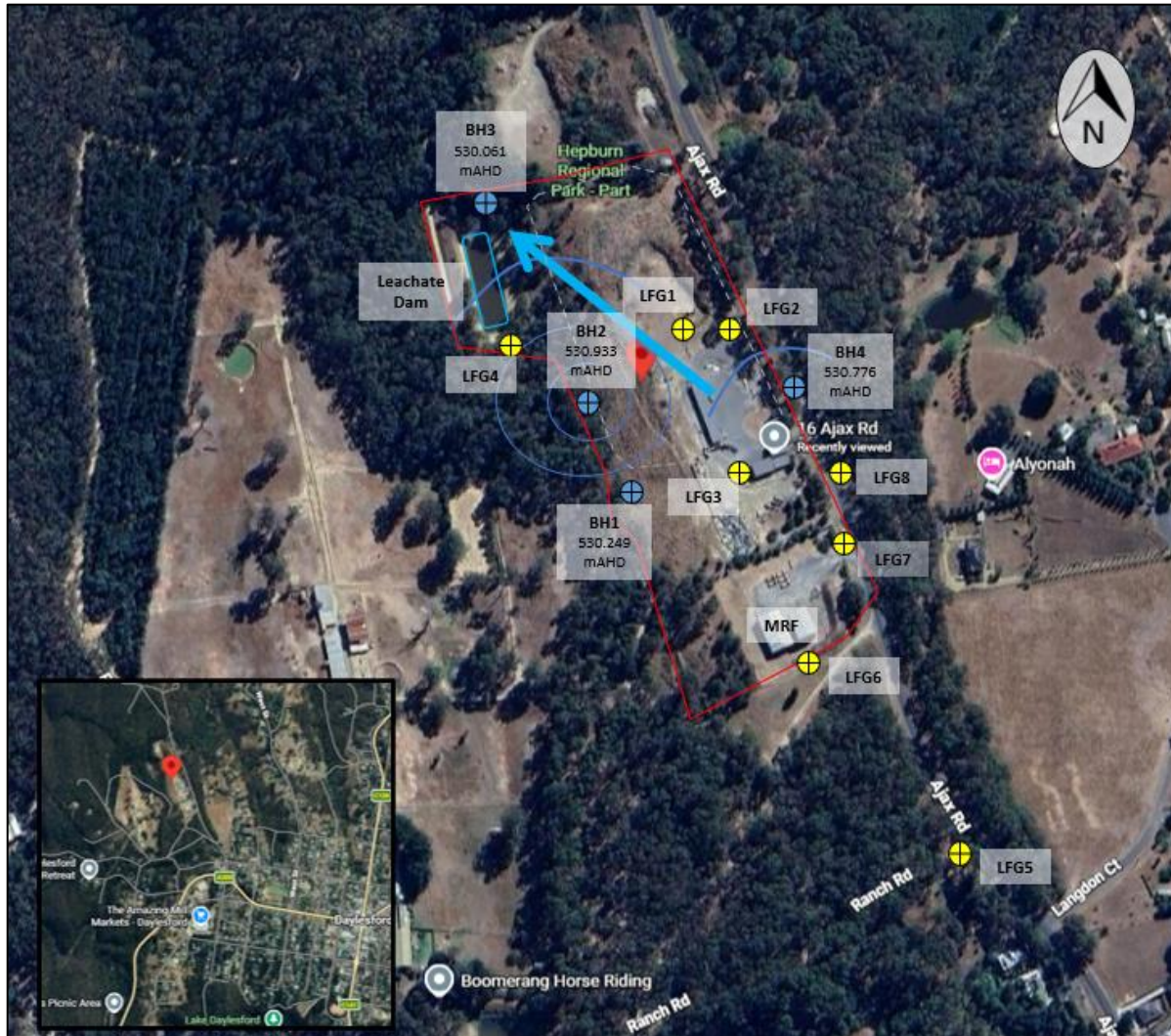




Landfill Aftercare Management Plan

Daylesford Landfill & Transfer Station

Daylesford Landfill – 16 Ajax Road, Daylesford, VIC

Prepared for: Hepburn Shire Council (HSC)

Ref: HSC-07 AMP Daylesford Landfill v1 final

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Document Control

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1. Introduction

This landfill Aftercare Management Plan (AMP) describes the activities to be carried out to meet the objectives of EPA Publication 1490.1 January 2018: '*Closed Landfill Guidelines*' and EPA Publication 788: *Best Practice Environmental management - Siting, Design, Operation, and Rehabilitation of Landfills (the Landfills BPEM)*.

1.1 Objectives and Requirements

The aftercare management plan is the primary document to manage the environmental risks from a landfill site during the aftercare phase. The objective of this report are in accordance with the EPA Publication 1490.1 and are listed below. In AMP as a minimum contain the following:

- a) inspection and maintenance of the landfill cap to prevent, control and remediate erosion, restore depressions, seal cracks and maintain vegetation
- b) inspection, maintenance and operation of the leachate collection and treatment system
- c) inspection, maintenance and operation of the landfill gas management system
- d) inspection and maintenance of surface water control and collection infrastructure
- e) an environmental monitoring program for the landfill, verified by an environmental auditor appointed pursuant to the EP Act.

1.2 Site Setting

The site is located at 16 Ajax Road, Daylesford VIC 3460, with an approximate area of 5.6 hectares (ha), zoned as Public Use Zone (PUZ6) and surrounded by Sailors Creek approximately 100 m to the west, the Tipperary Springs Picnic Area approximately 770 m to the southwest, a residential property approximately 70 m to the east, the Boomerang Holiday Ranch directly to the west, and an Area of Aboriginal Cultural Heritage Sensitivity approximately 180 m to the west.

The site was used for a landfilling until its closure in 2004, during which time it was licensed to accept a variety of waste types, including municipal solid waste, and was classified as a Type 2 landfill for putrescible waste. The surface of the site has since been repurposed as a transfer station. A general site description and site details is presented in **Table 2** below.

Table 2. Summary of Site Details.

Item	16 Ajax Road, Daylesford VIC 3460
Site Address	16 Ajax Road, Daylesford VIC 3460
Proprietor	Hepburn Shire Council
Approximate Site Area:	5.6 Ha
Lot Details/ SPI	2001\PP5232
Municipality	Hepburn Shire Council.
Planning Zone:	Public Use Zone (PUZ6)
Historical Site Use:	Landfill
Current Site Use:	Waste Transfer Station
Proposed Future Development	Waste Transfer Station

Item	16 Ajax Road, Daylesford VIC 3460
Surrounding Land use	
North	Adjacent Planning Zone: Rural Conservation Zone 2 (RCZ2), PCRZ - Public Conservation and Resource
South	Adjacent Planning Zone: PCRZ - Public Conservation and Resource
East	Adjacent Planning Zone: Low Density Residential Zone 2 (LDRZ1)
West	Adjacent Planning Zone: Rural Living Zone 1 (RLZ1) and Farming Zone 1 (FZ1); PCRZ - Public Conservation and Resource

1.3 Environmental Setting

Details of the Site's environmental setting is provided in **Table 3** below.

Table 3. Summary of Site's environmental setting

Site Topography	According to <i>Landserv 2025</i> the topography at the site shows it sloping down to the west to northwest with an approximate elevation of ranging from 562 - 536 mAHD across the site. The topography falls towards a gully (unnamed) and Sailors Creek upper catchment to the west.
Site Geology	According to the Daylesford 1:50,000 Geological Map, the site is in an area of Bendigonian hemipelagic sediments. These consist of sandstone, mudstone, black shale and minor granule quartz conglomerate: mostly thick-bedded sandstone, coarse to fine-grained, often graded, diffusely stratified to cross laminated and moderately to well sorted. This aligns with the intrusive works conducted on site to install LFG bores, where inferred natural material consisted of light brown – yellow siltstone (<i>Landserv 2025</i>)
Site Hydrogeology	According to the Department of Energy, Environment and Climate Action (DEECA) depth to groundwater water at the site is likely to occur between 20 – 50 m depth. As outlined in <i>Landserv 2025</i> previous groundwater reports at the site by Ventia in August 2024 and February 2025 indicted a maximum standing water level (SWL) of 26.75 m below top of casing (mbTOC) was recorded at BH4 in February 2025 and shallowest groundwater SWL of 3.83 m bTOC at BH3 in August 2024. According to <i>Landserv 2025</i>, it is anticipated that groundwater flow direction is to the west towards Sailors Creek, however as the groundwater wells have not been surveyed this cannot be quantified

2. Responsibilities

Table 4 provides the key contact details for the Council personnel for managing Daylesford Landfill. If positions within Council change name, or the former landfill falls under a different jurisdiction internally within Council then Table 2 is to be updated to reflect any changes.

Table 4. Key Contacts

Position	Contact Number
Operational Contacts	
Coordinator Resource Recovery	03 5321 6477
Resource Recovery Officer	03 5321 6158
Emergency Contacts	
Manager Facilities and Circular Economy	03 5321 6138
Manager Community Safety and Health	03 5321 6404
Coordinator Resource Recovery	03 5321 6477
Resource Recovery Officer	03 5321 6158
Hepburn Shire Council	03 5348 2306
Council Fire Officer	
EPA Victoria	1300 372 842

2.1 Staff Qualifications and Training

Monitoring and reporting for groundwater, surface water, leachate and landfill gas should be undertaken by a suitably qualified consultant.

Council staff or suitably qualified consultants responsible for completing quarterly inspections should be familiar with the Site and adequately trained in the procedures to be implemented as outlined in this document.

3. Environmental Risk Assessment and Monitoring

With respect to EPA Publication 1490, an Environmental Risk Assessment is required for the aftercare phase of the Daylesford Landfill to identify and evaluate the potential risks to the environment.

The findings of the Landfill Gas Risk Assessment (LFGRA) (Landserv 2025) have been used to develop the Environmental Monitoring Program, which is provided as **Section 5** of this AMP. Additionally, the EMP has been incorporated into the management and monitoring procedures outlined in **section 4.2** of this report.

As outlined within the LFGRA (Landserv 2025) report, the risk evaluation derived two 'Moderate' risk outcomes, four 'Moderate / Low' risk outcomes, three 'Low' risk outcomes and three 'Very Low' risk outcome for landfill gas impacts relating to potential landfill gas migration pathways to on and off-site receptors.

Following the Australian Environmental Auditors Pty Ltd (AEA) review of the onsite groundwater status (AEA 2024), the current data gaps include: establish baseline groundwater conditions, determine the groundwater flow direction at the site, thus there is insufficient information to

determine potential leachate impacts on the surrounding lands additional wells within the waste area and upgradient of the Site was recommended.

3.1 Landfill Rehabilitation

As per AEA 2024 report, the closed Daylesford landfill is believed to be unlined thus an assessment of the landfill cap's suitability is required due to the absence of available information. This evaluation should include a detailed review of the cap's structural integrity, permeability, and its ability to prevent the infiltration of water and the release of landfill gas emissions.

4. Aftercare Management and Monitoring

4.1 Scope and Time Frame

The Daylesford Landfill is inferred to have been closed in 2004 and hence the aftercare phase of the landfill has been going for over 22 years. The Landfill BEMP states *'the site occupier must ensure that the landfill aftercare management plan is implemented until an environmental audit demonstrates that the Site no longer poses a risk to the environment or for at least 30 years after the site stopped receiving waste.'*

Any decisions as to cessation of monitoring and aftercare will be made in consultation with an appropriately qualified person.

4.2 Aftercare Management Monitoring and Procedures

Detailed procedures have been developed below for the management and monitoring with designated responsible persons. Regular inspections comprise of an important part of the landfill maintenance.

It is inferred that these inspections are carried out in a range of climatic conditions. The weather conditions during and in the weeks preceding the inspection should be noted to ensure the site conditions observed are better understood. The detailed inspection procedures are for the following key landfill components.

- Landfill cap inspection;
- Bore inspection and maintenance;
- Stormwater management;
- Leachate management;
- Noise management;
- Dust management;
- Odour management;
- Litter management and
- Environmental monitoring program procedures.

The frequency of inspections and monitoring shall be task specific. The frequency of inspection shall be reviewed with a view to reducing the inspection frequency. An appropriately qualified person is to complete inspection checklists.

4.2.1 Landfill Cap Integrity and Performance

It is recommended (AEA 2024) that an assessment of the landfill cap's suitability, due to the insufficient historical information. A detailed review of the cap's structural integrity, permeability, and its ability to prevent the infiltration of water and the release of landfill gas emissions is required to inform the ongoing landfill cap integrity and performance.

The landfill cap shall be inspected to assess its integrity and identify any areas of erosion, cracking, depressions, vegetation deterioration, or other defects requiring maintenance. Global Positioning System (GPS) coordinates and photographs of all identified non-conformances shall be recorded during site inspections, and each issue allocated a unique grid reference for tracking and remediation purposes.

It is recommended that landfill cap inspections be undertaken concurrently with surface landfill gas emissions monitoring conducted under the Environmental Monitoring Plan (EMP), where practicable. If required, vegetation shall be mown prior to inspection to facilitate access and improve visibility during the site walkover.

Inspection requirements, performance criteria and suggested remedial actions for maintaining landfill cap integrity are provided in **Table 5**.

Table 5: Landfill Cap Inspection, Integrity and Performance

Inspection Item	Inspection Method	Frequency	Conformance Criteria	Suggested Remedial Action (if required)
Vegetation	Visual inspection	6 monthly	Vegetation is well maintained and provides protective cover of the cap.	Removal of dead vegetation and reseedling.
Cracking	Visual inspection	6 monthly	No visible cracking in cap.	Excavation to inspect for cracking to clay liner and subsequent backfilling and re-seeding.
Depressions	Visual inspection	6 monthly	No depressions visible on the surface of cap.	Backfilling and re-seeding.
Erosion	Visual inspection	6 monthly	No evidence of erosion on the landfill cap surface.	Backfill and reseed affected areas. Persistent erosion may require additional engineering controls.
Animal Damage	Visual inspection	6 monthly	No evidence of burrowing, excavation or damage caused by animals.	Backfill damaged areas and reseed to restore cap integrity. Implement animal control measures where recurring damage is identified.

4.2.2 Bore Inspection and Maintenance Procedure

The following procedure should be followed for inspecting and maintaining monitoring bores (gas and groundwater) throughout the Site. The following Landfill Gas Inspection and Maintenance Procedure below in **Table 6** shall be administered as a part of routine site operations.

Table 6. Monitoring Bore Inspection and Maintenance Procedure

Stormwater Management System				
Inspection Item	Inspection Type	Frequency	Conformance	Suggested remedial action (if required)
Bore Gatic	Visual inspection	Quarterly (gas) 6 monthly (groundwater)	Secure, intact, and free from damage or tampering	Repair or replace
Cap	Visual inspection	Quarterly (gas bores) 6 monthly (groundwater bores)	Seal intact, and free from damage or tampering	Repair or replace
Sediment	Visual inspection	Quarterly (gas bores) 6 monthly (groundwater bores)	Free from excessive sediment preventing sampling	Re-develop well
Blockage	Visual inspection	Quarterly (gas bores) 6 monthly (groundwater bores)	Free to sample	Assess cause of blockage and apply appropriate remedial action.

4.2.3 Stormwater Management System

The Stormwater Management System at the Daylesford Landfill site comprises a series of drains. Potential maintenance issues associated with drains can include blockages due to silt deposition, litter/ debris, or erosion as a result of high velocity stormwater flows. It is recommended that the drain inspections take place simultaneously with landfill cap inspections. Details of inspection items and remedial actions for the Stormwater Management System are listed below in **Table 7**.

Table 7. Stormwater Management System Inspection Plan

Stormwater Management System				
Inspection Item	Inspection Type	Frequency	Conformance	Suggested remedial action (if required)
Silting/ponding of drains	Visual inspection	6 months	No visible silt build-up or presence of other materials that may cause ponding of stormwater.	Clearing of debris and/or excavation of silt and if necessary re-grading stormwater drains to prevent future ponding.
Erosion	Visual inspection	6 months	No erosion visible on the cap surface	Backfilling and re-seeding. Areas that are observed to be

Stormwater Management System				
				continually eroded may require additional engineering measures put in place.

4.2.4 Leachate Management System

The Leachate management system is to demonstrate landfill environmental control effectiveness, guide future inspections and monitoring frequency, to identify early warning signs (e.g. rising leachate levels or groundwater impacts) justify maintenance or upgrades (e.g. cap repairs, drainage improvements) and support compliance with GED requirements.

Potential maintenance issues associated with the Leachate management system include excessive leachate head and leachate springs through the cap as a result of perched leachate. Details of inspection items and remedial actions for a typical Leachate Management System below in **Table 8**.

Table 8. Leachate Management System Inspection Plan

Leachate Collection and Treatment Procedures				
Inspection Item	Inspection Type	Frequency	Conformance	Suggested remedial action (if required)
Leachate Height	Dip-meter	6 months	Leachate should be maintained at historical levels.	Pump out and dispose of leachate above overflow height.
Leachate springs through cap	Visual inspection	6 months	No leachate springs observed	Excavation of cap at location of spring to relieve pressure and reconstruction of cap.
Leachate riser pipe blockage	Visual inspection	6 months	No visible blockage of riser pipe	Clean out riser pipe
Leachate seepage	Visual inspection	6 months	No visible seepage from slope	Temporary measure to install cut-off trench below landfill to intercept any inflow. Lined with 0.9mm polyethylene, filled with aggregate, included a slotted connection pipe installed at the base of trench that flows can be directed to a sump and prevent offsite discharge of leachate.
Leachate Storage	Visual inspection	6 months	No Odours and no excessive mosquitoes / larvae	If odours or excessive mosquitoes / larvae are identified, at the leachate pond, the pond should be agitated with pumps for two weeks. Agitating the pond will prevent anaerobic conditions prevailing.

4.2.5 Noise Management Procedures

The Daylesford transfer station should incorporate measures for protection of the surrounding environment. The following noise management procedures outlined below in **Table 9** shall be administered as a part of routine site operations.

Table 9. Noise management plan

Noise Management	
Item	Comment/ Action
Objective	- To minimise adverse impacts resulting from noise generation and maintain environmental amenity. - To ensure control / mitigation infrastructure is maintained.
Location	Across the site
Methodology	Passive monitoring of conditions and potentially noise generating activities.
Responsibility	Council Waste Staff
Frequency	Daily observations
Duration	Throughout operations of the site
Acceptance Criteria	- Noise levels generated from works conducted at the site in accordance with ERS 2017 Part 3 Table 3.3 stated objectives for site's Public Use Zone. - Minimise noise for adjacent residences and adjacent land users - No instances of noise related complaints from the public. - All noise minimisation infrastructure or control measures are maintained
General Strategies	- Ongoing passive noise monitoring to assess impacts - Maintain low speed site traffic environment - Locate noisier operations away from on- and off-site receptors - Noise generating operations during normal working hours
Recording and Reporting	- Internal – Daily and Passive monitoring and Biannual reporting - External – for serious non-conformances, notification to EPA VIC
Non Conformance Procedures	- Cease noise generating activities until appropriate remedial actions are implemented. - Investigate cause and develop measures to prevent reoccurrence. - Undertake noise suppression actions to reduce noise generation.
Management Review	HSC to review outcomes at the time of the AMP review.

4.2.6 Dust Management Procedures

The Daylesford transfer station should incorporate measures for protection of the surrounding environment. The following dust management procedures outlined below in **Table 10** shall be administered as a part of routine site operations.

Table 10. Dust management plan

Dust Management	
Item	Comment/ Action
Objective	To minimise adverse impacts resulting from dust generation and maintain environmental amenity.

	To ensure control / mitigation infrastructure is maintained.
Location	Across the site
Methodology	Passive monitoring of conditions and potentially dust generating activities.
Responsibility	Council Waste Staff
Frequency	Daily observations
Duration	Throughout operations of the site
Acceptance Criteria	- No dust generated from works conducted at the site detectable from Ajax Rd and neighbouring properties - No dust leaving site. - No instances of dust related complaints from the public. - Dust suppression will be undertaken using a watercart or manual spraying as required
General Strategies	- Maintain low speed site traffic environment - Avoid dust generating work during periods of high winds which may result in dust leaving site. - Effective stockpile management - Gravel / unsealed surfaces in good condition. - Sealed surfaces maintained to minimise dust accumulation. - Maintenance of hardstand and unsealed areas as required. - Vegetated soil batters and non-sealed areas wherever practical.
Recording and Reporting	- Internal – Daily and Passive monitoring and Biannual reporting - External – for serious non-conformances, notification to EPA VIC
Non Conformance Procedures	- Cease dust generating activities until appropriate remedial actions are implemented. - Investigate cause and develop measures to prevent reoccurrence. - Undertake dust suppression actions to reduce dust generation.
Management Review	HSC to review outcomes at the time of the AMP review.

4.2.7 Odour Management Procedures

The Daylesford transfer station should incorporate measures for protection of the surrounding environment. The following odour management procedures outlined in below **Table 11** shall be administered as a part of routine site operations.

Table 11. Odour management plan

Odour Management	
Inspection Item	Comment/ Action
Objective	- To minimise adverse impacts resulting from odour generation and maintain environmental amenity. - To ensure control / mitigation infrastructure is maintained.
Location	Across the site
Methodology	Passive monitoring of conditions and potentially odour generating activities.
Responsibility	Council Waste Staff
Frequency	Daily observations
Duration	Throughout operations of the site
Acceptance Criteria	No odour generated from works conducted at the site detectable from Ajax Rd and neighbouring properties

	- No odour leaving site. - No instances of odour related complaints from the public. - All odour minimisation infrastructure or control measures are maintained.
General Strategies	- Passive odour monitoring will be undertaken periodically to assess odour impacts on Site. - All putrescible wastes stored within a covered bin until removal from site. - Ensure no putrescible waste stored uncovered overnight. - No contact with putrescible waste and rainfall. - Minimise contact between surface water and waste storages. - General waste regularly removed from site.
Recording and Reporting	- Internal – Daily and Passive monitoring and Biannual reporting - External – for serious non-conformances, notification to EPA VIC
Non Conformance Procedures	- Cease odour generating activities until appropriate remedial actions are implemented. - Investigate cause and develop measures to prevent reoccurrence.
Management Review	HSC to review outcomes at the time of the AMP review.

4.2.8 Litter Management Procedures

The Daylesford transfer station should incorporate measures for protection of the surrounding environment. The following litter management procedures outlined in below **Table 12** shall be administered as a part of routine site operations.

Table 12. Litter management plan

Litter Management	
Inspection Item	Comment/ Action
Objective	- To minimise adverse impacts resulting from litter generation and maintain environmental amenity. - To ensure control / mitigation infrastructure is maintained.
Location	Across the site
Methodology	Passive monitoring of conditions and potentially litter generating activities.
Responsibility	Council Waste Staff
Frequency	Daily observations
Duration	Throughout operations of the site
Acceptance Criteria	- No litter generated from works conducted at the site detectable from Ajax Rd and neighbouring properties - No litter leaving site. - No instances of litter related complaints from the public. - All litter minimisation infrastructure or control measures are maintained.
General Strategies	- Enforce covering of loads by transfer station users. - Lids or covers on bins should be well-maintained and closed when not in use. - inspected daily for litter and cleaned as necessary (this should include off-site areas which may be impacted by litter). - Install litter screens around high litter risk areas.

Litter Management	
Inspection Item	Comment/ Action
	Consider specific protocols for waste handling on windy days.
Recording and Reporting	- Internal – Daily and Passive monitoring and Biannual reporting - External – for serious non-conformances, notification to EPA VIC
Non Conformance Procedures	- Cease litter generating activities until appropriate remedial actions are implemented. - Investigate cause and develop measures to prevent reoccurrence.
Management Review	HSC to review outcomes at the time of the AMP review.

5. Environmental Monitoring Program

The environmental monitoring program for the site has been prepared based on the outcomes of the (Landserv 2025) landfill gas risk assessment. In accordance with the requirements of the Closed Landfill Guidelines and Landfill Licensing Guidelines the monitoring program includes the following information:

- The environmental elements to be included in the program (e.g. groundwater, landfill gas).
- The parameters to be monitored based on the risk assessment.
- The sampling point locations and associated sampling infrastructure and equipment.
- The sampling methods including standards and procedures to be followed.
- The frequency of monitoring of each parameter.

The environmental elements included in the monitoring program includes the following:

- Groundwater
- Leachate
- Landfill Gas

A summary of the environmental monitoring program, including the number of sampling points and frequency of monitoring of each environmental element is provided in **Table 13**. Environmental monitoring shall be undertaken **biannually** for at least the first year, with the exception of landfill gas surface emissions which shall be monitored annually. It is proposed that after the first full year of monitoring that the frequency of monitoring may be reduced to biannually, however this is dependent on the results of the first year of monitoring, the assessing consultant's recommendations and the Auditor's assessment. The ongoing frequency of monitoring shall be confirmed as part of the first environmental assessment of the site.

Table 13: Environmental Monitoring Program

Event	Monitoring Points	Frequency 2026
Groundwater – Levels	4 bores	Biannually
Groundwater – Quality	4 bores	Biannually
Leachate Levels	Bores (none); 1 Dam	Biannually
Leachate Levels	Bores (none); 1 Dam	Biannually
Landfill Gas Bores	8 bores	Quarterly
Landfill Gas – Buildings	All transfer station buildings	Quarterly
Landfill Gas – Surface Emissions	Transects across landfill cap	Quarterly

5.1 Groundwater

Table 14. Groundwater Monitoring Program

Item	Details																																																												
Monitoring Frequency	Biannually																																																												
Monitoring Locations	4 Groundwater Bores: BH1, BH2, BH3, BH4 Refer to Appendix I - Site Figure for bore locations.																																																												
Groundwater Flow Direction	Establish an inferred groundwater flow direction with the Site per inspection, this may require installation of an additional bores up and down gradient of the Landfill, east of BH3 and north of the landfill cell.																																																												
Groundwater Level Measurement	4 Groundwater Bores: BH1, BH2, BH3, BH4, (possibly additional bores)																																																												
Groundwater Samples	4 Groundwater Bores: BH1, BH2, BH3, BH4, (possibly additional bores)																																																												
Groundwater Sample Field Chemistry	Water quality parameters: electrical conductivity, pH, redox potential, temperature, dissolved oxygen																																																												
Groundwater Sample Laboratory Analysis	Groundwater samples to be analysed for the analytes listed below																																																												
	<table><thead><tr><th>Analysis</th><th>Detection Limit</th><th>Water Quality Objective</th></tr></thead><tbody><tr><td>pH</td><td>0.01 pH units</td><td>6.5 to 8.0</td></tr><tr><td>Electrical conductivity (EC)</td><td>1 µS/cm</td><td></td></tr><tr><td>Total dissolved solids (TDS)</td><td>10 mg/L</td><td>2,000 mg/L</td></tr><tr><td>Calcium (CA)</td><td>1 mg/L</td><td>1,000 mg/L</td></tr><tr><td>Magnesium (Mg)</td><td>1 mg/L</td><td>2,000 mg/L</td></tr><tr><td>Sodium (Na)</td><td>1 mg/L</td><td>115 mg/L</td></tr><tr><td>Potassium (K)</td><td>1 mg/L</td><td></td></tr><tr><td>Chloride (Cl)</td><td>1 mg/L</td><td>25-700 mg/L</td></tr><tr><td>Sulphate (SO4)</td><td>1 mg/L</td><td>250 mg/L</td></tr><tr><td>Bicarbonate alkalinity (as CaCO3)</td><td>1 mg/L</td><td></td></tr><tr><td>Total organic carbon (TOC)</td><td>1 mg/L</td><td></td></tr><tr><td>Chemical oxygen demand (COD)</td><td>10 mg/L</td><td></td></tr><tr><td>Ammonia (NH3)</td><td>0.01 mg/L</td><td>0.9 mg/L (as NH3)</td></tr><tr><td>Nitrate (NO3)</td><td>0.01 mg/L</td><td>0.16 mg/L (as N)</td></tr><tr><td>Total Kjeldahl nitrogen (TKN)</td><td>0.1 mg/L</td><td>25 mg/L</td></tr><tr><td>Volatile fatty acids (VFA)</td><td>5 mg/L</td><td></td></tr><tr><td>Chromium (Cr)</td><td>0.001 mg/L</td><td>0.001 mg/L</td></tr><tr><td>Iron (Fe)</td><td>0.05 mg/L</td><td>0.3 mg/L</td></tr><tr><td>Zinc (Zn)</td><td>0.005 mg/L</td><td>0.008 mg/L</td></tr></tbody></table>	Analysis	Detection Limit	Water Quality Objective	pH	0.01 pH units	6.5 to 8.0	Electrical conductivity (EC)	1 µS/cm		Total dissolved solids (TDS)	10 mg/L	2,000 mg/L	Calcium (CA)	1 mg/L	1,000 mg/L	Magnesium (Mg)	1 mg/L	2,000 mg/L	Sodium (Na)	1 mg/L	115 mg/L	Potassium (K)	1 mg/L		Chloride (Cl)	1 mg/L	25-700 mg/L	Sulphate (SO4)	1 mg/L	250 mg/L	Bicarbonate alkalinity (as CaCO3)	1 mg/L		Total organic carbon (TOC)	1 mg/L		Chemical oxygen demand (COD)	10 mg/L		Ammonia (NH3)	0.01 mg/L	0.9 mg/L (as NH3)	Nitrate (NO3)	0.01 mg/L	0.16 mg/L (as N)	Total Kjeldahl nitrogen (TKN)	0.1 mg/L	25 mg/L	Volatile fatty acids (VFA)	5 mg/L		Chromium (Cr)	0.001 mg/L	0.001 mg/L	Iron (Fe)	0.05 mg/L	0.3 mg/L	Zinc (Zn)	0.005 mg/L	0.008 mg/L
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	Total Kjeldahl nitrogen (TKN)	0.1 mg/L	25 mg/L																																																										
	Volatile fatty acids (VFA)	5 mg/L																																																											
	Chromium (Cr)	0.001 mg/L	0.001 mg/L																																																										
Iron (Fe)	0.05 mg/L	0.3 mg/L																																																											
Zinc (Zn)	0.005 mg/L	0.008 mg/L																																																											

Item	Details
QA/QC Samples	3 Samples: Minimum QA/QC samples to comprise 1 blind duplicate (to be analysed by the primary laboratory), 1 split duplicate (to be analysed by the secondary laboratory) and one rinsate blank taken from the sampling equipment. QA/QC samples to be analysed for the same suite of analytes as the groundwater samples. Duplicate samples to be obtained from a bore with higher concentrations of leachate indicators
Sampling and Analysis Methods	Preference to be given to using low flow sampling methods. Samples to be analysed for total metals (i.e. not field filtered). All analysis to be undertaken in NATA accredited laboratories.
Guidelines	EPA Publication 669 'Groundwater Sampling Guidelines' EPA Publication IWRG701 'Industrial Waste Resource Guidelines - Sampling and Analysis of Waters, Wastewaters, Soils and Wastes'

5.2 Leachate

Table 15. Leachate Monitoring Program

Item	Details																																								
Monitoring Frequency	Biannually																																								
Monitoring Locations	Bores (none); 1 Dam																																								
Leachate Level Measurement	Bores (none); 1 Dam																																								
Leachate Samples	Bores (none); 1 Dam																																								
Groundwater Sample Field Chemistry	Water quality parameters: electrical conductivity, pH, redox potential, temperature, dissolved oxygen																																								
Groundwater Sample Laboratory Analysis	Groundwater samples to be analysed for the analytes listed below <table> <tr> <th>Analysis</th><th>Detection Limit</th></tr> <tr> <td>pH</td><td>0.01 pH units</td></tr> <tr> <td>Electrical conductivity (EC)</td><td>1 µS/cm</td></tr> <tr> <td>Total dissolved solids (TDS)</td><td>10 mg/L</td></tr> <tr> <td>Calcium (CA)</td><td>1 mg/L</td></tr> <tr> <td>Magnesium (Mg)</td><td>1 mg/L</td></tr> <tr> <td>Sodium (Na)</td><td>1 mg/L</td></tr> <tr> <td>Potassium (K)</td><td>1 mg/L</td></tr> <tr> <td>Chloride (Cl)</td><td>1 mg/L</td></tr> <tr> <td>Sulphate (SO₄)</td><td>1 mg/L</td></tr> <tr> <td>Bicarbonate alkalinity (as CaCO₃)</td><td>1 mg/L</td></tr> <tr> <td>Total organic carbon (TOC)</td><td>1 mg/L</td></tr> <tr> <td>Chemical oxygen demand (COD)</td><td>10 mg/L</td></tr> <tr> <td>Ammonia (NH₃)</td><td>0.01 mg/L</td></tr> <tr> <td>Nitrate (NO₃)</td><td>0.01 mg/L</td></tr> <tr> <td>Total Kjeldahl nitrogen (TKN)</td><td>0.1 mg/L</td></tr> <tr> <td>Volatile fatty acids (VFA)</td><td>5 mg/L</td></tr> <tr> <td>Chromium (Cr)</td><td>0.001 mg/L</td></tr> <tr> <td>Iron (Fe)</td><td>0.05 mg/L</td></tr> <tr> <td>Zinc (Zn)</td><td>0.005 mg/L</td></tr> </table>	Analysis	Detection Limit	pH	0.01 pH units	Electrical conductivity (EC)	1 µS/cm	Total dissolved solids (TDS)	10 mg/L	Calcium (CA)	1 mg/L	Magnesium (Mg)	1 mg/L	Sodium (Na)	1 mg/L	Potassium (K)	1 mg/L	Chloride (Cl)	1 mg/L	Sulphate (SO ₄)	1 mg/L	Bicarbonate alkalinity (as CaCO ₃)	1 mg/L	Total organic carbon (TOC)	1 mg/L	Chemical oxygen demand (COD)	10 mg/L	Ammonia (NH ₃)	0.01 mg/L	Nitrate (NO ₃)	0.01 mg/L	Total Kjeldahl nitrogen (TKN)	0.1 mg/L	Volatile fatty acids (VFA)	5 mg/L	Chromium (Cr)	0.001 mg/L	Iron (Fe)	0.05 mg/L	Zinc (Zn)	0.005 mg/L
Analysis	Detection Limit																																								
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Zinc (Zn)	0.005 mg/L																																								

Item	Details
Sampling and Analysis Methods	Samples to be analysed for total metals (i.e. not field filtered). All analysis to be undertaken in NATA accredited laboratories.
Guidelines	EPA Publication 669 'Groundwater Sampling Guidelines' EPA Publication IWRG701 'Industrial Waste Resource Guidelines - Sampling and Analysis of Waters, Wastewaters, Soils and Wastes'

5.3 Landfill Gas

Table 16: Landfill Gass Monitoring Program

Item	Details
Monitoring Frequency	Quarterly
Monitoring Locations	Bores: 8 Landfill Gas Bores: LFG1, LFG2, LFG3, LFG4, LFG5, LFG6, LFG7, LFG8 Refer to Appendix I - Site Figure for bore locations. Buildings: All On-Site Buildings and Structures Subsurface Services: Underground service pits Surface Emissions: Transects spaced at 25 m across the cap in north-south and east-west direction to form a grid.
Instruments	Bores: Landfill Gas Analyser Buildings: Low Concentration Methane Detector Subsurface Services: Low Concentration Methane Detector Surface Emissions: Low Concentration Methane Detector Instruments to meet the requirements of EPA Publication 1416 or updated equivalent publication.
Methods	Bores: EPA Publication 1416 method for Subsurface Geology Buildings: EPA Publication 1416 method for Buildings and Structures Subsurface Services: EPA Publication 1416 method for Subsurface Services Surface Emissions: EPA Publication 1416 method for Landfill Surface Final Cover Areas
Action Levels	Bores: 1.0% CH ₄ , 10.0% CO ₂ Buildings: 5,000 ppm Subsurface Services: 10,000 ppm Surface Emissions: 100 ppm Action levels are not applicable to bores installed within the landfill (LFG1, LFG2, LFG3). Background concentrations of carbon dioxide at the site have not been assessed and therefore the EPA action level of 1.5% above background cannot be applied. The action level for carbon dioxide within bores is selected as 10% which is a concentration that may be indicative of landfill gas migration at the site. Exceedance of an action level should trigger a response commensurate with the risk associated with the exceedance and may include additional monitoring or investigation, revision of the landfill gas risk assessment, or physical works such as repairs to the landfill cap to rectify the cause of the emissions
Guidelines	EPA Publication 1416 'Draft Landfill Gas Fugitive Emissions Monitoring Guidelines' (or updated equivalent publication) EPA Publication 788.2 'Best Practice Environmental Management – Siting, Design, Operation and Rehabilitation of Landfills'

5.4 Reporting and Environmental Assessments

5.4.1 Monitoring Program Reporting

The results of monitoring shall be assessed by a suitably qualified and experienced party after each monitoring event in order to identify any potential issues in a timely manner. Reporting of the results of the monitoring program shall be undertaken on an annual basis. The annual reporting shall cover the monitoring results for the preceding 12 months.

Reporting on groundwater and leachate monitoring shall include the following information as a minimum:

- Description of the methods employed.
- Field sampling sheets.
- Instrument calibration certificates.
- NATA accredited laboratory certificates.
- Tabulated summary of all historical groundwater and surface water monitoring results.
- Results of the QA/QC program.
- Hydrograph of groundwater levels.
- Trend graphs of analytical results.
- Assessment of monitoring results against background groundwater quality and water quality objectives.

Reporting on landfill gas monitoring shall include the following information as a minimum:

- Description of the methods employed.
- Field sampling sheets.
- Instrument calibration certificates.
- Tabulated summary of all historical landfill gas monitoring results.
- Results of the QA/QC program.
- Surface emissions monitoring presented on a plan of the site, showing the actual monitoring transects and
- concentrations of methane at locations where the concentration is greater than 100 ppm.
- Assessment of monitoring results against the action levels

5.4.2 Environmental Assessments

The first environmental assessment report of the site shall be completed by 30 June 2027 and shall include assessment of monitoring data obtained up to February 2027. This timing will enable assessment of a full year of monitoring results. Following the first environmental audit, it is likely that the frequency of audits shall be reduced to once every 3-4 years, and after approximately 3 audits have been completed it is likely that the frequency of audits can be reduced further, depending on the results of the monitoring program. Each assessment report shall include a recommendation and provide justification for the frequency of subsequent environmental assessments.

The risk assessment and monitoring program must be assessed by suitably experienced person as part of each environmental assessment and must also be updated to incorporate environmental assessment findings or recommendations made by the suitably experienced person. Reviews of the environmental risk assessment must be conducted by a suitably experienced person. Each review must include consideration of monitoring results obtained, complaints received, changes to site activities, cell capping, or changes to surrounding land uses or sensitive receptors that have occurred since the preceding review.

6. References

The following documents were provided to AMP for review:

- Ventia Utility Services Pty LTD, August 2024 Monitoring Event report – Daylesford Landfill, Hepburn Shire Council, 02 September 2024.
- Australian Environmental Auditors Pty Ltd, November 2024, Documentation Review and Advice Groundwater Status at Closed Daylesford Landfill - Daylesford Landfill, Hepburn Shire Council, 19 November 2024.
- Provincial Geotechnical Pty Ltd, March 2025, Geotechnical Site Investigation report, Daylesford Landfill, Hepburn Shire Council, 20th March 2025
- Landserv Pty Limited, December 2025, Landfill Gas Risk Assessment - Daylesford Landfill, Hepburn Shire Council, 11 December 2025.

APPENDIX I – SITE FIGURES

Client: Hepburn Shire Council
 Project: HSC-07
 Date created: 28/05/26
 Created by: MS

Location: Daylesford Landfill
 16 Ajax Road, Daylesford, VIC

Figure 1 – Site Features

Legend:

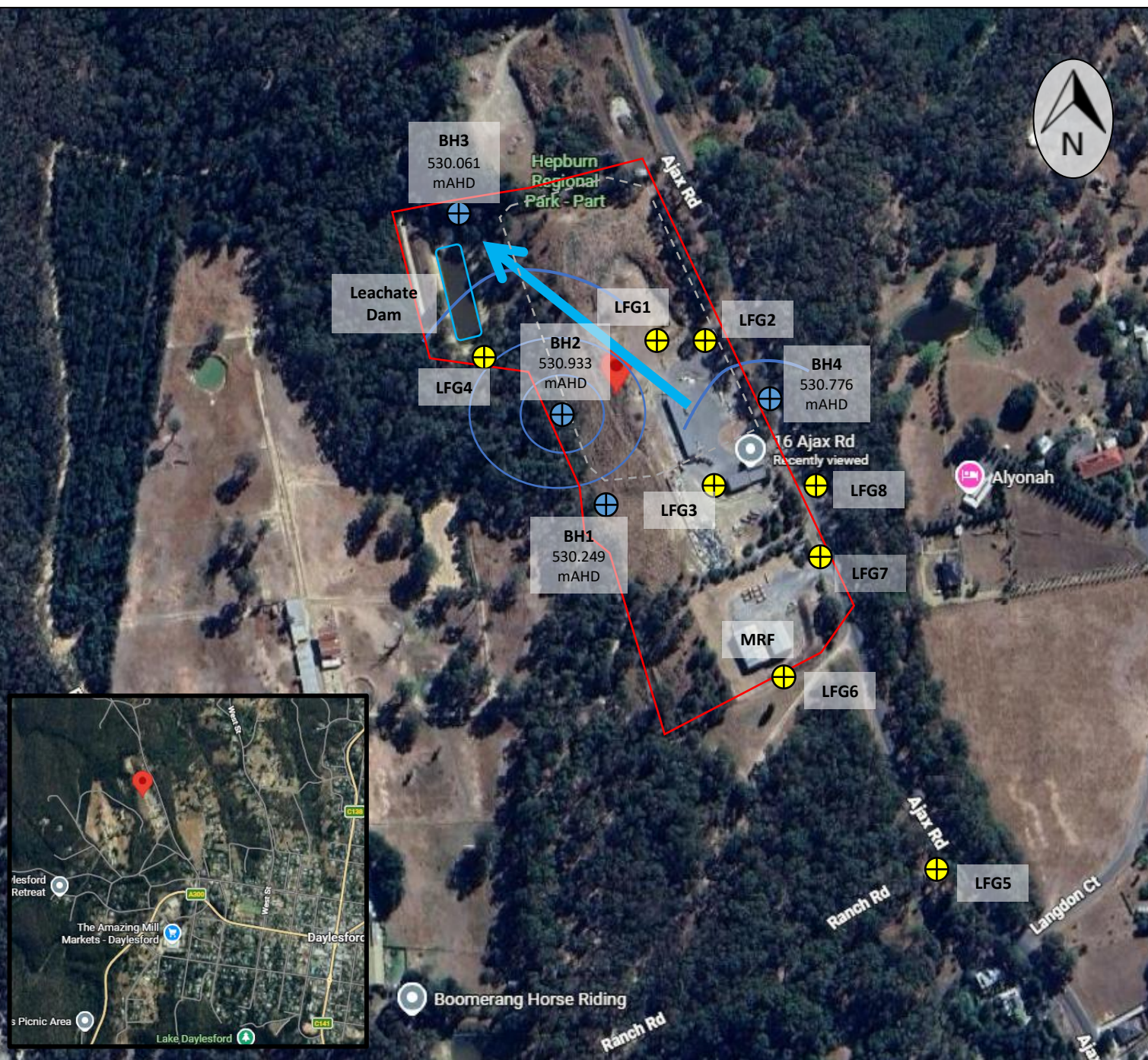
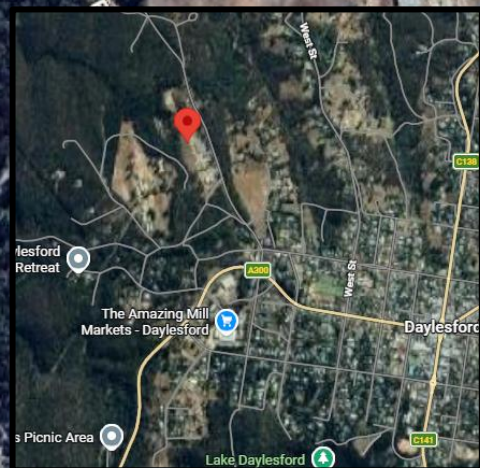
- Site Premises
- Inferred Filling Extent
- Leachate Dam
- ⊕ Landfill Gas Monitoring Bore
- ⊕ Groundwater Monitoring Bore
- LFG4 Bore ID
530.249 Groundwater Elevation mAHD
As per 'Ventia August 2024 - MONITORING EVENT REPORT'
- ← Inferred groundwater flow direction
- ⤵ Groundwater Contour

Whilst every care has been taken to prepare this map, SES gives no warranties about its accuracy, reliability, completeness or suitability. SES cannot accept any liability and/or responsibility of any kind as a result of the usage of this map.

Source satellite imagery: Google Maps 2026

Scale (m)

0 80



**APPENDIX II– ENVIRONMENTAL INCIDENT AND COMPLAINTS
REGISTER**

Daylesford Lanfill Aftercare Management Plan

[illegible]

APPENDIX III – INSPECTION CHECKLISTS

Daily Inspection Checklist
Daylesford Transfer Station

Item	Description	Condition		Comments/ Follow up Actions Required	Follow Up Actions Complete	
		Good	Needs Addressing		Initials	Date
1	OH&S across site - Operational and physical aspects					
2	Access Conditions & Signage					
3	Outdoor hardstand areas					
4	Resource Drop Off Areas					
5	Waste Transfer Shed					
6	Surface water and erosion - drainage infrastructure					
7	Surface water and erosion - hardstand surface					
8	Dust Control - Dust conditions					
9	Odour Control - Odour Conditions					
10	Litter Control - General Site					
11	Litter Control - fences/roads/offsite					
12	Noise Control -Audible Noise Conditions					

Inspection and Maintenance Checklist
Daylesford Lanfill Aftercare Management Plan

No	Description	Answer		Comments/ Follow up Actions Required	Follow Up Actions Complete	
		Yes	No		Initials	Date
1	Landfill Cap Inspection and Maintenance					
1.1	Check landfill cap for scouring or erosion and vegetation and round the cap?					
1.2	Inspect cap for shrubs, trees, or sapplings and subsequeently remove if present					
1.3	Check condition of the cap, any signs of water pooling or localised settlement?					
2	Leachate Collection and Treatment					
2.1	Any evidence of leachate seepage from landfill batters?					
2.2	Any evidence of strong odour or mosquito larvae within leachate storage pond					
2.3	Is leachate infructure pumping to leachate tanks and in working order?					
2.4	Is leachate pumping data being recorded weekly? Volumes, intial/ final levels?					
2.5	Is leachate drawdown meetomng interim timeframes?					
2.6	Does leachate extraction infructure need to installed?					
3	Surface Water Control and Collection infructure					
3.1	Surface water drainage lines intact?					
3.2	Is leachate or watste mixing with surfacewater runoff?					
4	Environmental Monitoring Program and Control Infrastructure					
4.1	Check that all GW, leachate & LFG monitoring points are accessable and in good order?					
4.2	Have groundwater, surfacewater, LFG and leachate monitoring taken place?					
4.3	OH&S across site - Operational and physical aspects in good condition?					
4.4	Access Conditions & Signage in good condition?					
4.5	Outdoor hardstand areas in good condition?					
4.6	Resource Drop Off Areas in good condition?					
4.7	Waste Transfer Shed in good condition?					
4.8	Surface water and erosion - drainage infructure in good condition?					
4.9	Surface water and erosion - hardstand surface in good condition?					
4.10	Dust Control - Dust conditions in good condition?					
4.11	Odour Control - site odours in good condition?					
4.12	Litter Controls - General Site i in good condition?					
4.13	Litter Control - fences/roads/offsite in good condition?					
4.14	Site Noise Controls in good condition?					
4.15	Pest Control - Signs of vermin/pests?					

Inspection and Maintenance Checklist
Daylesford Landfill Aftercare Management Plan

No	Description	Answer		Comments/ Follow up Actions Required	Follow Up Actions Complete	
		Yes	No		Initials	Date
4.16	Complaints received? Complaints register maintained?					
4.17	Has landfill cap and site vegetation been slashed and maintained?					
4.18	Contact/ emergency numbers still relevant?					
5	Aftercare Assessments					
5.1	Aftercare Assessments completed at the frequency specified in the AMP?					
5.2	Recommendations from the most recent Aftercare Assessment been address?					
6	Reporting					
6.1	Annual statement submitted to relevant authority?					
7	Register Audit					
7.1	Check incident register					
7.2	Any indicents/ complaints/ accidents arisen in previous reports?					
7.3	Managed in accordance with procedures?					
7.4	De-brief completed?					
7.5	Copies of incident report form for any significant incidents reoprted to relevant audorities?					
7.6	Indicent report form completed and filled in Incident Register?					
7.7	Followup actions completed?					
8	Inspection Sheets					
8.1	Inspection sheets for period have been completed?					
8.2	Any Issues arisen?					
8.3	Followup actions required?					
8.4	Followup actions completed?					
9	Review and Update of AMP					
9.1	AMP Reveiwed and updated with consideration to:					
	Assessment recommendations					
	changed site conditions					
	change in council procedures or personnel					
	Relevant legislation or guidance					

Statement of Limitations

This report has been prepared for the exclusive use of the client and has been completed to the clients' specifications. SES has relied upon the accuracy of information and data provided to SES by the client.

SES has used specific expert knowledge exercised in similar investigations by other reputable members of the environmental industry in Australia. No other warranty expressed or implied is made or implemented. No one section or part of a section should be taken as giving an overall idea of this report. Each section should be read in conjunction with the whole of this report, including appendices and attachments. The report must be read in its entirety.

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The scope of work provided and conducted is not written to meet the need of any third party. SES cannot be held liable for any third-party reliance on this document.

Due to the nature of this investigation, there is substantial uncertainty due to the heterogeneity of the material. The conclusions drawn in this report are based on the limited investigation conducted at specific sampling locations chosen in an attempt to be an accurate representation of the materials sampled. It is possible that this investigation may not have encountered all the areas of contamination due to the limited and testing program undertaken.

SES does not verify the accuracy or completeness of the information or data supplied by others and excludes all liability with respect to such information and data. SES's professional opinions are based on its own professional judgement, training, experience and results from the analytical data provided.