



Deicorp Projects (Tallawong Station) Pty Ltd

# Construction Environmental Management Plan

Tallawong Station Precinct South – Site 2

30 May 2022

© Copyright Deicorp Pty Ltd  
2022 All Rights Reserved

Project No.	SY190226
Author	BM
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	16/07/2021	
2	Final	19/07/2021	
3	Final	30/05/2022	Site 2

**COPYRIGHT**

Deicorp reserves all copyright of intellectual property in any or all of Deicorp's documents. No permission, licence or authority is granted by Deicorp to any person or organisation to use any of Deicorp's documents for any purpose without the written consent of Deicorp.

**REPORT DISCLAIMER**

This report has been prepared for the client identified in section 1.0 only and cannot be relied on or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Deicorp are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

## TABLE OF CONTENTS

1	Introduction .....	5
2	Project Overview .....	7
2.1	Existing Development .....	7
2.2	Approved Development .....	7
2.3	Construction Contacts .....	7
3	Project Staging and Program .....	8
3.1	Project Staging .....	8
3.2	Project Program .....	9
3.3	Building and Construction Works .....	9
4	Construction Staff, Amenities and Machinery .....	11
4.1	Construction Staff and Amenities .....	11
4.2	Construction Machinery .....	12
5	Construction Pedestrian and Traffic Management .....	13
6	Public Safety, Amenity and Site Security .....	15
7	Operating Hours .....	17
8	Noise and Vibration Controls .....	18
9	Environmental Management .....	20
9.1	Detailed Site Investigations .....	20
9.2	Geotechnical Considerations .....	21
9.3	Contamination Management .....	22
9.4	Air and Dust Management .....	23
10	Soil and Water Management .....	25
11	Waste & Material Reuse Management .....	27
12	Unexpected Finds Protocols .....	29
12.1	Contamination .....	29
12.2	Aboriginal and European Heritage .....	30
13	Management Responsibility .....	31
13.1	Accountabilities .....	31
13.1.1	Project Manager .....	31
13.1.2	Supervisor .....	31
13.1.3	QA Manager .....	31
13.1.4	Geotechnical Consultant .....	31
13.2	Subcontractors .....	31
13.3	Principal Contractor's Responsibility .....	31
13.4	Communication Protocols .....	32
13.5	Work Site Monitoring and Inspection .....	32
13.6	Training .....	33
13.7	Specific Emergency Responses, Contact Details, Emergency Preparedness .....	33

- Appendix A – Site Management Plan
- Appendix B – Air Quality Management Plan
- Appendix C – Soil and Water Management Plan
- Appendix D – Construction Waste Management Plan
- Appendix E – Construction Pedestrian and Traffic Management Plan
- Appendix F – Remediation Action Plan
- Appendix G – Noise and Vibration Management Plan
- Appendix H – Dewatering Management Plan

## 1 Introduction

This Construction Environmental Management Plan (CEMP) has been prepared in accordance with the requirements of SSD 10425 Condition C18 for the approved mixed-use development at Tallawong Station Precinct South Site 2.

This CEMP has been prepared to outline the excavation and building process for the proposed development and how the builder and contractors will manage potential impacts caused by the demolition, excavation and building works.

This CEMP is to be adjusted as required by the builder/contractor during the progress of works. Where this plan conflicts with the requirements of the builder/contractors Safe Work Method Statements (SWMS) or Work Health and Safety (WHS) Policy then the SWMS's and WHS and their safety and environmental obligations of the builder/contractors shall override this CEMP.

The CEMP includes a description of the project, outlines the process and addresses mitigation measures relating to the potential impacts of construction on the environment and the public, including noise and vibration, air pollution, water pollution, waste and recycling measures and traffic management.

Condition Requirement	Comment
<b>CONSTRUCTION ENVIRONMENTAL MANAGEMENT PLAN</b> C18. Prior to the commencement of any earthwork or construction, a Construction Environmental Management Plan (CEMP) shall be submitted to the Certifying Authority. The CEMP shall address, but not be limited to, the following matters where relevant:	
(a) Details of:	
(i) hours of work	Refer to Section 7 – Operating Hours.
(ii) 24 hour contact details of site manager and details of complaint handling	Refer to Section 2.3 – Construction Contacts.
(iii) traffic management	Refer to the Construction Pedestrian and Traffic Management Plan attached in Appendix E.
(iv) construction noise and vibration management, prepared by a suitably qualified person	Refer to Noise and Vibration Management Plan attached in Appendix G.
(v) management of dust to protect the amenity of the neighbourhood	Refer to Section 9.4 – Air and Dust Management.
(vi) erosion and sediment control	Refer to Soil and Water Management Plan attached in Appendix C and discussion in Section 10 -Soild and Water Management.
(vii) measures to ensure that sediment and other materials are not tracked onto the roadway by vehicles leaving the Site	Refer to Section 10 – Soil and Water Management.
(viii) works in accordance with any remedial works plan	Refer to the Remedial Action Plan prepared by eiaustralia and attached in Appendix F for further information.
(ix) air quality management including issues associated with odour, minimising dust on site and prevention of dust from leaving the site during construction works incorporation of all acoustic management and treatments.	Refer to Section 9.4 – Air and Dust Management and the Air Quality Management Plan attached in Appendix B.
(b) Construction Traffic and Pedestrian Management Sub-Plan	Refer to Appendix E – Construction Pedestrian and Traffic Management Plan.

(c) Construction Noise and Vibration Management Sub-Plan	Refer to Appendix G – Noise and Vibration Management Plan.
(d) Air Quality Management Sub-Plan	Refer to Appendix B – Air and Dust Management Plan.
(e) Construction Waste Management Sub-Plan	Refer to Appendix D – Construction Waste Management Plan.
(f) Construction Soil and Water Management Sub-Plan	Refer to Appendix C – Soil and Water Management Plan
(g) an unexpected finds protocol for contamination and associated communications procedure	Refer to Section 12.1 – Unexpected Finds Protocol, Contamination.
(h) an unexpected finds protocol for Aboriginal and non-Aboriginal heritage and associated communications procedure	Refer to Section 12.2 – Unexpected Finds Protocol, Aboriginal and European Heritage.
(i) waste classification (for materials to be removed) and validation (for materials to remain) be undertaken to confirm the contamination status in these areas of the site.	Refer to Remediation Action Plan in Appendix F.

## 2 Project Overview

### 2.1 Existing Development

The site is currently undeveloped with existing vegetation cleared.

### 2.2 Approved Development

A State Significant Development (SSD 10425) application has been approved by the NSW Department of Planning, Industry and Environment for the excavation and construction of a mixed-use precinct comprising the development outlined in the table below.

Land Use		Yield
Residential	1 Bedroom	252 units
	2 Bedroom	682 units
	3 Bedroom	53 units
	<b>Total</b>	<b>987 units</b>
Retail		6,000m <sup>2</sup>
Commercial		3,000m <sup>2</sup>

The development also includes construction of new roads and public open space elements as provided in the approved Architectural Plans.

The location of the site is shown below in Figure 2.1.



Figure 2.1: Locality Plan Showing the Site of the Full Development

### 2.3 Construction Contacts

Details of 24 hour site management are provided in the table below.

Name	Construction Role	Contact Number
Grant Madsen	Project Manager	0421 078 360
Carl Hely	Site Manager	0418 216 583

### 3 Project Staging and Program

#### 3.1 Project Staging

This CEMP covers the excavation, shoring and the construction of the Tallawong Station Precinct South Site 2.

Stage 1 relates to Site 1 of the development. Site 2 will be constructed in four stages as outlined below.

- Stage 2 involves the construction and dedication of public roads and footpaths
- Stage 3 includes the construction of Site 2A, the north-west tower.
- Stage 4 includes the construction of Site 2D, the south-west tower.
- Stage 5 is the concurrent construction of Site 2B, C and E, the remaining towers.

This CEMP addressed the life cycle of the development including excavation through to the construction of a mixed-use precinct comprising of residential apartments, commercial and retail space, basement parking spaces and associated facilities.

These stages are outlined in *Figure 3.1* below.

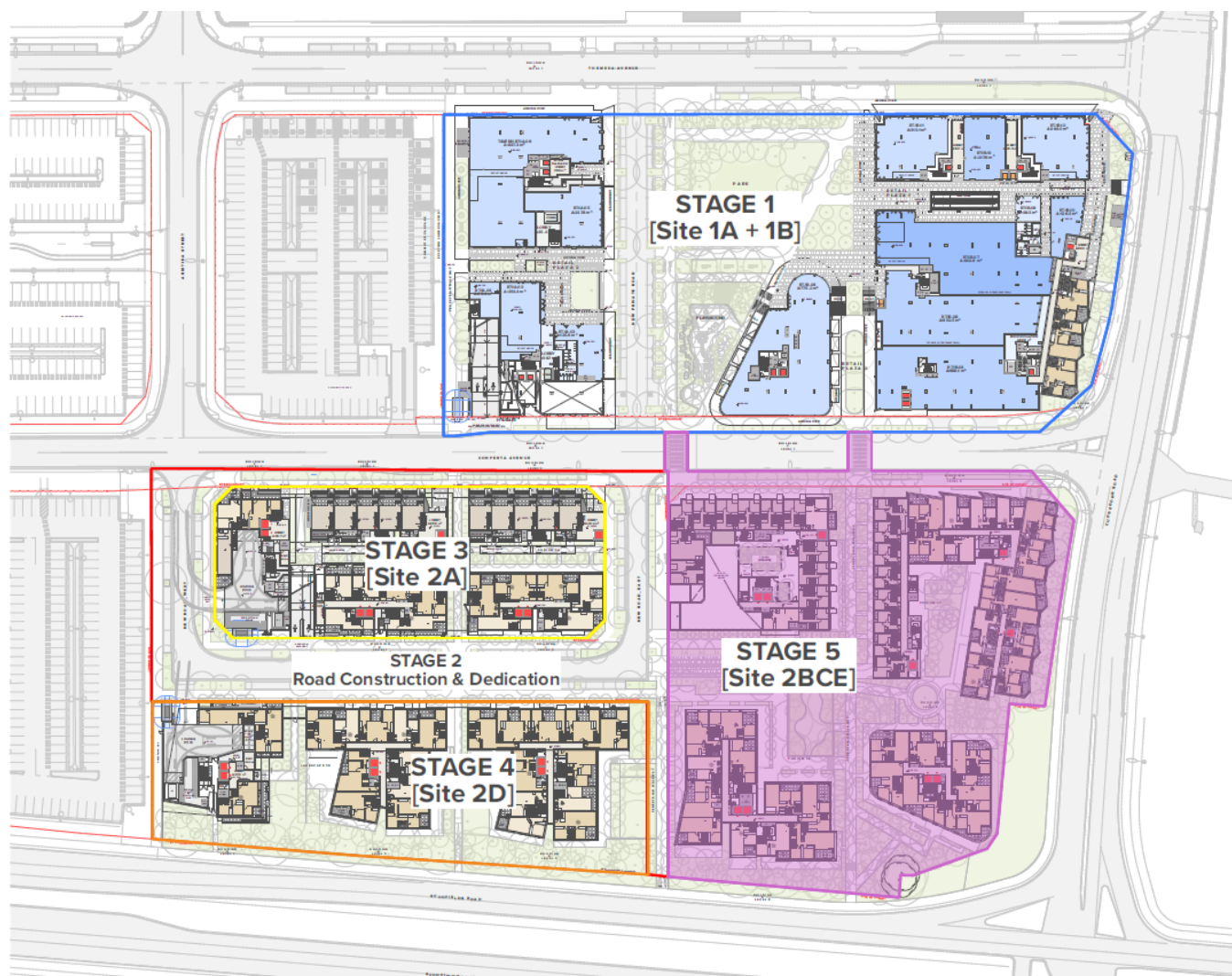


Figure 3.1: Staging Diagram

### 3.2 Project Program

The project duration for the excavation and building works are outlined below:

STAGE	ESTIMATED START DATE	ESTIMATED END DATE	ESTIMATED DURATION
Stage 2 Road construction works	09/05/2023	17/06/2023	1 - 2 months
Stage 3 Excavation	30/07/2022	08/02/2023	6 - 7 months
Stage 3 Building Works	25/01/2023	15/04/2024	15 - 16 months
Stage 4 Excavation	06/10/2022	09/05/2023	7 months
Stage 4 Building Works	21/ 04 /2023	13/ 07/ 2024	15 - 16 months
Stage 5 Excavation	30/07/2022	09/05/2023	6 - 7 months
Stage 5 Building Works	25/01/2023	15/04/2024	15 - 16 months

It is noted that the estimations of traffic and truck generation includes the concurrence and overlap occurring.

### 3.3 Building and Construction Works

All excavation and building works are to be undertaken in accordance with the SSD 10425 conditions of development consent.

The following items summarise the aspects of the excavation and building works that need to be considered in relation to the application of this Construction Management Plan;

- All construction vehicles enter and exit the site via site entry gates, as shown in the site management plans in **Appendix A**.
- Construction Traffic is managed to minimise the impact on the local residents in the vicinity of the site.
- The proposed crane, hoist and landing platform locations are shown on the Site Management Plans in **Appendix A**.
- A combination of Heavy Rigid Vehicles (HRV) and Truck and Dog (Articulated) will be used to export approximately 380,000m<sup>3</sup> of excavated material from the site, with a combined length of 12.5m - 17m. The swept paths are shown in the Construction Pedestrian and Traffic Management Plan in **Appendix E**.
- Cranes and other machines will be floated on HRV's, which are approximately 12.5m in length.
- The cranes are to be located as shown on the Crane Location Plan at **Appendix B**.
- The estimated maximum heavy vehicle movements (at peak time) is approximately 50 per day.
- Waste materials are to be removed off site and recycled where possible to approved facilities.
- The Deicorp building team will have approximately 5 crew members onsite during each excavation stage and up to 10 crew members during the building works at any one time.
- There will be approximately 20 personnel onsite during excavation. There will be approximately 1 principal building contractor onsite at any one time to undertake the building works. Daily averages will be in the vicinity of approximately 250 people during the building works.
- It is anticipated that stockpile sites are not required as the material will be progressively loaded and removed from site on a daily basis.

- One shaker pad for each site will be constructed at both site egress points in Conferta Avenue for erosion sediment control.
- Waste and recycling containers are to be located within storage area shown in the Construction Waste Management Plan in **Appendix D**.
- The majority of concrete pumping is to be from within the site at the locations shown on the site plan at **Appendix A**.
- All excavation and building works are to be undertaken in accordance with the conditions of development consent once it is issued.
- The estimated time frame to complete the excavation works is 6 - 8 months per stage (refer to page 7).
- The estimated time frame to complete the building works is 14 - 24 months (refer to page 7).
- All construction vehicles enter and exit the site via approved entry points, as shown in the site management plan in **Appendix A**.
- Construction traffic is managed to minimise the impact on the users of the existing Tallawong Station car parks in the vicinity of the site.
- The proposed crane, hoist and landing platform locations are shown on the Site Management Plan in **Appendix A**.

## 4 Construction Staff, Amenities and Machinery

The excavation and building sites require detailed management of staff, facilities and services. It is important to understand the number and type of staff on site to ensure appropriate facilities, services, parking and training is provided.

The follow table outlines potential issues and the measures adopted by the builders, contractors and construction workers to ensure an adequate and safe working environment for staff.

### 4.1 Construction Staff and Amenities

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Staff numbers	<b>Staff – Site 2 - Stages 2 - 5 Early Works</b> <ul style="list-style-type: none"> <li>Approximately 2 Deicorp staff will be onsite during each stage of demolition and excavation works.</li> <li>Approximately 4 building contractor's staff will be onsite during each stage of demolition and excavation works</li> </ul> <b>Staff – Site 2 – Stages 2 -5 Building Works</b> <ul style="list-style-type: none"> <li>Approximately 7 Deicorp staff will be onsite during each stage of building works.</li> <li>Approximately 120 -250 building contractor's staff will be onsite during each stage of building works.</li> </ul>	Ongoing	Supervisor
Provide sufficient amenities for both male and female staff	<b>Staff Amenities – Site 2 Stages 2 - 5</b> <ul style="list-style-type: none"> <li>Each stage will be provided with suitable on-site staff amenities (refer to the Site Management Plan at Appendix A).</li> <li>The staff amenities block will include the main office, meeting rooms, induction room, office toilet amenities, first aid facilities and a lunch room.</li> </ul>	Ongoing	Supervisor
Construction Car Parking Strategy	<b>Staff parking – Site 2 Stages 2 - 5</b> <ul style="list-style-type: none"> <li>Where possible construction workers will park in areas located on site and/or in designated offsite areas in accordance with the Construction Pedestrian and Traffic Management Plan at <b>Appendix E</b>.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>Monitoring of the staff amenities cleanliness, security, etc to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the weekly Inspection.</li> </ul>	Ongoing	Supervisor

## 4.2 Construction Machinery

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Location, operation and security of cranes	<b>Crane location</b> <ul style="list-style-type: none"> <li>The crane location is shown on the Site Management Plan at Appendix A.</li> <li>The tower crane and hoist area is to be secured with fencing.</li> <li>All crane operators are to have undertaken training with appropriate accreditation in the use of the cranes.</li> </ul>	Ongoing	Supervisor
Use of machinery resulting in a negative impact on neighbouring properties	<b>Machinery</b> <ul style="list-style-type: none"> <li>Unloading of machinery to occur within the site accessed from the designated loading area as shown on the Site Management Plan at Appendix A.</li> <li>The machinery will be secured during non-operating times.</li> <li>All staff are to have undertaken training with appropriate accreditation in the use of the machinery.</li> <li>When using cranes or mobile lifting equipment, the following steps are to be taken to prevent disruption to public areas: <ul style="list-style-type: none"> <li>Ensure equipment does not restrict public thoroughfares and pedestrian access or, where restricted access is unavoidable, use gantries or other overhead protection</li> <li>Determine lifting zones for medium to long term use of the equipment</li> <li>Protect pavements and streets and conduct dilapidation surveys before and after works have taken place</li> <li>Implement procedures and lifting techniques to ensure safety on adjoining streets and footpaths</li> <li>Use traffic management controls and signage.</li> </ul> </li> </ul>	Ongoing	Supervisor
Concrete pumping location	<b>Concrete pumping</b> <ul style="list-style-type: none"> <li>Concrete pumping for the works will be commonly pumped from on site or the construction/work zone.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>Monitoring of the crane, hoist and concrete pouring facilities to ensure their effectiveness, safety and compliance is to be carried out by the Supervisor and recorded in the daily and weekly Inspection.</li> </ul>	Ongoing	Supervisor

## 5 Construction Pedestrian and Traffic Management

Appropriate access to and from the site by staff, contractors, deliveries and the general public is to be managed through the implementation of a Construction Pedestrian and Traffic Management Plan (see Appendix E).

The follow table summarises the potential issues and how they are to be controlled.

IMPACT	CONTROL MEASURES	TIMING	OFFICER
Increased traffic congestion	<b>Construction Pedestrian and Traffic Management Plan</b> <ul style="list-style-type: none"> <li>Refer to Construction Pedestrian and Traffic Management Plan at Appendix E for measures to address increase traffic in the local road network.</li> </ul>	Ongoing	Supervisor
Construction Car Parking Strategy	<b>Staff/Contractors Car Parking</b> <ul style="list-style-type: none"> <li>Construction workers will park on-site and use Metro Train services and/ or other local public transport options. Staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of Schofields Road.</li> </ul>	Ongoing	Supervisor
Altered traffic conditions	<b>Control Measures</b> <ul style="list-style-type: none"> <li>A range of traffic control measures will be implemented to provide safe movement of traffic.</li> <li>Public road use by vehicles is to be maintained with minimal disruptions.</li> <li>Pedestrian and cyclist routes are to be maintained at all times unless otherwise approved by Council/ Authorities.</li> <li>Truck control on the site and surrounding streets will be signed to control operation.</li> <li>RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plans at Appendix E.</li> </ul>	Ongoing	Supervisor and RMS accredited traffic controllers
Vehicular queueing at entrances	<b>Access</b> <ul style="list-style-type: none"> <li>RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plans at Appendix E.</li> <li>Access into and out of the site will be via the designated entrance, refer to Appendix E, Construction Pedestrian and Traffic Management Plan.</li> <li>Adjacent public roads will be maintained free of construction material.</li> <li>Loaded trucks leaving the site will have tray covers and tailgates closed to prevent dust during transport.</li> </ul>	Ongoing	Supervisor and RMS accredited traffic controllers
Limited access and parking impacting on pedestrian and vehicle traffic on the local road network and Tallawong Station car parks	<b>General Public</b> <ul style="list-style-type: none"> <li>No general admission will be provided during the works.</li> <li>Appropriate fencing and gates will be provided to restrict access.</li> <li>Pedestrians will be protected by construction fencing (or similar) in the locations shown on the site management plans in Appendix A.</li> </ul>	Ongoing	Supervisor
Reduced safety due to altered traffic conditions and increased rates of heavy vehicles	<b>Safety</b> <ul style="list-style-type: none"> <li>RMS accredited traffic controllers are to manage the traffic in accordance with the requirements of the Traffic Control Plan.</li> <li>Loading and unloading is to be undertaken on site or within the construction/loading zone.</li> </ul>	Ongoing	Supervisor and RMS accredited traffic controllers

IMPACT	CONTROL MEASURES	TIMING	OFFICER
	<ul style="list-style-type: none"> <li>The use of mobile phones will be banned on site whilst operating machinery.</li> </ul>		
Dispersal of dust from site	<b>Cleanliness</b> <ul style="list-style-type: none"> <li>Shaker pad on exit will be maintained to ensure wheel cleanliness.</li> <li>The roads surrounding the site shall be regularly swept to ensure pavements are kept clean and safe.</li> </ul>	Ongoing	Supervisor
Staff movements impact traffic and parking on the local road network	<b>Construction workers parking</b> <ul style="list-style-type: none"> <li>Construction workers will park on-site and use Metro Train services and/ or other local public transport options. Staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of Schofields Road.</li> </ul>	Ongoing	Supervisor
Regular deliveries impacting traffic and safety on the local road network.	<b>Delivery of goods and materials</b> <ul style="list-style-type: none"> <li>Construction vehicles will enter the site via Conferta Avenue (See Appendix A).</li> <li>Loading and unloading will occur on site in the hoist location shown on the Site Management Plan (See Appendix A).</li> </ul>	Ongoing	Supervisor
Increased traffic congestion impacting movements into and out of the neighbouring properties	<b>Adjacent properties</b> <ul style="list-style-type: none"> <li>Appropriate traffic management procedures will be in place to minimise the impact of increased traffic and queueing vehicles on neighbouring properties.</li> <li>Traffic movements are to be minimised where possible during the morning and evening peak periods.</li> <li>Special attention is to be given to not detrimentally impacting on the operation of the Tallawong Station across the road in Themeda Avenue. Refer to the Construction Pedestrian and Traffic Management Plan at Appendix E.</li> </ul>	Ongoing	Supervisor
	<b>Crane and Hoist Locations</b> <b>NOTE: outlined in other sections</b>		
Ongoing supervision	<b>Measurement and Monitoring</b> Monitoring of the traffic control measures to ensure their effectiveness and compliance with TMP's is to be carried out by the Supervisor and recorded in the daily and weekly Inspection	Ongoing	Supervisor

## 6 Public Safety, Amenity and Site Security

The demolition, excavation and building works raises a number of concerns and potential risks. These risks include damage to neighbouring properties, injury to local residents, a decrease in amenity for locals and site security for the builders and contractors.

The following table outlines potential impacts and mitigation measures adopted by the builders, sub-contractors and construction workers to ensure a safe and secure working site for the community and workers.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Restricting public access to the site.	<b>Hoarding/Fencing</b> <ul style="list-style-type: none"> <li>The site will be secured by construction fencing or A and B class hoardings as required around the entire perimeter.</li> <li>Gates will be secured after work hours to prevent unauthorised entry.</li> <li>The demolition, excavation and building site will be fenced to prevent entry.</li> <li>All fencing and hoardings will screen public view of the site to minimise any impact on pedestrian traffic flow.</li> </ul>	Ongoing	Supervisor
Impacts of Piling	<b>Piling</b> <ul style="list-style-type: none"> <li>The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works.</li> </ul>	Ongoing	Supervisor
Impacts of Demolition	<b>Demolition</b> <ul style="list-style-type: none"> <li>The Impacts of demolition are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works.</li> </ul>	Ongoing	Supervisor
Impacts of Excavation	<b>Excavation</b> <ul style="list-style-type: none"> <li>The Impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works.</li> </ul>	Ongoing	Supervisor
Reduced way finding and unauthorised access to the site	<b>Safety &amp; Security</b> <ul style="list-style-type: none"> <li>Lighting will be provided across the site at night.</li> <li>The site will be fully secured outside of working hours. Security measures will include fencing, locks, surveillance systems, security lighting and motion detectors.</li> <li>Site equipment and materials will be fully secured at night.</li> <li>Site materials and equipment will be located away from neighbouring properties to limit the potential use as climbing aids.</li> <li>All chemicals will be securely stored away from emergency exits and stormwater pits.</li> </ul>	Ongoing	Supervisor

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Security signage	<b>Signage</b> <ul style="list-style-type: none"> <li>Contact and procedural details will be provided, at entrances and exits, in case of an emergency or security breach.</li> <li>Safety, traffic control and restricted access signage will be located on fencing and at entrances to the site.</li> </ul>	Ongoing	Supervisor
Damage to public areas	<b>Public Areas</b> <ul style="list-style-type: none"> <li>Any damage to public areas and assets will be rectified.</li> <li>The construction team will ensure there are no trip hazards from the hoarding or fencing on adjacent footpaths.</li> <li>Any utilities or services that cross the path will be covered in accordance with the relevant standards.</li> <li>Public areas will be protected from construction activities including vehicle loading and unloading.</li> <li>All bins will be stored on site in secure areas away from public access.</li> <li>All materials and machinery will be stored onsite, away from public areas.</li> </ul>	Ongoing	Supervisor
Use of street and pathway	<b>Street Space Occupation</b> <ul style="list-style-type: none"> <li>All necessary permits will be obtained from the Council permitting occupation of the public footpath.</li> </ul>	Ongoing	Supervisor
Reduced visual amenity and outlook for neighbouring properties	<b>Prevent Unightly Premises</b> <ul style="list-style-type: none"> <li>Trucks will be washed down to prevent soil, dust or debris falling on the adjacent road way and footpaths.</li> <li>Hoardings must be designed to reduce the potential for posters and graffiti through the use of wire mesh guards, signage and/or public art. Graffiti and posters will be removed on a regular basis.</li> </ul>	Ongoing	Supervisor
General Site Management	<b>General Management</b> <ul style="list-style-type: none"> <li>The Principal Contractor will provide written notice prior to commencement of works in accordance with the Conditions of Consent.</li> <li>Existing pedestrian and traffic signs will be retained.</li> <li>Additional safety signage will be in accordance with requirements.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> Monitoring of public safety, amenity and site security to ensure their effectiveness and compliance is to be carried out by the Supervisor.	Ongoing	Supervisor

## 7 Operating Hours

Construction contractors must adhere to the approved hours of construction. Refer to Conditions D3 – D7 respectively which are reproduced below for reference.

### **HOURS OF CONSTRUCTION**

- D3. Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:
- (a) between 7am and 6pm, Mondays to Fridays inclusive; and
  - (b) between 8am and 1pm, Saturdays.
- D4. No work may be carried out on Sundays or public holidays.
- D5. Activities may be undertaken outside of these hours if required:
- (a) by the Police or a public authority for the delivery of vehicles, plant or materials; or
  - (b) in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.
- D6. Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.
- D7. Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:
- (a) 9am to 12pm, Monday to Friday;
  - (b) 2pm to 5pm Monday to Friday; and
  - (c) 9am to 12pm, Saturday.

## 8 Noise and Vibration Controls

A Construction Noise and Vibration Plan prepared by Acoustic Logic, refer Appendix G. All commended measures identified in the Construction Noise and Vibration Management Plan should be adhered to during construction.

In addition to measures recommended in the Construction Noise and Vibration Plan, the following table outlines the noise and vibration controls and mitigation measures to be adopted by the builders, sub-contractors and construction workers to meet the compliance requirements of the consent authority and the relevant Australian Standards. The development must be constructed to achieve the construction noise management levels detailed in the Interim Construction Noise Guideline (DECC, 2009).

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Noise impacts on neighbouring residents and businesses	<b>Hours of Operation</b> <ul style="list-style-type: none"> <li>Hours of onsite work operation will be limited to the approved hours reproduced in Section 7.</li> </ul>	Ongoing	Supervisor
Noise nuisance Noise pollution caused by loud noise from site disturbing workers	<b>Noise - Plant and equipment</b> <ul style="list-style-type: none"> <li>All practical precautions are to be taken to minimise the impact of noise emissions from the site.</li> <li>Equipment and machinery will be selected to meet the noise emissions requirements outlined in the Noise and Vibration Assessment report. Where practical equipment will be fitted with silencers.</li> <li>Regular monitoring of equipment will be undertaken to ensure all equipment meets requirements.</li> <li>Vehicles and machinery will be turned off when not in use.</li> </ul>	Ongoing	Supervisor
Vibration	<b>Vibration – consent conditions</b> <ul style="list-style-type: none"> <li>Vibration caused by construction at any residence or structure outside the Site must be limited to:               <ul style="list-style-type: none"> <li>(a) for structural damage, the latest version of DIN 4150-3 (1992-02) Structural vibration - Effects of vibration on structures (German Institute for Standardisation, 1999);</li> <li>(b) for human exposure to vibration, the evaluation criteria set out in the Environmental Noise Management Assessing Vibration: A Technical Guideline (Department of Environment and Conservation, 2006) (as may be updated or replaced from time to time).</li> </ul> </li> <li>Vibratory compactors must not be used closer than 30 metres from residential or heritage buildings unless vibration monitoring confirms compliance with the vibration criteria specified above. These limits apply unless otherwise outlined in the project specific CNVMP required by this consent.</li> </ul>	Ongoing	Supervisor/ Noise and Vibration Consultant

Vibration damage to structures and potential impacts to nearby business, residents and public infrastructure	<b>Vibration – Plant and equipment</b> <ul style="list-style-type: none"> <li>The major sources of vibration caused by the project during demolition and construction will include the use of excavators with rock breakers (or grinding heads attached), bulldozers and vibratory rollers.</li> <li>From the Noise and Vibration Assessment the following vibration mitigation measures will be adopted during site project activities: <ul style="list-style-type: none"> <li>Staging of site works to maximise use of the existing site features/facilities as barriers where possible.</li> <li>All site personnel must adhere to the site WHS requirements in relation to use of appropriate personal protective equipment (PPE) when operating, or in the vicinity of noise/vibration generating plant/equipment.</li> <li>Noise and vibration awareness training for all site staff including subcontractors as part of general site induction and tool-box talk activities.</li> <li>Strict adherence to approved works times. In the event that out of hours delivery activities are required, the approval process will be completed via consultation with the Project Managers office.</li> <li>Regular and effective plant/equipment maintenance will be completed and documented throughout the project period and documentation will be maintained on site demonstrating completion of maintenance logs and associated checklists in order to ensure all machinery is in good working order and use does not generate excess noise/vibration.</li> <li>Plant, equipment and vehicles will not be operated in the event that excessive noise/vibration is produced at start up as a result of maintenance being required.</li> <li>Care will be taken by site personnel to ensure materials will not be dropped from a height either onto or from vehicles or from the roof, overhead bridge or other raised location. Power drills, saws, planers, nail guns etc will be used inside where possible to achieve acoustic muffling or where possible, to the south of buildings to provide shielding between the user and sensitive receptors.</li> </ul> </li> </ul>	Ongoing	Supervisor
Construction noise impacting the amenity of neighbouring properties	<b>Neighbours</b> <ul style="list-style-type: none"> <li>Activities which may impact on the amenity of neighbouring properties will only be conducted for short durations and these neighbours will be notified prior to the works.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> Noise effects shall be observed and recorded on the daily inspection report in accordance with the requirements of the Noise and Vibration Assessment Report.	Ongoing	Supervisor

## 9 Environmental Management

### 9.1 Detailed Site Investigations

A Remediation Action Plan and Dewatering Management Plan were prepared by EI Australia. The objective of the investigation was to evaluate the potential for site contamination, to investigate the degree of any potential contamination and where site contamination is confirmed, to make recommendations for the appropriate management of any contaminated soils and/or groundwater.

All contamination concentration levels were found to be below the adopted human health criteria, some of the findings included a small amount of asbestos, some heavy metals were detected in the ground water and TRHs found in a few test sites.

The following table outlines the recommendations of the report that would need to be considered during the construction.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Management and testing of Waste and Contaminants on site	<b>Remediation Action Plan</b> Where required, remediation works are to be undertaken in accordance with the Remediation Action Plan prepared by EI Australia and will be implemented in the following stages: <ul style="list-style-type: none"> <li>• Preliminaries/Site Establishment (Weeks 1-3)</li> <li>• Additional Assessment (Weeks 3-5)</li> <li>• Waste Management (Weeks 5-6)</li> <li>• Excavation (Weeks 6-7)</li> <li>• Validation (Weeks 7-13)</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Ground Water Investigation and Surveying	<b>Geotechnical Engineering requirements</b> <ul style="list-style-type: none"> <li>• Additional groundwater investigation in the vicinity of BH2M (referenced in Detailed Site Investigation Report).</li> <li>• Surveying of onsite ground water wells.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Asbestos	<ul style="list-style-type: none"> <li>• Management of asbestos in accordance with EPA (2014) Waste Classification Guidelines.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Soil Classifications of soils to be disposed	<ul style="list-style-type: none"> <li>• Classification of soils to be disposed off site in accordance with EPA (2014) Waste Classification Guidelines.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Ongoing Supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>• Measuring and monitoring is to be undertaken in accordance of the requirements of the Remediation Action Plan.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant

## 9.2 Geotechnical Considerations

A Geotechnical investigation was prepared by EI Australia for the following purpose:

- Assess the subsurface conditions over the site,
- Site classification to AS2870,
- Groundwater within the depth of excavation
- Provide recommendations regarding the appropriate foundation system for the site including design parameters,
- Provide parameters for the temporary and permanent support of the excavation,
- Provide recommendations regarding vibration control during rock excavation and,
- Comment on the impact of the development in the vicinity of the rail corridor.

The excavation and construction works should be undertaken in accordance with the recommendations of the Geotechnical Investigation Report.

The following table summarises the recommendations of the Geotechnical Investigation.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Geotechnical requirements and excavation support	<b>Geotechnical requirements</b> <ul style="list-style-type: none"> <li>• Prior to excavations reference is to be made to Safe Work Australia Excavation Work Code of Practice dated August 2019.</li> <li>• The excavation and construction is to be undertaken in accordance with the Geotechnical Investigation report's recommendations. During construction, should the subsurface conditions vary from those inferred in the Geotechnical Investigation Report, then the Geotechnical Consultant should be contacted to determine if any changes should be made to their recommendations.</li> <li>• Monitoring of deflections of retaining structures and surface settlements should be undertaken.</li> <li>• Management of groundwater in accordance with the recommendations of the report.</li> <li>• Retaining wall design parameters in accordance with the recommendations of the report.</li> <li>• Foundations and base slab design in accordance with the recommendations of the report.</li> <li>• The exposed bearing surfaces for footings should be inspected by the Geotechnical Consultant.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Road Authorities	<b>Road Authority requirements</b> <ul style="list-style-type: none"> <li>• Prior to excavation and construction a detailed dilapidation survey is to be carried out on all structures and infrastructure surrounding the site.</li> <li>• Pavement Design in accordance with the recommendations of the Geotechnical Consultant.</li> <li>• Any Geotechnical requirements of the road authority should be addressed where required.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant
Ongoing supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>• Measuring and monitoring is to be undertaken in accordance of the requirements of any Geotechnical Report.</li> </ul>	Ongoing	Supervisor / Geotechnical consultant

### 9.3 Contamination Management

The following table outlines the contamination management items that are to be considered.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Pollution of soils on the site and pollution of ground waters by chemical, organic or physical contamination	<b>General</b> <ul style="list-style-type: none"> <li>All staff to be made aware of proper handling procedures and appropriate measures will be taken to minimise the potential for contamination.</li> <li>Chemical spillage kits will be kept on site, staff will be made aware of the appropriate use of kits.</li> </ul>	Ongoing	Supervisor
Contamination from machinery	<b>Machinery</b> <ul style="list-style-type: none"> <li>High risk activities, including refuelling and servicing, will be undertaken allocated areas, controlled to reduce environmental impact.</li> <li>Fuel and oil storage areas will be bunded.</li> <li>Machinery will be inspected on a regular basis for leaks. Repairs will be undertaken immediately.</li> </ul>	Ongoing	Supervisor
Contamination from chemicals/materials	<b>Chemicals/materials</b> <ul style="list-style-type: none"> <li>All contaminants shall be handled in a manner so as to confine the material completely and prevent any fugitive emission. Material will be kept on segregated, covered, bunded areas and then disposed of by removal to a registered waste depot.</li> <li>Paint and slurry will not be discharged into the stormwater. A designated paint brush and roller washing area will be located near each building to prevent contaminating the stormwater.</li> <li>Construction materials and chemical will be stored appropriately to prevent leakages into surrounding water ways.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>Waste product will be assessed and categorised as contaminated or non-contaminated and disposed of accordingly</li> <li>If contaminated material is encountered, then it will be monitored for each type of material and the method of disposal recorded in the Contaminated Material Register.</li> <li>All hazardous materials will be removed from site and correctly disposed on completion of the works.</li> </ul>	Ongoing	Supervisor

## 9.4 Air and Dust Management

An Air Quality Management Plan has been prepared by AECOM and attached in Appendix B. The report assists in managing air emissions during the construction phase of the project in accordance with requirements and conditions listed in the Development Consent, application number SSD 10425.

All mitigation measures provided in the Air Quality Management Report must be implemented at all times during construction.

Notwithstanding the above, the following table outlines the air and dust management items that are to be considered during the excavation and construction phase of the proposal.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Generating dust pollution	<b>Dust</b> <ul style="list-style-type: none"> <li>Fencing will be designed to minimise the impact of dust on neighbouring sites.</li> <li>Soil and other materials stored onsite will be covered to prevent dust.</li> </ul>	Ongoing	Supervisor
Dust pollution generated by machinery	<b>Machinery</b> <ul style="list-style-type: none"> <li>Equipment used on site shall not emit visible exhaust fumes for no more than 10 seconds after power has been applied.</li> </ul>	Ongoing	Supervisor
Dust pollution generated by machinery	<b>Excavation</b> <ul style="list-style-type: none"> <li>Exposed or excavated soils will be regularly rehabilitated where possible to minimise dust.</li> <li>Exposed areas will be watered down to prevent dust, especially on windy days and in close proximity to dwellings and public areas.</li> </ul>	Ongoing	Supervisor
Dust pollution generated due to vehicular movements into and out of the site	<b>Traffic/Vehicular Movement</b> <ul style="list-style-type: none"> <li>Loaded trucks leaving the site will have tray covers to prevent dust during transport.</li> <li>A shaker pad will be located at exits to remove soil from vehicle tyres.</li> <li>Internal driveway near the boundaries will be watered down to minimise airborne particles.</li> </ul>	Ongoing	Supervisor
Impacts of Piling	<b>Piling</b> <ul style="list-style-type: none"> <li>The Impacts of piling are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement prepared by the contractors that will undertake the demolition and building works.</li> </ul>	Ongoing	Supervisor
Impacts of Excavation	<b>Excavation</b> <ul style="list-style-type: none"> <li>The impacts of excavation are to be mitigated in accordance with the requirements outlined in the Safe Work Method Statement and Management Plan prepared by the contractors that will undertake the demolition and building works.</li> </ul>	Ongoing	Supervisor
	<b>Other</b> <ul style="list-style-type: none"> <li>No burning will be undertaken on site.</li> <li>Waste and scrap materials will be stored to prevent dust emissions.</li> </ul>	Ongoing	Supervisor

Ongoing supervision	<b>Measurement and Monitoring</b> Continual visual monitoring by the Supervisor. Any evidence of dust shall be recorded.	Ongoing	Supervisor
---------------------	---	---------	------------

## 10 Soil and Water Management

During construction activities the soil and water management procedures are to be implemented so as to ensure all runoff and discharge from the site is done so without environmental impact. A Soil and Water Management Plan prepared by Sky Engineering and Project Management has been prepared and is attached at Appendix C.

The following table outlines potential impacts as well as appropriate erosion and sediment control and stormwater measures to control sediment and reduce runoff generally.

POTENTIAL ISSUE	CONTROL MEASURES	TIMING	OFFICER
Erosion and sediment control	<b>Erosion Sediment Control Measures</b> <ul style="list-style-type: none"> <li>All control measures will be installed prior to commencing works in accordance with the Soil and Water Management Plan, refer to Appendix C.</li> <li>Works will be appropriately staged where possible to minimise potential for erosion and sedimentation during the project.</li> <li>Silt fencing will be erected along batter slopes, stockpiles, and any disturbed surfaces that may drain into any adjacent water bodies and stormwater systems.</li> <li>Sandbags and other sediment controls shall be installed around stormwater inlets and outlets to prevent dirty discharge from works area entering stormwater systems.</li> <li>Soil and waste stores will be located in designated areas to prevent run off into drains.</li> <li>On project completion, the site will be left protected by temporary measures as required. Once permanent measures (i.e. revegetation) have been established the temporary measures may be removed.</li> <li>All sediment basins and traps will be managed in accordance with the requirements of the Soil and Water Management Plan at Appendix C.</li> </ul>	Ongoing	Supervisor
Stockpile locations	<b>Stockpiles</b> <ul style="list-style-type: none"> <li>Stockpiles for loose materials such as soil, sand and gravel are to be located in areas clear of overland flow paths. Sediment barriers are required around the stockpiles.</li> </ul>	Ongoing	Supervisor
Reduced water quality	<b>Water Quality</b> <ul style="list-style-type: none"> <li>The site is not identified as having Acid Sulfate Soil issues.</li> <li>Temporary diversion drains will be installed to divert clean run-off around the works area.</li> <li>Drainage system outlets will be directed to temporary or permanent retention basins.</li> </ul>	Ongoing	Supervisor
Sediment runoff due to excavation	<b>Excavation</b> <ul style="list-style-type: none"> <li>Disturbance onsite will be minimised by clearly marking boundaries and designating areas for construction activities and traffic movements.</li> <li>Exposed surfaces will be stabilised as soon as possible by hydro mulching or other means.</li> </ul>	Ongoing	Supervisor

Sediment washed into the stormwater network	<b>Stormwater</b> <ul style="list-style-type: none"> <li>Stormwater measures will be put in place during construction.</li> <li>The entrances/exit be stabilised with rock.</li> <li>Shaker pads will be installed to collect mud from exiting vehicles.</li> <li>Shaker pads will be cleaned on a daily basis and link to the designated stormwater outlets.</li> </ul>	Ongoing	Supervisor
Dispersal of sediments during the transportation of material	<b>Traffic</b> <ul style="list-style-type: none"> <li>Trucks transporting materials will be inspected before leaving or entering the site to prevent spillage of soil and other materials on roads and footpaths.</li> <li>The wash down area is identified in the Soil and Water Management plan at Appendix C.</li> </ul>	Ongoing	Supervisor
Excessive use of water during construction	<b>Water Saving Measures</b> <ul style="list-style-type: none"> <li>All hoses will be in good condition and fitted with a trigger nozzle.</li> <li>Any wash down areas will utilise high pressure water nozzles.</li> </ul>	Ongoing	Supervisor
Ongoing Supervision	<b>Measurement and Monitoring</b> <ul style="list-style-type: none"> <li>Ensure the soil erosion and sediment control devices are installed and maintained accordance with the Soil and Water Management Plan (See Appendix C)</li> <li>Weekly site inspections by the Supervisor with appropriate corrective actions taken immediately.</li> <li>Additional inspections after each rain event by the Supervisor</li> <li>Maintenance of control measures: <ul style="list-style-type: none"> <li>Repair damaged or blocked sections</li> <li>Remove silt from fencing where built up</li> </ul> </li> <li>Records shall be kept of all ESC device installations, inspections and maintenance activities</li> <li>The quality and quantity of water released from site must be recorded</li> </ul>	Ongoing	Supervisor

## 11 Waste & Material Reuse Management

During excavation and building works there are numerous opportunities to reduce, reuse and recycle waste through the implementation of a Construction Waste Management Plan (WMP), see attached in Appendix D.

The following table outlines potential impacts as well as appropriate waste management measures reduce, reuse and recycle waste, as well as education and training for staff. At least 95% of waste generation is to be diverted from landfill in accordance with Landcom requirements.

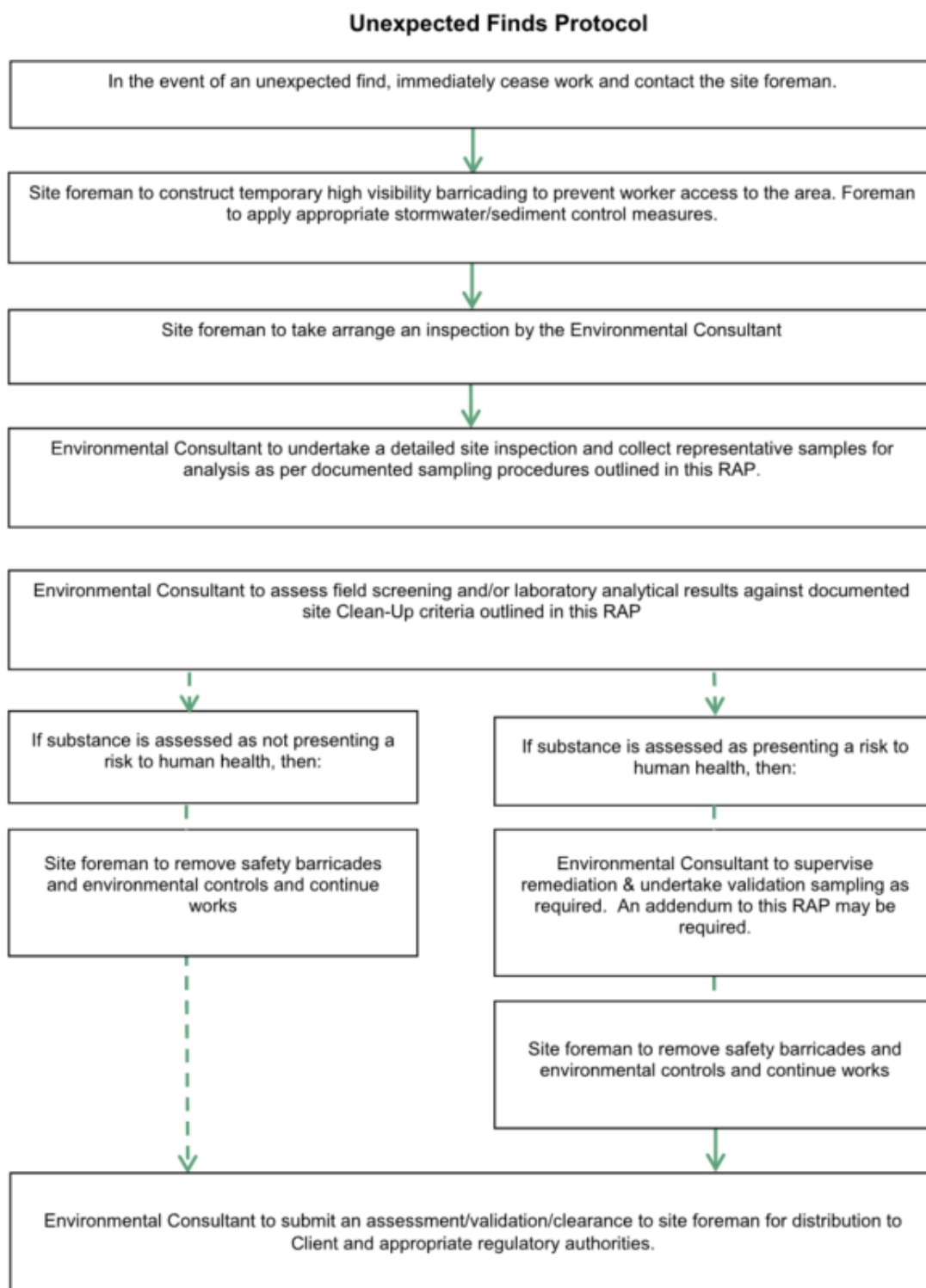
C	CONTROL MEASURES	TIMING	OFFICER
General Site Management	<b>Site management</b> <ul style="list-style-type: none"> <li>The construction site will be kept free of rubbish, waste material and debris.</li> <li>Waste will be disposed of in accordance with the WMP at Appendix D.</li> </ul>	Ongoing	Supervisor
Waste storage and removal	<b>Waste Management Plan</b> <ul style="list-style-type: none"> <li>Chemical waste will be removed from site and disposed of at licenced facilities.</li> <li>Procedures for removal of other hazardous or dangerous materials from the site in accordance with State and Federal legislation including WorkSafe requirements.</li> <li>Waste collection shall only occur during permitted hours.</li> <li>Litter and debris 'trapped' against site fencing must be regularly cleaned</li> <li>Removal of waste (materials that cannot be reused or recycled) from the site</li> <li>Demolished concrete will be reused on site for temporary construction driveways where possible or sent to a concrete recycling plant.</li> <li>General waste will be stored in the designated bin/skip and removed by the waste contractor on a regular basis.</li> <li>Recyclable waste will be stored in a designated bin/skip and removed by the waste contractor on a regular basis.</li> <li>The waste bins will be stored in the designated areas, refer to the Site Management Plan at Appendix A.</li> </ul>	Ongoing	Supervisor
Excess waste	<b>Reduce</b> <ul style="list-style-type: none"> <li>Efforts to minimise waste on site by avoiding over-estimation of purchasing requirements, minimizing packaging materials, and buying environmentally approved and recycled content products</li> <li>Minimise use of packaging materials and recycle packaging products where possible</li> <li>Utilise quantity surveyor estimates to order materials, to prevent wasted materials.</li> </ul>	Ongoing	Supervisor
Not re-using material on-site	<b>Reuse</b> <ul style="list-style-type: none"> <li>Native vegetation will be mulched and reused onsite.</li> <li>Weeds and contaminated mulch will be disposed of separately.</li> <li>The office will utilise recycle waste paper bins.</li> <li>The re-use of timber, glass and other materials</li> </ul>	Ongoing	Supervisor

	<ul style="list-style-type: none"> <li>The type and quantity of materials that are to be re-used are to be detailed in the WMP at Appendix D.</li> </ul>		
Not separating recycle material from general waste	<b>Recycle</b> <ul style="list-style-type: none"> <li>Procedures are to be put in place for the collection and sorting of recyclable construction materials</li> <li>Training will be provided to all staff outlining the appropriate recycling procedures.</li> <li>Recycled waste bins will be appropriately sign posted.</li> <li>The type and quantity of materials that are to be recycled are to be detailed in the WMP at Appendix D.</li> </ul>	Ongoing	Supervisor
Construction staff and contractors waste	<b>Staff waste</b> <ul style="list-style-type: none"> <li>Provision of containers for recyclable materials including cardboard, glass, metal, and plastic and green waste</li> <li>Provisions for collection of daily rubbish from workers.</li> </ul>	Ongoing	Supervisor
Ongoing supervision	<b>Measurement and Monitoring</b> Waste monitoring will be recorded on the daily and weekly Inspection report.	Ongoing	Supervisor

## 12 Unexpected Finds Protocols

### 12.1 Contamination

An Unexpected Finds Protocol was provided in the Remedial Action Plan prepared by eiaustralia, refer below.



## 12.2 Aboriginal and European Heritage

A Statement of Heritage Impact was prepared by OCP Architects for the concept SSD application (SSD 9063). The report detailed an investigation, excavation and salvage program which was undertaken in accordance with the Guide to investigating, assessing and reporting on Aboriginal Cultural Heritage in NSW (DECWW, 2011) and Aboriginal Cultural Heritage Consultation requirements for Proponents 2010, and the site area has been confirmed to be cleared of Aboriginal heritage by Transport for NSW.

Notwithstanding the above, the following Unexpected Finds Protocol should be followed if previously unrecorded or unanticipated historic objects are encountered:

1. All ground surface disturbance in the area of the finds should cease immediately, then:
  - a) The discoverer of the find(s) will notify machinery operators in the immediate vicinity of the find(s) so that work can be halted
  - b) The site supervisor will be informed of the find(s).
2. If finds are suspected to be human skeletal remains, then NSW Police must be contacted as a matter of priority.
3. If there is substantial doubt regarding the historic significance for the finds, then gain a qualified opinion from an archaeologist as soon as possible. This can circumvent proceeding further along the protocol for items which turn out not to be significant. If a quick opinion cannot be gained, or the identification is that the item is likely to be significant, then proceed to the next step.
4. Notify Heritage NSW as soon as practical on (02) 9873 8500 providing any details of the historic find and its location.
5. If in the view of the heritage specialist or Heritage NSW that the finds appear not to be significant, work may recommence without further investigation. Keep a copy of all correspondence for future reference.
6. If in the view of the heritage specialist or Heritage NSW that the finds appear to be significant, facilitate the recording and assessment of the finds by a suitably qualified heritage specialist. Such a study should include the development of appropriate management strategies.
7. If the find(s) are determined to be significant historic items (i.e. of local or state significance), any re-commencement of ground surface disturbance may only resume following compliance with any legal requirements and gaining written approval from Heritage NSW.

## 13 Management Responsibility

### 13.1 Accountabilities

#### 13.1.1 Project Manager

The Project Manager is responsible for construction management and shall establish and maintain the Company's policies for this project and shall be responsible for their effectiveness.

The Project Manager ensures that the Project Team understands and implements the requirements of the Construction Management Plan for the course of the project.

#### 13.1.2 Supervisor

The Project Supervisor is responsible to the Project Manager for the day to day co-ordination and site control of direct labour, plant, subcontractors and suppliers for construction works.

The Project Supervisor is responsible for the correct implementation of the controls and their on-going monitoring and maintenance and correction of non-conformances.

#### 13.1.3 QA Manager

The QA Manager reports to the Project Manager and is responsible for the preparation and implementation of the management system for a project. The QA Manager shall ensure that all work be carried out in accordance with the Management System procedures.

The QA Manager shall establish audit schedules in consultation with the Project Manager and assign personnel to carry out planned audits. Any deviation from the Management System will be reported to the Project Manager for rectification. Trends and cumulative effects from all projects shall be assessed and corrective actions determined.

#### 13.1.4 Geotechnical Consultant

The Geotechnical consultant is engaged by the client to manage Geotechnical Engineering issues onsite. The Geotechnical consultant is to liaise with the site supervisor to ensure that all excavation, stabilisation and shoring is undertaken in accordance with the requirements of the Geotechnical Report.

### 13.2 Subcontractors

The Project Manager shall clearly define the scope of subcontracted work including the subcontractor's duties for:

- Planning, installation and monitoring of the controls outlined in the Construction Management Plan
- Record keeping

The subcontractor may only enter the site from the designated access points shown on the relevant Construction Traffic Management Plan.

The subcontractor may only enter the site from the designated access points shown on the relevant Construction Traffic Management Plan.

The subcontractor cannot proceed without the approval of the Project Manager.

### 13.3 Principal Contractor's Responsibility

The Principal Contractor's Project Manager shall review the proposed controls outlined in the Construction Management Plan.

Subcontractor's personnel will be given the Principal Contractor's site induction before starting work.

The Principal Contractor's Project Supervisor will monitor the subcontractor's compliance with the approved environmental controls and report any deficiency or non-conformance to the Project Manager

### 13.4 Communication Protocols

Both formal and informal communication systems are in place on this project to ensure that information regarding the Construction Management Plan is circulated effectively to relevant personnel both internal and external to the project. Also, that information is distributed to other the Principal Contractor workplaces that might benefit from system improvements.

Subcontractors shall be included in communications to ensure the compatibility and effectiveness of their systems.

Communication with the community shall be done through the Project Manager. The Project Manager is responsible for the timing and effectiveness of all communications.

The Principal Contractor is to promote the following initiatives for communication and encourages all personnel to participate enthusiastically:

- Induction
- Tool box talk
- Risk assessment
- Pre-start briefing
- Site inspection and reporting
- Incident reporting and corrective action
- Complaint Procedure
- Incident Procedure

### 13.5 Work Site Monitoring and Inspection

The Principal Contract's contact person with regard to implementation of the Construction Management Plan on this project is the Project Manager.

The Supervisor shall carry out regular inspections of all work areas to ensure that the following standards and processes are being maintained. All controls of the site shall be monitored at least weekly by the Project Supervisor and the results recorded.

After each rain event site soil erosion and sediment controls shall be inspected by the Supervisor and any necessary maintenance done as soon as practicable. A record of the inspection and maintenance shall be kept on site.

The Project Supervisor has authority to initiate emergency response procedures. If a potentially environmentally hazardous situation is identified and cannot be rectified immediately, a Non-Conformance Report shall be made and, if needed, work in the area shall cease until the situation is rectified.

The Project Manager shall determine appropriate corrective action to address the immediate consequences of the non-conformance including containment, clean up and restoration work.

The Project Manager shall regularly review reports to confirm that clean up, restoration and corrective actions have been completed and are effective. The Project Manager shall review all non-conformances and report significant findings to monthly management review meetings.

Any damage to areas outside the work site shall be immediately reported to the Supervisor who may advise on the nature of appropriate corrective action.

### 13.6 Training

A Project Management Plan should be prepared to outline the expected qualifications and training requirements for project personnel. It shall be kept current with any additional training that may become necessary during the course of the work. Records of training done on site shall be kept in the project file system including dates, personnel attending and trainer details.

All site staff and workers undergo a site-specific site induction or other training which includes:

- Environmental aspects relevant to their working on site
- Description of control measures used, their construction & maintenance
- The potential impacts from ineffective controls
- Monitoring and reporting procedures
- Emergency and incident response

Any alteration to the CEMP relevant to site personnel shall be immediately communicated via updated inductions and tool box talks.

Subcontractors shall be inducted into the Principal Contractor system, and if their works require such, they shall be required to submit relevant work method statements with associated environmental protection measures.

Additional Supplychain Sustainability School training shall be provided free of charge to contractors and management. Resources can encourage and guide staff in the development of sustainable supply chain management through identification of social, environmental and economic sustainability measures in construction.

### 13.7 Specific Emergency Responses, Contact Details, Emergency Preparedness

Any specific Emergency Response procedures required to be implemented are to be outlined by the Project Manager/Site supervisor.

The Contact detailed of the emergency services are to be located on site at a location that is easily accessible to all.

**Appendix A  
Site Management Plan**

Regulated Design Record				
Project Address: 1-15 CONFERTA AVE, ROUSE HILL, NSW 2155				
Project Title: TALLAWONG STATION PRECINCT SOUTH STAGE 2				
Consent No: SSD 10425		Body Corporate Reg No: *		
Drawing Title: E & S CONTROL PLAN		Drawing No: 21-931-C1601		
Rev	Date	Description	DP Full Name	Reg No
	dd.mm.yy			

LEGEND

- SEDIMENT FENCE (SD 6-8)
- CATCH DRAIN
- BARRIER FENCE
- STRAW BALE FILTER (SD 6-7)
- ROCK RIFFLE CHECK DAM
- MESH AND GRAVEL INLET FILTER (SD 6-11)
- GEOTEXTILE INLET (SD 6-12)
- STABILISED SITE ACCESS AND TRUCK WASH DOWN AREA (SD 6-14)
- PROPOSED SITE ACCESS GATE

(Proposed)  
Pedestrian Gate  
(1 x 1m)

(Existing)  
Exit Gate (Double  
Gate 2 x 3.5m)

(Proposed) Entry  
Gate (Double  
Gate 2 x 3.5m)

(Proposed)  
Pedestrian Gate

(Existing) Entry  
Gate (Double  
Gate 2 x 3.5m)

(Existing)  
Pedestrian Gate

Existing  
Temporary  
Exhibition Home  
Site

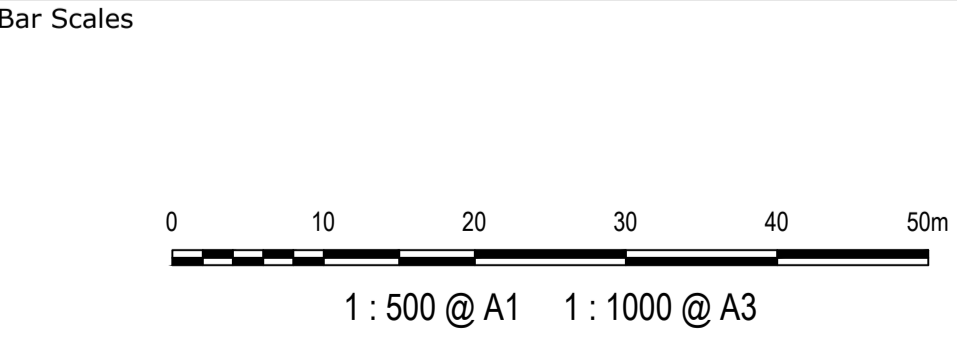
Site Sheds

INDICATIVE TEMPORARY  
SEDIMENT BASIN.

Legend:

- 1.2m High Bunting Fence (Existing)
- Construction Waste Removal Path
- Entry/Exit Gate
- Emergency Response & Muster Area
- Pedestrian Gate
- A-Class Hoarding (2.4m High)
- Palisade Fence (Existing)
- Shade Cloth to Existing Chain-wire Fence
- A Class Hoarding (2.4m High)
- Water Point
- Truck Wash Bay

Issue	Description	Date
P1	PRELIMINARY ISSUE	10-03-22



THIS DRAWING CANNOT BE  
COPIED OR REPRODUCED IN  
ANY FORM OR USED FOR ANY  
OTHER PURPOSE OTHER THAN  
THAT ORIGINALLY INTENDED  
WITHOUT THE WRITTEN  
PERMISSION OF AT&L



Scales	1:500	Drawn	JD
		Designed	JD
		Checked	
Grid	MGA 94	Approved	
Height Datum	AHD		
DRAFT			

SM-03 (Rev A) Site  
Management Plan  
(Construction Works) Site 2

**Appendix B**  
**Air Quality Management Plan**

# Tallawong Station South Precinct

## Air Quality Management Plan

13-May-2022  
Tallawong Station South Project

# Tallawong Station South Precinct

## Air Quality Management Plan

Client: Deicorp Construction Pty Ltd

ABN: 15117191885

### Prepared by

**AECOM Australia Pty Ltd**

17 Warabrook Boulevard, Warabrook NSW 2304, PO Box 73, Hunter Region MC NSW 2310, Australia

T +61 2 4911 4900 F +61 2 4911 4999 [www.aecom.com](http://www.aecom.com)

ABN 20 093 846 925

13-May-2022

Job No.: 60618532

AECOM in Australia and New Zealand is certified to ISO9001, ISO14001 and ISO45001.

© AECOM Australia Pty Ltd (AECOM). All rights reserved.

AECOM has prepared this document for the sole use of the Client and for a specific purpose, each as expressly stated in the document. No other party should rely on this document without the prior written consent of AECOM. AECOM undertakes no duty, nor accepts any responsibility, to any third party who may rely upon or use this document. This document has been prepared based on the Client's description of its requirements and AECOM's experience, having regard to assumptions that AECOM can reasonably be expected to make in accordance with sound professional principles. AECOM may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified. Subject to the above conditions, this document may be transmitted, reproduced or disseminated only in its entirety.

## Quality Information

Document Tallawong Station South Precinct


Ref 60618532

Date 13-May-2022

Prepared by Julian Ward

Reviewed by David Rollings

### Revision History

Rev	Revision Date	Details	Authorised	
			Name/Position	Signature
0	16-Jul-2021	Draft	David Rollings Associate Director - Air Quality	
1	27-Jul-2021	Final	David Rollings Associate Director - Air Quality	
2	13-May-2022	Final - Updated for Site 2	David Rollings Associate Director - Air Quality	

## Table of Contents

1.0	Introduction	1
1.1	Proposed Development	1
2.0	Goals, Outcomes, Key Issues	2
3.0	Air Quality DA Consent Requirements	6
4.0	Mitigation Measures	8
5.0	Air Quality Monitoring Strategy	10
6.0	Communication and Complaints Handling	11
7.0	Reactive Air Quality and Odour Management Plan	12
8.0	Performance and Review	13
9.0	Training	13
Appendix A		
	Sensitive Receptor Locations	A-A
Appendix B		
	Existing Meteorological Conditions	B-A
Appendix C		
	Risk Assessment	C-A

## 1.0 Introduction

Deicorp Construction Pty Ltd (Deicorp) engaged AECOM Australia to prepare an Air Quality Management Plan (AQMP) for the construction of the Tallawong Station South Precinct Project located at Rouse Hill, NSW (the Project).

The purpose of this AQMP is to assist Deicorp in managing air emissions during the construction phase of the Project in accordance with requirements and conditions listed in the draft Development Consent, application number SSD 10425. The AQMP constitutes a sub-plan that forms part of an overarching Construction Environmental Management Plan for the Project.

The AQMP has been prepared in accordance with requirements listed in the NSW Environment Protection Agency's Approved Methods for the Modelling and Assessment of Air Pollutants in NSW (the Approved Methods).

### 1.1 Proposed Development

The proposed development consists of the construction of a mixed-use development on Lots 294/DP 1213279 (Site 1) and 293DP/1213279 (Site 2) at 2-12 Conferta Avenue, Rouse Hill. The construction of Site 1 has now been completed and this AQMP (updated for Site 2) will focus on the construction of Site 2. The location of the Project site in relation to Tallawong Station is presented in Figure 1. The proposed construction staging is presented in Figure 2. Site 2 is divided into three stages, Stage 2, Stage 3 (Site 2A), Stage 4 (Site 2D) and Stage 5 (Site 2BCE). The proposed construction site layout for Site 2 is presented in Figure 3 (Construction Works).



**Figure 1** Location of the Project site on Lot 294/DP 1213279 (Site 1) and 293/DP 1213279 (Site 2)

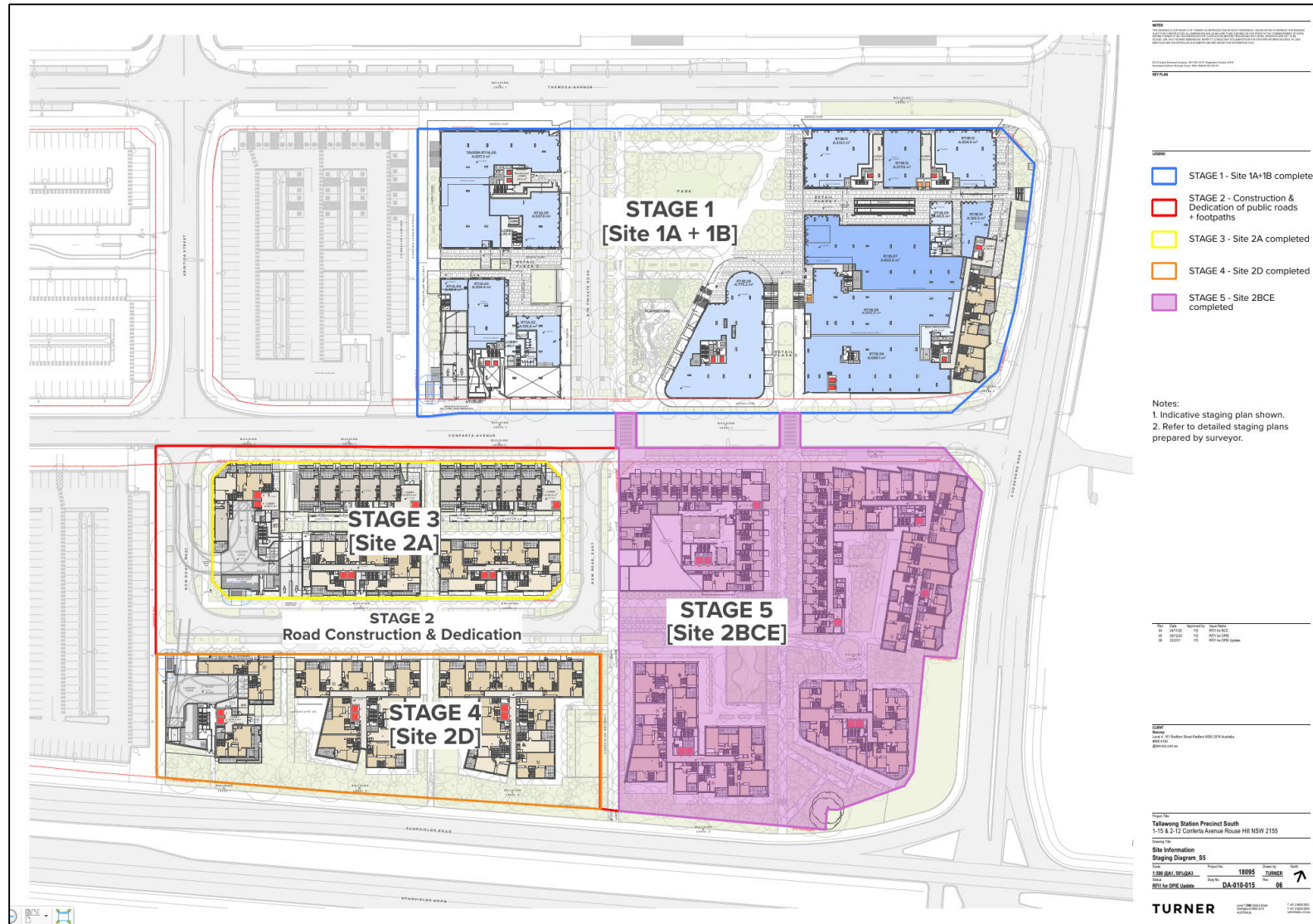
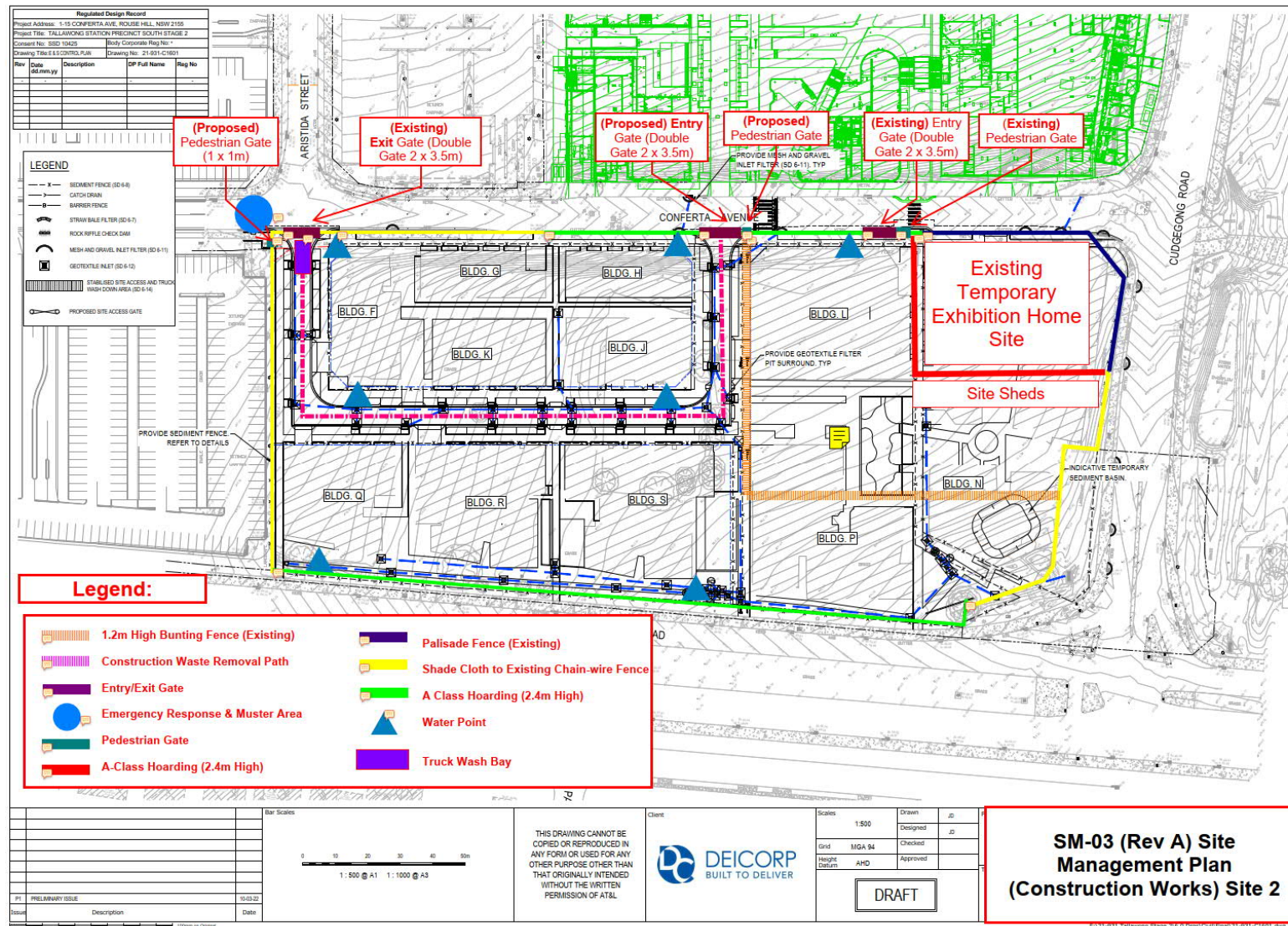


Figure 2 Construction staging



## 2.0 Goals, Outcomes, Key Issues

**Table 1 Goal, outcomes and key issues for the Project**

<b>Scope</b>	<p>This <i>Air Quality &amp; Odour Management Sub-Plan</i> details prevention and management measures for air quality issues associated with construction of the Project. It defines mitigation measures to be implemented during relevant construction activities, a monitoring program that would enable assessment of the impacts of construction activities on potentially affected areas if required, and contingency measures that may be implemented if complaints are received or exceedances are measured.</p> <p>This sub-plan forms part of the Environmental Management Plan (EMP) and should be read in conjunction with other plans that form part of the Environmental Management Plan.</p>
<b>Goals (Mission Statement)</b>	<ul style="list-style-type: none"> <li>• To ensure that construction activities are managed to meet air quality and odour objectives as set out in environmental assessments and the Development Consent SSD 10425 issued by the Minister for Planning and Public Spaces.</li> <li>• To provide a reactive monitoring regime that if required, would allow early detection of air quality and odour issues associated with construction and allow a real-time assessment of various activities on the site.</li> <li>• To effectively manage excavation/construction activities to prevent potential odour / air quality issues.</li> </ul>
<b>Intended Outcomes</b>	<ul style="list-style-type: none"> <li>• Mitigation measures are implemented and maintained to achieve ambient air criteria for airborne pollutants that minimise adverse effects on sensitive receptors.</li> <li>• Air quality and odour mitigation measures effective and properly maintained.</li> </ul>
<b>Key Issues and Sensitive Areas</b>	<p>Air quality is regulated by the EPA and Minister's Conditions of Approval (MCOA) requirements.</p> <p><b>Surrounding Land Use &amp; Receptors</b></p> <p>The nearest receptors are located approximately 70 m south of the site, on the southern side of Schofields Road. The Tallawong Train station is immediately to the north of the Project site, and the Tallawong Station carparks to the west of the Project site. There are two rural residences to the east of the site, the closest located approximately 180m from the Project boundary. The locations of sensitive receptors are included in Appendix A.</p> <p><b>Adverse Wind Conditions</b></p> <p>Due to the proximity to receptors on the southern side of the Project, winds from the northwest, north and northeast would present the highest potential for offsite impacts. These winds blow frequently during autumn, spring and winter, both during the day and night-time hours. A summary of existing wind conditions at the nearby Rouse Hill EES station is presented in Appendix B.</p> <p><b>Potential Impacts - Air Quality</b></p> <p>Dust can be generated from all types of construction activities involving soil, including excavation, handling, loading and unloading from stockpiles, and wind erosion of exposed areas and stockpiles.</p> <p>Disturbance of contaminated soil may generate emissions of odour and/or Volatile Organic Compounds (VOCs)/ Semi-Volatile Organic Compounds (SVOCs) and Polycyclic Aromatic Hydrocarbons (PAHs). However, no soil hydrocarbon contamination was found by the Detailed Site Investigation (Appendix 12 of the Project Environmental Impact Statement). Therefore, the potential for odour or VOC emissions due to soil contamination is low.</p> <p>Construction activities will involve use of diesel-powered plant and equipment. The combustion of diesel fuel generates a range of pollutant emissions, such as oxides of nitrogen (NO<sub>x</sub>), carbon monoxide (CO) and particulate matter.</p>

<b>Statutory Requirements</b>	<p><b>Protection of the Environment Operations Act 1997 (POEO Act) (NSW)</b></p> <p>Section 129 provides that the applicant must not cause or permit the emission of any offensive odour from the premises, apart from where the emission is identified in an EPL as a potentially offensive odour and the odour was emitted in accordance with the condition of a licence directed at minimising odour.</p> <p>Sections 124 &amp; 125 require that no air pollution is caused by failing to maintain and operate plant, or carry out maintenance work on plant, in a proper and efficient manner.</p> <p>Section 126 states that soil or dust must not be deposited or blown onto a public place.</p> <p><b>Protection of the Environment Operations (Clean Air) Regulation 2010 (NSW):</b></p> <p>Vehicles must not emit visible air impurities for a continuous period of 10 seconds or more (clauses 8 &amp; 9).</p> <p>Stack emissions must not exceed the regulatory limits for the type of plant operated on site.</p>
<b>Relationship to Other Plans</b>	<p>Construction Management Plan</p> <p>Construction Environmental Management Plan</p> <p>Construction Waste Management Sub-Plan.</p> <p>Construction Soil and Water Management Sub-Plan</p> <p>Remediation Action Plan</p> <p>Community Communication Strategy.</p>

### 3.0 Air Quality DA Consent Requirements

**Table 2 DA Consent Conditions relevant to Air Quality**

No.	Original Ref.	Relevant Requirement	Reference in This Document
1	C21	Prior to the commencement of any earthwork or construction, the Applicant shall submit to the satisfaction of the Certifier an Air Quality Management Sub-Plan (AQMP) for the development. A copy of the AQMP must be submitted to the Planning Secretary and Council for information. The Sub-Plan must include, as a minimum, the following elements:	-
		<ul style="list-style-type: none"> <li>Relevant environmental criteria to be used in day to day management of dust and volatile organic compounds (VOC's) / odour;</li> </ul>	Section 5.0
		<ul style="list-style-type: none"> <li>Mission statement;</li> </ul>	Section 2.0
		<ul style="list-style-type: none"> <li>Dust and VOC's / odour management strategies;</li> </ul>	Section 4.0
		<ul style="list-style-type: none"> <li>Objectives and targets;</li> </ul>	Section 2.0
		<ul style="list-style-type: none"> <li>Risk assessment;</li> </ul>	Appendix C
		<ul style="list-style-type: none"> <li>Suppression improvement plan;</li> </ul>	Section 4.0 Section 8.0
		<ul style="list-style-type: none"> <li>Monitoring requirements including assigning responsibility (for all employees and contractors);</li> </ul>	Section 5.0
		<ul style="list-style-type: none"> <li>Communication strategy; and</li> </ul>	Section 6.0 and Project Community Communication Strategy
		<ul style="list-style-type: none"> <li>System and performance review for continuous improvement.</li> </ul>	Section 8.0
2	C22	The Sub-Plan must detail management practices to be implemented for all dust and VOC/odour sources at the site. The Sub-Plan must also detail the dust, odour, VOC and semi-volatile organic compounds (SVOC) monitoring program (e.g. frequency, duration and method of monitoring) to be undertaken for the project.	Section 4.0 and Section 5.0
3	C23	The Applicant must also develop and implement an appropriate comprehensive Reactive Air Quality and Odour Management Plan which will incorporate an Ambient Air Monitoring Program and Reactive Management Strategy to ensure that the assessment criteria are met during the works.	Section 6.0
4	D22	The Applicant must take all reasonable steps to minimise dust generated during all works authorised by this consent. During construction, the Applicant must ensure that:	Section 4.0

No.	Original Ref.	Relevant Requirement	Reference in This Document
		<ul style="list-style-type: none"><li>• exposed surfaces and stockpiles are suppressed by regular watering;</li><li>• all trucks entering or leaving the site with loads have their loads covered;</li><li>• trucks associated with the development do not track dirt onto the public road network;</li><li>• public roads used by these trucks are kept clean; and land stabilisation works are carried out progressively on site to minimise exposed surfaces.</li></ul>	

## 4.0 Mitigation Measures

**Table 3. Mitigation control measures**

Ref	Mitigation Measure	Relevant Location/ Activity	Relevant Approval Condition Reference	Responsibility	Timing
<b>Dust and Material Management</b>					
AQ1	Cover all loads coming onto the site and departing site, including internal loads, to minimise potential spillage / dust generation. Immediately clean up any spills.	Entire site	C21, C22, D22	Construction Manager (CM), Environmental Manager (EM)	Throughout construction
AQ2	Ensure all vehicles leaving the site pass a rumble-grid and pit prior to exiting, with physical removal of dirt / mud using a pressure washer if required.	Entire site	C21, C22, D22	CM, EM	Until all roads are sealed
AQ3	The roads surrounding the site shall be regularly swept to ensure pavements are kept free of dust	Off-site roads	C21, C22, D22	CM, EM	Throughout construction
AQ4	Locate stockpiles to minimise wind erosion. Maintain all stockpiles at manageable sizes to allow covering or spraying, if required.	Stockpile areas	C21, C22, D22	CM	Throughout construction
AQ5	Cover any stockpiled spoil material identified as being restricted, hazardous or special waste whilst not active, including overnight.	Stockpile areas	C21, C22, D22	CM, EM	Throughout construction
AQ6	Use water sprays to suppress dust emissions from spoil stockpiles, loading and unloading activities, unless spoil is damp.	Entire site	C21, C22, D22	CM, EM	Throughout construction
AQ7	Cover or coat with sealant stockpiled material that is to remain inactive for a period greater than two weeks to prevent odour / dust generation.	Stockpile areas	C21, C22, D22	CM, EM	Throughout construction
AQ8	Use dust sealants or hydromulch on exposed areas vulnerable to wind erosion.	Entire site	C21, C22, D22	CM, EM	Throughout construction
AQ9	Where feasible, reduce handling / stockpiling of excavated materials through pre-testing and validation, allowing direct transport off-site.	Entire site	C21, C22, D22	CM, EM	Throughout construction
AQ10	Use solid 2.4m or 3m high hoardings at the site perimeter, and wind barriers at internal excavation boundaries where possible.	Entire site	C21, C22, D22	CM	Throughout construction

Ref	Mitigation Measure	Relevant Location/ Activity	Relevant Approval Condition Reference	Responsibility	Timing
AQ11	Sweep and water haul routes, materials handling areas, site entry points and other areas as needed using on-site sweepers and water carts. A watering rate of greater than 2L per m <sup>2</sup> per hour is required.	Entire site	C21, C22, D22	CM	Throughout construction
AQ12	Minimise dust by limiting accessibility to roads for construction vehicles. Seal haul roads outside the bulk excavation area.	Entire site	C21, C22, D22	CM, EM	Throughout construction
AQ13	Adjust work practices based on wind and weather conditions, inclusion of the day's weather forecast and potential background particulate concentrations shall be included in the daily pre-start toolbox talks.  Air quality alerts are available from NSW EPA at: <a href="https://www.dpie.nsw.gov.au/air-quality/air-quality-alerts">https://www.dpie.nsw.gov.au/air-quality/air-quality-alerts</a>	Entire site	C21, C22, D22	CM, EM	Throughout construction
AQ14	Undertake emergency dust suppression if needed during dust generating conditions (e.g. dry and windy weather) during longer non-working periods (e.g. long weekends, holidays).	Bulk excavation area	C21, C22, D22	CM, EM	Throughout construction
AQ15	All staff and contractors to actively monitor for visible dust and unexpected odour and report observations to Construction Manager or Environmental Manager.	Entire site	C21, C22, D22	All staff and contractors	Throughout construction
<b>Control volatilisation/ odours during excavation</b>					
AQ16	Apply covers, odour sealant or odour suppressant to control odours generated at the point of excavation or at stockpiles, where required.	Excavations and stockpiles	C21, C22	CM, EM	Throughout excavation works
<b>Minimise combustion emissions</b>					
AQ17	Turn engines off while parked on site.	Entire site	C21, C22	CM, EM	Throughout construction
AQ18	Regularly tune and maintain equipment, plant and machinery to minimise visible smoke / emissions.	Entire site	C21, C22	CM, EM	Throughout construction
AQ19	Implement site speed limits.	Entire site	C21, C22	CM, EM	Throughout construction
AQ20	Use mains power where available and suitable.	Entire site	C21, C22	CM, EM	Throughout construction

## 5.0 Air Quality Monitoring Strategy

**Table 4 Air quality monitoring equipment and strategy**

Monitoring Requirements						
<p><b>Dust</b> Construction dust emissions can generally be adequately managed using standard mitigation controls such the use of water to wet surfaces and the covering of stockpiles. The mitigation strategies outlined in Section 4.0 are expected to adequately reduce dust emissions from the Project. Based on this, continuous monitoring of dust is not recommended for the Project. However, in case of multiple substantiated dust complaints, or persistent visible observed dust leaving site, monitoring may be required, and suitable monitoring equipment and methodologies are provided in this table.</p> <p><b>VOCs/ Odour</b> In general, the likelihood of significant VOC or odour emissions due Project excavation works is low. Soil concentrations of hydrocarbons were below the investigation levels for all soil samples tested as part of the Project's Detailed Site Investigation. Based on this, mandatory air monitoring for VOCs and odour is not recommended for the construction of the Project. However, in case of unexpected significantly contaminated soil being uncovered, reactive monitoring may be required and therefore suitable air monitoring equipment and methodology are provided in this table.</p>						
Monitoring Equipment						
Parameter	Equipment	Frequency	Locations	Criteria	Sampling Method	Timing
PM <sub>10</sub>	Dustrak or similar optical method particulate analyser	If required	To be determined based on requirement	50 µg/m <sup>3</sup> as a 24 hour average; 25 µg/m <sup>3</sup> as an annual average	AM-16 AS 2724.4-1987	If required
VOCs and SVOCs	Photo Ionisation Detector (PID)	If required	On Project boundary Immediately downwind from earthworks activities	0.4 ppm 1-minute average <sup>1</sup>	AM-21 AS 3580.11.1-1993	If required
Odour	Portable olfactometer	Upon receipt of odour complaint	Off-site both upwind and downwind from suspected odour source	Project-attributable 4 Odour Units above background odour (based on a population of ~125 people)	Odour annoyance survey	Within 24 hours of receipt of odour complaint
1. Based on EPA1-hour benzene criteria of 0.009 ppm, assuming 5 % benzene, converted via Turners equation ((1-hr avg * [60/1])^0.2) to 1-minute average						

## 6.0 Communication and Complaints Handling

The Community Communication Strategy identifies policies and procedures for managing community specific issues arising from construction activities. If an environmental complaint is received, the complaints management process outlined in the Strategy will be followed. This will involve the complaint being referred directly to the Environment Manager and/or Construction Manager. If they are on site at the time an entry in the Project consultation database will be made to ensure appropriate action and monitoring. A response would be required to 'close out' the complaint, and the resolution would be recorded in the database.

The Community Communication Strategy also outlines several proactive strategies for dealing with community and stakeholder issues.

## 7.0 Reactive Air Quality and Odour Management Plan

**Table 5 Reactive management plan and situation handling**

No.	Situation	Response	Responsibility
1	Visible emissions evident from site machinery / plant.	Switch off the plant or machinery immediately if safe to do so. Investigate causes of the emissions and tag-out the plant or machinery until the problem is resolved. If required, replace the item of plant or machinery.	CM, EM
2	Unexpected odour detected by staff / contractors on the site.	<p>Cease works if safe to do so and remove workers from the immediate vicinity of the detected odour. Investigate the source and nature of the odour in consultation with the Environment Manager or Construction Manager. Eliminate or mitigate the source of the odour as per item 4 below. Only after the area has been deemed safe to work are workers permitted to return the area.</p> <p>In the event of an odour complaint; information would be obtained regarding the character of the odour, frequency, duration and intensity of odour observations and whether impacts of offensive odours are currently occurring</p> <p>An investigation of the odour complaint would be conducted as soon as practicable after an odour complaint has been received; and</p> <p>If odour impacts are immediately occurring; action would be undertaken to reduce odour impacts.</p>	CM, EM
3	High levels of dust due to weather conditions.	Cease dust generating activities under direction of the Environment Manager or Construction Manager until adverse conditions subside. Spray (with water or sealant) or cover exposed stockpiles and other dust generating areas, and remove other causes of dust such as sediment accumulation on sealed surfaces.	CM, EM
4	High levels of dust, contaminants, or odour due to site activities	<p>Investigate causes of the exceedance, and if necessary implement the following additional measures:</p> <ul style="list-style-type: none"> <li>• Increase the use of water sprays to suppress dust in open areas or roadways.</li> <li>• Consolidate material stockpiles.</li> <li>• Promptly remove exposed heavily contaminated materials.</li> <li>• Use fine mist sprays around the excavation area.</li> </ul>	CM, EM

## 8.0 Performance and Review

This AQMP will be reviewed and updated, with the necessary approval, throughout the course of the Project to reflect changes in construction techniques, staging, or the natural environment. The review will take into consideration:

- Any significant changes to construction activities or methods;
- Key changes to roles and responsibilities within the Project;
- Changes in industry best practice standards or recommended dust controls;
- Changes in response to any complaints received;
- Implementation of any dust, VOC or odour monitoring;
- Changes in legal or other requirements (social and environmental legal requirements, consent conditions, Transport Agency objectives and relevant policies, plans, standards, specifications and guidelines);

## 9.0 Training

Compliance with this AQMP is the responsibility of all Deicorp staff and contractors employed on or working in association with the Project. All staff and contractors shall be educated on the contents of the plan and their responsibility as part of their site inductions and ongoing tool box talks.

With respect to air quality management, the training programme for all personnel on site will include at minimum the following aspects:

- The responsibilities of all personnel for carrying out the work on site in a manner which does not result in adverse effects on the environment, local residents and in accordance with DMP;
- The potential legal ramifications of adverse environmental effects occurring as a result of the project and non-compliance with resource consent conditions;
- The minimum requirements for dust and odour control for all activities on site;
- The requirements for staff to monitor weather and visually inspect the site for dust discharges, assess the adequacy of dust control methods and implement additional dust control methods when required;
- The actions to be taken in an extreme dust and weather event; and
- The actions to be taken if a complaint is received from the public or consent authority.

# Appendix A

## Sensitive Receptor Locations

## Appendix A Sensitive Receptor Locations



# Appendix B

## Existing Meteorological Conditions

## Appendix B Existing Wind Conditions

The nearest automatic weather station to the Project is the NSW Department of Environment, Energy and Science (EES) operated station at Rouse Hill, about one kilometre north of the Project site. Rouse Hill EES Monitoring station wind data is presented in the following wind roses. The data period is May 2019 to December 2020. Winds often blow from the north, especially during spring, winter and autumn. Although these winds from the north are frequently light. The strongest winds are from the east and southeast during summer daytimes.

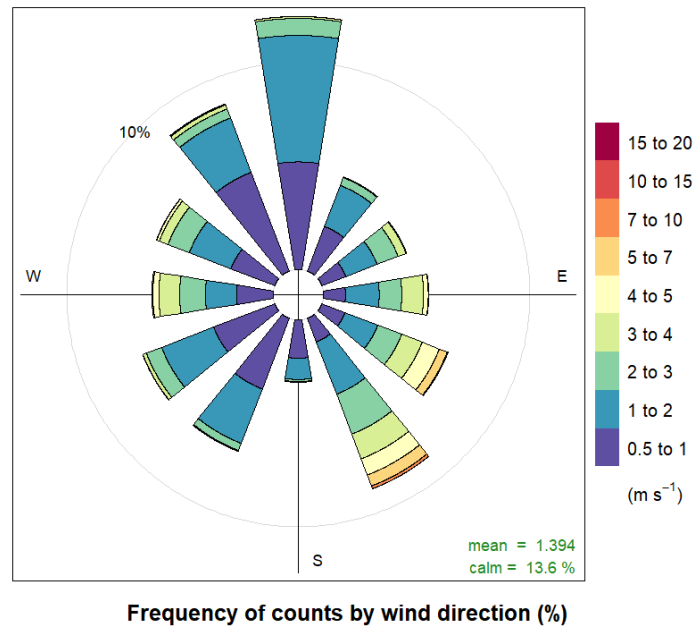


Figure 4 All hours (May 2019 to December 2020) for Rouse Hill

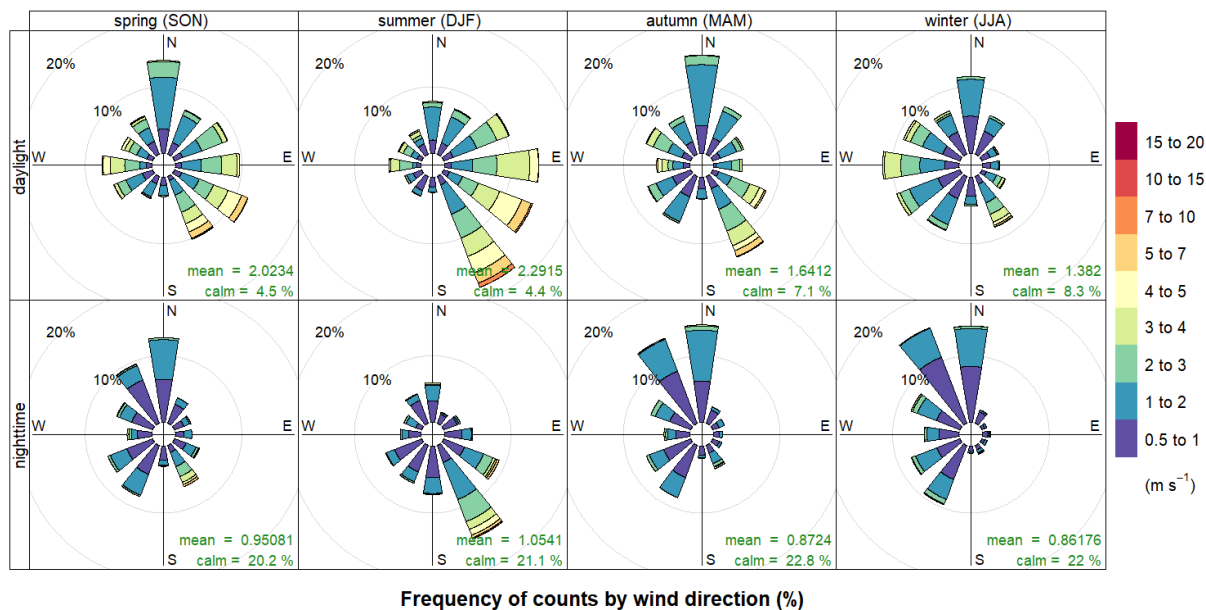


Figure 5 Day/night winds by season (May 2019 to December 2020) for Rouse Hill

# Appendix C

## Risk Assessment

## Appendix C Risk Assessment

### Risk assessment process

As risk assessment to potential air quality impacts was undertaken to determine the suitability and requirement of the mitigation controls listed in Section 4.0. This section presents an overview of the risk assessment process.

### Rating Risk

Risk ratings were assessed by considering the consequence and likelihood of an event occurring. In assessing the consequence, the extent, severity and duration of the risks were considered. These are discussed below.

### Assigning the consequences of risks

'Consequence' refers to the maximum credible outcome of an event affecting an asset, value or use. Consequence criteria were developed for the GB Energy Gas Project to enable a consistent assessment of consequence across the range of potential environmental effects. Consequence criteria were assigned based on the maximum credible consequence of the risk pathway occurring. Where there was uncertainty or incomplete information, a conservative assessment was made on the basis of the maximum credible consequence.

Consequence criteria have been developed to consider the following characteristics:

- Extent of impact
- Severity of impact
- Duration of threat.

The consequence framework and consequence criteria are presented in the following tables, C-1 and C-2, respectively.

**Table C- 1 Consequence framework**

Level	Qualitative or quantitative description of biophysical/environmental consequence	Qualitative or quantitative description of socio-economic consequence
Negligible	No detectable change in a local environmental setting	No detectable impact on economic, public health and safety, cultural, recreational, aesthetic or social values
Minor	Short-term, reversible changes, within natural variability range, in a local environmental setting	Short-term, localised impact on economic, public health and safety, cultural, recreational, aesthetic or social values
Moderate	Medium-term but limited changes to local environmental setting that can be managed	Medium-term change in quality of economic, public health and safety, cultural, recreational, aesthetic or social values in local setting. Limited impacts at regional level
Major	Long-term, significant changes resulting in risks to human health and/or the environment beyond the local environmental setting	Significant, long-term change in quality of economic, public health and safety, cultural, recreational, aesthetic or social values at local, regional and State levels. Limited impacts at national level
Severe	Irreversible, significant changes resulting in widespread risks to human health and/or the environment at a regional scale or broader	Significant, permanent impact on regional economy, public health and safety and/or irreversible changes to cultural, recreational, aesthetic or social values at regional, state and national levels

Table C- 2 Air Quality Consequence criteria

Aspect	Negligible	Minor	Moderate	Major	Severe
Air Quality	Undetected changes to ambient air quality, beyond the site boundaries	Detectable changes to air quality result in amenity impacts on a small number (<10) of sensitive receptors, and no exceedances of relevant air quality criteria beyond site boundaries.	Detectable localised changes to air quality result in amenity impacts on 10 to 100 sensitive receptors and/or short-term exceedances of relevant air quality criteria beyond site boundaries.	Detectable widespread changes to air quality result in amenity impacts on a large number (>100) of sensitive receptors and/or substantial medium-term exceedances of relevant air quality criteria beyond site boundaries.	Detectable widespread changes to air quality result in amenity impacts on a large number (>100) of sensitive receptors and substantial long-term exceedances of relevant air quality criteria beyond site boundaries.

### Assigning the likelihood of risks

'Likelihood' refers to the chance of an event happening and the maximum credible consequence occurring from that event. The likelihood criteria are presented in Table A-3.

Table C- 3 Likelihood guide

Level	Description
Rare	The event may occur only in exceptional circumstances
Unlikely	The event could occur but is not expected
Possible	The event could occur
Likely	The event will probably occur in most circumstances
Almost Certain	The event is expected to occur in most circumstances

### Risk matrix and risk rating

Risk levels are assessed using the matrix presented in Table C-4.

Table C- 4 Risk assessment matrix

		Consequence ratings				
		Negligible	Minor	Moderate	Major	Severe
Likelihood rating	Rare	Very Low	Very Low	Low	Medium	Medium
	Unlikely	Very Low	Low	Low	Medium	High
	Possible	Low	Low	Medium	High	High
	Likely	Low	Medium	Medium	High	Very High
	Almost Certain	Low	Medium	High	Very High	Very High

**Risk evaluation and treatment**

The risk assessment process was used as a screening tool to prioritise potential impacts and the subsequent level of assessment undertaken as part of the impact assessment. Where initial risk ratings were found to be 'medium' or higher, options for additional design changes or mitigation and management measures were considered where practicable.

**Risk assessment**

The air quality risk assessment for the project is presented in Table A-5.

Table C- 5 Risk assessment

Risk ID	Risk name	Risk pathway	Initial risk			Mitigation Measures	Residual risk		
			C	L	Risk		C	L	Risk
AQR1	Dust from excavation and construction works	Excavation and/or construction activities result in the generation of dust (particulates) resulting in deterioration of the existing air quality environment.	Moderate	Possible	Medium	AQ4-AQ15	Moderate	Rare	Low
AQ3	Extreme weather (hot windy conditions)	Climatic conditions result in the generation of dust (particulates) resulting in deterioration of the existing air quality environment.	Moderate	Likely	Medium	AQ13	Moderate	Unlikely	Low
AQ4	Transportation of materials to and from site	Increased dust emissions near the construction worksite (within urban environment) due to transportation of materials resulting in deterioration of the existing air quality environment.	Moderate	Possible	Medium	AQ1-AQ3	Moderate	Rare	Low
AQ5	Combustion emissions from construction activities	Construction equipment, vehicles and plant results in the generation of combustion emissions resulting in deterioration of the existing air quality environment.	Minor	Unlikely	Low	AQ17-20	Minor	Unlikely	Low
AQ6	Odour from construction activities	Odour from contaminated soils resulting in amenity impacts.	Moderate	Unlikely	Low	AQ7, AQ9, AQ16	Moderate	Rare	Low

## **Appendix C**

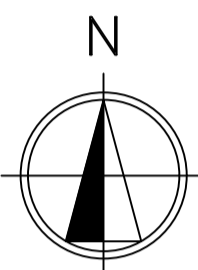
### **Soil and Water Management Plan**

# 1-15 & 2-12 CONFERTA AVENUE, ROUSE HILL

FOR

## DEICORP

LGA : BLACKTOWN CITY COUNCIL  
LOT : 293/ DP1213279




SITE LOCATION PLAN  
N.T.S

DRAWING LIST

DRAWING NUMBER	DRAWING TITLE
C-0000	COVER SHEET LOCALITY PLAN AND DRAWING INDEX
C-0001	GENERAL NOTES
C-0800	EROSION AND SEDIMENT CONTROL PLAN SHEET 1
C-0801	EROSION AND SEDIMENT CONTROL PLAN SHEET 2
C-0802	EROSION AND SEDIMENT CONTROL PLAN SHEET 3
C-0810	EROSION AND SEDIMENT CONTROL DETAILS SHEET 1
C-0811	EROSION AND SEDIMENT CONTROL DETAILS SHEET 2

# EROSION AND SEDIMENT CONTROL WORKS



		BAR SCALES	CLIENT	PROJECT	TITLE	STATUS		<div><div>SKY</div><div>Engineering &amp; Project Management ABN / 72646014342 P / +61 435 144 005 E / admin@skyeng.com.au www.skyeng.com.au</div></div>				
				STORMWATER MANAGEMENT PLAN	COVER SHEET LOCALITY PLAN AND DRAWING INDEX	ISSUED FOR INFORMATION						
P1	ISSUE FOR INFORMATION	20.05.2022				Drawn SY	Designed SY	Checked PM	Approved FX	Project No. SY22-066	Drawing No. C-0000	Issue P1
REV	DESCRIPTION	DATE				Height Datum AHD	Grid MGA	SCALE NTS	AT A1 SIZE			
REVISIONS												

GENERAL

1.
- ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE SPECIFICATION AND THE REQUIREMENTS OF THE LOCAL COUNCIL
2.
- THE CONTRACTOR SHALL LIAISE WITH ALL RELEVANT AUTHORITIES TO LOCATE ALL EXISTING SERVICES WITHIN THE CONTRACT AREA PRIOR TO THE COMMENCEMENT OF WORK. SERVICES INFORMATION SHOWN ON THE DRAWINGS IS INDICATIVE ONLY AND MAY NOT BE COMPLETE. WHERE EXISTING AND PROPOSED WORKS CONFLICT, LEVELS ARE TO BE TAKEN AND SUPPLIED TO THE SUPERINTENDENT IMMEDIATELY.
3.
- THESE DRAWINGS SHALL BE READ IN CONJUNCTION WITH ALL OTHER CONSULTANTS' DRAWINGS, SPECIFICATIONS AND ANY OTHER WRITTEN INSTRUCTIONS THAT MAY BE ISSUED DURING THE COURSE OF THE CONTRACT. ANY DISCREPANCY SHALL BE REFERRED TO THE ENGINEER BEFORE PROCEEDING WITH THE WORK.
4.
- CONTRACTOR MUST VERIFY ALL DIMENSIONS AND EXISTING LEVELS ON SITE PRIOR TO COMMENCEMENT OF WORK. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
5.
- ALL HEIGHTS ARE TO AHD AND ALL LEVELS SHALL BE DERIVED FROM ESTABLISHED BENCHMARKS
6.
- ALL BENCH MARKS ARE TO BE PROTECTED AND PRESERVED.
7.
- ALL CONSTRUCTION SHALL MAKE SMOOTH CONNECTION TO EXISTING WORK.
8.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE SUPPORT OF ALL EXISTING SERVICES.
9.
- 'AS CONSTRUCTED' DRAWINGS ARE TO BE PREPARED TO THE REQUIREMENTS OF THE RELEVANT AUTHORITIES.
10.
- THE SITE IS TO BE LEFT CLEAN AND FREE OF DEBRIS UPON COMPLETION OF WORKS. ALL EXCAVATED AND DEMOLISHED MATERIAL IS TO BE DISPOSED OF AT AN APPROVED DISPOSAL SITE AT THE CONTRACTORS COST.
11.
- CONTRACTOR TO ENSURE THE RELEVANT AUTHORITIES OCCUPATIONAL HEALTH AND SAFETY PRACTICES ARE COMPLIED WITH

SURVEY

1.
- THE EXISTING SITE CONDITIONS SHOWN ON THE FOLLOWING DRAWINGS HAVE BEEN DERIVED FROM SURVEY INFORMATION SUPPLIED FROM  
.....
2.
- THE SURVEY INFORMATION IS SHOWN TO PROVIDE A BASIS FOR DESIGN. SKY ENGINEERING PTY LTD DOES NOT GUARANTEE THE ACCURACY OR COMPLETENESS OF THE SURVEY BASE OR ITS SUITABILITY AS A BASIS FOR CONSTRUCTION DRAWINGS.
3.
- SHOULD DISCREPANCIES BE ENCOUNTERED DURING CONSTRUCTION BETWEEN THE SURVEY DATA AND ACTUAL FIELD DATA, PLEASE NOTIFY THE ENGINEER.
4.
- THE CONTRACTOR SHALL ARRANGE ALL SURVEY SETOUT TO BE CARRIED OUT BY A REGISTERED SURVEYOR.
5.
- BENCHMARK, SURVEY PEGS, LEVEL PEGS OR SUPPLEMENTARY REFERENCE MARKS SHALL NOT BE ADJUSTED OR MOVED WITHOUT WRITTEN APPROVAL FROM THE SUPERINTENDENT. THE CONTRACTOR SHALL TRANSFER ANY PEGS AFFECTED BY THE PROPOSED WORKS TO SIDE POSITIONS CLEAR OF OPERATIONS AND SHALL NOTE THE EXTENT OF THE MOVEMENT IN DISTANCE AND LEVEL.

EXISTING SERVICES AND FEATURES

1.
- THE CONTRACTOR MUST CONFIRM THE EXACT LOCATION AND EXTENT OF EXISTING SERVICES PRIOR TO CONSTRUCTION AND NOTIFY ANY CONFLICT WITH THE DRAWINGS IMMEDIATELY TO THE ENGINEER/SUPERINTENDENT.
2.
- EXISTING SERVICES UNLESS SHOWN ON SURVEY PLAN HAVE BEEN PLOTTED FROM SERVICES SEARCH PLANS AND AS SUCH THEIR ACCURACY CANNOT BE GUARANTEED.
3.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO COMPLETE A 'DIAL BEFORE YOU DIG' SEARCH AND TO ESTABLISH THE LOCATION AND LEVEL OF ALL EXISTING SERVICES PRIOR TO THE COMMENCEMENT OF ANY WORK. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER/SUPERINTENDENT.
4.
- THE CONTRACTOR HAS A DUTY OF CARE WHEN EXCAVATING NEAR SERVICES. DO NOT ASSUME DEPTHS OR ALIGNMENTS OF CABLES OR PLANT AS THESE MAY VARY SIGNIFICANTLY. THE CONTRACTOR MUST ACCEPT ALL RESPONSIBILITY TO DAMAGES TO EXISTING SERVICES AS SERVICE AUTHORITIES MAY SEEK COMPENSATION FOR DAMAGES CAUSED TO THEIR PROPERTY AND SUBSEQUENT LOSSES CAUSED.
5.
- THE CONTRACTOR SHALL ALLOW FOR THE CAPPING OFF, EXCAVATION AND REMOVAL OR RELOCATION (IF REQUIRED) TO RELEVANT AUTHORITIES GUIDELINES OF ALL EXISTING SERVICES IN AREAS AFFECTED BY WORKS WITHIN THE CONTRACT AREA OR AS SHOWN ON THE DRAWINGS.
7.
- THE CONTRACTOR SHALL CONSTRUCT TEMPORARY SERVICES TO MAINTAIN SUPPLY TO EXISTING BUILDINGS REMAINING IN OPERATION DURING WORKS TO THE SATISFACTION AND APPROVAL OF ANY RELEVANT AUTHORITIES. ONCE DIVERSION IS COMPLETE AND COMMISSIONED, THE CONTRACTOR SHALL REMOVE ALL SUCH TEMPORARY SERVICES AND MAKE GOOD TO THE SATISFACTION OF THE RELEVANT AUTHORITY/SUPERINTENDENT.
8.
- INTERRUPTION TO SUPPLY OF EXISTING SERVICES SHALL BE DONE SO AS NOT TO CAUSE ANY INCONVENIENCE TO SURROUNDING ALLOTMENTS. CONTRACTOR TO GAIN APPROVAL FROM THE RELEVANT AUTHORITIES FOR TIME OF INTERRUPTION.
9.
- ALL EXISTING SERVICE UTILITIES COVERS AND GRATES ARE TO BE ADJUSTED (TO RELEVANT AUTHORITY GUIDELINES) TO SUIT NEW FINISHED SURFACE LEVELS WHERE APPLICABLE.
10.
- IF EXISTING SERVICE UTILITY COVERS AND GRATES OR SURROUNDING SURFACE LEVELS ARE TO BE LOWERED, THE CONTRACTOR IS TO MAKE CERTAIN THAT MINIMUM COVERS (TO RELEVANT SERVICE AUTHORITY GUIDELINES) TO SERVICES ARE MAINTAINED. IF MINIMUM COVERS ARENT MAINTAINED THE CONTRACTOR IS TO LOWER OR PROTECT SERVICES TO THE SATISFACTION OF THE RELEVANT SERVICE AUTHORITY/SUPERINTENDENT.

EROSION AND SEDIMENT CONTROL

1.
- ALL SEDIMENT CONTROL DEVICES ARE TO BE CONSTRUCTED, PLACED AND MAINTAINED IN ACCORDANCE WITH RELEVANT AUTHORITY GUIDELINES AND ANY DETAILS SHOWN ON THESE DRAWINGS.
2.
- ALL PERIMETER AND SILTATION CONTROL MEASURES ARE TO BE PLACED PRIOR TO, OR AS THE FIRST STEP IN EARTHWORKS AND/OR CLEARING.
3.
- THE EROSION AND SEDIMENT CONTROL PLAN MAY REQUIRE FUTURE ADJUSTMENT TO REFLECT CONSTRUCTION STAGING. IT IS THE CONTRACTORS RESPONSIBILITY TO PREPARE THEIR OWN EROSION AND SEDIMENT CONTROL PLAN WHICH SUITS THE DESIGNED CONSTRUCTION STAGING TO THE SUPERINTENDENTS SATISFACTION
4.
- FILTRATION BUFFER ZONES ARE TO BE FENCED OFF AND ACCESS PROHIBITED TO ALL PLANT AND MACHINERY.
5.
- CONTRACTOR IS TO ENSURE ALL EROSION & SEDIMENT CONTROL DEVICES ARE MAINTAINED IN GOOD WORKING ORDER AND OPERATE EFFECTIVELY. REPAIRS AND OR MAINTENANCE SHALL BE UNDERTAKEN AS REQUIRED, PARTICULARLY FOLLOWING STORM EVENTS.
6.
- ALL TOPSOIL IS TO BE STOCKPILED ON SITE (AWAY FROM TREES AND DRAINAGE LINES) IN ACCORDANCE WITH DETAILS PROVIDED AND WITH RELEVANT AUTHORITY GUIDELINES. MEASURES SHALL BE APPLIED TO PREVENT EROSION OF THE STOCKPILES.
7.
- ALL EARTHWORK AREAS SHALL BE ROLLED EACH EVENING TO SEAL THE EARTHWORKS. DUST SUPPRESSION SHALL BE CARRIED OUT IN ACCORDANCE WITH RELEVANT AUTHORITIES GUIDELINES.
8.
- UPON COMPLETION OF ALL EARTHWORKS OR AS DIRECTED BY RELEVANT AUTHORITY, SOIL CONSERVATION TREATMENTS SHALL BE APPLIED SO AS TO RENDER AREAS THAT HAVE BEEN DISTURBED, EROSION PROOF WITHIN 14 DAYS.
9.
- ALL CUT AND FILL SLOPES ARE TO BE SEEDED AND STRAW MULCHED WITHIN 14 DAYS OF COMPLETION OF FORMATION U.N.O. BY LANDSCAPE ARCHITECTS.
10.
- ALL CONSTRUCTION VEHICLES SHALL ENTER AND EXIT THE SITE VIA THE TEMPORARY CONSTRUCTION ENTRY/EXIT AS PER DETAILS PROVIDED OR WITH RELEVANT AUTHORITY GUIDELINES.
11.
- ALL VEHICLES LEAVING THE SITE SHALL BE CLEANED AND INSPECTED BEFORE LEAVING SITE TO LIMIT SEDIMENT TRACKING TO ROADWAYS.
12.
- FINAL SITE LANDSCAPING WILL BE UNDERTAKEN AS SOON AS POSSIBLE AND WITHIN 20 WORKING DAYS FROM COMPLETION OF CONSTRUCTION ACTIVITIES.
13.
- ANY EXISTING TREES WHICH FORM PART OF THE FINAL LANDSCAPING PLAN WILL BE PROTECTED FROM CONSTRUCTION ACTIVITIES BY:

A. PROTECTING THEM WITH BARRIER FENCING OR SIMILAR MATERIALS INSTALLED OUTSIDE THE DRIP LINE



B. ENSURING THAT NOTHING IS NAILED TO THEM

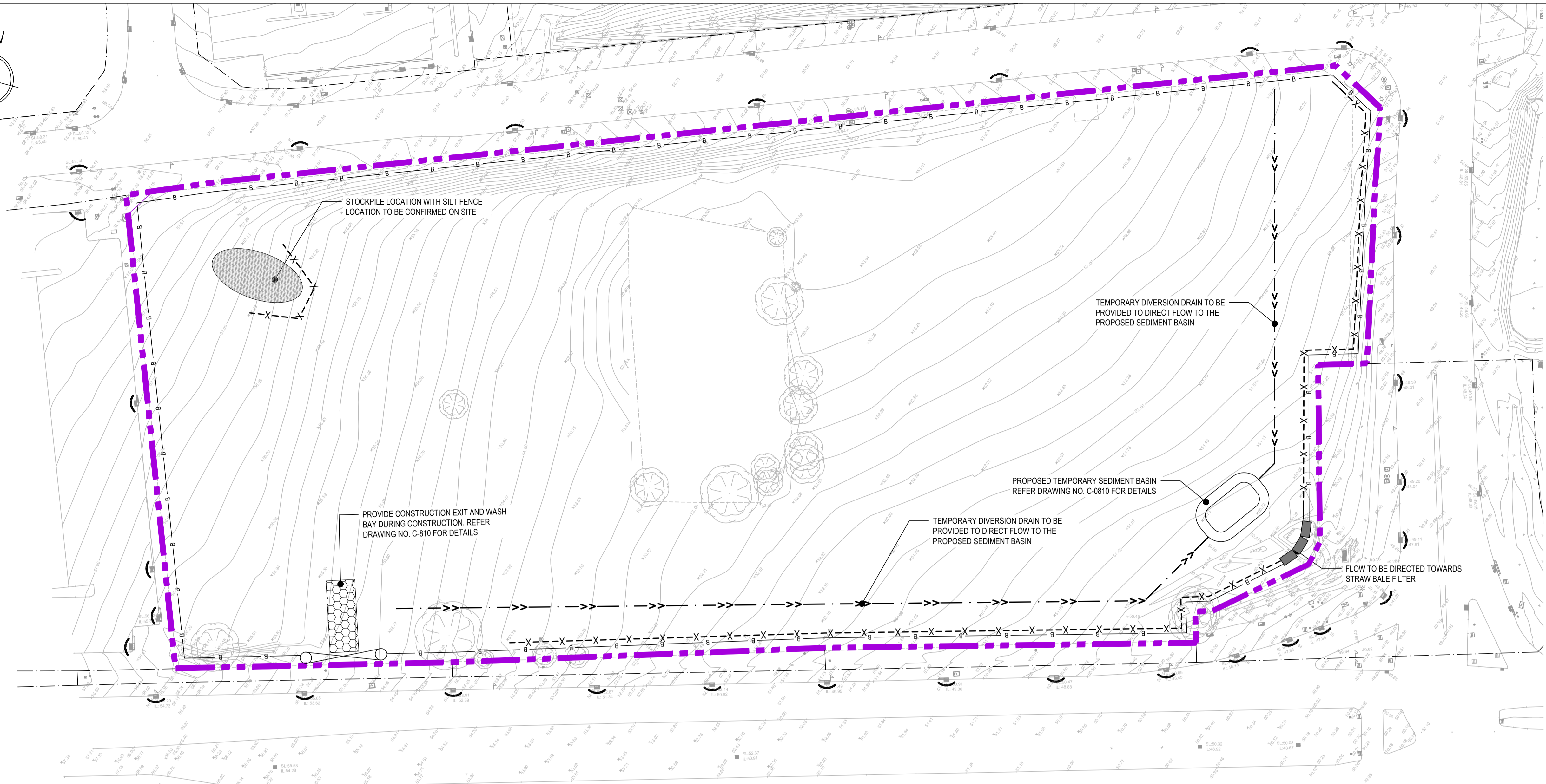
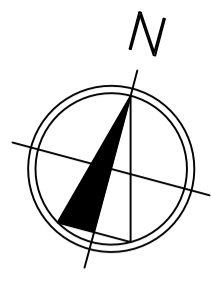
C. PROHIBITING PAVING, GRADING, SEDIMENT WASH OR PLACING OF STOCKPILES WITHIN THE DRIP LINE EXCEPT UNDER THE FOLLOWING CONDITIONS:

- ENCROACHMENT ONLY OCCURS ON ONE SIDE AND NO CLOSER TO THE TRUNK THAN EITHER 1.5 METRES OR HALF THE DISTANCE BETWEEN THE OUTER EDGE OF THE DRIP LINE AND THE TRUNK, WHICH EVER IS THE GREATER

- A DRAINAGE SYSTEM THAT ALLOWS AIR AND WATER TO CIRCULATE THROUGH THE ROOT ZONE (E.G. A GRAVEL BED) IS PLACED UNDER ALL FILL LAYERS OF MORE THAN 300 MILLIMETRES DEPTH

- CARE IS TAKEN NOT TO CUT ROOTS UNNECESSARILY NOR TO COMPACT THE SOIL AROUND THEM.

			BAR SCALES	CLIENT		PROJECT	STORMWATER MANAGEMENT PLAN	TITLE	GENERAL NOTES	STATUS				 <div>Engineering &amp; Project Management ABN / 72646014342 P / +61 435 144 005 E / admin@skyeng.com.au www.skyeng.com.au</div>		
								ISSUED FOR INFORMATION								
								Drawn SY		Designed SY	Checked PM	Approved FX	Project No.		Drawing No.	Issue
P1	ISSUE FOR INFORMATION	20.05.2022						Height Datum AHD		Grid MGA	SCALE NTS	AT A1 SIZE	SY22-066		C-0001	P1
REV	DESCRIPTION	DATE														
REVISIONS																



LEGEND

EXISTING

- LOT 293 DP1213279 CADASTRAL BOUNDARY
- EXISTING CADASTRAL BOUNDARY
- EXISTING CONTOURS

NEW

- CONSTRUCTION VEHICLE EXIT
- BARRIER FENCE
- SEDIMENT FENCE
- STRAW BALE FILTER (SD 6-7)
- DIVERSION DRAIN
- SITE ACCESS GATE
- GEOTEXTILE INLET FILTER TYPE A
- MESH AND GRAVEL INLET FILTER

BASIN CALCULATIONS FOR TYPE D SOILS	
SITE AREA	BASIN
	1
TOTAL CATCHMENT AREA(ha)	2.7046
DISTRURBED CATCHMENT AREA(ha)	2.7046

SOIL ANALYSIS	
SOIL LANDSCAPE	BLACKTOWN
SOIL TEXTURE GROUP	TYPE D

RAINFALL DATA	
DESIGN RAINFALL DEPTH(DAYS)	5
DESIGN RAINFALL DEPTH (PERCENTILE)	75
X-DAY, Y-PERCENTILE RAINFALL EVENT	19
RAINFALL INTENSITY: 2-YEAR, 6-HOUR STORM	10.1
RAINFALL EROSIVITY (R-FACTOR)	2250

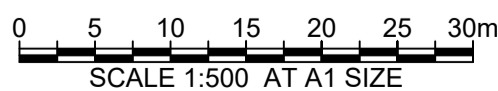
TOTAL BASIN VOLUME						
SITE	CV	R X-DAY Y-%ILE	"TOTAL CATCHMENT AREA (ha)"	SETTLING ZONE VOLUME (m³)	SEDIMENT STORAGE VOLUME (m³)	TOTAL BASIN VOLUME (m³)
A	0.39	19	2.7046	200.41	100	300.62

STAGE 1 SITE SETUP AND EARTHWORKS STRIPPING

1. PRIOR TO ANY WORKS BEING UNDERTAKEN, THE SOIL AND WATER MANAGEMENT MEASURES ARE TO BE INSTATED.
2. A CATCH DRAIN AND SILT FENCE ARE TO BE PLACED AROUND THE PERIMETER OF THE LOW SIDE OF THE SITE
3. THE SITE IS TO HAVE A SINGLE POINT OF ACCESS AWAY FROM THE SEDIMENT BASIN.
4. FENCING IS TO BE ERECTED ON THE HIGH SIDE OF THE SITE TO PREVENT ACCESS.
5. ALL RUNOFF FROM DISTURBED AREAS IS TO BE DIVERTED TO A CENTRAL LOW POINT.
6. THE LOW POINT (WHICH IS TO STAY IN THE GENERAL LOCATION FOR THE DURATION OF THE EARTHWORKS OPERATION) IS TO A SEDIMENT BASIN.
7. THE SEDIMENT BASIN IS TO BE TREATED IN ACCORDANCE WITH THE BLUE BOOK AND WATER ONLY PUMPED OUT WHEN THE SEDIMENT CONTENT IS BELOW 50mg/L.
8. A WASH DOWN BAY IS TO BE SET UP TO WASH DOWN SILT LADEN TYPES FROM VEHICLES PRIOR TO LEAVING THE SITE.



BAR SCALES



CLIENT



PROJECT

STORMWATER  
MANAGEMENT PLAN

TITLE

EROSION AND  
SEDIMENT CONTROL  
PLAN  
SHEET 1

STATUS

ISSUED FOR INFORMATION

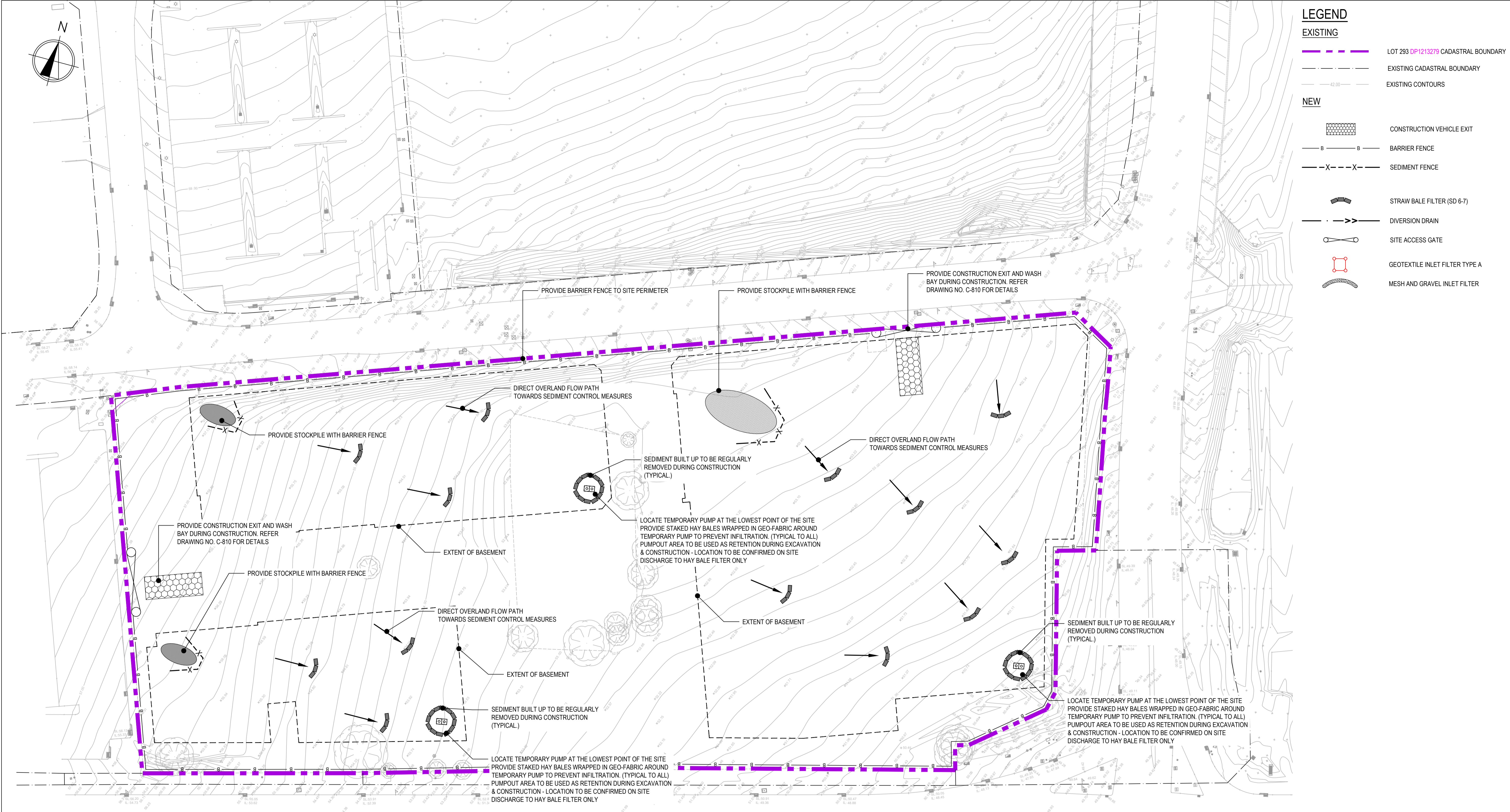
Drawn SY	Designed SY	Checked PM	Approved FX
Height Datum AHD	Grid MGA	SCALE 1:500	AT A1 SIZE



Engineering &  
Project Management  
ABN / 72646014342  
P / +61 435 144 005  
E / admin@skyeng.com.au  
www.skyeng.com.au

Project No. SY22-066	Drawing No. C-0800	Issue P1
-------------------------	-----------------------	-------------

P1	ISSUE FOR INFORMATION	20.05.2022
REV	DESCRIPTION	DATE
REVISIONS		



LEGEND

EXISTING

LOT 293 DP1213275 CADASTRAL BOUNDARY

EXISTING CADASTRAL BOUNDARY

EXISTING CONTOURS

NEW

CONSTRUCTION VEHICLE EXIT

BARRIER FENCE

SEDIMENT FENCE

STRAW BALE FILTER (SD 6-7)

DIVERSION DRAIN

SITE ACCESS GATE

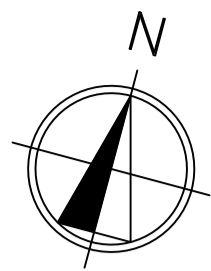
GEOTEXTILE INLET FILTER TYPE A

MESH AND GRAVEL INLET FILTER

- STAGE 2 BULK EARTHWORKS STAGE
- THE LOW POINT (WHICH IS TO STAY IN GENERAL LOCATION FOR THE DURATION IF THE EARTHWORKS OPERATIONS) IS TO A SEDIMENT BASIN.
  - AS THE SITE IS EXCAVATED THE SEDIMENT BASIN IS TO BE LOWERED AND LOCATED IN THE LOWEST AREA.
  - THE SEDIMENT BASIN IS TO BE TREATED IN ACCORDANCE WITH THE BLUE BOOK AND WATER ONLY PUMPED OUT WHEN THE SEDIMENT CONTENT IS BELOW 50mg/L.
  - A WASH DOWN BAY IS TO BE SET UP TO WASH DOWN SILT LADEN TYPES FROM VEHICLES PRIOR TO LEAVING THE SITE.
  - THE SITE IS TO HAVE A MATERIAL DROP OFF SPOT THAT IS SEALED DURING THE COURSE OF WORKS.
  - THE WATER ONCE CLEAN IS TO BE PUMPED OUT AND DISCHARGED IN ACCORDANCE WITH COUNCIL REQUIREMENTS TO A STREET PIT.
  - WHERE THE EXCAVATION METHOD CREATES TWO SEPERATE DEPRESSIONS THEN A SECOND SEDIMENT BASIN AND PUMP OUT SYSTEM ARE TO BE CONSTRUCTED.



			BAR SCALES			CLIENT 	PROJECT  STORMWATER MANAGEMENT PLAN	TITLE  EROSION AND SEDIMENT CONTROL PLAN SHEET 2	STATUS  ISSUED FOR INFORMATION				 Engineering & Project Management ABN / 72646014342 P / +61 435 144 005 E / admin@skyeng.com.au www.skyeng.com.au			
				Drawn ZW					Designed ZW	Checked PM	Approved FX					
P1 ISSUE FOR INFORMATION		20.05.2022		SCALE 1:500 AT A1 SIZE												
REV DESCRIPTION		DATE														
REVISIONS											Project No. SY22-066		Drawing No. C-0801		Issue P1	



LEGEND

EXISTING

- LOT 293 DP1213279 CADASTRAL BOUNDARY
- EXISTING CADASTRAL BOUNDARY
- EXISTING CONTOURS

NEW

- CONSTRUCTION VEHICLE EXIT
- BARRIER FENCE
- SEDIMENT FENCE
- STRAW BALE FILTER (SD 6-7)
- DIVERSION DRAIN
- SITE ACCESS GATE
- GEOTEXTILE INLET FILTER TYPE A
- MESH AND GRAVEL INLET FILTER

PROVIDE CONSTRUCTION EXIT AND WASH BAY DURING CONSTRUCTION. REFER DRAWING NO. C-810 FOR DETAILS

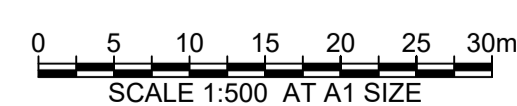
PROVIDE CONSTRUCTION EXIT AND WASH BAY DURING CONSTRUCTION. REFER DRAWING NO. C-810 FOR DETAILS

STAGE 3 ABOVE GROUND BUILDING CONSTRUCTION

- SILT FENCING IS TO REMAIN AROUND THE LOW SIDE PERIMETER. WHERE IT IS TAKEN DOWN FOR DELIVERIES, IT SHOULD BE REINSTATED IMMEDIATELY.
- THE SITE IS TO HAVE A MATERIAL DROP OFF SPOT THAT IS SEALED DURING THE COURSE OF THE WORKS.
- VEHICLES ARE NOT ALLOWED TO PARK ON THE FOOTPATH AND CREATE AREAS PRONE TO SOIL EROSION.
- DISTURBED AREAS SHOULD BE EITHER FINISHED AS SOON AS POSSIBLE OR TEMPORARY GEOTEXTILE (OR SIMILAR) PLACED DOWN TO PREVENT BARE GROUND BEING EXPOSED TO THE WEATHER.



BAR SCALES



CLIENT



PROJECT

STORMWATER  
MANAGEMENT PLAN

TITLE

EROSION AND  
SEDIMENT CONTROL  
PLAN  
SHEET 3

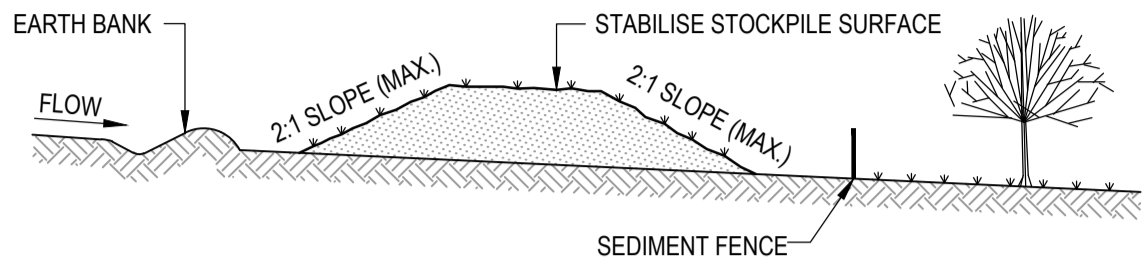
STATUS

ISSUED FOR INFORMATION

Drawn SY	Designed SY	Checked PM	Approved FX
Height Datum AHD	Grid MGA	SCALE 1:500	AT A1 SIZE

<b>SKY</b>	Engineering & Project Management ABN / 72646014342 P / +61 435 144 005 E / admin@skyeng.com.au www.skyeng.com.au		
	Project No. <b>SY22-066</b>	Drawing No. <b>C-0802</b>	Issue <b>P1</b>

P1	ISSUE FOR INFORMATION	20.05.2022
REV	DESCRIPTION	DATE
REVISIONS		

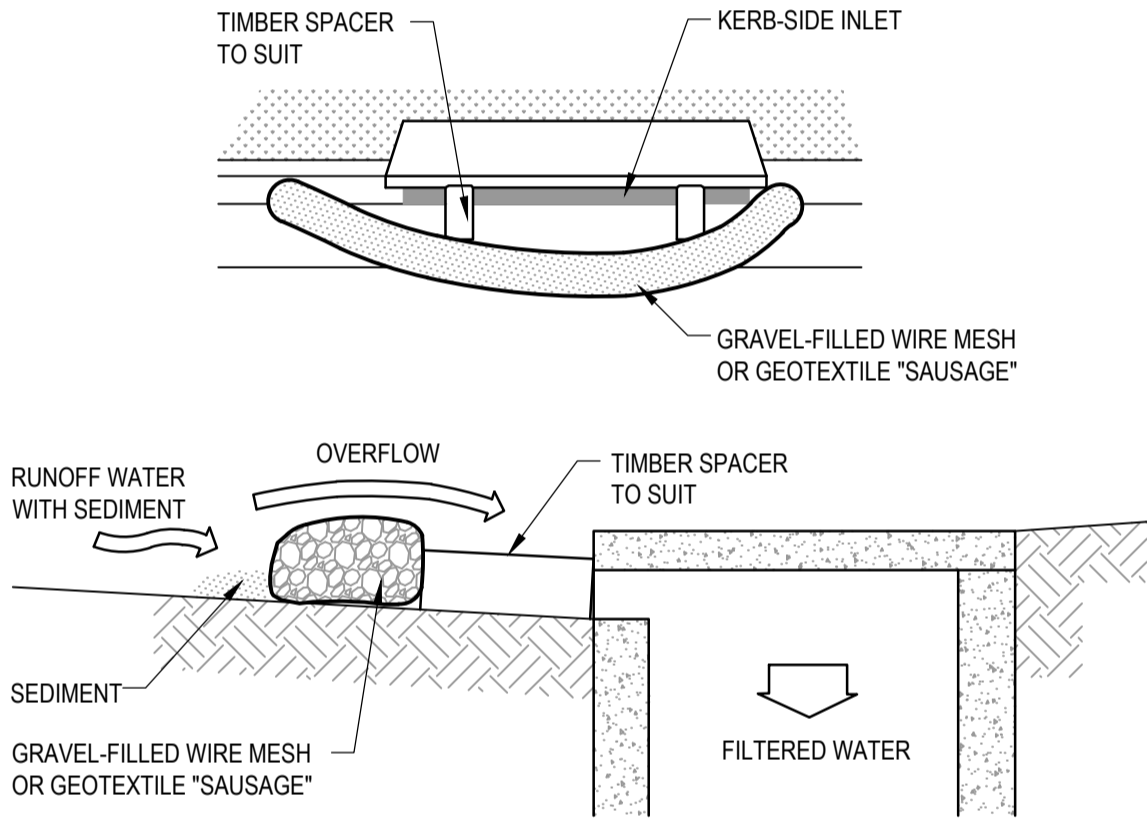


STOCKPILE CONSTRUCTION NOTES:

1. PLACE STOCKPILES MORE THAN 2 (PREFERABLY 5) METRES FROM EXISTING VEGETATION, CONCENTRATED WATER FLOW, ROADS AND HAZARD AREAS.
2. CONSTRUCT ON THE CONTOUR AS LOW, FLAT, ELONGATED MOUNDS.
3. WHERE THERE IS SUFFICIENT AREA, TOPSOIL STOCKPILES SHALL BE LESS THAN 2 METRES IN HEIGHT.
4. WHERE THEY ARE TO BE PLACE FOR MORE THAN 10 DAYS, STABILISE FOLLOWING THE APPROVED ESCP OR SWMP TO REDUCE THE C-FACTOR TO LESS THAN 0.10.
5. CONSTRUCT EARTH BANKS ON THE UPSLOPE SIDE TO DIVERT WATER AROUND STOCKPILES AND SEDIMENT FENCES 1 TO 2 METRES DOWNSLOPE.

STOCKPILES

SCALE N.T.S

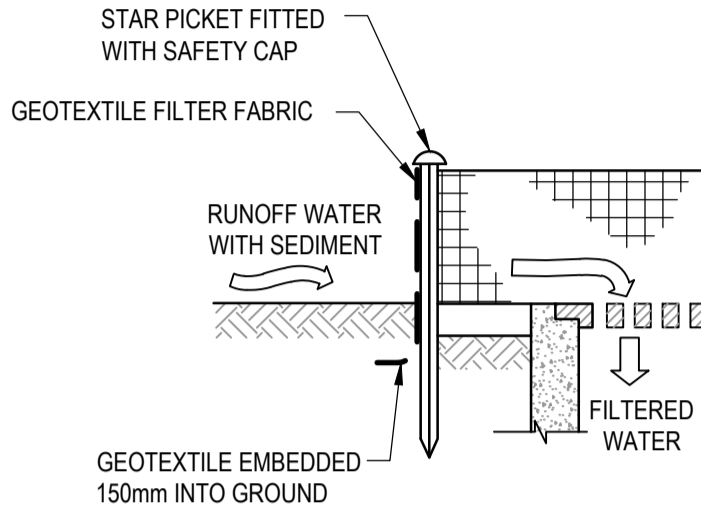
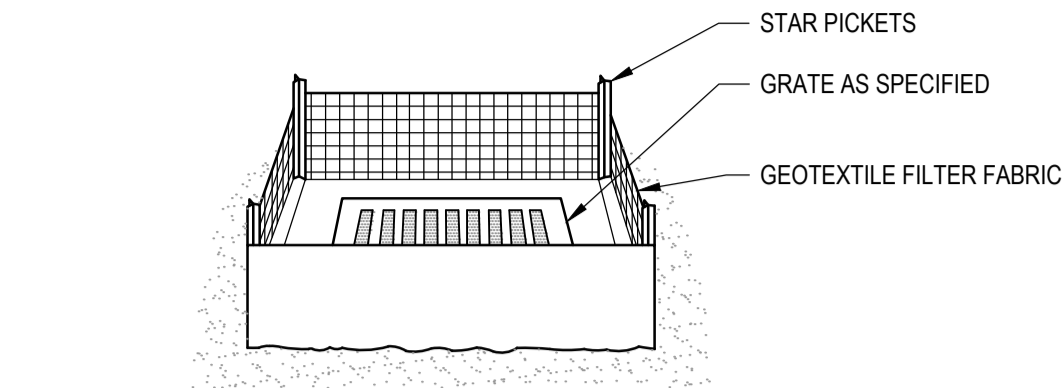


MESH & GRAVEL INLET FILTER CONSTRUCTION NOTES:

1. INSTALL FILTERS TO KERB INLETS ONLY AT SAG POINTS.
2. FABRICATE A SLEEVE MADE FROM GEOTEXTILE OR WIRE MESH LONGER THAN THE LENGTH OF THE INLET PIT AND FILL IT WITH 25mm TO 50mm GRAVEL.
3. FORM AN ELLIPTICAL CROSS-SECTION ABOUT 150mm HIGH x 400mm WIDE.
4. PLACE THE FILTER AT THE OPENING LEAVING AT LEAST A 100mm SPACE BETWEEN IT AND THE KERB INLET. MAINTAIN THE OPENING WITH SPACER BLOCKS.
5. FORM A SEAL WITH THE KERB TO PREVENT SEDIMENT BYPASSING THE FILTER.
6. SANDBAGS FILLED WITH GRAVEL CAN SUBSTITUTE FOR THE MESH OR GEOTEXTILE PROVIDING THEY ARE PLACED SO THAT THEY CAN FIRMLY ABUT EACH OTHER AND SEDIMENT-LADEN WATERS CANNOT PASS BETWEEN.

MESH & GRAVEL INLET FILTER

SCALE N.T.S

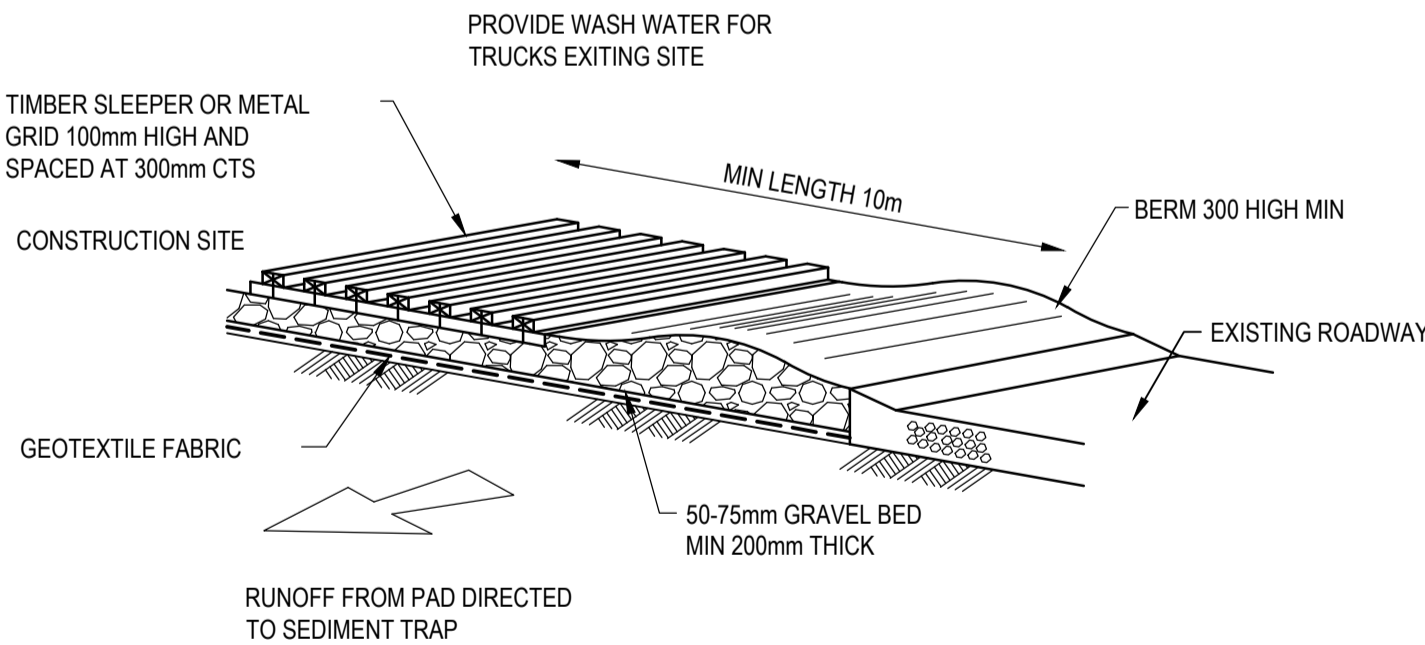


GEOTEXTILE INLET FILTER CONSTRUCTION NOTES:

1. FABRICATE A SEDIMENT BARRIER MADE FROM GEOTEXTILE OR STRAW BALES.
2. PICKET SPACING TO BE A MAXIMUM 1.0m CENTRES.
3. IN WATERWAYS, ARTIFICIAL SAG POINTS CAN BE CREATED WITH SANDBAGS OR EARTH BANKS AS SHOWN IN THE DRAWING.
4. DO NOT COVER THE INLET WITH GEOTEXTILES UNLESS THE DESIGN IS ADEQUATE TO ALLOW FOR ALL WATERS TO BYPASS IT.

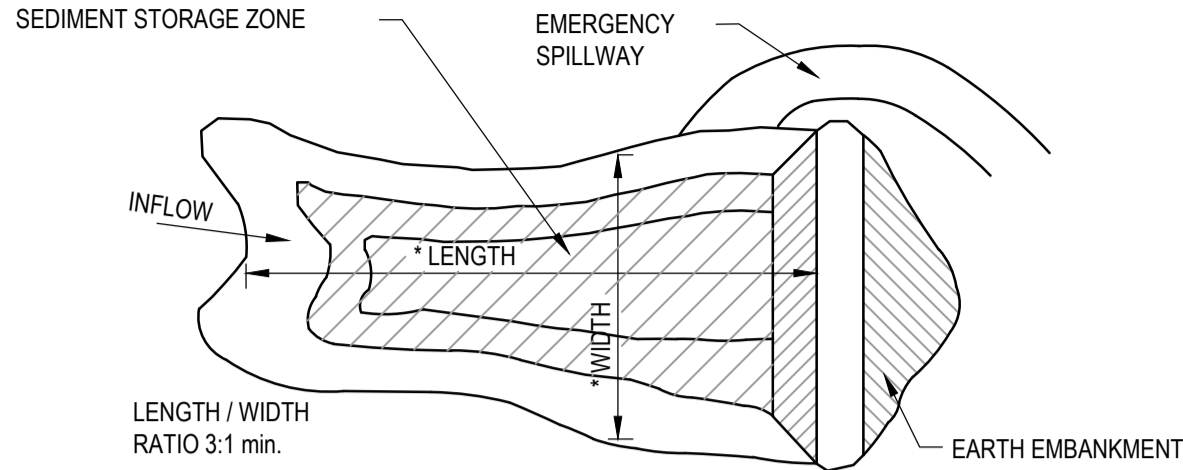
GEOTEXTILE INLET FILTER - TYPE A

SCALE N.T.S



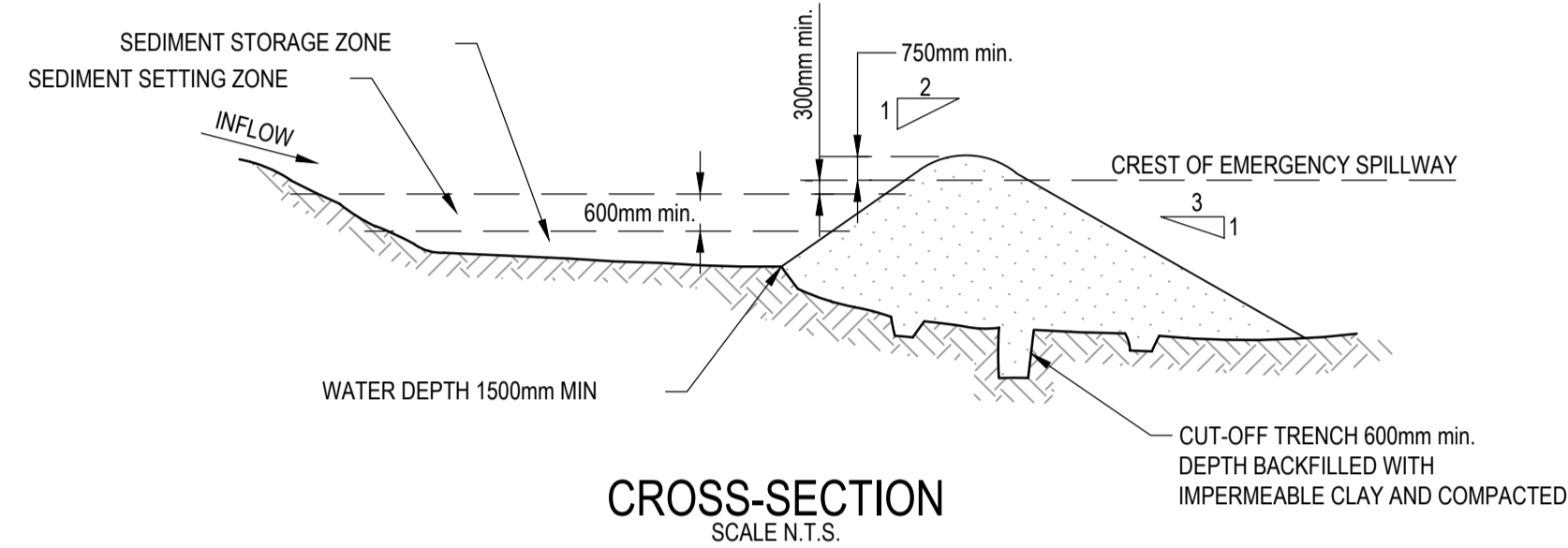
TEMPORARY CONSTRUCTION VEHICLE EXIT

SCALE N.T.S



PLAN VIEW

SCALE N.T.S.



CROSS-SECTION

SCALE N.T.S.

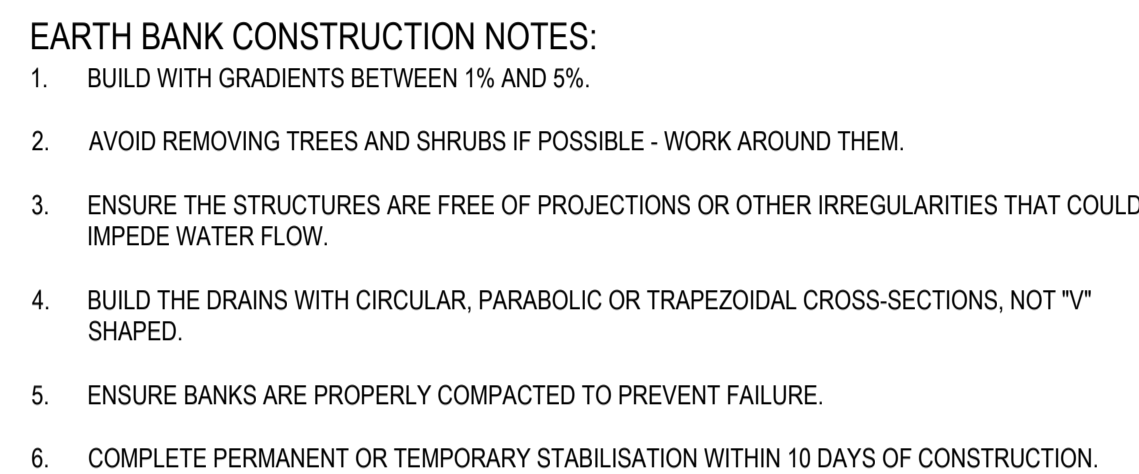
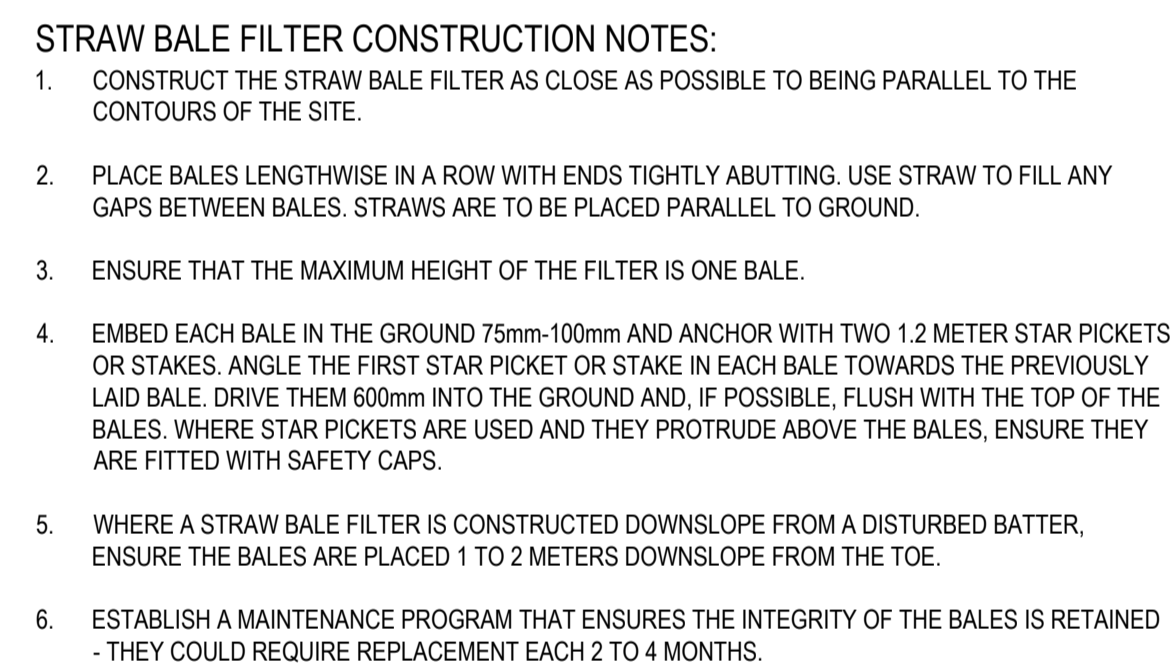
EARTH BASIN WET CONSTRUCTION NOTES:

1. REMOVE ALL VEGETATION AND TOPSOIL FROM UNDER THE DAM WALL AND FROM WITHIN THE STORAGE AREA.
- \* 2. CONSTRUCT A CUT-OFF TRENCH 500mm DEEP AND 1,200mm WIDE ALONG THE CENTRELINE OF THE EMBANKMENT EXTENDING TO A POINT ON THE GULLY WALL LEVEL WITH THE RISER CREST.
- \* 3. MAINTAIN THE TRENCH FREE OF WATER AND RECOMPACT THE MATERIALS WITH EQUIPMENT AS SPECIFIED IN THE SWMP TO 95% STANDARD PROCTOR DENSITY.
- \* 4. SELECT FILL FOLLOWING THE SWMP THAT IS FREE OF ROOTS, WOOD, ROCK, LARGE STONE OR FOREIGN MATERIAL.
- \* 5. PREPARE THE SIRE UNDER THE EMBANKMENT BY RIPPING TO AT LEAST 100mm TO HELP BOND COMPACTED FILL TO THE EXISTING SUBSTRATE.
- \* 6. SPREAD THE FILL IN 100mm TO 150mm LAYERS AND COMPACT IT AT OPTIMUM MOISTURE CONTENT FOLLOWING THE SWMP.
7. CONSTRUCT THE EMERGENCY SPILLWAY.
8. REHABILITATE THE STRUCTURE FOLLOWING THE SWMP.

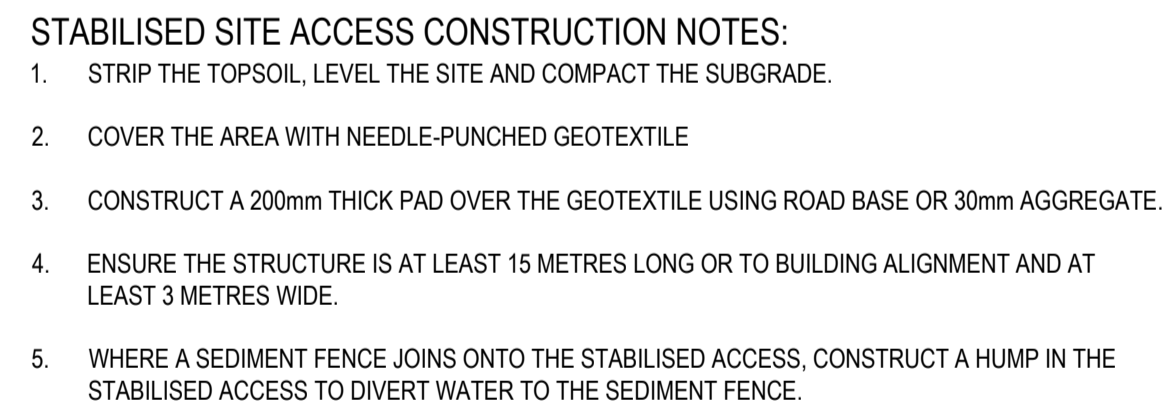
EARTH BASIN - WET

SCALE: N.T.S

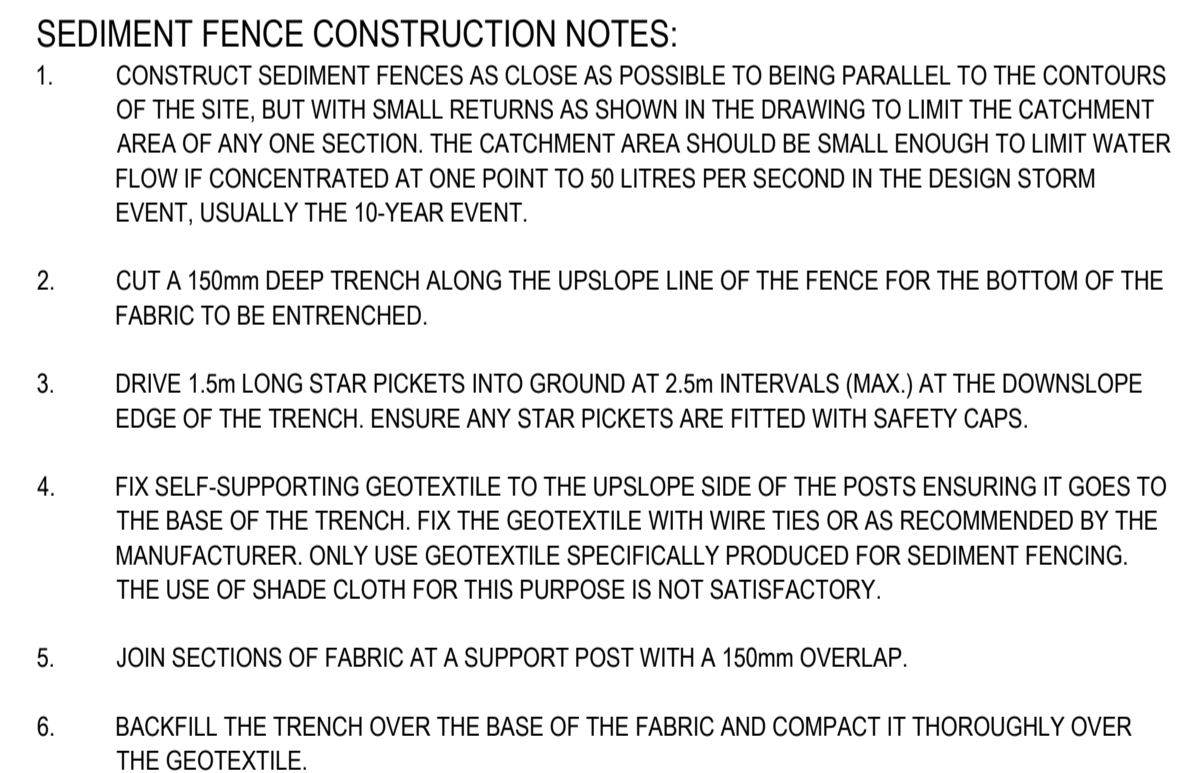
			BAR SCALES	CLIENT	PROJECT	TITLE	STATUS	<div>Engineering &amp; Project Management</div> <div>ABN / 72646014342</div> <div>P / +61 435 144 005</div> <div>E / admin@skyeng.com.au</div> <div>www.skyeng.com.au</div> <div>Project No.</div> <div>SY22-066</div> <div>Drawing No.</div> <div>C-0810</div> <div>Issue</div> <div>P1</div>		
							ISSUED FOR INFORMATION			
							Drawn SY	Designed SY	Checked PM	Approved FX
P1	ISSUE FOR INFORMATION	20.05.2022					Height Datum AHD	Grid MGA	SCALE NTS	AT A1 SIZE
REV	DESCRIPTION	DATE	REVISIONS							



## SCALE N.T.S



## SCALE N.T.S



## SCALE N.T.S.

F:\SY22-066 SWMP Tallawong\Drags\AutoCad\SY22-066-C-0811.dwg

20 May 2022

Deicorp  
Level 3, 161 Redfern Street  
Redfern NSW 2016

Reference: CE01-01-SY22-066.docx  
Our Contact: 0435 144 005  
Email admin@skyeng.com.au

Dear Mark,

**RE: COMPLIANCE STATEMENT – 1-15 & 2-12 CONFERTA AVENUE, ROUSE HILL  
(SITE 2)**

Sky Engineering acting as professional consulting engineers and project managers confirm that the Civil Engineering Plans prepared by Sky Engineering generally satisfies the following condition of consent (SSD 10425).

**25. Construction Soil and Water Management Plan**

*C25. Prior to the commencement of any earthwork or construction, the Applicant shall submit to the satisfaction of the Certifier a Construction Soil and Water Management Sub-Plan (CSWMSP) which must address, but not be limited to the following:*

- (a) be prepared by a suitably qualified expert, in consultation with Council.*
- (b) describe all erosion and sediment controls to be implemented during construction*
- (c) provide a plan of how all construction works will be managed in a wet-weather events (i.e. storage of equipment, stabilisation of the Site)*
- (d) detail all off-Site flows from the Site*
- (e) describe the measures that must be implemented to manage stormwater and flood flows for small and large sized events, including, but not limited to 1 in 1-year ARI, 1 in 5-year ARI and 1 in 100-year ARI.*

This letter is to certify that the Civil Engineering documentation titled 'Erosion and Sediment Control Works', Drawing No. as in the table below,

DRAWING NUMBER	DRAWING TITLE
C-0000	COVER SHEET LOCALITY PLAN AND DRAWING INDEX
C-0001	GENERAL NOTES
C-0800	EROSION AND SEDIMENT CONTROL PLAN SHEET 1
C-0801	EROSION AND SEDIMENT CONTROL PLAN SHEET 2
C-0802	EROSION AND SEDIMENT CONTROL PLAN SHEET 3
C-0810	EROSION AND SEDIMENT CONTROL DETAILS SHEET 1
C-0811	EROSION AND SEDIMENT CONTROL DETAILS SHEET 2

Revision P1, prepared by Sky Engineering relating to the Site 2, 1-15 & 2-12 Conferta Ave, Rouse Hill, is generally in accordance with the above.

This certificate shall not be construed as relieving any other parties of their responsibilities.

Should you have any questions, please don't hesitate to contact the undersigned.

Yours sincerely,



Peter McCallum

CPEng NER

Director

[peter@skyeng.com.au](mailto:peter@skyeng.com.au)

**Appendix D**  
**Construction Waste Management Plan**



Deicorp Projects (Tallawong Station) Pty Ltd

# Construction Waste Management Plan

Approved Mixed Use Development

Tallawong Station Precinct South – Site 2

May 2022

© Copyright Barker Ryan Stewart Pty Ltd  
2022 All Rights Reserved

Project No.	SY190226
Author	BM
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	06/07/2021	
2	Final	19/07/2021	
3	Final	26/05/2022	Site 2

#### **COPYRIGHT**

Barker Ryan Stewart reserves all copyright of intellectual property in any or all of Barker Ryan Stewart's documents. No permission, licence or authority is granted by Barker Ryan Stewart to any person or organisation to use any of Barker Ryan Stewart's documents for any purpose without the written consent of Barker Ryan Stewart.

#### **REPORT DISCLAIMER**

This report has been prepared for the client identified in section 1.0 only and cannot be relied on or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Barker Ryan Stewart are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

This report is for development application purposes only and is not to be relied upon for construction purposes. The waste calculations included in the report are an estimate only, based on the plans and documents supplied by the client and waste generation guidelines from Council, the EPA and other third parties. This report is a guideline only and should not be used as a basis for feasibility studies, safety procedures, operational costs, demolition / construction estimates or bills of quantities. Should waste generation be higher than expected, the site manager shall make appropriate adjustments to accommodate additional waste. Any equipment recommended in this report shall be assessed by the supplier and site manager to determine it is fit for the intended purpose.



**SYDNEY**  
P (02) 9659 0005  
E [sydney@brs.com.au](mailto:sydney@brs.com.au)

**CENTRAL COAST**  
P (02) 4325 5255  
E [coast@brs.com.au](mailto:coast@brs.com.au)

**HUNTER**  
P (02) 4966 8388  
E [hunter@brs.com.au](mailto:hunter@brs.com.au)

**SOUTH EAST QUEENSLAND**  
P (07) 5582 6555  
E [seqld@brs.com.au](mailto:seqld@brs.com.au)

# TABLE OF CONTENTS

	<b>Page numbers</b>
1 Author and Contact Details.....	4
2 Introduction.....	5
3 Proposed Development .....	7
4 Project Requirements.....	8
5 Waste Avoidance and Reduction .....	9
5.1 Landcom and Sydney Metro Waste Requirements .....	9
5.2 Waste Strategy.....	9
5.3 Construction Waste Monitoring and Reporting .....	9
5.4 Excavation Waste Reuse .....	10
5.5 Roles and Responsibilities .....	10
5.6 Waste Avoidance and Reduction Methods.....	10
5.7 End Destination for Waste Streams.....	11
5.8 Waste Classification Measures.....	11
5.9 Waste Recovery Rate .....	11
6 Construction.....	13
6.1 Waste Generation .....	13
6.2 Meeting Waste Targets .....	14
6.3 Waste Confirmation .....	14
7 Conclusion.....	15

Appendix A – Site 2 Staging Plan

Appendix B – Site 2 Management Plan

## 1 Author and Contact Details

### AUTHOR DETAILS

Name	Barker Ryan Stewart
Address	Suite 603, Level 6, 12 Century Circuit, Norwest Business Park
Phone number(s)	02 9659 0005
Email	sydney@brs.com.au

### DEVELOPMENT DETAILS

Project Details	Tallawong Station Precinct South
Address of Development	1-15 Conferta Avenue, Rouse Hill (Lot 293 DP 1213279) and 2-12 Conferta Avenue (Lot 294 DP 1213279)
DA Details	SSD 10425
Existing Buildings and other structures currently on the site	The site is currently vacant of buildings.
Description of approved development	Construction of a staged mixed-use development (Tallawong Station Precinct South).

This development achieves the waste objectives set out in the DCP. The details on this form are the provisions and intentions for minimising waste relating to this project. All records demonstrating lawful disposal of waste will be retained and kept readily accessible for inspection by regulatory authorities such as council, OEH or WorkCover NSW.

Contact Name Glenn Barker

Signature



Date 26/05/2022

## 2 Introduction

Barker Ryan Stewart have been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a Construction Waste Management Plan (CWMP) in order to obtain a Construction Certificate for the approved Tallawong Station South mixed use precinct (SSD 10425).

Conditions associated with the Construction Waste Management Sub-Plan are discussed in Table 1 below.

Table 1: Condition Review (C.24)

Condition Requirement	Comment
C24. Prior to the commencement of any earthwork or construction, the Applicant shall submit to the satisfaction of the Certifier a Construction Waste Management Sub-Plan (CWMP) for the development. A copy of the CWMP must be submitted to the Planning Secretary and Council for information. The Sub-Plan must include, as a minimum, the following elements:	
(a) require that all waste generated during the project is assessed, classified and managed in accordance with the EPA's "Waste Classification Guidelines Part 1: Classifying Waste";	Refer to Section 4.6 for waste classification guidelines.
(b) demonstrate that an appropriate area will be provided for the storage of bins and recycling containers and all waste and recyclable material generated by the works;	Location of waste bins is shown on the Plan provided in Appendix A.
(c) procedures for minimising the movement of waste material around the site and double handling;	Refer to Section 4.2 – Waste Strategy which identified methods to prevent double handling.
(d) waste (including litter, debris or other matter) is not caused or permitted to enter any waterways;	The site is not located in close proximity to any waterways. Notwithstanding, measures will be implemented to ensure waste is contained within designated waste bin enclosures throughout construction. Refer to Site Management Plan in Appendix A which identifies site fencing and waste storage areas.
(e) any vehicle used to transport waste or excavation spoil from the site is covered before leaving the premises;	Refer to Section 4.6 - Waste Avoidance and Reduction, which details waste vehicle measures.
(f) the wheels of any vehicle, trailer or mobilised plant leaving the site and cleaned of debris prior to leaving the premises;	Refer to Section 4.6 - Waste Avoidance and Reduction, for details of vehicle cleaning prior to exiting the site.
(g) details in relation to the transport of waste material around the site (on-site) and from the site, including (at a minimum):	
<ul style="list-style-type: none"> <li>a traffic plan showing transport routes within the site;</li> </ul>	A Site Management Plan is provided in Appendix A detailing transport routes within the site.
<ul style="list-style-type: none"> <li>a commitment to retain waste transport details for the life of the project to demonstrate compliance with the Protection of the Environment Operations Act 1997; and</li> </ul>	Refer to Section 4.3 – Construction Waste Monitoring and Reporting. Management will be required to retain all waste transport details, including receipts and contract details, for the life of the project.

Condition Requirement	Comment
<ul style="list-style-type: none"><li><i>the name and address of each licensed facility that will receive waste from the site (if appropriate).</i></li></ul>	Details of end destinations for waste streams is provided in Section 4.7.

### 3 Proposed Development

The proposal also includes construction of new roads and public open space elements as provided in the Architectural Plans submitted with the EIS.

*Table 2: Proposed Development*

Land Use		Yield
Residential	1 Bedroom	252 units
	2 Bedroom	682 units
	3 Bedroom	53 units
	<b>Total</b>	<b>987 units</b>
Retail		6,000m <sup>2</sup>
Commercial		3,000 m <sup>2</sup>

The Construction Waste Management Plan covers the estimated quantities for the entire development Site 1 and Site 2. This later revision of the Construction Waste Management Plan was prepared as a supporting document with respect to issuing a Construction Certificate for Site 2.

The construction of Site 2 will be split into four stages, beginning from Stage 2 (Stage 1 relates to Site 1 of the development).

Stage 2 involves the construction and dedication of public roads and footpaths

Stage 3 includes the construction of Site 2A, the north-west tower.

Stage 4 includes the construction of Site 2D, the south-west tower.

Stage 5 is the concurrent construction of Site 2B, C and E, the remaining towers.

These stages are outlined in the Staging Plan for Site 2 attached at **Appendix A** and the Site Management Plan for Site 2 is located at **Appendix B**.

## 4 Project Requirements

In collaboration with Landcom and Sydney Metro, Deicorp have made a commitment to divert  $\geq 95\%$  of construction waste away from landfill. As discussed in Section 3.1, this Construction Waste Management Plan has been prepared to enable contractors and site management to meet specific waste objectives.

This CWMP has been prepared having regard for the specific waste management controls and objectives of the Blacktown City Council Growth Centre Precincts DCP, where development applications are required to demonstrate consideration of the following:

- a) To maximise opportunities for re-use through source separation and on-site storage.*
- b) To minimise waste generation and maximise re-use and recycling*
- c) To minimise waste generation through design, material selection and building practices.*
- d) To ensure efficient storage and collection of waste and quality design of facilities*

The Secretary's Environmental Assessment Requirements (SEAR's) dated 13 February 2020 also required the preparation of a waste strategy to accompany submission of the SSD application.

## 5 Waste Avoidance and Reduction

### 5.1 Landcom and Sydney Metro Waste Requirements

Landcom and Sydney Metro waste requirements have been reviewed and Barker Ryan Stewart confirm the construction of the proposed Tallawong Station Precinct South development can meet the following Landcom and Sydney Metro objective:

*E1. Waste Diversion*

*Project will divert  $\geq 95\%$  of construction waste from landfill (excluding contamination or hazardous materials which are to be processed safely).*

### 5.2 Waste Strategy

Contractors will be provided with a waste management module which outlines primary ways to manage waste and divert excess construction materials from landfill. To ensure the project will divert more than 95% of waste from landfill, the construction waste strategy will include:

- Utilising all suitable topsoil (approximately 5%) on site for landscaping purposes.
- All inert fill (approximately 95%) excavated from the site will be transported to approved development sites to be reused where additional inert fill is required.
- All waste identified with contaminants to be disposed at approved waste facilities.
- Information on the importance of early waste separation and in-situ characterisation of waste;
- Methods to enable identification of waste and construction materials;
- Appropriate instructions for documenting volumes of waste and methods of disposal; are to be provided to contractors and all waste transport details must be retained on file by Management for the life of the construction program.
- Site Manager field observations and audits designed to ensure that contractors are adhering to the construction waste strategy;
- Reduce stockpiling of waste where possible as it becomes difficult to characterise specific materials for recycling when certain materials cannot be visually identified. Use of stockpiles promotes double handling which impacts site safety and productivity;
- Specific waste characterisation areas should allow waste to be sorted in a safe environment away from immediate construction danger;
- Procedures to be prepared prior to construction for Site Managers or persons responsibility for site waste to undertake a final inspection of landfill waste to ensure the materials have been characterised correctly;
- Procedure to be prepared for potential reuse of construction materials on site.

### 5.3 Construction Waste Monitoring and Reporting

Documentation of construction waste generation totals, methods of removal and on site reuse, off site reuse, off site recycling and off-site disposal should be maintained by contractors for the life of the project to ensure waste targets are achieved and documented. Where possible, Site Managers should be responsible for the preparation of monthly reporting to ensure waste objectives are being met.

A Waste Register is to be kept by all contractors documenting the following:

- Type of waste;
- Total tonnage and volume of waste;
- Category of waste (recycling, reuse, landfill);
- Destination for reuse, recycling or landfill; and
- Landfill and waste contractor receipts.

Any non-conformances throughout construction should be identified immediately and Site Managers should undertake any actions required to prevent the issue reoccurring.

## 5.4 Excavation Waste Reuse

With the exception of some minor contaminants and asbestos identified in the Detailed Site Investigation Report prepared by EI Australia 100% of the excavated material will be reused including approximately 5% on site for landscaping and 95% to other approved development sites requiring inert fill.

The proposal will require the excavation of approximately 380,000m<sup>3</sup> of material to facilitate construction. To ensure that more than 95% of excavation material is diverted from landfill, all inert material excavated from the site will be transported to local development sites requiring extra fill.

Any topsoil will remain on site for use in landscaping with remaining topsoil transported to nearby development sites. Details of nearby development sites will be provided prior to excavation of the material.

## 5.5 Roles and Responsibilities

Table 3 identifies typical roles and responsibilities associated with contractor waste disposal in large construction sites. Note roles and responsibilities will be assigned by the contractor and the following information is provided as a guide only.

*Table 3: Typical Waste Roles and Responsibilities*

Role	Typical Responsibility
<b>Site Management or Waste Managers</b>	Responsible for the meeting of all waste objectives within the site area including monitoring, reporting and delegating of tasks where required to ensure at least 95% of waste is to be diverted from landfill.
<b>Construction personnel</b>	Responsible for daily waste characterisation and maintenance to ensure waste objectives are being met. Construction personnel should be educated on the requirement of the waste strategy and any impacts associated with
<b>WHS Managers</b>	Typically, responsible for management of site safety and induction of all workers prior to construction. This may include discussion of the waste management strategy and hierarchy associated with waste disposal on and off the site.
<b>External Waste Contractors</b>	Responsible for the collection and disposal of waste to recycling facilities or landfill. External waste contractors should report to the Site Managers or Waste Managers to ensure the waste strategy is being adopted and documentation of waste leaving the site is prepared.

## 5.6 Waste Avoidance and Reduction Methods

- All fixtures and fittings will be made to measure wherever possible;
- All materials will be ordered in accordance with a bill of quantities;
- Recycled materials will be utilised on site or on nearby sites where ever possible to reduce transport costs and impacts to the environment;
- Measures will be taken to ensure the construction contractor is aware of the waste management procedures and adheres to appropriate guidelines;
- Salvage materials for recycling and reuse during the construction process; and
- The remaining waste to be transported to a recognised builders recycling yard or waste facility.

- All waste vehicles must ensure that loads, including dirt and general, recycling or metal waste, will be covered prior to leaving the site. Site Management is tasked with the responsibility of ensuring all waste loads are covered.
- The wheels of all vehicles must be hosed down or cleaned of debris prior to exiting the site. This should occur in locations identified for vehicle entry/ exit on the approved Site Management Plans.

## 5.7 End Destination for Waste Streams

Per requirements of the green star credit system, see below details of the Construction Waste Management contractor that is to be engaged to undertake construction waste removal from the site.

### **Cheap and Quick Waste Bins Pty Ltd.**

25 - 27 Governor Macquarie Drive  
Chipping Norton NSW 2170

The waste contractor will utilise the below end destination for all recyclable materials.

### **KLF Holdings Pty Ltd**

16 Grande Avenue  
Camelia NSW 2142

Landfill products will be transported to SUEZ at Kemps Creek.

## 5.8 Waste Classification Measures

The NSW EPA Waste Classification Guidelines provided in Figure 1 should be adhered to during the entire construction life cycle. It is the responsibility of Site Management to initiate waste classification with contractors in accordance with the EPA Guidelines.

Given demolition is not required and construction waste will generally fall within the general waste or recycling categories, suitable areas have been designated for waste storage to eliminate double handling of waste. Stockpiles should be avoided, and Site Management are to be tasked with undertaking initial waste classification to determine the immediate location for all construction waste. All waste areas should have general and recycling waste bins available to ensure that waste will not be transported unnecessarily around the site.

Refer to waste locations in Appendix A for further information.

## 5.9 Waste Recovery Rate

The Green Star Construction & Demolition Waste Reporting Criteria maintains that a waste processing facility's diversion of waste for recovery is limited to 50% of the facility's total input as follows:

*This 50 percent cap is based on the GBCA's position that energy recovery from construction and demolition waste streams is not an acceptable substitution for recycling in its own right, but rather a complementary management solution for wastes that would otherwise go to landfill. As a consequence, waste processing facilities that divert waste streams for the production of nonstandard fuels for waste-to-energy purposes should not rely on this waste diversion pathway for the majority of their recycling output.*

It is therefore considered that the maximum waste recovery rate achievable for the proposed development is 50% of recycled waste generation calculations provided in Table 3.

**Step 1**

Establish if the waste is classified as special waste.

**Step 2**

If the waste is not classified as special waste, establish whether the waste is classified as liquid waste.

**Step 3**

If the waste is not classified as special waste or liquid waste, establish whether the waste is of a type that is 'pre-classified'.

To simplify the classification process, a number of commonly generated wastes have been pre-classified as either hazardous, restricted solid, general solid waste (putrescible) or general solid waste (non-putrescible) in the waste classification definition section of Schedule 1 of the *Protection of the Environment Operations Act 1997* (POEO Act).

**Step 4**

If the waste is not classified as special waste, liquid waste or pre-classified (as set out in Step 3), establish if the waste has certain hazardous characteristics and therefore is classified as hazardous waste.

These hazardous characteristics are set out in the definition of 'hazardous waste' in Schedule 1 of the POEO Act, and in Step 4 of Part 1 of the Guidelines.

**Step 5**

If the waste has not been classified after Steps 1 to 4, it should be chemically assessed to determine whether it is hazardous, restricted solid or general solid waste (putrescible or non-putrescible). If the waste has not been classified after Steps 1 to 4 and is not chemically assessed under Step 5, it must be classified as hazardous waste.

**Step 6**

If the waste is chemically assessed under Step 5 as general solid waste, a further assessment is available to determine whether the waste is general solid waste putrescible or non-putrescible. The assessment determines whether the waste is capable of significant biological transformation. If the waste is classified as general solid waste under Step 5 and this assessment is not undertaken, it must be classified as general solid waste (putrescible).

Figure 1: Extract from NSW EPA Waste Classification Guidelines

## 6 Construction

### 6.1 Waste Generation

Table 4 identifies expected combined waste generation during construction for Site 1 and Site 2 works. Note volume to mass calculations for construction waste have been guided by the *Green Star Reduction of Construction and Demolition Waste* document which provides a *conversion factors* table used to convert measurement of waste types from volume to weight.

Table 4: Expected Construction Waste Generation

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
	Estimate Volume (m <sup>3</sup> )	Estimate Volume (m <sup>3</sup> )	Estimate Volume (m <sup>3</sup> )	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Excavation material	380,000m <sup>3</sup>	-	-	380,000 tonnes	Excavated materials will be reused as fill on this site or other developments.
Timber (Side façade / dressed)	50m <sup>3</sup>	65.7m <sup>3</sup>	-	185.12 tonnes	Reused on site or transferred to waste recycling facility.
Gyprock / Cladding	55m <sup>3</sup>	63.7m <sup>3</sup>	-	23.74 tonnes	Reused on site or transferred to waste recycling facility.
Concrete	18.1m <sup>3</sup>	10.4m <sup>3</sup>	-	65.55 tonnes	Any excess concrete will be retained in the truck and used elsewhere or if required will be transferred to a waste recycling facility.
Masonry (Hebel Block/ cement sheeting / Pavers)	44m <sup>3</sup>	55.5m <sup>3</sup>	-	129.35 tonnes	Reused on site or transferred to waste recycling facility.
Tiles (roof)	N/A	N/A	N/A	N/A	No roof tiles will be used in the development.
Metal (roofing / framing / façade)	28m <sup>3</sup>	36m <sup>3</sup>	-	57.6 tonnes	Reused on site or transferred to waste recycling facility.
Glass	N/A	N/A	N/A	N/A	All glass will be made to order.
Furniture	N/A	N/A	N/A	N/A	Not an issue at construction stage.
Fixtures / fittings	19.2m <sup>3</sup>	11.5m <sup>3</sup>	-	9.21 tonnes	Fixtures will generally be made to order. Any excess will be reused or transferred to waste recycling facility.
Floor coverings	30m <sup>3</sup>	48.3m <sup>3</sup>	-	23.49 tonnes	Reused on site or transferred to waste recycling facility.

TYPE OF WASTE GENERATED	REUSE	RECYCLE	DISPOSAL	MASS	COMMENT
	Estimate Volume (m <sup>3</sup> )	Estimate Volume (m <sup>3</sup> )	Estimate Volume (m <sup>3</sup> )	Estimate Mass (Tonnes)	Specify method of on-site reuse, contractor and recycling outlet and/or waste depot to be used
Packaging (used pallets / pallet wrap)	90m <sup>3</sup>	57.4m <sup>3</sup>	9.5m <sup>3</sup>	37.07 tonnes	Pallets will be reused by delivery contractors or transferred to a Material Recovery Facility. Wrap and packaging will be transferred to waste recycling or waste management facility.
Garden organics	24.6m <sup>3</sup>	30m <sup>3</sup>	-	8.19 tonnes	Organics will be ordered to size in accordance with the quantity survey. Any excess will be returned to provider, reused on site or another development site or transferred to a waste recycling facility.
Containers (cans / plastic / glass)	-	24.5m <sup>3</sup>	-	3.4 tonnes	Containers will be transferred to a waste recycling facility.
Paper / cardboard	-	59.1m <sup>3</sup>	-	5.91 tonnes	Transferred to waste recycling facility.
Residual waste		157.5m <sup>3</sup>	44m <sup>3</sup>	161.2 tonnes	Residual waste will be sorted and transferred to a waste recycling facility or waste management facility as required.
Hazardous / special waste (specify)	N/A	N/A	N/A	N/A	No hazardous materials will be utilised in the construction.
Other (Asphalt)	32m <sup>3</sup>	28.9m <sup>3</sup>	-	48.72 tonnes	Reused on another development site or transferred to waste recycling facility.
TOTAL	390.9m <sup>3</sup> (excl excavation amount)	648.5m <sup>3</sup>	53.5m <sup>3</sup>	758.2 tonnes (excl excavation)	

## 6.2 Meeting Waste Targets

Based on the above figures and without taking into account significant reuse of excavation materials, our estimates conclude that approximately 95.1% of construction waste can be recycled or reused and diverted from land fill.

## 6.3 Waste Confirmation

Final waste calculations during construction will be provided as part of a construction management plan included as part of the construction certificate process.

## 7 Conclusion

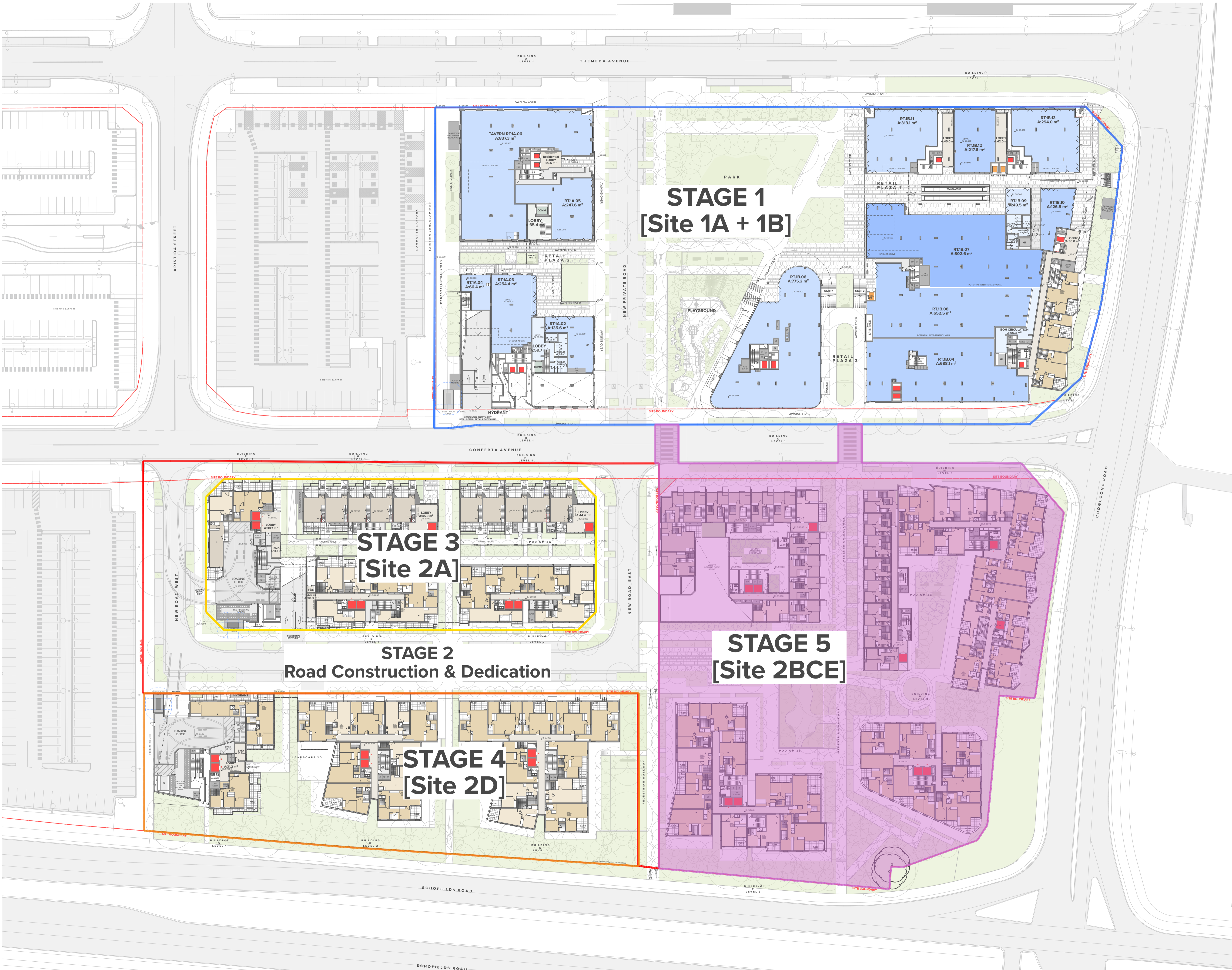
This Construction Waste Management Plan has been prepared to guide waste management processes associated with the proposed mixed use development and the issue of a Construction Certificate for Site 2.

With the exception of some minor contaminants and asbestos identified in the Detailed Site Investigation Report prepared by EI Australia, 100% of the excavated material will be reused including approximately 5% on site for landscaping and 95% to other approved development sites requiring inert fill.

The quantity of waste materials to be generated onsite are estimates based on the information provided. It is estimated that approximately 95.1% of construction waste can be reused or recycled and diverted from landfill in accordance with Landcom objectives.

Site management are responsible for proactive waste protocols during the construction phase to ensure that  $\geq 95\%$  waste is diverted from landfill.

## Appendix A Staging Plan



NOTES  
THIS DRAWING IS COPYRIGHT © OF TURNER. NO REPRODUCTION WITHOUT PERMISSION. UNLESS NOTED OTHERWISE THIS DRAWING IS NOT FOR CONSTRUCTION. ALL DIMENSIONS AND LEVELS ARE TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF WORK. IN THE EVENT OF ANY DISCREPANCIES FOR CLARIFICATION BEFORE PROCEEDING WITH WORK. DRAWINGS ARE NOT TO BE SCALED. USE ONLY FIGURED DIMENSIONS. REFER TO CONSULTANT DOCUMENTATION FOR FURTHER INFORMATION. IFC AND BAK FILES ARE UNCONTROLLED DOCUMENTS AND ARE ISSUED FOR INFORMATION ONLY.

DL22 Quality Endorsed Company ISO 9001:2015, Registration Number 28475  
Notified Architect: Nicholas Turner, 8665, ABA 86 064 084 911

KEY PLAN

LEGEND

- STAGE 1 - Site 1A+1B completed
- STAGE 2 - Construction & Dedication of public roads + footpaths
- STAGE 3 - Site 2A completed
- STAGE 4 - Site 2D completed
- STAGE 5 - Site 2BCE completed

Notes:  
1. Indicative staging plan shown.  
2. Refer to detailed staging plans prepared by surveyor.

Rev	Date	Approved by	Issue Name
04	24/11/20	YO	RF11 for BCC
05	09/12/20	YO	RF11 for DPIE
06	23/2/21	YO	RF11 for DPIE Update

CLIENT  
Deicorp  
Level 4, 151 Redfern Street Redfern NSW 2016 Australia  
8665 4100  
@deicorp.com.au

Project Title <b>Tallawong Station Precinct South</b> 1-15 & 2-12 Conferta Avenue Rouse Hill NSW 2155			
Drawing Title <b>Site Information</b> <b>Staging Diagram_S5</b>			
Scale <b>1:500 @A1, 50%@A3</b>	Project No. <b>18095</b>	Drawn by <b>TURNER</b>	North ↑
Status <b>RF11 for DPIE Update</b>	Dwg No. <b>DA-010-015</b>	Rev <b>06</b>	

## **Appendix B**

### **Site Management Plan**



## **Appendix E**

### **Construction Pedestrian and Traffic Management Plan**



Deicorp Projects (Tallawong Station) Pty Ltd

# Construction Pedestrian and Traffic Management Plan

Tallawong Station Precinct South – Site 2

28 May 2022

© Copyright Barker Ryan Stewart Pty Ltd  
2022 All Rights Reserved

Project No.	SY190226
Author	JH
Checked	GB
Approved	GB

Rev No.	Status	Date	Comments
1	Draft	13/03/2020	
2	Final	16/04/2020	Deicorp comments
3	Amended Final	20/04/2020	Deicorp comments
4	Amended Final	07/05/2020	Landcom and Sydney Metro comments
5	Amended Final	06/07/ 2021	Updated for CC application
6	Amended Final	16/07/2021	Updated with revised VMP and TCP
7	Amended Final	19/07/2021	Updated with construction hours & TfNSW comments
8	Amended Final	04/08/2021	Updated for Stage 1 – Early Works to address TfNSW comments dated 27 July 2021.
9	Amended Final	04/08/2021	Updated for Stage 1 – Building Works
10	Amended Final	10/08/2021	Updated for combined Construction and Building Works
11	Amended Final	8/09/2021	Building Works TCP amended
12	Amended Final	14/10/2021	Building Works TCP amended
13	Final	30/05/2022	Site 2

**COPYRIGHT**

*Barker Ryan Stewart reserves all copyright of intellectual property in any or all of Barker Ryan Stewart's documents. No permission, licence or authority is granted by Barker Ryan Stewart to any person or organisation to use any of Barker Ryan Stewart's documents for any purpose without the written consent of Barker Ryan Stewart.*

**REPORT DISCLAIMER**

*This report has been prepared for the client identified in section 1.0 only and cannot be relied on or used by any third party. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Barker Ryan Stewart are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.*

**SYDNEY**

**P** (02) 9659 0005

**E** [sydney@brs.com.au](mailto:sydney@brs.com.au)

**CENTRAL COAST**

**P** (02) 4325 5255

**E** [coast@brs.com.au](mailto:coast@brs.com.au)

**HUNTER**

**P** (02) 4966 8388

**E** [hunter@brs.com.au](mailto:hunter@brs.com.au)

**SOUTH EAST QUEENSLAND**

**P** (07) 5582 6555

**E** [seql@brs.com.au](mailto:seql@brs.com.au)

## Planning Secretary's Environmental Assessment Requirements

### Section 4.12(8) of the *Environmental Planning and Assessment Act 1979*

### Schedule 2 of the *Environmental Planning and Assessment Regulation 2000*

<b>Application Number</b>	SSD-10425
<b>Project Name</b>	Site 2 – Detailed Development Application - Tallawong Station Precinct South
<b>Location</b>	1-15 and 2-12 Conferta Avenue, Rouse Hill within Blacktown City Council
<b>Applicant</b>	Deicorp Projects (Tallawong Station) Pty Ltd
<b>Date of Issue</b>	17/05/2022

Requirement	Relevant Report Section
<b>Construction Pedestrian and Management Plan (including construction traffic)</b> The EIS shall include a Construction Pedestrian and Management Plan, developed in consultation with TfNSW, providing:	
Identification of construction traffic-related impacts and development of mitigation measures.	Section 3
Haulage movement numbers and transport routes between the site and the major road network.	Section 3.6 and Appendix B.
An assessment of road safety at key intersections and locations subject to pedestrian / vehicle / bicycle conflicts.	Road Safety Audit (construction stage) Appendix D.
Detailed travel management strategy for construction staff to minimise their commuter trips.	A Green Travel Plan has been prepared and submitted under separate cover.
Construction car parking strategy.	Section 3.4
Pedestrian and cyclist links / routes being maintained.	Refer to Section 3.6 Table 2
Independent road safety audits on construction-related traffic measures.	Road Safety Audit (construction stage) Appendix D.
Measures to account for any cumulative activities / work zones operating simultaneously.	Refer to Table 3.4
Independent road safety audits undertaken for all stages of further design development. Any issues identified by the audits will need to be closed out to the satisfaction of the relevant road authorities.	Road Safety Audit (construction stage) Appendix D.

## TABLE OF CONTENTS

1	Introduction .....	6
2	Project Overview .....	7
2.1	Proposed Development .....	7
	The location of the site is shown below in Figure 2.1 .....	7
2.2	Overall Building and Construction Works .....	7
2.3	Overall Project Program .....	8
2.4	Site 2 –Works .....	10
2.5	Other Developments.....	10
3	Existing Road Network.....	12
4	Traffic Management .....	13
4.1	General.....	13
4.2	Potential Traffic Impacts .....	13
4.3	Vehicle Movement Plan .....	14
4.4	Traffic Control Plan .....	14
4.5	Traffic Management Strategy.....	15
4.6	Impact of Construction Traffic .....	15
4.7	Construction Parking Strategy .....	16
4.8	Road Safety Audit (Construction stage) .....	16
5	Monitoring and Performance .....	18
5.1	General.....	18
5.2	Consultation and Records.....	18
6	Conclusion.....	19

Appendix A – Site Management Plans

Appendix B - Vehicle Movement Plan (VMP)

Appendix C – Traffic Control Plan (TCP)

Appendix D – Swept Path Analysis

Appendix E – Road Safety Audit (Construction stage)

## 1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a Construction Pedestrian and Traffic Management Plan (CPTMP) to detail traffic management procedures and systems for the Site 2 for the proposed mixed-use development at Tallawong Station Precinct South in accordance with the requirements of:

- North-West Growth Centre Development Control Plan;
- TfNSW *"Traffic Control at Worksites Manual 2018"*; and
- AS1742.3 2009 *"Manual of uniform traffic control devices"*

The purpose of this plan is to ensure the safe and controlled movement of traffic at the site during the demolition, excavation and building works to address potential traffic, access, car parking and pedestrian issues generated by the works.

In preparing this CPTMP the following items have been considered/undertaken:

- An inspection of the site and surrounding road network to determine any constraints that may impact on the safe and controlled movement of traffic during demolition, excavation and building works.
- Determination of appropriate traffic/haul routes,
- Provision of a swept path analysis to ensure safe access/egress from the site,
- Traffic control plan (TCP) and Vehicle Movement Plan (VMP),
- A brief outline of the excavation and building works in relation to traffic management, and
- A Road Safety Audit for the construction stage was undertaken for Site 1 and 2 works previously. Recommendations of that audit have also been incorporated into this CPTMP.

## 2 Project Overview

### 2.1 Proposed Development

The NSW Department of Planning, Industry and Environment has issued conditions of consent for a State Significant Development (SSD - 10425) for the construction of a mixed-use development at 1-15 and 2-12 Conferta Avenue, Rouse Hill (Tallawong Station South precinct) comprising three levels of basement carparks, 5 residential towers and ground floor retail space as outlined in Table 2.1 below.

The proposal also includes construction of new roads and public open space elements as provided in the Architectural Plans submitted with the EIS.

Table 2.1: Proposed Development

Land Use		Yield
Residential	1 Bedroom	252 units
	2 Bedroom	682 units
	3 Bedroom	53 units
	<b>Total</b>	<b>987 units</b>
Retail		6,000m <sup>2</sup>
Commercial		3,000 m <sup>2</sup>

The location of the site is shown below in Figure 2.1.



Figure 2.1: Locality Plan Showing the Site of the Full Development

### 2.2 Overall Building and Construction Works

The overall development includes the excavation of the site and construction of the new buildings and can be broken into the following components.

- Excavation;
- Shoring of the excavation;

- Piling; and
- The construction of the mixed-use development, car parking (and waste collection area), landscaping and associated facilities.

Approved construction hours are as follows:

*Construction, including the delivery of materials to and from the site, may only be carried out between the following hours:*

- (a) *between 7am and 6pm, Mondays to Fridays inclusive; and*
- (b) *between 8am and 1pm, Saturdays.*

*No work may be carried out on Sundays or public holidays.*

*Activities may be undertaken outside of these hours if required:*

- (a) *by the Police or a public authority for the delivery of vehicles, plant or materials; or*
- (b) *in an emergency to avoid the loss of life, damage to property or to prevent environmental harm.*

*Notification of such activities must be given to affected residents before undertaking the activities or as soon as is practical afterwards.*

*Rock breaking, rock hammering, sheet piling, pile driving and similar activities may only be carried out between the following hours:*

- (a) *9am to 12pm, Monday to Friday;*
- (b) *2pm to 5pm Monday to Friday; and*
- (c) *9am to 12pm, Saturday.*

## 2.3 Overall Project Program

The construction of Site 2 will be split into four stages, beginning from Stage 2 (Stage 1 relates to Site 1 of the development).

Stage 2 involves the construction and dedication of public roads and footpaths

Stage 3 includes the construction of Site 2A, the north-west tower.

Stage 4 includes the construction of Site 2D, the south-west tower.

Stage 5 is the concurrent construction of Site 2B, C and E, the remaining towers.

These stages are outlined in [Figure 2.2](#) below.

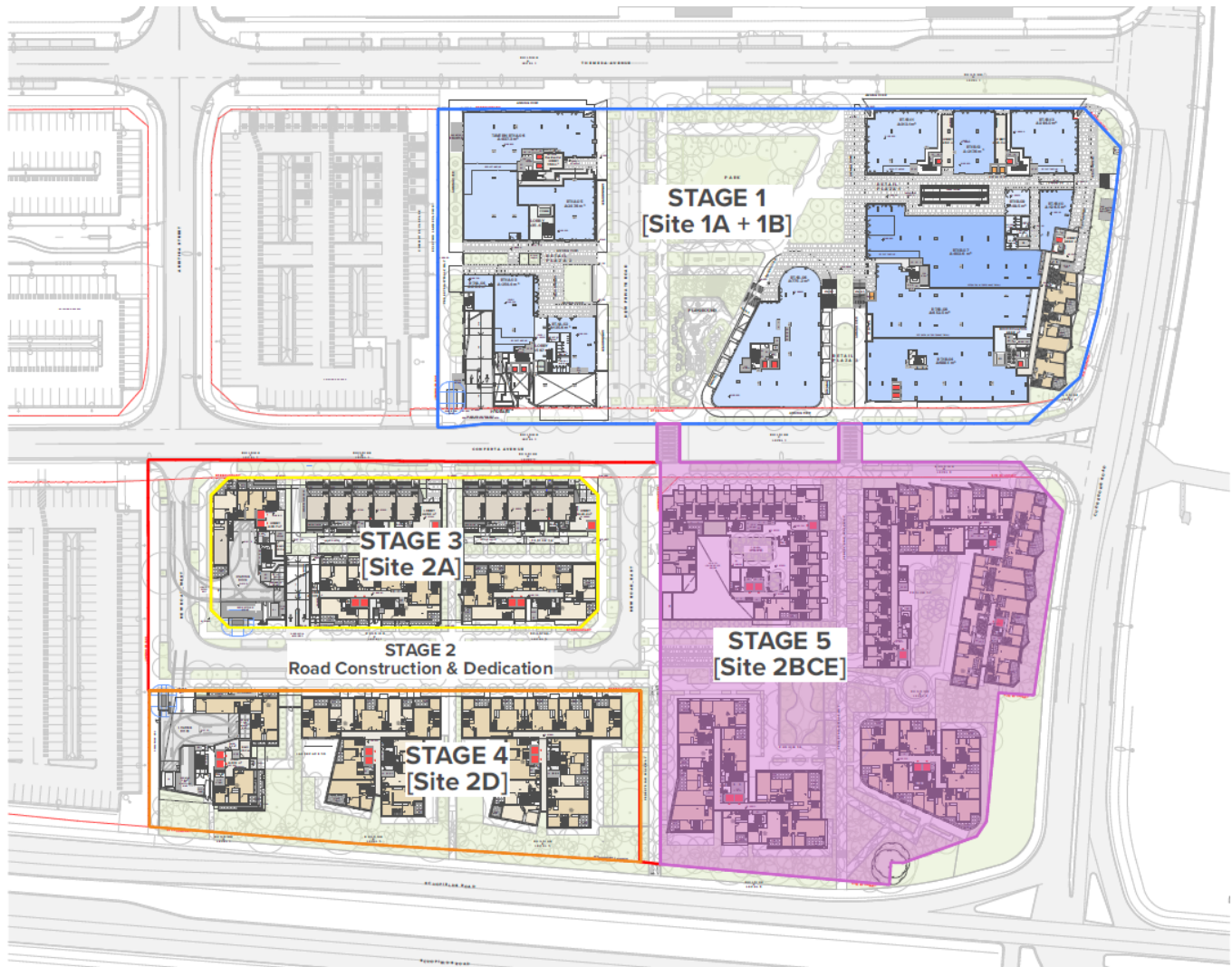


Figure 2.2: Staging Diagram

The project duration for the excavation and building works are outlined below.

STAGE	ESTIMATED START DATE	ESTIMATED END DATE	ESTIMATED DURATION	Estimated Construction Traffic Volumes
Stage 2 Road construction works	09/05/2023	17/06/2023	1 - 2 months	Average 10 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 3 Excavation	30/07/2022	08/02/2023	6 - 7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 3 Building Works	25/01/2023	15/04/2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)
Stage 4 Excavation	06/10/2022	09/05/2023	7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 4 Building Works	21/ 04 /2023	13/ 07/ 2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)
Stage 5 Excavation	30/07/2022	09/05/2023	6 - 7 months	Average 20 truck movements per day; and Maximum 35 car movements per day (1.5 persons per vehicle)
Stage 5 Building Works	25/01/2023	15/04/2024	15 - 16 months	Average 20 truck movements per day; and Maximum 125 car movements per day (1.5 persons per vehicle)

It is noted that the estimations of traffic and truck generation includes the concurrence and overlap occurring.

## 2.4 Site 2 –Works

This CPTMP addresses the/ traffic and pedestrian management issues associated with the Stages 2, 3, 4 and 5 works as shown in the Site Management Plan provided at **Appendix A**.

## 2.5 Other Developments

A review of current approved and existing developments along Tallawong Road and Cudgegong Road within the vicinity of the subject site has identified the following:

- The Sydney Metro Trains Facility at the corner of Schofields Road and Tallawong Road. This work involves the expansion of the current facility to accommodate additional trains to meet the operational and maintenance requirements of Sydney Metro City and Southwest.
- Grassland Street, Rouse Hill. Two residential flat buildings comprising 215 apartments.
- 172 Tallawong Road, Rouse Hill. Four residential flat buildings comprising 82 apartments.
- 122 Cudgegong Road, Rouse Hill. Two-storey Place of Worship with capacity for 400 people.
- 116 Cudgegong Road, Rouse Hill. 51 lot residential subdivision.

### 3 Existing Road Network

#### Schofields Road

Schofields Road is an urban arterial road that provides a major connection between Rouse Hill town centre to the east and Schofields suburb to the west. It generally consists of two lanes in each direction (3.1m wide) separated by a central concrete median with additional turning lanes at intersections to increase turning capacity. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 70km/hr. Intermittent bus lanes are included within intersections.

Two-way peak hour traffic volumes on Schofields Road are currently in the range of 1,900 to 2,000 vehicles per hour and is operating at LoS A.

#### Cudgegong Road

Cudgegong Road is a local road that provides access from Schofields Road at the southern end to Guntawong Road at the northern end of the road. It generally has one 3.2m wide lane in each direction and it connects with Schofields Road at a major three-way signalised intersection. A shared pedestrian / cyclist path is provided along the western side of the road. The posted speed limit on Cudgegong Road is 50km/hr.

Two-way peak hour traffic volumes on Cudgegong Road are currently in the range of 400 to 500 vehicles per hour and is operating at LoS B.

#### Tallawong Road

Tallawong Road is a local road that provides a connection between Schofields Road at the south and Guntawong Road to the north. Generally, it has a single 3.1m wide lane of traffic in each direction and forms a signalised intersection with Schofields Road. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 50km/hr.

Two-way peak hour traffic volumes on Tallawong Road are currently in the range of 600 to 700 vehicles per hour and is operating at LoS B.

#### Conferta Avenue

Conferta Avenue is a local road running parallel with Schofields Road along the northern edge of Lot 293 and the southern edge of Lot 294. It connects Cudgegong Road to the east and Tallawong Road to the west and also provides access to the southern section of the commuter carpark. It has a single 3.2m wide lane of traffic in each direction. Each carriageway has a parking lane delineated by an edge line and the posted speed limit is 50km/hr.

#### Themeda Avenue

Themeda Avenue is a two-way local road consisting of 3.8m wide single lanes with 2.3m on-street parking on both sides of the road. The on-street parking has a 2-Hour time limit outside of morning and afternoon peak periods. It is adjacent to Tallawong metro Station and connects Cudgegong Road to the east and Tallawong Road to the west. Shared pedestrian / cyclist paths are provided on each side of the road. The posted speed limit is 50km/hr.

#### Aristida Street

Aristida Street is a two-way local road consisting of 3.8m wide lanes. It connects Implexa Parade to the north and Conferta Avenue to the south. It is subject to a speed limit of 50km/hr.

## 4 Traffic Management

### 4.1 General

Traffic management for the site shall be configured to ensure that workers can undertake, excavation and building works safely at all times by separating workers and public road users. Contractors are responsible for the excavation work and the Construction Manager is responsible for construction management. The Construction Manager shall establish and maintain the Construction Pedestrian and Traffic Management Plan for this project and shall be responsible for its ongoing effectiveness, including the control of all quality, environmental and safety aspects that may apply to traffic control measures.

The TCP for this project shall be implemented by appropriately qualified and authorised traffic controllers only. Traffic controllers must have completed TfNSW accredited courses for traffic controllers and must wear yellow vest with the words "Authorised Traffic Controller". Reflective white overalls with reflective bands must be worn at night.

All signs and devices shall be placed in accordance with the TCP prior to works starting and in clear view of public road users to inform and guide road users to pass the site. All devices and signs shall then be removed upon the completion of the works.

The road reserves bordering the site must not be obstructed by any materials, vehicles, refuse, skips or the like without prior approval of the consent authority.

### 4.2 Potential Traffic Impacts

A summary of potential traffic impacts for the site are listed below:

- The existing surrounding residential dwellings;
- Potential impact on local commercial and residential road users including those using Tallawong Station and the associated public car parking areas;
- Other construction sites within the vicinity of the site;
- Duration of the project;
- Short term activities such as floating machinery to the site;
- Access, egress and parking in and near the worksite by employees and visitors;
- Pedestrian movements;
- Heavy vehicles parking in and around worksite;
- Vehicles depositing spoil on public roads;
- Loading and unloading, including construction zones;
- Truck/vehicle turning movements;
- Disruption of established traffic movements or patterns;
- Traffic interference in peak times (morning and afternoon);
- Interference to public transport services;
- Existing traffic volumes on the surrounding road network.

### 4.3 Vehicle Movement Plan

The new road to be constructed will form the entry/exit for construction vehicles for the Site 2 works (Stages 2, 3, 4 and 5). It is not proposed to have a works zone within Conferta Avenue for the Site 2 works.

The Vehicle Movement Plan at **Appendix B** shows that heavy vehicles will access the site from the east and west using Schofields Road, Cudgegong Road and Conferta Avenue.

Heavy vehicles will exit the site via Conferta Avenue and travel westward towards Tallawong Road, then turn left or right into Schofields Road.

These routes for heavy vehicles will minimise the use of local streets by construction traffic.

**Note: Construction vehicles will not be permitted to use Themeda Avenue due to the potential conflicts with vehicles and pedestrians accessing Tallawong Station.**

A swept path analysis was undertaken for a 19 metre Articulated Vehicle (AV) and a 12.5 metre Heavy Rigid vehicle (HRV) to check that these vehicles can safely manoeuvre to and from the site through the road network and enter the construction site via Conferta Avenue and leave the site via Conferta Avenue.

The swept path analysis is contained within **Appendix D** of this report.

### 4.4 Traffic Control Plan

The Traffic Control Plan (TCP) within **Appendix C** shows the proposed traffic control measures to be implemented in the road network including the arrangements for warning and guiding traffic and pedestrians around and/or past the worksite.

In the implementation of the TCP, the following steps should be undertaken:

1. Place all signs, devices and control measures;
2. Complete a Location Risk Assessment (as per Traffic Control at Work Sites Manual) and identify any modifications that may be required;
3. Drive through and around the site to make sure the TCP is effective;
4. Record implementation, risk assessment and any modifications; and
5. Monitor conditions and record observations.

Where required the TCP may be changed/updated as necessary to reflect changes in traffic flow or work practices by an appropriately qualified traffic control designer only.

Minor modifications to the TCP which have been identified in a Location Risk Assessment can be made by a person with a current Prepare Work Zone TMP qualification. Should the TCP be changed, all relevant permits and details are to be forwarded to the PCA/Council as required.

Note that the TCP does not relate to works within the road reserves. These TCP's will be prepared once the Public Infrastructure Engineering Design plans have been approved by the Road Authorities.

## 4.5 Traffic Management Strategy

### Excavation and Building works

Construction vehicles will access the site from Schofields Road, Cudgegong Road and Conferta Avenue. Construction vehicles exiting the site will travel westward along Conferta Avenue and turn left into Tallawong Road for access back onto Schofields Road.

**No construction vehicles will be permitted to utilise Themeda Avenue for access to or egress from the site.**

The Site Management Plan at **Appendix A** shows the locations for the entry and exit of construction vehicles from and back into Conferta Avenue.

The proposed new road will act as access for all these vehicle movements to service the site. As a result there is no proposed work zones in Conferta Avenue. See Traffic Control Plan in **Appendix C**.

It is estimated that the excavation and building works will generate an average of 20 truck movements per day and a maximum of 35 car movements per day during the excavation and 125 car movements per day during the works (based on an average of 1.5 persons per vehicle). These daily volumes equate approximately 15 to 20 vehicle trips per hour during AM and PM peak periods.

Heavy vehicle movements are to be minimised during the commuter peak periods where possible to minimise potential conflicts with commuter traffic and pedestrian movements to and from the commuter car parks.

In addition, it is recommended that Traffic Controllers stop pedestrian movements briefly across Conferta Avenue between Aristada Street and Tallawong Road while heavy vehicles are exiting the site along Conferta Avenue.

### Risk Management

Table 4.1 on the following page summarises the identified potential traffic impacts for this worksite and describes the control measures to be implemented to address each impact.

The local community, road users and other stakeholders shall be kept informed of changed traffic conditions where required by Council.

Notification must be provided to affected property owners prior to the implementation of any temporary traffic control measures.

## 4.6 Impact of Construction Traffic

The volume of construction traffic that will be generated by building works has been estimated at 15 to 20 vehicles per hour during AM and PM peak periods.

The other developments in the vicinity of the site that will be at various stages of construction during the Site 2 works will generate additional traffic to the road network, particularly Tallawong Road and Cudgegong Road. However, these roads are operating at a high level of service (Los B) with ample spare capacity to cater for additional construction traffic.

These roads would be capable of carrying an additional 500 to 600 vehicles per hour which is well above the cumulative construction traffic volumes that will be generated by the developments in the area.

## 4.7 Construction Parking Strategy

On-site parking will be provided for construction staff and Deicorp employees as shown on the Site Management Plan at **Appendix A**. Construction staff will also be encouraged to use public transport (Sydney Metro and Buses) to reduce the number of vehicles accessing the site.

**Staff and contractor parking will not be permitted within the Tallawong Station commuter car parks or the residential areas to the south of Schofields Road.**

## 4.8 Road Safety Audit (Construction stage)

A Road Safety Audit has been conducted in accordance with the procedures set out in the Austroads Guide to Road Safety Part 6A: Implementing Road Safety Audits (2019) for Site 1 and Site 2 works. A site inspection was conducted on Tuesday 31 March 2020 and the details contained within the Construction Pedestrian and Traffic Management Plan for the project reviewed to identify issues that may affect road user safety and other relevant issues.

The recommendations of the Road safety Audit have been carried over into this CTPMP. The Road Safety Audit (Construction stage) is attached at **Appendix E** for reference.

Table 4.1: Traffic Management Strategy

Potential Impact	Impact Assessment	Control Measure
Impacts on the commercial, retail and residential developments in the vicinity of the site.  Duration of project	Heavy vehicle traffic movement through the following local streets: <ul style="list-style-type: none"> <li>Tallawong Road</li> <li>Conferta Avenue</li> <li>Cudgegong Road</li> <li>Schofields Road</li> </ul>	Heavy Vehicle Movements inbound to the site from Cudgegong Road and Conferta Avenue. All outbound heavy vehicles will exit via Conferta Avenue and Tallawong Road. TCP's will be provided informing road users of heavy vehicles entering the site. It is proposed to close the section of Conferta Avenue across the frontage of the site to reduce conflicts between construction vehicles and private vehicles.
Floating machinery to the site	In/out of the site.	Swept path analysis shows turning movements at critical intersections are satisfactory (See Appendix D). All loading and unloading will be done within the designated area on site.
Construction Parking Strategy.	Possible impact on Tallawong Train Station and the associated public car parks and residents and visitors in the vicinity of the site.	Construction workers will park on-site and use Metro Train services and/ or other local public transport options. Staff and contractor parking is not to occur within the commuter car parks or the residential areas to the south of Schofields Road.
Travel Management Strategy	Reduce the impact on construction parking by minimising commuter trips.	Where possible, workers will be encouraged to use nearby Metro Station services and/or other local public transport services.
Vehicles leaving the site	Depositing spoil on roadways	Truck shaker grids will be installed at the Conferta Avenue entry/exit point for erosion sediment control and all loads are to be covered. Where sediment is tracked onto the road it is to be swept up immediately.
Pedestrian management	Pedestrians walking around construction zone	It is proposed to close the section of Conferta Avenue across the frontage of the site to reduce conflicts between construction vehicles and pedestrians. Pedestrians will also be protected by temporary construction fencing and barriers as required.
Disruption of established traffic movements or patterns, Traffic interference in peak times (morning and afternoon)	Heavy vehicle traffic through the following local streets, particularly in morning and afternoon peaks with residents entering and exiting: <ul style="list-style-type: none"> <li>Tallawong Road</li> <li>Conferta Avenue</li> <li>Cudgegong Road</li> <li>Schofields Road</li> </ul>	Truck movements will be kept to a minimum during local peak traffic AM/PM periods to ensure that existing traffic flows are not disrupted.
Interference to public transport services,	Traffic movements blocking bus routes	Access to and from the site is off Conferta Avenue and will have traffic control devices and controllers in place to minimise disruption to bus routes during the Site 2 works.

## 5 Monitoring and Performance

### 5.1 General

Regular monitoring of the performance of the Construction Pedestrian and Traffic Management Plan (CPTMP) to confirm the effectiveness of methods, equipment and controls shall be undertaken. This shall also include review of location and effectiveness of traffic management and TCP signposting. Observations shall be recorded by the supervisor/contractor's and opportunities for improvement recommended to the Project Manager.

### 5.2 Consultation and Records

The following records shall be kept as evidence of the design, implementation, and performance of the CPTMP:

1. Qualifications
  - RMS accredited Traffic Control Plan designers
  - RMS accredited Traffic Controllers
2. Principal Contractor's meetings minutes with Principal Contractor(s) from adjoining sites if required.
3. TCP approval
4. Temporary speed zone approval (if applicable)
5. Community consultation

The community would be notified in advance of proposed road and pedestrian network changes through appropriate forms of community notification.

A number of communications tools will be used to notify the community of any upcoming changes to traffic conditions that have the potential to impact them, including:

- Monthly and specific notifications;
  - Traffic alert emails;
  - Variable Message Signs;
  - Static signage; and
  - Advertisements.
6. Location Risk assessment and any modifications
  7. Confirmation of implementation and start of works
  8. Monitoring reports
  9. Incident reports and corrective action

## 6 Conclusion

This Construction Pedestrian and Traffic Management Plan details traffic management procedures and systems for the Site 2 works for the proposed mixed-use development at 1-15 and 2-12 Conferta Avenue, Rouse Hill.

Potential traffic impacts have been identified locally with control measures specified to address these impacts.

The recommendations of the Road Safety Audit (Construction stage) have been incorporated into the Traffic Control Plans.

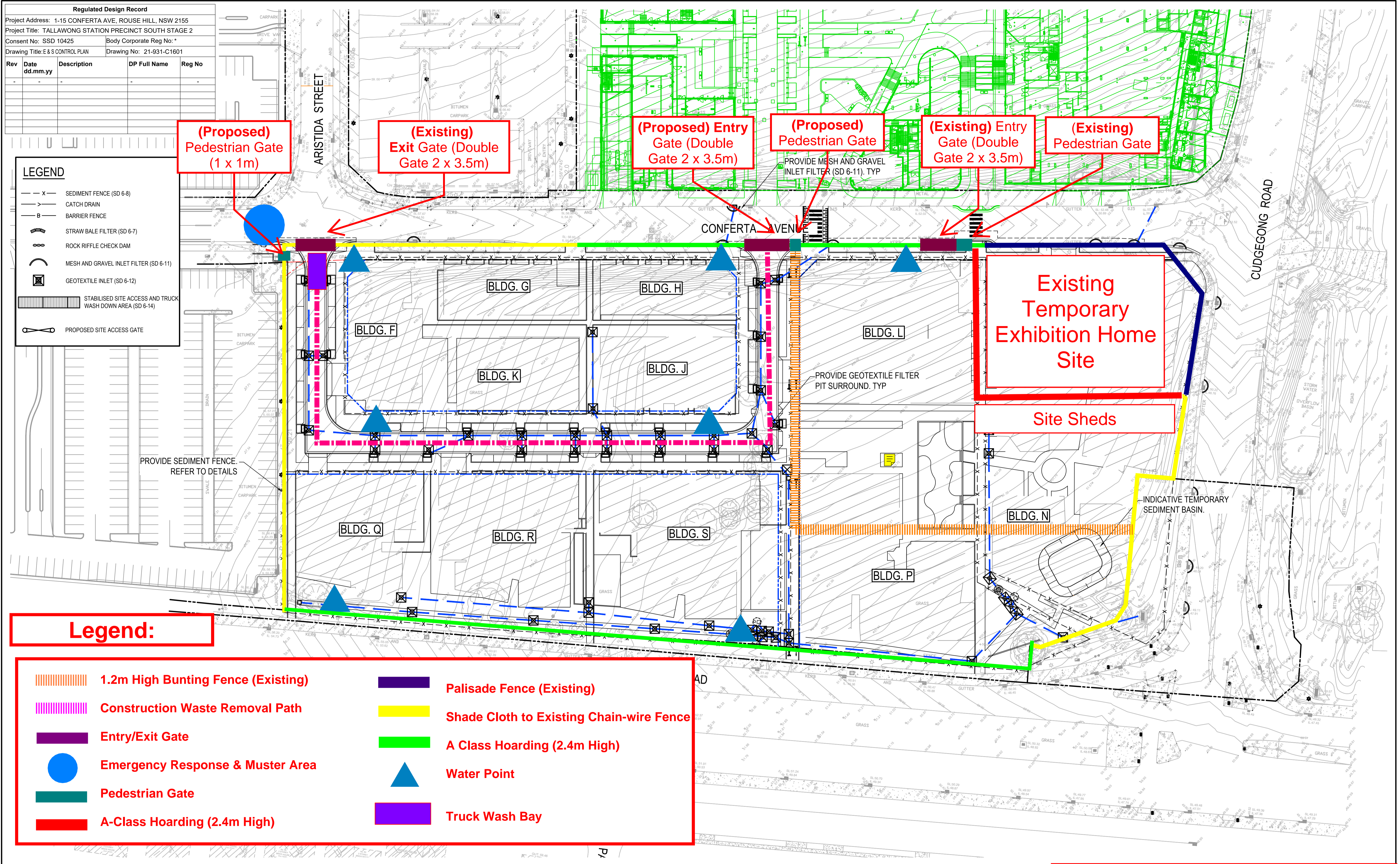
A Traffic Control Plan (TCP) has been prepared showing appropriate traffic control devices to be implemented for the duration of the proposed works.

A Vehicle Movement Plan (VMP) has been prepared showing the proposed truck haulage and delivery routes to and from the site.

A swept path analysis has been undertaken for the site and shows that articulated vehicles (AV) and Heavy Rigid Vehicles (HRV) can safely manoeuvre in and out of the site to/from Conferta Avenue.

This Construction Pedestrian and Traffic Management Plan has been prepared so as to mitigate the potential negative impacts of the proposed Site 2 works on the surrounding road network, public transport infrastructure and pedestrian movements.

## **Appendix A Site Management Plan**

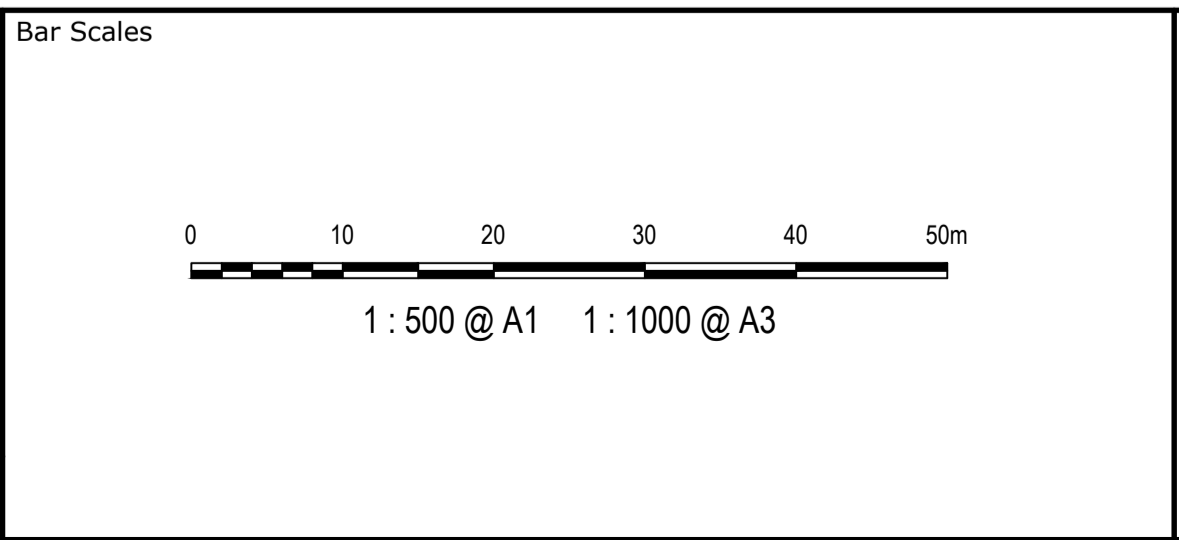


Regulated Design Record				
Project Address: 1-15 CONFERTA AVE, ROUSE HILL, NSW 2155				
Project Title: TALLAWONG STATION PRECINCT SOUTH STAGE 2				
Consent No: SSD 10425		Body Corporate Reg No: *		
Drawing Title: E & S CONTROL PLAN		Drawing No: 21-931-C1601		
Rev	Date	Description	DP Full Name	Reg No
	dd.mm.yy			

Legend:

	1.2m High Bunting Fence (Existing)		Palisade Fence (Existing)
	Construction Waste Removal Path		Shade Cloth to Existing Chain-wire Fence
	Entry/Exit Gate		A Class Hoarding (2.4m High)
	Emergency Response & Muster Area		Water Point
	Pedestrian Gate		Truck Wash Bay
	A-Class Hoarding (2.4m High)		

Issue	Description	Date
P1	PRELIMINARY ISSUE	10-03-22



THIS DRAWING CANNOT BE COPIED OR REPRODUCED IN ANY FORM OR USED FOR ANY OTHER PURPOSE OTHER THAN THAT ORIGINALLY INTENDED WITHOUT THE WRITTEN PERMISSION OF AT&L

Client


Scales	1:500	Drawn	JD
		Designed	JD
		Checked	
Grid	MGA 94	Approved	
Height Datum	AHD		
DRAFT			

SM-03 (Rev A) Site Management Plan (Construction Works) Site 2

## **Appendix B Vehicle Movement Plan**



IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD

No	DATE	AMENDMENT	 <b>BARKER RYAN STEWART</b> <small>TOTAL PROJECT SOLUTIONS</small> <small>ENGINEERING   PLANNING   PROJECT MANAGEMENT   SURVEYING   CERTIFICATION</small>	SYDNEY P: 02 3659 0005 CENTRAL COAST P: 02 4325 5255 HUNTER P: 02 4960 9388 A&N: 26 134 067 842  <a href="http://www.brs.com.au">www.brs.com.au</a> <a href="mailto:mail@brs.com.au">mail@brs.com.au</a>	Client: <b>DEICORP</b>	<b>TALLAWONG STATION PRECINCT SOUTH</b>  VEHICLE MOVEMENT PLAN	Designed: AAJ Drawn: AAJ Checked: AAJ	Scales: Plan Horiz. Vert. X-Sect.  Datum: <b>A.H.D.</b>	Plan No. <b>SY190226TR09</b> File Ref. <b>SY190226D01A</b> SHEET 9 OF 9 SHEETS REV. <b>A</b>
A	12/03/2020	FIRST ISSUE							

## **Appendix C**

### **Traffic Control Plans**



Location : Conferta Avenue, Tallawong.  
Company : Barker, Ryan Stewart  
Council : Blacktown City.  
TCP Author : Dennis Dandolo  
Prepare a Work Zone TMP # TCT0020663

Signature :

Filename :

A: Suite 450, 29 Smith Street, Parramatta 2150 NSW  
P: 1800 987 891  
F: (02) 9823 0494  
M: 0403 323 290  
E: dennis.dandolo@safewaytms.com.au  
W: www.safewaytms.com.au  
UBD Reference# : 128/K15  
Scale : NTS  
Prepared Date : 27.05.2022



ALL TRAFFIC MANAGEMENT PLANS ARE COPYRIGHT/PROPERTY OF SAFEWAY TMS  
AND ARE NOT TRANSFERABLE UNLESS AUTHORISED BY SAFEWAY TMS

### 1. SCOPE OF WORKS

Proposed Development, Conferta Avenue will not be closed.  
trucks will travel from east to west along the construction  
site's internal road

### 2. TRAFFIC MANAGEMENT LOGISTICS

Certified Traffic Controllers will assist with truck arrivals  
and departures and assist pedestrians around the work  
site as required.

Pedestrian and cyclists safety will be a priority at all times.

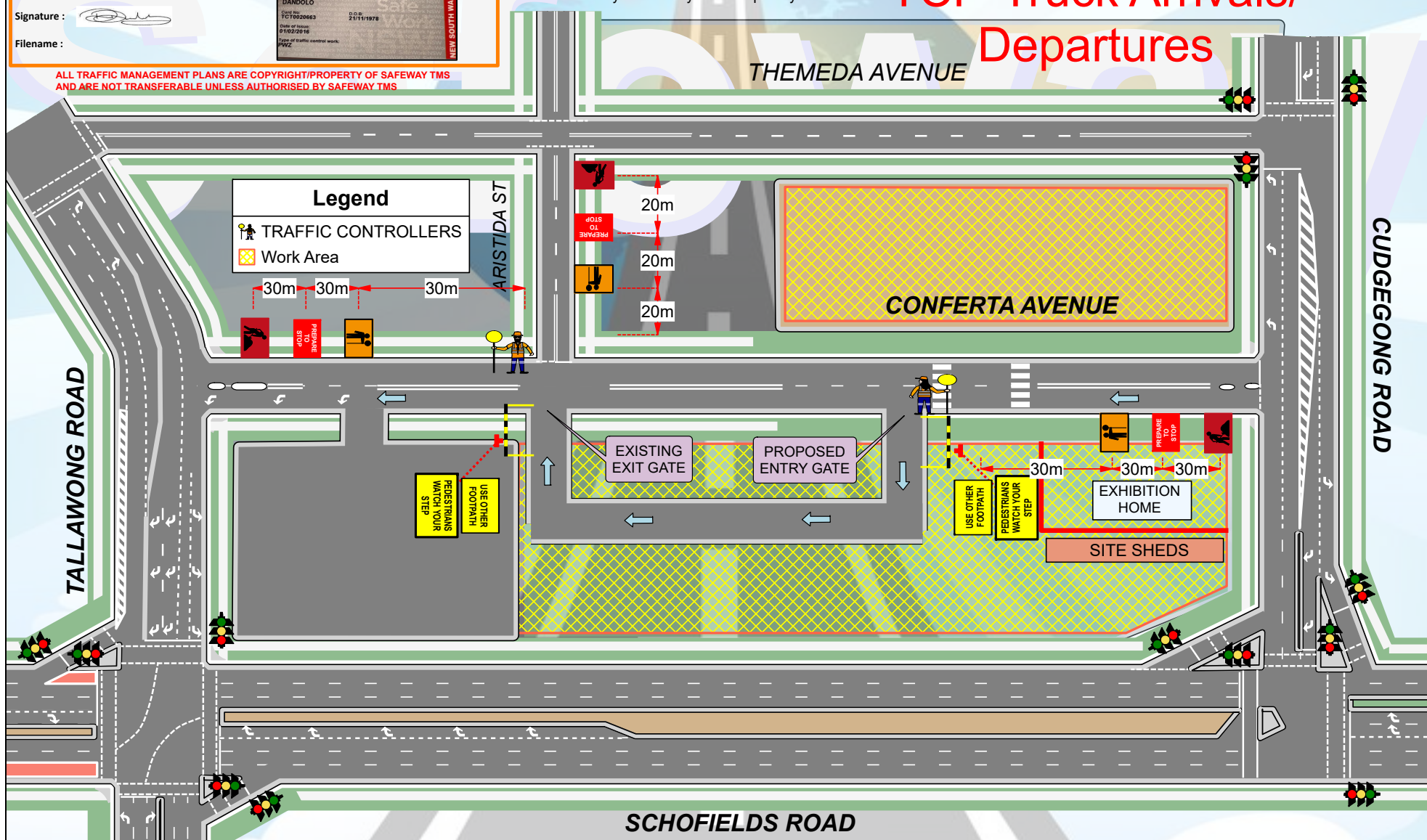
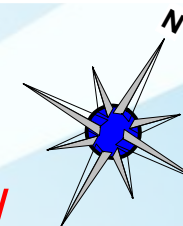
### 3. SCHEDULE OF WORKS

TBA By Barker, Ryan Stewart.

### 4. COMPLIANCE

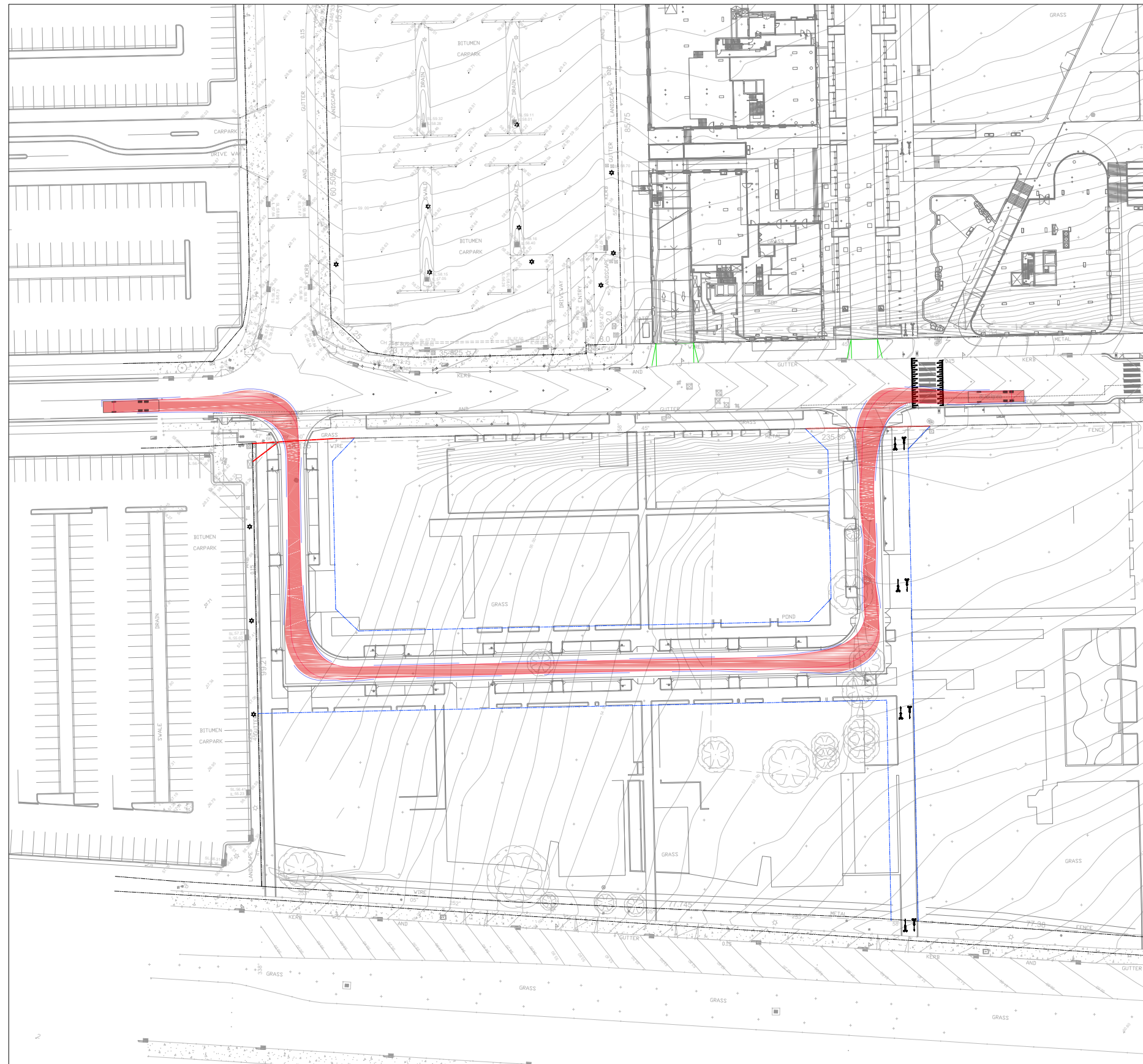
When installed as per the plan, signage will be in  
accordance with Roads and Maritime Services |  
27 July 2018 Document No | RMS 18.898 | Version No 5.0

## TCP-Truck Arrivals/ Departures

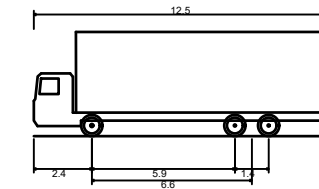


## **Appendix D Swept Path Analysis**

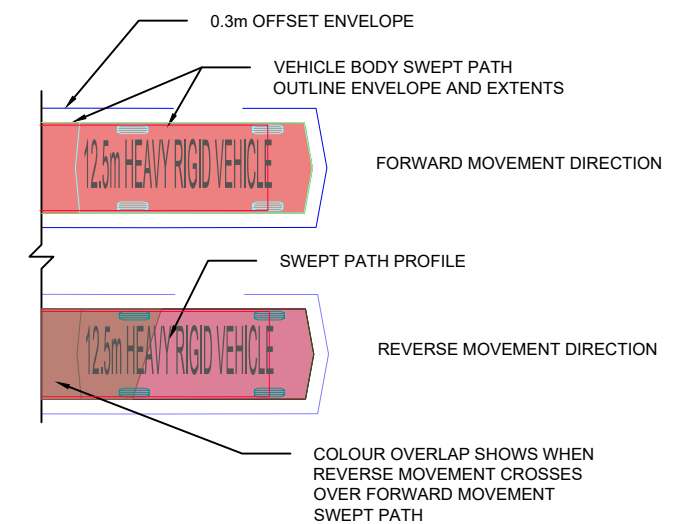
A3



### LEGEND




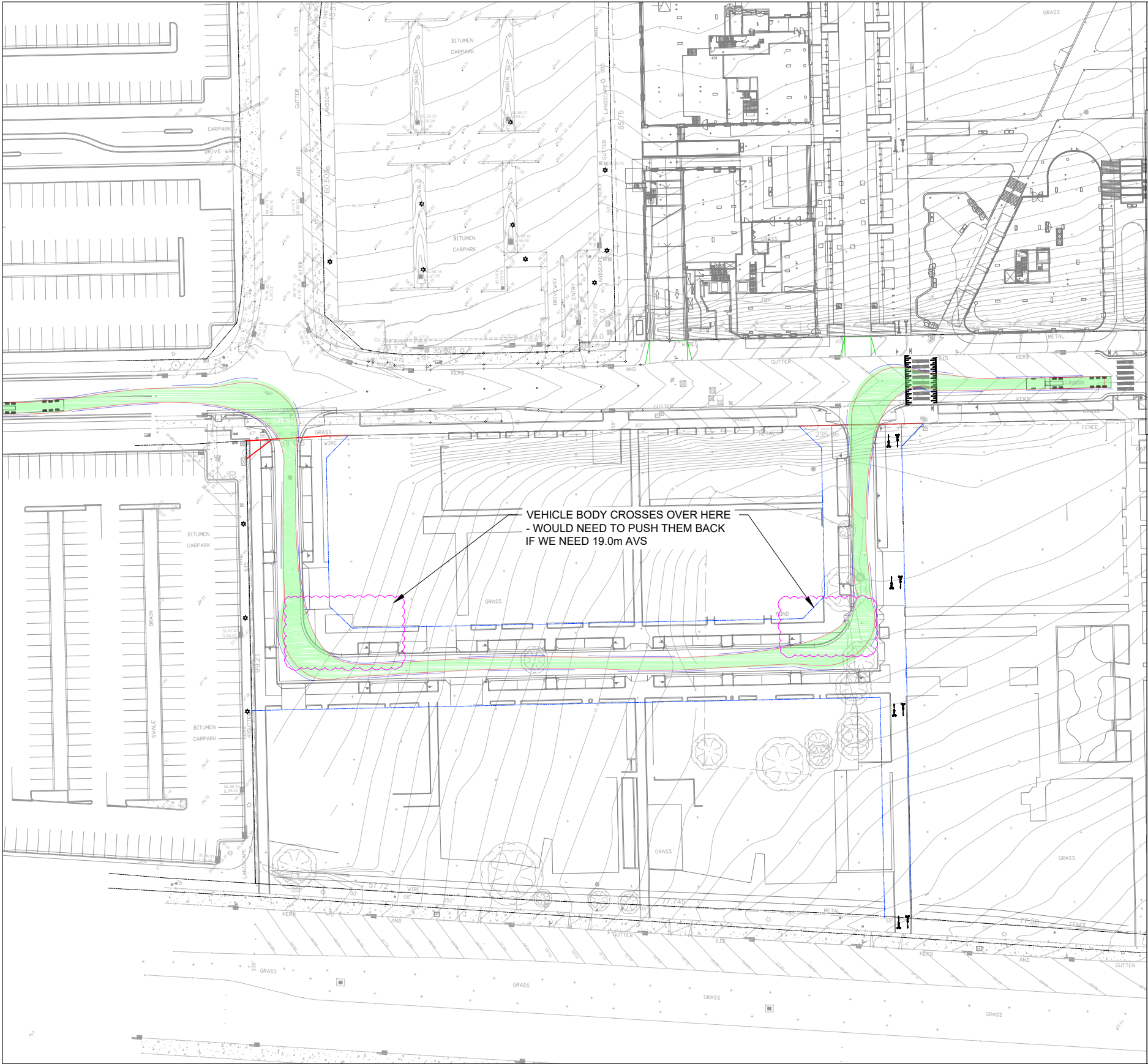
HRV - Heavy Rigid Vehicle	
Overall Length	12.500m
Overall Width	2.500m
Overall Body Height	4.300m
Min Body Ground Clearance	0.417m
Track Width	2.500m
Lock-to-lock time	6.00s
Curb to Curb Turning Radius	12.500m



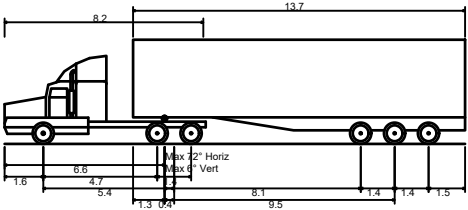
PLAN  
SCALE 1:1500



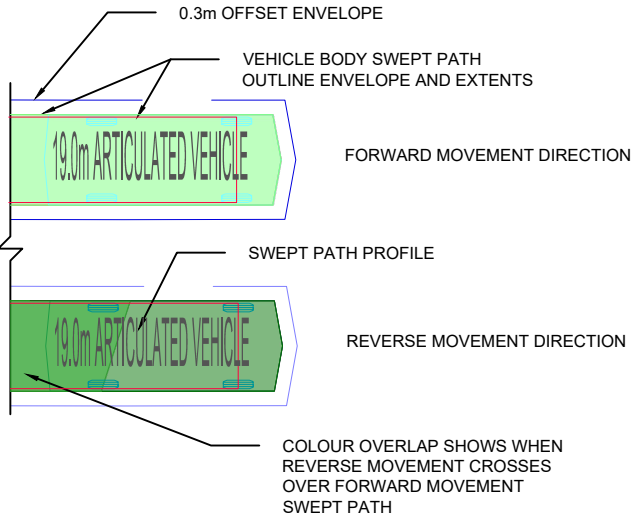
REV	AMENDMENT	ISSUED	DATE	 <b>BARKER RYAN STEWART</b> TOTAL PROJECT SOLUTIONS <small>ENGINEERING   PLANNING   PROJECT MANAGEMENT   SURVEYING   CERTIFICATION</small> SYDNEY P: 02 9559 0005 CENTRAL COAST P: 02 4325 5255 HUNTER P: 02 4066 8388 S.E. QLD P: 07 5562 6555 www.brs.com.au mail@brs.com.au AIN: 26 134 067 842	Client:	DEICORP Pty Ltd.	TALLAWONG STATION PRECINCT SOUTH TRAFFIC ANALYSIS	HEAVY RIGID VEHICLE LOADING SWEPT	Designed: JH Drawn: JH Checked: GB Scales: Plan 1:500@A3 Horiz. - Vert. - X-Sept. - Datum: A.H.D.	Plan No. <b>SY190226-TR04-6</b> File Ref. SY190226 REV. <b>A</b>
A	FIRST ISSUE	A/01	28/08/2022							



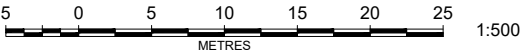
LEGEND



AV - Articulated Vehicle  
Overall Length 19.000m  
Overall Width 2.500m  
Overall Body Height 4.301m  
Min Body Ground Clearance 0.418m  
Track Width 2.500m  
Lock-to-lock time 6.00s  
Curb to Curb Turning Radius 12.500m



PLAN  
SCALE 1:500



REV	AMENDMENT	ISSUED	DATE
A	FIRST ISSUE	AHR	21/04/2022

**BARKER  
RYAN  
STEWART**  
TOTAL PROJECT SOLUTIONS  
ENGINEERING | PLANNING | PROJECT MANAGEMENT | SURVEYING | CERTIFICATION

SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255

HUNTER  
P: 02 4966 8388  
S.E. QLD  
P: 07 5582 6555

www.brs.com.au  
mail@brs.com.au  
ABN: 26 134 067 842

Client:  
  
DEICORP Pty Ltd.

TALLAWONG STATION PRECINCT SOUTH  
TRAFFIC ANALYSIS  
  
ARTICULATED VEHICLE LOADING SWEEP

Designed:	JH	Scales:	Plan 1:500@A3
Drawn:	JH	Horiz.	-
Checked:	GB	Vert.	-
		X-Sect.	-
		Datum:	A.H.D.

Plan No.	SY190226-TR04-7	REV.
File Ref.	SY190226	A

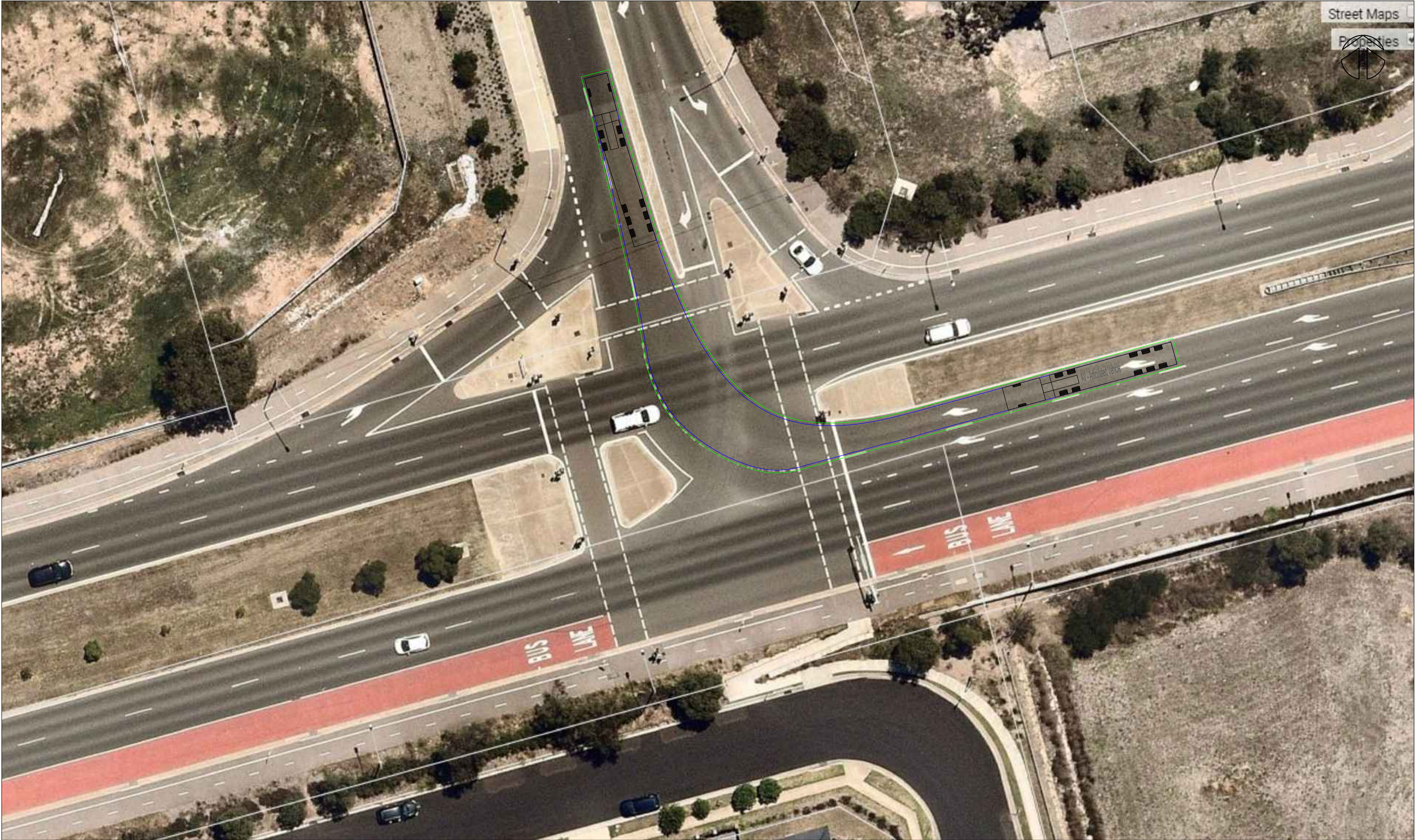


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD

No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH  
  
SCHOFIELDS ROAD / CUDGEGONG ROAD - 19.5M ARTICULATED VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ

Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR01**  
File Ref.  
SY190226D01A  
SHEET 1 OF 9 SHEETS  
REV. **A**



IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH  
  
CUDGEGONG ROAD / CONFERTA AVENUE - 19.5M ARTICULATED VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ  
  
Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR02**  
File Ref.  
SY190226D01A  
SHEET 2 OF 9 SHEETS  
REV.  
**A**

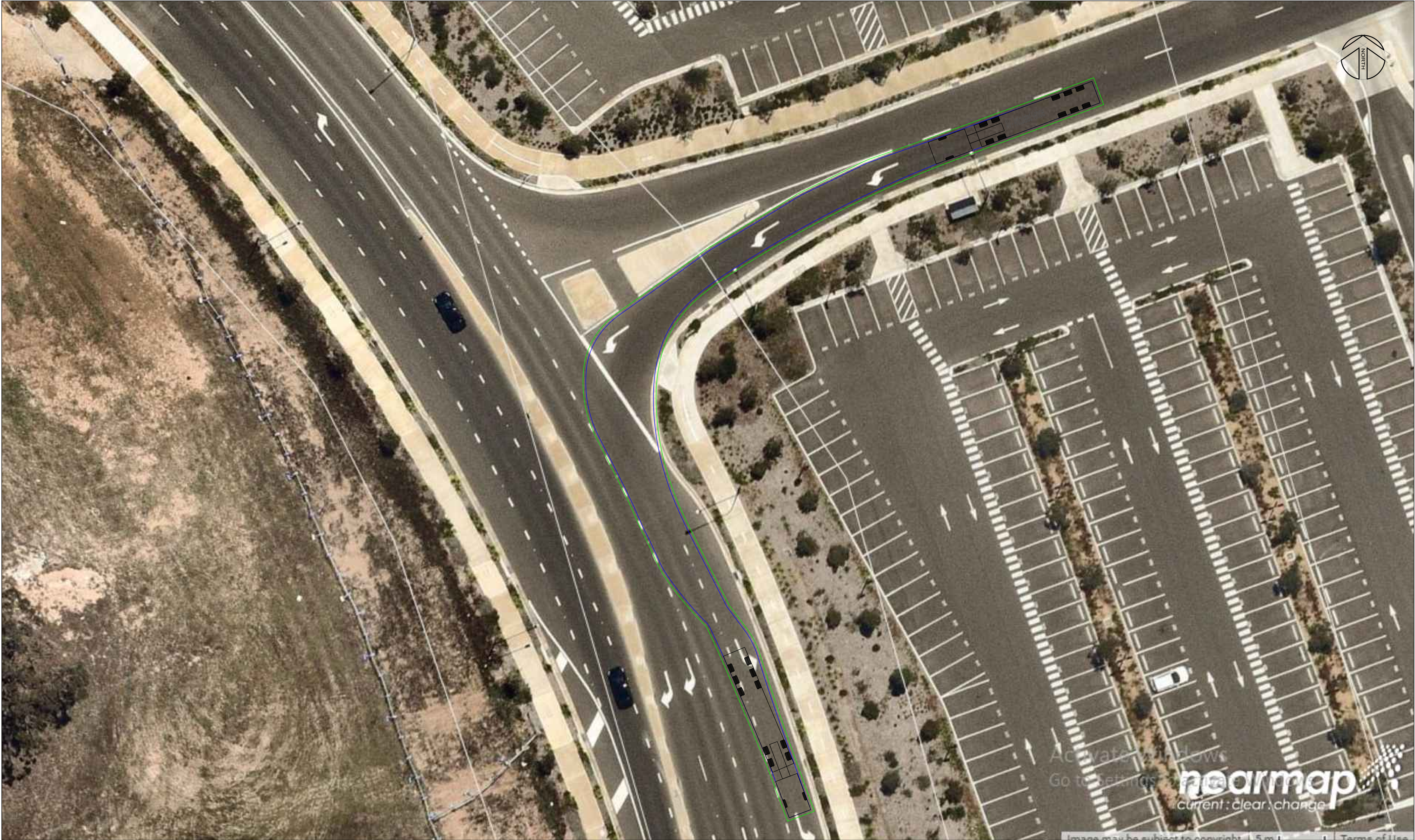


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH  
  
CONFERTA AVENUE / TALLAWONG ROAD - 19.5M ARTICULATED VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ  
  
Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR03**  
File Ref.  
SY190226D01A  
SHEET 3 OF 9 SHEETS  
REV. **A**

A1

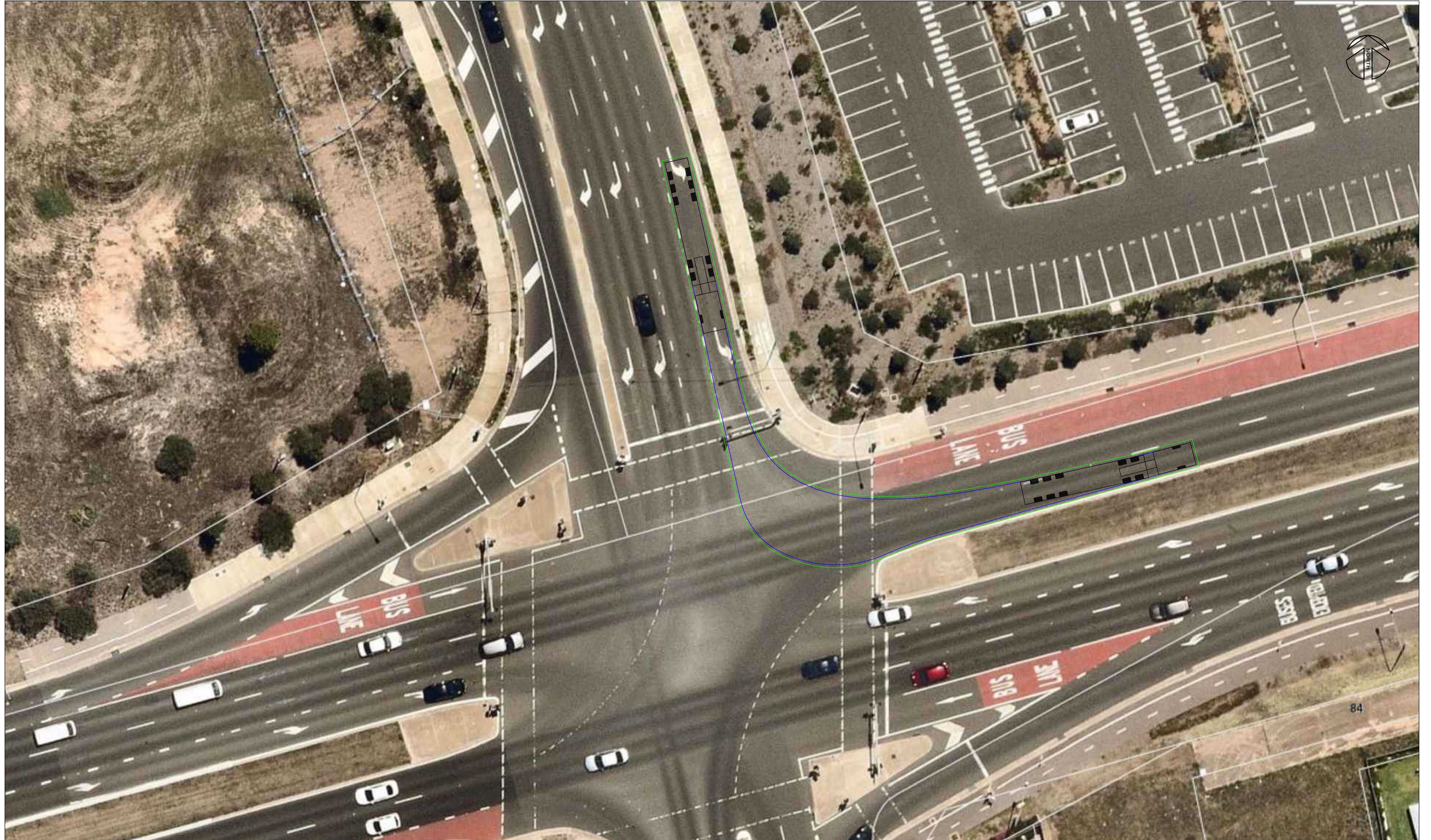



IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT	 <b>BARKER RYAN STEWART</b> <small>TOTAL PROJECT SOLUTIONS ENGINEERING   PLANNING   PROJECT MANAGEMENT   SURVEYING   CERTIFICATION</small>	SYDNEY P: 02 3659 0005 CENTRAL COAST P: 02 4325 5255 HUNTER P: 02 4960 8388 ABN: 26 134 067 842  <a href="http://www.brs.com.au">www.brs.com.au</a> <a href="mailto:mail@brs.com.au">mail@brs.com.au</a>	Client:	TALLAWONG STATION PRECINCT SOUTH	TALLAWONG ROAD / SCHOFIELDS ROAD - 19.5M ARTICULATED VEHICLE	Designed: AAJ Drawn: AAJ Checked: AAJ	Scales: Plan Horiz. Vert. X-Sect.	Plan No. <b>SY190226TR04</b> File Ref. SY190226D01A SHEET 4 OF 9 SHEETS	REV. <b>A</b>
A	12/03/2020	FIRST ISSUE									

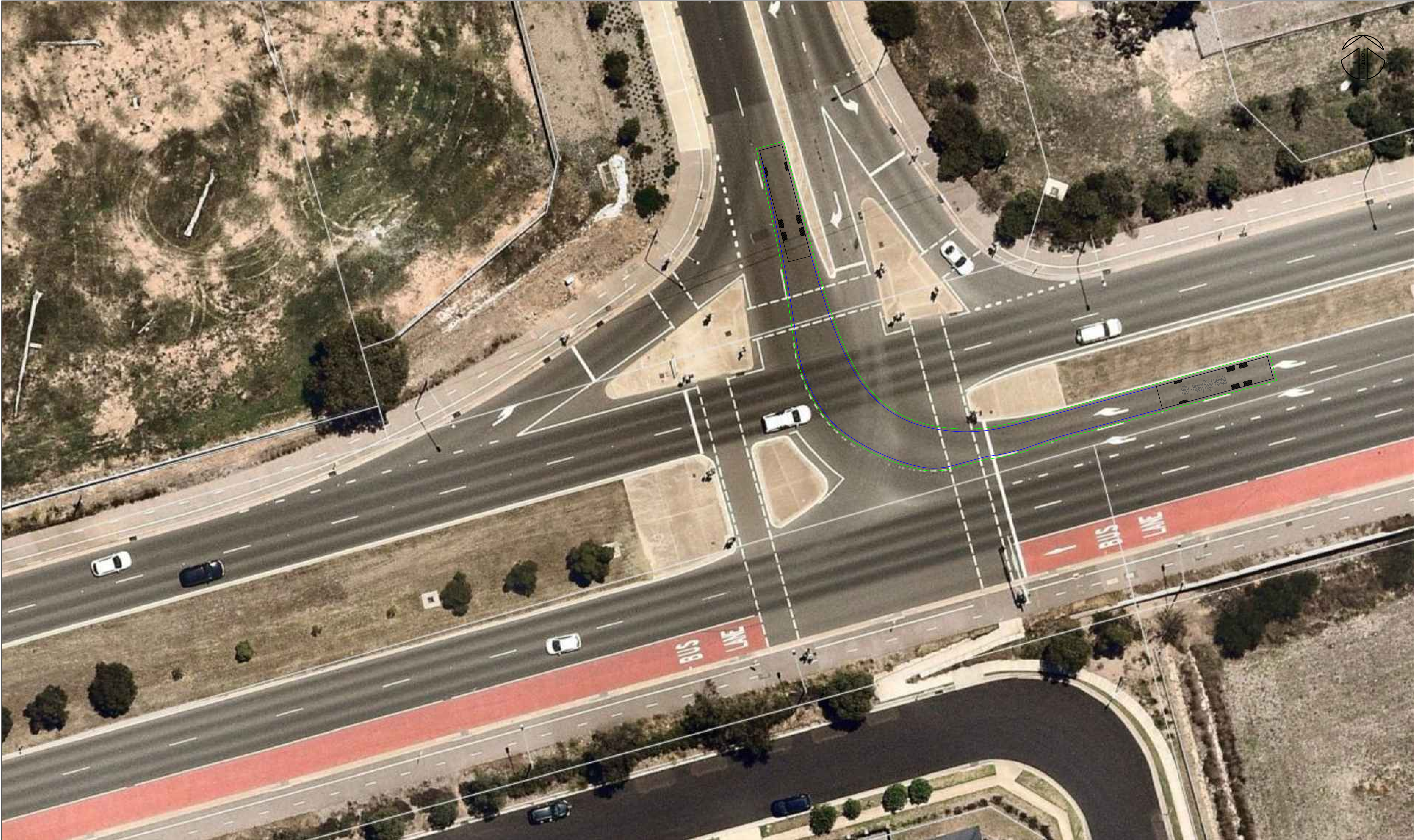


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH

SCHOFIELDS ROAD / CUDGEGONG ROAD - 12.5M HEAVY RIGID VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ

Scales: Plan  
Horiz.  
Vert.  
X-Sect.

Datum: A.H.D.

Plan No.  
**SY190226TR05**  
File Ref.  
SY190226D01A  
SHEET 5 OF 9 SHEETS

REV.  
**A**

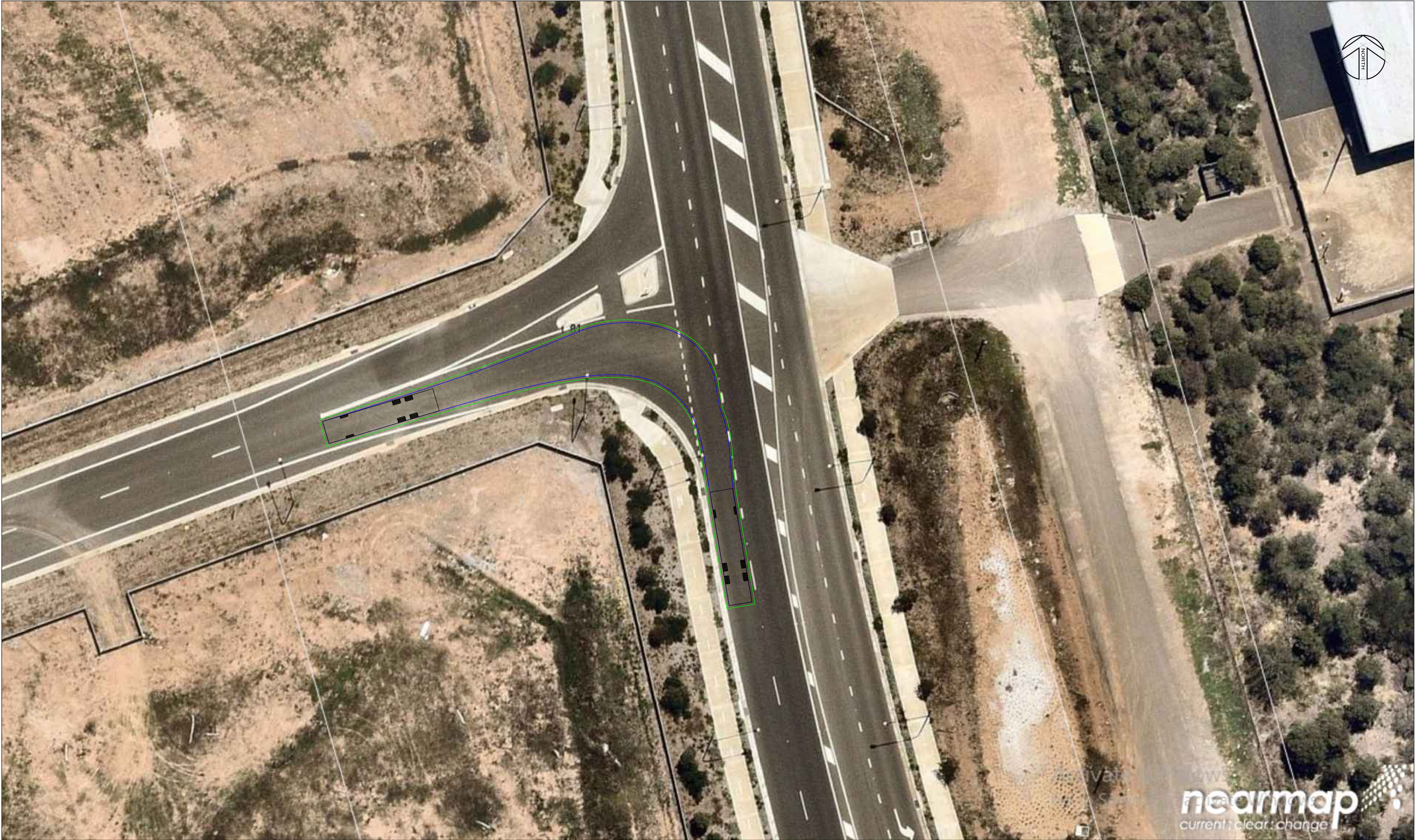


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH  
  
CUDGEGONG ROAD / CONFERTA AVENUE - 12.5M HEAVY RIGID VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ  
  
Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR06**  
File Ref.  
SY190226D01A  
SHEET 6 OF 9 SHEETS  
REV. **A**

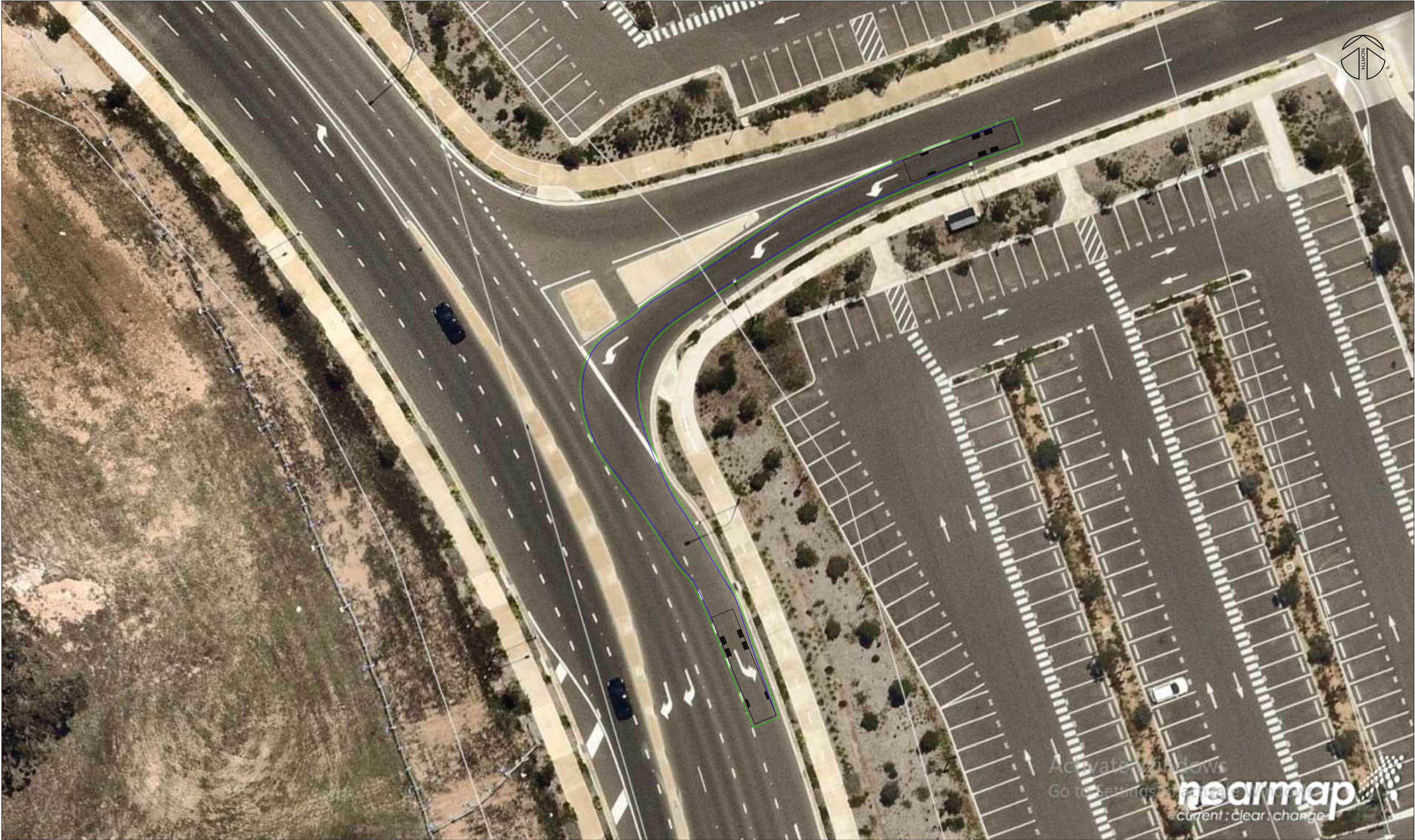


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH

TALLAWONG ROAD / CONFERTA AVENUE - 12.5M HEAVY RIGID VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ

Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR07**  
File Ref.  
SY190226D01A  
SHEET 7 OF 9 SHEETS  
REV. **A**

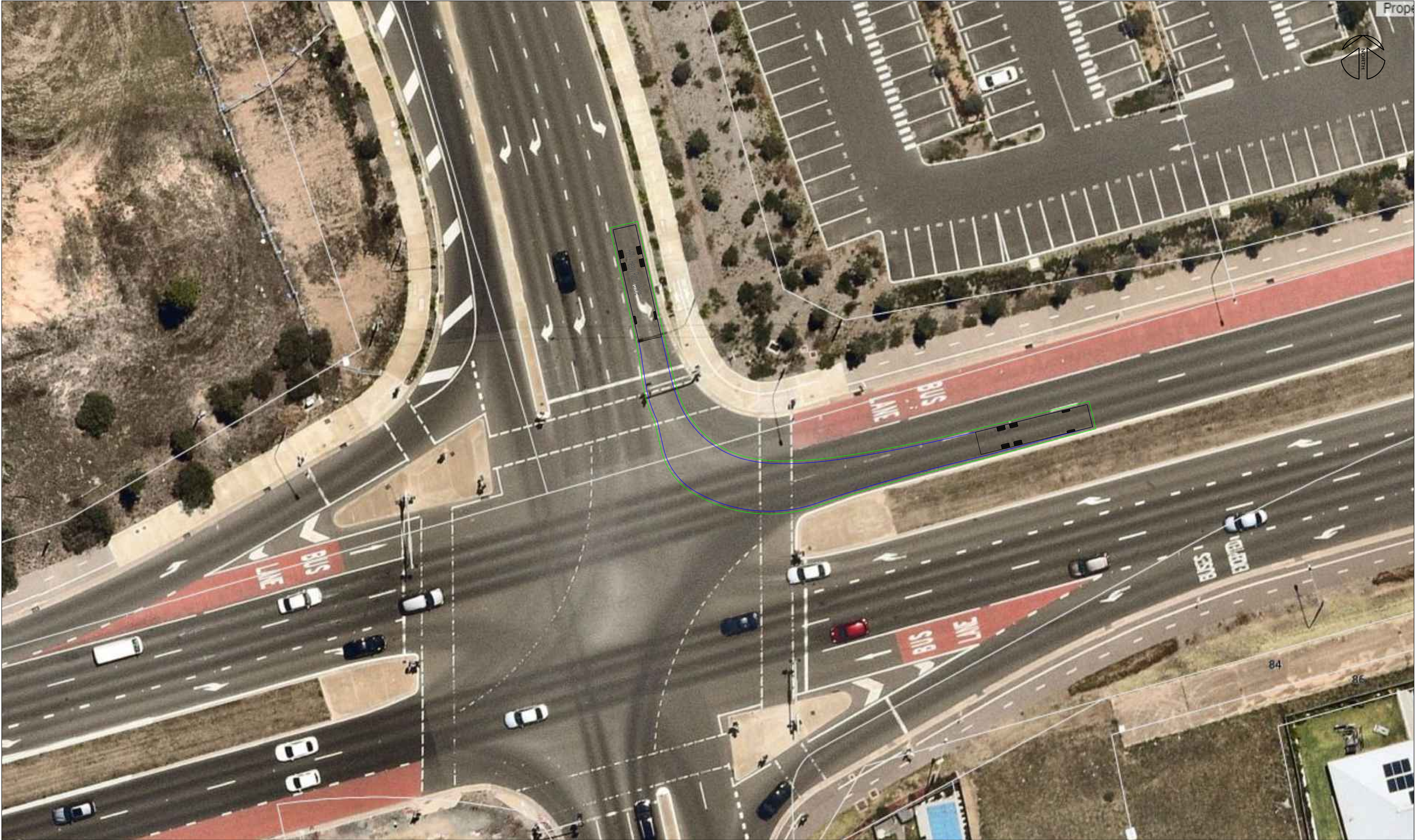


IMAGE SOURCED FROM NEARMAP AUSTRALIA PTY LTD



No	DATE	AMENDMENT
A	12/03/2020	FIRST ISSUE



SYDNEY  
P: 02 9659 0005  
CENTRAL COAST  
P: 02 4325 5255  
HUNTER  
P: 02 4966 8388  
ABN: 26 134 067 842  
www.brs.com.au  
mail@brs.com.au

Client:  
  
DEICORP

TALLAWONG STATION PRECINCT SOUTH  
  
TALLAWONG ROAD / SCHOFIELDS ROAD - 12.5M HEAVY RIGID VEHICLE

Designed: AAJ  
Drawn: AAJ  
Checked: AAJ  
  
Scales: Plan  
Horiz.  
Vert.  
X-Sect.  
  
Datum: A.H.D.

Plan No.  
**SY190226TR08**  
File Ref.  
SY190226D01A  
SHEET 8 OF 9 SHEETS  
REV. **A**

## **Appendix E**

### **Road Safety Audit (Construction stage)**



Deicorp Projects (Tallawong Station) Pty Ltd

## Road Safety Audit Report Construction Stage

Tallawong Station Precinct South

May 2020

© Copyright Barker Ryan Stewart Pty Ltd  
2020 All Rights Reserved

Project No.	SY190226
Author	RD
Checked	GB
Approved	RD

Rev No.	Status	Date	Comments
1	Draft	2/04/2020	
2	Final Draft	7/04/2020	
3	Final	7/05/2020	Updated to include additional safety issues raised by Landcom

#### **COPYRIGHT**

Barker Ryan Stewart reserves all copyright of intellectual property in any or all of Barker Ryan Stewart's documents. No permission, licence or authority is granted by Barker Ryan Stewart to any person or organisation to use any of Barker Ryan Stewart's documents for any purpose without the written consent of Barker Ryan Stewart.

#### **REPORT DISCLAIMER**

This report has been prepared for the client identified in section 1.0 and all other related third parties including design consultants engaged in this project, staff of Central Coast Council and members of the Central Coast Council Traffic Committee. Any representation, statement, opinion or advice, expressed or implied in this report is made in good faith but on the basis that Barker Ryan Stewart are not liable (whether by reason of negligence, lack of care or otherwise) to any person for any damage or loss whatsoever which has occurred or may occur in relation to that person taking or not taking (as the case may be) action in any respect of any representation, statement, or advice referred to above.

#### **SYDNEY**

Suite 603, Level 6, 12 Century Circuit  
Norwest Business Park NSW 2153  
P (02) 9659 0005 F (02) 9659 0006  
E [sydney@brs.com.au](mailto:sydney@brs.com.au)

#### **CENTRAL COAST**

Studio 5, 78 York Street  
East Gosford NSW 2250  
P (02) 4325 5255  
E [coast@brs.com.au](mailto:coast@brs.com.au)

#### **HUNTER**

Unit 1, 17 Babilla Close  
Beresfield NSW 2322  
P (02) 4966 8388 F (02) 4966 1399  
E [hunter@brs.com.au](mailto:hunter@brs.com.au)

## TABLE OF CONTENTS

1	Introduction .....	4
2	Background .....	5
2.1	Assessment Process.....	5
3	Risk Assessment.....	6
4	Audit Findings .....	7
5	Conclusion .....	9

Appendix A – traffic Control Plan

Appendix B – Site Photos

### SYDNEY

Suite 603, Level 6, 12 Century Circuit  
Norwest Business Park NSW 2153  
**P** (02) 9659 0005 **F** (02) 9659 0006  
**E** sydney@brs.com.au

### CENTRAL COAST

Studio 5, 78 York Street  
East Gosford NSW 2250  
**P** (02) 4325 5255  
**E** coast@brs.com.au

### HUNTER

Unit 1, 17 Babilla Close  
Beresfield NSW 2322  
**P** (02) 4966 8388 **F** (02) 4966 1399  
**E** hunter@brs.com.au

# 1 Introduction

Barker Ryan Stewart has been engaged by Deicorp Projects (Tallawong Station) Pty Ltd to prepare a concept design road safety audit report for the management of construction traffic for a proposed mixed-use development comprised of residential apartments, retail and commercial space at 1-15 and 2-12 Conferta Avenue, Rouse Hill.

The two sites are currently unoccupied and have been cleared of vegetation. The sites are bisected by Conferta Avenue and bounded by Themeda Avenue and Tallawong Metro Station to the north, Cudgegong Road to the east, Schofields Road to the south, and the Tallawong Station commuter car park to the west.

The site is shown in **Figure 1.1** below.

The purpose of this report is to assess the proposed traffic management measures that will be undertaken during the construction phase of the development and to identify any elements of these measures or the road environment that may present a risk to the safety of road users.



**Figure 1.1:** Aerial Photo of Site (Source: NSW Government Six Maps)

A road safety audit is a term used internationally to describe an independent review of a road project or existing road to identify any safety or performance concerns. The audit team considers the safety of all road users and qualitatively reports on road safety issues or opportunities for safety improvement. The team also considers other factors that are relevant to the existing site.

A road safety audit is therefore a formal examination of a road project, or any type of project which affects road users (including cyclists, pedestrians, mobility impaired etc.) or an existing road or trafficable area, carried out by an independent competent team who identify and document road safety concerns.

A road safety audit is intended to help deliver a safe road system and is not a review of compliance with standards.

## 2 Background

A Construction Traffic Management Plan (CTMP) has been prepared for the project that includes a Vehicle Management Plan (VMP) and a Traffic Control Plan (TCP).

The CTMP provides details of the types of construction vehicles that will access the site and the routes they will use to access the site from the main road network. It indicates that the largest vehicles that will access the site are 19 metre articulated vehicles and 12.5 metre heavy rigid vehicles entering the site from Schofields Road, Cudgegong Road and Conferta Avenue and exiting the site via Conferta Avenue, Tallawong Road and Schofields Road.

The TCP prepared as part of the CTMP prescribes "Trucks" warning signs to be installed on all roads surrounding the site to provide advance warning for road users of construction vehicles accessing the site.

### 2.1 Assessment Process

This road safety audit has been conducted in accordance with the procedures set out in the Austroads Guide to Road Safety Part 6A: Implementing Road Safety Audits (2019). A site inspection was conducted on Tuesday 31 March 2020 and the details contained within the Construction Traffic Management Plan for the project reviewed to identify issues that may affect road user safety and other relevant issues.

Road safety audits are a formal process and the client's responses to the audit findings should be documented by the client in writing. A client is under no obligation to accept all the audit findings, however, the reasons for non-acceptance should be included within the written responses. Any corrective actions in response to the audit should be considered in conjunction with all other project considerations. It is not the role of the audit team to approve the client's responses to the audit.

The findings of the audit are outlined below in **Table 4**.

### 3 Risk Assessment

A risk rating based on the **likelihood** of a crash occurring as a result of the deficiency together with the potential **consequence** of that crash.

The risk ratings adopted are:

- ⇒ **Intolerable**
- ⇒ **High**
- ⇒ **Medium**
- ⇒ **Low**

Tables 1 to 3 below show the risk rating process.

Frequency	Description
Frequent	Once or more per week
Probable	Once or more per year (but less than once a week)
Occasional	Once every five to ten years
Improbable	Less often than once every ten years

**Table 1:** How often is the problem likely to lead to a crash? (Austroads, 2019)

Consequence	Description	Examples
Catastrophic	Likely multiple deaths	<ul style="list-style-type: none"> <li>- High speed, multi-vehicle crash on a freeway</li> <li>- Car runs into crowded bus stop</li> <li>- Bus and petrol tanker collide</li> <li>- Collapse of a bridge or tunnel</li> </ul>
Serious	Likely deaths or serious injury	<ul style="list-style-type: none"> <li>- High or medium speed vehicle/vehicle collision</li> <li>- High or medium speed collision with a fixed roadside object</li> <li>- Pedestrian or cyclists struck by a car</li> </ul>
Minor	Likely minor injury	<ul style="list-style-type: none"> <li>- Some low speed vehicle collisions</li> <li>- Cyclist falls from bicycle at low speed</li> <li>- Left-turn rear-end crash in a slip lane</li> </ul>
Limited	Likely trivial injury or property damage only	<ul style="list-style-type: none"> <li>- Some low speed vehicle collisions</li> <li>- Pedestrian walks into object (no head injury)</li> </ul>

**Table 2:** What is the likely severity of the resulting crash type? (Austroads, 2009)

	Frequent	Probable	Occasional	Improbable
<b>Catastrophic</b>	Intolerable	Intolerable	Intolerable	High
<b>Serious</b>	Intolerable	Intolerable	High	Medium
<b>Minor</b>	Intolerable	High	Medium	Low
<b>Limited</b>	High	Medium	Low	Low

**Table 3:** The resulting level of risk (Austroads, 2019)

## 4 Audit Findings

**Table 4:** Audit findings

Audit Findings	Suggested Treatments	Risk	Responsible Officer	
			Accept Y/N	Comments
1. The increase in the volume and frequency of heavy vehicle movements increases the risk of crashes with light vehicles, particularly at the Schofields Road / Cudgegong Road intersection where heavy vehicles will turn right across opposing traffic.	Appropriate warning signs should be installed on the northern side of Schofields Road on the eastbound approach to Cudgegong Road to raise driver awareness of heavy vehicle turning movements.	Occasional / Serious = <b>HIGH</b>	Y	Warning signs added as suggested
2. Heavy vehicles exiting the site along Conferta Avenue towards Tallawong Road creates a risk of crashes with vehicles accessing the southern portion of the commuter carpark.  The likely low travel speed in this area will reduce the severity of potential crashes.	Appropriate warning signs should be installed in Conferta Avenue and Aristada Street to raise driver awareness of heavy vehicle movements.	Occasional / Minor = <b>MEDIUM</b>	Y	Warning signs added as suggested
3. Heavy vehicle movements at the Cudegong Road / Conferta Avenue intersection, the Tallawong Road / Conferta Avenue intersection and along Conferta Avenue will increase the risk to pedestrians crossing Conferta Avenue at these locations.	Appropriate warning signs should be installed on all roads surrounding the site to raise the awareness of pedestrians about heavy vehicle movements.  In addition, it is recommended that traffic controllers stop pedestrian movements across Conferta Avenue between Aristada Street and Tallawong Road while heavy vehicles are exiting the site along Conferta Avenue.  Note: All existing shared paths surrounding the site are required to remain accessible	Occasional / Serious = <b>HIGH</b>	Y	Warning signs added as suggested  Note regarding pedestrian control added

Audit Findings	Suggested Treatments	Risk	Responsible Officer	
			Accept Y/N	Comments
	to pedestrians and cyclists at all times during the construction period.			
4. Construction vehicles using Themeda Avenue to enter and exit the site will create risks for pedestrians crossing Themeda Avenue to access the metro station and bus stops in Implexa Parade.	<p>Construction contractors should be provided with clear and concise instructions identifying that entry to and exit from the site will only be permitted via Conferta Avenue.</p> <p>In addition, the construction site entry at the Cudgegong Road / Conferta Avenue intersection should be clearly signposted.</p>	Occasional / Serious = <b>HIGH</b>	Y	Noted
<p>5. Construction vehicles, particularly concrete trucks waiting to access the site may obstruct traffic flow and / or restrict sight lines in Cudgegong Road, thereby increasing the risk of crashes.</p> <p>The likely low travel speeds in this area will reduce the severity of potential crashes.</p>	The Construction Management Plan for the site should include procedures and processes to safely and efficiently manage the arrival and departure of construction vehicles during concrete pours.	Occasional / Minor = <b>MEDIUM</b>	Y	Not required during early works


## 5 Conclusion

The proposed traffic management measures that will be undertaken during the construction phase of the development have been audited as per the appropriate road safety audit guidelines. The audit findings have been produced for the consideration of all interested parties, including the client, Deicorp Projects (Tallawong Station) Pty Ltd, Transport for NSW and Blacktown City Council.

The audit findings should be responded to by the client for this project including any corrective actions that need to be addressed in the Construction Pedestrian and Traffic Management Plan. It is not the role of the audit team to approve the client's responses to the audit.

Although every endeavour has been made to identify road safety risks associated with the construction stage of the project, the auditors cannot guarantee that every issue that affects road user safety has been identified.

Auditors:



**Robert Day**  
**Auditor Level 3 (RSA-02-0368)**

## **Appendix A**

### **Traffic Control Plan**

## **Appendix B Site Photos**



**Photo 1 – Schofields Road / Cudgegong Road Intersection**



**Photo 2 – Cudgegong Road / Conferta Avenue Intersection**



**Photo 3 – Tallawong Road / Conferta Avenue Intersection**

## **Appendix F Remediation Action Plan**