



EASTERN CREEK WASTE PROJECT  
REVISED MAY 2017

## **ENVIRONMENTAL MANAGEMENT STRATEGY (EMS)**

### **AMENITY BERMS MANAGEMENT PLAN**

Former QUARRY SITE AT OLD WALLGROVE ROAD EASTERN CREEK  
MATERIALS PROCESSING CENTRE (MPC)  
WASTE TRANSFER FACILITY associated with an adjacent  
SOLID WASTE LANDFILL  
Document Control

#### Reference Documents:

LandPartners plan, attached in Appendix A (**LandPartners Plan**).  
Plans DS144\_1-6, attached in Appendix B (**Landscape Plans**).  
Genesis Litter Pick up Schedule in attached Appendix C  
Genesis Maintenance Schedule attached in Appendix D

## REVISION HISTORY

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Version	Date	Reasons for Change	Prepared By	Authorised by
1	June 2011	Initial commission	Legal	Group General Counsel
2	August 2012	Review	Legal	Group General Counsel
3	December 2013	Review	Legal	Group General Counsel
4	November 2014	Review	Legal	Group General Counsel
5	March 2015	Review	Legal	Group General Counsel
6	June 2016	Review	Legal	Group General Counsel
7	May 2017	Review	Legal	Group General Counsel

## AMENITY BERMS

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### CRITERIA

The relevant criteria is set out in condition Schedule 3 Condition 54 and Schedule 3 Condition 55 points f) and g) within Development Consent MP 06\_0239 dated 22 November 2009.

Condition 53 states as follows:

The Proponent shall prepare design details for the visual screens, impervious barriers and amenity berms being implemented for the facility, having regard to adjoining landowners. This design detail must be submitted to the Director-General for approval prior to the commencement of construction or regrading of the amenity berms, visual screens or impervious barriers.

Condition 54 states as follows:

Prior to the commencement of operations, the Proponent shall:

- a) construct and maintain, for the duration of the operations, amenity berms, impervious barriers and visual screens around the perimeter of the operational area (as detailed in the EA, the site plan at Appendix 1 and Schedule 3, Condition 53 above);
- b) retain the existing amenity berm to the north east of the quarry void at the perimeter;
- c) vegetate the berms in accordance with the Landscape and Vegetation Management Plan at Schedule 3, condition 59;
- d) maintain the height of the amenity berms at no less than 10 metres; and
- e) conduct all earth works required to reshape the amenity berms on site, without impacting on adjoining landowners.

### ACHIEVEMENT OF REQUIREMENTS

Table 1.1 lists the consent conditions under Condition 54; provides a summary of the current compliance status and provides recommendations to achieve compliance and to improve the presentation of the project.

**Table 1.1 Consent Conditions (Condition 54 of Schedule 3)**

CONSENT REQUIREMENTS	COMPLIANCE STATUS
The Proponent shall prepare design details for the visual screens, impervious barriers and amenity berms being implemented for the facility, having regard to	Complies  Refer to Landscaping Plans in Appendix B;

CONSENT REQUIREMENTS	COMPLIANCE STATUS
adjoining landowners. This design detail must be submitted to the Director-General for approval prior to the commencement of construction or regrading of the amenity berms, visual screens or impervious barriers	

Table 1.2 lists the consent conditions under Condition 55; provides a summary of the current compliance status and provides recommendations to achieve compliance and to improve the presentation of the program.

**Table 1.2 Consent Conditions (Condition 55 of Schedule 3)**

CONSENT REQUIREMENTS	COMPLIANCE STATUS
<p>Prior to the commencement of operations, the Proponent shall:</p> <p>a) construct and maintain, for the duration of the operations, amenity berms, impervious barriers and visual screens around the perimeter of the operational area (as detailed in the EA, the site plan at Appendix 1 and Schedule 3, Condition 53 above);</p> <p>b) retain the existing amenity berm to the north east of the quarry void at the perimeter;</p> <p>c) vegetate the berms in accordance with the Landscape and Vegetation Management Plan at Schedule 3, condition 59;</p> <p>d) maintain the height of the amenity berms at no less than 10 metres; and</p> <p>e) conduct all earth works required to reshape the amenity berms on site, without impacting on adjoining landowners.</p>	<p>Complies</p> <p>For existing berms and reshaping of berms refer to the LandPartners Plan in Appendix A.</p> <p>Complies</p> <p>Complies</p> <p>Complies</p> <p>Complies</p>

## AIMS AND OBJECTIVES

To establish, maintain and provide a visual screen around the Project.

To maintain the berms as noise attenuation measures.

To provide a shield against windblown litter and to mitigate airborne particle generation from stockpiles.

To ensure that Site security is able to be adequately maintained without unduly impeding internal traffic flows.

## EXISTING BERMS AND SCREENS.

To the Northwest (Figure 2) and Northeast (Figure 3) of the Project area are existing mounds of overburden material excavated from the former Fitzpatrick hard rock Quarry. These overburden mounds vary in height to a maximum of about 30 metres. To the south East of the Quarry void is a natural hill which provides an existing berm relative to the adjoining project road of about 10 metres in height.

The berms have been stabilised so that drainage is provided and they are landscaped in a low maintenance regime, in a manner to give an appearance consistent with surrounding lands and attractive to future developments.

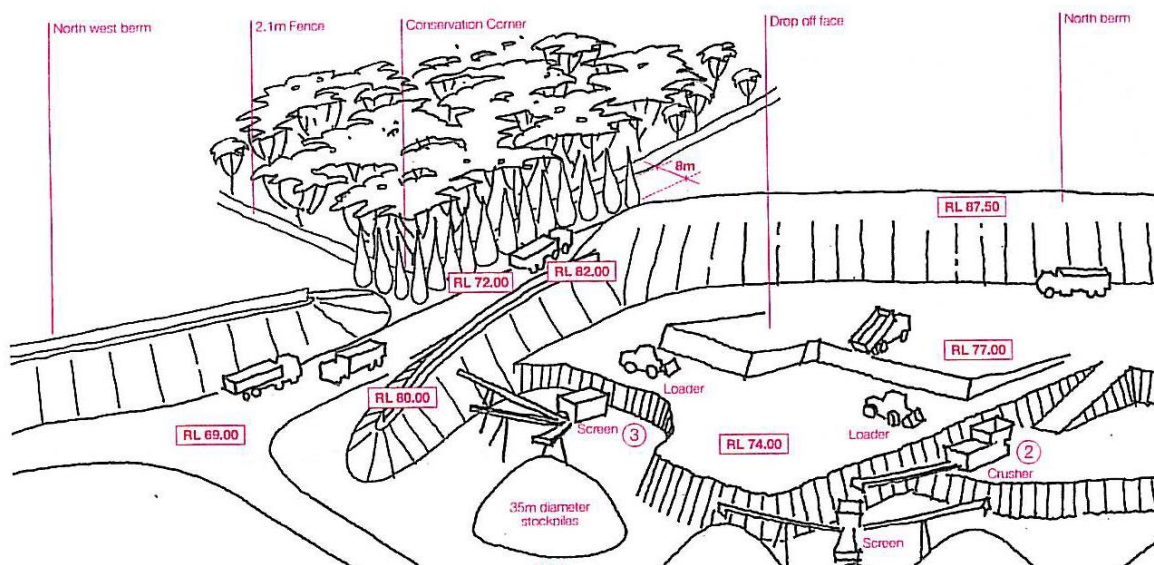


Figure 1 – Sketch Perspective





Figure 2 – Northwest Berm



Figure 3 – Northeast Berm

## VISUAL SCREENS NORTH-WESTERN CORNER OF PROJECT AREA

The berms act as impervious barriers and visual screens around the perimeter of the operational area. At the north-western corner of the Project/Operations area is the Conservation Area, which largely provides a visual screen between the suburb of Minchinbury, the M4 Motorway, and the Project/Operations area. This Conservation Area is fenced and maintained.

This existing visual screen has been augmented by a reshaping of the western and northern berms so as to create a chicane between through which vehicles can pass. Main access to the Facility is via DADI Drive in the South East. Access is restricted by gates and fences.

The effect of the reshaping is shown in the LandPartners Plan (**Appendix A**).



Figure 4 - Overview of Site



## MANAGEMENT AND MITIGATION

Management and Mitigation involves the supply of labour and material to maintain the amenity berms on site. This includes:

- Embankment stabilisation;
- Planting installation;
- Erosion and slope stability; and
- Vegetation monitoring and weeding services.

## EMBANKMENT STABILISATION

Embankments are stabilised where necessary to prevent soil erosion or soil movement. As a minimum this should be on slopes  $\geq 1$  in 3. When necessary, embankments are stabilised using a proprietary geotextile fabric suitable and fit for the purpose of embankment stabilisation. Plant after matting is installed.

## PLANTS

Plants are supplied in accordance with the Landscape and Vegetation Management Plan and installed as per the landscape drawings and schedules (**Appendix B**), which have the following characteristics:

- Large healthy root systems, with no evidence of root curl, restriction or damage,
- Vigorous, well established, free from disease and pests, of good form consistent with the species or variety,
- Hardened off, not soft or forced, and suitable for planting in the natural climatic conditions prevailing at the site, and in particular shade conditions,
- Grown in their final containers for not less than twelve weeks, and
- Containers shall be free from weeds and of appropriate size in relation to their container.

All plant specimens are to be true to name and variety listed in the plant schedules on the landscape drawings. Make no substitutions of species type or container size unless approved by the Landscape Architect and Site Project Manager.

Plants shall not exhibit signs of having been stressed at any stage during their development and delivery due to inadequate watering, excessive shade/sunlight, physical damage or have restricted growth due to nursery conditions.



## **INSTALLATION OF PLANTS**

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.

Do not vary the plant locations from those shown on the drawings unless otherwise directed. If it appears necessary to vary the locations and spacings to avoid service lines, or to cover the area uniformly, or for other reasons, apply for directions. Allow for sufficient notice for approval by the Landscape Architect and Project Manager of the location of mature and feature trees and plants.

For tree plantings, excavate a hole to twice the diameter of the root ball and at least 200mm deeper than the root ball. Break up the base of the hole to a further depth of 100mm, and loosen compacted sides of the hole to prevent confinement of root growth.

Virocell or Virotube: 1 tablet, or

Advanced ( $\geq 75L$ ): 3 tablets.

Thoroughly water the plants before planting, immediately after planting, and as required to maintain growth rates free of stress. No plant material shall show signs of water stress at any time.

When placing, remove the plant from the container with minimum disturbance to the root ball. Ensure 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. All plants are to be positioned in the centre of the hole.

In planting beds and individual plantings, apply fertiliser pellets, as recommended in the soil testing results and in accordance with the manufacturer's recommendations around the plants at the time of planting. Provide proprietary fertilisers, delivered to the site in sealed containers displaying manufacturer or vendor's name, weight, fertiliser type, N:P:K ratio, recommended uses and application rates.

Backfill the planting holes with topsoil mixture. Lightly tamp and water to eliminate air pockets. Ensure the topsoil is not placed over the top of the root ball, so that the plant stem remains the same height above the ground as it was in the container.

## **PLANT REPLACEMENT**

Replace failed plants. A "failed" plant may not mean complete death of soft tissue but failure due to poor growth, appearance, or unacceptable time for plant to re-establish new growth following damage or vandalism. Replacement plants shall be in a similar size and quality and identical species or variety to the plant that has failed. Replacement of plants shall be at the cost of the

Landscape Contractor unless advised otherwise. Failure of the plant shall be at the sole discretion of the Landscape Architect.

Using a combination of hydroseeding and matrix planting, both berms are vegetated with native grasses and groundcover, in accordance with the Landscape and Vegetation Management Plan (Figure 3 and 4).

## **VISUAL ASSESSMENT**

A visual assessment of the Site will be carried out annually from commencement of operation, to consider the effectiveness of planning and providing recommendations for any additional screening measures (if needed). It has been observed that the native grasses and groundcover thrive in local conditions and are maturing in a healthy manner.

## **WATERING**

Provide watering as necessary to ensure healthy plant growth.

## **EROSION CONTROL MEASURES**

Where necessary, maintain the plants used for erosion control in a tidy and weed free condition. Replace plants as required to ensure control measures are effective where needed.

Personnel undertake Post Significant Weather Event inspections of the berms to ensure:

1. All Onsite Detention Dams, drains and vegetation Swales are free of litter and sediment build up; and
2. All berms, the landfill and bin yard are free of new erosion/slips.

A suitably qualified and competent employee undertakes weekly inspections of the slip in the landfill area and provides erosion monitoring data via a Slip Report.

Any incidences of erosion will be rectified promptly and when necessary, an external geotechnical engineer will be engaged to provide expert advice.

## **WEEDING AND RUBBISH REMOVAL**

Weeds on site are managed in accordance with the Weeding Schedule in the Vegetation Management Plan. Details of each service is recorded on the Weed Management Registrar, available on request.

Personnel undertake monthly photo audits of the Conservation Area and Riparian Zone to ensure mitigation measures are working effectively, and that pests, vermin, feral animals and/or noxious weeds are not present on site in sufficient numbers to pose an environmental hazard.

The site and surrounding areas are inspected on a daily basis in accordance with the weekly roster for the Eastern Creek litter pick up (**Appendix C**).

The berms in situ provide a shield against any windblown litter and mitigate any potential airborne particle generated from stockpiles.

## **WORKS CARRIED OUT IN THE PAST YEAR**

Ongoing inspections, maintenance and reshaping of the amenity berms as required to:

1. maintain the required height of the berms;
2. ensure the stability of the berms;
3. maintain appropriate vegetation coverage; and
4. monitor and mitigate damage from erosion.

Routine works are completed in accordance with the sites Maintenance Schedule (**Appendix D**)

## **COMPLAINTS**

For the life of the Project there have been no recorded complaints concerning the amenity berms. Given the lack of complaints from neighboring premises, it can be assumed that all earthworks required to reshape amenity berms on site have not impacted adjoining landowners (Condition 55 of Schedule 3).

## **AUDIT FINDINGS**

Schedule 5, Condition 7 states as follows:

Within 6 months of the commencement of operation, and every 2 years thereafter, unless the Director-General directs otherwise, the Proponent shall commission and pay the full costs of an Independent Environmental Audit (IEA) of the Project.

The proponent engaged Cardno to undertake the 2015 IEA. The team inspected the amenity berms on site and confirmed that they are present, at the correct height and are vegetated, primarily with native species. It was noted that weeds have become established on the berms.

## **REPONSES TO AUDIT FINDINGS**

Regular weeding is conducted on site in accordance with the weeding schedule outlined in the Vegetation Management Plan. Since 2016, weeding services are undertaken on a weekly/fortnightly basis in accordance with the Maintenance Schedule.



*Dial A Dump Industries, Eastern Creek  
Environmental Management Strategy (EMS)  
Amenity Berms Management Plan*

## **Appendix A**



LOT 2 IN DP 1145808  
EASTERN CREEK

Services shown therein have been located where possible by field survey. If not able to be so located, services have been plotted from the records of the plan. Where such records do not exist or are inadequate a notation has been made thereon.

Prior to any demolition, excavation or construction on the site, the relevant authority should be contacted for possible location of former underground services and detailed locations of all services.

H	GKO	28/10/11	NH & SH OSD AMENDED
G	GKO	13/10/11	FUTURE ROAD CONCEPT AMENDED
F	GKO	31/08/11	ROAD CONCEPT AMENDED
E	GKO	27/08/11	CONSERVATION AREA ADDED
PPF/COF	LPL	DD/MM/YY	COMMENT

Symbols shown are indicative only. The symbol size and orientation does not necessarily represent the real size or orientation of the feature.



STUDY OFFICE	1 (02) 8668 2000
Level 1, 102 Stron Street	
Parramatta NSW 2150	1 (02) 8668 2001
PO Box 333 Parramatta	e <a href="mailto:sydney@blacktown.nsw.au">sydney@blacktown.nsw.au</a>
Blacktown NSW 2150	or <a href="mailto:www.blacktown.nsw.au">www.blacktown.nsw.au</a>
HEIGHT DATUM	LOCAL AUTHORITY
AHD	BLACKTOWN COUNCIL
HEIGHT ORIGIN	SCALE
BSM 73008 RL 62.937	1:2500 (A1)
MEASUREMENT	CONTROL INTERVAL
56	1.0 Metre
CO-ORD SYSTEM	SURVEYOR
MGA	BS
GRID FILE	ORIGIN
72924.000	LMC
AUTOCAD FILE	CHECKED
72924	GKO
DATE	DATE OF SURV
7/29/71	29/06/71
APPROVED	DATE
68124 & 71825	12
PLAN NUMBER	

ORIGIN OF LEVELS & COORDINATES  
SSM 73008 RI 62 937 AHD

M4 MOTORWAY

M4

# MOTORWAY








DP 1145808

DP 1145808


















A 4x4 grid of 16 small squares. Each square contains a unique pattern of line segments (horizontal, vertical, diagonal) that form various geometric shapes. The patterns are as follows:

- Row 1: A square with a horizontal line at the top; A square with a vertical line on the left; A square with a diagonal line from top-left to bottom-right; A square with a diagonal line from top-right to bottom-left.
- Row 2: A square with a horizontal line at the bottom; A square with a vertical line on the right; A square with a diagonal line from top-left to bottom-right; A square with a diagonal line from top-right to bottom-left.
- Row 3: A square with a horizontal line at the top; A square with a vertical line on the left; A square with a diagonal line from top-left to bottom-right; A square with a diagonal line from top-right to bottom-left.
- Row 4: A square with a horizontal line at the bottom; A square with a vertical line on the right; A square with a diagonal line from top-left to bottom-right; A square with a diagonal line from top-right to bottom-left.

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PROPOSED FUTURE BOUNDARIES  
(FAST AREA)

(J)-RIGHT OF CARRIAGEWAY &amp; EASEMENT FOR SERVICES 21.5 WIDE

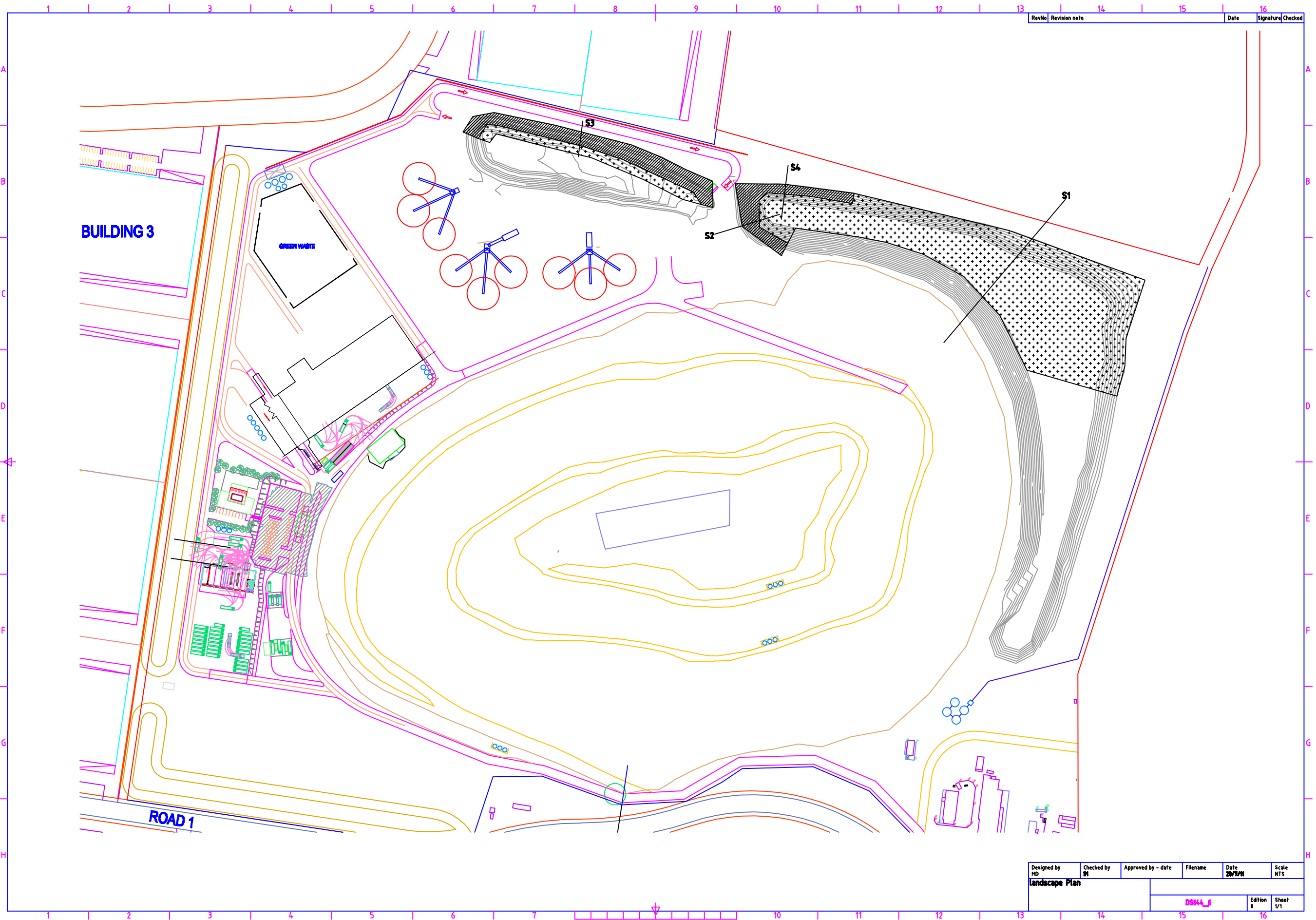
	BENCH MARK
	TELEPHONE PIT
	WATER METER
	TREE D= DIAMETER TRUNK S= SPREAD OF CANOPY H= HEIGHT
	WATER HYDRANT
	STOP VALVE
	SEWER MAINTENANCE HOLE
	ELECT LIGHT POLE
	POWER POLE (light)
	POWER POLE
	GAS METER
	GATE
	MAN HOLE
	TAP
	INSPECTION HOLE
	CLOTHES HOIST
	GULLY PIT





*Dial A Dump Industries, Eastern Creek  
Environmental Management Strategy (EMS)  
Amenity Berms Management Plan*

## **Appendix B**

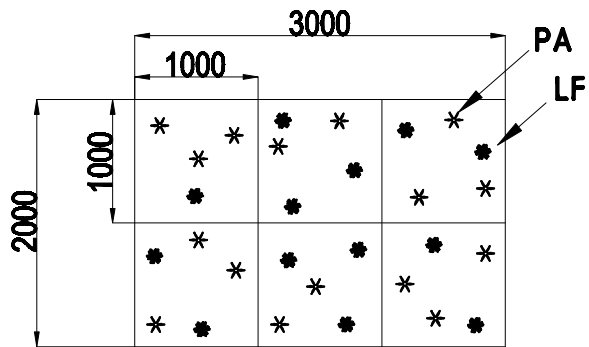


RevNo	Revision note	Date	Signature	Checked
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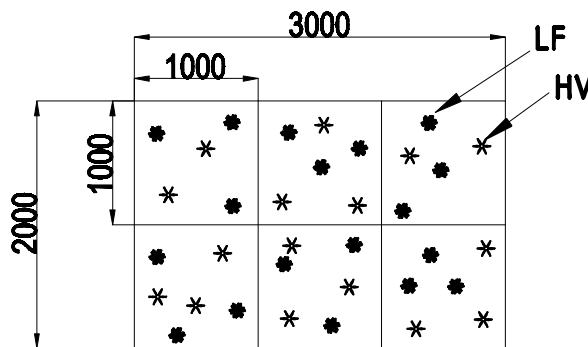
Designed by MD	Checked by M	Approved by - date	Filename	Date 28/7/11	Scale NTS
Landscape Plan					
			DS144_6	Edition 6	Sheet 1/1

Plant Schedule(For 1x matrix)					
Code	Botanical Name	Common Name	Approx Mature Height x Weight (m)	Installation Size	Number
PA	Pennisetum alopecuroides	Purple Fountain Grass	0.8 x 0.6	Tubestock	17
LF	Lomondra Fillformis	Wattle Mat-Rush	0.5 x 0.5	Tubestock	13

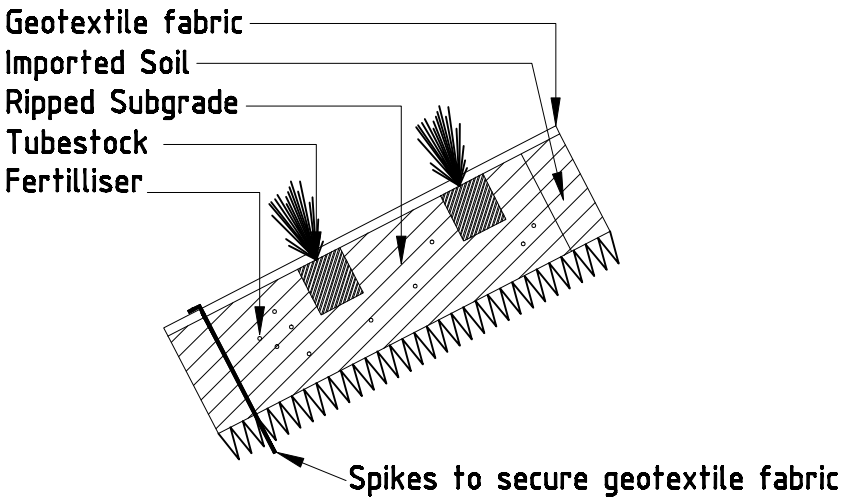
Plant Schedule(For 1x matrix)					
Code	Botanical Name	Common Name	Approx Mature Height x Weight (m)	Installation Size	Number
HV	Hardenbergia Violacea	Happy Wanderer	3.0 x 1.5	Tubestock	15
LF	Lomondra Fillformis	Wattle Mat-Rush	0.5 x 0.5	Tubestock	18



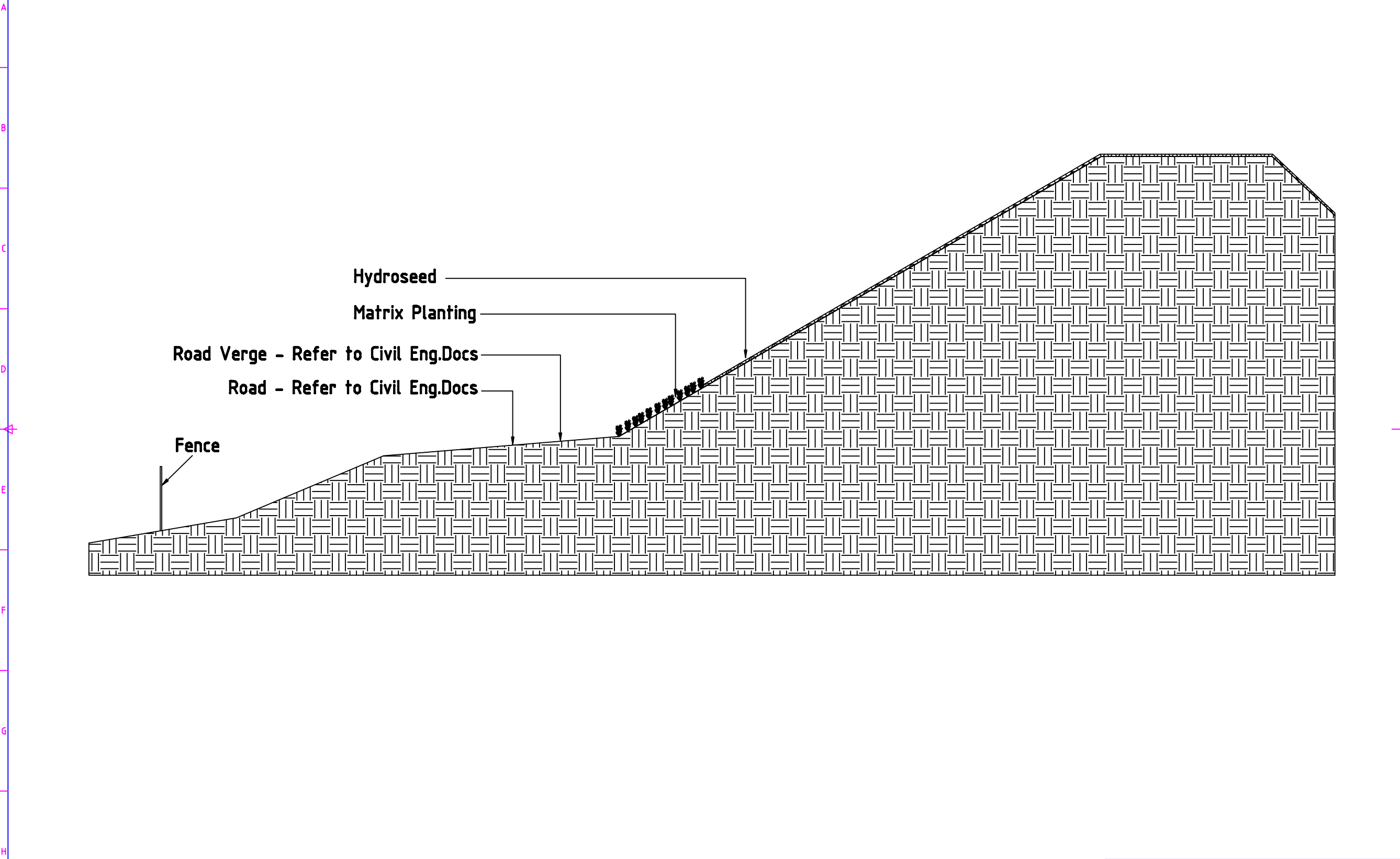
Matrix Planting-Type 1



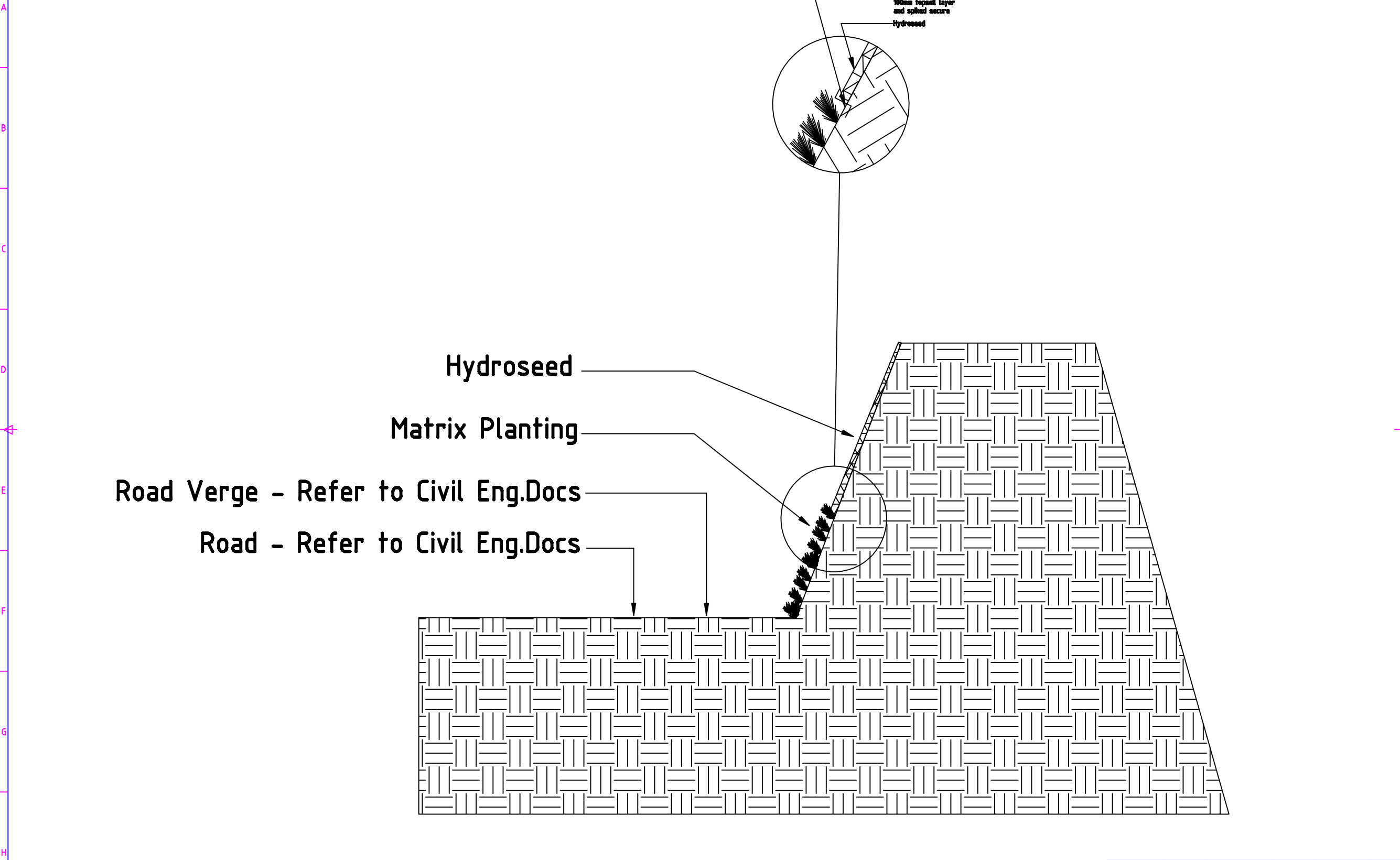
Matrix Planting-Type 2

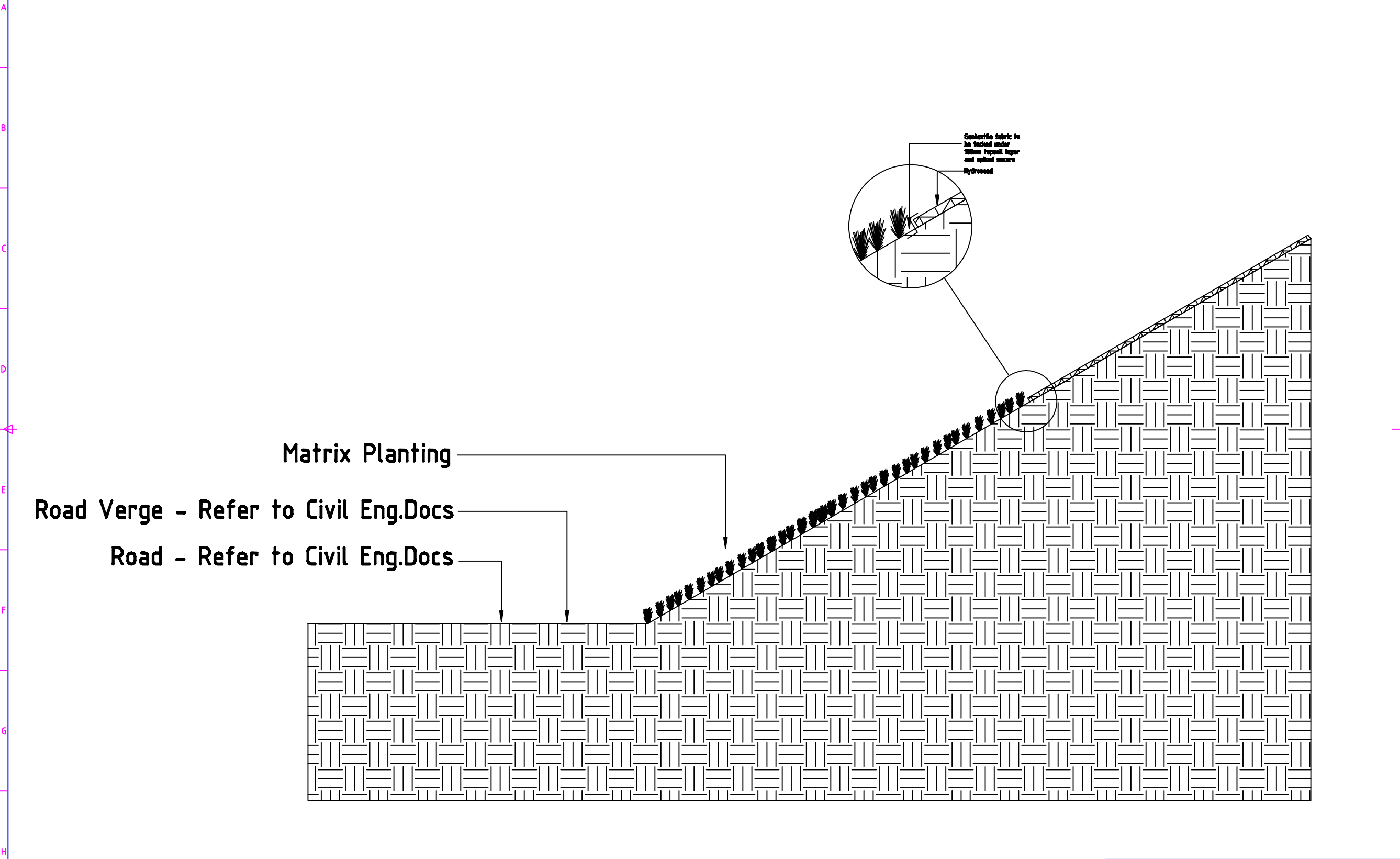


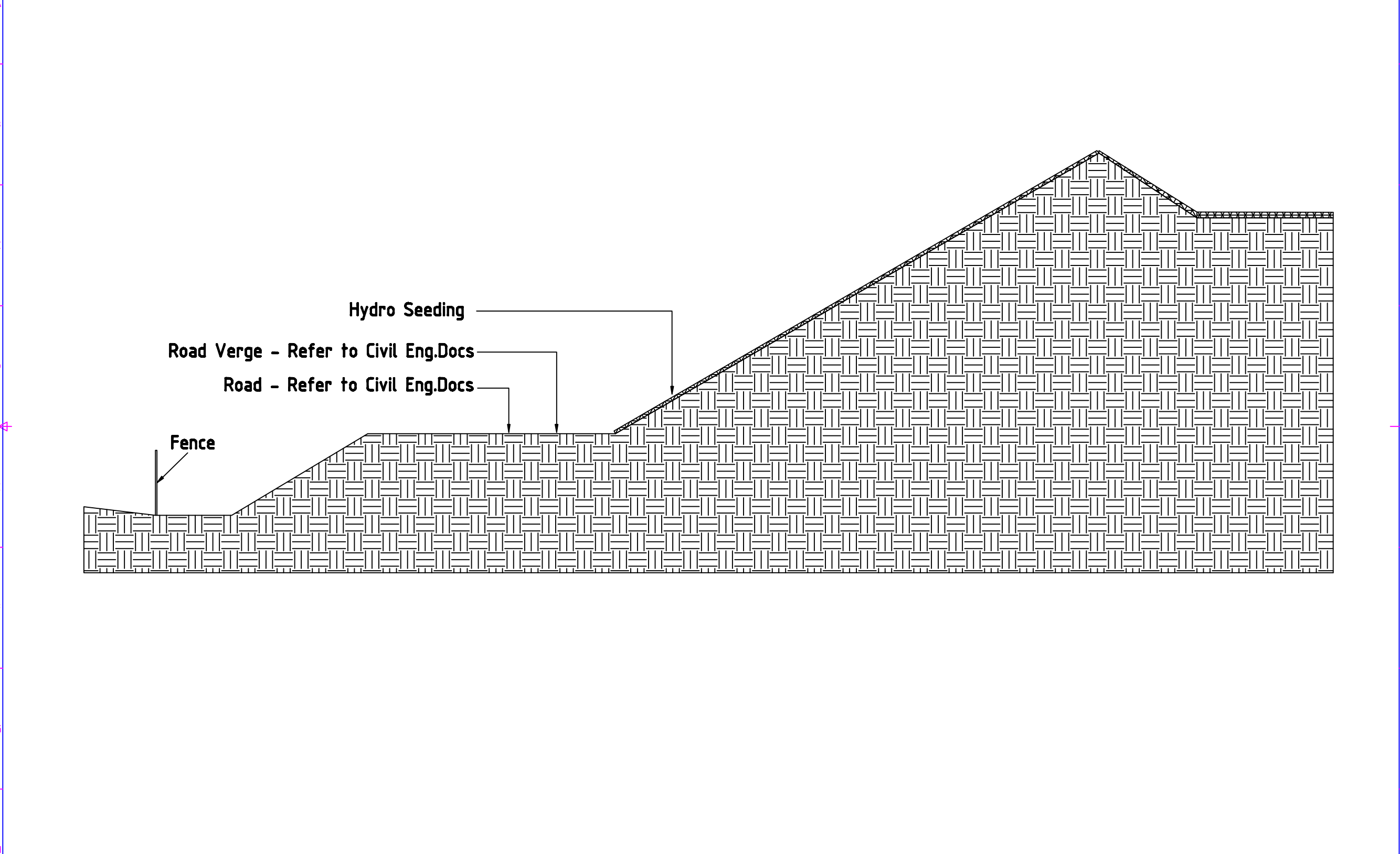
Typical Matrix Planting













*Dial A Dump Industries, Eastern Creek  
Environmental Management Strategy (EMS)  
Amenity Berms Management Plan*

## **Appendix C**



## **Weekly roster for the Eastern Creek litter pick up**

Day	hours	Labour	Area
Monday	Between 7.00am to 9am (or until Rubbish is collected)	1 x Labour Hire person or permanent as required. (Supervisor William Evans)	All as required. 1 to 6
Tuesday	Only if required.	As required	
Wednesday	Between 7.00am to 9am (or until Rubbish is collected)	1 x Labour Hire person or permanent as required. (Supervisor William Evans)	All as required. 1 to 6
Thursday	Only if required.	As required	
Friday	Between 7.00am to 9am (or until Rubbish is collected)	1 x Labour Hire person or permanent as required. (Supervisor William Evans)	All as required. 1 to 6
Saturday	Only if required.	As Required.	

### **Litter Patrol Area sections**







*Dial A Dump Industries, Eastern Creek  
Environmental Management Strategy (EMS)  
Amenity Berms Management Plan*

## **Appendix D**

### Maintenance Schedule.

Table	ACTIVITY	FREQUENCY						ACTION Daily, Weekly, Monthly
		D	W	2W	3W	M	3or6M	
1	Logbook - WVI	+		+		+		Complete a logbook entry every day at site and at least every two weeks. All actions listed below require a logbook entry. Upon request, make the logbook available for inspection. Submit copies of new entries in the logbook to the Contract Administrator on a monthly basis. Please note that more frequent, short, occasional inspection should result in less maintenance work when problems are observed earlier than they might otherwise have been seen.
2	Plant replacement			+		+		Inspect and replace failed plants within 2 weeks of observation of failure. Match species, size (original) and location of new with old.
3	Mulch			+		+		Inspect and replace mulch deficiencies within 2 weeks of observation. Prior to placing new mulch aerate the soil by fork turning to a depth of at least 100mm, roughly level the soil and then place mulch. Do not disturb major plant roots while aerating soil.
4	Erosion control			+				Inspect every two weeks and repair ground, soil and mulch immediately. Maintain erosion control device as necessary.
6	Weed and rubbish removal			+				Inspect and remove immediately upon observation. Leave no waste on site. Dispose of waste material at a designated waste disposal site.
9	Urgent works		+					Complete within 1 week (7 days) of notification. Inspect and clear drains.

Table	ACTIVITY	FREQUENCY						ACTION <b>D</b> aily, <b>W</b> eekly, <b>M</b> onthly
		<b>D</b>	<b>W</b>	<b>2W</b>	<b>3W</b>	<b>M</b>	<b>3or6M</b>	
10	Planting and fertilising			+			3M+	Inspect every 2 weeks and remove spent flowers and dead stalks as they become apparent. Fertilise gardens every 3 months or other frequency in accordance with fertiliser manufacturer's directions.
11	Watering	+		+				Water when and where necessary. Do not allow soil and plants to dehydrate. Allow for prolonged rain, windy and dry periods. Water in the early morning or late afternoon to avoid excessive evaporation during the heat of the day.