

Operational Environmental Management Plan

**Erskine Park Resource Management Facility
Stage 1 – Waste Transfer Station**

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Prepared by: SLR Consulting Australia Pty Ltd
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Document Control

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1. INTRODUCTION

1.1 *Background*

The Independent Planning Commission of NSW (IPCN) (formerly Planning Assessment Commission [PAC]), acting as delegate of the Minister for Planning, approved an application for the Erskine Park Waste and Resource Management Facility (WRMF) Staged Development Application (SSD 7075) on the 5 October 2016, comprising:

- A concept proposal for a Waste and Resource Management Facility with a maximum processing capacity of 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2)
- Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.

The WRMF will be developed in two stages, the first being a Waste Transfer Station (WTS) and the second being a Resource Recovery Facility (RRF). An Environmental Impact Statement (EIS) was prepared to support the application for the WRMF Concept Proposal and the Stage 1 WTS. A separate EIS for the Stage 2 RRF will be developed at a later date.

Two modifications to the Development Consent have been submitted under Section 96(1A) of the EP&A Act, and approved by the Department of Planning and Environment (DPE). Modification 1 (Mod 1) and Modification 2 (Mod 2) to the Development Consent sought changes to the Concept Plan and the WTS's design. Mod 1 also sought changes to administrative conditions of the Development Consent. A third modification was submitted to the DPE on 16 May 2018, which seeks approval to install a manual sorting line on the floor of the WTS; it awaits approval from DPE.

The WTS will receive commercial waste from the Western Sydney region which would subsequently be transported to a licenced waste management facility off site. A proportion of the waste received at the WTS would be diverted to the RRF for recycling and recovery of saleable products. The design capacity of the completed WRMF is 300,000 tonnes per annum, inclusive of both stages.

While the Site is located in an industrial area, a key consideration in the planning and design of the WTS has been to avoid impacting on the amenity of the surrounding residential community, particularly in relation to odour, noise and traffic issues.

1.2 *OEMP Context*

This Operational Environmental Management Plan (OEMP) has been prepared by SLR Consulting Australia (SLR), on behalf of Cleanaway Pty Ltd (Cleanaway), for the Stage 1 Waste Transfer Station, to satisfy Schedule C (Part C), Condition C3 of Development Consent SSD 7075 (as modified) (refer to **Table 1**). A copy of the original Development Consent SSD 7075, Mod 1 and Mod 2 is provided in **Appendix A**.

For the purpose of this document, the Development is described in:

- The Environmental Impact Statement (EIS) (SLR 2015a) and the appendices contained within;
- The Response to Submissions (RTS) (SLR 2015b) and the appendices contained within;
- The DA Modification 1 Environmental Assessment (EA) Report (SLR 2017) and the appendices contained within; and
- The DA Modification 2 Environmental Assessment (EA) (EME 2018) Report and the appendices contained within.

Table 1 – OEMP and Management Plans Development Consent Conditions

Condition No.	Conditions	OEMP Section
SCHEDULE C, Part C Operational Environmental Management Plan		
C3	Cleanaway will prepare an Operational Environmental Management Plan for the Development to the satisfaction of the Secretary. This strategy must:	This Plan
a.	be prepared by a suitably qualified and experienced person(s);	Section 1.2 and Appendix B
b.	provide a strategic framework for environmental management of the Development;	Section 3
c.	identify the statutory approvals that apply to the Development;	Section 3
d.	describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;	Section 2.2, 4
e.	describe in detail how the environmental performance of the Development would be monitored and managed; and	Sections 4, 5, 6 and 7.
f.	f) describe the procedures that would be implemented to: (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development; (ii) receive, handle, respond to, and record complaints; (iii) resolve any disputes that may arise; (iv) respond to any non-compliance; and (v) respond to emergencies.	Section 5.3 Section 6 Section 6.6 Sections 5, 7 and 8 Section 7
	Cleanaway will carry out the Development in accordance with the Operational Environmental Management Plan approved by the Secretary (as revised approved by the Secretary from time to time), unless otherwise agreed by the Secretary	Noted
SCHEDULE C, Part C Management Plan Requirements		
C4	The Applicant shall ensure that the environmental management plans/strategies required under this consent are prepared in accordance with any relevant guidelines and include:	Sections 1.2
g.	detailed baseline data;	Refer to Section 4, EIS (SLR, 2015a) and RTS (SLR, 2015b)
h.	a description of:	
	(i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);	Sections 4, 5, 6, 7 and 8
	(ii) any relevant limits or performance measures/criteria;	Section 4
	(iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;	Section 4

	(iv) the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;	Section 4
i.	a program to monitor and report on the:	
	(i) impacts and environmental performance of the Development;	Sections 4 and 5
	(ii) effectiveness of any management measures;	Section 4 and 5
	(iii) a contingency plan to manage any unpredicted impacts and their consequences;	Section 4.6 and 7
	(iv) a program to investigate and implement ways to improve the environmental performance of the Development over time;	Sections 4, 5 and 7
j.	a protocol for managing and reporting any:	
	(i) incidents;	Section 7
	(ii) complaints;	Section 6
	(iii) non-compliances with statutory requirements;	Sections 4, 5 and 7
	(iv) exceedances of the impact assessment criteria and/or performance criteria; and	Section 4, 5 and 7
	(v) a protocol for periodic review of the plan.	Section 8

In accordance with Development Consent SSD 7075 (as modified), a number of OEMPs supporting documents are required to be prepared in consultation with specific approval authorities. A Consultation Register and proof of consultation is included in **Appendix C**. Consultation has been undertaken in accordance with the requirements of Schedule B, Condition A8.

The OEMP has also been prepared in accordance with relevant commitments made in the EIS (SLR, 2015a) Statement of Commitments. Commitments that are relevant to this OEMP are included in **Table 2**.

Table 2 - Relevant Commitments provided in the EIS Statement of Commitments

EIS Section	Aspect/Commitment	OEMP Section
Section 7.11.5	A site-specific Operational Environmental Management Plan (OEMP) will be developed and submitted to DP&E for approval. The OEMP will ensure that the commitments made within the EIS, along with the conditions imposed by the development consent and EPL, are fully implemented and complied with. The OEMP will establish the framework for managing and mitigating the potential environmental impacts of the Development over the life of the operation.	This OEMP

Other operational commitments proposed in the EIS and outlined in the Statement of Commitments have been incorporated in relevant sections of this OEMP. These include mitigation measures, monitoring activities and management strategies.

This OEMP has been prepared in accordance with the *Guideline for the Preparation of Environmental Management Plans* (DPE, 2004).

1.3 OEMP Objectives

The objectives of the OEMP are to:

- Support operations of the Development in accordance with Conditions C3 of Development Consent SSD 7075 (as modified);
- Ensure compliance with all relevant regulatory requirements;
- Minimise the environmental impacts of the Development during operations;
- Engage with the community to minimise complaints;
- Maintain a high level of environmental performance through on-going training and inductions;
- Ensure the commitments made in the approvals documentation are fully implemented and/or complied with during operations; and
- Ensure the environmental risks associated with the operations of the Development are properly managed.

2. Development Description

2.1 Site Description

Development Consent SSD 7075 (as modified) gives permission for the operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa. The key aspects of the Development are:

- A steel framed and clad waste transfer station building with associated offices, amenities and lower level transfer vehicle load-out area;
- Fast acting roller shutter doors which will be normally closed;
- Transfer station working floor with concrete peripheral roads;
- An active ventilation system and air treatment system with controlled discharge as part of the overall approach to air emissions and odour management;
- Associated infrastructure including all hardstand areas, car park, weighbridges, and sealed roads; and
- Ancillaries including perimeter security fencing, security gates, rain water harvesting, fire suppression system, signage, landscaping, drainage and services.

The layout of the WTS is shown in **Figure 1**.

The Development site is located approximately 11 kilometres south-east of Penrith in western Sydney, NSW (see **Figure 2**). It is addressed to 85-87 Quarry Road, Erskine Park NSW, and is identified as Lot 1 in Deposited Plan (DP) 1140063 in the Penrith Local Government Area (LGA). The title comprises approximately 3 hectares. As shown the site is west of and adjacent to the existing Erskine Park Landfill that is located adjacent to the site (Lot 4, DP 1094504).

Sensitive receptors of the Development site are shown on **Figure 3**. The nearest affected residences are located as follows:

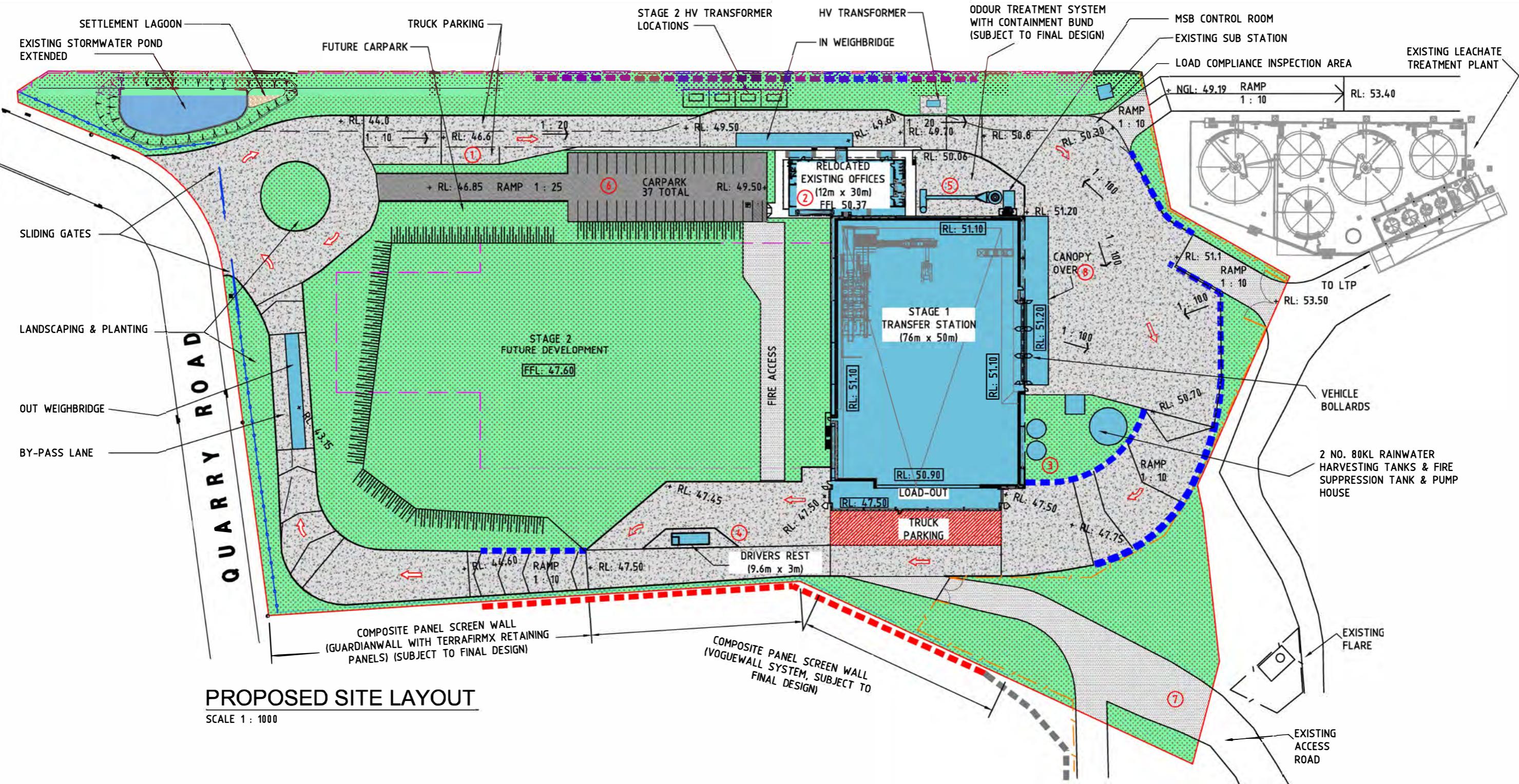
- To the west, approximately 850m from the site (RR1);
- To the south, approximately 1.3km from the site (RR2) – this location corresponds to a retirement village;
- To the east, approximately 1.3km from the proposed site (RR3) – this refers to an isolated residence located in the Erskine Business Park; and
- To the north, approximately 850m from the proposed site (RR4).

A child care centre (CC1) is located approximately 670m to the west of the closest boundary of the Development site.

The nearest potentially affected industrial premises are located:

- to the north, approximately 30m to the closest boundary of the site (IR1);
- to the southwest, approximately 50m to the closest boundary (IR2); and
- to the south, approximately 115m to the closest boundary (IR3).

The Development comprises a putrescible WTS with a nominal volume of approximately 1,040 tonnes of putrescible waste per day (design capacity 300,000 tonnes per annum [tpa]). However, subject to market factors, initially around 90,000 tpa of putrescible waste will be received at the site and expected to increase over time. All received waste is then transported off-site to an appropriately licensed waste management facility.

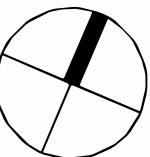


LEGEND

DEVELOPMENT BOUNDARY	GRAVEL HARDSTAND	EXISTING FENCING	2.4M HIGH NEW COMPOSITE PANEL SCREEN WALL
ASPHALT HARDSTAND	LANDSCAPED AREAS	1.5M HIGH NEW BLACK PALISADE FENCE	EXISTING RETAINING WALL REMOVED/MODIFIED
CONCRETE HARDSTAND	TRAFFIC DIRECTIONS	CHAIN LINK FENCE	PROPOSED RETAINING WALL

SCHEDULE OF CHANGES

1. ADDITIONAL TRUCK PARKING TO NTH DRIVEWAY
2. OFFICE LAYOUT REVISED
3. PROPOSED STAGE 2 ADDITION DELETED, 2x80KL RW TANKS NOTED
4. DRIVERS REST ADDED TO STH DRIVEWAY
5. NTH ELEVATION DUCT WORK REVISED
6. ADDITIONAL STAGE 1 CAR PARKING
7. EXISTING ACCESS ROAD IN STH WEST RETAINED
8. EAST CANOPY RAISED BY 500MM



PROJECT
ERSKINE PARK RMF - STAGE 1
WASTE TRANSFER STATION
FOR
CLEANAWAY WASTE
MANAGEMENT LTD

CLEANAWAY
Making a sustainable future possible

ARCHITECTS DOCUMENTATION:
Na
architects

NICHOLAS & ALEXANDER ARCHITECTS
37 Bevan Street, Albert Park, 3206
Tel: 9696 5822
Email: naarch@bigpond.net.au
A.C.N. 070 432 932

PROPOSED SITE LAYOUT -
STAGE 1 - MOD 3 FIGURE 1

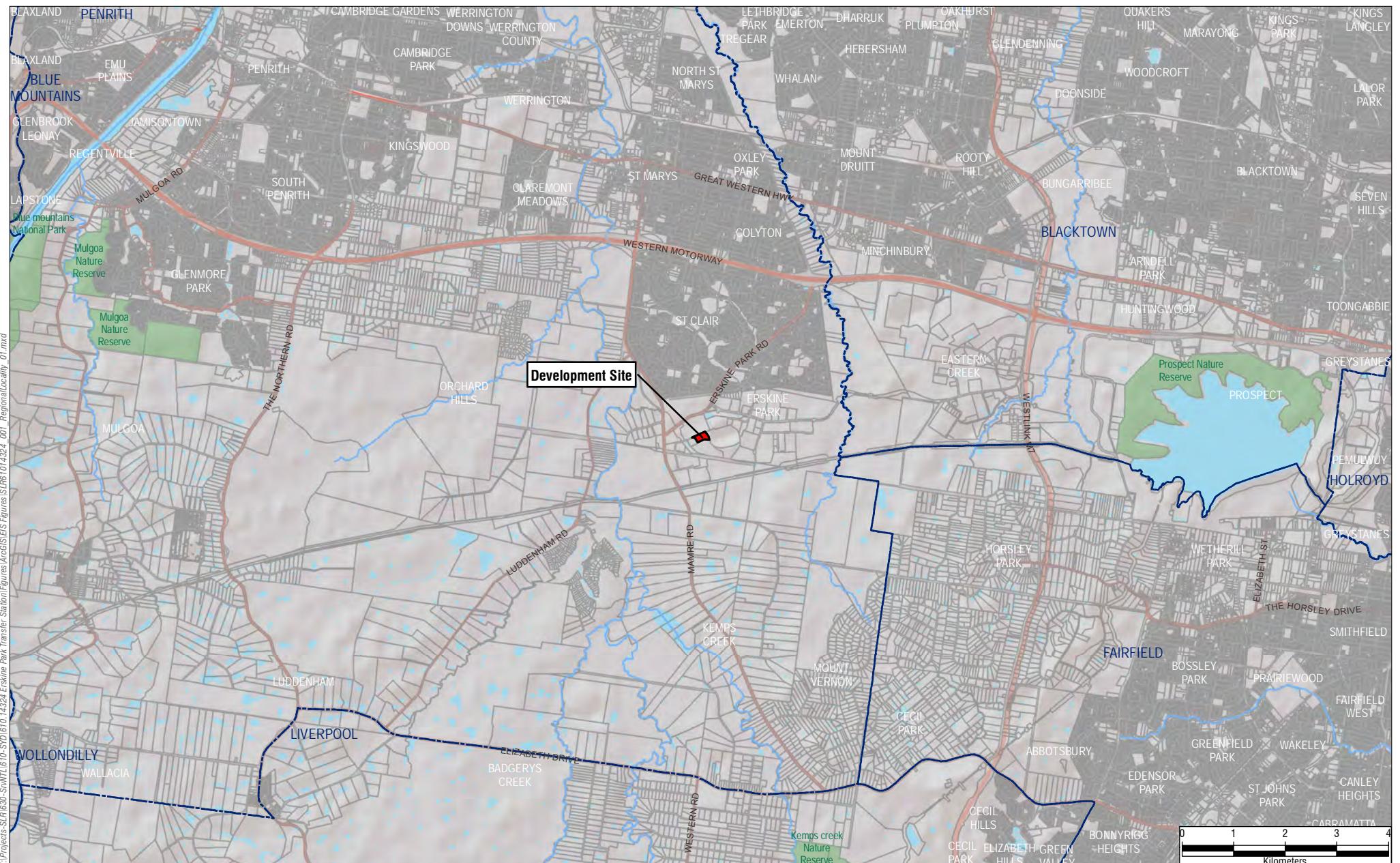
DEVELOPMENT CONSENT

DATE MARCH 2018

SCALE AS SHOWN @ A3

PLOT SCALE 1 : 1

DRWG. No.	DOCUMENTATION JH	SHEET. No.	REV.
17567			
DRAWN JH	ND	003	19
CHECKED ND			



0 1 2 3 4
Kilometers



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Notes:

1. All features are approximate only and subject to detailed survey.
2. Aerial Imagery courtesy Nearmap.
3. DCDB courtesy NSW LPI.

Transpacific Industries Group LTD

Erskine Park Waste Transfer Facility

Site Location in Regional Context

FIGURE 2



Waste delivery vehicles will enter the site from the adjoining Quarry Road, weighing on the incoming weighbridge located adjacent to the office. Delivery vehicles then proceed to the eastern side of the building where they align with one of the roller shutter door entrances on the eastern elevation. The vehicles reverse through one of the rapid acting roller shutter doors, discharge their waste and then drive out of the building, down a ramp and proceed to the south of the transfer station towards the outgoing weighbridge, exiting the site onto Quarry Road. The majority of the material received is waste from commercial waste collection trucks, stationary compactor (packer) hooklift loads and side-loader collections (e.g. 240L mobile garbage bin collections from commercial premises).

Waste offloaded on the tipping floor would be separated into two categories; putrescible and non-putrescible incl. wood, masonry, rigid plastics, and old corrugated cardboard. The non-putrescible waste would be sorted for recycling, while the remaining would be consolidated with the putrescible waste and transferred into transfer vehicles by a front-end loader which would lift the material over a wall opening for top loading. Waste will be transferred from site using B-Doubles or single trailers to an appropriately licensed waste management facility in accordance with relevant waste management regulations.

When the RRF is operational, waste deemed suitable (recyclable) would be diverted to the RRF for recycling and recovery of saleable products.

Operations Hours

In accordance with Schedule C (Part B), Condition B28 of Development Consent SSD 7075 (as modified), the operations hours for the Development are listed **Table 3**. All operations will occur within the hours listed in **Table 3**.

Table 3 - Operational Hours

Activity	Day	Hours
Operations	Seven days a week	24 hours a day

2.2 Key Contact Details

Table 4 lists the key contacts for the Development.

Table 4 - Contact Details

Location / Personnel	Contact Details
Cleanaway - Erskine Park Site	Ph: 0404 273 140 Email: Alex.Hatherly@cleanaway.com.au
Cleanaway - Customer Inquiries	Ph: 13 13 39
Cleanaway - Emergency Spills Response	Ph: 1800 774 557 (1800 SPILLS)
Cleanaway - Complaints and Feedback	Ph: 1800 213 753

Table 5 lists the contact details for the regulatory authorities that have an interest in the operations of the Development.

Table 5 - Regulatory Authority Contact List

Regulatory Authority	Contact Details
Department of Planning and Environment (DPE)	
Sydney Office	1300 305 695
Environment Protection Authority (EPA)	
Environment Line	Ph: 131 555 or 02 9995 5555 Email: info@epa.nsw.gov.au
Parramatta Office	Ph: 02 9995 5000
Office of Environment and Heritage (OEH)	
Heritage Division	Ph: 131 555 or 02 9995 5555 Email: info@environment.nsw.gov.au
Parramatta Regional Operations	Ph: 02 9995 5000
Penrith City Council	
Penrith Office	Ph: 02 4732 7777 Email: council@penrith.city
NSW Health	
North Sydney Office	Ph: 02 9391 9000
WorkCover NSW	
Incident Notification Hotline	Ph: 131 050
Fire and Rescue NSW	
St Marys Fire Station	Ph: 02 9623 3897
Emergency Services	
NSW Police	
Fire and Rescue NSW	Ph: 000
NSW Ambulance Service	

3. Environmental Management Framework

3.1 Development Consent

The Development operates in accordance with Development Consent SSD 7075 (as modified) and also in accordance with the other documents referenced under Condition A1 of the Consent:

- The Staged Development Application (SSD 7075);
- EIS (SLR 2015a);
- The RTS (SLR 2015b);
- The site layout plan and elevations attached to the Development Consent as Appendix 1 and 2, which have been sourced from the EIS (SLR 2015a) and RTS (SLR 2015b); and
- The Management and Mitigation Measures attached to the Development Consent as Appendix 3, which have been replicated from the EIS (SLR 2015a).

If there is any inconsistency between the plans and documentation referred to in Condition A1, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of Development Consent SSD 7075 Mod 2 prevail to the extent of any inconsistency.

3.2 Environment Protection Licence (EPL)

Prior to the construction of the WTS, an Environment Protection Licence (EPL) 20986 was obtained from EPA to allow for construction works to begin. This EPL will be varied to support the operation of the WTS. At the time of the preparation of this document an EPL variation application had been lodged with EPA.

3.3 Water Licence – DPI Water

The Development does not hold any water licences.

3.4 Sydney Water Approvals

In accordance with Condition B23 of the Development Consent SSD 7075 (as modified), a Section 73 Compliance Certificate covering water and sewer requirements for the Development was obtained from Sydney Water for the site (see **Appendix D**). Building Plan approval was also obtained from Sydney Water (see **Appendix D**).

A Trade Waste Agreement exists between Cleanaway and Sydney Water for the site (see **Appendix D**), allowing for a maximum discharge volume of 1036kL/day and average daily discharge of 750kL/day average. This is unlikely to change with the operation of the Development.

3.5 Inductions and Training

Cleanaway Site Management will ensure that all employees and contractors involved with the operations of the Development are suitably inducted and trained prior to commencing any work on site. Training in relation to environmental responsibilities and implementation of this OEMP will take place initially through a site induction and then on an on-going basis through “toolbox talks” (or similar).

The topics to be covered during the induction and toolbox talks include:

- General site maintenance and management expectations and requirements;
- Traffic management;
- Familiarisation with site environmental management and mitigation measures in this OEMP;
- The environmental management commitments and responsibilities in this OEMP;
- Waste avoidance and management strategies;
- Appropriate response and management of complaints received from the public, government agencies or other stakeholders in accordance with the protocol detailed in **Section 6**; and
- Appropriate response and management of environmental incidents in accordance with the protocol detailed in **Section 7**.

Records of all inductions and training undertaken will be recorded in an Environment Training Register.

4. Environmental Management Measures

Key environmental issues associated with the Development are identified and addressed in the EIS (SLR 2015a), RTS (SLR 2015b) and modification EAs (SLR 2017; EME Advisory 2018), and a suite of development design, best management practices and mitigation measures have been committed to minimise the potential for adverse impact on the local environment and surrounding community. The environmental mitigation and management measures relevant to the Development are provided in the following sections.

4.1 General

Table 6 outlines the general environmental management and mitigation measures that will be implemented at the Development to minimise the potential for adverse impacts on the local environment and surrounding receptors.

Table 6 - General Management and Mitigation Measures

Mitigation Measures	Responsibility	Timing / Frequency
Cleanaway will implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the operation of the Development.	Cleanaway Site Management	On-going
Pests, vermin and declared noxious weeds will be controlled on site by appropriate means, such as spraying.	Cleanaway Site Management	On-going
Fires will be extinguished promptly	Cleanaway Site Management	On-going
Adequate fire fire-fighting capacity will be maintained on site.	Cleanaway Site Management	On-going
A perimeter fence and security gates have been installed and they will be maintained and locked at all times when the site is unattended.	Cleanaway Site Management	On-going
Employees and contractors will be suitably inducted and trained prior to commencing any work on site.	Cleanaway Site Management	Inductions prior to commencing employment/contract. Regular / as needed toolbox talks.
Contact details will be displayed on signage at the entrance to the site.	Cleanaway Site Management	On-going
Any new signage will be installed in consultation with Penrith City Council (Council) and shall comply with the <i>State Environmental</i>	Cleanaway Site Management	As required (prior to installation of new signage)

Mitigation Measures	Responsibility	Timing / Frequency
<i>Planning Policy 64 – Advertising and Signage</i>		
All plant and equipment used for the Development will be maintained in a proper and efficient condition and operated in a proper and efficient manner.	Cleanaway Site Management	On-going
Cleanaway will repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development.	Cleanaway Site Management	On-going

4.2 Air Quality, Odour and Dust

Odour Control

Odour emissions from the WTS can occur during both normal and abnormal conditions. Under normal operations, there are various stages of the process that have potential for odours to arise. These include:

- receipt and unloading of waste inside the WTS;
- temporary storage of waste material within the WTS; and
- handling of waste material within the WTS.

All putrescible waste has the potential to generate odours as the material breaks down over time; as such controls will be in place to prevent or minimise odours.

The assessment of odour from ‘normal operations’ determined that when operating at the design capacity throughput of 300,000 tonnes per year, the plant would not exceed the NSW EPA impact assessment criterion (called the ‘compliance standard’) at any residential locations. However, the design objectives were set at a level in excess of that required to satisfy legislation. This is called the ‘design standard’. The assessment predicted a minor exceedance of the ‘design standard’ at residential properties located to the north. In order to not give rise to odour complaints, the assessment identified that additional air pollution control measures would be required when the plant was operating at full capacity, with an operation efficiency of at least 40 percent. An Odour Management System (OMS) (wet scrubber) would achieve the level of abatement required to satisfy this stringent design objective.

A similar assessment was performed for the plant operating in ‘emergency operations’ i.e. the operations associated with unforeseen events such as road closures or extreme weather events that result in no waste being able to be exported from the WTS. That assessment predicted that additional air pollution control measured would be required with an abatement efficiency of 60 percent or greater. A wet scrubber (OMS) would achieve the level of abatement required to satisfy this stringent design objective i.e. would achieve both the design standard and the emergency design objective. The risks of this event occurring (road closures and extreme weather events that cause the WTS to be incapable of waste export) are considered to be very low.

An Odour Management Plan (OMP) has been prepared (refer to **Appendix E**), in accordance with SSD 7075 Condition B10 and the conditions of the EPL, that outlines the controls that are to be put in place to prevent such impacts from occurring. This includes the operation of an Odour Management System (OMS), consisting of a wet scrubber and dilution stacks. The OMP also contains an Odour Control System Contingency Plan, in accordance with EPL Condition O4.1. With the implementation of such controls the ‘compliance standard’ of 2 OU should be achieved for 99 percent of the year.

An odour audit will be undertaken within 6 months of commencement of the operation of the WTS to validate the Development against the EIS odour predictions. This audit will be undertaken in accordance with the requirements of Development Consent SSD 7075 Condition B12, B13 and B14 and EPL Condition E3.

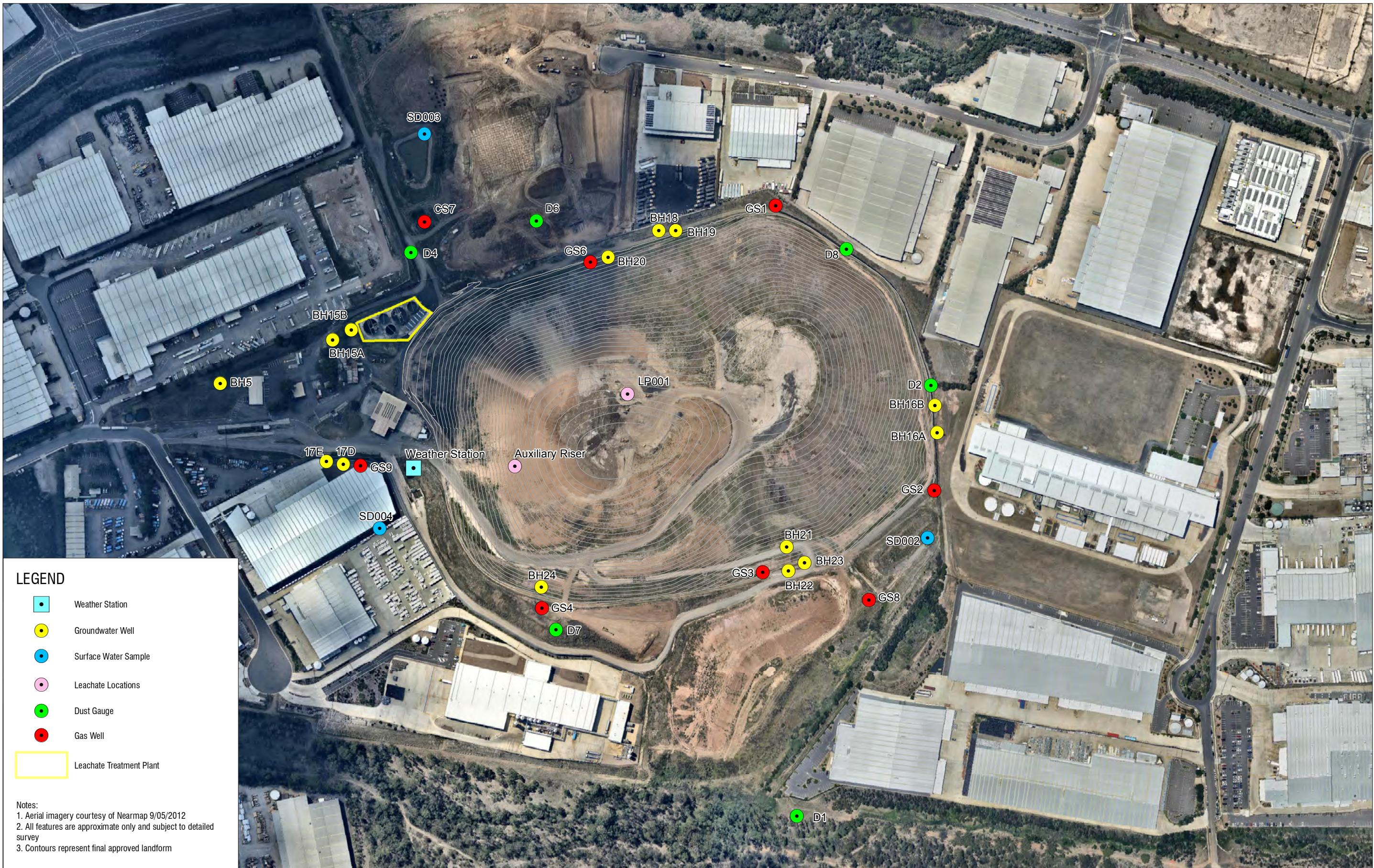
Odour monitoring will be implemented in accordance with Condition B10 SSD 7075 and the OMP. As outlined in the OMP, the monitoring program will include; ongoing OMS monitoring, daily site inspections, monthly odour surveys, prompt response to any concerns of neighbours, investigations of detected offensive odour and investigations of complaints related to odour.

Dust Control

The Stage 1 Development EIS (SLR 2015) assessed the potential impact of particulate ('dust') from the operation of the WTS. The assessment did not predict any exceedance of the relevant air quality criteria for particulate matter (refer to **Table 7**), nor did it predict the emissions to cause a dust nuisance as expressed through dust deposition rates. Regardless, mitigation measures (refer to **Table 7**) will be implemented to manage dust.

Table 7 - Air Quality Mitigation Measures

Control	Responsibility	Timing / Frequency
Odour Management		
Cleanaway will ensure the Development does not cause or permit the emission of any offensive odour, as defined in the Protection of Environment Operations (POEO) Act.	Cleanaway Site Management	On-going
Reasonable air and odour emission mitigation measures will be implemented to minimise emissions from the Development, including but not limited to an Air Pollution Control System comprising of: (i) A wet scrubber; (ii) Dilution stacks; (iii) Fast acting roller doors; (iv) Water sprays/misters; and (v) Ensure regular maintenance of the air pollution control system.	Cleanaway Site Management	On-going
Cleanaway will ensure that any waste vehicles parked on the Site will not emit offensive odours.	Cleanaway Site Management	On-going
Cleanaway will operate the Development so that air and odour emissions are minimised during all meteorological conditions.	Cleanaway Site Management	On-going
Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading.	Cleanaway Site Management / Subcontractors	On-going
The Air Pollution Control System will be operational during the operation of the WTS.	Cleanaway Site Management	On-going
Dust Management		
The premises will be maintained in a condition which minimises or prevents the emission of dust from the premises.	Cleanaway Site Management	On-going



0 50 100 150 m

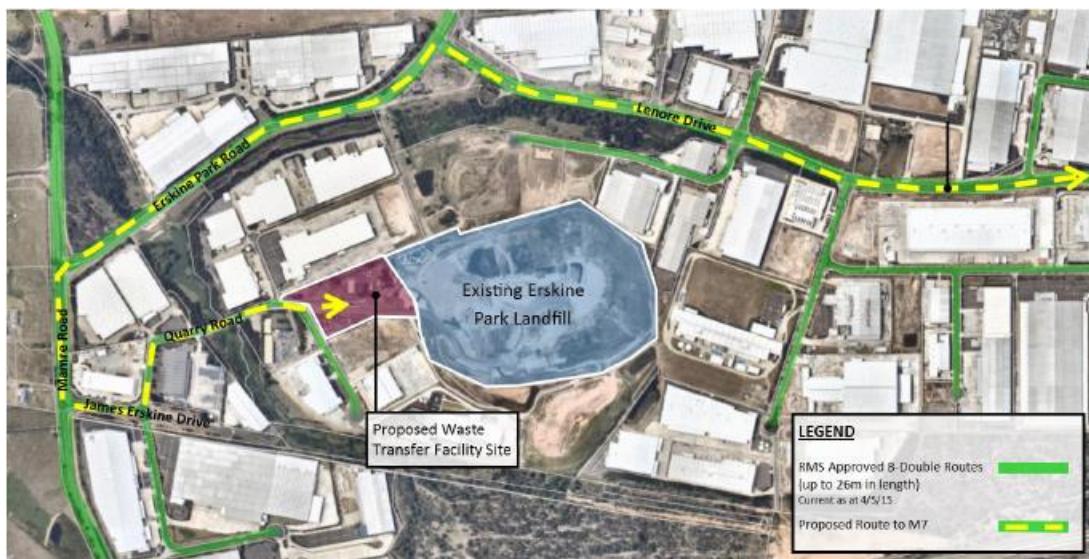
Table 8 (Cont) - Air Quality Mitigation Measures

Control	Responsibility	Timing / Frequency
Dust suppression through the use of water sprays/misters.	Cleanaway Site Management	On-going
Regularly maintaining on-site surfaces to prevent dust re-entrainment from vehicle movements and other equipment use.	Cleanaway Site Management	On-going
Adequate water supply will be provided on site for effective dust/particulate matter suppression/mitigation, using non-potable water where possible and appropriate.	Cleanaway Site Management	On-going
The integrity of on-site haul routes will be maintained and any necessary repairs will be undertaken to the surface as soon as reasonably practicable.	Cleanaway Site Management	On-going
All inspections of haul routes and any subsequent action will be recorded in a site log book.	Cleanaway Site Management	On-going
Meteorological Station		
A suitable meteorological station has been installed at the Development site (refer to Figure 4) that complies with the requirements in the latest version of the <i>Approved Methods for Sampling of Air Pollutants in New South Wales</i> . Cleanaway will operate the meteorological station, and maintain continuous, auditable records of meteorological data, previous 4 years.	Cleanaway Site Management	On-going

4.3 Traffic and Access

Traffic and Access **Table 9** lists the management and mitigation measures that will be implemented at the Development to minimise the impacts of traffic and access. Access to the Development, traffic flow around the Development site and parking areas are illustrated in **Figure 1**. The haulage route of long haul waste transportation trucks from the Erskine Park Industrial Estate to final disposal location is along Quarry Road, James Erskine Drive, Mamre Road, Erskine Park Road, Lenore Drive and the M7, as shown in **Figure 5**, below:

Figure 5 Haulage Route from M7



From: Traffic Impact Assessment for Proposed Waste Transfer Station 50 Quarry Road, Erskine Park (Traffix, 2015)

Table 9 - Traffic Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
Trucks will only be parked in the designated truck park areas, per Figure 1.	Cleanaway Site Management	On-going
A total of 37 car parking spaces, including one accessible car parking space will be provided at the Development site.	Cleanaway Site Management	On-going
Site access, driveways and parking areas will be maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1	Cleanaway Site Management	On-going
A load compliance inspection via camera view is provided at the Development site	Cleanaway Site Management	On-going
All vehicles will enter and leave the site in a forward direction	Cleanaway Site Management / Subcontractors	On-going
Signage will be maintained to ensure safe traffic flow of both Landfill and WTS vehicles.	Cleanaway Site Management	On-going
Designated pedestrian access will be maintained from Quarry Road to the offices.	Cleanaway Site Management	On-going
All vehicles will turn off their engines when stationary (no idling), where practicable.	Cleanaway Site Management / Subcontractors	On-going
Unless such deliveries are via Erskine Park Road, truck deliveries and pickups will be scheduled to avoid busy morning and afternoon peak hours, as far as practicable	Cleanaway Site Management / Subcontractors	On-going

Control	Responsibility	Timing / Frequency
The egress of appropriate long haul trailers of waste transportation trucks from the Erskine Park Industrial Estate will be confined to Lenore Drive/Erskine Park Link Road.	Cleanaway Site Management / Subcontractors	On-going
The Development will not result in any vehicles parking or queuing on the public road network, where practical.	Cleanaway Site Management / Subcontractors	On-going
All vehicles will be wholly contained on site before being required to stop, where practical.	Cleanaway Site Management / Subcontractors	On-going
All loading and unloading of heavy vehicles will occur inside the WTS.	Cleanaway Site Management / Subcontractors	On-going
The turning areas in the car park will be kept clear of any obstacles, including parked cars, at all times.	Cleanaway Site Management / Subcontractors	On-going
Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading.	Cleanaway Site Management / Subcontractors	On-going

4.4 Noise Management

An Operational Noise Assessment was prepared to accompany the EIS (SLR 2015a) and development application. For the purposes of this assessment environmental noise monitoring was conducted at the potentially most affected (representative) noise-sensitive locations, NM1, NM2, NM3 and NM4 (refer to **Figure 3**).

Unattended Noise Monitoring obtained the Rating Background Levels (RBLs) or background (LA90) noise levels for the noise-sensitive locations, as provided in the table overleaf.

Table 10 – Summary of Existing LA90 (15minute) Rating Background Levels (RBLs) and Existing LAeq(period) Ambient Noise Levels - dBA re 20 µPa

Location	LA90(15minute) Rating Background Level (RBL)			LAeq(period) Existing Ambient Noise Level		
	Daytime 0700-1800 Hours	Evening 1800-2200 Hours	Night-time 2200-0700 Hours	Daytime 0700-1800 Hours	Evening 1800-2200 Hours	Night-time 2200-0700 Hours
NM1 - Mandalong Close	44	45	39	54	54	53
NM2 - Catholic Village	35	38	36	49	43	44
NM3 - Lenore Drive	46	48	44	57	54	53
NM4 - Verdi Glenn	43	41	39	51	53	48

Results of Operator-Attended Noise Monitoring determined the character of the existing background noise levels, refer to **Table 10**.

Table 11 – Operator-Attended Background Noise Survey Results

Location Start Time Conditions	Measurement Description	Primary Noise Descriptor (dBA re 20 µPa)					Description of Noise Emission and Typical Maximum Levels (LAmax)
		LAeq	LA1	LA10	LA50	LA90	
NM1 - Mandalong Close 24/04/2015 1118 hours Temperature at 10m: 20.80C Humidity: 72% Wind At 10m : 1.7 m/s N No Rain	Ambient	50	58	52	48	46	Trucks turning onto Mamre Road 52-57 Engine braking onto Mamre Road 56-62 Cars on Mamre Road 45-50 Truck accelerating on Mamre 51 Engine braking on Mamre 51-55 Plane 50-56
NM2 - Catholic Village 24/04/2015 1155 hours Temperature at 10m: 22.30C Humidity: 70% Wind At 10m : 0.6 m/s NNE No Rain	Ambient	45	50	47	44	42	Birds 41 Resident 47 Erskine Business Park hum 43-44 Banging 46-54 Plane 48-52 Trucks in Erskine Business Park 47
NM3 - Lenore Drive 24/04/2015 1312 hours Temperature at 10m: 24.40C Humidity: 59% Wind At 10m : 1.9 m/s N No Rain	Ambient	54	62	57	51	47	Traffic on Lenore Drive 47-62 Welding 50 Birds 57-67 Distant Traffic 44 Wiper sniper 51-59 Bikes 66-67
NM4 - Verdi Glenn 24/04/2015 1404 hours Temperature at 10m: 25.20C Humidity: 47% Wind At 10m : 1.7 m/s NNW No Rain	Ambient	48	55	48	44	42	Dog 62-75 Traffic 44-50 Birds 46-52 Erskine Business Park hum 37 Insects continuous 31-35 Plane 47

The attended and unattended noise monitoring indicated that the measured ambient noise levels were dominated by traffic noise and Erskine Business Park activities.

In relation to noise, the EIS (SLR, 2015) predicted that there would be negligible impact and the Development would be within EPA criteria at all times. The revised noise assessment for the Mod 3 Environmental Assessment (SLR, 2018) also determined that operational noise emissions from the proposed Erskine Park Transfer Station are predicted to be below or to meet the intrusive (single source) and amenity (background noise) noise trigger levels at all of the noise assessment locations (shown on **Figure 3**).

Subsequently noise monitoring is not required by the conditions for the Development, however noise management controls will be implemented during the operation of the Development, in accordance with the conditions of SSD 7075 (refer to **Table 11**).

Noise limits have not been set for the Development site.

Table 12 - Recommended LAeq Noise Levels from Industrial Noise Sources

Receiver	Noise Amenity Area	Time of Day¹	Recommended Amenity Noise Level LAeq(period)
Residence	Rural	Day	50 dBA
		Evening	45 dBA
		Night	40 dBA
	Suburban	Day	55 dBA
		Evening	45 dBA
		Night	40 dBA
	Urban	Day	60 dBA
		Evening	50 dBA
		Night	45 dBA
Hotels, motels, caretakers' quarters, holiday accommodation, permanent resident caravan parks	See column 4	See column 4	5 dB(A) above the recommended amenity noise level for a residence for the relevant noise amenity area and time of day
School classrooms - internal	All	Noisiest 1-hour period when in use	35 dBA
Hospital ward internal external	All	Noisiest 1-hour	35 50
Area specifically for passive recreation	All	When in use	50 dBA
Active recreation area (e.g. School playground, golf course)	All	When in use	55 dBA
Commercial premises	All	When in use	65 dBA
Industrial premises	All	When in use	70 dBA
Industrial (applicable only to residential noise amenity areas)	All	All	Add 5 dB(A) to recommended noise amenity area

Notes 1: Time of day is defined as follows in accordance with NPI 2017:

Day – the period from 7 am to 6 pm Monday to Saturday or 8 am to 6 pm on Sundays and public holidays

Evening – the period from 6 pm to 10 pm

Night – the remaining periods.

If excessive noise levels are experienced at the Development site and/or a noise complaint is received, appropriate remedial actions/additional mitigation measures will be implemented (refer to **Section 7**).

Environmental controls listed in **Table 13** will be implemented to minimise the potential for adverse noise impacts at the nearest receptor locations during the operation of the WTS.

Table 13 - Noise Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
Best management practice will be implemented including all reasonable and feasible noise management and mitigation measures to prevent and minimise operational, low frequency and traffic noise generated by the Development.	Cleanaway Site Management / Subcontractors	On-going
Noise impacts of the Development will be minimised during adverse meteorological conditions.	Cleanaway Site Management	On-going
Noise suppression equipment on plant will be maintained effectively at all times.		
Defective plant will not be used operationally until fully repaired.		
All Cleanaway owned vehicles operating on the site will be fitted with the High and Low Buzzer system, designed to minimise noise associated with reversing alarms in accordance with the Australian Vehicle Standard (Australian Design Rule 42/04) and <i>Heavy Vehicle (Adoption of National Law) Act 2013</i> .		
Cleanaway will regularly assess noise emissions and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of SSD 7075		
Mobile plant operation will primarily occur inside the WTS building and mobile plant will be fitted with low frequency white noise reversing alarms.		
Noise emissions from the WTS will be in compliance with the requirements of the NSW EPA's Industrial Noise Policy.		

4.5 Surface Water

In accordance with condition B16 of SSD 7075 and EPL condition O4.3 a Stormwater Management Scheme (Stormwater Maintenance and Operations Plan [SMOP]) has been prepared for the Development (see **Appendix F**). Implementation of the scheme will mitigate the impacts of stormwater run-off from and within the premises. The scheme is consistent with the Stormwater Management Plan for the catchment.

As detailed in the SMOP stormwater controls for the Development include:

- 2 x 80kL Rainwater tanks;
- 2 x Stormwater 360 Vortsentry Filtration Units;
- OSD tank system;
- Bio-retention basin including sediment forebay;
- Pit / pipe stormwater conveyance system including trash racks in the OSD tank system;
- Storage of hazardous materials such as the scrubber chemical in bunded areas; and
- Spill management practices (refer to **Section 7**).

The SMOP also outlines the storm water quality monitoring for the Development site, as summarised in **Table 14** below.

Table 14 - Stormwater Water Quality Monitoring Program

Parameter	Default Trigger Value*	Inspection Frequency	Responsibility
Chlorophyll a (Chl a) (mg/L)	0.003	Monthly during discharge for first year and bi-annually during discharge thereafter	Cleanaway
Total Phosphorous (TP) (mg/L)	0.025		
Filterable reactive phosphate (FRP) (mg/L)	0.02		
Total Nitrogen (TN) (mg/L)	0.35		
Oxides of Nitrogen (NOx) (mg/L)	0.04		
Ammonium (NH4+) (mg/L)	0.02		
Dissolved oxygen (DO) (daytime % saturation)	85% - 110%		
pH	6.5 – 8.5		
Salinity (µS/cm)	125 – 220 **		
Turbidity (NTU)	6-50 ***		
Total Suspended Solids	50mg/L		

The SMOP also outlines the stormwater structures monitoring and maintenance program that is summarised in **Table 15**.

Table 15 - Stormwater Structures Monitoring and Maintenance Program

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Bioretention Vegetation	Check for weeds. Check health of plants. Note – the health of the plants is crucial to the treatment process.	Landscape Contractor	Monthly for first 6 months and Quarterly thereafter	Control weeds Replacement of plants as required. Investigate causes of significant die back / dead plants

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Bioretention Filter Media Surface	Inspect filter media for sediment build up, litter, erosion or scour damage.	Cleanaway	Monthly and after heavy rainfall events (>30mm in 24 hours) for first 6 months and Quarterly thereafter	Removal of any litter from bioretention filter media surface. Scrape away small amounts of isolated sediment build up (if required). Seek advice from a suitably qualified stormwater engineer or consultant where significant erosion, scour or filter media damage is observed.
Basin Inlet Forebay	Inspect forebay for litter and sediment build up. Check depth of sediment in forebay.	Cleanaway	Quarterly	Remove any litter from forebay. Schedule removal of sediment to rock level if greater than 50% of forebay is full of sediment.
Basin Inlets and Outlets	Inspect inlets and outlets for blockage and debris.	Cleanaway	Monthly and after heavy rainfall events (>30mm in 24 hours)	Unblock inlets and outlets if required. Seek advice from a suitably qualified stormwater engineer or consultant where inlets or outlets are significantly damaged.
Bioretention Underdrainage	Inspect for blockages and isolated surface ponding	Cleanaway	Quarterly	Flush underdrainage at flush points if required.
Humeceptors	Inspection in accordance with Humeceptor inspection procedures.	Cleanaway / Contractor	Quarterly for first year. Establish appropriate frequency based on findings of first year of inspections	Schedule cleaning as required.
	Cleaning in accordance with Humeceptor cleaning procedure	Vacuum / eductor truck contractor	Annually – subject to inspection observations	Not applicable
Atlantis Flow-Tank OSD System	Inspect for blockages and sediment build up including inlet and outlet pipes	Cleanaway	Bi-annually	Remove blockages and de-silt as required.

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Pits and Pipes (including trash racks and Ecosol Litter Baskets)	Inspect for blockages and debris, or excessive build-up of sediment	Cleanaway	Quarterly for first year. Establish appropriate frequency based on findings of first year of inspections.	Remove blockages and debris as required manually or via vacuum.
Rainwater tanks	Inspect the structural integrity of the tank, blockages, sediment build up and evidence of animal access including the associated pipework, inlets / outlets, insect proofing and leaf filters	Cleanaway	Quarterly for first year and bi-annually thereafter.	Cleaning and repair of tank as required. Seek advice from a suitably qualified consultant where structural damage is observed. If significant issue is observed then the access points will be temporarily closed.
Roof gutters	Check for accumulated debris including leaf litter.	Cleanaway	Annually	Clean out of gutters.
Bunded areas	Inspect for spills and integrity of bunds	Cleanaway	Weekly	Disposal of any spilled hazardous materials in a suitable manner. Re-instate bunds as required.

A Leachate Management System (Protocol) (see **Appendix G**) has been prepared for the Development in accordance with Condition B17 of SSD 7075. The Leachate Management Protocol provides a management protocol for leachate (including firewater), provides controls for leachate (including firewater) so that it does not mix with any stormwater at the Development site and includes water quality monitoring to determine the performance of the leachate management system. As specified by the Protocol, water quality monitoring of the treated leachate in the Leachate Treatment Plant (LTP) will be undertaken in accordance with the existing Trade Waste Agreement. Cleanaway will carry out the Development in accordance with the Leachate Management System.

Table 16 lists additional management and mitigation measures that will be implemented during the operations of the Development to minimise direct and indirect impacts on water. Cleanaway will also comply with Section 120 of the Environment Operations Act 1997.

Table 16 – Surface Water Management and Mitigation Measures

Control	Responsibility	
If the WTS is no longer able to utilise the adjacent Landfill Leachate Treatment System the leachate collected from the sump will be taken offsite for treatment at an appropriately licenced facility.	Cleanaway Site Management	On-going

4.6 Groundwater

Monitoring is currently undertaken at 14 groundwater bores surrounding the Erskine Park Landfill in accordance with EPL 4865. Three (3) of the groundwater bores (BH5, BH17D and BH17E) fall within the boundary of the Development site (see **Figure 4**). Average quarterly results from these monitoring bores serve as baseline data (see **Table 17** below). Quarterly groundwater monitoring at these bores will be undertaken. Groundwater samples will be analysed for parameters included in **Table 17**, plus asbestos, Polychlorinated Biphenyls (PCBs) and Organophosphate Pesticides (OPPs).

Table 17 – Baseline Groundwater Monitoring Data

	BH5	BH17D	BH17E	LOR
Heavy Metals				
Aluminium	<10	<10	70	10
Arsenic	<1	<1	<1	1
Barium	88	14000	2340	1
Beryllium	<1	<1	<1	1
Cadmium	<0.1	<0.1	<0.1	0.1
Cobalt	11	<1	<1	1
Chromium	<1	<1	<1	1
Copper	<1	<1	<1	1
Manganese	225	17	24	1
Nickel	5	1	2	1
Lead	<1	<1	<1	1
Zinc	10	<5	<5	5
Vanadium	<10	<10	<10	10
Mercury	<0.1	<0.1	<0.1	0.1
Chromium	<10	<10	<10	10
Ammonia	0.57	6.81	1.16	0.01
Total Petroleum Hydrocarbons (TPH)				
TPH C ₆ – C ₉	<20	20	<20	20
TPH C ₁₀ – C ₁₄	<50	<50	<50	50
TPH C ₁₅ – C ₂₈	<100	<100	<100	100
TPH C ₂₉ – C ₃₆	<50	<50	<50	50
TPH C ₁₀ – C ₃₆	<50	<50	<50	50
BTEX				
Benzene	<1	5	<1	1
Toluene	<5	5	<5	2

Ethylbenzene	<2	<2	<2	2
m&p-xylene	<2	<2	<2	2
o-xlenes	<2	<2	<2	2
Polynuclear Aromatic Hydrocarbons (PAHs)				
Acenaphthene	<1.0	<1.0	<1.0	1.0
Acenaphthylene	<1.0	<1.0	<1.0	1.0
Anthracene	<1.0	<1.0	<1.0	1.0
Benzo(a)pyrene	<1.0	<0.5	<0.5	1.0
Benzo(b+k)fluoranthene	<0.5	<1.0	<1.0	1.0
Benzo(g,h,i)perylene	<1.0	<1.0	<1.0	1.0
Chrysene	<1.0	<1.0	<1.0	1.0
Dibenzo(a,h)anthracene	<1.0	<1.0	<1.0	1.0
Fluoranthene	<1.0	<1.0	<1.0	1.0
Fluorene	<1.0	<1.0	<1.0	1.0
Indeno(1,2,3-c,d)pyrene	<1.0	<1.0	<1.0	1.0
Naphthalene	1.0	<1.0	<1.0	1.0
Phenanthrene	<1.0	<1.0	<1.0	1.0
Pyrene	<1.0	<1.0	<1.0	1.0
Total PAHs	<0.5	<0.5	<0.5	0.5
Organochlorine Pesticides (OCPs)				
Hexachlorobenzene	<0.5	<0.5	<0.5	0.5
Alpha-BHC	<0.5	<0.5	<0.5	0.5
Beta-BHC	<0.5	<0.5	<0.5	0.5
Gamma - BHC	<0.5	<0.5	<0.5	0.5
Delta-BHC	<0.5	<0.5	<0.5	0.5
Heptachlor	<0.5	<0.5	<0.5	0.5
Aldrin	<0.5	<0.5	<0.5	0.5
Heptachlor epoxide	<0.5	<0.5	<0.5	0.5
Trans-Chlordane	<0.5	<0.5	<0.5	0.5
Alpha-Endosulfan	<0.5	<0.5	<0.5	0.5
Cis-chlordane	<0.5	<0.5	<0.5	0.5
Dieldrin	<0.5	<0.5	<0.5	0.5
4, 4-DDE	<0.5	<0.5	<0.5	0.5

Endrin	<0.5	<0.5	<0.5	0.5
Beta-Endosulfan	<0.5	<0.5	<0.5	0.5
4, 4' – DD D	<0.5	<0.5	<0.5	0.5
Endrin aldehyde	<0.5	<0.5	<0.5	0.5
Endo sulfan sulfate	<0.5	<0.5	<0.5	0.5
4, 4' - DDT	<2	<2	<2	2
Endrin Ketone	<0.5	<0.5	<0.5	0.5
Methoxychlor	<2	<2	<2	2
Total Phenols				
2, 4, 5-Trichlorophenol	<1	<1	<1	1
2, 4, 6-Trichlorophenol	<1	<1	<1	1
2, 4-Dichlorophenol	<1	<1	<1	1
2, 6-Dichlorophenol	<1	<1	<1	1
2, 4-Dimethylphenol	<1	<1	<1	1
2-Chlorophenol	<1	<1	<1	1
2-Methylphenol	<2	<2	<2	2
2-Nitrophenol	<1	<1	<1	1
3- & 4 - Methylphenol	<2	<2	<2	2
4-Chloro – 3-methylphenol	<1	<1	<1	1
Pentachlorophenol	<2	<2	<2	2
Phenol	<1	<1	<1	1

Groundwater quality criteria/limits have not been set for the site. However, EPL 4865 sets a detection limit for ammonia (15 mg/L). If an ammonia level of 15 mg/L or more is detected, confirmation sampling will be undertaken and a report will be prepared that proposes actions for Cleanaway to implement (including timeframes) to prevent the release of contaminated groundwater from the premises.

4.7 Waste Management

In accordance with the SSD 7075 Statement of Commitments, an Operational Waste Management Plan (OWMP) has been prepared for the Development (refer to **Appendix H**). The OWMP proposes a number of mitigation measures to manage waste generated by the Development. The OWMP also includes a Waste Monitoring Program that will be implemented during the operation of the Development, in accordance with Condition B2.

The OWMP also outlines if hazardous or other prohibited waste, such as asbestos, is received at the site, it will be disposed of in accordance with WorkCover Authority and NSW Environment Protection Authority (EPA) requirements. Cleanaway staff will also receive adequate training in order to be able to recognise, handle and report any hazardous or other prohibited waste received at the site.

Waste management and mitigation measures, additional to those proposed in the OWMP, which will be implemented at the Development Site are outlined in **Table 18**.

Table 18 - Waste Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
No materials or waste (as defined by the POEO Act) generated outside the Site will be received at the Site for storage, treatment, processing or reprocessing except as expressly permitted by the EPL.	Cleanaway Site Management	On-going
Cleanaway will not receive or process on the site more than 300,000 tonnes of waste per calendar year.		
Cleanaway will record the amount of waste (in tonnes) received at the Site on a daily basis.		
Waste and recycling will be collected by Cleanaway on an as needed basis.		
Subcontractors will be informed of site waste management procedures.		
Liquid and non-liquid waste(s) will not be unlawfully deposited on the premises		
Waste received at the WTS is assessed and classified in accordance with the EPA's <i>Waste Classification Guidelines</i> as in force, from time to time.		
Trucks entering and leaving the premises that are carrying loads will be covered at all times, except during loading and unloading.	Cleanaway Site Management / Subcontractors	On-going

4.8 Visual Amenity and Landscaping

A Landscape Plan has been prepared for the Development and is contained within **Appendix I**. Landscaping will be maintained in accordance with the Landscape Plan.

Erskine Park is located in Key Precinct E6 - Erskine Business Park, as defined by the Council Development Control Plan (DCP). The Landscape Plan is consistent with the requirements Landscape Design requirements of Key Precinct E6 as it has the following inclusions:

- Existing trees removed from site identified on the landscape plans;
- Tree species are selected from locally occurring species. These trees will contribute to wildlife habitat, and the overall character of the locality;
- Endemic trees and shrubs have been used. The property entrance has been highlighted with feature planting. Of particular consideration is the need to preserve the sightlines for trucks entering/ exiting the facility;
- Plants nominated are not weed species; and
- Additional street trees have been nominated.

Other requirements of the DCP that have been achieved by the Landscape Plan include:

- Screening of driveway areas (particularly on the southern boundary where space is limited, and behind the front fence);
- Screening of carpark areas, and tree planting in carpark areas- this will be completed in future stages; and
- Screening of the facility at the front boundary- there is limited space for additional screening behind the front fence due to the below ground On-Site Detention (OSD) tank.

The Plant Schedule (Species List) is included on the Landscape Plans (L02 to L05). Species that have been planted at the Development site include:

- *Corymbia Maculata*;
- *Eucalyptus Tereticornis*;
- *Eucalyptus Fibrosa*;
- *Melaleuca Decora*;
- *Callistemon Viminalis 'Slim'*;
- *Lomandra Multiflora*;
- *Lomandra 'Tanika'*;
- *Elaeocarpus Reticulatus*;
- *Callistemon Salignus*;
- *Doryanthes Excelsa*;
- *Carex Appressa*;
- *Isolepis Nodosa*; and
- *Westringia 'Mundi'*.

Table 19 lists the management and mitigation measures that will be implemented at the Development site to minimise direct and indirect impacts on the visual amenity and landscaping.

Table 19 - Visual Amenity and Landscaping Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
The Development will be carried out in accordance with the approved Landscape Plan.	Cleanaway Site Management	On-going
All external lighting are mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, properties and roadways. The lighting is the minimum level of illumination necessary and shall comply with Australian Standard AS 4282 1997.		
Any new signage will be installed in consultation with Council and shall comply with the State Environmental Planning Policy 64 – Advertising and Signage, as relevant.		Before the installation of any signage
Disturbed areas will be rehabilitated upon completion of construction.		Ongoing
Black palisade fencing has been constructed behind landscaping fronting on to Quarry Road. The fencing will be maintained throughout the operation of the WTS.		
A 12.7 metre long x 3 metre high x 1.5 metre wide screen will be maintained on the western side of the office.		
Trees and shrubs will be maintained on the western edge of the Development site.		

4.9 Heritage

Table 20 lists the management and mitigation measures that will be implemented during operation of the Development to minimise potential impacts on heritage.

Table 20 - Heritage Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
Should any Aboriginal cultural object(s) be uncovered all works will stop immediately and the NSW police, OEH and the Aboriginal community will be notified. Works will only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.	Cleanaway Site Management	On-going

Unexpected Finds Protocol

The following Unexpected Finds Protocol will be followed in the event that any archaeological or Aboriginal objects are discovered during operations at the Development site:

- a) **Cease work in the area immediately** - employees or contractors to cease work in the area immediately and contact Cleanaway Site Management / Principal Contractor;
- b) **Barricade** - Cleanaway Site Management / Principal Contractor to erect temporary barricading around the find to prevent access and/or disturbance;
- c) **Notify** - advise the relevant regulatory agencies (**Table 5** lists the contact details for the regulatory authorities that have an interest in the operations of the Development);
- d) and adhere to any instructions issued by them -
 - (i) For archaeological finds notify the OEH Heritage Branch; and
 - (ii) For Aboriginal finds notify the OEH Regional Operations Group;
- e) **Management strategy** - an appropriate management strategy will be developed in consultation with the relevant stakeholders; and
- f) **Recommence works** - works are only to recommence once an appropriate and approved management strategy has been agreed by all relevant stakeholders.

4.10 Contamination

Table 21 lists the management and mitigation measures that will be implemented during operation of the Development to minimise the potential for contamination.

Table 21 - Contamination Management and Mitigation Measures

Control	Responsibility	Timing / Frequency
All chemicals, fuels and oils used on site will be stored in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or EPA's <i>Storing and Handling Liquids: Environmental Protection – Participant's Manual 2007</i> .		
Accidental spillage or poor management of fuels, oils, lubricants, hydraulic fluids, solvents and other chemicals during the operation of the Development will be controlled through spill management actions to prevent water quality and ecological impacts in South Creek.	Cleanaway Site Management	On-going
Spills, leaks or other discharge of any waste(s) or other material(s) will be cleaned up as soon as practicable after it becomes known.		
Dangerous goods will be stored on site according to their respective ADG classes and compatibility.		

5. Inspections, Audits, Reporting and Records

5.1 Inspections

There is no specific inspection requirements as part of the Development Consent (SSD 7075) or the site's EPL. Notwithstanding, various environmental site inspections will be undertaken monthly whilst the site operates, to ensure on-going implementation and compliance with this OEMP and to identify any adverse impacts and required remedial actions. The environment site inspections to be completed are listed in **Table 22**.

Table 22 - Site Environmental Inspections

Requirement	Responsibility	Timing / Frequency
Environmental site inspections to assess the implementation of the management and mitigation measures and compliance with Development Consent SSD 7075 (as modified) and this OEMP.	Cleanaway Site Management	Monthly
Inspection of rehabilitated areas to: <ul style="list-style-type: none"> • Assess the success of revegetation; • Identify any required maintenance works (e.g. watering, re-seeding, fertiliser application); and • Remove temporary erosion and sediment controls on completion of the rehabilitation works. 		Monthly following completion of disturbance activity until fully rehabilitated (i.e. >70% permanent ground cover excluding weeds)

Where any of the controls are observed to be not functioning correctly and/or adverse environmental impact/risk is observed, appropriate remedial actions and/or additional mitigation measures will be promptly implemented. Remedial actions/additional mitigation measures may include:

- Clean-up spills;
- Implementation of the unexpected finds protocol in the event that any archaeological or Aboriginal objects are uncovered;
- Undertake maintenance works where revegetation has failed;
- Undertake additional noise mitigation measures (i.e. reduce operational activity in adverse weather conditions);
- Provide additional training to site personnel/contractors;
- Undertake housekeeping (general clean-up) of the Development site;
- Bring in outside resources such as specialist contractors/consultants (i.e. for management of contaminated material); and
- Implement additional weed control to control declared noxious weeds (i.e. spraying).

Where considered necessary, the relevant government agencies will be consulted and any additional instructions will be adhered to. Once the impact/risk has been suitably addressed, appropriate preventative measures will be identified and implemented to negate the possibility of re-occurrence.

5.2 Independent Environmental Audit

In accordance with Condition C8 and C9 of SSD 7075 (as modified) Cleanaway will conduct an Independent Environmental Audit (IEA) within 1 year of the date of the commencement of operation of the Development, and every 3 years afterward. The audit will be:

- a) Conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by DPE (the Secretary of);
- b) Will be led by a suitably qualified auditor, and include experts in fields specified by the Secretary;
- c) Will include consultation with the relevant agencies;
- d) Will assess the environmental performance of the Development and assess whether it is complying with the requirements of any relevant approvals and the site's EPL/s (including any assessment, plan or program required under the approvals);
- e) Will review the adequacy of any approved strategy, plan or program required under SSD 7075 and the EPL; and
- f) Will recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under the SSD 7075 (as modified).

Within 3 months of commissioning the audit (or otherwise agreed by the Secretary), Cleanaway will submit a copy of the audit report to the Secretary, together with its response to any recommendations included in the audit report.

5.3 Reporting

Annual Review

In accordance with Condition C10 of Development Consent SSD 7075 (as modified), Cleanaway will prepare and submit an Annual Review to the DPE that reviews the environmental performance of the Development over the previous year. The first Annual Review will be submitted to DPE within 1 year of commencement of construction of the WTS.

In accordance with Condition C13, the Annual Review will be made publicly available on Cleanaway's website. The Annual Review will inform the local community and relevant agencies about the operation and environmental performance of the Development.

Annual Return

On a yearly basis, Cleanaway will complete and supply to the EPA an Annual Return comprising:

- A Statement of Compliance;
- A Monitoring and Complaints Summary;
- A Statement of Compliance – Licence Conditions;
- A Statement of Compliance – Load Based Fee;
- A Statement of Compliance – Requirement to Prepare Pollution Incident Response Management Plan;
- A Statement of Compliance – Requirement to Publish Pollution Monitoring Data; and
- A Statement of Compliance – Environmental Management Systems and Practices.

The Annual Return will be prepared by completing the Annual Return form provided by the EPA. Within the Annual Return, the Statement of Compliance will be certified and the Monitoring and Complaints Summary signed.

The Annual Return will be submitted no later than 60 days after the end of the reporting period. A copy of the Annual Return will be retained for a period of at least 4 years after the Annual Return was supplied to EPA.

Regular Reporting

In accordance with Condition C7 of Development Consent SSD 7075 (as modified), Cleanaway Site Management will provide regular reporting on the environmental performance of the Development on the Cleanaway website, in accordance with the reporting arrangements in plans and programs approved under the conditions of Development Consent SSD 7075 (as modified).

5.4 Records

Monitoring records required by EPA will be kept in a legible form for at least 4 years after the monitoring event. Cleanaway management will produce the records to any authorised officer of the EPA that asks to see them. The records will include:

- a) The date on which the sample was taken;
- b) The time at which the sample was collected;
- c) The point at which the sample was taken; and
- d) The name of the person who collected the sample.

5.5 Cleanaway Website

A copy of this OEMP will be posted on the site's website.

6. Complaints Management Strategy

6.1 Performance Objective

To ensure all environmental complaints regarding the operation of the Development are promptly and effectively received, handled and addressed.

6.2 Responsibility

Cleanaway Site Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of a complaint.

All employees and contractors who receive a complaint, either verbal or written, are to immediately notify Site Management.

6.3 Receipt of Complaints

Complaints in relation to the Developments activities may be received via any of the following ways:

- Any Cleanaway company or site office;
- Cleanaway Complaints and Feedback number - 1800 213 753;
- Cleanaway Internet enquiry – <http://www.cleanaway.com.au/contact-us/>; and/or
- Through a government agency (i.e. Council or EPA).

The complaint and feedback number is advertised on Cleanaway's website.

6.4 Handling Procedure

Upon becoming aware of a complaint, Cleanaway Site Management is to undertake the following:

1 Receive

In the normal course of events, the first contact for complaints will usually be made in person or by telephone. While this should instigate investigative action, a formal written complaint should be requested.

Where the initial contact reaches an employee or contractor who is not a representative of Site Management, the call should be directed to Site Management. If unavailable, the complainant's details should be taken with a view to returning the contact once Site Management is in a position to discuss the matter.

The complainant's name, address and contact details, along with the nature of the complaint, must be requested. If the complainant refuses to supply the requested information, a note should be made on the form and complainant advised of same. The date and time of the complaint will also be recorded along with the method the complaint was made.

2 Assistance

Where assistance is required handling the situation, Cleanaway's Environment Manager should be contacted.

Where the complaint is reported via a government agency (i.e. Council or the EPA), Cleanaway's National Manager must be notified immediately (even if outside of normal business hours).

Relevant contact details are listed in **Table 4**.

3 Investigate

A field investigation should be initiated in an attempt to establish the legitimacy of the complaint and the cause of the problem. Cleanaway Site Management should be consulted to identify any abnormality or incident that may have resulted in the complaint. Details may include heavy vehicle activity, equipment and machinery activities, etc.

If the complaint is due to an environmental incident, the management system outlined in **Section 7** should be followed, and if the incident has caused or threatens to cause material harm to the environment each of the relevant regulatory agencies must be immediately notified.

4 Action

Once the legitimacy and cause of the complaint has been established, every possible effort must be made to undertake appropriate remedial action(s) to fix the cause of the complaint and mitigate any further impact.

5 Inform

The investigative work and remedial action should be reported back to the complainant and, if necessary, the relevant regulatory agencies.

6 Record

Every complaint received is to be recorded within the complaints register located in Cleanaway's electronic record system, "the Vault". If "the Vault" system is unavailable then the complaint is to be recorded on Cleanaway's Incident Non Conformance Report Form contained within **Appendix J**. The complaints register will be updated on a monthly basis and made publically available on the Cleanaway website, as per Condition C13 of Development Consent SSD 7075 (as modified). The complaints register will record the action taken by Cleanaway in relation to the complaint or if no action taken the reason why no action was taken. Complaint records will be kept for at least 4 years after the complaint was made.

6.5 Preventative Action

Once the complaint has been suitably handled, appropriate preventative measures will be identified and implemented to negate the possibility of re-occurrence.

6.6 Dispute Resolution

In accordance with condition A13 of SSD 7075, in the event that a dispute arises between Cleanaway and Council or a public authority, in relation to an applicable requirements of the Development Consent or relevant matter relating to the site, either party may refer the matter to the DPE (Secretary of) for resolution. The Secretary's determination of any such dispute must be final and binding on the parties.

In the case of a dispute between Cleanaway and a community member/complainant, either party may refer the matter to the DPE and/or relevant regulatory authority for consideration, advice and/or negotiation. If the matter escalates, a third party mediator may be required.

7. Environmental Incidents Management Strategy

The following procedure is for environmental incidents that have the potential to cause material harm to the environment. Smaller, minor incidents will be managed in accordance with the Development site's Pollution Incident Response Management Plan (PIRMP) (refer to **Appendix K**).

7.1 Performance Objective

To ensure that any environmental incident caused by or relating to the operation of the Development is effectively responded to, and any resulting adverse environmental and/or community impact is promptly prevented or effectively managed.

7.2 Responsibility

Cleanaway Site Management is responsible for ensuring that the appropriate management response and handling procedures are instigated and carried through in the event of an environmental incident.

All employees and contractors are to:

- Take immediate action to notify Cleanaway Site Management of any environmental incident; and
- Take immediate action (where it is safe to do so) to prevent, stop, contain and/or minimise the environmental impact of the incident.

7.3 Handling Procedure

Upon becoming aware of an environmental incident, Cleanaway Site Management is to undertake the following:

1 Preventative Action

Where possible and it is safe to do so, immediate action should be taken to prevent, stop, contain and/or minimise the environmental impact of the incident. This may include:

- a) Making all efforts to contain all fire water at the Development site;
- b) Making all efforts to control air pollution from the Development site;
- c) Making all efforts to contain any discharge, spill or run-off from the premises;
- d) Making all efforts to prevent flood water entering the premises; and
- e) Making the WTS secure.

In the unlikely event that a pollution incident requires the evacuation of the Site, actions will be completed in accordance with the Site Emergency Plan. All employees and contractors are informed of the location of emergency assembly areas through site inductions, signage and toolbox talks.

2 Notify

Under the provisions of the POEO Act, there is a duty to notify any incident that has caused or threatens to cause material harm to the environment and all relevant information about the incident. This duty extends to the following:

- a) A person engaged as an employee or contractor must, immediately after becoming aware of the incident, notify the employer of the incident and all relevant information. If the employer cannot be contacted, the person is required to notify each relevant authority and provide all relevant information; and
- b) An employer who is notified of an incident or who otherwise becomes aware of an incident must, immediately after becoming aware of the incident, notify each relevant authority and provide all relevant information.

Under the POEO Act, the “relevant authority” means any of the following:

- The appropriate regulatory authority (refer to **Table 5**, above);
- If the EPA is the appropriate regulatory authority - the EPA;
- If the EPA is not the appropriate regulatory authority - the local authority for the area in which the pollution incident occurs (i.e. Council);
- NSW Health;
- WorkCover NSW; and
- Fire and Rescue NSW.

Relevant contact details are listed in **Table 5** lists the contact details for the regulatory authorities that have an interest in the Development.

Cleanaway will provide written details of the notification to the Secretary (DPE), EPA and any other relevant agencies within 7 days of the date on which the incident occurred.

In the event of a serious incident or emergency, it is more than likely that the Fire and Rescue NSW and/or the EPA will take control and manage the required investigation and remedial activities. Any instructions issued must be strictly adhered to.

3 Assistance

Where assistance is required handling the situation, Cleanaway's Site Manager should be contacted.

Where the incident is reported via a government agency (i.e. Council or the EPA), Cleanaway's Environmental Manager must be notified immediately (even if outside of normal business hours).

If adequate resources are not available and the incident threatens public health, property or the environment, it is essential that Fire and Rescue Service NSW and/or the EPA be contacted. Relevant contact details are listed in **Table 5** lists the contact details for the regulatory authorities that have an interest in the Development.

4 Investigate

Undertake immediate investigative work to determine the cause of the incident.

5 Remedial Action

Undertake appropriate remedial action to address the cause of the incident and mitigate any further environmental impact. In some instances, outside resources such as specialist contractors/consultants may be required.

Remedial action may include:

- a) Remediate and rehabilitating any exposed areas of soil and/or waste; and
- b) Monitoring surface water leaving the premises.

6 Record

An assessment of the incident will be conducted and documented to minimise the potential for similar events in the future. Every environmental incident will be recorded in Cleanaway's electronic record system "the Vault". If "the Vault" is unavailable then the incident will be recorded on Cleanaway's Non Conformance Report Form included within **Appendix J**. A copy of all completed forms should be maintained for at least four years.

7 Review

In the instance an incident report is submitted, the Environmental Incident Management Strategy will be reviewed within 3 months of the submission, as per Condition C11 of Development Consent SSD 7075 (as modified).

7.4 Preventative Action

Once the incident has been suitably handled, appropriate preventative measures should be identified and implemented to negate the possibility of re-occurrence.

8. OEMP Review

This OEMP will be reviewed and, if necessary, revised within 3 months (as per Condition C11 of Development Consent SSD 7075) in the following circumstances:

- Submission of an Annual Review;
- Submission of an Incident Report;
- Submission of an IEA; or
- Modification to the Development Consent (SSD 7075).

All employees and contractors will be informed of any revisions to the OEMP by Cleanaway Site Management during a toolbox talk.

9. References

- DPE (2004) Guideline for the Preparation of Environmental Management Plans.
- EME Advisory (2018) Erskine Park Waste and Resource Management Facility - Modification to approved SSD 7075 Environmental Assessment Report.
- EPA (2017) Noise Policy for Industry (NPfi).
- EPA (2014) Waste Classification Guidelines.
- SLR (2015a) Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Concept Plan and Stage 1 Waste Transfer Station. Environmental Impact Statement (EIS).
- SLR (2015b) Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Concept Plan and Stage 1 Waste Transfer Station. Response to Submissions (RTS).
- SLR (2017) Environmental Assessment (EA) – Proposed minor changes to approved Erskine Park Resource Management Facility (SSD 7075) Stage 1 Waste Transfer Station.
- SLR (2018) Erskine Park Waste Transfer Station. Operational Noise Assessment. Modification with a Sort Line and Shredder.

End of Document

Appendix A - Development Consents

Development Consent

Section 89E of the *Environmental Planning and Assessment Act 1979*

As delegate of the Minister for Planning under delegation executed on 14 September 2011, the Planning Assessment Commission (the Commission) of New South Wales, approve the Staged Development Application referred to in Schedule A subject to the concept proposal conditions in Schedule B and Stage 1 Waste Transfer Station conditions in Schedule C.

These conditions are required to:

- prevent, minimise, and/or offset adverse environmental impacts including economic and social impacts;
- set standards and performance measures for acceptable environmental performance;
- require regular monitoring and reporting; and
- provide for the ongoing environmental management of the development.



Member of the Commission Member of the Commission Member of the Commission

Sydney

4 October 2016

SCHEDULE A

Application No.:

SSD 7075

Applicant:

Cleanaway Pty Ltd

Consent Authority:

Minister for Planning

Land:

85-87 Quarry Road, Erskine Park (Lot 1 DP 1140063)

Development:

Erskine Park Waste and Resource Management Facility Staged Development Application, comprising:

- A concept proposal for a Waste and Resource Management Facility (WRMF) with a maximum processing capacity of 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2).
- Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.

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DEFINITIONS

Applicant	Cleanaway Pty Ltd, or anyone else entitled to act on this consent
Construction	The demolition of buildings or works, the carrying out of works, including bulk earthworks, and erection of buildings and other infrastructure covered by this consent
Council	Penrith City Council
Department	Department of Planning and Environment
Development	The development that is approved by this development consent and as generally described in Schedule A
DPI	Department of Primary Industries
EIS	Staged Development Application, Environmental Impact Statement, Erskine Park Resource Management Facility prepared by SLR Consulting Australia Pty Ltd dated October 2015
EP&A	<i>Environmental Planning and Assessment Act 1979</i>
EPA	Environment Protection Authority
EPL	Environment Protection Licence under the <i>Protection of the Environment Operations Act 1997</i>
Feasible	Feasible relates to engineering considerations and what is practical to build
Heavy vehicle	Any vehicle with a gross vehicle mass of 5 tonnes or more
Heritage Item	An item as defined under the <i>Heritage Act 1977</i> , and assessed as being of local, State and/ or National heritage significance, and/or an Aboriginal Object or Aboriginal Place as defined under the <i>National Parks and Wildlife Act 1974</i> .
Incident	A set of circumstances that: <ul style="list-style-type: none"> • causes or threatens to cause material harm to the environment; and/or • breaches or exceeds the limits or performance measures/criteria in this consent
Material harm to the environment	Actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial
Mitigation	Activities associated with reducing the impacts of the development prior to or during those impacts occurring
OEH	Office of Environment and Heritage
Operation	The receipt or processing of waste
POEO Act	<i>Protection of the Environment Operations Act 1997</i>
Reasonable	Reasonable relates to the application of judgement in arriving at a decision, taking into account: mitigation benefits, cost of mitigation versus benefits provided, community views and the nature and extent of potential improvements
Regulation	<i>Environmental Planning and Assessment Regulation 2000</i>
Response to Submissions (RTS)	Erskine Park Resource Management Facility, Response to Submissions prepared by SLR Consulting Australia Pty Ltd dated 24 February 2016
RMS	Roads and Maritime Services
Secretary	Secretary of the Department of Planning, or nominee
Site	Land referred to in Schedule A
Stage 1	Stage 1 includes: <ul style="list-style-type: none"> i. demolition of existing structures; ii. bulk earthworks; iii. construction of infrastructure including hardstand areas, stormwater, car parks, weighbridges and sealed roads;

	<ul style="list-style-type: none"> iv. operation of a Waste Transfer Station with a processing capacity of up to 300,000 tpa including an air pollution control system; v. a two storey office building and amenities to service the Waste Transfer Station; vi. construction of ancillary components including security fencing, security gates, rain water harvesting, fire suppression system, signage, landscaping and services.
Stage 2	Resource Recovery Facility designed to process 150,000 tpa of recyclable material from the Waste Transfer Station (Stage 1)
tpa	Tonnes per annum
Waste	As defined under the POEO Act
WMP	Waste Management Plan

SCHEDULE B

PART A CONDITIONS OF CONSENT FOR CONCEPT PROPOSAL (STAGES 1 AND 2)

STAGED DEVELOPMENT DESCRIPTION

- A1. Consent is granted to the Concept Proposal as described in:
- Schedule A;
 - Staged Development Application (SSD 7075);
 - EIS;
 - RTS;
 - Site layout plan as identified in Appendix 1; and
 - conditions contained in this development consent.
- A2. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.

CONSENT LIMITS

- A3. This consent does not permit the construction and operation of the Stage 2 Resource Recovery Facility.
- A4. All waste received at the Site must enter at the Waste Transfer Station for initial processing. The Waste Transfer Station must not process more than 300,000 tpa of waste (as identified in the EPL), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2).
- A5. The Applicant shall carry out the development of the Waste Transfer Station in accordance with the conditions outlined in Schedule C.

ADMINISTRATIVE CONDITIONS

Determination of Future Development Applications

- A6. In accordance with section 83B(3) of the EP&A Act, Stage 2 is to be subject of a future development application.
- A7. The determination of the future development application(s) are to be consistent with the terms of this development consent as described in Schedule A, and subject to the conditions in Schedule B.
- A8. As per Clause 12(b) of the *State Environmental Planning Policy State and Regional Development 2011*, any future development application(s) shall be classified State Significant Development.

Obligation to Minimise Harm to the Environment

- A9. The Applicant shall implement all reasonable and feasible measures to prevent and/or minimise any harm to the environment that may result from the construction or operation of the development.

Statutory Requirements

- A10. The Applicant shall ensure that all licences, permits, and approvals/consents are obtained as required by law and maintained as required throughout the life of the Development. No condition of this consent removes the obligation for the Applicant to obtain, renew or comply with such licences, permits or approvals/consents.

Inconsistency between Documents

- A11. If there is any inconsistency between the plans and documentation referred to above, the most recent document shall prevail to the extent of the inconsistency. However, conditions of this consent prevail to the extent of any inconsistency.

Lapsing of Approval

A12. This consent lapses five years after the date from which it operates, unless the Stage 1 works have physically commenced on the land to which the consent applies before the date on which the consent would otherwise lapse under Section 95 of the Act.

Dispute Resolution

A13. In the event that a dispute arises between the Applicant, Council or a public authority, in relation to an applicable requirement in this consent or relevant matter relating to the development, either party may refer the matter to the Secretary for resolution. The Secretary's determination of any such dispute shall be final and binding on the parties.

Legal Notices

A14. Any advice or notice to the consent authority shall be served on the Secretary.

SCHEDULE C

CONDITIONS OF CONSENT FOR STAGE 1 - WASTE TRANSFER STATION

PART A ADMINISTRATIVE CONDITIONS

DEVELOPMENT IN ACCORDANCE WITH PLANS AND DOCUMENTS

A1. The Applicant shall carry out the Development in accordance with the:

- a) Staged Development Application (SSD 7075);
- b) EIS;
- c) RTS;
- d) Conditions in Schedule B;
- e) Site and elevation plans as identified in Appendix 1 and 2.
- f) management and mitigation measures as identified in Appendix 3.

A2. If there is any inconsistency between the above documents, the most recent document shall prevail to the extent of the inconsistency. However, the conditions of this consent shall prevail to the extent of any inconsistency.

A3. The Applicant shall comply with any reasonable requirement/s of the Secretary arising from the Department's assessment of:

- a) any reports, plans, strategies, programs or correspondence that are submitted in accordance with this consent; and
- b) the implementation of any actions or measures contained in these reports, plans, strategies, programs or correspondence.

LIMITS OF CONSENT

Waste Limits

A4. The Applicant shall not receive or process on the Site more than 300,000 tonnes of waste per calendar year.

A5. The Applicant must record the amount of waste (in tonnes) received at the Site on a daily basis.

STAGED SUBMISSION OF PLANS OR PROGRAMS

A6. With the approval of the Secretary, the Applicant may:

- a) submit any strategy, plan or program required by this consent on a progressive basis; and/or
- b) combine any strategy, plan or program required by this consent.

A7. If the submission of any strategy, plan or program is to be staged, then the relevant strategy, plan or program shall clearly describe the specific stage to which the strategy, plan or program applies, the relationship of the stage to any future stages and the trigger for updating the strategy, plan or program. A clear relationship between the strategy, plan or program that is to be combined shall be demonstrated.

EVIDENCE OF CONSULTATION

A8. Where consultation with any public authority is required by the conditions of this consent, the Applicant shall:

- a) consult with the relevant public authority prior to submitting the required documentation to the Secretary or the PCA for approval, where required;
- b) submit evidence of this consultation as part of the relevant documentation required by the conditions of this consent; and
- c) include the details of any outstanding issues raised by the relevant public authority and an explanation of disagreement between any public authority and the Applicant or any person acting on this development consent.

METEOROLOGICAL MONITORING

- A9. Prior to commencement of operations, the Applicant shall ensure that there is a suitable meteorological station on the Site that complies with the requirements in the latest version of the *Approved Methods for Sampling of Air Pollutants in New South Wales*. The Applicant shall operate the meteorological station, and maintain continuous, auditable records of meteorological data, for the life of the Development.

DEMOLITION

- A10. The Applicant shall ensure that all demolition work is carried out in accordance with *Australian Standard AS 2601:2001: The Demolition of Structures*, or its latest version.

BUILDING CODE OF AUSTRALIA

- A11. The Applicant shall ensure that all new buildings and structures, and any alterations or additions to existing buildings and structures are constructed in accordance with the relevant requirements of the *Building Code of Australia*.

OPERATION OF PLANT AND EQUIPMENT

- A12. The Applicant shall ensure that all plant and equipment used for the Development is:
- maintained in a proper and efficient condition; and
 - operated in a proper and efficient manner.

PROTECTION OF PUBLIC INFRASTRUCTURE

- A13. The Applicant shall:
- repair, or pay the full costs associated with repairing, any public infrastructure that is damaged by the Development; and
 - relocate, or pay the full costs associated with relocating, any public infrastructure that needs to be relocated as a result of the Development.

PART B ENVIRONMENTAL PERFORMANCE

WASTE MANAGEMENT

- B1. The Applicant shall not cause, permit or allow any materials or waste (as defined by the POEO Act) generated outside the Site to be received at the Site for storage, treatment, processing, reprocessing, or disposal on the Site, except as expressly permitted by an EPL.
- B2. From the commencement of operation, the Applicant shall implement a Waste Monitoring Program for the Development. The program must:
- be prepared by a suitably qualified and experienced person(s) prior to the commencement of operation;
 - include suitable provision to monitor the:
 - quantity, type and source of waste received on-site; and
 - quantity, type and quality of the outputs produced on-site.
 - ensure that:
 - all waste that is controlled under a tracking system has the appropriate documentation prior to acceptance at the Site; and
 - staff receive adequate training in order to be able to recognise, handle and report any hazardous or other prohibited waste, including asbestos.

AIR QUALITY

Construction Mitigation

- B3. During construction, the Applicant shall ensure that:
- all vehicles on-site do not exceed a speed of 30 kilometres per hour;
 - all loaded construction vehicles entering or leaving the Site have their loads covered; and
 - all construction vehicles leaving the Site are cleaned of dirt, sand and other materials before they leave the Site, to avoid tracking the materials on public roads.

Dust Management

- B4. The premises shall be maintained in a condition that minimises or prevents the emission of dust from the premises.
- B5. Trucks entering and leaving the premises that are carrying loads must be covered at all times, except during loading and unloading within the Waste Transfer Station.

Odour

- B6. The Applicant shall ensure the Development does not cause or permit the emission of any offensive odour (as defined in the POEO Act).
- B7. The Applicant shall ensure that any waste vehicles parked on the Site do not emit offensive odours.

Air and Odour Emissions Mitigation

- B8. The Applicant shall:
- operate the Development so that air and odour emissions are minimised during all meteorological conditions;
 - implement best management practice, including all reasonable and feasible air and odour emission mitigation measures to minimise emissions from the Development, including but not limited to an Air Pollution Control System comprising of:
 - a wet scrubber, or an alternative air filtration system, approved by the Secretary, that can achieve an equivalent or better level of odour control to a wet scrubber;
 - dilution stacks;
 - fast acting roller doors;
 - dust suppression through the use of water sprays/misters;
 - seal on-site surfaces and regularly maintaining them to prevent dust re-entrainment from vehicle movements and other equipment use; and
 - ensure regular maintenance of the air pollution control system.
- B9. Prior to acceptance of any waste at the Waste Transfer Station, the Air Pollution Control System identified in condition B8b) must be installed and operational. The wet scrubber technology or

similar must be sized with an appropriate level of contingency to enable the level of control to be able to be scaled up if necessary.

Odour Management Plan

- B10. Prior to commencement of construction, the Applicant shall prepare an Odour Management Plan to the satisfaction of the Secretary. The Plan must:
- a) be prepared by a suitable qualified and experienced person(s) in consultation with the EPA;
 - b) describe the measures that would be implemented on-site to ensure:
 - (i) all reasonable and feasible measures are employed to minimise odour emissions, including details of the air pollution control device(s) and all other operational odour mitigation measures;
 - (ii) compliance with the relevant conditions of this consent;
 - (iii) contingency measures are deployed to minimise impacts should adverse odour emissions occur or appear likely to occur;
 - c) include an ongoing monitoring program;
 - d) include well defined triggers for the deployment of odour mitigation and contingency measures;
 - e) include a protocol to determine the occurrence of an exceedance of any criteria in the EPL should an exceedance occur; and
 - f) include contingency measures for design or system failure.
- B11. The Applicant shall carry out the Development in accordance with the Odour Management Plan approved by the Secretary (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Odour Audit

- B12. Within 6 months of operation or as otherwise directed by the Secretary, the Applicant shall carry out an Odour Audit of the Development. The timing of the audit shall coincide with the receipt of putrescible waste at the Waste Transfer Station. The audit must:
- a) be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;
 - b) audit the Development whilst it is in full operation;
 - c) include a summary of air and odour emission related complaints and any actions that were carried out to address the complaints;
 - d) validate the Development against the odour predictions in the RTS;
 - e) if, as part of the Odour Audit, or as the result of any other odour monitoring, the odour predictions are demonstrated to be inaccurate, initiate an action plan as per B12 (h).
 - f) if odour complaints are received, the Applicant must review the meteorological data for the Site and the region to establish the likelihood that the source of the odour originated from the Site. If it is likely that the odour originated from the site it must be reported in accordance with condition C6.
 - g) review design and management practices of the Development against industry best practice for air emissions and odour management; and
 - h) include an action plan that identifies and prioritises additional air and odour emission mitigation measures that may be necessary to reduce air and odour emissions.

Note: the aim of the odour audit is to validate the odour predictions in the RTS and therefore the audit should be conducted when large amounts of putrescible waste are present on the Site.

- B13. Within two months of commissioning this audit, the Applicant shall submit a copy of the audit report to the Secretary, the EPA and Penrith City Council, together with its response to any recommendations contained in the audit report.
- B14. The Applicant shall comply with any requirement(s) of the Secretary arising from the Odour Audit.

SOIL AND WATER

Pollution of Waters

B15. The Development shall comply with section 120 of the POEO Act, which prohibits the pollution of waters, except as expressly provided in an EPL.

Stormwater

B16. A stormwater management scheme must be prepared for the development and must be implemented in consultation with the EPA. Implementation of the scheme must mitigate the impacts of stormwater run-off from and within the premises following the completion of construction activities. The scheme should be consistent with the Stormwater Management Plan for the catchment.

Leachate Management System

B17. Prior to operation, the Applicant shall prepare a Leachate Management System for the Site, the system must:

- a) be designed by a suitably qualified and experienced person(s) in consultation with the EPA;
- b) provide a management protocol for leachate (including firewater);
- c) control leachate (including firewater) so that it does not mix with any stormwater on the Site; and
- d) include water quality monitoring to determine the performance of the leachate management system.

B18. The Applicant shall carry out the Development in accordance with the Leachate Management System approved by the Secretary (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

B19. Should the Waste Transfer Station no longer be able to utilise the adjacent Landfill Leachate Treatment System, no further waste shall be received at the Site until an alternative strategy for leachate management is provided in accordance with Condition B17. The system shall be designed and installed in consultation with the EPA and subject to the Secretary's approval prior to the facility receiving or processing any further waste.

Erosion and Sediment Control

B20. The Applicant shall implement erosion and sediment control measures on-site in accordance with *Managing Urban Stormwater: Soils and Construction Vol. 1* (Landcom, 2004).

Bunding

B21. The Applicant shall store all chemicals, fuels and oils used on-site in appropriately bunded areas in accordance with the requirements of all relevant Australian Standards, and/or the EPA's *Storing and Handling Liquids: Environmental Protection – Participant's Manual 2007*.

Imported Soil

B22. The Applicant shall:

- a) ensure that only VENM, or ENM, or other material approved in writing by the EPA is used as fill on the Site;
- b) keep accurate records of the volume and type of fill to be used; and
- c) make these records available to the Department upon request.

Compliance Certificate

B23. A Section 73 Compliance Certificate under the *Sydney Water Act 1994* must be obtained from Sydney Water prior to the commencement of construction.

Groundwater Interception and Extraction

B24. The Applicant shall obtain any necessary water related approvals from DPI in the event that groundwater is likely to be intercepted or extracted during construction.

CONTAMINATION

- B25. Prior to commencing any excavation works, the Applicant shall prepare a protocol for the management of unexpected contamination finds which details the procedures for testing, classifying, handling, storing and disposing of contaminated water, soils and/or groundwater if encountered in excavations, in particular during excavation of the stormwater detention basin.
- B26. The Applicant shall notify the Department detailing any contamination investigation carried out. This report shall be provided to the Department on completion of construction earthworks.

NOISE AND VIBRATION

Vibration Criteria

- B27. The Applicant shall ensure that vibration resulting from the Development does not exceed the continuous or impulsive vibration criteria in the EPA's *Assessing Vibration: A Technical Guideline* (February 2006) at residential receivers.

Construction and Operation Hours

- B28. The Applicant shall comply with the construction and operation hours in Table 3 unless otherwise agreed to in writing by the Secretary.

Table 3: Hours of Construction and Operation

Activity	Day	Hours
Construction	Monday – Friday	7 am to 6 pm
	Saturday	8 am to 1 pm
	Sunday & Public Holidays	Nil
Operation	24 hours a day, seven days a week	

Noise Mitigation

- B29. The Applicant shall:
- implement best practice, including all reasonable and feasible noise management and mitigation measures to prevent and minimise operational, low frequency and traffic noise generated by the Development;
 - minimise the noise impacts of the Development during adverse meteorological conditions;
 - maintain the effectiveness of any noise suppression equipment on plant at all times and ensure defective plant is not used operationally until fully repaired; and
 - regularly assess noise emissions and relocate, modify and/or stop operations to ensure compliance with the relevant conditions of this consent.

TRAFFIC AND ACCESS

- B30. The Applicant shall ensure that:
- a total of 10 car parking spaces, including one disabled car parking space are provided;
 - trucks shall only be parked in the designated truck park areas as identified in Appendix A;
 - at least one load compliance inspection parking area is provided;
 - Site access, driveways and parking areas are constructed and maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1;
 - the swept path of the longest vehicle entering and exiting the Site, as well as manoeuvrability through the Site, is in accordance with *AUSTROADS Guide to Road Design*;
 - unless such deliveries are via Erskine Park Road, truck deliveries and pickups are scheduled to avoid busy morning and afternoon peak hours;
 - the egress of B-double waste transportation trucks from the Erskine Park Industrial Estate is confined to Lenore Drive/Erskine Park Link Road;
 - the Development does not result in any vehicles parking or queuing on the public road network;
 - all vehicles are wholly contained on-site before being required to stop;
 - all loading and unloading of heavy vehicles occurs inside the Waste Transfer Station;

- k) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times; and
- l) all vehicles enter and leave the Site in a forward direction.

FIRE MANAGEMENT

B31. The Applicant shall:

- a) implement suitable measures to minimise the risk of fire on-site including but not limited to the recommendations in the EIS;
- b) extinguish any fires on-site promptly; and
- c) maintain adequate fire-fighting capacity on-site.

VISUAL AMENITY

Building Materials and Landscaping

B32. Prior to the commencement of construction, the Applicant shall prepare a Building and Material Schedule and a Landscape Plan for the development to the satisfaction of the Secretary. The Schedule and Plan must:

- a) be prepared in consultation with Council;
- b) be consistent with the Penrith City Council Development Control Plan 2014;
- c) include a building materials list for the Waste Transfer Station;
- d) provide details on boundary fences which shall generally have a maximum height of 2.1 m and have an "open" nature, e.g. decorative metal and coloured dark grey or black, or complement the adjacent fencing type, other than the southern boundary fence which may be higher than 2.1m and impermeable, as agreed with the adjacent property owner; and
- e) include details on landscaping, in particular how the area allocated for the Resource Recovery Facility will be grassed and stabilised prior to commencement of operation of the Waste Transfer Station to prevent any run-off and erosion.

B33. The Applicant shall carry out the Development in accordance with the approved Building and Material Schedule and Landscape Plan (as revised and approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Lighting

B34. All external lighting associated with the Development shall be mounted, screened, and directed in such a manner so as not to create a nuisance to the surrounding environment, properties and roadways. The lighting shall be the minimum level of illumination necessary and shall comply with *Australian Standard AS 4282 1997*.

Signage

B35. The Applicant shall install any new signage in consultation with Council and shall comply with the *State Environmental Planning Policy 64 – Advertising and Signage*, as relevant.

Note: This condition does not apply to signage identified as exempt or complying development in State Environmental Planning Policy (Exempt and Complying Development Codes) 2008.

HERITAGE

B36. The Applicant shall cease all works on-site in the event that any Aboriginal cultural object(s) or human remains are uncovered. If human remains are uncovered, you must immediately stop work, not further disturb the remains and notify NSW Police, OEH and the Aboriginal community must be contacted if the remains are suspected to be of Aboriginal origin. If other Aboriginal objects are discovered, you must immediately stop work, not further disturb the objects and notify OEH by calling Environment Line on 131 555. Works must not resume in the designated area until the relevant written consent is received from NSW Police and/or OEH. Any Aboriginal objects discovered must be registered on the Aboriginal Heritage Management Information System (AHIMS), in accordance with section 89A of the *National Parks and Wildlife Act 1974*.

SECURITY

B37. The Applicant shall:

- a) install and maintain a perimeter fence and security gates on the Site; and
- b) ensure that the security gates on-site are locked whenever the Site is unattended.

PEST, VERMIN & NOXIOUS WEED MANAGEMENT

B38. The Applicant shall:

- a) implement suitable measures to manage pests, vermin and declared noxious weeds on-site; and
- b) inspect the Site on a regular basis to ensure that these measures are working effectively, and that pests, vermin or noxious weeds are not present on-site in sufficient numbers to pose an environmental hazard, or cause the loss of amenity in surrounding areas.

PART C ENVIRONMENTAL MANAGEMENT, REPORTING AND AUDITING

ENVIRONMENTAL MANAGEMENT

Construction Environmental Management Plan

- C1. Prior to the commencement of construction of the Development, the Applicant shall prepare a Construction Environmental Management Plan to the satisfaction of the Secretary. The Plan must:
- a) be prepared by a suitably qualified and experienced person(s);
 - b) describe all activities to be undertaken on the Site during construction, including a clear indication of construction stages;
 - c) identify the statutory approvals that apply to the Development;
 - d) outline all environmental management practices and procedures to be followed during construction (e.g. construction traffic management, dust management and construction noise and vibration management), including all reasonable and feasible mitigation measures to protect the amenity of the surrounding environment;
 - e) detail how the environmental performance of construction will be monitored, and what actions will be taken to address identified adverse environmental impacts;
 - f) describe the roles and responsibilities for all relevant employees involved in construction;
 - g) include arrangements for community consultation and complaints handling procedures during construction; and
 - h) consolidate the construction related parts of any management plans and monitoring programs required in the conditions of this consent.
- C2. The Applicant shall carry out the development in accordance with the Construction Environmental Management Plan approved by the Secretary (as revised approved by the Secretary from time to time), unless otherwise agreed by the Secretary.

Operational Environmental Management Plan

- C3. The Applicant shall prepare an Operational Environmental Management Plan for the Development to the satisfaction of the Secretary. This strategy must:
- a) be prepared by a suitably qualified and experienced person(s);
 - b) provide a strategic framework for environmental management of the Development;
 - c) identify the statutory approvals that apply to the Development;
 - d) describe the role, responsibility, authority and accountability of all key personnel involved in the environmental management of the Development;
 - e) describe in detail how the environmental performance of the Development would be monitored and managed; and
 - f) describe the procedures that would be implemented to:
 - (i) keep the local community and relevant agencies informed about the operation and environmental performance of the Development;
 - (ii) receive, handle, respond to, and record complaints;
 - (iii) resolve any disputes that may arise;
 - (iv) respond to any non-compliance; and
 - (v) respond to emergencies.

The Applicant shall carry out the Development in accordance with the Operational Environmental Management Plan approved by the Secretary (as revised approved by the Secretary from time to time), unless otherwise agreed by the Secretary

Management Plan Requirements

- C4. The Applicant shall ensure that the environmental management plans/strategies required under this consent are prepared in accordance with any relevant guidelines and include:
- a) detailed baseline data;
 - b) a description of:
 - (i) the relevant statutory requirements (including any relevant approval, licence or lease conditions);
 - (ii) any relevant limits or performance measures/criteria;

- (iii) the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures;
- (iv) the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria;
- c) a program to monitor and report on the:
 - (i) impacts and environmental performance of the Development;
 - (ii) effectiveness of any management measures;
 - (iii) a contingency plan to manage any unpredicted impacts and their consequences;
 - (iv) a program to investigate and implement ways to improve the environmental performance of the Development over time;
- d) a protocol for managing and reporting any:
 - (i) incidents;
 - (ii) complaints;
 - (iii) non-compliances with statutory requirements;
 - (iv) exceedances of the impact assessment criteria and/or performance criteria; and
 - (v) a protocol for periodic review of the plan.

C5. The Secretary may waive some of the requirements in Condition C4 if they are unnecessary or unwarranted for particular management plans/strategies.

REPORTING AND AUDIT

Incident Reporting

C6. The Applicant shall notify, at the earliest opportunity, the Secretary and any other relevant agencies including the EPA and Penrith City Council of any incident that has caused, or threatens to cause, material harm to the environment or result in offensive odour at sensitive receivers. For any other incident (including complaints) associated with the Development, the Applicant shall notify the Secretary and any other relevant agencies as soon as practicable after the Applicant becomes aware of the incident. Within 7 days of the date of the incident, the Applicant shall provide the Secretary and any relevant agencies with a detailed report on the incident, and such further reports as may be requested.

Regular Reporting

C7. The Applicant shall provide regular reporting on the environmental performance of the Development on its website, in accordance with the reporting arrangements in any plans or programs approved under the conditions of this consent.

Independent Environmental Audit

C8. Within 1 year of the date of this consent, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant shall commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:

- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- b) led by a suitably qualified auditor, and include experts in fields specified by the Secretary;
- c) include consultation with the relevant agencies;
- d) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals and relevant EPL/s (including any assessment, plan or program required under the approvals);
- e) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
- f) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under the consents.

C9. Within three months of commissioning this audit, or as otherwise agreed by the Secretary, the Applicant shall submit a copy of the audit report to the Secretary, together with its response to any recommendations contained in the audit report.

Annual Review

C10. Within 1 year of the date of this consent, and every year thereafter, the Applicant shall review the environmental performance of the Development. This review must:

- a) describe the activities associated with the Development that were carried out in the previous calendar year, and the activities proposed to be carried out over the next year;
- b) include a comprehensive review of the monitoring results and complaints records of the Development over the previous calendar year, which includes a comparison of the results against the:
 - (i) the relevant statutory requirements, limits or performance measures/criteria;
 - (ii) requirements of any plan or program required under this consent;
 - (iii) the monitoring results of previous years; and
 - (iv) the relevant predictions in the EIS;
- c) identify any non-compliance over the previous year, and describe what actions were (or are being) taken to ensure compliance in the upcoming year;
- d) identify any trends in the monitoring data over the life of the Development;
- e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
- f) describe what measures will be implemented over the next year to improve the environmental performance of the Development.

Revision of Strategies, Plans and Programs

C11. Within 3 months of the submission of an:

- a) annual review under Condition C10 above;
- b) incident report under Condition C6 above;
- c) audit under Condition C8 above; or
- d) any modification to this consent,

the Applicant shall review, and if necessary revise, the strategies, plans, and programs required under this consent.

Note: This is to ensure the strategies, plans and programs are updated on a regular basis, and incorporate any recommended measures to improve the environmental performance of the Development.

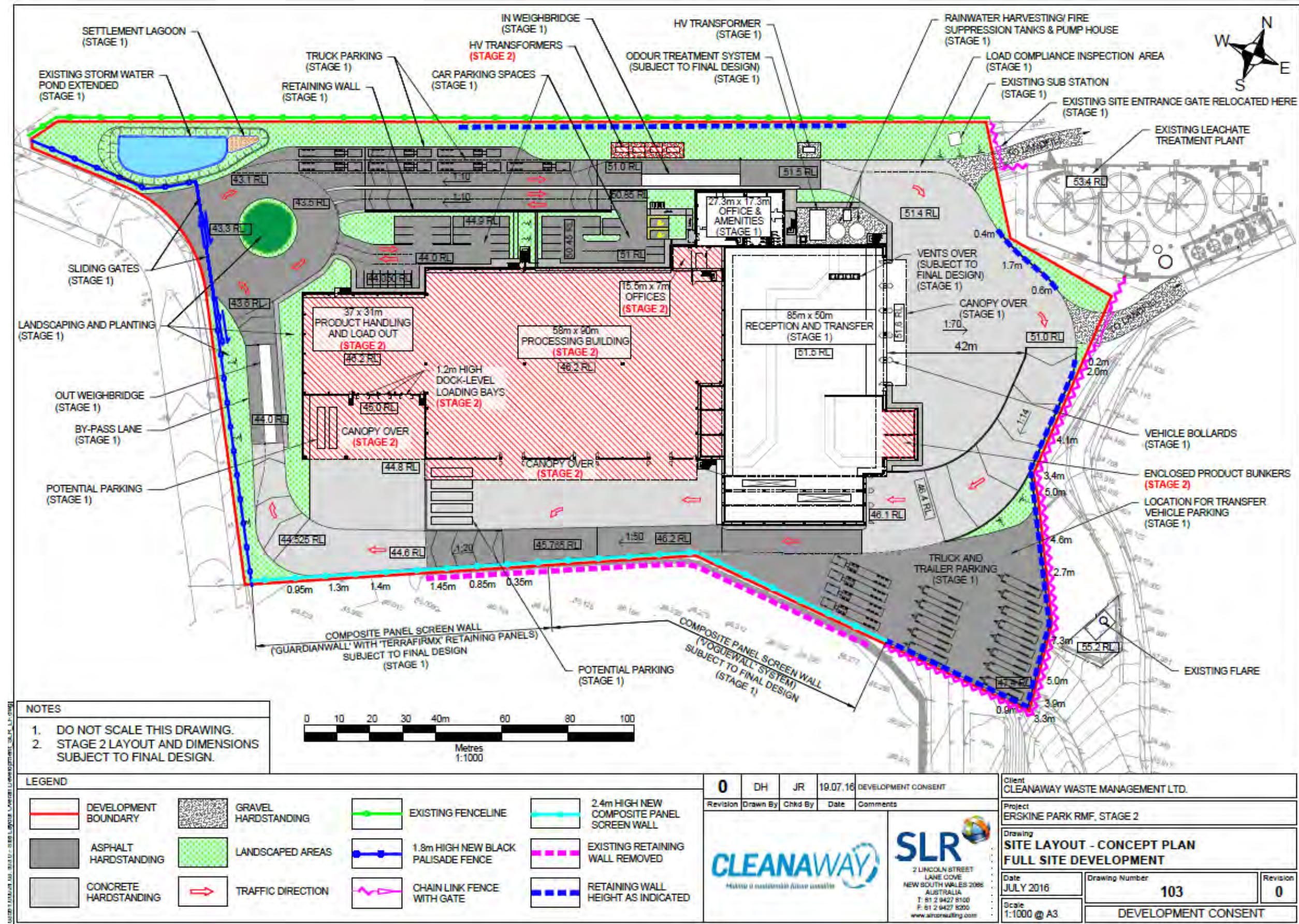
C12. The Applicant shall ensure that the operation of the Development is undertaken in accordance with all relevant updated and/or amended strategies, management plans and programs approved by the Secretary (or as revised and approved by the Secretary), unless otherwise agreed by the Secretary.

Access to Information

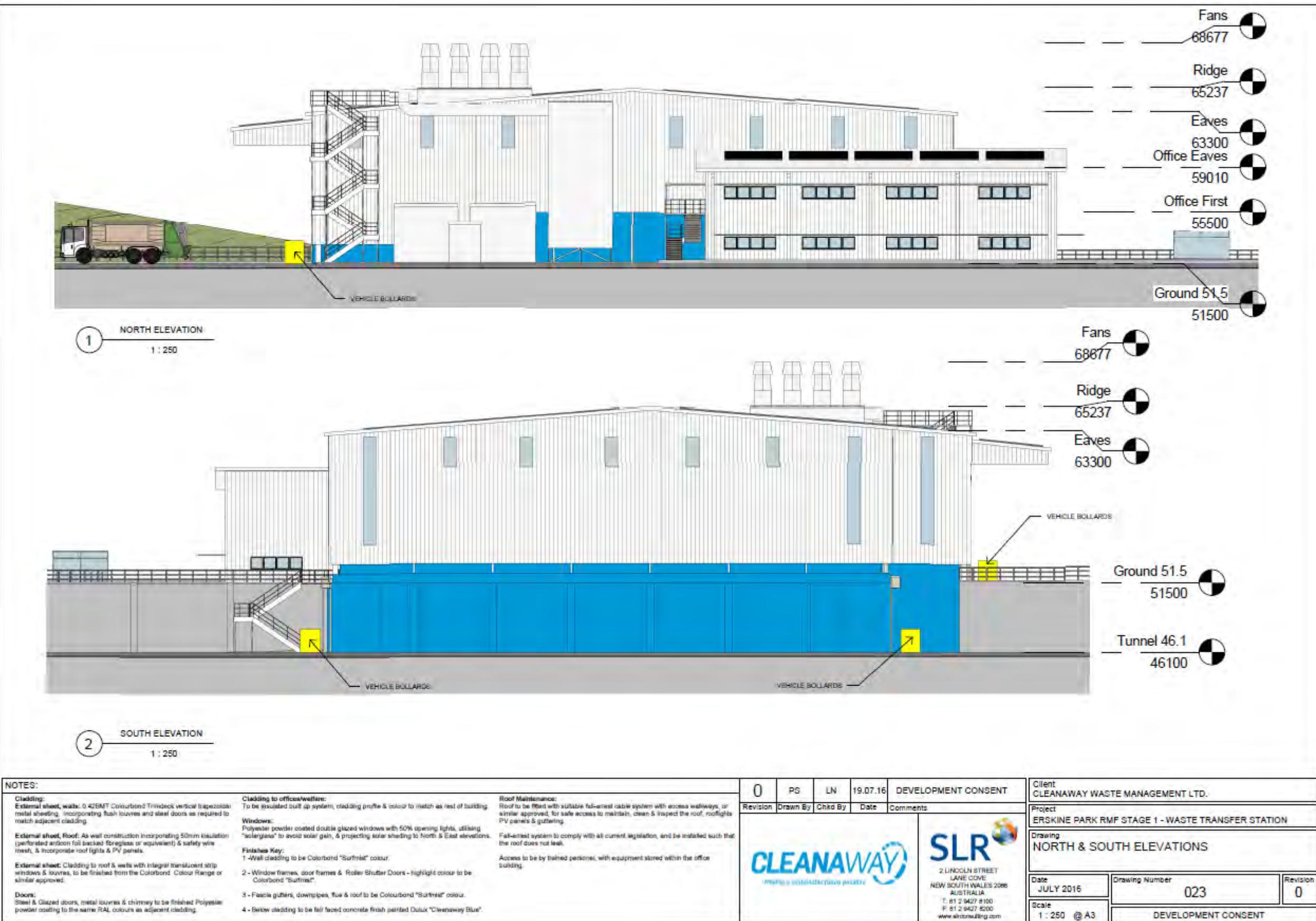
C13. The Applicant shall:

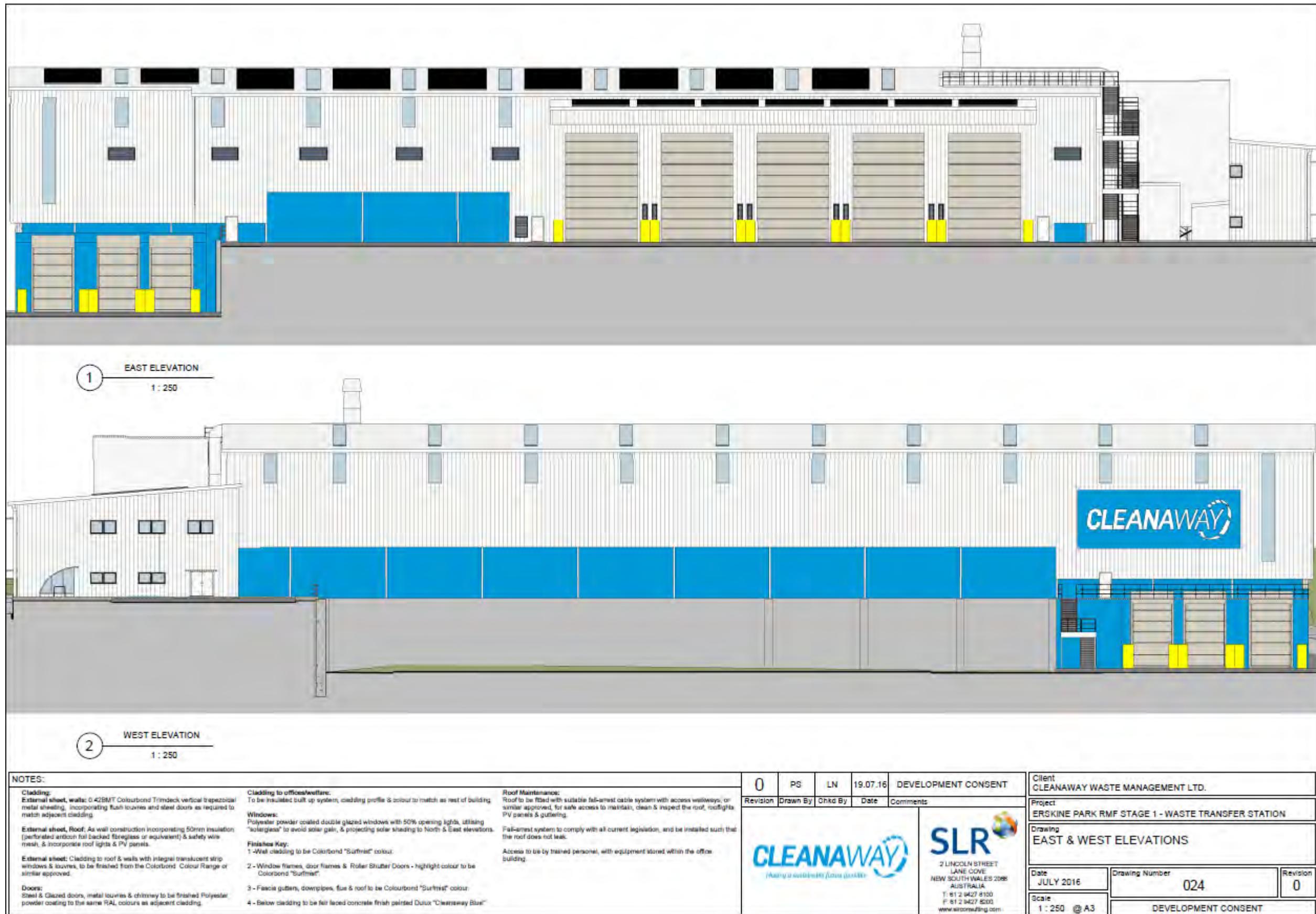
- a) make copies of the following publicly available on its website:
 - (i) the documents referred to in Condition A1;
 - (ii) all current statutory approvals for the Development;
 - (iii) all approved strategies, plans and programs required under the conditions of this consent;
 - (iv) a comprehensive summary of the monitoring results of the Development, reported in accordance with the specifications in any conditions of this consent, or any approved plans and programs;
 - (v) a complaints register, updated on a monthly basis;
 - (vi) the annual reviews of the Development;
 - (vii) any independent environmental audit of the Development, and the Applicant's response to the recommendations in any audit;
 - (viii) any other matter required by the Secretary; and
- b) keep this information up to date.

APPENDIX 1 – SITE LAYOUT PLAN – CONCEPT PROPOSAL WASTE AND RESOURCE MANAGEMENT FACILITY



APPENDIX 2 – ELEVATION PLANS - WASTE TRANSFER STATION





APPENDIX 3 – MANAGEMENT AND MITIGATION MEASURES

Cleanaway commits to the implementation of the operational mitigation measures, monitoring activities and management strategies outlined in **Section 7** of the EIS for all activities associated with the Development (SSD 7075). The table below presents the key commitments proposed in this EIS, in order to effectively mitigate and/or manage the potential environmental and socio-economic impacts of the Development. Additional commitments identified in the Response to Submissions are also included (highlighted in italics).

Statement of Commitments

Aspect/Commitment	Section
General	
A Construction Environmental Management Plan (CEMP) will be prepared for the Development, with sub-plans for specific environmental risk areas, including but not limited to noise, dust and traffic issues.	Section 7.11.5
A site-specific Operational Environmental Management Plan (OEMP) will be developed and submitted to DP&E for approval. The OEMP will ensure that the commitments made within the EIS, along with the conditions imposed by the development consent and EPL, are fully implemented and complied with. The OEMP will establish the framework for managing and mitigating the potential environmental impacts of the Development over the life of the operation.	Section 7.11.5
Air Quality and Odour	
A program of construction air quality monitoring will be implemented.	Section 7.1.5
An air pollution control system will be implemented to provide multiple levels of control and an integrated solution for emission control. The system will include: <ul style="list-style-type: none"> • Containment: containment of dust and odour within the building using fast acting doors and an air extraction system; • Internal air management: the installation of a dust suppression system to control internal dust concentrations; • Air pollution control: the operation of a wet scrubber, required to achieve the ‘design standard’ with the plant operating at full capacity in the ‘normal operations’ scenario, or during the ‘emergency operations’ scenario; and • Emission control: the use of dilution fans to maximise the dispersion and dilution of the extracted, and scrubbed, air. 	Section 7.1.5
Within the first 12 months of operations, monitoring of odour will be undertaken to perform efficiency trials on the scrubber system to demonstrate optimal performance. Cleanaway will also undertake follow-up monitoring during the operational lifetime of the WTS, on a basis to be agreed with the relevant authorities.	Section 7.1.5
Noise and Vibration	
Other than the noise mitigation achieved by the enclosed nature of the building design, no additional noise mitigation measures are warranted.	n/a

Aspect/Commitment	Section
<i>Cleanaway owned vehicles operating on the site will be fitted with the High and Low Buzzer system, designed to minimise noise associated with reversing alarms in accordance with the Australian Vehicle Standard (Australian Design Rule 42/04) and Heavy Vehicle National Law Act 2012.</i>	RTS ¹ Section 3.4
<i>All mobile plant operation will occur inside the WTS building and will be fitted with low frequency white noise reversing alarms.</i>	RTS Section 3.4
Traffic and Transport	
The Construction Traffic Management Plan will be updated in response to pre-construction approvals required as part of the Conditions of Approval. This will be implemented for the duration of construction activities.	Section 7.3.5
Cleanaway will schedule its delivery and transfer trucks to avoid the busy morning and afternoon peak hours.	Section 7.3.5
Transfer trucks departing the site will use the Erskine Park Link Road connection to the M7 rather than the Mamre Road or Erskine Park Road routes to the M4.	Section 7.3.5
<i>Designated pedestrian access will be provided from Quarry Road to the offices.</i>	RTS Section 3.4
<i>Any existing unnecessary property access will be removed, the kerb reinstated to suit the existing kerb, and the verge area reinstated with grass seeded topsoil or turf, which will be addressed in further designed stages.</i>	RTS Section 3.4
Visual Amenity	
Lighting will be designed and installed in accordance with AS 4282-1997 to avoid obtrusive effects to surrounding residents.	Section 7.4.5
Disturbed areas will be rehabilitated on completion of construction.	Section 7.4.5
Mature trees will be fenced and protected for the duration of construction.	Section 7.4.5
Landscape works will be implemented as part of the Development.	Section 7.4.5
<i>Further detail on the architectural treatment of the facility will be provided as the detailed design progresses.</i>	RTS Section 3.4
<i>Black palisade fencing located behind landscaping fronting on to Quarry Road will be provided.</i>	RTS Section 3.4
<i>Upon completion of the WTS, the undeveloped RRF area will be grassed until such time as construction can commence on the second stage.</i>	RTS Section 3.4
Indigenous Heritage	
Should any Aboriginal artefact be uncovered during construction or operation all works will cease in that locale and the OEH will be notified. Works will only recommence when an appropriate and approved management strategy has been agreed to by all of the relevant stakeholders.	Section 7.5.3
Soils and Geology	
Cut and fill slopes will be battered or retained for stability and to reduce the risk of erosion.	Section 7.6.4

¹ RTS - Response to Submissions

Aspect/Commitment	Section
An Erosion and Sediment Control Plan (ESCP) will be prepared as part of the CEMP setting out detailed measures for the management of erosion and sediment.	Section 7.6.4
A program of groundwater monitoring would be undertaken, building on the ongoing groundwater monitoring program undertaken for the landfill.	Section 7.6.4
In the event that unexpected contaminated material is encountered during construction excavations:	Section 7.6.4
<ul style="list-style-type: none"> • An environmental management plan will be developed and implemented; and • A suitably qualified environmental consultant will be consulted to assess any unexpected conditions or subsurface facilities discovered during the proposed earthworks. 	
In the event that salinity is identified during construction the following measures will be considered:	Section 7.6.4
<ul style="list-style-type: none"> • minimisation of exposure of saline and sodic soils in temporary faces or stockpiles during site preparation works; and • the collection and controlled discharge of stormwater from hard surfaces such that the potential for localised ponding or waterlogging is minimised. 	
Surface Water	
An Erosion and Sediment Control Plan (ESCP) will be prepared as part of the CEMP setting out detailed measures for the management of erosion and sediment.	Section 7.7.5
Storage of hazardous materials during construction such as oils, chemicals and refuelling activities will occur in bunded areas.	Section 7.7.5
Water quality monitoring of water within the sediment basins will be carried out during the construction phase in accordance with the CEMP.	Section 7.7.5
A minimum of 740 m ³ of OSD will be provided within an underground tank and above ground storage within the detention basin.	Section 7.7.5
Rainwater harvesting tanks will be implemented, which will provide a minimum of 56 KL of water storage for supplying greywater for toilet flushing in the buildings.	Section 7.7.5
Cleanaway will develop a detailed maintenance and operations plan for the entire stormwater system in accordance with Penrith Councils WSUD Policy (PCC, 2013) and will be included within the OEMP.	Section 7.7.5
Flora and Fauna	
Given the highly disturbed and artificial nature of the subject site at Erskine Park, there is no requirement for the implementation of any species specific impact amelioration or environment management measures with respect to threatened or other native biota.	n/a
Greenhouse Gas	
The building will be designed to comply with all National Construction Code and Council requirements and a Section J Energy Efficiency Assessment will be performed prior to construction.	Section 7.9.4
The following points would be considered to reduce the emissions caused from on-site electricity usage:	Section 7.9.4

Aspect/Commitment	Section
<ul style="list-style-type: none"> • A percentage of electricity could be generated on-site through the use of photovoltaic cells, for example; • Use of light sensors minimise lighting related electricity usage; and • Where possible, high efficiency lighting should be used. <p>The following points should be considered to reduce the overall energy use from vehicles and stationary equipment:</p> <ul style="list-style-type: none"> • Variable frequency drive motor controls will be used on stationary equipment to minimise electricity consumption; • Waste transfer vehicles should leave the site with full loads to reduce the number of traffic movements required; • Waste transfer vehicle configuration should be designed to maximise waste transport efficiency; • All vehicles/plant and machinery should be turned off when not in use and regularly serviced to ensure efficient operation; and • Truck routes and loading capacity should be designed and optimised to reduce the distance and effort required by the vehicles. 	Section 7.9.4
Hazard and Risk	
The SEPP 33 screenings for storage and transportation of dangerous goods indicates that the development is below the SEPP thresholds and therefore is not considered a hazardous or offensive development in accordance with the guidelines. As such a Preliminary Hazard Assessment is not required.	n/a
Socio-Economic	
A Community Information Strategy will be implemented throughout construction.	Section 7.11.5
Waste Management	
All received waste will be transported off-site to an appropriately licensed waste management facility in accordance with relevant waste management regulations.	Section 6.12
A Construction Waste Management Plan will be prepared setting out specific measures for the management of waste during the construction period.	Section 7.12.4
An operation WMP will be implemented throughout the life of the operation and will be updated on a regular basis (e.g. annually) to ensure the Plan remains applicable.	Section 7.12.4

Modification of Development Consent

Section 96(1A) of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning, under delegation executed on 16 February 2015, I approve the modification of the development consent referred to in Schedule 1, subject to the conditions outlined in Schedule 2.



Kelly McNicol
A/Director
Industry Assessments

Sydney 25 AUGUST

2017

File: 17/09077

SCHEDULE 1

Application No:	SSD 7075
Applicant:	Cleanaway Pty Ltd
Consent Authority:	Minister for Planning
Development:	Erskine Park Waste and Resource Management Facility Staged Development Application, comprising: <ul style="list-style-type: none">• A concept proposal for a Waste and Resource Management Facility (WRMF) with a maximum processing capacity of 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2).• Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.
Date of Original Consent:	4 October 2016
Modification:	SSD 7075 MOD 1 – Modifications to the development staging, car and truck parking, the office, the load-out bays, the stormwater management system, site levels and landfill ramps.

SCHEDULE 2

This consent is modified as follows:

In the Definitions

1. Insert the following definitions in alphabetical order:

MOD 1	SSD 7075 MOD 1 and supporting documentation titled <i>Environmental Assessment Proposed minor changes to approved Erskine Park Resource Management Facility (SSD 7075) Stage 1 Waste Transfer Station</i> , prepared by SLR and dated 10 July 2017.
PCA	Principal Certifying Authority
RRF	Resource Recovery Facility
WTS	Waste Transfer Station

In Schedule B

2. Delete Condition A1 and replace with the following:

- A1. Consent is granted to the Concept Proposal as described in:
- a) Schedule A;
 - b) Staged Development Application (SSD 7075);
 - c) EIS;
 - d) RTS;
 - e) Site layout plan as identified in Appendix 1A;
 - f) MOD 1; and
 - g) conditions contained in this development consent.

In Schedule C

3. Delete Condition A1 and replace with the following:

- A1. The Applicant must carry out the Development in accordance with the:
- a) Staged Development Application (SSD 7075);
 - b) EIS;
 - c) RTS;
 - d) Conditions in Schedule B;
 - e) Site and elevation plans as identified in Appendix 1B and 2;
 - f) MOD 1; and
 - g) management and mitigation measures as identified in Appendix 3.

4. Delete Condition B30 and replace with the following:

B30 The Applicant must ensure that:

- a) a total of 20 car parking spaces, including one accessible car parking space are provided;
- b) trucks must only be parked in the designated truck park areas as identified in Appendix 1B;
- c) at least one load compliance inspection parking area is provided;
- d) site access, driveways and parking areas are constructed and maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1;
- e) the swept path of the longest vehicle entering and exiting the Site, as well as manoeuvrability through the site, is in accordance with *AUSTROADS Guide to Road Design*;
- f) unless such deliveries are via Erskine Park Road, truck deliveries and pickups are scheduled to avoid busy morning and afternoon peak hours;
- g) the egress of B-double waste transportation trucks from the Erskine Park Industrial Estate is confined to Lenore Drive/Erskine Park Link Road;
- h) the Development does not result in any vehicles parking or queuing on the public road network;
- i) all vehicles are wholly contained on site before being required to stop;
- j) all loading and unloading of heavy vehicles occurs inside the Waste Transfer Station;
- k) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times;
- l) all vehicles enter and leave the site in a forward direction; and
- m) signage is installed to ensure traffic from the adjacent landfill provides right-of-way to the Development traffic.

5. Delete Condition C8 and replace with the following:

C8 Within 1 year of the date of the commencement of operation, and every 3 years thereafter, unless the Secretary directs otherwise, the Applicant must commission and pay the full cost of an Independent Environmental Audit of the Development. This audit must:

- a) be conducted by a suitably qualified, experienced and independent team of experts whose appointment has been endorsed by the Secretary;
- b) led by a suitably qualified auditor, and include experts in fields specified by the Secretary;
- c) include consultation with the relevant agencies;
- d) assess the environmental performance of the Development and assess whether it is complying with the requirements in this consent, and any other relevant approvals and relevant EPL/s (including any assessment, plan or program required under the approvals);
- e) review the adequacy of any approved strategy, plan or program required under the abovementioned consents; and
- f) recommend measures or actions to improve the environmental performance of the Development, and/or any strategy, plan or program required under the consents.

6. Delete Condition C10 and replace with the following:

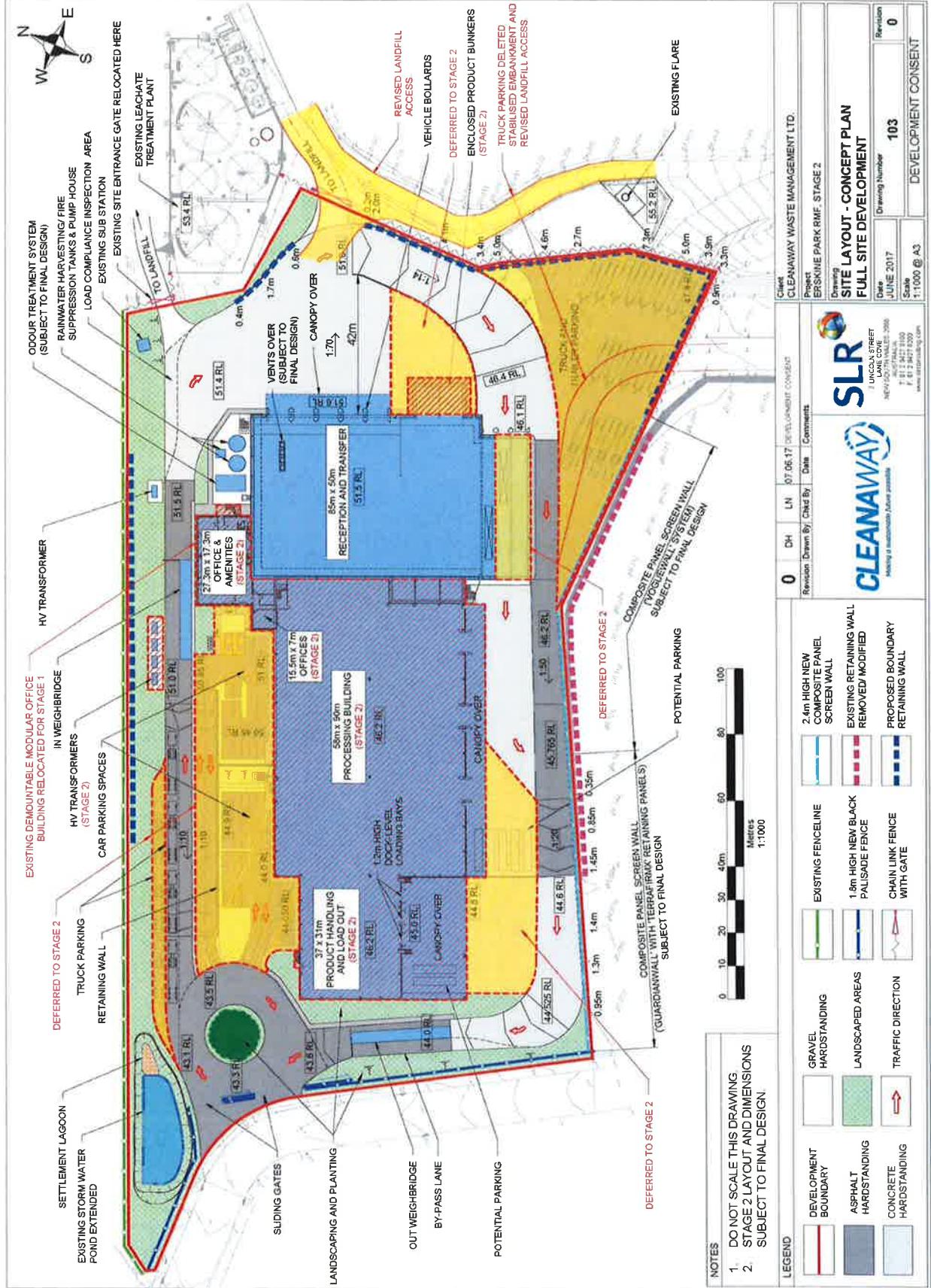
- C10 Within 1 year of the date of the commencement of construction, and every year thereafter, the Applicant must review the environmental performance of the Development. This review must:
- a) describe the activities associated with the Development that were carried out in the previous calendar year, and the activities proposed to be carried out over the next year;
 - b) include a comprehensive review of the monitoring results and complaints records of the Development over the previous calendar year, which includes a comparison of the results against the:
 - (i) the relevant statutory requirements, limits or performance measures/criteria;
 - (ii) requirements of any plan or program required under this consent;
 - (iii) the monitoring results of previous years; and
 - (iv) the relevant predictions in the EIS;
 - c) identify any non-compliance over the previous year, and describe what actions were (or are being) taken to ensure compliance in the upcoming year;
 - d) identify any trends in the monitoring data over the life of the Development;
 - e) identify any discrepancies between the predicted and actual impacts of the Development, and analyse the potential cause of any significant discrepancies; and
 - f) describe what measures will be implemented over the next year to improve the environmental performance of the Development.

In the Appendices

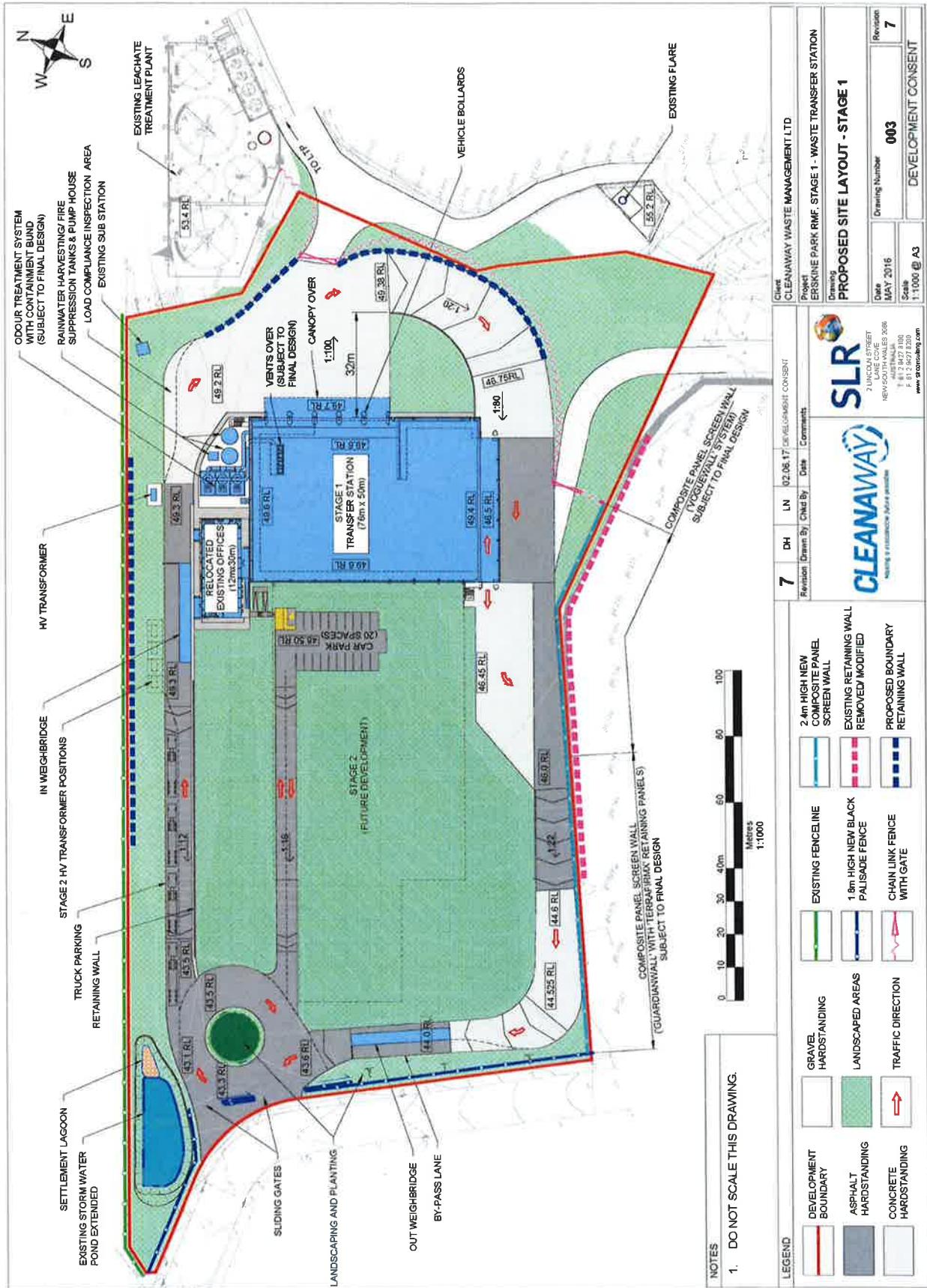
7. Replace Appendix 1 with new Appendix 1A and Appendix 1B.

8. Replace Appendix 2 with new Appendix 2.

APPENDIX 1A – STAGE 1 AND 2 CONCEPT PROPOSAL



APPENDIX 1B – STAGE 1 SITE LAYOUT PLAN



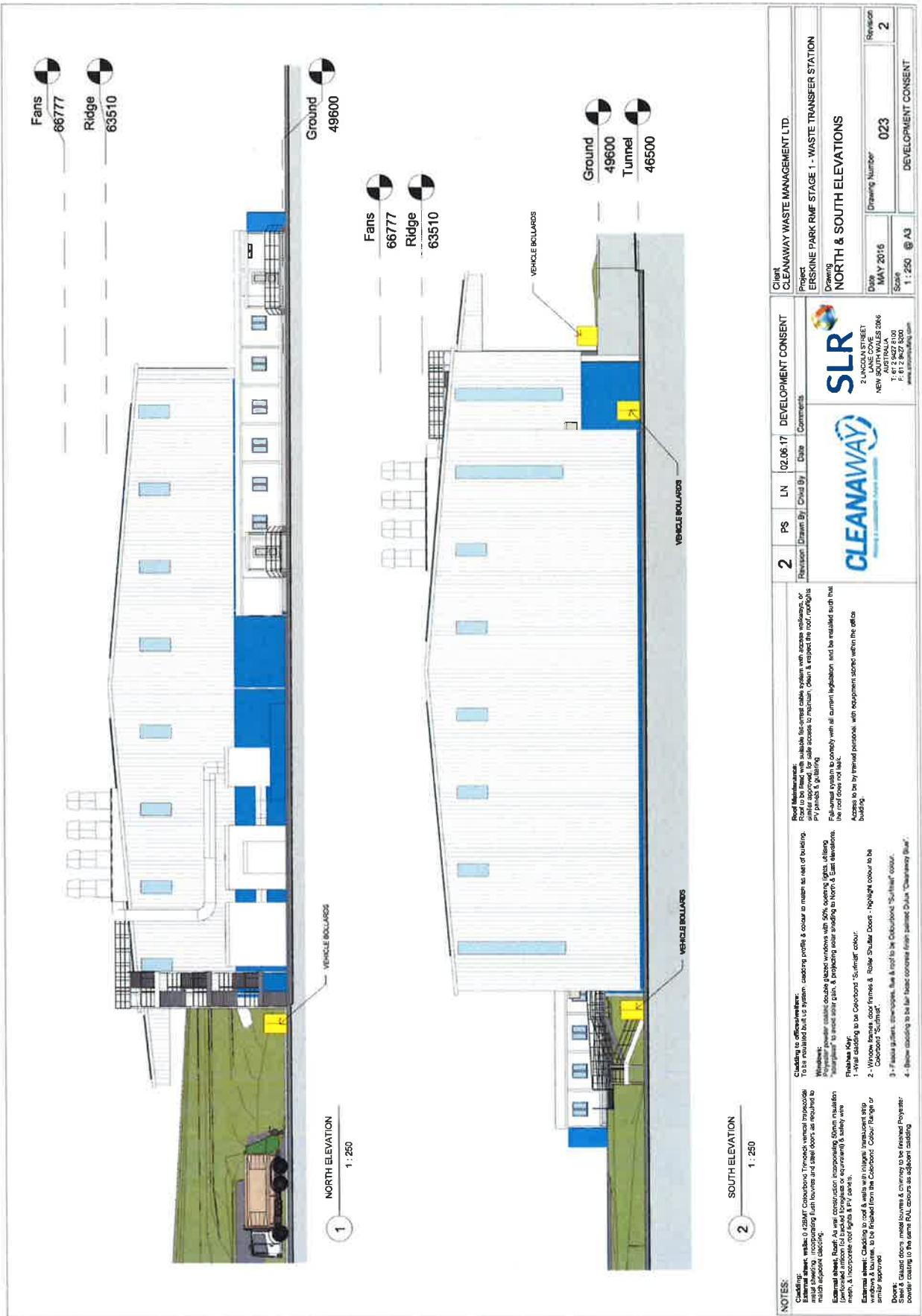
NOTES

1. DO NOT SCALE THIS DRAWING.

NOTES

NSW Government
Department of Planning and Environment

APPENDIX 2 – STAGE 1 ELEVATION PLANS – WASTE TRANSFER STATION





Modification of Development Consent

Section 96(1A) of the *Environmental Planning and Assessment Act 1979*

As delegate for the Minister for Planning, under delegation executed on 11 October 2017, I approve the modification of the development consent referred to in Schedule 1, subject to the conditions outlined in Schedule 2.



Chris Ritchie
Director
Industry Assessments

Sydney 26 FEBRUARY

2018

File: EF18/1214

SCHEDULE 1

Application No:	SSD 7075
Applicant:	Cleanaway Pty Ltd
Consent Authority:	Minister for Planning
Development:	Erskine Park Waste and Resource Management Facility Staged Development Application, comprising: <ul style="list-style-type: none">• A concept proposal for a Waste and Resource Management Facility (WRMF) with a maximum processing capacity of 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2).• Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.
Date of Original Consent:	4 October 2016
Modification:	SSD 7075 MOD 2 – Modifications to the site levels, access ramp and car parking.

SCHEDULE 2

This consent is modified as follows:

In the Definitions

1. Insert the following definitions in alphabetical order:

MOD 2 SSD 7075 MOD 2 and supporting documentation titled *Erskine Park Waste and Resource Management Facility Modification to approved SSD 7075 Environmental Assessment Report*, prepared by EME Advisory and dated January 2018.

In Schedule B

2. Delete Condition A1 and replace with the following:

A1. Consent is granted to the Concept Proposal as described in:

- a) Schedule A;
- b) Staged Development Application (SSD 7075);
- c) EIS;
- d) RTS;
- e) Site layout plan as identified in Appendix 1A;
- f) MOD 1;
- g) MOD 2; and
- h) conditions contained in this development consent.

In Schedule C

3. Delete Condition A1 and replace with the following:

- A1. The Applicant must carry out the Development in accordance with the:
- a) Staged Development Application (SSD 7075);
 - b) EIS;
 - c) RTS;
 - d) Conditions in Schedule B;
 - e) Site and elevation plans as identified in Appendix 1B and 2;
 - f) MOD 1;
 - g) MOD 2; and
 - h) management and mitigation measures as identified in Appendix 3.

4. Delete Condition B30 and replace with the following:

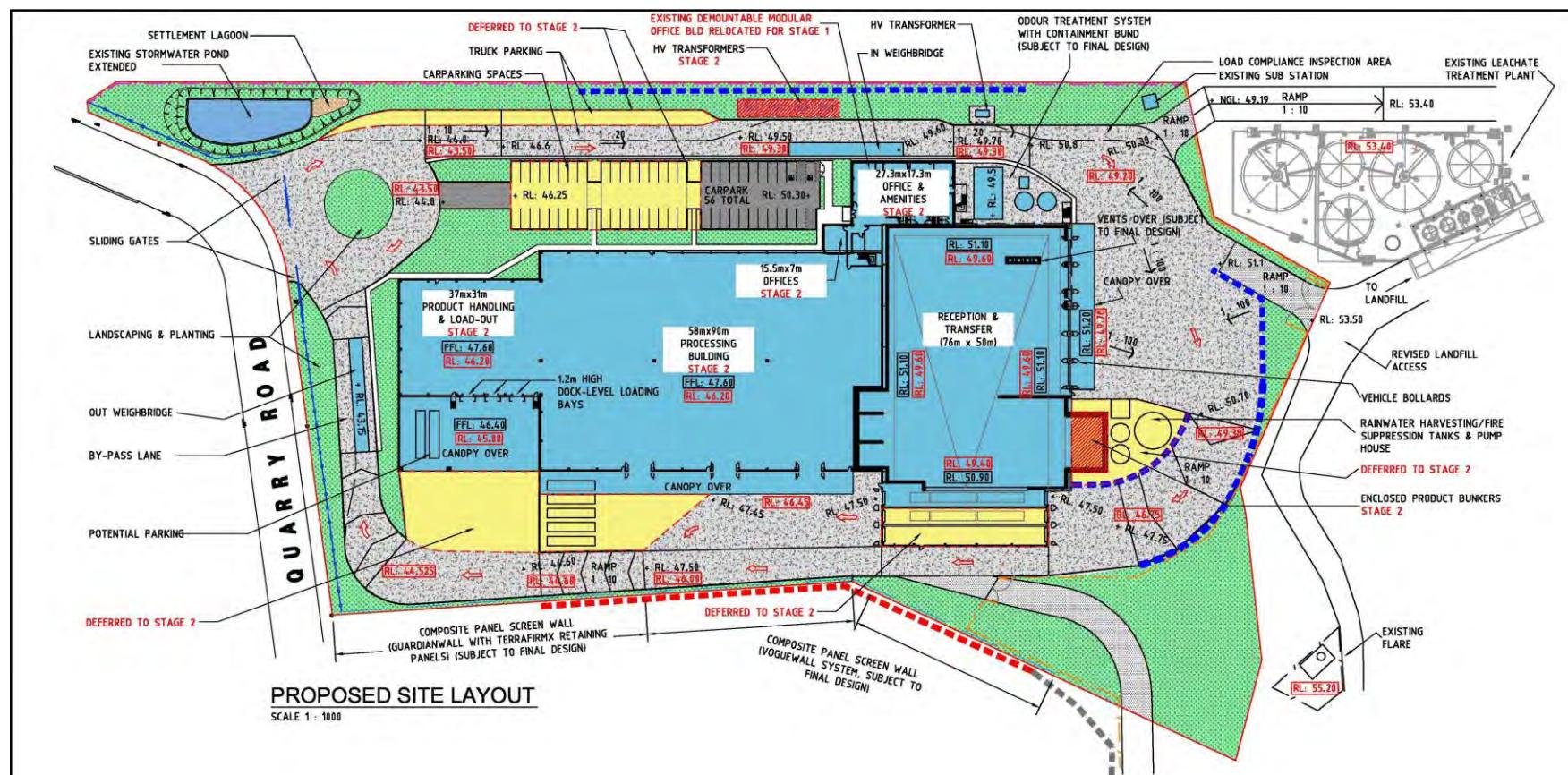
- B30 The Applicant must ensure that:
- a) a total of 21 car parking spaces, including one accessible car parking space are provided;
 - b) trucks must only be parked in the designated truck park areas as identified in Appendix 1B;
 - c) at least one load compliance inspection parking area is provided;
 - d) site access, driveways and parking areas are constructed and maintained in accordance with the latest versions of Australian Standards AS 2890.1, AS 2890.2, AS 2890.6 and AS 1428.1;
 - e) the swept path of the longest vehicle entering and exiting the Site, as well as manoeuvrability through the site, is in accordance with *AUSTROADS Guide to Road Design*;
 - f) unless such deliveries are via Erskine Park Road, truck deliveries and pickups are scheduled to avoid busy morning and afternoon peak hours;
 - g) the egress of B-double waste transportation trucks from the Erskine Park Industrial Estate is confined to Lenore Drive/Erskine Park Link Road;
 - h) the Development does not result in any vehicles parking or queuing on the public road network;
 - i) all vehicles are wholly contained on site before being required to stop;
 - j) all loading and unloading of heavy vehicles occurs inside the Waste Transfer Station;
 - k) the proposed turning areas in the car park are kept clear of any obstacles, including parked cars, at all times;
 - l) all vehicles enter and leave the site in a forward direction; and
 - m) signage is installed to ensure traffic from the adjacent landfill provides right-of-way to the Development traffic.

In the Appendices

5. Replace Appendix 1A and Appendix 1B with new Appendix 1A and Appendix 1B.

6. Replace Appendix 2 with new Appendix 2.

APPENDIX 1A – STAGE 1 AND 2 CONCEPT PROPOSAL



LEGEND

DEVELOPMENT BOUNDARY	GRAVEL HARDSTAND	EXISTING FENCING	2.4M HIGH NEW COMPOSITE PANEL SCREEN WALL	RL: 77.77 ORIGINAL S96 APPROVED LEVELS
ASPHALT HARDSTAND	LANDSCAPED AREAS	1.5M HIGH NEW BLACK PALISADE FENCE	EXISTING RETAINING WALL REMOVED/MODIFIED	RL: 77.77 PROPOSED NEW LEVELS
CONCRETE HARDSTAND	TRAFFIC DIRECTIONS	CHAIN LINK FENCE	PROPOSED RETAINING WALL	



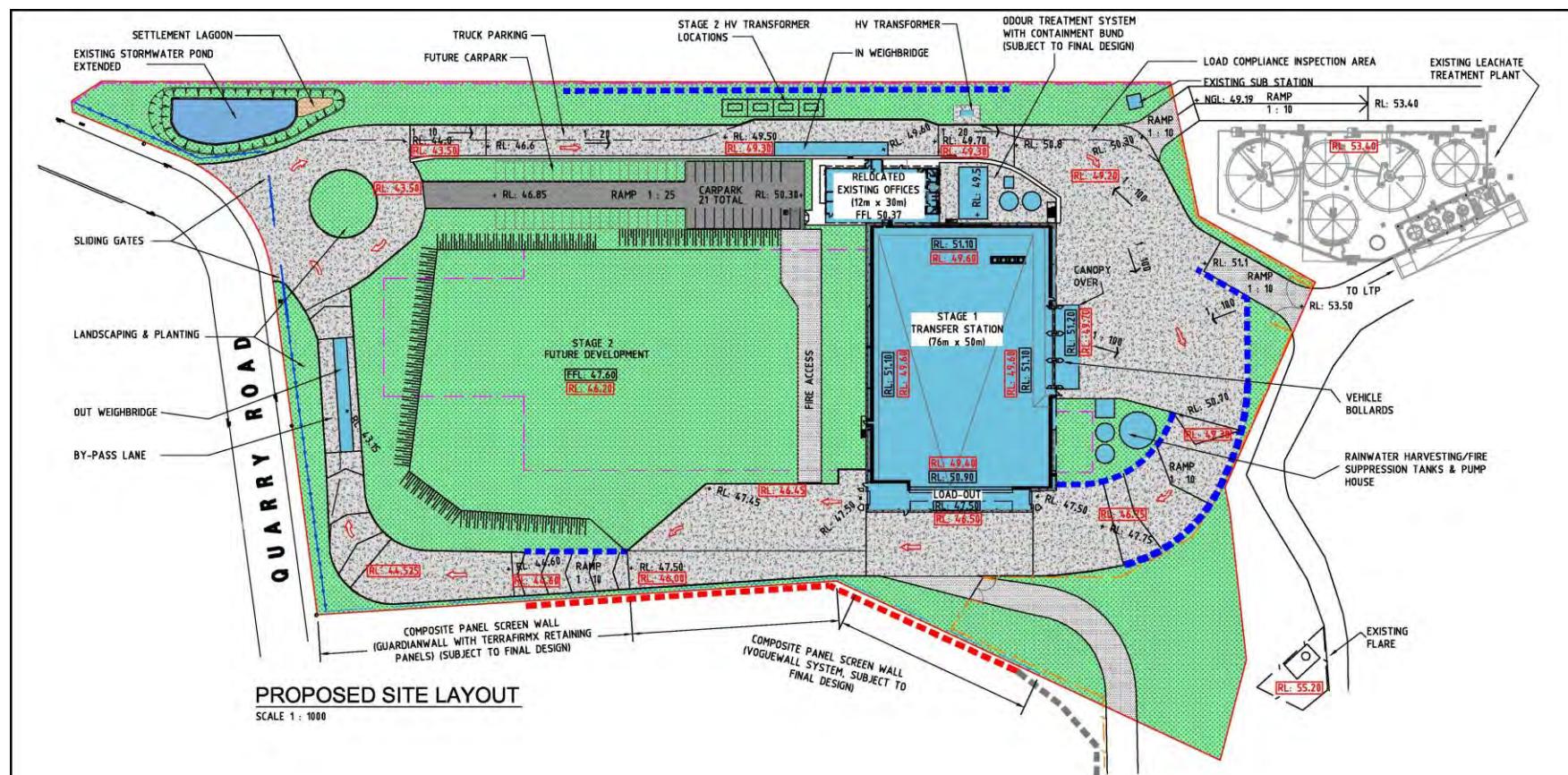
PROJECT :
ERSKINE PARK RMF - STAGE 1
WASTE TRANSFER STATION
FOR
CLEANAWAY WASTE
MANAGEMENT LTD



NICHOLAS & ALEXANDER ARCHITECTS
37 Bevan Street, Albert Park, 3206
Tel: 9696 5822
Email: naarch@bigpond.net.au
A.C.N. 070 432 932

SITE LAYOUT - CONCEPT PLAN		DATE NOVEMBER 2017
FULL SITE DEVELOPMENT		SCALE AS SHOWN @ A3
DEVELOPMENT CONSENT		PLOT SCALE 1 : 1
DRWG. No.	DOCUMENTATION JH	SHEET. No.
17567	DRAWN JH	REV.
	CHECKED ND	103 02

APPENDIX 1B – STAGE 1 SITE LAYOUT PLAN



LEGEND

DEVELOPMENT BOUNDARY	GRAVEL HARDSTAND	EXISTING FENCING	2.4M HIGH NEW COMPOSITE PANEL SCREEN WALL	RL: 77.77 ORIGINAL S96 APPROVED LEVELS
ASPHALT HARDSTAND	LANDSCAPED AREAS	1.5M HIGH NEW BLACK PALISADE FENCE	EXISTING RETAINING WALL REMOVED/MODIFIED	RL: 77.77 PROPOSED NEW LEVELS
CONCRETE HARDSTAND	TRAFFIC DIRECTIONS	CHAIN LINK FENCE	PROPOSED RETAINING WALL	



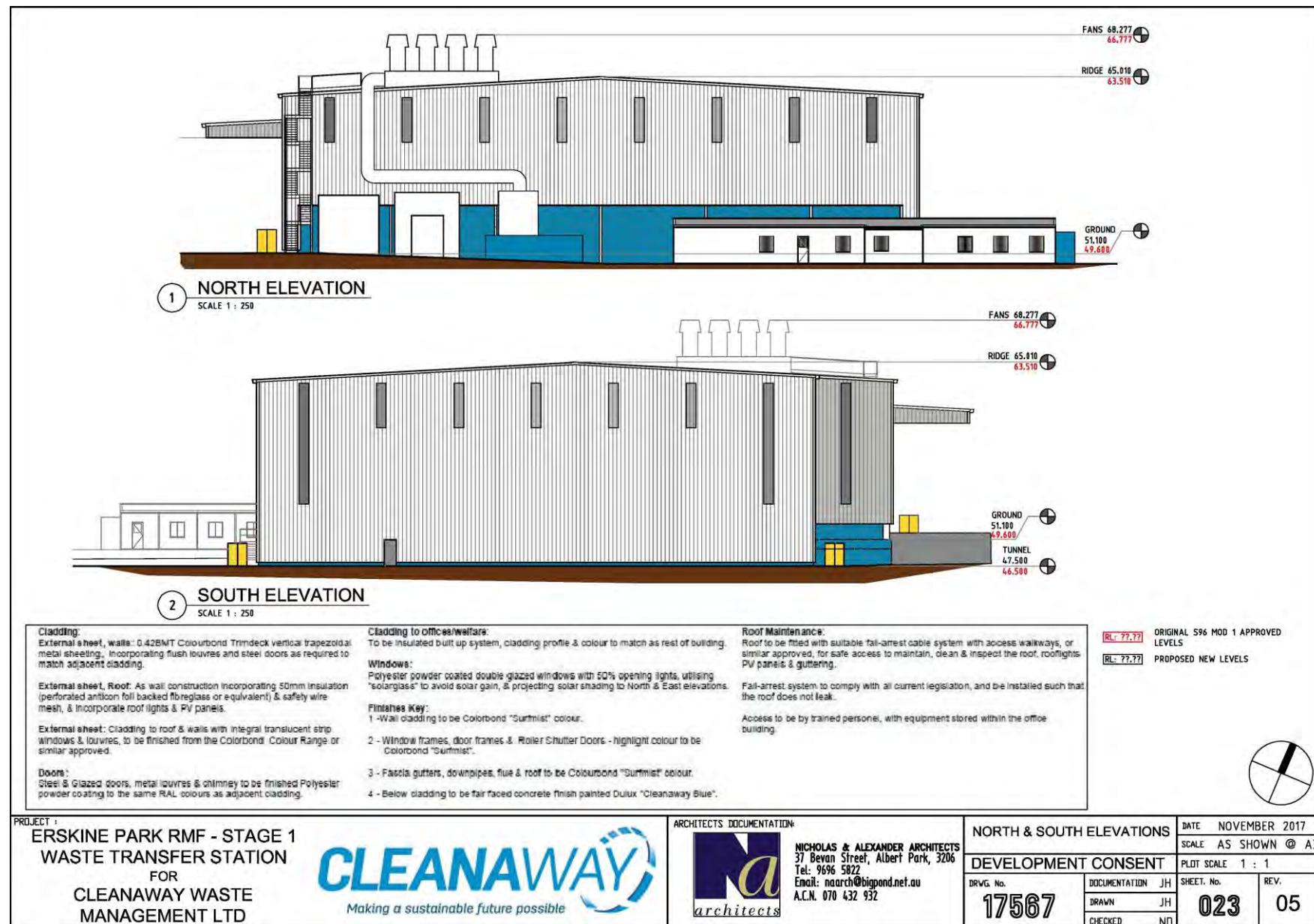
PROJECT :
ERSKINE PARK RMF - STAGE 1
WASTE TRANSFER STATION
FOR
CLEANAWAY WASTE
MANAGEMENT LTD

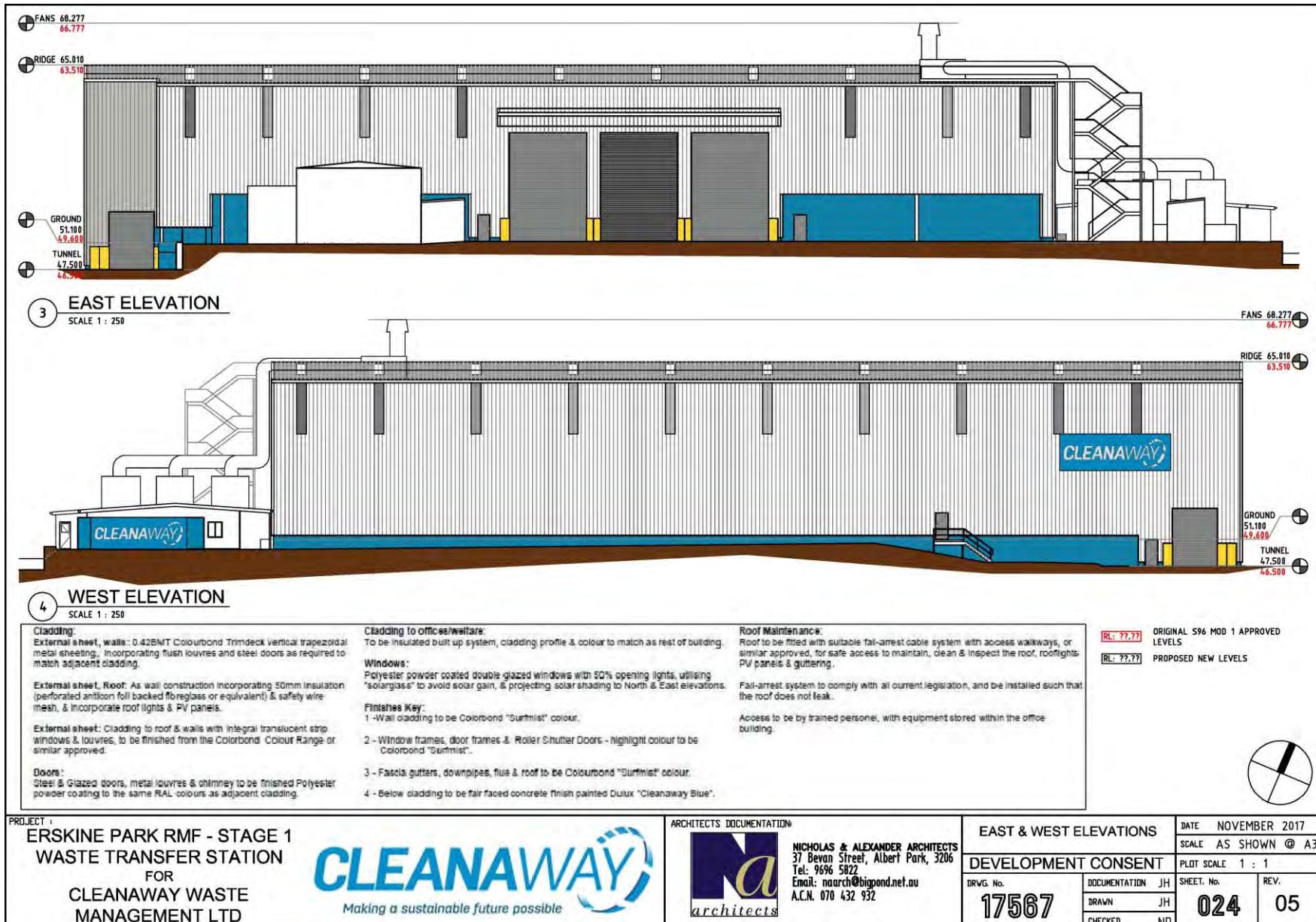


NICHOLAS & ALEXANDER ARCHITECTS
37 Bevan Street, Albert Park, 3206
Tel: 9696 5822
Email: narch@bigpond.net.au
A.C.N. 070 432 932

PROPOSED SITE LAYOUT - STAGE 1		DATE NOVEMBER 2017	
DEVELOPMENT CONSENT		SCALE AS SHOWN @ A3	
DRWG. No.	DOCUMENTATION JH	PLOT SCALE 1 : 1	SHEET. No. REV.
17567	DRAWN JH	003	14
	CHECKED ND		

APPENDIX 2 – STAGE 1 ELEVATION PLANS – WASTE TRANSFER STATION





Appendix B – Qualifications

CURRICULUM VITAE

TRACEY BALL

ASSOCIATE CONSULTANT

Environmental Management, Permitting and Compliance, Australasia, Newcastle

QUALIFICATIONS

B.Env.Sci	1995
Dip.PMGT	2013
EMS Lead Auditor	2017

Bachelor of Environmental Science, Murdoch University, Perth.

Diploma of Project Management, Perth.

Lead Auditor in Environmental Management Systems, Exemplar Global

EXPERTISE

- Project Management
- Approvals
- Compliance
- Environmental Auditing
- Mine Closure
- HSE Management Systems
- Sub-Consultant Management

Tracey is an Associate Consultant with SLR's Environmental Management Planning and Approvals (EMPA) team and has over 14 years of experience in various operations and consulting roles.

Tracey has significant experience in project management, environmental impact assessments and auditing. Tracey also has experience in preparation of management plans, HSE management systems, sub-consultant management, environmental compliance, mine closure planning and environmental risk assessments. Her diverse project experience includes remediation projects, mining, waste management facilities, oil and gas, infrastructure and intensive agriculture.

PROJECTS

Environmental Management Plans/Systems

Bong Bong Remediation Project

Preparation of a Pollution Incident Response Plan (PIRMP) for the remediation project.

Erskine Park Waste Transfer Station Construction Environmental Management Plan

Preparation of a Construction Environmental Management Plan (CEMP) for the Erskine Park Waste Transfer Station. The CEMP was developed in tight timeframes and required the consolidation of other management plans/relevant documentation into the management plan.

DPE Management Plan Reviews

Review of an array of management plans for the Department of Planning and Environment (DP&E) to determine if they met the Departments requirements. Management plans reviewed included noise, blast, historic heritage, Aboriginal heritage management plans and CEMPs for coal mines, solar farms and quarries.

Airly Mine Traffic Management Plan

Preparation of a Traffic Management Plan for the Airly Coal Mine. The management plan was prepared to meet the requirements of regulations, project approval conditions, statement of condition commitments, mine authority conditions and requirements of standards.

Repsol USA HSE Management System	Complete overhaul of Repsol's US Health, Safety and Environment Management System (HSE MS) in response to a corporate and government audit. Required the preparation and review of over 90 management plans/policies/programs.
	Environmental Impact Assessment and Approvals
Cleanaway Waste Management Stage 1 Erskine Park Waste Transfer Station Environmental Assessment	Preparation of a Development Consent Modification (Mod 1) for the Erskine Park Cleanaway Waste Transfer Station (WTS). The project required consultations with regulators, coordination of inputs from technical specialists, document preparation and project management. The project also required providing approvals advice to the client.
Centennial Coal Mandalong Environmental Assessment	Preparation of an Application to conduct exploration activities within the Mandalong Mine project approval area. The project required consultations with the client, preparation of the application, coordination of inputs from specialists and project management.
Mt Cannidah Mining Environmental Authority Amendment	Preparation of an application to amend an environmental approval for Cannindah Resources. The project required liaising with government departments, coordinating inputs from the GIS team, preparation of the application and project management.
Lemic Holdings Maryland Powerline Environmental Assessment	Preparation of an environmental assessment for a proposed powerline for the Maryland poultry farm project. The project required management of Heritage and Ecology specialists, and consultations with the government bodies.
Mt Cannidah Mining Partial Surrender	Preparation of a partial surrender application for Mt Cannindah Mining's Cannindah project. The project required project management, liaison with regulators and coordination of GIS inputs.
Palau Energy Drill Project Environmental, Social and Health Impact Assessment	Peer review of an Environmental, Social and Health Impact Assessment (ESHIA) for a proposed drilling program off the coast of the Republic Palau.
	Mine Closure
CCL701 Methane & Gases Management Plan	Preparation of a methane and gases management plan for a closure project at a historic coal mine area at Gunnedah, NSW.
Whitehaven Narrabri Mine RCE	Preparation of a RCE for the Narrabri Mine. This required bringing the old RCE across to the new Department of Resources and Geoscience (DRG) template.
Glencore Liddell Mine RCE	Converted the existing RCE into the new DRG template and updated it according to operational changes
	Auditing
Rouse Hill Anglican College Audit Program	Prepared an Independent Environmental Audit Program for the Rouse Hill Anglican College Redevelopment that met the ISO19011 Guidelines for auditing Management Systems requirements.

Austar Mine Independent Audit	Undertook an environmental audit for the underground mine, which included the pit top facilities. The audit required working with water, subsidence and noise specialists.
Boggabri Mine Independent Audit	Undertook an independent audit for the Boggabri Mine, in the capacity of Associate Auditor. The audit involved a site inspection, document review and employee interviews.
Tahmoor Mine Independent Audit	Undertook an independent audit at the underground mine. The audit included the surface facilities. The audit required document review, a site inspection, employee interviews and the preparation of an Audit Report.
Hanwood Processing Facility Environmental Audit	Lead Auditor for an environmental audit at the Hanwood chicken processing facility, located in Griffith. The audit included a site inspection, document review and report preparation.
Lot 50 DP 1221606 Development Site Audit	In the role of Lead Auditor, undertook an independent audit for the development site. The primary focus of the audit was ensuring the site met the requirements of the POEO Act and that the site had effective erosion and sediment controls in place.
Port Warratah EMS Audit	Undertook an audit that assessed the implementation of the site's Hazardous Materials Management Plan and Pollution Incident Response Management Plan. The audit required the preparation of audit spreadsheets, a site inspection, review of documentation and preparation of an Audit Report.
Walker Wallerawang Quarry Environmental Audit	Peer reviewed an audit report written for an audit of a quartz quarry situated in Lithgow.
Repsol HSE Management System Audit	Prepared an Audit Protocol and schedule for an independent audit of Repsol's HSE MS. The work also required reviewing the external auditors audit report and preparing an audit response report.
Cisco Operating Management System Audit	Prepared audit protocols for an audit of Cisco's Operating Management System.

Appendix C – Consultation Register and Evidence

Consultation Register:

Approval Condition (SSD 7075) Schedule C	Requirement	Evidence	Outstanding Issues
B10(a)	<p>Prior to commencement of construction, the Applicant shall prepare an Odour Management Plan to the satisfaction of the Secretary. The Plan must:</p> <p>a) be prepared by a suitable qualified and experienced person(s) in consultation with the EPA;</p>	<p>The Odour Management Plan was sent to the EPA for review on 4 September 2017, via email.</p>	None
B16	<p>A stormwater management scheme must be prepared for the development and must be implemented in consultation with the EPA.</p>	<p>Duncan Barnes (from SLR) spoke with Trevor Wilson (from the EPA) on 16 March 2018, in regards to the requirements of the scheme.</p>	None
B32(a)	<p>Prior to the commencement of construction, the Applicant shall prepare a Building and Material Schedule and a Landscape Plan for the development to the satisfaction of the Secretary. The Schedule and Plan must:</p> <p>a) be prepared in consultation with Council;</p>	<p>The Building and Material Schedule was sent to Penrith City Council on 6 June 2017, via email. The Council approved the Schedule on 21 June 2017 (refer to attached email).</p> <p>The Landscape Plan and fencing details was sent to Council on 28 June 2017 (refer to attached email). The Council endorsed the Landscape Plan on 7 September 2017 provided a number of changes were made to the Plan. These changes were made and the revised Landscape Plan is provided in Appendix I.</p>	None

Note: Consultation has been undertaken in accordance with the requirements of Schedule B, Condition A8, as below:

- A8. Where consultation with any public authority is required by the conditions of this consent, the Applicant shall:*
- a) consult with the relevant public authority prior to submitting the required documentation to the Secretary or the PCA for approval, where required;*
 - b) submit evidence of this consultation as part of the relevant documentation required by the conditions of this consent; and*
 - c) include the details of any outstanding issues raised by the relevant public authority and an explanation of disagreement between any public authority and the Applicant or any person acting on this development consent.*

Appendix D –Sydney Water Approvals

Notice of Requirements for a Section 73 Compliance Certificate

Issued under Division 9 Section 73 of the Sydney Water Act, 1994

Description of Development/Subdivision Application			
Address			85-87 Quarry Road, Erskine Park
DA Number	SSD 7075	DA Approval date	04 October 2016
Lot and DP			Lot 1 DP 1140063
Development			Erskine Park Waste and Resource Management Facility (WRMF) with a maximum processing capacity off 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2) Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.
Applicant's name			Kristi Shepard
Applicant's address			PO BOX 273 Penrith NSW 2751
Issued by:	Heath Kellar	Issued Date	31 July 2017

Requirements Summary

I have assessed your application and provided a summary of your sewer and water servicing below. These requirements are described in detail below.

Sewer Servicing Requirements

- The existing sewer main in Quarry Road is adequate to serve the development.

Water Servicing Requirements

- The existing water main in Quarry Road is adequate to serve the development.

1. Detailed Servicing Requirements

Detailed Sewer Servicing Requirements

Your development must have a sewer main that is the right size and can be used for connection. I have assessed your application and found that:

1. The development currently has a 225mm Customer Drain Inlet sewer connection which can remain.

Detailed Water Servicing Requirements

Your development must have a frontage to a water main that is the right size, and can be used for connection. I have assessed your application and found that:

1. The existing water service and meter FGCA0047 is in the front right corner of the property.

Please note that any private water services not being used will be disconnected and sealed at their point of connection. You and your Plumber must ensure any redundant private water pipe is removed, and any new work meets our standards in the Plumbing Code of Australia and is inspected by NSW Fair Trading.

2. Additional information

This information doesn't form part of your Development Requirements and is for your information only.

Property Profile information

Your property has the following conditions noted:

- The development is NOT in a Boundary Trap Area
- The development is NOT in a Surcharge Area
- Trade waste agreement 35835 and all its conditions applies to the property
- Sydney Water will require another Section 73 application for stage 2 of the development

Fees and Charges

The requirements in this Notice relate to your Certificate application only.

There may be other fees or requirements related to your development, including:

- plumbing and drainage inspection costs;

- the installation of backflow prevention devices;
- trade waste requirements;
- large water connections and
- council fire fighting requirements. (It will help you to know what the fire fighting requirements are for your development as soon as possible. Your hydraulic consultant can help you here.)

-----Document End-----

SUBDIVIDER/DEVELOPER COMPLIANCE CERTIFICATE

(A certificate under Division 9 Section 73 of the Sydney Water Act, 1994)

DESCRIPTION OF SUBDIVISION/DEVELOPMENT		
Council	Penrith City Council	
Street	85-87 Quarry Road, Erskine Park	
Lot No	1	DP1140063
<p>Development Erskine Park Waste and Resource Management Facility (WRMF) with a maximum processing capacity off 300,000 tpa. All waste received at the WRMF shall enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2)</p> <p>Construction and operation of the Stage 1 Waste Transfer Station with a maximum processing capacity of 300,000 tpa.</p>		
NAME OF APPLICANT	Kristi Shepard	
APPLICANT'S ADDRESS	PO BOX 273 Penrith NSW 2751	

Sydney Water Corporation certifies that the above named applicant has complied with the requirements, relating to the plan of Subdivision/Development described above, of Division 9 of the Sydney Water Act, 1994.

THE FOLLOWING ITEMS 2, 5 AND 8 APPLY TO THE DEVELOPMENT:

1. Water facilities are to be provided as a result of the subdivider/developer's compliance with Sydney Water's requirements.
2. Water facilities are available.
3. Water facilities cannot be provided within a reasonable time from the date of this certificate.
4. Sewerage facilities are to be provided as a result of the subdivider/developer's compliance with Sydney Water's requirements.
5. Sewerage facilities are available.
6. Sewerage facilities are under the control of the local council.
7. Sewerage facilities cannot be provided within a reasonable time from the date of this certificate.
8. Sydney Water's requirements for Stage 2 of the development have NOT been met. On development of Stage 2 an additional certificate will be required.

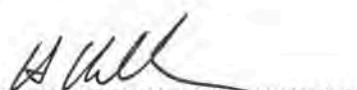
Applicant Reference No. **284119**

Council Reference No. **SSD 7075**

Approval date: **04 October 2016**

Name **Heath Kellar**

Signature



(Approving Officer for and on behalf of Sydney Water)

Name **Kelly Taylor**

Signature



(Approving Officer for and on behalf of Sydney Water)

Urban Growth Business **Head Office**

Dated: **00 July 2017**

THIS CERTIFICATE IS ONLY VALID WHEN SIGNED BY TWO AUTHORISED SYDNEY WATER OFFICERS
 A signed copy is held by Sydney Water

The original of this certificate must be presented to the appropriate consent authority, usually Council, with which the plan of subdivision/development was lodged so that you can satisfy the relevant condition of consent.

Building plan assessment application

Application number: 286430

Property address: 50-52 Quarry Rd Erskine Park 2759

Lot details: Lot 1140063, DP 1

31/07/2017

Dear Heath Kellar

Your building plan assessment application has been

APPROVED

This Approval is provided subject to the Conditions and Important Information issued to you by Sydney Water, which you are taken to have accepted by using the approval.

This Approval is based on the information you provided to us through Sydney Water Tap in.

If any of the information you have provided is incorrect or incomplete, Sydney Water may revoke this Approval.

This approval is valid until 31/07/2018 (one year).

ANY QUESTIONS?

Email us

swtapin@sydneywater.com.au

Call us

[1300 082 746](tel:1300082746)

STRUCTURES

The structures and information you supplied are displayed below.

Structure(s) that will not impact Sydney Water infrastructure

Structure 1	Commercial or industrial building	12.0 m x 30.0 m x 0.5 m
Structure 2	Commercial or industrial building	76.0 m x 50.0 m x 0.5 m

Structure 1 of 2: Commercial or industrial building

Application number: 286430

Property address: 50-52 Quarry Rd Erskine Park 2759

Lot details: Lot 1140063, DP 1

This structure will not impact Sydney Water infrastructure.



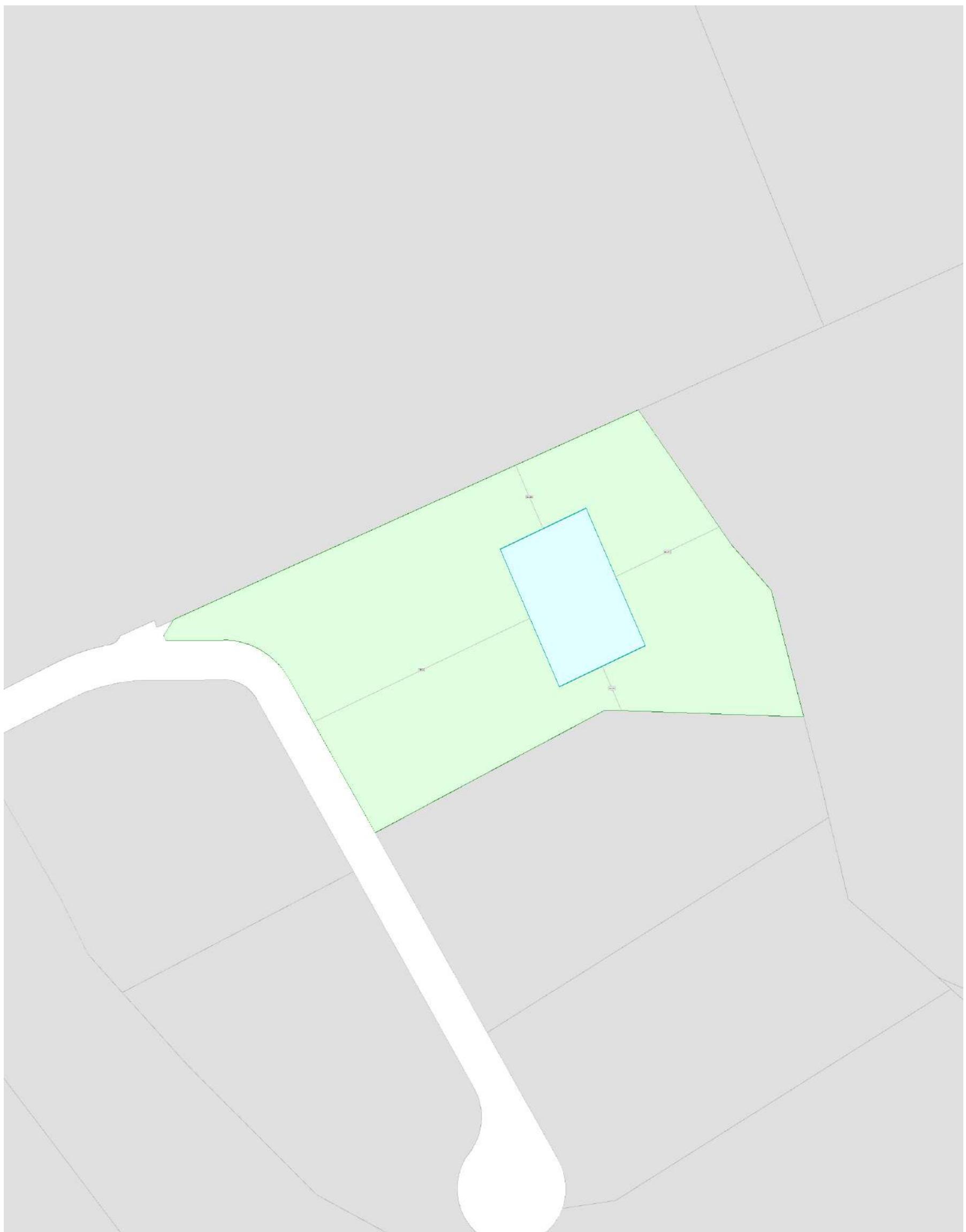
Structure 2 of 2: Commercial or industrial building

Application number: 286430

Property address: 50-52 Quarry Rd Erskine Park 2759

Lot details: Lot 1140063, DP 1

This structure will not impact Sydney Water infrastructure.



CONDITIONS AND IMPORTANT INFORMATION

Conditions and Important Information

Attention: You must read the information below.

- 1 The approval of your building plan by Sydney Water (Approval) has been generated by an automated system based on the information you have provided to Sydney Water through the Sydney Water Tap in. Sydney Water does not make any representation or give any guarantee, warranty or undertaking (express or implied) as to the currency, accuracy, completeness, effectiveness or reliability of the Approval.
- 2 It is your responsibility to ensure that the information is correct and complete when submitting your building plan for approval through Sydney Water Tap in and, if any of the information is incorrect or incomplete, to resubmit information that is correct and complete. If any of the information that you have provided is incorrect or incomplete, this may result in the revocation of the Approval.
- 3 The Approval is provided on each of the following conditions which you are taken to have accepted by using the Approval. To the fullest extent permitted by law:
 - (a) all conditions and guarantees concerning the Approval (whether as to quality, outcome, fitness, care, skill or otherwise) expressed or implied by statute, common law, equity, trade, custom or usage or otherwise are expressly excluded and to the extent that those statutory guarantees cannot be excluded, the liability of Sydney Water to you is limited to either of the following as nominated by Sydney Water in its discretion, which you agree is your only remedy:
 - i. the supplying of the Approval again; or
 - ii. payment of the cost of having the Approval supplied again;
 - (b) in no event will Sydney Water be liable for, and you release Sydney Water from all Losses arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval:
 - i. whether arising under statute or in contract, tort or any other legal doctrine, including any negligent act, omission or default (including wilful default) by Sydney Water; and
 - ii. regardless of whether Sydney Water is or ought to have been aware of, or advised of, the possibility of such loss, costs or damages;
 - (c) you will indemnify, defend and hold harmless Sydney Water from and against all Losses of Sydney Water in respect of, or in connection with loss or damage to any property, personal injury (including death or illness of any person), arising out of or in connection with:
 - i. you providing incorrect or incomplete information to Sydney Water in connection with the Approval; or
 - ii. any third party claim against Sydney Water; and
 - (d) you assume all risks associated with the use of the Sydney Water Tap in and Sydney Water websites, including risk to your computer, software or data being damaged by any virus, and you release and discharge Sydney Water from all Losses which might arise in respect of your use of the websites.

- 4 Subject to condition numbered 3(c) in this document, your liability under condition numbered 3(c) in this document is reduced to the extent that the loss, liability, expense or damage:
 - (a) is caused solely and directly by any negligent act or omission of Sydney Water; or
 - (b) could not reasonably be foreseen and was not reasonably within the contemplation of you and Sydney Water at the time of the loss, liability, expense or damage.
- 5 The position of the proposed building/building works in relation to Sydney Water's pipes and structures is satisfactory. You are responsible for, amongst other things:
 - (a) protecting underground structures, including Sydney Water's pipelines, from damage and interference;
 - (b) maintaining minimum clearances between Sydney Water's structures and structures belonging to others;
 - (c) preventing loss or damage to any property, personal injury (including death or illness of any person) arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;
 - (d) repairing or making good loss or damage to any property or the environment arising out of or in connection with you providing incorrect or incomplete information to Sydney Water in connection with the Approval;
 - (e) ensuring that connections to Sydney Water's sewer, watermain or stormwater are only be made following the issue of a permit to a licensed plumber/drainer;
 - (f) ensuring that all proposed fittings will drain to Sydney Water's sewer;
 - (g) ensuring that all plumbing and/or drainage Work is to be carried out in accordance with the NSW Code of Practice, AS 3500 and the Sydney Water Act 1994;
 - (h) ensuring that gullies, inspection shafts and boundary traps are not placed under any roof, balcony, verandah, floor or other cover unless otherwise approved by Sydney Water; and
 - (i) notifying Sydney Water immediately of any damage caused or threat of damage to Sydney Water's structures.
- 6 "**Sydney Water**" means Sydney Water Corporation and its employees, agents, representatives and contractors. References to "you" include references to your employees, agents, representatives, contractors, executors, administrators, successors, substitutes, assigns and anyone else using the Approval. References to "Losses" means all liabilities, losses, damages, expenses, compensations, fines, penalties, charges and costs (including legal costs on a full indemnity basis and whether incurred or awarded) of any kind or nature however they arise and whether they are present or future, fixed or unascertained, actual or contingent and including any loss of profits, loss of revenue or loss of opportunity. To the extent of any inconsistency, the conditions numbered 1 to 6 in this document will prevail over any other information provided or made available to you by Sydney Water.

**In an emergency, or to notify Sydney Water of damage or threats to its structures,
call 13 20 92 (24 hours, 7 days).**



Consent to discharge industrial trade wastewater

Consent to Discharge Industrial Trade Wastewater

SYDNEY WATER CORPORATION

and

CLEANAWAY WASTE MANAGEMENT LTD
A.C.N. 101 155 220
Trading as

ENVIROGUARD PTY LIMITED
A.B.N. 23 060 919 164

ACTIVITY: GARBAGE TIP (GE06)

RISK INDEX: 04

CONSENT NO: 35835

CONNECTION NO: 1

PROPERTY NUMBER: 5360639

This CONSENT is made on
Executed for and on behalf of
Sydney Water Corporation

By

day: month: year:
22nd February 2016



(Signature)

Patrick O'Brien
Manager Business Customer Delivery

In the presence of:

Witness

Executed for and on behalf of
the Customer:

By



J. Denide

(Signature)

S. SINHA
(Print name of witness)



Eric Le Provost

(Signature)

ERIC LE PROVOST REGIONAL MANAGER

(Print name and position of person signing)
who warrants s/he has sufficient authority to execute this consent.

In the presence of:

Witness



Luke Slezakta

Luke Slezakta ENVIRONMENTAL MANAGER.
(Print name of witness)

This consent must be executed by the Customer prior to execution by Sydney Water and submitted by the Customer to Sydney Water for its consideration. Submission of a consent executed by the Customer under no circumstances obliges Sydney Water to enter into or complete the consent. Submission of an executed consent by the Customer constitutes an application for a consent which Sydney Water may in its reasonable discretion reject, or with the consent of the Customer modify any of the proposed terms thereto.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 1 (SUBJECT TO PUBLIC DISCLOSURE) **TRADE WASTEWATER WHICH MAY BE DISCHARGED**

1. Trade wastewater substances

- (a) The Customer may discharge trade wastewater into the Sewer in a manner whereby the substance characteristics of the trade wastewater are of a type and discharged at a rate, level or concentration equal to or less than that described in this schedule.
- (b) The Customer must not discharge trade wastewater into the Sewer in a manner whereby the trade wastewater discharged;
- (i) contains, possesses or produces a substance characteristic not provided in, or which may be determined as being contrary to that described in this schedule.
 - (ii) is at or of a rate, level, or concentration not provided in, or which may be determined as being contrary to, that described in this schedule.

SUBSTANCE	LTADM (kg/day)	MDM (kg/day)	Standard (mg/L)
AMMONIA (AS N)	25	45	100
BIOCHEMICAL OXYGEN DEMAND	208	630	
SUSPENDED SOLIDS	231	621	600
BARIUM	2	5	5
NITROGEN	50	90	150
PHOSPHORUS	7	11	50

RECONCILIATION PROCEDURES:

LONG TERM AVERAGE DAILY MASS:

The Long Term Average Daily Mass is a twelve month arithmetic average of ALL daily mass discharges as calculated for each composite sample. The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Long Term Average Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24 hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Long Term Average Daily Mass does not constitute a Breach.

ACCEPTANCE STANDARD:

The Composite Sample Concentration is to be determined for each of the above substances, and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach and will also incur an increased Quality Charge as detailed in Schedule 3.

The Discrete Sample Concentration is to be determined for each of the substances identified at Schedule 2, 2 (b) and checked against the above Acceptance Standard (mg/L) for each sample obtained. Exceeding the Acceptance Standard constitutes a Breach.

MAXIMUM DAILY MASS:

The Daily Mass discharged is to be calculated for each of the above substances, and checked against the above Maximum Daily Mass (kg/day) on the basis of average concentrations of substances discharged (mg/L) over any 24 hour period as determined from composite samples, obtained by either the Customer (in accordance with Schedule 2) or Sydney Water, or a combination of sample results by both.

This average concentration (mg/L) is to be multiplied by the total discharge (kL) as recorded by the Customer's discharge flow meter over the 24hour period in order to calculate the Daily Mass of substances discharged (kg). Exceeding the Maximum Daily Mass constitutes a Breach.

Consent to Discharge Industrial Trade Wastewater

2. The trade wastewater discharged must at all times have the following properties:

- | | |
|----------------------------------|---|
| Temperature | - Not to exceed 38 degrees Celsius. |
| Colour | - Determined on a system specific basis |
| pH | - Within the range 7.0 to 10.0. |
| Fibrous material | - None which could cause an obstruction to Sydney Water's sewerage system. |
| Gross solids (other than faecal) | - A maximum linear dimension of less than 20 mm, a maximum cross section dimension of 6 mm, and a quiescent settling velocity of less than 3 m/h. |
| Flammability | - Where flammable and/or explosive substances may be present, the Customer must demonstrate to the satisfaction of Sydney Water that there is no possibility of explosions or fires occurring in the sewerage system. The flammability of the discharge must never exceed 5% of the Lower Explosive Limit (LEL) at 25° Celsius. |

3. Rate of discharge of waste to sewer:

- (a) Instantaneous maximum rate of gravitated discharge 12 litres per second
- (b) Maximum daily discharge 1036 kilolitres
- (c) Average daily discharge 750 kilolitres

RECONCILIATION PROCEDURE:

The data obtained from applying these procedures is to be checked by the interface of a chart recorder to the Customer's flow metering equipment, or by the installation of flow metering equipment by Sydney Water, for a minimum of 7 days.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 2

(SUBJECT TO PUBLIC DISCLOSURE)

SAMPLING, ANALYSIS, FLOW RATES AND VOLUME DETERMINATION

1. The Customer must provide and make available for the purpose of sampling and analysis:
 - (a) Sampling point located at pretreat. discharge excl. domestic sewage prior to the point of connection to the Sewer.
 - (b) Equipment necessary to allow collection of composite automatic samples on either a flow proportional or a time basis.
 2. The Customer is to undertake collection and analysis of samples in accordance with the schedule detailed below:
 - (a) Composite samples are to be obtained:
 - (i) over one full production day by combining equal volumes taken at 20 kilolitre intervals. The volumes are to be such that at least 5,000 millilitres are obtained over the full day. The reading of the Flowmeter meter is to be obtained at the commencement and conclusion of the sampling day.
 - (ii) on 4 March 2016 and every 8 days thereafter. If trade wastewater is not discharged on this day, then the sample is to be taken on the next day that trade wastewater is discharged. Trade wastewater includes all non-domestic wastewater discharged to sewer from the premises, including cleaning waste.
 - (b) Discrete samples are to be obtained as detailed below, and analysed according to the procedures and methods specified in Sydney Water's published analytical methods, to determine the concentrations or levels of the following substance characteristics:

pH	at the start and finish of each sample day
----	--
 - (c) Composite samples are to be analysed according to the procedures and methods specified in Sydney Water's published analytical methods, or methods otherwise agreed to and detailed hereunder, to determine the concentrations or levels of the following substance characteristics
 - AMMONIA (AS N)
 - BIOCHEMICAL OXYGEN DEMAND
 - SUSPENDED SOLIDS
 - BARIUM
 - NITROGEN
 - PHOSPHORUS
 - (d) The Customer, or the laboratory contracted by the customer, is to submit results of analyses to Sydney Water within 21 days from the date the sample was taken. All analysis results are to be submitted on the sample analysis report provided as appendices 1 and 2 to this Consent or in such format as may be specified from time to time by Sydney Water.
 - (e) All data requested on the sample analysis report must be provided.
 - (f) Sydney Water must be notified in writing within 7 days of:
 - (i) any failure to obtain samples in accordance with the provisions of Schedule 2; or
 - (ii) any loss of any analytical data.
- Where data is unavailable, lost or not provided, the Quality Charge, as detailed in Schedule 3, will be assessed on the basis of the highest Composite Sample concentration recorded in the 12 months prior to the date of the missing sample data.
3. The volume of wastewater discharged must be obtained from the reading of the total flow on the Customer's flowmetering system.

The rate of waste discharged is to be obtained by the reading of the instantaneous flow rate indicator on the Customer's flowmetering system, or from any chart recorder interfaced to the Customer's flowmetering

Consent to Discharge Industrial Trade Wastewater

system.

The flowmetering system is to be calibrated at least annually at the Customer's expense, by a person or company approved by Sydney Water and a copy of the calibration certificate supplied to Sydney Water within one month of such certificate being received by the Customer.

If the Customer's flowmetering system fails to record data for any period, Sydney Water is to be advised in writing by the Customer within 7 days of any such failure becoming known by the Customer. An estimate of any data not recorded is to be made as follows:

Average of the waste discharged, registered for the four weeks before and/or after the failure to record.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 3 (SUBJECT TO PUBLIC DISCLOSURE) PAYMENTS

The charges are effective from 1 March 2016 and will continue until otherwise advised by Sydney Water.

All trade waste fees and charges are subject to CPI adjustments from 1 July each year in accordance with Determination No 1, 2012 made by the Independent Pricing and Regulatory Tribunal (IPART) and are detailed in fact sheets on the Sydney Water website.

1. CHARGES FOR TRADE WASTEWATER DISCHARGE

Sydney Water will conduct a reading of the Customer's discharge meter at approximately 90 day intervals. The volume of trade wastewater discharged for the period since the previous reading will be calculated.

Charges are based on the Daily Mass calculated from composite samples and corresponding meter readings for each sampling day in the billing period, and calculated in accord with (c), (d), (e), and (f) below. The charge for each sampling day is then multiplied by a flow weighting factor to give a flow weighted charge. The total charge for each substance for the billing period is equal to the sum of the flow weighted charges for the billing period.

Total Charge = the sum of the flow weighted charges for the billing period

Flow Weighted Charge = (charge for all sample days) x (flow weighting factor) and:

$$\text{Flow Weighting Factor} = \frac{(\text{total volume discharged during billing period})}{(\text{sum of volumes discharged during all sample days during billing period})}$$

In this formula volume discharged refers to the volume of trade wastewater discharged.

(a) Mass Discharged:

For each substance, the Mass Discharged is calculated by multiplying the Composite Sample concentration by the Trade Wastewater discharge for that sample day.

(b) Chargeable Trade Waste Mass:

(i) For the following substances, the Chargeable Trade Waste Mass is equal to the Mass Discharged:

SUBSTANCE	
N/A	

(ii) For the following substances, the Chargeable Trade Waste Mass is calculated by subtracting the Equivalent Domestic Mass from the Mass Discharged. The Equivalent Domestic Mass is defined as the Domestic Concentration multiplied by the Trade Wastewater discharge.

SUBSTANCE	DOMESTIC CONCENTRATION
	mg/L
AMMONIA (AS N)	35
BIOCHEMICAL OXYGEN DEMAND	230
SUSPENDED SOLIDS	200
NITROGEN	50
PHOSPHORUS	10

If the resulting Chargeable Trade Waste Mass is zero or negative, then no Quality charges will apply for that substance for that sample day.

(c) Quality Charge:

(i) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate for that substance as detailed in the Industrial Customers Acceptance Standards and charging rates for the applicable financial year fact sheet on the Sydney Water website.

Consent to Discharge Industrial Trade Wastewater

SUBSTANCE

SUSPENDED SOLIDS
NITROGEN
PHOSPHORUS

- (ii) For the following substances, the Quality Charge is determined by multiplying the Chargeable Trade Waste Mass by the Rate, where the Rate is a function of the composite sample concentration recorded for that sample day.

SUBSTANCE

BIOCHEMICAL OXYGEN DEMAND

(d) Concentration Breach Charge:

Where the Composite Sample concentration is greater than the Acceptance Standards specified in Schedule 1 (with the exception of sulphate), any charges calculated in (c) above will be doubled for that sampling day.

(e) Failure to collect required samples:

Where the Customer fails to collect and analyse samples in accord with this consent the above charges will be assessed on the basis of the highest composite concentrations recorded for any billing period within the previous 12 months and the average daily discharge for the current billing period.

(f) pH and Temperature charges:

Sydney Water regularly assesses its wastewater networks to determine if a system is affected by accelerated odour and corrosion. Where Sydney Water declares a wastewater system to be affected by accelerated odour and corrosion, the temperature and pH charge will only apply if the customer is not committed to or not complying with an effluent improvement program.

2. CHARGES FOR INSPECTIONS

- (a) If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the Customer will incur no liability for payment for any such exercise unless the Business Customer Representative has already exercised rights under clause 6.1 on 6 occasions within a period of one year.
- (b) If it is necessary, in the opinion of Sydney Water, to carry out more than 6 occasions within a period of one year, the additional inspections will be charged at the current inspection rate.
- (c) Any inspection required following up an alleged breach or a default notice will result in a fee payable even if the number of inspections nominated in paragraph 2 (a) has not been exceeded.
- (d) For the purposes of 2 (a) and 2 (b), above, one year is defined as the period from 1 July to 30 June the following year.

3. CHARGES FOR ADMINISTRATION OF TRADE WASTE CONSENT

A consent fee per quarter is payable from 1 March 2016.

4. CHARGES FOR VARIATION OR RENEWAL OF TRADE WASTE CONSENT

Where a Variation is made to the Consent a fee will be payable. There will be no charge for renewal.

5. CHARGES FOR GREASE TRAPS

Wastesafe administration charges are levied per pit per year.

Consent to Discharge Industrial Trade Wastewater

6. PAYMENT OF FEES AND CHARGES

An account will be issued for all fees and charges. Any fees or charges payable by the Customer must be paid by the Customer within 30 days of the receipt by the Customer of the account detailing those fees and charges.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 4 ADDITIONAL REQUIREMENTS

1. EFFLUENT IMPROVEMENT PROGRAM

N/A

2. WASTE MANAGEMENT PLAN

The existing pre-treatment will result in the generation of 12 tonne per annum of waste substances in the form of a sludge containing generally solids. The waste substances are, and will continue to be disposed of, in compliance with the requirements of The Environment Protection Authority.

3. OTHER REQUIREMENTS

- (a) A Backflow Containment Device must be installed and maintained at the water meter outlet/property boundary in line with Sydney Water's Responsibilities Of Connected Customers Policy.
- (b) Backflow individual/zone protection is required on any tap located within 5m of the trade waste apparatus.

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 5 APPARATUS, PLANT AND EQUIPMENT

EXISTING: Sequencing Batch Reactor
Feed Equalisation Tank
Two SBR Tanks
Final Equalisation Tank
Aerobic Sludge Digester
Discharge Flow Meter and Sample Point

PROPOSED: N/A

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 6 SPECIAL CONDITIONS

1. DANGEROUS DISCHARGES

In this Schedule, the term "may pose a danger to the environment, the Sewer or workers at a sewage treatment plant";

- (a) means an occurrence whereby matter is discharged to the Sewer which either alone or in conjunction with other matter discharged cannot be adequately treated or may cause corrosion or a blockage, explosion or the production of dangerous gases in the Sewer or may adversely affect the operation of a sewer or sewage treatment plant; and
- (b) includes, but not so as to restrict the generality of paragraph (a), matter or substances, which is or are:
 - (i) toxic or corrosive;
 - (ii) petroleum hydrocarbons;
 - (iii) heavy metals;
 - (iv) volatile solvents;
 - (v) phenolic compounds;
 - (vi) organic compounds.

2. UNINTENDED DISCHARGES

- (a) For purposes of avoiding unintended discharges to the Sewer or the stormwater drainage system, all matter and substances on the Premises must be processed, handled, moved and stored in a proper and efficient manner.
- (b) Any substance on the Premises which, if discharged to the Sewer, may pose a danger to the environment, the Sewer or workers at a sewage treatment plant or may harm any sewage treatment process must be handled, moved and stored in areas where leaks, spillages or overflows cannot drain by gravity or by automated or other mechanical means to the Sewer or the stormwater drainage system

3. NOTIFICATION

In the event of a discharge of matter to the sewer that poses or may pose a danger to the environment, the Sewer or workers at a sewage treatment plant the Customer must immediately notify:

- (a) 24 HOUR SYDNEY WATER CONTACT TEL: 131 110 FAX: (02) 9822 5688
- (b) BUSINESS CUSTOMER SERVICES (8AM TO 5PM MON TO FRI) TEL: 1300 985 227
- (c) BUSINESS CUSTOMER SERVICES EMERGENCY CONTACT (24 HOURS) TEL: (02) 8849 5029

4. PROVISION OF SAFE ACCESS

The Customer shall provide safe access to Sydney Water employees visiting the site. In the event that unsafe conditions are identified the Customer must take reasonable steps to correct unsafe conditions and create safe access.

Sydney Water employees must also comply with the Customer's safety policies and procedures and any directions from the Customer's staff while on the Customer's site.

Consent to Discharge Industrial Trade Wastewater

6. ELECTRONIC REPORTING OF SAMPLE ANALYSIS RESULTS

Sydney Water reserves the right to vary this consent to specify the option of reporting by electronic mail as outlined in Schedule 2, 2 (d).

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 7

1. Premises for which Consent is granted
50-52 QUARRY RD, ERSKINE PARK NSW 2759
2. Industrial or other commercial activities for which Consent is granted
GARBAGE TIP (GE06)
3. Discharge point for which Consent is granted
BOUNDARY TRAP
4. The date for purposes of clause 3.1 is 1 March 2016
5. The period for purposes of clause 3.2 is 24 months
6. The receiving Treatment Plant is ST MARYS Wastewater Treatment Plant / Water Recycling Plant

Consent to Discharge Industrial Trade Wastewater

SCHEDULE 8 NOTICES AND COMMUNICATION ADDRESSES

SYDNEY WATER	MANAGER BUSINESS CUSTOMER DELIVERY PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	ERIC LE PROVOST REGIONAL MANAGER CLEANAWAY WASTE MANAGEMENT LTD PO BOX 804 ST MARYS NSW 1790	TEL: 8602 8705 FAX: 9834 3306

SCHEDULE 9 AUTHORISED OFFICERS

SYDNEY WATER:	MANAGER BUSINESS CUSTOMER DELIVERY PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
Email:	businesscustomers@sydneywater.com.au	
CUSTOMER:	ERIC LE PROVOST REGIONAL MANAGER CLEANAWAY WASTE MANAGEMENT LTD PO BOX 804 ST MARYS NSW 1790	TEL: 8602 8705 FAX: 9834 3306
Email:	eric.leprovost@cleanaway.com.au	

SCHEDULE 10 NOMINATED REPRESENTATIVES

SYDNEY WATER:	MANAGER BUSINESS CUSTOMER DELIVERY PO Box 399 PARRAMATTA 2150	TEL: 1300 985 227 A.H: (02) 8849 5029
CUSTOMER:	CHRIS WATKINS OPERATIONS MANAGER CLEANAWAY WASTE MANAGEMENT LTD T/AS ENVIROGUARD PTY LTD 85-87 QUARRY ROAD ERSKINE PARK NSW 2759G	TEL: 9834 3411 FAX: 9834 3306

Consent to Discharge Industrial Trade Wastewater

APPENDIX 1 (Example) SAMPLE ANALYSIS REPORT (COMPOSITE) DISCHARGE METER

Consent Number:	35835	
Company Name:	CLEANAWAY WASTE MANAGEMENT LTD, ENVIROGUARD PTY LTD	
Company Address:	50-52 QUARRY RD, ERSKINE PARK NSW 2759	
Sample Type:		
<input type="checkbox"/> 6 (composite, manual time based)	Start date: ____/____/____	
<input type="checkbox"/> 7 (composite, manual flow proportional)	Finish date: ____/____/____	
<input type="checkbox"/> 8 (composite, automatic time based)	Start time: ____ : ____ am/pm	
<input type="checkbox"/> 9 (composite, automatic flow proportional)	Finish time: ____ : ____ am/pm	
grabs taken in sample period:	Initial meter reading:	kL
sample intervals min/kL	Final Meter reading:	kL
mL per grab:	Volume discharged:	kL

Laboratory:		
	Acceptance Standard	Measured Units
Substance	Acceptance Standard (mg/L)	Measured Concentration(mg/L)
AMMONIA (AS N)	100	
BIOCHEMICAL OXYGEN DEMAND		
SUSPENDED SOLIDS	600	
BARIUM	5	
NITROGEN	150	
PHOSPHORUS	50	

**COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH
ANALYSIS**

Comments: _____

Customer Signature: _____ Date: ____/____/____
Designation: _____

OFFICE USE ONLY

Sample No:

--	--	--	--	--

EMAIL TO:
businesscustomers.labdata@sydneywater.com.au

Consent to Discharge Industrial Trade Wastewater

APPENDIX 2 (Example) **SAMPLE ANALYSIS REPORT (DISCRETE SAMPLE)**

Consent Number:	35835
Company Name:	CLEANAWAY WASTE MANAGEMENT LTD, ENVIROGUARD PTY LTD
Company Address:	50-52 QUARRY RD, ERSKINE PARK NSW 2759

Sample Type: DISCRETE

Date

Time

Laboratory:

Substance	Acceptance Standard (units or mg/L)	Measured Units or Concentration.
pH at start	7 - 10	
pH at finish	7 - 10	

COPY OF ORIGINAL ANALYTICAL LABORATORY REPORT TO BE ATTACHED
NOTE: LABORATORY REPORT MUST CERTIFY NATA REGISTRATION FOR EACH ANALYSIS

Comments: _____

Customer Signature: _____ Date: ____/____/_____
Designation: _____

OFFICE USE ONLY

Sample No:

--	--	--	--	--

EMAIL TO:
businesscustomers.labdata@sydneywater.com.au

GENERAL CONDITIONS

Recitals:

- A. Under its Operating Licence, Sydney Water provides sewerage services and treats and disposes of trade wastewater. The objectives of Sydney Water include operating as an efficient business, maximising the net worth of the State's investment and exhibiting a sense of social responsibility by having regard to the interests of the community. Sydney Water has special objectives of reducing risks to human health and preventing degradation of the environment.
- B. Sydney Water is granted licences by the Environment Protection Authority, which are subject to conditions to discharge pollutants. A change to a licence condition may require that variations be made to a consent granted by Sydney Water.
- C. In the conduct of its business operations, Sydney Water must comply with its obligations, duties and responsibilities under the Act and its Operating Licence and the Protection of the Environment Administration Act 1991, the Protection of the Environment Operations Act 1997 and the Protection of the Environment Legislation Amendment Act 2011.
- D. The customer requests that Sydney Water grant consent to the customer for purposes of discharge of trade wastewater from the premises to the sewer.

Sydney Water grants to the customer consent to discharge trade wastewater, subject to the terms and conditions specified in this consent. The customer accepts the consent and agrees to be bound by the terms and conditions of this consent:

1. Definitions and Interpretation

- 1.1 In this consent, unless the contrary intention appears;

Acceptance standards means Sydney Water's published concentration limits for certain substances in trade wastewater.

Act means the Sydney Water Act 1994.

Business Customer Representative means an officer of Sydney Water who is authorised to enter land or buildings for purposes of carrying out his or her duties in relation to Sydney Water's trade wastewater service.

Consent means this consent together with its attached schedules and appendices. Any definitions or standards referred to in this consent but not contained in it are deemed to form a part of this consent with necessary changes being made to accommodate their inclusion.

Authorised officer means:

- with respect to Sydney Water, the person from time to time holding the position pertained in schedule 9 or such other person or position as may be nominated by Sydney Water from time to time;
- with respect to the customer, the person identified, and includes the details specified, in schedule 9 or as may be notified to Sydney Water by the customer from time to time.

Breach means any contravention of or non-compliance with a term, condition or provision of this consent or the Act.

Chargeable trade waste mass means the mass of a pollutant subject to quality or critical substance charges.

Composite sample means a sample of trade wastewater obtained by combining equal volumes at either equal time or flow intervals.

Critical mass charge means the charge applied to some critical and over capacity substances as calculated in accordance with the provisions set out in schedule 3.

Critical substance means a substance determined to be critical and notified from time to time by Sydney Water.

Customer means the party or parties (except Sydney Water) who executes or execute this consent.

Daily mass means the mass of a substance discharged during a 24-hour period.

Default notice means a notice issued in accordance with clause 8.1.

Domestic concentration means the concentration of a pollutant deemed by Sydney Water to be equivalent to that found in domestic wastewater.

Domestic wastewater means water which has in it human faecal matter, urine or refuse of any type produced in, and which is permitted to be discharged to a Sydney Water sewer from, any premises used exclusively for residential purposes.

Environment Protection Authority means the statutory authority established under section 15 of the Protection of the Environment Administration Act 1991

Equivalent domestic mass means the mass of a substance that would be expected in the trade wastewater if it were at domestic concentration.

Flow weighted charge means the portion of a substance's charge for a billing period that is attributed to any sample collected in accordance with schedule 2 or, if such sample is required but is not collected, then fixed by Sydney Water in accordance with schedule 2.

Flow weighting factor means a factor used to determine charges as described in schedule 3.

Long term average daily mass means, for each pollutant, the figure listed in schedule 1 and used to determine critical mass charges as described in schedule 3.

Lower explosive limit means the minimum concentration of flammable and/or explosive substances that would result in a fire or explosion.

Mass discharged means the mass of a pollutant discharged on a sample day and is measured by multiplying the composite sample concentration by

GENERAL CONDITIONS

the trade wastewater discharge for that sample day.

Maximum daily mass means the greatest mass of a substance permitted for discharge within a 24-hour period.

Over capacity means the status of a substance as determined in accordance with Sydney Water's Trade Waste Policy, 2007.

Over capacity substance means a substance determined to be over capacity and notified from time to time by Sydney Water.

Premises means the land, plant and buildings described and specified in paragraph 1 of schedule 7, on or in which the customer carries on industrial or other commercial activities specified in paragraph 2 of schedule 7.

Quality charge means a pollutant charge applied to trade waste discharges based on the mass of each pollutant discharged to sewer.

Regulator means any statutory authority, which may grant permission, authority or licence to Sydney Water to operate the sewer or treat or dispose of sewage treatment by-products.

Residual products means biosolids, re-use water or such other product intended for re-use as may be developed by Sydney Water from time to time.

Risk index means a ranking applied to the consent by Sydney Water to describe the relative risk of accepting the trade wastewater. Determination of the risk index will be based on the methodology determined from time to time by Sydney Water, or as may be necessary in the opinion of Sydney Water to take into account particular circumstances. The risk index is used to determine, among other things, the amount of self-monitoring required, the number of inspections to be performed by Sydney Water, the annual consent fee and the term of the consent.

Sewer means the sewerage service of Sydney Water, including the sewage treatment plant, discharge to which is facilitated by a discharge point situated on the premises and specified in item 3 of schedule 7.

Significant breach means any breach of a nature outlined at clause 15.2. Such breaches may result in immediate suspension or termination of the consent.

Standard mass charging rate means the charge per kilogram for substances as defined in schedule 3.

Sydney Water means Sydney Water Corporation.

Responsibilities of connected customers policy means Sydney Water's policy detailing the conditions under which Sydney Water will agree to accept trade wastewater to sewer.

Trade wastewater means any liquid and any substance in it that is produced in an industrial or commercial activity at the premises and

discharged into the sewer, but does not include domestic wastewater.

Trade waste residue means any substance separated and retained, from trade wastewater being discharged into the sewer.

1.2 In this consent, unless the contrary intention appears:

- (a) A reference to an Act or any delegated legislation or instrument made under an Act includes any other Act delegated legislation or instrument as may amend or replace any of them.
- (b) A reference to a word or expression
 - (i) in the singular form includes a reference to the word or expression in the plural form; and
 - (ii) in the plural form includes a reference to the word or expression in the singular form.
- (c) A reference to a party or a natural person includes a reference to a corporation.
- (d) A word or expression that indicates one or more particular genders is taken to indicate every other gender.
- (e) Headings to clauses and paragraphs are included in this consent to assist understanding of its terms and conditions but are not intended to affect the meaning or application of any term or condition.
- (f) A reference to a clause, schedule or appendix is a reference to a clause of or schedule or appendix to this consent and any such schedule or appendix is a part of this consent.

1.3 Remedies available to the parties under this consent;

- (a) are cumulative; and
- (b) do not prejudice or affect any other remedy available to the parties.

1.4 No rule of construction applies to the disadvantage of a party because that party was responsible for the preparation of this consent or any part of it.

2. Application of certain statutes and laws

- 2.1 This consent is made under and is subject to the provisions of the Act.
- 2.2 This consent is governed by and will be performed according to the law applicable in the State of New South Wales.
- 2.3 Subject to the terms and conditions of this consent the customer has lawful authority to dispose of trade wastewater for purposes of:
 - (i) Section 115 of the Protection of the Environment Operations Act 1997; and
 - (ii) Section 49 of the Act; and

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3. Commencement and term of consent

3.1 This consent commences on the date specified in paragraph 4 of schedule 7.

3.2 This consent will, unless terminated or renewed in accordance with this consent, continue for the period specified in item 5 of schedule 7.

4. Discharge of trade wastewater into sewer

4.1 The customer may discharge trade wastewater from the premises into the sewer in accordance with the provisions of schedule 1 and schedule 4.

4.2 The customer must not discharge trade wastewater from the premises into the sewer contrary to the provisions of schedule 1 and schedule 4.

4.3 The customer indemnifies Sydney Water against all damages, losses, costs or expenses suffered or incurred by Sydney Water, caused by any unauthorised discharge from the premises in respect of:

- (a) injury (including death) or harm to any person; or
- (b) damage to property vested in Sydney Water; or
- (c) contamination of residual products; or
- (d) material harm to any sewage treatment process

provided that the said damages, losses, costs or expenses suffered or incurred by Sydney Water are caused by any unauthorised discharge of trade wastewater or other matter into the sewer by the customer which is in breach of this consent or by any other person from the customer's premises, except to the extent to which the damages, losses, costs or expenses (as the case may be) were caused by either the negligent or wilful act or omission of Sydney Water or a breach of this consent by Sydney Water.

4.4 The customer must take all precautions reasonably practicable to ensure that no person, other than a person acting for or on behalf of or with the consent of the customer, discharges any matter from the premises into the sewer.

4.5 For purposes of this consent, every discharge of matter from the premises into the sewer will be taken to have been a discharge by a person acting for or on behalf of, or with the consent of, the customer.

5. Charges

5.1 The customer must pay Sydney Water charges with respect to trade wastewater discharged to the sewer, the administration of this consent and, when applicable, the processing of grease trap waste determined in accordance with, and within the time and in the manner specified in schedule 3.

5.2 Sydney Water may vary the basis of charges or the charging rates in schedule 3;

- (a) as and when determined by the Independent Pricing and Regulatory Tribunal of New South Wales (IPART); or

- (b) by written consent with the customer.

6. Inspections

6.1 A Business Customer Representative may enter the premises at any time;

- (a) for purposes of inspecting whether the activities of the customer are being conducted in accordance with this consent; or
- (b) for the purposes described in Section 38 of the Act or exercising any right or function conferred on Sydney Water under this consent.

This clause does not limit Sydney Water's statutory powers of entry.

6.2 When exercising rights under clause 6.1;

- (a) a Business Customer Representative must not cause any delay or inconvenience to the efficient conduct of business activities by the customer which could be reasonably avoided; and
- (b) except for any relevant safety precautions, a Business Customer Representative must not be impeded or delayed by any person on the premises.

6.3 If, in the opinion of Sydney Water, it is necessary for a Business Customer Representative to exercise rights under clause 6.1, the customer will make payment in accordance with the provisions of schedule 3.

7. Inquiries

7.1 Sydney Water may convene and determine the terms of reference of a joint inquiry about the circumstances relating to an incident that may have caused a breach.

7.2 An inquiry under clause 7.1 is to be conducted informally and without legal representation for purposes of gathering information about an incident directly from any person who may be expected to know, from his or her own observations, about the circumstances relating to the incident.

7.3 An inquiry under clause 7.1 may be conducted irrespective of whether the incident, the subject of the inquiry, is also the subject of a default notice.

7.4 Before conducting an inquiry under clause 7.1, the customer and Sydney Water may agree about what action, if any (except any action pursuant to a statutory obligation), may be taken with respect to any information that may be gathered during the inquiry.

8. Default procedures

8.1 If, in the opinion of Sydney Water, the customer commits, causes or allows a breach to occur, Sydney Water may issue to the customer a default notice.

8.2 A default notice must;

- (a) provide any relevant particular of the breach alleged by Sydney Water, including any particular known to Sydney Water that may assist the customer to ascertain the alleged breach; and

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- (b) specify that the customer must provide a response in writing to Sydney Water within seven days of receipt of the notice.
- 8.3 A default notice is not invalid merely because it does not provide a particular that may assist the customer to ascertain the alleged breach.
- 8.4 Any supply to the customer by Sydney Water of particulars under clause 8.7(a) is taken, for purposes of clause 8.5, to be a default notice under clause 8.1.
- 8.5 The customer must supply to Sydney Water a written response to a default notice within seven days of receipt of the default notice which must;
- (a) request further particulars of the alleged breach; or
 - (b) describe or explain the circumstances causing;
 - (i) the event which appeared to Sydney Water to be a breach; or
 - (ii) the breach to occur; and
 - (c) describe any action taken with respect to the alleged breach; and
 - (d) provide a plan of action to be taken by the customer to avoid the occurrence of any incident similar to the alleged breach; or
 - (e) explain the reasons of the customer for disputing the alleged breach.
- 8.6 The customer may make one request only for particulars under clause 8.5(a) with respect to a default notice.
- 8.7 When the customer responds in writing to Sydney Water in accordance with clause 8.5, Sydney Water must within seven days of receipt of that response either;
- (a) with respect to clause 8.5(a), provide in writing to the customer any further particulars that it may be able to provide in which case the customer shall be allowed a further seven days from receipt of those particulars to respond as required by clause 8.5(b)
 - (b) specify to what extent it accepts, rejects or disagrees with the response under 8.5(b) and provide details of any action it proposes to take (including any special requirements it may impose) to deal with the breach.
- 8.8 The issue by Sydney Water of a default notice is without prejudice to any right or power Sydney Water may have pursuant to this consent or conferred on it by statute or statutory rule.
- 9. Improvement program**
- 9.1 The customer must, at its own expense, establish and carry out the improvement program specified in, and in accordance with the provisions of, schedule 4.
- 9.2 If, prior to any failure to comply, the customer notifies Sydney Water that it may not be able to comply with any obligation under clause 9.1, Sydney Water will consider any reasonable proposal of the customer to vary a term or condition of the improvement program.

10. Diligence program

- 10.1 Within six months of the making of this consent, the customer must give a notice to Sydney Water specifying a current diligence program.
- 10.2 For purposes of clause 10.1, a diligence program includes a plan, whereby the customer demonstrates that the management of the customer is exercising reasonable care in planning and taking appropriate action, to prevent or minimise the effects of any incident that may constitute a breach.
- 11. Suspension or termination of consent to discharge trade wastewater**
- 11.1 Sydney Water may suspend the consent granted in clause 4.1 if;
- (a) the customer does not comply with clause 8.5, 9.1, 12.1, 12.2 or notice of the suspension is given to the customer; or
 - (b) Sydney Water is for any reason specified in clause 11.2 unable to accept for treatment trade wastewater that may be discharged by the customer.
- 11.2 Sydney Water may, by a notice given to the customer, suspend the consent granted in clause 4.1 if, in the reasonable opinion of Sydney Water;
- (a) an emergency prevents the sewer from accepting any or certain specified categories of trade wastewater that may be discharged by the customer; or
 - (b) an event has occurred, which could have an adverse effect on any employee or agent of or contractor to Sydney Water or the sewer, including any biological process.
- whether the emergency or event is caused by fire, storm, tempest, flood, malicious damage, act of war, civil disobedience, explosion, earthquake or an act or omission of an employee, or agent of, or contractor to Sydney Water, or an unlawful discharge of matter into the sewer, or some other cause.
- 11.3 The period of any notice of suspension given under clause 11.2 will be no shorter than any period, which in the opinion of Sydney Water the circumstances dictate.
- 11.4 The customer must comply with any notice under clause 11.1 or 11.2 subject only to any delay that may be required to safeguard the health or life of any person.
- 11.5 Any suspension under clause 11.1 or 11.2 must not be for a period longer than, in the opinion of Sydney Water, the circumstances dictate.
- 11.6 If the customer does not cease discharging trade wastewater in accordance with a notice given under clause 11.1 or 11.2 and Sydney Water is of the opinion that the customer is not taking appropriate measures to stop the discharge, a Business Customer Representative may, with such other persons as he or she may think necessary, enter the premises and take such

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- measures as he or she may think necessary to stop the discharge.
- 11.7 A suspension under clause 11.1 or 11.2 or any action that may be taken in accordance with clause 11.6 does not give rise to any remedy to the customer against Sydney Water for, or in respect of, the suspension or action.
- 11.8 Any costs incurred by Sydney Water with regard to taking action under clause 11.6 is a debt payable to Sydney Water by the customer on demand made by Sydney Water.
- 11.9 Sydney Water may suspend the consent granted in clause 4.1 if; the discharge of trade wastewater by the customer in accordance with the consent granted under clause 4.1, by itself or in conjunction with the discharges of other persons is likely, in the opinion of Sydney Water, to cause Sydney Water to contravene any legislation, permission, authority or licence granted by a regulator, or any other regulatory authority.
- 11.10 Any suspension under clause 11.9 must be terminated as soon as Sydney Water is reasonably satisfied that the conditions giving rise to the suspension no longer exist.
- 11.11 If the customer and Sydney Water cannot agree in accordance with clause 11.10, they will initiate and attend discussions with the regulator to resolve any relevant matter.
- 11.12 If, after discussions under clause 11.11 the customer and Sydney Water fail to agree in accordance with clause 11.10, the consent granted in clause 4.1 may be terminated by Sydney Water.
- 11.13 Without limitation of the effect of any other clause in this consent, Sydney Water may terminate or suspend the customer's permission to discharge trade wastewater immediately by written notice to the customer, if in the opinion of Sydney Water the customer's discharge of trade wastewater is in breach of this consent and is likely to cause;
- (a) Sydney Water's contravention of the condition of any licence issued to it by the EPA; or
 - (b) the failure to meet a product specification of any of Sydney Water's residual products.
 - (c) Sydney Water to breach or fail to comply with any legislation.
- 11.14 A suspension under clause 11.9 or 11.13 in accordance with the terms of this consent or a termination under clause 11.12 or 11.13 in accordance with the terms of this consent does not give rise to any remedy to the customer against Sydney Water for or in respect of the suspension or termination.
- 11.15 Without limitation of the effect on any other clause in this consent, Sydney Water may terminate or suspend the customer's consent to discharge trade wastewater immediately by written notice served on the customer in accordance with Section 100 of the Act, on the occurrence of any one of the following events;
- (a) The customer fails to pay to Sydney Water any amount due and payable under this consent within twenty-one days of the due date for payment and such payment is not made within fourteen days of a written request from Sydney Water to do so.
- (b) The customer is in breach of the consent and is unable or unwilling to remedy the breach of consent as required by Sydney Water.
- The customer acknowledges and agrees that if, following the termination of the consent, it continues to discharge trade wastewater into the sewer, a Business Customer Representative may enter the customer's premises and take all reasonable necessary steps to stop the customer's continued discharge of trade wastewater to the sewer. The right of entry conferred by this clause is in addition to, and not in substitution for, any power of entry conferred on Sydney Water by the Act.
- ### 12. Supply of information
- 12.1 Any information supplied by the customer to Sydney Water for purposes of making this consent or for any purpose of this consent must as far as reasonably possible be a true and complete disclosure by the customer for purposes of enabling Sydney Water to;
- (a) determine whether to grant the consent in clause 4.1; and
 - (b) determine whether there has been any breach of this consent.
- 12.2 The customer must not, in or in connection with a document supplied to Sydney Water for purposes of making this consent or for any purpose of this consent, furnish information, which is false or misleading in a material particular with regard to the trade wastewater to be discharged to the sewer.
- 12.3 Sydney Water must not disclose any confidential information obtained in connection with the administration or execution of this consent, unless that disclosure is made;
- (a) with the consent in writing of the customer
 - (b) with other lawful excuse.
- ### 13. Sampling
- 13.1 For purposes of this consent, schedule 2 specifies sampling and analysis criteria, flow rates and volume determinations of trade wastewater to be discharged or discharged under clause 4.1.
- 13.2 A Business Customer Representative may take as many samples of trade wastewater at any point in any production process or storage facility, or at any other point on the premises, as he or she thinks fit.
- 13.3 The customer must comply with the provisions of schedule 2.
- ### 14. Apparatus, plant and equipment for recording or treating trade wastewater

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- 14.1 The customer must, at its own cost, provide, operate and maintain in an effective and efficient working order, the apparatus, plant and equipment described in schedule 5 for purposes of regulating, treating, determining and measuring the quality, quantity and rate of discharge of trade wastewater under clause 4.1.
- 14.2 Sydney Water may require the customer to use its discretion to formulate and take such additional actions as may be appropriate to achieve the objects which, in the opinion of Sydney Water, are necessary for the customer to regulate, treat, determine or measure trade wastewater for purposes of discharge under clause 4.1.
- 14.3 The customer must, at its own costs, maintain records in such manner as may be required by Sydney Water, of all measurements, sampling and results obtained in the course of treatment and discharge of trade wastewater under clause 4.1.
- 14.4 The customer must submit to Sydney Water documents containing records of results specified in schedule 2.
- 14.5 The customer must maintain records of particulars and dates of cleaning and maintaining all apparatus, plant and equipment described in schedule 5 and particulars, dates and method of disposal of trade waste residue from such apparatus, plant and equipment.
- 14.6 The customer acknowledges that Sydney Water does not approve or warrant that any apparatus, plant or equipment used by the customer is sufficient for purposes of processing or treating trade wastewater for discharge under clause 4.1.

15. Variation and renewal of consent

- 15.1 Before varying, substituting or adding any process conducted or to be conducted on the premises that may cause the volume, rate or quality of wastewater discharged to change from that agreed under schedule 1 and schedule 4, the customer shall give Sydney Water not less than 14 days written notice of its intention. Any variation, substitution or addition shall only be conducted after receipt of written approval to same and subject to any conditions (including any requirement to vary the terms of this consent) that Sydney Water may impose.
- 15.2 Sydney Water may vary the terms of this consent where:
- Sydney Water alleges a single significant breach or three breaches of the same nature, to have occurred in a six month period; or
 - in the opinion of Sydney Water, a substantial or material part of any plan of action under clause 8.5(d) may not be completed for a period exceeding 90 days; or
 - the customer gives Sydney Water notice under clause 15.1.

For the purposes of this clause and without limitation, the following circumstances shall be regarded as being a single significant breach:

- an activity or event that could adversely affect the health and safety of any employee, agent or contractor to Sydney Water, the integrity of Sydney Water assets or the viability of any of Sydney Water's treatment processes or products; or
- failure to achieve effluent improvement program milestone; or
- failure to install pre-treatment; or
- by-pass pre-treatment and/or installation of equipment that facilitates by-pass of pre-treatment; or
- flow-meter turned off or bypassed.

- 15.3 A renewal of this consent may be initiated by the customer:
- not less than two months before the date of expiration of this consent, and
 - not more than six months before the date of expiration of this consent.

- 15.4 If this consent remains current immediately prior to the expiration of the term detailed in 3.2, or any subsequent terms renewed in accordance with this clause, and:
- the customer has not given notice in accordance with clause 20.1 of this consent and;
 - Sydney Water has not given to the customer at least 30 days' notice prior to the expiration of this consent, of its intention to permit the consent to expire in accordance with clause 3.2

Then this consent shall be deemed to be renewed immediately following its expiration, for a further period of six months.

- 15.5 Any amended schedules that Sydney Water prepares in response to a variation or renewal will be taken to be incorporated into this consent;
- on execution by the customer; or
 - after 14 days of receipt by the customer of the notice of the variation or renewal.

- 15.6 The notification of alterations to the critical status of any pollutants does not constitute a variation.

16. Disposal of trade waste residue

The customer must not dispose of any trade waste residue, except in accordance with the requirements of the EPA.

17. Disposal of grease trap wastes

The customer must not dispose of grease trap wastes other than in accordance with Sydney Water's 'Wastesafe' Management System.

18. This consent comprises all applicable terms and conditions

- 18.1 The provisions of this consent comprise all of the applicable terms and conditions between the parties.

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- 18.2 It is declared by the parties that no further or other promises or provisions are, or will be claimed to be implied, or to arise between the parties by way of collateral or other agreement by reason of any promise, representation, warranty or undertaking given or made by any party (or its agent) to another, on or prior to the execution of this deed, and the existence of any such implication or collateral or other agreement, is hereby negated by the parties.
- 18.3 Clauses 18.1 and 18.2 do not prejudice the ability of the parties to vary or amend this consent in accordance with the provisions of this consent or by a further consent in writing.

19. No transfer or assignment

The customer cannot transfer or assign the consent granted in clause 4.1 nor any other right or obligation the customer has or may have under this consent, without the prior consent in writing of Sydney Water.

20. Termination of consent by customer

- 20.1 Termination of this consent may be effected by the customer upon the giving of at least 30 days' notice in writing to Sydney Water. The notice must state the date on which this consent terminates.
- 20.2 The customer is bound by the provisions of this consent with regard to any discharge of trade wastewater into the sewer from the premises, including the payment of charges under clause 5.1, from the commencement of this consent until its termination.
- 20.3 Notwithstanding provisions contained elsewhere in this consent the parties may terminate this consent in writing by mutual agreement provided the parties enter into a further trade waste consent immediately following termination of this consent.

21. Notices and communications

- 21.1 A notice or communication under this consent must be in writing.
- 21.2 For purposes of clause 21.1, a notice or communication may;
- be left at the address of the addressee; or
 - be sent by prepaid ordinary post to the address of the addressee; or
 - sent by facsimile transmission to the facsimile number of the addressee
 - sent by email to the email address of the addressee
- as specified in schedule 8 or such other address as may be notified by the addressee to the other party.
- 21.3 Unless a later time is specified in it, a notice or communication takes effect from the time it is received.
- 21.4 Unless the contrary is shown, for purposes of clause 21.3, if a notice or communication is;
- a letter sent by pre-paid post, it will be taken to have been received on the third day after posting; or
 - a facsimile, it will be taken to have been received on receipt by the sender, of the written or oral advice of the addressee that the whole of the facsimile transmission has been received by the addressee in a form that is legible.

22. Miscellaneous

Each party must act in good faith in the implementation of this consent and, without limiting the scope of this obligation, must also seek to resolve any difference or dispute between them as to the consent in good faith.

23. Entire consent

This consent constitutes the entire agreement between the parties in relation to its subject matter. No understanding, arrangement or provision not expressly set out in this consent will bind the parties. Accordingly all correspondence, negotiations and other communications between the parties in relation to the subject matter of this consent that precede this consent are superseded by and merged in it.

Note: This consent has no effect until it is executed for and on behalf of Sydney Water Corporation.

Contact Us

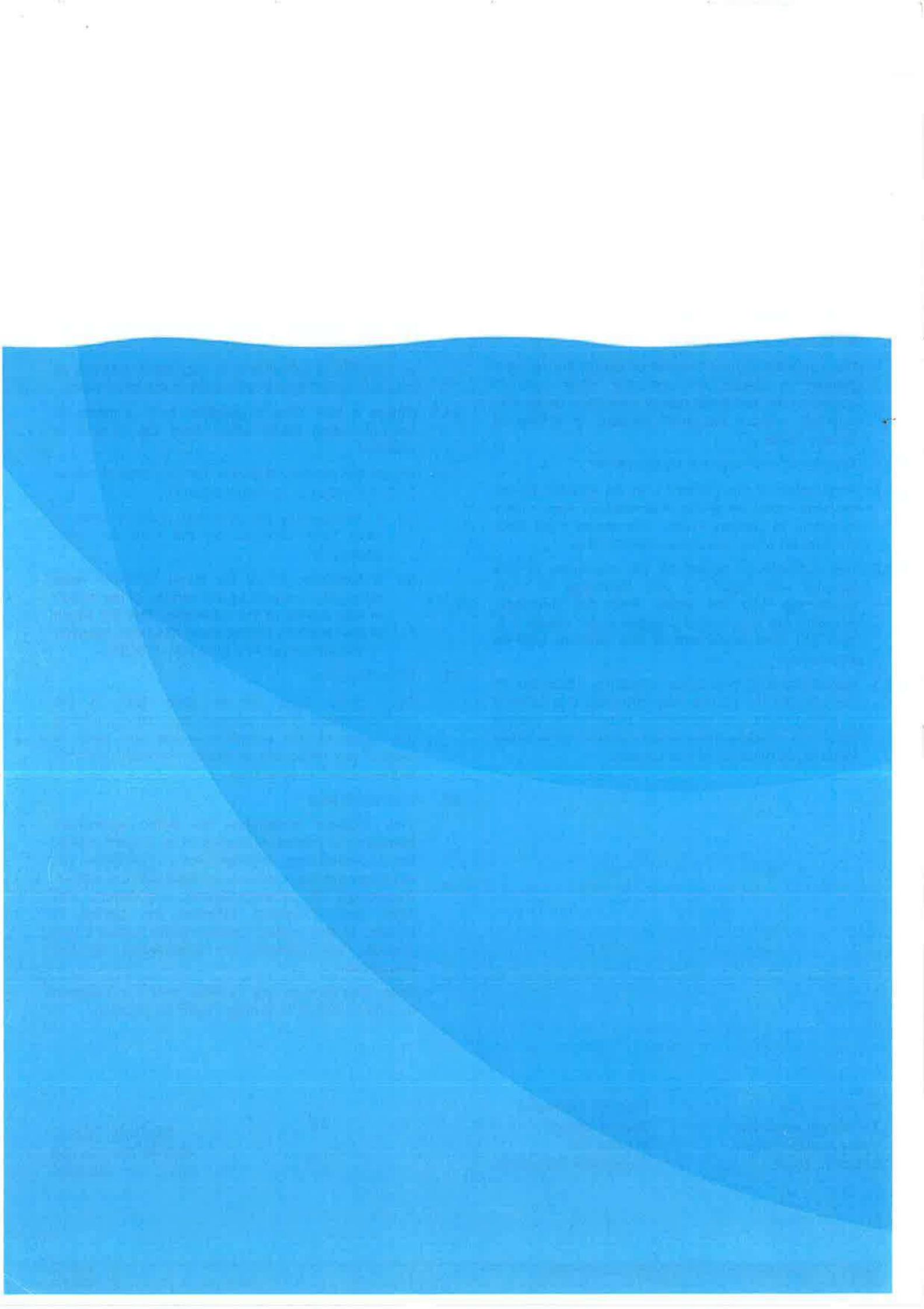
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Appendix E - Odour Management Plan

Erskine Park Resource Management Facility

Odour Management Plan

Date: June 2017
Prepared by: Kirsten Lawrence
Version: 1.0

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1. Introduction

This Odour Management Plan (OMP) has been prepared to address potential odour issues associated with the operation of a putrescible Waste Transfer Station (WTS) and associated infrastructure at the Cleanaway Pty Ltd (Cleanaway) Enviroguard site at 85 - 87 Quarry Road, Erskine Park, NSW.

Once operational, the development will primarily comprise a putrescible WTS with a nominal daily volume of approximately 1,050 tonnes of waste per day (design capacity 300,000 tonnes per annum (tpa)). However, initially around 90,000 tpa of putrescible waste (30% of the design capacity) is expected to be received at the site. All waste will be transported off-site to an appropriately licensed waste management facility.

1.1 Scope and Objectives of the OMP

This OMP is the lead odour management document outlining the management structure and strategies for odour performance during the continued operation of the WTS. It has been developed to meet the requirements of relevant legislation and to protect the safety and welfare of employees, tenants, local residents and the public.

Specifically, this OMP is designed to satisfy Condition B10 *Odour Management Plan* of Schedule C of the Development Consent for Application Number SSD 7075. It is a working document to be updated as necessary. Cleanaway will be responsible for ensuring that their operations comply with the provisions and measures contained within this OMP.

The general objectives of this OMP are to:

- Minimise the release of odours to the environment during all meteorological conditions;
- Meet the EPA requirement of managing offensive odours beyond the boundary of the facility;
- Implement best management practice;
- Implement an effective program for the monitoring of odour emissions; and
- Minimise impacts on the local community during operation.

The OMP includes the following information:

- Description of the local setting of the site (**Section 2**);
- Details of the process and the sources of odour emissions, including potential abnormal operating conditions that could lead to increased levels of odour emissions (**Section 3**);
- Performance criteria relevant to the management of odour emissions from the WTS (**Section 4**);
- Control measures in place to mitigate the effect of odour released from the WTS (**Section 5**);
- Details of the site's odour monitoring program (**Section 6**); and
- Contingency plans to mitigate the effects of odour release during normal and abnormal operations (**Section 7**).

1.2 Development Consent Requirements

Condition B10 (Odour Management Plan) of the Development Consent states that *Prior to commencement of construction, the Applicant shall prepare an Odour Management Plan to the satisfaction of the Secretary.*

Table 1 outlines the Secretary's requirements and references to responses contained within this OMP.

Table 1 Development Consent Requirements – Odour Management Plan

Requirement	OMP Section Reference
The plan must be prepared by a suitable qualified and experienced person(s) in consultation with the EPA	Appendix A
Describe the measures that would be implemented on-site to ensure all reasonable and feasible measures are employed to minimise offensive odour emissions, including details of the air pollution control device(s) and all other operational odour mitigation measures	Section 5, Physical and Operational Offensive Odour Controls
Describe the measures that would be implemented on-site to ensure compliance with the relevant conditions of this consent	Section 5, Physical and Operational Offensive Odour Control measures and Table 3 presents contingency measures implemented to ensure compliance with relevant conditions of the Development Consent
Describe the measures that would be implemented on-site to ensure contingency measures are deployed to minimise impacts should adverse odour emissions occur or appear likely to occur	Table 3 presents identified events which have the potential to lead to adverse offensive odour emissions from the plant together with contingency measures for each identified event
Include an ongoing monitoring program	Section 6.1 outlines details of proposed commissioning tests, an ongoing monitoring program will be developed after an Environmental Protection Licence (EPL) is issued
Include well defined triggers for the deployment of odour mitigation and contingency measures	Table 3 presents identified events which have the potential to lead to adverse offensive odour emissions from the plant including triggers for deployment of contingency measures
Include a protocol to determine the occurrence of an exceedance of any criteria to the EPL should any exceedance occur	Section 6.3, Section 6.4 and Section 6.5 detail measures put in place to identify and mitigate odour emissions before an exceedance to any criteria should occur
Include contingency measures for design of system failure	Section 6.6 details measures put in place to identify and respond to 'design of system failure'

Condition C4 (Management Plan Requirements) of the Development Consent states that *The Applicant shall ensure that the environmental management plans/strategies required under this consent are prepared in accordance with any relevant guidelines.* **Table 2** outlines the Secretary's requirements and references to responses contained within this OMP.

Table 2 Development Consent Requirements – Management Plan Requirements

Requirement	OMP Section Reference
Include detailed baseline data	Section 2.5 , describes other sources of odour in the vicinity of the WTS
Include a description of the relevant statutory requirements (including any relevant approval, licence or lease conditions)	Section 1.2 details the Secretary's Requirements and Section 4 details the relevant performance measures/criteria
Include a description of and any relevant limits or performance measures/criteria	Section 4 , details the relevant performance measures/criteria
Include a description of the specific performance indicators that are proposed to be used to judge the performance of, or guide the implementation of, the Development or any management measures	Section 6.1 outlines proposed commissioning tests. Section 6.2 – 6.4 provide a framework for ongoing odour monitoring to confirm the performance criterion is being achieved.
Include a description of the measures that would be implemented to comply with the relevant statutory requirements, limits, or performance measures/criteria	Section 5 details measures put in place to identify and mitigate odour emissions before an exceedance to any criteria should occur. An ongoing monitoring program will be developed after an EPL is issued.
Include a program to monitor and report on the impacts and environmental performance of the Development	Sections 6.1 - 6.4 detail proposed programs to monitor and report of the performance of the development.
Include a program to monitor and report on the effectiveness of any management measures	Section 6.1 outlines details of proposed commissioning tests, which are designed to ensure the effectiveness of odour management measures.
Include a contingency plan to manage any unpredicted impacts and their consequences;	Table 3 presents contingency measures implemented to ensure compliance with relevant conditions of the Development Consent
Include a program to investigate and implement ways to improve the environmental performance of the Development over time	Section 6 details measures put in place to investigate odour incidents and identify necessary measures for improving performance of the development over time.
Include a protocol for managing and reporting any: <ol style="list-style-type: none"> incidents; complaints; non-compliances with statutory requirements; exceedances of the impact assessment criteria and/or performance criteria; and a protocol for periodic review of the plan. 	Section 6.6 details measures put in place to identify and respond to incidents and exceedances of the impact assessment criteria. Section 6.7 details measures put in place to address complaints. Section 1.4 details the periodic OMP review protocol.

1.3 *Responsibilities*

Cleanaway's Regional Manager has the primary responsibility for implementing the OMP during operations. This responsibility includes monitoring the OMP's effectiveness and rectifying any deficiencies in the OMP. The Regional Manager may delegate some responsibilities to other staff members as appropriate.

All employees at the WTS must comply with the terms and conditions of the OMP and adopt the specified procedures for management of odour nuisance impacts, including corrective actions.

1.4 *OMP Periodic Review*

This OMP is a live document that will be reviewed upon commissioning, and on an annual basis thereafter, as a minimum to ensure that it remains relevant to site operations and to determine whether improvements can be implemented. As a matter of course, the plan will be reviewed should the following occur:

- Significant changes to plant operational practices;
- Substantiated odour complaint; and
- Occurrence of significant odour emission (identified through daily site inspections or monthly odour surveys).

2. Site Setting

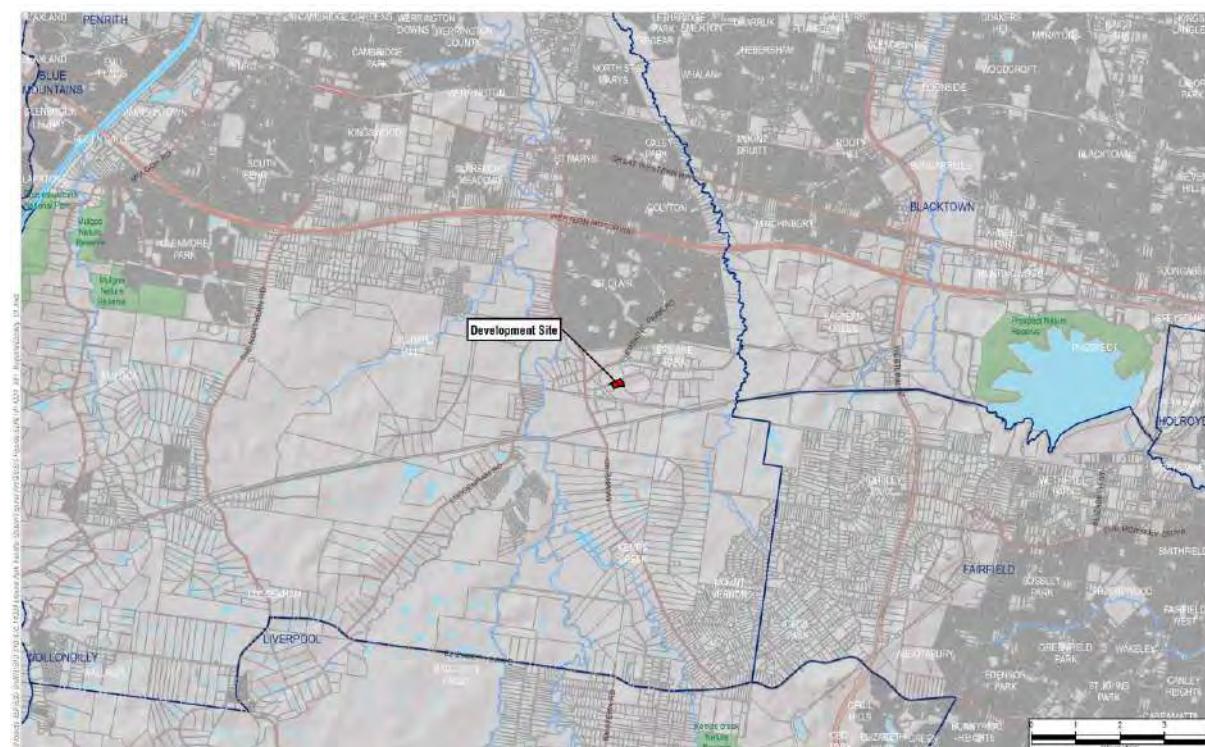
2.1 WTS location

The WTS is located at 85- 87 Quarry Road, approximately 42 kilometres (km) west of Sydney Central Business District (CBD), in the local government area of the City of Penrith and is part of the Greater Western Sydney region.

The WTS is located within the Erskine Park Industrial Precinct. Other industries also located in the Erskine Park Industrial Precinct include CSR Limited's glass processing plant. The precinct also contains warehouses for Sony DADC, BlueScope Steel, Koorong Bookstore, Hasbro, Ceva and a Woolworths Liquor distribution centre.

Adjacent land uses include a mix of farmland to the west, residential land to the north, and several schools to the south. The nearest residential premises are located along the western and northern boundaries of the Erskine Park Industrial Precinct. The location of the site is illustrated in **Figure 1**.

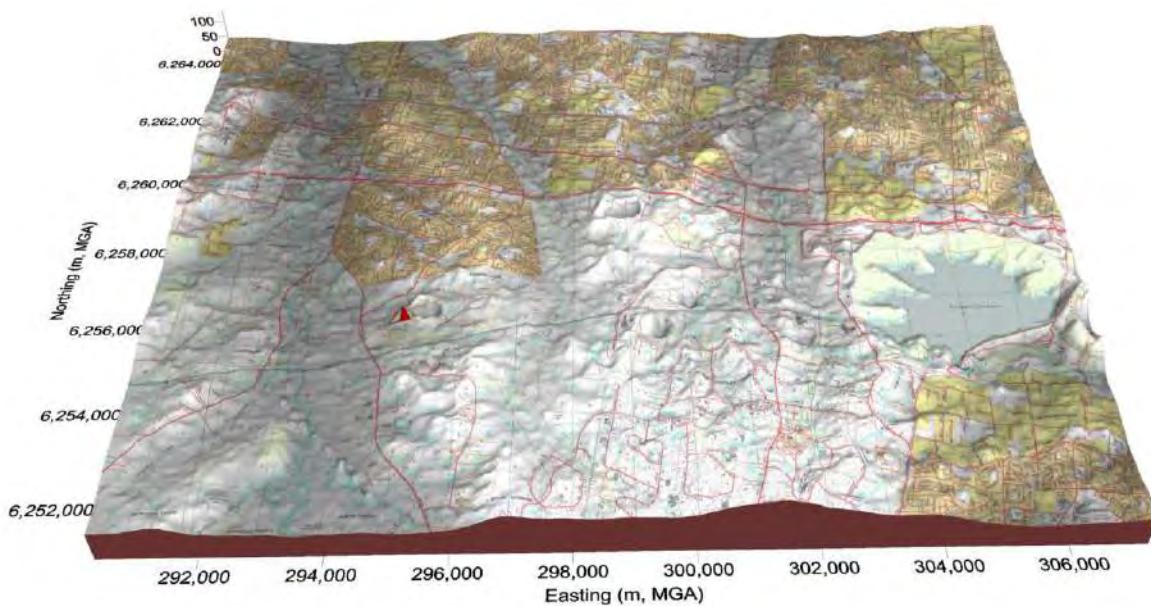
Figure 1 Site Location



2.2 Surrounding Topography

Topography is important as local atmospheric dispersion can be influenced by night-time katabatic (downhill) drainage flows from elevated terrain or channelling effects in valleys or gullies around the WTS.

A three dimensional representation of the area is given in **Figure 2**. The topography of the site is relatively flat, sloping gently to the west, with an elevation of approximately 60 metres Australian Height Datum (AHD).

Figure 2 Topography

2.3 Sensitive Receptors

A number of residences and sensitive receivers are located in the area surrounding the WTS. **Figure 3** illustrates the location of sensitive receptors in the vicinity of the site, while **Figure 4** depicts the Erskine Park Industrial Precinct and identifies many of Cleanaway's non-residential neighbours.

In **Figure 3**:

- The hatched areas show the location of residential areas;
- the yellow circles show the location of sensitive residential receptors scattered within the semi-rural areas surrounding the site; and
- The orange circles show the location of nearby schools and aged care centres.

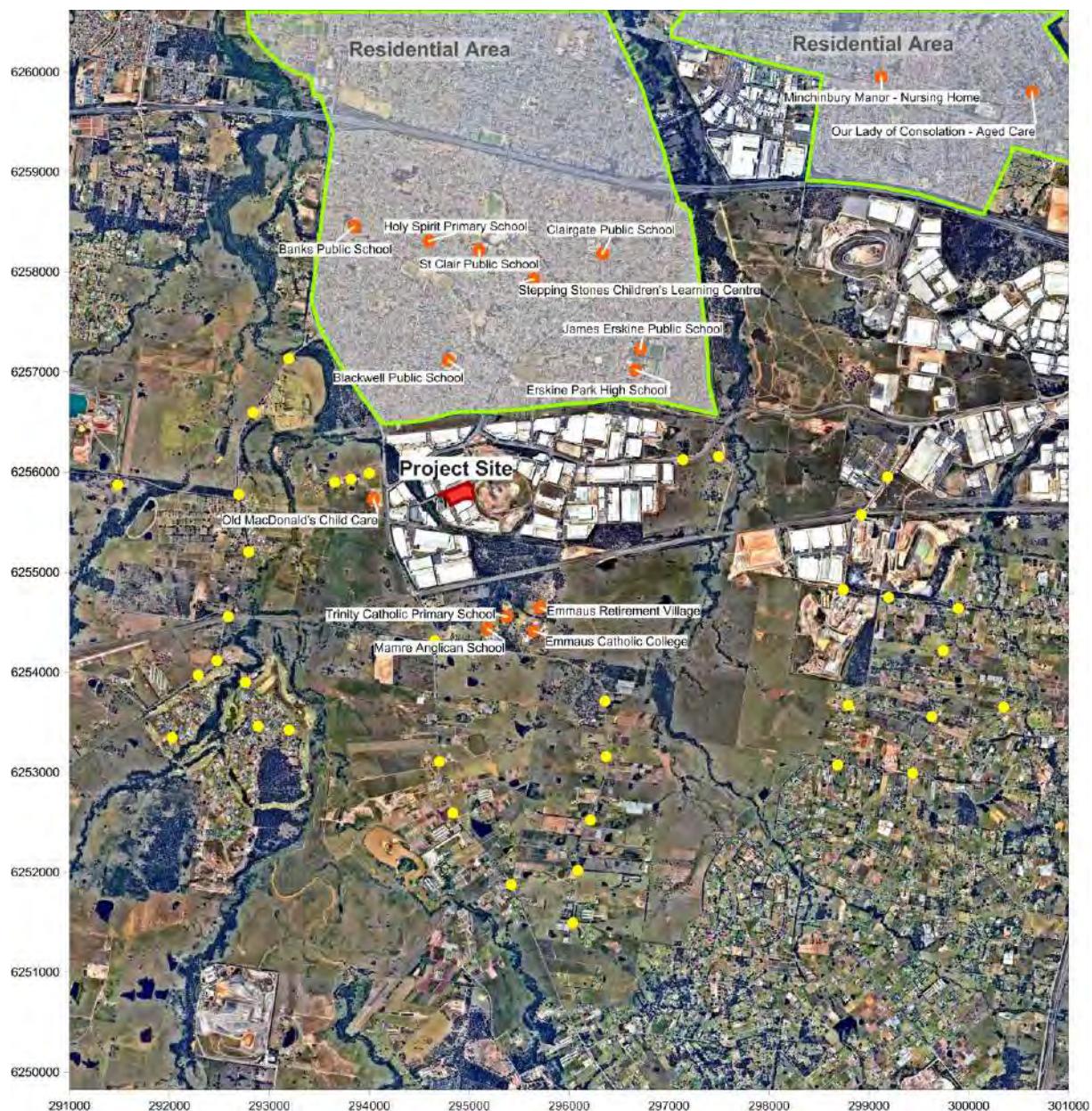
Figure 3 Sensitive Receptor Locations

Figure 4 Erskine Park Industrial Precinct

2.4 Local Wind Conditions

A meteorological station will be installed at the WTS site to provide real-time data on local meteorological conditions relevant to the dispersion of odours. The parameters to be monitored are outlined in **Section 5.1**.

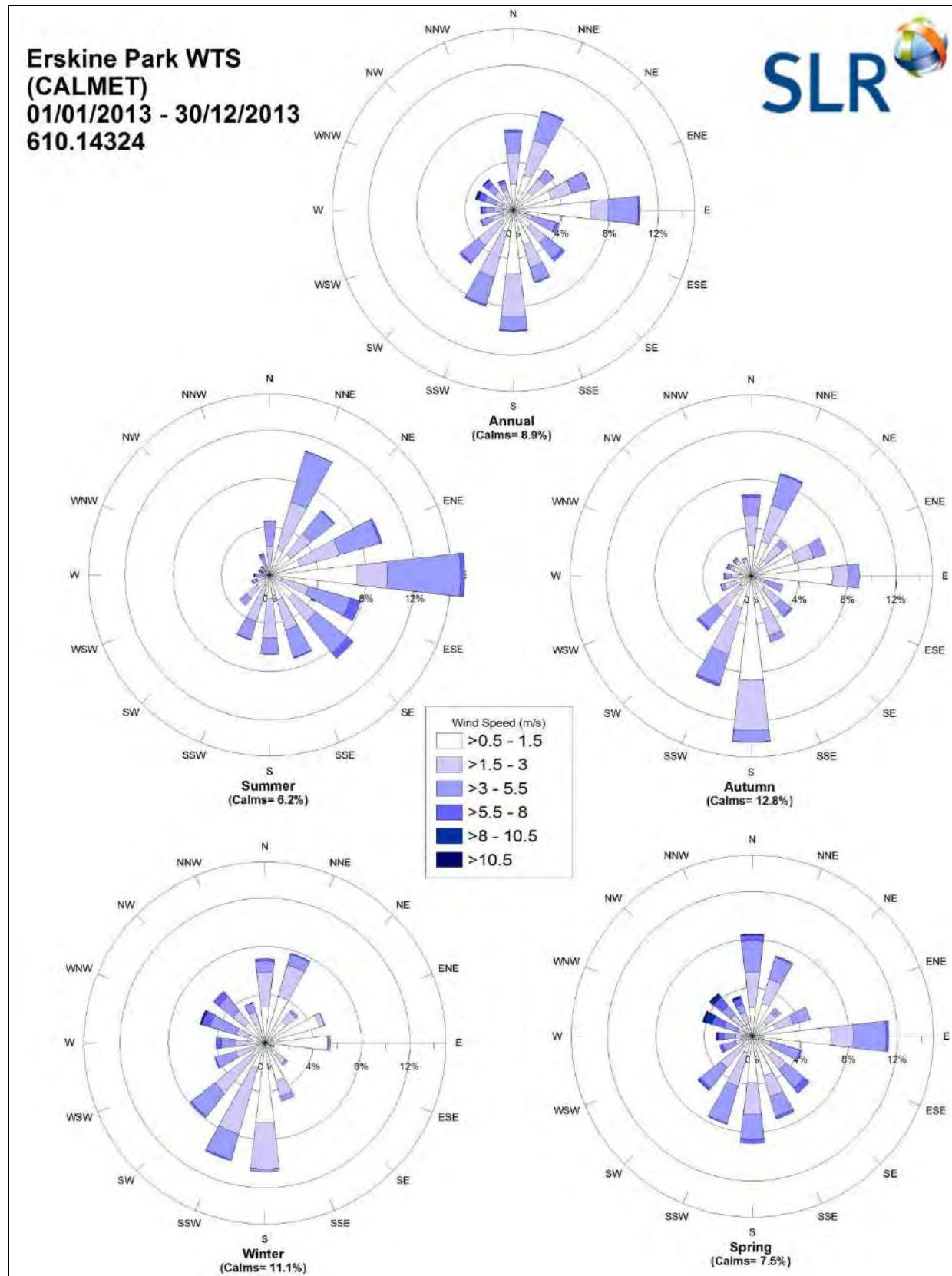
A summary of the annual wind behaviour at the WTS site, as presented in the SLR-prepared Air Quality Impact Assessment (2015), is presented as wind roses in **Figure 5**. **Figure 5** indicates that winds experienced at the site are predominantly moderate to high (between 1.5 m/s and 8 m/s) with a small percentage of strong winds (>10.5 m/s) and wind direction is seasonally dependent. Calm wind conditions (wind speed less than 0.5 m/s) were predicted to occur approximately 1% of the time throughout the modelling period.

The seasonal wind roses indicate that typically:

- In summer, winds are moderate to strong predominantly from between the north northeast and south southwest quadrant with very few winds from the western quadrant.
- In autumn, winds are moderate to high predominantly from the north northeast and southern quadrants with very few winds from the western quadrant.
- In winter, winds are moderate to high and are experienced predominantly from the north northeast and southern quadrants, with very few winds from the south eastern quadrant.
- In spring, winds are moderate to strong with high percentage of winds from northern, western and southern quadrants and strong winds experienced only from the north-western quadrant.

The wind roses presented in **Figure 5** indicate that any odours generated by the WTS would have the greatest potential to impact on sensitive receptors to the west and north of the site, given the higher frequency of light easterly and southerly winds.

Figure 5 Predicted Seasonal Wind Roses for the Erskine Park WTS (CALMET predictions, 2013)



2.5 Other Sources of Odour in the Vicinity of the WTS

In 2012, the NSW EPA commissioned the Western Sydney Regional Odour in response to a large number of odour complaints received by the NSW EPA in the Eastern Creek, Kemps Creek and Erskine Park Precinct areas¹. The study comprised:

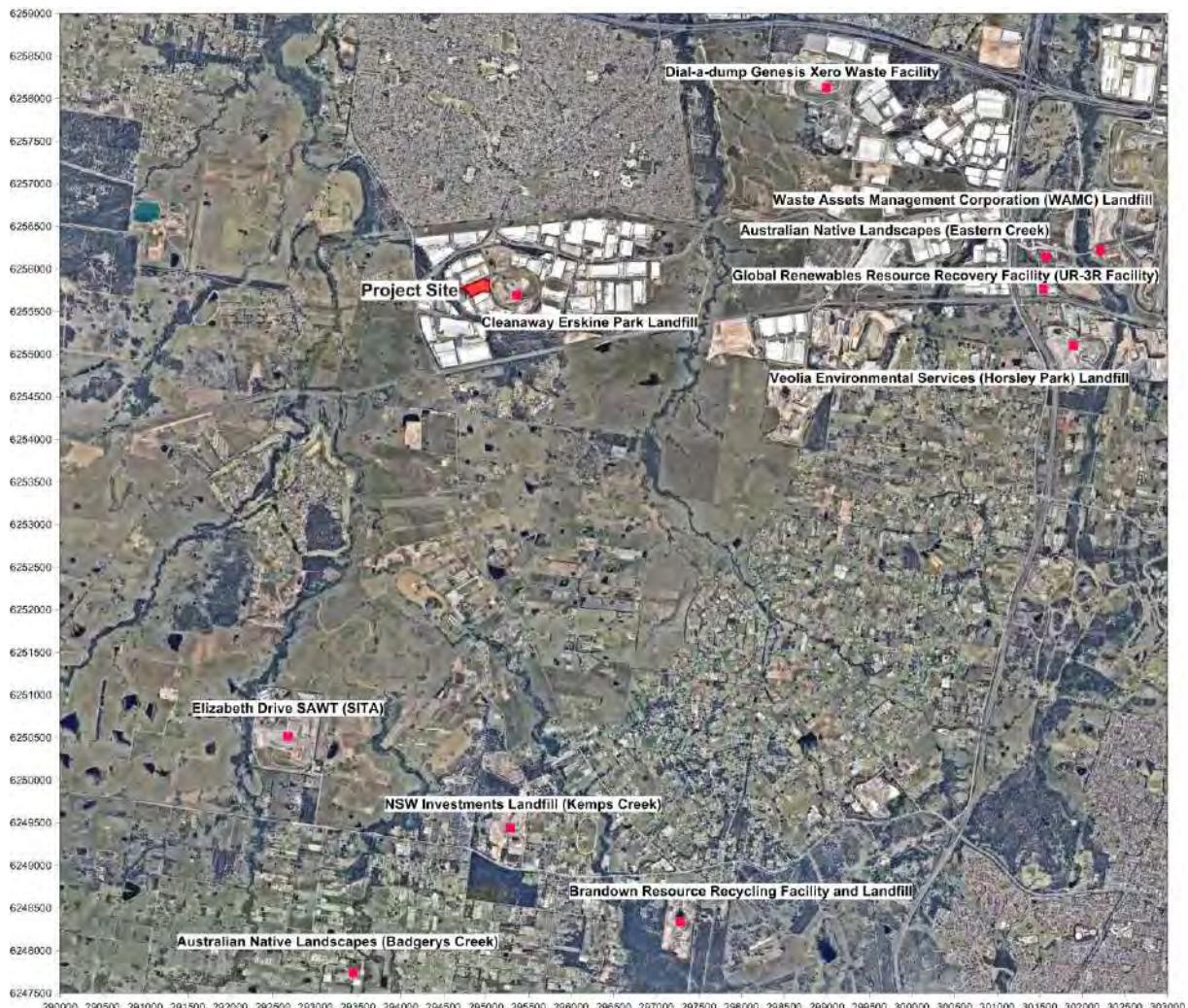
- A review of odour complaints, and other information held by the NSW EPA;
- A reconnaissance visit to the waste management sites that had the potential to contribute to the odour complaints;
- Performing a campaign of “field ambient odour assessments” during September 2012; and
- Various components of briefings and consultation.

The key findings of the assessment were as follows:

- Three waste facilities were identified to be emitting odours detectable at significant levels beyond the site boundary. These were (see **Figure 6**):
 - Global Renewables Facility Eastern Creek;
 - WAMC Landfill Eastern Creek; and
 - SITA (now Suez) SAWT Facility Kemps Creek.
- No odour that could be attributed to the facility was detected outside the boundary of:
 - Brandown Resource Recycling Facility and Landfill;
 - NSW Investments Landfill (Kemps Creek);
 - Dial-a-dump (Genesis) Landfill;
 - Transpacific Industries Landfill (Enviroguard) – now known as Cleanaway Erskine Park Landfill;
 - Veolia Environmental Services Landfill (Horsley Park); and
 - Australian Native Landscapes (Badgery’s Creek).
- The study also identified odours which could not be linked back to the facilities within the scope of this study. The odours detected in this instance were identified to be likely emanating from horticultural and farming activities occurring in the Eastern Creek and Kemps Creek precincts.

¹ : <http://www.epa.nsw.gov.au/pollution/WestSydOdour.htm>.

Figure 6 Western Sydney Region Waste Facilities



A further program of ambient odour surveys was performed as part of the AQIA to determine the baseline odour conditions around the WTS site. The objectives of this campaign were to:

- Provide observational data to understand the odour impacts of existing Cleanaway operations;
- Understand the regional baseline odour conditions, upon which operations of the waste transfer station may contribute to enable an assessment of potential cumulative impacts;
- Provide a baseline assessment which could be replicated upon start of operations to provide an observation-based assessment of performance; and
- Provide a baseline for operational odour management.

Field odour assessments were performed over the period from 16 December 2014 to 16 February 2015. The following locations (depicted in **Figure 7**) were the principal observation locations:

- TPI-01 Main Gate House / Site Office;
- TPI-02 Quarry Road down towards Devondale (cul-de-sac);
- TPI-03 Driveway entrance 85 - 87 Quarry Road / Cleanaway Depot opposite at 48 Quarry Road;
- TPI-04 Hasbro DC driveway;
- TPI-05 Between Wetland/Creek & Cleanpak Quarry Road;

- TPI-06 Roundabout Quarry Road & James Erskine Drive;
- TPI-07 Cul-de-sac James Erskine Drive;
- TPI-08 Corner of Quarry Road & Sarah Andrews Close;
- TPI-09 Cul-de-sac Sarah Andrews Close (Woolworths DC);
- TPI-10 Corner Mamre Road & James Erskine Drive;
- TPI-11 Corner Mamre Road & Erskine Park Road ;
- TPI-12 Mandalong Close;
- TPI-13 Corner of Erskine Park Road and Goodmans building (ACR / Capral);
- TPI-14 Front of Capral up to Lenore Drive;
- TPI-15 Adjacent to Erskine Park Road;
- TPI-16 Corner of Lenore Drive and Tyrone Place;
- TPI-17 Cul-de-sac Tyrone Place;
- TPI-18 Cul-de-sac John Morphett Place; and
- TPI-19 TPI boundary near Blue Scope Steel.

Figure 7 Odour Survey Locations Used in the AQIA



The observations made during the field odour study confirmed that odour from the existing operations at the Cleanaway (formerly known as TPI) Erskine Park site were not contributing to odour nuisance in the community. Observations were made of odour being present on site but these were. Odour was detected from the Cleanaway skip bins storage area, located in the southwest of the Project Site only and was not observed to be detectable at the Project Site boundary.

The observations were concluded as being consistent with the Western Sydney Regional Odour Assessment findings that did not find any evidence linking Cleanaway landfill activities to the widely recognised long-standing odour issues in the region.

3. WTS Process Description

3.1 Overview of Operations

Waste delivery vehicles will enter the site, weighing on the incoming weighbridge located adjacent to the office building. Delivery vehicles will then proceed to the eastern side of the building where they will align with one of the five roller shutter door entrances on the eastern elevation. The vehicles will reverse through one of the rapid acting roller shutter doors which open and then close immediately after entering, discharge their waste and then drive out of the building activating rapid open/close door, down a ramp and proceed to the south of the transfer station towards the outgoing weighbridge, exiting the site onto Quarry Road.

Waste offloaded on the tipping floor will be consolidated and transferred into transfer vehicles by a wheel loader which will load the material into transfer vehicles in the load-out tunnel. Waste deemed recoverable will be sorted by a floor sorting process, with mobile plant (eg. hydraulic excavator/s and skip bins for recyclable metals etc.). The excavator will also be used to redistribute waste material in the loaded vehicles and to provide some compaction by packing waste down within the load out truck.

All received waste will then be transported off-site to an appropriately licensed waste management facility. Only waste compliant with the current EPL Number 4865 will be disposed of at the adjoining Cleanaway Erskine Park Landfill.

Site Capacity

The WTS will be able to accommodate a nominal daily volume of approximately 1,040 tonnes of waste per day, with an overall design capacity of 300,000 tpa. Although this represents the maximum annual throughput capacity of the plant, the facility is not expected to reach this throughput for a number of years.

Operating Hours

The Development Consent for the WTS allows the facility to operate 24 hours a day, seven days a week, however the majority of truck movements to and from the site will be typically between 7:00 am and 5:00 pm, under normal operation.

Waste Types

The majority of the material received is expected to be waste from commercial and residential waste collection trucks, stationary compactor (packer) hooklift loads and side-loader collections (e.g. 240 litre (L) mobile garbage bin collections from commercial and residential premises).

3.2 Potential Sources of Odour Emissions

Odour emissions from the site can occur during both normal and abnormal conditions. Under normal conditions, there are various stages of the process that have potential for odours to arise. These include:

- receipt and unloading of waste inside the WTS;
- temporary storage of waste material within the WTS; and
- handling of waste material within the WTS.

All putrescible waste has the potential to generate odours as the material breaks down over time; as such controls will be in place to prevent or minimise odours.

Without active management, odours would be allowed to build up within the WTS building and would be emitted in a fugitive manner through the door openings resulting in an unmanaged impact upon the local community. **Section 5** outlines the controls that are to be put in place to prevent such impacts from occurring.

4. Odour Performance Criteria

The Technical Framework Assessment and Management of Odour from Stationary Sources in NSW (NSW DEC, 2006) requires the application of odour performance goals to be designed to take into account the range in sensitivities to odours within the community, and provide additional protection for individuals with a heightened response to odours.

This approach is implemented by adjusting the relevant odour concentration goal on a scale (from 7 OU to 2 OU) depending upon the size of the population being (potentially) exposed. In Metropolitan Sydney, the NSW EPA has adopted to use the most stringent end of that scale (2 OU) universally when assessing odour near to urbanised areas.

In terms of compliance, the compliance specification is to achieve the standard of odour control demanded by the NSW guidance which is to achieve no unacceptable offensive odour impacts in the community. In terms of an impact assessment criterion, this is expressed as the impacts not to exceed 2 odour units (OU) as the 99th percentile of 1-hour predictions (expressed as a 1-second nose response time). In this OMP, this is called the ‘compliance standard’.

In simple terms, the odour concentration of 2 OU is to be achieved for 99 percent of the year. As impact assessment modelling is performed at a 1-hour time resolution, this would equate to achieving the compliance standard for $(99/100 \times 8,760 \text{ hours})$ 8,672 hours per year, and for 88 hours of the year, the plant would not need to achieve the 2 OU criterion.

The NSW standard of 2OU as the 99th percentile has been developed to allow for unforeseen events, such as process malfunction, extreme weather or other factors that make practical odour management more problematic.

Supplementary to the compliance standard, which represents the standard that needs to be achieved to satisfy the requirements of the POEO Act and the relevant NSW guidance, Cleanaway has imposed a more stringent standard on the odour design for the WTS of 2 OU as the 100th percentile of 1-hour predictions (expressed as a 1-second nose response time). This criterion is to be applied at the boundary of the Erskine Park Industrial Precinct.

In simple terms, this design standard does not allow for any hours of operation that exceed the compliance standard. The objective of the design standard is to not give rise to odour at concentrations that would potentially lead to odour complaints (ie, above the 2 OU criterion) for any period of time.

Given the sensitivity of the receiving community to offensive odour, this OMP has been developed with the aim of achieving compliance with the ‘design standard’ during the operation of the WTS, including during emergencies and adverse weather conditions. Control measures put in place for achieving compliance with the design standard are detailed in **Section 5**. **Section 7** details contingency measures adopted to maintain compliance with the design standard in case of adverse offensive odour events and emergencies.

5. Physical and Operational Odour Controls

5.1 Physical Controls and Site Features

Whilst a number of potential odour sources have been identified (**Section 3.2**); they are all contained within the building and the air from the building will be extracted through the Odour Management System.

The proposed Odour Management System offers multiple levels of control that facilitate an integrated solution for emission control:

- **Containment:** containment of odour within the building fabric using fast acting doors and an air extraction system. The fan rate will be set to achieve the proposed extraction rate, although this may be varied to fit operational circumstances.
- **Maximum plume dispersion:** the use of dilution fans to maximise the dispersion and dilution of the extracted air.
- **Emission control:** the operation of a treatment system (wet scrubber) when required.

Scenarios and contingency responses are set out in **Table 3 in Section 7**.

Containment

The principal method for the control of emissions from the Waste Transfer Station is containment. The building is designed to operate under negative pressure, which is recognised as a key method to minimise fugitive emissions (i.e. building leakage). Negative pressure will be achieved through the installation of fast-acting doors on the waste delivery doorways located on the eastern façade of the building and on the waste export doorways which are located on the lower level of the southern part of the building, as well as an extraction system at, or near, the internal ceiling height.

The fast acting doors will be operated by proximity sensors or pressure pads and will operate in the ‘closed’ position unless triggered by an approaching vehicle.

A continuous carbon monoxide (CO) monitoring system will be installed inside the WTS building in accordance with Australian Standards and Workcover requirements to monitor CO concentrations. The ventilation system air flow rate will be maintained to ensure that CO concentrations do not exceed occupational exposure criteria due to vehicle exhaust emissions within the building.

Maximum Plume Dispersion

The air in the building will be extracted by a legged extraction system installed in the internal roof space of the building equipped with variable speed fans which can be adjusted to achieve the required air extraction rate within the building. The air extraction rate during periods of normal operation will be three air changes per hour.

The extracted air will either:

- be exhausted to atmosphere via high plume dispersion stacks on the roof of building (if additional odour treatment is not required); or
- directed to the odour treatment system (wet scrubber) if the air needs to be treated prior to discharge via the dilution stacks on the roof of building.

High plume dispersion stacks are designed to offer enhanced emission control through the entrainment of additional air from the surrounding environment, so that dilution, mixing and discharge velocity are maximised. Three stacks will be installed during construction, with two being in operation as “duty” units and the third

available as redundant “standby” for backup. Design provision has been made for an additional dispersion stack to be installed in the future, if required.

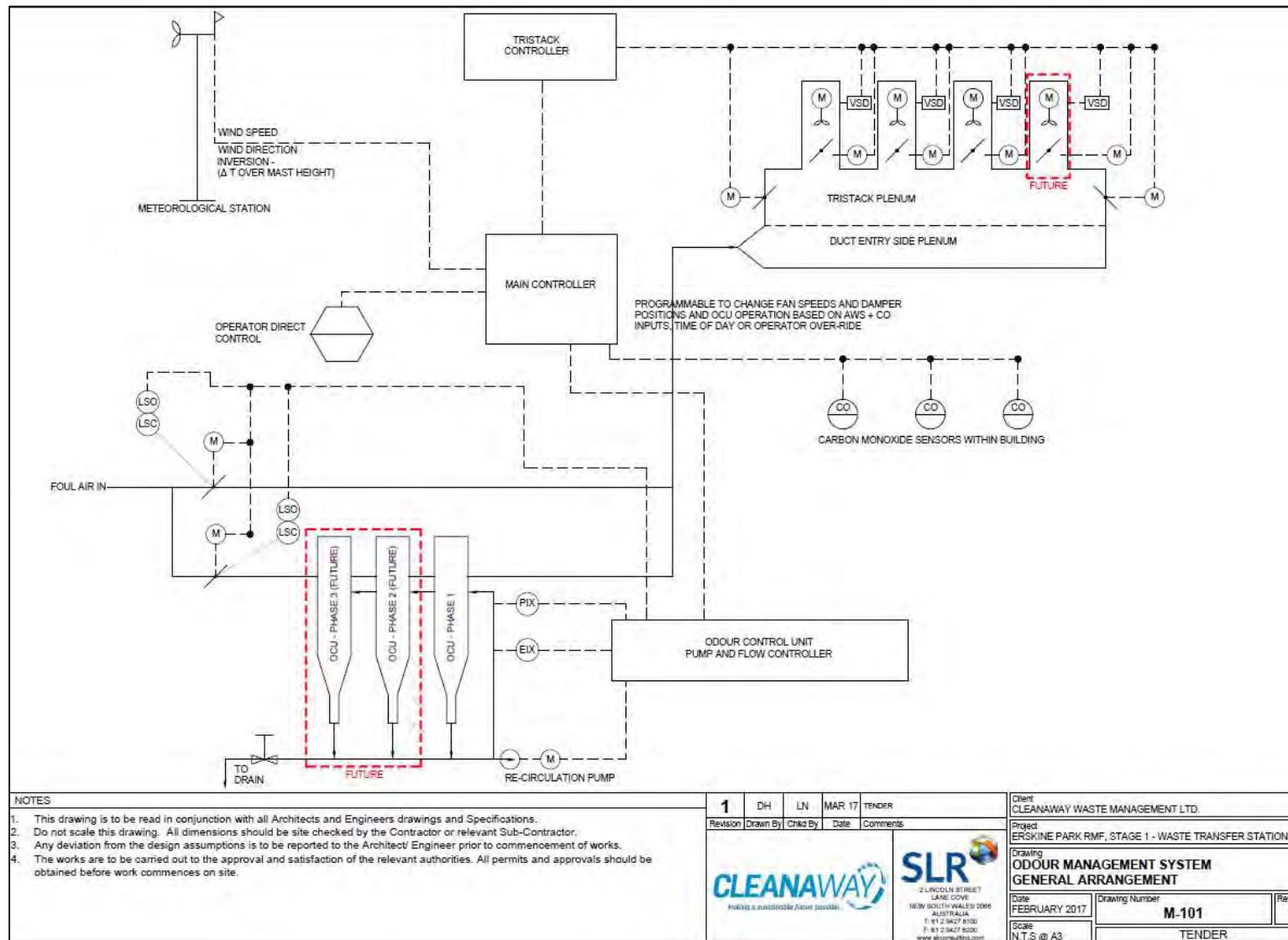
Odour Treatment

The odour treatment solution adopted is a wet scrubber system located externally to the northern façade of the building which will be installed in phases, as required, depending on the operating throughput of the WTS and effectiveness of the integrated Odour Management System. One scrubber will be installed during construction of the WTS with an air flowrate capacity of $15 \text{ m}^3/\text{s}$. Provision has been made in the design for up to two more units ($15 \text{ m}^3/\text{s}$ each) to be installed in the future, if required. After passing through the odour treatment system, the scrubbed air will be ducted to roof height for discharge through the high plume dispersion stacks located on the roof of the building.

As indicated above, the building ventilation system is designed so that the treatment system (scrubber) can come online when required as determined by the monitoring and verification process (see **Section 6.1**). (e.g. emissions may be discharged via a bypass of the scrubber when treatment is not required). Atmospheric dispersion modelling predictions of odour emissions from the Project Site (SLR 2015) indicate that the plant does not require any supplementary air pollution control to achieve the standards required under NSW legislation, neither does it require this until the plant is operating in excess of 90% of design throughput capacity. At a throughput of 90% or greater, an abatement efficiency of 40% or greater would achieve compliance with the design standard.

A schematic diagram of the OMS is provided in **Figure 8**. The detailed operation and maintenance procedures for the OMS are provided in the relevant Operation & Maintenance Manuals.

Figure 8 Odour Management System – General Arrangement Diagram



Weather Station

In addition to the OMS, a weather station will be installed on-site in order to record local meteorology conditions. The parameters recorded by the weather station include:

- Rainfall;
- Wind speed (10 m);
- Wind direction (10 m);
- Temperature;
- Relative humidity; and
- Solar radiation.

This will assist in identification of adverse weather conditions and will be a fully integrated system whereby the weather station communicates with the OMS. This will allow additional levels of control, so that the system can be optimised to suit prevailing weather conditions. In addition, the observational data will be logged and stored in a database for use in:

- Complaints investigations; and
- Any air dispersion modelling studies that are required to be performed for the WTS in the future.

5.2 Operational Controls

The following operational controls will be implemented at the site to control odours.

Control Type	Issue	Control Measure
Housekeeping	Spillage	<ul style="list-style-type: none"> • All waste handling operations will take place within the WTS building. • The waste will be transported on and off-site in appropriate vehicles. • Plant walkways will be cleaned daily. • Sweeping will be undertaken regularly with particular focus on high use areas such as the weighbridge and waste reception areas • Roadways will be inspected regularly and cleaned as required. • All vehicles carrying loads will arrive and depart with covers in place to prevent fugitive emissions and littering. • Vehicles carrying loads will be visually inspected prior to leaving the WTS building, to ensure that any debris is not transferred out of the WTS building onto public roads.
	Cleaning	<ul style="list-style-type: none"> • Good housekeeping will be maintained, to include the cleaning down of all areas within the building including floors and bay walls to ensure the removal of any residues or debris and reduce the potential for odour. • Where possible, it is anticipated that the WTS will be cleared of putrescible waste on a daily basis. • The internal areas have been designed so as to reduce the amount of inaccessible areas for cleaning, and the push walls will be sealed and flashed to prevent waste accumulation behind them. • Flashing is to be installed at top of push wall to prevent waste overtopping into void between push wall and building envelope. • All drainage systems on site will be regularly maintained to ensure they are free of detritus.
Operational	Waste acceptance/rejection	<ul style="list-style-type: none"> • Delegated staff will ensure that capacity is available on-site before accepting waste. • Loads will not be accepted unless they are weighed, sufficient storage capacity exists and there are no existing issues compromising the effectiveness of odour management systems on site.

Control Type	Issue	Control Measure
		<ul style="list-style-type: none"> • All waste types will be subject to visual inspection upon arrival and where a waste load is not in line with accepted waste types under the environmental licence, or is deemed too odorous, it will be transferred and removed from site as quickly as possible to prevent further degradation and minimise potential generation of odour. • A note of the load rejection will be made in the site diary and a load rejection form will be completed, with a copy of this form kept on site. • Any sources of waste which persistently do not meet acceptance requirements will require remedial action to be taken.
	Storage times	<ul style="list-style-type: none"> • A second inspection of material will take place within the WTS building of the WTS. • Any waste discharged within the WTS which is found to be excessively malodorous by the WTS operatives will be 'quarantined' and arrangements made for it to be immediately removed from site. Information regarding such loads will be recorded within the site diary. • In all other cases, all putrescible waste will be removed within 48 hours of receipt on site. • Given the low odour potential, the non-putrescible dry recyclate waste fraction may be stored on site for longer. • Waste material will be moved in a regular and consistent manner and the site will generally operate a first in and first out (FI-FO) policy on putrescible waste streams ensuring that offensively odorous waste is removed from site as quickly as possible to prevent further degradation and minimise potential generation of odour.
	Fugitive emissions from doorways	<ul style="list-style-type: none"> • All personnel access and fire doors will be kept shut except in case of fire. • The fast-acting doors on the waste delivery/export doorways are to be operated in accordance with manufacturer's specifications and not deactivated to be held in an open position unless the secondary containment door is closed. • A programme of regular inspection (every quarter or as agreed with the door manufacturer) and maintenance is in place for the roller shutter doors and their opening/closing mechanism. • Maintenance required on doors will be undertaken as quickly as possible.
Wastewater		<ul style="list-style-type: none"> • Leachate (liquor from putrescible waste), will be collected in the onsite drainage system.
Staff Training	Internal training	<ul style="list-style-type: none"> • In addition to general environmental awareness training, specific training will be provided to relevant staff, which will include: <ul style="list-style-type: none"> • The regulatory requirements associated with the EPL; • Potential environmental impacts which may be caused by the plant under their control during normal and abnormal circumstances; • Prevention of accidental emissions and actions to be taken when accidental emissions occur; and • Procedures for compliant handling, investigation, resolution and reporting back to the complainant and EPA. • All employees will be instructed to remain vigilant to and report any unusual odour around the plant, yard or vehicles immediately to the site manager.

6. Odour Monitoring Procedures

6.1 Commissioning Tests

A rigorous monitoring and verification process will be performed within the first 6 months of operations, when waste tonnages at the plant are well below design capacity, to:

- perform efficiency trials on the Odour Management System;
- verify predicted odour concentrations; and
- refine odour management measures included in this OMP.

Commissioning tests will be carried out by an accredited laboratory in accordance with AS4323.3: 2001 and the NSW Department of Environment and Climate Change (DEC) *Approved Methods for the Sampling and Analysis of Air Pollutants in NSW* dated December 2006.

6.2 Ongoing OMS Monitoring

Cleanaway will also undertake follow-up monitoring on the OMS during the operational lifetime of the WTS, on a basis to be agreed with the relevant authorities. This OMP will be updated once details of the monitoring program have been finalised.

6.3 Daily Site Inspections

Daily site inspections will be undertaken in order to identify and mitigate offensive odours from the WTS before the odours can lead to exceedances of the adopted criteria. These will be undertaken by trained operational staff, with verified odour sensitivity who will typically be personnel not normally exposed to the interior of the WTS building.

The daily site inspections will involve a walk-over of the WTS site, including the perimeter fenceline, along an agreed route (to be confirmed prior to commissioning) that coincides with some of the specific observation points shown in **Figure 7**.

The following information will be noted on a field sheet during each daily site inspection:

- The time and date of the inspection;
- The weather conditions at the time of the inspection;
- Any unusual activities occurring on site with potential for offensive odour generation;
- The status of the treatment system (ie, scrubber on/off);
- Any odours observed, including the character, location and strength; and
- Any sources of the odours identified during the walk over (eg, parked trucks, bin areas).

The findings of the daily walk overs will be reviewed after three months from commissioning to assess whether the frequency of the inspections should be changed to weekly etc.

In addition to the daily self-inspections, all employees will be reminded on a regular basis to report any perceived offensive external smells around the plant immediately to the delegated staff.

Any offensive odours identified through the daily inspections that are confirmed to originate from the site will be mitigated in accordance with this OMP.

6.4 Monthly Odour Surveys

Initially, monthly odour surveys will be undertaken to confirm the site is operating in compliance with the adopted criteria. These surveys will be undertaken by an independent contractor.

The objectives of the monthly odour surveys will be to:

- Provide observational data to understand the odour impacts of the WTS operations as well as other odour sources within the Erskine Park Industrial Precinct and the surrounding area; and
- Provide data that can be assessed against the baseline assessment performed as part of the AQIA for the WTS to identify if there has been an increase or decrease in offensive odour over time.

To provide data that can be related to the baseline odour surveys performed as part of the AQIA, as depicted in **Figure 7**.

The results of the monthly odour surveys will be reviewed after three months from commissioning to assess whether the frequency of the surveys should be changed to quarterly or other frequency.

6.5 Proactive Engagement

As outlined in **Section 4**, a ‘design standard’ beyond the required ‘compliance standard’ has been adopted for the facility. This design standard of 2 OU as the 100th percentile of 1-hour predictions does not allow for any hours of operation that exceed the compliance standard. The objective of the design standard is to not give rise to odour at concentrations above the 2 OU criterion at any time in any area beyond the boundary of the Erskine Park Industrial Precinct.

The identification of conditions under which low level but detectable offensive odours are emitted from the WTS could assist in identifying potential future problems at an early stage. To do this, WTS management will develop a relationship with adjacent sites within the Erskine Park Industrial Precinct so that neighbours are encouraged to report any offensive odours they observe coming from the WTS.

6.6 Investigations of Detected Offensive Odour

In the event that an offensive odour is detected through self-inspections or reported through proactive engagement, immediate investigation will take place. Such investigations would also be undertaken in response to any complaints that may be received.

As part of odour investigations, the characteristic of the offensive odour detected, together with prevailing wind conditions at the time of detection will be used to confirm the possibility of the offensive odour originating from the WTS. If the reported offensive odour character and prevailing wind conditions suggest that the offensive odour may originate from the WTS, the following checks will be made:

- Check site for spillages;
- Check the WTS floor for any highly odorous waste;
- Check building/shutter door integrity;
- Check ducts for leaks;
- Check air extraction system;
- Check odour treatment system operational parameters; and
- Check Odour Management System control parameters.

If any issues are identified through the checks outlined above, immediate remedial action will be taken in accordance with Section 7 of this OMP.

If off-site odours are reported to the site after the incident occurred, the waste acceptance logs will also be reviewed to identify if any potentially highly odorous loads were accepted on the day of the incident (or the day prior), in addition to the checks listed above.

If no issues are identified through the checks outlined above and it is confirmed through analysis of on-site wind data that the odours have most likely originated from the plant, further investigations will be performed to identify if the following operational modifications to the OMS should be implemented:

- Increasing the high plume dispersion stack fan speeds;
- Operation of the “redundant standby” high plume dispersion stack;
- Modification of the trigger points for switching on the treatment system (scrubber/s).

If these measures do not resolve the issue, further investigations will be performed to identify if any structural modifications to the OMS are required. Examples may include:

- Installation of a third “duty” high plume dispersion stack;
- Expansion of treatment capacity via installation of a second scrubber (OCU Phase 2, See **Figure 8**);
- Expansion of treatment capacity via installation of a third scrubber (OCU Phase 3, See **Figure 8**).

In the interim, the receipt of waste materials will be temporarily limited to levels that will not lead to exceedances of the design standard beyond the boundary of the Erskine Park Industrial Precinct until the issue is resolved.

6.7 *Complaints*

A company representative shall respond as soon as possible after any complaints are received so that effective appraisal of the complaint can be carried out by subjective assessment. This assessment will include travel to the location of the complaint in order to verify source of odour and will be carried out in accordance with Cleanaway’s complaints handling procedures outlined in the Environmental Management Plan (EMP).

7. Incidents and Contingency Measures

Cleanaway has designed redundant capacity in the odour control system so that any unexpected increase in odour emissions can be managed. However, incidents that might adversely affect the control of odour at the plant have been considered. Measures have been put in place to reduce the likelihood of an incident occurring, minimise any impacts if an incident were to occur, and recover control of the process as quickly as possible. This plan considers those events which could lead to circumstances under which satisfactory odour control cannot be achieved through the measures outlined in this plan and can cause an exceedance to the adopted design criterion (**Section 4**) and short term impact on the residential receptors (**Section 2.3**).

Table 3 presents identified events which have the potential to lead to adverse odour emissions from the plant, together with contingency measures for each identified event.

In preparing this plan, the following have been considered:

- Investigation and substantiation of odour complaints in accordance with **Section 6.6** of this OMP;
- Possible process or control failures or abnormal situations which could lead to an increased level of offensive odour emissions;
- Potential outcomes of different failure scenarios;
- The actions to be taken to mitigate the effect of odour release; and
- Contingency plan to mitigate the effects of offensive odour release should initial actions taken to mitigate the effect of offensive odour release fail.

In assessing possible risks of odour release, four main types of failure have been considered:

- Those with the potential to affect the process and hence generation of offensive odour;
- Those which affect the ability to abate offensive odour release;
- Those which affect the ability to contain odour; and
- Those affecting dispersion between the release point and sensitive receptors.

Table 3 Abnormal Events and Contingency Measures

Event	Prevention Measures	Trigger Point	Contingency 1	Contingency 2
Breakdown of waste handling equipment <i>Front end loaders, excavators and waste sorting equipment will be used for sorting of received waste and loading onto trucks</i>	<ul style="list-style-type: none"> • Appropriate selection of mobile equipment with waste handling specification • Routine monitoring and maintenance of all equipment • Not overloading equipment • Maintain critical spares • Minimise storage of waste on site • Roller shutter doors normally closed in order to contain odours inside WTS building 	<ul style="list-style-type: none"> • Report of breakdown • Detection of offensive odours at industrial precinct boundary 	<ul style="list-style-type: none"> • Movement of waste on the WTS floor will be minimised • Review building ventilation rates and adjust if necessary • Backup (mobile equipment) hired in 	<ul style="list-style-type: none"> • All elements of OMS activated • Receipt of waste material temporarily halted, if a backup machine is not available to continue load-out of waste
Breakdown of roller shutter doors <i>Fast acting doors operated by proximity sensors or pressure pads will operate in the 'closed' position unless triggered by an approaching vehicle.</i>	<ul style="list-style-type: none"> • Routine monitoring and maintenance of doors • Negative pressure ventilation system • Maintain critical spares • Minimise storage of waste on site • Secondary containment doors installed in WTS to be closed in event of fast acting door failure. 	<ul style="list-style-type: none"> • Report of breakdown • Detection of offensive odours at industrial precinct boundary 	<ul style="list-style-type: none"> • Secondary steel roller shutter door/s closed in affected door openings • Fast acting door affected by breakdown closed manually if possible in order to contain odours inside WTS building • Trucks delivering waste to the WTS directed to only use fast acting door entrances that are still in operation. 	<ul style="list-style-type: none"> • Review building ventilation rates • All elements of OMS activated • All waste material transported off-site • Receipt of waste material temporarily halted
Breakdown of dispersion fan system <i>Dispersion stacks are designed to offer substantially enhanced emission control through the entrainment of additional dilution air from the surrounding environment, so that the odour is diluted and mixed at the point of discharge and the emission velocity is enhanced.</i>	<ul style="list-style-type: none"> • Routine monitoring and maintenance of dilution fan system • Maintain critical spares • Minimise storage of waste on site • Redundant standby dispersion stack installed and operable • Carbon monoxide monitoring system installed in WTS building 	<ul style="list-style-type: none"> • Report of breakdown • Detection of offensive odours at industrial precinct boundary 	<ul style="list-style-type: none"> • Commence operation of redundant standby unit • Wet scrubber system activated (if required) • Number of air changes per hour decreased to 2 	<ul style="list-style-type: none"> • Review building ventilation rates • All elements of OMS activated • All waste material transported off-site • Receipt of waste material temporarily halted

Event	Prevention Measures	Trigger Point	Contingency 1	Contingency 2
Breakdown of wet scrubber system <i>The wet scrubber system is on standby and activated during periods of high waste throughput, adverse weather conditions and/or emergency scenario.</i>	<ul style="list-style-type: none"> • Routine monitoring and maintenance of wet scrubber system; • Maintain critical spares • Minimise storage of waste on site • Redundant standby high plume dispersion stack installed and operable 	<ul style="list-style-type: none"> • Report of breakdown • Detection of odours at industrial precinct boundary 	<ul style="list-style-type: none"> • Review building ventilation rates and adjust if necessary • Dilution fan rates increased in order to assist with dilution of odorous emissions • Commence operation of redundant standby dispersion stack (if required) • Minimise waste handling and disturbance of odorous material 	<ul style="list-style-type: none"> • Number of air changes per hour decreased to 2 • Receipt of waste material temporarily limited/halted if volume of waste inside WTS building approaches quantity modelled in "emergency" scenario (1,040 tonnes on floor)
Escape of incoming waste <i>Spillage of waste on site may promote elevated levels of odour.</i>	<ul style="list-style-type: none"> • Good housekeeping • Mandatory covering of all incoming and outgoing trucks carrying loads • Staff training. 	<ul style="list-style-type: none"> • Spill • Loss of containment 	<ul style="list-style-type: none"> • Immediate removal of waste • Clean-up affected area 	
Breakdown of air extraction system <i>The ventilation rate within the waste reception hall during periods of normal operation will be three air changes per hour</i>	<ul style="list-style-type: none"> • Routine monitoring and maintenance of extraction system; • Maintain critical spares; • Minimise storage of waste on site. 	<ul style="list-style-type: none"> • Detection of odours at industrial precinct boundary 	<ul style="list-style-type: none"> • Roller shutter doors closed in order to contain odours inside the WTS building. • Receipt of waste material temporarily halted 	<ul style="list-style-type: none"> • All waste material transported off-site
Abnormal traffic conditions <i>To help minimise odour emissions associated with the breakdown of organic materials over longer time periods, all waste will be transported off-site within 48 hours of receipt</i>	<ul style="list-style-type: none"> • Outside the control of the operator • Emergency scenario modelled • Integrated Odour Management System includes treatment step (wet scrubber) • Carbon monoxide monitoring system installed in WTS building for occupational exposure management 	<ul style="list-style-type: none"> • Waste cannot be transferred from the WTS (eg. temporary closure of approved transport route) 	<ul style="list-style-type: none"> • Review building ventilation rates and adjust if necessary • All levels of odour control system (i.e. wet scrubber, as well as dilution fans) activated. 	<ul style="list-style-type: none"> • The number of air changes per hour decreased to 2, • Operations within the WTS building may continue at reduced air changes, with CO monitoring system driving minimum air extraction rate. • Receipt of waste material temporarily halted once the capacity of the WTS building is reached.
Power outage <i>Ventilation, wet scrubber, dilution fan and rapid acting roller shutter door systems are dependent on electricity.</i>	<ul style="list-style-type: none"> • Outside the control of the operator 	<ul style="list-style-type: none"> • Emergency shutdown, including odour control system 	<ul style="list-style-type: none"> • Roller shutter doors manually closed in order to contain odours inside WTS building. • Receipt of waste material temporarily halted when capacity of WTS building 	<ul style="list-style-type: none"> • Backup generator procured to keep odour control system operational • Operations resume under temporary power supply if all air handling systems operational

Event	Prevention Measures	Trigger Point	Contingency 1	Contingency 2
Abnormal meteorological conditions <i>Abnormal meteorological conditions may promote elevated levels of odour.</i>	<ul style="list-style-type: none"> • Outside the control of the operator 	<ul style="list-style-type: none"> • Forecast of extreme winds and gales which can potentially overcome negative air pressure of WTS building 	<ul style="list-style-type: none"> reached (per emergency scenario) <ul style="list-style-type: none"> • Review building ventilation rates and adjust if necessary • Ventilation rate increased, all doors shut as best as possible • Wet scrubber system automatically activated 	<ul style="list-style-type: none"> • If Contingency 1 measures ineffective, receipt of waste material temporarily limited/halted
	<ul style="list-style-type: none"> • Outside the control of the operator 	<ul style="list-style-type: none"> • Forecast of meteorological conditions which modelling has shown could lead to poor dispersion of emissions and exceedances of the criterion at sensitive receptors if emission not treated. 	<ul style="list-style-type: none"> • Review building ventilation rates and adjust if necessary • All elements of Odour Management System (i.e. wet scrubber, as well as dilution fans) activated. • Wet scrubber system automatically activated 	<ul style="list-style-type: none"> • If Contingency 1 measures ineffective, receipt of waste material temporarily limited/halted

End of Document

8. Odour Audit

In order to address Condition B12 (Odour Audit) of the Development Consent, Cleanaway will engage a suitably qualified expert to complete an odour audit within 6 months of operation. The odour audit will be carried out when large amounts of putrescible waste are present on the Site and will be timed to coincide with the receipt of putrescible waste.

Condition B12 of the Development Consent states that *the audit must:*

- a) *be carried out by a suitably qualified and experienced expert whose appointment has been endorsed by the Secretary;*
- b) *audit the Development whilst it is in full operation;*
- c) *include a summary of air and odour emission related complaints and any actions that were carried out to address the complaints;*
- d) *validate the Development against the odour predictions in the RTS;*
- e) *if, as part of the Odour Audit, or as the result of any other odour monitoring, the odour predictions are demonstrated to be inaccurate, initiate an action plan as per B12 (h);*
- f) *if odour complaints are received, the Applicant must review the meteorological data for the Site and the region to establish the likelihood that the source of the odour originated from the Site. If it is likely that the odour originated from the site it must be reported in accordance with condition C6;*
- g) *review design and management practices of the Development against industry best practice for air emissions and odour management; and*
- h) *include an action plan that identifies and prioritises additional air and odour emission mitigation measures that may be necessary to reduce air and odour emissions.*

Appendix A Qualifications

This OMP has been prepared by Kirsten Lawrence of SLR Consulting Australia Pty Ltd on behalf of Cleanaway.

Kirsten Lawrence

Kirsten is a process engineer with over twenty years of experience as an environmental consultant specialising in air quality. During this time she has worked for a wide range of clients, including industry and government, in both Australia and New Zealand. Her particular expertise is in the assessment of the environmental effects of air discharges, emission inventories, atmospheric dispersion modelling and air monitoring.

Kirsten has been responsible for managing large-scale environmental projects for blue-chip clients. She has completed major projects for waste management facilities, CSG developments, power stations, oil refineries, open cut and underground coal and metalliferous mines, and chemical manufacturing plants. She is experienced in the use of air dispersion models such as TAPM, CALPUFF, AERMOD and the dense gas model SLAB and has assessed air quality impacts from emissions of odour, particulate matter, criteria pollutants and air toxics. She is also experienced in the compilation of greenhouse gas emission inventories, and preparation of greenhouse gas assessments.

In addition to her technical skills and her in-depth understanding of environmental policies, Kirsten is also highly regarded for her project management and communication skills and is experienced in giving presentations to stakeholders, including both regulatory authorities and local community members.



13 April 2017

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Secretary
Department of Planning and Environment
320 Pitt Street
Sydney NSW 2001

Attention: Carolyn McNally

Dear Carolyn

**Erskine Park Waste Transfer Station Odour Management Plan – Endorsement
of Suitably Qualified and Experienced Persons**

To satisfy Schedule C, Part B, Condition B10 of Development Consent SSD-7075, Cleanaway Pty Ltd (Cleanaway) must prepare and submit an Odour Management Plan to the Department of Planning and Environment (DPE) prior to undertaking construction activities associated with the Stage 1 Erskine Park Waste Transfer Station (WTS) Project.

The Plan must be prepared by suitably qualified and experienced person/s whose appointment has been endorsed by the Secretary. To satisfy this requirement, Cleanaway are seeking the endorsement of SLR Consulting Australia Pty Ltd (SLR) to prepare the Odour Management Plan.

SLR is a leading international environmental consultancy with a reputation for providing expert, tailored services. SLR has extensive experience in the preparation of environmental management plans for infrastructure projects in New South Wales (NSW). Please find below details of SLR project staff and capabilities relevant to the project for consideration by the Secretary.

Kirsten Lawrence – Air Quality Technical Discipline Manager

Kirsten is a Technical Discipline Manager of SLR's air quality team and has over 20 years-experience as an environmental consultant specialising in air quality. Kirsten has extensive experience in the waste management and infrastructure sector, including project management, assessment of air quality and greenhouse gas impacts, compilation of greenhouse gas emission inventories, and preparation of odour management plans. Kirsten also has experience in use of air dispersion models and experience in government and stakeholder consultation.

Her experience includes the preparation and delivery of various air quality impact assessments for built infrastructure and waste management projects; Odour Management Plans. Clients include Cleanaway, Orica, CSG, Santos and Caltex.

Kirsten has significant experience in the waste management sector and the preparation of odour management plans. Kirsten is very familiar with the Erskine Park Project having worked on air quality and greenhouse gas assessments for Stage 1 of the development.

Kirsten will be the primary author of the Odour Management Plan.

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Tracey Ball – Associate Consultant

Tracey is an Associate Consultant with SLR's Environmental Management, Planning and Approvals (EMPA) team and has over 12 years' experience in various environmental consulting roles. Tracey has significant experience in the infrastructure and waste management sector, including project management, environmental impact assessments and post-consent management plans. Tracey also has experience in government and stakeholder consultation, sub-consultant engagement and management, environmental management planning and environmental risk assessments.

Relevant infrastructure and waste management project experience includes the preparation and delivery of various environmental impact assessments for built infrastructure and waste management projects; Construction Environmental Management Plans and Environmental Management Plans. Clients include Cleanaway, Doray, Nakheel Developments, Tamouh Investments and Department of Health.

Tracey also has significant experience in built infrastructure projects and the preparation of environmental management plans.

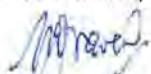
Tracey will review the Odour Management Plan and will be undertaking day-to-day project management.

Personal resumes for Kirsten Lawrence and Tracey Ball are available upon request.

We trust that our experienced and qualified consultants meet the Secretary's approval and we look forward to a favourable response at your earliest convenience.

If you would like any additional information or you would like to discuss this matter further, please do not hesitate to contact myself on (07) 3866 8948 or Martin.Gravett@cleanaway.com.au.

Yours faithfully



Martin Gravett
Project Manager - Resource Recovery & Post Collection | Major Programs

Appendix F - Stormwater Maintenance and Operations Plan

STORMWATER MAINTENANCE AND OPERATIONS PLAN

Erskine Park Transfer Station – Stage 1

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Introduction

Purpose

This Stormwater Maintenance and Operations Plan (SMOP) forms part of the Operational Environmental Management Plan (OEMP) for the Erskine Park Stage 1 Waste Transfer Station (WTS) development. The purpose of the SMOP is to outline operational procedures and maintenance requirements for the stormwater system to ensure that it operates as intended to prevent adverse impacts on the surrounding water quality and prevent pollution of the downslope environment. This document is applicable to employees, contractors and all personnel associated with the operation of the WTS.

Regulatory Framework

The following legislation, regulations, statutory requirements, guidelines and strategies are applicable to the management of stormwater during the operational phase of the WTS:

- ANZECC Marine and Freshwater Quality Guidelines (2000);
- Managing Urban Stormwater: Soils & Construction (NSW Government, 2004);
- National Water Quality Management Strategy, Department of Environment, Australian Government, 1992;
- NSW State Rivers and Estuaries Policy, NSW Government 1993;
- Penrith City Council's Stormwater Drainage for Building Developments (Working Draft);
- Penrith City Council, 2013, Water Sensitive Urban Design (WSUD) Policy, December 2013;
- Penrith City Council, 2014, WSUD Technical Guidelines, Version 2, July 2014;
- Protection of Environment Operations Act (POEO Act, 1997);
- State Water Management Outcomes Plan (WM Act, 2000);
- Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No. 2 – 1997);
- Water Management Act 2000; and
- Water Sharing Plan for the Greater Metropolitan Region Unregulated River Water Sources 2011.

These requirements are to be adhered to and complied with during the operation of the WTS.

Licencing

There are currently no licenced discharge points within the Development site under the existing Environment Protection Licence (EPL) 20986 which covers the WTS site.

Summary of Stormwater Management System

Stormwater is managed at the Erskine Park WTS site by collecting stormwater runoff in the stormwater drainage system and conveying it to stormwater management controls for treatment and attenuation prior to offsite discharge.

The approach to water quality and stormwater management incorporates Water Sensitive Urban Design (WSUD) principles to minimise impacts on the existing hydrologic regime. Stormwater management measures are integrated into the existing downstream drainage system and were designed to meet Penrith City Council targets for On-Site Detention (OSD) and WSUD.

Stormwater pollutants requiring treatment include:

- Gross pollutants;
- Total Suspended Solids (TSS);
- Nitrogen;
- Phosphorous;
- Heavy metals; and
- Oil and grease

Stormwater management controls are outlined in the Surface Water Assessment and include the following:

- 2 x 80kL Rainwater tanks (refer to H025 in **Appendix A**);
- 2 x Stormwater 360 Vortsentry Filtration Units (refer to C41 and 09266 – line A and B in **Appendix A**);
- OSD tank system (refer to C44 in **Appendix A**);
- Bio-retention basin including sediment forebay (refer to C41, C43 and C47 in **Appendix A**);
- Pit / pipe stormwater conveyance system including trash racks in the OSD tank system;
- Storage of hazardous materials such as the scrubber chemical in bunded areas; and
- Spill management practices in accordance with the OEMP.

Monitoring and Maintenance

Water Quality Monitoring

Runoff from the site is collected and treated within the approved stormwater treatment train, however water quality monitoring is required during discharge events in accordance with the frequency listed in **Table 1** to verify that the treatment train is working as intended.

The South Creek receiving catchment is currently regarded as one of the most seriously degraded sub-catchments in the Sydney region (DEC 2004, HNCMA 2007). Long term clearing of vegetation, increased proportions of impervious surfaces as a result of urbanisation and high pollution loads have resulted in dramatic alterations to the hydrology, geomorphology and ecology of the watercourses (HNCMA 2007). Water quality is impacted by both point and diffuse sources of pollution (Rae, 2007).

Based on this classification, a protection level of 95 per cent for freshwater ecosystems, as recommended in the ANZECC Guidelines, is considered to be conservative for toxicants. The recommended water quality monitoring program at the discharge location (downstream of the bioretention basin) is provided in **Table 1** including the ANZECC 2000 default trigger values for physical and chemical stressors for NSW east flowing lowland (<150m elevation) rivers.

Water quality data obtained as part of the water monitoring program should be compared to the default trigger values provided in Table 1. If pollutants exceed these trigger values, then an investigation should be undertaken to identify the cause of the elevated pollutants. If the majority of water quality parameters regularly exceed the default trigger values or if pollutants significantly exceed them (i.e. exceedance greater than 30%) then it is recommended that Cleanaway discuss the results with the relevant regulators to determine if any further actions pertaining to the stormwater treatment train are required.

Table 1 Stormwater Water Quality Monitoring Program

Parameter	Default Trigger Value *	Inspection Frequency	Responsibility
Chlorophyll a (Chl a) (mg/L)	0.003		
Total Phosphorous (TP) (mg/L)	0.025		
Filterable reactive phosphate (FRP) (mg/L)	0.02		
Total Nitrogen (TN) (mg/L)	0.35		
Oxides of Nitrogen (NOx) (mg/L)	0.04		
Ammonium (NH4+) (mg/L)	0.02		
Dissolved oxygen (DO) (daytime % saturation)	85% - 110%		
pH	6.5 – 8.5		
Salinity ($\mu\text{S}/\text{cm}$)	125 – 220 **		
Turbidity (NTU)	6-50 ***		
Total Suspended Solids	50mg/L		

* Default trigger values derived from the ANZECC (2000) guidelines for NSW lowland rivers (slightly disturbed ecosystems)

** NSW coastal rivers typically in the range 200-300 $\mu\text{S}/\text{cm}$

*** Values at the high end of the range would be found in rivers draining slightly disturbed catchments and in many rivers at high flows

Stormwater Treatment Train Monitoring and Maintenance Program

The performance of water management devices will decline if they are not maintained. Where controls are observed to not be functioning correctly, they will be restored to meet the required standard. All staff are responsible for reporting water issue observations.

Key maintenance tasks, responsibility, frequency of inspection and mitigation actions are outlined in **Table 2**. Monitoring of the site meteorological station is also required following rainfall events to identify when additional monitoring of the stormwater system is required in accordance with **Table 2**.

Table 2 Stormwater Structures Monitoring and Maintenance Program

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Bioretention Vegetation	<p>Check for weeds.</p> <p>Check health of plants.</p> <p>Note – the health of the plants is crucial to the treatment process.</p>	Landscape Contractor	Monthly for first 6 months and Quarterly thereafter	<p>Control weeds</p> <p>Replacement of plants as required.</p> <p>Investigate causes of significant die back / dead plants</p>
Bioretention Filter Media Surface	Inspect filter media for sediment build up, litter, erosion or scour damage.	Cleanaway	Monthly and after heavy rainfall events (>30mm in 24 hours) for first 6 months and Quarterly thereafter	<p>Removal of any litter from bioretention filter media surface. Scrape away small amounts of isolated sediment build up (if required).</p> <p>Seek advice from a suitably qualified stormwater engineer or consultant where significant erosion, scour or filter media damage is observed.</p>
Basin Inlet Forebay	<p>Inspect forebay for litter and sediment build up.</p> <p>Check depth of sediment in forebay.</p>	Cleanaway	Quarterly	<p>Remove any litter from forebay.</p> <p>Schedule removal of sediment to rock level if greater than 50% of forebay is full of sediment.</p>
Basin Inlets and Outlets	Inspect inlets and outlets for blockage and debris.	Cleanaway	Monthly and After heavy rainfall events (>30mm in 24 hours)	<p>Unblock inlets and outlets if required.</p> <p>Seek advice from a suitably qualified stormwater engineer or consultant where inlets or outlets are significantly damaged.</p>
Bioretention Underdrainage	Inspect for blockages and isolated surface ponding	Cleanaway	Quarterly	Flush underdrainage at flush points if required.
Humeceptors	Inspection in accordance with Humeceptor	Cleanaway / Contractor	Quarterly for first year. Establish appropriate	Schedule cleaning as required.

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
	inspection procedures.		frequency based on findings of first year of inspections	
	Cleaning in accordance with Humeceptor cleaning procedure	Vacuum / eductor truck contractor	Annually – subject to inspection observations	Not applicable
Atlantis Flow-Tank OSD System	Inspect for blockages and sediment build up including inlet and outlet pipes	Cleanaway	Bi-annually	Remove blockages and de-silt as required.
Pits and Pipes (including trash racks and Ecosol Litter Baskets)	Inspect for blockages and debris, or excessive build-up of sediment	Cleanaway	Quarterly for first year. Establish appropriate frequency based on findings of first year of inspections.	Remove blockages and debris as required manually or via vacuum.
Rainwater tanks	Inspect the structural integrity of the tank, blockages, sediment build up and evidence of animal access including the associated pipework, inlets / outlets, insect proofing and leaf filters	Cleanaway	Quarterly for first year and bi-annually thereafter.	Cleaning and repair of tank as required. Seek advice from a suitably qualified consultant where structural damage is observed. If significant issue is observed then the access points will be temporarily closed.
Roof gutters	Check for accumulated debris including leaf litter.	Cleanaway	Annually	Clean out of gutters.
Bunded areas	Inspect for spills and integrity of bunds	Cleanaway	Weekly	Disposal of any spilled hazardous materials in a suitable manner. Re-instate bunds as required.

Monitoring Records

The results of the water quality and stormwater structure monitoring must be recorded in a legible form (or in a form that can readily be reduced to a legible form) and must be kept for at least 4 years after the monitoring. The monitoring should also include the following details:

- The date(s) and time(s) on which the monitoring was undertaken;
- The point at which the monitoring was undertaken; and
- The name of the person who carried out the monitoring.

Roles and Responsibilities

Responsibilities

All staff must comply with this SMOP. Other responsibilities are detailed in **Table 3**.

Table 3 Responsibilities relating to Stormwater Management

Position	Responsibility
SLR	Revision of this SMOP, in consultation with Cleanaway, to the satisfaction of regulators
HSE Manager	Water quality monitoring in accordance with this SMOP Monitoring and maintenance of stormwater structures in accordance with this SMOP Required environmental monitoring reporting
Site Manager All site personnel	Undergo appropriate inductions and training Comply with the relevant Acts, Regulations and Standards. Compliance with this SMOP Promptly report to management on any non-conformances or breaches of the stormwater system.

Training

All construction staff and sub-contractors will be inducted prior to commencing work at the WTS. The induction will include an explanation of this SMOP. All personnel (company and contractors) must be inducted to the requirements of the SMOP.

Additional training (such as confined space training) may be required for maintenance of some stormwater management structures. This training should be identified and undertaken (where required) prior to any maintenance activities being undertaken.

Incident Management

General

Following a stormwater related incident the following will be undertaken:

- Investigate cause of the incident;

- Implement corrective measures prior to the recommencement of site works; and
- Complete an Incident and Corrective Action Report to ensure that appropriate causation, remediation and monitoring is developed, implemented and documented.

Where the stormwater incident has potential to cause substantial harm to human health, property and/or the environment, then it will be reported to the HSE Officer and Site Manager, immediately after becoming aware of the incident. The HSE Officer or Site Manager should report the incident to the relevant authorities as soon as practically possible. Notifications must also be made by telephoning the Environment Line service on 131 555.

Stop Work Authorisations due to water issues can be issued by the HSE Manager or Site Manager when:

- Required following an environmental incident or emergency, to prevent further risk to safety or the environment, as appropriate;
- Generated dust during operational activities cannot be adequately controlled by water or other means; and
- Any other significant breach of this SMOP, particularly that compromises safety and protection of site personnel and/or the environment.

Additional detail on reporting of notifiable incidents is provided in the OEMP.

Spill Management

If a hydrocarbon or chemical spill was to occur the source of the spill will be contained first and foremost (via available spill kits); contaminated material will be collected, stored in an appropriate container, and then removed by a licensed operator.

Storage of hazardous materials such as oils, chemicals and refuelling activities will occur in bunded areas, in accordance with the appropriate Australian Standards, and in accordance with any specific recommendations of the material supplier.

Firewater Management

Offsite firewater flows can enter the local stormwater network and impact on the water quality of downstream waterways and associated ecosystems. The leachate system includes an underfloor firewater capture pit to capture runoff from firefighting activities. This system is sized to capture a runoff of 35 L/s for a period of 30 minutes.

The fire wastewater management approach will include the following:

- Temporary (by deploying temporary bunding) to capture fire wastewater. Temporary bunding may include items such as sandbags and spill kit items which are to be readily available at the site;
- Outlets from the bio-retention sediment forebay and the Atlantis Flow-Tank OSD system (via a stop valve) should be blocked immediately to prevent discharges to the offsite stormwater network;
- Turning off the automatic pump within the underground leachate storage tank; and
- The Cleanaway Fire Response Team will use suction mechanisms to remove the firewater and dispose of it at an appropriately licenced facility.

The proposed management measures will aim to prevent discharges of potentially contaminated firewater to the local stormwater network.

Complaints Management

Cleanaway must maintain a Register of Complaints that captures and stores details of individual complaints. A record of the complaint must be legible and must include the following details:

- The date and time of the complaint;
- The method by which the complaint was made;
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- The nature of the complaint;
- The action taken by Cleanaway in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken by the licensee, the reasons why no action was taken.

Cleanaway will investigate any complaints made in relation to stormwater at the premises and rectify the issue (where applicable) as soon as is practically possible.

Cleanaway will notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

Reporting

Cleanaway will report the results of the stormwater monitoring to the EPA in the Annual Return. Additional detail on reporting of notifiable incidents is provided in the OEMP.

Document Review

This SMOP is an evolving document that will be reviewed and updated in response to changes to the WTS operations and any changes to the monitoring program (as a result of the ongoing monitoring data and any consultation with regulators).

Limitations of this report

This SMOP is intended to form part of the OEMP for the operation of the Erskine Park WTS and sets out minimum requirements. The Site Manager will need to review the appropriateness of the stormwater treatment train during the operation of the WTS and may be required to adjust measures and the monitoring/maintenance program to ensure that they are appropriate at all times to prevent harm to the environment if site conditions change over time.

References

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- Hawkesbury Nepean Catchment Management Authority (HNCMA) (2007). South Creek Sub-catchment. <http://www.hn.cma.nsw.gov.au/topics/2051.html>
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- SLR Consulting Australia Pty Ltd (SLR), 2015, *Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Concept Plan and Stage 1 Waste Transfer Station. Environmental Impact Statement*.

Cleanaway Contact Details

Please contact the below person for any clarifications.

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Operational Manager

Address: 85-87 Quarry Road, Erskine Park, NSW, 2759

Ph: 02 9834 0451

E: Alex.Hatherly@cleanaway.com.au

Document Control

Reference	Date	Prepared	Checked	Authorised
FINAL	22 June 2018	Duncan Barnes	Paul Delaney	Cleanaway

Appendix A

Stormwater Management Control Standard Drawings

REFER TO DRAWING NO.
H101 FOR INTERNAL
LAYOUT

FOR CONTINUATION REFER TO DRAWING NO. SCIP0111-H024



No.	Date	Revision	By
T1	18-11-11	I	CML
F2	28-11-11	I	CML
A1	21-12-11	I	CML
C2	24-12-11	I	CML
		CONSTRUCTION ISSUE	PML

CHANGES MADE SINCE PREVIOUS EDITION ARE LISTED ON THIS SHEET. SEE DRAWING NO. SCIP0111-H022 FOR FULL LIST OF CHANGES.

NOTES:

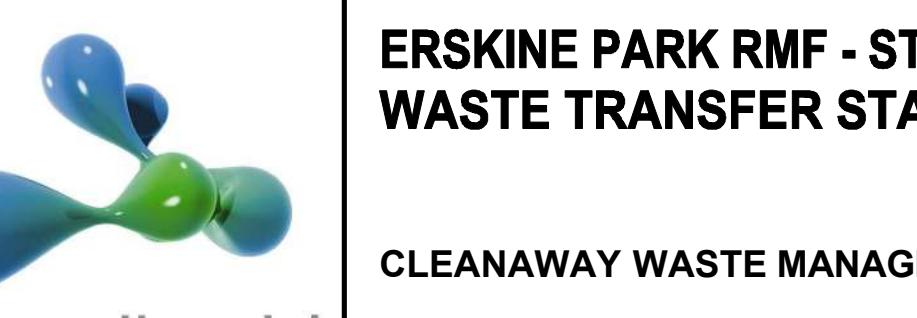
- PIPE DIAMETERS INDICATED ARE MINIMUM INTERNAL DIAMETER.
- TERMINATE ALL IN-GROUND PRESSURE SERVICES WITH ISOLATION VALVE & BLANK FLANGE WITHIN VALVE PIT.



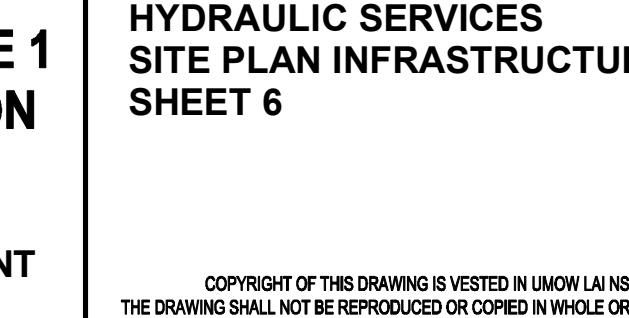
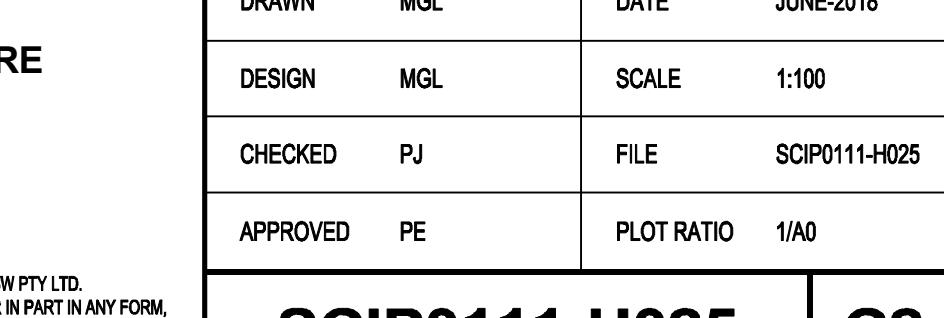
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Umow Lai

Umow Lai NSW Pty Ltd
ABN 80 143 565 324
St Leonards NSW 2065 Australia
T +61 2 9411 5111
lisy@umowlai.com.au
www.umowlai.com.auERSKINE PARK RMF - STAGE 1
WASTE TRANSFER STATION

CLEANAWAY WASTE MANAGEMENT

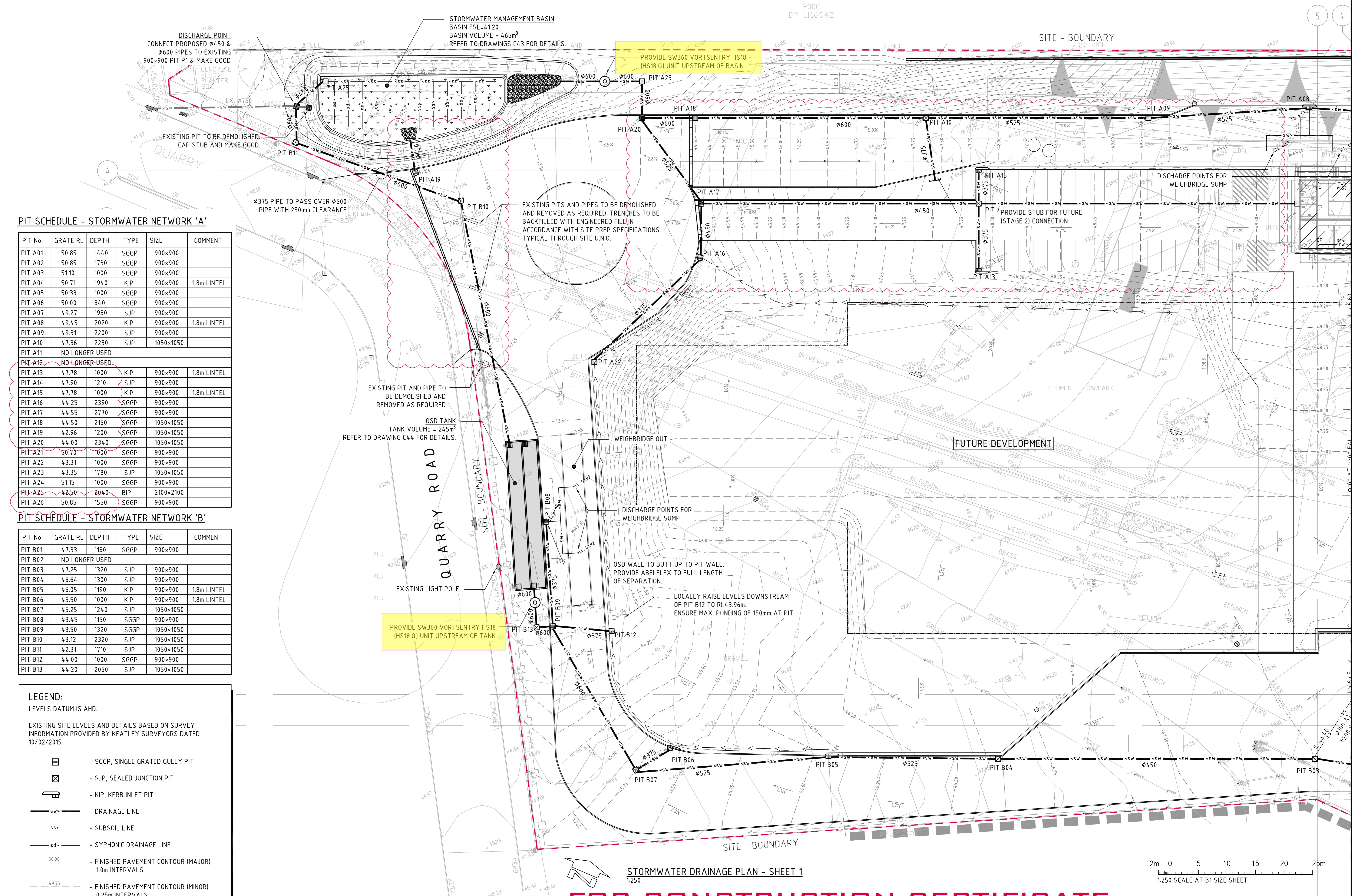
HYDRAULIC SERVICES
SITE PLAN INFRASTRUCTURE
SHEET 6DRAWN MGL DATE JUNE-2018
DESIGN MGL SCALE 1:100
CHECKED PJ FILE SCIP0111-H025
APPROVED PE PLOT RATIO 1:100

CONSTRUCTION ISSUE

C2

SCIP0111-H025

C2



REVISED AS CLOUDED	20.04.18	F
REVISED AS CLOUDED	27.02.18	E
ISSUED FOR CONSTRUCTION CERTIFICATE	24.01.18	D
REVISED AS CLOUDED	17.11.17	C
ISSUED FOR TENDER	10.11.17	B
ISSUED FOR INFORMATION	27.10.17	A
AMENDMENTS	DATE ISSUE	AMENDMENTS



ARCHITECT

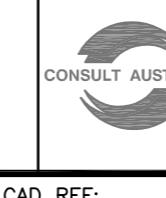
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PROJECT
PROPOSED DEVELOPMENT
CLEANAWAY MANAGEMENT FACILITY
ERSKINE PARK, NSW



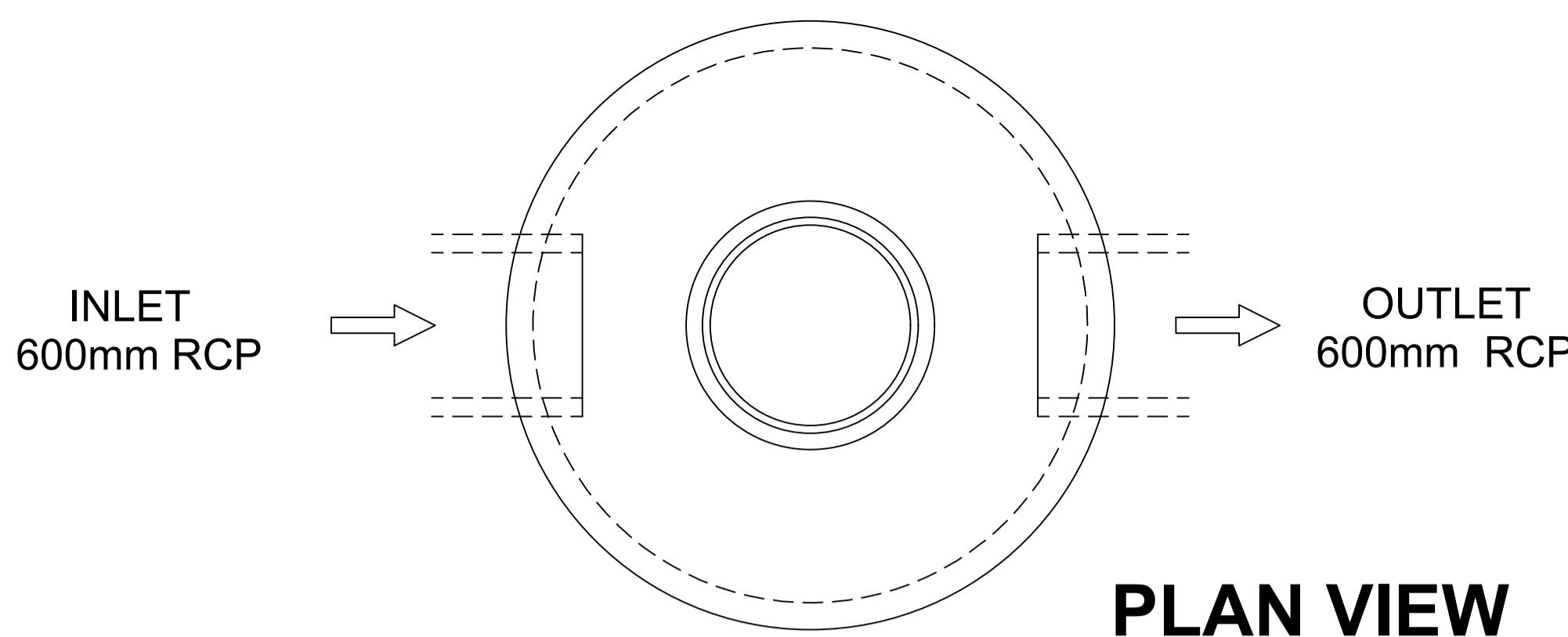
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Tel: (02) 9251-7699 Fax: (02) 9241-3731
email: mail@costinroe.com.au ©

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DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 1
DRAWING NO
C013523.00-C41
ISSUE H

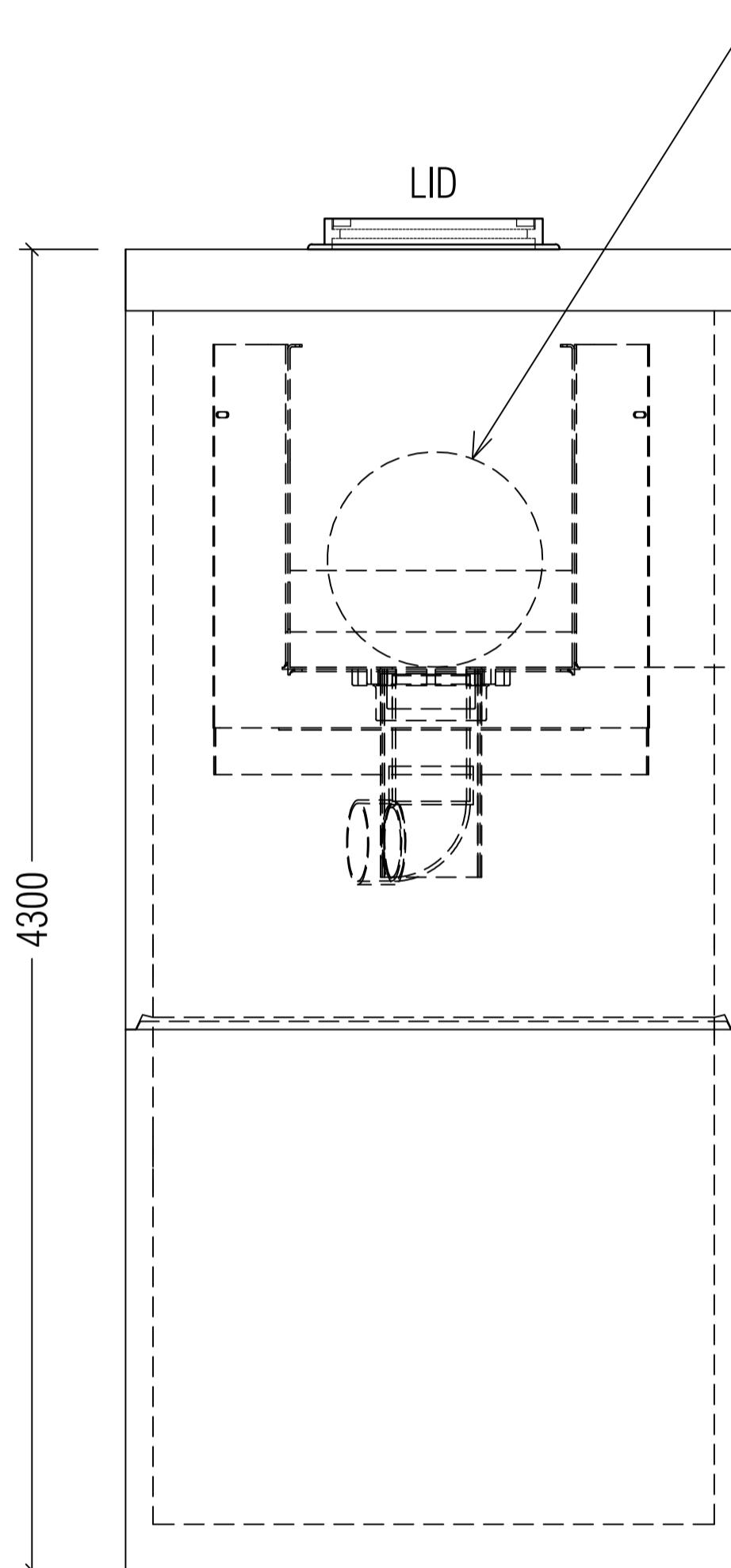
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CLASS D

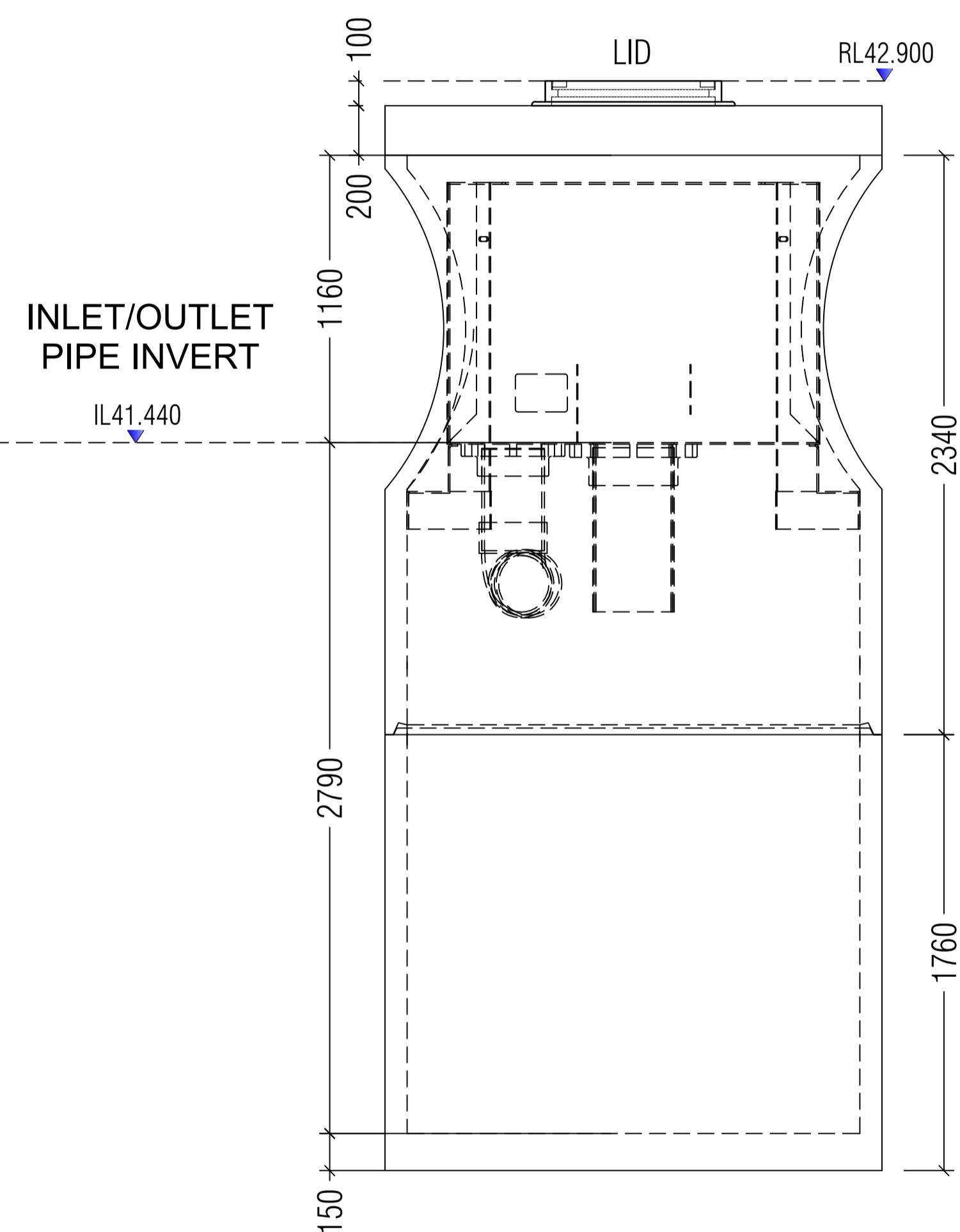


PLAN VIEW

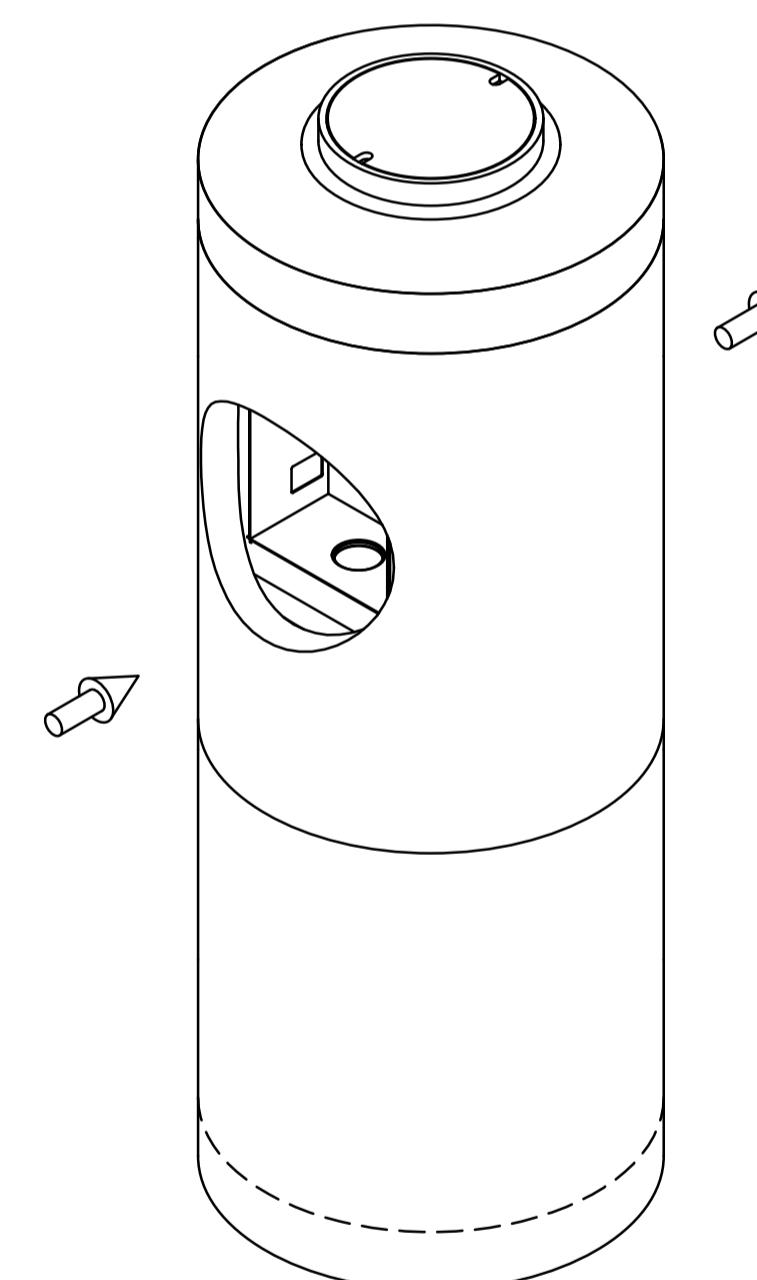
OVERSIZED OPENING FOR
INLET/OUTLET PIPES



LEFT SIDE VIEW



ELEVATION VIEW



ASSEMBLED VIEW

VORTSENTRY MODEL HS18



NOTES:

1. STORMWATER TREATMENT SYSTEM (SWTS) SHALL REMOVE 80% OF A SEDIMENT GRADATION WITH AN AVERAGE PARTICLE SIZE OF 240 MICRONS AT THE DESIGNATED TREATMENT FLOW RATE LISTED IN THE TABLE FOR EACH CORRESPONDING MODEL.
2. SWTS REMOVAL EFFICIENCY CLAIM SHALL BE CORROBORATED BY FULL SCALE LABORATORY TEST PERFORMANCE DATA.
3. SWTS MAINTENANCE RECOMMENDATIONS SHALL BE SUPPORTED BY FULL SCALE WASH-OUT TESTING.
4. SWTS SHALL PROVIDE INTERNAL BYPASS OF FLOWS THAT EXCEED THE TREATMENT FLOW RATE.
5. SWTS MAXIMUM HYDRAULIC CAPACITY MAY VARY DEPENDING UPON THE INLET PIPE DIAMETER, MATERIAL AND SLOPE.
6. SWTS INVERTS IN AND OUT SHALL BE AT THE SAME ELEVATION. INLET AND OUTLET PIPES MUST BE 180° FROM EACH OTHER.
7. MINIMUM RIM TO INVERT DISTANCE MAY BE REDUCED DEPENDING UPON ACTUAL PIPE DIAMETER. CONTACT STORMWATER360 FOR SITE SPECIFIC INFORMATION.
8. PIPE SIZE MAY BE SMALLER THAN THE MAXIMUM PIPE SHOWN ON THE TABLE; SEE SITE PLAN FOR PIPE SIZE.
9. PURCHASER SHALL NOT BE RESPONSIBLE FOR ASSEMBLY OF INTERNAL COMPONENTS
10. ACCESS FRAME AND COVER SUPPLIED WITH SYSTEM, NOT INSTALLED. SWTS MAY ALSO HAVE A GRATED INLET COVER (NOT SHOWN).
11. PURCHASER TO PREPARE EXCAVATION AND PROVIDE LIFTING EQUIPMENT.
12. VORTSENTRY HS BY STORMWATER360:
SYDNEY (AU) PHONE: (02) 8335 1888

This drawing is for the purpose of specifying stormwater treatment equipment to be furnished by Stormwater360 and may only be transferred to other documents exactly as provided by Stormwater360.

09266 - Cleanaway Erskine Park

VORTSENTRY MODEL HS18 - LINE A
STORMWATER TREATMENT SYSTEM
PRODUCT DRAWING

DRAWING

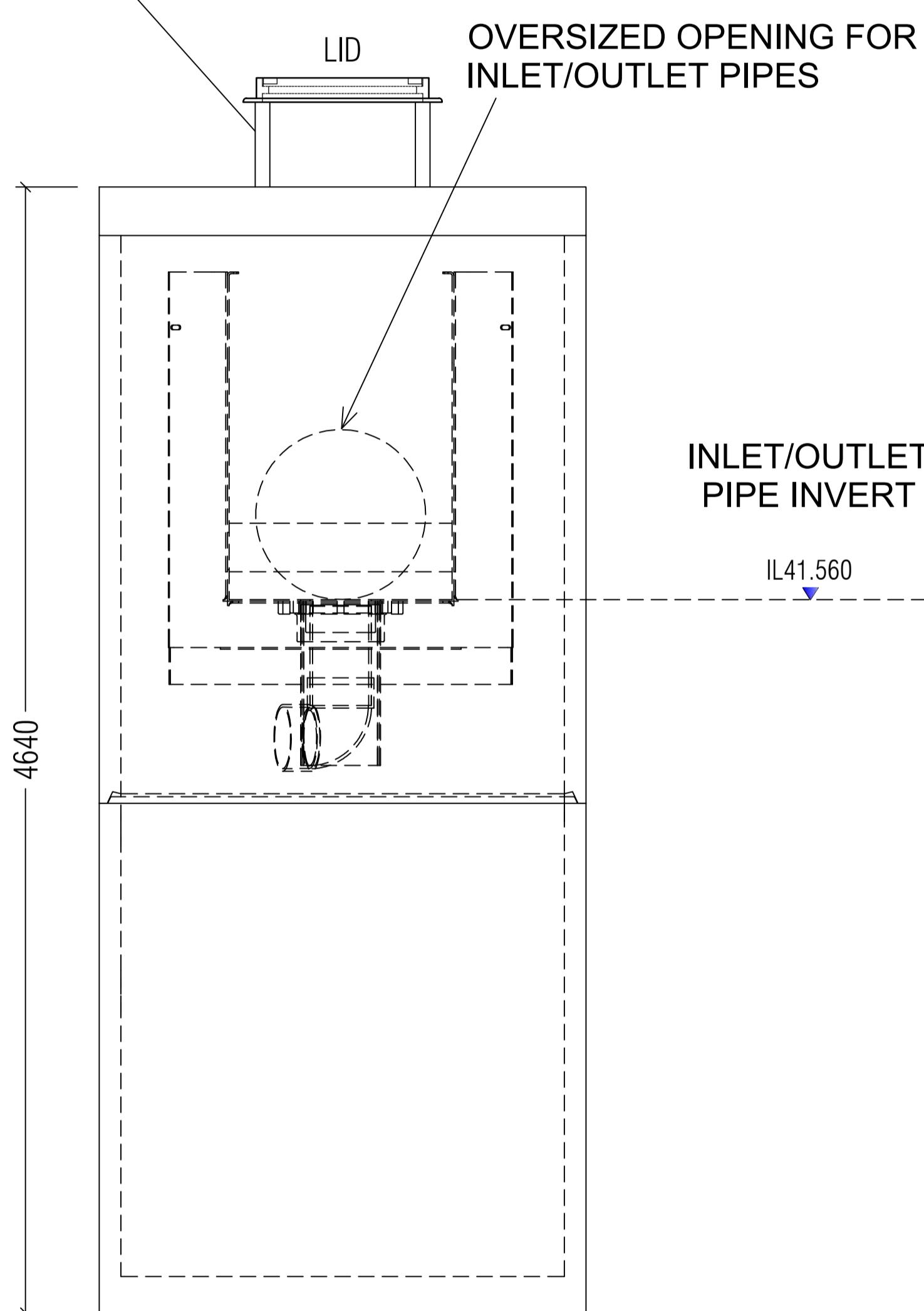
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B

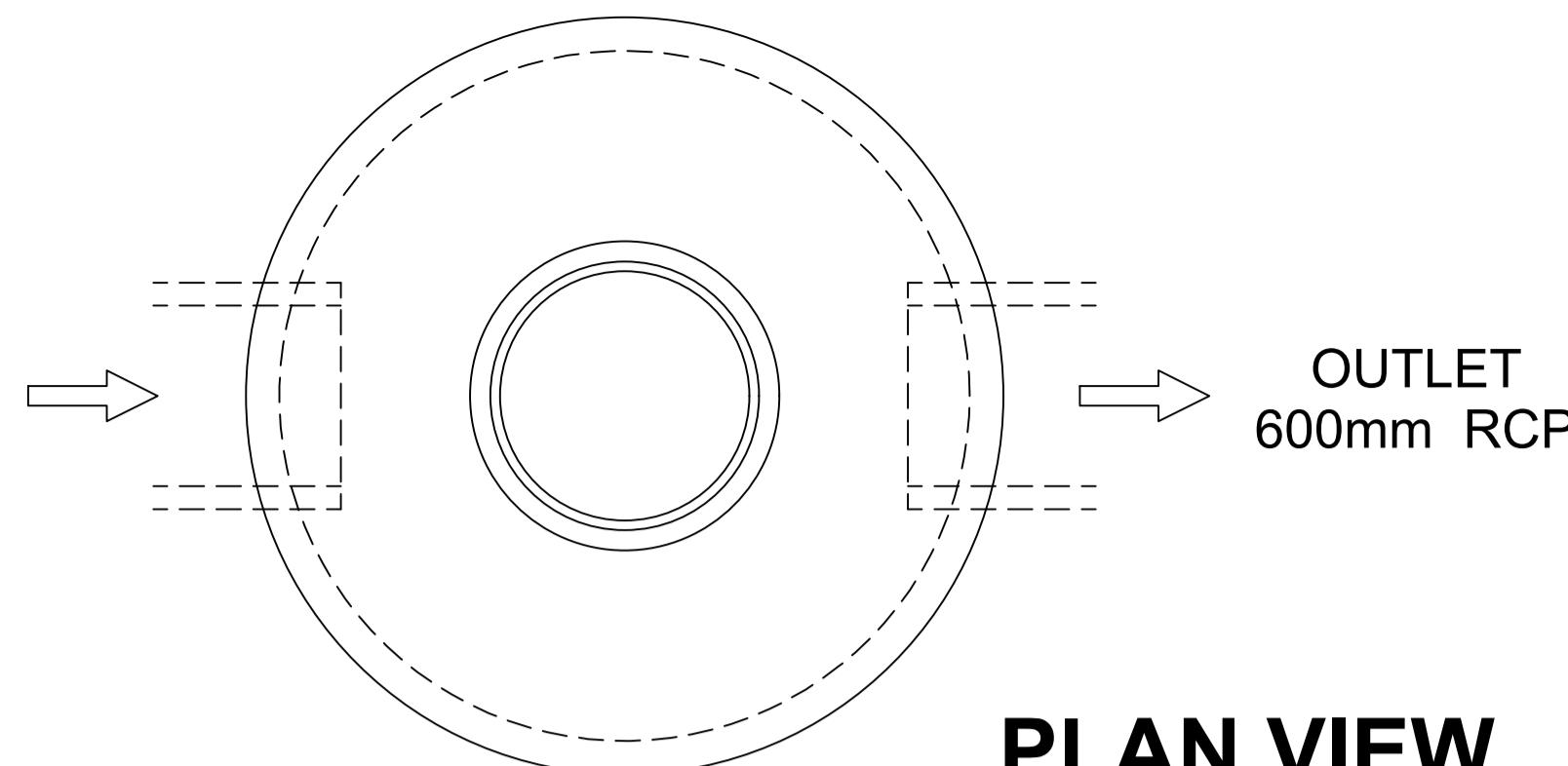
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CLASS D

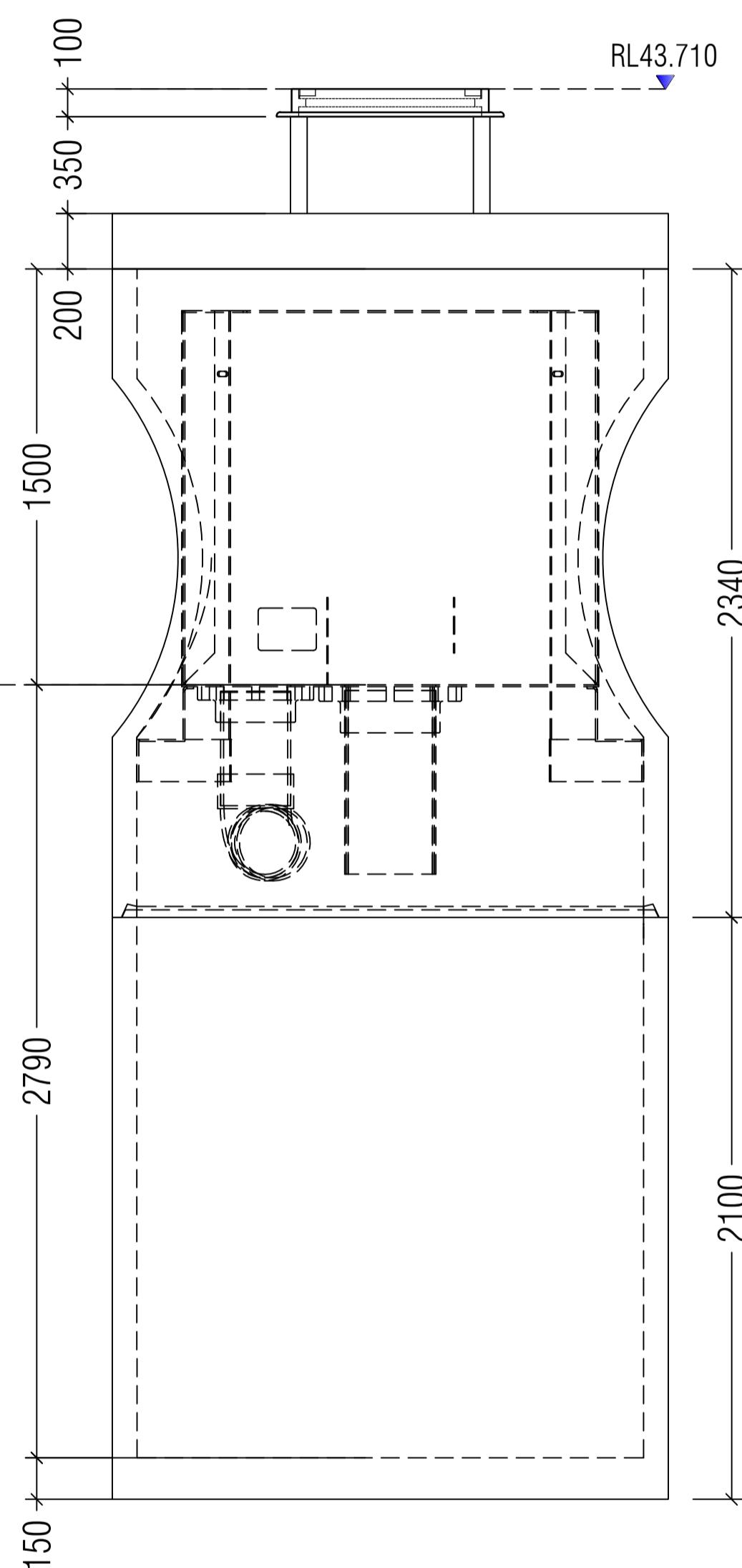
RISERS SUPPLIED BY
OTHERS ON SITE



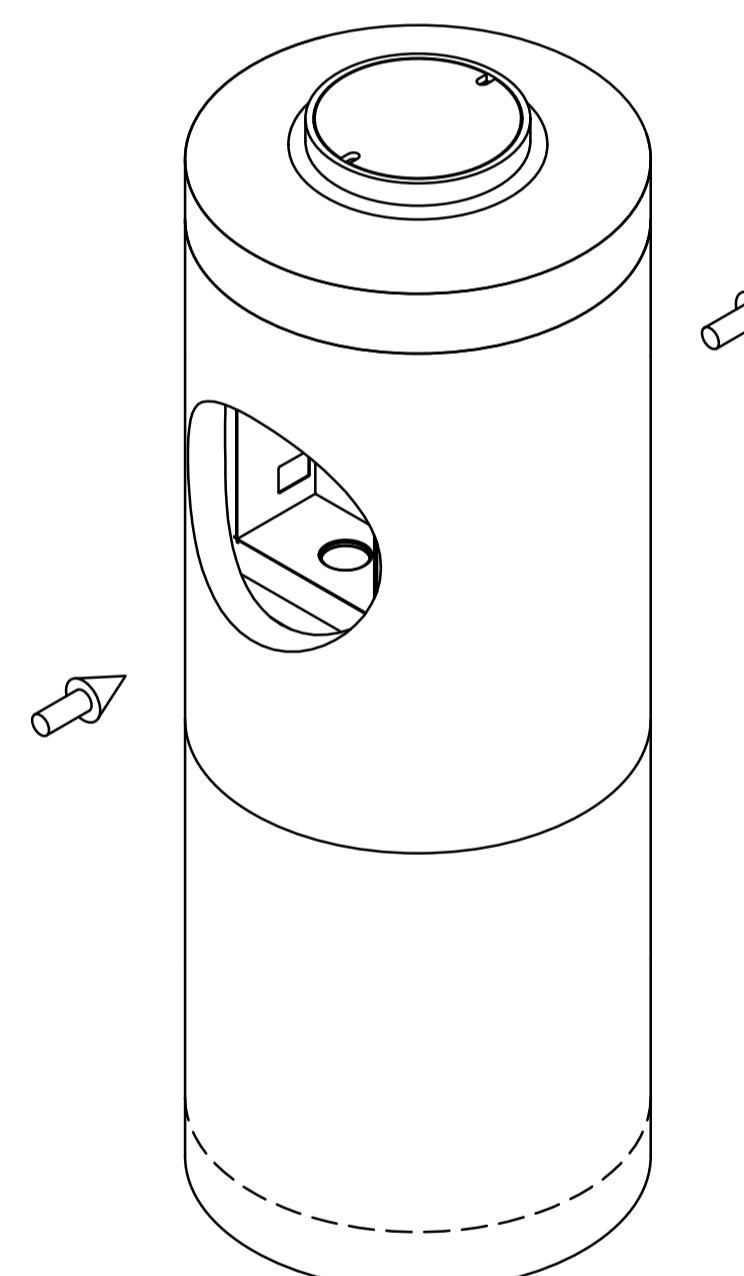
LEFT SIDE VIEW



PLAN VIEW



ELEVATION VIEW



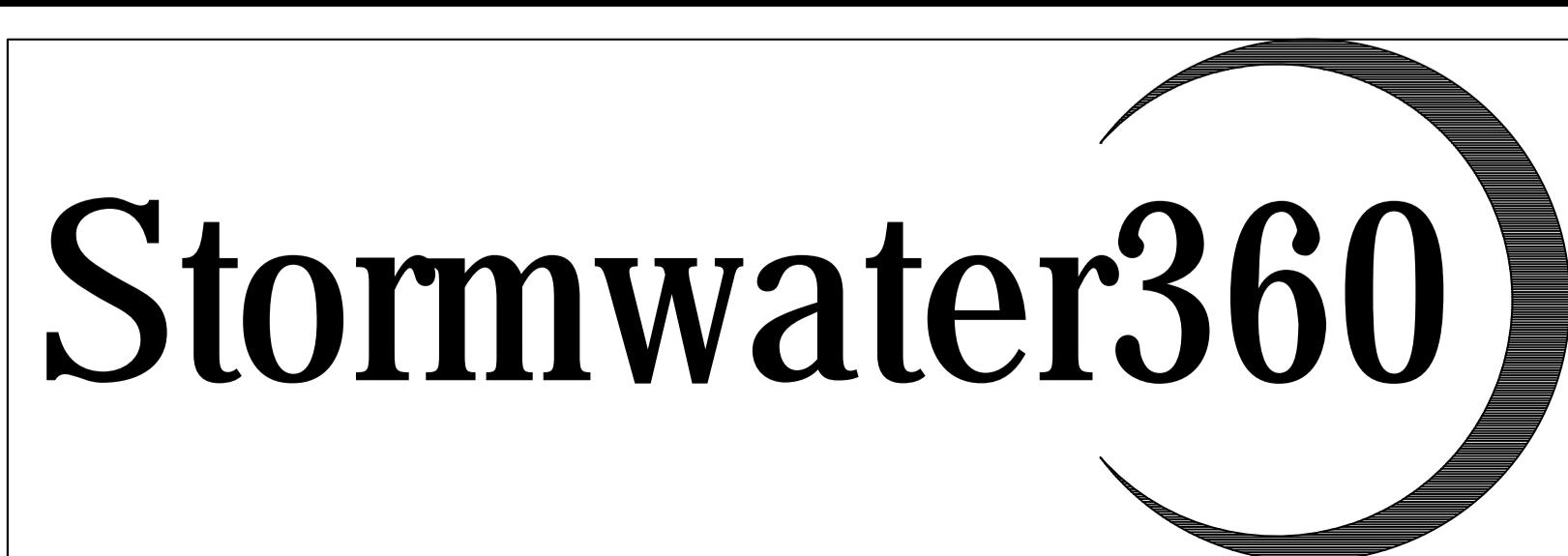
ASSEMBLED VIEW

NOTES:

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12. VORTSENTRY HS BY STORMWATER360:
SYDNEY (AU) PHONE: (02) 8335 1888

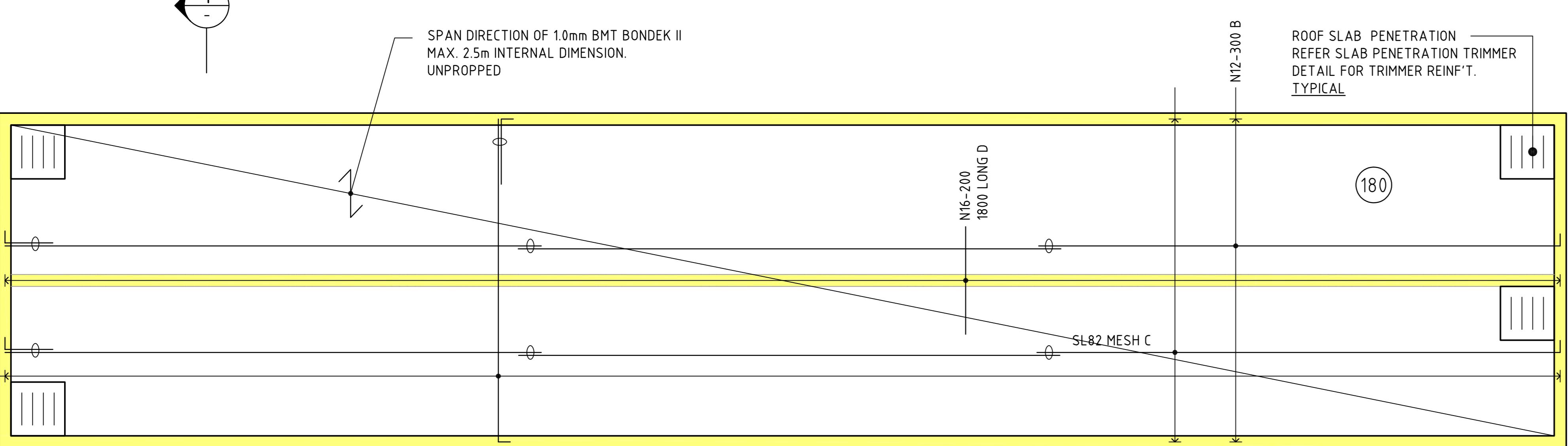
This drawing is for the purpose of specifying stormwater treatment equipment to be furnished by Stormwater360 and may only be transferred to other documents exactly as provided by Stormwater360.

VORTSENTRY MODEL HS18



09266 - Cleanaway Erskine Park
VORTSENTRY MODEL HS18 - LINE B
STORMWATER TREATMENT SYSTEM
PRODUCT DRAWING

DRAWING	1
B	CHK: W.J



ROOF SLAB BACKFILLING NOTE:
TANK ROOF SLAB TO REACH SPECIFIED CONCRETE STRENGTH PRIOR TO BACKFILLING AGAINST WALLS. CONTRACTOR TO ENSURE ROOF SLAB IS BACKFILLED FOR FIRST 300mm WITH CRUSHED SANDSTONE PLACED IN MAX 150mm LAYERS WITH LIGHT MACHINERY (i.e. PLATE COMPACTOR). THEN WITH 2-3 TONNES MACHINERY (i.e. DOUBLE DRUM ROLLER) IN NON-VIBRATION MODE TO TOP OF FILL HEIGHT. REFER TO SITE PREPARATION NOTES.

LEGEND

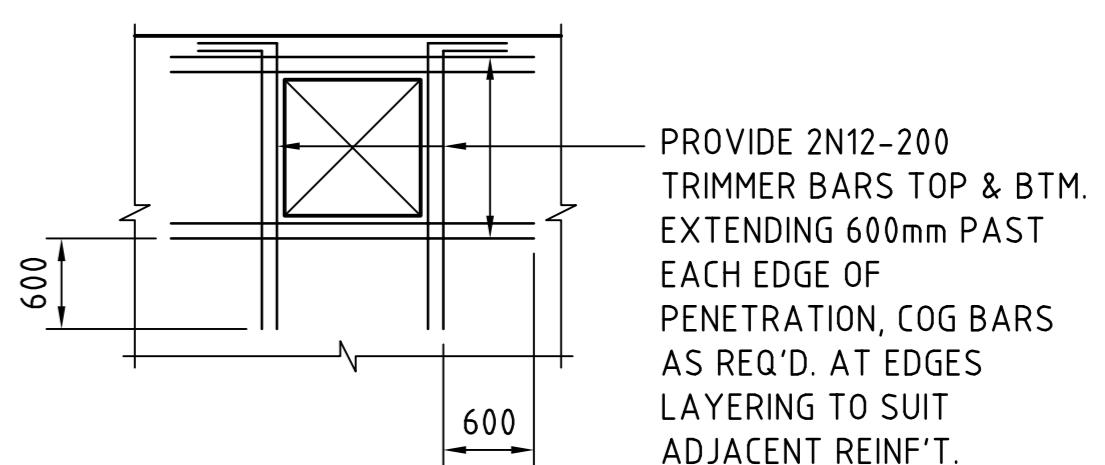
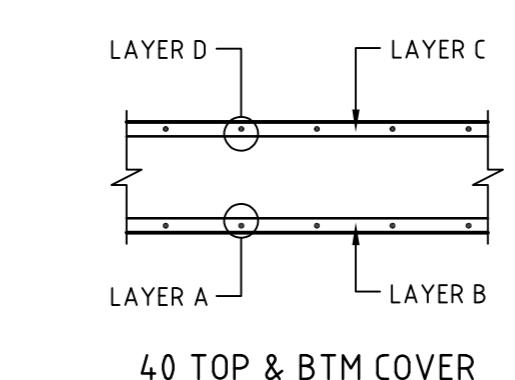
- DENOTES LOAD BEARING WALLS
- DENOTES 900SQ GRATED ACCESS

OPENINGS AND TANK SIZE TO HYDRAULIC CIVIL DETAILS
DESIGN LOADS: 5.0 kPa LIVE LOAD
TANK BASE TO BE FOUNDED ON 150 kPa STRATA

NOTE:
ATTENTION IS DRAWN TO THE FACT THAT DUE TO THE NATURE OF CONCRETE, CRACKING OF A NON-STRUCTURAL NATURE MAY OCCUR. REINFORCEMENT HAS BEEN ADDED TO THE SLABS TO MITIGATE THE EXTENT OF CRACKING, HOWEVER IT IS NOT POSSIBLE TO GUARANTEE COMPLETE ELIMINATION OF SLAB CRACKING.

ROOF SLAB REINFORCEMENT NOTE:
ROOF SLAB REINFORCEMENT IS SHOWN DIAGRAMMATICALLY AS A GENERAL ARRANGEMENT ON PLAN. NOT ALL BAR LENGTHS & CONFIGURATIONS HAVE BEEN SHOWN, BAR LENGTHS ARE TO BE ADJUSTED AS REQUIRED TO AVOID SLAB PENETRATIONS, MAINTAIN MINIMUM BAR SPACING AS NOTED AT ALL TIMES.

CONCRETE QUALITY					
ELEMENT	SLUMP	AGGREGATE (MAX SIZE)	CEMENT TYPE	ADMIXTURE	F'c (MPa)
TANK ROOF	80	20	SL	NIL	32
TANK BASE	80	20	SL	NIL	32
CORE FILL	230	10	GP	NIL	20

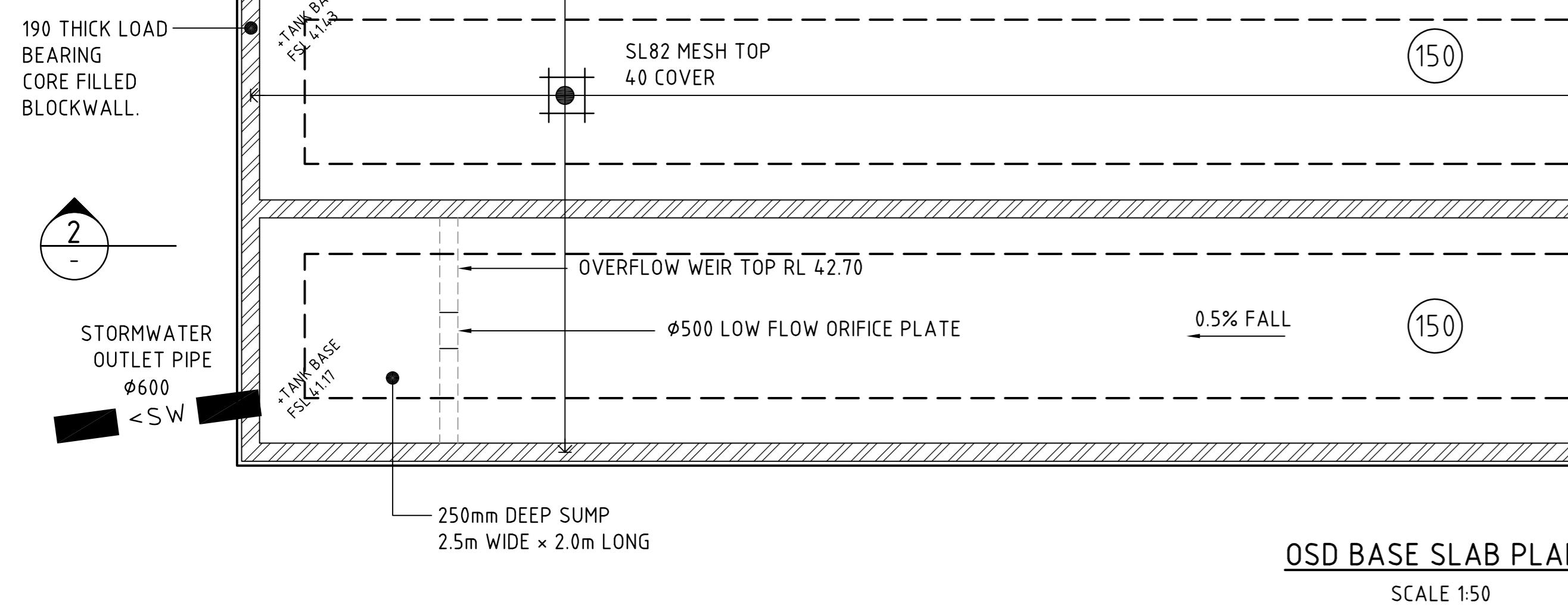


SLAB BAR LAYING SEQUENCE
SCALE 1:50

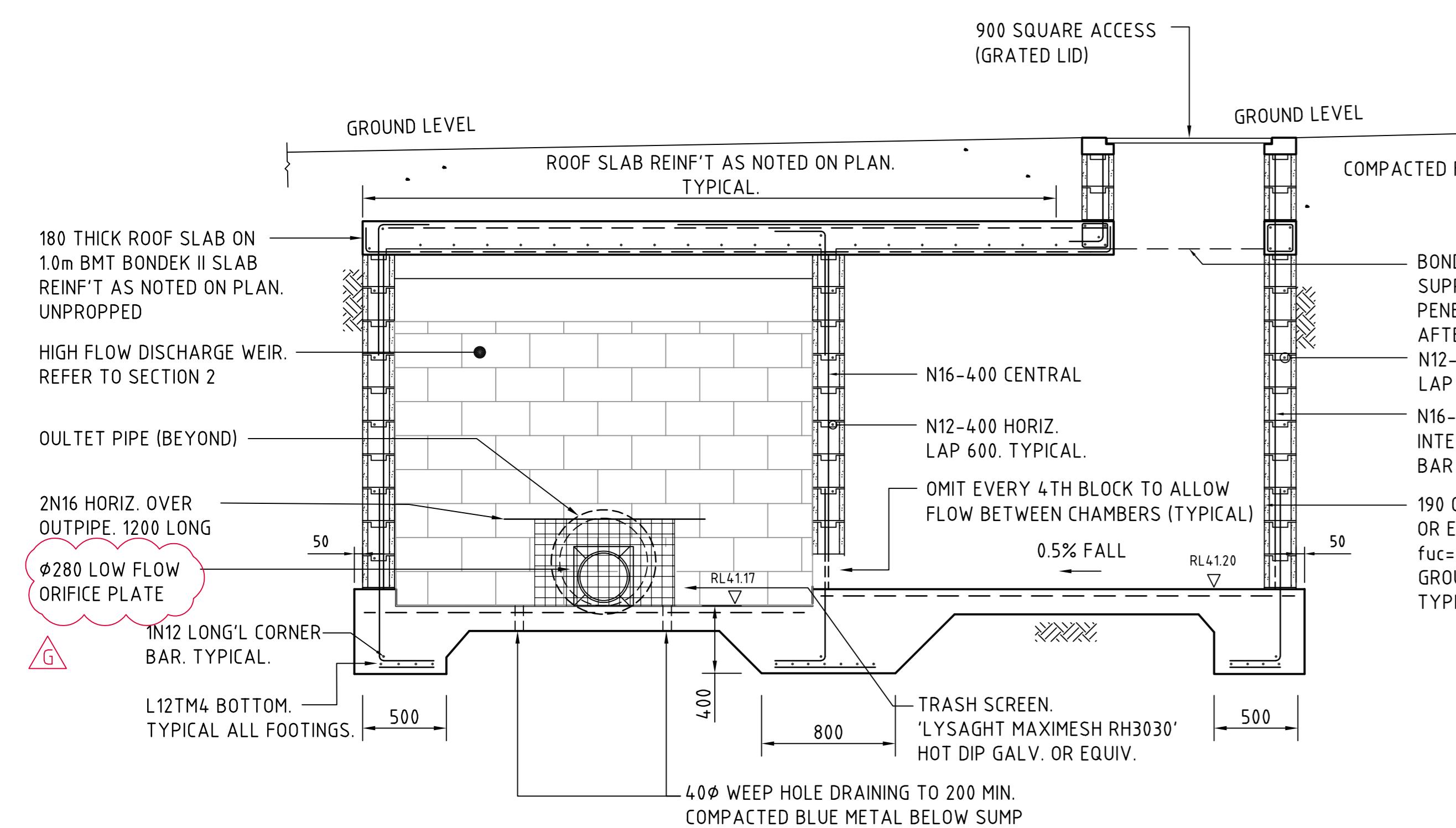
SLAB PENETRATION TRIMMER DETAIL
SCALE 1:50

OSD ROOF SLAB PLAN
SCALE 1:50

25800

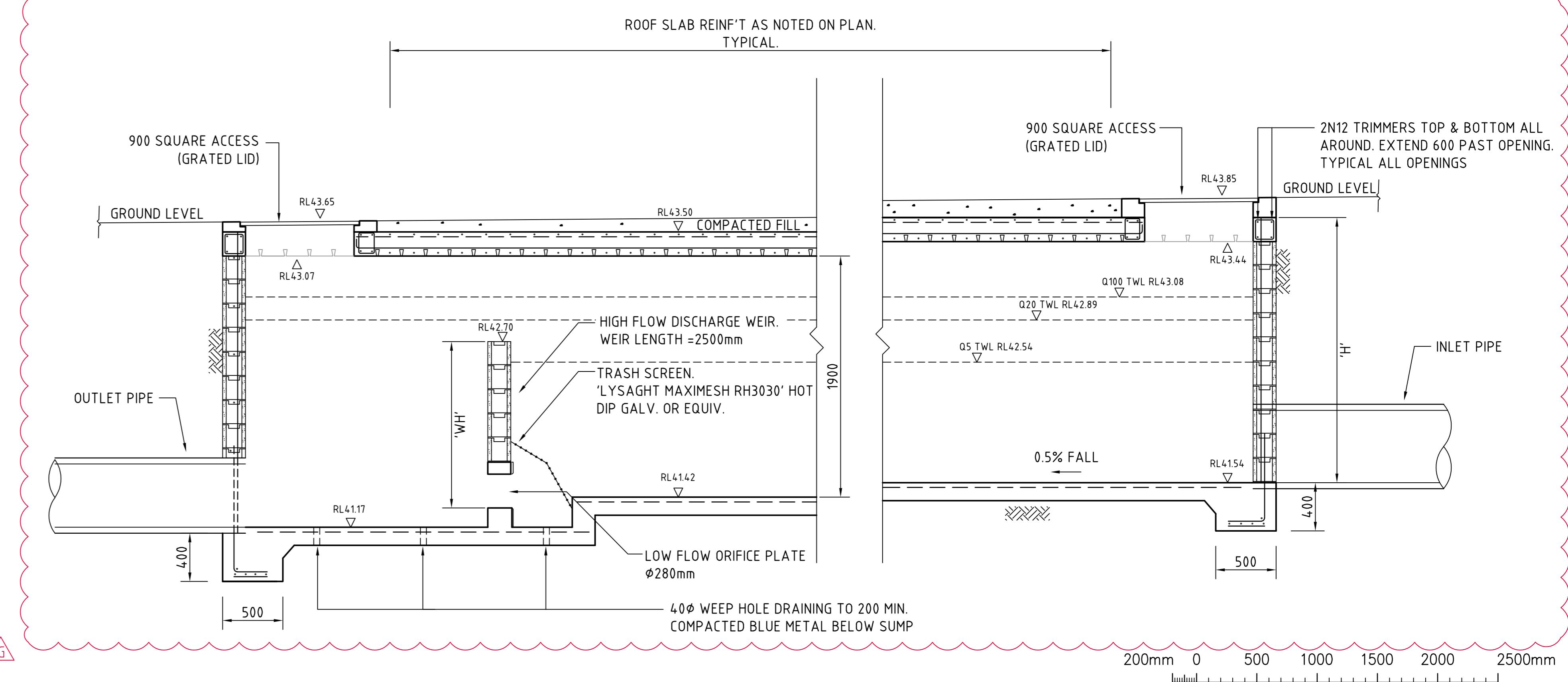


OSD BASE SLAB PLAN
SCALE 1:50



SECTION 1: TYPICAL THRU' TANK

NOTE: REFER TO DRAWINGS C41 FOR THE LOCATION OF STORMWATER DETENTION TANK.



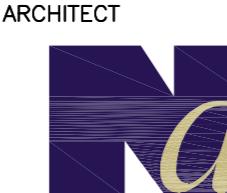
SECTION 2: TYPICAL THRU' TANK

1:25 SCALE AT B1 SIZE SHEET

500mm 0 1 2 3 4 5m
150 SCALE AT B1 SIZE SHEET

FOR CONSTRUCTION CERTIFICATE

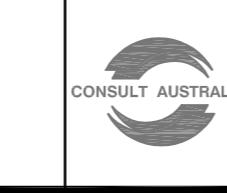
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REVISED AS CLOUDED	27.02.18	E
REVISED AS CLOUDED	15.02.18	D
REVISED AS CLOUDED	09.02.18	C
ISSUED FOR CONSTRUCTION CERTIFICATE	24.01.18	B
ISSUED FOR TENDER	10.11.17	A
AMENDMENTS	DATE	ISSUE



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Tel: (03) 9696 3822 Fax: (03) 9696 3833



PROPOSED DEVELOPMENT
CLEANAWAY MANAGEMENT FACILITY
ERSKINE PARK, NSW

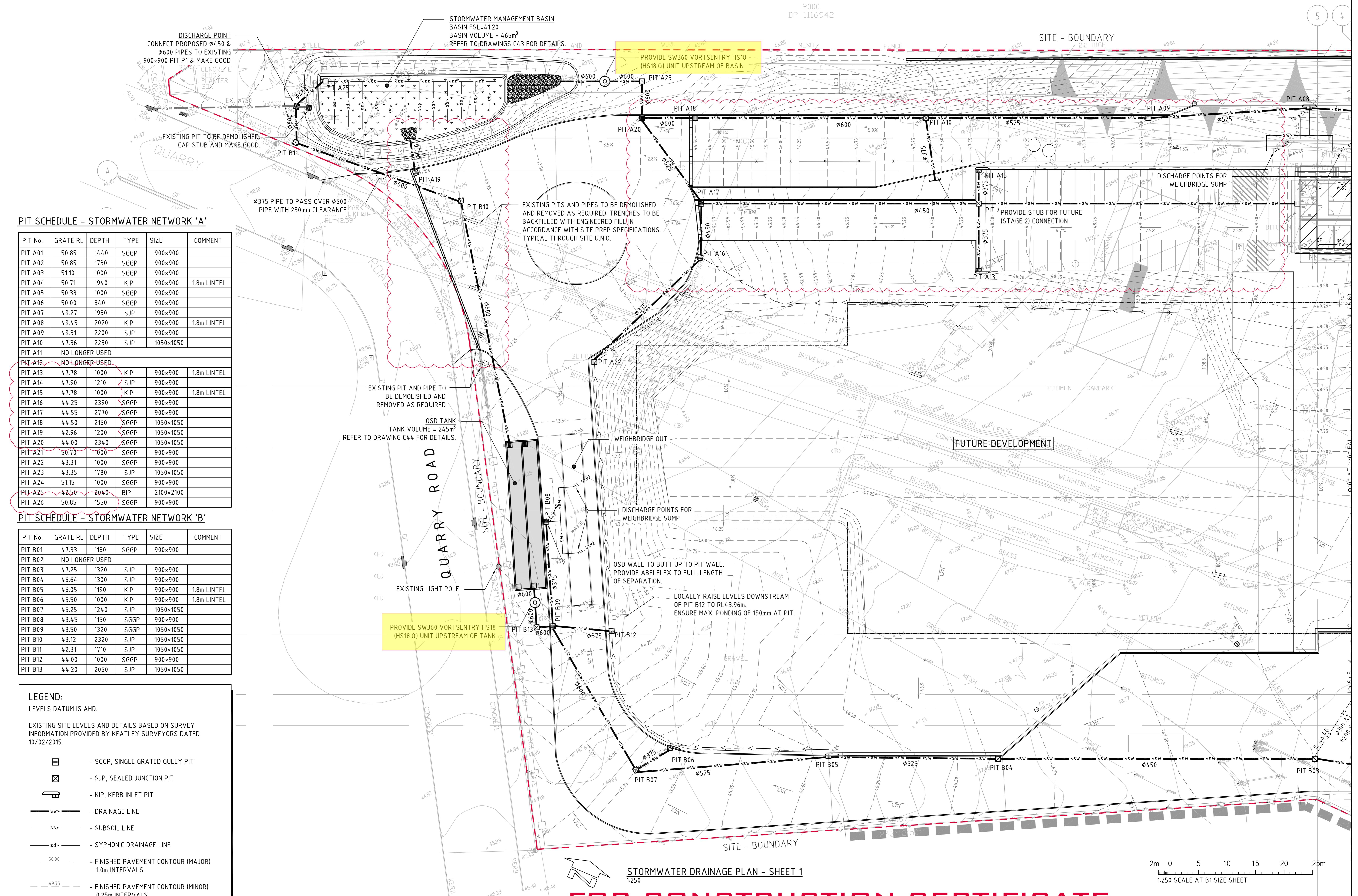


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DRAWING TITLE: OSD TANK PLAN & SECTIONS
DRAWING NO: C013523.00-C44
ISSUE: G



REVISED AS CLOUDED	20.04.18	F
REVISED AS CLOUDED	27.02.18	E
ISSUED FOR CONSTRUCTION CERTIFICATE	24.01.18	D
REVISED AS CLOUDED	17.11.17	C
ISSUED FOR TENDER	10.11.17	B
ISSUED FOR INFORMATION	27.10.17	A
AMENDMENTS	DATE ISSUE	AMENDMENTS



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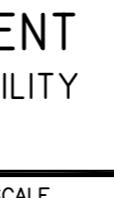


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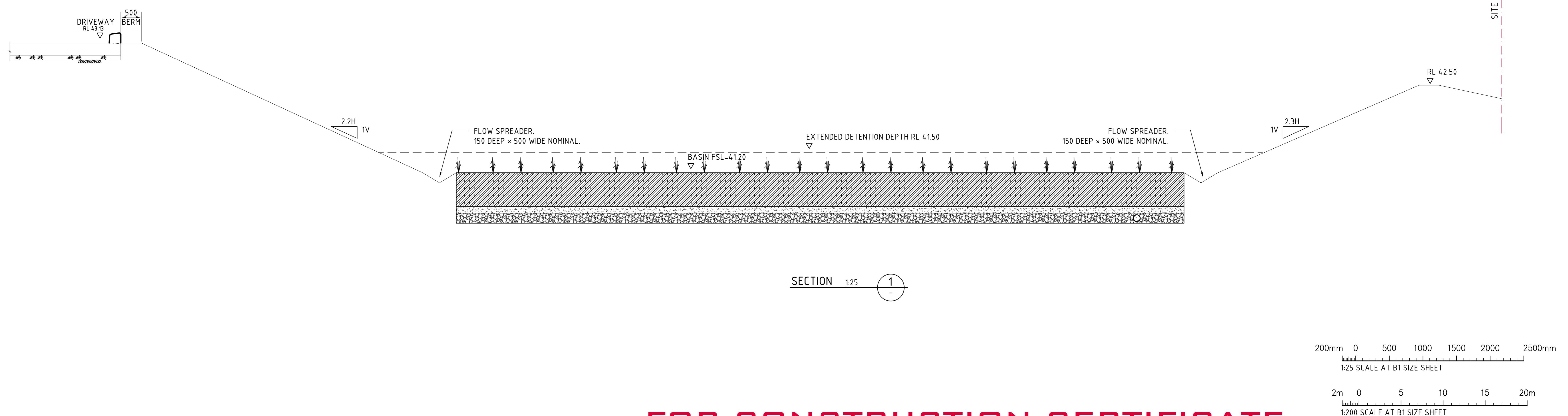
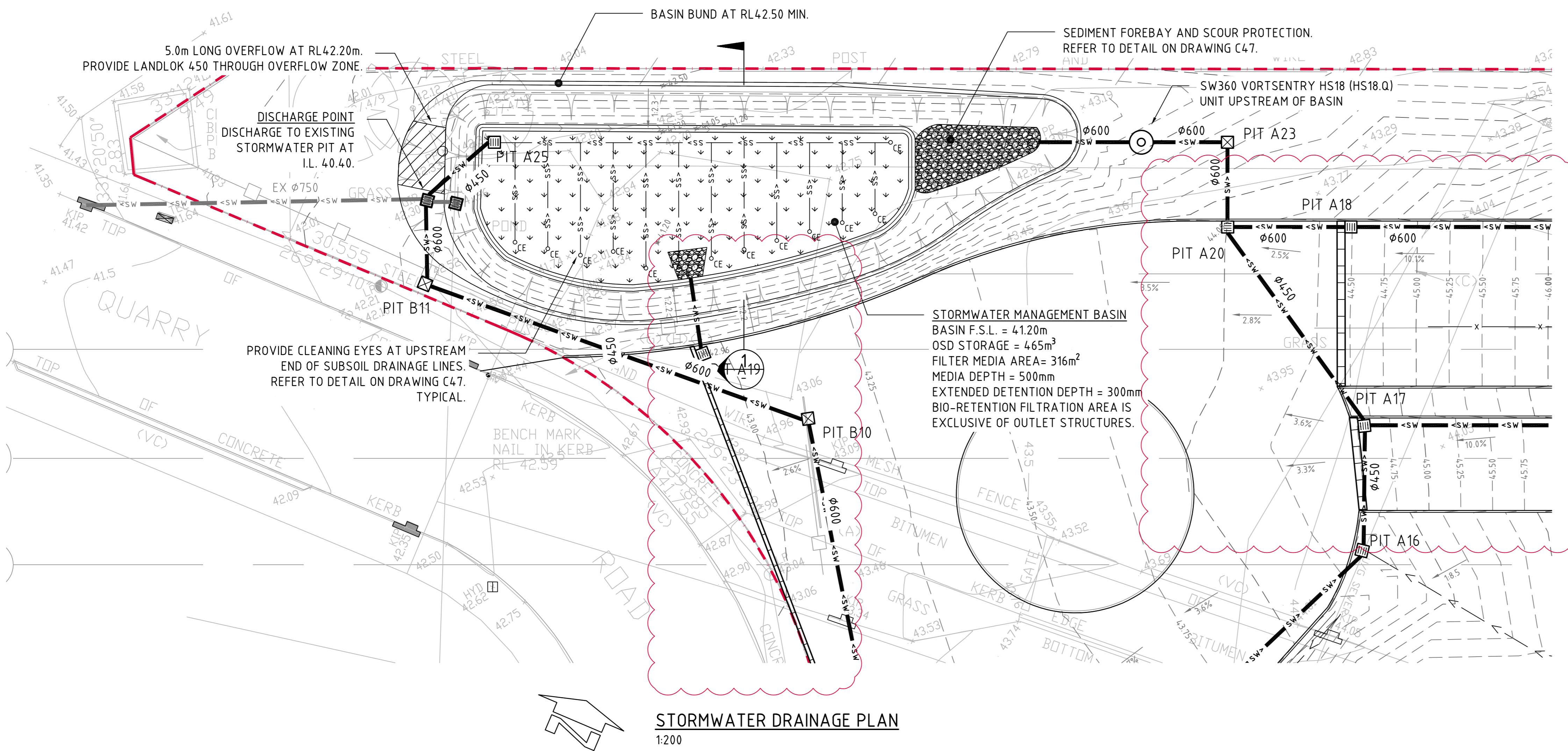
DESIGNED MW DRAWN TW DATE OCT'17 CHECKED SIZE B1 AS SHOWN CAD REF: C013523.00-C41

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DRAWING TITLE
STORMWATER DRAINAGE PLAN
SHEET 1

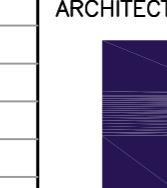
DRAWING NO. C013523.00-C41

ISSUE H



FOR CONSTRUCTION CERTIFICATE

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REVISED AS CLOUDED	10.05.18	E	
ARCHITECTURAL BACKGROUND UPDATED	27.02.18	D	
ISSUED FOR CONSTRUCTION CERTIFICATE	24.01.18	C	
REVISED AS CLOUDED	17.11.17	B	
ISSUED FOR TENDER	10.11.17	A	
AMENDMENTS	DATE	ISSUE	AMENDMENTS
			DATE
			ISSUE



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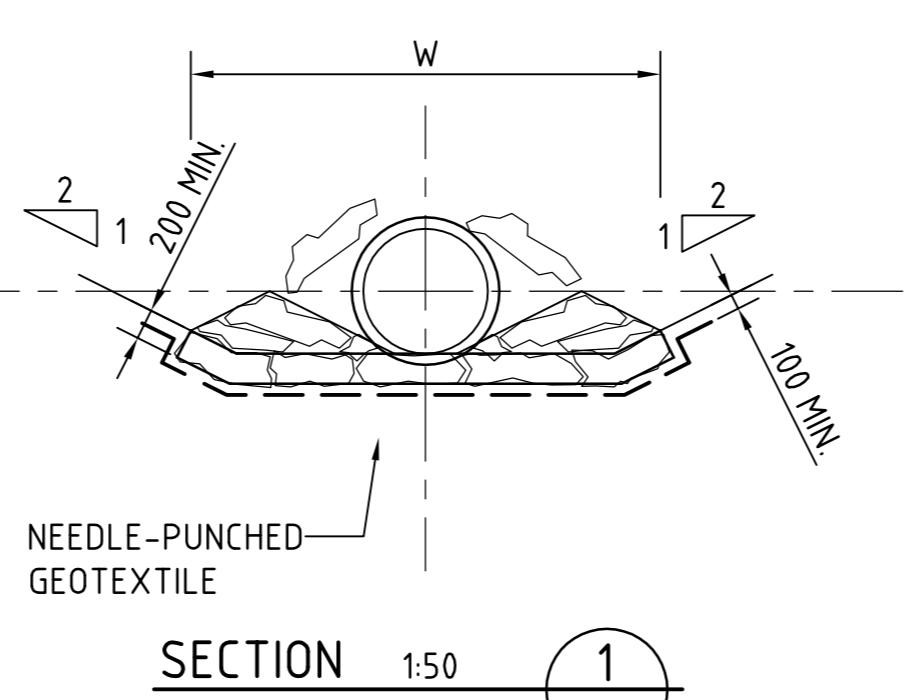
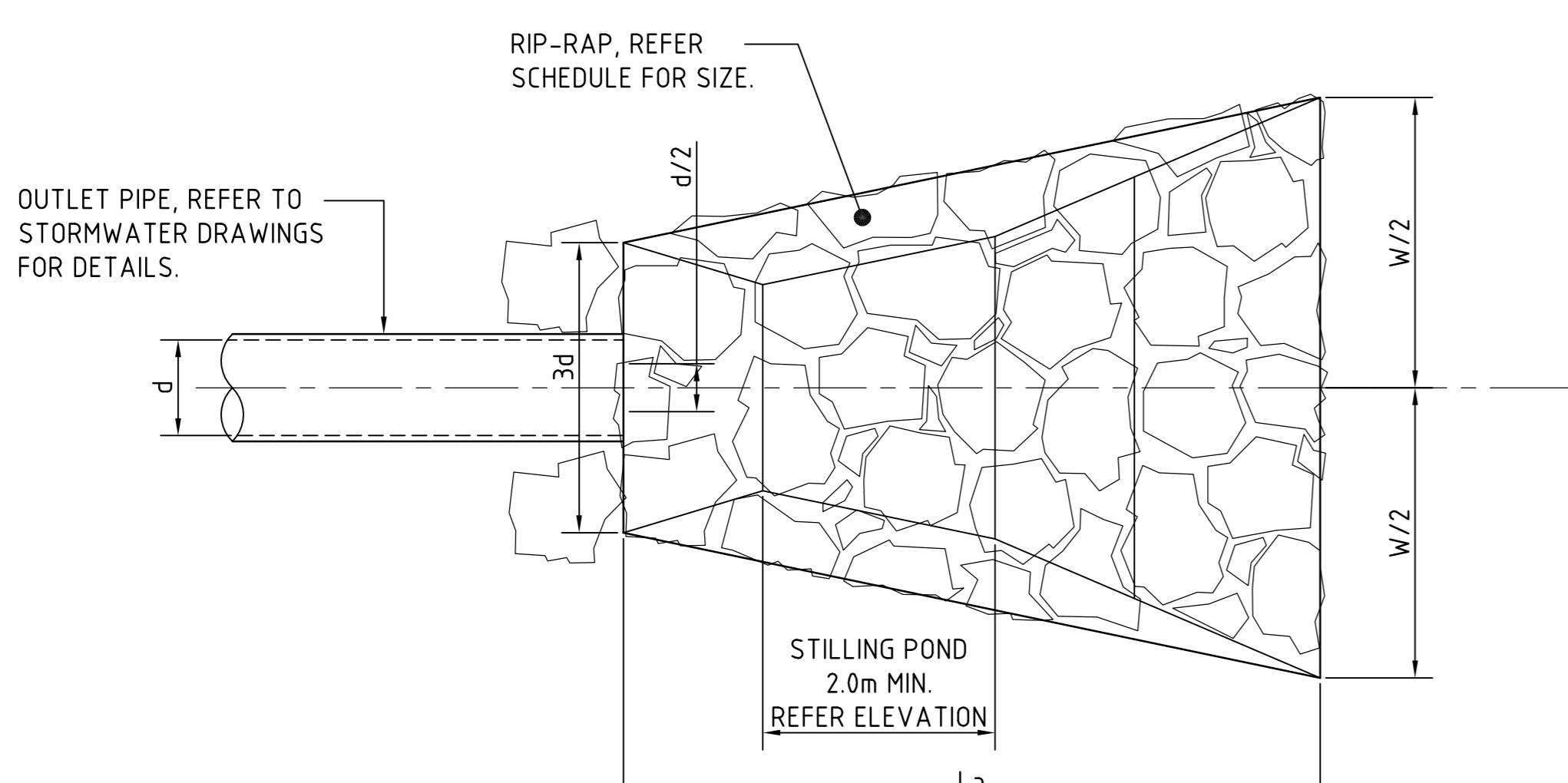
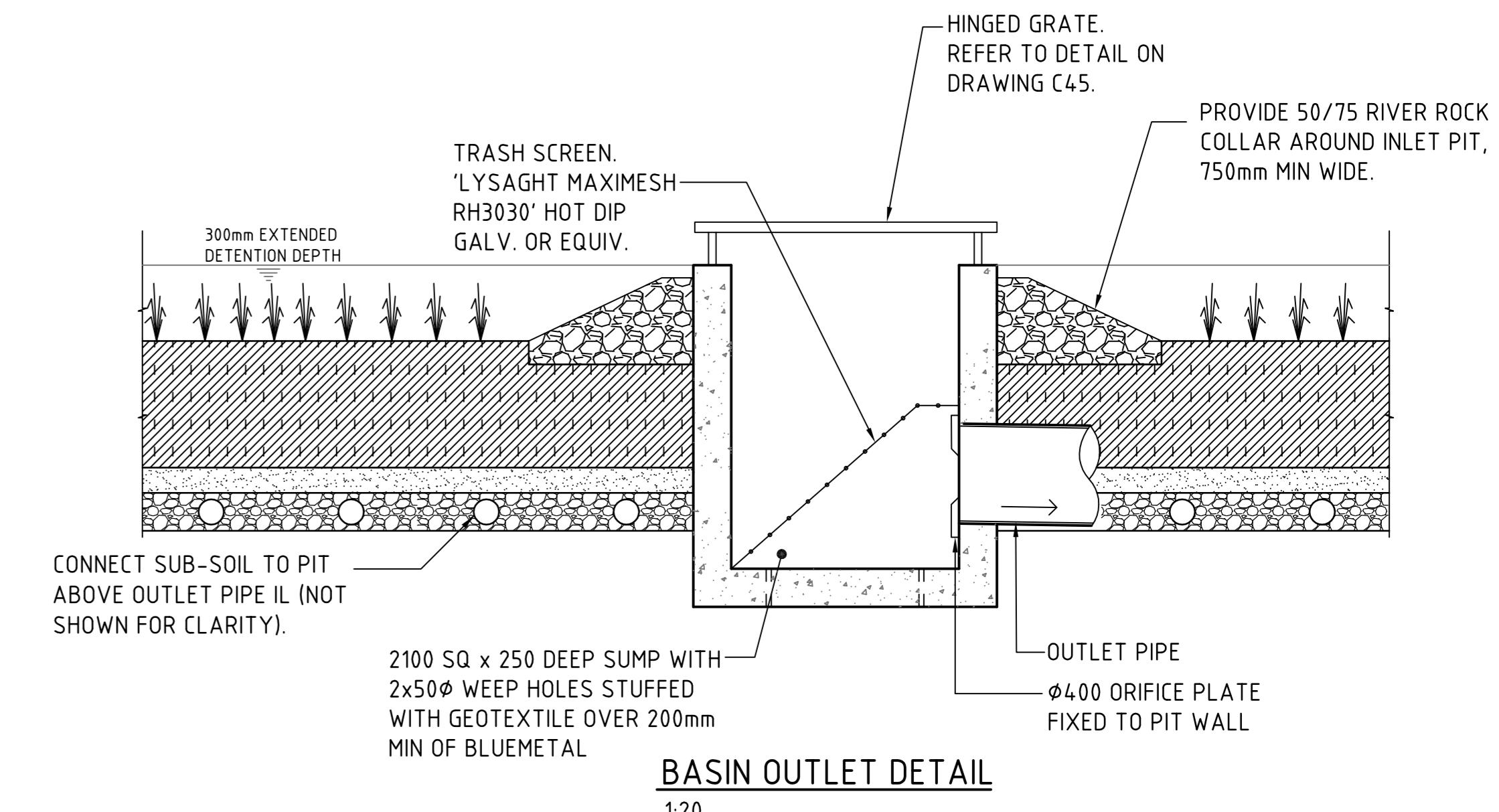
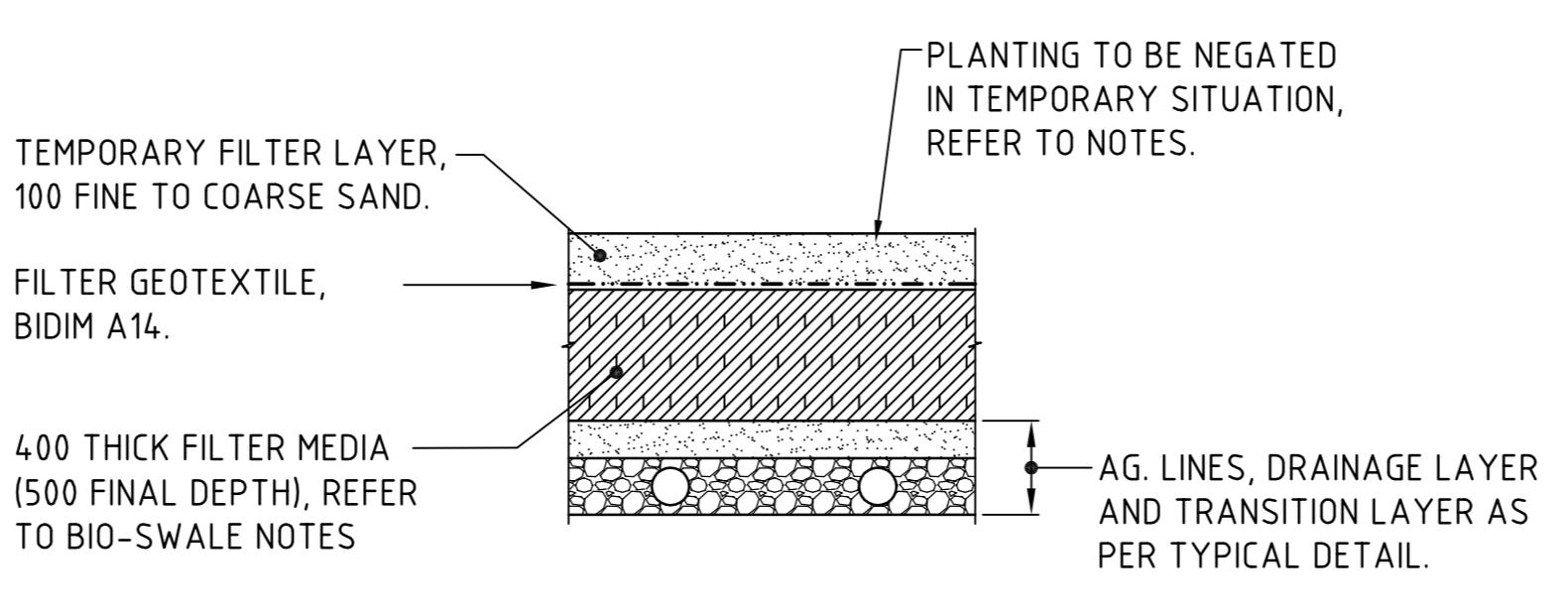
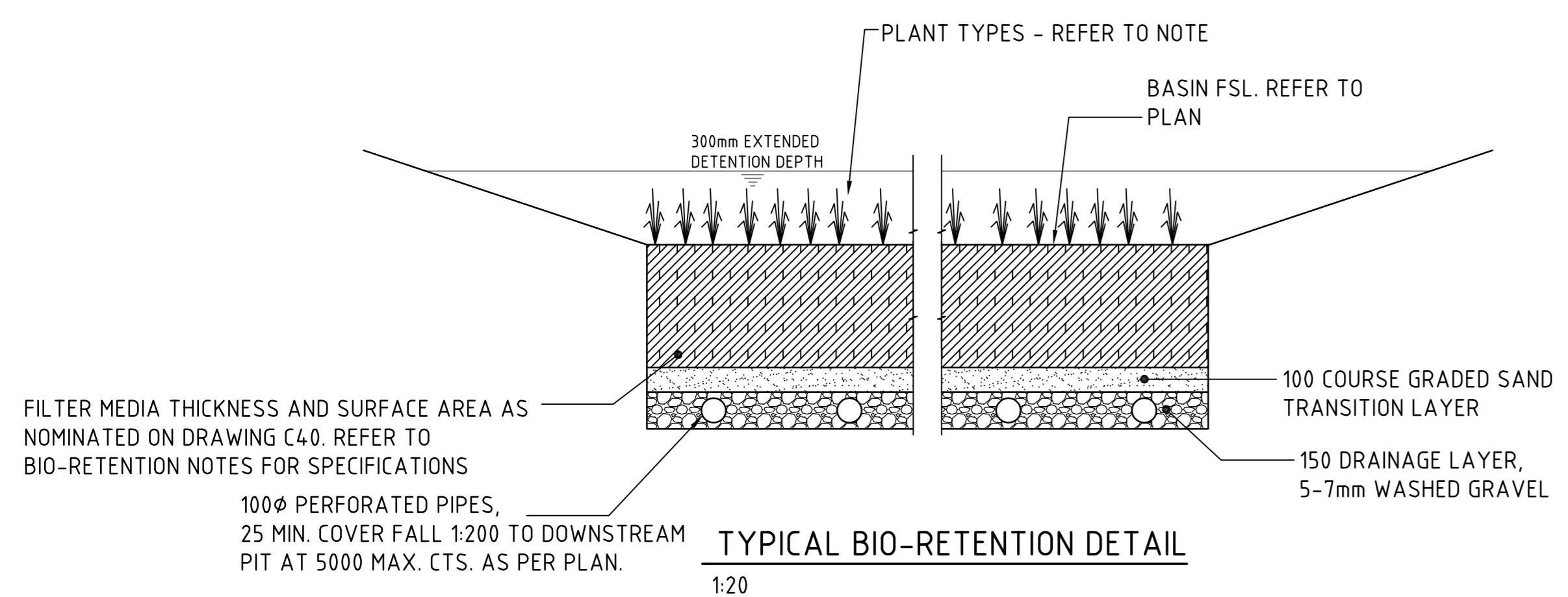
PROJECT
PROPOSED DEVELOPMENT
CLEANAWAY MANAGEMENT FACILITY
ERSKINE PARK, NSW



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DRAWING TITLE
STORMWATER MANAGEMENT
BASIN PLAN & DETAILS
DRAWING NO
C013523.00-C43
ISSUE F



DISSIPATER NOTES:

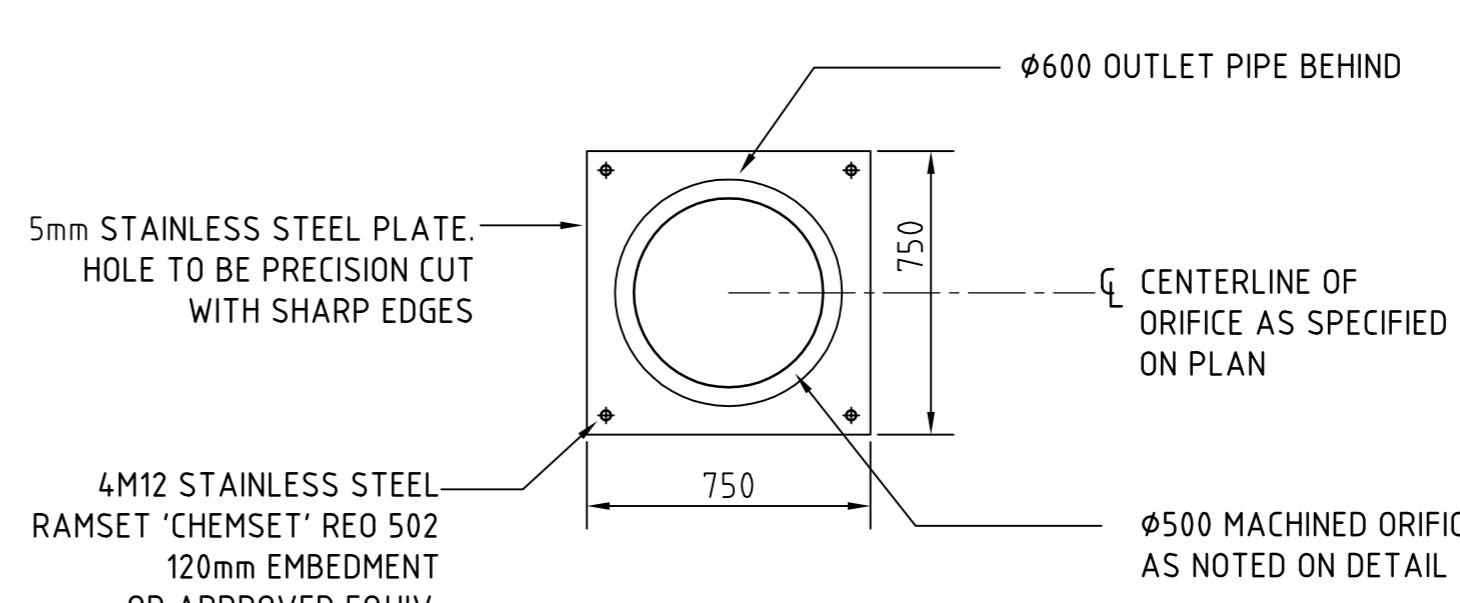
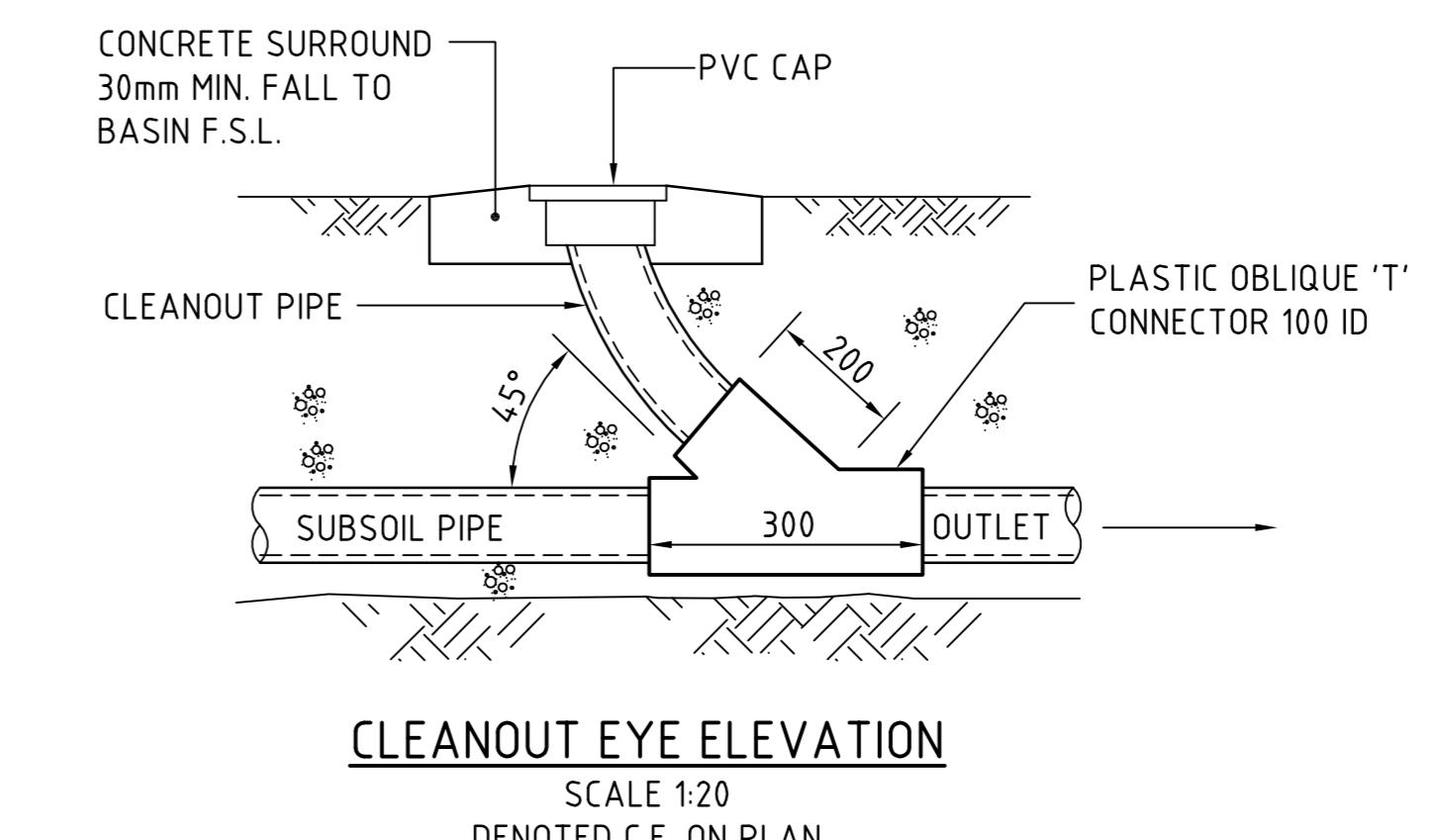
- 1) ALIGN STRUCTURE EVENLY WITH BANK.
- 2) LOCATE STRUCTURE AT INVERT LEVEL OF STREAM AND POINT IN A DOWNSTREAM DIRECTION.
- 3) PIPE TO REST ON, AND BE PACKED IN, BY RIP-RAP (SIZE AS NOTED).
- 4) DISCHARGE INTO STREAM WHERE BEDROCK IS PRESENT, OTHERWISE SCOUR PROTECT AS REQUIRED.
- 5) SCOUR PROTECT THE OPPOSITE BANK AS REQUIRED.
- 6) RIP-RAP TO CONSIST OF ANGULAR RUN-OF-QUARRY ROCK AS NOTED PLACED OVER A 200mm LAYER OF 140mm COBBLES OVER NEEDLE-PUNCHED GEOFAB A44.
- 7) GAPS IN RIP-RAP TO BE PLANTED WITH NATIVE SEDGES & RUSHES.

DISCHARGE POINT	d	La	W	RIP-RAP
1	600mm	10m	5m	300mm

STORMWATER OUTLET DISSIPATER

SCALE 1:50

NATIVE GRASSES AND SEDGES ARE TO BE PLANTED IN TOPSOIL FILLED Voids



BIO-RETENTION NOTES:

FILTER MEDIA TO HAVE THE FOLLOWING COMPOSITION RANGE:
CLAY & SILT (0-0.05mm) <3%
VERY FINE SAND (0.05-0.15mm) 5-30%
FINE SAND (0.15-0.25mm) 10-30%
MEDIUM TO COARSE SAND (0.25-1.0mm) 40-60%
COARSE SAND (1.0-2.0mm) 7-10%
FINE GRAVEL (2.0-3.4mm) >3%

FILTER MEDIA THAT DOES NOT MEET THE FOLLOWING CRITERIA SHALL BE REJECTED:
a. ORGANIC MATTER CONTENT TO BE IDEALLY WITHIN 1% TO 3% IV, AND TO BE NO GREATER THAN 5% (W/W).
b. PH TO BE BETWEEN 5.5 AND 7.5.
c. PHOSPHOROUS CONTENT TO BE NO GREATER THAN 35mg/kg

FILTER MEDIA TO BE ASSESSED BY QUALIFIED HORTICULTURALIST TO ENSURE CAPABILITY OF SUPPORTING PLANT LIFE.

DRAINAGE LAYER TO BE CLEAN GRAVEL 5-7mm.

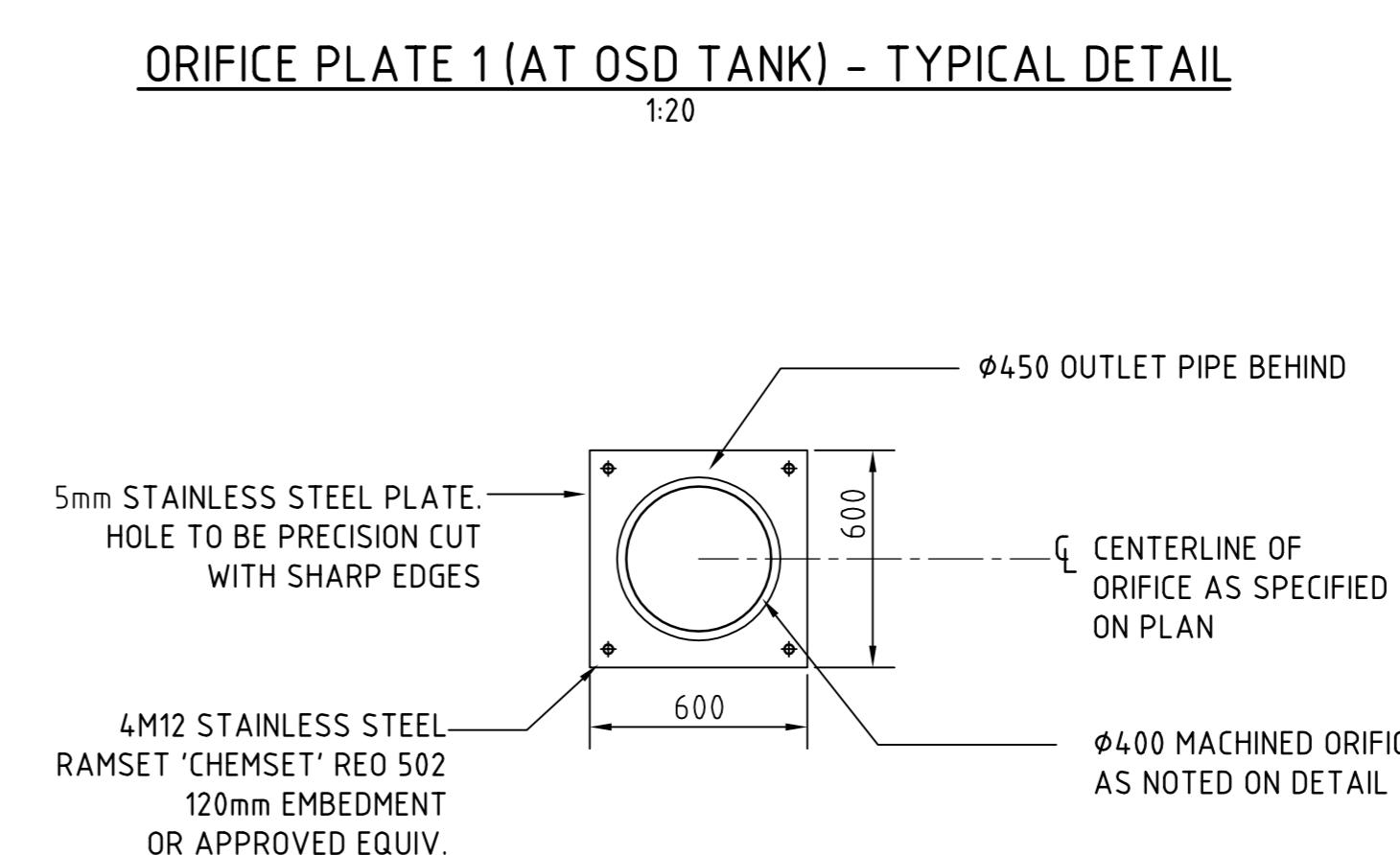
PLANTS TO BE IN ACCORDANCE WITH PENRITH CITY COUNCIL & LANDSCAPE ARCHITECT.

PROVIDE 10mm TOPSOIL AND TEMPORARY EROSION PROTECTION (JUTEMASTER OR EQUIV) TO SWALE BATTER SLOPES AND ADJACENT LANDSCAPED AREAS. NOTE THAT NO TOPSOIL IS TO BE PLACED OVER FILTRATION MEDIA. PROVIDE SILT FENCE TO TOP BANK UNTIL SUCH TIME AS THE STABILISATION AND VEGETATION HAS BEEN COMPLETED.

BIO-RETENTION TO BE PARTIALLY INSTALLED, FOLLOWING COMPLETION OF THE ROAD, WITH THE TOP 75-100mm OF FILTER MEDIA REPLACED WITH A FINE TO COARSE SAND UNDERLAIN WITH A GEOTEXTILE LAYER (REFER TO DETAIL). FOLLOWING COMPLETION OF THE UPSTREAM DEVELOPMENT AND SITE STABILISATION, THE SAND IS TO BE REMOVED, REPLACED WITH FILTER MATERIAL AND PLANTED OUT. REFER TO TEMPORARY BIO-BASIN DETAIL.

PRIOR TO PLANTING, THE TOP 100mm OF THE BIORETENTION FILTER MEDIA IS TO BE AMELIORATED WITH APPROPRIATE ORGANIC MATTER, FERTILISER AND TRACE ELEMENTS TO AID PLANT ESTABLISHMENT AS PER THE TABLE BELOW.

CONSTITUENT	QUANTITY (kg/m ² OF FILTER AREA)
GRANULATED POULTRY MANURE FINES	50
SUPERPHOSPHATE	2
MAGNESIUM SULPHATE	3
POTASSIUM SULPHATE	2
TRACE ELEMENT MIX	1
FERTILISER NPK (16.4.14)	4
LIME	20



200mm 0 500 1000 1500 2000mm
1:20 SCALE AT B1 SIZE SHEET

FOR CONSTRUCTION CERTIFICATE

ISSUED FOR CONSTRUCTION CERTIFICATE	24.01.18	B
ISSUED FOR TENDER	10.11.17	A
AMENDMENTS	DATE	ISSUE

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PRECISION | COMMUNICATION | ACCOUNTABILITY

DRAWING TITLE
STORMWATER DRAINAGE DETAILS
SHEET 3
DRAWING NO
C013523.00-C47
ISSUE B

Appendix G - Leachate Management System

LEACHATE MANAGEMENT PROTOCOL

Erskine Park Transfer Station – Stage 1

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Introduction

Purpose

This Leachate Management Protocol (LMP) forms part of the Operational Environmental Management Plan (OEMP) for the Erskine Park Stage 1 Waste Transfer Station (WTS) development. The purpose of the LMP is to outline the design, operational procedures and maintenance requirements for the leachate management system to ensure that it operates as intended to prevent adverse impacts on the surrounding water quality and prevent pollution of the downslope environment. This document is applicable to employees, contractors and all personnel associated with the operation of the WTS.

Regulatory Framework

The following legislation, regulations, statutory requirements, guidelines and strategies are applicable to the management of leachate during the operational phase of the WTS:

- ANZECC Marine and Freshwater Quality Guidelines, 2000;
- National Water Quality Management Strategy, Department of Environment, Australian Government (1992);
- NSW State Rivers and Estuaries Policy, NSW Government, (1993);
- Protection of Environment Operations Act (POEO Act), 1997;
- Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No. 2), 1997; and
- Water Management Act, 2000.

These requirements are to be adhered to and complied with during the operation of the WTS.

Licencing

There are currently no licenced discharge points within the Development site under the existing Environment Protection Licence (EPL) 20986 which covers the WTS site. An existing trade waste agreement exists to discharge treated leachate (wastewater) into Penrith City Council's sewerage system from existing Leachate Treatment Plant (LTP). The LTP is operated by Cleanaway and is located on the adjoining landfill site.

Summary of Leachate Management System

Leachate Generation

All waste management operations will be conducted within the confines of the building. As such, stormwater runoff will not be generated within waste storage areas and therefore the amount of leachate produced will be minimal.

Occasional washdown of the building floor may generate some leachate. Further, leachate will be generated as a result of blowdown from the wet scrubber. The Tri-stack fans will be operational at all times during normal operating conditions. The wet scrubber will be automatically activated during inclement weather and operating conditions. The anticipated leachate generation from the facility (with and without the wet scrubber) is detailed below in **Tables 1 and 2**.

Table 1: Facility with no Wet Scrubber

Anticipated peak weekly leachate volume from washdown	3,000 L/day (washdown once a week)
---	------------------------------------

Table 2: Facility with Wet Scrubber

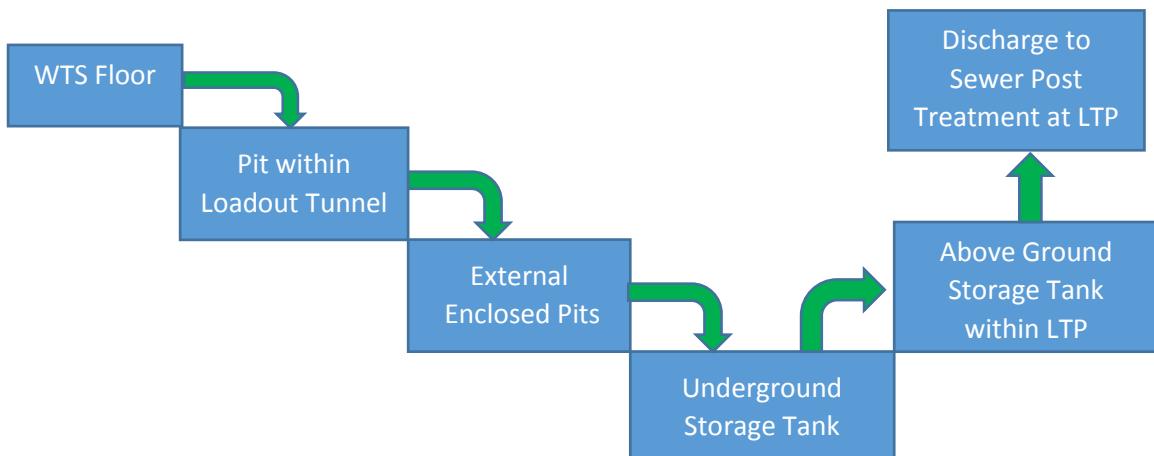
Anticipated peak weekly leachate volume from washdown	3,000 L/day (washdown once a week)
Anticipated peak daily leachate volume from wet scrubber	3,500 L/day (10-hour operating days)
Total anticipated peak leachate volume on washdown day	6,500 L/day

Any water used for firefighting purposes is likely to generate the greatest volume of leachate should this ever occur. The fire suppression system will run at a rate of 6,600 L/min. During a fire event the fire suppression may run for up to 60 min which equates to a firewater volume 396 m³. In the event of a fire Cleanaway will engage the Cleanaway Fire Response Team which will remove and dispose any firewater from the premises.

Leachate Management System

Leachate generated from the scrubber and floor washdowns and firewaters is to be managed at the Erskine Park WTS site by collection from the tipping hall and load out areas in a contained drainage system comprised of a number of sumps located in low points across the tipping floor. The leachate is then conveyed to a 63,000 L underground storage tank, which is designed to contain water being discharged at a rate of 35 L/s for a duration of 30 minutes. An automated pump installed within the underground tank will transfer the leachate to above ground 100,000L storage tank at the existing Leachate Treatment Plant (LTP), which is located on the adjacent landfill premises near the north-east corner of the WTS site.

The below flow chart depicts the intended flow path for the stormwater and firewaters encountered at the WTS.



Leachate will be treated at the LTP and then discharged into the Penrith City Council (PCC) sewer system in accordance with the existing trade waste discharge agreement with Sydney Water. Discharge volume capacity is detailed below as per **Table 3**.

Table 3: Maximum treatment and discharge volumes

LTP Maximum Treatment Capacity	The plant has two Sequencing Batch Reactor and is capable of treating up to 1,036 kL/day
Current Leachate Volumes being Treated	100kL/day
Maximum Allowed Discharge Volume into Sewer	1,036 kL/day

Monitoring and Maintenance

Water Quality Monitoring

Water quality monitoring of the treated leachate in the LTP will be undertaken in accordance with the existing trade waste agreement. Treated leachate that does not meet the required water quality requirements will not be discharged to the PCC sewer system and will undergo further treatment until discharge compliance thresholds are met.

Leachate Monitoring and Maintenance Program

The performance of the leachate management system and associated plant/equipment will decline if they are not maintained. Where leachate containment and conveyance controls are observed to not be functioning correctly, they will be restored so that they can perform as intended. All staff are responsible for reporting leachate management issue observations.

Key maintenance tasks, responsibility, frequency of inspection and mitigation actions are outlined in **Table 4**. As the LTP is managed by Cleanaway's landfill operations it has been excluded from the monitoring and maintenance program for the WTS site.

Table 4: Leachate Monitoring and Maintenance Program

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Leachate Containment Sumps and Pipes	Inspect for blockages, structural damage and sediment/waste build up including inlet and outlet pipes.	Cleanaway	Quarterly	Remove blockages and de-silt as required. Any material removed shall be disposed of in a suitable manner. A suitably qualified consultant shall be contacted if any structural damage is observed.
Underground Leachate Storage Tank	Inspect for blockages, structural damage and sediment/waste build up including inlet pipes.	Cleanaway	Quarterly	Remove blockages and de-silt as required. Any material removed shall be disposed of in a suitable manner. A suitably qualified consultant shall be contacted if any structural

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
				damage is observed.
Leachate Pump and Pipes	Testing of pump to ensure that it is still working with sufficient capacity (i.e. monitoring of current draw, impeller wear, pitting, presence of vortex cones etc)	Cleanaway or Licensed Contractor	Quarterly	Repair / replace pump components as required.

Monitoring Records

The results of the leachate management system monitoring must be recorded in a legible form (or in a form that can readily be reduced to a legible form) and must be kept for at least 4 years after the monitoring. The monitoring should also include the following details:

- The date(s) and time(s) on which the monitoring was undertaken;
- The point at which the monitoring was undertaken; and
- The name of the person who carried out the monitoring.

Roles and Responsibilities

Responsibilities

All staff must comply with this LMP. Other responsibilities are detailed in **Table 5**.

Table 5: Responsibilities relating to Leachate Management

Position	Responsibility
Cleanaway	Revision of this LMP to the satisfaction of regulators
Site Manager	Monitoring and maintenance of leachate management structures in accordance with this LMP
Site Manager Site Supervisor and Leading Hand All site personnel Contractors	Undergo appropriate inductions and training Comply with the relevant Acts, Regulations and Standards. Compliance with this LMP Promptly report to management on any non-conformances or breaches of the leachate system.

Training

All staff and sub-contractors involved in maintaining the leachate infrastructure will be inducted prior to commencing work at the WTS. The induction will include an explanation of this LMP.

Additional training (such as confined space training) may be required for maintenance of the leachate management structures. This training should be identified and undertaken (where required) prior to any maintenance activities being undertaken.

Incident Management

General

Following a leachate related incident the following will be undertaken:

- Investigate cause of the incident;
- Implement corrective measures prior to the recommencement of site works; and
- Complete an Incident and Corrective Action Report to ensure that appropriate causation, remediation and monitoring is developed, implemented and documented.

Where the leachate incident has potential to cause substantial harm to human health, property and/or the environment, then it will be reported to the HSE Officer and Site Manager, immediately after becoming aware of the incident. The HSE Officer or Site Manager should report the incident to the relevant authorities as soon as practically possible. Notifications must also be made by telephoning the Environment Line service on 131 555.

Stop Work Authorisations due to leachate issues can be issued by the HSE Manager or Site Manager when:

- Required following an environmental incident or emergency, to prevent further risk to safety or the environment, as appropriate; and
- Any other significant breach of this LMP, particularly that compromises safety and protection of site personnel and/or the environment.

Additional detail on reporting of notifiable incidents is provided in the OEMP.

Firewater Management

The leachate management system includes an underfloor capture pit to capture runoff from the WTS shed and the load out tunnel. To manage fire water produced during fire suppression events, Cleanaway's emergency response team will be engaged to remove fire water being collected in the underground storage tank as the emergency event unfolds. The need to pump fire water into LTP is not required as the emergency response team will collect and dispose of the firewater outside the premises.

The fire wastewater management approach will include the following:

- Engagement of the Cleanaway Fire Response Team. This team will use a suction system to collect the firewater which will then be disposed of at an appropriately licensed waste facility rather than being transferred to the LTP;
- Temporary containment measures (by deploying temporary bunding) to capture fire wastewater. Temporary bunding may include items such as sandbags and spill kit items which are to be readily available at the site;
- Outlets from the bio-retention sediment forebay and the Atlantis Flow-Tank OSD system (via a stop valve) should be blocked immediately to prevent discharges to the offsite stormwater network; and
- Turning off the automatic pump within the underground leachate storage tank;

- Captured firewater within temporary containment measures should be pumped out by a liquid waste contractor and disposed of at an appropriately licenced waste facility.

The proposed management measures will aim to prevent discharges of potentially contaminated firewater to the local stormwater network.

Complaints Management

Cleanaway must maintain a Register of Complaints that captures and stores details of individual complaints. A record of the complaint must be legible and must include the following details:

- The date and time of the complaint;
- The method by which the complaint was made;
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- The nature of the complaint;
- The action taken by Cleanaway in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken by the licensee, the reasons why no action was taken.

Cleanaway will investigate any complaints made in relation to leachate at the premises and rectify the issue (where applicable) as soon as is practically possible.

Cleanaway will notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

Reporting

A notifiable incident would include any offsite discharge of untreated leachate, or firewater to the stormwater system. Reporting will be undertaken as per requirements on the EPL 20986.

Document Review

This LMP is an evolving document that will be reviewed and updated annually and in response to changes to the WTS operations as required.

Limitations of this report

This LMP is intended to form part of the OEMP for the operation of the Erskine Park WTS and sets out minimum requirements. The Site Manager will need to review the appropriateness of the leachate management system during the operation of the WTS and may be required to adjust measures and the monitoring/maintenance program to ensure that they are appropriate at all times to prevent harm to the environment if site conditions change over time.

References

ANZECC (2000) Australian and New Zealand Guidelines for Fresh and Marine Water Quality.
(ANZECC, 2000)

NSW EPA (2017), *Environment Protection Licence 20986*. Version date 18th September 2017.

Planning Assessment Commission (PAC), (2016), NSW Planning Assessment Commission Determination Report Erskine Park Resource Management Facility.

Rae, D.J. (2007). Water Management in South Creek Catchment, Current state issues and challenges, Cooperative Research Centre for Irrigation Futures, Technical Report No.12/7, November 2007.

SLR Consulting Australia Pty Ltd (SLR), 2017, *Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Stage 1 Waste Transfer Station. Surface Water Assessment*.

SLR Consulting Australia Pty Ltd (SLR), 2015, *Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Concept Plan and Stage 1 Waste Transfer Station. Environmental Impact Statement*.

Sydney Water (2016), *Consent to discharge industrial trade wastewater*, approved 22nd February 2016.

Cleanaway Contact Details

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Document Control

Reference	Date	Prepared	Checked	Authorised
FINAL	2 July 2018	Duncan Barnes	Paul Delaney	Cleanaway

Appendix H - Operational Waste Management Plan

OPERATIONAL WASTE MANAGEMENT PLAN

Erskine Park Waste Transfer Station – Stage 1

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Appendix A – Consent Conditions and Statement of Commitments

Appendix B - Leachate Management Protocol

1 Introduction

The Erskine Park Waste and Resource Management Facility (WRMF) Staged Development Application (SSD 7075) was approved by the Planning Assessment Commission (PAC), acting as delegate of the Minister for Planning, on 5 October 2016, comprising:

- A concept plan for a WRMF with a maximum receiving capacity of 300,000 tpa. All waste received at the WRMF will enter the Waste Transfer Station (Stage 1), up to 150,000 tpa of this waste may be recycled at the Resource Recovery Facility (Stage 2); and
- Construction and operation of the Stage 1 Waste Transfer Station with a maximum receiving capacity of 300,000 tpa.

The WRMF will be developed in two stages, the first being a Waste Transfer Station (WTS) and the second being a Resource Recovery Facility (RRF).

SLR Consulting Australia Pty Ltd (SLR) was engaged by Cleanaway Waste Management Pty Ltd (Client) to prepare an Operational Waste Management Plan (OWMP) with Waste Management Strategy to meet the requirements of Development Consent SSD 7075 (the Approval).

This OWMP has been prepared by SLR on the behalf of the Client to meet the requirements of the Approval (see **Appendix A**)

This OWMP applies to waste generated from operations based at the Stage 1 WTS and site offices, located within the Erskine Park WRMF site.

Waste management for the operational stage of the overall Development is described in **Section 5**.

1.2 Site Identification

The WRMF site is located within Erskine Park NSW, is within the local government area of Penrith City Council (Council) and comprises real property titles Lot 4 on DP 1094504. The WRMF site is bound by the Erskine Park Landfill to the east, Quarry Road to the west and commercial properties to the north and south of the site (**Figure 1**).



Figure 1 Pre-Development Site

1.2 Objectives

A waste management plan for the WTS that satisfies the conditions of the Approval and the EIS Statement of Commitments. As such, the objectives of this WMP are:

- To establish waste monitoring procedures that meet the conditions of the Approval;
- Assess predicted waste generated from the development during operation, including:
 - Classification of waste in accordance with the current guidelines;
 - Handling of waste including measures to facilitate segregation and prevent cross contamination;
 - Management of waste including estimated location and volume of stockpiles;
 - Waste minimisation and reuse;
 - Lawful recycling or disposal locations for each type of waste; and
 - Contingencies for the above, including managing unexpected waste volumes.
- To provide advice on how the classified wastes should be handled, processed and disposed of (or re-used / recycled) in accordance with Council requirements and better practice waste minimisation principles;
- To assist the WTS with achieving Federal and State Government waste minimisation targets;
- To facilitate safe and practical operational waste collection options at the WTS for Council waste collection staff and / or private waste collection contractors;
- Maximisation of resource recovery;
- To ensure the appropriate management of hazardous waste; and

- To identify procedures and chain of custody records for waste management.

Appendix 1 indicates the sections within the OWMP that specifically address each of the relevant SSD 7075 Conditions and Statement of Commitments relating to waste management.

2 Better Practice for Waste Management and Recycling

2.1 Waste Management Hierarchy

This OWMP has been prepared in line with the waste management hierarchy (**Figure 2**), which summarises the objectives of the *Waste Avoidance and Resource Recovery Act 2001*.

The waste management hierarchy comprises the following principles, from most to least preferable (with respect to waste minimisation):

1. Waste **avoidance**, through prevention or reduction of waste generation. Waste avoidance is best achieved through better design and purchasing choices;
2. Waste **reuse**, without substantially changing the form of the waste;
3. Waste **recycling**, through the treatment of waste that is no longer usable in its current form to produce new products;
4. Energy **recovery**, through processing of residual waste materials;
5. Waste **treatment**; and
6. Waste **disposal**, in a manner that causes the least harm to the natural environment



Figure 2 Waste Management hierarchy

2.2 Benefits of Adopting Better Practice

Adopting better practice principles in waste minimisation offers significant benefits for organisations, stakeholders and the wider community. Benefits from better practice waste minimisation include:

- Enhances social and environmental reputation of an organisation;
- Reduces consumption of non-renewable resources;
- Reduces pollution generated from materials manufacturing and waste treatment;
- Reduces financial burden associated with waste disposal; and
- Provides opportunities for additional revenue streams through beneficial reuse.

2.3 Waste Avoidance, Re-use and Recycling

2.3.1 Waste Avoidance

Waste avoidance measures may include:

- Buy materials and office products with less packaging;
- Providing ceramic cups, mugs, crockery and cutlery rather than disposable items;
- Presenting all waste reduction initiatives to staff as part of their induction program; and
- Investigating reused office equipment and machinery rather than purchase and disposal.

2.3.2 Re-use

Establish systems with in-house and supply chain stakeholders to transport products in re-useable packaging where possible.

2.3.3 Recycling

Recycling opportunities include:

- Plastic film (usually in the form of shrink pallet wrap) is light weight and compactable. If kept clean and separated from other plastics it is potentially recyclable and can be used to make items such as outdoor furniture;
- Flatten or bale cardboard to minimise storage space requirements;
- Paper recycling trays provided in office areas for scrap paper collection and recycling;
- Printer toners / ink cartridges are collected in allocated bins for appropriate contractor disposal;
- Development of ‘buy recycled’ purchasing policy; and
- Providing recycling collections within each office (e.g. plastics, cans and glass).

3 Waste Legislation and Guidance

The legislation and guidance documents outlined in **Table 1** should be referred to during the operational phase of the Development. This list should be updated as necessary to reflect changes in legislation and guidance.

Table 1 Waste Legislation and Guidance

Legislation / Guidance	Objectives
Development Consent SSD 7075 (issued 4 October 2016), MOD 1 (issued 25 August 2017) and MOD 2 (issued 26 February 2018), under Section 89E and 961(A) of the Act.	The WMP specifically addresses the requirements of waste management conditions.
Penrith City Council Development Control Plan (DCP) 2014*	<p>The Penrith City Council's Development Control Plan (DCP) 2014 commenced on 23 March 2015 and supports the provisions of the Penrith Local Environmental Plan (LEP) planning controls by providing detailed planning and design guidelines.</p> <p>Council's DCP has been prepared in accordance with section 74C of the Environmental Planning and Assessment Act 1979 and clause 16 of the Environmental Planning and Assessment Regulation 2000.</p> <p>This WMP specifically addresses Section C5 and Section D4.6 of the DCP, and sets out the waste management, site specific controls and arrangements for accessing and servicing the site.</p>
Western Sydney Employment Area (WSEA) State Environmental Planning Policy (SEPP)**	The WSEA SEPP 2009 provides for coordinated planning, development and rezoning of land for employment or environmental conservation purposes.
Western Sydney Regional Waste Avoidance and Resource Recovery Strategy 2014-2017	<p>The Western Sydney Regional Waste Avoidance and Resource Recovery Strategy 2014–2017 helps Western Sydney Councils to work together to reduce waste produced and send to landfill. The strategy has 6 main targets:</p> <ul style="list-style-type: none"> • Avoid and reduce waste generation; • Increase recycling; • Divert more waste from landfill; • Manage problem wastes better; • Reduce litter and illegal dumping; and • Improve regional governance.
Western Sydney Regional Waste Group (WSRWG) Strategy Targets	<p>The Regional WARR Strategy targets have been developed in line with the NSW targets:</p> <ul style="list-style-type: none"> • Work towards reducing regional waste generation from current generation of 7.8kg/capita/week to 7.5kg/capita/week by 2021; • Gradually improve the regional resource recovery rate from the current 53% to 58% by 2017 and 70% by 2021; • Work towards achieving the WARR target by 2021; • Build, upgrade or facilitate 10 community recycling centres and innovative solutions for households by 2021; • Partner with the State to establish a baseline for 2015 and work towards reducing the incidence of litter by 2017; and • Partner with the State to establish a baseline for and work towards reducing the incidence of illegal dumping by 10% in 2017.
Penrith Waste and Resource Strategy (2017-2026)	<p>Council adopted the Penrith Waste and Resource Strategy (2017-2026) in September 2017, to develop systems and practices that:</p> <ul style="list-style-type: none"> • Reduce waste generation to 7.5 kg/capita/week by 2021; • Achieve 70% diversion of waste from landfill by 2021; • Provide solutions for household problem waste by 2021; • Reduce incidence of litter; • Reduce incidence of illegal dumping; and • Participate in regional contracts and services where appropriate. <p>The strategy details a staged approach to introducing waste services and waste treatment processes to meet the waste service needs of the community, increase environmental outcomes and reduce the financial impact of waste management on the community.</p>

Legislation / Guidance	Objectives
Penrith City Strategy	<p>The Strategy seeks to help build a sustainable future for the City and community, by summarising the key issues facing Penrith City Council over the next 10-20 years, and outlining how Council will respond. It identifies a number of goals that encompass' waste management:</p> <ul style="list-style-type: none"> • Essential resource recovery infrastructure is provided by the state government; • Over-consumption and waste is reduced; • Resource recovery rates are increased, and markets identified; and • Sustainable shopping is encouraged.
National Waste Policy: Less Waste, More Resources 2009	<p>The National Waste Policy is the current document that provides a guidance framework to all jurisdictions for managing waste through to 2020 and has the following aims;</p> <ul style="list-style-type: none"> • Avoid the generation of waste, reduce the amount of waste (including hazardous waste) for disposal; • Manage waste as a resource; • Ensure that waste treatment, disposal, recovery and re-use is undertaken in a safe, scientific and environmentally sound manner; and • Contribute to the reduction in greenhouse gas emissions, energy conservation and production, water efficiency and the productivity of the land. <p>The National Waste Policy establishes 6 key areas and identifies 16 strategies across these areas for all government jurisdictions to work towards waste minimisation and resource recovery.</p>
Waste Avoidance and Resource Recovery Act 2001	<p>To promote extended producer responsibility in place of industry waste reduction plans. Specific objectives include:</p> <ul style="list-style-type: none"> • To encourage efficient use of resources; • To minimise the consumption of natural resources and the final disposal of waste by encouraging the avoidance of waste and the reuse and recycling of waste; • Ensuring industry and the community share responsibility in reducing / dealing with waste; and <p>Efficient funding of waste / resource management planning, programs and service delivery.</p>
Protection of the Environment Operations Act (POEO) 1997 & Amendment Act 2011	<p>Administered by the Environmental Protection Authority (EPA) to enable the Government to establish instruments for setting environmental standards, goals, protocols and guidelines.</p> <p>The owner of a premise, the employer or any person carrying on the activity which causes a pollution incident is to <i>immediately</i> notify the relevant authorities when material harm to the environment is caused or threatened. A list of each relevant authority is provided in the POEO Amendment Act and will be noted in the Site's incident register.</p>
POEO (Waste) Regulation 2014 (previously POEO (Waste) Regulation 2005)	<p>Contains provisions relating to the waste levy, waste tracking and management requirements for certain waste types, payment schemes for local councils, consumer packaging recycling and other miscellaneous provisions.</p>
Waste and Resource Recovery Amendment (Container Deposit Scheme) Act 2016	<p>The Act established a Container Deposit Scheme (CDS) that was to be rolled out across NSW from 1 July 2017. This date was extended to 1 December 2017.</p>
NSW EPA's Waste Classification Guidelines (Part 1) 2014	<p>To assist waste generators to effectively manage, treat and dispose of waste to ensure the environmental and human health risks associated with waste are managed appropriately and in accordance with the POEO Act and its associated regulations.</p>
Council of Australian Governments National Construction Code 2016	<p>The National Construction Code 2016 sets the minimum requirements for the design, construction and performance of buildings throughout Australia.</p>

Legislation / Guidance	Objectives
EPA's Better Practice Guidelines for Waste Management and Recycling in Commercial and Industrial Facilities 2012	The EPA's Better Practice Guidelines (2012) encourage efficient waste minimisation and resource recovery for commercial and industrial facilities and is used as a benchmark document when assessing waste production rates within Australia and details a range of waste management provisions.
NSW EPA (2014) NSW Waste Avoidance and Resource Recovery Strategy 2014-21	A key component of the State Government's vision for the environmental and economic future of the state that will be supported financially by the <i>Waste Less, Recycle More</i> funding initiative providing long-term targets for six key result areas including reduced illegal dumping.
Building Code of Australia (BCA) and relevant Australian Standards (AS)	The BCA (and AS) have the aim of achieving nationally consistent, minimum necessary standards of relevant health and safety, amenity and sustainability objectives efficiently.
Australian Packaging Covenant	<p>Each building should be encouraged to establish an Action Plan to demonstrate their contribution to the achievement of the Australian Packaging Covenant's (APC) goals.</p> <p>The three main performance goals of the APC are:</p> <ul style="list-style-type: none"> Design: Optimise packaging to use resources efficiently and reduce environmental impact without compromising product quality/safety. Recycling: Efficiently collect and recycle packaging. Product Stewardship: Demonstrate commitment of all signatories.

*In accordance with the provisions of the State Environmental Planning Policy (State and Regional Development) (SRD SEPP), a DCP is not relevant in this case given the Development is a State Significant Development. However, this WMP has been designed to take into consideration the requirements of the DCP.

**Penrith City Council Local Environment Plan (LEP) is not relevant to the site as Clause 8 of the WSEA SEPP states that the WSEA SEPP prevails over relevant LEPs.

4 Project Description

4.1 Development Overview

The Erskine Park WRMF site comprises a putrescible WTS ("the Development") with a nominal daily inflow volume of approximately 1,040 tonnes of general solid waste (putrescible and non-putrescible) per day (facility design capacity is 300,000 tonnes per annum [tpa]). However, due to local market factors, around 90,000 tpa of general solid waste (putrescible and non-putrescible) is currently received at the site. All received waste is transported off-site to an appropriately licensed waste management facility.

Key aspects of the Development are:

- A steel framed and clad WTS building with associated offices, amenities and lower level transfer vehicle load-out area;
- Fast acting roller shutter doors which will be normally closed;
- WTS working floor with concrete and asphalt peripheral roads;
- An active ventilation system and air treatment system with controlled discharge as part of the overall approach to air emissions and odour management;
- Associated infrastructure including all hardstand areas, car park, weighbridges, and sealed roads; and

- Ancillaries including perimeter security fencing, security gates, rain water harvesting, fire suppression system, signage, landscaping, drainage and services.

The layout of the Development is shown in **Figure 3**.

5 Operational Waste Management Plan

5.1 Targets for Resource Recovery

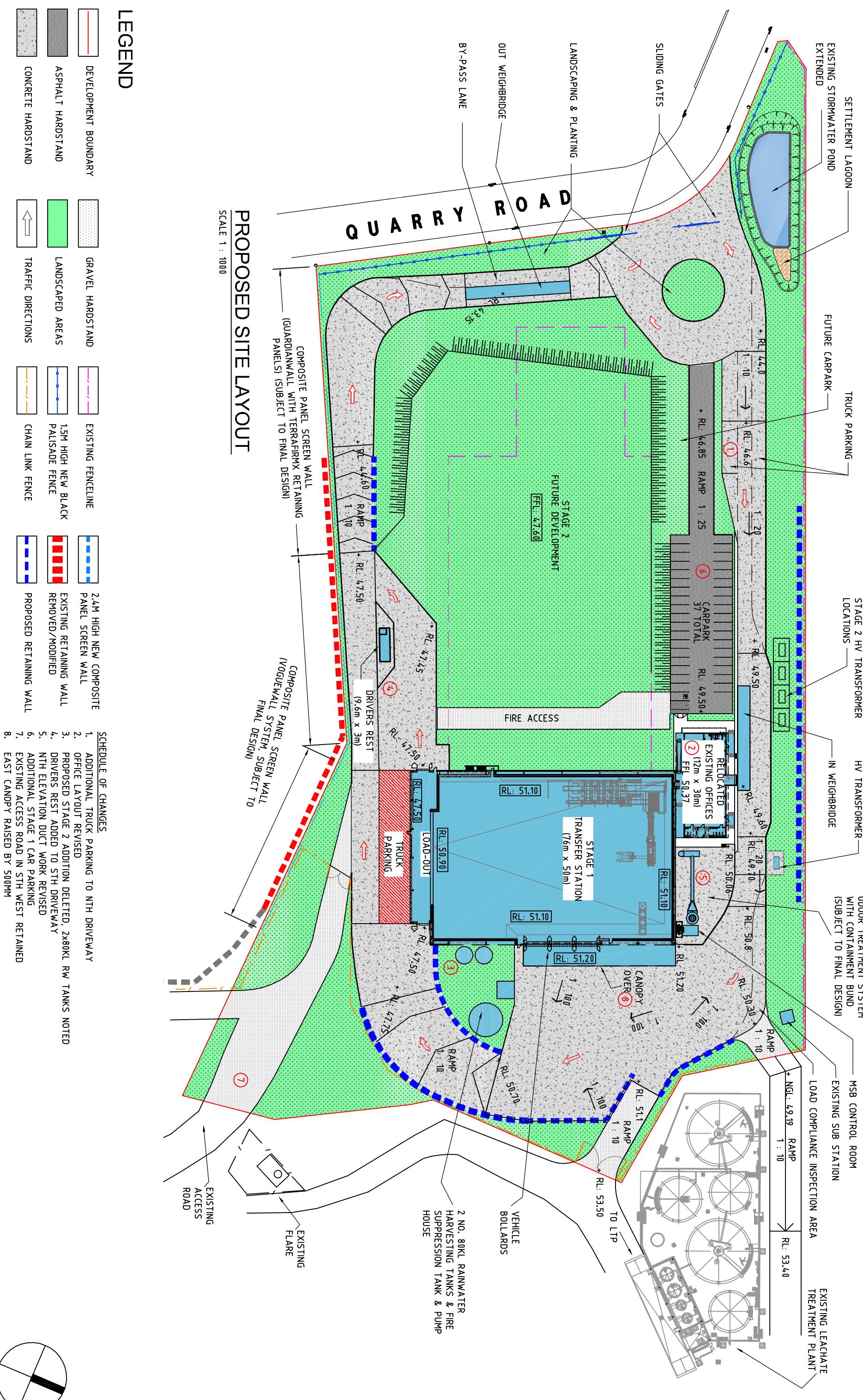
The waste management performance of the Development should contribute to the overall NSW State target for recycling, which is expected to increase from 52% (2010 to 2011) for municipal solid waste and 57% for commercial / industrial waste to 70% (by 2021 to 2022) of the total waste generation per capita (NSW EPA (2014) *NSW Waste Avoidance and Resource Recovery Strategy 2014-21*). The Penrith Waste Strategy (2017) also establishes the same targets as the state-wide strategy for the Council Local Government Area.

5.2 Waste Streams and Classifications

The general operation of the site will generate the following broad waste streams:

- General waste and commingled recycling;
- Office wastes;
- Packaging wastes, including cardboard, paper, plastic / shrink wrap and pallets;
- Bulky waste items, such as furniture and e-waste;
- Liquid waste (leachate);
- General maintenance wastes.

Potential waste types, their associated waste classifications, and management methods are provided in **Table 2**. Management of leachate (liquid waste) is covered by the Leachate Management Protocol, attached to this OWMP as **Appendix B**.



PROJECT: ERSKINE PARK RMF - STAGE 1
WASTE TRANSFER STATION
FOR
CLEANAWAY WASTE
MANAGEMENT LTD



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PROPOSED SITE LAYOUT - STAGE 1 - MOD 3	DATE MARCH 2018
DEVELOPMENT CONSENT	SCALE AS SHOWN @ A3
DRWG. No.	PLT SCALE 1 : 1
DOCUMENTATION JH	SHEET. No. REV.
DRAWN JH	003
CHECKED ND	19

Table 2 Potential waste types, classifications and management methods – operational waste

Waste Types	NSW Classification	Proposed Reuse / Recycling / Disposal Method
General		
General garbage (including non-recyclable plastics)	General solid (putrescible and non-putrescible) waste	Disposal at landfill
Recyclable beverage containers (glass and plastic bottles, aluminium cans), tin cans	General solid (non-putrescible) waste	NSW container deposit scheme “Return and Earn”; comingled recycling at off-site licensed facility
Food waste	General solid (putrescible) waste	Donate (if suitable) ¹ or compost off-site. Alternatively dispose to landfill with general garbage
Furniture	General solid (non-putrescible) waste	Off-site reuse or disposal to landfill
E-waste, printer toners and ink cartridges	Hazardous waste	Off-site recycling (free disposal box / bags and pickup service exists for printer toners and ink cartridges)
Batteries	Hazardous waste	Off-site recycling (Contact the <i>Australian Battery Recycling Initiative</i> for more information ²)
Cardboard/bulky cardboard boxes	General solid (non-putrescible) waste	Cardboard recycling at off-site licenced facility
Bulky polystyrene	General solid (non-putrescible) waste	Disposal at landfill
Mobile Phones	Hazardous waste	Off-site recycling (Contact <i>MobileMuster</i> for more information) ³
Maintenance		
Spent Smoke Detectors	General solid (non-putrescible) waste OR Hazardous waste (some commercial varieties)	Disposal to landfill, or off-site disposal at licensed facility
Light bulbs / fluorescent tubes	Hazardous waste	Off-site recycling or disposal (contact <i>FluoroCycle</i> for more information ⁴)
Cleaning chemicals, solvents, lubricants, area wash downs, empty oil/paint drums/chemical containers	Hazardous waste if containers used to store Dangerous Goods (Class 1, 3, 4, 5 or 8) and residues have not been removed by washing or vacuuming. General solid (non-putrescible) waste if containers cleaned by washing or vacuuming.	Transport to comply with the transport of Dangerous Goods Code applies in preparation for off-site recycling or disposal at licensed facility. Discharge to sewer likely to be subject to Trade Waste Agreement with Sydney Water.

For further information on how to determine a waste's classification, refer to the NSW EPA (2014) *Waste Classification Guidelines*.⁵

¹ <http://www.ozharvest.org/>, <https://www.foodbank.org.au/>, <https://www.secondbite.org/> or <https://www.exodusfoundation.org.au/>

² <http://www.batteryrecycling.org.au/home>

³ <https://www.moblemuster.com.au/>

⁴ <http://www.fluorocycle.org.au/> or <http://www.environment.gov.au/settlements/waste/lamp-mercury.html>

⁵ Available online from <http://www.epa.nsw.gov.au/wasteregulation/classify-guidelines.htm>

5.3 Waste Management Overview

5.3.1 Waste Transfer Station (WTS)

The Development will receive commercial and household waste from the Western Sydney region which will subsequently be transported to a licenced waste management facility outside of the region, in accordance with waste management regulations (SLR, 2015). The majority of the material received is expected to be waste from commercial waste collection trucks, stationary compactor (packer) hooklift loads and side-loader collections (e.g. 240L mobile garbage bin collections from commercial premises).

Waste delivery vehicles will enter the site, weighing on the incoming weighbridge, reverse through one of the rapid acting roller shutter doors, discharge their waste and then exit the site via Quarry Road. Waste offloaded on the tipping floor would be separated into two categories; putrescible and non-putrescible incl. wood, masonry, rigid plastics, and old corrugated cardboard. The non-putrescible waste would be sorted for recycling, while the remaining would be consolidated with the putrescible waste and transferred into transfer vehicles by a front-end loader which would lift the material over a wall opening for top loading. Waste will be transferred from site using B-Doubles or single trailers to an appropriately licensed waste management facility in accordance with relevant waste management regulations.

When the RRF is operational, waste deemed suitable (recyclable) would be diverted to the RRF for recycling and recovery of saleable products.

A Waste Monitoring Program will be implemented while the Development operates. The Program will track the quantity, type and source of waste received on-site, and the quantity, type and quality of the outputs (waste) produced on-site. All waste that is monitored under the tracking system will have the appropriate documentation prior to acceptance at the site. Monitoring will be undertaken by the Weighbridge Operator using Cleanaway's tracking system.

If hazardous or other prohibited waste, such as asbestos, is received at the site, it will be disposed of in accordance with WorkCover Authority and NSW Environment Protection Authority (EPA) requirements. Cleanaway staff will receive adequate training in order to be able to recognise, handle and report any hazardous or other prohibited waste received at the site.

5.3.2 Office, Amenity and Maintenance Waste

Operational waste management is proposed to comprise:

- General waste is to be initially collected from within the site office and then placed (daily) in 240 L capacity mobile garbage bins (MGBs) in designated waste storage areas;
- Recycling bins will be provided in the lunch room and beside printers. Printer toner / ink cartridge recycling collection receptacles will be stored for use in designated locations;
- Additional bins will be placed in the changing rooms and amenities areas for general waste collection;
- The 240 L bins storing waste or recyclable materials will be located adjacent to the site office for collection by Cleanaway; and
- Recyclable materials will be collected in the site office and then transferred to 240 L co-mingled recycling bins, stored near the general waste bins.

Due to the anticipated small volume of operational waste and recyclable materials to be generated from the site (**Table 4**), waste and recycling will be collected by Cleanaway once per week, or on an as needed basis. Also, with such small volumes of waste to be collected from the site, waste does not require mechanical compaction.

For servicing convenience and safety, a single, centralised waste storage area positioned outside of the site office is used.

5.4 Estimated Quantities of Operational Waste

5.4.1 Waste Transfer Station (WTS)

In accordance with the Approval and EPA Environment Protection Licence (EPL) 20986, the design capacity of the WRMF is 300,000 tonnes per annum, inclusive of the WTS and RRF. The WTS has an approved maximum receiving capacity of 300,000 tpa and the RRF can recycle a maximum of 150,000 tpa of waste.

5.4.2 Office, Amenity and Maintenance Waste

For the purposes of this assessment, SLR has adopted the general waste and recycling needs per “Offices”, “Café” and “warehouse” as presented in Council’s *Commercial Waste Generation Rates Guideline* (**Table 3**) to estimate the quantities of operational waste and recycling to be generated from the operation of the Development (**Table 4**).

Table 3 Estimated Waste Generation Rates for Different Types of Premises

Type of Premises	Waste	Recycling
Offices	10L / 100m ² floor area / day	10L / 100m ² floor area / day
Takeaway/Café (pre-packaged food)	150L / 100m ² floor area / day	150L / 100m ² floor area / day
Warehouse (office)	10L / 100m ² floor area / day	10L / 100m ² floor area / day

Source: Penrith City Council *Commercial Waste Generation Rates Guideline*

The estimated quantities of operational waste and recycling generated by the Development (**Table 4**) are based on:

- The number and type of offices as presented on the WRMF architectural drawings;
- The waste and recyclable material generation rates presented in **Table 3**;
- The use of 240 L MGBs for weekly waste storage in the office waste storage areas;
- MGB dimensions as per Appendix B of *EPA’s Better Practice Guidelines for Waste and Recycling Management in Commercial and Industrial Facilities* (2012); and
- Once-a-week frequency of waste and recycling collection.

Table 4 Estimated quantity of operational waste and recycling generated weekly

Area	Waste (L)	Recycling (L)
Offices	35	35
Kitchen	20	20
Warehouse	380	380
Total Waste	435	435

5.5 Waste and Recycling Storage Areas

5.5.1 Waste and Recycling Storage Size and Location

After consideration to the estimated quantities of operational waste and recycling, 240 L MGBs will be appropriate for waste storage and recycling.

The waste/recycling storage area will be of an adequate size to accommodate all waste and recycling associated with operation of the Development. In accordance with Council's DCP, enough space will be provided to allow for the storage, access and manoeuvring of waste bins to facilitate ease of use and servicing.

To allow for ready movement of bins in and out of waste storage areas, a floor area of at least 150% of the total minimum bin Ground Floor area (GFA) should be provided. This also allows for provisional contingency in the event of a surplus of waste occurrence.

If 240 L MGB are used, approximately four x 240 L MGB would be required for weekly operational waste. The dimensions and GFA of an individual 240 L MGB are:

- Height: 1,080 mm;
- Depth: 715 mm;
- Width: 580 mm; and
- GFA of 0.42 m² (rounded to 0.5 m²)

To accommodate weekly collection of four x 240 L MGB of waste and recycling bins, a minimum area of 3 m² to 5 m² is recommended to be designated for storage.

5.5.2 Waste and Recycling Storage Location

The site office will have its own waste and recycling storage area where the waste and recycling MGBs will be stored prior to collection. The storage area will be located adjacent to the site office and will be identified with appropriate signage.

In accordance with Council's DCP, the waste storage area will be located so that it:

- Allows for ease of access for waste collection contractors;

- Is separated from the car parking area and the circulation path of other vehicles;
- Is convenient and accessible to all Cleanaway staff members; and
- Is discreetly located away from public spaces.

5.5.3 Waste and Recycling Storage Design Considerations

In accordance with Council's DCP, the waste and recycling storage will:

- Provide sufficient manoeuvring area on site to allow collection vehicles to enter and leave the site in a forward direction and service the Development efficiently with little or no need to reverse;
- Allows 240 litre bins to be wheeled over the surface, with a maximum grade of 7%.
- Has access to a water outlet for washing purposes, with used wash water discharging to an approved sewer outlet; and
- Suitably signposted so as to ensure appropriate use.

A temporary waste storage area will be installed at the site office which meets the above requirements. Once the permanent site office building is constructed then a permanent waste storage area will be constructed in accordance with the Building Code of Australia (BCA) and Australian Standards.

5.5.4 Additional Storage

An additional bulky goods storage area, separately delineated and signposted from operational waste and recycling storage areas, may be established at the Development site. This additional storage area can be utilised for:

- Recyclable electronic goods (e.g. batteries, fluorescent tubes);
- Reusable, bulky items (e.g. crates and pallets); and
- Liquid waste (oils etc). Liquid waste storage areas are to be enclosed, bunded, and drained to a grease trap, in accordance with the requirements of Sydney Water.

Alternatively, the site manager may consider organising a skip bin to remove separated e-waste as required, or engage a contractor to collect and transport these items for recycling at a NSW EPA licensed facility.

5.6 Waste Separation and Storage

Operational waste from the Development should be separated into a least three (3) primary waste streams, comprising:

- Paper and cardboard;
- Other recyclables; and
- General waste

Separate, dedicated MGBs will be provided at the waste storage area for collection of recyclables. MGBs will be appropriately colour-coded and labelled to enable users to easily identify which waste is to be placed into which bins.

The Standards Australia AS 4123.7-2006 (R2017) *Mobile waste containers Part 7: Colours, markings and designated requirements* provides recommendations for designated colours for waste bins depending on the type of waste the bins are to receive. The colours that apply to operational waste generated by the Development are:

- Blue: Paper and cardboard
- Yellow: Recyclables (other than paper and cardboard); and
- Red: General waste

Each MGB will also be labelled according to the waste they are to receive. Labels approved by the NSW EPA for labelling of waste materials are available online and will be used as applicable. A selection of labels prepared by NSW EPA and anticipated to be applicable to operational waste generated by the Development is provided in **Figure 4**.



Figure 4 Example of labels for MGBs for operational waste

5.7 Communication Strategies

Waste Management initiatives and management measures will be clearly communicated to Cleanaway employees and contractors including cleaners. Benefits of providing this communication include:

- Improved satisfaction with services;
- Increased ability and willingness to participate in recycling;
- Improved amenity and safety;
- Improved knowledge and awareness through standardisation of services;
- Increased awareness or achievement of environmental goals and targets;
- Reduced contamination of recyclables stream;
- Increased recovery of recyclables and organics (where implemented) material; and
- Greater contribution to state-wide targets for waste reduction and resource recovery.

To realise the above benefits, the following communication strategies should be considered by the site manager:

- Use consistent signage and colour coding throughout the development;
- Ensure all employees are informed of correct waste separation and management procedures;
- Provide directional signage to show locations/routes to waste storage areas;
- Clearly label general/comingled waste bins to ensure no cross contamination and to identify the types waste that may be disposed of in each bin; and
- Educate all employees /contractors conducting work on the property ensuring they adhere to this WMP.

Signs approved by the NSW EPA for labelling of bins and waste storage areas are available online (<http://www.epa.nsw.gov.au/wastetools/signs-posters-symbols.htm>).

5.8 Monitoring and Reporting

Auditing and visual monitoring of bins and bin storage areas should be undertaken by the site manager at the following frequencies:

- Weekly, within the first two months of operation to ensure the waste management system is sufficient for the operation; and
- Every six months, to ensure waste is being managed appropriately.

Any deficiencies identified in the waste management system, including (but not limited to) unexpected waste volumes, should be rectified by the site manager as soon as practicable.

5.9 Roles and Responsibilities

It is the responsibility of the site manager to implement this OWMP and a responsibility of all employees and contractors to follow the waste management procedure set out by the OWMP. A summary of roles and responsibilities is provided in Table 5.

Table 5 Suggested roles and responsibilities

Responsible Person	General Tasks
Site Manager	<p>Ensure the OWMP is implemented throughout the life of the operation.</p> <p>Update the OWMP as needed to ensure the plan remains applicable.</p> <p>Undertake liaison with and management of waste and recycling collections by contractors.</p> <p>Conduct inspections of bins and waste storage areas on a regular basis for condition and cleanliness.</p> <p>Organise cleaning and maintenance requirements for all bins and waste storage areas as required.</p> <p>Manage any complaints and non-compliances reported through waste audits etc.</p> <p>Ensure effective signage, communication and education is provided to alert new management staff and visitors about the provisions of this OWMP.</p> <p>Monitor and maintain signage to ensure it remains clean, clear and applicable.</p> <p>Ultimately responsible for the management of all waste management equipment, cleaning requirements, waste transfer and collection arrangements.</p> <p>Manage unexpected waste volumes to mitigate waste overflow in storage areas.</p> <p>Responsible for ensuring statutory record-keeping, monitoring and reporting requirements are complied with.</p>
Environmental	Assessment of suspicious potentially contaminated materials, hazardous materials and liquid

Responsible Person	General Tasks
Management Representative (EMR)	wastes.
Cleaners Caretaker	<p>Monitor bins to ensure no overfilling occurs.</p> <p>Ensure bins and waste storage areas are kept tidy.</p> <p>Transfer waste from offices to waste storage areas as required.</p> <p>Cleaning of bins and waste storage areas per Site Manager direction.</p>
Employees	Adhere to all waste management directions as given by the Site Manager

Document Control

Reference	Date	Prepared	Checked	Authorised
DRAFT	05 May 2018	Tracey Ball	Lono Tyson	Cleanaway
FINAL	10 July 2018	Tracey Ball	Tracey Ball	Cleanaway

APPENDIX A

Consent Conditions and Statement of Commitments

Table 6 lists the sections within the OWMP that specifically address each of the relevant SSD 7075 Conditions and Statement of Commitments relating to waste management.

Table 6 SSD 7075 Conditions and Statement of Commitments Pertaining to Waste

Condition/Commitment No.	Condition/Commitment	Section Addressing Condition/Commitment
SSD 7075		
B2	From the commencement of operation, the Applicant shall implement a Waste Monitoring Program for the Development. The program must:	Section 5.3.1
	a) be prepared by a suitably qualified and experienced person(s) prior to the commencement of operation;	Section 1
	b) include suitable provision to monitor the:	
	(i) quantity, type and source of waste received on-site; and	Section 5.3.1
	(ii) quantity, type and quality of the outputs produced on-site.	Section 5.3.1
	c) ensure that:	
	(i) all waste that is controlled under a tracking system has the appropriate documentation prior to acceptance at the Site; and	Section 5.3.1
	(ii) staff receive adequate training in order to be able to recognise, handle and report any hazardous or other prohibited waste, including asbestos.	Section 5.3.1
Statement of Commitments		
EIS Section 7.12.4	An operation WMP will be implemented throughout the life of the operation and will be updated on a regular basis (e.g. annually) to ensure the Plan remains applicable.	This Management Plan Section 5.9

APPENDIX B

Leachate Management Protocol

LEACHATE MANAGEMENT PROTOCOL

Erskine Park Transfer Station – Stage 1

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Introduction

Purpose

This Leachate Management Protocol (LMP) forms part of the Operational Environmental Management Plan (OEMP) for the Erskine Park Stage 1 Waste Transfer Station (WTS) development. The purpose of the LMP is to outline the design, operational procedures and maintenance requirements for the leachate management system to ensure that it operates as intended to prevent adverse impacts on the surrounding water quality and prevent pollution of the downslope environment. This document is applicable to employees, contractors and all personnel associated with the operation of the WTS.

Regulatory Framework

The following legislation, regulations, statutory requirements, guidelines and strategies are applicable to the management of leachate during the operational phase of the WTS:

- ANZECC Marine and Freshwater Quality Guidelines, 2000;
- National Water Quality Management Strategy, Department of Environment, Australian Government (1992);
- NSW State Rivers and Estuaries Policy, NSW Government, (1993);
- Protection of Environment Operations Act (POEO Act), 1997;
- Sydney Regional Environmental Plan No. 20 – Hawkesbury-Nepean River (No. 2), 1997; and
- Water Management Act, 2000.

These requirements are to be adhered to and complied with during the operation of the WTS.

Licencing

There are currently no licenced discharge points within the Development site under the existing Environment Protection Licence (EPL) 20986 which covers the WTS site. An existing trade waste agreement exists to discharge treated leachate (wastewater) into Penrith City Council's sewerage system from existing Leachate Treatment Plant (LTP). The LTP is operated by Cleanaway and is located on the adjoining landfill site.

Summary of Leachate Management System

Leachate Generation

All waste management operations will be conducted within the confines of the building. As such, stormwater runoff will not be generated within waste storage areas and therefore the amount of leachate produced will be minimal.

Occasional washdown of the building floor may generate some leachate. Further, leachate will be generated as a result of blowdown from the wet scrubber. The Tri-stack fans will be operational at all times during normal operating conditions. The wet scrubber will be automatically activated during inclement weather and operating conditions. The anticipated leachate generation from the facility (with and without the wet scrubber) is detailed below in **Tables 1 and 2**.

Table 1: Facility with no Wet Scrubber

Anticipated peak weekly leachate volume from washdown	3,000 L/day (washdown once a week)
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Table 2: Facility with Wet Scrubber

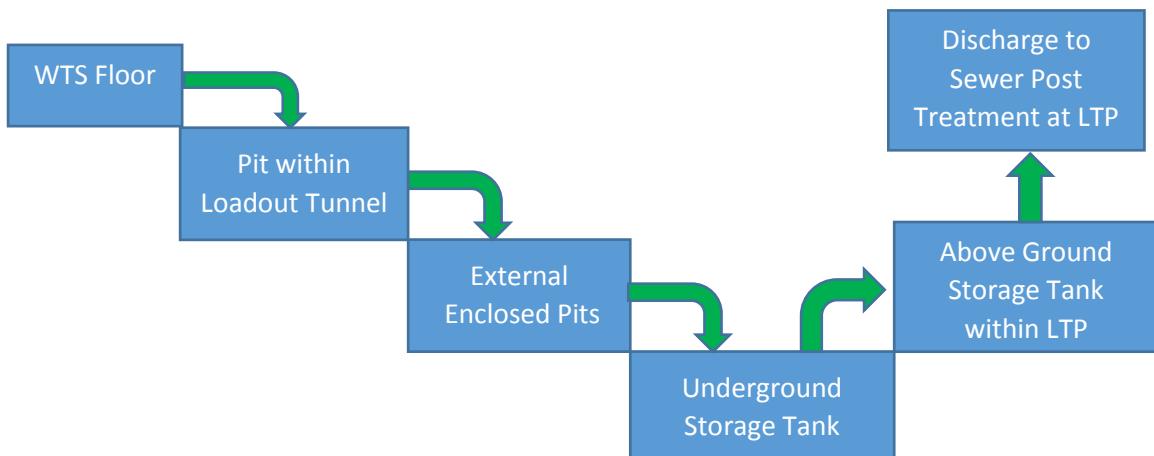
Anticipated peak weekly leachate volume from washdown	3,000 L/day (washdown once a week)
Anticipated peak daily leachate volume from wet scrubber	3,500 L/day (10-hour operating days)
Total anticipated peak leachate volume on washdown day	6,500 L/day

Any water used for firefighting purposes is likely to generate the greatest volume of leachate should this ever occur. The fire suppression system will run at a rate of 6,600 L/min. During a fire event the fire suppression may run for up to 60 min which equates to a firewater volume 396 m³. In the event of a fire Cleanaway will engage the Cleanaway Fire Response Team which will remove and dispose any firewater from the premises.

Leachate Management System

Leachate generated from the scrubber and floor washdowns and firewaters is to be managed at the Erskine Park WTS site by collection from the tipping hall and load out areas in a contained drainage system comprised of a number of sumps located in low points across the tipping floor. The leachate is then conveyed to a 63,000 L underground storage tank, which is designed to contain water being discharged at a rate of 35 L/s for a duration of 30 minutes. An automated pump installed within the underground tank will transfer the leachate to above ground 100,000L storage tank at the existing Leachate Treatment Plant (LTP), which is located on the adjacent landfill premises near the north-east corner of the WTS site.

The below flow chart depicts the intended flow path for the stormwater and firewaters encountered at the WTS.



Leachate will be treated at the LTP and then discharged into the Penrith City Council (PCC) sewer system in accordance with the existing trade waste discharge agreement with Sydney Water. Discharge volume capacity is detailed below as per **Table 3**.

Table 3: Maximum treatment and discharge volumes

LTP Maximum Treatment Capacity	The plant has two Sequencing Batch Reactor and is capable of treating up to 1,036 kL/day
Current Leachate Volumes being Treated	100kL/day
Maximum Allowed Discharge Volume into Sewer	1,036 kL/day

Monitoring and Maintenance

Water Quality Monitoring

Water quality monitoring of the treated leachate in the LTP will be undertaken in accordance with the existing trade waste agreement. Treated leachate that does not meet the required water quality requirements will not be discharged to the PCC sewer system and will undergo further treatment until discharge compliance thresholds are met.

Leachate Monitoring and Maintenance Program

The performance of the leachate management system and associated plant/equipment will decline if they are not maintained. Where leachate containment and conveyance controls are observed to not be functioning correctly, they will be restored so that they can perform as intended. All staff are responsible for reporting leachate management issue observations.

Key maintenance tasks, responsibility, frequency of inspection and mitigation actions are outlined in **Table 4**. As the LTP is managed by Cleanaway's landfill operations it has been excluded from the monitoring and maintenance program for the WTS site.

Table 4: Leachate Monitoring and Maintenance Program

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
Leachate Containment Sumps and Pipes	Inspect for blockages, structural damage and sediment/waste build up including inlet and outlet pipes.	Cleanaway	Quarterly	Remove blockages and de-silt as required. Any material removed shall be disposed of in a suitable manner. A suitably qualified consultant shall be contacted if any structural damage is observed.
Underground Leachate Storage Tank	Inspect for blockages, structural damage and sediment/waste build up including inlet pipes.	Cleanaway	Quarterly	Remove blockages and de-silt as required. Any material removed shall be disposed of in a suitable manner. A suitably qualified consultant shall be contacted if any structural

System / Device	Inspection / Maintenance Tasks	Responsibility	Inspection Frequency	Mitigation Actions
				damage is observed.
Leachate Pump and Pipes	Testing of pump to ensure that it is still working with sufficient capacity (i.e. monitoring of current draw, impeller wear, pitting, presence of vortex cones etc)	Cleanaway or Licensed Contractor	Quarterly	Repair / replace pump components as required.

Monitoring Records

The results of the leachate management system monitoring must be recorded in a legible form (or in a form that can readily be reduced to a legible form) and must be kept for at least 4 years after the monitoring. The monitoring should also include the following details:

- The date(s) and time(s) on which the monitoring was undertaken;
- The point at which the monitoring was undertaken; and
- The name of the person who carried out the monitoring.

Roles and Responsibilities

Responsibilities

All staff must comply with this LMP. Other responsibilities are detailed in **Table 5**.

Table 5: Responsibilities relating to Leachate Management

Position	Responsibility
Cleanaway	Revision of this LMP to the satisfaction of regulators
Site Manager	Monitoring and maintenance of leachate management structures in accordance with this LMP
Site Manager Site Supervisor and Leading Hand All site personnel Contractors	Undergo appropriate inductions and training Comply with the relevant Acts, Regulations and Standards. Compliance with this LMP Promptly report to management on any non-conformances or breaches of the leachate system.

Training

All staff and sub-contractors involved in maintaining the leachate infrastructure will be inducted prior to commencing work at the WTS. The induction will include an explanation of this LMP.

Additional training (such as confined space training) may be required for maintenance of the leachate management structures. This training should be identified and undertaken (where required) prior to any maintenance activities being undertaken.

Incident Management

General

Following a leachate related incident the following will be undertaken:

- Investigate cause of the incident;
- Implement corrective measures prior to the recommencement of site works; and
- Complete an Incident and Corrective Action Report to ensure that appropriate causation, remediation and monitoring is developed, implemented and documented.

Where the leachate incident has potential to cause substantial harm to human health, property and/or the environment, then it will be reported to the HSE Officer and Site Manager, immediately after becoming aware of the incident. The HSE Officer or Site Manager should report the incident to the relevant authorities as soon as practically possible. Notifications must also be made by telephoning the Environment Line service on 131 555.

Stop Work Authorisations due to leachate issues can be issued by the HSE Manager or Site Manager when:

- Required following an environmental incident or emergency, to prevent further risk to safety or the environment, as appropriate; and
- Any other significant breach of this LMP, particularly that compromises safety and protection of site personnel and/or the environment.

Additional detail on reporting of notifiable incidents is provided in the OEMP.

Firewater Management

The leachate management system includes an underfloor capture pit to capture runoff from the WTS shed and the load out tunnel. To manage fire water produced during fire suppression events, Cleanaway's emergency response team will be engaged to remove fire water being collected in the underground storage tank as the emergency event unfolds. The need to pump fire water into LTP is not required as the emergency response team will collect and dispose of the firewater outside the premises.

The fire wastewater management approach will include the following:

- Engagement of the Cleanaway Fire Response Team. This team will use a suction system to collect the firewater which will then be disposed of at an appropriately licensed waste facility rather than being transferred to the LTP;
- Temporary containment measures (by deploying temporary bunding) to capture fire wastewater. Temporary bunding may include items such as sandbags and spill kit items which are to be readily available at the site;
- Outlets from the bio-retention sediment forebay and the Atlantis Flow-Tank OSD system (via a stop valve) should be blocked immediately to prevent discharges to the offsite stormwater network; and
- Turning off the automatic pump within the underground leachate storage tank;

- Captured firewater within temporary containment measures should be pumped out by a liquid waste contractor and disposed of at an appropriately licenced waste facility.

The proposed management measures will aim to prevent discharges of potentially contaminated firewater to the local stormwater network.

Complaints Management

Cleanaway must maintain a Register of Complaints that captures and stores details of individual complaints. A record of the complaint must be legible and must include the following details:

- The date and time of the complaint;
- The method by which the complaint was made;
- Any personal details of the complainant which were provided by the complainant or, if no such details were provided, a note to that effect;
- The nature of the complaint;
- The action taken by Cleanaway in relation to the complaint, including any follow-up contact with the complainant; and
- If no action was taken by the licensee, the reasons why no action was taken.

Cleanaway will investigate any complaints made in relation to leachate at the premises and rectify the issue (where applicable) as soon as is practically possible.

Cleanaway will notify the public of the complaints line telephone number and the fact that it is a complaints line so that the impacted community knows how to make a complaint.

Reporting

A notifiable incident would include any offsite discharge of untreated leachate, or firewater to the stormwater system. Reporting will be undertaken as per requirements on the EPL 20986.

Document Review

This LMP is an evolving document that will be reviewed and updated annually and in response to changes to the WTS operations as required.

Limitations of this report

This LMP is intended to form part of the OEMP for the operation of the Erskine Park WTS and sets out minimum requirements. The Site Manager will need to review the appropriateness of the leachate management system during the operation of the WTS and may be required to adjust measures and the monitoring/maintenance program to ensure that they are appropriate at all times to prevent harm to the environment if site conditions change over time.

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SLR Consulting Australia Pty Ltd (SLR), 2015, *Erskine Park Resource Management Facility. Staged SSD (SSD – 7075) Concept Plan and Stage 1 Waste Transfer Station. Environmental Impact Statement*.

Sydney Water (2016), *Consent to discharge industrial trade wastewater*, approved 22nd February 2016.

Cleanaway Contact Details

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Document Control

Reference	Date	Prepared	Checked	Authorised
FINAL	2 July 2018	Duncan Barnes	Paul Delaney	Cleanaway

Appendix I - Landscape Plan

PROJECT SPECIFICATION: ERSKINE PARK RMF STAGE 1

LANDSCAPE SPECIFICATION.

ERSKINE PARK RMF- STAGE 1.

PROJECT NO 17-016

Issue No.	A		
Date	22.06.17		
Checked	J.R.		
Verified	J.R.		
Approved	J.R.		

NATSPEC SUBSCRIBER ID 94031112

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0221 SITE PREPARATION

1 GENERAL

1.1 RESPONSIBILITIES

General

Requirement: Provide site preparation, as documented.

Outline of the works: supply and install of landscape soft surfaces- turfed, grass seeded & planted areas, with associated imported soils and mulches.

Incidental works

Generally: Undertake the following:

- Reinstatement: Reinstate undeveloped ground surfaces to the condition existing at the commencement of the contract.
- Minor trimming: As required to complete the works, as documented.

1.2 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements.*

1.3 INTERPRETATION

Definitions

General: For the purposes of this worksection the following definitions apply:

- Authorities: Any authority or agency covering statutory requirements relating to the project, including clearances for work in that particular area.
- Clearances: A formal certificate, approval or condition issued by an authority to allow work to be carried out in a particular area.
- Network Utility Operator: The entity undertaking the piped distribution of drinking water or natural gas for supply or is the operator of a sewerage system or external stormwater drainage system.

1.4 SUBMISSIONS

Execution details

Requirement: Submit details of methods and equipment proposed for the following:

- Clearing and grubbing.
- Tree removal and transplanting.

1.5 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Trees to be removed.

2 EXECUTION

2.1 EXISTING SERVICES

General

Requirement: Before commencing earthworks, locate and mark existing underground services in the areas which will be affected by the earthworks operations including clearing, excavating and trenching.

Utility services: Contact DIAL BEFORE YOU DIG to identify location of underground utility services pipes and cables.

Excavation: Do not machine excavate within 1 m of existing underground services.

Existing service lines: If required, divert services detected during excavation to new routes, clear of the building, and reconnect to the Network Utility Operator's requirements.

2.2 SITE CLEARING

Extent

Requirement: Clear only areas to be occupied by works such as structures, paving, excavation, regrading and landscaping or other areas designated to be cleared.

Contractor's site areas: If not included within the areas documented above, clear generally only to the extent necessary for the performance of the works.

Clearing and grubbing

Clearing: Remove everything on or above the site surface, including rubbish, scrap, grass, vegetable matter and organic debris, scrub, trees, timber, stumps, boulders and rubble.

Grubbing: Grub out stumps and roots over 75 mm diameter to a minimum depth of 500 mm below subgrade under buildings, embankments or paving, or 300 mm below finished surface in unpaved areas. Backfill holes remaining after grubbing with sand material to prevent ponding of water.

Compact the material to the relative density of the existing adjacent ground material.

Redundant/decommissioned works: Remove works, including slabs, foundations, pavings, drains and access chambers covers found on the surface.

Surplus material

Topsoil and excavated material: Continually remove unwanted stripped soil and other material from the site as the work proceeds, including any material dropped on footpaths or roadways.

2.3 STORMWATER AND SEDIMENT CONTROL

General

Erosion and sediment control measures: To 0172 *Environmental management*.

2.4 EXISTING WORKS TO BE RETAINED

Marking

Requirement: Mark out works with 1 m high 50 x 50 mm timber stakes with yellow plastic tapes attached to prevent accidental damage.

2.5 TREES TO BE REMOVED

Designation

Marking: Mark trees and shrubs to be removed 1000 mm above ground level.

Extent: refer to Landscape plans for trees to be removed.

2.6 COMPLETION

Clean up

Progressive cleaning: Keep the work included in the contract clean and tidy as it proceeds and regularly remove from the site waste and surplus material arising from execution of the work, including any work performed during the defects liability period or the plant establishment period.

Removal of plant: Within 10 working days of the date of practical completion, remove temporary works, construction plant, buildings, workshops and equipment which does not form part of the works, except what is required for work during the defects liability period or the plant establishment period.

Remove these on completion.

Waste disposal: To 0172 *Environmental management*.

Vermin management

Requirement: Employ an approved firm of pest exterminators and provide a certificate from the firm stating that the completed works is free of vermin.

0241 LANDSCAPE –EDGING

1 GENERAL

1.1 RESPONSIBILITIES

General

Requirement: Provide edging, as documented.

1.2 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements.*

1.3 INSPECTION

Notice

Inspection: Give notice so inspection may be made of the following:

- Setting out before commencement of construction.

2 PRODUCTS

2.1 TIMBER

Hazard class

General: As defined in AS 1604.1.

Preservative treatment

Timber type: Provide only timbers with preservative treatment appropriate to the Hazard class.

Cut surfaces: Provide supplementary preservative treatment to all cut and damaged surfaces.

2.2 EDGING

Sawn timber

Timber: ACQ treated pine

Size: 3000 x 150 x 50mm

Pegs: 50 x 50 x 400 mm long.

3 EXECUTION

3.1 GENERAL

Set-out

General: Set out the positions of edging.

3.2 EDGING

Sawn timber

Installation: Set edgings flush with adjoining surfaces. Drive pegs into the ground at 1200 mm centres on the planting side of the edging and on both sides of joints between boards, with peg tops 15 mm below top of edging. Fix the pegs with galvanised nails, two per fixing.

Curving: Space the pegs to hold edging to a uniform curve. Reduce edging thickness to 15 mm if required to enable it to be bent.

0250 LANDSCAPE – GARDENING

1 GENERAL

1.1 RESPONSIBILITIES

General

Requirement: Provide landscaped gardening, as documented.

Plants: Provide plants that have been grown to a standard that allows them to establish rapidly and grow to maturity.

Maintenance: Encourage and maintain healthy growth for the duration of the contract.

Program: Provide a suitable irrigation, pruning, fertiliser and monitoring program for all plant materials held by the supplier. Take any other precautions required to safeguard the health and well-being of all plant materials before and including their delivery to site.

1.2 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements.*

1.3 INTERPRETATION

Definitions

General: For the purposes of this worksection the following definitions apply:

- Imported topsoil: suitable for the establishment and ongoing viability of the selected vegetation, free of weed propagules and of contaminants, and classified by texture to AS 4419 Appendix 1, as follows:
 - . Fine: Clay loam, fine sandy loam, sandy clay loam, silty loam, loam.
 - . Medium: Sandy loam, fine sandy loam.
 - . Coarse: Sand, loamy sand.

1.4 SUBMISSIONS

Materials

Supplier's data: Submit supplier's data including the following:

- Material source of supply for topsoil and mulch.

Replacement plants

Species: Submit written certification that all plant material is true to the required species and type.

Samples

General: Submit representative samples of each material, packed to prevent contamination and labelled to indicate source and content.

Bulk materials: Submit a 5 kg sample of each type specified. Submit bulk material samples, with required test results, at least 5 working days before bulk deliveries.

Suppliers

Statements: Submit statements from suppliers, giving the following, where applicable:

- Particulars of the supplier's experience in the required type of work.
- Production capacity for material of the required type and quantity.
- Lead times for delivery of materials to the site.

1.5 INSPECTION

Notice

Inspection: Give notice so that inspection may be made of the following:

- Setting out completed.
- Subgrades cultivated or prepared for placing topsoil.

- Topsoil spread before planting.
- Grassing bed prepared before turfing and seeding.
- Grassing or turfing completed.
- Plant holes excavated and prepared for planting.
- Plant material set out before planting.
- Planting, staking and tying completed.
- Completion of planting establishment work.

2 PRODUCTS

2.1 TOPSOIL

Standard

Imported topsoil: To AS 4419.

Composts, soil conditioners and mulches: To AS 4454.

Source

General: provide imported topsoil.

Imported topsoil

General: Provide imported topsoil as documented in the **Imported topsoil schedules**.

Topsoil particle size table (% passing by mass)

Sieve aperture (mm)	Soil textures		
	Fine	Medium	Coarse
2.36	100	100	100
1.18	90 – 100	90 – 100	90 – 100
0.60	75 – 100	75 – 100	70 – 90
0.30	57 – 90	55 – 85	30 – 46
0.15	45 – 70	38 – 55	10 – 22
0.075	35 – 55	25 – 35	5 – 10
0.002		2 – 15	2 – 8

Topsoil nutrient level table

Nutrient	Unit	Sufficiency range
Nitrate-N (NO ₃)	mg/kg	> 25
Phosphate-P (PO ₄) – P tolerant	mg/kg	43 - 63
Phosphate-P (PO ₄) – P sensitive	mg/kg	< 28
Phosphate-P (PO ₄) – P very sensitive	mg/kg	< 6
Potassium (K)	mg/kg	178 - 388
Sulphate-S (SO ₄)	mg/kg	39 - 68
Calcium (Ca)	mg/kg	1200 - 2400
Magnesium (Mg)	mg/kg	134 - 289
Iron (Fe)	mg/kg	279 - 552
Manganese (Mn)	mg/kg	18 - 44
Zinc (Zn)	mg/kg	2.6 - 5.1
Copper (Cu)	mg/kg	4.5 - 6.3
Boron (B)	mg/kg	1.4 - 2.7

Method References

pH in H₂O (1:5), pH in CaCl₂ (1:5) and Electrical Conductivity (EC) by Rayment & Higginson (1992)
method 4A2, 4B2, 3A1

JOCELYN RAMSAY & ASSOC PTY. LTD.
A.B.N. 38 097 146 999

Nutrient	Unit	Sufficiency range
Soluble Nitrate-N by APHA 4500		
Soluble Chloride by Rayment & Higginson (1992) modified method 5A2		
Extractable P by Mehlich 3 – ICP		
Exchangeable cations – Ca, Mg, K, Na by Mehlich 3 – ICP		
Extractable S by Mehlich 3 – ICP		
Extractable trace elements (Fe, Mn, Zn, Cu, B) by Mehlich 3 - ICP		

2.2 GRASS

Seed mixtures

Description: Fresh, clean, uncoated new seed, thoroughly pre-mixed with a bulking material such as safflower meal.

Unacceptable seed: Wet, mouldy or otherwise impaired.

Purity (minimum): 98%.

Germination viability (minimum): 86%.

Age (maximum) from date of harvest: 2 years.

Handling: Deliver to the site in bags marked to show weight, seed species and supplier's name.

Turf

Description: Cultivated turf of even thickness, free from weeds and other foreign matter.

Supplier: A specialist grower of cultivated turf.

2.3 FERTILISER

General

Description: Proprietary fertilisers, delivered to the site in sealed bags marked to show manufacturer or vendor, weight, fertiliser type, N:P:K ratio, recommended uses and application rates to **Fertiliser schedule**.

2.4 PLANTS - GENERAL

Supply

Supply trees with the following properties:

- Free from injury.
- Self-supporting.
- With calliper at any given point on the stem greater than the calliper at any higher point on the stem.
- Health: Foliage size, texture and colour at time of delivery consistent with that of healthy specimens for the nominated species.
- Vigour: Extension growth consistent with that exhibited in vigorous specimens of the species nominated.
- Damage: Free from damage and from restricted habit due to growth in nursery rows.
- Stress: Free from stress resulting from inadequate watering, excessive shade or excessive sunlight experienced at any time during their development.
- Site environment: Grown and hardened off to suit anticipated site conditions at the time of delivery.
- Root development: Grown in their final containers for the following periods:
 - . Plants < 25 L size: More than 6 weeks.
 - . Plants > 25 L size: More than 12 weeks.
- Pests and disease: Free from attack by pests or disease.

Labelling

General: Clearly label individual plants and batches.

Label type: To withstand transit without erasure or misplacement.

Root system

Requirement: Supply plant material with a root system that is:

- Well proportioned in relation to the size of the plant material.
- Conducive to successful transplantation.
- Free of any indication of having been restricted or damaged.

Root inspection: If inspection is by the removal of soil test, such as investigative inspection, sample as follows:

- For > 100 samples: Inspect 1%.
- For < 100 samples: Inspect 1 sample.

Sample plants: Replace plants used in investigative inspection.

Defective samples: remove from site.

Rejection: Do not provide root bound stock.

3 EXECUTION

3.1 PREPARATION

Weed eradication

Herbicide: Eradicate weeds using environmentally acceptable methods, such as a non-residual glyphosate herbicide in any of its registered formulae, at the recommended maximum rate.

Manual weeding: Remove rubbish and weed growth throughout grassed, planted and mulched areas by hand, regularly. Remove weed growth from an area of 750 mm diameter around the base of the trees in grassed areas. Continue eradication throughout the course of the works and during the planting establishment period.

Vegetative spoil

Disposal: Remove vegetative spoil from site. Do not burn.

3.2 SUBSOIL

Ripping

General: Rip parallel to the final contours. Do not rip when the subsoil is wet or plastic. Do not rip within the dripline of trees and shrubs to be retained.

Ripping depths: Rip the subsoil to the following typical depths:

- Compacted subsoil: 300 mm.
- Heavily compacted clay subsoil: 450 mm.

Planting beds

Excavated: Excavate to bring the subsoil to at least 300 mm below finished design levels. Shape the subsoil to fall to subsoil drains where required. Break up the subsoil to a further depth of 100 mm.

Cultivation

Minimum depth: 100 mm.

Cultivation depths (mm):

- Grassed areas (seeded, turf): 100mm
- Planting areas: 150mm

Services and roots: Do not disturb services or tree roots. If required cultivate these areas by hand.

Cultivation: Mix in materials required to be incorporated into the subsoil. Cultivate manually within 300 mm of paths or structures. Remove stones exceeding 25 mm, clods of earth exceeding 50 mm, and weeds, rubbish or other deleterious material brought to the surface during cultivation. Trim the surface to design levels after cultivation.

Additives

General: Apply additives after ripping or cultivation and incorporate into the upper 100 mm layer of the subsoil as documented in the **Subsoil additives schedule**.

Gypsum: Incorporate at the rate of 0.25 kg/m².

Topsoil

Placing topsoil

General: Spread the topsoil on the prepared subsoil and grade evenly, making the necessary allowances to permit the following:

- Required finished levels and contours may be achieved after light compaction.
- Grassed areas may be finished flush with adjacent hard surfaces such as kerbs, paths and mowing strips.

Spreading: On steep batters, make sure there is no danger of batter disturbance.

Finishing: Feather edges into adjoining undisturbed ground.

Consolidation

General: Compact lightly and uniformly in 150 mm layers. Avoid differential subsidence and excess compaction and produce a finished topsoil surface which has the following characteristics:

- Finished to design levels.
- Smooth and free from stones or lumps of soil.
- Graded to drain freely, without pending, to catchment points.
- Graded evenly into adjoining ground surfaces.
- Ready for planting, turfing or grass seeding.

Topsoil depths

General: Spread topsoil to the following typical depths:

- Excavated planting areas:
 - . If using organic mulch: 225 mm.
- Turf areas generally: 75 mm.

Surplus topsoil

General: Spread surplus topsoil on designated areas on site or dispose off-site.

Designated areas: as directed by Cleanaway.

3.3 GRASS SEEDING

Preparation

General: If a prepared area becomes compacted before sowing can begin, rework the ground surface before sowing.

Scarfify the area for seeding and provide a firm friable seed bed. Place any topsoil before scarifying.

Application

General: To the **hydromulching schedule**.

Method: Apply as follows:

- Moisten the topsoil to full depth before applying the slurry.
- Spray the slurry mixture under pressure, using high pressure pumping equipment.
- Maintain a thoroughly mixed supply.
- Evenly distribute the slurry mixture along the operating front.
- Complete each front before starting the next.

Watering

Before germination: Water the seeded area with a fine spray until the topsoil is moistened to its full depth. Until germination, keep the surface damp and the topsoil moist but not waterlogged.

After germination: Water to maintain a healthy condition, progressively hardened off to the ambient climatic conditions.

Application

General: To the **Grass seeding schedule**.

Ambient conditions: Do not sow in periods of extreme heat, cold or wet or when wind velocities exceed 8 km/h or if frost is likely before the grass is established.

Method: Evenly distribute the seed using purpose-made sowing machinery. Lightly rake the surface to cover the seed.

Rolling: Roll the seed bed immediately after sowing.

- Roller weight (maximum):

- . Clay and packing (heavy) soils: 90 kg/m width.

Reseeding: If germination has not occurred within one month, reseed the sown areas.

Establishment

General: Maintain sown areas until there is a dense continuous sward of healthy grass over the whole of the seeded area, evenly green and of a consistent height.

Protection: Protect the newly sown areas against traffic until established.

Weeding: Remove weeds from the sown areas. If required, spray with a selective herbicide for broad leafed weeds. Do not spray grass seeded areas within 3 months of germination.

Fertilising after germination: As follows:

- Six weeks after germination: Spread fertiliser evenly over the sown area and water in. Do not apply fertiliser to wet grass.
- Ten weeks after grass germination: If the planting establishment period occurs during the summer months, spread pelleted sulphate of ammonia at the rate of 250 kg/ha.

Mowing: Mow to maintain the grass height within the required range. Do not remove more than one third of the grass height at any one time. Carry out the last mowing not more than 7 days before the end of the planting establishment period. Remove grass clippings from the site after each mowing.

3.4 TURFING

Supply

Elapsed time: Deliver the turf within 24 hours of cutting, and lay within 36 hours of cutting. Prevent turf from drying out between cutting and laying. If not laid within 36 hours of cutting, roll turf out on a flat surface with the grass up, and water as required to maintain a good condition.

Application

General: To the **Turfing schedule**.

Method: Lay the turf as follows:

- Stretcher bond pattern with the joints staggered and close butted.
- Parallel with the long sides of level areas, and with contours on slopes.
- Finish flush, after tamping, with adjacent finished surfaces of ground, paving edging, or grass seeded areas.
- Rolling: Lightly roll to an even surface immediately after laying.

Watering

General: Water immediately after laying until the topsoil is moistened to its full depth. Maintain moisture to this depth.

Establishment

General: Maintain turfed areas until there is a dense continuous sward of healthy grass over the whole turfed area, evenly green and of a consistent height.

Failed turf: Lift failed turf and replace with new turf.

Levels: If levels have deviated from the design levels after placing and watering, lift turf and regrade topsoil to achieve design levels.

Fertiliser: Apply lawn fertiliser at the completion of the first and last mowings, and at other times as required to maintain healthy grass cover.

Mowing: Mow to maintain the grass height within the required range. Do not remove more than one third of the grass height at any one time. Carry out the last mowing not more than 7 days before the end of the planting establishment period. Remove grass clippings from the site after each mowing.

Top dressing: Mow the established turf and remove cuttings. Lightly top dress to a depth of 10 mm. Rub the dressing into the joints and correct any unevenness in the turf surface.

3.5 PLANTING

Individual plantings in grassed areas

Method: Excavate a hole twice the diameter of the root ball and at least 100 mm deeper than the root ball. Break up the base of the hole to a further depth of 100 mm, and loosen compacted sides of the hole to prevent confinement of root growth.

Locations

General: If it appears necessary to vary plant locations and spacings to avoid service lines, or to cover the area uniformly, or for other reasons, give notice.

Planting conditions

Weather: Do not plant in unsuitable weather conditions such as extreme heat, cold, wind or rain. In other than sandy soils, suspend excavation when the soil is wet, or during frost periods.

Watering

Timing: Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress.

Placing

Method: Remove the plant from the container with minimum disturbance to the root ball. Make sure that the root ball is moist and place it in its final position, in the centre of the hole and plumb, and with the top soil level of the plant root ball level with the finished surface of the surrounding soil.

Fertilising

Pellets: In planting beds and individual plantings, place fertiliser pellets around the plants at the time of planting.

Backfilling

General: Backfill with topsoil mixture. Tamp lightly and water to eliminate air pockets. Make sure that topsoil is not placed over the top of the root ball, so the plant stem remains the same height above ground as it was in the container.

Watering basins for plants in grass

Method: Except in irrigated grassed areas and normally moist areas, construct a watering basin around the base of each individual plant, consisting of a raised ring of soil capable of holding at least 10 L.

3.6 MULCHING

Placing mulch

General: Place mulch to the required depth, clear of plant stems, and rake to an even surface flush with the surrounding finished levels. Spread and roll mulch so that after settling, or after rolling, it is smooth and evenly graded between design surface levels sloped towards the base of plant stems in plantation beds, and not closer to the stem than 50 mm in the case of gravel mulches.

In mass planted areas: Place after the preparation of the planting bed but before planting and other work.

Extent: Provide mulch to 750 mm diameter, to surrounds of trees planted in grass areas.

Depths: Spread organic mulch to a depth of 75 mm.

3.7 SPRAYING

Notice

Requirement: Immediately give notice of evidence of insect attack or disease amongst plant material.

Pesticide

Product: Spray with insecticide, fungicide or both, as required.

3.8 STAKES AND TIES

Stakes

Material: Hardwood, straight, free from knots or twists, pointed at one end.

Installation: Drive stakes into the ground at least one third of their length, avoiding damage to the root system.

Stake sizes: refer to Street tree planting detail for staking to street trees.

Ties

General: Provide ties fixed securely to the stakes, one tie at half the height of the main stem, others as necessary to stabilise the plant. Attach ties loosely so as not to restrict plant growth.

Tie types:

- For plants ≥ 2.5 m high: 50 mm hessian webbing stapled to the stake, installed around stake and stem in a figure of eight pattern.

Completion

Cleaning

Stakes and ties: Remove those no longer required at the end of the planting establishment period.

Temporary fences: Remove temporary protective fences at the end of the planting establishment period.

Warranties

Parties: Supplier(s) to the principal.

Form: All the plants supplied under these works are true-to-species and type, and free of disease, fungal infection and/or any other impediment to their future growth and that they have been fully acclimatised for the conditions of the site.

Submission of warranty: At the time of each delivery.

4 SELECTIONS

4.1 TOPSOIL

Imported topsoil schedule

Property	A- Mass planted areas	B- Individual trees in turf	C- Turf areas
Type	ANL "Greenlife Garden mix" or equal	ANL 'Greenlife Garden mix" or equal	ANL "turf underlay" or equal
Texture	Medium	Medium	Coarse
Soil pH	6.0- 8.0	6.0 – 8.0	6.0- 7.1
Organic content by mass	20 – 28%	20 – 28%	12- 17%
Fertiliser (N:P:K)	13:11:13	13:11:13	8:3:8
Plant sensitivity to phosphorus	N/A	N/A	N/A

4.2 FERTILISER

Fertiliser schedule

Property	A- Mass planted areas	B- Individual trees in turf	C
Location	As shown on plans	As shown on plans	As shown on plans
N:P:K ratio	13:11:13 equal to Nutricote Total	13:11:13 equal to Nutricote Total	8:3:8 equal to Nutricote Healthy Grow
Application rate	As recommended by manufacturer	As recommended by manufacturer	3-6kg per 100m2

4.3 GRASSING

Hydromulching schedule

Property	A-refer to plans for extent		
Seed mix and type	"Parkland Blend" or equal"		
Mulch type	Wood fibre with green dye		

" Parkland Blend"- 56% turf type fescue, 30% perennial rye, 5% couch, 9% creeping red fescue.

Turfing schedule

Property	A		
Species or variety	Kikuyu		
Minimum thickness	75mm		
Turf roll size (mm)	1000mm		
Mowing height (mm)	50mm		

4.4 MULCHING

Mulching schedule

Property	A- Mass planted areas	B- Individual trees in turf	
Mulch type	ANL "Forest Fines" or equal	ANL "Forest Fines" or equal	
Depth (mm)	75mm	75mm	

4.5 PLANT MATERIAL: REFER TO PLANT SCHEDULES.

0256 LANDSCAPE – ESTABLISHMENT

1 GENERAL

1.1 RESPONSIBILITIES

General

Requirement: Provide plant establishment, as documented.

1.2 CROSS REFERENCES

General

Requirement: Conform to the following:

- *0171 General requirements.*

1.3 INTERPRETATION

Definitions

General: For the purpose of this worksection the following definitions apply:

- Plant establishment period: 13 WEEKS From the date of practical completion.

1.4 SUBMISSIONS

Execution details

Notice: Provide two days notice of the following operations:

- Application of herbicide.
- Application of fertiliser.
- Watering.
- Each site maintenance visit.

Log book

Records: Log the following on a weekly basis:

- Description, time and method of application of toxic material.
- Maintenance work details.
- Inclement weather to verify inability to carry out work within the specified time frame.

Availability: Upon request.

Monitoring program

General: incorporate the following:

- Photographic record including:
 - . Colour photographs.
 - . Documented monitoring locations and photograph angles.
- Reporting periods including photographic records at the following:
 - . Before commencement of the works.
 - . Date of practical completion.
 - . Monthly intervals during the plant establishment period.
 - . Date of final completion.

Replacement plants

Species: Provide written certification that all plant material is true to the required species and type.

1.5 INSPECTION

Notice

Inspection: Give notice so that inspection of the contract area may be made at the following:

- Date of practical completion.
- Date of final completion.

2 EXECUTION

2.1 GENERAL

Special instructions

Priority: If instructed by the contract administrator, attend to certain areas and procedures as a priority. Obtain approval for additional costs before commencement of works.

Reporting

Monthly report: Submit regular reports by the last Friday of each month:

- Of the general status of works.
- Include soil test results as required for the fertilising programs.
- Plant replacement requirements.

Incident reports: Report immediately verbally and confirm in writing any disturbance or incidence affecting or likely to affect the day to day scheduling of works.

Disruption of works by others

Other contractors: Make arrangements to work around the disturbance.

2.2 PLANTING WORKS

Planting

Planting: Ensure the general appearance and presentation of the landscape and the quality of plant material at date of practical completion is maintained for the full planting establishment period.

Existing plant material: Maintain existing planting and grass within the landscape contract area as specified for the corresponding classifications of new grass areas or planting.

Replacements: Replace failed, dead and/or damaged plants at maximum 3 week intervals as necessary throughout the full plant establishment period.

Pruning

Prune: To AS 4373 and as documented in the **Pruning schedule**.

Fertilising

Fertilising: Generally apply an all purpose fertiliser of N:P:K (Nitrogen:Phosphorus:Potassium) 10:4:6 at recommended rates. Alternatively apply 12 month slow release fertiliser at the manufacturer's recommended rate.

Insect and disease control

Responsibility for insect and disease control: Landscape Contractor

Period for treatment: Until the problem has been eliminated.

Chemical spray: Apply outside of normal working hours.

Stakes and ties

Removal: If plants are robust with well developed systems and are strong enough to no longer require support, remove stakes and ties.

2.3 GRASS

Mowing and trimming

Litter: Remove litter and fallen branches before mowing.

Height: Consistent with the growth habit of the grass variety and maintained at 25 mm to 40 mm throughout the year.

Program: Weekly during the mowing season, November to March, and at bi-weekly intervals during April to October. Do not mow under wet conditions.

Raking: Once every month before mowing, during the mowing season, with a flexible rake. On alternate mowings, adopt a north-south and east-west pattern.

Edges: At the same time as mowing, trim lawn edges to plant beds, pathways, base of trees and other obstacles. Ensure trees and shrubs are not damaged.

Clippings distribution: remove off site.

Topdressing

Topdressing material for remediation of depressions or irregularities: Apply coarse or medium soil to AS 4419 suitable for application to turf or grass seeded areas.

Fertilising

Fertilising: Apply lawn fertiliser at the completion of the first and last mowings of the plant establishment period, and at other times as required to maintain healthy grass cover.

2.4 GARDEN BEDS

Weeding

Weeds: Unwanted plants and grasses considered invasive to the locality.

Program:

- Lawns: Quarterly, and as determined by the relationship of the general lawn condition and weed growth.
- Trees and shrubs: As required for planted, paved and mulched areas to be weed free when observed at bi-weekly intervals.

Method: Clear and keep clear vigorous ground covers 200 mm from the base of any shrub or tree:

- Small areas: By hand.
- Large areas: Proprietary herbicides.

Herbicide application: Avoid windy days or if rain is likely to follow within 12 hours. Apply:

- To the manufacturer's instructions and Safety Data Sheets.
- When the weather is humid with moderate temperatures and maximum sunlight.
- When the ground has recommended soil moisture.

Rubbish removal

Rubbish: Remove loose rubbish such as bottles, papers, and cigarette butts from the site. Execute this work regularly so that all areas are free from rubbish when observed at bi-weekly intervals.

Leaf litter: Remove from all path and lawn areas.

Leaf litter distribution: remove off site.

Mulched surfaces

Inspection: Bi-weekly to determine mulch requirements.

Depth: Maintain a minimum depth of:

- 75 mm for organic mulch.

Remulching: Maintain the original ground levels around the base of plants.

2.5 CONTROL MEASURES

Rabbit control

Generally: Implement rabbit control until the completion of the plant establishment period.

Rabbit guards: Maintain rabbit guards in a working upright and taut order with three stakes. Replace missing or damaged guards with the same materials as previously specified.

Removal: At the completion of the plant establishment period.

2.6 WATERING

Establishment

Extent: all new planted and grass areas.

Water quality:

- pH between 5.5 and 7.5.
- Total soluble salts less than 1000 mg/litre.
- No substances that would be toxic to plant growth.

Watering program: Minimum three complete waterings, soaking to a depth of 150 mm at fortnightly intervals for the first 6 weeks of plant establishment irrespective of natural rainfall. Confirm soaked depth and record in the log book.

Water restrictions: Coordinate the water supply and confirm the watering regime against state and territory government legislation and restrictions at the time.

Hand watering

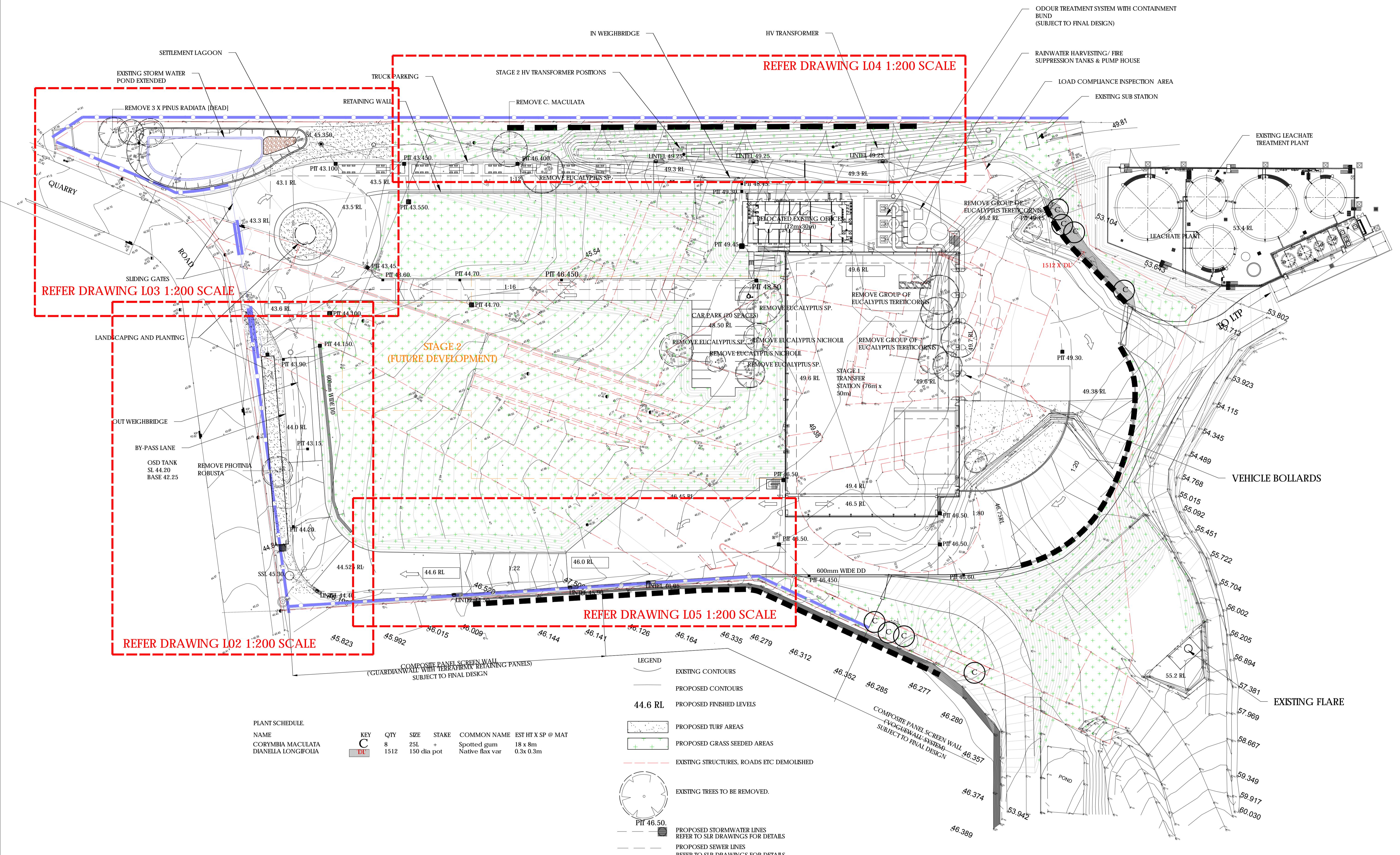
General: Manually water all lawn and planting areas, soaking to a depth of 150 mm for lawn and 300 mm for planting. Avoid frequent dampening of the surface. Allow the surface of the soil to partially dry out between waterings.

2.7 COMPLIANCE

Criteria

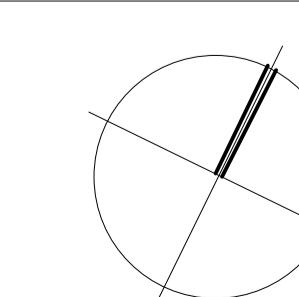
Generally: Plant establishment shall be deemed complete, subject to the following:

- Repairs to planting media completed.
- Ground surfaces are covered with the specified treatment to the specified depths.
- Pests, disease, or nutrient deficiencies or toxicities are not evident.
- Organic mulched surfaces have been maintained in a weed free and tidy condition and to the specified depth.
- Vegetation is established and well formed.
- Vegetation cover to seeded and/or hydromulched areas.
- Plants have healthy root systems that have penetrated into the surrounding, undisturbed ground and not able to be lifted out of its planting hole.
- Vegetation is not restricting essential sight lines and signage.
- Specified vegetation setbacks from services and road furniture are evident.
- Collection and removal of litter.
- Removal of mulch from drainage and access areas.
- All non-conformance reports and defects notifications have been closed out.



B	CONSTRUCTION CERTIFICATE	22.06.17
A	PRELIMINARY- CLIENT REVIEW	21.06.17
ISSUE	AMENDMENTS	DATE

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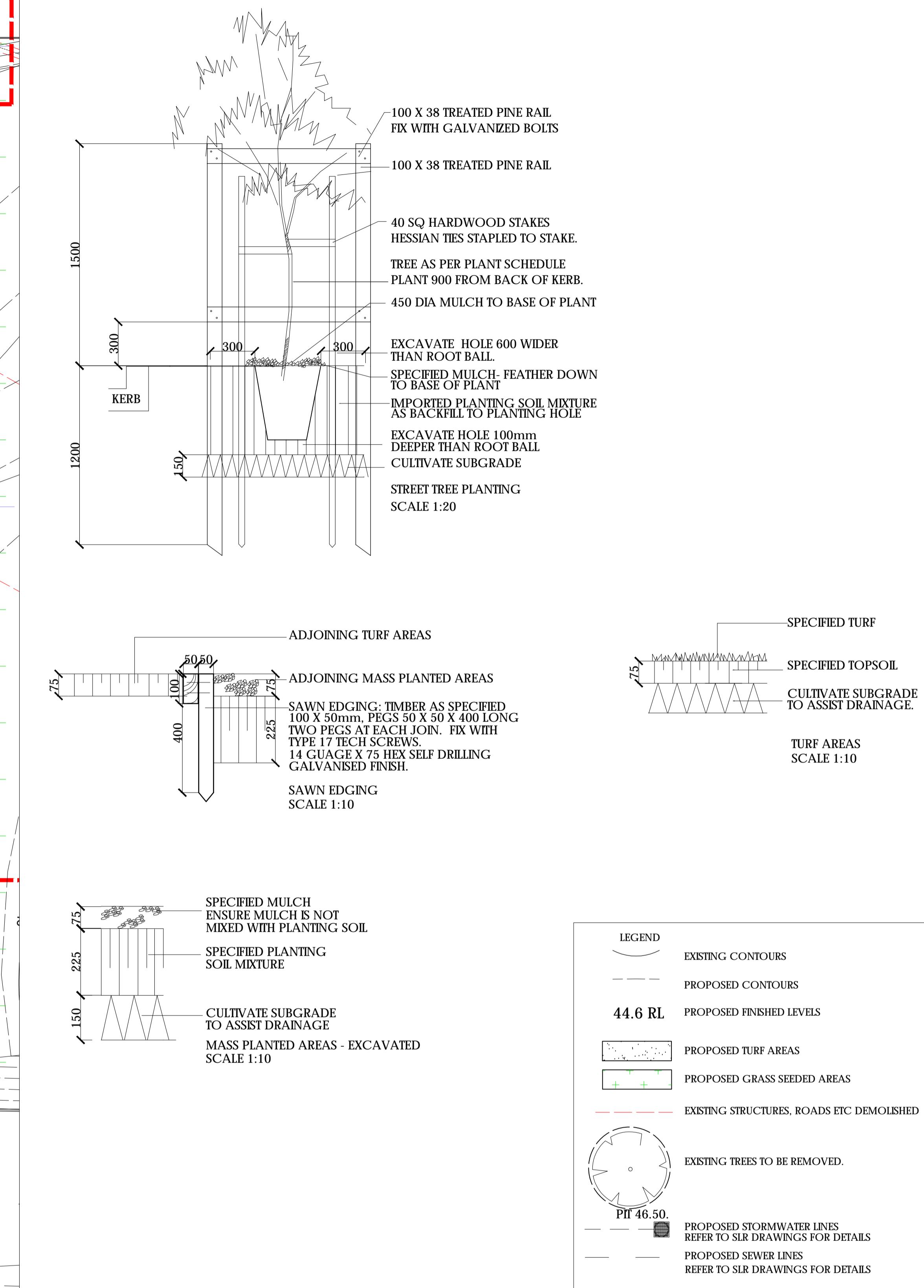
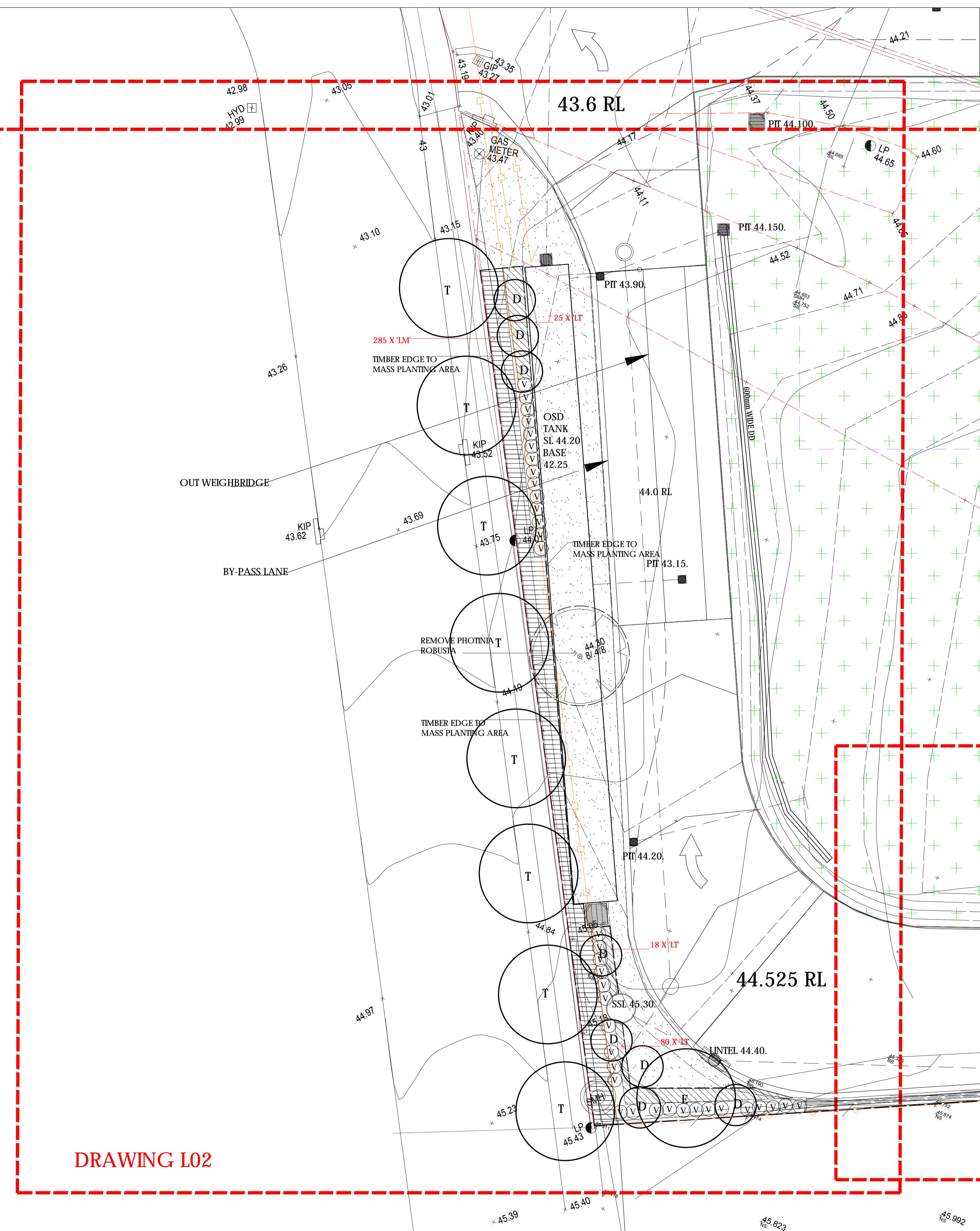
CLIENT.
CLEANAWAY WASTE MANAGEMENT L

DATE.	SCALE
JUNE 2017	1:500 @ A1
DWG. NO.	NO. IN SET
17-016/L01	5

PROJECT.
ERSKINE PARK RMF STAGE 1-

DRAWING. LANDSCAPE SITE PLAN

JOCELYN RAMSAY & ASSOC. PTY. LTD
A.B.N. 38 097 146 999
LANDSCAPE ARCHITECTS.
P.O. BOX 292
CHERRYBROOK NSW 2126
ph. 0417 227843
email:jocelyn@jrla.com.au



PLANT SCHEDULE.		KEY	QTY	SIZE	STAKE	COMMON NAME	EST HT X SP @ MAT
NAME	TYPE						
EUCALYPTUS TERETICORNIS	T	8	100L	+	Forest Red gum	30 x 12m	C'
EUCALYPTUS TERETICORNIS	E	1	25L	+	Forest red gum	30 x 12m	C'
CORYMBIA MACULATA	C	5	25L	+	Spotted gum	18 x 8m	
MELALEUCA DECORA	D	4	25L	+	White feather honeymyrtle	8 x 4m	C'
CALLISTEMON VIMINALIS 'SLIM'	V	23	5L		Bottlebrush var	2.5 x 1m	
LOMANDRA MULTIFLORA	LM	285	150 dia pot		Mat rush var	0.75 x 0.75m	
LOMANDRA TANICA'	LT	123	150 dia pot		Mat rush var	0.6 x 0.6m	

CLIENT. CLEANAWAY WASTE MANAGEMENT LTD
PROJECT. ERSKINE PARK RMF STAGE 1- WASTE TRANSFER STATION

DATE.	JUNE 2017	SCALE	1:200 @ A1	DRAWING.
DWG. NO.	17-016/L02	NO. IN SET	5	

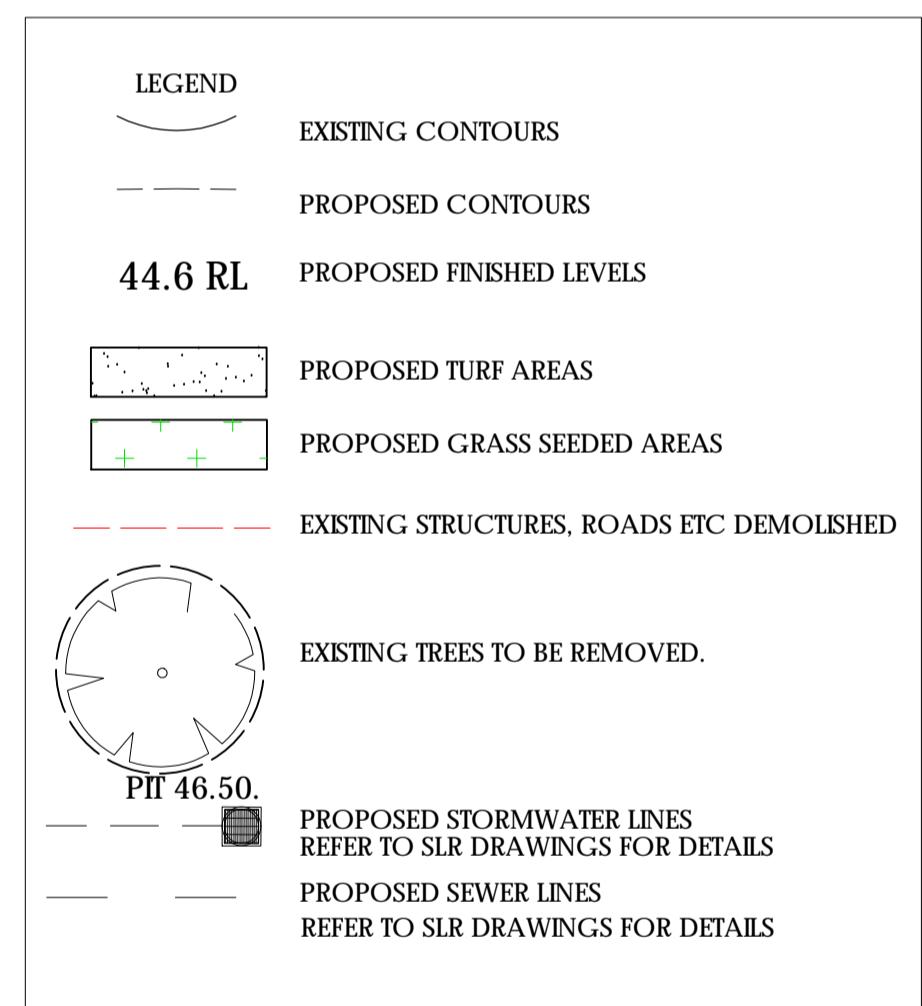
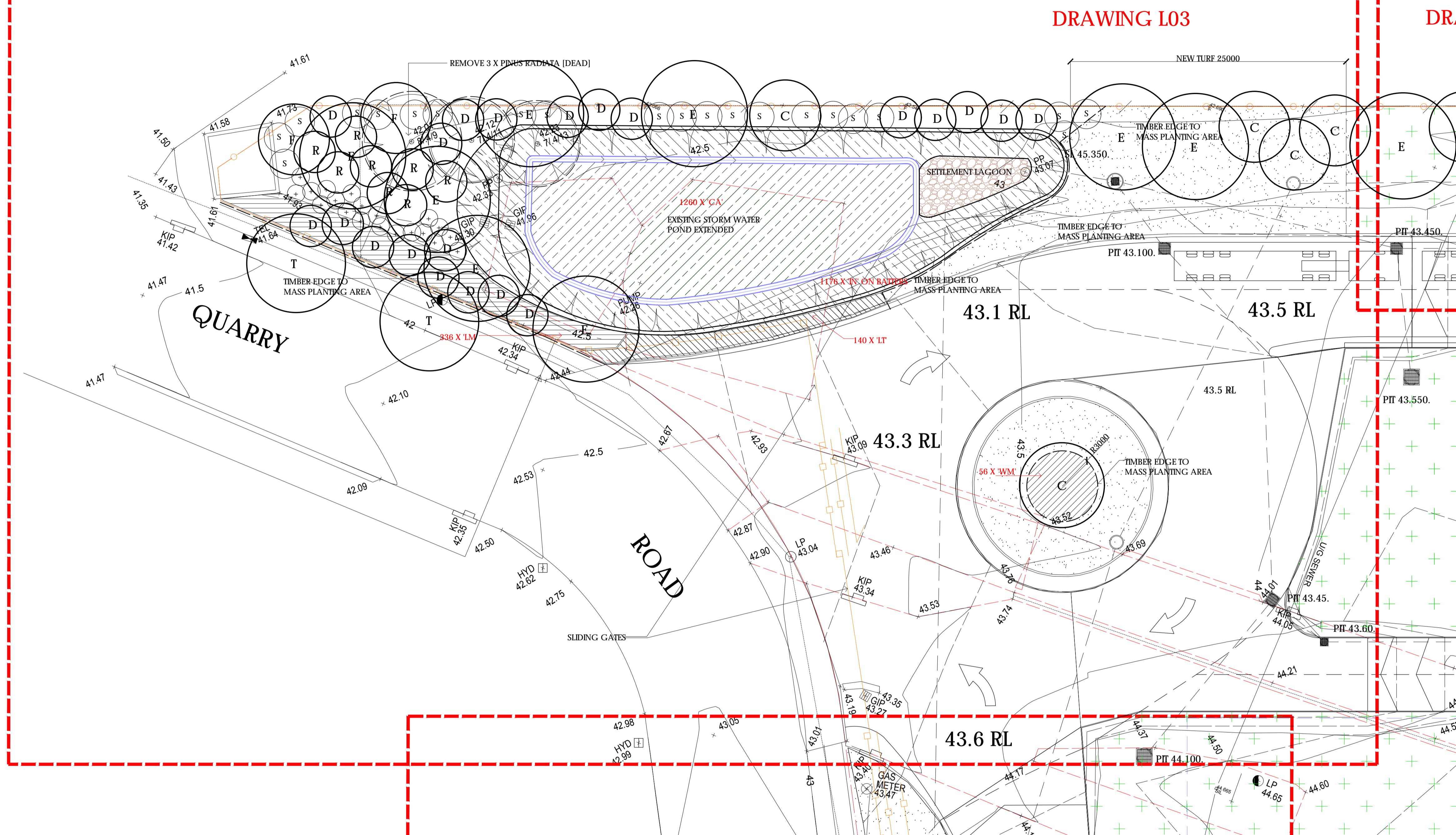
JOCELYN RAMSAY & ASSOC. PTY. LTD
A.B.N. 38 097 146 999
LANDSCAPE ARCHITECTS.
P.O. BOX 292
CHERRYBROOK NSW 2126
ph. 0417 227843
email:jocelyn@jrla.com.au

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C	AMENDS FOLL COUNCIL REVIEW	11.09.17
B	CONSTRUCTION CERTIFICATE	22.06.17
A	PRELIMINARY- CLIENT REVIEW	21.06.17
ISSUE	AMENDMENTS	DATE

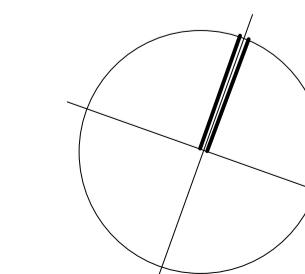
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DRA



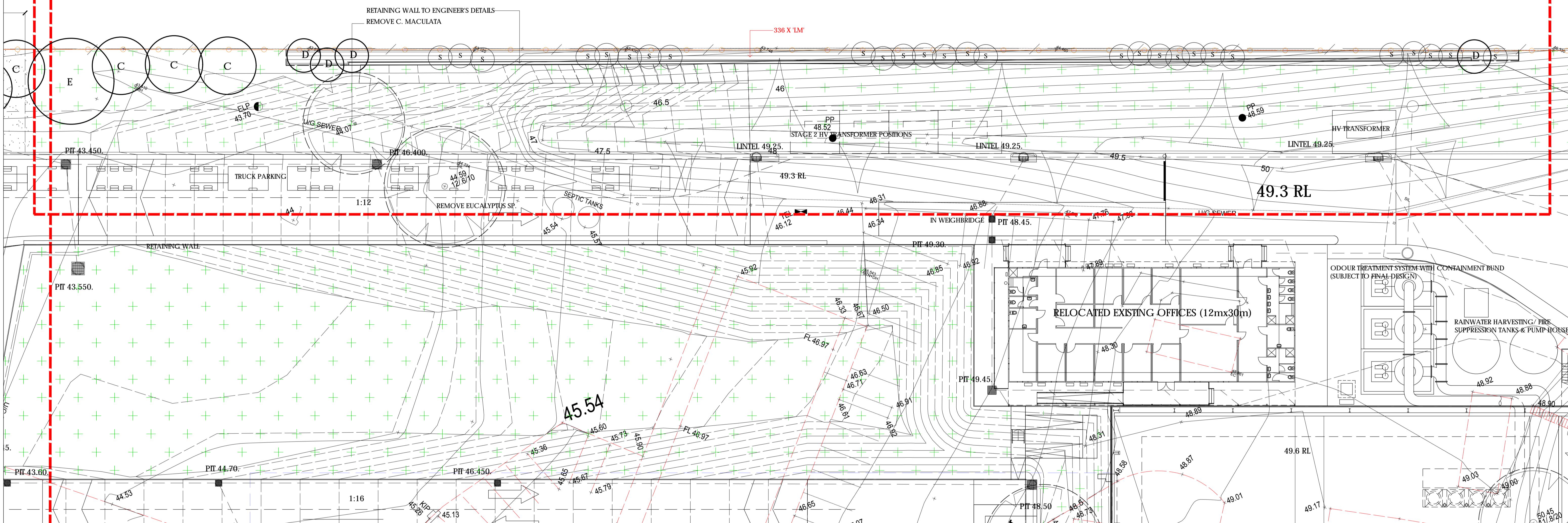
PLANT SCHEDULE.					
KEY	QTY	SIZE	STAKE	COMMON NAME	EST HT X SP @ MAT
T	2	100L	+	Forest red gum	30 x 12m - C
E	5	25L	+	Spotted gum	18 x 8m
F	8	25L	+	Forest red gum	30 x 12m - C
R	2	100L	+	Broad leaf ironbark	15 x 6m
D	16	25L	+	Blueberry Ash	6 x 3m
	13	25L	+	White feather honeymyrtle	8 x 4m - C
S	21	5L		Bottlebrush var	6 x 3m
	20	5L		Bottlebrush var	2.5 x 1m
CALLISTEMON SALIGNUS					
DORYANTHES EXCELSA					
CAREX APPRESSA	'CA'	1260	150 dia pot	Tussock sedge	1 x 1m
ISOLEPIS NODOSA	'IN'	1176	150 dia pot	Knobly club rush	0.75 x 0.75m
LOMANDRA MULTIFLORA	'TM'	336	150 dia pot	Mat rush var	0.75 x 0.75m
LOMANDRA TANIKAE	'LT'	140	150 dia pot	Mat rush var	0.6 x 0.6m
WESTRINGIA MUNDI	'WM'	56	150 dia pot	Coast rosemary var	0.75 x 1.5m

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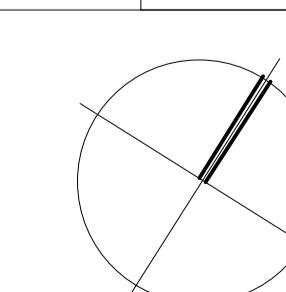


C	AMENDS FOLL COUNCIL REVIEW	11.09.17
B	CONSTRUCTION CERTIFICATE	22.06.17
A	PRELIMINARY CLIENT REVIEW	21.06.17
ISSUE	AMENDMENTS	DATE

DRAWING L04



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CLIENT.
CLEANAWAY WASTE MANAGEMENT LTD

DATE. JUNE 2017 DWG. NO. 17-016/I04 SCAI 1:200 NO. 5

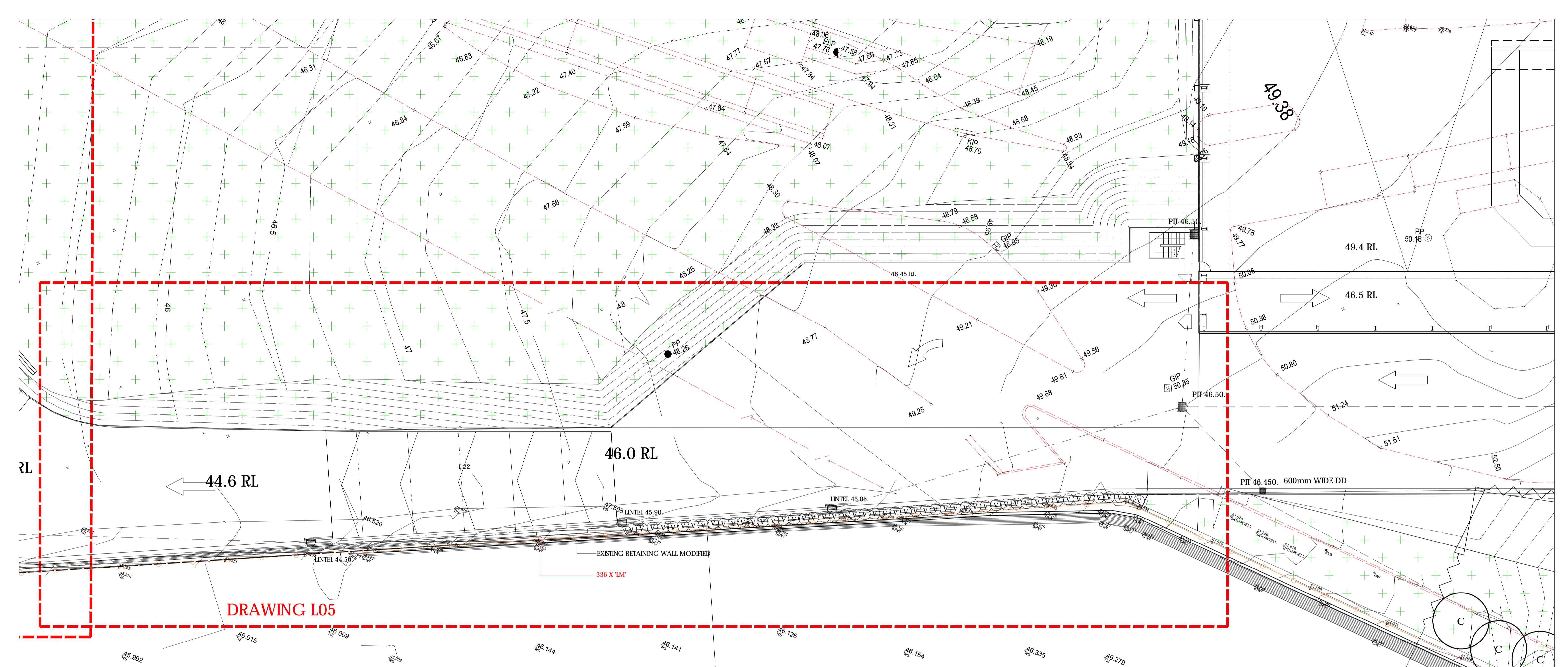
**PROJECT.
ERSKINE PARK RMF, STAGE 1-
WASTE TRANSFER STATION**

JOCELYN RAMSAY & ASSOC. PTY. LTD
A.B.N. 38 097 146 999
LANDSCAPE ARCHITECTS.
P.O. BOX 292
CHERRYBROOK NSW 2126
ph. 0417 227843

C	AMENDS FOLL COUNCIL REVIEW	11.09.17
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A	PRELIMINARY- CLIENT REVIEW	21.06.17
SCENE	AMENDMENTS	DATE

LEGEND	
	EXISTING CONTOURS
	PROPOSED CONTOURS
4.6 RL	PROPOSED FINISHED LEVELS
	PROPOSED TURF AREAS
	PROPOSED GRASS SEEDED AREAS
	EXISTING STRUCTURES, ROADS ETC DEMOLISHED
	EXISTING TREES TO BE REMOVED.
T 46.50.	
	PROPOSED STORMWATER LINES REFER TO SLR DRAWINGS FOR DETAILS
	PROPOSED SEWER LINES REFER TO SLR DRAWINGS FOR DETAILS

PLANT SCHEDULE.						
NAME	KEY	QTY	SIZE	STAKE	COMMON NAME	EST HT X SP @ MAT
CORYMBIA MACULATA	C	3	25L	+	Spotted gum	18 x 8m
EUCALYPTUS TERETICORNIS	E	1	25L	+	Forest red gum	30 x 12m • 'C
MELALEUCA DECORA	D	4	25L	+	White feather honeymyrtle	8 x 4m
CALLISTEMON SALIGNUS	S	27	5L		Bottlebrush var	2.5 x 1m
LOMANDRA MULTIFLORA	'LM'	568	150 dia pot		Mat rush var	0.75 x 0.75m



COMPOSITE PANEL SCREEN WALL
(GUARDIANWALL WITH TERRAFIRMTM RETAINING PANELS)
SUBJECT TO FINAL DESIGN

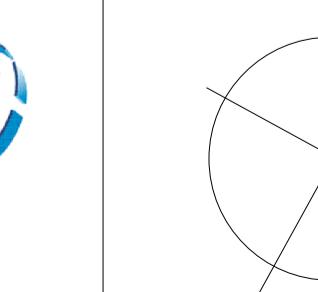
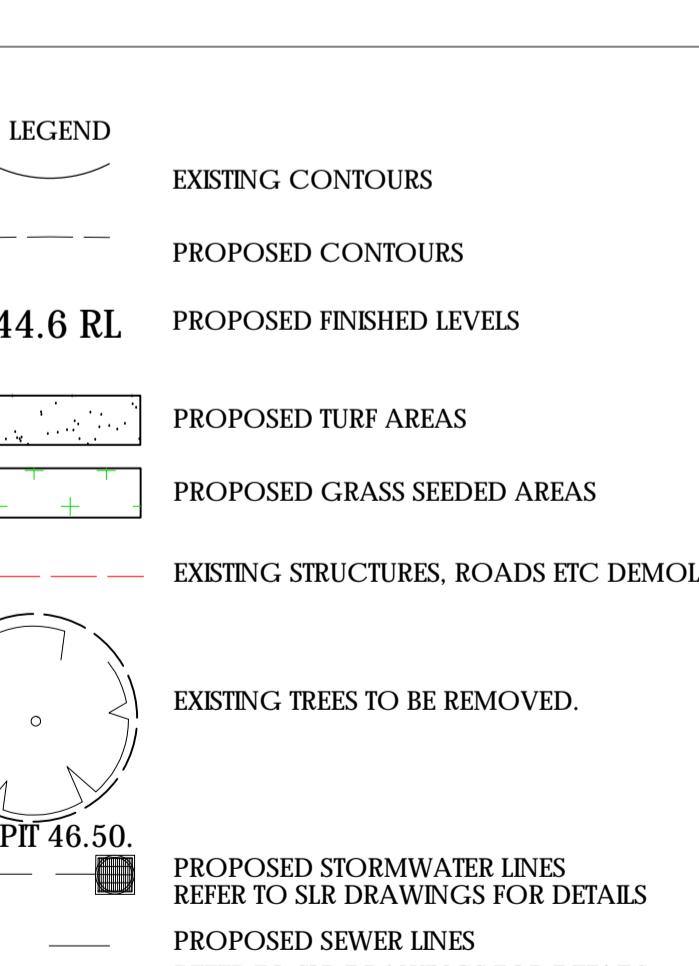
PLANT SCHEDULE				
NAME	KEY	QTY	SIZE	COMMON NAME
CALLISTEMON VIMINALIS 'SLIM'	V	51	5L	Bottlebrush var
LOMANDRA MULTIFLORA	LM	260	150 dia pot	Mat rush var

EST HT X SP @ MAT

2.5 x 1m
0.75 x 0.75m

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B	CONSTRUCTION CERTIFICATE	22.06.17
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ISSUE	AMENDMENTS	DATE



Appendix J – Incident Non Conformance Report Form

INCIDENT NON CONFORMANCE REPORT
HSE MANAGEMENT SYSTEM



Note: All complaints incident events are to be completed in Vault using the details from this form.

COMPLAINANT CONTACT DETAILS					
Full Name					
Contact Numbers	Mobile:	Business: ()	Other: ()		
Email Address	@				
Mailing Address	Street:				
	City:		State:	Post Code:	
COMPLAINT DETAILS					
Type of Incident	<input type="checkbox"/> Injury	<input type="checkbox"/> Illness	<input type="checkbox"/> Incident	<input type="checkbox"/> Near Miss	<input type="checkbox"/> Environment
Severity Level	<input type="checkbox"/> Near Miss	<input type="checkbox"/> Minor	<input type="checkbox"/> Moderate	<input type="checkbox"/> Major	<input type="checkbox"/> High
Person involved	<input type="checkbox"/> Employee	<input type="checkbox"/> Contractor	<input type="checkbox"/> Third Party	Date of Incident:	/ /
Name			Position		
Location & Time of Incident		Incident Description			
<input type="checkbox"/> Incident happened off site		What happened?			
Reported by					
Supervisor					
Date Reported					
Site					
Incident Time	Property / Vehicle Damage				
Location	What was damage?				
Environmental Description					
Nature of Incident	Water <input type="checkbox"/>	Land <input type="checkbox"/>	Air <input type="checkbox"/>	Other:	
Type of Incident	Contamination <input type="checkbox"/>	Release <input type="checkbox"/>	Odour <input type="checkbox"/>	Dust <input type="checkbox"/>	Other:
Impact Source				Quantity Discharged / Unit	kg / L / m ³
Health and Safety Description					
Indicate Injury Type				Indicate Body Location	
<input type="checkbox"/> Amputation	<input type="checkbox"/> Electrical Shock	<input type="checkbox"/> Nervous System	<input type="checkbox"/> Upper	<input type="checkbox"/> Ankle	<input type="checkbox"/> Finger
<input type="checkbox"/> Asphyxiation	<input type="checkbox"/> Exposure	<input type="checkbox"/> Poisoning	<input type="checkbox"/> Lower	<input type="checkbox"/> Arm	<input type="checkbox"/> Foot
<input type="checkbox"/> Bruise or Crushing	<input type="checkbox"/> Foreign Body	<input type="checkbox"/> Puncture	<input type="checkbox"/> Front	<input type="checkbox"/> Back	<input type="checkbox"/> Groin
<input type="checkbox"/> Burn or Scald	<input type="checkbox"/> Fracture	<input type="checkbox"/> Respiratory	<input type="checkbox"/> Back	<input type="checkbox"/> Chest	<input type="checkbox"/> Hand
<input type="checkbox"/> Concussion	<input type="checkbox"/> Heart/Circulation	<input type="checkbox"/> Skin Disorder	<input type="checkbox"/> Left	<input type="checkbox"/> Ear	<input type="checkbox"/> Head
<input type="checkbox"/> Cut / Open Wound	<input type="checkbox"/> Infectious Disease	<input type="checkbox"/> Sprain/Strain	<input type="checkbox"/> Right	<input type="checkbox"/> Eye	<input type="checkbox"/> Teeth
<input type="checkbox"/> Dislocation	<input type="checkbox"/> Inhalation	<input type="checkbox"/> Other	<input type="checkbox"/> Body	<input type="checkbox"/> Face	<input type="checkbox"/> Knee
					<input type="checkbox"/> Wrist
					<input type="checkbox"/> Other

INCIDENT NON CONFORMANCE REPORT
HSE MANAGEMENT SYSTEM

Indicate Agent of Injury				
<input type="checkbox"/> Animal / Insect	<input type="checkbox"/> Equipment / Tool	<input type="checkbox"/> Noise	<input type="checkbox"/> Slip/Trip/Fall	<input type="checkbox"/> Thermal
<input type="checkbox"/> Biological	<input type="checkbox"/> Explosion / Implosion	<input type="checkbox"/> Psychological	<input type="checkbox"/> Step on / Strike Against	<input type="checkbox"/> Vehicle
<input type="checkbox"/> Chemical	<input type="checkbox"/> Muscular Effort	<input type="checkbox"/> Radiation	<input type="checkbox"/> Struck by Falling Object	<input type="checkbox"/> Vibration
<input type="checkbox"/> Electricity	<input type="checkbox"/> Needle / Sharps	<input type="checkbox"/> Other		
Treatment	Medical Condition	Days Off	Is this reportable to a Government Authority/Workers Compensation Insurer? <input type="checkbox"/> No <input type="checkbox"/> Yes. If yes – Contact OHS&E Manager immediately.	
<input type="checkbox"/> No Treatment <input type="checkbox"/> First Aid <input type="checkbox"/> Medical Treatment <input type="checkbox"/> Hospitalisation	<input type="checkbox"/> Fully Fit <input type="checkbox"/> Restricted Duties <input type="checkbox"/> Other:	<input type="checkbox"/> This is a Lost Time Incident Total Days Off:		
Indicate treatment given, if any				
Initial Corrective Action				
TPI Use only				
All incidents are to be entered into the VAULT		Entered into Vault <input type="checkbox"/> Yes <input type="checkbox"/> No Vault No:		
Relevant Branch complaint referred to:		Date referred: / /		
Resolution Type:				
Complaint resolution date: / /	Complainant Advised By:	<input type="checkbox"/> Mail <input type="checkbox"/> Telephone <input type="checkbox"/> E-mail	Date Advised: / /	
Is Complaint Closed? <input type="checkbox"/> Yes <input type="checkbox"/> No	What Further action required:			
Completed By:	Signature:			Date: / /

Appendix K – Pollution Incident Response Management Plan (PIRMP)

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN – (PIRMP)

Erskine Park Transfer Station

**85-87 Quarry Road
Erskine Park
NSW 2759**

Industry is now required to report pollution incidents **immediately** to ALL regulatory bodies.

Call 000 if the incident presents an immediate threat to human health or property

If the incident does not require an initial combat agency, or once the **000** call has been made, notify the Business unit manager to contact the remaining authorities in the following order:

Fire and Rescue	000
Environment Protection Authority	131 555
The Ministry of Health	9515 6111 ask Public Health Officer on call
SafeWork	13 10 50
Penrith City Council	02 4732 7777
Fire and Rescue without immediate threat	1300 729 579

Also call Cleanaway Spill response 1800 SPILLS (1800 774 557), if appropriate.



Date Reviewed: 23/07/2018
Date of Next review: 23/07/2019

DEFINITION OF POLLUTION INCIDENT

Under NSW Regulations:

The definition of a pollution incident is:

Pollution incident means an incident or set of circumstances during or as a consequence of which there is or is likely to be a leak, spill or other escape or deposit of a substance, as a result of which pollution has occurred, is occurring or is likely to occur. It includes an incident or set of circumstances in which a substance has been placed or disposed of on premises, but it does not include an incident or set of circumstances involving only the emission of any noise.

A pollution incident is required to be notified if there is a risk of 'material harm to the environment', which is defined in section 147 of the POEO Act as:

- (a) Harm to the environment is material if:
 - (i) It involves actual or potential harm to the health or safety of human beings or to ecosystems that is not trivial, or
 - (ii) It results in actual or potential loss or property damage of an amount, or amounts in aggregate, exceeding \$10,000 (or such other amount as is prescribed by the regulations), and
- (b) Loss includes the reasonable costs and expenses that would be incurred in taking all reasonable and practicable measures to prevent, mitigate or make good harm to the environment.

Industry is now required to report pollution incidents **immediately** to ALL Regulatory Bodies.

Notification Protocol

Appendix A contains the Protocol for Industry Notification of Pollution Incidents, to be updated for each site and posted on the sites noticeboards.

In the event of any pollution incident notify the Business Unit Manager immediately to determine if it meets the definition of the attached protocol. The Business Unit Manager will be the primary contact point for the authorities.

If the incident clearly requires notification, (e.g. tank collapse with bund breached and liquid entering creek), the most senior person on site shall commence notification (Emergency Numbers) if the business unit manager is not present. This person shall also then immediately contact the Business Unit Manager of who will notify all remaining authorities immediately including EPA.

POLLUTION INCIDENT RESPONSE MANAGEMENT PLAN

3.3.1 Description and likelihood of hazards [Regulation clause 98C(1)(a) and (b)]

3.3.2 Pre-emptive actions to be taken [Regulation clause 98C(1)(c)]

Pollution Hazard	Risk of Pollution Hazard at Erskine Park Transfer Station	Current Pre Emptive Actions
Toxic Air Emissions	explosion of gases, pollution causing harm, acute and chronic impact on humans, fauna & flora, nuisance complaints, corporate reputation, corporate prosecution, inability to operate	Auditing, Planning and design, S&S system, BUAP, License/Consent Conditions, SEMP, dust monitoring, planned maintenance, NPI reporting
Stockpile Fire	Explosion of gases, toxic vapour	Waste load compliance checking
Odour Emissions	Odour causing environmental harm	EPL 4865, Environmental Policy
Water Emissions	Water pollution causing harm, corporate reputation, corporate prosecution, inability to operate, storm water contamination	Auditing, Construction and design of plant and equipment, S&S SYSTEM, BUAP, License/Consent Conditions, SOP, SEMP
Noise Emissions	Noise nuisance complaint, disturbance to community, corporate prosecution, license condition non compliance	Auditing, Planning and design, S&S SYSTEM, BUAP, SEMP, EPL
Hazardous Substance Release	Land, air and/or water contamination, local ecosystem destruction, corporate reputation, corporate prosecution,	Auditing, S&S SYSTEM, BUAP, MSDS Registers,
Application of Waste to Transfer Station to Land	Non compliant incoming waste causing harm, corporate reputation, corporate prosecution, inability to operate	Auditing, Planning and design, CATS, S&S SYSTEM, BUAP, Site Environmental Management Plan

3.3.3 Inventory of pollutants [Regulation clause 98C(1)(d) and (e)]

Pollutants (underground / above the ground)

Location / Pollutant Vessel	Name of Substance	Volume Typical Max. M³
Transfer Station Floor	General Solid Waste Non Putrescible	1,973.34
Transfer Station Floor	Leachate	Est. 6.5
Transfer Station Floor	Dust	Site Generated
Workshop	Various Oils Hydrocarbons	3000L
Leachate Treatment Plant	Leachate	0.1 Megalitres max

3.3.4 Safety equipment [Regulation clause 98C(1)(f)]

See Map 2 in 3.3.8 Maps

3.3.5 Contact details [clause 98C(1)(g) and (h)]

Position	Name	Contact Number
General Manager, Solid Waste Services, NSW/ACT	David Clancy	0418 814 421
Regional Manager	Alex Hatherly	0402 273 140
Operations Manager	TBC	TBC
Senior Environmental Business Partner	Orhan Cambaz	0407 923 305
Environmental Business Partner	Bart Downe	0498 033 628
HS Business Partner	Fay Malwatte	0427 557 320
Head of Health, Safety and Environment	Richard Pittard	0466 529 153
State Emergency Response Manager	Greg Wordsworth	0419 731 222

3.3.6 Communicating with neighbours and the local community [clause 98C(1)(i)]

The site is an active landfill. The site applies waste to land. This process generates Leachate- a process within which water interacts with the stored waste.

The site is located in an industrial area with no schools or hospital in the immediate area.

In the event of such a fire the decision to notify to the neighbours would be made in conjunction with the fire Brigade based on risk, severity and wind direction.

Contact numbers for the neighbours are:

Business name	Contact Number
CEVA	02 9670 9300
Dincel	02 9670 1633
Stramit	02 9834 0900
Linfox	02 8882 5000
ILG	02 9675 8400
DHL	02 9566 2800
Viridian	1800 810 403
Bluescope	02 9670 8625

3.3.7 Minimising harm to persons on the premises [clause 98C(1)(j)]

The site has established Emergency Evacuations Plans, fire protection in the form of fire extinguishers, hose reels at various exit doors throughout the transfer station shed. The site has a fire sprinkler system and dust suppression sprays.

There are 2 x 80kL Rainwater tanks onsite for access to water for fighting fires.

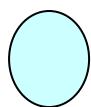
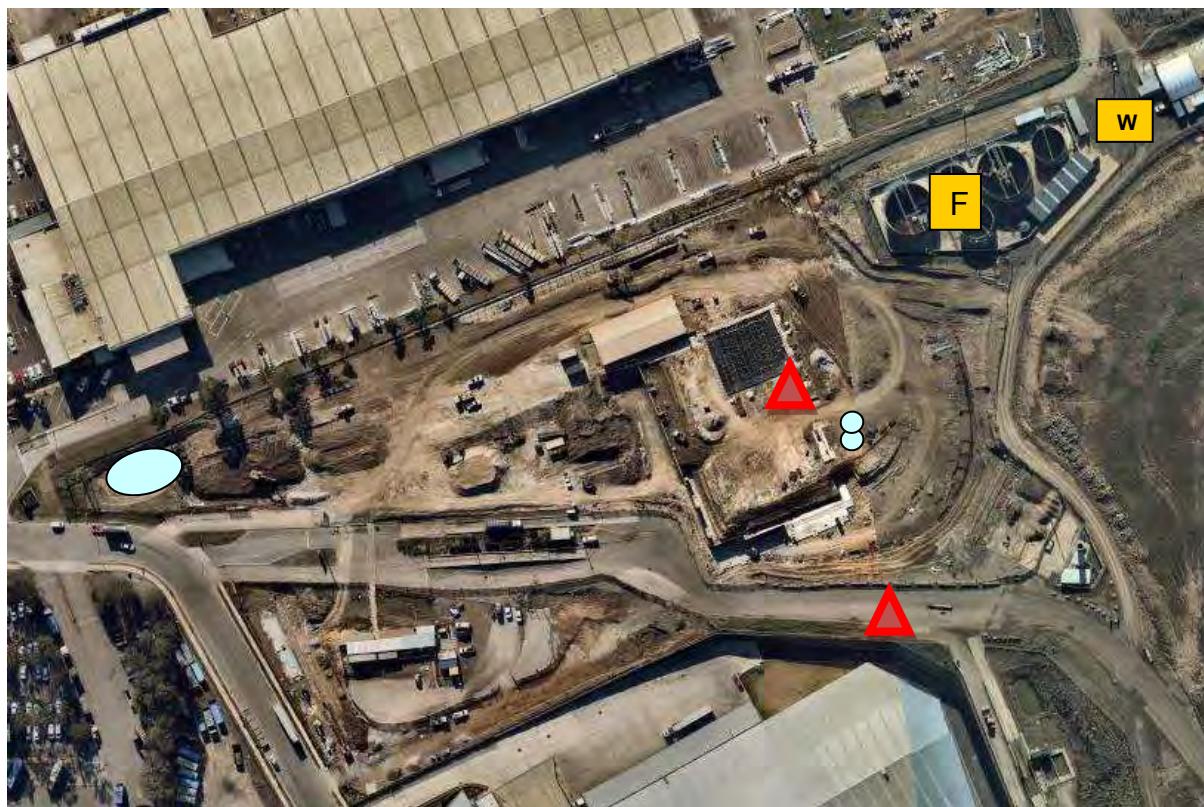
3.3.8 Maps [clause 98C(1)(k)]

Map 1 shows general Location of site and neighbours.



Map 2 shows location of emergency equipment, Water retention dams, Water Tanker Parking Location

Site Layout



Water Retention



Leachate Treatment Plant



Water Tanker Parking



Water Pump



3.3.9 Actions to be taken during or immediately after a pollution incident [clause 98C(1)(l)]

Emergency Evacuation Plan

Evacuation

- The fire Alarm is also the evacuation alarm.
- Regardless of the situation if the fire alarm is activated, evacuation must take place and the emergency controller of the section on the site takes responsibility.
- If a clear danger exists, emergency services will be called by the emergency controller.
- The **Emergency controller** or **technical supervisor** may reassess the situation for immediate actions to take place.
- If the designated evacuation point becomes endangered, or the evacuees need to remain outside the premises for an extended period, Personnel will be relocated to a suitable point at the direction of the **emergency controller**.

Head Count

- After evacuation, all persons on site including visitors and contractors shall assemble at the evacuation point.
- The evacuation or assembly point is located at the gate 1 and 3.
- **Emergency response staff** will communicate with personnel to ensure all staff, visitors and contracts are present.
- Missing persons shall be advised to the **emergency controller**, who will then advise the **emergency services**.
- No personnel shall undertake search and rescue for missing persons in endangered areas.

Adjacent Areas

- The occupants of adjacent premises are to be advised if endangered by the emergency.
- Evacuation of adjacent premises is the responsibility of the individual companies and the **emergency services**.

Re-Entry

- Re-entry to the site will not take place until advised by the **emergency services** to do so. This will be relayed to all personnel by the **emergency controller**.

Once the emergency is contained, cleanup operation will commence, utilising Transpacific Industrial Service Emergency Response Crew (1800 SPILLS) with all liquid waste, fire water Etc, being transported to Transpacific Technical Services Liquid Treatment Facility in Homebush.

3.3.10 Staff training [clause 98C(1)(m)]

Transpacific industries Training Program require all sites to undergo an emergency Evacuation Exercise every 6 months. This plan is incorporated into that exercise; records of attendance are kept on the sites training records.

Appendix A

Notification Protocol

**Erskine Park Waste Transfer Station: 85-87 Quarry Road, Erskine Park NSW
EPA Site Licence Number 20986**

PROTOCOL FOR INDUSTRY NOTIFICATION OF POLLUTION INCIDENTS

Effective 6 February 2012 all NSW sites licensed with the EPA are required to **immediately notify each** of the relevant authorities when material harm to the environment is caused or threatened.

All the below authorities must be notified not just the appropriate regulatory authority

1 **Call 000 if the incident presents an immediate threat to human health or property.** Fire and Rescue, the NSW Police and the NSW Ambulance are the first responders responsible for controlling and containing incidents.

2 If the incident does not require an initial combat agency, or once the 000 call has been made, notify the relevant authorities in the following order:

Environment Protection Authority	131 555
The Ministry of Health	4734 2022- a/h 9845 5555 ask Public Health Officer on call
SafeWork	13 10 50
Local Council	4732 7777
Fire and Rescue	000
Comcare	1300 366 979
TPI Spill response	1800 SPILLS (1800 774 557)
Fire and Rescue without Immediate Threat	1300 729 579

In the event of a notifiable incident, the following neighbours will also be contacted by phone or in person, as appropriate under the circumstances.

Contact numbers for the neighbours are:

Business name	Contact Number
CEVA	02 9670 9300
Dincel	02 9670 1633
Stramit	02 9834 0900
Linfox	02 8882 5000
ILG	02 9675 8400
DHL	02 9566 2800
Viridian	1800 810 403
Bluescope	02 9670 8625