



# **Landscape and Vegetation Management Plan**

**For  
Banksmeadow Transfer Terminal**

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**QUALITY INFORMATION**

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## **Definitions/Abbreviations**

<b>LVMP</b>	Landscape and Vegetation Management Plan
<b>BTT</b>	Banksmeadow Transfer Terminal
<b>COC</b>	Conditions of Development Consent
<b>DPE</b>	Department of Planning and Environment
<b>EIS</b>	Environment Impact Statement
<b>EMP</b>	Environment Management Plan
<b>EP&amp;A</b>	Environmental Planning and Assessment (Act and Regulations)
<b>EPA</b>	NSW Environment Protection Authority
<b>EPL</b>	Environment Protection Licence
<b>ERP</b>	Emergency Response Plan
<b>NIMS</b>	National Integrated Management System
<b>OEMP</b>	Operational Environmental Management Plan
<b>RIVO</b>	Incident and Compliance Management System
<b>Veolia</b>	Veolia Australia and New Zealand
<b>WHS</b>	Work Health and Safety (Act and Regulation)

## **SECTION 1 INTRODUCTION**

### **1.1 Overview**

Veolia Australia and New Zealand (Veolia) operates the Banksmeadow Transfer Terminal (BTT), which is located at 14 Beauchamp Road and 34-36 McPherson Street, Banksmeadow (refer to site plans in OEMP Appendix A).

The BTT facility has been approved receive up to 500,000 tonnes per annum (TPA) of waste (including 400,000 TPA of putrescible waste and 100,000 TPA of non putrescible waste) from within the Sydney Region. The waste will be containerised and loaded onto rail wagons for transportation by rail to the Woodlawn Eco Project Site (owned and operated by Veolia) in the Southern Tablelands (approximately 250 kilometres southwest of Sydney) for treatment, recycling and energy recovery.

The BTT includes the following infrastructure:

- An access road for waste trucks entering and exiting the facility from Beauchamp Road.
- Incoming and outgoing weighbridges to check the waste type and weight of the waste being delivered to the facility.
- An enclosed building for the unloading and handling of waste, with environmental controls such as dust suppression and odour control systems.
- A hardstand area for temporary storage and manoeuvring of full and empty sealed shipping containers prior to loading on to trains.
- Rail sidings for the loading of containers onto trains for rail transport to Woodlawn.

The NSW Department of Planning and Environment (DPE) assessed the State Significant development (SSD 5855) and granted Development Consent for the 'State Significant' development on 28 April 2015, in accordance with section 89 (e) of the *Environmental Planning and Assessment Act 1979* (EP&A Act).

In addition, an Environmental Protection Licence (EPL) has been issued under the *Protection of the Environment Operations Act 1997* (POEO Act) by the NSW Environment Protection Authority (EPA).

This Landscape and Vegetation Management Plan (LVMP) has been prepared in accordance with the requirements of the Conditions of Development Consent (the Consent Conditions) and Environment Protection Licence issued for the BTT. The LVMP ensures that landscape impacts, from any activities undertaken during its operational phase are suitably managed and details the relevant control strategies and monitoring procedures.

The LVMP incorporates the Pest and Vermin Management Plan.

### **1.2 Scope and Objectives**

The purpose of this LVMP is to provide, in accordance with Consent Conditions, EPL, relevant legislation and as part of Veolia's National Integrated Management System (NIMS), landscape and vegetation management procedures to form part of the BTT Operational Environmental Management Plan (OEMP).

The OEMP is the working environmental management tool for the operation of the BTT, concentrating on key environmental issues, including supporting detailed plans for the management of water quality, waste, traffic, air quality, noise, landscape and vegetation and emergency response.

This LVMP provides information on how to detail the management practices at the BTT to satisfy the requirements set out in the conditions of consent.

The LVMP includes proposals for new landscaping areas on site at the McPherson St entry and along the inner north-east facing boundary to the south west of the site access road.

The species selected for landscaping are predominantly native species, selected for their suitability to site conditions as well as for their appearance and screening value.

The LVMP also details management and control practices for vermin, pest and weed management.

### **1.3 Legal and Other Requirements**

#### **1.3.1 Conditions of Development Consent**

Conditions 45 of Schedule 3: Environmental Performance Conditions of the Development Consent establishes the requirements for landscape and vegetation management at the BTT. In particular, it requires the preparation and implementation of a Landscape and Vegetation Management Plan (LVMP) to the satisfaction of the Secretary.

Condition 21 of Schedule 3: Environmental Performance Conditions establishes the requirements for pest, vermin and noxious weed management in the BTT. This is also addressed within this LVMP.

The conditions of consent considered relevant to this LVMP are provided in Table 1.1 below.

**Table 1.1 Operational Consent Requirements**

<b>Relevant COC</b>	<b>Requirement</b>	<b>LVMP Reference</b>
<b>Landscaping and Vegetation Management</b>		
<b>45</b>	The Applicant shall prepare and implement a Landscaping and Vegetation Management Plan for the development in consultation with City of Botany Council and to the satisfaction of the Secretary. The plan shall:	Refer to Section 1.4.1
<b>45(a)</b>	be approved by the Secretary prior to the commencement of construction	Noted
<b>45(b)</b>	detail any trees that are proposed to be removed, ringbarked, cut, topped or lopped;	Not relevant for OEMP – construction phase
<b>45(c)</b>	detail any revegetation works at the site, with particular attention to minimising the visibility of the site from residences and public vantage points, minimising bushfire risk and the use of indigenous species;	Refer to Appendix A
<b>45(d)</b>	ensure that any clearing or trimming of vegetation on the western side of	Noted

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	McPherson Street, at the intersection with Beauchamp Road, is undertaken in consultation with City of Botany Bay Council; and	
45(e)	describe the on-going measures (e.g. weed control and regular pruning) that would be implemented to maintain landscaping and vegetation on the site for the life of the development.	Refer to Section 4.4
<b>Pest, Vermin and Noxious Weed Management</b>		
21	The Applicant shall:	
21(a)	implement suitable measures to manage pests, vermin and declared noxious weeds on site; and	Refer to Section 4.4
21(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 area.	Refer to Section 5.1

**1.3.2 Mitigation Measures**

In addition, the operational mitigation measures appended to the Consent Conditions for waste management are presented below.

**Table 1.2 Operational Mitigation Measure Requirements**

	<b>Mitigation Requirement</b>	<b>LVMP Reference</b>
<b>Biodiversity</b>		
1	A Landscape Plan will be developed during detailed design, in accordance with the Draft Botany Bay DCP and the draft Landscape Technical Guidelines for Development Sites (2013) where appropriate. Plant species to be used in landscaping will be predominantly native, with locally indigenous species incorporated where practical and suitable.	Refer to Section 3.1.1
2	The landscaped zone on the western boundary bordering the Botany Building Recyclers will be designed to capture gross pollutants and oil and grits from pavement. This area will be regularly maintained to remove any rubbish and can be renewed on a regular basis.	Design includes controls prior to landscaped zone Refer to SWLMP
3	Detailed design of the terminal building and associated waste handling facilities will incorporate reasonable measures to minimize the potential for birds, rodents, flies and other pests to gather at the BTT site, including provision for bird deterrent measures.	Refer to Section 2.1
4	Weed and plant infestations identified during the operation of the Proposal will be managed in accordance with a Vermin and Pest Control Plan which will form part of the OEMP	Refer to Section 4.4
<b>Visual Amenity</b>		

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1	Highly reflective building surfaces, bright coloured surfaces and unpainted metal or materials will be avoided for the transfer terminal building and offices.	Refer to Section 4
2	Where possible, exterior light fittings will be installed in such a way that directs the light downwards and minimises impacts on adjacent land users.	Refer to Section 4
3	The terminal building will be covered with light coloured Colourbond cladding to reduce its prominence in upwards views against the sky. The Colourbond cladding will be alternated with translucent panels to reduce the building bulk. Veolia has selected a pale eucalypt colour for the shed, however is willing to receive proposals from the community regarding the appearance of the terminal building. Further detail on materials and finishes would be provided to Planning and Environment for approval and Randwick City Council for review, prior to construction.	Refer to Section 4
4	The cladding of the building will be robust and graffiti resistant. Additionally, the Site will be fenced to prevent unauthorized entry of the Site by vandals.	Refer to Section 4
5	The office building would be brick veneer, matching the existing office buildings onsite.	Refer to Section 4
6	In accordance with the Botany Bay DCP (2013) Part 3L (Landscaping and Part 20 (Landscape Technical Guidelines for Development Sites) and a detailed (construction level) landscape documentation, Site analysis and schedule of finishes will be prepared by a suitably qualified landscape architect.	
	Lighting design for the Site will be such that the criteria prescribed in Table 2.1 of Australian Standard – AS 4282-1997, “Control of Obtrusive Effects of Outdoor Lighting” for commercial areas will be achieved at the Site boundary.	Refer Section 4
	The maximum reflectivity of any glazing on street frontages will not exceed 20 per cent to avoid nuisance in the form of glare to occupants of nearby buildings, pedestrians and motorists.	Refer Section 4
	Appropriate directional signage will be provided at the Site entrances to direct vehicles and pedestrians safely around the Site. Signage for the Proposal will be designed to relate, in size and form, to the scale of the transfer terminal, visibility and other advertisements within the vicinity, including the Goodman’s Industrial Park and Botany Industrial Park on Beauchamp Road. Signage will be designed such that there will be no lighting overspill from the signs. Further detail for signage which approval is required (i.e. not under the Exempt Development under SEPP Exempt and Complying Development Codes) would be provided to Planning and Environment prior to construction, Randwick City Council would be consulted.	Refer Section 4

**1.4 Stakeholder Consultation**

**1.4.1 Government entities**

The following government entities have been consulted with as part of the preparation of this LVMP:

- NSW Department of Planning and Environment
- NSW Environment Protection Authority (EPA)



- City of Botany Bay Council (Botany Council)

### 1.4.2 **Community**

Veolia aims to ensure that the local community remains informed of the progress of the project in a pro-active and responsive manner. Veolia's communication may include the following where applicable:

- public notices and announcements;
- meetings and correspondence with appropriate regulatory authorities; and
- Discussions with adjoining land owners / neighbours who may be affected by the BTT.

The key objectives of the community focused communication and consultation program include:

- Educating stakeholders regarding key aspects of the BTT; and
- Informing community groups and neighbours to help Veolia understand concerns.

The following avenues provide availability of information about the BTT:

- Dedicated Veolia webpage:  
<http://www.veolia.com.au/sustainable-solutions/community-development/banksmeadow-transfer-terminal>
- Community telephone line:

<b>Location</b>	<b>Contact</b>
BTT 24 hour feedback line	1800 298 981

- Dedicated email address:  
[banksmeadow@veolia.com.au](mailto:banksmeadow@veolia.com.au)
- Published monitoring data:  
<http://www.veolia.com.au/sustainable-solutions/environmental-compliance/nsw-environmental-monitoring-data>

**SECTION 2 GOALS OF LVMP**

**2.1 Landscaping and Vegetation**

This Landscape and Vegetation Management Plan (LVMP) has been prepared to detail the landscaping and vegetation management measures for the Banksmeadow Transfer Terminal (BTT) to minimise impact to biodiversity during its operation.

**2.2 Roles and Responsibilities**

Responsibilities for implementation of the LVMP are summarised in Table 2.1 below.

**Table 2.1 Summaries of Responsibilities- LVMP**

<b>Action</b>	<b>Responsibility</b>	<b>Timing</b>
Overall implementation of the LVMP	Facility Manager and ER or nominee	Ongoing
Inspection of site areas prior to, during and after construction	Facility Manager and ER and/or nominee	As Required
Implement methodology for landscaping and vegetation treatment	Facility Manager, and ER or nominee	Ongoing
Collate and maintain records of complaints, respond to complainant	ER and/or nominee	Ongoing
Identify remediation areas/maintenance needs and notify Construction Manager/ER	Facility Manager and ER and/or nominee	As Required
Authorise and confirm the implementation of mitigation measures and reporting	Facility Manager, ER or nominee	As Required

## **SECTION 3                      EXISTING ENVIRONMENT AND OPERATIONAL IMPACTS**

The BTT is situated on the western side of Beauchamp Road, and the northern side of McPherson Street, in the suburb of Banksmeadow. The Site is surrounded by industrial lots. The Banksmeadow TT provides an industrial land use consistent with the existing land use, the adjacent land uses and potential future land uses. The BTT has low biodiversity values.

The nearest residential area is located approximately 250 m to the north-east of the BTT, within the suburb of Hillsdale. The residential area of Matraville is located approximately 350 m to the east of the BTT.

### **3.1                      Existing Environment**

#### **3.1.1                  Existing Vegetation**

Prior to construction of the BTT, the vegetation on the site consisted of regrowth and planted native and exotic trees, shrubs and ground covers over highly disturbed soils. There was some removal of vegetation from the BTT during construction, but this is not considered to have significantly impacted biodiversity values given BTT site's previously domination by weed species, with low biodiversity values.

Trees on the BTT site prior to construction included *Eucalyptus microcorys* (Tallowwood), *Corymbia maculata* (Spotted Gum), *Ficus benjamina* (Weeping Fig), *Casuarina glauca* (Swamp Oak), *Quercus* sp. (Oak) and *Araucaria heterophylla* (Norfolk Island Pine). Trees proposed for removal during construction of the BTT are illustrated in Figure 3.1 (below).

A number of noxious and environmental weeds had been recorded on the site. These included *Lantana camara* (Lantana), *Ricinus communis* (Castor Oil Plant), *Cortaderia selloana* (Pampas Grass) and *Rotundata* (Bitou Bush).



Figure 3.1 BTT Landscaping Plan

### 3.1.1.1 Revegetation

In the final stages of construction, some revegetation was conducted on the BTT site in accordance with the Construction Landscape Plan, prepared by landscape architects – Peter Glass & Associates (Refer to Appendix A).

Plant species used in landscaping were predominately native, with local indigenous species incorporated where practical and suitable. Plant species used are included in Table 3.1 below.

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**Table 3.1 BTT Plant Species**

Scientific name	Common Name	Mature Height and Spread	Container Size	Approximate Plant Densities
<b>TREES</b>				
BI <i>Banksia integrifolia</i>	Coast Banksia	5.0 x 4.0m	45L	As shown
Tristaniopsis <i>laurina</i>	Water Gum	8.0 x 5.0m	25L	As shown
CA <i>Cupaniopsis anacardioides</i>	Tuckeroo	6.0 x 4.0m	45L	As shown
MD <i>Melaleuca decora</i>	White Feather Myrtle	8.0 x 4.0m	45L	As shown
<b>SHRUBS</b>				
CA <i>Correa alba</i>	White Correa	1.0 x 1.0m	200mm/Viro-Tube	2/10 sq metres
CR <i>Correa reflexa</i>	Red Correa	1.0 x 1.0m	200mm/Viro-Tube	1/10 sq metre
BE <i>Banksia ericifolia</i>	Heath Banksia	3.0 x 2.0m	200mm/Viro-Tube	1/10 sq metre
BS <i>Banksia spinulosa</i>	Hairpin Banksia	3.0 x 2.0mm	200mm/Viro-Tube	1/10 sq metre
CC <i>Callistemon citrinus</i>	Crimson Bottlebrush	2.0 x 2.0m	200mm/Viro-Tube	2/10 sq metre
KA <i>Kunzea ambigua</i>	Tick Bush	2.0 x 2.0m	200mm/Viro-Tube	2/10 sq metre
MN <i>Melaleuca nodosa</i>	Ball Honeymyrtle	2.0 x 2.0m	200mm/Viro-Tube	2/10 sq metre
WFW <i>Westringia fruticosa</i>	Coast Rosemary	1.5 x 1.5m	200mm/Viro-Tube	1/10 sq metre
<b>GROUNDCOVERS</b>				
BA <i>Baumea articulata</i>	Jointed Twig Rush	N/A	Viro-Tube	1/1 sq metre
DC <i>Dianella congesta</i>	Flax Lily	N/A	Viro-Tube	1/1 sq metre
DR <i>Dichondra repens</i>	Kidney Weed	N/A	Viro-Tube	2/1 sq metre
FN <i>Ficiniar nodosa</i>	Club Rush	N/A	Viro-Tube	1/1 sq metre
LL <i>Lomandra longifolia</i>	Mat Rush	N/A	Viro-Tube	1/1 sq metre

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MS <i>Microlaena stipoides</i>	Seeping Grass	N/A	Viro-Tube	2/1 sq metre
PA <i>Pelargonium austral</i>	Wild Geranium	N/A	Viro-Tube	1/1 sq metre
PP <i>Poa poiformis</i>	Tussock Grass	N/A	Viro-Tube	1/1 sq metre
TA <i>Themeda australis</i>	Kangaroo Grass	N/A	Viro-Tube	1/1 sq metre

**3.1.2 Weed, Vermin and Pest**

The existing extent of vermin and pest infestations on the BTT site is not known. Previous land uses on the site (storage and small scale commercial industrial operations) were not likely to have attracted large numbers of vermin and pests. However, there is habitat on-site for vermin and pests, within buildings and storage areas as well as in the areas of exotic vegetation.

**3.2 Predicted impacts of operation of the BTT**

Given the BTT site's low historic biodiversity value, there were no significant impacts predicted to occur as a result of the BTT's construction. . The trees on site represented a very small amount of potential foraging habitat for birds and bats, including the threatened species Grey-headed Flying Fox (*Pteropus poliocephalus*). These losses were mitigated by the revegetation works undertaken on site following BTT construction.

Removal of weeds has reduced the extent and potential further spread of these invasive species

The three mature trees of *Corymbia citriodora* (Lemon-scented Gum) at the entrance to the Site on McPherson Street have been retained as shown in Figure 3.1.

Inappropriate handling of waste within the Banksmeadow TT would have the potential to attract vermin, flies and birds as the decomposition of waste on-site would emit odours that attract these pests. Proposed management measures to address these potential impacts are provided in Section 4, below.

## **SECTION 4 LANDSCAPE AND VEGETATION MANAGEMENT MEASURES**

### **4.1 Visual Amenity**

Although the potential visual impacts associated with the BTT were assessed to be limited, a number of management and mitigation measures have been undertaken to ensure that the BTT is compatible with the wider Banksmeadow Industrial Precinct. These include:

- Highly reflective building surfaces, bright coloured surfaces and unpainted metal or materials have been avoided for the transfer terminal building and offices.
- Where possible, exterior light fittings have been installed in such a way that directs the light downwards to minimise impacts on adjacent land users.
- The transfer terminal building is covered with light coloured Colourbond cladding to reduce its prominence in upwards views against the sky. The Colourbond cladding is alternated with translucent panels to reduce the building bulk.
- The cladding of the building is robust and graffiti resistant. Additionally, the BTT is fenced to prevent unauthorised entry of the site by vandals.
- The office building has been integrated with the transfer building in terms of character and colouring, based on comments from Randwick City council.
- Lighting design is such that the criteria prescribed in Table 2.1 of Australian Standard - AS 4282-1997, "Control of Obtrusive Effects of Outdoor Lighting" for commercial areas has been achieved at the site boundary.
- The maximum reflectivity of any glazing on street frontages does not exceed 20 per cent to avoid nuisance in the form of glare to occupants of nearby buildings, pedestrians and motorists.
- All external signage will be installed in consultation with City of Botany Bay Council

### **4.2 Landscaping**

Given the large scale of industrial development between the residential receivers and the BTT (including the Botany Industrial Park), there are limited viewing opportunities from the residential areas to the site which require landscaping. The two view points of the Site are from the signalised intersection of Beauchamp Road and Perry Street and from the street frontage of the Site with McPherson Street.

The landscaping at the McPherson Street entry is used as a screening measure to reduce the visibility of the buildings from the street. The landscaping in the area retains the pre-existing *Corymbia citriodora* trees, which have been supplemented by an assortment of native trees, shrubs and groundcovers planted along side them. New open steel palisade fencing powder coated in a dark colour has been erected across the McPherson Street frontages of the site.

### **4.3 Irrigation**

Irrigation on site is connected to the rainwater harvesting system, which collects rainwater from a portion of the terminal building for storage and reuse on site, including irrigation.

A fully automatic drip irrigation system (the system) of quick-couplers at the lease edge of the verge has been installed at the McPherson Street frontage and along the eastern side of the transfer building to support plant growth and maintenance of the landscaping. The system provides full coverage of all planted areas with no more than 300mm between drippers, automatic controller and backflow prevention device and connection to a recycled water source.

The irrigation complies with both Sydney Water requirements as well as Australian Standards, and will be maintained in effective working order at all times. The system will be terminated as planting is established and no longer require irrigation.

Drought tolerant grasses and shrubs that are not reliant on watering to survive have been planted on the site.

### **4.4 Weed, Vermin and Pest**

#### **4.4.1 Control Strategies**

All buildings and equipment are maintained in such a manner that will not encourage the presence of pests. All efforts are taken to prevent access by insects, birds and rodents. Steps are also taken to remove them when their presence has been detected.

#### **4.4.2 Schedule and Method of Control**

Management of pest and vermin at the site is controlled through both preventative and responsive mitigation measures.

Preventative control measures include, but are not limited to:

- The design of the building which is not conducive to bird habitation;
- Minimising the time waste is spent on the floor of the building;
- Inspection of the site by a registered pest controller every three months for the first year, and at least annually thereafter;
- Good house keeping practices including weekly site inspections to record the site conditions such as drains, sumps and litter, evidence of vermin and pests, and any actions undertaken to ensure the mitigation measures mentioned above are being implemented effectively
- Placement of rodent bait stations at various locations around the site as follows:
  - Transfer Terminal (8);
  - Compactor Pit (3);
  - Site Administration Office (2);
  - Weighbridge Office (2).
- Training of all staff for recognising potential vermin habitats;
- Border spraying, for the prevention of cockroaches, silverfish, spiders and ants; and,
- Cockroach gel in office areas.



Responsive measures include, but are not limited to:

- Recording and action of staff complaints and reports, as required;
- Discussion of any pest or vermin issues at monthly toolbox meetings; and
- Increase in the preventative measures listed above if considered necessary, and as advised by the Pest Controller, such as netting or hanging wires for birds.

## **SECTION 5 LANDSCAPE AND VEGETATION MONITORING AND REPORTING**

### **5.1 Monitoring Program**

Visual inspections as detailed in Section 4.4 will ensure 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 area.

Inspection and monitoring during the operational phase of the BTT will be kept on Veolia's document management system. This will ensure that all monitoring activities will assist to measure the effectiveness of landscaping and vegetation measures implemented at the BTT.

A gardening and landscaping contractor will be engaged to ensure that all landscaping, gardening and weed management is performed to maintain all landscaped areas.

The Weekly Site Inspection Checklist, records the site conditions such as drains, sumps and litter, evidence of vermin and pests, and any actions undertaken to ensure the mitigation measures mentioned above are being implemented effectively.

### **5.2 Performance Reporting and Review**

Annual management reviews of the environmental performance of the BTT will assess the continuing suitability, adequacy and effectiveness of the on-site environmental management measures implemented. This review will include performance against the goals of the LVMP.

Where performance reporting is required under the Consent Conditions or EPL, all relevant information will be recorded and maintained on site. This will include, but not be limited to, the following:

- Sampling dates, times and name of sampler;
- Chain of Custody, analysis and results;
- Complaints received and corrective actions taken; and
- Copy of the EPL, development consent and other relevant approvals.

Veolia will use monitoring data to review and identify any exceedances against the adapted goals with the appropriate corrective actions applied as discussed below.

Details of compliance reporting requirements are provided in Section 5.1.2 of the OEMP.

### **5.3 Exceedances and Corrective Actions**

Any landscape related issues will be managed in accordance Veolia's Non Conformance Procedure (PRO-COL-000-137). Investigations will be undertaken in accordance with the NSW Incident Investigation Procedure (PRO-NSW-000-130) or on a case by case basis depending on the severity of the incident as described Section 5.1.1 of the OEMP.

Notification, emergency response and reporting requirements relating to incidents are detailed in Section 4.4 of the OEMP.

At completion of any investigation, any corrective actions required will be recorded in the Vault and managed in accordance with the NSW Corrective Action procedure (PRO-NSW-000-132) in a timely manner as described in Section 5.1.1 of OEMP.

#### **5.4 Publishing of Monitoring Data**

Where required, Veolia publishes the results of any environmental monitoring required under the EPL on the following website:

<http://www.veolia.com.au/sustainable-solutions/environmental-compliance/nsw-environmental-monitoring-data>

## **REFERENCES**

1. Hyder, 2014a; Veolia Environmental Services Banksmeadow Transfer Terminal Environment Impact Statement, Hyder Consulting Pty Ltd, April 2014
2. Hyder, 2014b; Veolia Environmental Services Banksmeadow Transfer Terminal Response to Submissions, Hyder Consulting Pty Ltd, September 2014
3. Veolia Environmental Services Banksmeadow Transfer Terminal Environment Impact Statement, Hyder Consulting Pty Ltd (April 2014)

**APPENDICES**

**Appendix A Landscape Plan**

**PLANTING SCHEDULE (BOTH DRAWINGS)**

BOTANIC NAME	TYPE 'A' AREA ESTIMATED QTY'S	TYPE 'B' AREA ESTIMATED QTY'S	COMMON NAME	MATURE HEIGHT & SPREAD	CONTAINER SIZE	APPROXIMATE PLANT DENSITIES
<b>TREES</b>						
BI <i>Banksia integrifolia</i>	-	2	Coast Banksia	5.0 x 4.0m	45L	As shown
CG <i>Corymbia gummifera</i>	-	1	Red Bloodwood	8.0 x 5.0m	25L	As shown
CM <i>Corymbia maculata</i>	-	2	Spotted Gum	12.0 x 6.0m	25L	As shown
CA <i>Cupaniopsis anacardioides</i>	-	2	Tuckeroo	6.0 x 4.0m	45L	As shown
MD <i>Melaleuca decora</i>	-	4	White Feather Myrtle	8.0 x 4.0m	45L	As shown

BOTANIC NAME	TYPE 'A' AREA ESTIMATED QTY'S	TYPE 'B' AREA ESTIMATED QTY'S	COMMON NAME	MATURE HEIGHT & SPREAD	CONTAINER SIZE	APPROXIMATE PLANT DENSITIES
<b>SHRUBS (5 plants per 10m2)</b>						
CAL <i>Correa alba</i>	18	-	White Correa	1.0 x 1.0m	140mm	As shown
CC <i>Caesalpinia 'Cousin It'</i>	38	-	Prostrate She Oak	1.0 x 1.0m	140mm	As shown
BE <i>Banksia ericifolia</i>	-	7	Heath Banksia	3.0 x 2.0m	200mm	As shown
BS <i>Banksia spinulosa</i>	-	11	Hairpin Banksia	1.5 x 1.5m	200mm	As shown
CC <i>Callistemon citrinus</i>	-	8	Crimson Bottlebrush	2.0 x 2.0m	200mm	As shown
KA <i>Kunzea ambigua</i>	-	11	Tick Bush	2.0 x 2.0m	200mm	As shown
MN <i>Melaleuca nodosa</i>	-	6	Ball Honeymyrtle	2.0 x 2.0m	200mm	As shown
WF <i>Westringia fruticosa</i>	-	21	Coast Rosemary	1.5 x 1.5m	140mm	As shown

BOTANIC NAME	TYPE 'A' AREA ESTIMATED QTY'S	TYPE 'B' AREA ESTIMATED QTY'S	COMMON NAME	MATURE HEIGHT & SPREAD	CONTAINER SIZE	APPROXIMATE PLANT DENSITIES
<b>GROUNDCOVERS (1 plant 1m²)</b>						
CGL <i>Carpobrotus glaucescens</i>	1,060 (366)	-	Coastal Pigface	N/A	Viro-Tube	1 / 1 sq metre
DC <i>Dianella congesta</i>	-	365	Flax Lily	N/A	Viro-Tube	1 / 1 sq metre
FN <i>Ficinia nodosa</i>	-	9	Club Rush	N/A	Viro-Tube	1 / 1 sq metre
LL <i>Lomandra longifolia</i>	-	12	Mat Rush	N/A	Viro-Tube	1 / 1 sq metre
MP <i>Myoporum parvifolium</i>	1,060 (366)	-	Creeping Boobialla	N/A	Viro-Tube	1 / 1 sq metre

Note: Quantities in brackets denote Type 'A' Plants occurring on Drawing No 5114 - 02 only, to be planted at the density of 2 plants per sq.metre.

**TREE PROTECTION NOTES**

INDIVIDUAL TREES CLOSE TO CONSTRUCTION ACTIVITY... GROUPS OF TREES AND SHRUBS NEAR CONSTRUCTION ACTIVITY... VISUALLY PROTECT GROUPED TREES AND SHRUBS WITH STAR STEEL PICKETS DRIVEN AT 1 METRE CENTRES SUPPORTING ORANGE PLASTIC SAFETY MESH

**LANDSCAPE CONSTRUCTION SPECIFICATION**

1.0. INITIAL PREPARATION... 2.0. EXCAVATION AND EARTHWORKS... 3.0. SOIL PREPARATION & INSTALLATION... 4.0. PLANTING, FERTILISING AND STAKING... 5.0. TREES EDGING... 6.0. MULCHING... 7.0. AUTOMATIC SUBSOIL IRRIGATION SYSTEM... 8.0. COMPLETION... 9.0. MAINTENANCE... 10.0. LANDSCAPE MANAGEMENT NOTES... 11.0. TEMPORARY EARTHWORK PROTECTION HYDROMULCHING SPECIFICATIONS

**NOTE:** PLANTS ARE LIVING ORGANISMS... EXACT LOCATION OF SITE BOUNDARIES ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK... WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED MEASUREMENTS... ANY BATTER GREATER THAN 1 IN 3 SHALL BE STABILISED BY APPROVED GEOGRABRIC OR OTHER EROSION CONTROL MEASURE...

**LEGEND**

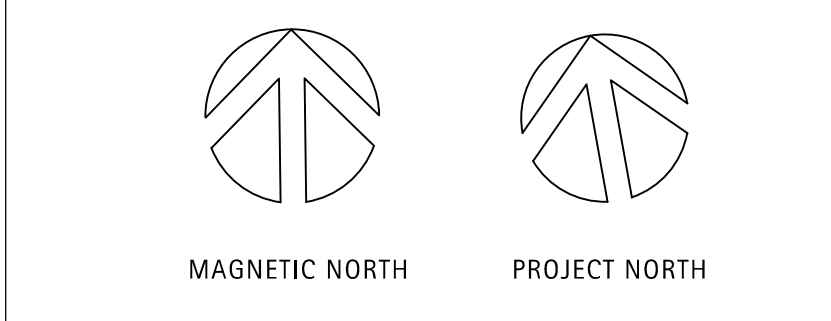
- SIR WALTER SOFT LEAF BUFFALO TURF TO OFFICE FRONTAGE AND NATURE STRIP. REFER SPECIFICATION.
- TYPE 'A' VEGETATED BANK PLANTING. REFER PLANT SCHEDULE AND SPECIFICATIONS. DRIP IRRIGATION NOT REQUIRED.
- TYPE 'B' PLANTING BEDS WITH DRIP IRRIGATION. REFER PLANT SCHEDULE AND SPECIFICATIONS.
- EXISTING TREES TO BE RETAINED AND PROTECTED DURING CONSTRUCTION
- PLANTING BED TIMBER EDGING AS SPECIFIED

TYPE 'A' VEGETATED SWALE PLANTINGS. REFER TO PLANT SCHEDULE 277.8M² @ 1 PLANT/M² FOR TOTAL QUANTITY OF 278 VIROTUBE PLANTS

TYPE 'A' VEGETATED SWALE PLANTINGS. REFER TO PLANT SCHEDULE. 1,842.5M² @ 1 PLANT/M² FOR TOTAL QUANTITY OF 1,843 VIROTUBE PLANTS

REFER DWG NO 5114 - 02 FOR DETAIL OF LANDSCAPE TO BUILDING SURROUNDS

PLAN SCALE 1:500



ISSUE	DESCRIPTION	DATE
F	AS BUILT	28/07/16
E	GROUND COVER REDUCTIONS	02/06/16
D	PLANTING REDUCTIONS	14/04/16
C	ISSUED FOR APPROVAL	10/08/15
B	ISSUED FOR APPROVAL	26/05/15
A	FOR REVIEW AND DISCUSSION	15/05/15

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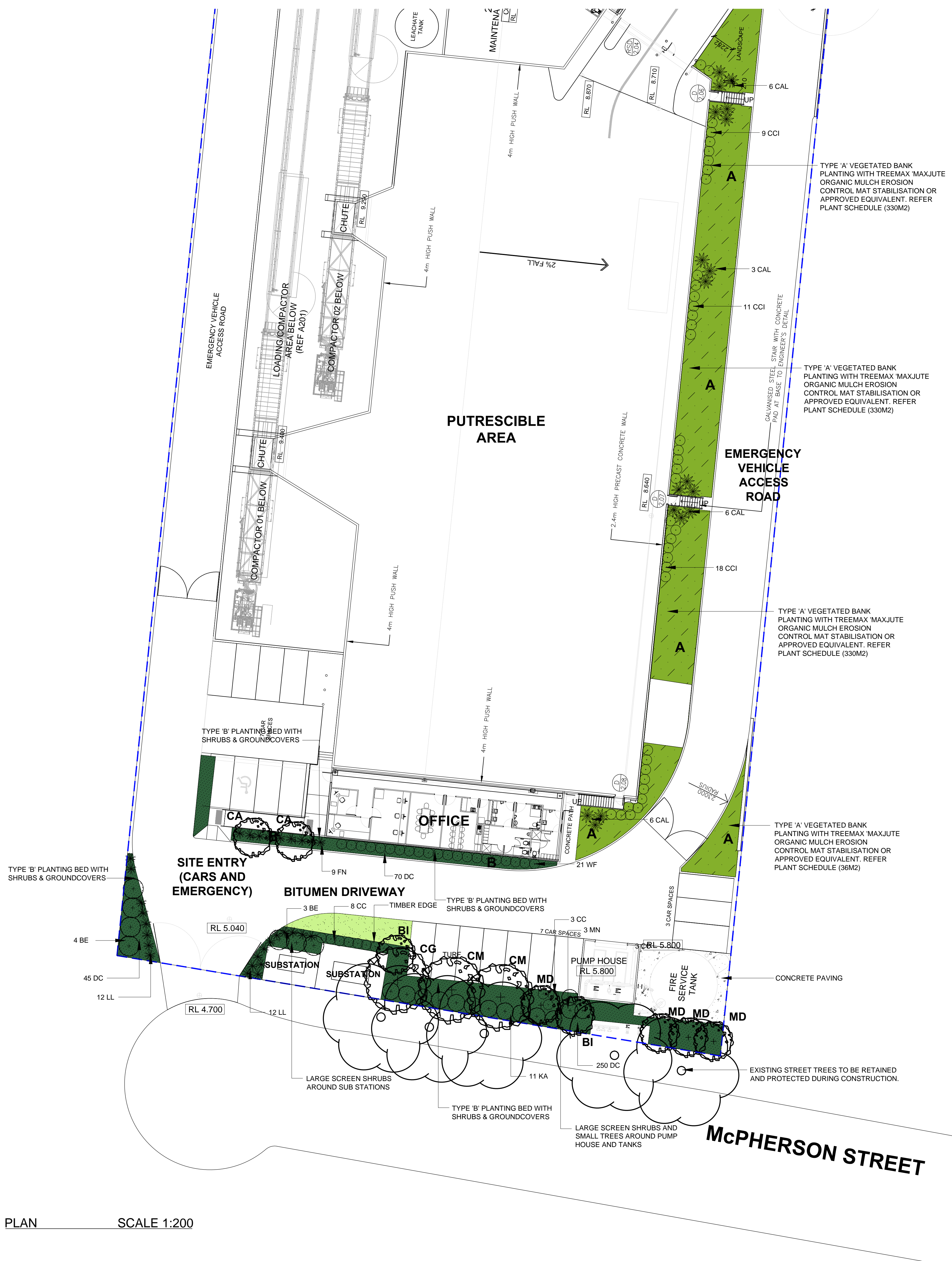
CLIENT  
**LIPMAN PTY LTD**

PROJECT  
**BANKSMEADOW TERMINAL**

DRAWING TITLE  
**LANDSCAPE SITE PLAN**

SCALE	1:500 @ B1 / 1:1250 @ A3
DESIGNED/DRAWN	PL/CW
CHECKED	PL
DATE	15/05/2015
JOB NUMBER	5114

DRAWING NUMBER	ISSUE/ISSUE
5114 - 01	AS BUILT - F



**PLANTING SCHEDULE (BOTH DRAWINGS)**

BOTANIC NAME	TYPE 'A' AREA ESTIMATED QTY'S	TYPE 'B' AREA ESTIMATED QTY'S	COMMON NAME	MATURE HEIGHT & SPREAD	CONTAINER SIZE	APPROXIMATE PLANT DENSITIES
<b>TREES</b>						
BI <i>Banksia integrifolia</i>	-	2	Coast Banksia	5.0 x 4.0m	45L	As shown
CG <i>Corymbia gummifera</i>	-	1	Red Bloodwood	8.0 x 5.0m	25L	As shown
CM <i>Corymbia maculata</i>	-	2	Spotted Gum	12.0 x 6.0m	25L	As shown
CA <i>Cupaniopsis anacardioides</i>	-	2	Tuckeroo	6.0 x 4.0m	45L	As shown
MD <i>Melaleuca decora</i>	-	4	White Feather Myrtle	8.0 x 4.0m	45L	As shown
<b>SHRUBS</b>						
(5 plants per 10m <sup>2</sup> )						
CAL <i>Correa alba</i>	18	-	White Correa	1.0 x 1.0m	140mm	As shown
CC <i>Casuarina 'Cousin It'</i>	38	-	Prostrate She Oak	1.0 x 1.0m	140mm	As shown
BE <i>Banksia ericifolia</i>	-	7	Heath Banksia	3.0 x 2.0m	200mm	As shown
BS <i>Banksia spinulosa</i>	-	11	Hairpin Banksia	1.5 x 1.5m	200mm	As shown
CC <i>Callistemon citrinus</i>	-	8	Crimson Bottlebrush	2.0 x 2.0m	200mm	As shown
KA <i>Kunzea ambigua</i>	-	11	Tick Bush	2.0 x 2.0m	200mm	As shown
MN <i>Melaleuca nodosa</i>	-	6	Ball Honeymyrtle	2.0 x 2.0m	200mm	As shown
WF <i>Westringia fruticosa</i>	-	21	Coast Rosemary	1.5 x 1.5m	140mm	As shown
<b>GROUNDCOVERS</b>						
(1 plant 1m <sup>2</sup> )						
CGL <i>Carpobrotus glaucescens</i>	1,060 (366)	-	Coastal Pigface	N/A	Viro-Tube	1 / 1 sq metre
DC <i>Dianella congesta</i>	-	365	Flax Lily	N/A	Viro-Tube	1 / 1 sq metre
FN <i>Ficinia nodosa</i>	-	9	Club Rush	N/A	Viro-Tube	1 / 1 sq metre
LL <i>Lomandra longifolia</i>	-	12	Mat Rush	N/A	Viro-Tube	1 / 1 sq metre
MP <i>Myoporum parvifolium</i>	1,060 (366)	-	Creeping Boobialla	N/A	Viro-Tube	1 / 1 sq metre

**Note:** Quantities in brackets denote Type 'A' Plants occurring on Drawing No 5114 - 02 only, to be planted at the density of 2 plants per sq.metre.

REFER DWG NO 5114 - 01 FOR LANDSCAPE SPECIFICATIONS

**NOTE:**  
 PLANTS ARE LIVING ORGANISMS. IF THEY ARE MAINTAINED IN A HEALTHY CONDITION THEY SHALL CONTINUE TO GROW. IF WILL THEREFORE BE NECESSARY TO REGULARLY MONITOR THE GROWTH OF THE PLANTS SO THAT THEY CAN BE PRUNED OR OTHERWISE ATTENDED TO SO THAT THEY DO NOT OUTGROW THEIR ALLOTTED SPACE.  
 EXACT LOCATION OF SITE BOUNDARIES ARE TO BE CONFIRMED ON SITE PRIOR TO COMMENCEMENT OF WORK.  
 WRITTEN DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALED MEASUREMENTS. ALL DIMENSIONS AND LEVELS SHALL BE VERIFIED BY CONTRACTOR ON SITE. CONTRACTOR SHALL OBTAIN LANDSCAPE ARCHITECT'S WRITTEN APPROVAL OF INITIAL SETOUT PRIOR TO COMMENCEMENT OF WORK. IF IN DOUBT, CONTACT LANDSCAPE ARCHITECT.  
 ANY BATTER GREATER THAN 1 IN 3 SHALL BE STABILISED BY APPROVED GEOTEXTILE OR OTHER EROSION CONTROL MEASURE, TO SATISFACTION OF LANDSCAPE ARCHITECT.  
 FINAL PLANT SIZES MAY BE ADJUSTED AS NECESSARY TO SUIT AVAILABILITY OF PLANT SPECIES AT TIME OF IMPLEMENTATION AND FINAL PROJECT BUDGET.  
 SHOULD PROPOSED TREE LOCATION HAVE THE POTENTIAL TO INTERFERE WITH EXISTING OR PROPOSED UTILITIES, CONTRACTOR SHALL ADVISE LANDSCAPE ARCHITECT AND AWAIT INSTRUCTIONS PRIOR TO PROCEEDING.

**LEGEND**

- 'SIR WALTER' SOFT LEAF BUFFALO TURF TO OFFICE FRONTAGE AND NATURE STRIP. REFER SPECIFICATION.
- TYPE 'A' VEGETATED BANK PLANTING. REFER PLANT SCHEDULE AND SPECIFICATIONS. DRIP IRRIGATION NOT REQUIRED.
- TYPE 'B' PLANTING BEDS WITH DRIP IRRIGATION. REFER PLANT SCHEDULE AND SPECIFICATIONS.
- EXISTING TREES TO BE RETAINED AND PROTECTED DURING CONSTRUCTION
- PLANTING BED TIMBER EDGING AS SPECIFIED

MAGNETIC NORTH      PROJECT NORTH

ISSUE	DESCRIPTION	DATE
F	AS BUILT	28/07/16
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CLIENT  
**LIPMAN PTY LTD**

PROJECT  
**BANKSMADOW TERMINAL**

DRAWING TITLE  
**LANDSCAPE PLAN - BUILDING SURROUNDS**

SCALE 1:200 @ B1 : 1:500 @ A3  
 DESIGNED/DRAWN PL/CW  
 CHECKED PL  
 DATE 15/05/2015  
 JOB NUMBER 5114

DRAWING NUMBER 5114 - 02      ISSUE/ISSUE AS BUILT - F

PLAN SCALE 1:200