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## A Richards Pty Ltd

# **RICHGRO COMPOSTING FACILITY – CULFORD AGRI INDUSTRY PRECINCT, NORTH BANNISTER**

This document describes the proposal to develop a composting facility at Culford Agri Industry Precinct at North Bannister.




## DISCLAIMER

In order to provide structure to the conclusions derived in this document certain assumptions have been made. These assumptions are based on the Consultant’s informal enquiries, knowledge and experience from working in the waste management industry.

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## ACRONYMS

AHD	Australian Height Datum
A Richards Pty Ltd	Richgro
AS	Australian Standard
BOM	Bureau of Meteorology
Consultant	Bowman & Associates Pty Ltd
DWER	Department of Water and Environmental Regulation
EPA	Environmental Protection Authority
ha	Hectare
HDPE	High Density Polyethylene
IFD	Infrequent and Frequent Design Rainfall Depth
kL	Kilolitre
km	Kilometre
kph	Kilometre per Hour
L/m <sup>2</sup>	Litres per square metre
m	Metre
mg/L	Milligrams per Litre
mm	Millimetre
TDS	Total Dissolved Solids
tpa	Tonnes per annum
VOC	Volatile Organic Compounds



## 1 PRELIMINARIES

Bowman & Associates Pty Ltd (Consultant) has been engaged by A Richards Pty Ltd (Richgro) to prepare and lodge a Development Application to establish a Prescribed Premise at Culford Agri Industry Precinct, 6364 Albany Highway, Bannister, in the Shire of Boddington.

It is proposed that the facility will be licenced by the Department of Water and Environmental Regulation (DWER) as:

- Category 61 Liquid waste facility;
- Category 62 solid waste facility; and
- Category 67A compost manufacturing and soil blending.

The facility is to be known as the Richgro Composting Facility. The licenced capacity of the facility is proposed as 200,000 tonne per annum.

The Richgro Composting Facility at 203 Acourt Road, Jandakot is under increasing pressure due to Lot size restraints and the encroachment of residential subdivisions and Richgro is seeking a new facility to allow expansion of its activities. The Culford Agri Industry Precinct offers a buffer of 3.8 km to the nearest sensitive receptor. The new site at Culford Agri Industry Precinct will allow Richgro to expand its operation and develop new composting processes.

### 1.1 PROPOSAL

Richgro proposes to construct a sealed hardstand of approximately 33,000 m<sup>2</sup>, leachate pond, stormwater pond and office complex on Lot 68 at the Culford Agri Industry Precinct as part of the Stage 1 development of the facility development. **Figure 1** shows the layout of Stage 1, further detail for Stage 1 can be found on the **Drawings**.

Richgro has the option to expand the facility in the future if required. Future development will be carried out as Stage 2 and Stage 3. Future development of the facility will not occur until after the next blue gum plantation harvest which is due to occur in 2022 -2023 period.



Figure 1: Layout of the Stage 1 development



## 1.2 PROPONENT

A Richards Pty Ltd, (ABN 97 008 734 852), is a fourth-generation family business that has been manufacturing premium garden products since 1916. Refer **Appendix A** for ASIC Certificate. The company is owned by Geoffrey John Richards.

Richgro manufactures compost at Jandakot and Nowergup. The company produces over 600 garden products which are sold in leading garden centres and hardware outlets throughout Australia, including Bunnings Warehouse, Home Timber & Hardware, Big W, and Mitre 10.

Richgro also offers more natural, organic, and environmentally friendly products as part of its commitment towards environmental preservation and a sustainable future. The Retail Division has manufacturing sites in Western Australia, South Australia, New South Wales and Victoria. Richgro also has several subsidiaries, including Richgro Laboratory Services, which supplies testing services to the industry; Richgro Commercial, which attends to the WA Growers' Market; and Amazon Soils which is one of WA's largest manufacturers of bulk mulch, compost, and blended soils.

Contact details for A Richards Pty Ltd are as follows:

### Address

A Richards Pty Ltd  
203 Acourt Rd  
Jandakot 6164

### Postal Address

A Richards Pty Ltd  
PO Box 1406  
Canning Vale 6970

### Key Contact

Tim Richards





Phone: 08 6258 7103

Email: [tim@richgro.com.au](mailto:tim@richgro.com.au)

### 1.3 QUALITY ASSURED

Richgro is an ISO9001 quality endorsed company. Richgro supplies quality certified products in accordance with Australian Standard *AS4454 Composts, Soil Conditioners and Mulches*, and Australian Standard *AS3743 Potting Mixes*. Richgro also has *Australian Certified Organic* certification on a number of fertilisers and soil conditioners and water saving certification on its soil wetters and mulches.

### 1.4 CONSULTANT

Bowman & Associates Pty Ltd (ABN 22 112 399 514) is an Environmental Engineering Consultancy specialising in waste management, environmental impact assessment, environmental approvals, project management, tender preparation, transport logistics and waste management technology assessment.

The Consultants contact details are as follows:

#### Postal Address

Bowman & Associates Pty Ltd  
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Rossmoyne WA 6148

#### Key Contact

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Email: [bruce@bowmanassociates.com.au](mailto:bruce@bowmanassociates.com.au)

### 1.5 SITE LOCATION

The proposed Richgro Composting Facility is located on Lot 68, Deposited Plan 36563, in the Shire of Boddington. The Lot is owned by AB No2 Pty Ltd atf Culford Unit Trust of Suite 6, 117 Broadway, Nedlands WA 6009. Lot 68 covers an area of 258 ha and is currently used by AB No2 Pty Ltd for plantation timber and sheep grazing. Culford Agri Industry Precinct, as the property is now known, is in the process of being converted from plantation timber to industries that require a Prescribed Licence to operate. Refer **Appendix B** for Certificate of Title and Lot Plan.

### 1.6 APPROVAL FROM LANDLORD

Lot 68 is owned by AB No2 Pty Ltd atf Culford Unit Trust and will be leased to A Richards Pty Ltd as a site for the composting facility. Attached as **Appendix C** is a letter from AB No2 Pty Ltd verifying its approval for the facility to proceed.

### 1.7 ZONING

The site and surrounding areas are zoned as 'Rural' in Shire of Boddington *Town Planning Scheme 2 on Map 2 of 6, Mount Wells Locality*. The site is currently being used for blue gum plantation and sheep grazing. There is no category for composting in the *Town Planning Scheme 2* therefore it is expected that the Facility will be approved as 'Use Not Listed' by the Shire of Boddington.



## 1.8 SURROUNDING LAND USES

The proposed site for the Richgro Composting Facility is surrounded by land consisting of agricultural land and plantation timber. To the north are State Forest and the Serpentine Dam P2 water catchment. The immediate land to the north is on Lot 68 and supports Culford Agri Industry Precinct blue gum plantation timber.

At a distance of 2.6 km to the east is the Albany Highway. Further east, on the eastern side of the Albany Highway is State Forest.

To the south, and beyond Lot 68, is bluegum plantation owned by Newmont. The distance from the proposed Richgro Composting Facility and the Newmont boundary is 1.2 km.

To the west is the North Bannister Waste Disposal Facility owned by SUEZ.

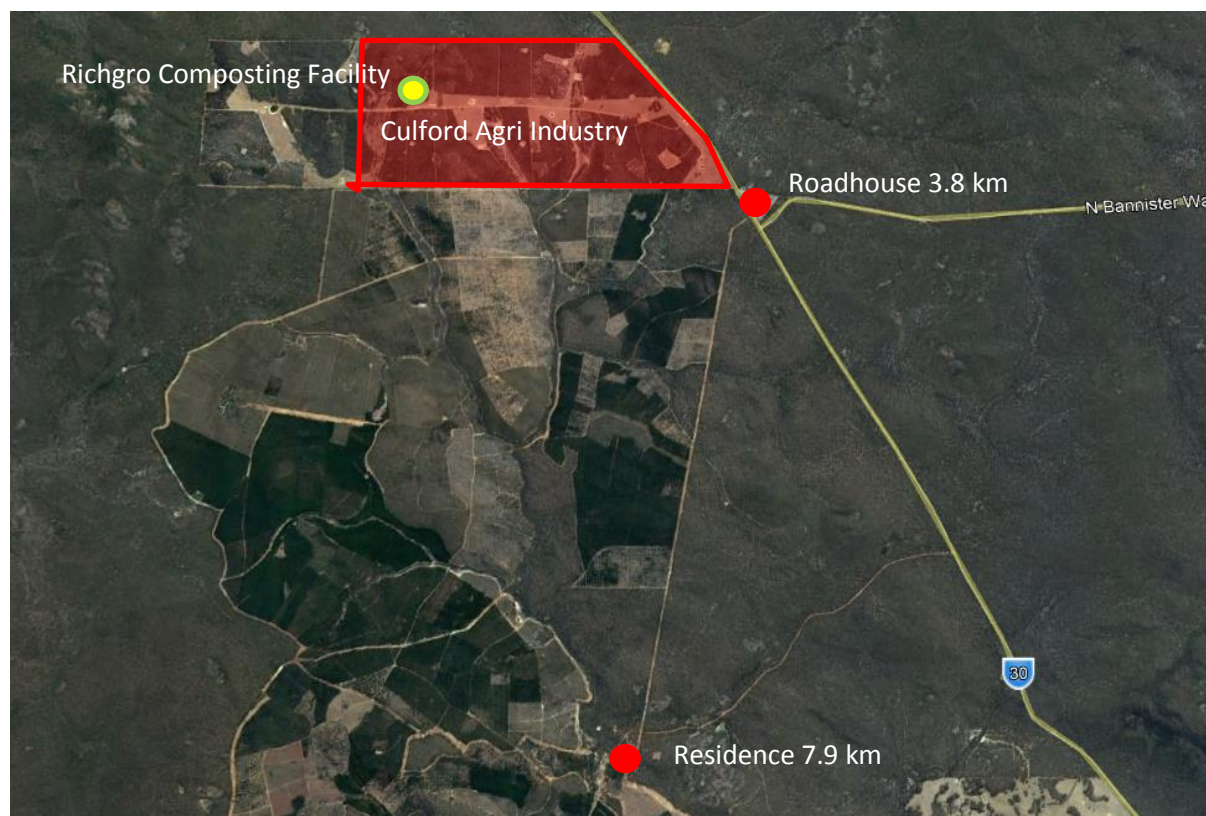
## 1.9 SEPARATION DISTANCES

For a composting facility with capacity above 35,000 tpa the DWER requires the separation distance between a composting facility and a sensitive land use to be assessed on a case by case basis.<sup>1</sup>

The nearest residence is located 2.5 km east of the proposed Richgro Composting Facility and is the homestead on Culford Agri Industry Precinct. As the homestead is part of the Culford Agri Industry Precinct it is not considered a sensitive receptor.

At a distance of 3.8 km south, south east of the proposed Richgro Composting Facility is the Three Ways Road House, refer **Figure 2**.

Figure 2: Nearest sensitive receptors



<sup>1</sup> DWER Guideline Separation Distances (August 2015)

### 1.10 SURROUNDING ROAD NETWORK

The Richgro Composting Facility will be accessed from the Albany Highway. The main Roads WA RAV mapping tool indicates that the Albany Highway at North Bannister is a Category 7 road allowing use by road trains to 107.5 tonnes gross vehicle mass and up to 36.5 m in length.

### 1.11 CLIMATE

The Bureau of Meteorology weather station (10648) located in Wandering has recorded the following historical data (1901 - 2003):

– Mean Annual Rainfall (years 1887 to 2003)	614 mm
– Evapotranspiration (years 1967 to 2017) <sup>2</sup>	1,437 mm
– Mean Maximum Temperature (for 12 months combined)	23.0 °C
– Mean Minimum Temperature (for 12 months combined)	8.5 °C

### 1.12 VEGETATION

The site is almost completely cleared of natural vegetation as the site is currently used as a blue gum plantation.

### 1.13 FLORA AND FAUNA

The Richgro Composting Facility is to be established within blue gum plantation which will be cleared prior to the commencement of works. Apart from transient kangaroo grazing the blue gum plantation does not support native flora and fauna as the area has been almost completely cleared of native vegetation prior to the establishment of the blue gum plantation.

### 1.14 TOPOGRAPHY

The site is reasonably flat with a slight fall, 4 – 5%, to the south west. The highest elevation on the proposed site is 350 mAHD (metres above the Australian Height Datum) which is in the south east corner where offices and site entry will be located. The lowest location is in the south west corner at 325 mAHD, Refer **Figure 2**.

### 1.15 DEPARTMENT OF WATER CATCHMENT

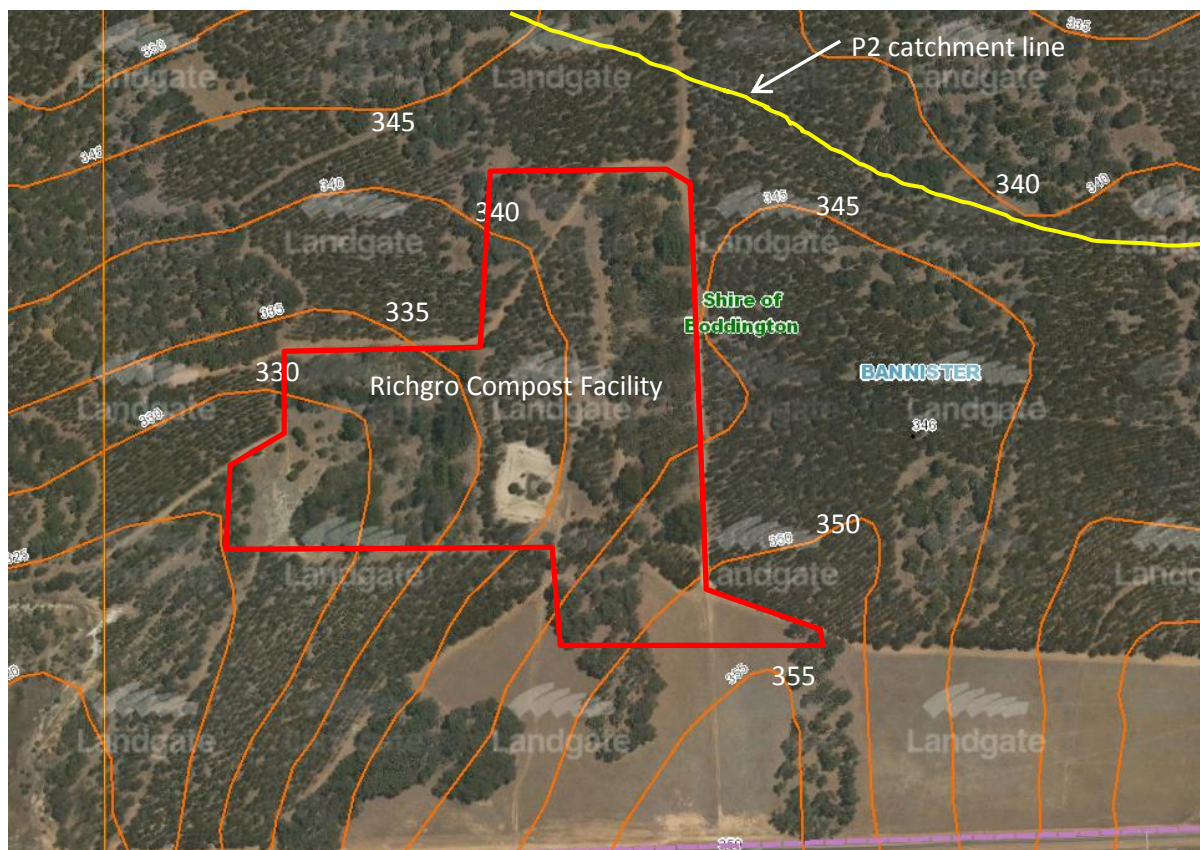
The entire composting area is outside the Serpentine Dam P2 water catchment area which is located to the north east of the proposed Richgro Composting Facility. **Figure 3** shows the approximate elevation and location of the P2 catchment.

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<sup>2</sup> Dwellingup Weather station 009538 used for evaporation and no records for Wandering



Figure 3: Topography of the area



Source: Landgate WA

### 1.16 GEOLOGY

A hydrogeological assessment was undertaken by Global Groundwater in May 2017. The resultant report, *Culford Agri Industry Hydrogeological Assessment for Culford Agri Water*, summarised to local geology as follows.

*“The geology comprises lateritic caprock, pisolitic gravel, saprolite and weathered profile over Archaean granitic basement rock and dolerite dykes”.*

### 1.17 ACID SULPHATE SOILS

A search of the Perth Groundwater Map was performed and revealed that there is no known presence of acid sulphate soils within the area.

### 1.18 SOCIAL ASPECTS

The site has been cleared and used as agricultural land for many years. The location of the Richgro Composting Facility will be completely enclosed by vegetation and not visible from the boundary of Culford Agri Industry Precinct.

### 1.19 ABORIGINAL HERITAGE

An online search on the Aboriginal Heritage Inquiry System has identified no aboriginal heritage sites that lie within or close proximity of the proposed Richgro Composting Facility.

The search showed no other heritage places on or near the proposed site.



## 1.20 VISUAL AMENITY

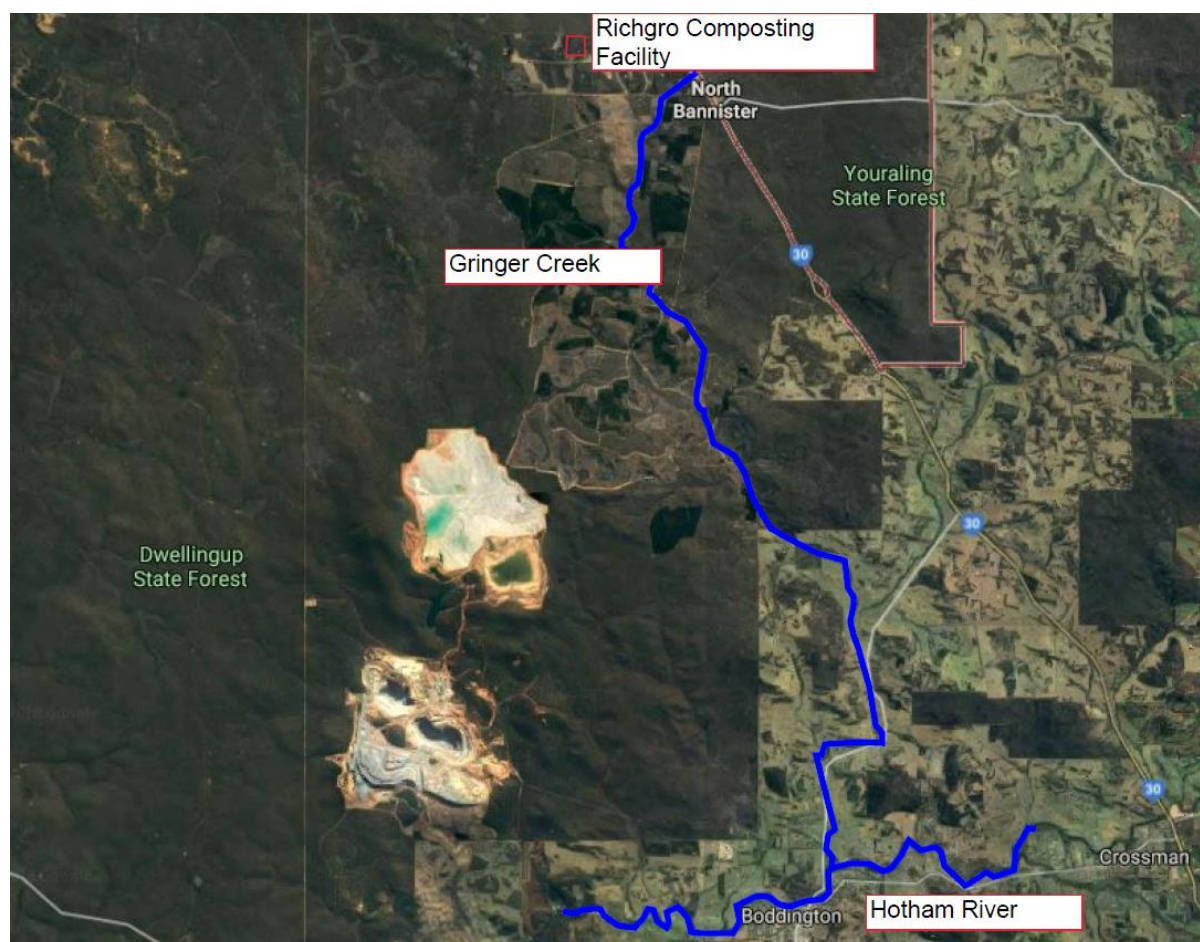
The location of the proposed premise is at the rear of Culford Agri Industry Precinct. Due to the undulating topography on Culford Agri Industry Precinct and the dominance of native bush and blue gum plantation, the Richgro Composting Facility will not be visible to any location outside Culford Agri Industry Precinct.

## 1.21 SURFACE WATER

Stormwater will be collected in drains constructed around the site and travel to the south west where a stormwater dam will be constructed. Overflow from the stormwater dam will flow into the surrounding plantations. On Lot 68 there is an un-named tributary that flows to Gringer Creek. Gringer Creek is located approximately 4.4 km to the south of the proposed facility. Gringer Creek then joins the Hotham River at a distance of 25 km near the township of Boddington.

Stormwater falling on the composting hardstand will be collected in drains around the hardstand and directed to the south west corner of the hardstand, downslope, to the leachate pond. The leachate pond will be lined with high density polyethylene (HDPE). **Figure 4** shows the water courses down gradient of the Richgro Composting Facility

Figure 4: Surface water tributaries



## 1.22 GROUNDWATER

The Perth Groundwater Map does not extend into the area of the proposed Richgro Composting Facility. Global Groundwater, in its report, *Culford Agri Industry Hydrogeological Assessment for*



*Culford Agri Water*, stated that groundwater at Culford Agri Industry Precinct is stored in fractures and weathered basement rocks. Groundwater salinity recorded at the base of bores during drilling was brackish, with a Total Dissolved Solids (TDS) ranging from 712 to 2734 mg/L. Depth to groundwater across Lot 68 varied between 5.7 m to 27.7 m below ground level.

As the groundwater is contained in fractures in the underlying rock there is no substantial water body beneath the area.

### **1.23 NOISE**

Minimal noise impact is envisaged to occur at the proposed site due to the large buffer distance from the main sensitive premise, Three Ways Road House, which is 3.8 km to the south-east. The Richgro Composting Facility will be surrounded by a buffer of blue gum trees providing excellent noise attenuation.

The composting facility will operate between the hours of 6:00 am and 5:00 pm Monday to Saturday. Potentially there may be deliveries outside the above hours.

### **1.24 ODOUR**

The feed stocks used in composting can be odorous. Punctual use of incoming feed stocks, good housekeeping and complying with the required operational procedures will minimise the presence of odour. The large buffer distances that are inherent in the location further reduce the risk of nuisance odours.

### **1.25 PROPOSED CONSTRUCTION TIMING**

The construction works for the Richgro Composting Facility is to take place in December 2018.

### **1.26 CONCEPT DRAWINGS**

A set of Drawings is included to provide detail on the design of the proposed Richgro Composting Facility.

## **2 COMPOSTING HARDSTANDS**

### **2.1 PAVEMENT CONSTRUCTION**

A composting hardstand will be constructed for composting operations. Refer Drawings for details. The composting hardstand shall be constructed on the prepared subgrade surface and consist of a 250 mm thick granular basecourse layer with gravel materials sourced from Culford Agri Industry Precinct.

The basecourse gravel shall be uniformly compacted. The characteristics of the basecourse layer for the composting hardstand to be considered are:

- Moisture content on placement to be between 1% dry and 2% wet of optimum moisture content (using standard compaction), and
- A minimum standard compaction during placement of 98%.



## 2.2 ASPHALT SEAL

The surface of the basecourse shall be sealed with an impervious layer of asphalt with the following characteristics:

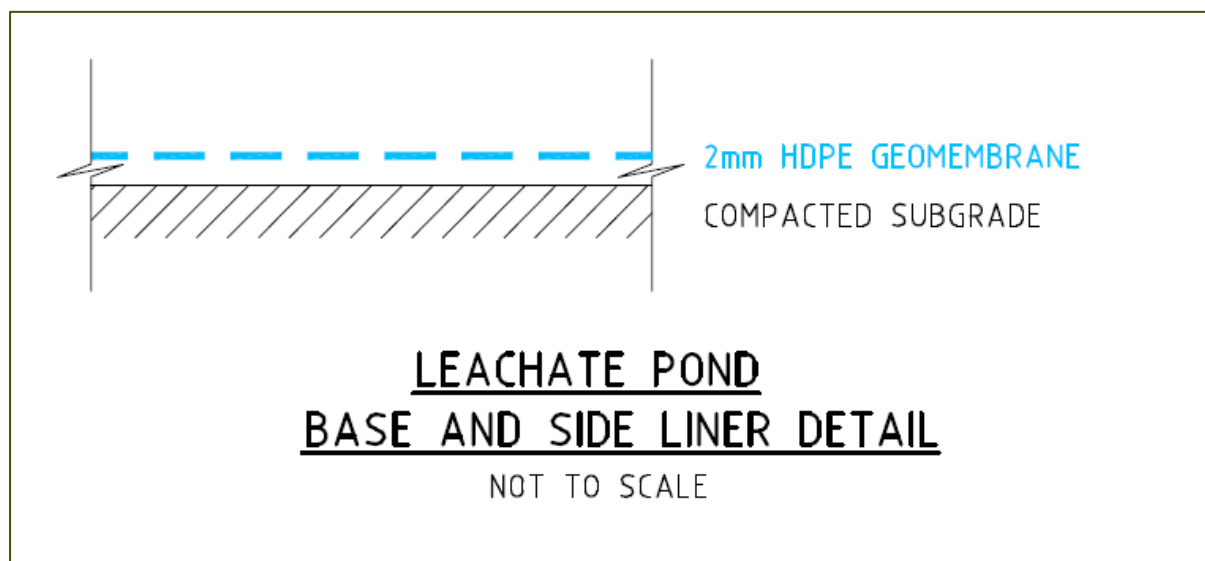
- Bitumen primer and seal coat at a rate of 1.6 L/m<sup>2</sup> and 10 mm granite scatter to seal the hardstand, and
- 40 mm thick dense grade black asphalt using 14 mm granite laid on top of the seal layer. This will prevent the sealed layer from damage caused by any composting activity, vehicle movements and removal (scraping) of compost material during or after the composting process.

## 3 LEACHATE POND

### 3.1 HIGH DENSITY POLYETHYLENE (HDPE) GEOMEMBRANE

The High Density Polyethylene (HDPE) geomembrane liner will be used to line the leachate pond. The HDPE shall be a new, top-quality product designed specifically for use as a pond geomembrane and have a thickness of not less than 2.0 mm. The geomembrane shall be uniform and free of pinholes, blisters, undispersed raw materials and contamination by foreign matter. **Figure 5** shows the pond liner configuration.

Figure 5: Leachate Pond Configuration



The depth of the leachate pond shall be 6.0 m. The design operating depth for leachate storage shall be 5.0 m providing a 1.0 m freeboard for wave action and storm surge. The internal batter slope of the leachate pond shall be a gradient of 1:3.

## 4 COMPOSTING PROCESS

### 4.1 FEED STOCKS

Feed stocks used by Richgro are varied and can consist of, but not limited to:

- Inoculant;



- Greenwaste;
- Foodwaste;
- Animal manures;
- Dead animals (cattle, sheep, pigs, poultry);
- Biosolids;
- Grease trap waste;
- Liquid waste from food production;
- Paper pulp;
- Cardboard;
- Plantation waste;
- Straw;
- Spent grain; and
- Wood chip.

The above list is not to be considered complete. The Richgro Composting Facility intends to compost any organic material that is delivered to the facility following approval of receipt. Basically any organic material that is capable of being a feed stock for composting.

#### 4.2 RECEIVING FEED STOCKS

Feed stocks will be delivered in bulk tippers and for liquid waste in tankers. These vehicles will have their loads fully covered during transport. Upon arrival at the proposed facility the driver will report to the site office and receive instruction regarding the disposal location for the feed stock.

Odorous feed stocks and chicken manure will be delivered directly to the hardstand for blending with other feedstock to form windrows. Less odorous feed stocks will be placed in storage stockpiles for use at the next convenient occasion.

Liquid waste will be delivered to the mixing pit and blended directly into the feedstock.

#### 4.3 INOCULANT<sup>3</sup>

[Redacted content]

#### 4.4 COMPOSTING WINDROWS

[Redacted content]

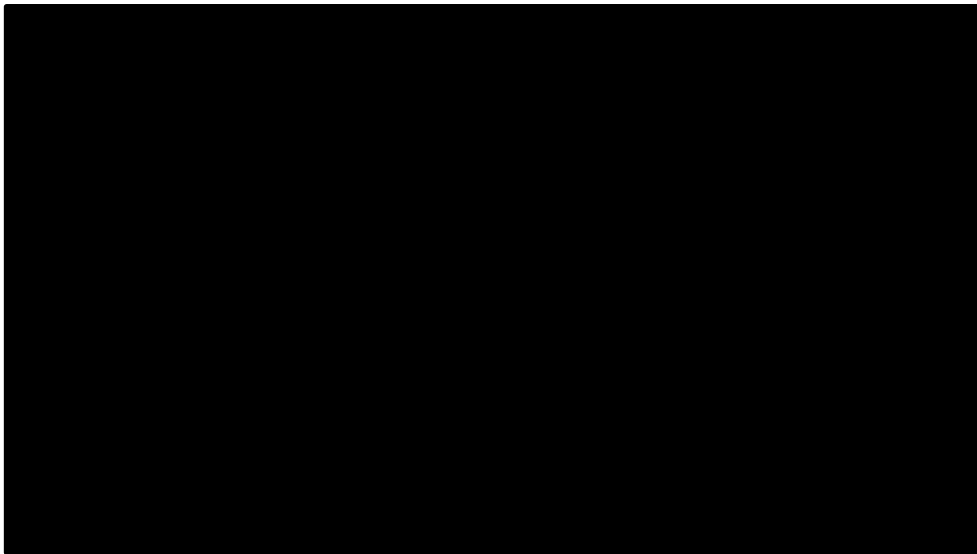
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<sup>3</sup> Section 6.3 and 6.4 are to be kept confidential





Figure 6: Composting process



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## 5 EMISSIONS CONTROL

A layer of mature compost will be placed on top of each composting windrow to act as a bio-filter during the early stages of composting. The mature layer will reduce emissions that could potentially cause odour. No emissions will be discharged to the surrounding environment from the Richgro Composting Facility. The design phase has considered possible emissions and discharges during the operation of the facility. With correct operation and adherence to the process management practices described in this document, the Richgro Composting Facility is expected to produce no significant impact on the surrounding environment. Mechanisms have been developed for managing odour, noise, litter, water and vermin.

### 5.1 ODOUR MANAGEMENT

Odour management will be consistent with the EPA (2002a) *Interim Guidance Statement for the Assessment of Odour Impacts (No. 47)*. Odour modelling has not been carried out as the location of the composting facility is very remote and offers large buffers around the facility.

Two processes at the Richgro Composting Facility have the potential to generate nuisance odour, the mixing of feedstock material and the decomposition of organic material in the composting windrows.

During the batching process, liquid waste, composting leachate and stormwater are added to the feedstock to condition the material for composting.

Odour generation is minimised by:

- Continually processing feed stocks as quickly as possible, limiting the time the material is exposed to atmosphere;
- When multiple loads of organic feedstock material are delivered to site, processing the material on a first-in, first-out basis to limit uncovered decomposition times;
- Cleaning processing areas of stray feedstock material at the end of every day; and
- Clean up all areas where feed stock has been stored at the end of every day.

During the composting process odour generation is minimised by:

- All feed stocks delivered to the facility and bulk compost products leaving the facility will be contained in covered trucks to minimise potential odour emissions;
- The feed stocks accepted at the facility will be strictly in accordance with licence conditions. No prohibited waste is accepted at the site;
- Odorous feed stocks will be processed immediately upon receipt; and
- Weather conditions are monitored on-site.
- Maintaining aerobic composting conditions in the windrows to prevent odorous anaerobic decomposition of organic materials;
- Maintaining optimum temperature and moisture content conditions in the composting windrows to ensure rapid decomposition of organics; and
- Managing the transition of compost through each phase of the compost process.



The proposed Richgro Composting Facility is located on an isolated property with large separation distances to any sensitive receptors in an area surrounded by State forest and tree farms. The proposed odour minimisation strategies to be employed in the operation of the facility are considered to be sufficient to minimise the risk of offsite odour impact from the operation of the Richgro Composting Facility.

## **5.2 DUST MANAGEMENT**

Dust generation is limited on site by confining the composting facility operations to the sealed hardstand, keeping the composting material moist and avoiding dust generating activities during windy conditions.

The following management and mitigation measures are proposed to manage air and dust emissions during the construction and operation of the facility:

- Materials excavated as part of the earthworks activities will be stockpiled within the premises and kept moist;
- Unsealed exposed areas and earthworks will be watered down regularly, or as required, to minimise windblown dust migration;
- All site traffic will adhere to the site speed limit of 10 km/hr to minimise dust generated by vehicle movements;
- If visual dust inspections indicate that dust is being generated from the site, and is crossing the site boundary, then additional dust management techniques are to be adopted such as use of water trucks or sprays;
- Existing vegetated areas which are not required during the construction and operation of the facility will be maintained;
- Good housekeeping practices will be adopted on-site to minimise dust generation; and
- When operational all feed stock materials delivered to the facility will be contained in covered trucks, which is only unloaded within the appropriate area of the facility.

The operational practices proposed are sufficient to limit potential dust emissions from the site.

## **5.3 LITTER MANAGEMENT**

Only clean feed stocks will be delivered to the Richgro Composting Facility. A periodic patrol for litter by staff and instruction to materials transport road train drivers to cover their loads is considered to be sufficient measures to maintain a litter free site.

Management practices which will be adopted at the facility to minimise the potential impact on amenity include:

- A policy of good housekeeping at the facility throughout construction and operation phases;
- Daily inspections of the facility will be undertaken by Richgro and litter collected for disposal;
- Site boundary fences will be used to control any litter which migrates outside the facility;



and

- Regular inspections will be performed of the site boundary fences, with collection of litter around the site boundary.

#### **5.4 NOISE MANAGEMENT**

The operation of the Richgro Composting Facility has a variety of machinery and equipment that has the potential to generate nuisance noise. Size reduction activities of greenwaste will be carried out, in most cases, prior to delivery of greenwaste to the facility. Given the extremely large separation distance to the nearest sensitive premises (3.8 km) and the nature of the activities to be undertaken on site, the risk of offsite noise emission impacts is considered to be minimal.

Potential sources of noise emissions are the plant (loader and screening plant) operating on site. All operations on site will be undertaken during the normal operating hours which will be between 6:00 am and 5:00 pm Monday to Saturday. Plant machinery will be kept in good working order with regular servicing and maintenance of mufflers and moving parts.

The management and mitigation measures outlined below ensure that the facility complies with the *Environmental Protection (Noise) Regulations 1997 (As Amended)* at all times.

The following initiatives are undertaken to minimise noise emissions:

- Personnel will have access at all times to operational manuals for equipment being utilised and will be familiar with the procedures detailed in the operations manual;
- A Complaints Register will be maintained at the administration office to record any complaints received; this register will include the date, nature and resolution action of any complaints received;
- Following complaints, the source of any excessive noise will be identified and work practices modified or re-scheduled to reduce or eliminate the risk of future events;
- Traffic speed will be maintained to less than 10 kph while travelling through the site; and
- All mobile plant used on-site will be regularly maintained, including exhaust mufflers.

The principal source of noise emissions during the works will be from earthmoving equipment and construction traffic. Construction contractors will only be working daylight hours from 6.00 am and 5.00 pm. It is unlikely that the noise from the construction works will produce significant noise emissions, above the levels of the ongoing site operational works.

#### **5.5 SURFACE WATER MANAGEMENT**

The minimal amount of leachate generated by the composting process is rich in nutrients, but otherwise not harmful to the environment, being comprised of liquid released during the composting process.

Runoff from the hardstands is collected in the lined leachate pond and recycled into the composting process. No compost leachate will be discharged into the surrounding environment.



## 5.6 VERMIN MANAGEMENT

The design and operational features proposed for the Richgro Composting Facility significantly limit the potential for vermin issues to develop. Processing odorous feed stocks as they arrive, cycling organic feedstock on a first-in first-out basis, daily cleaning of mixing areas, secure site fencing and regular maintenance of equipment will all limit the potential for vermin issues to arise.

## 5.7 DISCHARGES TO WATER

The facility will be fully drained to separate leachate from the composting hardstand from coming into contact with clean stormwater. Stormwater will be directed around the site by a drainage network and collected in a stormwater dam located down slope of the facility. Excess water in the stormwater dam will exit the facility in the south western corner of the facility and enter the existing blue gum plantation.

Leachate from the composting hardstand will run by gravity through a network of drains and be collected in the HDPE lined leachate pond.

## 5.8 DISCHARGES TO LAND

The entire composting area of the facility will be fully sealed with asphalt. There is no potential for any discharges to land.

## 5.9 OTHER CONSIDERATIONS

Other pollution types and sources that were considered, but determined to be not applicable to this site are outlined below:

- Groundwater contamination has been considered. All runoff is collected in a lined leachate pond for reuse in composting process which is undertaken on an impermeable asphalt hardstand;
- Light emissions will not be produced at the Richgro Composting Facility as operations will be during normal working hours;
- Hydrocarbon contamination is not an issue, as fuel will be stored in a bunded fuel tank and appropriate measures will be in place for managing small spills; and
- Hazardous materials will not be processed, or used, at the composting facility.

## 6 NATIVE VEGETATION CLEARING

Native vegetation clearing is not required for these Works as the composting facility will be developed on blue gum and redundant trial plantation areas.

## 7 SEPARATION DISTANCES

Sensitive land uses are described in the DWER Guidance Statement *Separation Distances*, (August 2015), as locations where people regularly live or spend time. Sensitive land uses include residences, hospitals, nursing homes, short stay accommodation, schools, childcare and other educational facilities. The facility is positioned within a developed rural area and provides appropriate separation distances to the surrounding sensitive receptors and property boundaries. Separation distances to nearest sensitive land users are summarised in **Table 1**.



Table 1 Buffer distances

Buffer Description	Separation Distance (m)
Three Way Road House	3,800

## 8 WAPC CHECK LIST

The Western Australian Planning Commission, *Basic Raw Materials Applicants' Manual*, 2009, has been referred to during the preparation of this Development Application. Included in the *Manual* are a series of Check Lists to ensure all information has been submitted. Following are the *Manual's* Checklists.

Table 2 Site Selection Considerations

Site location considerations	Tick
The site has safe access to major roads, and existing roads are in good condition. The access roads proposed are suitable for the volume of traffic and type of heavy vehicles.	✓
The site is not in a visually significant location, such as on a ridge, or visible from major roads.	✓
The site is not situated within 500 metres to 1000 metres of any sensitive land uses, such as residential development, schools, and hospitals.	✓
The proposed activity is compatible with surrounding land uses.	✓
The proposed activity will not cause disturbance to the amenity of the area.	✓
The site will not have a negative visual impact on major roads, scenic areas or adjoining properties.	✓
The site provides an adequate separation distance to any residential or special rural area, or existing dwelling in a rural area. Typically separation distances should be 500 metres to 1000 metres.	✓
Operational issues such as hours of operation, noise and dust monitoring and site access are addressed with the view to minimising any potential noise or dust issues for surrounding sites.	✓
Other relevant state and local planning policies and strategies, including but not limited to the following have been addressed: <ul style="list-style-type: none"> <li>State Planning Policy 2.4 Basic Raw Materials</li> <li>State Planning Policy 4.1 State Industrial Buffer Policy</li> <li>extractive industry local laws</li> <li>local planning scheme provisions</li> <li>region scheme planning provisions</li> </ul>	✓
<b>Environmental attributes</b>	
The site is not considered priority agricultural land.	✓
The proposal will not involve major disturbance of acid sulphate soils	✓
The proposal will not involve significant clearing of native vegetation, that is, the site is bare of vegetation from previous uses or does not contain good quality bushland of	✓



significant quantity.	
The site provides adequate setback to existing wetlands, water courses and drainage lines.	✓
The site is not listed as a Bush Forever area.	✓
<b>Planning considerations</b>	
The nature of the proposed activity is consistent with the current zoning, and any proposed zoning.	X
The timeframe for the proposed activity takes into account the long-term impact on the local community.	✓

– **Application submission checklist – local government**

<b>Legal considerations</b>	<b>Tick</b>
Written consent from owners of site	✓
DWER approval – clearing permit (where applicable)	N/A
Extractive industry licence	N/A
Local government submission form and fees	✓
WAPC submission form and fees (where applicable)	N/A
Certificate of Title	✓
<b>Site details</b>	
Existing and proposed land contours	✓
Description of land – roads, boundaries, fences, existing buildings, waterways, ridge lines, existing vegetation etc	✓
<b>Proposed extractive industry details</b>	
Location, total area and depth of proposed excavation	N/A
Location and proposed maximum height of stockpiles	N/A
How much material is proposed to be extracted (on an annual and total basis)	N/A
Method and route(s) of proposed vehicle access to and from the site	✓
Location of proposed buildings, treatment plants, tanks etc	✓
<b>Details of management of operation</b>	
Noise attenuation - hours of operation, types of vehicles to be used, maximum number of truck movements per day, earth bunding	✓
Screening – location of screening and species to be planted, staging of operations	✓
Dust management plan	N/A
Environmental management - measures to protect existing vegetation, acid sulphate soil management, dieback control, fire management, water quality management, drainage details, and treatment of wastes	✓
Rehabilitation plan	N/A



## 9 CONCLUSION

This Development Application document and its Appendices describe the development of a new composting facility to be located on Culford Agri Industry Precinct. The new facility will allow Richgro to expand its composting operation and introduce new technologies for composting materials. The new facility is intended to provide the waste industry with new options for the diversion of organics from the landfill disposal waste stream.

The location of the proposed facility is in a remote location and provides a buffer distance of 3.8 km to the nearest sensitive receptor, which is the Three Ways Road House.

The development of the facility is largely assisted by the established practices and infrastructure at Culford Agri Industry Precinct including road train access, sealed bitumen access road across Culford Agri Industry Precinct and large buffer distances due to the size of Culford Agri Industry Precinct.

## 10 REFERENCES

Bureau of Meteorology website

DER Guidance Statement, August 2015. Separation Distances

Environmental Protection Act 1986 (EP Act). Government of Western Australia

Environmental Protection (Noise) Regulations 1997 (As Amended)

EPA (2002a) Interim Guidance Statement for the Assessment of Odour Impacts (No. 47)

Global Groundwater. May 2017. Culford Agri Industry Hydrogeological Assessment for Culford Agri Water

Landgate Map Viewer

Shire of Boddington Town Planning Scheme 2 on Map 2 of 6, Mount Wells Locality

Standards Australia. AS/NZS ISO 31000:2009, Australian Standard Risk Management

Standards Australia. AS 5667.1998, Water Quality Sampling

Weather Bureau. Rainfall IFD Data System

## 11 APPENDICES





## 11.1 APPENDIX A – ASIC COMPANY EXTRACT





**ASIC**

Australian Securities & Investments Commission

# Current Company Extract

**Name:** A. RICHARDS PTY LTD

**ACN:** 008 734 852

Date/Time: 21 May 2018 AEST 12:51:14 PM

This extract contains information derived from the Australian Securities and Investments Commission's (ASIC) database under section 1274A of the Corporations Act 2001.

Please advise ASIC of any error or omission which you may identify.

EXTRACT

Organisation Details	Document Number
<b>Current Organisation Details</b>	
Name: A. RICHARDS PTY LTD	004292184
ACN: 008 734 852	
ABN: 97008734852	
Registered in: Western Australia	
Registration date: 08/05/1970	
Next review date: 08/05/2019	
Name start date: 08/05/1970	
Previous state number: C0700986Z	
Status: Registered	
Company type: Australian Proprietary Company	
Class: Limited By Shares	
Subclass: Proprietary Company	

Address Details	Document Number
<b>Current</b>	
Registered address: Lot 186 Acourt Road, CANNING VALE WA 6155	003331308
Start date: 03/12/1992	
Principal Place Of Business address: Lot 186 Acourt Road, CANNING VALE WA 6155	00873485D
Start date: 30/06/1993	
<b>Contact Address</b>	
Section 146A of the Corporations Act 2001 states 'A contact address is the address to which communications and notices are sent from ASIC to the company'.	
Address: 19 Argyll Walk, BELLEVUE HEIGHTS SA 5050	
Start date: 28/06/2003	

Officeholders and Other Roles	Document Number
<b>Director</b>	
Name: GEOFFREY JOHN RICHARDS	005017098
Address: 17 Ardross Street, APPLECROSS WA 6153	
Born: 30/04/1946, SUBIACO, WA	
Appointment date: 14/06/1974	
<b>Secretary</b>	
Name: GEOFFREY JOHN RICHARDS	005017098
Address: 17 Ardross Street, APPLECROSS WA 6153	
Born: 30/04/1946, SUBIACO, WA	
Appointment date: 14/06/1974	
<b>Appointed Auditor</b>	
Name: GRANT THORNTON AUDIT PTY LTD	7E7916787
Address: Level 30 525 Collins Street MELBOURNE VIC 3000	
Start date: 08/06/2015	

**Share Information****Share Structure**

Class	Description	Number issued	Total amount paid	Total amount unpaid	Document number
A	CLASS A SHARES	1	1.00	0.00	0873485A
B	CLASS B SHARES	1	1.00	0.00	0873485A
C	CLASS C SHARES	2000	2000.00	0.00	0873485A
D	CLASS D SHARES	2000	2000.00	0.00	0873485A

**Members**

Note: For each class of shares issued by a proprietary company, ASIC records the details of the top twenty members of the class (based on shareholdings). The details of any other members holding the same number of shares as the twentieth ranked member will also be recorded by ASIC on the database. Where available, historical records show that a member has ceased to be ranked amongst the top twenty members. This may, but does not necessarily mean, that they have ceased to be a member of the company.

Name: GEOFFREY JOHN RICHARDS  
Address: 17 Ardross Street, APPLECROSS WA 6153

Class	Number held	Beneficially held	Paid	Document number
A	1	yes	FULLY	0E6541328

Name: GEOFFREY JOHN RICHARDS  
Address: 17 Ardross Street, APPLECROSS WA 6153

Class	Number held	Beneficially held	Paid	Document number
B	1	yes	FULLY	0E6541328

Name: GEOFFREY JOHN RICHARDS  
Address: 17 Ardross Street, APPLECROSS WA 6153

Class	Number held	Beneficially held	Paid	Document number
C	2000	yes	FULLY	0873485A

Name: J. & M. RICHARDS PTY LTD  
ACN: 008 748 623  
Address: 1369 Albany Highway, CANNINGTON WA 6107

Class	Number held	Beneficially held	Paid	Document number
D	2000	yes	FULLY	0873485A

### Financial Reports

Balance date	Report due date	AGM due date	Extended AGM due	AGM held date	Outstanding	Document number
30/06/2013	31/10/2013				no	7E7916925
30/06/2014	31/10/2014				no	7E7916875
30/06/2015	31/10/2015				no	7E7916787
30/06/2016	31/10/2016				no	7E8815594
30/06/2017	31/10/2017				no	7E9747506

### Documents

Note: Where no Date Processed is shown, the document in question has not been processed. In these instances care should be taken in using information that may be updated by the document when it is processed. Where the Date Processed is shown but there is a zero under No Pages, the document has been processed but a copy is not yet available.

Date received	Form type	Date processed	Number of pages	Effective date	Document number
29/04/2016	388 (FR 2015) Financial Report 388H Financial Report - Large Proprietary Company That Is Not A Disclosing Entity 388E Company - Appoint Change Name/address Of Auditor	29/04/2016	29	30/06/2015	7E7916787
29/04/2016	388H (FR 2014) Financial Report Financial Report - Large Proprietary Company That Is Not A Disclosing Entity	29/04/2016	32	30/06/2014	7E7916875
29/04/2016	388H (FR 2013) Financial Report Financial Report - Large Proprietary Company That Is Not A Disclosing Entity	29/04/2016	33	30/06/2013	7E7916925
28/02/2017	388H (FR 2016) Financial Report Financial Report - Large Proprietary Company That Is Not A Disclosing Entity	28/02/2017	31	30/06/2016	7E8815594

14/12/2017	388H (FR 2017) Financial Report Financial Report - Large Proprietary Company That Is Not A Disclosing Entity	14/12/2017	32	30/06/2017	7E9747506
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\*\*\*End of Extract of 4 Pages\*\*\*

**11.2 APPENDIX B – CERTIFICATE OF TITLE AND LOT LOCATION MAP**



WESTERN



AUSTRALIA

REGISTER NUMBER <b>68/DP36563</b>	
DUPLICATE EDITION <b>N/A</b>	DATE DUPLICATE ISSUED <b>N/A</b>

**RECORD OF CERTIFICATE OF TITLE**  
UNDER THE TRANSFER OF LAND ACT 1893

VOLUME **2798** FOLIO **962**

The person described in the first schedule is the registered proprietor of an estate in fee simple in the land described below subject to the reservations, conditions and depth limit contained in the original grant (if a grant issued) and to the limitations, interests, encumbrances and notifications shown in the second schedule.

  
REGISTRAR OF TITLES 

**LAND DESCRIPTION:**

LOT 68 ON DEPOSITED PLAN 36563

**REGISTERED PROPRIETOR:**  
(FIRST SCHEDULE)

AB NO 2 PTY LTD OF SUITE 6, 117 BROADWAY, NEDLANDS  
(XA M039255 ) REGISTERED 5 SEPTEMBER 2012

**LIMITATIONS, INTERESTS, ENCUMBRANCES AND NOTIFICATIONS:**  
(SECOND SCHEDULE)

- \*L979475 LEASE TO WACAP TREEFARMS PTY LTD OF P.O. BOX 2453, BUNBURY EXPIRES: SEE LEASE. AS TO PORTION ONLY REGISTERED 29.6.2012.
- \*L979477 EASEMENT TO PERTHWASTE PTY LTD - FOR RIGHT OF CARRIAGEWAY PURPOSES - SEE SKETCH ON DEPOSITED PLAN 71536 REGISTERED 29.6.2012.
- \*M039258 MORTGAGE TO NATIONAL AUSTRALIA BANK LTD REGISTERED 5.9.2012.

Warning: A current search of the sketch of the land should be obtained where detail of position, dimensions or area of the lot is required.  
\* Any entries preceded by an asterisk may not appear on the current edition of the duplicate certificate of title.  
Lot as described in the land description may be a lot or location.

-----END OF CERTIFICATE OF TITLE-----

**STATEMENTS:**

The statements set out below are not intended to be nor should they be relied on as substitutes for inspection of the land and the relevant documents or for local government, legal, surveying or other professional advice.

SKETCH OF LAND: DP36563 [SHEET 1].  
PREVIOUS TITLE: 2228-246.  
PROPERTY STREET ADDRESS: NO STREET ADDRESS INFORMATION AVAILABLE.  
LOCAL GOVERNMENT AREA: SHIRE OF BODDINGTON.

- NOTE 1: J538352 SECTION 138D TLA APPLIES TO CAVEAT H254572  
NOTE 2: K796153 LAND PARCEL IDENTIFIER OF PORTION OF MURRAY LOCATION 527 AND BEING LOT 9 ON PLAN 2767 CHANGED TO LOT 68 ON DEPOSITED PLAN 36563 ON 10.12.2008 TO ENABLE ISSUE OF A DIGITAL CERTIFICATE OF TITLE.  
NOTE 3: THE ABOVE NOTE MAY NOT BE SHOWN ON THE SUPERSEDED PAPER CERTIFICATE OF TITLE OR ON THE CURRENT EDITION OF DUPLICATE CERTIFICATE OF TITLE.  
NOTE 4: DUPLICATE CERTIFICATE OF TITLE NOT ISSUED AS REQUESTED BY DEALING

END OF PAGE 1 - CONTINUED OVER



RECORD OF CERTIFICATE OF TITLE

REGISTER NUMBER: 68/DP36563  
M39258

VOLUME/FOLIO: 2798-962

PAGE 2



LEGEND	
[Symbol]	Subject site
[Symbol]	Road reserve
[Symbol]	Indicative lot
[Symbol]	Sealed bitumen road
[Symbol]	100m wide fire buffer
[Symbol]	Water storage
[Symbol]	Bore
[Symbol]	Phone tower
[Symbol]	Streamlines
[Symbol]	Water Surface Catchment Boundary
[Symbol]	Gravel Quarry
LAND USE	
[Color]	Industry
[Color]	Resource Recovery Park
[Color]	Water Capture & Storage
[Color]	Retained Bushland
[Color]	Precinct Management Lot
[Color]	Public Drinking Water Source Area (PZ)
[Color]	Surprised Catchment
LAND USE AREAS	
Highway Industry/Commercial	47.6 Ha
Industry	316.4 Ha
Water Capture & Storage (Total)	149.8 Ha
Stage 1 Water Infrastructure	14.1 Ha
Stage 2 Water Infrastructure	35.8 Ha
Water Infrastructure	50.2 Ha
Retained Bushland	92.3 Ha
Precinct Management Lot	21.3 Ha
Major Road (3.4km total length)	4.1 Ha
Minor Roads (5.1km total length)	13.2 Ha
<b>TOTAL</b>	<b>616 Ha</b>
ROADS	
Road 1	340m
Road 2	190m
Road 3	650m
Road 4	710m
Road 5	310m
FIRE ACCESS	
Southern Boundary	4.0km
Northern Boundary	2.4km
Total	6.4km

# CULFORD AGRI INDUSTRY PRECINCT

## Estate Plan

Albany Highway, North Bannister



Date: 15 March 2018  
 Scale: 1:20,000 @ A3  
 Drawing No: 715-194 CPTB  
 Staff: LC



+ PLACE MATCH

### 11.3 APPENDIC C – AUTHORITY TO PROCEED LETTER



30 July 2018

Department of Water and Environmental Regulation  
The Atrium, Level 4  
168 St Georges Terrace  
PERTH WA 6000

**RE – RICHGRO - LEASE of Part of Lot 68, 6364 Albany Highway NORTH BANNISTER 6390**

To whom it may concern

**CONFIRMATION OF LEASE ARRANGEMENT**

AB No2 Pty Ltd as Trustee for the Culford Unit Trust (ACN 159 232 881) wishes to confirm that we have entered into an agreement with A Richards Pty Ltd (ACN 008 734 852) of Lot 186 Acourt Road, Canning Vale WA (Richgro) to lease the Premises as referred to in their Works Approval for a period of up to 40 years. The agreement entitles Richgro to develop the site for the purposes specified in the Works Approval.

**CLARIFICATION OF CARETAKERS RESIDENCE**

AB No 2 Pty Ltd owns Lots 68, 10, 11 and 123 which together make up the Culford Agri Industry Precinct. The Caretakers residence is situated on Lot 11.

The Residence is used for a Caretaker, so we always have a presence on site mainly for Security and Fire issues.

The Caretaker understands that most of industries on site will be Prescribed activities.

We therefore accept and consent to the Caretaker residence not being considered as a sensitive receptor with regard to the DWER definition of a sensitive receptor.

Kind Regards,

Kim Gorey  
Director  
AB No 2



Richard Atkins  
Director  
AB No 2



## 12 DRAWINGS

Drawing CUL-COM-001	<b>Cover Sheet, Locality Plan and Drawing Schedule</b>
Drawing CUL-COM-002	<b>Site Plan</b>
Drawing CUL-COM-003	<b>Overall Plan Layout</b>
Drawing CUL-COM-004	<b>General Works Layout – Plan 1 of 3</b>
Drawing CUL-COM-005	<b>General Works Layout – Plan 2 of 3</b>
Drawing CUL-COM-006	<b>General Works Layout – Plan 3 of 3</b>
Drawing CUL-COM-007	<b>Earthworks Layout Plan</b>
Drawing CUL-COM-008	<b>Site Sections – Sheet 1 of 2</b>
Drawing CUL-COM-009	<b>Site Sections – Sheet 2 of 2</b>
Drawing CUL-COM-010	<b>Miscellaneous Details – Sheet 1 of 2</b>
Drawing CUL-COM-011	<b>Miscellaneous Details – Sheet 2 of 2</b>
Drawing CUL-COM-012	<b>Setout Layout Plan</b>
Drawing CUL-COM-013	<b>Prescribed Area Plan</b>

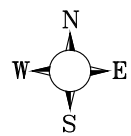


# RICHGRO

# CULFORD AGRI INDUSTRY PRECINCT

6364 Albany Highway, North Bannister, WA  
(Shire of Boddington)

# PROPOSED COMPOST FACILITY



SITE OF WORKS




### DRAWING SCHEDULE

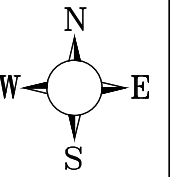
DRAWING No.	REVISION	DESCRIPTION
CUL - COM - 001	C	COVER SHEET, LOCALITY PLAN & DRAWING SCHEDULE
CUL - COM - 002	C	SITE PLAN
CUL - COM - 003	C	OVERALL LAYOUT PLAN
CUL - COM - 004	C	GENERAL WORKS LAYOUT - PLAN 1 OF 3
CUL - COM - 005	C	GENERAL WORKS LAYOUT - PLAN 2 OF 3
CUL - COM - 006	C	GENERAL WORKS LAYOUT - PLAN 3 OF 3
CUL - COM - 007	C	EARTHWORKS LAYOUT PLAN
CUL - COM - 008	C	SITE SECTIONS - SHEET 1 OF 2
CUL - COM - 009	C	SITE SECTIONS - SHEET 2 OF 2
CUL - COM - 010	C	MISCELLANEOUS DETAILS - SHEET 1 OF 2
CUL - COM - 011	C	MISCELLANEOUS DETAILS - SHEET 2 OF 2
CUL - COM - 012	C	SETOUT LAYOUT PLAN
CUL - COM - 013	C	PRESCRIBED AREA PLAN

LOCALITY PLAN  
NOT TO SCALE

**FOR WORKS APPROVAL**

10 OCTOBER 2018

 <p><b>Bowman &amp; Associates Pty Ltd</b> ABN: 22 112 399 514 Mail: PO Box 2059, Rossmoyne WA 6148 Phone: 0402 373 582 Web: www.bowmanassociates.com.au</p>	Client <b>Richgro</b>				Location <b>6364 Albany Hwy, North Bannister</b>			Drawing Title <b>Cover Sheet, Locality Plan &amp; Drg. Schedule</b>		
	Date <b>10/10/18</b>	Scale <b>N.T.S</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>	Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>			Drawing Number <b>CUL - COM - 001</b>	Revision <b>C</b>	Drawing Size <b>A1</b>



**GENERAL NOTES:**

1. ALL WORKS SHALL BE IN ACCORDANCE WITH CURRENT LOCAL AUTHORITY SPECIFICATIONS AND STANDARD DRAWINGS. IT IS THE CONTRACTORS RESPONSIBILITY TO COMPLY WITH ALL RELEVANT LEGISLATION.
2. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAINTAIN THE STABILITY OF ANY TEMPORARY WORKS ON THE SITE.
3. DO NOT SCALE FROM DRAWINGS.
4. ANY VARIATIONS FROM THE DRAWINGS TO BE DISCUSSED WITH THE SUPERINTENDENT.
5. ALL VOLUMES OF CUT AND FILL TO BE VERIFIED WITH RECONFIRMED SURVEY LEVELS.
6. NOTES ON DRAWINGS SHALL BE CROSS REFERENCED TO THE SPECIFICATION WHICH HAS FURTHER DETAILS OF THE REQUIREMENTS. IF THE DRAWING NOTES AND THE SPECIFICATION ARE NOT CONSISTENT THE SPECIFICATION TAKES PRECEDENCE.
7. FOR SURVEY CONTROL INFORMATION REFER TO THE CONSULTING SURVEYOR SHOWN ON THIS PLAN FOR CONTACT DETAILS.
8. LOCATION AND LEVEL OF EXISTING SERVICES AND STRUCTURES HAS BEEN PLOTTED FROM AVAILABLE RECORDS AND IS INDICATIVE ONLY. THE CONTRACTOR SHALL ACCURATELY LOCATE THESE ON SITE PRIOR TO COMMENCING WORKS AND SHALL PROTECT ALL EXISTING SERVICES DURING CONSTRUCTION. ANY DAMAGE TO EXISTING SERVICES SHALL BE REPAIRED AT THE CONTRACTORS EXPENSE.
9. CONTRACTOR TO CONFIRM ALL EXISTING SITE FEATURES PRIOR TO COMMENCING CONSTRUCTION
10. DUE TO THE ACCURACY OF SURVEY ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
11. EXISTING VEGETATION NOT PICKED UP BY SURVEYOR. REMOVAL OF EXISTING VEGETATION MUST BE CONFIRMED ON SITE IN CONSULTATION WITH CLIENT PRIOR TO COMMENCING ANY CONSTRUCTION
12. EROSION AND SEDIMENT CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE UNDERTAKEN BY THE CONTRACTOR PRIOR TO COMMENCING ANY CONSTRUCTION AND APPROVED BY THE CLIENT.
13. TRAFFIC CONTROL MEASURES WILL BE THE RESPONSIBILITY OF THE CONTRACTOR AND MUST BE INSTALLED PRIOR TO COMMENCING ANY TIE IN WORKS TO EXISTING ACCESS ROAD.

**SURVEY CONTROL STATION DETAILS**

AA9	447113.396	6396110.218	329.961
AA10	447360.013	6395817.270	315.165
AA11	442447.497	6396116.180	333.318
AA12	441766.440	6396052.661	357.861

NOTE: SURVEY IS IN MGA50 COORDINATE SYSTEM.

**SURVEYORS CONTACT DETAILS**

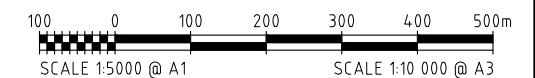


Alliance Surveying Pty Ltd


PO Box 1006, MORLEY WA 6943

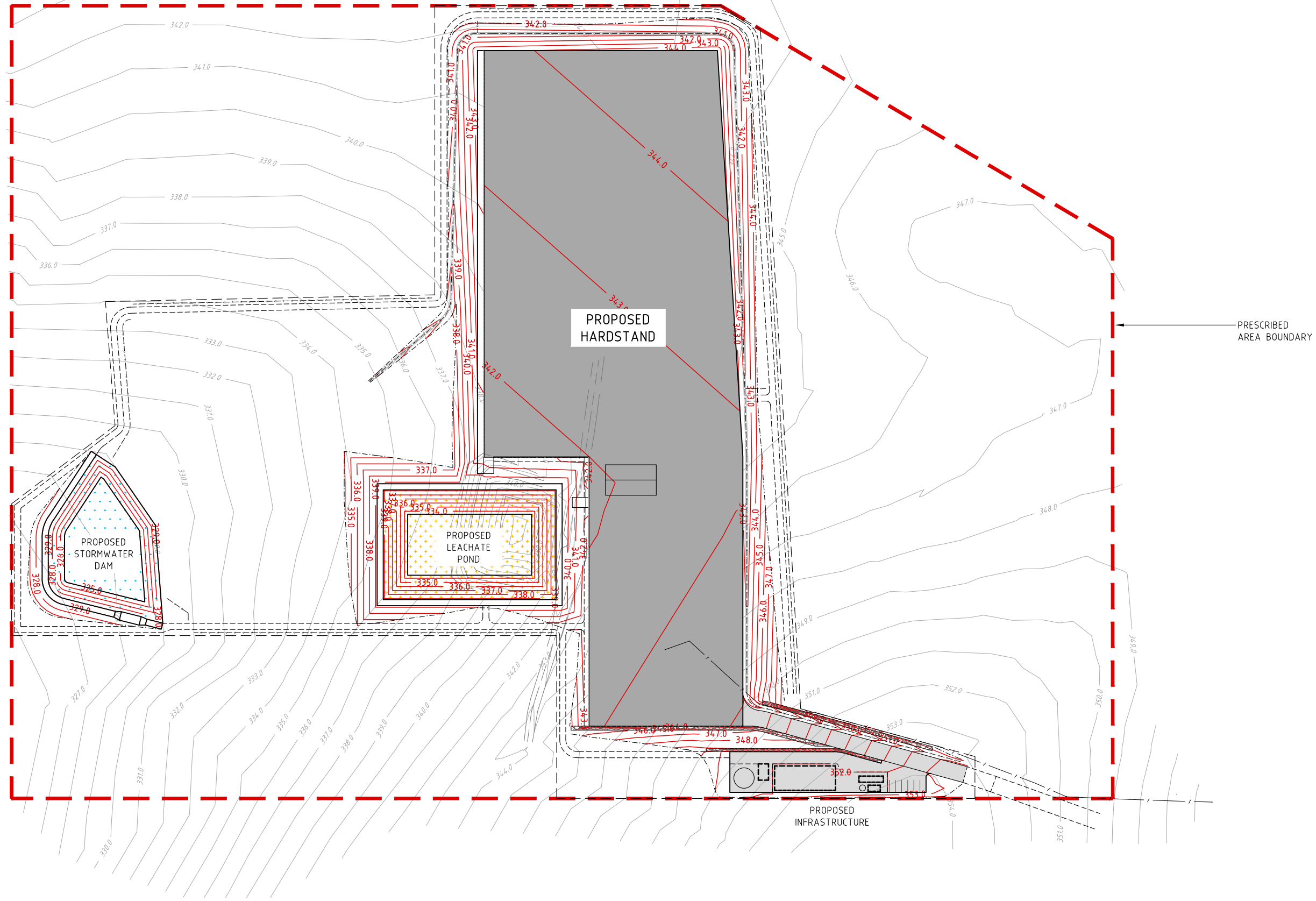
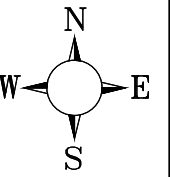
E: [info@alliancesurveying.com.au](mailto:info@alliancesurveying.com.au) W: [www.alliancesurveying.com.au](http://www.alliancesurveying.com.au)

**NOTE - UNDERGROUND SERVICES**  
 UNDERGROUND SERVICE LOCATIONS SHOWN ON THIS PLAN HAVE BEEN DETERMINED BY FIELD SURVEY AND/OR OFFICE RECORDS, AND MAY NOT REPRESENT ALL SERVICES OR EXACT LOCATIONS. THE CONTRACTOR MUST ACCURATELY LOCATE AND DEPTH ALL SERVICES LIKELY TO BE ENCOUNTERED DURING CONSTRUCTION, PRIOR TO COMMENCING ANY EXCAVATION WORKS. VERY IMPORTANT TO CHECK BEFORE STARTING CONSTRUCTION. ANY CLASHES MUST BE REPORTED TO ENGINEER ASAP.

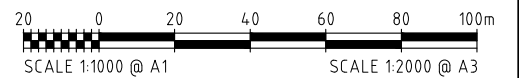


**FOR WORKS APPROVAL**  
 10 OCTOBER 2018

 <p><b>Bowman &amp; Associates Pty Ltd</b>          ABN: 22 112 399 514          Mail: PO Box 2059, Rossmoyne WA 6148          Phone: 0402 373 582          Web: <a href="http://www.bowmanassociates.com.au">www.bowmanassociates.com.au</a></p>	Client		Location		Drawing Title	
	Richgro		6364 Albany Hwy, North Bannister		Site Plan	
Date	Scale	Design By	Drawn By	Project		Drawing Number
10/10/18	1:5,000	B.W.B.	S.B.Y.	Culford Agri Industry Precinct - Proposed Compost Facility		CUL - COM - 002
				Revision	Drawing Size	
				C	A1	



**FOR WORKS APPROVAL**  
10 OCTOBER 2018



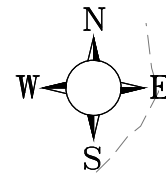
**Bowman & Associates Pty Ltd**  
 ABN: 22 112 399 514  
 Mail: PO Box 2059, Rossmoyne WA 6148  
 Phone: 0402 373 582  
 Web: www.bowmanassociates.com.au

Client		Richgro	
Date	Scale	Design By	Drawn By
10/10/18	1:1,000	B.W.B.	S.B.Y.

Location		6364 Albany Hwy, North Bannister	
Project			
Culford Agri Industry Precinct - Proposed Compost Facility			

Drawing Title		
Overall Layout Plan		
Drawing Number	Revision	Drawing Size
CUL - COM - 003	C	A1





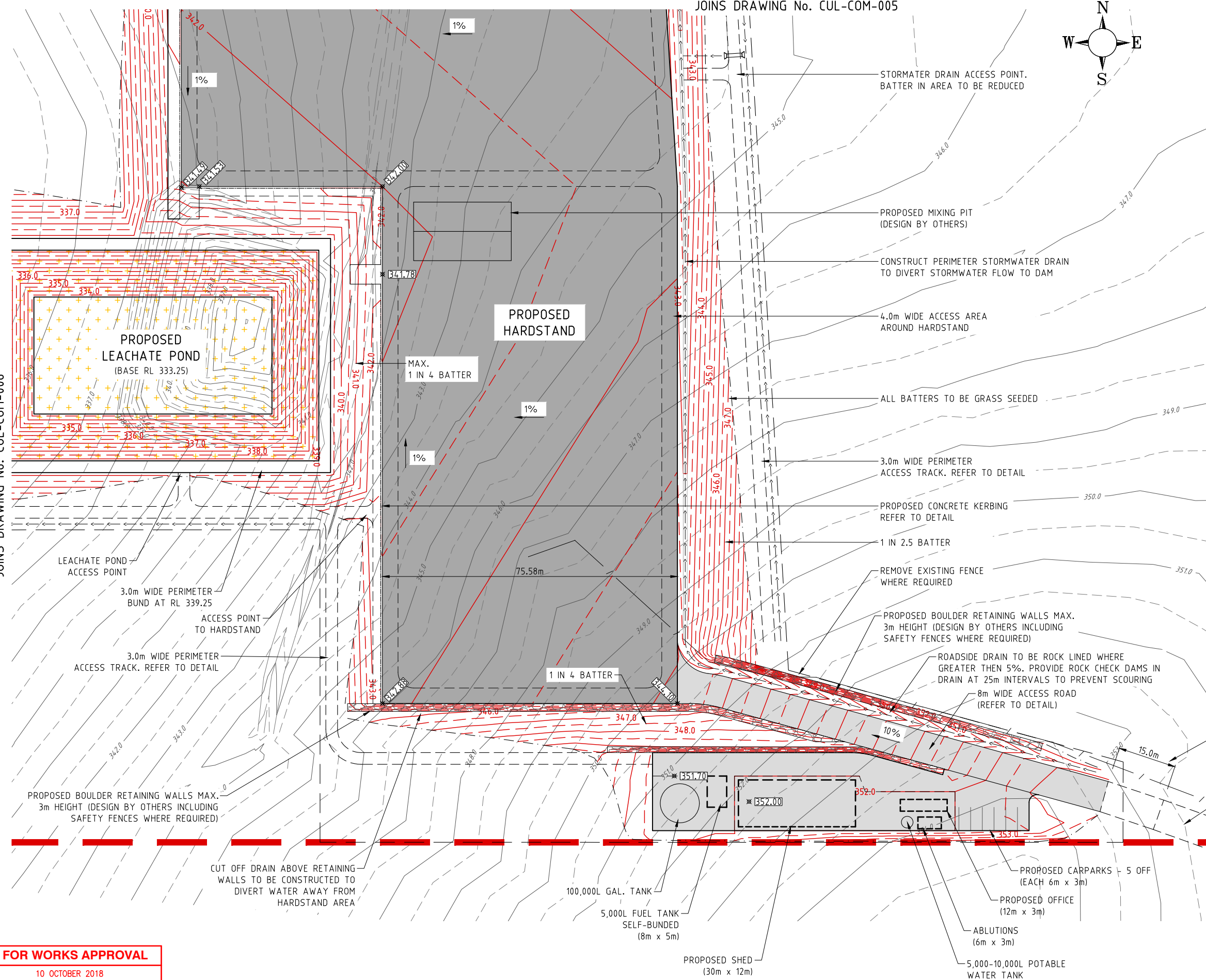
**LEGEND:**

- 16.0 ——— EXISTING CONTOUR (0.5m INTERVAL)
- - - - - EXISTING FENCE
- PRESCRIBED BOUNDARY
- 344.0 ——— DESIGN CONTOUR (0.5m INTERVAL)
- ===== PROPOSED KERB AND CHANNEL (REFER TO DETAIL)
- - - - - PROPOSED BATTER EXTENT
- ← ← ← PROPOSED DRAINAGE CHANNEL (INVERT)
- - - - - PROPOSED ACCESS TRACK
- PROPOSED HARDSTAND AREA
- PROPOSED STORMWATER DAM
- PROPOSED LEACHATE POND
- PROPOSED ACCESS ROAD AND BUILDING PAD
- PROPOSED BOULDER RETAINING WALL
- × 342.88 PROPOSED FINISHED SURFACE LEVEL

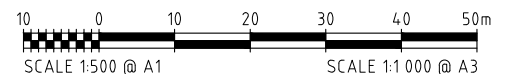
**NOTES:**

1. DUE TO ACCURACY OF SURVEY IN SOME AREAS ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
2. EXISTING VEGETATION AND TREES NOT LOCATED BY SURVEYOR.
3. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
4. EXISTING CONTOURS ARE AT 0.50m INTERVAL.
5. DESIGN SURFACE SHOWN REPRESENT THE FINISHED SURFACE LEVELS.
6. LOCATION OF PERIMETER STORMWATER DIVERSION DRAINS TO BE CONFIRMED ON SITE.
9. SAFETY FENCE TO ALL RETAINING WALLS NOT CONSIDERED AS PART OF THIS DESIGN. DESIGN OF SAFETY FENCE BY OTHERS AND MUST BE INCORPORATED INTO DESIGN DUE TO HEIGHT OF WALLS.
10. PROPERTY BOUNDARY FENCING BY OTHERS. EXACT LOCATION TO BE CONFIRMED ON SITE.
11. 3D DATA AVAILABLE TO ASSIST WITH SETOUT.

JOINS DRAWING No. CUL-COM-006



**FOR WORKS APPROVAL**  
10 OCTOBER 2018



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Client <b>Richgro</b>		Location <b>6364 Albany Hwy, North Bannister</b>	
Date <b>10/10/18</b>	Scale <b>1 : 500</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>

Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>		Drawing Title <b>General Works Layout - Plan 1 of 3</b>	
--	--	--	--

Drawing Number <b>CUL - COM - 004</b>	Revision <b>C</b>	Drawing Size <b>A1</b>
--	----------------------	---------------------------

**CULVERT No. 2**  
 450 DIA. RPC '4'  
 LENGTH = 4.00m @ 0.50%  
 USIL (CONFIRMED ON SITE)  
 DSIL (CONFIRMED ON SITE)  
 SETOUT DETAILS  
 US EASTING: 444073.536  
 US NORTHING: 6396683.448  
 DS EASTING: 444073.538  
 DS NORTHING: 6396679.448

INSTALL PRECAST HEADWALLS AND ROCK PROTECTION TO NEW HEADWALLS. REFER TO DETAIL.

CONSTRUCT BATTER SLOPE ROCK LINED CHANNEL FROM CULVERT TO PERIMETER DRAIN. PERIMETER DRAIN TO BE ROCK LINED WHERE REQUIRED TO PREVENT EROSION AND SCOURING.

1 IN 3 BATTER

PROPOSED CONCRETE KERBING REFER TO DETAIL

3.0m WIDE PERIMETER ACCESS TRACK. REFER TO DETAIL

1 IN 2.5 BATTER

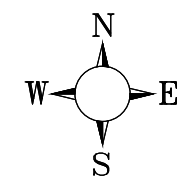
3.0m WIDE BUND.

JOINS DRAWING No. CUL-COM-006

PROPOSED HARDSTAND

1 IN 2.5 BATTER

JOINS DRAWING No. CUL-COM-004



- LEGEND:**
- 16.0 ——— EXISTING CONTOUR (0.5m INTERVAL)
  - - - - - EXISTING FENCE
  - PRESCRIBED BOUNDARY
  - 344.0 ——— DESIGN CONTOUR (0.5m INTERVAL)
  - ===== PROPOSED KERB AND CHANNEL (REFER TO DETAIL)
  - - - - - PROPOSED BATTER EXTENT
  - < - < - PROPOSED DRAINAGE CHANNEL (INVERT)
  - - - - - PROPOSED ACCESS TRACK
  - PROPOSED HARDSTAND AREA
  - PROPOSED STORMWATER DAM
  - PROPOSED LEACHATE POND
  - PROPOSED ACCESS ROAD AND BUILDING PAD
  - PROPOSED BOULDER RETAINING WALL
  - PROPOSED FINISHED SURFACE LEVEL

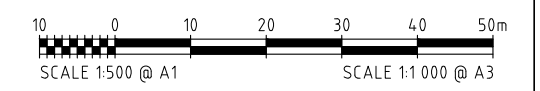
**NOTES:**

1. DUE TO ACCURACY OF SURVEY IN SOME AREAS ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
2. EXISTING VEGETATION AND TREES NOT LOCATED BY SURVEYOR.
3. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
4. EXISTING CONTOURS ARE AT 0.50m INTERVAL.
5. DESIGN SURFACE SHOWN REPRESENT THE FINISHED SURFACE LEVELS.
6. LOCATION OF PERIMETER STORMWATER DIVERSION DRAINS TO BE CONFIRMED ON SITE.
9. SAFETY FENCE TO ALL RETAINING WALLS NOT CONSIDERED AS PART OF THIS DESIGN. DESIGN OF SAFETY FENCE BY OTHERS AND MUST BE INCORPORATED INTO DESIGN DUE TO HEIGHT OF WALLS.
10. PROPERTY BOUNDARY FENCING BY OTHERS. EXACT LOCATION TO BE CONFIRMED ON SITE.
11. 3D DATA AVAILABLE TO ASSIST WITH SETOUT.

**CULVERT No. 1**  
 450 DIA. RPC '4'  
 LENGTH = 4.00m @ 0.50%  
 USIL (CONFIRMED ON SITE)  
 DSIL (CONFIRMED ON SITE)  
 SETOUT DETAILS  
 US EASTING: 444220.671  
 US NORTHING: 6396497.887  
 DS EASTING: 444216.678  
 DS NORTHING: 6396497.650

INSTALL PRECAST HEADWALLS AND ROCK PROTECTION TO NEW HEADWALLS. REFER TO DETAIL.

**FOR WORKS APPROVAL**  
 10 OCTOBER 2018

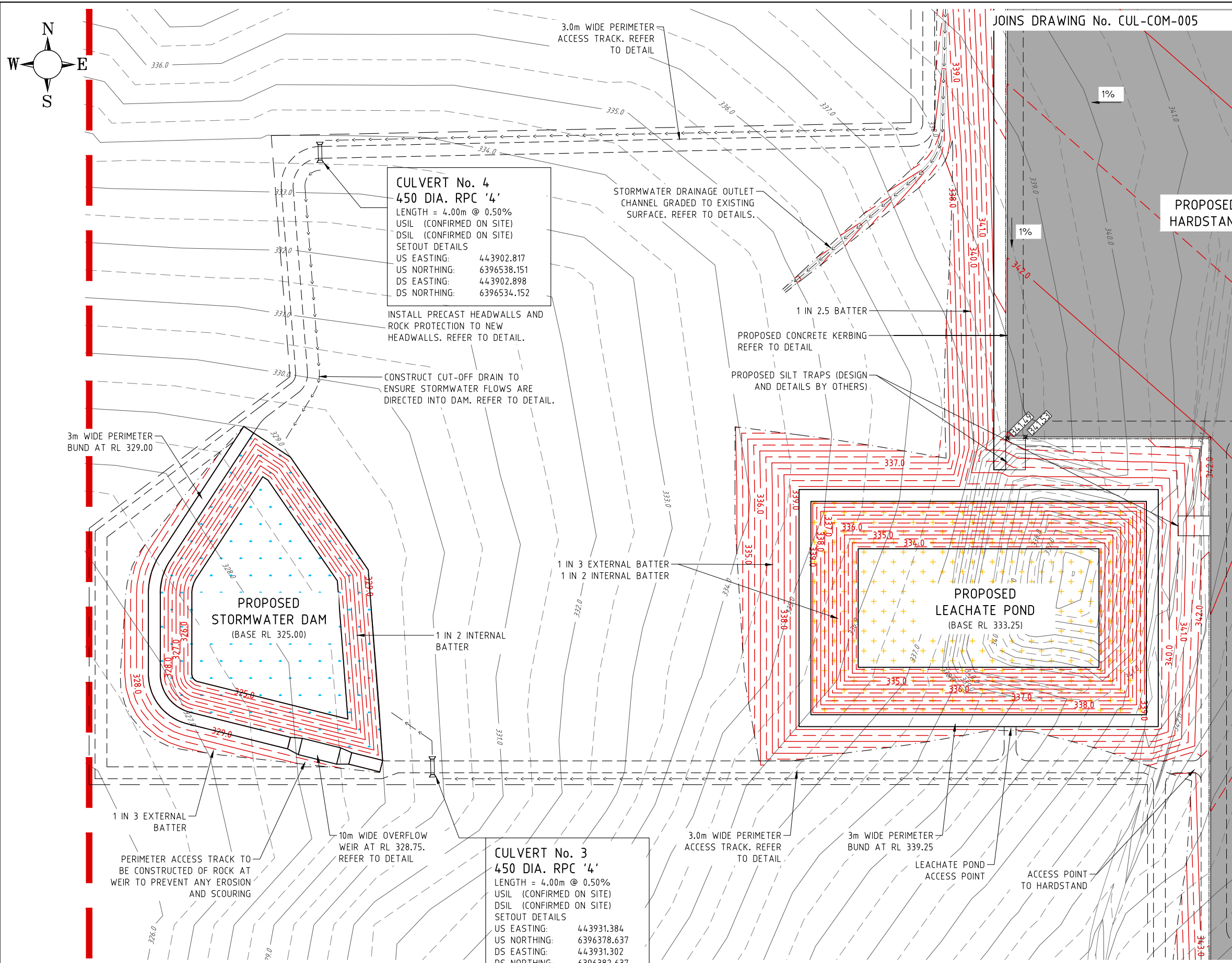


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Client		Location	
Richgro		6364 Albany Hwy, North Bannister	
Date	Scale	Design By	Drawn By
10/10/18	1 : 500	B.W.B.	S.B.Y.

Project	
Culford Agri Industry Precinct - Proposed Compost Facility	

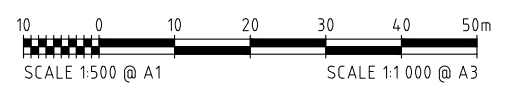
Drawing Title		
General Works Layout - Plan 2 of 3		
Drawing Number	Revision	Drawing Size
CUL - COM - 005	C	A1



- LEGEND:**
- 16.0 ——— EXISTING CONTOUR (0.5m INTERVAL)
  - EXISTING FENCE
  - PRESCRIBED BOUNDARY
  - 344.0 ——— DESIGN CONTOUR (0.5m INTERVAL)
  - ===== PROPOSED KERB AND CHANNEL (REFER TO DETAIL)
  - - - - - PROPOSED BATTER EXTENT
  - ← ← ← PROPOSED DRAINAGE CHANNEL (INVERT)
  - - - - - PROPOSED ACCESS TRACK
  - PROPOSED HARDSTAND AREA
  - PROPOSED STORMWATER DAM
  - PROPOSED LEACHATE POND
  - PROPOSED ACCESS ROAD AND BUILDING PA
  - PROPOSED BOULDER RETAINING WALL
  - PROPOSED FINISHED SURFACE LEVEL

- NOTES:**
1. DUE TO ACCURACY OF SURVEY IN SOME AREAS ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
  2. EXISTING VEGETATION AND TREES NOT LOCATED BY SURVEYOR.
  3. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
  4. EXISTING CONTOURS ARE AT 0.50m INTERVAL.
  5. DESIGN SURFACE SHOWN REPRESENT THE FINISHED SURFACE LEVELS.
  6. LOCATION OF PERIMETER STORMWATER DIVERSION DRAINS TO BE CONFIRMED ON SITE.
  9. SAFETY FENCE TO ALL RETAINING WALLS NOT CONSIDERED AS PART OF THIS DESIGN. DESIGN OF SAFETY FENCE BY OTHERS AND MUST BE INCORPORATED INTO DESIGN DUE TO HEIGHT OF WALLS.
  10. PROPERTY BOUNDARY FENCING BY OTHERS. EXACT LOCATION TO BE CONFIRMED ON SITE.
  11. 3D DATA AVAILABLE TO ASSIST WITH SETOUT.

**FOR WORKS APPROVAL**  
 10 OCTOBER 2018

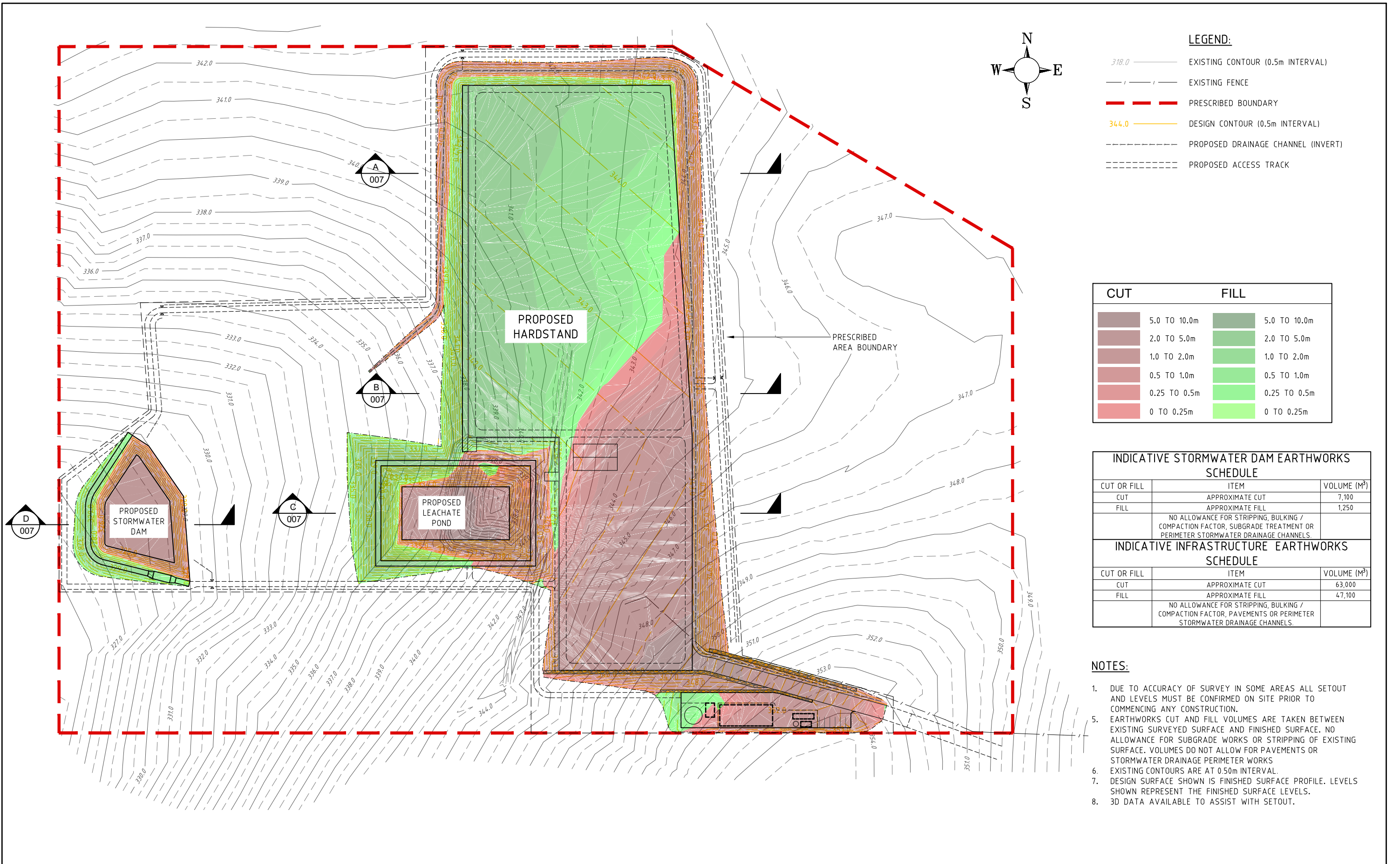


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Client		Location	
Richgro		6364 Albany Hwy, North Bannister	
Date	Scale	Design By	Drawn By
10/10/18	1 : 500	B.W.B.	S.B.Y.

Project		Drawing Title	
Culford Agri Industry Precinct - Proposed Compost Facility		General Works Layout - Plan 3 of 3	

Drawing Number	Revision	Drawing Size
CUL - COM - 006	C	A1



**LEGEND:**

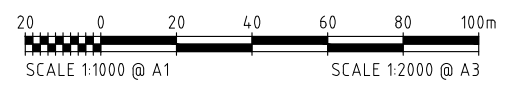
- 318.0 ——— EXISTING CONTOUR (0.5m INTERVAL)
- / — / — EXISTING FENCE
- — — — — PRESCRIBED BOUNDARY
- 344.0 ——— DESIGN CONTOUR (0.5m INTERVAL)
- - - - - PROPOSED DRAINAGE CHANNEL (INVERT)
- - - - - PROPOSED ACCESS TRACK

CUT		FILL	
	5.0 TO 10.0m		5.0 TO 10.0m
	2.0 TO 5.0m		2.0 TO 5.0m
	1.0 TO 2.0m		1.0 TO 2.0m
	0.5 TO 1.0m		0.5 TO 1.0m
	0.25 TO 0.5m		0.25 TO 0.5m
	0 TO 0.25m		0 TO 0.25m

INDICATIVE STORMWATER DAM EARTHWORKS SCHEDULE		
CUT OR FILL	ITEM	VOLUME (M³)
CUT	APPROXIMATE CUT	7,100
FILL	APPROXIMATE FILL	1,250
NO ALLOWANCE FOR STRIPPING, BULKING / COMPACTION FACTOR, SUBGRADE TREATMENT OR PERIMETER STORMWATER DRAINAGE CHANNELS.		
INDICATIVE INFRASTRUCTURE EARTHWORKS SCHEDULE		
CUT OR FILL	ITEM	VOLUME (M³)
CUT	APPROXIMATE CUT	63,000
FILL	APPROXIMATE FILL	47,100
NO ALLOWANCE FOR STRIPPING, BULKING / COMPACTION FACTOR, PAVEMENTS OR PERIMETER STORMWATER DRAINAGE CHANNELS.		

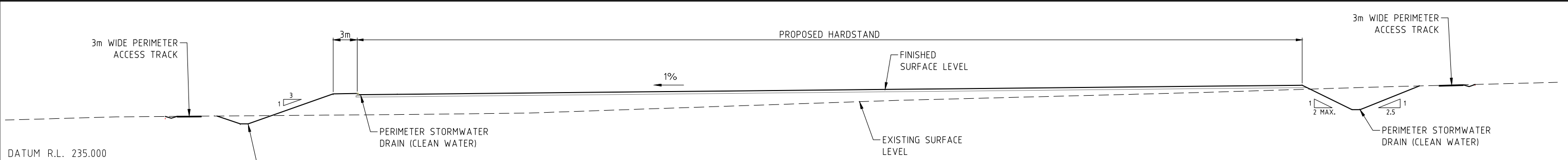
- NOTES:**
1. DUE TO ACCURACY OF SURVEY IN SOME AREAS ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
  5. EARTHWORKS CUT AND FILL VOLUMES ARE TAKEN BETWEEN EXISTING SURVEYED SURFACE AND FINISHED SURFACE. NO ALLOWANCE FOR SUBGRADE WORKS OR STRIPPING OF EXISTING SURFACE. VOLUMES DO NOT ALLOW FOR PAVEMENTS OR STORMWATER DRAINAGE PERIMETER WORKS
  6. EXISTING CONTOURS ARE AT 0.50m INTERVAL.
  7. DESIGN SURFACE SHOWN IS FINISHED SURFACE PROFILE. LEVELS SHOWN REPRESENT THE FINISHED SURFACE LEVELS.
  8. 3D DATA AVAILABLE TO ASSIST WITH SETOUT.

**FOR WORKS APPROVAL**  
10 OCTOBER 2018

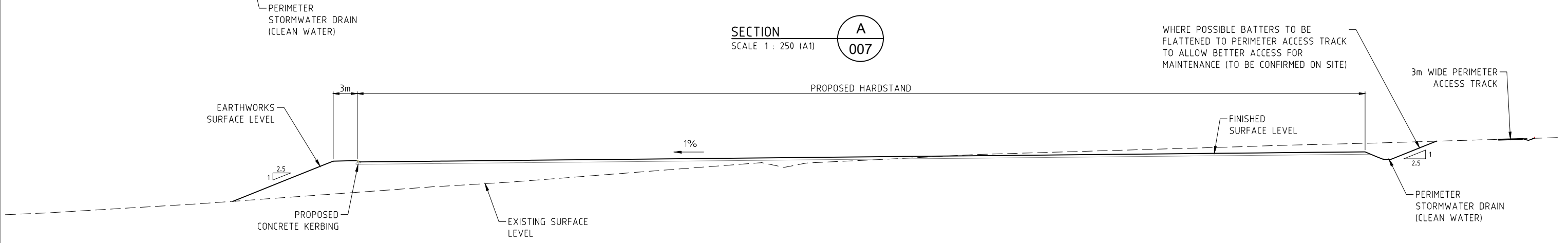


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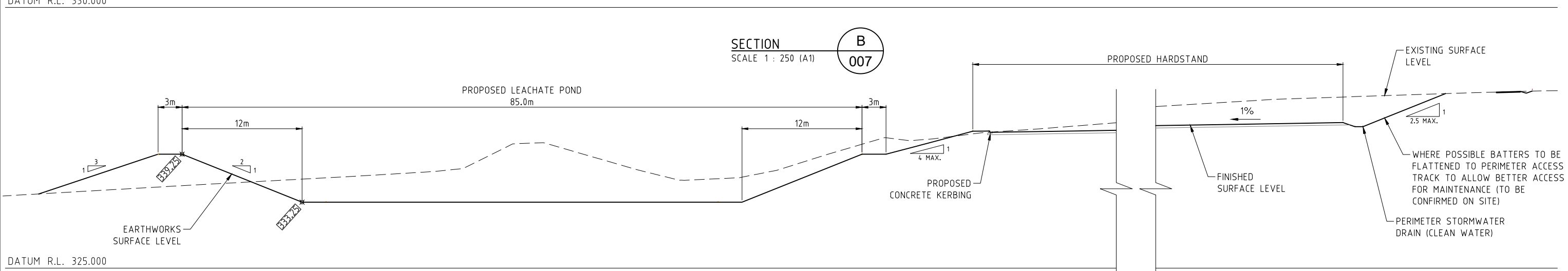
Client <b>Richgro</b>		Location <b>6364 Albany Hwy, North Bannister</b>		Drawing Title <b>Earthworks Layout Plan</b>	
Date <b>10/10/18</b>	Scale <b>1:1,000</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>	Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>	Drawing Number <b>CUL - COM - 007</b>
				Revision <b>C</b>	Drawing Size <b>A1</b>



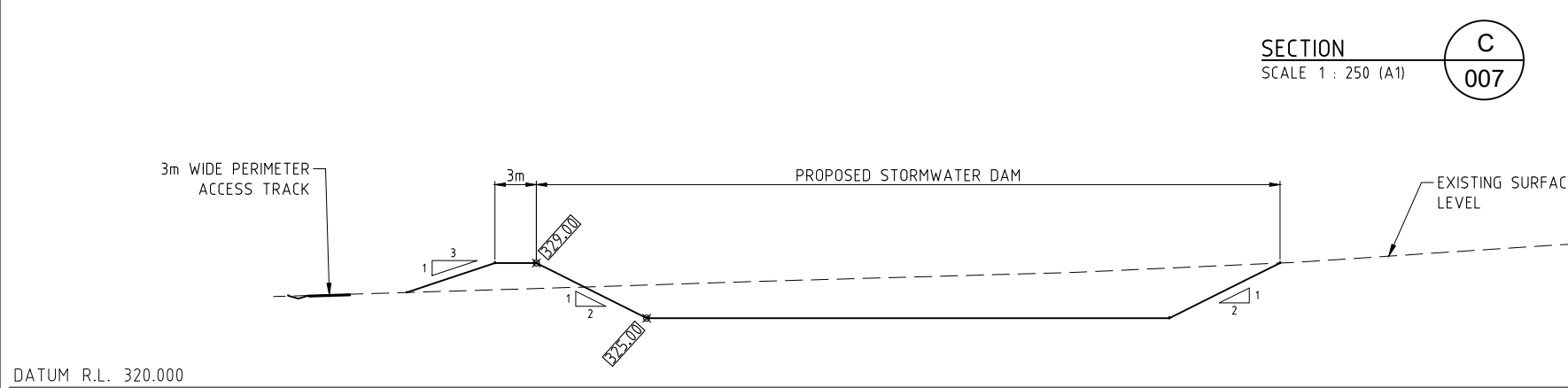
SECTION A  
SCALE 1 : 250 (A1) 007



SECTION B  
SCALE 1 : 250 (A1) 007

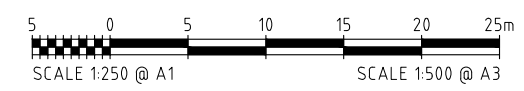


SECTION C  
SCALE 1 : 250 (A1) 007



SECTION D  
SCALE 1 : 250 (A1) 007

**FOR WORKS APPROVAL**  
10 OCTOBER 2018

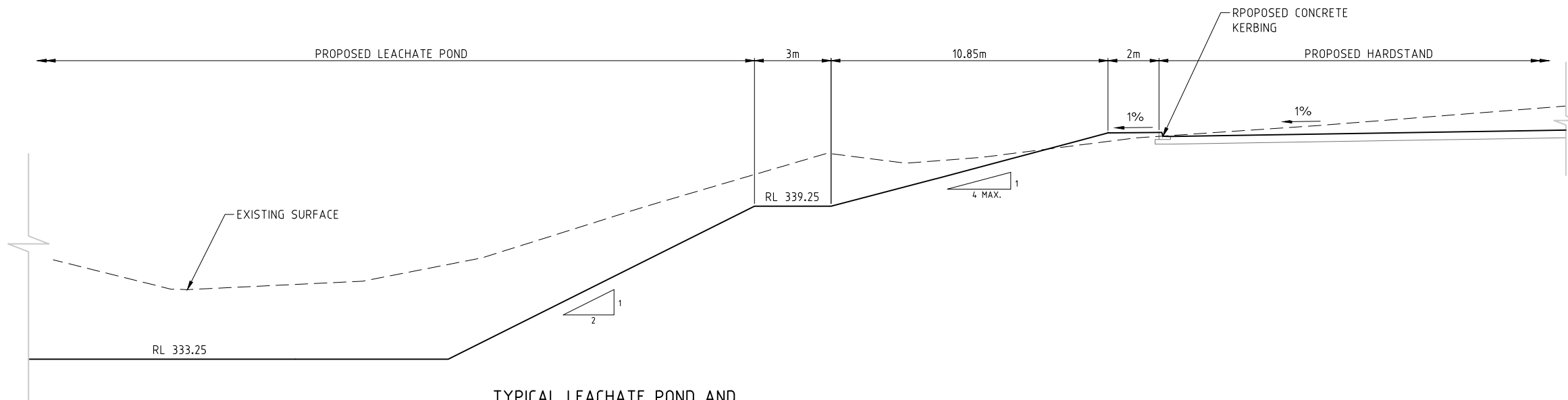


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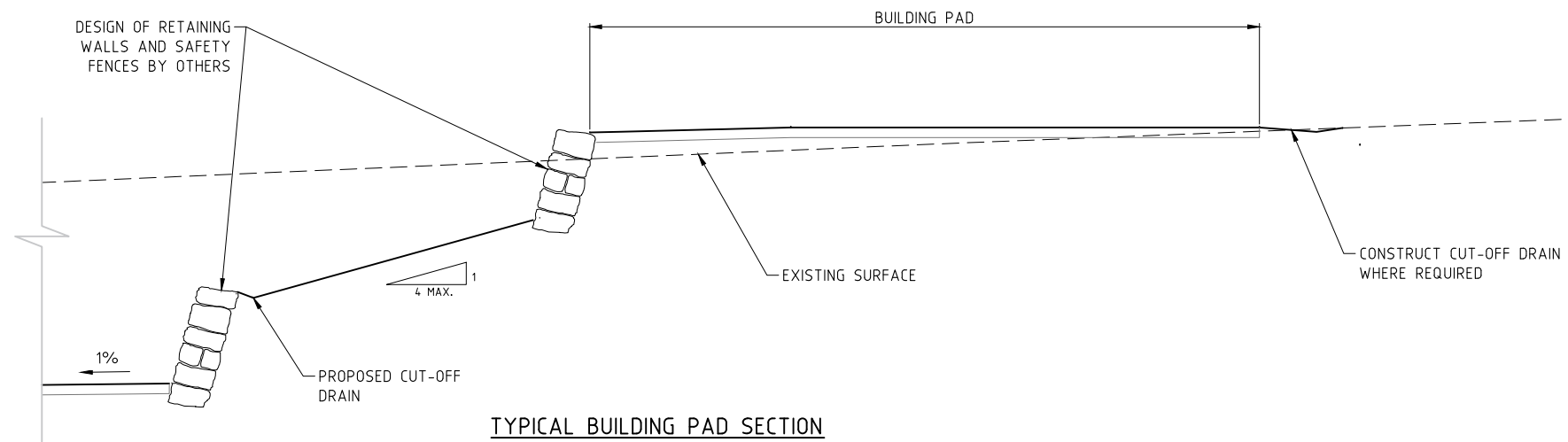
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Date <b>10/10/18</b>	Scale <b>1 : 250</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>

Drawing Title <b>Site Sections - Sheet 1 of 2</b>	
Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>	Drawing Number <b>CUL - COM - 008</b>

Revision <b>C</b>	Drawing Size <b>A1</b>
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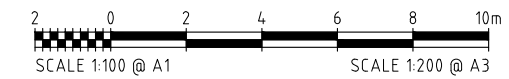


**TYPICAL LEACHATE POND AND  
HARDSTAND SECTION**  
SCALE 1 : 100 (A1)



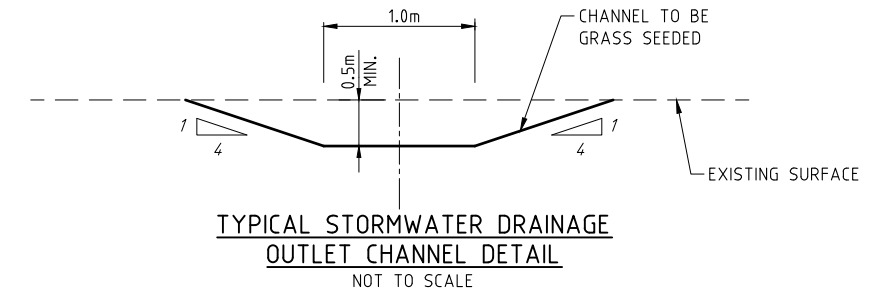
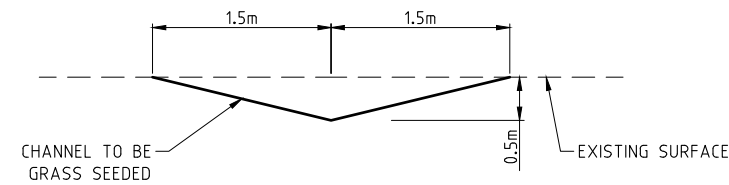
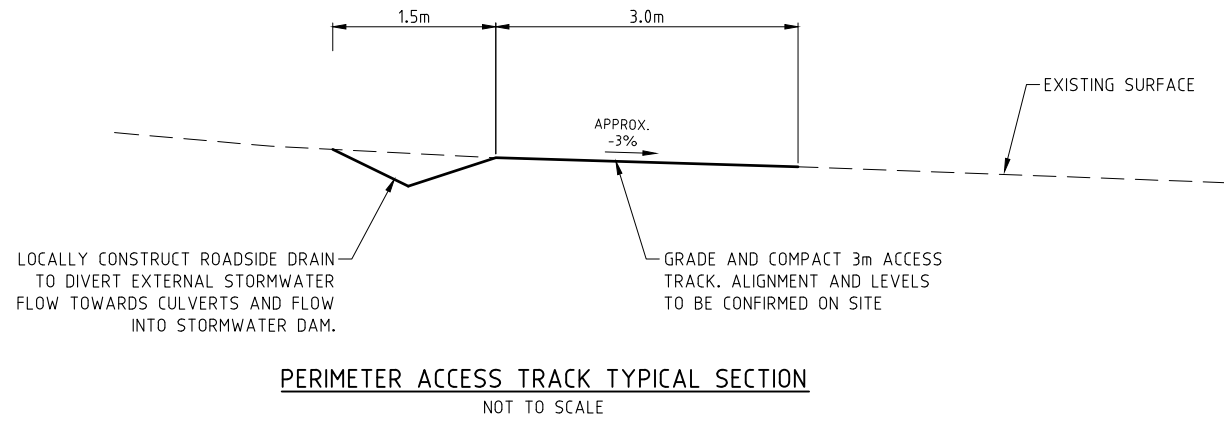
**TYPICAL BUILDING PAD SECTION**  
SCALE 1 : 100 (A1)

**FOR WORKS APPROVAL**  
10 OCTOBER 2018

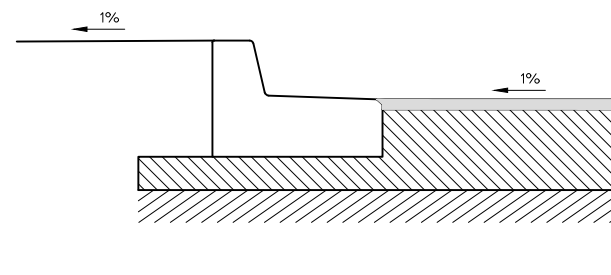
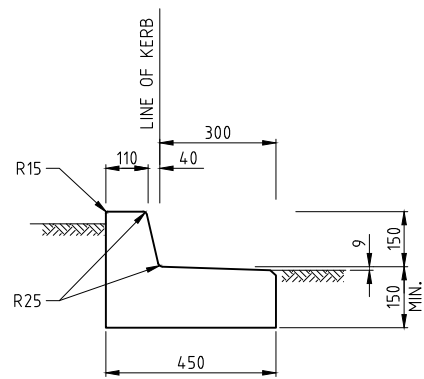
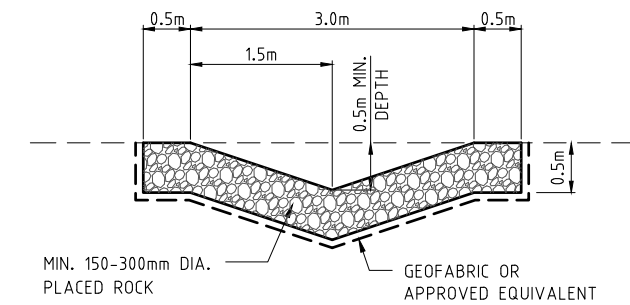


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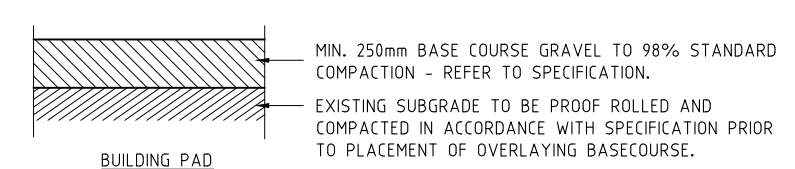
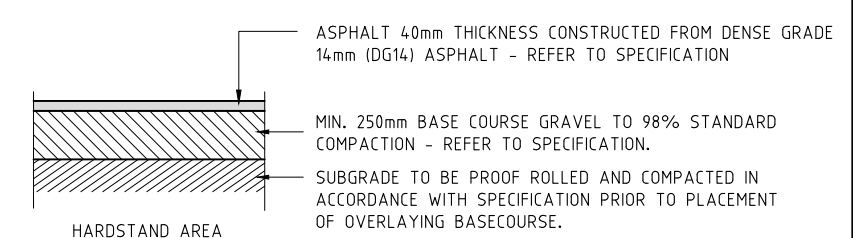
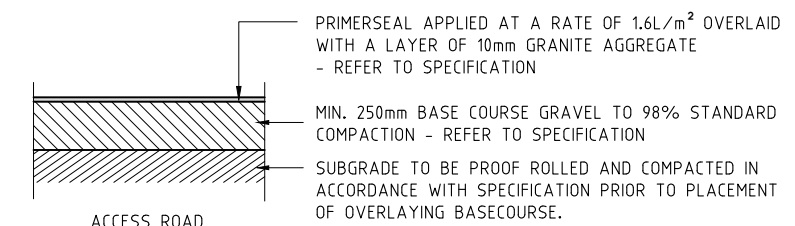
Client <b>Richgro</b>				Location <b>6364 Albany Hwy, North Bannister</b>		Drawing Title <b>Site Sections - Sheet 2 of 2</b>			
Date <b>10/10/18</b>	Scale <b>1:100</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>	Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>			Drawing Number <b>CUL - COM - 009</b>	Revision <b>C</b>	Drawing Size <b>A1</b>



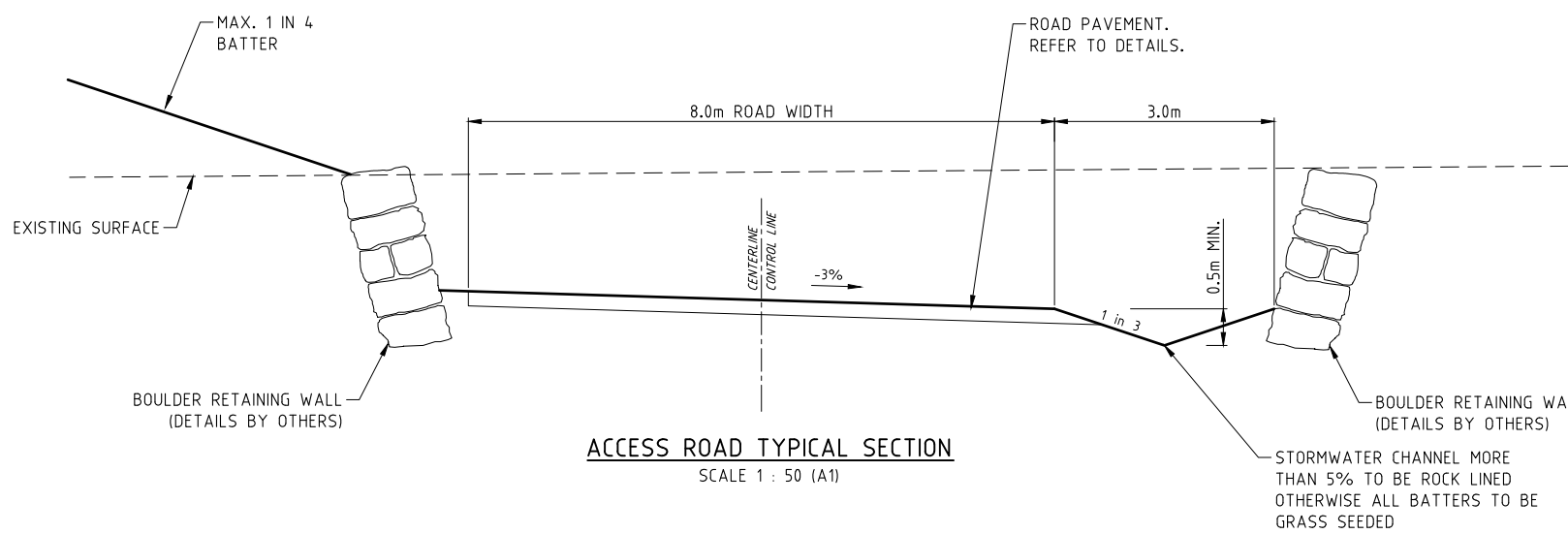
**NOTE:**  
FOR CHANNELS GREATER THAN 5% GRADE THEY MUST BE ROCK LINED.



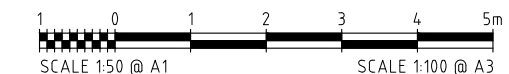
**STORMWATER DRAINAGE BATTER SLOPE ROCK LINED CHANNEL TYPICAL DETAIL**  
NOT TO SCALE



**PAVEMENT DETAILS**



**FOR WORKS APPROVAL**  
10 OCTOBER 2018

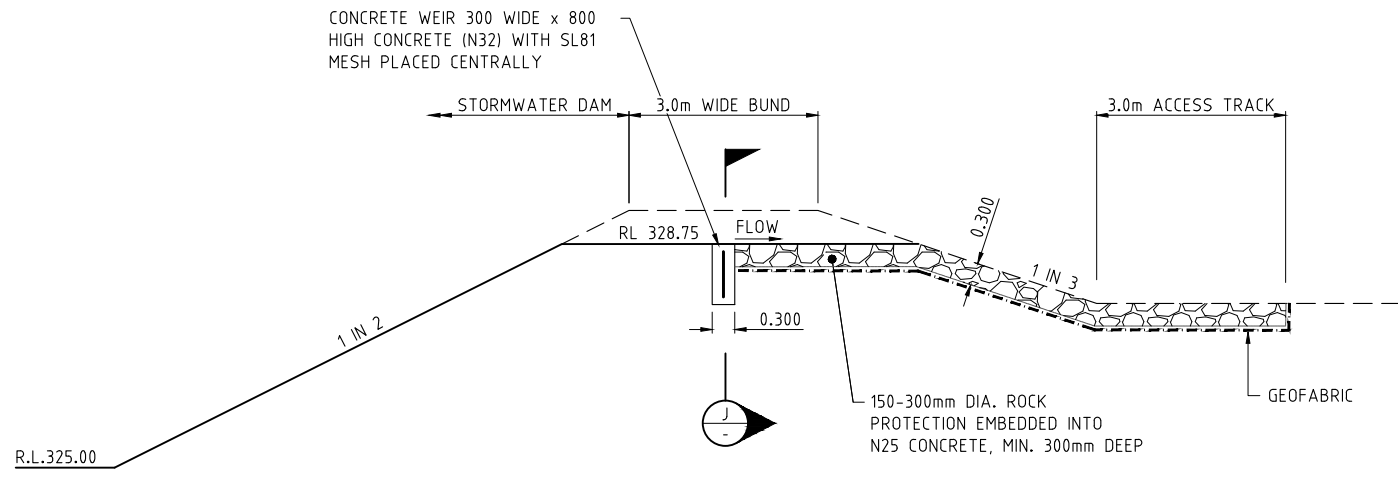


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Web: www.bowmanassociates.com.au

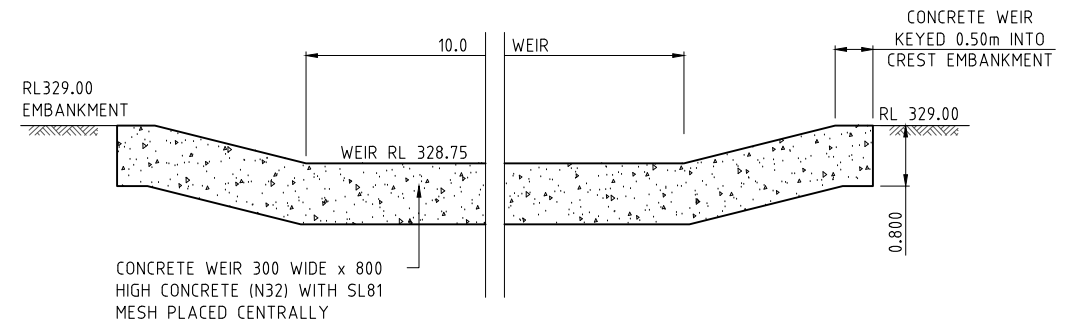
Client		Location	
Richgro		6364 Albany Hwy, North Bannister	
Date	Scale	Design By	Drawn By
10/10/18		B.W.B.	S.B.Y.

Project	
Culford Agri Industry Precinct - Proposed Compost Facility	

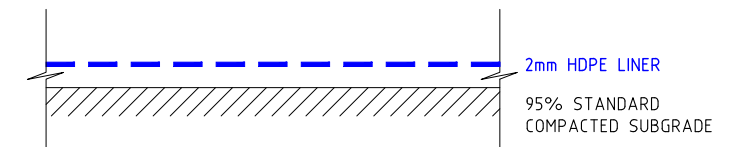
Drawing Title		
Miscellaneous Details - Sheet 1 of 2		
Drawing Number	Revision	Drawing Size
CUL - COM - 010	C	A1



**STORMWATER DAM WEIR DETAIL**  
NOT TO SCALE

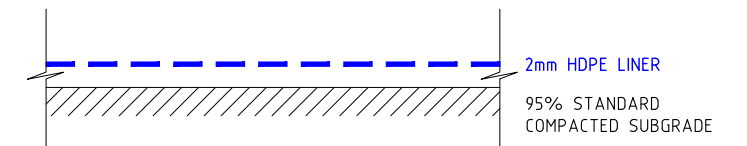


**SECTION J**  
NTS



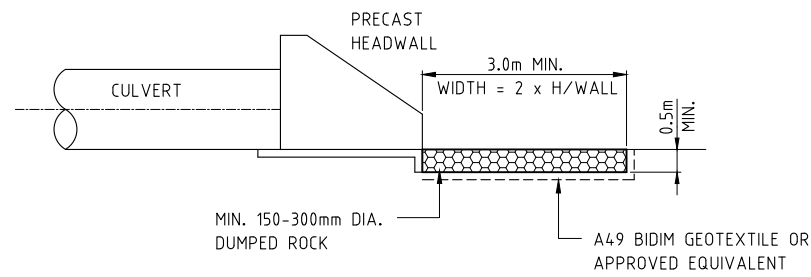
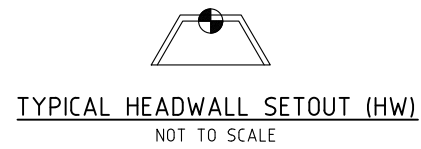
**LEACHATE POND LINER DETAIL**

NOT TO SCALE



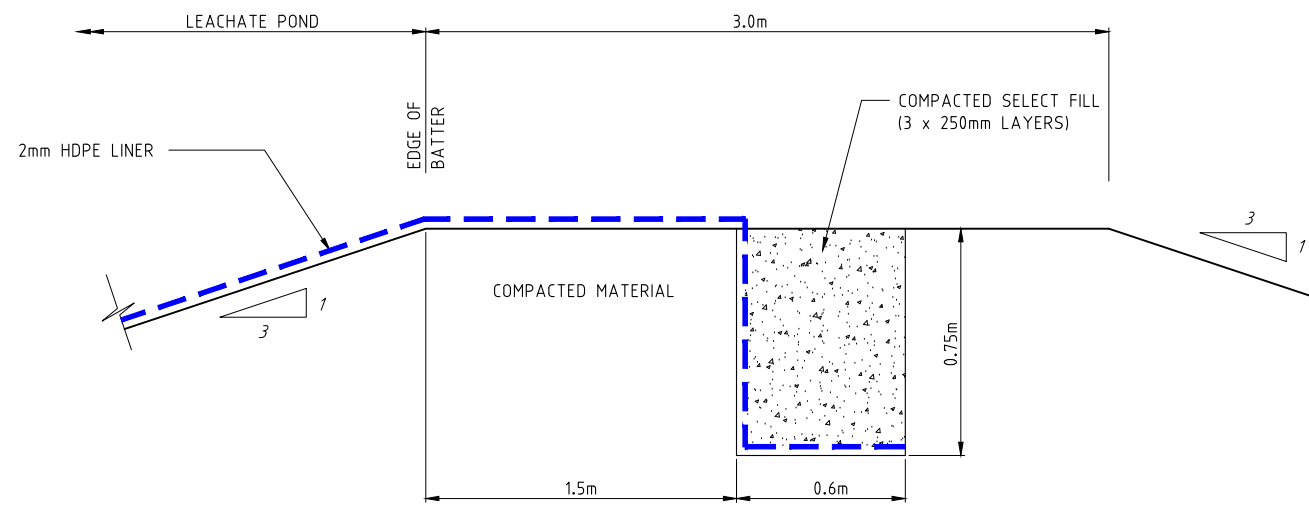
**LEACHATE DRAIN LINER DETAIL**

NOT TO SCALE



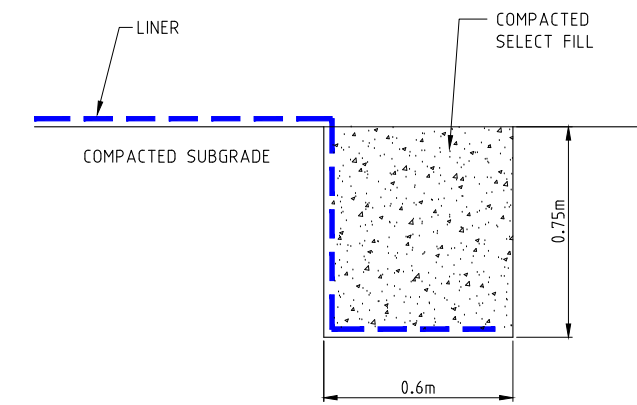
**STORMWATER INLET/OUTLET DETAIL**

NOT TO SCALE



**LEACHATE POND - ANCHOR TRENCH DETAIL (TOP OF POND)**

NOT TO SCALE



**TYPICAL ANCHOR TRENCH DETAIL**

NOT TO SCALE

**FOR WORKS APPROVAL**

10 OCTOBER 2018



**Bowman & Associates Pty Ltd**

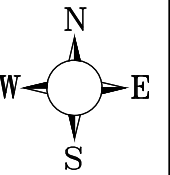
ABN: 22 112 399 514

Mail: PO Box 2059, Rossmoyne WA 6148 Phone: 0402 373 582

Web: www.bowmanassociates.com.au

Client <b>Richgro</b>		Location <b>6364 Albany Hwy, North Bannister</b>		Drawing Title <b>Miscellaneous Details - Sheet 2 of 2</b>		
Date <b>10/10/18</b>	Scale	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>	Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>	Drawing Number <b>CUL - COM - 011</b>	Revision <b>C</b>
					Drawing Size <b>A1</b>	



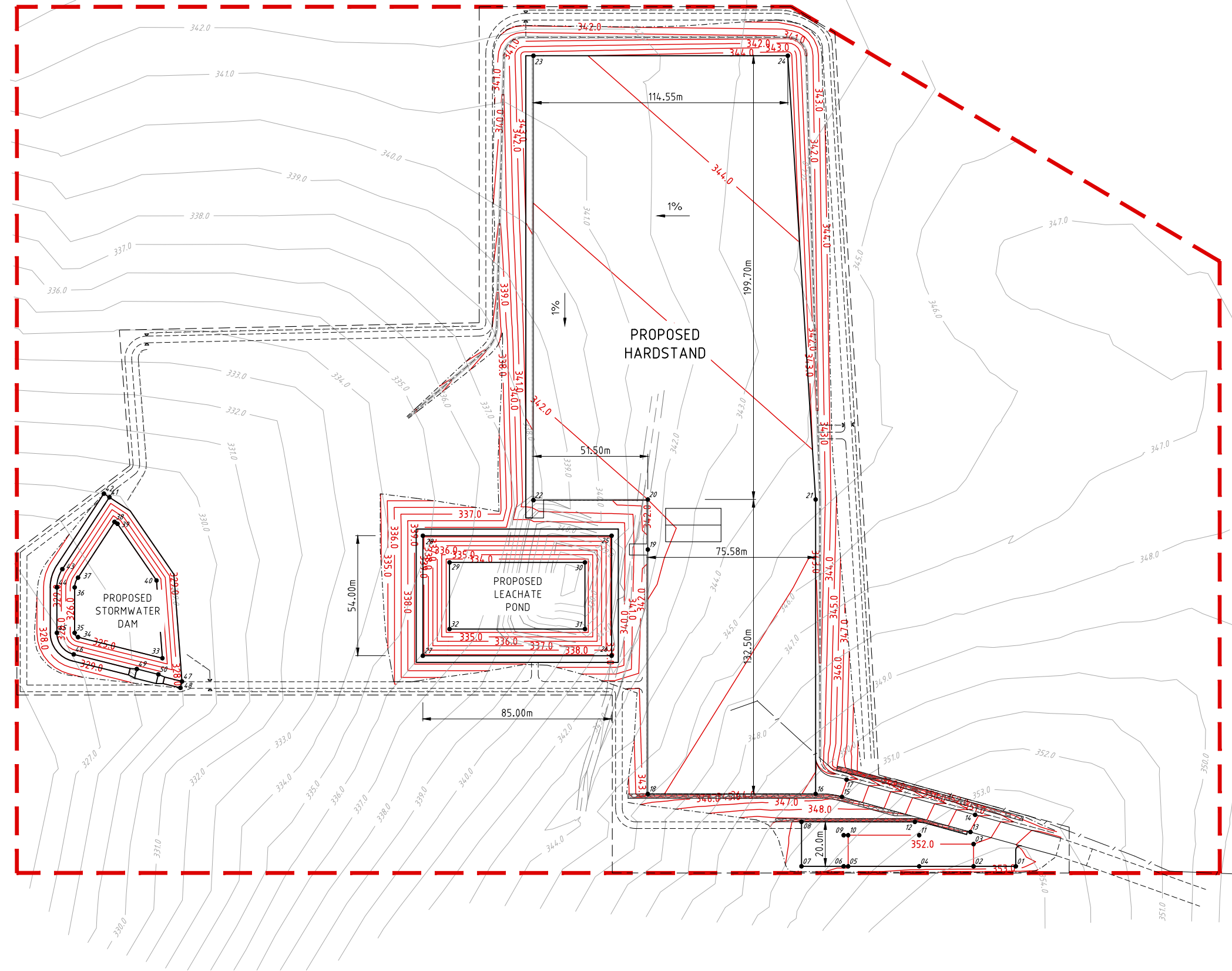


**SETOUT TABLE**

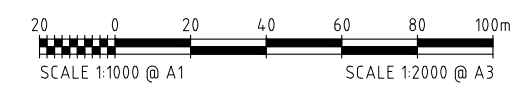
PT	EASTING	NORTHING	R.L.
01	444294.195	6396299.058	352.500
02	444275.196	6396299.058	352.000
03	444275.196	6396309.061	352.000
04	444250.696	6396299.062	352.000
05	444218.696	6396299.066	352.000
06	444216.696	6396299.066	351.700
07	444197.694	6396299.068	351.700
08	444197.696	6396319.066	351.550
09	444216.696	6396313.066	351.700
10	444218.696	6396313.066	352.000
11	444250.696	6396313.065	352.000
12	444248.764	6396319.059	351.550
13	444273.773	6396314.503	351.033
14	444275.886	6396322.219	350.850
15	444215.903	6396330.347	345.033
16	444204.073	6396331.627	344.100
17	444218.015	6396338.063	344.983
18	444128.491	6396331.627	342.879
19	444128.491	6396441.627	341.775
20	444128.491	6396464.127	342.000
21	444204.073	6396464.127	342.760
22	444076.991	6396463.827	341.485
23	444076.991	6396663.827	343.755
24	444191.541	6396663.827	344.900
25	444112.191	6396447.827	339.250
26	444112.191	6396393.827	339.250
27	444027.191	6396393.827	339.250
28	444027.191	6396447.827	339.250
29	444039.191	6396435.827	333.250
30	444100.191	6396435.827	333.250
31	444100.191	6396405.827	333.250
32	444039.191	6396405.827	333.250
33	443909.910	6396392.719	325.000
34	443871.905	6396402.195	325.000
35	443870.389	6396404.136	325.000
36	443870.395	6396424.571	325.000
37	443871.909	6396428.967	325.000
38	443888.356	6396454.056	325.000
39	443889.677	6396453.190	325.000
40	443907.261	6396427.699	325.000
41	443886.051	6396465.133	329.000
42	443883.542	6396466.778	329.000
43	443864.851	6396432.792	329.000
44	443862.395	6396424.574	329.000
45	443862.389	6396404.139	329.000
46	443869.969	6396394.433	329.000
47	443918.723	6396382.277	329.000
48	443917.997	6396379.366	329.000
49	443898.392	6396387.861	328.750
50	443908.095	6396385.442	328.750

**NOTES:**

1. ALL SETOUT AND LEVELS MUST BE CONFIRMED ON SITE PRIOR TO COMMENCING ANY CONSTRUCTION.
2. CONTRACTOR IS RESPONSIBLE FOR THE LOCATION AND PROTECTION OF ALL UNDERGROUND SERVICES PRIOR TO COMMENCEMENT OF WORKS.
3. CONTOURS SHOWN ARE AT 1.0m INTERVAL.
4. DESIGN SURFACE SHOWN AND SETOUT IS REPRESENT THE FINISHED SURFACE LEVELS.
5. LOCATION AND LEVELS OF PERIMETER ACCESS TRACKS TO BE CONFIRMED ON SITE.
6. LOCATION AND LEVELS OF PERIMETER STORMWATER DIVERSION DRAINS TO BE CONFIRMED ON SITE.
7. 3D DATA AVAILABLE TO ASSIST WITH SETOUT.



**FOR WORKS APPROVAL**  
10 OCTOBER 2018

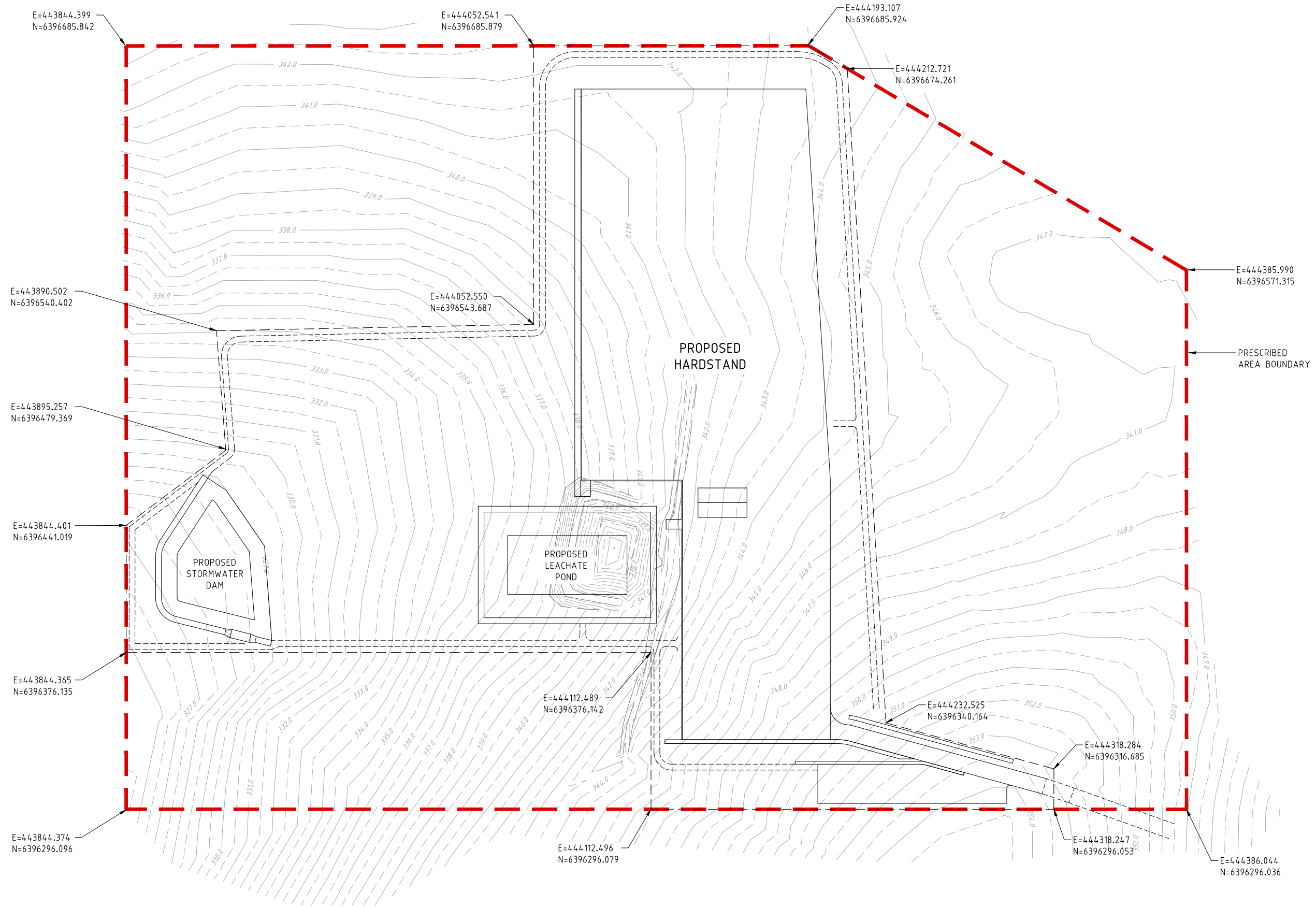
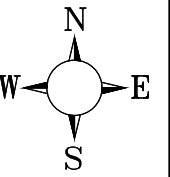


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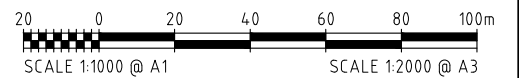
Client		Location	
Richgro		6364 Albany Hwy, North Bannister	
Date	Scale	Design By	Drawn By
10/10/18	1:1,000	B.W.B.	S.B.Y.

Project		Drawing Title	
Culford Agri Industry Precinct - Proposed Compost Facility		Setout Plan	

Drawing Number	Revision	Drawing Size
CUL - COM - 012	C	A1



**FOR WORKS APPROVAL**  
10 OCTOBER 2018



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Client <b>Richgro</b>		Location <b>6364 Albany Hwy, North Bannister</b>	
Date <b>10/10/18</b>	Scale <b>1:1,000</b>	Design By <b>B.W.B.</b>	Drawn By <b>S.B.Y.</b>

Drawing Title <b>Prescribed Area Plan</b>	
Project <b>Culford Agri Industry Precinct - Proposed Compost Facility</b>	Drawing Number <b>CUL - COM - 013</b>

Revision <b>C</b>	Drawing Size <b>A1</b>
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