- (C9-4) Any landfill cell or sub-cell, above ground embankment, leachate collection pond, sediment pond and final cover must be constructed with the special requirements specified in Schedule 1C – Table 4.

Schedule 1C – Table 4
(Permeabilities and Special Requirements for Landfill Features)

Landfill Feature	Minimum Permeability (m sec ⁻¹)	Minimum Thickness (mm)	Special Requirements
Liner sub base	1 x 10 ⁻⁸	600mm	- Preparation of low permeability clay base beneath the clay liner
Geosynthetic Clay Liner	1 x 10 ⁻⁹	600	- Constructed in at least 2 layers
Confining Layer	Not specified	300	
Base and walls of sediment pond	1 x 10 ⁻⁹	600	- Constructed in at least 2 layers

Daily landfill cover	Not specified	200	<ul style="list-style-type: none"> - Cover must be applied following the last application of waste for the day. - For the active face only, use of a temporary cover during the day such as a 'landfill lid' or other proprietary product that assists to contain odours; minimise wind blown litter; and which assists to control vermin an acceptable solution where the temporary cover completely covers the active face.
Final landfill cover, comprising:		500	<ul style="list-style-type: none"> - Final landfill cap should not exceed 20 percent slope
- Daily landfill cover	Not specified	200	
- Low permeability cap	1×10^{-8}	500	
- Soil sub – base			
- Topsoil	Not Specified	200 – 300 150	

- (C9-5) Following construction of any landfill unit, above ground embankment, leachate collection pond, or sediment pond and prior to that structure being commissioned, the permeability of the base and walls of the structure must be tested to ensure it meets the standards required by the conditions of this development approval.

In each structure tested at least the following number of permeability tests must be made:

- at least two permeability tests in each wall of the subject structure; and
- at least one permeability test in the base of the subject structure for every 10 000 m² of base area or part thereof.

- (C9-6) All determinations of the permeability of the base and walls of structures required by condition (C8-4) must be carried out by a person or body possessing appropriate experience and qualifications to perform the required determinations.

Stormwater Management Plan

- (C10-1) As part of the SBMP required by condition (1A20) the holder of this development approval must develop and implement a Stormwater Management Plan which addresses at least the following issues:
- diverting clean upstream stormwater away from contaminated areas; and
 - containing contaminated stormwater on site; and
 - minimising the size of contaminated areas; and
 - provision of sedimentation dams and rubbish traps; and
 - minimising the size of disturbed areas by staging works and revegetating or mulching disturbed areas.
 - Minimising the size of any active face, including measures to cover the active face when not in use (utilising either day cover or temporary and moveable 'landfill lids').

END OF CONDITIONS FOR SCHEDULE 1C

Schedule D - Noise

- (D1-1) Noise from activities must not cause an environmental nuisance at any noise affected premises.
- (D1-2) Mulching of green waste is not permitted at the approved premises.
- (D1-3) Crushing milling or grinding of concrete waste is not permitted at the approved premises.
- (D1-4) In the event of a complaint about noise that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the holder of this approval must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place.
- (D1-5) In the event noise monitoring is required by the Administering Authority, noise from the approved activity must not exceed the levels specified in Schedule D - Table 1 at any nuisance sensitive place or commercial place.

**Schedule D – Table 1
(Noise Levels)**

Time Period	Proponent Noise level at a 'Nuisance Sensitive Place' measured as the $L_{A,eq\ adj\ 1hr}$
7am - 5pm	47 dB(A) or background noise level plus 3 dB(A), whichever is the higher
Time Period	Noise level at a 'Commercial place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,eq\ adj\ T}$
7am - 5pm	55 dB(A) or background noise level plus 5 dB(A), whichever is the greater

- (D1-6) No audible noise from the approved premises is authorised (including the use of vehicles, plant and equipment) outside the hours 5:00pm to 7:00am Monday to Friday, and 3:00pm to 10:00am Saturday and Sunday.

Noise Monitoring

- (D2-1) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include:
- background noise level;
 - $L_{Aeq, adjT}$, $L_{Amax, adj, T}$, $L_{A10, adjT}$
 - the level and frequency of occurrence of impulsive or tonal noise;
 - atmospheric conditions including wind speed and direction;
 - effects due to extraneous factors such as traffic noise; and
 - location, date and time of recording.

- (D2-2) The method of measurement and reporting of noise levels must comply with the Noise Measurement Manual.

Noise Management Plan

- (D3-1) In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (D1-3) you must, within one week, develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters:
- (i) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places;
 - (ii) the measured level of these noise sources and activities at nuisance sensitive places;
 - (iii) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places;

- (iv) the predicted reduction in noise at nuisance sensitive places by implementing these measures;
 - (v) time frame for completion of the work proposed;
 - (vi) any necessary community liaison and consultation; and
 - (vii) any training requirements for staff in noise reduction practices.
- (D3-2) A draft Noise Management Plan must be submitted to the Administering Authority for review and comment.
- (D3-3) After the Administering Authority has commented on the draft Noise Management Plan, the registered operator must have due regard to any comments made by the administering authority, and must implement the plan as soon as practical.

END OF CONDITIONS FOR SCHEDULE 1D

Schedule 1E – Waste

Waste Acceptance

- (E1-1) Within 3 months from the commencement date of this Development Approval, waste disposal to the existing landfill must cease, and all waste disposal at the approved premises must be directed to the lined landfill extension.
- (E1-2) Exposed waste (excluding recyclable waste that is temporarily stored in a defined area) must be limited to the working face of any landfill unit and the area of exposure must be minimised to the greatest extent practicable. For the purpose of this condition, no waste must be deposited beyond the boundaries of the landfill unit(s).
- (E1-3) Only the following general and limited regulated waste materials are permitted to be accepted:
- domestic waste;
 - commercial waste;
 - domestic clean-up waste;
 - construction or demolition waste;
 - industrial waste;
 - garden wastes;
 - putrescible wastes;
 - solid inert wastes;
 - limited regulated waste may be disposed of in the general waste stream provided the quantity of limited regulated waste received at the facility in a year is not more than 10% of the total waste received at the facility in any calendar year.

NOTES:

(a) wet cell batteries, waste oil and grease trap waste may be accepted and temporarily stored at the licensed place for recycling purposes.

(b) drums containing any residual regulated waste are a regulated waste unless effectively cleaned in accordance with Operational Policy 'Determinations for management of regulated wastes'.

- (E1-4) Any limited regulated waste disposed of at the landfill must only be in a solid form
- (E1-5) The quantity of limited regulated waste received at the facility in a year must not be more than 10% of the total waste quantity received at the facility in any calendar year.
- (E1-6) Notwithstanding any condition of this approval, you shall not cause, permit or allow deposition of the following waste materials in the landfill unit:
- liquid or semi-liquid waste other than liquid or semi liquid waste which has been produced in the carrying out of the environmentally relevant activity;
 - hot ash;
 - material that is smouldering or aflame;
 - material containing a substance which is ignitable, corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises);
 - radioactive wastes;

- explosives;
- ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction;
- tyres;
- asbestos;
- contaminated soil;
- treatment tank sludge or residues;
- biosolids;
- grease trap wastes; and
- green waste

(E1-7) Limited regulated wastes accepted must be interred in compliance with the special requirements specified in Schedule E – Table 1.

**Schedule E – Table 1
(Special Requirements for Waste Types)**

Waste Type	Special Requirements
Infectious substances or quarantine waste	Rendered non-infectious before acceptance at landfill
Fish processing waste	No liquid waste
Food processing waste	No liquid waste
Poultry processing waste	No liquid waste

(E1-8) All exposed waste must be covered each day following the last deposition of wastes in the landfill and comply with the requirements for day cover specified in Schedule C Table 4.

(E1-9) The holder of the development approval must take all reasonable and practicable measures to prevent the commingling of waste authorised to be interred within the landfill with waste not authorised to be interred at the landfill.

Special Burial

(E2-1) You must handle and dispose of as a special burial all waste which is likely to cause environmental harm when placed in an exposed position.

Waste Records

(E3-1) Keep and maintain records of source, volumes and composition of all waste types accepted at the premises and report these values to the administering authority with each annual return.

Litter Management

(E4-1) Where litter is blown or washed from the premises to which this development approval relates, the holder of this approval must take all reasonable and practicable actions to:

- (i) retrieve the litter and ensure that it is disposed of in an appropriate manner; and
- (ii) implement measures to prevent a recurrence of litter being blown or washed from the premises.

Burning

- (E5-1) The holder of this development approval must not:
- (i) burn waste at or on the place to which this development approval relates; nor
 - (ii) allow waste to burn or be burnt at or on the place to which this development approval relates nor
 - (iii) remove waste and burn such waste elsewhere.

Public Health Issues

- (E6-1) The holder of this development approval must take all reasonable and practicable measures necessary to ensure that the carrying out of the environmentally relevant activity does not cause any adverse effect on public health or any nuisance in relation to propagation of diseases, fly breeding, mosquito breeding, and harbourage and/or breeding of rats and other pest organisms and/or vectors

Quantities of Waste Disposed

- (E7-1) The holder of this development approval must record details of the quantity of wastes interred including the following:
- quantity of infectious substances or quarantine waste that has been rendered non-infectious;
 - quantity of fish processing waste;
 - quantity of food processing waste;
 - quantity of poultry processing waste;
 - quantity of other regulated waste;
 - total quantity of waste.

Notes: (1) where a load of general waste contains a number of regulated wastes an estimation of the percentage composition of each regulated waste must be made and recorded;
(2) *with respect to this condition, records of all quantities of waste must be expressed as a weight, e.g., kilograms or tonnes.*

- (E7-2) The holder of this development permit must not permit waste to be stored on site overnight or during times when the landfill is not open for the receipt of wastes.

Note: Waste interred at the landfill in compliance with the conditions of this development approval is considered to have been disposed of and is not being stored.

- (E7-3) The final height of the landfill must not exceed RL 83.012m.

END OF CONDITIONS FOR SCHEDULE 1E

Schedule 1F - Land

Preventing Contaminant Release to Land

- (F1-1) Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
- (F1-2) All petroleum product storages must be designed, constructed and maintained in accordance with AS 1940 - Storage and Handling of Flammable and Combustible Liquids.
- (F1-3) The base and walls of all bunded areas must be maintained free from gaps and cracks.

END OF CONDITIONS FOR SCHEDULE 1F

Schedule 1G - Community

- (G1-1) All complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
- (G1-2) In consultation with the administering authority, cooperate with and participate in any community environmental liaison committee established in respect of either the premises to which this development approval relates specifically, or the industrial estate where the premises to which this development approval relates is located.

END OF CONDITIONS FOR SCHEDULE 1G

Schedule H - Definitions

Words and phrases used throughout this licence or development approval are defined below:

Where a definition for a term used in this approval is sought and the term is not defined within this approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used.

Word Definitions

- (H1) **"administering authority"** means the Environmental Protection Agency or its successor.
- (H2) **"you"** means the holder of this development approval or owner / occupier of the land which is the subject of this Development Approval.
- (H3) **"site"** means the place to which this environmental authority relates or the premises to which this development approval relates.
- (H4) **"authorised place"** means the place authorised under this environmental authority/development approval for the carrying out of the specified environmentally relevant activities.
- (H5) **"this authority"** means this environmental authority/development approval.
- (H6) **"authority"** means level 1 licence (without development approval), or level 1 approval (without development approval), or level 2 approval (without development approval) under the *Environmental Protection Act 1994*.
- (H7) **"approval"** means 'notice of development application decision' or 'notice of concurrence agency response' under the *Integrated Planning Act 1997*.
- (H8) **"annual return"** means the annual return for the licence (with development approval) issued under the *Environmental Protection Act 1994* for this development.
- (H9) **"dwelling"** means any of the following structures or vehicles that is principally used as a residence –
- a house, unit, motel, nursing home or other building or part of a building;
 - a caravan, mobile home or other vehicle or structure on land;
 - a water craft in a marina.
- (H10) **"noxious"** means harmful or injurious to health or physical well being.
- (H11) **"offensive"** means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.
- (H12) **"nuisance sensitive place"** includes –
- dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the curtilage of any such places;
 - a surgery or other medical institution;
 - library, childcare centres, kindergartens, schools or other educational institutions;
 - shops, offices and other business premises and farming workplaces;
 - a park or garden that is open to the public;
 - a protected area, or an area identified under a conservation plan as a critical habitat or area of major interest, under the Nature Conservation Act 1992;
 - a Marine Park under the Marine Parks Act 1992

- (H13) "**L_{aeq,adj,T}**" means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a 1 hour period has the same mean square sound pressure of a sound that varies with time.
- (H14) "**L_{A 10, adj, 10 mins}**" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.
- (H15) "**L_{A 1, adj, 10 mins}**" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response.
- (H16) "**L_{A, max adj, T}**" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
- (H17) "**commercial place**" means a place used as an office or for business or commercial purposes.
- (H18) "**intrusive noise**" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration –
- is clearly audible to, or can be felt by, an individual; and
 - annoys the individual.
- In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 - 1997 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.
- (H19) "**waters**" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and any under groundwater, or any part thereof.
- (H20) "**land**" in the "land schedule" of this document means land excluding waters and the atmosphere.
- (H21) "**mg/L**" means milligrams per litre.
- (H22) "**leachate**" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the licensed place which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.
- (H23) "**geotechnical stability of the landfill unit**" means a situation where instability related to the excessive settlement and subsidence caused by decomposition and consolidation of the wastes deposited in the landfill unit, and sliding instability of the unit slope has ceased.
- (H24) "**background noise level**" means either:
- LA90, T being the A-weighted sound pressure level exceeded for 90 percent of the time period not less than 15 minutes, using Fast response, or
 - Labg, T being the A-weighted sound pressure level obtained using Fast response and arithmetically averaging the lowest levels of the ambient sound pressure level during a representative time period of not less than 15 minutes.
- (H25) "**landfill facility**" means all contiguous land and structures, other appurtenances, and improvements on the land used or associated with the disposal of waste.
- (H26) "**lower explosive limit**" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

- (H27) “**special burial of waste**” means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hole, and immediately covers it with earth or other waste material.
- (H28) “**uppermost aquifer**” means the geologic formation nearest to the natural ground surface that is an aquifer. The term includes any aquifers that are likely to be hydraulically interconnected with this aquifer within the landfill facility property boundary.
- (H29) “**Special Burial of waste**” means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hold, and immediately covers that waste with earth or other waste material.
- (H30) “**statistically significant**” means when a difference between groups of data is sufficient for a statistical test to reject the *null hypothesis*. For example, a requirement for a statistical test is that you have a minimum of two hypotheses, the null hypothesis and one or more alternative hypotheses. If you have data from two groups of bores (say A = background values and B = values at locations hydraulically down gradient of the landfill unit), and you wish to test whether A is different from B, *the null hypothesis* would be that A and B are from the same population (no significant difference). After performing the statistical test, you will either accept or reject the null hypothesis.
- (H31) “**liquid or semi-liquid waste**” means a waste which failed the paint filter liquid test described in the document SW-846 ‘Test Methods for Evaluation of Solid Wastes Physical/Chemical Methods’ published by the United States Environmental Protection Agency; Revision 5; April 1998 or updated version thereof.
- (H32) “**ignitable, corrosive, reactive or toxic materials**” are materials as defined in the Queensland Government Environmental Protection Agency ‘ERA 75: Guideline on landfill siting, design, operation and rehabilitation’; 2002.
- (H33) “**RL**” means height in metres above mean sea level
- (H34) “**recycling landfill diversion rate**” means a calculated figure using the following formula:
- $$\frac{\text{tonnes of recycle}}{\text{total tonnes of potential recycle}} \times 100$$
- (H35) “Monitoring and Sampling Manual” means the following documents or more recent additions or supplements to that document as such become available:
- Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009**
Version 2 September 2010
- (H36) “**Noise Measurement Manual**” means the following document or more recent additions or supplements to that document as such become available:
- Environmental Protection Agency. (2000). *Noise Measurement Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.
- (H37) “**Air Quality Sampling Manual**” means the following document or more recent additions or supplements to that document as such become available:
- Department of Environment. (1997). *Air Quality Sampling Manual*, Department of Environment, Brisbane Australia.

END OF DEFINITIONS FOR SCHEDULE – H

END OF CONDITIONS

From: [CTPI 49-Sch4-Name]@ane.com.au]
Sent: Tuesday, 10 January 2012 10:51 AM
To: Ian Wolff
Subject: 2298 - Email - SW - Comments

Hi Ian,

I just left a message to call back with the receptionist. In relation to the DERM queries:

1) The 5.0 m noise contours were considered specifically because we were interested in the vacant land to the north. A height of 5.0 m anticipates the potential for 2-storey sensitive receptors to be constructed. In the original report, 2.0 m contours was used as a default height because we were also interested in ground floor noise levels at existing receptors.

2) Initially we left the landfill out (see Table 1.1, Item d), as it was understood there were pre-approval processes underway for the landfill extension. However, it sounds like DERM is concerned over cumulative impacts also (landfill + transfer station).

You will find that, in terms of noise predictions, the transfer station adds minimal additional noise impact compared to the landfill extension. Any non-compliances will mainly be a result of the landfill extension, which they seem willing to approve as it is a continuation of the existing site.

I'll be in the office the rest of the day to discuss.

Regards,

[CTPI 49-Sch4-N]
Environmental Engineer

Air Noise Environment Pty Ltd

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From: Karle Matt

Sent: Wednesday, 7 December 2011 5:15 PM

To: Michael Grant; ian.wolff@gympie.qld.gov.au

Cc: Brain Tim (DERM)

Subject: Bonnick Road - Draft conditions

Michael,

Following extensive consultation with colleagues within the Department, and review of guidelines etc, the attached Draft is provided to Gympie Regional Council for review and comment.

I provide this Draft to Gympie Regional Council at this stage to afford council officer Ian Wolffe opportunity to review and comment on the Draft before departing on leave. Internal reviews and drafting are still being undertaken by Departmental officers.

Further to our discussion earlier today, options regarding the application are as follows:

Given the application included both ERA's in the one application DERM can:

1. Approve the entire project;
2. Approve only part of the project;
3. Refuse the entire project.

Referring to Section 287, subsection 5 of SPA 2009, I don't believe DERM as concurrence agency has any other option.

You mentioned during the meeting recently that the two aspects of the project were integrated into one application on DERM's advice. Discussion with colleagues subsequent to that meeting have not revealed why DERM required the two ERA's to be integrated into one application. Hence, I don't see any reason why GRC couldn't apply for the Transfer Station again in the future, in the event a Part Approval is issued on this occasion.

A part approval may assist to expedite a decision about the landfill.

I provide the above information for discussion purposes only. DERM has not made a final decision on the project, and hence the above discussion should be received in the spirit for which it is intended – that being to assist explore options regarding this project in the shorter term.

Any comment about the attached Draft would be appreciated at your earliest opportunity. Once received, DERM will proceed to finalise internal reviews. If there is a need to provide another version of the Draft, DERM is agreeable to do so before a final decision is made.

I will send, as a separate email, an extension by agreement which will propose an extension date to the 31st January 2012 as per Council's suggestion earlier today.

Regards

Matt Karle

Principal Environmental Officer (Wide Bay Burnett)
Environmental Services North
South East Region

Department of Environment and Resource Management

Ph: (07) 4121 1618

Email: matt.karle@derm.qld.gov.au

Sustainable Planning Act 2009

DERM Permit ¹ number:

Assessment manager reference (if any):	MRG:VMK01396
Date application received:	21 December 2010
Permit type:	concurrence agency response
Date of decision:	<insert date>
Decision:	For a concurrence agency response Part Approval – ERA 60 - Land filling operations - Approved. ERA 62 – Transfer Station - Refused Conditions must attach to any development approval
Relevant laws and policies:	<i>Environmental Protection Act 1994</i> and any related statutory instruments and subordinate legislation>
Jurisdiction(s):	<i>Sustainable Planning Regulation 2009</i> – Schedule 7, table 2, item 1

Development Description(s)

Property/Location		Development
Bonnick Road, Gympie	Lot 542, MCH801883	ERA 60 – Waste Disposal, 2(c) – Operating a facility for disposing of, in a year, more than 5000t to 10,000t

Reason(s) for inclusion of conditions

In accordance with section 289 of the *Sustainable Planning Act 2009*, the reason(s) for inclusion of conditions stated in this permit required by the concurrence agency response for the application are as follows.

The conditions are included pursuant to section 73B of the Environmental Protection Act 1994.

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Delegate

Tim Brain

Delegate, Chief Executive administering the *Environmental Protection Act 1994*.

Department of Environment and Resource Management

Published on DES Disclosure Log
RTI Act 2009

CONDITIONS

Schedule 1A - Activity

Existing landfill and Landfill Extension

- (A1-1) This development approval relates to land filling on land described as Lot 542, on Plan MCH801883.
- References throughout these conditions to the existing landfill refers to the area of landfill depicted in Figure XX at Schedule XXX.
 - References throughout these conditions to the Landfill Extension refers to the area of landfill depicted in Figure XX at Schedule XXX.
 - Where a condition does not specify an area, the relevant condition apply's to the approved premises generally, and will not be restricted to either the existing landfill or landfill extension.

Prevent and/or Minimise Likelihood of Environmental Harm

- (A2-1) In carrying out the environmentally relevant activity, you must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm being caused. Any environmentally relevant activity that, if carried out incompetently or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner and at least in accordance with the conditions of this approval.

Maintenance of Measures, Plant and Equipment

- (A3-1) The holder of this development approval must:
- (i) install all measures, plant and equipment necessary to ensure compliance with the conditions of this approval; and
 - (ii) maintain such measure, plant and equipment in a proper and efficient condition; and
 - (iii) operate such measures, plant and equipment in a proper and efficient manner.

Records

- (A4-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.

Investigation into Alternative Waste Management Practices

- (A5-1) You are required to investigate alternative waste management practices to maximise, where possible, recycling and diversion of waste from being disposed to landfill.
- For the purpose of satisfying this condition in accordance with the waste management hierarchy and principles of the *Environmental Protection (Waste Management) Policy 2000*, you must conduct:
- (i) a strategic waste management assessment, and include as a target, an aim to achieve a recycling landfill diversion rate of at least 70%; and
 - (ii) reporting actual recycling diversion rates and any progress made in achieving the 70% target to the administering authority with each annual return.

Closure and Post-Closure Care

- (A6-1) Prior to cessation of waste deposition t any landfill unit ceases, a final cover system to the landfill unit must be progressively installed such that when waste deposition into the landfill unit ceases:
- (i) infiltration of water into the landfill unit is prevented;
 - (ii) the likelihood of any erosion occurring to either the final cover system or the land filled materials is prevented; and
 - (iii) un-controlled release of landfill gas is actively managed.

- (A6-2) Post-closure care of the landfill must be conducted following the cessation of the deposition of waste in the landfill unit, for:
- (i) a period of 30 years; or
 - (ii) such shorter period until the landfill unit and surrounding site are geo-technically stable and that no release of waste materials, leachate, landfill gas or other contaminants to the environment is likely.
- (A6-3) A site management plan pursuant to Chapter 7, Part 8, Division 5 of the Environmental Protection Act 1994 must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the landfill unit. The site management plan must include, but is not to be limited to, the future land use and actions you intend to take for compliance with the closure and post-closure care requirements of this approval.

Security

- (A7-1) All reasonable and practical measures must be implemented to ensure unauthorised access to the premises to which this development approval relates is prevented.

Fire Prevention

- (A8-1) Clear access to a water supply for fire fighting vehicles must be provided at all times.
- (A8-2) An effective fire break must be provided and maintained.

Notification

- (A9-1) Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants not in accordance with the conditions of this approval
- (A9-2) Notwithstanding condition (A9-1), within 10 days of becoming aware of any release of contaminants not in accordance with the conditions of this approval, provide the following written advice to the administering authority:
- the full analysis results; and
 - details of investigation or corrective actions taken; and
 - results of any subsequent analysis carried out to verify the success of any corrective actions taken.
 - the name of the operator, including their approval / registration number;
 - the name and telephone number of a designated contact person;
 - quantity and substance released;
 - any vehicle involved and its registration details;
 - person/s involved;
 - the location and time of the event / release or monitoring result;
 - the suspected cause of the event or release;
 - a description of the effects of the release on the receiving environment.

Spill Kit

- (A10-1) An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes associated with the Environmentally Relevant Activity must be kept at the site.

Information

- (A11-1) Erect at the entrance and/or other prominent locations, signs maintained in good repair, written in a language appropriate for the user population and giving the following information:
- the name of the site and a telephone contact number for site information;

- that disposal of waste is prohibited without the direction or permission of the landfill operator; and
- details of the facility opening hours, and the nearest facilities where persons can lawfully dispose of waste.

Site Based Management Plan

(A12-1) From commencement of the approved activity, a site based management plan (SBMP) must be implemented. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all ERAs that are carried out.

The SBMP must address the following matters:

- Environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals.
- Identification of environmental issues and potential impacts.
- Control measures for routine operations to minimise likelihood of environmental harm.
- Contingency plans and emergency procedures for non-routine situations.
- Organisational structure and responsibility.
- Effective communication.
- Monitoring of contaminant releases.
- Conducting environmental impact assessments.
- Staff training.
- Record keeping.
- Periodic review of environmental performance and continual improvement

Site Development Plan

(A13-1) As part of the SBMP required by condition (A12-1) the holder of this development approval must develop and implement a Site Development Plan (SDP). The SDP must be reviewed on an annual basis and be kept up to date so that it covers at least the subsequent 5 years development of the landfill. The SDP must address at least the following issues:

- dimensions of landfill units used for waste disposal or storage; and
- an accurate level survey of any area to be utilised for the disposal or storage of wastes. The levels must be reduced to a common datum and related to contour plans; and
- the approximate dimensions of each landfill unit and dimensions of the active waste disposal face; and
- the in situ permeability of earthen materials which are to be used for capping and/or lining of waste disposal areas and into which excavations will be made for the purposes of waste disposal; and
- approximate location of any leachate dam, sedimentation pond, and / or pump wells to be used or other plant and equipment installed as part of a leachate collection, storage and recirculation system; and
- location of any stormwater drains or diversion embankments existing or to be constructed; and
- location of any areas to be capped, the proposed final surface levels and contours, final drainage system and species of vegetation to be planted as part of a rehabilitation program.
- location of bores required by condition (C6-1)

END OF CONDITIONS FOR SCHEDULE 1A

Schedule 1B - Air

Nuisance

- (B1-1) The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause a nuisance at any nuisance sensitive place.

Dust Nuisance

- (B2-1) The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.
- (B2-2) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, you must undertake dust and particulate monitoring to investigate environmental nuisance caused by dust and/or particulate matter, and the results notified within 14 days to the administering authority following completion of the monitoring. Monitoring must include:
- (i) for a complaint alleging dust nuisance, dust deposition; and
 - (ii) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere over a 24hr averaging time; and
 - (iii) be carried out in at a place(s) relevant to the potentially affected dust sensitive places *and* upwind control sites.

Management of Landfill Gas

- (B3-1) The release of landfill gas must not cause environmental harm.
- (B3-2) Landfill gas is not considered to cause environmental harm if:
- (i) a landfill gas collection system is installed and maintained when the landfill unit is sufficiently elevated to allow adequate draining of gas lines; and
 - (ii) landfill gas monitoring shows that the release of methane does not exceed the following limits:
 - (a) 500 ppm at a height of 50 mm above the final and/or intermediate cover surface including the batter slopes of the landfill unit;
 - (b) 25 percent of the lower explosive limit when measured in facility structures (but excluding facility structures used for landfill gas control and landfill gas recovery system components); and
 - (c) the lower explosive limit at the landfill facility boundary.

Landfill Gas Monitoring

- (B4-1) The assessment of compliance with the methane limits at a height of 50 mm above the final and intermediate cover surface of the landfill unit prescribed by (B3-2) must be undertaken at the following locations:
- (i) on a grid pattern where the grid lines are no more than 50 m apart; and
 - (ii) at any other locations where visual observations indicate potentially elevated concentrations of landfill gas, for example cracks, seeps in cover and distressed vegetation.
- (B4-2) A landfill gas monitoring network must be installed for each landfill unit to assess compliance with methane limits for facility structures and at the boundary prescribed by (B4-1). The network must consist of gas monitoring devices, such as monitoring bores and be developed by a person possessing appropriate qualifications and experience in the fields of hydrogeology and landfill gas monitoring program design to be able to competently make recommendations about these matters.

- (B4-3) Conduct and keep records of landfill gas monitoring that is performed at the following frequencies:
- (i) at least annually to assess compliance with the methane limit at a height of 50 mm above the cover surface of the landfill unit prescribed by condition (B3-2); and
 - (ii) at least annually to assess compliance with methane limits for facility structures and at the boundary prescribed by condition (B3-2).

END OF CONDITIONS FOR SCHEDULE 1B

Schedule 1C - Water

Contaminant Releases to Waters

- (C1-1) Only clean, uncontaminated stormwater runoff from final landforms that are fully vegetated and rehabilitated, is permitted for direct release from the approved premises.
- (C1-2) Stormwater runoff from disturbed areas must be directed to a sedimentation pond, which must be sufficiently constructed, operated and maintained to contain the runoff expected from a 24 hour storm with an average recurrence interval of 1 in 10 years.
- (C1-3) Contaminants other than settled/treated stormwater from the sedimentation pond overflow must not be directly or indirectly released from the premises to which this development approval relates to any waters (including groundwater) or the bed and banks of surface waters.
- (C1-4) Settled/treated stormwater runoff from the sedimentation pond must only be released in compliance with the release limits listed in Schedule 1C Table 1 from the following discharge location:
- W2: overflow from sedimentation pond to a tributary of Peter and Paul Gully.

Surface Water Monitoring

- (C2-1) Monitoring of contaminant releases must be undertaken at the monitoring points described below for each discharge location and records kept, for the quality characteristics and at the frequency specified in Schedule 1C – Table 1:
- Monitoring points:
- W1- clean water bypass around the landfill discharging to Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1; and
 - W2- overflow from the sedimentation pond depicted in landfill concept development plan in Schedule 1I – Figure 1.
 - W3- ambient monitoring upstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1
 - W4- ambient monitoring downstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1
- (C2-2) All determinations of water quality from the monitoring prescribed by condition (C2-1) above must be made in accordance with methods prescribed in the *Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009*, available from the Department of Environment Resource Management.

Schedule 1C – Table 1 (Release Limits)

Monitoring Point	Quality Characteristics	Release Limit		Monitoring Frequency
		Minimum	Maximum	
W1, W2, W3 and W4	pH	NS	NS	Weekly in the event of a release
W1, W2, W3 and W4	Suspended solids	N/A*	NS	Weekly in the event of a release
W1, W2, W3 and W4	Temperature	NS	NS	6 Monthly
W1, W2, W3 and W4	Electrical Conductivity	NS	NS	6 monthly
W1, W2, W3 and W4	Dissolved Oxygen	NS	NS	
W2, W3 and W4	Biological Oxygen Demand	NS	NS	6 Monthly
W2, W3 and W4	Chloride	NS	NS	6 monthly
W2, W3 and W4	Sodium	NS	NS	6 monthly
W2, W3 and W4	Nitrate			
W2, W3 and W4	Ammonia	NS	NS	6 monthly
W2, W3 and W4	Iron (dissolved)	NS	NS	6 monthly
W2, W3 and W4	Manganese	NS	NS	6 Monthly

*N/A means not applicable

*NS means not specified

Landfill as a 'Bioreactor' Investigation

- (C3-1) An investigation into the successful operation of both the existing landfill and the landfill extension as a Bioreactor must be undertaken and completed within 2 months from the effective date of this Development Approval. The investigation must include (but not necessarily be limited to) the following matters:
- anticipated goals to be derived from operating the landfill as a bioreactor;
 - measures and procedures that will minimise the generation of leachate;
 - existing leachate quality for the parameters stated in Schedule C Table 2
 - estimates of existing leachate quantity;
 - leachate quality and quantity that ensures the landfill effectively operates as a bioreactor;
 - estimated changes in leachate quality and quantity during the life of the landfill that demonstrates the landfill is effectively operating as a bioreactor;
 - changes in leachate quality and quantity that would suggest the landfill is not effectively operating as a bioreactor;
 - methods of leachate recycling that maximise the successful performance of the landfill as a bioreactor;
 - circumstances where leachate must be removed from the site (quality or quantity)
 - disposal and treatment options for leachate that must be removed from the site;
 - assess of the capability of any external disposal or treatment facility that may receive leachate removed from the site, taking into consideration (among other things):
 - a) the treatment or disposal capability of the facility;
 - b) any environmental safeguards inherent in the selected treatment or disposal facility; and
 - c) any environmental discharges from the selected treatment or disposal facility to the environment, and whether receipt of leachate from the landfill will affect the performance of

the facility, and / or cause harm to the receiving environment.

Schedule C Table 2 – Leachate quality parameters

pH
Temperature
Electrical Conductivity
Chloride
Sodium
Ammonia
Nitrate
Zinc
Iron
Manganese

- (C3-2) The findings of the above investigation must be used to develop a management and monitoring procedure for the landfill to ensure the landfill operates effectively and efficiently as a bioreactor.
- (C3-3) Implement the leachate management and monitoring procedure required by Condition (C3-2) within 3 months of the effective date of this concurrence response.
- (C3-4) Results of the investigation required by Condition (C3-1) and the leachate management and monitoring procedure required by Condition (C3-2) must be submitted to the administering authority within 3 months of the effective date of this Development approval.

Leachate Collection

- (C4-1) A leachate collection system must be installed and maintained to effectively:
- (i) collect leachate generated in the landfill extension;
 - (ii) provide connectivity between the existing landfill and the existing landfill;
 - (iii) convey collected leachate to a designated collection or recovery point;
 - (iv) provide an access point for leachate quality and quantity monitoring; and
 - (v) ensure the depth of leachate within the landfill extension is contained within a liner system, including occasions when the quantity of leachate fluctuates.
- (C4-2) Leachate collected by the leachate collection system under the landfill extension must not be returned to the existing landfill.

Groundwater

- (C5-1) Waste must not be deposited within 2m of underlying groundwater.
- (C5-2) A groundwater depressurisation system must be installed to ensure groundwater levels beneath the Landfill Extension do not adversely impact on the integrity or performance of any containment liner for the Landfill Extension.
- (C5-3) The groundwater depressurisation system required by Condition (C5-2) must be:
- Designed and approved as acceptable by a suitably qualified, experienced and independent person.
 - Certified as being constructed as per the design.
 - Monitored and maintained as necessary to ensure compliance with conditions (C5-2).
- (C5-4) The groundwater depressurisation system must be designed, installed and operational prior to the deposit of any waste in the Landfill Extension.
- (C5-5) The groundwater depressurisation system must also provide leachate leak detection to the landfill extension, during both the life of the landfill and for a period up to 30 years post closure, or as otherwise defined in the post closure management plans required by Conditions (A6-2) and (A6-3).
- (C5-6) The groundwater depressurisation system must be designed and constructed to provide an access point/s that allows for;
- monitoring and sample collection at a designated collection sump;
 - the location of which must be representative of the entire groundwater depressurisation system; and
 - which is not otherwise contaminated by other sources (namely the collection sump for the leachate collection system).
- (C5-7) Any sample collected from the depressurisation system monitoring point must be analysed for the characteristics and at the monitoring frequency prescribed in Schedule C Table 3.
- (C5-8) Any liquid collected by the depressurisation system must not be released to Peter and Paul Gully.

Schedule C - Table 3 Monitoring requirements for Groundwater Depressurisation system

Quality Characteristic	Monitoring Frequency
Water Level	Monthly
Temperature	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
pH	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Ammonia	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Electrical Conductivity - EC	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Nitrogen	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Biological Oxygen Demand (BOD)	<ol style="list-style-type: none"> Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or

	c)	Prior to liquid being removed from the site
Aluminium	aa) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Iron	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Organic Carbon (TOC)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Chemical Oxygen Demand (COD)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Sulphate (SO ₄)	a) b) c)	Before Land filling at the landfill extension commences Quarterly when liquid is detected at the access point, and monthly thereafter, until no liquid remains at the access point; or Prior to liquid being removed from the site
Chloride (Cl)	a) b) c)	Before land filling at the landfill extension commences Quarterly, then monthly thereafter if liquid is present until no liquid remains at the access point; or Prior to liquid being removed from the site
Total Organic Halogen (TOX)	a) b)	Before land filling at the landfill extension commences Annually thereafter
Calcium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Magnesium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Sodium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Potassium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Alkalinity (CaCO ₃)	a) b)	Before land filling at the landfill extension commences Annually thereafter
Redox - Eh	a) b)	Before land filling at the landfill extension commences Annually thereafter
Manganese	a) b)	Before land filling at the landfill extension commences Annually thereafter
Cadmium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Chromium	a) b)	Before land filling at the landfill extension commences Annually thereafter
Copper	a) b)	Before land filling at the landfill extension commences Annually thereafter
Nickel	a) b)	Before land filling at the landfill extension commences Annually thereafter
Lead	a) b)	Before land filling at the landfill extension commences Annually thereafter

Groundwater Monitoring

- (C6-1) A Groundwater monitoring network must be installed for each landfill unit. The network must be:
- installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters; and
 - include a sufficient number of "bore(s) of compliance", constructed in accordance with the "Minimum Construction Requirements for Water Bores in Australia" (Agricultural and Resource Management Council of Australia and New Zealand 1997), that are located not more than 150 metres from the landfill unit or the boundary of the landfill facility whichever is the closer, and provides the following:

- representative groundwater samples from the uppermost aquifer and from the lower (confined) aquifer; and
- background groundwater quality in hydraulically up-gradient or background bore(s) that have not been affected by any release of contaminants to groundwaters; and
- the quality of groundwater down gradient of any release of contaminants to groundwater including groundwater passing the relevant bore(s) of compliance.

- (C6-2) Conduct monitoring and keep records of groundwater quality. All determinations of groundwater quality must be:
- made in accordance with methods prescribed in the Water Quality Sampling Manual and, where appropriate, in accordance with standards ISO 5667-11 1993 or AS/NZ 5667.11: 1998 Water Quality – Sampling – Guidance on sampling at Groundwaters and ISO 5667-18: 2001 Water Quality Sampling – Part 18 – Guidance on Sampling of Groundwater at Contaminated Sites;
 - conducted for the water quality characteristics and at the frequency in Schedule 1C - Table 3;
 - taken from sufficient monitoring points and/or wells to obtain representative samples of groundwater both up-gradient and down-gradient of the potential influence;
 - carried out with sufficient regularity and spatial and temporal replication to make statistically valid conclusions about the presence or absence of a release;
 - carried out with sufficient number of sampling events to determine ambient water quality and natural variability prior to any development of the site occurring;
 - followed by an assessment of whether or not there has been any statistically significant adverse change compared to background values at locations hydraulically down gradient of the landfill unit for each quality characteristic in Schedule 1C - Table 3.

Schedule 1C – Table 3

Quality Characteristic	Frequency	
	During Land filling	Pre-Land filling Baseline Monitoring
pH	Monthly	Monthly prior to the commencement of the landfill extension.
Electrical Conductivity	Monthly	
CO ₃	Quarterly	
Cations (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)	Quarterly	
Anions (Cl ⁻ , HCO ₃ ⁻ , SO ₄ ²⁻)	Quarterly	
Redox Parameters (Eh, ORP)	Quarterly	
Heavy Metals (Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sn, Sb, Se, Ti, Zn)	Quarterly	
Organics (VOC, SVOC, TPH)	Quarterly	
Total Organochlorines	Quarterly	
Total Organophosphates	Quarterly	
Ammonia (NH ₄)	Quarterly	
Total Kjeldahl Nitrogen (TKN)	Quarterly	
Nitrate (NO ₃)	Quarterly	
Biological Oxygen Demand (BOD)	Quarterly	

- (C6-3) On any occasion that samples are obtained in accordance with condition (1C7) the holder of this development approval must measure and record standing groundwater levels in metres accurate to 0.01 metres. The elevation of the reference point, relative to Australian Height Datum, for use in any groundwater level measurement must be determined to an accuracy of 0.01 metres.

Monitoring Review and Summary

- (C7-1) All monitoring required by this Development Approval must be reviewed on an annual basis by an independent person with suitable qualifications and experience to summarise the results and interpret the results regarding any impacts revealed by the monitoring on the values of the receiving water environment.
- (C7-2) The review and interpretation of water monitoring results required by Condition (C7-1) must be provided as a report to the administering authority on an annual basis, preferably when the Registration Certificate is renewed each year.

Prohibition of Use of Certain Materials for Dust Suppression

- (C8-1) The following materials must not be used for dust suppression purposes:
- used oil; and
 - landfill gas condensate; and
 - any other material that has been in contact with waste, such as leachate or stormwater runoff from any exposed waste.

Landfill Cell and Pond Construction

- (C9-1) All ponds used for the storage or treatment of contaminants (including any sediment pond) at or on the authorised place must be constructed, installed and maintained:
- (i) so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water);
 - (ii) using suitable banks and / or diversion drains so as to exclude clean stormwater runoff from entering the pond or structure,
 - (iii) using suitable banks to exclude any rising waters from Peter and Paul Gully during a flood event, sufficient to exclude at least a Q100 flood event;
 - (iv) so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and
 - (v) so as to ensure the stability of the ponds' construction.
- (C9-2) Soils and other materials used in the construction of any waste disposal cells or subcells, above ground embankments, sediment pond and final cover must achieve an *in situ* hydraulic conductivity which is sufficiently low and be of sufficient thickness so as to prevent or minimise the release of contaminants. As a minimum, permeabilities for various landfill features must at least comply with the corresponding limits specified in Schedule 1C – Table 3.
- (C9-3) The landfill extension must be incorporate a liner system, capable of containing waste and leachate within the landfill development, and minimise the potential for leachate to be released from the approved premises as seepage.
- (C9-4) Any landfill cell or sub-cell, above ground embankment, leachate collection pond, sediment pond and final cover must be constructed with the special requirements specified in Schedule 1C – Table 4.

Schedule 1C – Table 4
(Permeabilities and Special Requirements for Landfill Features)

Landfill Feature	Minimum Permeability (m sec ⁻¹)	Minimum Thickness (mm)	Special Requirements
Liner sub base	1 x 10 ⁻⁸	600mm	- Preparation of low permeability clay base beneath the clay liner
Geosynthetic Clay Liner	1 x 10 ⁻⁹	600	- Constructed in at least 2 layers
Confining Layer	Not specified	300	
Base and walls of sediment pond	1 x 10 ⁻⁹	600	- Constructed in at least 2 layers

Daily landfill cover	Not specified	200	<ul style="list-style-type: none"> - Cover must be applied following the last application of waste for the day. - For the active face only, use of a temporary cover during the day such as a 'landfill lid' or other proprietary product that assists to contain odours; minimise wind blown litter; and which assists to control vermin an acceptable solution where the temporary cover completely covers the active face.
Final landfill cover, comprising:		500	<ul style="list-style-type: none"> - Final landfill cap should not exceed 20 percent slope
- Daily landfill cover	Not specified	200	
- Low permeability cap	1×10^{-8}	500	
- Soil sub – base			
- Topsoil	Not Specified	200 – 300 150	

- (C9-5) Following construction of any landfill unit, above ground embankment, leachate collection pond, or sediment pond and prior to that structure being commissioned, the permeability of the base and walls of the structure must be tested to ensure it meets the standards required by the conditions of this development approval.

In each structure tested at least the following number of permeability tests must be made:

- at least two permeability tests in each wall of the subject structure; and
- at least one permeability test in the base of the subject structure for every 10 000 m² of base area or part thereof.

- (C9-6) All determinations of the permeability of the base and walls of structures required by condition (C8-4) must be carried out by a person or body possessing appropriate experience and qualifications to perform the required determinations.

Stormwater Management Plan

- (C10-1) As part of the SBMP required by condition (1A20) the holder of this development approval must develop and implement a Stormwater Management Plan which addresses at least the following issues:
- diverting clean upstream stormwater away from contaminated areas; and
 - containing contaminated stormwater on site; and
 - minimising the size of contaminated areas; and
 - provision of sedimentation dams and rubbish traps; and
 - minimising the size of disturbed areas by staging works and revegetating or mulching disturbed areas.
 - Minimising the size of any active face, including measures to cover the active face when not in use (utilising either day cover or temporary and moveable 'landfill lids').

END OF CONDITIONS FOR SCHEDULE 1C

Schedule D - Noise

- (D1-1) Noise from activities must not cause an environmental nuisance at any noise affected premises.
- (D1-2) Mulching of green waste is not permitted at the approved premises.
- (D1-3) Crushing milling or grinding of concrete waste is not permitted at the approved premises.
- (D1-4) In the event of a complaint about noise that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the holder of this approval must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place.
- (D1-5) In the event noise monitoring is required by the Administering Authority, noise from the approved activity must not exceed the levels specified in Schedule D - Table 1 at any nuisance sensitive place or commercial place.

**Schedule D – Table 1
(Noise Levels)**

Time Period	Proponent Noise level at a 'Nuisance Sensitive Place' measured as the $L_{A,eq\ adj\ 1hr}$
7am - 5pm	47 dB(A) or background noise level plus 3 dB(A), whichever is the higher
Time Period	Noise level at a 'Commercial place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,eq\ adj\ T}$
7am - 5pm	55 dB(A) or background noise level plus 5 dB(A), whichever is the greater

- (D1-6) No audible noise from the approved premises is authorised (including the use of vehicles, plant and equipment) outside the hours 5:00pm to 7:00am Monday to Friday, and 3:00pm to 10:00am Saturday and Sunday.

Noise Monitoring

- (D2-1) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include:
- background noise level;
 - $L_{Aeq, adjT}$, $L_{Amax, adj, T}$, $L_{A10, adjT}$
 - the level and frequency of occurrence of impulsive or tonal noise;
 - atmospheric conditions including wind speed and direction;
 - effects due to extraneous factors such as traffic noise; and
 - location, date and time of recording.

- (D2-2) The method of measurement and reporting of noise levels must comply with the Noise Measurement Manual.

Noise Management Plan

- (D3-1) In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (D1-3) you must, within one week, develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters:
- (i) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places;
 - (ii) the measured level of these noise sources and activities at nuisance sensitive places;
 - (iii) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places;

- (iv) the predicted reduction in noise at nuisance sensitive places by implementing these measures;
 - (v) time frame for completion of the work proposed;
 - (vi) any necessary community liaison and consultation; and
 - (vii) any training requirements for staff in noise reduction practices.
- (D3-2) A draft Noise Management Plan must be submitted to the Administering Authority for review and comment.
- (D3-3) After the Administering Authority has commented on the draft Noise Management Plan, the registered operator must have due regard to any comments made by the administering authority, and must implement the plan as soon as practical.

END OF CONDITIONS FOR SCHEDULE 1D

Schedule 1E – Waste

Waste Acceptance

- (E1-1) Within 3 months from the commencement date of this Development Approval, waste disposal to the existing landfill must cease, and all waste disposal at the approved premises must be directed to the lined landfill extension.
- (E1-2) Exposed waste (excluding recyclable waste that is temporarily stored in a defined area) must be limited to the working face of any landfill unit and the area of exposure must be minimised to the greatest extent practicable. For the purpose of this condition, no waste must be deposited beyond the boundaries of the landfill unit(s).
- (E1-3) Only the following general and limited regulated waste materials are permitted to be accepted:
- domestic waste;
 - commercial waste;
 - domestic clean-up waste;
 - construction or demolition waste;
 - industrial waste;
 - garden wastes;
 - putrescible wastes;
 - solid inert wastes;
 - limited regulated waste may be disposed of in the general waste stream provided the quantity of limited regulated waste received at the facility in a year is not more than 10% of the total waste received at the facility in any calendar year.

NOTES:

(a) wet cell batteries, waste oil and grease trap waste may be accepted and temporarily stored at the licensed place for recycling purposes.

(b) drums containing any residual regulated waste are a regulated waste unless effectively cleaned in accordance with Operational Policy 'Determinations for management of regulated wastes'.

- (E1-4) Any limited regulated waste disposed of at the landfill must only be in a solid form
- (E1-5) The quantity of limited regulated waste received at the facility in a year must not be more than 10% of the total waste quantity received at the facility in any calendar year.
- (E1-6) Notwithstanding any condition of this approval, you shall not cause, permit or allow deposition of the following waste materials in the landfill unit:
- liquid or semi-liquid waste other than liquid or semi liquid waste which has been produced in the carrying out of the environmentally relevant activity;
 - hot ash;
 - material that is smouldering or aflame;
 - material containing a substance which is ignitable, corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises);
 - radioactive wastes;

- explosives;
- ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction;
- tyres;
- asbestos;
- contaminated soil;
- treatment tank sludge or residues;
- biosolids;
- grease trap wastes; and
- green waste

(E1-7) Limited regulated wastes accepted must be interred in compliance with the special requirements specified in Schedule E – Table 1.

**Schedule E – Table 1
(Special Requirements for Waste Types)**

Waste Type	Special Requirements
Infectious substances or quarantine waste	Rendered non-infectious before acceptance at landfill
Fish processing waste	No liquid waste
Food processing waste	No liquid waste
Poultry processing waste	No liquid waste

(E1-8) All exposed waste must be covered each day following the last deposition of wastes in the landfill and comply with the requirements for day cover specified in Schedule C Table 4.

(E1-9) The holder of the development approval must take all reasonable and practicable measures to prevent the commingling of waste authorised to be interred within the landfill with waste not authorised to be interred at the landfill.

Special Burial

(E2-1) You must handle and dispose of as a special burial all waste which is likely to cause environmental harm when placed in an exposed position.

Waste Records

(E3-1) Keep and maintain records of source, volumes and composition of all waste types accepted at the premises and report these values to the administering authority with each annual return.

Litter Management

(E4-1) Where litter is blown or washed from the premises to which this development approval relates, the holder of this approval must take all reasonable and practicable actions to:

- (i) retrieve the litter and ensure that it is disposed of in an appropriate manner; and
- (ii) implement measures to prevent a recurrence of litter being blown or washed from the premises.

Burning

- (E5-1) The holder of this development approval must not:
- (i) burn waste at or on the place to which this development approval relates; nor
 - (ii) allow waste to burn or be burnt at or on the place to which this development approval relates nor
 - (iii) remove waste and burn such waste elsewhere.

Public Health Issues

- (E6-1) The holder of this development approval must take all reasonable and practicable measures necessary to ensure that the carrying out of the environmentally relevant activity does not cause any adverse effect on public health or any nuisance in relation to propagation of diseases, fly breeding, mosquito breeding, and harbourage and/or breeding of rats and other pest organisms and/or vectors

Quantities of Waste Disposed

- (E7-1) The holder of this development approval must record details of the quantity of wastes interred including the following:
- quantity of infectious substances or quarantine waste that has been rendered non-infectious;
 - quantity of fish processing waste;
 - quantity of food processing waste;
 - quantity of poultry processing waste;
 - quantity of other regulated waste;
 - total quantity of waste.

Notes: (1) where a load of general waste contains a number of regulated wastes an estimation of the percentage composition of each regulated waste must be made and recorded;
(2) with respect to this condition, records of all quantities of waste must be expressed as a weight, e.g., kilograms or tonnes.

- (E7-2) The holder of this development permit must not permit waste to be stored on site overnight or during times when the landfill is not open for the receipt of wastes.

Note: Waste interred at the landfill in compliance with the conditions of this development approval is considered to have been disposed of and is not being stored.

- (E7-3) The final height of the landfill must not exceed RL 83.012m.

END OF CONDITIONS FOR SCHEDULE 1E

Schedule 1F - Land

Preventing Contaminant Release to Land

- (F1-1) Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
- (F1-2) All petroleum product storages must be designed, constructed and maintained in accordance with AS 1940 - Storage and Handling of Flammable and Combustible Liquids.
- (F1-3) The base and walls of all bunded areas must be maintained free from gaps and cracks.

END OF CONDITIONS FOR SCHEDULE 1F

Schedule 1G - Community

- (G1-1) All complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
- (G1-2) In consultation with the administering authority, cooperate with and participate in any community environmental liaison committee established in respect of either the premises to which this development approval relates specifically, or the industrial estate where the premises to which this development approval relates is located.

END OF CONDITIONS FOR SCHEDULE 1G

Schedule H - Definitions

Words and phrases used throughout this licence or development approval are defined below:

Where a definition for a term used in this approval is sought and the term is not defined within this approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used.

Word Definitions

- (H1) **"administering authority"** means the Environmental Protection Agency or its successor.
- (H2) **"you"** means the holder of this development approval or owner / occupier of the land which is the subject of this Development Approval.
- (H3) **"site"** means the place to which this environmental authority relates or the premises to which this development approval relates.
- (H4) **"authorised place"** means the place authorised under this environmental authority/development approval for the carrying out of the specified environmentally relevant activities.
- (H5) **"this authority"** means this environmental authority/development approval.
- (H6) **"authority"** means level 1 licence (without development approval), or level 1 approval (without development approval), or level 2 approval (without development approval) under the *Environmental Protection Act 1994*.
- (H7) **"approval"** means 'notice of development application decision' or 'notice of concurrence agency response' under the *Integrated Planning Act 1997*.
- (H8) **"annual return"** means the annual return for the licence (with development approval) issued under the *Environmental Protection Act 1994* for this development.
- (H9) **"dwelling"** means any of the following structures or vehicles that is principally used as a residence –
- a house, unit, motel, nursing home or other building or part of a building;
 - a caravan, mobile home or other vehicle or structure on land;
 - a water craft in a marina.
- (H10) **"noxious"** means harmful or injurious to health or physical well being.
- (H11) **"offensive"** means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.
- (H12) **"nuisance sensitive place"** includes –
- dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the curtilage of any such places;
 - a surgery or other medical institution;
 - library, childcare centres, kindergartens, schools or other educational institutions;
 - shops, offices and other business premises and farming workplaces;
 - a park or garden that is open to the public;
 - a protected area, or an area identified under a conservation plan as a critical habitat or area of major interest, under the Nature Conservation Act 1992;
 - a Marine Park under the Marine Parks Act 1992

- (H13) "**L_{aeq,adj,T}**" means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a 1 hour period has the same mean square sound pressure of a sound that varies with time.
- (H14) "**L_{A 10, adj, 10 mins}**" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast response.
- (H15) "**L_{A 1, adj, 10 mins}**" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response.
- (H16) "**L_{A, max adj, T}**" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
- (H17) "**commercial place**" means a place used as an office or for business or commercial purposes.
- (H18) "**intrusive noise**" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration –
- is clearly audible to, or can be felt by, an individual; and
 - annoys the individual.
- In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 - 1997 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.
- (H19) "**waters**" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and any under groundwater, or any part thereof.
- (H20) "**land**" in the "land schedule" of this document means land excluding waters and the atmosphere.
- (H21) "**mg/L**" means milligrams per litre.
- (H22) "**leachate**" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the licensed place which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.
- (H23) "**geotechnical stability of the landfill unit**" means a situation where instability related to the excessive settlement and subsidence caused by decomposition and consolidation of the wastes deposited in the landfill unit, and sliding instability of the unit slope has ceased.
- (H24) "**background noise level**" means either:
- LA90, T being the A-weighted sound pressure level exceeded for 90 percent of the time period not less than 15 minutes, using Fast response, or
 - Labg, T being the A-weighted sound pressure level obtained using Fast response and arithmetically averaging the lowest levels of the ambient sound pressure level during a representative time period of not less than 15 minutes.
- (H25) "**landfill facility**" means all contiguous land and structures, other appurtenances, and improvements on the land used or associated with the disposal of waste.
- (H26) "**lower explosive limit**" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.

- (H27) **“special burial of waste”** means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hole, and immediately covers it with earth or other waste material.
- (H28) **“uppermost aquifer”** means the geologic formation nearest to the natural ground surface that is an aquifer. The term includes any aquifers that are likely to be hydraulically interconnected with this aquifer within the landfill facility property boundary.
- (H29) **“Special Burial of waste”** means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hold, and immediately covers that waste with earth or other waste material.
- (H30) **“statistically significant”** means when a difference between groups of data is sufficient for a statistical test to reject the *null hypothesis*. For example, a requirement for a statistical test is that you have a minimum of two hypotheses, the null hypothesis and one or more alternative hypotheses. If you have data from two groups of bores (say A = background values and B = values at locations hydraulically down gradient of the landfill unit), and you wish to test whether A is different from B, *the null hypothesis* would be that A and B are from the same population (no significant difference). After performing the statistical test, you will either accept or reject the null hypothesis.
- (H31) **“liquid or semi-liquid waste”** means a waste which failed the paint filter liquid test described in the document SW-846 ‘Test Methods for Evaluation of Solid Wastes Physical/Chemical Methods’ published by the United States Environmental Protection Agency; Revision 5; April 1998 or updated version thereof.
- (H32) **“ignitable, corrosive, reactive or toxic materials”** are materials as defined in the Queensland Government Environmental Protection Agency ‘ERA 75: Guideline on landfill siting, design, operation and rehabilitation’; 2002.
- (H33) **“RL”** means height in metres above mean sea level
- (H34) **“recycling landfill diversion rate”** means a calculated figure using the following formula:
- $$\frac{\text{tonnes of recycle}}{\text{total tonnes of potential recycle}} \times 100$$
- (H35) **“Monitoring and Sampling Manual”** means the following documents or more recent additions or supplements to that document as such become available:
- Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009**
Version 2 September 2010
- (H36) **“Noise Measurement Manual”** means the following document or more recent additions or supplements to that document as such become available:
- Environmental Protection Agency. (2000). *Noise Measurement Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.
- (H37) **“Air Quality Sampling Manual”** means the following document or more recent additions or supplements to that document as such become available:
- Department of Environment. (1997). *Air Quality Sampling Manual*, Department of Environment, Brisbane Australia.

END OF DEFINITIONS FOR SCHEDULE – H

END OF CONDITIONS

From: Ian Wolff <Ian.Wolff@gympie.qld.gov.au>
Sent: Tuesday, 10 January 2012 3:05 PM
To: Karle Matt
Cc: [CTPI 49-Sch4-N]@ane.com.au; [CTPI 49-Sch4]@exemail.com.au; Bob Fredman; Grayden Curry; Michael Grant; Tanya Allen
Subject: Fwd: 2298 - Email - SW - Comments

ATTN: Matt Karle - Department of Environment and Resource Management

Matt

In respect of your previous e-mail regarding the addendum to the Acoustic Assessment for the Bonnick Road Waste Management Facility redevelopment, please find attached an e-mail from Council's consultant - [CTPI 49-Sch4-N] from Air Noise Environment Pty Ltd addressing the issues raised in your e-mail.

I note that in this response, [CTPI 49-S] indicates that the transfer station adds minimal additional noise impact.

Should you require further information in respect of this addendum Acoustic Assessment, I recommend that you contact [CTPI 49-S] directly on telephone (07) 3245 7808.

Direct contact with [CTPI 49-S] in respect of acoustic matters will expedite the assessment process for both the landfill extension and transfer station construction so that both approvals can issued prior to 31 January 2012.

Also, could you please confirm at your earliest available opportunity, the availability of Mr Tim Brain and yourself for a meeting with Council Officers and relevant consultants next Wednesday, 18 January 2012 as per my previous invitation.

I look forward to your response.

Ian Wolff
Acting Director
Community Services Directorate
Gympie Regional Council
ph. (07) 5481 0611
e-mail: ian.wolff@gympie.qld.gov.au

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From: Tanya Allen <Tanya.Allen@gympie.qld.gov.au>
Sent: Wednesday, 18 January 2012 2:57 PM
To: Karle Matt
Subject: Bonnick Road Waste Management Facility - Response to DERM regarding development conditions

Dear Matt,

Thank you for the early opportunity to negotiate the conditions for the Bonnick Road landfill extension and transfer station.

Council and its consultants have reviewed the landfill extension and transfer station conditions and request changing a number of the conditions. Please refer to the attached table documenting these changes.

Council's consultants and project manager will be available at tomorrow's meeting to discuss the reasoning behind these requests and to negotiate positive outcomes for DERM, GRC and the Gympie community. Ian Wolff will also phone you this afternoon to confirm your receipt of this email.

See you tomorrow!

Kind Regards

Tanya Allen

Environmental Health Officer | Health & Environmental Services | Community Services

Telephone: 07 5481 0611 | Facsimile: 07 5481 0801

Gympie Regional Council
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1 ream of paper = 6% of a tree and 5.4kg CO2 in the atmosphere
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Condition No.	Condition Wording	Required Amended Condition/ Change	Justification
1A5-1	<p>You are required to investigate alternative waste management practices to maximise, where possible, recycling and diversion of waste from being disposed to landfill.</p> <p>For the purpose of satisfying this condition in accordance with the waste management hierarchy and principles of the <i>Waste Reduction and Recycling Act 2011</i>, on or before 1 December 2012 you must conduct:</p> <ul style="list-style-type: none"> (i) a strategic waste management assessment, and include as a target, an aim to achieve a recycling landfill diversion rate of at least 70%; and (ii) reporting actual recycling diversion rates and any progress made in achieving the 70% target to the administering authority with each annual return after 1 December 2012. 	<p>You are required to investigate alternative waste management practices to maximise, where possible, recycling and diversion of waste from being disposed to landfill.</p> <p>For the purpose of satisfying this condition in accordance with the waste management hierarchy and principles of the <i>Waste Reduction and Recycling Act 2011</i>, on or before 1 December 2012 you must conduct:</p> <ul style="list-style-type: none"> (i) a strategic waste management assessment, and include as a target, an aim to achieve a recycling landfill diversion rate of at least 70%; and (ii) reporting actual recycling diversion rates and any progress made in achieving the 70% target to the administering authority within 2 months of the end of each financial year after 1 December 2012. 	<p>The WRR Act already specifies reporting requirements for local government. WRR Act, s.147 requires reporting within 2 months after the end of each financial year.</p>
1A11-1	<p>Erect at the entrance and/or other prominent locations, signs maintained in good repair, written in a language appropriate for the user population and giving the following information:</p> <ul style="list-style-type: none"> ▪ the name of the site and a telephone contact number for site information; ▪ that disposal of waste is prohibited without the direction or permission of the landfill operator; and ▪ details of the facility opening hours, and the nearest facilities where persons can lawfully dispose of waste. 	<p>Erect at the entrance and/or other prominent locations, signs maintained in good repair, written in a language appropriate for the user population and giving the following information:</p> <ul style="list-style-type: none"> ▪ the name of the site and a telephone contact number for site information; ▪ that disposal of waste is prohibited without the direction or permission of the landfill operator; and ▪ details of the facility opening hours. 	<p>Doesn't apply to this facility. The Bonnick Road facility is the preferred disposal point in Gympie.</p> <p>Southside Waste Management Facility is the nearest facility, however it only accepts limited waste streams (no commercial, C&D or bulky household items). Therefore it is not recommended that the public is referred to Southside, because –</p> <ul style="list-style-type: none"> • the number of bins on-site may be overloaded within a short time; • this is likely to increase the amount of unwanted waste streams at the site, requiring additional labour to remove; and/or • customer dissatisfaction when they are locked out of Bonnick Road landfill, only to also be turned away from Southside if they are carrying any of the unaccepted waste types.
1B1-1	The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.	The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place or commercial place.	Add commercial place because propose to remove commercial places from the definition of nuisance sensitive place. Further explanation provided in noise section.
1B1-2	The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.	The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place or commercial place.	Add commercial place because propose to remove commercial places from the definition of nuisance sensitive place. Further explanation provided in noise section.
1C1-2	Stormwater runoff from disturbed areas must be directed to a sedimentation pond, which must be sufficiently constructed, operated and maintained to contain the runoff expected from a 24 hour storm with an average recurrence interval of 1 in 10 years.		<p>Initial comment: <i>There is not enough room for a pond capable of containing run-off from the full site (old and new landfill cells). This should only relate to the new cell.</i></p> <p>New comment: <i>Stormwater run-off from disturbed areas of the existing landfill during pre-closure and post-closure works will not be able to be directed to the sedimentation pond. Likewise, stormwater run-off from roads will not either.</i></p>
Schedule 1C – Table 1	(Release Limits)		
1C3-1	An investigation into the successful operation of	Clarification required	Initial advice from AGE Consultants:

Amendments to Draft Development Permit Conditions from DERM

Bonnick Road Waste Management Facility (Lot 542 MCH801883)

	<p>both the existing landfill and the landfill extension as a Bioreactor must be undertaken and completed within 6 months from the effective date of this Development Approval. The investigation must include (but not necessarily be limited to) the following matters:</p> <ul style="list-style-type: none"> ▪ anticipated goals to be derived from operating the landfill as a bioreactor; ▪ measures and procedures that will minimise the generation of leachate; ▪ existing leachate quality for the parameters stated in Schedule C Table 2 ▪ estimates of existing leachate quantity; ▪ leachate quality and quantity that ensures the landfill effectively operates as a bioreactor; ▪ estimated changes in leachate quality and quantity during the life of the landfill that demonstrates the landfill is effectively operating as a bioreactor; ▪ changes in leachate quality and quantity that would suggest the landfill is not effectively operating as a bioreactor; ▪ methods of leachate recycling that maximise the successful performance of the landfill as a bioreactor; ▪ circumstances where leachate must be removed from the site (quality or quantity); ▪ disposal and treatment options for leachate that must be removed from the site; ▪ assess of the capability of any external disposal or treatment facility that may receive leachate removed from the site, taking into consideration (among other things): <ul style="list-style-type: none"> a) the treatment or disposal capability of the facility; b) any environmental safeguards inherent in the selected treatment or disposal facility; and c) any environmental discharges from the selected treatment or disposal facility to the environment, and whether receipt of leachate from the landfill will affect the performance of the facility, and / or cause harm to the receiving environment. 		<p>"Two months does not seem sufficient to undertake the investigation – suggest ask for 12 months"</p> <p>Initial advice from CTPI 49-Sch4 <i>"Council has been recirculating leachate in the existing landfill for years. The new cell will hardly be built let alone full enough to for recirculation in two (2) months. Two (2) months for this investigation is not achievable."</i></p> <p>Advice from CTPI 49-Sch4-Nam <i>"I think it might be useful to ask DERM to clarify this or direct Council to published material that describes what a bioreactor is. Clarification of this matter should constrain the investigation within limits that will be agreeable to DERM."</i></p>
1C3-4	Results of the investigation required by Condition (C3-1) and the leachate management and monitoring procedure required by Condition (C3-2) must be submitted to the administering authority within 7 months of the effective date of this Development approval.		Initial advice from CTPI 49-Sch4 <i>"We should ask for an 18 month time frame for the recirculation report so that we can get some waste in the new cell and connect the old landfill into it".</i>
1C4-2	Leachate collected by the leachate collection system under the landfill extension must not be returned to the existing landfill.	Delete this condition.	Recirculation through the existing landfill must be retained as an approved method of leachate management. Recirculation wells were recently installed for this specific purpose. Initial advice from CTPI 49-Sch4 <i>"This is a problem as it does not allow recirculation in the old landfill. This</i>

			<p>means we probably cannot recirculate leachate for about 5 years when there will be sufficient waste in the new cell. We should ask for this condition to be deleted. The basis would be that we have been successfully recirculating in the old landfill and that we are relying on it to treat the early leachate from the new cell".</p> <p>Matt Karle's response: "The existing landfill is not lined..."</p> <p>Subsequent advice from CTPI 49-Sch4: "...we can not distinguish between leachate from the old landfill and the new cell when it arrives at the leachate pump. We also need to recirculate leachate from the new cell through the old landfill in the initial stages of operation when there is not sufficient waste in the new cell for recirculation.</p> <p>My proposal is that we can demonstrate that the leachate in the old landfill is of good quality and that this is due to recirculation. If the leachate quality is good the unlined landfill poses less of a threat to the environment than one with poor leachate quality."</p>
1C5-1	Waste must not be deposited within 2m of underlying groundwater.	Waste must not be deposited within 1.5m of underlying groundwater.	<p>Initial advice from CTPI 49-Sch4: "We cannot achieve 2m separation everywhere. We should ask for 1.5m separation".</p> <p>Initial advice from AGE Consultants: "It will not be possible to achieve a 2m separation between the waste and the underlying groundwater, due to the presence of the groundwater depressurisation system – suggest try and remove this condition".</p> <p>Matt Karle's response: "Is the depressurisation system appropriate to support reducing the required 2 metre attenuation zone?"</p> <p>Subsequent advice from CTPI 49-Sch4: "My strategy is that we have always used the groundwater cut off as the groundwater level when discussing this issue with DERM. They refer to the cut off system as a depressurisation system, it is not, it is a cut off. With a depressurisation system the groundwater is always at the level of the system Bonnick Rd groundwater is often below our cut off system and will only rise to the system in high flow events.</p> <p>My proposal is that we demonstrate that the groundwater is normally below our system there by effectively demonstrating the 2m separation, and our system provides the additional security of limiting the height the groundwater can rise to. This being an effective separation of 600mm for the prepared base, 600mm equivalent for the GCL and 300mm for the confining layer."</p>
1C5-3	The groundwater depressurisation system required by Condition (C5-2) must be: i) Designed and overseen during installation by a suitably qualified, experienced and independent person. ii) Certified by that person as being constructed as per the design. iii) Monitored and maintained as necessary to ensure compliance with conditions (C5-2).		Clarify – can this independent person be CTPI 49-Sch4-Name
1C5-8	Any liquid collected by the depressurisation system must not be released to Peter and Paul	Liquid collected by the depressurisation system must only be released in compliance with the	Currently, there is no other option for disposal of liquid collected by the depressurisation system.

	Gully.	release limits listed in Schedule 1C Table X (new table containing ANZECC trigger levels) from the following discharge location: W5: liquid from the depressurisation system to a tributary of Peter and Paul Gully.	Initial advice from CTPI 49-Sch4 "This is unreasonable. It is only groundwater and we rely on discharge to Peter and Paul Gully in our design. The clause should be amended to say we can discharge if the groundwater is found to be contaminated or it poses environmental harm to the creek". Advice from AGE Consultants: "Groundwater has to be discharged - there is no other option. Suggest this condition be amended to allow discharge of groundwater from the depressurisation system if it meets the requirements of Schedule 1C – Table 1". Matt Karle's response: "... What impacts to surface water quality are likely if groundwater is released to surface water? ..." Subsequent advice from CTPI 49-Sch4 "This is still a problem. The location of the new cell is at a groundwater discharge point and it would have always flowed to the gully at this point. We need to negotiate some standard for groundwater that can be released. The alternative is to put it into the leachate. We have put in a liner and a lot of money to stop this. I suggested ANZEC guidelines for the release if we cant agree on this possibly better than surface water quality?"
Schedule 1C – Table 3	(Groundwater Quality Monitoring Requirements)	Pre-landfilling baseline monitoring – • change frequency to quarterly	Monthly prior to the commencement of the landfill extension: It is too onerous and inefficient for groundwater to be monitored monthly prior to the commencement of the landfill extension, for the above reasons. It is unlikely that contamination of groundwater will occur prior to and during the construction phase. If the reason for this requirement is to collect baseline data, Council already collects groundwater monitoring data on a quarterly basis from this site – this data, already supplied to DERM, should be taken as the baseline groundwater quality.
1C9-2	Soils and other materials used in the construction of any waste disposal cells or subcells, above ground embankments, sediment pond and final cover must achieve an <i>in situ</i> hydraulic conductivity which is sufficiently low and be of sufficient thickness so as to prevent or minimise the release of contaminants. As a minimum, permeabilities for various landfill features must at least comply with the corresponding limits specified in Schedule 1C – Table 5.	Substitute "in situ" testing with "laboratory testing and field testing"	Advice from CTPI 49-Sch4 "The condition is requiring in-situ testing of the clays used for construction of the dam and landfill base. This is a problem because if they fail you have to dig everything up and you have to dig holes in the work to perform the tests. I propose that we substitute laboratory testing and field testing to confirm the lab properties in the field. The process would be, we collect samples from the materials we have at our disposal on site, and we have already done some of this. We define laboratory sample preparation and testing and get laboratory permeabilities. The field testing will then be nuclear densities and microwave moistures to verify placement to the laboratory spec. We can offer these on each layer of the construction; this provides a better representation of the overall construction."
Schedule 1C – Table 5	(Permeabilities and Special Requirements for Landfill Features)	Change the <u>minimum thickness (mm) of base and walls of sediment pond</u> from 1×10^{-9} to 1×10^{-7} .	Initial advice from CTPI 49-Sch4 "Requiring the sediment pond to be constructed from and lined with clay at 1×10^{-9} is unreasonable. The pond only holds dirty water. We should request that the clause be changed to say low permeability material 1×10^{-7} ".
Schedule H – Definitions (H12)	"nuisance sensitive place" includes – ▪ dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the	"nuisance sensitive place" includes – ▪ dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the	Remove "shops, offices and other business premises and farming workplaces" from this definition. These activities are already covered by the definition for commercial place – (H17) "commercial place" means a place used as an office or for business or

	<p>curtilage of any such places;</p> <ul style="list-style-type: none"> a surgery or other medical institution; library, childcare centres, kindergartens, schools or other educational institutions; shops, offices and other business premises and farming workplaces; a park or garden that is open to the public; a protected area, or an area identified under a conservation plan as a critical habitat or area or major interest, under the <i>Nature Conservation Act 1992</i>; a Marine Park under the <i>Marine Parks Act 1992</i> 	<p>curtilage of any such places;</p> <ul style="list-style-type: none"> a surgery or other medical institution; library, childcare centres, kindergartens, schools or other educational institutions; a park or garden that is open to the public; a protected area, or an area identified under a conservation plan as a critical habitat or area or major interest, under the <i>Nature Conservation Act 1992</i>; a Marine Park under the <i>Marine Parks Act 1992</i> 	<p>commercial purposes.</p> <p>The reason for removing commercial activities from the “<i>nuisance sensitive place</i>” definition is because the conditions in Schedule D Table 1 prescribe separate noise levels for commercial places.</p> <p>If commercial activities are retained within the “<i>nuisance sensitive place</i>” definition, it defeats the purpose of having different noise levels for commercial places.</p>
1D1-1	Noise from activities must not cause an environmental nuisance at any nuisance sensitive place.	Noise from activities must not cause an environmental nuisance at any nuisance sensitive place or commercial place.	(if commercial activities are removed from the definition of “nuisance sensitive place”).
1D1-4	In the event of a complaint about noise that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place.	In the event of a complaint about noise that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place or commercial place.	(if commercial activities are removed from the definition of “nuisance sensitive place”).
Schedule D – Table 1	(Noise Levels)	<p>Change nuisance sensitive place criteria from 44 dB(A) to 47 dB(A).</p> <p>Change commercial place criteria 50 dB(A) to 55 dB(A).</p> <p>Change commercial criteria from an adjusted maximum sound pressure level (see heading if Table 1) to a LAeq,adj,1-hour.</p>	<p>Advice from CTPL49-Sc (ANE):</p> <p><i>“My main concern is the noise conditions during the landfill operation in Phase 1. Previously, there was a 47 dB(A) and 55 dB(A) criteria for the landfill extension only. Now this has been reduced to 44 dB(A) and 50 dB(A) for the landfill, which makes it less workable, based on noise predictions.</i></p> <p><i>It is understood that with the transfer station, there would be noise contribution from both developments (as referred to in Matt's email). However, splitting the conditions to 44 dB(A) for each site (which combines to 47 dB(A)), assumes equal contribution from both sites.</i></p> <p><i>It is more workable to have the noise conditions for the sites combined, so that it is simply 47 dB(A) and 55 dB(A) from all of the site. This allows for variation in noise contribution from the landfill and TS, and still preserves the original intent of the DERM draft conditions to achieve 47 dB(A) and 55 dB(A).</i></p> <p><i>Also, I think that the commercial criteria should also be an LAeq,adj,1-hour instead of an adjusted maximum sound pressure level (see heading of Table 1). This parameter would be consistent with the nuisance sensitive receptor criteria.”</i></p>
1D1-6	No audible noise from the approved premises is authorised at a nuisance sensitive place (including the use of vehicles, plant and equipment) outside the hours 5:00pm to 7:00am Monday to Friday, and 3:00pm to 10:00am Saturday and Sunday.	No audible noise from the approved premises is authorised at a nuisance sensitive place or a commercial place (including the use of vehicles, plant and equipment) during the hours 5:00pm to 7:00am Monday to Friday, and 3:00pm to 10:00am Saturday and Sunday. These hours include public holidays.	<p>(if commercial activities are removed from the definition of “nuisance sensitive place”).</p> <p>“outside the hours of...” means that Council can produce audible noise at night. Change “outside” to “during”?</p> <p>Council needs clarification that the opening hours will include public holidays. Council desires to retain the normal daily opening hours for public holidays – particularly in circumstances where public holidays (example – Australia Day)</p>

			fall on a week day. Advice from CTPI 49-Sd (ANE): "The condition states "no audible noise... outside the hours of 5.00 pm to 7.00 am Monday to Friday, and 3.00 pm to 10.00 am Saturday and Sunday". The term "outside" used in this context would indicate audible noise cannot occur during 7.00 am to 5.00 pm. "Outside" needs to be replaced by "inside"."
1D2-1	In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance within 14 days, and the results notified to the administering authority once received from any external consultant. Monitoring must include: <ul style="list-style-type: none"> background noise level; LAeq, adjT, LAmx, adj, T, LA10, adjT the level and frequency of occurrence of impulsive or tonal noise; atmospheric conditions including wind speed and direction; effects due to extraneous factors such as traffic noise; location, date and time of recording; and an interpretation of the results against the authorised noise levels authorised by Condition 1D1-5. 	In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance within 14 days, and the results notified to the administering authority once received from any external consultant with an interpretation of the results against the authorised noise levels authorised by Condition 1D1-5. Monitoring must include: <ul style="list-style-type: none"> background noise level; LAeq, adjT, LAmx, adj, T, LA10, adjT the level and frequency of occurrence of impulsive or tonal noise; atmospheric conditions including wind speed and direction; effects due to extraneous factors such as traffic noise; and location, date and time of recording. 	Removing this requirement from the "monitoring" dot point list will mean that Council can submit the interpretation with the results once they are received from an external consultant, as opposed to having an interpretation of the results within the 14 day timeframe.
1D3-1	In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (D1-5) you must develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters: <ul style="list-style-type: none"> (i) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places; (ii) the measured level of these noise sources and activities at nuisance sensitive places; (iii) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places; (iv) the predicted reduction in noise at nuisance sensitive places by implementing these measures; (v) time frame for completion of the work proposed; (vi) any necessary community liaison and consultation; and (vii) any training requirements for staff in noise reduction practices. 	In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (D1-5) you must develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters: <ul style="list-style-type: none"> (i) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places and commercial places; (ii) the measured level of these noise sources and activities at nuisance sensitive places and commercial places; (iii) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places and commercial places; (iv) the predicted reduction in noise at nuisance sensitive places and commercial places by implementing these measures; (v) time frame for completion of the work proposed; (vi) any necessary community liaison and consultation; and (vii) any training requirements for staff in noise reduction practices. 	(if commercial activities are removed from the definition of "nuisance sensitive place").
1E1-1	Within 3 months from the commencement date		Clarification required from GRAYDEN CURRY –

Amendments to Draft Development Permit Conditions from DERM

Bonnick Road Waste Management Facility (Lot 542 MCH801883)

	of this Development Approval, disposal of putrescible waste to the existing landfill must cease.		Will the landfill extension be constructed and ready within 3 months (in time to accept putrescible waste)?
1E1-4	Any limited regulated waste disposed of at the landfill must only be in a solid form	Any limited regulated waste disposed of at the landfill must only be in a solid or semi-solid form .	<p>Council needs to be able to accept low hazard regulated waste in a semi-solid form:</p> <ul style="list-style-type: none"> • alum sludge from water treatment plants • screenings and grit from sewage treatment plants <p>These low hazard regulated wastes should be allowed within the limited regulated waste allocation (less than 10% of total waste received).</p>
1E1-6	<p>Notwithstanding any condition of this approval, you shall not cause, permit or allow deposition of the following waste materials in the landfill unit:</p> <ul style="list-style-type: none"> ▪ liquid or semi-liquid waste other than liquid or semi liquid waste which has been produced in the carrying out of the environmentally relevant activity; ▪ hot ash; ▪ material that is smouldering or aflame; ▪ material containing a substance which is ignitable, corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises); ▪ radioactive wastes; ▪ explosives; ▪ ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction; ▪ tyres; ▪ contaminated soil; ▪ treatment tank sludge or residues; ▪ biosolids; ▪ grease trap wastes; and ▪ green waste that is of a size that can otherwise be shredded or composted. 	<p>Change to “tyres that are separated from the general commingled waste stream”</p> <p>Change to “contaminated soil, other than contaminated soil that contains asbestos”</p> <p>Change to “treatment tank sludge or residues, other than sewage treatment plant screenings and grit”.</p> <p>Change to “green waste that is of a size that can otherwise be shredded or composted, and/or that is separated from the general commingled waste stream”</p>	<p>Council desires the opportunity to use contaminated soil (that has been remediated or that has low level contamination <i>i.e. still suitable for use in parks and gardens</i>) as day cover. It is acknowledged that in this circumstance the material is not considered and waste having been landfilled.</p> <p>There are however scenarios whereby Council will need to accept soil contaminated with material containing asbestos (<i>i.e. after a house fire</i>). In this circumstance, the material has to be landfilled for public health purposes.</p> <p>Council receives residual waste (screenings and grit) from its sewage treatment plants for disposal at the facility. No other treatment tank sludge or residues are accepted for disposal.</p> <p>Furthermore, it is not always practicable to recover small amounts of green waste or tyres that are inappropriately disposed on the tip-face commingled or disposed of within residential wheelie bins.</p>
2A3-2	the site based management plan must not be implemented l amended in a way that contravenes a condition of this approval.	<p>Typo – capital T</p> <p>Typo – replace “r” with “or”</p>	
2A5-1	Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants not in accordance with the conditions of this approval	Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval	Change to wording in (1A9-1)
2A5-2	Notwithstanding condition (A5-1), within 10 days of becoming aware of any release of contaminants not in accordance with the conditions of this approval, provide the following written advice to the administering authority: <ul style="list-style-type: none"> ▪ the full analysis results; and 	<p>Notwithstanding condition (2A5-1), within 10 days of becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval, provide the following written advice to the administering authority:</p> <ul style="list-style-type: none"> ▪ available analysis results; and 	Change to wording in (1A9-2)

	<ul style="list-style-type: none"> details of investigation or corrective actions taken; and results of any subsequent analysis carried out to verify the success of any corrective actions taken. the name of the operator, including their approval / registration number; the name and telephone number of a designated contact person; quantity and substance released; any vehicle involved and its registration details; person/s involved; the location and time of the event / release or monitoring result; the suspected cause of the event or release; a description of the effects of the release on the receiving environment. 	<ul style="list-style-type: none"> details of investigation or corrective actions taken or proposed; and advice when any outstanding or subsequent analysis results will be provided advice when any subsequent analysis will be carried out to verify the success of any corrective actions taken. the name of the operator, including their approval / registration number; the name and telephone number of a designated contact person; quantity and substance released; any vehicle involved and its registration details; person/s involved; the location and time of the event / release or monitoring result; the suspected cause of the event or release; a description of the effects of the release on the receiving environment. 	
2B1-1	The release of dust and / or particulate matter, noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.	The release of dust and / or particulate matter, noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place or commercial place.	
2B2-1	The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place.	The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive place or commercial place.	
2C1-1	Contaminants arising from the approved activity must only be released to land in accordance with conditions relating to ERA 60 – Landfill Operations approved for the subject site		Clarification - is this from the site?
2C1-5	Chemicals or fuels captured in any dedicated Transfer Station containment system must not be released to the landfill at the subject site.		Clarification – in the scenario where small oil spills are cleaned up with sokerol, does this mean Council can not bury the sokerol on-site? The facility will be a lined landfill.
2D1-4	Metal collection must only occur inside the Transfer Station dwelling.	Collection of bulky metal items must only occur inside the Transfer Station dwelling.	Clarification – does this refer to collection of bulk metal? Council desires to collect small metal items such as gas cylinders, aluminium cans and aluminium lengths in the resource recovery building.
Schedule H – Definitions (H12)	<p>"nuisance sensitive place" includes –</p> <ul style="list-style-type: none"> dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the curtilage of any such places; a surgery or other medical institution; library, childcare centres, kindergartens, schools or other educational institutions; shops, offices and other business premises and farming workplaces; a park or garden that is open to the public; 	<p>"nuisance sensitive place" includes –</p> <ul style="list-style-type: none"> dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the curtilage of any such places; a surgery or other medical institution; library, childcare centres, kindergartens, schools or other educational institutions; a park or garden that is open to the public; a protected area, or an area identified under a conservation plan as a critical habitat or area 	<p>Remove <i>"shops, offices and other business premises and farming workplaces"</i> from this definition. These activities are already covered by the definition for commercial place –</p> <p>(H17) "commercial place" means a place used as an office or for business or commercial purposes.</p> <p>The reason for removing commercial activities from the <i>"nuisance sensitive place"</i> definition is because the conditions in Schedule D Table 1 prescribe separate noise levels for commercial places.</p> <p>If commercial activities are retained within the <i>"nuisance sensitive place"</i></p>

	<ul style="list-style-type: none"> a protected area, or an area identified under a conservation plan as a critical habitat or area or major interest, under the <i>Nature Conservation Act 1992</i>; a Marine Park under the <i>Marine Parks Act 1992</i> 	<ul style="list-style-type: none"> or major interest, under the <i>Nature Conservation Act 1992</i>; a Marine Park under the <i>Marine Parks Act 1992</i> 	<p>definition, it defeats the purpose of having different noise levels for commercial places.</p> <p>Advice from CTPI 49-Sq (ANE): <i>"H12 and H17 - it would appear that office/business/commercial premises are defined under both the nuisance sensitive and commercial place definitions. I believe that Dot Point 4 of H12 should be defined under H17 (commercial place)."</i></p>
Schedule H – Definitions (H14)	"Noise Reduction Coefficient" (NRC) means the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection while an NRC of 1 indicates perfect noise absorption.		<p>Definition disputed.</p> <p>Advice from CTPI 49-Sq (ANE): <i>"NRC means the arithmetic average of the sound absorption coefficients at the four frequencies of 250, 500, 1000 and 2000 Hz."</i></p>
Schedule H – Definitions (H16)	"LA, max adj, T" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.	"LA, max adj, 10 min" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.	<p>Reword definition.</p> <p>Advice from CTPI 49-Sq (ANE): <i>"Lamax,adj,T should be LAmaj,adj,10min, based on the definition provided which refers to a 10 minute period."</i></p>
2D1-1	Noise from the approved activity must not cause a nuisance at any nuisance sensitive location.	Noise from the approved activity must not cause a nuisance at any nuisance sensitive location or commercial place.	
2D1-5	Disposal bins must be constructed of material that minimises noise from waste disposal, or suitably lined to noise emissions from waste disposal.	Delete	<p>Advice from CTPI 49-Sch4</p> <p><i>"We can not operate a transfer station with plastic bins. The bins will eventually be replaced with a transfer trailer and other than rubber lining which is expensive and a maintenance problem"</i></p>
2D1-6	Vehicle movements within the approved premises must be actively and passively managed to regulate speeds to 20 km/hr or less along internal roads and through the recovery building.	Vehicle movements within the approved premises must be actively and passively managed to regulate speeds to 40 km/hr or less along internal roads and through the recovery building.	<p>Traffic control devices will be installed on site to control the speed of user's vehicles in public areas of the site.</p>
2D1-7	The roof and walls of the Transfer Station must be constructed of, and / or lined with material that achieves a Noise Reduction Coefficient of at least 0.92.	The roof and walls (except the lower 2.5 m of the walls) of the Transfer Station must be constructed of, and / or lined with material that achieves a Noise Reduction Coefficient of at least 0.92.	<p>Advice from CTPI 49-Sch (ANE): <i>"Only the roof and upper walls (above the lower concrete wall section) needs to be lined with absorptive material achieving an NRC of 0.92. The condition needs to be clearer stating "the roof and walls (except the lower 2.5 m of the walls) must be constructed..."</i></p> <p>Transfer Station Design <i>The transfer station will have concrete material for the lower portion of the walls (bottom 2.5 meters). The upper walls do not need to be concrete, but should achieve an Rw rating of 31, as indicated in the 2298addendumreport02. The absorptive lining achieving an NRC 0.92 is for the roof and all walls (except the lower concrete section).</i></p> <p>Recovery Building <i>The noise from the recovery building is not expected to be significant, especially if metal collection is to occur within the main transfer station. The modelling has taken into account vehicle movement through the recovery building."</i></p>
2D1-8	The roof and walls of the Transfer Station must be constructed to ensure open gaps are prevented.	The roof and walls of the Transfer Station must be constructed to ensure open gaps are prevented, notwithstanding ventilation requirements.	<p>Advice from CTPI 49-Sch (ANE): <i>"No open gaps in the roof might not be practicable. There needs to be room to allow for some form of ventilation (e.g. possibly a ridge vent). Strictly speaking, a ridge vent is a gap in the roof, albeit a very small but necessary one."</i></p> <p><i>"... so condition (2D1-8) should allow for some form of ventilation."</i></p>

2D1-9	Acoustic barriers must; <ul style="list-style-type: none"> be installed around any waste truck loading area; be installed to a height of at least 5.0m extending from the designed roller doors at the South Western and North Eastern external walls of the Transfer Station, as per Appendix 1; be installed to a height of 2.4m at the Bonnick Road Boundary, as per Appendix 2; be continuous with no air gaps and be constructed of material with a minimum mass density of 12kg/m2 	Acoustic barriers must; <ul style="list-style-type: none"> be installed around any waste truck loading area, as per Appendix 1; be installed to a height of at least 5.0m extending from the designed roller doors located at the north-western and north-eastern corner of the Transfer Station, as per Appendix 1; be installed to a height of 2.4m at the Bonnick Road Boundary, as per Appendix 2; be continuous with no air gaps and be constructed of material with a minimum mass density of 12kg/m2 	Advice from CTPI 49-Sd (ANE): <i>"I assume that Appendix 1 and 2 refer to Figures 1 and 2 from the 2298addendumreport02.pdf? If so, it is recommended that Dot Point 1 also references Appendix 1 to show the barrier and roof location around the truck loading area"</i> <i>"For Dot Point 2, it is preferred that the following is stated to avoid confusion: "be installed to a height of at least 5.0 m extending from the designed roller doors located at the north-western and north-eastern corner of the Transfer Station, as per Appendix 1". It is noted that the 2 furthest roller doors from Bonnick Road (south-western and south-eastern corner of the building) do not need acoustic barriers. The appendix figure would clarify the locations, but changing the text will avoid any confusion."</i>
2D1-10	Prior to the commissioning of the Transfer Station, the facility must be physically assessed by a person with appropriate noise mitigation qualifications and experience, verifying by way of a written report, that measures required to comply with conditions (D1-6) through (D1-9) have been installed and that the measures will be effective at mitigating the potential for noise nuisance at nuisance sensitive premises.	Prior to the commissioning of the Transfer Station, the facility must be physically assessed by a person with appropriate noise mitigation qualifications and experience, verifying by way of a written report, that measures required to comply with conditions (2D1-6) through (2D1-9) have been installed.	Conjecture. Advice from CTPI 49-Sd (ANE): <i>"Delete the phrase "and that the measures will be effective at mitigating the potential for noise nuisance at nuisance sensitive premises". Acoustic consultants, such as ourselves, will not state that measures "will be" effective after simply checking that all measures have been installed. Even in modelling reports, consultants will always indicate noise measures are "predicted" to be effective in mitigating noise. It is sufficient to confirm that all noise measures have been installed, which is the typical requirement of certification conditions for any development."</i>
2D1-12	In the event of a complaint about noise emissions from the Transfer Station that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place.	In the event of a complaint about noise emissions from the Transfer Station that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place or commercial place.	
2D1-14	No audible noise from the Transfer Station is authorised (including access by or use of vehicles, plant or equipment) outside the hours 5:00pm to 7:00am Monday to Friday, and 4:00pm to 9:00am Saturday and Sunday.	No audible noise from the Transfer Station is authorised at a nuisance sensitive place or a commercial place (including the use of vehicles, plant and equipment) during the hours 5:00pm to 7:00am Monday to Friday, and 4:00pm to 9:00am Saturday and Sunday. These hours include public holidays.	Needs to specify location where audible noise is heard <i>i.e. a nuisance sensitive place or a commercial place.</i> <i>"outside the hours of..." means that Council can produce audible noise at night. Change "outside" to "during"?</i> Council needs clarification that the opening hours will include public holidays. Council desires to retain the normal daily opening hours for public holidays – particularly in circumstances where public holidays (example – Australia Day) fall on a week day. Advice from CTPI 49-Sch (ANE): <i>"As per comments on 1D1-6. Also, the condition needs to include where there is to be no audible noise, similar to 1D1-6 ie. nuisance sensitive place."</i>
Schedule D – Table 1	(Noise Levels)	Change nuisance sensitive place criteria from 44 dB(A) to 47 dB(A). Change commercial place criteria 50 dB(A) to 55 dB(A). Change commercial criteria from an adjusted	Advice from CTPI 49-Sch (ANE): <i>"It is more workable to have the noise conditions for the sites combined, so that it is simply 47 dB(A) and 55 dB(A) from all of the site. This allows for variation in noise contribution from the landfill and TS, and still preserves the original intent of the DERM draft conditions to achieve 47 dB(A) and 55 dB(A)."</i>

		maximum sound pressure level (see heading if Table 1) to a LAeq,adj,1-hour.	
2D2-1	In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance, and the results notified within 14 days to the administering authority. Monitoring must include: <ul style="list-style-type: none"> background noise level; LAeq, adjT, LAmax, adj, T, LA10, adjT the level and frequency of occurrence of impulsive or tonal noise; atmospheric conditions including wind speed and direction; effects due to extraneous factors such as traffic noise; and location, date and time of recording. 	In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance within 14 days, and the results notified to the administering authority once received from any external consultant. Monitoring must include: <ul style="list-style-type: none"> background noise level; LAeq, adjT, LAmax, adj, T, LA10, adjT the level and frequency of occurrence of impulsive or tonal noise; atmospheric conditions including wind speed and direction; effects due to extraneous factors such as traffic noise; and location, date and time of recording. 	Results to be notified after receiving from an external consultant – likely this will be outside of the 14 day monitoring period. Advice from CTPI 49-Sch (ANE): "Make this condition identical to 1D2-1, which does not require monitoring AND results to be completed within 14 days (which is not practicable)."
2D3-1	In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (D1-3) you must, within one week, develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters: <ol style="list-style-type: none"> identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places; the measured level of these noise sources and activities at nuisance sensitive places; the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places; the predicted reduction in noise at nuisance sensitive places by implementing these measures; time frame for completion of the work proposed; any necessary community liaison and consultation; and any training requirements for staff in noise reduction practices. 	In the event noise emissions from the approved activity exceed noise limits prescribed by Condition (2D1-13) you must, develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters: <ol style="list-style-type: none"> identification of component noise sources and activities at the place(s) which impact on nuisance sensitive places or commercial places; the measured level of these noise sources and activities at nuisance sensitive places or commercial places; the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive places or commercial places; the predicted reduction in noise at nuisance sensitive places or commercial places by implementing these measures; time frame for completion of the work proposed; any necessary community liaison and consultation; and any training requirements for staff in noise reduction practices. 	Impracticable timeframe. Remove the one week timeframe and revise condition (2D3-2) to include a one month timeframe, as per wording used in condition (1D3-1). Advice from CTPI 49-Sch (ANE): "Make this condition identical to 1D3-1, which takes out reference to 1 week (which is not practicable) and allows for 1 month to a draft NMP."
2D3-2	A draft Noise Management Plan must be submitted to the Administering Authority for review and comment.	A draft Noise Management Plan must be submitted to the Administering Authority for review and comment within one month of a noise emission that exceeds limits prescribed by Condition (2D1-13).	Change to same wording as condition (1D3-2)
D2F1-1	Only the following waste materials are permitted to be accepted through the Transfer	Only the following waste materials are permitted to be accepted through the Transfer	Advice from CTPI 49-Sch4: "It would appear that either DERM or I have the wrong impression of this transfer station. I thought it was predominately for householders. I feel that the

	<p>Station:</p> <p>a) clean construction and demolition waste (C&D); and</p> <p>b) clean commercial and industrial waste (C&I)</p> <p>Note – C&D AND C&I wastes are defined in the Definitions Section of this Development Approval.</p>	<p>Station for disposal to landfill:</p> <p>a) construction and demolition waste (C&D);</p> <p>b) commercial and industrial waste (C&I); and</p> <p>c) municipal solid waste (MSW)</p> <p>d) limited regulated waste</p> <p>Note – C&D wastes, C&I wastes and MSW are defined in the Definitions Section of this Development Approval.</p>	<p><i>limits set are unworkable what are your comments".</i></p> <p>Waste materials permitted to be accepted through the Transfer Station for disposal MUST include municipal solid waste (MSW).</p> <p>The specified waste streams are the only waste streams that will be accepted for disposal through the transfer station. The following waste streams will be accepted at the transfer station (for recycling) –</p> <ul style="list-style-type: none"> • regulated waste (tyres, batteries, oil) • cardboard and commingled recyclables. <p>Therefore the wording needs to reflect that this acceptance criterion is only for items to be disposed of to landfill.</p> <p>No definition for "clean".</p> <p>Definitions for C&D, C&I and MSW are not in the definitions section of the development approval, as described.</p>
2F1-2	Regulated waste must not be accepted through the Transfer Station.	Delete	<p>Low hazard regulated waste (STP screenings and grit) may need to be accepted through the transfer station.</p> <p>Furthermore, limited regulated waste is accepted through the transfer station – for recycling (as above).</p>

From: Karle Matt
Sent: Wednesday, 21 December 2011 11:49 AM
To: Michael Grant
Cc: Tanya.Allen@gympie.qld.gov.au; ian.wolff@gympie.qld.gov.au
Subject: FW: Asbestos Disposal Prohibited condition - Bonnick Road Landfill Gympie

Hello Michael,

I am responding to concerns raised by Queensland Health about asbestos limitations in the Draft Bonnick Road Landfill conditions provided to Gympie Regional Council recently for consideration and discussion.

Where council has concerns about aspects of the Draft, can I please encourage Council to contact DERM in the first instance? As mentioned when the Draft was provided, it was provided expeditiously to afford consideration of the draft by council staff departing on Christmas leave, before the (now superseded) decision due date of the 16th December 2011.

As the decision due date is now 31st January 2012, I anticipate an approach from council to discuss aspects of the Draft in the new year, and welcome any discussion council may raise about asbestos management within the shire and as required for this site.

Regards

Matt Karle

Principal Environmental Officer (Wide Bay Burnett)

Environmental Services North

South East Region

Department of Environment and Resource Management

Ph: (07) 4121 1618

Email: matt.karle@derm.qld.gov.au

From: Dylan Walker [mailto:Dylan_Walker@health.qld.gov.au]
Sent: Monday, 19 December 2011 12:01 PM
To: Eskdale Ian
Cc: Clive Paige

Subject: Fwd: Asbestos Disposal Prohibited condition - Bonnick Road Landfill Gympie

Hi Ian,

I've recently been informed that DERM intends to condition an approval for a proposed local government landfill so that it cannot receive asbestos (please see below and attached). The condition appears to be part of a standard condition included in similar approvals.

Based on our recent discussions, my understanding was that DERM did not condition the prohibition of asbestos disposal and it was left to the local government to decide this. I recognise the use and application of "limited regulated waste" in the conditions, but I am concerned about the use of the specific prohibition as it could have significant consequences. This particularly so in areas where there are very few, if any, legal disposal alternatives to the local government's landfill.

Could you confirm if this is a standard condition, why a specific asbestos prohibition is being considered and who I could contact to discuss further please?

Thanks

Dylan

>>> Greg Blumke 16/12/2011 10:12 am >>>
Dear Dylan

I refer to our conversation of yesterday. Please see attached correspondence from EHO Tanya Allen, Gympie Regional Council.

As you will read in the attachments, DERMs standard condition relative asbestos waste material and Landfill reads as follows: -

(E1-6) Notwithstanding any condition of this approval, you shall not cause, permit or allow deposition of the following waste materials in the landfill unit:

- liquid or semi-liquid waste other than liquid or semi liquid waste which has been produced in the carrying out of the environmentally relevant activity;
- hot ash;
- material that is smouldering or aflame;
- material containing a substance which is ignitable, corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises);
- radioactive wastes;
- explosives;
- ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction;
- tyres;
- **asbestos;**
- contaminated soil;
- treatment tank sludge or residues;
- biosolids;
- grease trap wastes; and
- green waste

Your assistance in addressing this issue would be appreciated.

Regards

Greg Blumke

Advanced Environmental Health Officer
Sunshine Coast Public Health Unit
Central Regional Services

Governance and Capability
Division of Chief Health Officer
Queensland Health
PO Box 577
MAROOCHYDORE QLD 4558

Ph: 07 5409 6603
Fax: 07 5443 5488
Email: Greg_Blumke@health.qld.gov.au

Business hours Mon - Fri 8.30 am - 5.00 pm

Out of hours calls may be made to "State Environmental Health On-Call Officer" Ph: 1800 128 962

>>> "Tanya Allen" < > 15/12/2011 5:30 pm >>>
Dear Greg

ENVIRONMENTAL CONDITIONS PROHIBITING DISPOSAL OF ASBESTOS AT BONNICK ROAD LANDFILL IN GYMPIE

I refer to our recent telephone conversations. Council is currently applying for a development permit to extend landfilling operations at its main regional landfill and only landfill in Gympie - Bonnick Road Landfill.

This is the only site in the region where we accept asbestos for disposal by appointment. This is because -

- it is central and can be accessed by disposers and us easily,
- it is manned full time,
- it has a full time plant operator on-site
- asbestos is accepted by appointment only so that Council can devote resources to it to bury it immediately when it comes in

Council has received through from DERM draft conditions for the new landfill cell. Council has concerns in particular about condition E1-6 which prohibits the landfilling of asbestos.

If Council is unable to bury asbestos in Gympie, I believe this will result in illegal dumping around Gympie, unsafe disposal (ie. on the tip face, in bulk bins or wheelie bins), or asbestos waste left at home wrapped up in the back of sheds etc.

Council is concerned that the other nearest landfills (at Tin Can Bay and Guralda) are too far from Gympie to expect people to drive, and these landfills are not manned full-time. It is also a lot to ask for a home renovator to drive a tiny amount all the way to the hazardous waste landfill at Swanbank in Brisbane.

My initial inquiry to you was whether this condition was part of a campaign by the Queensland Government to prohibit asbestos disposal at regional landfills, and Council's question, if so, was how are we to dispose of asbestos waste? This Council believes that immediate burial at a supervised landfill is the safest option for disposal in regional areas.

I note your advice that you are unaware of any push like this. I appreciate you looking into this matter further for me. As discussed it appears that this condition is a standard DERM condition, which is concerning.

Please do not hesitate to contact me to discuss the matter on (07) 5481 0611. Council will shut-down for Christmas on 23/12/2011 and reopen on 2/01/2012, however I will be on holidays until 16/01/2012. In my absence, you can speak to Ian Wolff about this matter.

Hope you have a relaxing holiday break and see you in 2012!

Kind Regards

Tanya Allen

Cadet Environmental Health Officer | Health & Environmental Services | Community Services

Telephone: 07 5481 0611 | Facsimile: 07 5481 0801

Gympie Regional Council

24 Mellor Street, Gympie QLD 4570
PO Box 155 Gympie QLD 4570
e-mail: tanya.allen@gympie.qld.gov.au | www.gympie.qld.gov.au



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3 sheets of A4 paper = 1 litre of water

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From: Karle Matt
Sent: Friday, 27 January 2012 2:04 PM
To: ian.wolff@gympie.qld.gov.au; Tanya Allen; Michael Grant
Subject: Bonnick Road Landfill

Michael, Ian and Tanya,

Attached is a 2nd amended Draft for the Bonnick Road application. Changes have occurred following a meeting with GRC on 18th January 2012.

Of note however, changes to noise conditions have not occurred. At this stage, no comment has been received from council regarding the matters discussed during the meeting. For expediency and progress with this matter, and given the short decision period remaining, it is considered appropriate to provide a copy of the Draft now.

As per previous drafts, this document is still subject to internal review. Once any negotiation about the Draft is complete between DERM and GRC, DERM will continue to complete internal reviews to enable a recommendation about the application to be made.

Currently a decision about this application is due on 31st January 2012. Time is very short, particularly given consultation on the draft is not yet finalised. DERM is agreeable to negotiate a new decision date with GRC should a *short* extension be required – namely to afford time to finalise consultation on the Draft and to enable DERM to finalise its internal reviews.

Regards

Matt Karle
Principal Environmental Officer (Wide Bay Burnett)
Environmental Services North
South East Region
Department of Environment and Resource Management
Ph: (07) 4121 1618
Email: matt.karle@derm.qld.gov.au

Sustainable Planning Act 2009

DERM Permit ¹ number:

Assessment manager reference (if any):	MRG:VMK01396
Date application received:	21 December 2010
Permit type:	concurrence agency response
Date of decision:	<insert date>
Decision:	<p>For a concurrence agency response</p> <p>Part Approval –</p> <p>ERA 60 - Land filling operations – Approved subject to conditions.</p> <p>ERA 62 – Transfer Station – Approved subject to conditions</p> <p>Conditions must attach to any development approval</p>
Relevant laws and policies:	<i>Environmental Protection Act 1994</i> and any related statutory instruments and subordinate legislation>
Jurisdiction(s):	<i>Sustainable Planning Regulation 2009</i> – Schedule 7, table 2, item 1

Development Description(s)

Property/Location		Development
Bonnick Road, Gympie	Lot 542, MCH801883	ERA 60 – Waste Disposal, 2(c) – Operating a facility for disposing of, in a year, more than 5000t to 10,000t

Reason(s) for inclusion of conditions

In accordance with section 289 of the *Sustainable Planning Act 2009*, the reason(s) for inclusion of conditions stated in this permit required by the concurrence agency response for the application are as follows.

The conditions are included pursuant to section 73B of the Environmental Protection Act 1994.

¹ Permit includes licences, approvals, permits, authorisations, certificates, sanctions or equivalent/similar as required by legislation administered by the Department of Environment and Resource Management.

Delegate

Tim Brain

Delegate, Chief Executive administering the *Environmental Protection Act 1994*.

Department of Environment and Resource Management

Published on DES Disclosure Log
RTI Act 2009

CONDITIONS

ERA 60 – Land filling operations

Schedule 1A - Activity

Existing landfill and Landfill Extension

- (1A1-1) This development approval relates to land filling on land described as Lot 542, on Plan MCH801883.
- References throughout these conditions to the existing landfill refers to the area of landfill depicted in Figure 1 at Schedule 1H.
 - References throughout these conditions to the Landfill Extension refers to the area of landfill depicted in Figure 1 at Schedule 1H.
 - Where a condition does not make reference to a specific area, the condition apply's to the approved premises generally, and will not be restricted to either the existing landfill or landfill extension.

Prevent and/or Minimise Likelihood of Environmental Harm

- (1A2-1) In carrying out the environmentally relevant activity, you must take all reasonable and practicable measures to prevent and/or minimise the likelihood of environmental harm being caused. Any environmentally relevant activity that, if carried out incompetently or negligently, may cause environmental harm, in a manner that could have been prevented, shall be carried out in a proper manner and at least in accordance with the conditions of this approval.

Maintenance of Measures, Plant and Equipment

- (1A3-1) The Registered Operator must:
- (i) install all measures, plant and equipment necessary to ensure compliance with the conditions of this approval; and
 - (ii) maintain such measure, plant and equipment in a proper and efficient condition; and
 - (iii) operate such measures, plant and equipment in a proper and efficient manner.

Records

- (1A4-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.

Investigation into Alternative Waste Management Practices

- (1A5-1) You are required to investigate alternative waste management practices to maximise, where possible, recycling and diversion of waste from being disposed to landfill.
- For the purpose of satisfying this condition in accordance with the waste management hierarchy and principles of the *Waste Reduction and Recycling Act 2011*, on or before 1 December 2012 you must conduct:
- (i) a strategic waste management assessment, and include as a target, an aim to achieve a recycling or diversion from land filling at a rate of at least 70%; and
 - (ii) report estimated recycling and diversion rates and any progress made in achieving the 70% target to the administering authority with each annual return after within 2 months of the end of each financial year after 1 December 2012.

Closure and Post-Closure Care

- (1A6-1) Prior to cessation of waste deposition to any landfill unit, a cover system to the landfill unit must be progressively installed such that when waste deposition into the landfill unit ceases:
- (i) infiltration of water into the landfill unit is minimised;
 - (ii) the likelihood of any erosion occurring to either the final cover system or the land filled materials is minimised; and
 - (iii) un-controlled release of landfill gas is actively managed.
- (1A6-2) Post-closure care of the landfill must be conducted following the cessation of the deposition of waste in the landfill unit, for:
- (i) a period of 30 years; or
 - (ii) such shorter period until the landfill unit and surrounding site are geo-technically stable and that no release of waste materials, leachate, landfill gas or other contaminants to the environmental is likely.

- (1A6-3) A site management plan pursuant to Chapter 7, Part 8, Division 5 of the Environmental Protection Act 1994 must be developed and provided to the administering authority at least 12 months before the expected final receipt of waste in the landfill unit. The site management plan must include, but is not to be limited to, the future land use and actions you intend to take for compliance with the closure and post-closure care requirements of this approval.

Security

- (1A7-1) All reasonable and practical measures must be implemented to ensure unauthorised access to the premises to which this development approval relates is prevented.

Fire Prevention

- (1A8-1) Clear access to a water supply for fire fighting vehicles must be provided at all times.
(1A8-2) An effective fire break must be provided and maintained.

Notification

- (1A9-1) Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval
- (1A9-2) Notwithstanding condition (1A9-1), within 10 days of becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval, provide the following written advice to the administering authority:
- available analysis results; and
 - details of investigation or corrective actions taken or proposed; and
 - advice when any outstanding or subsequent analysis results will be provided
 - advice when any subsequent analysis will be carried out to verify the success of any corrective actions taken.
 - the name of the operator, including their approval / registration number;
 - the name and telephone number of a designated contact person;
 - quantity and substance released;
 - any vehicle involved and its registration details;
 - person/s involved;
 - the location and time of the event / release or monitoring result;
 - the suspected cause of the event or release;
 - a description of the effects of the release on the receiving environment.

Spill Kit

- (1A10-1) An appropriate spill kit, personal protective equipment and relevant operator instructions/emergency procedure guides for the management of wastes associated with the Environmentally Relevant Activity must be kept at the site.

Information

- (1A11-1) Erect at the entrance and/or other prominent locations, signs maintained in good repair, written in a language appropriate for the user population and giving the following information:
- the name of the site and a telephone contact number for site information;
 - that disposal of waste is prohibited without the direction or permission of the landfill operator; and
 - details of the facility opening hours.

Site Based Management Plan

- (1A12-1) From commencement of the approved activity, a site based management plan (SBMP) must be implemented. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all ERAs that are carried out.

The SBMP must address the following matters:

- (a) Environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals.
- (b) Identification of environmental issues and potential impacts.
- (c) Control measures for routine operations to minimise likelihood of environmental harm.
- (d) Contingency plans and emergency procedures for non-routine situations.
- (e) Organisational structure and responsibility.
- (f) Effective communication.
- (g) Monitoring of contaminant releases.
- (h) Conducting environmental impact assessments.
- (i) Staff training.
- (j) Record keeping.
- (k) Periodic review of environmental performance and continual improvement

Site Development Plan

(1A13-1) As part of the SBMP required by condition (1A12-1) the Registered Operator must develop and implement a Site Development Plan (SDP). The SDP must be reviewed on an annual basis and be kept up to date so that it covers at least the subsequent 5 years development of the landfill. The SDP must address at least the following issues:

- dimensions of landfill units used for waste disposal or storage; and
- an accurate level survey of any area to be utilised for the disposal or storage of wastes. The levels must be reduced to a common datum and related to contour plans; and
- the approximate dimensions of each landfill unit and dimensions of the active waste disposal face; and
- the in situ permeability of earthen materials which are to be used for capping and/or lining of waste disposal areas and into which excavations will be made for the purposes of waste disposal; and
- approximate location of any leachate dam, sedimentation pond, and / or pump wells to be used or other plant and equipment installed as part of a leachate collection, storage and recirculation system; and
- location of any stormwater drains or diversion embankments existing or to be constructed; and
- location of any areas to be capped, the proposed final surface levels and contours, final drainage system and species of vegetation to be planted as part of a rehabilitation program.
- location of bores required by condition (1C6-1)

END OF CONDITIONS FOR SCHEDULE 1A

Schedule 1B - Air

Nuisance

(1B1-1) The release of noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.

Dust Nuisance

(1B2-1) The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.

(1B2-2) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, you must undertake dust and particulate monitoring to investigate environmental nuisance caused by dust and/or particulate matter, and the results notified within 14 days to the administering authority following completion of the monitoring. Monitoring must include:

- (i) for a complaint alleging dust nuisance, dust deposition; and
- (ii) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (μm) (PM10) suspended in the atmosphere over a 24hr averaging time; and
- (iii) be carried out in at a place(s) relevant to the potentially affected dust sensitive places and upwind control sites.

Management of Landfill Gas

- (1B3-1) The release of landfill gas must not cause environmental harm.
- (1B3-2) Landfill gas is not considered to cause environmental harm if:
 - (i) a landfill gas collection system is installed and maintained when the landfill unit is sufficiently elevated to allow adequate draining of gas lines; and
 - (ii) landfill gas monitoring shows that the release of methane does not exceed the following limits:
 - (a) 500 ppm at a height of 50 mm above the final and/or intermediate cover surface including the batter slopes of the landfill unit;
 - (b) 25 percent of the lower explosive limit when measured in facility structures (but excluding facility structures used for landfill gas control and landfill gas recovery system components); and
 - (c) the lower explosive limit at the landfill facility boundary.

Landfill Gas Monitoring

- (1B4-1) The assessment of compliance with the methane limits at a height of 50 mm above the final and intermediate cover surface of the landfill unit prescribed by (B3-2) must be undertaken at the following locations:
 - (i) on a grid pattern where the grid lines are no more than 50m apart; and
 - (ii) at any other locations where visual observations indicate potentially elevated concentrations of landfill gas, for example cracks, seeps in cover and distressed vegetation.
- (1B4-2) A landfill gas monitoring network must be installed for each landfill unit to assess compliance with methane limits for facility structures and at the boundary prescribed by (B4-1). The network must consist of gas monitoring devices, such as monitoring bores and be developed by a person possessing appropriate qualifications and experience in the fields of hydrogeology and landfill gas monitoring program design to be able to competently make recommendations about these matters.
- (1B4-3) Conduct and keep records of landfill gas monitoring that is performed at the following frequencies:
 - (i) at least annually to assess compliance with the methane limit at a height of 50 mm above the cover surface of the landfill unit prescribed by condition (B3-2); and
 - (ii) at least annually to assess compliance with methane limits for facility structures and at the boundary prescribed by condition (B3-2).

END OF CONDITIONS FOR SCHEDULE 1B

Schedule 1C - Water

Contaminant Releases to Waters

- (1C1-1) Only clean, uncontaminated stormwater runoff from final landforms that are vegetated and rehabilitated, is permitted for direct release from the approved premises.
- (1C1-2) Stormwater runoff from disturbed areas at the existing landfill must be directed to drainage areas designed and maintained to minimise sediment release from the existing landfill. Measures may include (but are not limited to) vegetated drainage swales and rock and sediment sumps or weirs within the approved premises.
- (1C1-3) Stormwater runoff from disturbed areas at the landfill extension must be directed to a sedimentation pond, which must be sufficiently constructed, operated and maintained to contain the runoff expected from a 24 hour storm with an average recurrence interval of 1 in 10 years.
- (1C1-4) Contaminants other than settled/treated stormwater from the sedimentation pond overflow must not be directly or indirectly released from the premises to which this development approval relates to any waters (including groundwater) or the bed and banks of surface waters.
- (1C1-5) Settled/treated stormwater runoff from the sedimentation pond must only be released from the following discharge location:

W2: overflow from sedimentation pond to a tributary of Peter and Paul Gully.

Comment [m1]: New

Surface Water Monitoring

- (1C2-1) Monitoring of contaminant releases must be undertaken at the monitoring points described below for each discharge location and records kept, for the quality characteristics and at the frequency specified in Schedule 1C – Table 1:

Monitoring points:

- W1- clean water bypass around the landfill discharging to Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1; and
- W2- overflow from the sedimentation pond depicted in landfill concept development plan in Schedule 1I – Figure 1.
- W3- ambient monitoring upstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1
- W4- ambient monitoring downstream of the landfill in Peter and Paul Gully, at the location identified in Schedule 1I – Figure 1

- (1C2-2) All determinations of water quality from the monitoring prescribed by condition (C2-1) above must be made in accordance with methods prescribed in the *Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009*, available from the Department of Environment Resource Management.

- (1C2-3) Results of monitoring required by Condition (1C2-1) must be compiled and an interpretation of the results reported to the Administering Authority with each Annual Return.

Schedule 1C – Table 1 (Release Limits)

Monitoring Point	Release Limit			Monitoring Frequency
	Quality Characteristics	Minimum	Maximum	
W1, W2, W3 and W4	pH	NS	NS	Weekly in the event of a release
W1, W2, W3 and W4	Suspended solids	N/A*	NS	Weekly in the event of a release
W1, W2, W3 and W4	Temperature	NS	NS	6 Monthly
W1, W2, W3 and W4	Electrical Conductivity	NS	NS	6 monthly
W1, W2, W3 and W4	Dissolved Oxygen	NS	NS	6 Monthly
W2, W3 and W4	Biological Oxygen Demand	NS	NS	6 Monthly
W2, W3 and W4	Chloride	NS	NS	6 monthly
W2, W3 and W4	Sodium	NS	NS	6 monthly
W2, W3 and W4	Nitrate	NS	NS	6 Monthly
W2, W3 and W4	Ammonia	NS	NS	6 monthly
W2, W3 and W4	Iron (dissolved)	NS	NS	6 monthly
W2, W3 and W4	Manganese	NS	NS	6 Monthly

*N/A means not applicable

*NS means not specified

Landfill as a 'Bioreactor' Investigation

- (1C3-1) A Management Plan detailing the successful operation of both the existing landfill and the landfill extension as a Bioreactor must be developed within 6 months from the effective date of this Development Approval. The management plan must include (but not necessarily be limited to) the following matters:
- goals to be derived from operating the landfill as a bioreactor;
 - measures and procedures that will minimise the generation of leachate;
 - existing leachate quality for the parameters stated in Schedule C Table 2

- expected changes in leachate quality and quantity during the life of the landfill that demonstrates the landfill is effectively operating as a bioreactor;
- expected changes in leachate quality and quantity that would suggest the landfill is not effectively operating as a bioreactor;
- methods of leachate recycling that maximise the successful performance of the landfill as a bioreactor;
- circumstances where leachate must be removed from the site (quality or quantity)
- disposal and treatment options for leachate that must be removed from the site;
- general information about the capability of any external disposal or treatment facility that may receive leachate from the site, taking into consideration (among other things):
 - a) the treatment or disposal capability of the facility; and
 - b) any environmental discharges from the selected treatment or disposal facility to the environment, and whether receipt of leachate from the landfill will affect the performance of the facility, and / or cause harm to the receiving environment.
- a monitoring program for leachate quality being circulated within the landfill.

Schedule C Table 2 – Leachate quality parameters

Quality Characteristic
pH
Total Dissolved Salts (TDS)
Water Level
Temperature
Electrical Conductivity - EC
Ammonia
Total Nitrogen
Nitrate (NO ₃)
Ammonia (NH ₄)
Biological Oxygen Demand (BOD)
Heavy Metals (Al, Ag, As, Ba, Be, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sn, Sb, Se, Ti, Zn)
Total Organic Carbon (TOC)
Cations (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)
Anions (Cl ⁻ , CO ₃ , HCO ₃ ⁻ , SO ₄ ²⁻)
Total Organochlorines
Total Organophosphates
Organics (VOC, SVOC, TPH)
Total Organic Halogen (TOX)
Alkalinity (CaCO ₃)
Chemical Oxygen Demand (COD)
Total Dissolved Salts

(1C3-2) The management plan required by Condition (1C3-1) must be incorporated into the Site Based Management Plan required by Condition (1A12-1)

(1C3-4) The management plan required by Condition (1C3-1) must be submitted to the administering authority within 7 months of the effective date of this Development approval.

Leachate Collection

(1C4-1) A leachate collection system must be installed and maintained to effectively:

- (i) collect leachate generated in the landfill extension;
- (ii) provide connectivity between the existing landfill and the landfill extension;
- (iii) convey collected leachate to a designated collection or recovery point;
- (iv) provide an access point for leachate quality and quantity monitoring; and
- (v) ensure the quantity of leachate remains contained within the liner system, including occasions when the quantity of leachate fluctuates.

Groundwater

(1C5-1) A groundwater cut off system must be installed to ensure groundwater levels beneath the Landfill Extension do not come into contact with any containment liner system, nor adversely affect the integrity or performance of any containment liner system for the Landfill Extension.

(1C5-2) The groundwater cut off system required by Condition (1C5-1) must be:

- i) Designed by a suitably qualified, experienced and independent person.
 - ii) Installed under the supervision of a suitably qualified, experienced and independent person.
 - iii) Certified by that person as being installed as per the design.
 - iv) Monitored and maintained as necessary to ensure compliance with conditions (C5-1).
- (1C5-3) The groundwater cut off system must be designed, installed, certified and operational prior to the deposit of any waste in the Landfill Extension.
- (1C5-4) The groundwater cut off system must also provide leachate leak detection to the landfill extension, during both the life of the landfill and for a period up to 30 years post closure, or as otherwise defined in the post closure management plans required by Conditions (A6-2) and (A6-3).
- (1C5-5) The groundwater cut off system must be designed and constructed to provide an access point/s that allow for;
- monitoring and sample collection at a designated collection sump;
 - the location of which must be representative of the entire groundwater depressurisation system; and
 - which is not otherwise contaminated by other sources (namely the collection sump for the leachate collection system).
- (1C5-6) Groundwater intercepted by the groundwater cut off system, which is released to Peter and Paul Gully, must be analysed for the characteristics and at the monitoring frequency prescribed in Schedule C Table 3.

Schedule 1C - Table 3 Monitoring requirements for Groundwater Cut Off System

Quality Characteristic	Frequency	
	During Land filling, when liquid is present	Pre-Land filling Baseline Monitoring
Water Level	Monthly	Quarterly prior to the commencement of the landfill extension.
Temperature	Monthly	
pH	Quarterly	
Total Dissolved Salts (TDS)	Quarterly	
Electrical Conductivity - EC	Quarterly	
Ammonia	Quarterly	
Total Nitrogen	Quarterly	
Nitrate (NO ₃)	Quarterly	
Ammonia (NH ₄)	Quarterly	
Biological Oxygen Demand (BOD)	Quarterly	
Heavy Metals (Al, Ag, As, Ba, Be, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sn, Sb, Se, Ti, Zn)	Quarterly	
Total Organic Carbon (TOC)	Quarterly	
Cations (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)	Quarterly	
Anions (Cl ⁻ , CO ₃ , HCO ₃ ⁻ , SO ₄ ²⁻)	Quarterly	
Total Organochlorines	Annually	
Total Organophosphates	Annually	
Organics (VOC, SVOC, TPH)	Annually	
Total Organic Halogen (TOX)	Annually	
Alkalinity (CaCO ₃)	Annually	
Chemical Oxygen Demand (COD)	Annually	
Total Dissolved Salts	Annually	

Groundwater Monitoring

- (1C6-1) A Groundwater monitoring network must be installed for each landfill unit. The network must be:
- (i) installed and maintained by a person possessing appropriate qualifications and experience in the fields of hydrogeology and groundwater monitoring program design to be able to competently make recommendations about these matters; and
 - (ii) include a sufficient number of "bore(s) of compliance", constructed in accordance with the "Minimum Construction Requirements for Water Bores in Australia" (Agricultural and

Resource Management Council of Australia and New Zealand 1997), that are located not more than 150 metres from the landfill unit or the boundary of the landfill facility whichever is the closer, and provides the following:

- representative groundwater samples from the uppermost aquifer and from the lower (confined) aquifer; and
- background groundwater quality in hydraulically up-gradient or background bore(s) that have not been affected by any release of contaminants to groundwaters; and
- the quality of groundwater down gradient of any release of contaminants to groundwater including groundwater passing the relevant bore(s) of compliance.

- (1C6-2) Conduct monitoring and keep records of groundwater quality. All determinations of groundwater quality must be:
- (i) made in accordance with methods prescribed in the Water Quality Sampling Manual and, where appropriate, in accordance with standards ISO 5667-11 1993 or AS/NZ 5667.11: 1998 Water Quality – Sampling – Guidance on sampling at Groundwaters and ISO 5667-18: 2001 Water Quality Sampling – Part 18 – Guidance on Sampling of Groundwater at Contaminated Sites;
 - (ii) conducted for the water quality characteristics and at the frequency in Schedule 1C - Table 4;
 - (iii) taken from sufficient monitoring points and/or wells to obtain representative samples of groundwater both up-gradient and down-gradient of the potential influence;
 - (iv) carried out with sufficient regularity and spatial and temporal replication to make statistically valid conclusions about the presence or absence of a release;
 - (v) carried out with sufficient number of sampling events to determine ambient water quality and natural variability prior to any development of the site occurring;
 - (vi) followed by an assessment of whether or not there has been any statistically significant adverse change compared to background values at locations hydraulically down gradient of the landfill unit for each quality characteristic in Schedule 1C - Table 4.

Schedule 1C – Table 4 Monitoring requirements for groundwater quality

Quality Characteristic	Frequency	
	During Land filling	Pre-Land filling Baseline Monitoring
Water Level	Monthly	Monthly prior to the commencement of the landfill extension.
Temperature	Monthly	
Total Dissolved Salts (TDS)	Quarterly	
pH	Quarterly	
Electrical Conductivity - EC	Quarterly	
Ammonia	Quarterly	
Total Nitrogen	Quarterly	
Nitrate (NO ₃)	Quarterly	
Ammonia (NH ₄)	Quarterly	
Biological Oxygen Demand (BOD)	Quarterly	
Heavy Metals (Al, Ag, As, Ba, Be, Cd, Co, Cr, Cu, Fe, Mn, Mo, Ni, Pb, Sn, Sb, Se, Ti, Zn)	Quarterly	
Total Organic Carbon (TOC)	Quarterly	
Cations (Na ⁺ , K ⁺ , Ca ²⁺ , Mg ²⁺)	Quarterly	
Anions (Cl ⁻ , CO ₃ , HCO ₃ ⁻ , SO ₄ ²⁻)	Quarterly	
Total Organochlorines	Annually	
Total Organophosphates	Annually	
Organics (VOC, SVOC, TPH)	Annually	
Total Organic Halogen (TOX)	Annually	
Alkalinity (CaCO ₃)	Annually	
Chemical Oxygen Demand (COD)	Annually	
Total Dissolved Salts	Annually	

- (1C6-3) On any occasion that samples are obtained in accordance with condition (C6-2) the Registered Operator must measure and record standing groundwater levels in metres accurate to 0.01 metres. The elevation of the reference point, relative to Australian Height Datum, for use in any groundwater

level measurement must be determined to an accuracy of 0.01 metres.

Monitoring Review and Summary

- (1C7-1) All groundwater monitoring required by this Development Approval must be reviewed on an annual basis by an independent person with suitable qualifications and experience to summarise and interpret the results regarding any impacts on the values of the receiving water environment.
- (1C7-2) The review and interpretation of water monitoring results required by Condition (1C7-1) must be provided as a report to the administering authority on an annual basis with each Annual Return.

Prohibition of Use of Certain Materials for Dust Suppression

- (1C8-1) The following materials must not be used for dust suppression purposes:
- used oil; and
 - landfill gas condensate; and
 - any other material that has been in contact with waste, such as leachate or stormwater runoff from any exposed waste.

Landfill Cell and Pond Construction

- (1C9-1) All ponds used for the storage or treatment of contaminants (including any sediment pond) at or on the authorised place must be constructed, installed and maintained:
- (i) so as to minimise the likelihood of any release of effluent through the bed or banks of the pond to any waters (including ground water);
 - (ii) using suitable banks and / or diversion drains so as to exclude clean stormwater runoff from entering the pond or structure,
 - (iii) using suitable banks to exclude any rising waters from Peter and Paul Gully during a flood event, sufficient to exclude at least a Q100 flood event;
 - (iv) so that a freeboard of not less than 0.5 metres is maintained at all times, except in emergencies; and
 - (v) so as to ensure the stability of the ponds' construction.
- (1C9-2) Soils and other materials used in the construction of any waste disposal cells or subcells, above ground embankments, sediment pond and final cover must achieve a hydraulic conductivity which is sufficiently low and be of sufficient thickness so as to prevent or minimise the release of contaminants. As a minimum, the permeability of various landfill features must at least comply with the corresponding limits specified in Schedule 1C – Table 5.
- (1C9-3) Following construction of any landfill unit, above ground embankment, leachate collection pond, or sediment pond, and prior to that structure being commissioned, the permeability of the base and walls of the structure must be tested to ensure it meets the standards required by the conditions of this development approval.
- In each structure tested at least the following number of permeability tests must be made:
- at least two permeability tests in each wall of the subject structure; and
 - at least one permeability test in the base of the subject structure for every 10 000 m² of base area or part thereof.
- (1C9-4) To demonstrate compliance with Condition (1C9-2) and Schedule 1C Table 5, permeability testing must at least include laboratory testing, and subsequent field testing involving Nuclear Density Testing and Microwave Moisture Verification, and must be certified as meeting the prescribed permeability by a suitably qualified and experienced independent person.
- (1C9-5) The landfill extension must be incorporate a liner system, capable of containing waste and leachate within the landfill development, and minimise the potential for leachate to be released from the approved premises as seepage.
- (1C9-6) Any landfill cell or sub-cell, above ground embankment, leachate collection pond, sediment pond and final cover must be constructed with the special requirements specified in Schedule 1C – Table 5.

Schedule 1C – Table 5
(Permeabilities and Special Requirements for Landfill Features)

Landfill Feature	Minimum Permeability (m sec ⁻¹)	Minimum Thickness (mm)	Special Requirements
Liner sub base	1 x 10 ⁻⁸	600mm	- Preparation of low permeability clay base beneath the clay liner
Geosynthetic Clay Liner	Equivalent of 600 of clay permeability 1x10 ⁻⁹	Equivalent of 600 of clay permeability 1x10 ⁻⁹	
Confining Layer	Not specified	300	
Base and walls of sediment pond	1x10 ⁻⁷		- Sediment pond is not to receive stormwater runoff that has been in contact with waste. - Sediment pond is a sediment control device for runoff from disturbed areas only.
Daily landfill cover	Not specified	200	- Cover must be applied following the last application of waste for the day. - For the active face only, use of a temporary cover during the day such as a 'landfill lid' or other proprietary product that assists to contain odours; minimise wind blown litter; and which assists to control vermin is an acceptable solution where the proprietary product completely covers the active face.
Final landfill cover, comprising: - Daily landfill cover - Low permeability cap - Soil sub – base - Topsoil	Not specified 1 x 10 ⁻⁸ Not Specified	200 500 200 – 300 150	- Final landfill cap should not exceed 20 percent slope

Stormwater Management Plan

(1C10-1) As part of the SBMP required by condition (1A12-1) the Registered Operator must develop and implement a Stormwater Management Plan which addresses at least the following issues:

- diverting clean upstream stormwater away from contaminated areas; and
- containing contaminated stormwater on site; and
- minimising the size of contaminated areas; and
- provision of sedimentation dams and rubbish traps; and
- minimising the size of disturbed areas by staging works and progressively revegetating or mulching disturbed areas.
- Minimising the size of any active face, including measures to cover the active face when not in use (utilising either day cover or temporary and moveable proprietary products).

END OF CONDITIONS FOR SCHEDULE 1C

Schedule D - Noise

- (1D1-1) Noise from the approved activity must not cause an environmental nuisance at any nuisance sensitive place.
- (1D1-2) Mulching of green waste is not permitted at the approved premises.
- (1D1-3) Crushing, milling or grinding of concrete waste is not permitted at the approved premises.

- (1D1-4) In the event of a complaint about noise that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive place.
- (1D1-5) In the event noise monitoring is required by the Administering Authority, noise from the approved activity must not exceed the levels specified in Schedule D - Table 1 at any nuisance sensitive or commercial place.

**Schedule D – Table 1
(Noise Levels)**

Time Period	Proponent Noise level at a 'Nuisance Sensitive Place' measured as the $L_{A,eq,adj,1hr}$
7am - 5pm	44 dB(A) or background noise level plus 3 dB(A), whichever is the higher
Time Period	Noise level at a 'Commercial place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,eq,adj,1hr}$
7am - 5pm	55 dB(A) or background noise level plus 5 dB(A), whichever is the greater

- (1D1-6) No audible noise from the approved premises is authorised at a nuisance sensitive premises (including the use of vehicles, plant and equipment) between the hours 5:00pm to 7:00am Monday to Friday, and 3:00pm to 10:00am Saturday and Sunday, including public holidays.

Noise Monitoring

- (1D2-1) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance within 14 days, and the results of that monitoring provided to the administering authority once received from any external consultant with an interpretation of the results against the authorised noise levels prescribed by Condition (1D1-5). Monitoring must include:
- background noise level;
 - $L_{Aeq,adj,T}$, $L_{Amax,adj,T}$, $L_{A10,adj,T}$
 - the level and frequency of occurrence of impulsive or tonal noise;
 - atmospheric conditions including wind speed and direction;
 - effects due to extraneous factors such as traffic noise; and
 - location, date and time of recording.
- (1D2-2) The method of measurement and reporting of noise levels must comply with the Noise Measurement Manual.

Noise Management Plan

- (1D3-1) In the event noise emitted from the approved activity exceeds noise limits prescribed by Condition (1D1-5) the Registered Operator must develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters:
- (i) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive and commercial places;
 - (ii) the measured level of these noise sources and activities at nuisance sensitive and commercial places;
 - (iii) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive and commercial places;
 - (iv) the predicted reduction in noise at nuisance sensitive places by implementing these measures;
 - (v) time frame for completion of the work proposed;
 - (vi) any necessary community liaison and consultation; and
 - (vii) any training requirements for staff in noise reduction practices.
- (1D3-2) A draft Noise Management Plan must be submitted to the Administering Authority for review and comment within one month of a noise emission that exceeds limits prescribed by Condition (D1-5).

- (1D3-3) After the Administering Authority has commented on the draft Noise Management Plan, the Registered Operator must have due regard to any comments made by the administering authority, and must implement the plan as soon as practicable.

END OF CONDITIONS FOR SCHEDULE 1D

Schedule 1E – Waste

Waste Acceptance

- (1E1-1) Within 24 months from the commencement date of this Development Approval, disposal of putrescible waste to the existing landfill must cease.
- (1E1-2) Exposed waste (excluding recyclable waste that is temporarily stored in a defined area) must be limited to the working face of any landfill unit and the area of exposure must be minimised to the greatest extent practicable. For the purpose of this condition, no waste must be deposited beyond the boundaries of the landfill unit(s).
- (1E1-3) Only the following general and limited regulated waste materials are permitted to be accepted:
- domestic waste;
 - commercial waste;
 - domestic clean-up waste;
 - construction or demolition waste;
 - industrial waste;
 - garden wastes;
 - putrescible wastes;
 - solid inert wastes;
 - limited regulated waste may be disposed of in the general waste stream provided the quantity of limited regulated waste received at the facility in a year is not more than 10% of the total waste received at the facility in any calendar year.

NOTES:

(a) wet cell batteries, waste oil and grease trap waste may be accepted and temporarily stored at the licensed place for recycling purposes.

(b) drums containing any residual regulated waste are a regulated waste unless effectively cleaned in accordance with Operational Policy 'Determinations for management of regulated wastes'.

- (1E1-4) Any limited regulated waste disposed of at the landfill must only be in a solid form*

(* excluding water treatment plant residues and screenings from Gympie Regional Council Sewage Treatment Plants.)

- (1E1-5) The quantity of limited regulated waste received at the facility in a year must not be more than 10% of the total waste quantity received at the facility in any calendar year.
- (1E1-6) Notwithstanding any condition of this approval, you shall not cause, permit or allow deposition of the following waste materials in the landfill unit:
- liquid or semi-liquid waste other than liquid or semi liquid waste which has been produced in the carrying out of the environmentally relevant activity;
 - hot ash;
 - material that is smouldering or aflame;
 - material containing a substance which is ignitable, corrosive, reactive or toxic (other than materials containing a toxic substance from domestic premises);
 - radioactive wastes;
 - explosives;
 - ammunition, other than ammunition that no longer contains explosives, pyrotechnics or propellants apart from trace residues that are no longer capable of supporting combustion or an explosive reaction;
 - tyres*
 - contaminated soil;
 - treatment tank sludge or residues, other than sewage treatment plant screenings and grit;
 - biosolids;
 - grease trap wastes; and
 - green waste – other than green waste that is of a size that cannot otherwise be shredded or composted, or which enters the landfill through the domestic waste collection service.

Comment [m2]: New

Comment [m3]: My thoughts are that asbestos can be received at the site where it is disposed into landfill in accordance with Condition (1E1-9). As long as that asbestos (even if co-mingled with soil) is received handled and disposed in accordance with (1E1-9), then council comply's.

Comment [m4]: Compromise

(* Council must take all reasonable and practical measures to prevent tyres being disposed into the landfill)

Comment [m5]: New

- (1E1-7) Limited regulated wastes accepted must be interred in compliance with the special requirements specified in Schedule E – Table 1.

Schedule E – Table 1
(Special Requirements for Waste Types)

Waste Type	Special Requirements
Infectious substances or quarantine waste	Rendered non-infectious before acceptance at landfill
Fish processing waste	No liquid waste
Food processing waste	No liquid waste
Poultry processing waste	No liquid waste

- (1E1-8) All exposed waste must be covered each day following the last deposition of wastes in the landfill and comply with the requirements for day cover specified in Schedule C Table 4.
- (1E1-9) The following conditions must be complied with in the disposal of all forms of asbestos waste:
- the asbestos waste must be disposed of:
 - to a designated asbestos disposal pit(s) where no excavation takes place following the disposal of asbestos waste within that pit, and immediately covered with 200 mm of consolidated earth or equivalent cover material over the entire area of the pit; or
 - placed at the bottom of the current working face of the landfill unit (the disposal place) and immediately covered with at least 1 metre of waste;
 - the asbestos waste, the asbestos waste disposal pit or disposal place as the case may be, and all areas within 2 metres of the disposal pit/disposal place and asbestos waste (the 2 metre buffer area) must remain undisturbed following the waste disposal operation (including not placing the waste in a position where any gas extraction wells are likely to be necessary or drilling any gas extraction wells through the waste deposit);
 - plant and equipment must be available for any necessary preparation of the disposal pit/disposal place upon receipt of the asbestos waste and immediate covering of the asbestos waste and compacting of the area upon placement in the pit; and
 - the asbestos waste must be contained within the final landfill unit at a minimum distance of two (2) metres from the surface and flanks of the final landfill unit, excluding any final cover system required as a condition of this development approval (where final landfill unit means that deposition to the landfill unit has ceased).
- (1E1-10) The Registered Operator must take all reasonable and practicable measures to prevent the commingling of waste authorised to be interred within the landfill with waste not authorised to be interred at the landfill.

Special Burial

- (1E2-1) You must handle and dispose of as a special burial all waste which is likely to cause environmental harm when placed in an exposed position.

Waste Records

- (1E3-1) Keep and maintain records of source, volumes and composition of all waste types accepted at the premises and report these values to the administering authority at the end of each financial year.

Litter Management

- (1E4-1) Where litter is blown or washed from the premises to which this development approval relates, the Registered Operator must take all reasonable and practicable actions to:
- (i) retrieve the litter and ensure that it is disposed of in an appropriate manner; and
 - (ii) implement measures to prevent a recurrence of litter being blown or washed from the premises.

Burning

- (1E5-1) The Registered Operator must not:

- (i) burn waste at or on the place to which this development approval relates*; nor
- (ii) allow waste to burn or be burnt at or on the place to which this development approval relates
nor
- (iii) remove waste and burn such waste elsewhere.

(* This condition does not apply to material that is required to be burnt under quarantine regulations and, burning of such materials is to be carried out in a way that does not cause environmental harm. Additionally, this condition does not refer to activities carried out under the provisions of the Fire Services Act 1990.)

Public Health Issues

- (1E6-1) The Registered Operator must take all reasonable and practicable measures necessary to ensure that the carrying out of the environmentally relevant activity does not cause any adverse effect on public health or any nuisance in relation to propagation of diseases, fly breeding, mosquito breeding, and harbourage and/or breeding of rats and other pest organisms and/or vectors

Quantities of Waste Disposed

- (1E7-1) The Registered Operator must record details of the quantity of wastes interred including the following:
- quantity of infectious substances or quarantine waste that has been rendered non-infectious;
 - quantity of fish processing waste;
 - quantity of food processing waste;
 - quantity of poultry processing waste;
 - quantity of other regulated waste;
 - total quantity of waste.

Notes: (1) where a load of general waste contains a number of regulated wastes an estimation of the percentage composition of each regulated waste must be made and recorded;
(2) with respect to this condition, records of all quantities of waste must be expressed as a weight, e.g., kilograms or tonnes.

- (1E7-2) The Registered Operator must not permit waste to be stored on site overnight or during times when the landfill is not open for the receipt of wastes.

Note: Waste interred at the landfill in compliance with the conditions of this development approval is considered to have been disposed of and is not being stored.

- (1E7-3) The final height of the landfill must not exceed RL 83.012m.

END OF CONDITIONS FOR SCHEDULE 1E

Schedule 1F - Land

Preventing Contaminant Release to Land

- (1F1-1) Spillage of all chemicals and fuels must be contained within an on-site containment system and controlled in a manner that prevents environmental harm.
- (1F1-2) All petroleum product storages must be designed, constructed and maintained in accordance with AS 1940 - Storage and Handling of Flammable and Combustible Liquids.
- (1F1-3) The base and walls of all bunded areas must be maintained free from gaps and cracks.

END OF CONDITIONS FOR SCHEDULE 1F

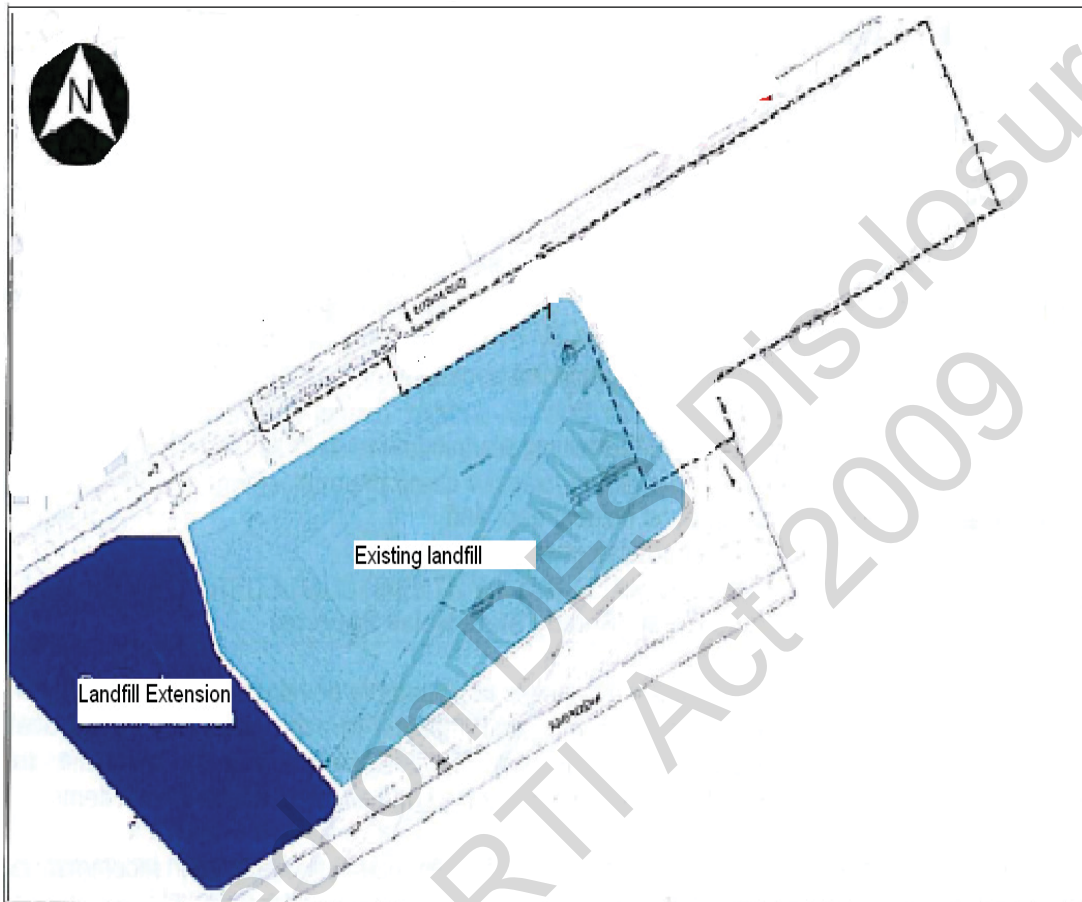
Schedule 1G - Community

- (1G1-1) All complaints received must be recorded including investigations undertaken, conclusions formed and action taken. This information must be made available to the administering authority on request.
- (1G1-2) In consultation with the administering authority, cooperate with and participate in any community environmental liaison committee established in respect of either the premises to which this development approval relates specifically, or the industrial estate where the premises to which this development approval relates is located.

END OF CONDITIONS FOR SCHEDULE 1G

Schedule 1H – Maps / Plans

Figure 1 - Existing Landfill and Landfill Extension



Conditions

ERA 62 – Transfer Station

Schedule 2A – General

Prevent and / or minimise likelihood of environmental harm

(2A1-1) In carrying out an ERA to which this approval relates, all reasonable and practicable measures must be taken to prevent and / or minimise the likelihood of environmental harm being caused.

Maintenance of Measures, Plant and Equipment

(2A2-1) The operator of an ERA to which this approval relates must:

- a) install all measures, plant and equipment necessary to ensure compliance with the conditions of this approval; and
- b) maintain such measures, plant and equipment in a proper and efficient condition; and
- c) operate such measures, plant and equipment in a proper and efficient manner.

Site Based Management Plan

(2A3-1) From commencement of the approved activity, a site based management plan (SBMP) must be implemented. The SBMP must identify all sources of environmental harm, including but not limited to the actual and potential release of all contaminants, the potential impact of these sources and what actions will be taken to prevent the likelihood of environmental harm being caused. The SBMP must also provide for the review and 'continual improvement' in the overall environmental performance of all ERAs that are carried out.

The SBMP must address the following matters:

- (a) Environmental commitments - a commitment by senior management to achieve specified and relevant environmental goals.
- (b) Identification of environmental issues and potential impacts.
- (c) Control measures for routine operations to minimise likelihood of environmental harm.
- (d) Contingency plans and emergency procedures for non-routine situations.
- (e) Organisational structure and responsibility.
- (f) Effective communication.
- (g) Monitoring of contaminant releases.
- (h) Conducting environmental impact assessments.
- (i) Staff training.
- (j) Record keeping.
- (k) Periodic review of environmental performance and continual improvement

(2A3-2) The site based management plan must not be implemented or amended in a way that contravenes a condition of this approval.

Records

(2A4-1) Record, compile and keep all monitoring results required by this document and present this information to the administering authority when requested, in a specified format.

Notification

(2A5-1) Telephone the Department of Environment and Resource Management Pollution Hotline on 1300 130 372 or local office on 4121 1800 as soon as practicable after becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval

(2A5-2) Notwithstanding condition (2A5-1), within 10 days of becoming aware of any release of contaminants from the site not in accordance with the conditions of this approval, provide the following written advice to the administering authority:

- the full analysis results; and
- details of investigation or corrective actions taken; and
- results of any subsequent analysis carried out to verify the success of any corrective actions taken or proposed.
- Advice when any outstanding or subsequent analysis results will be provided
- Advice when any subsequent analysis will be carried out to verify the success of any corrective

- actions taken.
- the name of the operator, including their approval / registration number;
- the name and telephone number of a designated contact person;
- quantity and substance released;
- any vehicle involved and its registration details;
- person/s involved;
- the location and time of the event / release or monitoring result;
- the suspected cause of the event or release;
- a description of the effects of the release on the receiving environment.

Monitoring

- (2A6-1) A suitably qualified and experienced person must conduct any monitoring required by this approval.

Equipment Calibration

- (2A7-1) All instruments, equipment and measure devices used for measuring or monitoring in accordance with any condition of this approval must be calibrated, and appropriately operated and maintained.

Spill Kit

- (2A8-1) A dedicated spill kit, personal protective equipment and operator instructions/emergency procedure guides for the management of wastes associated with the Environmentally Relevant Activity must be kept at the site.

Schedule 2B - Air

Nuisance

- (2B1-1) The release of dust and / or particulate matter, noxious or offensive odours or any other noxious or offensive airborne contaminants resulting from the activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.

Dust Nuisance

- (2B2-1) The release of dust and/or particulate matter resulting from the activity must not cause an environmental nuisance at any nuisance sensitive or commercial place.
- (2B2-2) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, you must undertake dust and particulate monitoring to investigate environmental nuisance caused by dust and/or particulate matter, and the results notified within 14 days to the administering authority following completion of the monitoring. Monitoring must include:
- (iv) for a complaint alleging dust nuisance, dust deposition; and
 - (v) for a complaint alleging adverse health effects caused by dust, the concentration per cubic metre of particulate matter with an aerodynamic diameter of less than 10 micrometre (µm) (PM10) suspended in the atmosphere over a 24hr averaging time; and
 - (vi) be carried out in at a place(s) relevant to the potentially affected dust sensitive places and upwind control sites.

Dust Control – Trafficable areas

- (2B3-1) Trafficable areas associated with the approved activity must be developed and maintained to prevent the release of wind blown or traffic generated dust.

Schedule 2C - Land

Prevent contaminant release to land

- (2C1-1) Contaminants released to land at the authorised premises, must only be released to land in accordance with conditions relating to ERA 60 – Landfill Operations, for the subject site
- (2C1-2) Spillage of all chemicals and fuels must be captured and contained within a dedicated containment system for the Transfer Station.

(Note: All petroleum product storages must be designed, constructed and maintained in accordance with AS1940 – Storage and Handling of flammable and combustible liquids.)

- (2C1-3) All bunding must be maintained to ensure it remains impermeable to the materials held within the bund

- (2C1-4) All bunded areas must be roofed, with the exception of green waste storage areas.
- (2C1-5) Chemicals or fuels captured in any dedicated Transfer Station containment system must not be released to the landfill at the subject site in liquid form.

Schedule 2D – Noise

- (2D1-1) Noise from the approved activity must not cause a nuisance at any nuisance sensitive or commercial premises.
- (2D1-2) Mulching of green waste is not permitted at the approved premises.
- (2D1-3) Crushing, milling or grinding of concrete waste is not permitted at the approved premises.
- (2D1-4) Metal collection must only occur inside the Transfer Station structure.
- (2D1-5) Disposal bins must be constructed of material that minimises noise from waste disposal, or suitably lined to minimise noise emissions from waste disposal.
- (2D1-6) Vehicle movements within the approved premises must be actively and passively managed to regulate speeds to 20km/hr or less along internal roads and through the recovery building.
- (2D1-7) The roof and walls of the Transfer Station (excluding lower concrete sections to 2.5m) must be constructed of, and / or lined with material that achieves a **Noise Reduction Coefficient** of at least 0.92.
- (2D1-8) The roof and walls of the Transfer Station must be constructed to ensure open gaps are prevented, with the exception of ventilation openings, which must otherwise be designed to minimise noise emanating from the Transfer Station structure.
- (2D1-9) Acoustic barriers must;
- be installed around any waste truck loading area;
 - be installed to a height of at least 5.0m extending from the designed roller doors at the North Western and North Eastern corner of the Transfer Station, as per Schedule 2H Figure 1;
 - be installed to a height of 2.4m at the Bonnick Road Boundary, as per Schedule 2H Figure 2;
 - be continuous with no air gaps and be constructed of material with a minimum mass density of 12kg/m²
- (2D1-10) Prior to the commissioning of the Transfer Station, the facility must be physically assessed by a person with appropriate noise mitigation qualifications and experience, verifying by way of a written report, that measures required to comply with conditions (2D1-6) through (2D1-9) have been installed.
- (2D1-11) A copy of the written report required by Condition (D1-10) of this Development Approval must be provided to the Administering Authority prior to the commissioning of the Transfer Station.
- (2D1-12) In the event of a complaint about noise emissions from the Transfer Station that the administering authority does not consider to be frivolous or vexatious, and which cannot otherwise be resolved through negotiation, at the request of the Administering Authority the Registered Operator must conduct noise monitoring of emissions from the approved activity in the vicinity of the closest nuisance sensitive or commercial place.
- (2D1-13) In the event noise monitoring is required by the Administering Authority, noise from the approved activity must not exceed the levels specified in Schedule D - Table 1 at any nuisance sensitive place or commercial place.

Schedule D – Table 1 (Noise Levels)

Time Period	Proponent Noise level at a 'Nuisance Sensitive Place' measured as the $L_{A,eq\ adj\ 1hr}$
7am - 5pm	44 dB(A) or background noise level plus 3 dB(A), whichever is the higher
Time Period	Noise level at a 'Commercial place' measured as the Adjusted Maximum Sound Pressure Level $L_{A,eq\ adj\ 1hr}$
7am - 5pm	55 dB(A) or background noise level plus 5 dB(A), whichever is the greater

- (2D1-14) No audible noise from the Transfer Station is authorised (including access by or use of vehicles, plant or equipment) between the hours 5:00pm to 7:00am Monday to Friday, and 4:00pm to 9:00am

Saturday and Sunday.

Noise Monitoring

- (2D2-1) In the event of a complaint to the administering authority that is not considered to be frivolous or vexatious, and at the request of the administering authority, noise monitoring must be undertaken to investigate a complaint of noise nuisance, and the results notified within 14 days, and the results notified to the administering authority once received from any external consultant. Monitoring must include:
- background noise level;
 - $L_{Aeq, adjT}$, $L_{Amax, adjT}$, $L_{A10, adjT}$
 - the level and frequency of occurrence of impulsive or tonal noise;
 - atmospheric conditions including wind speed and direction;
 - effects due to extraneous factors such as traffic noise; and
 - location, date and time of recording.
- (2D2-2) The method of measurement and reporting of noise levels must comply with the Noise Measurement Manual.

Noise Management Plan

- (2D3-1) In the event noise emissions from the approved activity exceeds noise limits prescribed by Condition (2D1-13) you must, develop a noise management plan to assist resolve the complaint. The noise management plan must address at least, but not be limited to, the following matters:
- (viii) identification of component noise sources and activities at the place(s) which impact on nuisance sensitive or commercial places;
 - (ix) the measured level of these noise sources and activities at nuisance sensitive or commercial places;
 - (x) the control or abatement measures necessary to reduce noise nuisance at nuisance sensitive or commercial places;
 - (xi) the predicted reduction in noise at nuisance sensitive or commercial places by implementing these measures;
 - (xii) time frame for completion of the work proposed;
 - (xiii) any necessary community liaison and consultation; and
 - (xiv) any training requirements for staff in noise reduction practices.
- (2D3-2) A draft Noise Management Plan must be submitted to the Administering Authority for review and comment within one month of a noise emission that exceeds limits prescribed by Condition (D1-5).
- (2D3-3) After the Administering Authority has commented on the draft Noise Management Plan, the Registered Operator must have due regard to any comments made by the administering authority, and must implement the plan as soon as practical.

END OF CONDITIONS FOR SCHEDULE 1D

Schedule 2E - Social

Complaint Response

- (2E1-1) The Registered Operator must record the following details for all complaints received and provide this information to the administering authority on request:
- a) Time, date and contact details of the complainant;
 - b) Reasons for the complaint;
 - c) Any investigations undertaken;
 - d) Conclusions formed; and
 - e) Actions taken to resolve the complaint.

Schedule 2F - Waste

Waste composition

- (2F1-1) Only the following waste materials are permitted to be accepted through the Transfer Station:
- a) clean construction and demolition waste (C&D);
 - b) clean commercial and industrial waste (C&I)

- c) Municipal Solid Waste (MSW); and
- d) Limited Regulated Waste.

(2F1-2) Regulated waste received at the Transfer Station must not be disposed to the landfill at the subject site.

Waste Records

(2F2-1) A record of all regulated waste must be kept detailing the following information:

- a) date of pickup of waste
- b) description of waste
- c) Quantity of waste;
- d) Origin of waste; and
- e) Destination of the waste.

Schedule 2G – Water

Release to Waters

- (2G1-1) Contaminants must not be released from the Transfer Station to any waters or the bed or banks of any waters.
- (2G1-2) There must be no release of stormwater runoff that has been in contact with any contaminants at the Transfer Station to any waters, roadside gutter or stormwater drain

Erosion Protection Measures and Sediment Controls

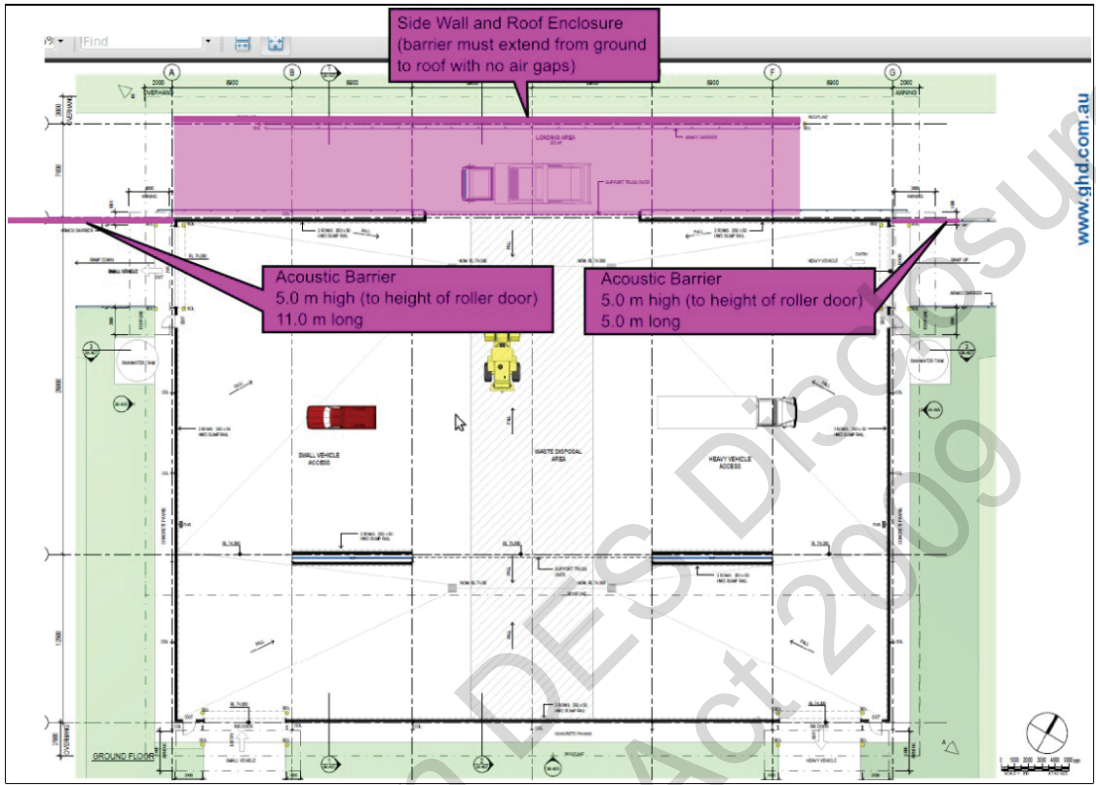
- (2G2-1) Erosion protection measures and sediment control measures must be designed, installed and maintained wherever necessary to minimise erosion or disturbed areas and prevent the release of sediment to waters.

Cleaning and spillages

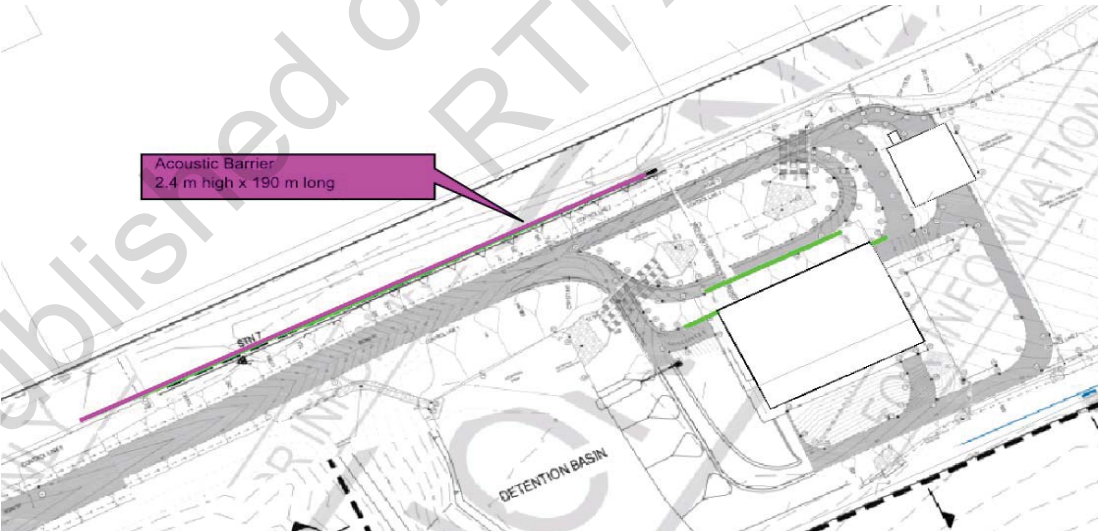
- (2G3-1) The maintenance and cleaning of any vehicles, other equipment or plant must be carried out in areas where contaminant cannot be released into any waters, roadside gutter or stormwater drain.

Schedule 2H – Maps / Figures

Figure 1 – Acoustic Barriers – Transfer Station structure



Schedule H Figure 2 – Acoustic Barrier – Bonnick Road



END OF CONDITIONS

Schedule H - Definitions

Words and phrases used throughout this licence or development approval are defined below:

Where a definition for a term used in this approval is sought and the term is not defined within this approval the definitions provided in the *Environmental Protection Act 1994*, its regulations, and Environmental Protection Policies shall be used.

Word Definitions

- (H1) **"administering authority"** means the Environmental Protection Agency or its successor.
- (H2) **"you"** means the Registered Operator or owner / occupier of the land which is the subject of this Development Approval.
- (H3) **"site"** means the place to which this environmental authority relates or the premises to which this development approval relates.
- (H4) **"authorised place"** means the place authorised under this environmental authority/development approval for the carrying out of the specified environmentally relevant activities.
- (H5) **"this authority"** means this environmental authority/development approval.
- (H6) **"authority"** means level 1 licence (without development approval), or level 1 approval (without development approval), or level 2 approval (without development approval) under the *Environmental Protection Act 1994*.
- (H7) **"approval"** means 'notice of development application decision' or 'notice of concurrence agency response' under the *Integrated Planning Act 1997*.
- (H8) **"annual return"** means the annual return for the licence (with development approval) issued under the *Environmental Protection Act 1994* for this development.
- (H9) **"dwelling"** means any of the following structures or vehicles that is principally used as a residence –
- a house, unit, motel, nursing home or other building or part of a building;
 - a caravan, mobile home or other vehicle or structure on land;
 - a water craft in a marina.
- (H10) **"noxious"** means harmful or injurious to health or physical well being.
- (H11) **"offensive"** means causing offence or displeasure; is disagreeable to the sense; disgusting, nauseous or repulsive.
- (H12) **"nuisance sensitive place"** includes –
- dwellings such as houses, units, motels, resort accommodation, nursing homes, caravans and mobile homes (provided they are principally used as residences), and including the curtilage of any such places;
 - a surgery or other medical institution;
 - library, childcare centres, kindergartens, schools or other educational institutions;
 - a park or garden that is open to the public;
 - a protected area, or an area identified under a conservation plan as a critical habitat or area of major interest, under the Nature Conservation Act 1992;
 - a Marine Park under the Marine Parks Act 1992
- (H14) **"Noise Reduction Coefficient"** (NRC) means the amount of sound energy absorbed upon striking a particular surface. An NRC of 0 indicates perfect reflection while an NRC of 1 indicates perfect noise absorption.
- (H13) **" $L_{aeq,adjT}$ "** means an A-weighted sound pressure level of a continuous steady sound, adjusted for tonal character, that within a 1 hour period has the same mean square sound pressure of a sound that varies with time.
- (H14) **" $L_{A 10, adj, 10 mins}$ "** means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 10% of any 10 minute measurement period, using Fast

response.

- (H15) "**L_{A 1, adj, 10 mins}**" means the A-weighted sound pressure level, (adjusted for tonal character and impulsiveness of the sound) exceeded for 1% of any 10 minute measurement period, using Fast response.
- (H16) "**L_{A, max adj, 10 mins}**" means the average maximum A-weighted sound pressure level, adjusted for noise character and measured over any 10 minute period, using Fast response.
- (H17) "**commercial place**" means a place used as an office or for business for commercial purposes.
- (H18) "**intrusive noise**" means noise that, because of its frequency, duration, level, tonal characteristics, impulsiveness or vibration –
- is clearly audible to, or can be felt by, an individual; and
 - annoys the individual.
- In determining whether a noise annoys an individual and is unreasonably intrusive, regard must be given to Australian Standard 1055.2 - 1997 Acoustics - Description and Measurement of Environmental Noise Part 2 - Application to Specific Situations.
- (H19) "**waters**" includes river, stream, lake, lagoon, pond, swamp, wetland, unconfined surface water, unconfined water natural or artificial watercourse, bed and bank of any waters, dams, non-tidal or tidal waters (including the sea), stormwater channel, stormwater drain, roadside gutter, stormwater run-off, and any under groundwater, or any part thereof.
- (H20) "**land**" in the "land schedule" of this document means land excluding waters and the atmosphere.
- (H21) "**mg/L**" means milligrams per litre.
- (H22) "**leachate**" means a liquid that has passed through or emerged from, or is likely to have passed through or emerged from, a material stored, processed or disposed of at the licensed place which contains soluble, suspended or miscible contaminants likely to have been derived from the said material.
- (H23) "**geotechnical stability of the landfill unit**" means a situation where instability related to the excessive settlement and subsidence caused by decomposition and consolidation of the wastes deposited in the landfill unit, and sliding instability of the unit slope has ceased.
- (H24) "**background noise level**" means either:
- LA90, T being the A-weighted sound pressure level exceeded for 90 percent of the time period not less than 15 minutes, using Fast response, or
 - Labg, T being the A-weighted sound pressure level obtained using Fast response and arithmetically averaging the lowest levels of the ambient sound pressure level during a representative time period of not less than 15 minutes.
- (H25) "**landfill facility**" means all contiguous land and structures, other appurtenances, and improvements on the land used or associated with the disposal of waste.
- (H26) "**lower explosive limit**" means the lowest percent by volume of a mixture of explosive gases in air that will propagate a flame at 25°C and atmospheric pressure.
- (H27) "**special burial of waste**" means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hole, and immediately covers it with earth or other waste material.
- (H28) "**uppermost aquifer**" means the geologic formation nearest to the natural ground surface that is an aquifer. The term includes any aquifers that are likely to be hydraulically interconnected with this aquifer within the landfill facility property boundary.
- (H29) "**Special Burial of waste**" means a disposal method where earth moving equipment pushes the wastes to the bottom of the working face or into an excavated hold, and immediately covers that waste

with earth or other waste material.

- (H30) **“statistically significant”** means when a difference between groups of data is sufficient for a statistical test to reject the *null hypothesis*. For example, a requirement for a statistical test is that you have a minimum of two hypotheses, the null hypothesis and one or more alternative hypotheses. If you have data from two groups of bores (say A = background values and B = values at locations hydraulically down gradient of the landfill unit), and you wish to test whether A is different from B, *the null hypothesis* would be that A and B are from the same population (no significant difference). After performing the statistical test, you will either accept or reject the null hypothesis.
- (H31) **“liquid or semi-liquid waste”** means a waste which failed the paint filter liquid test described in the document SW-846 ‘Test Methods for Evaluation of Solid Wastes Physical/Chemical Methods’ published by the United States Environmental Protection Agency; Revision 5; April 1998 or updated version thereof.
- (H32) **“ignitable, corrosive, reactive or toxic materials”** are materials as defined in the Queensland Government Environmental Protection Agency ‘ERA 75: Guideline on landfill siting, design, operation and rehabilitation’; 2002.
- (H33) **“RL”** means height in metres above mean sea level
- (H34) **“recycling landfill diversion rate”** means a calculated figure using the following formula:

$$\frac{\text{tonnes of recyclate}}{\text{total tonnes of potential recyclate}} \times 100$$
- (H35) **“Monitoring and Sampling Manual”** means the following documents or more recent additions or supplements to that document as such become available:
Monitoring and Sampling Manual 2009 Environmental Protection (Water) Policy 2009
 Version 2 September 2010
- (H36) **“Noise Measurement Manual”** means the following document or more recent additions or supplements to that document as such become available:
 Environmental Protection Agency. (2000). *Noise Measurement Manual Third Edition*, Environmental Protection Agency, Brisbane, Australia.
- (H37) **“Air Quality Sampling Manual”** means the following document or more recent additions or supplements to that document as such become available:
 Department of Environment. (1997). *Air Quality Sampling Manual*, Department of Environment, Brisbane Australia.

END OF DEFINITIONS FOR SCHEDULE – H

END OF CONDITIONS

73(2)Irrelevant

From: Tanya Allen <Tanya.Allen@gympie.qld.gov.au>
Sent: Friday, 27 January 2012 12:25 PM
To: Karle Matt
Subject: Fwd: FW: Bonnick Road - Cut-off system discharges

Dear Matt,

CTPI 49-Sch4-1 is going to give you a phone call today to discuss interpreting the graph (estimating the discharges produced by the cut-off system).

CTPI 49-Sch4 will also give you a phone call to discuss the noise matters.

Kind Regards

Tanya Allen
Environmental Health Officer | Health & Environmental Services | Community Services
Telephone: 07 5481 0611 | Facsimile: 07 5481 0801

Gympie Regional Council
24 Mellor Street, Gympie QLD 4570
PO Box 155 Gympie QLD 4570
e-mail: tanya.allen@gympie.qld.gov.au | www.gympie.qld.gov.au



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3 sheets of A4 paper = 1 litre of water

>>>

From: Tanya Allen
To: CTPI 49-S@exemail.com.au
Date: 27/01/2012 12:20 PM
Subject: Fwd: FW: Bonnick Road - Cut-off system discharges

Hi CTPI 4

Are you able to give Matt Karle a phone call today to discuss interpreting the graph that was sent in the email about how the cut-off system discharges were estimated? (attached)

Thanks :-)

Tanya Allen

Gympie Regional Council
24 Mellor Street, Gympie QLD 4570
PO Box 155 Gympie QLD 4570
e-mail: tanya.allen@gympie.qld.gov.au | www.gympie.qld.gov.au



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3 sheets of A4 paper = 1 litre of water

>>>

From: "Karle Matt" <Matt.Karle@derm.qld.gov.au>
To: <ian.wolff@gympie.qld.gov.au>, "Tanya Allen" <Tanya.Allen@gympie.qld.gov.au>, "Michael Grant" <Michael.Grant@gympie.qld.gov.au>
Date: 27/01/2012 11:03 AM
Subject: FW: Bonnick Road - Cut-off system discharges

Hello Ian, Tanya and Michael,

I received the email below from Tanya on Friday 20th January 2012 which included an attached email from AGE consultants. In reply, I asked for an interpretation of the attachment. Are you aware whether AGE have provided an interpretation of the data at all?

Also, I sent an email to CTPI 49-Sch4 from ANE regarding some noise matters that arose from our meeting on the 18th January 2012. That email was c/c'd to Ian Wolff. Are you aware whether CTPI will be providing a reply to those enquiries?

Any assistance appreciated.

Regards

Matt Karle

Principal Environmental Officer (Wide Bay Burnett)

Environmental Services North

South East Region

Department of Environment and Resource Management

Ph: (07) 4121 1618

Email: matt.karle@derm.qld.gov.au

From: Karle Matt
Sent: Friday, 20 January 2012 10:50 AM
To: 'Tanya Allen'
Subject: RE: Bonnick Road - Cut-off system discharges

Hi Tanya,

I might need some interpretation of the table attached to the email from [CTPI 49-Sch4-N] of AGE.

Regards

Matt Karle

Principal Environmental Officer (Wide Bay Burnett)

Environmental Services North

South East Region

Department of Environment and Resource Management

Ph: (07) 4121 1618

Email: matt.karle@derm.qld.gov.au

From: Tanya Allen [<mailto:Tanya.Allen@gympie.qld.gov.au>]

Sent: Friday, 20 January 2012 10:46 AM

To: Karle Matt

Cc: [CTPI 49-Sch4-Name] Ian Wolff; [CTPI 49-Sch4-N]@exemail.com.au

Subject: Bonnick Road - Cut-off system discharges

Dear Matt,

Please find attached an email from AGE Consultants to [CTPI 49-Sch4-N] regarding the discharge (flow) expected from the cut-off system.

If you would like to discuss this information, please contact [CTPI 49-Sch4-N] on mobile [CTPI 49-Sch4-N] or email [CTPI 49-Sch4-N]@exemail.com.au.

Kind Regards

Tanya Allen

Environmental Health Officer | Health & Environmental Services | Community Services

Telephone: 07 5481 0611 | Facsimile: 07 5481 0801

Gympie Regional Council

24 Mellor Street, Gympie QLD 4570
PO Box 155 Gympie QLD 4570
e-mail: tanya.allen@gympie.qld.gov.au | www.gympie.qld.gov.au



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