Construction Environmental Management Plan

For
Woodlawn Bioreactor Leachate Treatment Plant

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Document Revision Register

Rev	Revision Details	Issued to	Revised by	Date
1	Draft for internal review		-	
2	Final Draft for submission to DPE	Department of Environment & Planning		

Contents

Definitions/Abbreviations

CEMP	Construction Environment Management Plan
CSWLMP	Construction Soil Water and Leachate Management Plan
COC	Development Conditions of Consent
DA	Development Application
DPE	Department of Planning and Environment
DPI	Department of Primary Industries
EA	Environmental Assessment
EMR	Environmental Management Representative
EPA	NSW Environment Protection Authority
EP&A	Environmental Planning and Assessment Act 1979
EPL	Environment Protection Licence
GMC	Goulburn Mulwaree Council
LEP	Local Environmental Plan
LTP	Leachate Treatment Plant
LGA	Local Government Area
PA	Project Approval
POEO	Protection of the Environment Operations Act 1997
SEPP	State Environmental Planning Policy
SML20	Special (Crown & Private Lands) Mining Lease 20
TPA	Tonnes per Annum

Section 1 Introduction

Veolia Environmental Services (Australia) Pty Ltd (Veolia) is proposing to construct a Leachate Treatment Plant (LTP) at its Woodlawn Eco Project Site (the Eco Project Site), located 250 kilometres south west of Sydney, in the Southern Highlands of NSW.

In September 2016, the Project Approval (MP 10_0012) and Development Consent (DA 31-02-99) for the Woodlawn Waste Bioreactor Project were modified for additional leachate and stormwater storage capacity at the site, within the existing storage dams pursuant to section 75W of the *Environmental Planning and Assessment Act 1979* (EP&A Act). As part of this approval long-term leachate, management plan is to be implemented on site by 2017 and Leachate Treatment plant forms part of this plan. The Leachate Treatment Plant shall enable treatment of the leachate at Woodlawn Bioreactor to higher quality effluent.

Veolia has submitted under Section 75 W Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act) application to DPE to modify Project Approval and Development Consent to approve build and operate the Leachate Treatment Plant and associated infrastructure, and to make a number of changes to conditions relating to regional waste limits and operating hours.

In addition, an Environmental Protection Licence (EPL) is required under the *Protection of the Environment Operations Act 1997* (POEO Act) from the NSW Environment Protection Authority (EPA). These regulatory requirements are detailed within this Construction Environmental Management Plan (CEMP).

This CEMP is live document and has been prepared to details the management and control measures to be implemented, in association with the construction activities to be undertaken for the construction of LTP, in a manner to minimise adverse impacts on the environment. Following the approval of the Section 75 W application, CEMP will be updated to meet the requirements of the modified Project Approval and Development Consent.

1.1 Objectives of the CEMP

The objectives of this CEMP are to:

- Provide a working environmental management tool to follow during the construction stage of the LTP;
- Comply with relevant environmental legislation, relating to the construction phase of the LTP and the recommendations provided in the Licencing Guide;
- Provide a means of implementing the recommended mitigation measures for the key environmental issues, associated with construction of the LTP, identified in the Environmental Assessment;
- Define roles and responsibilities of the project management team and contractors during the construction phase of the LTP;

- Provide a summary of environmental monitoring and reporting regimes; and
- Provide a guide for the interaction with relevant government authorities and other relevant stakeholders, including the community during the construction phase of the LTP.

The management strategies and monitoring plans outlined herein are intended for review and updated, where necessary, to reflect changes introduced by the construction project team, site specific outcomes, non-conformances and recommendations arising out of inspections, meetings and audits.

1.2 Relevant Environment Legislations

1.2.1 State and Local Government

1.2.1.1 Environmental Planning and Assessment Act 1979

The *Environmental Planning and Assessment 1979* (EP&A Act) and the *Environmental Planning and Assessment Regulation 2000* (EP&A Regulation), provide the framework for development and environmental assessment in NSW. Part 3A of the EP&A Act provides for a category of development known as Major Projects. *State Environmental Planning Policy (Major Development) 2005* (SEPP Major Development) identifies categories of development which are considered to be Major Projects to which Part 3A of the EP&A Act applies.

Veolia has submitted under Section 75 W Part 3A of the Environmental Planning and Assessment Act 1979 (EP&A Act), application to DPE to modify Project Approval and Development Consent. Part 3A was repealed by the Environmental Planning and Assessment Amendment Act 2011 (Part 3A Repeal Act), which commenced on 1 October 2011. Under the Part 3A Repeal Act, projects deemed to be 'transitional Part 3A projects' as outlined in Schedule 6A of the EP&A Act, continue to be subject to Part 3A provisions of the EP&A Act (as in force immediately before the repeal and as modified by the Part 3A Repeal Act).

1.2.1.2 Protection of the Environment Operations Act 1997

The *Protection of the Environment Operations Act 1997* (POEO Act) and associated Regulations relate to the management of pollution, licencing and waste disposal in NSW and is administered by the NSW Environment Protection Authority (EPA). Under section 48 of the POEO Act, premise based scheduled activities (as defined in Schedule 1 of the Act) require an Environment Protection Licence (EPL).

The Bioreactor is licensed as a waste facility that undertakes the premises based scheduled activity "waste disposal (application to land) to accept General Solid Waste (Putrescible). This classification, under Schedule 1 Part 3 of the POEO Act, is defined as "waste (other than special waste, hazardous waste, restricted solid waste, general solid waste (putrescible) or liquid waste)" and those materials which have been pre-classified as general solid waste (putrescible) by the EPA. The Waste Classification Guidelines Part 1: Classifying Waste (EPA, 2014) provides further guidance on waste types.

A supervisory licence (EPL 11437) is also maintained by Goulburn Mulwaree Council (the Council) to supervise the Bioreactor operations, under section 87 of the POEO Act, for a putrescible waste landfill site not operated by a public authority. The Council ensures compliance with the types and volumes of waste received at the Bioreactor, any design works and other matters that the Council deems necessary to facilitate the implementation of a waste strategy under the *Waste Avoidance and Resource Recovery Act 2001*.

1.2.1.3 Water Management Act 2000

The *Water Management Act 2000* (WMA) aims to facilitate the sustainable and efficient use of water in such a way that benefits the environment and communities.

The WMA provides for the preparation of water management plans that outline arrangements for water sharing, water source protection and drainage management. As the Bioreactor lies partly in the Sydney Catchment Authority, the operations on site need to be undertaken with the principles of the WMA to ensure a secure supply of water to meed the needs of Sydney, as well as protect the health of the catchment..

1.2.2 Local Planning Controls

- **Goulburn Mulwaree Local Environmental Plan 2009:** The Goulburn Mulwaree Local Environmental Plan 2009 (Goulburn Mulwaree LEP) covers the land on which the Bioreactor is sited and zoned IN3 Heavy Industrial.
- **Goulburn Mulwaree Development Control Plan 2009:** Supports the Goulburn Mulwaree LEP and provide guidance for developments within the Goulburn Mulwaree Council Local Government Area (LGA). It also provides guidelines for managing Aboriginal and European heritage, landscaping, vegetation protection, dryland salinity, waterbody protection, groundwater, biodiversity, heavy vehicle generating developments, etc.

1.2.3 Other Requirements (Licences and Permits)

The following environmental approvals are in place for the Bioreactor:

Table 1.1 Environmental Approvals

Description	Number
Conditions of Development Consent: The Woodlawn Waste Management Facility (issued by Department of Planning and Environment)	31-02-99
Project Approval: Woodlawn Waste Expansion Project (issued by Department of Planning and Environment)	10_0012
Environment Protection Licence (issued by Environment Protection Authority)	11436
Water Access Licence: Willeroo Borefield (issued by Water NSW)	

1.3 Related Documents

- Long-Term leachate Management Solution Submission Report - July 2016

Section 2 Project Overview

2.1 Property Description

Veolia is a global leader in waste management and resource recovery services, with major facilities across Australia and internationally. The Eco Project Site (refer Figure 2.1), owned and operated by Veolia, is located in the Goulburn Mulwaree Local Government Area (LGA) and comprises 6000 hectares (ha) of equally portioned properties, namely Woodlawn and Pylara. The LTP shall be sited on 2500 m^2 of the Woodlawn property.

Existing operations on the Eco Project Site include:

- The Woodlawn Bioreactor (the Bioreactor), including the Power Station;
- Aquaculture and horticulture operations;
- Woodlawn and Pylara farms; and
- Woodlawn Wind Farm (the Wind Farm) operated by Infigen Energy.

In addition, TriAusMin has recently been granted planning approval for the Woodlawn Mine Project to commence mining operations within the Eco Project Site for both re-mining of existing tailings dams and further underground mining. There are remnant mining degraded areas within the Eco Project Site that are subject to remediation requirements under the mining lease, Special (Crown and Private Lands) Lease (SML 20).

2.2 LTP Description

The leachate treatment plant is designed to be located at areas(shown red in the figure) shown in Figure 2.1 with treatment capacity of 350m^3/day (equivalent to 4L/s), although the expected flow rate is 250m^3/day (equivalent to 3L/s) .

Figure 1.1- Proposed location of Leachate Treatment Plant

Figure 2.2 presents an overview of the plant process flow diagram (PFD) including the basic unit operations of the MBR system. The primary purpose of each unit operation is as follows:

- Balance tank: A balance tank will be used to remove potential peak flow events and even the quality that are accepted from the raw leachate collection.
- Biological reactor: A biological reactor configured into anoxic and aerobic zones will be used for biodegradation of the leachate matter (i.e. BOD) and nutrient (i.e. nitrogen) removal. Caustic will be added to control the bioreactor pH. External carbon source will be added to assist in Nitrogen removal.
- Membrane filtration: Membranes will separate the treated leachate from the mixed liquor suspended solids producing a filtrate and act as a primary disinfection barrier.
- Final Treated Leachate Storage: the treated leachate will be stored in a tank. The tank will be used to buffer treated leachate supply.
- Chemical dosing: A variety of chemical dosing systems will be used for process requirements
- Return Activated Sludge (RAS): return activated sludge will be recirculated from the aerobic tank back to the anoxic tank.

- Waste Activated Sludge (WAS): waste activated sludge will be discharged from the MBR (membrane filtration system) back into the void.

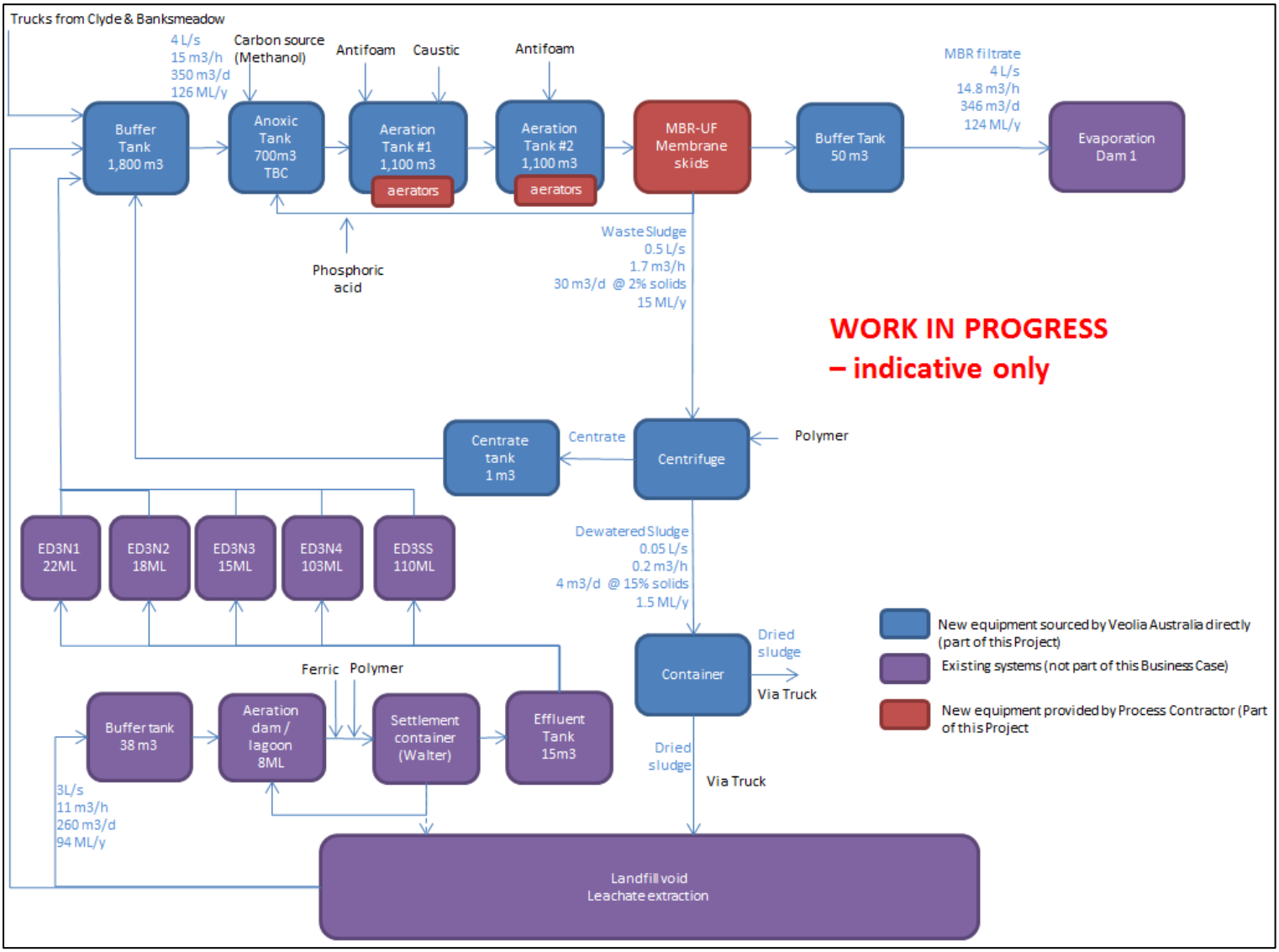

Figure 2.2- Process Flow Diagram LTP

2.2.1 Balance Tank

The balance tank will provide several days of buffering storage between the incoming raw leachate average flow rate and the MBR treatment plant capacity. A good balancing system homogenizes the feed to the subsequent treatment steps and thereby optimizes their performance. As a result, the reliability for the subsequent treatment is increased.

2.2.2 Biological Reactor

Biological reactors in activated sludge systems rely on suspended bacteria in solution that consume organic material and nutrients for their growth. The bacteria convert the organic material, expressed as chemical oxygen demand (COD) or biological oxygen demand (BOD), into carbon dioxide and water including bacterial growth in the Mixed

Liquor Suspended Solids (MLSS). In doing so, other nutrients such as nitrogen and phosphorus are also taken up to support bacteria growth within MLSS.

The MBR system uses an aerated reactor to oxidise ammonia to nitrate (nitrification) and a primary non-aerated biological reactor to transform nitrate to nitrogen gas (denitrification system).

The biological reactors will be sized in order to achieve BOD and nitrogen reduction and avoid the generation of nuisance odours by the final treated effluent after its discharge into ED1 evaporation ponds.

Overall design of the reactors will provide the effective aeration for the required organic matter and nitrification removals.

- As a minimum, the biological reactors will include:
- Duty submersible mixer in the anoxic tank(s)
- Duty and standby process blowers. Process blowers will be VSD controlled based on Dissolved Oxygen measured in the tanks. Aeration system to keep oxygen levels within the biological reactors above 2 mg/L.
- Air diffuser will not be with pipe-aerators or membrane plate aerators.
- Membrane feed pumps to transfer MLSS from the aeration zone to the membrane tank. Pumps will be VSD controlled.
- Internal recycle pumps for the bioreactor to assist in nutrient (nitrogen) removal. Pumps will be VSD controlled.

2.2.3 Ultra Filtration (Membrane) System

The membrane system will be designed to handle 100% of the ultimate hydraulic load for a 24-hour period.

Membranes can be submerged in the biological reactor or located in a separate stage or compartment external to the biological reactors. As submerged membrane systems can be complex to operate and not so efficient for leachate treatment when compared to external membrane systems, it is then proposed to utilise an external pressurized system. Since the membranes are not required to be removed from the tank for cleaning or maintenance, the external membrane systems are easier to clean, operate and maintain.

Ultrafiltration membranes have a pore size of typically 50nm. The current design allows for a total of 8 membrane modules in 2 loops.

2.2.4 Chemical Storage and Dosing Systems

The following chemical dosing systems will be part of the MBR treatment plant:

- pH correction and adjustment controls alkaline dosages
- Supplementary carbon dosage for nitrogen removal
- Citric acid/Sodium hypochlorite dosage for membrane cleaning

Each chemical dosing system will be capable of processing 100% of the average design loads and equipped with the following minimum operational requirements:

- Minimum of 20 days of storage capacity at the average design load
- Instrumentation to measure and control tank levels and dosage flow rates

Because of the estimated consumption, some chemicals (carbon source / sucrose at least,) will be stored in bulk tank will be delivered by tanker trucks. As required, a safe chemical distribution protocols will be in place to guarantee safety transfer into the storage tanks.

All hazardous chemical storages will comply with Australian standards 3780 and Veolia safety procedures.

2.2.5 SCADA system

A Supervisory Control and Data Acquisition (SCADA) system will be installed to control, monitor and optimise the processes and operation of its treatment plants. The system includes control and communications equipment, cables, monitoring instruments and computers. This system will allow monitoring and optimising processes to improve reliability, improve safety and working conditions, reduce operating costs.

Remote access functionality will be provided. Veolia Operator located in Woodlawn main office or away from site will then be able to monitor and control the Plant. Critical alarms will be pushed to Operator on duty via Text/Email/Call to guaranty compliance with EPA criteria at all time.

Veolia Australia has in-house advanced Control Engineering expertise. This will ensure a high level quality of the project delivery but also a continuous support to the operations via regular visits and tuning.

2.3 Proposed Construction Activities

The proposed construction of the LTP shall be undertaken in 8 months.

It is anticipated that construction of the LTP would commence by the July 2017, pending planning approval and conclude in February 2018, followed by 4 months of commissioning and plant optimisation. The stages of construction and indicative timeframes for Phase 1 construction stages are shown in Table 2.1.

Typical plant and equipment to be utilised during the 7-8 month construction phase of the LTP have been highlighted in Table 2.2

Table 2.1 Indicative Construction Timeline

Construction Activities	Indicative Timing
Earthworks	4 weeks
Civil works	8 weeks
Shed erection	7 weeks
Panel tanks slab	5 weeks
Panel tanks erection	15 weeks
Mechanical & Plumbing installation	15 weeks
Electrical installation	20 weeks

Table 2.2 Typical Construction Plant and Equipment

Construction Plant and Equipment	
33t Product Truck	Electric saw
Dozer	Pile drivers
Mobile Crane 1	Augers
Mobile Crane 2	Profiling machines
Excavator 1	Bitumen /hot mix machines
Excavator 2	Generator 1

Grader	Generator 2
Compactor	Diesel submersible pumps
Ripper	Pin Jib Crane 1
Backhoe	Pin Jib Crane 2
Rollers	Concrete trucks
Water cart	Scissor Lifts/boom lifts
Truck and dog	Forklifts
Tipper trucks	Compressors
Dump trucks	Generator 1
Scrapers	Generator 2
Whacker Packer	Concrete pumps

2.4 Predicted Construction Impacts and Management measures

2.4.1 Air Quality

An assessment of the predicted air quality impacts during the construction phase of the LTP was undertaken by Veolia and identified air quality pollutant emissions would be below the relevant air quality goals for all surrounding residences.

2.4.1.1 Odour

No fugitive odour emissions are anticipated during the construction phase of the LTP therefore an Odour Management has not been considered necessary for this CEMP.

2.4.1.2 Dust

The level of impact from dust emissions during the construction phase of the LTP will be minimised through effective site management, so that nearby sensitive receivers are not impacted. The used of dust control measures will aid in reducing potential pollutant emissions from the site and will be implemented during earthworks and building construction.

2.4.1.3 Management Measures

To minimise all potential dust-generating activities comprise:

- Water cart to moisten exposed ground across the site;
- Minimum speed limits onsite;
- Rehabilitating disturbed areas as quickly as possible;
- Ceasing dust-generating activities during periods of high winds.

2.4.2 Traffic

Access to the LTP construction site shall be via the Woodlawn Windfarm entrance on Collector Road

2.4.2.1 Impact

While it is anticipated there will be a marginal increase in traffic activity on site during the period of construction, due to the intermittent delivery, loading and unloading of

plant/equipment and construction materials, impact on existing operation traffic at the Eco Project Site and the local amenity is not expected.

2.4.2.2 Management Measures

A Traffic Code of Conduct (TCC) **(Appendix D)** has been prepared for the Woodlawn Eco Project Site (the Eco Project Site) to establish control strategies solely for the delivery by road to the Eco Project Site The TCC is aimed at minimising impacts on the local and regional road network, traffic noise and potential conflicts with other road users.

The movement of construction related vehicles will be restricted to the approved hours within the PA: Monday to Saturday: 6am – 10 pm in accordance with the PA

On Site Controls

- Drivers will be advised of any changes to Site traffic controls during Site inductions and toolbox talks. The need for drivers to contact Site staff via UHF at the entry will ensure that there is opportunity to update drivers, with any recent changes to procedures.
- Private worker vehicles would be parked on Site in designated lay-down areas and away from the immediate construction zone in order to avoid congestion.
- The maximum speed limit on Site during construction will be 30 kilometres per hour, however further restrictions may be imposed for specific areas or works phases on Site based on site risk assessments.

On Site Truck Movement

- Notifications for on-site truck movements will be managed via a combination of site induction and monitoring of truck movements by Contractor. The Site induction will be a pre-requisite for drivers visiting the work site and establish the expected operating parameters covering the hazards identified in this plan.
- For staff working at the Site, a similar induction and subsequent toolbox talks would be conducted, as required during the work, to update staff when changes to the proposed worksites and or activities are planned.
- Workers within the Site would be separated from the primary circulation path for trucks dumping fill and the dump Site.
- Traffic management requirements for onsite roads will be identified, and an on-site vehicle movement plan in the form of a graphical representation will be developed and implemented based on these requirements. These plans will be updated as Site conditions change throughout the construction works, and will be communicated through Site inductions and toolbox talk.

2.4.3 Soil Water & Leachate

Soil

Geotechnical investigation was undertaken by Douglas Partners Pty Ltd (DP). Based on the results of the field investigation, the filling materials at the site are either clayey or silty topsoil (presumably stripped from elsewhere on the mine site), overlying various types of crushed and blended mine spoil (silty and clayey gravel with cobbles

and boulders). Five general types of filling material are indicated at the site overlying rock, as follows:

- Grey, fine to medium gravel, road base
- Dark brown silt or clay topsoil, with roots and organic material
- Red-brown and yellow clayey gravel, 'poor' quality fill
- Yellow and light brown clayey gravel, 'average' quality fill
- Light grey silty gravel (crushed rock), 'good' quality fill

It is anticipated that design finished surface levels for pavements and slabs associated with the current site layout will lie close to existing ground surface levels and structure proposed for the site will probably be supported by shallow pad footings founded within the filling.

Site preparation works should include the reworking of any existing filling within the upper 0.7 m of the stripped surface to improve the in situ density and to adjust the moisture condition to within 2% of Standard OMC. Removal of particles larger than 150 mm dimension will be required, as these will impede compaction. Similarly, pavement support will be provided by shallow soils to depths of about 0.7 m from existing surface levels.

To ensure suitable controls are addressed during the construction phase of the LTP Facility, management strategies for disturbance of soils on site, sedimentation and erosion control measures have been detailed in the Construction Soil Water & Leachate Management Plan (CSWLMP)(Appendix –C1).

2.4.4 Water and Leachate

Geotechnical investigation was undertaken by Douglas Partners Pty Ltd (DP). As part of the investigation excavation of seven test pits (TP1 to TP7). The pits were excavated to depths of between 0.85 m and 1.7 m, to identify the sub-soil profile and determine the thickness of imported filling, obtain soil samples for laboratory testing, and to determine the depth to the underlying rock.

Groundwater was not observed in the test pits during the investigation, however, inflow was observed in test pit TP5 at 0.3 m depth, which was excavated within a boggy area understood to have been used for stockpiling topsoil.

Given that the structure proposed for LTP is to be supported by shallow pad founded within fillings and the earthworks and civil foundation won't go deeper than than 1.7m, it is unlikely that the groundwater will be encountered or disturbed during excavation. If ground water seepage occurs during excavation; the water flow should be manageable by pumping out.

Stormwater collecting on the site currently flows to an existing drainage depression on the site. This drainage depression runs in a direction away from the site to ED1. During the construction phase of the LTP, surface water run-off from the site will be diverted and managed in accordance with the Construction Soil, Water and Leachate Management Plan (refer Appendix C1).

An assessment of the water demand during the operation phase of the LTP undertaken based on the proposed enclosed composting process and the water infrastructure capacity requirements for leachate and stormwater.

A water balance, based on the likely demand for potable water usage during the construction phase of the LTP, was calculated however, non potable water usage will be subject to weather conditions and fluctuating site demand therefore could not be predicted. Further details are provided in the Construction Soil, Water and Leachate Management Plan (refer Appendix C1).

Leachate generation shall not occur during the construction phase of the LTP.

2.4.5 Noise

The nominated noise sensitive receivers for the construction phase have been identified in Table 2.3 below

Table 2.3 Noise Sensitive Receivers

Property ID	Property Name	Receiver Type	Distance to Development (Kilometres)
1	Woodlawn Farm *	Residential	1.6
2	Cowley Hills *	Residential	2
3	Pylara *	Residential	4
4	Torokina	Residential	3.7
5	Willeroo	Residential	4
6	TriAusMin Administration Office	Industrial Premises	3

Note *: Veolia owned residences

2.4.5.1 Construction Related Noise

Construction noise is associated with construction activities arising from:

- Mobile plant including earthmoving equipment such as excavators, and truck movements generating time-varying noise levels at receiver locations.
- Fixed plant e.g. generators and compressors, which generate continuous noise levels.

No exceedance in noise impact above background levels from construction noise emissions is anticipated given that the nearest sensitive receiver is located more than 1.6km away from the site.

The existing noise limits for Woodlawn Bioreactor, imposed under the approval conditions will be used during the construction stage of the LTP,

Should cumulative noise emissions from the LTP site result in noise complaints, , a noise monitoring program shall be established to provide information to support ongoing noise management during construction works.

2.4.5.2 Management Measures

The proposed construction activities have been estimated to take approximately eighteen months. The construction activities would mainly involve earthworks, foundation and concrete works, construction of shed and installation of equipment. Details of these are provided in Section 2.3

A marginal increase in traffic activity at the site is expected during mobilisation, loading and unloading of plant/equipment and construction materials occurring intermittently as detailed in the section 2.4.2

No exceedance in noise impact above background levels from construction noise emissions is anticipated; however control measures will be in place as outlined in section 2.4.2 to minimise traffic-related noise emissions such as enforcing speed limits and ensuring all construction related works are undertaken during permissible hours.

The control measures to mitigate noise emissions as a result of the construction works associated with the LTP, demonstrating best practice may include the following:

- Permissible Hours of Work – Construction shall take place during permitted hours:Monday to Saturday: 6am – 10 pm in accordance with the PA
- Traffic Management – Construction-related traffic will be limited to construction hours with enforced speed limits to minimise noise emissions as detailed in the section 2.4.2
- Plant and Equipment – It is envisaged that no exceedance in noise emissions on-site will occur from the plant and equipment used during the construction stage, however operation of the same will be limited to day construction hours to minimise impact on nearest sensitive receivers.
- Plant Noise Audit - Noise emission levels of all critical items of plant and equipment should comply with manufacturers' specifications with noise limits appropriate to those items.
- Unattended Noise Logging – In the event of any noise complaints, exceedances or as required, unattended logging shall be undertaken to establish background levels and noise emissions during construction activities. The results shall be used to validate noise controls or provide a reference to implement additional noise management strategies in accordance with the level of exceedance determined.
- Operator Instruction - Operators will be trained in order to raise their awareness of potential noise problems and to increase their use of techniques to minimise noise emission, for exampling not idling plant/equipment when not in operating.
- Maintenance – Maintenance activities for construction equipment would be restricted to the standard construction hours.

2.4.6 Construction Waste

Management strategies for waste generated during the construction phase of the LTP will be aimed at implementing effective controls, correct classification and disposal methods including reuse and recycling where possible, Any materials requiring disposal shall be delivered to the Bioreactor for further energy recovery.

Section 3 Environment Management

It is essential that all personnel associated with the construction phase of the LTP comply with the legal, contractual and environmental requirements presented by Veolia and addressed in this CEMP.

All necessary approvals with respect to the planning and implementation of the construction stage of the LTP will be obtained by Veolia. All relevant conditions of licences, permits, consents and approvals are to be adhered to during construction and commissioning stages. Copies of all licences, consents, permits and approvals will be held on site.

3.1 Structure, Roles and Responsibility

Project Manager

- Ensure that the Environmental Management System (EMS) is effectively implemented on the project;
- Appoint/nominate the Environmental Management Representative and/or site nominee;
- Report to senior management on the performance of the system and environmental breaches;
- Allocate project resources to handle environmental issues;
- Take action to resolve major non-conformances; and
- Ensure suppliers and contractors comply with requirements.

Project Engineers, General Superintendent and/or Supervisory Personnel

- Implement the CEMP on the LTP site;
- Report to the immediate manager on environmental issues, breaches etc.;
- Ensure that site personnel are aware of their environmental obligations; and
- Take action to resolve non-conformances.

HSEQ Officer (Health, Safety, Environment and Quality)

- Ensure that audits of the project system are carried out and reported to the IMT
- Provide advice and support in relation to environmental issues
- Review CEMP to ensure compliance with AS/NZS ISO 14001

Environmental Management Representative (or nominee)

- Ensure that the EMS is effectively established, implemented and maintained at the project level;
- Review and update the CEMP and associated documentation;
- Provide support to the project team to enable them to meet their environmental commitments;
- Ensure that site personnel receive appropriate environmental awareness training;

- Ensure that environmental records and files are maintained;
- Ensure that non-conformances are recorded and actioned;
- Completing environmental checklists; and
- Undertake environmental monitoring requirements of the licence.

Contractors/Sub-contractors

- Comply with all legal, contractual and environmental requirements;
- Comply with management / supervisory directions; and
- Participate in induction and training as directed.

All Personnel

- Comply with the relevant Acts, Regulations and Standards.
- Comply with VES' Environmental Policy and procedures.
- Promptly report to management on any non-conformances and/or breaches of the system.
- Undergo induction and training in environmental awareness as directed by management.

3.2 Reporting Requirements

Performance reporting is required to produce systematic, comprehensive and informative reports on the environmental monitoring and construction activities for the LTP and provide the EPA with information to review the level of compliance with the EPL. The reporting required, in accordance with an EPL under the POEO Act 1997, may comprise:

Notification and Incident Reporting

Veolia must notify the EPA of incidents causing or threatening material harm to the environment as soon as practical after they become aware of the incident. Notification will initially be made by telephoning the EPA's Pollution line service on 131 555. This will be followed by a written report within 7 days of the incident occurring.

Written Report

Veolia must provide a written report, at the request of any authorised EPA officer, in relation to an event that has caused, is causing or is likely to cause material harm to the environment.

3.3 Environmental Training

Upon commencement, all contractors shall be made aware of their environmental responsibilities and shall familiarise themselves with the requirements of the CEMP (refer Section 4). Further requirements will be explained to contractors during a site

induction and any training that may be required will be provided via toolbox meetings. All inductions and on-going training, if required, shall be recorded.

3.4 Emergency Contacts

A list of personnel to be contacted during any site or environmental emergencies has been compiled and presented in Table 3.1 below:

Table 3.1 LTP Facility Construction Emergency Contacts

Contact	Position	Contact Details
Clement Grech	Project Manager	0455 494 373
Henry Gundry	Woodlawn Site Manager	0400 233 592
Ramona Bachu	NSW SHEQ Environment officer	0407 668 199

Section 4 Implementation of the CEMP

4.1 Risk Assessment

Environmental Risk

An assessment of the risks to the environment and/or sensitive receptors was undertaken as part of the EA. The results of the risk assessment indicated that cumulative impacts from the parameters like to cause environmental impact during the construction phase of the LTP would be low to moderate.

On the basis of this, the CEMP and the appended supplementary plans (refer Appendix C) have been prepared, the management strategies detailed therein providing the mitigation measures for the likely environmental impacts identified in Section 2.4. A summary of this is provided in Table 4.1 below.

Table 4.1 Construction Environmental Risk

Issue	Construction Environmental Impacts	Comments
Air quality	Dust emissions escaping from the LTP	Large buffer distance between the site and nearest non-project, related residences provided (refer section2.4.1). Control measures such as stockpile protection, water cart and background monitoring (refer Section 2.4.1)
Noise	Noise impacts (including traffic noise)	Large buffer distance between the site and nearest non-project related residences provided (refer Section 2.4.5)
Traffic	Impact on main site access road, local road network and onsite.	Minimal impact on site access and local road network (section 2.4.2). Traffic management/controls implemented onsite (refer section 2.4.2).
Soil & Water	Sedimentation and erosion Site contamination	Sedimentation and erosion controls, stockpile management, stormwater diversion/management and site contamination management (refer CSWLMP).
Waste	Waste generation, excavation, litter.	Waste reused/recycled where possible and sent for disposal in the Woodlawn Bioreactor or offsite, where practicable (refer 2.4.6).

Work Health and Safety

Work health and safety risk assessments shall be undertaken, prior to commencement of construction, by the nominated Contractor in conjunction with Veolia.

All associated documentation such as Safe Work Method Statements, Job Safety Environmental Analyses and Site Hazard Identification and Assessment Reports will be prepared by both parties.

Veolia is certified under ISO 9001:2008 Quality Management Systems (QMS), BS EN ISO140001:2004 Environmental Management Systems (EMS) and Australian Standard AS/NZS 4801:2001 for Risk Management. All safety documentation will adhere to the requirements of these standards, relevant legislation and industry best practice.

This documentation forms part of the Veolia's National Integrated Management System which is the platform for housing all health, safety, environmental and quality policies, plans and procedures.

4.2 Environmental Management Activities and Controls

To manage environmental and work health and safety the following activities and controls will be employed during the construction phase of the LTP.

Induction and Training

All contractors will receive induction/training in the following areas:

- Environmental Policy
- CEMP and related documents
- Significant project aspects, impacts and controls
- Emergency procedure and response
- Understanding the legal obligations

Personnel performing tasks that can cause significant environmental impacts shall be competent on the basis of appropriate education, training and/or experience.

Communication

With respect to the functioning of the project's EMS, all contractors and other interested parties shall be kept informed in the following manner:

Internal communication methods may include the following where applicable:

- Site meetings
- Project reports
- Performance Assessment Reports
- Audit reports, non-conformance reports
- Noticeboards
- Staff meetings (as required)
- Employee induction, training and tool box sessions (as required)
- Subcontractor coordination meetings
- External communication methods may include the following where applicable:
- Community consultation and dissemination of information (to be covered by community liaison committee)
- Public notices and announcements
- Meetings and correspondence with appropriate regulatory authorities
- Discussions with adjoining land owners / neighbours who may be affected by the project
- Handling of complaints in accordance with Section 4.4

Revisions and Updates

Revisions of this CEMP may be issued from time to time by the Environmental Management Representative.

Community Liaison and Complaints Handling

Veolia shall notify the Secretary, Goulburn Mulwaree Council, EPA and the local community in writing of the date of commencement of construction, details of main construction activities, construction times and anticipated duration of the works.

Through the established communication methods (community liaison meetings or newsletters), Veolia shall keep residents informed of construction related activities and project progress.

Should any unforeseen developments occur, the relevant stakeholders shall be contacted and informed.

Complaint Handling Procedure

Complaints or adverse reports received from any external source by the site office shall be deemed to be Public Complaints. Public comments for the impacted community will be possible through the Woodlawn Eco Project Site office via telephone (02 4844 6262) or email: woodlawn@veolia.com.au

The Project Manager and local community shall be notified of all public complaints. All public complaints received (either written or verbal) will be documented to contain the following information:

- The nature and extent of the complaint.
- The method by which the complaint was made.
- The name and address of the person lodging the complaint.
- Details of location, date, time and effects of the complaint.
- The action taken to address the complaint including follow up contact with the complainant.

The Project Manager, or his nominee, shall investigate and determine appropriate corrective/preventive actions to be taken to address all Public Complaints. The complainant shall be informed in writing the results of the investigation and action to be taken to rectify or address the matter(s). Where no action is taken the reasons why are to be recorded.

The Environmental Management Representative or site nominee as nominated by the Project Manager shall maintain the Public Complaints Register.

Records of Public Complaints shall be filed in the Complaints Register which has been established to ensure any complaints are correctly recorded and addressed and shall be kept for at least four years after the complaint was made.

Reporting and Record Keeping of Complaints

The Environmental Management Representative or site nominee shall establish and maintain a system of records which provides full documentation of complaint handling and responses to non-conformances, during the construction phase of the LTP.

The contractor shall establish and maintain procedures for the collection, indexing, filing, storage and maintenance of site records. Archived records shall be kept in accordance with Veolia's document control procedures.

Non-Compliance and Corrective Action

The Environmental Management Representative or site nominee will record and follow-up:

- Details of any complaints, including the complainant's name, address and contact number.
- Details of the response to complaints (including supplementary monitoring, corrective action).
- Weather conditions occurring at the time of the event, where relevant, relating to the complaint, including wind conditions and incidence of temperature inversion.

Details of all complaints received will be kept in a complaints site register to ensure that a response is provided to the complainant as soon as practicable. The corrective action may involve supplementary monitoring to identify the source of the non-conformance, and/or may involve modification of construction or operational techniques to avoid any recurrence or minimise its adverse effects.

The Environmental Management Representative or site nominee will make available a report on complaints to the local community and, upon request, relevant government agencies.

4.3 Environmental Monitoring Schedule

The environmental monitoring schedule shall provide an outline of the monitoring programme to address all practicable measures to prevent and minimise harm to the environment as a result of the construction phase of the LTP, in accordance with its regulatory requirements.

In the event pollutants are detected, monitoring is to occur. A monitoring report is to include the following:

- The locations and results of the potential pollutant monitoring.
- Tabulation of results, together with notes identifying the principal sources of potential pollutants.
- Summary of any measurements exceeding the criteria levels, and descriptions of the circumstances causing these exceedances.
- Details of corrective action applicable to criteria exceedances, and confirmation of its successful implementation. Where corrective action has not yet been implemented, it may be shown as pending, and the status of its implementation shall be carried forward to the site's reporting requirements.

Where the results of any monitoring demonstrate an exceedance of a limit in this consent, the Applicant shall provide, within 30 days of the monitoring, the monitoring results to the Secretary and Goulburn Mulwaree Council stating:

- The reason for the exceedance;
- Action taken to ensure the limit is not exceeded in the future;
- Proposed action to ensure the limit is not exceeded in the future;
- Timetable for implementing the proposed action in (c); and
- Results of additional monitoring which has been conducted within the required reporting period of the action taken in (b) and (c) above, to demonstrate compliance with the limit.

Printed documents are uncontrolled versions. Check printed copies against the current electronic version for validity.

References

Appendices

Appendix A - Site Plans

Appendix B - Regulatory and Policy Documents

Appendix C - Supplementary Environmental Management Plans

Appendix C1 Construction Soil Water & Leachate Management Plan

Appendix C2 Emergency Response Plan

Appendix D – Transport Code of Conduct