



Overarching CTMP

Overarching Construction Traffic Management Plan

Sydney Metro Western Sydney Airport Advanced and Enabling Works – Installation and commissioning of construction power

Overarching Traffic and Transport Principles

January 2022

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Revision	Date	Description	Approval
Rev A	22/11/2021	Rev A issued for internal review	Sydney Metro
Rev B	24/11/2021	Rev B issued for external CTMP review	CJP, Penrith City Council, Liverpool City Council, Emergency Services
Rev C	21/01/2022	Rev C issued for external CTMP approval	CJP, Penrith City Council, Liverpool City Council, Emergency Services

Document Changes / Updates (between previous Versions and (this current) Version C)

Date	Section	Original Text	Changes made (new/additional in red)
	Section <u>1.5</u>	As original.	[Addition of:] For off-airport works, the Quickway's Sydney Metro Western Sydney Airport Advanced & Enabling Works (AEW) CEMP will include outline of the management objectives for traffic and transport related matters, consistent with the Overarching Construction Traffic Management Principle (OCTMP) document (this document).
	Section <u>5.1</u>	Trenches will be temporarily re-instated at the end of each shift or covered with road- plates.	Trenches will be temporarily re-instated at the end of each shift or covered with road- plates. For any excavations on road carriageway, anti-slip steel road plates will be installed as per TfNSW M209 specification.
	Section 5.3	As original.	[Numerous changes in whole section]
21/01/2022 (updates between	Section <u>6.1.3</u>	Give way at all times to pedestrians on the footpath.	Give way at all times to pedestrians and cyclists on the footpath.
Ver B & Ver C)	Section <u>6.5.1</u>	As original.	[Addition of:] Site-specific heavy vehicle driver induction will identify locations where cyclists are expected to be riding along the roadway (i.e. not in dedicated shared cyclists & pedestrian footpath) to increase driver awareness.
	Section <u>6.5</u>	Traffic Controllers will be positioned adjacent to the footpath to manage the conflict between construction vehicle and pedestrians during all access and egress movements. Signage	Traffic Controllers will be positioned adjacent to the footpath to manage the conflict between construction vehicle and pedestrians during all access and egress movements. In locations where these movements need to occur when there is high pedestrian and cyclist activity, traffic controllers will be implemented at all times during the works. Signage
	Table 3.1	As original.	Minor updates to "How addressed" comments for MCoA E105, E106
	Table 3.2	As original.	Minor updates to "How addressed" comments for REMM T6

Glossary / Abbreviations

Abbreviation	Expanded text
CEMF	Sydney Metro Construction Environmental Management Framework
SMWSA	Sydney Metro Western Sydney Airport
CSSI	Critical State Significant Infrastructure
CJP	Customer Journey Planning
МСоА	Minister's Condition of Approval
CTMF	Sydney Metro Construction Traffic Management Framework – Sydney Metro West and Sydney Metro – Western Sydney Airport
ОСТМР	Overarching Construction Traffic Management Plan (This Plan)
СТМР	Construction Traffic Management Plan
EIS	Environmental Impact Statement
EPL	Environment Protection Licence
EP&A Act	Environmental Planning and Assessment Act 1979
EPBC Act	Environmental Protection and Biodiversity Conservation Act 1999
EWMS	Environmental Work Method Statements
WSA	Western Sydney Airport
HDD	Horizontal Directional Drill (Under bore)
PCC	Penrith City Council
LCC	Liverpool City Council
LTC	Local Traffic Committee
OEH	Office of Environment and Heritage
OPLINC	TfNSW Online Planned Incident System (ROL Applications)
PTCD	Portable Traffic Control Device
REMM	Revised Environmental mitigation measures
ROL	Road Occupancy Licence
ROA	Road Occupancy Application (Western Sydney Airport Authority)
RSA	Road Safety Audit

Abbreviation	Expanded text
TCAWS	Traffic Control at Worksites Technical Manual
TCG	Traffic Control Group
TfNSW	Transport for New South Wales
TGS	Traffic Guidance Scheme
ТМС	Transport Management Centre
TTLG	Traffic and Transport Liaison Group
ТТМ	Temporary Traffic Management
VMP	Vehicle Movement Plan
VMS	Variable Message Sign (portable or permanent)
On-Airport	The project is characterised into components that are located outside Western Sydney Airport land (off-airport) and components that are located within Western Sydney Airport land (on-airport), to align with their different planning approval pathways required under State and Commonwealth Legislation.
	The on-airport works comprises areas located within the Western Sydney International land boundary
Off-Airport	The off-airport works comprises areas to the north of Western Sydney International (from the northern airport boundary to the T1 Western Line at St Marys) and land south of the airport (from the southern airport boundary to the Aerotropolis Core precinct).
Certified Design	Means that the Principal's Design Documentation has been approved to construct by Endeavour Energy for a specific Portion of the Works and are to be used as the basis for the Contractor's program for the Works.

1. Introduction

1.1 Context

This Overarching Construction Traffic Management Plan (OCTMP) forms part of the construction requirements for the Sydney Metro Western Sydney Airport Advanced and Enabling Works – Installation and Commissioning of Power project and other future projects. This OCTMP is overarching the two (2) site specific operational CTMPs required for the total works. While it is expected that no other CTMPs are required, in the case that they are, this OCTMP will still apply.

This OCTMP has been prepared in line with the requirements of the Sydney Metro Traffic Management Framework (CTMF), Sydney Metro – Western Sydney Airport Construction Environmental Management Framework (CEMF), Sydney Metro Western Sydney Airport Traffic and Access Construction Environmental Management Plan, EIS and the Ministers Conditions of Approval (MCoA).

1.2 Background for Sydney Metro Western Sydney Airport Project

Sydney Metro is Australia's biggest public transport project. Services between Rouse Hill and Chatswood started in May 2019 on the new stand-alone metro railway system. The Sydney Metro network and program of work includes the Metro North West Line (which opened in May 2019), Sydney Metro City & Southwest (which is currently under construction and due to open in 2024), Sydney Metro West (with construction due to start in 2020) and Sydney Metro - Western Sydney Airport (the project). Potential future extensions to Schofields/Tallawong in Rouse Hill in the north and to Macarthur in the south are under consideration and are being safeguarded but do not form part of the project.

The project will become the transport spine for Greater Western Sydney, connecting communities and travellers with the new Western Sydney International (Nancy-Bird Walton) Airport (referred to as Western Sydney International) (WSI airport) and the growing region.

The project is being delivered under the Western Sydney City Deal, a partnership between the NSW Government, Australian Government and eight councils of the Western Parkland City. The NSW and Australian Governments have a shared objective of having the rail line operational when WSI airport is planned to open for passenger services.

The new railway line will service Greater Western Sydney and the new WSI airport. It will become the transport spine for the Western Parkland City's growth for generations to come, connecting communities and travellers with the rest of Sydney's public transport system with a fast, safe, and easy metro service. The Project will link residential areas with job hubs from St Mary's through to the new airport and the Western Sydney Aerotropolis.

It will provide a major economic stimulus for Western Sydney, supporting more than 14,000 jobs' during construction for the NSW and national economies, including more than 250 new apprenticeships. The project comprises components that are located within WSI airport (on-airport).

Sydney Metro Western Sydney Airport project alignment is shown in Figure 1.2



Figure 1.1 Sydney Metro Overview

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 Traffic Management Plan

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Figure 1.2 Sydney Metro – Western Sydney Airport project alignment

1.2.1 Sydney Metro Western Sydney Airport Planning Approval

The Environmental Impact Statement (EIS) assessed impacts for Sydney Metro Western Sydney Airport. This covered all construction requirements required including tunnelling and utility installation.

The planning approval and related environmental assessment documents are located at:

https://www.planningportal.nsw.gov.au/major-projects/project/35016

1.3 Scope of Works

Quickway have been engaged by Sydney Metro for the construction of temporary construction power supply connections.

- a) The Sydney Metro Western Sydney Airport (SMWSA) project is a new metro rail line from St Marys to Aerotropolis (the Project). Excavation of the tunnels and underground stations will be undertaken by a combination of Road Headers (RHs) and Tunnel Boing Machines (TBMs) both of which have significant electrical power supply demands. The power demands are of a magnitude that can only be provided to each worksite via a High Voltage (HV) feeder.
- b) As part of the delivery of the SMWSA project, key Advanced and Enabling Works (AEW) are required, including construction power. These will provide the major works contractor with power ready for connection prior to TBM to be energised and tunnelling commencement.
- c) Quickway Transport and Utilities Infrastructure have been engaged by Sydney Metro as the ASP1 Contractor to construct the high voltage connections to six construction worksites. This will ensure HV power is available for the follow-on Sydney Metro Station Boxes and Tunnelling (SBT) and Low Voltage (LV) supply to the Pre-Cast Facilities (Badgerys Creek) for production of segments.
- d) Quickway Transport and Utilities Infrastructure will be responsible for the construction of temporary power supply connection, certified for construction by the relevant supply authority, for the following Portions (the works):
 - i. Portion 1: Patons Lane;
 - ii. Portion 2: Claremont Meadows Services Facility Power;
 - iii. Portion 3: Orchard Hills Power;
 - iv. Portion 4: Airport Business Park Power;
 - v. Portion 5: Precast Facilities Power; and
 - vi. Portion 6: Aerotropolis Power.

Refer to Figure 1.3 for location overview.

e) Each portion includes all the work required to install, construct and commission ASP1 construction power as shown in the Principal's Design Documentation included in Attachment A of the Services Brief (refer to Table 1 for design reference locations)



Figure 1.3 Portion 1 – Portion 6 Location overview

Table 1.1 Design reference locations

Portion	Design Name	Case Number	Certified Design Date	Description
1. Patons Lane Undergrounding	LOT 42, DP 738126 - 43A PATONS LANE ORCHARD HILLS ARP4779 ASSET RELOCATION	ARP4779	31/08/2021	Undergrounding of an approximately 300m section of overhead 11kV Lane, Orchard Hills. Conduits will be installed via horizontal directiona
2. Claremont Meadows Services Facility Power	LOT 2, DP771697 – 1017 GIPPS ST CLAREMONT MEADOWS DBL2558 TEMPORARY BUILDER SUPPLY	DBL2558	31/08/2021	Provision of an 11kV connection to an existing Endeavour Energy HV Greater Western Highway. Proposed route will be overhead (crossing be located near the corner of Greater Western Highway and Gipps Str
3. Orchard Hills Power	70-74 Kent Road (LOT 43 DP29388) ORCHARD HILLS DBL2529_RETIC_20210226 CONNECTION OF LOAD	DBL2529	31/08/2021	Provision of an 11kV connection to the existing Endeavour Energy Cla route will be underground via Sunflower Drive, Gipps Street, with a Ho under the M4 Motorway at Kent Road. Kiosks will be located at a prop
4. Airport Business Park Power	LOT 2 DP 1260971 – BADGERYS CREEK ROAD BADGERYS CREEK DBL2559_PMOS_RETIC CONNECTION OF LOAD METHOD OF SUPPLY	DBL2559	estimated December 2021	Provision of an 11kV connection to the existing Endeavour Energy Ke will be underground via Cross Street, Western Road, an easement be Road, Cuthel Road, Lawson Road, Pitt Street, Longley's Rd and Badg South Creek and Badgerys Creek. Kiosks will be located at the propo WSI Airport.
5. Precast Facilities Power	BAGERYS CREEK ROAD BRINGELLY DBL2560 CONNECTION OF LOAD METHOD OF SUPPLY BAGERYS CREEK ROAD BRINGELLY DBL2584 CONNECTION OF LOAD METHOS OF SUPPLY	DBL2584 & DBL2560	02/11/2021	Provision for an LV supply, connecting to an existing Endeavour Ener Creek Road at the intersection with Longleys Road. Proposed route w kiosks will be located on the northern side of Longleys Road (for the S Longleys Road (for the SCAW pre-cast site).
6. Aerotropolis Power	215 BADGERYS CREEK ROAD BRINGELLY DBL2554 CONNECTION OF LOAD PROPOSED METHOD OF SUPPLY	DBL2554	30/09/2021	Provision of an 11kV connection to the existing Endeavour Energy Brinvia Greendale Road, The Northern Road and Badgerys Creek Road an Aerotropolis. Kiosk will be located within the Western Parkland City Au

mains in the northern road verge of Patons al drilling.

overhead feeder on the northern side of the the Greater Western Highway), and kiosk will reet.

laremont Meadows Zone Substation. Proposed orizontal Directional Drill (HDD) underbore perty to be acquired off Kent Road.

emps Creek Zone Substation. Proposed route etween Turnbull and Sumbray Avenue, Martin gerys Creek Road, including underbores under osed Airport Business Park station site within

rgy HV overhead feeder cable on Badgerys will be underground along Longleys Road and SBT pre-cast site) and southern side of

ngelly Zone Substation. Proposed route will be and the proposed site access road to uthority owned lane.

1.4 Purpose of this Plan – Western Sydney Airport Power Enabling Works

The purpose of this Overarching Construction Traffic Management Plan is to set out the principles of traffic and covers the Western Sydney Airport power enabling works only. This OCTMP shall outline the cumulative works activities across all six (6) Portions of work. Works will occur concurrently, at varying stages of the project, on all six (6) Portions. Cumulative impacts with any ongoing Sydney Metro WAS ongoing projects will be discussed in the fortnightly TCG. Map overview of the WSA area is shown in Figure 1.3.

This project has been separated into two (2) sections with each section being a CTMP:

- Operational CTMP 1, will include Portion 1 Portion 3 (within the Penrith City Council LGA)
 - Portion 1: Patons Lane alignment shown in Figure 1.4
 - Portion 2: Claremont Meadows Services Facility Power alignment shown in Figure 1.5
 - Portion 3: Orchard Hills Power alignment shown in Figure 1.7
- Operational CTMP 2, will include Portion 4 Portion 6 (within the Liverpool City Council LGA)
 - Portion 4: Airport Business Park Power alignment shown in Figure 1.8
 - Portion 5: Precast Facilities Power alignment shown in Figure 1.9
 - Portion 6: Aerotropolis Power alignment shown in Figure 1.10

The sole focus of this project is the installation and commissioning of construction power including the following:

- Power supply for the tunnel boring machine and construction power for Claremont Meadows Zone Substation to Orchard Hills site with associated underbores under the M4 Motorway at Kent Road, Orchard Hills;
- Power supply for the tunnel boring machines and construction power from Kemps Creek Zone Substation to the Airport Business Park site with associated underbores under South Creek and Badgerys Creek;
- Construction power supply for the below sites:
 - Claremont Meadows Services Facility
 - Pre-cast facilities
 - Aerotropolis
- Concurrent management of work sites; and
- Utility diversions as required for the works.

The following <u>Figure 1.4</u> to <u>Figure 1.10</u> outline the location and power supply routes for Portions 1 - 6 respectively.



Figure 1.4 Portion 1: Patons Lane power supply route



Figure 1.5 Portion 2: Claremont Meadows power supply route

Figure 1.6 CTMP 1 – Portion 1 – Power supply route



Figure 1.7 Portion 3: Orchard Hills power supply route



Figure 1.8 Portion 4: Airport Business Park power supply route



Figure 1.9 Portion 5: Pre-cast facilities power supply route



Figure 1.10 Portion 6: Aerotropolis power supply route

1.5 Environmental Management System Overview

The environmental management system overview is described in the Sydney Metro Construction Environmental Management Framework.

For off-airport works, the Quickway's Sydney Metro Western Sydney Airport Advanced & Enabling Works (AEW) CEMP will include outline of the management objectives for traffic and transport related matters, consistent with the Overarching Construction Traffic Management Principle (OCTMP) document (this document).

For on-airport works, the Sydney Metro Western Sydney Airport Traffic and Access CEMP will detail all the management objectives and is consistent with the WSA Traffic and Access CEMP, including all appendices to the CEMP.

The Western Sydney Airport Traffic and Access Construction Environmental Management Plan is located at:

https://www.westernsydney.com.au/sites/default/files/2019-06/WSA%20-%20Bechtel%20-%20Traffic%20and%20Access%20Construction%20-%20CEMP.pdf

1.5.1 WSA Power Enabling Works Environmental Obligations

All construction personnel working on the Western Sydney Airport Power Enabling Works have the following environmental obligations:

- Minimise pollution of land, air and water
- Use pollution control equipment and keep it in proper working order
- Preserve the natural and cultural heritage environment
- Give notice to TfNSW and relevant authorities of a non-Aboriginal or Aboriginal heritage discovery
- Minimise the occurrence of offensive noise
- Be a good neighbour to surrounding land users
- Keep the community informed of milestones, upcoming activities, and duration of relevant aspects of the works
- Use equipment with noise control features where available and ensure that it is properly maintained, and
- Take all feasible and reasonable steps to ensure compliance with the requirements of the Sydney Metro Environmental Management Framework.

1.5.2 Working Hours

As per MCoA E38, works must be undertaken during the following hours:

- (a) 7:00am to 6:00pm Mondays to Fridays, inclusive;
- (b) 8:00am to 1:00pm Saturdays; and
- (c) at no time on Sundays or public holidays.

Except as permitted by an EPL or approved in accordance with the Out of Hours Works Protocol highly noise intensive works that result in an exceedance of the applicable noise management level at the same receiver must only be undertaken:

(a) between the hours of 8:00 am to 6:00 pm Monday to Friday;

(b) between the hours of 8:00 am to 1:00 pm Saturday; and

(c) if continuously, then not exceeding three (3) hours, with a minimum cessation of work of not less than one (1) hour.

For the purposes of this condition, 'continuously' includes any period during which there is less than one (1) hour between ceasing and recommencing any of the work.

Works which can be undertaken outside of standard construction hours without any further approval include:

- Works which are determined to comply with the relevant Noise Management Level at sensitive receivers;
- For the delivery of materials outside of approved hours as required by the Police or other authorities (including TfNSW) for safety reasons;
- Where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm.
- Where written agreement is reached with all affected receivers.

Any other necessary out of hours works required will go through an OOHW approval process which will include the required environmental, noise and vibration impact assessments and modelling for impacted receivers.

2. Objectives of this CTMP

2.1 Objectives

The objectives of the Overarching CTMP are to ensure that construction impacts are minimised and are within the scope permitted of relevant planning approvals. This includes minimising delays, ensuring consideration is given to the needs of all road users and maintaining safety for both workers and the general public.

To achieve these objectives and goals, Quickway will:

- Ensure the design and operation of any proposed temporary traffic management measures are carefully planned, coordinated, and implemented.
- Meet public transport user, emergency services, pedestrians, cyclists, and vehicle drivers' expectations with a high level of safety and service in using the existing road and pedestrian network.

This requires efficient, effective, and reliable traffic management strategies to be in place that:

- Follow the CTMF hierarchy of access.
- Achieve uniform traffic throughout all Portions of work.

- Minimise changes to pedestrian and cycle routes and movement.
- Ensure reliable and consistent travel times.
- Provide clear information to allow drivers and other road users to make appropriate decisions in relation to their journey.
- Minimise potential road safety risk, especially for pedestrians and cyclists.
- Understands the impacts of the Project and identifying appropriate methods to mitigate these impacts.
- Strategic advanced planning of the temporary traffic management.
- Taking an approach to traffic management that minimises traffic disruption.
- Ongoing stakeholder engagement and communication.

In planning the traffic management for each portion of work, the most appropriate form of traffic management shall consider the priorities of the potential different users in accordance with TCAWS Version 6.0. The site specific operational CTMP's shall be developed in line with the following CTMF hierarchy of access, listed from the highest to the lowest priority:

- 1. Incidents and emergency services access
- 2. Events (special and unplanned)
- 3. Pedestrians
- 4. Cyclists
- 5. Other public transport users buses, coaches, and light rail (where applicable)
- 6. Service vehicles
- 7. Coaches
- 8. Taxis
- 9. Kiss and ride and rideshare
- 10. Private cars

As part of the Construction Traffic Management Framework Quickway will follow the related construction objectives shown in Table 2.1_below:

Table 2.1 CTIMF related construction objectives	Table 2.1	CTMF	related	construction	objectives
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Key Result Area	Construction Objectives
Transport network	 Minimise disruption to pedestrians, cyclists and motorists.
	• Ensure Sydney Metro construction traffic accesses the arterial network as soon as practicable on route to, and immediately after leaving the construction site.
	Keep Sydney moving
	Minimise impacts on bus operations, routes and stops where possible.

Key Result Area	Construction Objectives
	 Minimise changes to traffic operation and kerbside access.
	 Minimise construction traffic generation during network peak periods.
	 Maximum peak period construction vehicle volumes should not exceed
	those outlined in the EIS.
	 Maintain access to properties and businesses where possible or arrange alternatives.
	 Maintain a safe environment for pedestrians and cyclists.
Safety	 No worker injury accidents during construction
	 No injury accidents to members of the public because of construction.
Cumulative impacts	• Work collaboratively with other stakeholders and other major projects to mitigate traffic and transport impacts. This includes but is not limited to WSA authority, CJP, Penrith City Council, Liverpool City Council, Emergency service.
Amenity	 Minimise noise and other environmental impacts on the residents and businesses in the vicinity of the construction sites, in line with the Sydney Metro Construction Noise and Vibration Standard (CNVS)

This CTMP is a key planning tool for all temporary traffic and transport arrangements to provide CJP, Transport for NSW, Penrith City Council PCC, Liverpool City Council LCC, Western Sydney Airport Authority and other stakeholders such as Emergency Services, Bus operators, and business and residential groups, with the assurance that the relevant factors have been considered and impacts to traffic and transport are minimised as much as is practically possible.

The approval, for this OCTMP and all CTMPs will follow the process as outlined on the CTMF. This also includes the reviews of the CTMPs if changes are required as result of improvements and/or requests.

In accordance with MCoA E103 a copy of the CTMPs must be submitted to the Planning Secretary for information before the commencement of any construction in the area identified and managed within the relevant CTMP(s).

3. Environmental requirements

3.1 Relevant legislation and guidelines

3.1.1 Legislation and regulatory requirements

Identified regulatory requirements are:

- Road Act 1993
- NSW Road Regulation 2008
- NSW Road Transport Act 2013
- NSW Road Transport (Safety and Traffic Management) (Road Rules) 1999
- Work Health Safety Act 2011
- Work Health Safety Regulation 2017

Legislation relevant to traffic management also includes the *Environmental Planning and Assessment Act 1979* (EP&A Act), under which the project approval was granted. Relevant provisions of the EP&A Act are explained.

3.1.2 Guidelines

The main guidelines, specifications, and policy documents relevant to this Plan include:

- Traffic Control at Worksites Manual Technical (TCAWS) Manual Version No.6
- AUSTROADS Guide to Temporary Traffic Management 2019 Parts 1-10
- AUSTROADS Guide to Traffic Management 2020 Parts 1-13
- AUSTROADS Guide to Road Safety 2018 Parts 1-9
- Guidelines for Road Safety Audit Practices
- TfNSW RMS Specification G10-Traffic Management
- RMS QA Specification RMS 200 Maintenance Rectification Requirements (Pavement)
- RMS QA Specification RMS M208 Road Openings and Restoration (Low Risk)
- RMS QA Specification RMS M209 Road Openings and Restoration
- Road Occupancy Manual
- Interim Construction Noise Guidelines (ICNG)

3.2 Ministers Conditions of Approval (MCoA)

Ministers Conditions of Approval (MCoA) for Sydney Metro Western Sydney Airport EIS were approved on 23 July 2021. Allocations specific to the ASP1 Contractor Power Enabling Works scope of works are below listed in <u>Table 3.1</u>. A cross reference is also included to indicate where the condition is addressed in this Plan or other Project management documents.

MCoA No.	Condition Requirements	Document reference	How addressed
Administ	trative Conditions		-
A1	 The Proponent must carry out the CSSI in accordance with the terms of this approval and generally in accordance with: (a) Sydney Metro – Western Sydney Airport Environmental Impact Statement dated 21 October 2020; and (b) Sydney Metro – Western Sydney Airport Submission Report submitted April 2021. 	This document. (OCTMP) Relevant CTMPs	The OCTMP and all required CTMPs are prepared and written to adhere to conditions of approval and referenced to EIS.
A2	The CSSI must only be carried out in accordance with all procedures, commitments, preventative actions, performance criteria and mitigation measures set out in the documents listed in Condition A1 of this schedule unless otherwise specified in, or required under, this approval.	This document. (OCTMP) Relevant CTMPs	The OCTMP and all required CTMPs are prepared and written to adhere to conditions of approval and referenced to EIS.
A5	 The Proponent must comply with all written requirements or directions of the Planning Secretary, including in relation to: (a) the environmental performance of the CSSI; (b) any document or correspondence in relation to the CSSI; (c) any notification given to the Planning Secretary under the terms of this approval; (d) any audit of the construction or operation of the CSSI; (e) the terms of this approval and compliance with the terms of this approval (including anything required to be done under this approval); (f) the carrying out of any additional monitoring or mitigation measures; and (g) in respect of ongoing monitoring and management obligations, compliance with an updated or revised version of a guideline, protocol, Australian Standard, or policy required to be complied with under the conditions of this approval. 	This document. (OCTMP) Relevant CTMPs	The OCTMP and all required CTMPs are prepared and written to adhere to conditions of approval and referenced to EIS.

Table 3.1 Ministers Conditions of Approval relevant to this OCTMP and CTMP's

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MCoA No.	Condition Requirements	Document reference	How addressed
A6	 Where the conditions of this approval require a document or monitoring program to be prepared, or a review to be undertaken, in consultation with identified parties, evidence of the consultation undertaken must be submitted to the Planning Secretary with the document. The evidence must include: (a) documentation of the engagement with the party identified in the condition of approval that has occurred before submitting the document for approval; (b) a log of the dates of engagement or attempted engagement with the identified party and a summary of the issues raised by them; (c) documentation of the follow-up with the identified party(s) where feedback has not been provided to confirm that the party(s) has none or has failed to provide feedback after repeated requests; (d) outline of the issues raised by the identified party(s) and how they have been addressed; and (e) a description of the outstanding issues raised by the identified party(s) and the reasons why they have not been addressed. 	Section <u>4</u> Relevant CTMPs	Section 4 provides the required consultation methods that will be undertaken for this OCTMP and relevant CTMPs during planning stages and progressively during construction works: Liverpool City Council, Penrith City Council, Western Sydney Airport Authority, TfNSW, Customer Journey Planning, NSW Fire and Rescue, NSW Ambulance and NSW Police and other stakeholders as required.
Incident	Notification and Reporting	1	
A41	The Planning Secretary must be notified via phone or in writing via the Major Projects website as soon as possible and no later than 12 hours after the Proponent becomes aware of an incident. Any notification via phone must be followed up by a notification in writing via the Major Projects website within 24 hours of the initial phone call. The written notification must identify the CSSI (including the application number and the name of the CSSI if it has one) and set out the location and general nature of the incident.	Section 6.10.2	Sydney Metro hold the primary responsibility for fulfilling the obligations detailed with respect to incident notification and reporting to DPIE. Quickway will assist and cooperate with Sydney Metro to fulfil these obligations.

MCoA No.	Condition Requirements	Document reference	How addressed
A44	The Planning Secretary must be notified in writing via the Major Projects website within seven (7) days after the Proponent becomes aware of any non-compliance with the terms of this approval.	Section <u>6.10.2</u>	Sydney Metro hold the primary responsibility for fulfilling the obligations detailed with respect to incident notification and reporting to DPIE. Quickway will assist and cooperate with Sydney Metro to fulfil these obligations.
A45	A non-compliance notification must identify the CSSI (including the application number for it), set out the condition of approval that the development is non- compliant with, the way in which it does not comply and the reasons for the non- compliance (if known) and what actions have been, or will be undertaken to address the non-compliance. Note: A non-compliance which has been notified as an incident does not need to also be notified as a non-compliance.	Section <u>6.10.2</u>	Sydney Metro hold the primary responsibility for fulfilling the obligations detailed with respect to incident notification and reporting to DPIE. Quickway will assist and provide information to Sydney Metro to fulfil these obligations.
Identifica	ation of Workforce		<i>J</i>
A46	All Heavy Vehicles used for spoil haulage must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away.	Section <u>6.1.3</u>	Section <u>6.1.3</u> details haulage routes and requirements including identification of vehicles.
Noise an	d Vibration		-
E38	 Work must only be undertaken during the following hours: (a) 7:00am to 6:00pm Mondays to Fridays, inclusive; (b) 8:00am to 1:00pm Saturdays; and (c) at no time on Sundays or public holidays. 	Section <u>1.5.2</u> Working Hours	Section <u>1.5.2</u> describes the work hours permitted under the Ministers Conditions of Approval.

MCoA No.	Condition Requirements	Document reference	How addressed
E39	 Except as permitted by an EPL or approved in accordance with the Out of Hours Works Protocol required by Condition E42, highly noise intensive work that result in an exceedance of the applicable NML at the same receiver must only be undertaken: (a) between the hours of 8:00 am to 6:00 pm Monday to Friday; (b) between the hours of 8:00 am to 1:00 pm Saturday; and (c) if continuously, then not exceeding three (3) hours, with a minimum cessation of work of not less than one (1) hour. For the purposes of this condition, 'continuously' includes any period during which there is less than one (1) hour between ceasing and recommencing any of the work. 	Section <u>1.5.2</u> Working Hours	Section <u>1.5.2</u> describes the work hours permitted under the Ministers Conditions of Approval for highly noise intensive work.

E41	 Notwithstanding Conditions E38 and E39 work may be undertaken outside the hours specified in the following circumstances: (a) Safety and Emergencies, including: (i) for the delivery of materials required by the NSW Police Force or other authority for safety reasons; or (ii) where it is required in an emergency to avoid injury or the loss of life, to avoid damage or loss of property or to prevent environmental harm; or (b) Low impact, including: (i) construction that causes LAeq(15 minute) noise levels: no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and no more than 5 dB(A) above the rating background level at any residence in accordance with the ICNG, and no more than the 'Noise affected' NMLs specified in Table 3 of the ICNG at other sensitive land user(s); and (ii) construction that causes: continuous or impulsive vibration values, measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.2 of Assessing Vibration: a technical guideline (DEC, 2006), or intermittent vibration values measured at the most affected residence are no more than the preferred values for human exposure to vibration, specified in Table 2.4 of Assessing Vibration: a technical guideline (DEC, 2006). (c) By Approval, including: (i) works which are not subject to an EPL that are approved under an EPL in force in respect of the CSSI; or (ii) megotiated agreements with directly affected residents and sensitive land user(s); or (j) tunnelling and ancillary support activities (excluding cut and cover tunnelling and surface works not directly supporting tunnelling) are permitted 24 hours a day, seven days a week; or (ii) delivery of material that is required to be delivered outside of standard 	Section <u>1.5.2</u> Working Hours	Section <u>1.5.2</u> describes the work hours permitted under the Ministers Conditions of Approval.
	construction hours in Condition E38 to directly support tunnelling activities,		

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MCoA No.	Condition Requirements	Document reference	How addressed
	 except between the hours 10:00 pm and 7:00 am to / from the Orchard Hills ancillary facility; or (iv) haulage of spoil generated through tunnelling is permitted 24 hours per day, seven days per week except between the hours of 10:00 pm and 7:00 am to / from the Orchard Hills construction site; or (v) work within an acoustic enclosure are permitted 24 hours a day, seven days a week where there is no exceedance of noise levels or intermittent vibration levels under Low impact circumstances identified in Condition E41 (b), unless otherwise agreed with the Planning Secretary; or (vi) tunnel and underground station box fit out works are permitted 24 hours per day, seven days per week. On becoming aware of the need for emergency work in accordance with (a)(ii) above, the ER, the Planning Secretary and the EPA must be notified of the reasons for such work. The proponent must use best endeavours to notify as soon as practicable all noise and/or vibration affected sensitive land user(s) of the likely impact and duration of those works.		
	Notes: 1. Tunnelling does not include station box excavation. 2. Tunnelling ancillary support activities includes logistics support and material handling and delivery		

MCoA No.	Condition Requirements	Document reference	How addressed
E42	 An Out-of-Hours Work Protocol must be prepared to identify a process for the consideration, management and approval of work (not subject to an EPL) which are outside the hours defined in Conditions E38 and E39. The Protocol must be approved by the Planning Secretary before commencement of the out-of-hours work. The Protocol must be prepared in consultation with the ER. The Protocol must provide: (a) justification for why out-of-hours work need to occur; (b) identification of low and high-risk activities and an approval process that considers the risk of activities, proposed mitigation, management and coordination, including where: (i) the ER review all proposed out-of-hours activities and firm their risk levels; (ii) low risk activities can be approved by the ER; and (iii) high risk activities that are approved by the Planning Secretary; (c) a process for the consideration of out-of-hours work against the relevant NML and vibration criteria; (d) a process for selecting and implementing mitigation measures for residual impacts in consultation with the community at each affected location, including respite periods consistent with the requirements of Condition E56. The measures must take into account the predicted noise levels and the likely frequency and duration of the out-of-hours work that sensitive land user(s) would be exposed to, including the number of noise awakening events; (e) procedures to facilitate the coordination of out-of-hours work including those approved by an EPL or undertaken by a third party, to ensure appropriate respite is provide; and (f) notification arrangements for affected receivers for all approved out-of-hours works. 	Section <u>1.5.2</u> Working Hours	Section <u>1.5.2</u> describes the work hours permitted under the Ministers Conditions of Approval.

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MCoA No.	Condition Requirements	Document reference	How addressed
E56	 All work undertaken for the delivery of the CSSI, including those undertaken by third parties (such as utility relocations), must be coordinated to ensure respite periods are provided. The Proponent must: (a) reschedule any work to provide respite to impacted noise sensitive land use(s) so that the respite is achieved in accordance with Condition E57; or (b) consider the provision of alternative respite or mitigation to impacted noise sensitive land use(s); and (c) provide documentary evidence to the ER in support of any decision made by the Proponent in relation to respite or mitigation. 	Section <u>1.5.2</u> Working Hours	Section <u>1.5.2</u> describes the work hours permitted under the Ministers Conditions of Approval.
	receivers affected by the delivery of the CSSI.		
Traffic ar	nd Transport		-
E103	Construction Traffic Management Plans (CTMPs) must be prepared in accordance with the Construction Traffic Management Framework. A copy of the CTMP's must be submitted to the Planning Secretary for information before the commencement of any construction in the area identified and managed in the relevant CTMP.	All CTMPs	All CTMPs will be developed in accordance with the CTMF. Prior to any construction approved CTMPs will be submitted for information.
E104	The locations of all Heavy Vehicles used for spoil haulage must be monitored in real time and the records of monitoring be made available electronically to the Planning Secretary and the EPA upon request for a period of no less than one (1) year following the completion of construction.	Section 6.1.3	Section 6.1.3 outlines how spoil haulage heavy vehicle monitoring is conducted

MCoA No.	Condition Requirements	Document reference	How addressed
E105	Local roads proposed to be used by Heavy Vehicles to directly access ancillary facilities / construction sites that are not identified in the documents listed in Condition A1 must be approved by the Planning Secretary and be included in the CTMPs.	Relevant CTMPs Heavy Vehicle Local Roads (HVLR) document provided to Planning Secretary in separate submission.	Relevant operational CTMPs will include swept path analysis, reports and advice for the use of Heavy Vehicle routes on local roads identified. Separate submission of HVLR document to the Planning Secretary will be made for approval for the use construction heavy vehicles on local roads that are not identified in the documents listed in Condition A1. This will include requirements of MCoA E106.
E106	All requests to the Planning Secretary for approval to use local roads under Condition E105 above must include the following: (a) a swept path analysis; (b) demonstration that the use of local roads by Heavy Vehicles for the CSSI will not compromise the safety of pedestrians and cyclists of the safety of two- way traffic flow on two-way roadways; (c) details as to the date of completion of the road dilapidation surveys for the subject local roads; and (d) measures that will be implemented to avoid where practicable the use of local roads past schools, aged care facilities and child care facilities during their peak operation times; and (e) written advice from an appropriately qualified professional on the suitability of the proposed Heavy Vehicle route which takes into consideration items (a) to(d) of this condition.	Relevant CTMPs Heavy Vehicle Local Roads (HVLR) document provided to Planning Secretary in separate submission.	Relevant operational CTMPs will include swept path analysis, reports and advice for the use of Heavy Vehicle routes on local roads identified. Separate submission of HVLR document to the Planning Secretary will be made for approval for the use construction heavy vehicles on local roads that are not identified in the documents listed in Condition A1. This will include requirements of MCoA E106.

MCoA No.	Condition Requirements	Document reference	How addressed
E107	Before any local road is used by a Heavy Vehicle for the purposes of construction of the CSSI, a Road Dilapidation Report must be prepared for the road. A copy of the Road Dilapidation Report must be provided to the Relevant Road Authority(s) within three (3) weeks of completion of the survey and at no later than one (1) month before the road being used by Heavy Vehicles associated with the construction of the CSSI.	Section <u>6.9</u>	Section <u>6.9</u> outlines the requirements for existing condition reports including timing and provision to the asset owner
E108	 If damage to roads occurs as a result of the construction of the CSSI, the Proponent must either (at the Relevant Road Authority's discretion): (a) compensate the Relevant Road Authority for the damage so caused; or (b) rectify the damage to restore the road to at least the condition it was in prework as identified in the Road Dilapidation Report. 	Section <u>6.9</u>	Section <u>6.9</u> outlines the requirements for existing condition reports including timing and provision to the asset owner
E109	 Vehicles associated with the project workforce (including light vehicles and Heavy Vehicles) must be managed to: (a) minimise parking on public roads; (b) minimise idling and queueing on state and regional roads; (c) not carry out marshalling of construction vehicles near sensitive user(s); (d) not block or disrupt access across pedestrian or shared user paths at any time unless alternate access is provided; and (e) ensure spoil haulage vehicles adhere to the nominated haulage routes identified in the CTMP. 	Section <u>6.1.3</u>	Section <u>6.1.3</u> details how the project workforce vehicles will be managed.
E110	Access to all utilities and properties must be maintained during works, unless otherwise agreed with the relevant utility owner, landowner, or occupier.	Section <u>5.2</u> Parking and Property Access Section <u>6.5.2</u>	This document. (OCTMP) and Relevant CTMPs are developed to address the MCoA with regards to Property Access.
E111	The Proponent must maintain access to properties during the entirety of works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works.	Section <u>5.2</u> Parking and Property Access Section <u>6.5.2</u>	This document. (OCTMP) and Relevant CTMPs are developed to address the MCoA with regards to Property Access.

MCoA No.	Condition Requirements	Document reference	How addressed
E112	Where construction of the CSSI restricts a property's access to a public road, the Proponent must, until their primary access is reinstated, provide the property with temporary alternate access to an agreed road decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner.	Section <u>5.2</u> Parking and Property Access Section <u>6.5.2</u>	This document. (OCTMP) and Relevant CTMPs are developed to address the MCoA with regards to Property Access.
E113	Any property access physically affected by the CSSI must be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier. Property access must be reinstated within one (1) month of the work that physically affected the access is completed or in any other timeframe agreed with the landowner or occupier.	Section <u>5.2</u> Parking and Property Access Section <u>6.5.2</u>	This document. (OCTMP) and Relevant CTMPs are developed to address the MCoA with regards to Property Access.
E114	During construction, all reasonably practicable measures must be implemented to maintain pedestrian, cyclist and vehicular access to, and parking in the vicinity of, businesses and affected properties. Disruptions are to be avoided, and where avoidance is not possible, minimised. Where disruption cannot be minimised, alternative pedestrian, cyclist and vehicular access, and parking arrangements must be developed in consultation with affected businesses and landowners and implemented before the disruption. Adequate signage and directions to businesses must be provided before, and for the duration of, any disruption.	Relevant CTMPs	Each relevant operational CTMP will detail measures to be implemented where avoidance of any disruptions to access is not possible.
E116	A Traffic and Transport Liaison Group(s) must be established in accordance with the Construction Traffic Management Framework to inform the development of CTMPs.	Section <u>4.1</u>	Section <u>4.1</u> details the establishment and consultation with TTLG in developing CTMPs.
E117	Supplementary analysis and modelling as required by TfNSW and / or the Traffic and Transport Liaison Group(s) must be undertaken to demonstrate that construction and operational traffic can be managed to minimise disruption to traffic network operations including changes to and the management of pedestrian, bicycle and public transport networks, public transport services, and pedestrian and cyclist movements. Revised traffic management measures must be incorporated into the CTMPs.	Relevant CTMPs	Amendments to traffic management measures within relevant CTMPs will be revised / completed as required by any analysis or modelling that is requested by TfNSW and/or TTLG

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3.3 Revised Environmental Mitigation Measures (REMM)

Relevant REMM are listed in <u>Table 3.2</u> below. This includes reference to required outcomes, the timing of when the commitment applies, relevant documents or sections of the environmental assessment influencing the outcome and implementation.

Ref #	Condition Classification	Commitment	Timing	CTMP reference	How addressed
T1	Transport – Construction	Construction Traffic Management Plans will be prepared in accordance with the Construction Traffic Management Framework.	Pre- construction & Construction	This document OCTMP and Relevant CTMP's	OCTMP and operational CTMP's developed pre- construction.
Т3	Transport – Construction	Coordination with Western Sydney Airport and TfNSW will be undertaken through the Traffic and Transport Liaison Group (TTLG) to manage potential cumulative construction traffic impacts with M12 Motorway and Elizabeth Drive.	Pre- construction & Construction	This document OCTMP and Relevant CTMP's	Monthly TTLG meetings to be attended and project specific information presented to all attendees.
Τ4	Transport – Construction	Road Safety Audits would be carried out to address vehicular access and egress, and pedestrian, cyclist and public transport safety. Road Safety Audits would be carried out as per the guidelines outlined in Section 10 of the Construction Traffic Management Framework.	Pre- Construction	Section <u>6.11</u>	Pre-construction desktop CTMP road safety audits conducted as per Section <u>6.11</u>
Т5	Transport – Construction	Access maintained for pedestrians and cyclists around construction sites as per the guidelines outlined in the CTMF. Appropriate signage shall be provided to guide pedestrians and cyclists past construction sites and on the surrounding network to allow access to be maintained	Construction	Section <u>6.5</u> Relevant operational CTMP's	Relevant CTMPs detail specific Pedestrian and Cyclists management requirements for each Portion of work.

Table 3.2 Revised Environmental Mitigation Measures relevant to this OCTMP and CTMP's

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Ref #	Condition Classification	Commitment	Timing	CTMP reference	How addressed
T6	Transport – Construction	Access for construction vehicles shall be planned as per the guidelines outlined in the CTMF. Construction site traffic shall be managed to minimise movements during peak periods. Vehicle access to and from construction sites shall be managed to maintain pedestrian, cyclist and motorist safety	Construction	Section <u>6.1.3</u> Construction traffic routes Section <u>6.5</u> for Pedestrian & Cyclist management	Section <u>6.10</u> details communication and construction requirements for emergency access at all times. Section <u>6.5</u> for Pedestrian & Cyclist
				Relevant operational CTMP's	management Relevant operational CTMPs detail specific emergency access requirements for each section of work.

4. Consultation & Communication

The following sections summarises the consultation to be undertaken as part of developing this OCTMP and relevant CTMPs.

4.1 Consultation Requirements under the Construction Traffic Management Framework

The size of Sydney Metro projects requires effective and ongoing interaction between several different organisations, key stakeholders, and the general public. This section outlines the consultation groups that will be convened to manage these interactions. Requirements for consultation with local businesses and the community are outlined in 4.2 Communication. As the Project needs regular and ongoing discussions and distribution of information, the following groups will be convened to assist in traffic management planning, document review and stakeholder consultation:

- a) Traffic and Transport Liaison Group(s) (TTLG).
- b) Traffic Control Group(s) (TCG).

Other organisations may be asked to attend the TTLG and/or receive relevant information depending on the matters under discussion or consideration. These include but are not limited to the following:

- NSW Taxi Council
- NSW Taxi Drivers Association
- BusNSW
- Bicycle NSW
- Bicycle User Group(s)
- Pedestrian Council of Australia
- CJP Transport Integration (on behalf all relevant bus operators)
- Private bus operators (such as NightRide contractors)
- Property NSW
- Disability Council of NSW
- Transurban
- NRMA
- NSW Trains
- NSW Health Infrastructure
- Managing Contractors of other adjacent major infrastructure projects

A summary of consultation undertaken during the approval of this CTMP will be provided in <u>Appendix</u> <u>D</u>.

4.2 Communication Requirements under the Construction Traffic Management Framework & Sydney Metro Overarching Community Communication Strategy

All external communication with the community, including businesses, must follow the guidelines set out in the Sydney Metro Overarching Community Communication Strategy.

The community must be notified of any current and upcoming works, temporary works or contractor activities that have the potential to impact on stakeholders and the community before they happen.

An overview of the approach to stakeholder and community involvement during construction of the Project is provided in the Sydney Metro Executive Summary Appendix B – Stakeholder and community engagement. A key element of this strategy will relate to notifications to stakeholders, local Councils and the community that may be affected by changes to transport, access, and local traffic arrangements.

4.2.1 Existing impacted businesses and residents

All residents and businesses along the power supply routes have been advised of the availability of a dedicated Place Manager (Sydney Metro dedicated community relations specialist) for consultation and to respond to enquiries relating to the work. Advice and assistance are provided via the 24/7 community information line which is widely promoted on site signage, notifications, emails, and business cards available from workforce on site. Should Penrith City Council, Liverpool City Council or other stakeholders receive an inquiry or compliant regarding these works, they can direct these to the contact lines as shown below:

- 24/7 Sydney Metro Community Information Line 1800 717 703 or
- Email <u>sydneymetrowsa@transport.nsw.gov.au</u>

Residents and businesses will be notified about all upcoming work and anticipated impacts, including temporary changes to access and traffic conditions, via community notifications provided at least 7 days prior to the commencement of work. Notifications will include advice to direct stakeholders to follow all relevant signage installed to advise pedestrian, cyclist, and traffic changes, along with the directions of traffic controllers.

Pedestrian access to buildings will be maintained at all times, unless otherwise agreed with the landowner or occupier.

Direct community consultation via door knocking or phone calls will be made with any directly impacted properties if there are changes in property access as a result of construction.

Some driveway access may temporarily be interrupted by trenching and civil works. In this case, the property owner will be door knocked or called and consulted in the days prior, to coordinate access arrangements. Excavation crews will have the provision of steel road plates at each of the work areas should an open excavation be required to be temporarily steel road plated to permit vehicle access to driveways. Property access will be reinstated to previous conditions within one month of the work that physically affected the access is completed or in any other timeframe agreed with the landowner or occupier.

Excavation of roadways or footpaths will be temporarily restored progressively as the trench moves along the alignment. Pedestrian diversions will be established prior to footpath impacts. These diversions will be signposted at appropriate junctions prior to the location of the works.

Temporary restorations will be undertaken immediately following the completion of works in each location. These will be designed and constructed to ensure there are no hazards and be made safe for road users, cyclists, and pedestrians.

Permanent restorations will be completed in line with the relevant Council specifications, of impacted road carriageway and footpaths, once the conduit installation along the entire alignment, cable pulling and testing works are completed.

4.2.2 Notification of traffic changes or disruptive works

Activity specific communications strategies are required to be developed prior to any traffic event. These strategies should include details of the work, impacts and proposed mitigation measures. In addition to the strategy, activity-specific notifications will need to be developed and issued to directly impacted properties prior to works commencing. Notification of proposed changes should also be included on the Project website. Other communication methods that may be implemented could include, but are not limited to:

- Doorknocks
- Letterbox drops
- Advertising (newspapers)
- Social media updates
- Radio
- Website
- Variable Message Boards (VMS)

4.2.3 Responsibilities

Quickway will be responsible for ensuring a system is in place to advise the Sydney Metro Project Communications Team, the TTLG/TCG and other key stakeholders including CJP, Western Sydney Airport Authority, Penrith City Council, Liverpool City Council, and emergency services (if required) each time proposed changes are to be made to traffic arrangements.

Advice will include information about the changes to the traffic operation, anticipated delays to traffic, any changes to the times and duration of the work, and any other potential major disruptions. This advice should be provided at the earliest opportunity, in accordance with the Community Consultation Strategy and provide sufficient time for key agencies to provide comments or information, as necessary.

4.2.4 Roadside messaging

Appropriate signposting, whether static or Variable Message Signs (VMS), should be located and installed to provide for the easy and safe passage of vehicles, pedestrians, and cyclists. This also includes public transport users accessing facilities such as bus stops. The installation of signs will be detailed in the relevant CTMPs. Any signposting should be placed in accordance with relevant guidelines and standards. Messages should be clear and easily interpreted by drivers, pedestrians, and cyclists, and should not create a safety hazard. The proposed location of any VMS would follow the requirements specified in TCAWS 6.9.1 and AS 4852.2.

5. Construction Traffic Aspects and Impacts

The Portions (work locations) has been separated into two (2) working sections for the purposes of operational CTMP development as shown in Figure 5.1.



Figure 5.1 Operational CTMP breakdown

The project is characterised into components that are located outside Western Sydney Airport land (offairport) and components that are located within Western Sydney Airport land (on-airport), to align with their different planning approval pathways required under State and Commonwealth Legislation.

The process for acquiring work permits On-Airport is as follows;

The contractor is to provide the following information to the Principal to facilitate work permits for the On-Airport land works:

- i. A signed and dated statement setting out precautions to be taken for Works within the On-Airport land:
 - A. Protect persons, while the works are being conducted, from injury arising from the works;
 - B. Protect property from damage arising from the works; and
 - C. A statement setting out the proposed arrangements for clean-up and rehabilitation of the site for the works.
- ii. A site plan identifying the location of the proposed works that will be conducted within On-Airport land;
- iii. Location plan for any site compounds to be installed On-Airport land identifying the size of the compound, site shed, fencing, services, any hardstand requirements etc. that are to be removed at the completion of the works;
- iv. Details for proposed site shed, hoards and barriers to restrict access located within On-Airport land; and
- v. For any services required for site amenities and site facilities withing On-Airport land:
 - A. Service drawings and design certificates from appropriately qualified/accredited engineers, including relevant Australian Standards, drawing numbers and qualifications of the certifier;
 - B. Design certification identifying compliance with the relevant standards; and
 - C. Design statements from appropriately qualified/accredited persons stating that the works as shown on the drawings will comply with the relevant standings, listing the standards and the drawings the statement relates to.

A ROL application will be submitted to WSACo for all works occurring on On-Airport Roads.

The land boundaries for Western Sydney Airport are illustrated in Figure 5.2.



Figure 5.2 WSA Boundary Map

5.1 Transport and Traffic

The potential change in impacts on road network performance, as compared to that described in the Environmental Impact Statement, will be detailed in each respective CTMP.

The potential temporary transport and traffic impacts would be managed in accordance with the Construction Traffic Management Framework (Sydney Metro, 2020e), provided in Appendix F of the Environmental Impact Statement. The Construction Traffic Management Framework provides the overall strategy and approach for construction traffic management for Sydney Metro Western Sydney Airport, and an outline of the traffic management requirements and processes common to each of the proposed construction sites. It establishes the traffic management processes (including the use of directional signage and variable message signs), emergency services consultation requirements for access impacts and acceptable criteria to be considered and followed in managing roads and footpaths adjacent to construction sites.

Trench alignment is generally within the Endeavour Energy allocation of 0.3-0.9m off the property line, and depending on each design is generally in the road or footpath verge. When crossing roads, trenches will be perpendicular and under-bored in most cases. Trenching will be completed progressively, with production per shift variable and dependent on a number of factors including ground conditions, depth/width etc, but with an average of 30m/shift.

Trenches will be temporarily re-instated at the end of each shift or covered with road-plates. For any excavations on road carriageway, anti-slip steel road plates will be installed as per TfNSW M209 specification. Any street parking to be removed to enable works to progress will be removed immediately ahead of the works and returned immediately after the works. Quickway/Sydney Metro Community Team will issue construction notifications ahead of the works which will keep the community informed of any changes to parking/traffic control.

5.2 Parking and Property Access

Details of parking and property access will be detailed in each respective operational CTMP. Parking will be required to be removed, relocated and alternatives provided, where possible, in consultation with, Sydney Metro Western Airport Community Team, Customer Journey Planning (CJP), Penrith City Council, and Liverpool City Council.

The removal of parking may be required on various streets, with specifics detailed in each respective CTMP. Parking will be reinstated as work progresses through the various sections. Once works is completed in these sections parking will be reinstated to pre-construction restrictions.

Overall, the potential impact on parking and property access as a result of the proposed power supply work would be minor. The most impacted Portion of works in relation to parking will be Portion 3 -Orchards Hills Power and will be addressed in CTMP 1.

Impacted parking spaces will be detailed in each of the relevant CTMPs.

5.3 Public Transport

During construction some Bus Stops may be impacted. Any proposed changes will be discussed with the operators prior to the commencement of works and notifications will be provided to passengers. A minimum lead time of approximately 28 days is typically required for any permanent changes and a minimum lead time of approximately 14 days for any temporary changes.

Where bus stops are required to be temporarily closed or relocated, such closures will not occur until bus stops of equivalent capacity, of comparable stop type and which meet accessibility standards (where practicable), are relocated within 400 metres walking distance of the existing bus stop and are operating, unless agreed otherwise with bus services provider(s).

Any closure and relocation of bus stops will be illustrated on the Traffic Guidance Schemes included outlined in the relevant CTMPs provided to CJP, CJP Integration (who communicate with relevant bus service provides) and local Penrith City Council and Liverpool City Council.

Any change to existing bus stop locations requires action through CJP and not in direct consultation with the bus operator. Quickway will follow the CJP Bus disruption process and CTMF requirements for all short term and/or long term impacts to existing bus stops. Consultation with CJP Transport Integration will be made progressively during the project for impacts to public transport (buses), via the TCG, TTLG and specific consultation where required.

Traffic Controllers will be on site to assist and direct patrons to temporary locations. All temporary locations will meet DDA standards. Temporary wayfinding signage will be provided to direct commuters to relocated bus stops.

The impact on the public transport network is expected to minimal on all six Portions of work. Works that may result in potential impacts to public transport are discussed below and itemised in line with the six Portions of work.

5.3.1 CTMP1 – Portion 1 – Patons Lane (PCC LGA)

There are no impacts to the public transport network.

5.3.2 CTMP1 – Portion 2 – Claremont Meadows (PCC LGA)

Table 5.1 illustrates the existing Bus Stop locations and potential impacts during the Claremont Meadows Portion of works.

Bus Stop ID No:	Location	Direction	Services	Impacted by the project?
274716	Great Western Hwy after Water St	Eastbound	775 – operated by Busways 776 – operated by Busways	Brief up to 5- minute delays due to traffic stoppages at night for aerial cable works across GWH.
274719	Great Western Hwy opp Water St	Westbound	775 – operated by Busways 776 – operated by Busways	Brief up to 5- minute delays due to traffic stoppages at night for aerial cable works across GWH.
274717	Great Western Hwy after Werrington St	Eastbound	 770 – operated by Busways 774 – operated by Busways 775 – operated by Busways 776 – operated by Busways 781 – operated by Busways 	Brief up to 5- minute delays due to traffic stoppages at night for aerial

Table 5.1 Potential bus impacts for Portion 2 – Claremont Meadows - works

			N70 – operated by Hillsbus	cable works across GWH.
274754	Gipps St after Sunflower Dr	Northbound	770 – operated by Busways 774 – operated by Busways 781 – operated by Busways	No impact. Bus stop will remain open during works.
2747395	Sunflower Dr before Gipps Street	Eastbound	770 – operated by Busways 774 – operated by Busways	Temporary re- location 50m west of existing location. Details provided in relevant CTMP.

5.3.3 CTMP1 – Portion 3 – Orchard Hills (PCC LGA)

Table 5.2 illustrates the existing Bus Stop locations and potential impacts during the Orchard Hills Portion of works.

Bus Stop ID No:	Location	Direction	Services	Impacted by the project?
274767	Sunflower Dr at Nullaga Way	Southbound	770 – operated by Busways	Possible short- term relocation required. Details provided in relevant CTMP.
2747118	Sunflower Dr at O'Connell St	Northbound	770 – operated by Busways	Possible short- term relocation required. Details provided in relevant CTMP.
274759	Gipps St after Fowler St	Southbound	774 – operated by Busways 781 – operated by Busways	No impact. Bus stop will remain open during works.
2747365	Gipps St after Caddens Rd	Northbound	774 – operated by Busways 781 – operated by Busways	No impact. Bus stop will remain open during works.
2747415	Caddens Rd opp Blackwood St	Eastbound	774 – operated by Busways	Possible detour off existing route for night closure of Caddens Road Details provided in relevant CTMP.
2747283	Caddens Rd at Galea St	Westbound	774 – operated by Busways	Possible detour off existing route for night closure of Caddens Road. Details provided in relevant CTMP.

Table 5.2 Potential bus impacts for Portion 3 – Orchard Hills - works

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5.3.4 CTMP2 – Portion 4 – Airport Business Park (LCC LGA)

Table 5.3 illustrates the existing Bus Stop locations and potential impacts during the Airport Business Park Portion of works.

Bus Stop ID No:	Location	Direction	Services	Impacted by the project?
217162	Devonshire Rd at Cross St	Southbound	801 – operated by Transit Systems (Note selected services on Cross St & Western Road)	Possible brief delays due to works. Details provided in relevant CTMP.
217191	Devonshire Rd before Cross St	Northbound	801 – operated by Transit Systems (Note selected services on Cross St & Western Road)	Possible brief delays due to works. Details provided in relevant CTMP.

Table 5.3 Potential bus impacts for Portion 4 – Airport Business Park - works

5.3.5 CTMP2 – Portion 5 – Precast Facilities Power (LCC LGA)

There are no impacts to Bus Stops. Transit Systems 801 Service operates along Badgerys Creek Road. There is a possibility of brief delays due to shuttle flow implementation. Details will be provided in the relevant CTMP.

5.3.6 CTMP2 – Portion 6 – Aerotropolis (LCC LGA)

Table 5.4 illustrates the existing Bus Stop locations and potential impacts during the Aerotropolis Portion of works.

Bus Stop ID No:	Location	Direction	Services	Impacted by the project?
2171178	Wentworth Road Bringelly Public School, The Northern Road	Northbound	852 – operated by Interline Bus 856 – operated by Interline Bus	No impacts. Bus stop will remain open during works.
255613	Wentworth Rd Bus Bay	Southbound	852 – operated by Interline Bus 856 – operated by Interline Bus	Possible temporary relocation as work occurs adjacent to the bus stop. Details provided in relevant CTMP.

Table 5.4 Potential bus impacts for Portion 6 – Aerotropolis - works

5.3.7 Overview of affected bus routes

Overall bus routes through the six (6) portions of works and surrounding area are shown in <u>Figure 5.3</u>, <u>Figure 5.4</u>, <u>Figure 5.5</u>, <u>Figure 5.6</u> and <u>Figure 5.7</u> below:



Figure 5.3 Busway's route map

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Routes N70, N71





Figure 5.4 Hillsbus N70 route map









Figure 5.5 Transit Systems 801 route map

Routes 851, 852





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Figure 5.6 Interline Bus 852 route map

Routes 855, 856, 857





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Figure 5.7 Interline Bus 856 route map

6. Construction Traffic Management

6.1 **Construction stage traffic management**

The following provides and overview of how the works are proposed to be staged across the six (6) Portions of work. Each Portion is divided into separate stages, mostly being the street/road where construction is occurring.

Main Construction works is planned to start late-January 2022 pending all approvals. Main Construction works are due for completion in September 2022, weather and site conditions pending.

To enable the new power supply, new electrical cables are required to be installed from existing sources at substations & overheads connections. Cable will be installed in conduits installed in new trenches, in existing conduits, or in pipes in bores or drills where required (for example, where trenching is not possible due to potential traffic or environmental impacts).

Trench alignment is generally within the Endeavour Energy allocation of 0.3-0.9m off the property line and depending on each design is generally in the road or footpath verge. When crossing roads, trenches will be perpendicular and under-bored in most cases.

A minimum trench depth of 1000mm is required, however this can be shallower or deeper depending on existing services throughout the alignment. Approximate widths will vary from around 450mm-2000mm depending on specific areas. Cable jointing bays will be required along the project route, generally at 500m intervals.

As per above, where trenching is not possible, new conduits will be installed via horizontal directional drilling (e.g. under Badgerys Creek, South Creek & the M4), or via case boring or bed boring.

In terms of onsite traffic management, the construction activities will occur across six (6) Portions.

Table 6.1 Construction and Traffic staging breakdown

Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.
Portion 1	P1, S1	Patons Lane	Shuttle flow	CTMP1
(PCC LGA)			Bingo Industries access to be maintained at all times.	
Portion 2	P2, S1	Great Western	Lane merge with intermittent traffic stoppages for aerial cable works.	CTMP1
(PCC LGA)		Highway	• Works to be completed during night shift for lane closures & aerial works.	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			Emergency services access maintained.	
			• Long term partial closure of footpath on the southern side of GWH between Reserve Road and Gipps Street. 1.2m maintained at all times.	
Portion 2	P2, S2	Gipps Street	Kerb lane closures NB & SB between GWH & Sunflower Drive	CTMP1
(PCC LGA)			Emergency services access maintained.	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			Access to bus stop to be maintained.	
Portion 2 (PCC LGA)	P2, S3	Sunflower Drive	• Contra flow on Sunflower Drive at the Gipps Street intersection. Traffic flow and traffic signal operation maintained at the intersection.	CTMP1
			Emergency services access maintained	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			• Short term temporary relocation of Bus Stop ID: 2747395 approximately 50m west of its existing location.	
Portion 3	P3, S1	Sunflower Drive	Shuttle flow and shoulder closures.	CTMP1
(PCC LGA)			Emergency services access maintained	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			 Claremont Meadows Public School – works in the vicinity of the school to be scheduled outside of school peaks or during school holidays. 	

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Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.
			• Short term temporary relocation of Bus Stop ID: 274767 and 2747118 to facilitate an open road crossing at the Claremont Meadows Zone Substation.	
Portion 3	P3, S2	Gipps Street	Kerb lane closures NB & SB between Kent Road & Sunflower Drive.	CTMP1
(PCC LGA)			Emergency services access maintained.	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			Access to bus stops to be maintained.	
Portion 3	P3, S3	Caddens Road	Short term full road closure between Gipps Street and Blackwood Street.	CTMP1
(PCC LGA)			Local detour to be implemented.	
			Works to be completed at night.	
			Intersection and traffic loop impacts.	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
Portion 3	P3, S4	Kent Road (north	Kerb lane closures NB & SB between Gipps St & M4 On-Ramp.	CTMP1
(PCC LGA)		OI IVI4)	Emergency services access maintained.	
			Short-term impacts to M4 on and off ramps.	
			• Footpath to remain open. Temporarily close for short-term works during shift as required). Long-term footpath width reduction may be required, however 1.2m width will always be maintained.	
Portion 3 (PCC LGA)	P3, S5	M4 Western Motorway	• Lane capacity on M4 reduced from three (3) trafficable lanes to one (1) trafficable lane both east and westbound for M4 underbore.	CTMP1
			Emergency services access maintained.	
			Works to be completed at night.	
			Potential conflicts with M4 maintenance schedule.	
Portion 3	P3, S5	Kent Road (south	Kent Road (south of M4) shuttle flow.	CTMP1
(PCC LGA)		of IVI4)	Emergency services access maintained.	
			Impacts to M4 on and off ramps.	

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Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.
			• Footpath to remain open. Temporarily close for short-term works during shift as required). Long-term footpath width reduction may be required, however 1.2m width will always be maintained.	
Portion 4	P4, S1	Cross Street	Shuttle flow.	CTMP2
			 Kemps Creek Public School – works in the vicinity of the school to be scheduled outside of school peaks or during school holidays. 	
			Increased pedestrian volumes during school peaks.	
			• Footpath to remain open (temporarily close for short-term works during shift as required).	
			Emergency services access maintained.	
			 School Bus Services – Transit Systems. 	
			Road shoulder / nature strip plant & equipment storage	
Portion 4	P4, S2	Western Road	Shuttle flow.	CTMP2
			No sealed footpaths. Pedestrians escorted around work area.	
			Emergency services access maintained	
			School Bus Services – Transit Systems	
			Road shoulder / nature strip plant & equipment storage	
Portion 4	P4, S3	Martin Road	Shuttle flow.	CTMP2
(LCC LGA)			No sealed footpaths. Pedestrians escorted around work area.	
			Emergency services access maintained	
			Increased Heavy Vehicle movements to/from ANL Horticultural Production Facility.	
			Road shoulder / nature strip plant & equipment storage	
Portion 4	P4, S4	Cuthel Road	Short term full road closures.	CTMP2
(LCC LGA)			Property access maintained	
			No sealed footpaths. Pedestrians escorted around work area.	
			Emergency services access maintained	
			Road shoulder / nature strip plant & equipment storage	

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Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.
Portion 4 (LCC LGA)	P4, S5	Lawson Road	 Shuttle flow. Emergency services access maintained. No sealed footpaths. Pedestrians escorted around work area. Road shoulder / nature strip plant & equipment storage 	CTMP2
Portion 4 (LCC LGA)	P4, S6	Pitt Street	 Short term full road closure. Not a public throughfare from west of Badgerys Creek for vehicles or pedestrians. Emergency services access maintained. Interface with WSA Co. Shared WSA contractor access. Property access maintained. No sealed footpaths. Pedestrians escorted around work area. Road shoulder / nature strip plant & equipment storage 	CTMP2
Portion 4 (LCC LGA)	P4, S7	Longleys Road	 Not a public thoroughfare for vehicles or pedestrians. Shared WSA contractor access. Interface with WSA Co. Road shoulder / nature strip plant & equipment storage 	CTMP2
Portion 4 (LCC LGA)	P4, S8	Badgerys Creek Road	 Shoulder closures with Intermittent traffic stoppages. Shuttle flow outside of peak periods. Day and night shift. No sealed footpath. Pedestrians escorted around the work area. High volumes of heavy vehicles. High traffic speeds. Temporary lighting requirements for nightshift. 	CTMP2
Portion 5 (LCC LGA)	P5, S1	Longleys Road	 Not a public thoroughfare for vehicles or pedestrians. Shared WSA contractor access. Interface with WSA Co. 	CTMP2

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Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.
Portion 5 (LCC LGA)	P5, S2	Badgerys Creek Road	 Shuttle flow outside of peak periods. Day and night shift. No sealed footpath. Pedestrians escorted around the work area. High volumes of heavy vehicles. High traffic speeds. Temporary lighting requirements for nightshift. 	CTMP2
Portion 6 (LCC LGA)	P6, S1	Badgerys Creek Road	 Shuttle flow outside of peak periods. SB lane closure on approach to The Northern Road intersection. Day and night shift. No sealed footpath. Pedestrians escorted around the work area. High volumes of heavy vehicles. High traffic speeds. Signalised intersection impacts on approach to The Northern Road. Temporary lighting requirements for nightshift. 	CTMP2
Portion 6 (LCC LGA)	P6, S2	The Northern Road	 Kerb lane / shoulder closures NB & SB between Badgerys Creek Road & Bringelly Road outside of peak periods. Day and nightshift. Shared pedestrian and cycle path. High traffic speeds. Footpath to remain open (temporarily close for short-term works during shift as required). Pedestrian detours would be substantial. 	CTMP2
Portion 6 (LCC LGA)	P6, S3	Wentworth Road	 Shoulder/Verge closures. Shuttle flow outside of peak school periods. High pedestrian volumes during school peaks. Coordination with Bringelly Public School. Interline Bus route operating along Wentworth Road. Signalised intersection impacts on approach to Greendale Road. 	CTMP2

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Portion	Stage ID	Street/Road	TTM & Constraints	CTMP No.	
Portion 6 (LCC LGA)	P6, S4	Greendale Road	Shuttle flow outside of peak school periods. Shoulder elegatrop	CTMP2	
			Shoulder closures.Day and nightshift.		
			 Possible conflict with events at Bringelly Community Centre. 		
			 Sealed footpath on the northern side of Greendale Road only. Footpath to remain open (temporarily close for short-term works during shift as required). 		

6.1.1 Construction site traffic management

All required site specific TGS will be included in the relevant site specific CTMP for each section.

Traffic management for the Western Sydney Airport Power Enabling Works will be divided into two (2) main categories as shown in Table 6.2.

Traffic Management Category	Description of Setup Types			
Static	Static work is classified as work that is completed at a fixed site for a period of time with TTM. Static work sites may involve complex traffic arrangements and are often established so that a site can be left unattended during or between work shifts. The use of a static work site must be a risk-based decision, where the risk of setting up static controls is considered against the protection provided by those controls.			
	 The following are examples of static work: Short-term – work requiring traffic control, but where roadway conditions are returned to normal at the end of each shift. Long-term – work requiring traffic control, but where some form of traffic control will remain in place both day and night and left unattended. 			
Dynamic	 Dynamic work is classified as work that is short term in duration and moves along a length of roadway. Dynamic work is classified into three sub-categories: Frequently changing work – regularly moves between successive locations, either in or outside of traffic lane where minimal warning is required to advise road users of the presence of workers; Continuous work (previously known as mobile work) – progressively moving in vehicles along the roadway; or Intermittent work – work, which is undertake on travel lanes, in gaps in traffic, and requires no adjustment that affects road users on the roadway. 			
Short-term work	Short-term work applies to traffic management when work does not exceed the duration of a single shift and the work site is continuously attended. With all short-term work, roadway conditions must be returned to normal, without traffic control or after-care provisions, when work has been completed. Indicative examples of proposed short term static work shown in <u>Figure 6.1</u> and <u>Figure 6.2</u>			
Long-term work	Long-term work applies when work is performed over a duration greater than one shift and traffic management is used between shifts. For long- term work, a traffic guidance scheme might need to operate both day and night with the work site left unattended. Long-term work must be arranged and undertaken in accordance with the relevant requirements of static work.			
Predominantly works on this project will be classified as short-term static work				



Figure 6.1 Examples of short-term static TTM set ups



Figure 6.2 Example shuttle flow using portable boom barriers – short term site

6.1.2 Site compound traffic management

Any construction vehicles required to move around the construction site on a regular basis and throughout the works and will not be permitted to queue or park within the surrounding streets or work area unless permitted. The arrival of trucks will be staggered to prevent the possibility of queuing of trucks at any time.

Dedicated construction vehicle routes have been developed with the objective of providing the shortest and safest distance to/from the work site in compliance with EIS requirements. Truck movements to and from site shall be restricted to these designated routes and movements to ensure minimal impact on local streets within the vicinity of the site. These truck routes will need to be reviewed if there are any changes to traffic conditions. Access points and procedures shall be identified and clearly communicated to all drivers and suppliers prior to arriving to site. Information on the approved access routes and locations for all construction vehicles shall be provided through onsite toolbox talks, prestart meetings and project inductions prior to work commencing.

If vehicles are required to reverse into work areas or against normal traffic movements then and approved ROL or Council Permit is required along with an approved TGS.

It is also noted that no Construction vehicles should obstruct any pedestrian crossings or footpaths, and no construction vehicles should layover/obstruct trafficable lanes without an approved ROL or Council Permit.

In addition, no traffic controllers should stop general traffic to allow construction vehicles to enter or exit, without any approved ROL's or Council Permits. All work areas that are established where vehicles are required to enter site should have the following signage as shown below in Figure 6.3. Traffic controller(s) shall control the construction vehicle(s) exiting the site.



Standard Project <u>Entry</u> Gate Signage

Figure 6.3 Proposed site compound signage

6.1.3 Construction traffic routes

Construction vehicles likely to be generated by the daily construction activities include:

- Small rigid vehicles, vans, utes to deliver small materials.
- Medium rigid vehicles for the exportation of materials from site
- Heavy rigid vehicles for transportation of larger materials to site.

Construction vehicles to be used across the WSA AEW project are included below in <u>Table 6.3</u> with vehicle description shown in Figure 6.4.

The estimated construction vehicle volumes are generally consistent with those forecast in the approved EIS. All heavy vehicles used must be clearly marked on the sides and rear with the project name and application number to enable immediate identification by a person viewing the Heavy Vehicle standing 20 metres away. All heavy vehicles for spoil haulage will be fitted with telematic devices that provide real time location and monitoring data, with electronica records available upon request for a period of no less than one (1) year following the completion of construction.

Area	Construction	Vehicle type	Estimated movements per day		
			In	Out	Total
All	Trenching Works (per crew)	2 axle rigid trucks	2	2	4
		3 axle rigid trucks	7	7	14
		4 axle rigid trucks	3	3	6
Site compound only	Supply of materials (site compound)	4 axle rigid trucks	6	6	12
		6 axle rigid trucks	8	8	16
		7 axle rigid trucks	4	4	8
		Truck and semi-trailer	1	1	2
Special Routes	Floating of excavators (once for mobilisation & demobilisation only, not daily)	Truck and 3x4 low loader (14ton excavators)	1	1	2
each relevant CTMPs		Truck and 3x4 low loader (23ton excavators)	1	1	2

Table 6.3 Estimated construction vehicles and movements from work areas

Note: Each relevant CTMP will address the specific haulage truck sizes, haulage routes and swept paths for heavy vehicle turns on local roads that are used throughout that area.



Figure 6.4 Construction vehicle types

Construction vehicles will be required to move between storage areas and the construction site on a regular basis throughout the works and will not be permitted to queue or park within the streets of the surrounding area. The arrival of trucks will be staggered to prevent the possibility of queuing of trucks at any time and minimise movements during peak periods. Construction vehicles must not continuously idle and queue on state, regional or local roads, and must also avoid any marshalling near sensitive land users which will be advised in inductions. Any construction vehicles must also not block or disrupt any access for pedestrians and cyclists unless approved alternate access is provided. All construction vehicles must monitor headlight activity during night works to ensure no constant spill of light into surrounding properties.

Dedicated construction vehicle routes have been developed with the objective to provide the shortest distances to/from the arterial road network whilst minimising the impact of construction traffic on the surrounding road network. Truck movements to and from site shall be restricted to these designated routes, unless otherwise agreed with the road authority, to ensure minimal impact on local streets within the vicinity of the site (unless requiring direct access from that street). Haulage Routes from work areas to site compounds, or off site are shown in <u>Appendix A</u>. Dedicated construction vehicle routes must be followed. Haulage routes that travel past sensitive land users, such as school zones (during operational times) and children's parks shall be avoided wherever reasonably and practically possible.

Construction vehicles entering and exiting the traffic stream at each site must be mindful of the conditions that may affect the safety of these movements. Haulage and access routes will be detailed in each relevant CTMP. Construction vehicles must not be left idling when not in use or awaiting to turn into the construction site, they shall be turned off and turned back on when they are required for use again.

All work vehicles shall:

- Enter and leave site in a forward direction using the approved truck routes unless pre-approved and traffic controllers on site to assist with reversing movements.
- Decelerate slowly and signal their intention by indicator to leave the traffic stream.
- Activate the vehicles rotating beacon on approach to and departure from work site.
- Give way at all times to pedestrians and cyclists on the footpath.
- Wait until there is a gap in traffic before leaving the construction site.
- Avoid movements through school zones during pick up and drop off times.
- Radio ahead to advise of approach to ensure work site space is available.

Relevant CTMPs will include swept path analysis, reports, and advice for the use of Heavy Vehicle routes on local roads identified specific to that CTMP area.

Vehicle associated with the project workforce (including light and heavy vehicles) must be managed to:

- Minimise parking on public roads
- Minimise idling and queuing on state and regional roads;
- Not carry out marshalling of construction vehicles near sensitive user(s);
- Not block or disrupt access across pedestrian or shared user paths at any time unless alternate access is provided; and
- Ensure spoil haulage vehicles adhere to the nominated routes identified in the CTMPs.

A separate HVLR document submission to the Planning Secretary will be made for approval for the use construction heavy vehicles on local roads that are not identified in the documents listed in Condition A1, which will include the requirements of MCoA E105 and E106.

6.2 Road occupancy

A Road Occupancy Licence (ROL) is required for all Quickway works on:

- Great Western Hwy State Road A44
- Gipps Street State Road
- Sunflower Drive Local Road ROL required within 100 metres of signalised intersections.
- Caddens Road Local Road ROL required within 100 metres of signalised intersections.
- Kent Road Local Road ROL required within 100 metres of signalised intersections.
- M4 Western Motorway State Road M4
- Badgerys Creek Road Regional Road

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- The Northern Road State Road A9
- Wentworth Road Local Road ROL required within 100 metres of signalised intersections.
- Greendale Road Local Road ROL required within 100 metres of signalised intersections.

A Road Occupancy Application must be submitted to Western Sydney Airport Authority for approval to work on on-airport roads including:

- Pitt Street
- Longleys Road
- Badgerys Creek Road

All other streets/roads are local/Council roads and require approvals from Inner Penrith City Council (PCC) and Liverpool City Council (LCC). Council permits, as required by PCC and LCC could include:

- Road opening
- Road occupancy permit
- Road closure temporary
- Footpath, road, or car park occupation
- Stand plant permit crane, pump, or boom vehicle

A Road Occupancy License (ROL) applications shall be made in accordance with the process outlined in the CTMF. The TGSs shall be submitted along with the application to cover the proposed traffic management arrangement shown. The TMC will be provided with a minimum of 10 working days to process each application with an ROL generally being requested for the duration of one month, and then extended as required on an ongoing basis. Should any changes or additional scope of work be added to the work site, then a new TGS shall be drafted to reflect this and a new ROL application submitted to the TMC. The TMC will be responsible for advising of conflicts with ROL approvals given to other projects.

Works are to be undertaken as per the program with sufficient contingency and time for site establishment and breakdown. The site manager is to monitor progress of each work activity and modify works, if necessary, to ensure lane closures are reopened as per ROL approved times. Contingency plans will be in place to assist with any unforeseen problems including having road plates and float trucks available on site. In the event that there is a risk of an ROL breach or over-run, then the TfNSW representative is to be called immediately as well as TMC control room.

A ROL and Council Permit Register will be compiled and maintained on site and can be provided if requested.

6.3 Speed management

Temporary roadwork speed zones will be implemented during construction to manage the speed of traffic approaching and passing through and/or past work sites. In order to temporarily alter a speed limit, a Speed Zone Authorisation (SZA) is required to be in place. SZA will be sought from the responsible road's authority during the course of construction.

Each work area/site will be risk assessed during TGS development to determine the required speed management around past or through the area and as per TCAWS Version 6.0.

The speed limit selected shall not exceed the maximum safe speed of travel for that work area. The safe speed is dependent on the degree of vehicular and pedestrian conflicts, the type and extent of the work in progress, the characteristics of the road and the proximity of workers to passing traffic. Using appropriate signs and devices together with, if considered necessary, an authorised roadwork speed limit will be implemented during specific periods.

6.4 Signposting and delineation

Traffic Control and Delineation Devices will be used where necessary and if appropriate. These include but are not limited to the following:

6.4.1 Signage

Any requirement for temporary advanced warning signage shall be installed by the principal contractor Quickway, as required by the works, so as to:

- Provide warning and notification of the upcoming road works
- Inform of the changes to traffic conditions
- Portable VMS and messaging may also be used on the approach to the work site if further emphasis is required.

All signs used shall conform to the designs and dimensions as per AS1742.3. Prior to installation, all signs and devices shall be checked by the site supervisor to ensure they are in good condition and meet the following standards:

- Condition signs that are bent, broken or have surface damage shall not be used.
- Cleanliness signs should be free from accumulated dirt and grime.
- Fluorescence & reflectivity all signs & devices must meet Australian Standards
- Battery operated devices shall be checked for lamp operation and battery condition.
- Signage requirements are shown on each Traffic Guidance Scheme. Any signs erected prior to being needed shall be covered by a suitable material and only removed immediately prior to the commencement of works.

Signs and devices shall be positioned and erected in accordance with the locations and spacing shown on the TGS. All signs shall be positioned and erected so that:

- They are properly displayed and securely mounted
- They are within the driver's line of sight
- They cannot be obstructed from view
- They do not obscure other devices and signs from the driver's line of sight
- They do not become a possible hazard to vehicles especially along the road edge.
- They do not deflect traffic into an undesirable path.
- They are deployed considerately to avoid noise from metal signage being dropped or dragged to/from position(s)
- Vehicles carrying traffic control signage should be designed and/or modified to minimise noise from rattling signage

 Follow routes for signage deployment that minimises the need for reverse movements and avoiding tonal movement alarms

Should the use of additional (not shown on the TGS) or reduced number of signs or devices be required, they shall be recorded within the traffic control inspection records as a variation to the CTMP, following prior approval.

Where there is potential for conflict between existing signage and temporary signage erected for the purpose of traffic control, the existing signs shall be covered.

6.4.2 Traffic Cones and Bollards

Traffic cones and temporary bollards may be used to define the traffic path past or through the work area. Cones and temporary bollards must not be used as a substitute for barrier boards and signs at either end of the work.

Traffic cones and temporary bollards must comply with Transport QA Specification 3352 Fluorescent Plastic Traffic Cones. Traffic cones and temporary bollards must have a white horizontal retroreflective band of Class 400 material.

6.4.3 Barrier Boards

Shall comply with "former" Roads and Maritime QA Specification 3385, Barrier Boards. Barrier boards shall:

- Be used to prohibit access to the ends of work (where they may have flashing yellow lights mounted on them)
- Be used to prevent use of a traffic lane
- Be placed at right angles to traffic flow at a maximum spacing of 100 m.
- Be secured so that they are not moved or blown over by winds or pressure from vehicles.

Barrier boards shall not:

- Be used as delineation devices but may be used on footpaths for the guidance of pedestrians
- Be placed parallel to the direction of traffic flow as they will be difficult to see and can act like spears if hit by traffic.

Trestles supporting the barrier boards may be manufactured of timber, metal or other suitable, approved material and shall be yellow. The trestles shall provide firm supports for the barrier board and be kept in place by filled sandbags or other acceptable devices. The bases of the trestles shall not protrude beyond the ends of the boards.

6.4.4 Temporary safety barriers

Temporary safety barriers may be used to protect work zones and pedestrians from traffic. Safety barrier types and their end treatments will be in accordance with Austroads Guide to Road Design Part 6: Roadside Design, Safety and Barriers, Roads and Maritime Services Austroads Guide Supplement Publication No: Pub.11.097 and only products from the TfNSW accepted list will used. Where waterfilled barriers are used these will be filled with water.
6.4.5 Portable variable message signs

Portable variable message signs (VMS) may be used at prominent locations for prior notification of works and to keep road users informed of changes to road conditions and of possible delays as a result of the work. Messages displayed on the VMS must remain current for the duration of the works and be relocated as necessary as the works progress.

The VMS must be portable, and solar powered, complying with AS 4852.2.

VMS usage will also comply with Guidelines for Location of VMS and Technical Direction for use of VMS and TfNSW RMS G10.

All messages will be approved by TfNSW prior to activation.

6.4.6 Pavement markings and signs

Pavement markings, retro reflective raised pavement markers and signposting may be used in the temporary works. Unless specified otherwise, only line marking tape or waterborne paint will be used for pavement markings for temporary works.

The Specifications, RMS R141, RMS 142 and RMS 143 must be used as relevant to the same standard as for permanent works.

If removal of pavement markings is required, the Traffic Staging Plans will provide details of the proposed methods for removal, the estimated durations to carry out the removal, and if necessary, any proposed measures to restore the road surface. These will be based on the relevant standards/ procedures covering each particular circumstance and comply with RMS D&C R145 – Pavement Marking.

As Per Traffic Control at Worksites Technical manual - all redundant pavement markings shall be immediately obliterated or removed in such a way as to leave a clean, undamaged pavement with a surface texture, reflectivity characteristics and colour comparable to the adjacent pavement surface. Blacking out is not permitted. All redundant raised pavement markers will be immediately removed from the pavement.

6.4.7 Portable traffic control devices

A portable traffic control device (PTCD) is a device designed to manually control traffic. A PTCD is designed to reduce risk to traffic control personnel by enabling use and control of the device via a remote, enabling the operator to be located outside of the live lane of traffic. PTCDs may include but are not limited to PTS and boom barriers.

In accordance with TCAWS Traffic control, a PTCD must be used instead of a manual traffic controller for all work sites under traffic control when the existing permanent speed limit is above 45km/h. The decision to not use a PTCD will be documented in the relevant CTMP and have associated risks considered and included in each CTMP risk assessment.

When developing a TMP or CTMP, or selecting or designing a TGS for the use of a PTCD, the relevant qualified person must consider:

- Queue length estimates.
- Expected traffic flows.
- Operational efficiency of the device and the expected delay and queue lengths; and

• Any lost time associated with use for e.g., lowering of boom.

6.4.8 Light towers

Lighting towers will be used to facilitate night works where there is insufficient light. They will be positioned away from motorists and assessed for any glare which may pose a risk to road users or affect residents and businesses. All lighting must be consistent with AS4282-1997. Where possible towers will be protected to subdue noise where required for long term operations such as temporary footpath lighting. Where possible, the use of silenced diesel powered, solar or battery powered lighting towers should be considered to minimise noise impacts.

Lighting towers will have directional lights that can be adjusted. During the installation, crews will ensure that light is directed to the work areas only and preventing any directions facing residents were possible. Where on a portion of the individual lighting elements on a lighting tower is only required to safely illuminate the work area, other individual lighting elements will be switched off to reduce 'light pollution' wherever reasonably safe to do so.

6.5 Pedestrians and cyclists

Pedestrian and/or cyclists access would be maintained along most streets and as such, impacts to pedestrians/cyclists during these works are considered minor. Any requirements for pedestrians and/or cyclists to be diverted will ensure proper wayfinding signage is installed and temporary ramps of kerbs installed as required.

Safe pedestrian and cyclist access will be maintained around work sites during construction. In circumstances where pedestrian and cyclist access are restricted or removed due to construction activities, an alternate equivalent route which complies with relevant standards and minimum widths, where facilitated, will be provided and signposted. Pedestrian and bicycle paths will be provided on the same scale and to the same width as any facilities for pedestrians or bicycle traffic that were existing prior to the work. Any impacts on pedestrians will result in a pedestrian management plan (PMP) being developed and included as required as part of a CTMP. PMP's may be superimposed onto the Traffic Guidance Schemes TGS's.

Within the work site area, provision will be made to ensure that a safe route is always provided for pedestrians and cyclists around the work area. The impacts on pedestrian movement as a result of these works has been assessed and will be taken into consideration when developing TGS's for each site and work activity. All dedicated marked pathways shall be maintained at all times and left hazard free out of working hours.

To ensure the safety of pedestrians and cyclists, traffic control personnel will be in place during large deliveries and when there is frequent construction traffic crossing the footpath and busy driveways across the Portions of work. Traffic Controllers will be positioned adjacent to the footpath to manage the conflict between construction vehicle and pedestrians during all access and egress movements. In locations where these movements need to occur when there is high pedestrian and cyclist activity, traffic controllers will be implemented at all times during the works. Signage and barrier devices shall also be utilised to reduce the risk of any pedestrians walking across the path of turning vehicles. Consideration will be given to ensure:

- Pedestrians will only be held for short periods of time to allow trucks to enter/exit from site. Pedestrians have the right of way and will not be stopped in anticipation.
- If deemed necessary, suitable signage shall be provided to maintain pedestrian safety when pedestrians travel across the driveway to the site.

• During construction activities where it is necessary to fully close the footpath, suitable and safe diversion points shall be established and if necessary, pram ramps installed.

TfNSW Cycle Way Finder indicates route difficulty and includes road conditions (Figure 6.).

The map shown below in <u>Figure 6.5</u> shows cycle routes along the project alignment for Portions 1 - 3.

The map shown below in Figure 6.6 shows cycle routes along the project alignment for Portions 4 - 6.

6.5.1 Vulnerable Road Users

Quickway will adopt applicable vulnerable road users' safety measures in line with the CTMF and Sydney Metro Principal Contractor Health and Safety Standard, to minimise the road safety risks to vulnerable road users. Vulnerable road users can include, but are not limited to, the following groups;

- Pedestrians
- Cyclists
- Motorcyclists
- Mobility Impaired Users or Wheelchairs
- School Children and elderly users

DDA requirements will be adopted with kerb ramps or other measures provided at road crossings. Footpath widths are required to provide two-way pedestrian traffic allowing for strollers or prams and wheelchairs to pass each other without requiring temporary widening from the existing width prior to construction commencement. Narrowing of any footpath, if required, shall require approval from the relevant authority prior to works commencing. Where high volumes of vulnerable road users are recorded special provision and design consideration may be required to mitigate any impacts.

Site-specific heavy vehicle driver induction will identify locations where cyclists are expected to be riding along the roadway (i.e. not in dedicated shared cyclists & pedestrian footpath) to increase driver awareness.

All provisions for vulnerable road users will be identified in the operational CTMPs and the associated Traffic Guidance Schemes.



Figure 6.5 Portions 1 – 3 Cycle Way Finder Map



Figure 6.6 Portions 4 – 6 Cycle Way Finder Map

6.5.2 Property access

TfNSW and Quickway consider that minimising the impact and maintaining the amenity of local residents and businesses in the vicinity of the construction works to be very important. In this regard, various traffic management measures will be applied to maintain existing property access points.

Every attempt will be made to minimise disruption to residents and businesses during the works. During construction activities residents and businesses will continue to have access to and from their properties under the guidance and direction of onsite traffic control personnel, unless otherwise agreed beforehand with the occupier. Adequate temporary wayfinding will be provided before and for the duration of any interruption. Access will be reinstated as works progresses through the various sections. Once works is completed in these sections all access will be reinstated to pre-construction conditions.

Furthermore, as there will be a limited amount of parking space available within the site, only essential construction vehicles will be permitted on site with workers being encouraged to use the nearby public transport facilities. Quickway may also be required to identify remote parking areas for workers, to minimise any impacts of workers parking on-street. Under the Sydney Metro Construction Traffic Management Framework is it assumed that there will be no provision, either on the road or within the work site, for worker parking. Any property access physically affected by the project will be reinstated to at least an equivalent standard, unless otherwise agreed by the landowner or occupier. Pre-Construction dilapidation condition survey reports will identify the pre-existing conditions applicable for reinstatement where it is impacted.

Temporary restorations will be undertaken immediately following of the completion of works in each location. These will be designed and constructed ensure no hazards and be made safe for road users, cyclists, and pedestrians.

Permanent restorations will be completed of impacted road carriageway and footpaths once the conduit installation along the entire alignment, cable pulling and testing works are completed.

Where construction impacts property's access to a public road, a temporary alternative access to be consulted and agreed with the property owner will be implemented (no cost to the property landowner, unless otherwise agreed with the landowner) until their primary access is reinstated.

6.6 Waste and recycling access

Residential and business properties fronting affected streets will continue to place their garbage and recycling bins on the kerbside. If direct service access is affected, then designated areas will be shown on site specific TGS indicating collection areas. Bins will be transferred to these sites by Quickway staff and returned upon collection.

Any Council clean ups during construction period will also be accommodated in consultation with Council Waste Services.

Collection days for each Portion of works separated by suburb are illustrated in Table 6.4 below:

Table 6.4 Waste and recycling collection schedule

Portion	Suburbs	Weekly Collection Day	Comments
Portion 1: PCC LGA	Orchard Hills	Wednesday	N/A
Portion 2: PCC LGA	Claremont Meadows	Thursday	N/A
Portion 3: PCC LGA	Orchard Hills Claremont Meadows	Wednesday Thursday	N/A
Portion 4: LCC LGA	Kemps Creek Badgerys Creek	Wednesday Wednesday	Collected fortnightly Collected fortnightly
Portion 5: LCC LGA	N/A	N/A	N/A
Portion 6: LCC LGA	Bringelly	Monday	Collected fortnightly

6.7 Special events

All special event coordination shall be in line with the requirements of the CTMF Section 6.6. Where any Public Events are expected to generate road closures or additional road or pedestrian/cyclist traffic in any areas directly or indirectly affected by the works Quickway will cooperate with the Principal and Authorities to facilitate road traffic and pedestrian/cyclist flow.

During these events this includes:

- No ROL activation during major events
- No footpath closures during major events
- Complying with ROL requirements
- Constant monitoring and communication with TMC and relevant authorities
- Limiting work times
- Cancellation of works
- Changing work areas to alternate locations
- Changing types of works planned

6.8 Cumulative impacts

Given the geographic locations of the six (6) Portion locations it is anticipated that there shall be minimal cumulative impacts, if any, attributed to the power enabling works. Assessment shows that the WSA PEW road works may cause a cumulative impact or potential clashes with other construction activities in this area. Close liaison will be maintained between the WSA PEW project team, Sydney Metro Project Manager, CJP, Penrith City Council, Liverpool City Council and the TMC to ensure upcoming work and or closures do not conflict with any other works that may be planned, during the life of the project, in the area.

6.9 **Pre-condition and dilapidation reports**

In line with MCoA Conditions E107 and E108 Quickway will prepare a Road Pre-condition Report(s) for affected roads likely to be used by construction traffic prior to commencement of construction. Road Precondition Reports are to assess the current condition of the road and describe mechanisms to restore damage that may result due to traffic and transport related to the construction of the Sydney Metro Western Sydney Airport – Advanced & Enabling Works (Construction power supply).

The Pre-condition Report will survey a pre-determined table of affected roads and consider the following, but not limited to:

- Kerb and gutter (likely to be within a vehicle/s path)
- Line Marking
- Existing vegetation
- Street furniture
- Any existing damage to road pavement or road furniture
- Existing potholes/pavement damage
- Cracking and rutting
- Any existing structures
- Any existing damaged items.

The Road Pre-condition Report will be submitted to TfNSW, Penrith City Council and Liverpool City Council for review at least one (1) month prior to the commencement of construction and/or haulage. For activities not deemed construction under the definition included within the Conditions of Approval, e.g.: utility relocations, a Pre-condition survey will be undertaken prior to the activities commencing and be provided to the relevant road authority(s). Pre-construction dilapidation reports will be provided within three (3) weeks of completion of the survey.

Pre-condition surveys where reasonably practical, may identify and repair any road surface defects (such as potholes) that could cause additional construction traffic noise and vibration (e.g., from vehicles hitting potholes) or may be further increased or worsened during the construction of works and use of roads for heavy vehicle haulage.

Following completion of construction, a Road Dilapidation Report shall be prepared to assess potential damage that may have resulted from the construction works. The Road Dilapidation report is to take into consideration the findings of the Road Pre-condition Report.

As per conditions if damage occurs to any item outlined resulting from the works, aside from that resulting from normal wear and tear, then (at the relevant road authorities discretion):

(a) compensate the asset owner for the damage so caused. The amount of compensation may be agreed with the asset owner, but compensation must be paid even if no agreement is reached; or

(b) rectify the damage so as to restore the item to at least the condition it was in pre-works. Any repairs must be completed before the commencement of SSI operations.

The Existing Condition reports will be provided to the Asset Owner no later than 1 month before construction commences.

Evidence of consultation of pre-construction dilapidation survey conditions reports is included in <u>Appendix D.</u>

6.10 Incident management and response

6.10.1 Emergency Services

Emergency services will be notified of the proposed works, including their nature, date and times as well as contact details for the site supervisor. The Community Relations Manager will be responsible for providing up to date information to the respective emergency services regarding the changes to traffic flow during the works. CJP shall be notified immediately in the event of any unplanned incident for both On-Airport and Off-Airport works.

Arrangement to manage impacts on emergency services include:

- Notification and communication with affected emergency services including suggested detour routes when applicable.
- Provision for emergency service access through the construction site
- Communication with the workforce to ensure understanding of emergency access and response requirements.
- Emergency Services will be consulted via TTLG and notified of work progression and impacts.

Emergency Service	Contact Name	Contact Number	Address
NSW Police Liverpool PAC	Liverpool Police Station	02 9765 9499	148 George Street, Liverpool 2170
NSW Police Nepean PAC	Penrith Police Station	02 4721 9444	317 High Street, Penrith 2750
Fire & Rescue NSW	Liverpool Fire Station Penrith Fire Station	02 9493 1008 02 4784 8386	Anzac Rd & Delfin Dr, Moorebank 2170 290-294 High St, Penrith 2750
NSW Ambulance	Liverpool Penrith	1300 655 200	1 Hoxton Park Rd, Liverpool 147-149 High St, Penrith 2750

Table 6.5 Emergency services contact numbers and locations

6.10.2 Incident Response Procedures

In the event of any unplanned incident or accident on site, whether or not involving traffic or road users, the following project documents must be referred to for the appropriate procedure:

- Sydney Metro Health and Safety Incident Reporting and Investigation Standard
- Sydney Metro Principal Contractor Health and Safety Standard V6.0

In general, the following protocol will be followed:

- Notify the relevant authorities and update accordingly following their instructions. Contact emergency services if required.
- Notify Sydney Metro with 10 minutes of an incident that may attract media attention with an initial phone call and known details. For all other incidents, notify Sydney Metro within 1 hour of the incident with an initial phone call. Within 24 hours provide preliminary details of the incident.
- Where possible, cease work and remove restrictions.
- Modify traffic control as necessary and manage until emergency services arrive.
- Re-program any VMS units to advise of situation.
- Assess and re-evaluate risks and hazards, if necessary, postpone work activities.

Sydney Metro hold the primary responsibility for fulfilling the obligations detailed with respect to incident notification and reporting to DPIE and required authorised. Quickway will assist and cooperate with Sydney Metro to fulfil these obligations.

In the event of an emergency situation, the following relevant authorities must be contacted and advised of the nature of the works, type of emergency and contact details for the site supervisor:

- Emergency Services: (000)
- TMC (131 700)
- Safework NSW (13 10 50)

Broken down vehicles and vehicles involved in minor non-injury crashes shall be temporarily moved to the verge as soon as possible if available and practical, after details of the crash locations have been gathered and noted. Where necessary to maintain traffic flow, vehicles shall be temporarily moved into the closed section of the work area behind the cones, providing there is no risk to vehicles and their occupants or workers. Suitable recovery systems shall be used to facilitate prompt removal of broken down or crashed vehicles. Assistance shall be rendered to ensure the impact of the incident on the network is minimised.

Details of all incidents and accidents shall be reported to the Traffic Control Site Manager and Project Manager using the required incident report form. All details of incidents that occur within the area of an approved ROL are to be recorded by the contractor and reported and investigated in accordance with the requirements of the Sydney Metro Principal Contractor Health and Safety Standard Version 6.

An Environmental incident and emergency response plan have been developed to manage spill prevention and response on this work site. This document is developed in accordance with Sydney Metro Construction Environmental Management Framework.

Emergency Services will be consulted via TTLG and notified of work progression and impacts.

In the event of an environmental incident, refer to relevant CEMP (on-airport or off-airport) for response and management requirements.

6.11 Road Safety Audit

Road safety audits of Construction Traffic Management Plans

The requirements for Road Safety Audits shall be managed in accordance with Section 10 of the CTMF. Sydney Metro and/or its contractors will undertake Road Safety Audits for site-specific CTMPs, to be submitted with the relevant CTMP(s) to stakeholders. The contractor will be required to respond and address all RSA comments before endorsement of the CTMP by Transport Coordination and approval by TfNSW.

Regular traffic safety inspections of work zones are also to be undertaken to ensure all construction site safety arrangements are in place. These traffic inspections will be additional to the daily inspections by the site staff.

Attention will be given to WHS guidelines, work areas adjacent to the road, movement of construction traffic, vehicle speeds and all warning devices or systems.

Road safety audit procedure

All Road Safety Audits will be undertaken in accordance with the Guidelines for Road Safety Audit Practices (RMS, 2011), with reference to current practices outlined in Guide to Road Safety Part 6, Road Safety Audit (Austroads, 2009) and Sydney Metro Principal Contractor Health and Safety Standard Compliance management

7. Compliance Management

7.1 Roles and responsibilities

The Quickway Team's specific responsibilities for the implementation of construction traffic management are detailed in <u>Table 7.1</u>

Role	Person Responsible	Contact Number
Senior Project Manager	Tommy Kelly	0436 275 920
Construction Project Manager	Des Leyden	0474 111 028
Environmental Manager	Tom St Vincent Welch	0417 523 756
Traffic Manager	Alex Crane	0408 169 716
Senior Traffic Planner	Louise Casey	0438 798 642
Traffic Control Operations	Mark Andrews	0477 974 952
Senior Project Engineer	Joshua Maltese	0488 662 264
Senior Project Engineer	Daniel Geraghty	0447 382 705
Project Engineer	Nikesh Rathour	0429 438 900
Project Engineer	Alexandro Benet	0420 524 983
Project Engineer	Hasan Zengin	0438 084 497
Site Engineer	Campbell Duggen	0427 077 938

Table 7.1 Roles and responsibilities

Role	Person Responsible	Contact Number
Site/Quality Engineer	Karn Suwanrit	0416 444 876
Site/Quality Engineer	Olivia Tawdrous	0475 111 135
Senior Supervisor	Ken Stafford	0418 678 784
Senior Supervisor	Stephen Lyons	0410 107 757

7.1.1 Senior Project Manager

The Project Manager has the overall responsibility for Traffic Management for the Sydney Metro Western Sydney Airport Power Enabling Works. Individual names are not included in plans. The Senior Project Manager's responsibilities remain; however, the Project Manager has delegated the following functions:

7.1.2 Traffic Manager / Senior Traffic Planner

The Traffic Manager and/or Senior Traffic Planner has responsibility for:

- As a minimum hold the Safework NSW Prepare Work Zone Traffic Management Plans.
- Attending scheduled meetings with the CJP and TMC;
- Liaising with the Principal and other authorities such as Transport Management Centre (TMC), New South Wales Police and local Councils on traffic management matters for the works site;
- Reviewing this CTMP to ensure it reflects current requirements and practice;
- Coordination and liaison with the TMC, including development and management of Interface Protocols for major traffic incident and event management support;
- Carrying out regular inspections and auditing of the traffic control measures to ensure that they are effective and are being followed.
- Ensuring that the approved traffic control measures are established, implemented, and maintained in accordance with the approved plans;
- Carrying out regular inspections and auditing of the traffic control measures to ensure that they are effective and are being followed;
- Amending and updating the plans, as required, to ensure that they remain current as the work progresses;
- Identifying locations and times where traffic congestion or unsafe conditions for vehicles, cyclists, pedestrians, and workers are occurring, and providing recommendations for improvement;
- Maintaining current copies of the CTMP, Traffic Staging Plans, TGS, VMP, PMP, ROLs and Speed Zone Authorisations, and their controlled distribution;
- Facilitating traffic awareness and giving toolbox talks to site personnel.
- The TCSM has the authority to stop work on any activity if it is considered to be necessary to prevent traffic accidents, or to comply with the directions of the Principal, TMC or Police.
- Development of site-specific CTMPs as required;
- Development of standard and site-specific TGSs;

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- Development and subsequent management of site-specific and bulk approval ROLs;
- Traffic control safety audits/inspections, including, as a minimum, checks at the commencement and conclusion of each day's work that all required traffic control measures and signs are in place as detailed on the TGS for each stage. Record the details of this inspection daily. The person conducting this check will be qualified in the Safework NSW Implement Traffic Control Plans course (i.e. hold a current Yellow Card or Implement TCP & Traffic Controller certificate).
- Assess any change to the works scope and activities against approvals and licenses (traffic related);
- Coordinating traffic management activities across the road network;
- Attending meetings as required;
- Relevant reporting.

7.1.3 Environmental Manager

The Environmental Manager has responsibility for:

- Advising on environmental matters and relevant statutory approvals, licenses, permits, guidelines, and authorisations;
- Liaison with the Principal and with all relevant authorities on environmental matters through regular meetings, phone calls and email correspondence
- Authorised contact person for communication with the Principal and EPA on environmental matters.
- Maintaining a register of all environmental documents for the Contract;
- Ensuring that the Quickway Construction Environmental Management Plan (CEMP) is established, implemented, and maintained in compliance, procedures and supplementary SWMS/EWMS and revisions to these documents to remain current with the progress of the Works;
- Ensure all personnel are aware of their roles and responsibilities in accordance with the Environmental Framework to ensure the Environmental Framework is fully implemented
- Overall responsibility for the establishment, management, monitoring and maintenance of erosion and sediment controls within the Site;
- Ensure environmental risks of the work are identified and appropriate mitigation measures implemented.
- Ensure environmental actions raised by Sydney Metro or ER are closed out and reported by the Quickway team
- Carrying out regular inspections and auditing of the works to ensure that environmental safeguards are being followed;
- Identifying where the mitigation measures identified in the CEMF and relevant approvals, reports and plans are not meeting the targets set, and identifying areas where improvements can be achieved;
- Facilitating environmental induction and toolbox talks for all site personnel;

- Stop activities where there is an actual or immediate risk of harm to the environment or to prevent environmental non-conformities until deficiencies are rectified and advise the Project Manager and the General Superintendent.
- Assess any change to the works scope and activities against approvals and licenses (environmental related);
- Undertake relevant environmental monitoring, such as noise monitoring; and
- Assist the communications representative with the management and close out of complaints;
- Be contactable 24hrs to shut down construction work in the event of an emergency.

7.1.4 Project Manager / Senior Project Engineer / Project Engineer

The Project Manager/Senior Project Engineer/Project Engineer is responsible for:

- Ensuring sufficient resources (people, plant, materials, supply chain);
- Ensuring works are carried out in accordance with TfNSW, Project and Quickway Policies and Procedures and Specifications;
- At least one day prior to the intended date of opening the temporary roadways to traffic, notify the Principal in writing that the work, including pavement markings, is conforming and ready for inspection by the Principal.
- Review and approval of training requirements;
- Carry out periodic site inspections;
- Attending meetings as required;
- Relevant reporting.

7.1.5 Senior Supervisor

The Supervisor is responsible for:

- Day-to-day organising and supervision of works;
- Ensuring works are carried out in accordance with TfNSW and Quickway Policies and Procedures;
- Provision and maintenance of suitable traffic management plant and equipment;
- Carry out periodic site inspections;
- Attending meetings as required;
- Review traffic control site implementation and providing feedback and improvement comments from site issues and/or opportunities:
- Relevant reporting.

7.1.6 Traffic Controller

As required under TfNSW Specification G10 all traffic controllers must have attended and be qualified in the traffic control training courses relevant to their roles as shown in Table 7.1.

Table 7	.1 Traffic	controller of	qualifications
			1

Traffic Control Role	RMS Traffic Control Training Course
Controlling traffic using a stop/slow bat	Traffic Controller
Set up and work with Traffic Control Guidance Schemes/Traffic Control Plans at a work site.	Implement Traffic Control Plans
Design new construction traffic management plans and TGS's for road works, produce major upgrades of standard plans and/or inspect traffic control plans on road construction sites.	Prepare a Work Zone Traffic Management Plan

The Traffic Controllers are responsible for:

- Completing relevant works documentation.
- Implementing and maintaining TGSs on site.
- Ensuring traffic management is carried out in accordance with TCAWS.
- Contacting the TMC to notify of traffic management implementation and removal in the form of ROL activation and deactivation.
- Report faulty or defective traffic management devices to the Supervisor.
- Ensuring the safe passage of traffic and pedestrians.
- Must wear the traffic controllers vest as an outer garment only when controlling traffic for the purposes of the Contract, and not at other times.
- Ensure the correct use of radios for communication, and ensure they are not excessively loud during night works.

7.2 Communication

Due to the importance of the Western Sydney Airport Power Enabling Works, early engagement will be undertaken with the key stakeholders and authorities, prior to the formal approval process. This is necessary to identify any key issues of concern that may require alternative approaches to be considered in methodology.

Further to any consultation, site- specific TGSs will be developed for each specific Portion of work in accordance with relevant TfNSW and Australian Standards. These plans will show the specifics of the proposed works and individual traffic controls for each site. These TGSs will be included in the relevant CTMPs formally submitted for comment/concurrence by the relevant stakeholders prior to implementation. The main stakeholders/authorities are as follows:

- Customer Journey Planning (CJP)
- TfNSW
- TMC
- Penrith City Council (PCC)
- Liverpool City Council (LCC)
- Western Sydney Airport Authority
- Emergency Services

Extensive effort will be made to provide timely, accurate, relevant, and accessible information regarding the proposed changes to local traffic conditions. Sydney Metro has developed a Stakeholder and Community Engagement Plan which will be referenced and implemented for any notification to residents, businesses, or commuters.

Notification about traffic management impacts may include (but is not limited to) the following:

- Letterbox notifications, leaflets, and fact sheets
- Face to face engagement
- TfNSW website
- Variable Message Signs (VMS)
- Social media updates
- Live Traffic.com.au
- Advertising in local newspapers

Local residents and businesses will also be consulted in advance where there is likely to be a direct impact, for example temporary loss of driveway access or power supply. The Stakeholder and Community Engagement Plan will provide relevant contact information for the purpose of dealing with queries and complaints including:

- 24/7 Sydney Metro Community Information Line 1800 717 703 or
- Email <u>sydneymetrowsa@transport.nsw.gov.au</u>

7.3 Inspections

Requirements and responsibilities in relation to inspections are documented in Section 3.14 of the CEMF, section 3 of the Health and Safety incident reporting and investigation standard and Section 8.2 of the CTMF.

On completion of establishing the work site, the site is to be monitored for a suitable period of time. The traffic control contractor shall ensure that all signage, devices, and controls are maintained at all times. Inspections shall be carried out:

- Before the start of work activities each day on site
- During construction hours
- At the end of each shift period

A daily record of the inspections shall be kept indicating:

- What additional traffic controls were erected
- When changes to controls occurred and why
- Any significant incidents or observations associated with the traffic controls and their impacts on road users or adjacent properties.

The traffic control contractor will ensure that personnel are assigned to monitor the traffic control site and carry out inspections as follows:

Before work starts:

- Inspect all signage and devices including any VMS/Traffic Signals/PTCD's to ensure they are undamaged and comply with the requirements depicted on the Traffic Guidance Scheme.
- After any adjustments have been made to the signs and devices, conduct a drive through inspection to confirm effectiveness.
- Provide contact name and number for traffic control site supervisor to TMC for day's activities if applicable.

During Construction Hours:

- Ensure that appropriate personnel drive through the site periodically to inspect all signs and devices including VMS/Traffic Signals/PTCD's and ensure they are undamaged and comply with the requirements depicted on the TCP.
- Ensure on site traffic controllers are in place and carrying out necessary duties.
- Keep records of any changes made throughout the day.

At the end of each shift period:

- Conduct an end of shift site inspection, allowing time for any maintenance work.
- Remove any unnecessary signage (Workers Symbolic, Traffic Controller)
- Ensure any lighting is added to specific sites as necessary.
- Record details of inspection and any changes made.

7.4 Auditing

Audits (both internal and external) may be undertaken to assess the effectiveness of traffic management measures, compliance with other relevant plans, CoA and other relevant approvals, licenses, and guidelines.

7.5 Reporting

Quickway will report to Sydney Metro, TfNSW, TMC, Penrith City Council, Liverpool City Council, and other stakeholders on all traffic and transport management issues related to the Western Sydney Airport Advanced and Enabling Works, through the agreed contractual reporting methods, TCGs, TTLGs and CTMPs and any required email correspondence(s).

8. Review and improvement

8.1 Continuous improvement

Continuous improvement of this plan will be achieved by the ongoing evaluation of environmental management performance against environmental policies, objectives, and targets for the purpose of identifying opportunities for improvement.

The continuous improvement process will be designed to:

- Identify areas of opportunity for improvement of traffic management.
- Determine the cause or causes of non-conformances and deficiencies.
- Develop and implement a plan of corrective and preventative action to address any nonconformances and deficiencies.
- Verify the effectiveness of the corrective and preventative actions.
- Document any changes in procedures resulting from process improvement.
- Make comparisons with objectives and targets.

8.2 Minor TGS updates

Minor TGS updates and amendments may be required during construction due to various of reasons, including but not limited to:

- Site conditions change from time of CTMP development to time during implementation
- Working near other contractors and traffic management to avoid conflicts
- Unknown clashes, minor design / alignment changes

Where a minor TGS amendments is required, the Traffic Manager and/or Senior Traffic Planner is to assess whether it would have an impact or diverge from the TTM strategy included in the approved operational CTMPs. If there is no impact or divergence, the Traffic Manager and/or Senior Traffic Planner shall make the minor TGS amendments for implementation onsite. If there is a difference in TTM strategy this need to be consulted with the relevant and associated stakeholder(s).

8.3 CTMP update and amendment

Any updates or amendments of this CTMP will occur as needed.

Only the Traffic Manager and/or Senior Traffic Planner (in consultation with the Environment Manager and Project Manager) can amend this CTMP under consultation with approval authorities.

A copy of the updated plan and changes will be distributed to all relevant stakeholders in accordance with the approved document control procedure.

Appendix A Haulage Routes









 96 of 102
 | Sydney Metro Western Sydney Airport Advanced and Enabling Works – Overarching Construction Traffic Management Plan

 24 January 2022
 Rev C

UNCONTROLLED WHEN PRINTED









Appendix B Certified Design

Portion	Design Name	Case Number	Certified Design Date
1. Patons Lane Undergrounding	LOT 42, DP 738126 - 43A PATONS LANE ORCHARD HILLS ARP4779 ASSET RELOCATION	ARP4779	31/08/2021
2. Claremont Meadows Services Facility Power	LOT 2, DP771697 – 1017 GIPPS ST CLAREMONT MEADOWS DBL2558 TEMPORARY BUILDER SUPPLY	DBL2558	31/08/2021
3. Orchard Hills Power	70-74 Kent Road (LOT 43 DP29388) ORCHARD HILLS DBL2529_RETIC_20210226 CONNECTION OF LOAD	DBL2529	31/08/2021
4. Airport Business Park Power	LOT 2 DP 1260971 – BADGERYS CREEK ROAD BADGERYS CREEK DBL2559_PMOS_RETIC CONNECTION OF LOAD METHOD OF SUPPLY	DBL2559	TBC
5. Precast Facilities Power	BAGERYS CREEK ROAD BRINGELLY DBL2560 CONNECTION OF LOAD METHOD OF SUPPLY BAGERYS CREEK ROAD BRINGELLY DBL2584 CONNECTION OF LOAD METHOS OF SUPPLY	DBL2584 & DBL2560	02/11/2021
6. Aerotropolis Power	215 BADGERYS CREEK ROAD BRINGELLY DBL2554 CONNECTION OF LOAD PROPOSED METHOD OF SUPPLY	DBL2554	30/09/2021

Portion 1 - Patons Lane Undergrounding

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	D	B	00	K		15. SEF DEF	ATTEN RVICE PT DAI	NTION PROVIDER TO N LY WHEN CABLE	OTIFY ENDE	AVOU PROC	R E GRE	NER SS. 1	GY'S A FELEPH	SSE ⁻	TS 5 13	DA 3108	TA 31.	CU	STO	OME	ĒR	\Rightarrow
	DATE	=:				16. LIVI PLE PRI	6. WARNING IVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES EXIST IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG, TEL. 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.															
N	date G	=:				17. THI ON QU/ PR(TEN	DO N S DRA DESI ANTIT DJECT	IOT PLACE ANY F WING. QUANTITIE GN INFORMATION ES AND DIMENS MUST CHECK A NG AND/ OR CONS	RELIANCE ON ES AND DIMEI N AND SITE IONS ARE SU ALL QUANTIT STRUCTION.	I ANY NSIOI CONI UBJE(TIES	' QU NS G DITH CT 1 ANE	IANT GIVEI ONS FO C D DII	ITIES (N ON TI AT TI CHANGE MENSI(OR D HIS ⊑ HE T E, T⊦ ONS	ime DRA Time Te ON	ENS AWI E C BU N S	SION NG DF ILDI ITE	NS AR DES ER PI	givi E B Sigi Of Rioi	EN ASE N. 7 TH R 1	IN ED AS IIS FO	E
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S DF 000	AWIN 4.	IG HA	AVE B	EEN		HOV EXI COI DES	WEVE STING MMEN SIGNE	R, WHOLLY RES SERVICES AND CES. NO RESPO R OF THIS PROJE	PERMANEN PERMANEN DNSIBILITY N ECT FOR DAM	FOR N T SUI OR L MAGE	VER RVE IAB S T(IFYII Y M ILITY D EX	NG TH ARKS WILL	E EX BEF(BE SEF			LO CON PTI	CA ISTI ED S A	TIOI RUC BY RE	N (CTIC TH SU	DF DN HE LT	
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	DEEEDENICE DD AWINICIS	WORK ORDERS	CAP / SAMP No.	DBL2558		ORIĢINAL			
	KEFERENCE DRAWING S	work orders	AM PROJ. No.	2014/02306/010		SCALE	DO	NOT	
		GENERAL	ULTEGRA PROJ. No.	80079_20210721			SC,	ALE	
•		OVERHEAD	UBD/PENGUIN REF	P164 Q16	DRAWN	M.E	DIMEN	ISIONS N	
		UNDERGROUND	GIS MAP No	U73608		21/07/2021	MET	RES	
ISTS		SUBSTATIONS	HV OP DIAGRAM	CLAREMONT MEADOWS2 V10	DATE	21/07/2021		1	4
			LOCAL GOV AREA	PENRITH	CH'D	B.S	DESIGN	A.Z	
5	6	7		8			9		

GURATION	LENGTH (m)	REIMBURSEMENT CHARGES	USAGE CHARGES
NEW 2 x 125mm DUCTS © DIRECT BURIED EARTH CABLES	7.5	NIL	NIL
NEW 1 x DIRECT BURIED HV CABLE x DIRECT BURIED EARTH CABLE	3.5	NIL	NIL
NEW DIRECT BURIED EARTH CABLES	117	NIL	NIL
NEW 6 x 125mm DUCTS DIRECT BURIED EARTH CABLES (ROAD CROSSING)	38	NIL	NIL
EXISTING 2 x 50mm DUCTS 2 x 125mm DUCTS	288	NIL	NIL
EXISTING 2 x 50mm DUCTS	36	NIL	NIL
	TOTAL	NIL	NIL
LEGEND			
SPARE DUCT	\bullet	NEW CABLE IN CO	NDUIT
NEW CABLE DIRECT BUI	RIED •	NEW EARTH CABL	E DIRECT BURIED



	REFERENCE DRAWING'S	WO	RK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2558 2014/02306/010		ORIĢINAL) SCALE	DO I	NOT	
		GENERAL		ULTEGRA PROJ. No.	80079_20210721			SCA	ALE	
		OVERHEAD		UBD/PENGUIN REF	P164 Q16	DRAWN	M.E	DIMEN	SIONS N	
		UNDERGROUND		GIS MAP No	U73608	DATE	21/07/2021	MET	RES	
IALISTS		SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS2 V10	DATE	21/0//2021			4
				LOCAL GOV AREA	PENRITH	CH'D	B.S	DESIGN	A.Z	
			ק					٥		•

	HV EAR	THING DETA	AILS						
SOIL RESISTIVITY	LAYER 1	38.04	DEPTH	0.50					
(ohms.m)	LAYER 2	10.08	(m)	ω					
DESIGNED EARTH	RESISTANCE LIM	1IT (ohms)		4.11					
MEASURED EARTH	MEASURED EARTH RESISTANCE (ohms)								
NUMBER OF ELEC	5								
LENGTH OF BARE	25								
CONNECTOR TYPE	EITHER								
LOCATION CATEGO	ORY: F - FREQUE	NTED, R - REMOT	ΓΕ, S - SPECIAL	F					
WHAT DESIGN TOO	OL USED?			3E					
FAULT LEVEL (kA)		2.94							
IS THIS 'FIRST ASS	NO								
ARE SCREENS OF SUBSTATION EART	YES								

	C(D.:	WING HAVE BEEN	Date Approved: Examiner's Signature:				
	SI D/	GNATURE	PER ENDEAVOUR ENERGT STANDARD SAD 0004.		Print Name: This Certification Endeavo Standard Cer	is issued subject to ur Energy's tification Terms			
MENTS	Cadastre SUE	e: © Land a	and Property Information 2016				O. N N N N N N N N N N N N N	PREPARED BY:	
AMENDN		DRAFT No. 01					ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, USED WITHOUT THE USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	UTILITIES & INFRAS	TRUCTURE SPEC
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CERTIFIED BY ENDEAVOUR ENERGY

Amendment:____

WORKS	COMPL	ETED/FIELD	BOOK
CONSTRUCTED	D BY:		
WORKS COMPI			
SIGNATURE: _		DA	ГЕ:
INSPECTED BY	:		
SIGNATURE: _		DA	ГЕ:
	ASSET	RECORDING	
l:			
OF:			
CONTACT No.:			
HEREBY CERTIFY RECORDED AS PE	THAT ASSETS MAR R ENDEAVOUR EN	RKED AS-BUILT ON THIS DRAW IERGY STANDARD SAD 0004.	ING HAVE BEEN
SIGNATURE:			

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LOT 2 DP771697

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SUBSTATION EQUIPMENT LICENCE AREA AND RESTRICTIONS

NOT TO SCALE SUBSTATION PLINTH TO BE INSTALLED AS PER EE STANDARD ARRANGEMENT DRAWING: 016665 REV. S (REFER TO NOTES 5, 6, 7, 8 & 9)

STANDARD EQUIPMENT LICENCE AREA FOR NEW PM SUBSTATION (5.5m 2.75m & VARIABLE) (NO OTHER STRUCTURES OR SERVICES ALLOWED)

NEW PM SUBSTATION PLINTH

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RESTRICTION ON THE USE OF LAND IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3 METRES FROM PM SUBSTATION PLINTH

SUB I	EQUIPMENT LICEN COORDINATES (MO	NCE AREA GA56)					
POINT	EASTING	NORTHING					
W	292136.3570	6261313.1915					
х	292135.4994	6261307.7479					
Y	292133.6228	6261313.6209					
Z	292132.7747	6261308.1867					

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ALISTS	

	REFER	ENCE DRAWING'S	WOI	RK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2558 2014/02306/010		ORIĢINAL SCALE	DO NOT		DO NOT		LOT
			GENERAL		ULTEGRA PROJ. No.	80079_20210721			SCALE DIMENSIONS				
•			OVERHEAD		UBD/PENGUIN REF	P164 Q16	DRAWN M.E				DIMENSIONS IN METRES		TEM
			UNDERGROUND		GIS MAP No	U73608	DATE						
ISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS2 V10	DATE 21/07/2021		10172021				
					LOCAL GOV AREA	PENRITH	CH'D	B.S	DESIGN	A.Z			
5		6	\bigvee	7		8	9			10			

LOT 2, DP771697 - 1-17 GIPPS ST		
CLAREMONT MEADOWS		
DBL2558		
TEMPORARY BUILDER SUPPLY		

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Portion 3 - Orchard Hills

A						
В	DESIGN This design comp as current at this t Accredited Servio	COMPLIANCE AND INE lies with Endeavour Energy's relev time and as listed on the Endeavo ce Provider's Internet site. These s	DEMNITY vant standards ur Energy standards			
C	include, but are no CP: Conr EMS: Envi MCI: Main MDI: Main PDI: Proto SDI: Subs SAD 0001: Desi MMI: Main SMI: Subs LDI 0001: Publ	ot limited to: nection Policy ronmental Management Standard as Construction Instruction as Design Instruction ection Design Instruction station Design Instruction gn Drawing Standard as Maintenance Instruction station Maintenance Instruction ic lighting Electrical Design Eleme	nt	AUTHOF OF END Signed: Print Na	RISATION OF ESTIMATE VALUE DEAVOUR ENERGY FUNDED ASSETS	REFER TO SITE ON SHEE
	Additionally, when "Overhead Line D The Australian Sta ULTEGRA Pty Lto for any loss or da of the design with Signed:	re relevant, the design complies wi besign - Detailed Procedures" publ andards. d indemnifies Endeavour Energy mage resulting from non-complian in the above standards. Name: BR	th AS/NZS 7000 ished by ce YAN STRINGER	Service Funding Date:	Matt Grimwood Number: 37584 Amount: \$ 6,409.00 21/5/21	
D	Service Provider	Number: 2516 Date: 21/0	05/2021			
E	THE C SU Telecommunic The construction Comms Co.	CERTIFICATION OF THIS PROJE JMMARY OF ENVIRONMENTAL DESIGNER'S COMMUNICAT ation Assets are / are not affected on ASP must coordinate the work v Contact Name Phone No.	TION ASSETS ALTERA by this project. with the following Telecommur Initial Contact Date	FOLLOWING FEMS0001	KEY DOCUMENTS 03/05/2021 10/02/2021	
		FUNDING ARRANGEN	MENTS FOR SCOPE	OF WOR	Ś	
F	ASP ENDEAVOU	LEVEL 1 ELECTRICAL WORKS)ED	CUSTOMER CUSTOMER FUNDED	_
G	ENDEAVOU FUNDED & CO WORKS REQUIRED PRIOR TO COMPLETION OF CUSTOMER CONTESTABLE PROJECT NIL ENDEAVOUR E	NIL JR ENERGY ONSTRUCTED WORKS REQUIRED IN ASSOCIATION OF CUSTOMER CONTESTABLE PROJECT NIL	- MONOPOLY FEES <u>INSPECTION AND ACCESS</u> <u>AUTHORITY</u> - SYSTEM SWITCHING - PROVISION OF ACCESS (AS PER FEE SENT BY EE' 2 x PROTECTION SETTING 2 x ZS ACCESS AND SUPE \$6,630.78 2 x TESTING PRIOR TO COMMISSIONING \$9,572.20 2 x 11kV ZONE SUB CB TE	AUTHORITY S CWA'S) SS \$8,442.94 RVISION	INCLUDES BUT IS NOT LIMITED TO: - PEGGING OF EASEMENTS, PROPERTY BOUNDARIES & INFRASTRUCTURE LOCATIONS - REGISTERING OF EASEMENTS - PROVIDING SITE ACCESS - OWN SERVICE & SERVICE CONNECTION - CONFIRM FINISHED GROUND LEVELS EXISTING DUCT USAGE CHARGES 3,052m X Ø125mm PVC DUCTS @ \$23/m = \$70,196.00	
	DUCT REIMBURSEMENT: 254m x Ø125mm PVC DUCTS	IRSEMENT S @ \$23/m \$5,842.00	\$7,882.50 CUSTOMER FUNE CONTESTABLE WC ALL OTHER WORKS AND MATERIALS INCLUDING BU	DED DRKS JT NOT	CO-ORDINATION SUPPLY REQUIRED DATE AUGUST 2021	
Н	(EX. PM & DESIGN) EE CAPITAL CONTRIBUTION (HV REIMBURSED) Cadastre: © Land and Property Information	\$5,842.00 N \$6,409.00	LIMITED TO: - JOINTING - TRENCHING - CABLE INSTALLATION - SUPPLY & INSTALLATION SWITCHING STATIONS	NOF	ASSET TO BE RETURNED TO NEAREST ENDEAVOUR ENERGY DEPOT BY LV 1 ASP NIL 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PREPARED BY:
	AMEN AMEN AMEN AMEN AMEN AMEN AMEN AMEN		2		A MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	UTILITIES & INFRASTRUCTURE SPECIA www.ultegra.com.au

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OTES					
THIS DRAWING IS TWORK STANDARDS	TO BE READ I AND CONNECT	N CONJUNCTION WITH	I WITH THI	E RELEVANT ENDEAVOUR ENERGY	
ACCREDITED DESIGN	ER IS TO BE CO	ONTACTED REGARDING	ISSUES RAI	SED WITH THIS DESIGN.	
ENDEAVOUR ENERGY	CONTACT PHO	DNE: 131 081			A
DESIGN CERTIFICATION (I) NOTICE OF INTEN (II) CONSTRUCTION HERE DESIGN CERTI RVICE PROVIDER FO	<u>ON SHALL LAPS</u> T HAS NOT BEE HAS BEEN INTE FICATION HAS R RE-CERTIFIC	E <u>WHERE:-</u> IN RECEIVED WITHIN (6) RRUPTED FOR MORE TI LAPSED THE DESIGN ATION.	SIX MONTH HAN (6) MOI MUST BE F	IS OF THIS CERTIFICATION. NTHS. RESUBMITTED BY THE ACCREDITED	
DEVELOPER SHALL	PEG ALL PROI	PERTY AND EASEMENT S.	BOUNDAR	IES, AND ESTABLISH FINAL LEVELS	
AN EASEMENT FOR IDEAVOUR ENERGY W E LEVEL AND MUST BE T 43 DP29388 PRIOR	2 x SWITCHIN VITHIN EXISTING FREE OF ALL TO ENDEAVOUR	IG STATION SITES (5m 3 LOT 43 DP 29388. THIS OTHER SERVICES. EAS R ENERGY ACCEPTING L	x 2.75m) EASEMENT EMENT MUS ETTER OF	S TO BE CREATED IN FAVOUR OF I IS A MINIMUM SIZE ONLY AND MUST ST BE REGISTERED ON THE TITLE OF INTENT FROM LEVEL 1 ASP.	
FINAL LOCATION OF E ROPONENT (OR THEIR	ASEMENT FOR REPRESENTAT	SWITCHING STATION S	ITE TO BE S RUCTION.	SURVEYED, AND PEGGED BY	В
EARTHING OF THE SV DI100. COMMON EART NIMUM OF REQUIREN RTH RESISTANCE ME	VITCHING STAT THING TO BE A MENT. ADDITION ASUREMENTS	IONS TO BE CARRIED O CHIEVED. THE EARTHII NAL EARTHING MAY BE AS STATED IN ENDEAVO	UT IN ACCO NG DIAGRA REQUIRED)UR ENERG	RDANCE WITH ENDEAVOUR ENERGY M IS A GUIDE ONLY AND SHOWS A TO MEET THE REQUIRED MAXIMUM Y'S EDI 100.	
ATTENTION L SERVICES SEARCH	ES MUST BE CH	IECKED BEFORE CONST	RUCTION.		
ATTENTION ELSTRA & OPTUS TO IDERGROUND ASSET ELSTRA NETWORK INT PTUS: 1800 505 777	BE NOTIFIED S LOCATED IN T EGRITY HELP [OF PROPOSED WORK THE AREA. CONTACTS DESK: 1800 653 935	PRIOR TO	CONSTRUCTION. TELSTRA & OPTUS	ſ
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. ATTENTION RVICE PROVIDER TO ORKS IS IN PROGRES	NOTIFY ENDE	AVOUR ENERGY'S ASSE 131081.	TS DATA C	USTOMER DEPT DAILY WHEN CABLE	
. Warning /e Endeavour Ene Fore You Dig, Tel.	RGY CABLES / 1100 FOR SEAR	AND OTHER SERVICES CHES TWO DAYS PRIOF	EXIST IN T TO EXCAV	THIS AREA. PLEASE CONTACT DIAL ATION.	
DO NOT PLACE ANY ND DIMENSIONS GIVE NE TIME OF DESIGN. ROJECT MUST CHEC DNSTRUCTION.	RELIANCE ON / N ON THIS DRA AS QUANTITIES K ALL QUANT	ANY QUANTITIES OR DIN WING ARE BASED ON D AND DIMENSIONS ARE ITIES AND DIMENSION	IENSIONS (DESIGN INF(E SUBJECT S ON SITE	Given in this drawing. Quantities Drmation and site conditions at to change, the builder of this e prior to tendering and/ or	
. THE PREPARATION ((ISTING SERVICES. TH	OF THIS DESIGN	HAS BEEN UNDERTAKI	EN GIVING [/ER, WHOLI	DUE CONSIDERATION TO THE LY RESPONSIBLE FOR VERIFYING	
DMMENCES. NO RESP DR DAMAGES TO EXIS	ONSIBILITY NO	R LIABILITY WILL BE ACC S AS A RESULT OF THIS	CEPTED BY DESIGN.	THE DESIGNER OF THIS PROJECT	
OPERATIONAL LIMIT ILESS APPROVED O DLLOWING ALTERNATI OBILE GENERATORS IVE LINE WORK DESIGN ALTERNATIVE OW VOLTAGE PARALI VORK PRACTIVES/STA IE COST IS TO BE FUN	S THERWISE, INT VES SHOULD B AND SUBSTAT S LELS NDARDS IDED BY THE D	ERRUPTION TO ANY C E CONSIDERED: ION EVELOPER.	CUSTOMER	S SUPPLY MUST BE AVOIDED. THE	E
[OUCT DEC	ARATION			F
OF CONTA HEREB ¹ DRAWIN	ACT NUMBER Y CERTIFY THAT THE DUC IG HAVE BEEN INSTALLE	TS SHOWN ON THIS	WORKS	COMPLETED/FIELD BOOK	
MCI0000 HAVE B ENDEA	6. THE DUCT DEPTHS AND EEN CORRECTLY MARKE /OR ENERGY STANDARD	D LOCATIONS AT EACH END D ON THIS DRAWING AS PER SAD0004.	SIGNATURE: _	DATE:	
THE IN COMM	ISTALLATION OF THE	DUCTS WAS	INSPECTED BY	:	
& COM			SIGNATURE: _	DATE:	G
LAND	SURVEYOR REGISTE EYING AND SPATIAL I	RED UNDER NFORMATION ACT 2002		ASSET RECORDING	
CERT Amendm	IFIED BY END	EAVOUR ENERGY	I: OF:		
Date App	proved: r's Signature:	21/5/21	CONTACT No.: HEREBY CERTIFY	THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEE	
)	me: Ma This Certification is i	tt Grimwood ssued subject to	RECORDED AS PE SIGNATURE: DATE:	R ENDEAVOUR ENERGY STANDARD SAD 0004.	_
	Endeavour I Standard Certific	ation Terms			
70-74 KEN (T ROAD (LO ORCHARD I	DT 43 DP29388) HILLS		Endeavour Energy	H

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DBL2529

CONNECTION OF LOAD

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SHEET No 1 OF 11 SHEETS

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А			A TO SIT		SHEET 3 898769 ■ 131054 CH0.0	A 499598
B			END OF UNDERBO 57 • 300083 ASP1 TO TRENCH AROUND PITS NEA STAY POLE 898766	499557 499557 AR 499556	898768 1G −CH13.0 1F J5 J6 INSTAL 2 × HV 5 898766 1D 8765 499599	LOT 1 DP 5761 STJs INTEGRITY AND STABILITY C STAY POLE 898766 AND POL 898767 TO BE MAINTAINED DURING AND AFTER CONSTRUCTION
C			63	497990		LOT 10 DP 128 ERMINATE EARTH ABLE AND BOND INTO LV NEUTRAL CONDUCTOR ON OLE 499584. ESTABLISH NEW SWITCHING S HV SWITCHGEAR : SIEMENS S CUBICLE SIZE: SIZE 16 EARTHING SYSTEM: TO EDI 10
			69	497990	1A 6m	EARTHING SYSTEM: TO EDI 10 (COMMON EARTHING) ESTABLISH NEW SWITCHING S HV SWITCHGEAR : SIEMENS CUBICLE SIZE: SIZE 16 EARTHING SYSTEM: TO EDI 10 (COMMON EARTHING)
			77	4995	92 • H 499568 • 300082	LOT DP 2
E					SITE P	PLAN 'A'
F	CERTIFIED BY ENDEAVOUR ENERGY Amendment: A Date Approved: 21/5/21 Examiner's Signature: Print Name: Matt Grimwood This Certification is issued subject to Endeavour Energy's Standard Certification Terms			//	LEGEND NEW SWITCHING NEW ROAD CROS	STATION SSING DUCTS TRENCH
G	WORKS COMPLETED/FIELD BOOK constructed by: works completed: signature: INSPECTED BY: SIGNATURE: ASSET RECORDING I: OF:			• 	EXISTING POLE EXISTING/NEW ST EXISTING PILLAR EXISTING SL LAN NEW TRENCH NEW CABLE IN CO EXISTING CABLE	TJ TERN DNDUIT IN CONDUIT
Н	CONTACT No.:			TEMPLATE VERSION No. 5.0	COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	PARED BY: JItegra TIES & INFRASTRUCTURE SPECIAL WWW.ultegra.com.au

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			CH0.0 898768 1G CH13.0						DUCTING SCH	HEDULE		
		57 499557	1F J5 J6 INSTALL 898767 2 x HV STJS	LOT 1 DP 576160	58		ROUTE	CONFIGU	IRATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT
		ASP1 TO TRENCH AROUND PITS NEAR STAY POLE 898766 499556	1 898766 1 898766 1 1 1 1 1 1 1 1 1 1 1 1 1	Y AND STABILITY OF E 898766 AND POLE BE MAINTAINED ND AFTER CTION			1A - 1B	HV HV	NEW 4 x 125mm PVC DUCTS 2 x DIRECT BURIED EARTH	5	5m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$115.00	NIL
				LOT 104 DP 128821	64		1B - 1C	EARTH	NEW 4 x 125mm PVC DUCTS 1 x DIRECT BURIED EARTH	30	30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00	NIL
		63	TERMINATE EA CABLE AND BO ONTO LV NEUT CONDUCTOR O POLE 499584.	RTH ND RAL N			1C - 1D	HVHV	NEW 4 x 125mm PVC DUCTS	87	87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2,001.00	NIL
		● 49799	499584 1C ESTABLISH HV SWITCHO CUBICLE SIZ EARTHING S (COMMON E ESTABLISH HV SWITCHO	NEW SWITCHING STATION 55141 GEAR: SIEMENS 8DJH RRR IE: SIZE 16 YSTEM: TO EDI 100 ARTHING) NEW SWITCHING STATION 55140 GEAR: SIEMENS 8DJH RRR	LOT 43 DP 29388 70		1D - 1E	STEEL PLATE HV HV	NEW 2 x HV CABLES DIRECT BURIED	13	NIL	NIL
		69	1A 6m	E: SIZE 16 YSTEM: TO EDI 100 ARTHING)			1E - 1G	HVHV	NEW 4 x 125mm PVC DUCTS	24	24m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$552.00	
		499	592 • 1 592 • 1 592 • 1 59568	LOT 44 DP 29388	76		1G - 1H	HV HV	NEW 6 x 125mm PVC DUCTS (ROAD CROSSING)	18	NIL	NIL
		77	• 300082				1H - 1I	HVHV	NEW 4 x 125mm PVC DUCTS	18	18m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$414.00	NIL
			SITE PLAN 'A'		NOT ALL ENDEAVOUR					SUBTOTAL	164m x Ø125mm PVC DUCTS @ \$23/m = \$3,772.00	NIL

THE PURPOSE OF CLARITY

	RE	EFERENCE DRAWING'S	WC	ORK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2529 2020/00807/001		ORIĢINAL SCALE	DOI	NOT	
			GENERAL	GENERAL		LTEGRA PROJ. No. 80009.24_20210521				SCALE	
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMEN	SIONS	
			UNDERGROUND		GIS MAP No	U73522		21/05/2021	MET	RES	
ALISTS				SUBSTATIONS		IAGRAM CLAREMONT MEADOWS		21/05/2021			4
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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Item State Control State State <t< td=""><td>N 'C' ON SHEET 4</td><td>В</td><td></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>	N 'C' ON SHEET 4	В								
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84 77 146891 146892 933297 146892 933297 73 98977 800 89877 800 76 73 76 74 933298 76 76 76 76 76 76 76 76 76 77 146899 76 76 77 146899 77 7 78 76 79 77 67 70 67 70 65 160 65 160 933301 78 933301 78 10 28 - 20 11 146898 70 146898 70 70 933301 78 146898 70 146898 70 146898 70 146898 73 34 33 35		8			52					
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131055 72 72 67 67 67 67 67 67 67 67			74	933300 146896	69	10 00	(20	NI 6 x 125mm	ΞW
131055			72		67	IG-ZA	HV	HV	(UNDE	RB
131055			70		63 65 65	2A - 2B	SL O		NI 6 x 125mm (UNDE EXIS 2 x 50m	EW PV RB STI
35 35 4 33 32 110 - 2 × 50mm I 131055 34 33 32 110 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1			14689	DONCAS 933301 8		2B - 2C	ни		NI 6 x 125mm (UNDE EXIS	EW PV RB
	131055		35	34 33	3 32				2 x 50m	n [

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	DUCTING SCHEDULE											
ROUTE	CONFIGU	JRATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES							
1G - 2A	H K K K K K K K K K K K K K K K K K K K	NEW 6 x 125mm PVC DUCTS (UNDERBORE)	215	NIL	NIL							
2A - 2B	SL O	NEW 6 x 125mm PVC DUCTS (UNDERBORE) EXISTING 2 x 50mm DUCTS	64	NIL	NIL							
2B - 2C	SL OO HV HV	NEW 6 x 125mm PVC DUCTS (UNDERBORE) EXISTING 2 x 50mm DUCTS	42	NIL	NIL							
2C - 2D		NEW 4 x 125mm PVC DUCTS EXISTING 2 x 50mm DUCTS	15	15m x 1 x Ø125mm DUCTS @ \$23/m = \$345.00	NIL							
2D - 2E		NEW 4 x 125mm DUCTS EXISTING 2 x 50mm DUCTS	18	18m x 1 x Ø125mm DUCTS @ \$23/m = \$414.00	NIL							
2E - 2F		NEW 4 x 125mm PVC DUCTS EXISTING 2 x 50mm DUCTS	45	45m x 1 x Ø125mm DUCTS @ \$23/m = \$1,035.00	NIL							
2F - 2G	HV HV	NEW 6 x 125mm PVC DUCTS (UNDERBORE) (ROAD CROSSING)	43	NIL	NIL							
			SUBTOTAL	78m x Ø125mm PVC DUCTS @ \$23/m = \$1,794	NIL							

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	DEEE	DEFEDENCE DDAWNICK				DBL2529		ORIĢINAL			
	KEFE	REINCE DRAWING S	WOI	WORK ORDERS		2020/00807/001		SCALE	DOI	NOT	
			GENERAL		ULTEGRA PROJ. No.	80009.24_20210521			SC A	ALE	
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMEN	SIONS N	
		UNDERGROUND			GIS MAP No	U73522		21/05/2021	METRES		
			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			4
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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	WORKS COMPLETED/FIELD BOOK
	CONSTRUCTED BY:
	SIGNATURE: DATE:
	INSPECTED BY:
G	SIGNATURE: DATE:
	ASSET RECORDING
	l:
	OF:
	CONTACT No.:
	HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.
	SIGNATURE:
	DATE:

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DUCTING SCHEDULE											
ROUTE	CONFIGL	IRATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES						
2G - 3B	ну 🕶 ну	EXISTING 2 x 125mm PVC DUCTS	135	NIL	135m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$6,210.00						
3B - 3C		NEW 4 x 125mm PVC DUCTS EXISTING 1 x 125mm PVC DUCTS 1 x HV DIRECT BURIED	12	12m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$276.00	NIL						
3C - 3D		EXISTING 2 x 125mm PVC DUCTS 2 x HV DIRECT BURIED 1 x LV DIRECT BURIED	15	NIL	15m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$690.00						
3D - 3E	HV	NEW 6 x 125mm PVC DUCTS (ROAD CROSSING)	20	NIL	NIL						
3E - 3F	HV HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	9	NIL	9m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$414.00						
3F - 3G	HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	15	NIL	15m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$690.00						
3G - 3H	HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	10	NIL	10m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$460.00						
3H - 3I	HV HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	57	NIL	57m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$2,622.00						
3I - 3J		EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	29	NIL	29m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,334.00						
			SUBTOTAL	12m x Ø125mm PVC DUCTS @ \$23/m = \$276.00	540m x Ø125mm DUCTS @ \$23/m = \$12,420.00						

	R	EFERENCE DRAWING'S	WOR	K ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2529 2020/00807/001		ORIĢINAL SCALE	DOI	NOT	
			GENERAL		ULTEGRA PROJ. No.	80009.24_20210521	च		SCA	ALE .	
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMEN	SIONS 1	
			UNDERGROUND		GIS MAP No	U73522	DATE	21/05/2021	MET	RES	
LISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			-
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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		DUCTING SCHE	DULE		
ROUTE	CONFIGL	JRATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES
3J - 4A	HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	241	NIL	241m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$11,086.00
4A - 4C	LV HV HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x 125mm PVC DUCTS	57	NIL	57m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$2,622.00
4C - 4D	HV HV	EXISTING 2 x 50mm PVC DUCTS 6 x125mm PVC DUCTS (ROAD CROSSING)	46	NIL	46m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$2,116.00
4D - 4E		EXISTING 3 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED	31	NIL	31m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,426.00
4E - 4F	LV O HV O HV HV SL	EXISTING 3 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED 1 x SL DIRECT BURIED	19	NIL	19m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$874.00
4F - 4G		EXISTING 3 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED	52	NIL	52m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$2,392.00
4G - 4H	LV HV HV HV SL	EXISTING 3 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED 1 x SL DIRECT BURIED	19	NIL	19m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$874.00

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CERTIFIED BY ENDEAVOUR ENERGY

This Certification is issued subject to Endeavour Energy's Standard Certification Terms

WORKS COMPLETED/FIELD BOOK

SIGNATURE: _____ DATE: _____

ASSET RECORDING

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN

RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

Matt Grimwood

_____ DATE: ____

 Amendment:
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 Date Approved:
 21/5/21

Examiner's Signature:

Print Name:____

CONSTRUCTED BY:

WORKS COMPLETED:

SIGNATURE: _____

INSPECTED BY:

OF:

CONTACT No.: _

SIGNATURE:

DATE:

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			ERS	ENDEAVOUR ENERGY AND MAY NOT BE COPIED,				OVERHEAD L	BD/PENGUIN REF	291747.4 6259356.7 D	RAWN E.D	DIME	NSIONS IN	
AME Vo. 0				REPRODUCED, DISTRIBUTED, LOANED OR				UNDERGROUND	IS MAP No	U73522	21/05/202		TRES	
			JLA	WRITTEN CONSENT OF ENDEAVOUR ENERGY	UTILITIES & INFRASTRUCTURE SPECIALISTS			SUBSTATIONS +	IV OP DIAGRAM	CLAREMONT MEADOWS	JATE 21/05/202		1	_
DRA DRA			LEM		www.ultegra.com.au			L	OCAL GOV AREA	PENRITH COUNCIL	CH'D B.S	DESIGN	N.F	
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		DUCTING SC	HEDULE		
ROUTE	CONFIG	URATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES
4H - 4I		EXISTING 3 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED	29	NIL	29m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1334.00
4I - 4J	LV • • • • • • • • • • • • • • • • • • •	EXISTING 3 x 125mm PVC DUCTS 1 x LV DIRECT BURIED	30	NIL	30m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,380.00
4J - 4K		EXISTING 3 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x SL DIRECT BURIED	22	NIL	22m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,012.00
4K - 4L		EXISTING 3 x 125mm PVC DUCTS 2 x LV DIRECT BURIED 1 x SL DIRECT BURIED	8	NIL	8m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$368.00
4L - 4M	LVHVHV	EXISTING 8 x 125mm PVC DUCTS (ROAD CROSSING)	36	NIL	36m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,656.00
4M - 4N	LV • HV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x LV DIRECT BURIED	50	NIL	50m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$2,300.00
4N - 40	SL • • HV	EXISTING 8 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 x SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$598.00
			SUBTOTAL	NIL	1,306m x Ø125mm PVC DUCTS @ \$23/m = \$30,038.00

70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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А	LEGEND				
В	 EXISTING PM SUBSTATION EXISTING DUCTS EXISTING/NEW STJ EXISTING/NEW UGOH EXISTING PILLAR EXISTING COLUMN 	E TO SIT	E PLAN 'F' ON SHEI	<u>ЕТ 7</u> 9	
С	+ EXISTING SL LANTERN Image: Strain Stra	19 19 5322917 17 17 15 53230	53210 121 ¹²¹ 123 53211 123 50 89344 125 51 127 13	3 5K53212 893444	
D			11 231 9 9 7 5 5 5 5 5 5	129 (5J) 53213 131 (5) 893445 133 (5H) 53214 135 137 137	5G 8 908103234611 53215
E		131 53244 6 8 10	234600 3245 4 9 53: 11	34602 3 3 3 3 3 3 3 3 3 3 3	2 2 141 143 53715 6 6 30 28 26 53268
F	WORKS COMPLETED/FIELD BOOK	13 15 17 53257	53258 34599 53257A	JN 53258A 12 14 14 16 16 2346 14 53265	24 234610 22 53267 53267 53266 53266 53266 99149
G	CONSTRUCTED BY:	CERTIFIED BY ENDEAVOUR ENERGY Amendment: A Date Approved: 21/5/21 Examiner's Signature: Print Name: Matt Grimwood			SITE PLAN 'E'
Н	DATE: Cadastre: © Land and Property Information 2016 VICO	This Certification is issued subject to Endeavour Energy's Standard Certification Terms	TEMPLATE VERSION No. 5.0	PREPARED BY: OTHIS DRAWING AND THE COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY ITILITIES & INFRAS WWW.ulter	TRUCTURE SPECIALISTS Bigra.com.au

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			DUCTING S	SCHEDULE		
	ROUTE	CONFIC	GURATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES
	40 - 4P	HV HVHV	EXISTING 6 x 125mm PVC DUCTS 1 x UNKNOWN DUCT 1 x HV DIRECT BURIED	14	NIL	14 x 2 x Ø125mm PVC DUCTS (\$23/m = \$644.00
	4P - 5A	HV HV HV	EXISTING 7 x 125mm PVC DUCTS 1 x UNKNOWN DUCT 1 x HV DIRECT BURIED	14	NIL	14 x 2 x Ø125mm PVC DUCTS \$23/m = \$644.00
	5A - 5B	HV HVHV	EXISTING 6 x 125mm PVC DUCTS 1 x UNKNOWN DUCT 1 x HV DIRECT BURIED	30	NIL	30 x 2 x Ø125mm PVC DUCTS \$23/m = \$1,380.00
	5B - 5C	SL HV HV	EXISTING 1 x 50mm PVC DUCT 6 x 125mm DUCTS 1 x UNKNOWN DUCT 1 x HV DIRECT BURIED	23	NIL	23m x 2 x Ø125mm PVC DUC @ \$23/m = \$1,058.00
	5C - 5D	LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	25	NIL	25m x 2 x Ø125mm PVC DUC @ \$23/m = \$1,150.00
	5D - 5E	SL LV LV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED 1 x SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUC @ \$23/m = \$598.00
BREAK INTO EXISTING DUCTS AT '5D' FOR JOINTING.	5E - 5F		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED	6	NIL	6m x 2 x Ø125mm PVC DUC @ \$23/m = \$276.00
5D J15 J16 5C SUNFLOWER DR	5F - 5G		EXISTING 8 x 125mm PVC DUCTS (ROAD CROSSINGS)	27	NIL	27m x 2 x Ø125mm PVC DUC @ \$23/m = \$1,242.00
53215 53216 234616 234622 51083 Indicate of the second secon	5G - 5H		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	38	NIL	38m x 2 x Ø125mm PVC DUC @ \$23/m = \$1,748.00
	5H - 5I	SL LV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED 1 x SL DIRECT BURIED	15	NIL	15m x 2 x Ø125mm PVC DUC @ \$23/m = \$690.00
53716 51400 58 58 58 58 58 58 58 58 58 58 58 58 58 5	5I - 5J		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	15	NIL	15m x 2 x Ø125mm PVC DUC @ \$23/m = \$690.00
දී ඊ 234618 2	5J - 5K	LV SL HV HV	EXISTING 1 x 50mm PVC DUCT 6 x 125mm DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	17	NIL	17m x 2 x Ø125mm PVC DUC @ \$23/m = \$782.00
S ₇₀₉₈ 55 ∞ 53	5K - 5L		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	17	NIL	17m x 2 x Ø125mm PVC DUC @ \$23/m = \$782.00
Image: Solution of the second state of the second	5L - 5M	SL LV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED 1 x SL DIRECT BURIED	17	NIL	17m x 2 x Ø125mm PVC DUC @ \$23/m = \$782.00
	5M - 5N		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	45	NIL	45m x 2 x Ø125mm PVC DU0 @ \$23/m = \$2,070.00
				SUBTOTAL	NIL	632m x Ø125mm PVC DUCT @ \$23/m = \$14,536.00

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	1			wor		AM PROJ. No.	2020/00807/001	(111))	SCALE	DUI		
				GENERAL		ULTEGRA PROJ. No.	80009.24_20210521			SCA	ALE	
				OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMEN	SIONS N	
				UNDERGROUND		GIS MAP No	U73522	DATE	21/05/2021	MET	RES	
LISTS				SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			4
						LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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	\bigwedge									DUCTING S	CHEDULE		1
	N							ROUTE	CONFIG	GURATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES
								5N - 6A	SL LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED 1 X SL DIRECT BURIED	19	NIL	19m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$874.00
	LEGEND	9 7	8 53 53771 87	3785 X U U V U	5	50284 Totalsa		6A - 6B	HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	20	NIL	20m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$920.00
	 EXISTING PM SUBSTATION EXISTING DUCTS EXISTING UNDERGROUND MAINS 	53773A TOOMUNG CCT 99179 53773 234803	10 53772 12 91	104 53783 811 104 106	53781A 25 4 234820 53781 26	29581 22 20 18 20	9580	6B - 6C		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED	32	NIL	32m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,472.00
	EXISTING/NEW STJ EXISTING PILLAR	20 18 16 BREAK INTO DUCTS AT '6N JOINTING.	EXISTING V FOR 93 12292 60 6P 1111	108 234814 3	2 EXPROV	27 4 780 28 53799A	4857	6C - 6D		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED 1 X SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$598.00
	EXISTING COLUMN EXISTING SL LANTERN EXISTING ZONE SUB	200 202 INSTALL 2 x H STJs 234796 53203	HV 97 234806 6N 6Q 53204 6M 2S	53782 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5	7	29 30 2 31 53798A	53798	6D - 6E		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 3 X LV DIRECT BURIED	7	NIL	7m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$322.00
	NEW TRENCH	53203A 201	ST CLAREMON 2 234807	IT MEADOWS	53779 32	11 # 234	856 9	6E - 6F		EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED	20	NIL	20m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$920.00
	EXISTING CABLE IN CONDUIT	203 99 23484 64 101 53719		18 18 18 18 18 18 18 18 18 18 18 18 18 1	53796	LAGA WAY		6F - 6G	SL LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED 1 X SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$598.00
		103 6l 105 6H	CLAREMONT MEADOW (CB CS1221 AND CB C 116 14 53718A	WS 1 ZONE SUB 2S1291) 17 15 53794	12 14 234823	219445		6G - 6H		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	15	NIL	15m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$690.00
		107 234800 (6F)	118 53790A 53790A 120 234809 53790	AGOOR CL	2 3 4 53793A			6H - 6I		EXISTING 6 x 125mm PVC DUCTS 2 X LV DIRECT BURIED	21	NIL	21m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$966.00
		109 53206 109 6	53206A 53790 12301 122 11	53791 234816 10 9 8 7	53793 234821			6I - 6J		EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED	14	NIL	14m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$644.00
		53207 6D 111 6C 113 ₂₃₄₇₉₇						6J - 6K	SL LV	EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED	10	NIL	10m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$460.00
		12 53208						6K - 6L	LV	EXISTING 6 x 125mm PVC DUCTS (ROAD CROSSING)	35	NIL	35m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,610.00
		115 6A 53209		<u>SITE PLAN 'F'</u>				6L - 6M		EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	3	NIL	3m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$138.00
	COMPLETED/FIELD BOOK	E FROM SITE PLAN 'E' ON	SHEET 6	ORIGINAL SCALE - 1:1000				6M - 6N		EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	16	NIL	16m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$736.00
	BY:							6N - 6O		EXISTING 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	24	NIL	24m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,104.0
	DATE:							60 - 6P	HV	NEW 6 x 125mm PVC DUCTS (ROAD CROSSING)	18	NIL	NIL
Image: Signal control in the service interment in the service interment int	ASSET RECORDING							6P - 6Q	ни	EXISTING 8 x 125mm PVC DUCTS	25	NIL	25m x 2 x O125mm PVC DUCTS @ \$23/m = \$1,150.00
reader y information 2010 Learning is signature: Image: Math Gring is signature: Image: Ma		Amendment: A Date Approved: 21/5/21									SUBTOTAL	NIL	574m x Ø125mm PVC DUCTS @ \$23/m = \$13,202.00
Betwee we service year year Betwee we service year Betwee	HAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN ENDEAVOUR ENERGY STANDARD SAD 0004.	Examiner's Signature: Print Name: Matt Grimwood This Certification is issued subject to									TOTAL	254m x Ø125mm PVC DUCTS @ \$23/m = \$5,842.00	3,052m x Ø125mm PVC DUCTS @ \$23/m = \$70,196.00
Normal Sector Normal Sector<	Property Information 2016	Endeavour Energy's Standard Certification Terms											
UNDERGROUND UNDERGROUND US FIAP NO U/3522 DEL2529 DEL2529 UTILITIES & INFRASTRUCTURE SPECIALISTS SUBSTATIONS HV OP DIAGRAM CLAREMONT MEADOWS DEL2529 A1 5197 UNDERGROUND SUBSTATIONS HV OP DIAGRAM CLAREMONT MEADOWS DESIGN N.F CONNECTION OF LOAD A1 5197			NOT STATE OF THIS DRAWING AND THE COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, REPRODUCED,		EFERENCE DRAWING'S	GENERAL OVERHEAD	CAF / SAMP NO. DBL2529 AM PROJ. No. 2020/00807/00 ULTEGRA PROJ. No. 80009.24_202 UBD/PENGUIN REF 291747.4 62593 GIS MAP No. UITEGRA	01 10521 356.7 DRAWN E.D	LE DO NOT SCALE DIMENSIONS	70-74 KENT R ORC	OAD (LOT 43 CHARD HILLS	3 DP29388) S	
			UTILITIES & INFRAST	TRUCTURE SPECIALISTS		SUBSTATIONS	UIS MAP NO U73522 HV OP DIAGRAM CLAREMONT MEA LOCAL GOV ARFA PENRITH COLLING	ADOWS DATE 21/05/2	2021 DESIGN N.F	CONNE	CTION OF L	DAD	





		DUCTING SC	HEDULE		
ROUTE	CONFIG	URATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES
5N - 6A	SL LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED 1 X SL DIRECT BURIED	19	NIL	19m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$874.00
6A - 6B	HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	20	NIL	20m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$920.00
6B - 6C		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED	32	NIL	32m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,472.00
6C - 6D		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 2 X LV DIRECT BURIED 1 X SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$598.00
6D - 6E		EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 3 X LV DIRECT BURIED	7	NIL	7m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$322.00
6E - 6F		EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED	20	NIL	20m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$920.00
6F - 6G	SL LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED 1 X SL DIRECT BURIED	13	NIL	13m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$598.00
6G - 6H	LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 x HV DIRECT BURIED 1 X LV DIRECT BURIED	15	NIL	15m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$690.00
6H - 6I		EXISTING 6 x 125mm PVC DUCTS 2 X LV DIRECT BURIED	21	NIL	21m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$966.00
6I - 6J	LV HV HV	EXISTING 6 x 125mm PVC DUCTS 1 X LV DIRECT BURIED	14	NIL	14m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$644.00
6J - 6K	SL LV	EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED	10	NIL	10m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$460.00
6K - 6L	LV	EXISTING 6 x 125mm PVC DUCTS (ROAD CROSSING)	35	NIL	35m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,610.00
6L - 6M		EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	3	NIL	3m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$138.00
6M - 6N		EXISTING 1 x 50mm PVC DUCT 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	16	NIL	16m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$736.00
6N - 6O		EXISTING 6 x 125mm PVC DUCTS 1 x LV DIRECT BURIED 1 x HV DIRECT BURIED	24	NIL	24m x 2 x Ø125mm PVC DUCTS @ \$23/m = \$1,104.00
60 - 6P	HV	NEW 6 x 125mm PVC DUCTS (ROAD CROSSING)	18	NIL	NIL
6P - 6Q	HV	EXISTING 8 x 125mm PVC DUCTS	25	NIL	25m x 2 x O125mm PVC DUCTS @ \$23/m = \$1,150.00
			SUBTOTAL	NIL	574m x Ø125mm PVC DUCTS @ \$23/m = \$13,202.00
			TOTAL	254m x Ø125mm PVC DUCTS @ \$23/m = \$5,842.00	3,052m x Ø125mm PVC DUCTS @ \$23/m = \$70,196.00





	DEED	DENCE DDAWINC'S	WOI		CAP / SAMP No.	DBL2529		ORIĢINAL			
	КЕГЕ	ERENCE DRAWING S	wor	CK OKDEKS	AM PROJ. No.	2020/00807/001	(111))	SCALE	DOI	NOI	
			GENERAL		ULTEGRA PROJ. No.	80009.24_20210521	\bigcirc		SCA	ALE	
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMEN	SIONS N	
<u> </u>			UNDERGROUND		GIS MAP No	U73522	DATE	21/05/2021	MET	RES	
ALISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			_
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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	JOINT/TERMINATION TYPE:
 	NETWORK ACCESS AUTHORISATION:
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 J8	JOINT/TERMINATION KIT #:
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	DATE OF MANUFACTURE:
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 J9	JOINT/TERMINATION KIT #:
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 J10	JOINT/TERMINATION KIT #:
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J11 J12	JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #: JOINT/TERMINATION BATCH #: DATE OF MANUFACTURE: JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #:
J11 J12	JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #: JOINT/TERMINATION BATCH #: DATE OF MANUFACTURE: JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #: JOINT/TERMINATION KIT #: JOINT/TERMINATION BATCH #:

	WORKS CO	OMPLET	ED/FIELD BOOK		
	CONSTRUCTED BY:				
	WORKS COMPLETED	D:		- - -	
	SIGNATURE:		DATE:		
	INSPECTED BY:				
	SIGNATURE:		DATE:		G
	AS	SSET R	ECORDING		U
CERTIFIED BY ENDEAVOUR ENERGY Amendment: A Date Approved: 21/5/21 Examiner's Signature:	I: OF: CONTACT No.:				
Print Name: Matt Grimwood This Certification is issued subject to Endeavour Energy's Standard Cartification Torms	HEREBY CERTIFY THAT A RECORDED AS PER END SIGNATURE:	ASSETS MARKEE) AS-BUILT ON THIS DRAWING HAVE BEEN Y STANDARD SAD 0004.		
70-74 KENT ROAD (LOT 43 DP293	88)		Endeavour Energy		Η
			F10700		
		A 1	סט/ צוכ	A	
CONNECTION OF LOAD			SHEET No 8 OF 11 SHE	ETS	



	RI	EFERENCE DRAWING'S	WO	RK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2529 2020/00807/001		ORIĢINAL) SCALE	DO NOT		
			GENERAL		ULTEGRA PROJ. No	. 80009.24_20210521	च	/	SCALE		
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMENSIONS		
			UNDERGROUND		GIS MAP No	U73522		21/05/2021	METRES		
ALISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			4
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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CERTIFIED	ΒY	ENDEAVOUR	ENERGY						
Amendment:		А							
Date Approved		21/5/21							
Examiner's Sig	natu	re:							
Print Name:		Matt Grimwo	od						
This Certification is issued subject to									
Endeavour Energy's									
St	andar	d Certification Terms							

WORKS	COMPLETED/FIELD BOOK
CONSTRUCTED) BY:
WORKS COMPL	ETED:
SIGNATURE: _	DATE:
INSPECTED BY	·
SIGNATURE: _	DATE:
	ASSET RECORDING
l:	
OF:	

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HV SS 55141 COMMON EARTHING DETAILS (CS1291)										
	LAYER 1	12.12	DEPTH	0.50						
(ohms.m)	LAYER 2	5.40	(m)							
DESIGNED EARTH	1.30									
MEASURED EART	H RESISTANCE (ohms)								
NUMBER OF ELECTRODES										
LENGTH OF BARE	ELECTRODE (m)		4.80						
CONNECTOR TYP	E (CAD or CRIMP	')		CRIMP						
LOCATION CATEG	ORY: F - FREQU	ENT		F						
WHAT DESIGN TO	OL USED?			'3E'						
FAULT LEVEL (kA)	7.08									
IS THIS 'FIRST ASS	SET OUT' FROM 2	ZS?		YES						
ARE SCREENS OF SUBSTATION EAR	YES									

		DEEEDENCE DDAWINC'S	WOD	VODDEDS	CAP / SAMP No.	DBL2529		ORIĢINAL	DO NOT		
	r r	EFERENCE DRAWING S	WOR	K OKDEKS	AM PROJ. No.	2020/00807/001		SCALE			
			GENERAL		ULTEGRA PROJ. No.	80009.24_20210521			SCA	LE	
•			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMENS	SIONS I	
			UNDERGROUND		GIS MAP No	U73522	DATE	21/05/2021	METE	RES	
LISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021			-
					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
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RD KENT

EASEMENT TO BE CREATED PRIOR TO ISSUING LETTER OF INTENT

HV SWITCHING

W

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/ITCHING STATION 55141								
EASTING	NORTHING							
291741.3767	6259347.0050							
291744.1196	6259347.1712							
291741.2098	6259349.7492							
291743.9544	6259349.9171							

HV SWITCHING STATION 55140											
REF ID.	EASTING	NORTHING									
U	291741.5439	6259344.2574									
V	291744.2886	6259344.4272									
W	291741.3767	6259347.0050									
х	291744.1196	6259347.1712									

70-74 KENT ROAD (LOT 43 DP29388) ORCHARD HILLS DBL2529 CONNECTION OF LOAD

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UTILITIES & INFRASTRUCTURE SPECIA www.ultegra.com.au

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					LOCAL GOV AREA	PENRITH COUNCIL	CH'D	B.S	DESIGN	N.F	
ALISTS			SUBSTATIONS		HV OP DIAGRAM	CLAREMONT MEADOWS	DATE	21/05/2021		1	4
<u> </u>			UNDERGROUND		GIS MAP No	U73522		21/05/2021	MET	RES	
			OVERHEAD		UBD/PENGUIN REF	291747.4 6259356.7	DRAWN	E.D	DIMENSIONS		
			GENERAL		ULTEGRA PROJ. No.	80009.24_20210521			SC/	ALE	
	KEFERENCE DRAWING 5		wO	KK ORDERS	AM PROJ. No.	2020/00807/001		SCALE	DUNOI		
	DEEI	EDENCE DD A WINCIG	WO		CAP / SAMP No.	DBL2529		ORIĢINAL			

5 — 10 — 20 ORIGINAL SCALE - 1:500

M4 UNDERBORE LONG SECTION

		H180.00			00.001.H	.H140.00				:H120.00					СН80.00					CH40.00
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																	KEN [.]	TRC	ח⊿(
				UNDE	RBORE	ALIGNMENT F	PLAN													
							25 METRES													
					ORIGINAL	SCALE - 1:500									.50.64)					.50.9)
								іЕ RL48.57)			נו 149.09)				E 0.6D (RL Pdia MMS	KL50.67)	RL50.57)	(RL50.65)	RL50.7) MAIN	E 0.6D (RI AS
								DRAINAG .9 1.47D (I			DRAINAG 5 1.42D (F				3 ASSUM RMAIN ??	1) U/G.U /	6 0.76D (F a ELEC	36 0.71D	5 0.55D (F a WATERN	7 ASSUM OF COMN ELEC
											— 375dia CH12.5				CH77. MATE 100dia	CH/6.	CH63. 100dia	CH61.	CH48. 250dia	CH42. 50dia 0 50dia 0 7H40
								•			∳ ↓				· · · · ·		• •		• 	• •
																X	- TP1			
								 TP2	<u>_</u>											
			- 108.13r STRAI	n GHT	'								∣ - 250m RA 49.35 AR	I ADIUS RC	Ι					
			0%																	
	41.80	41.48	42.90 47.84		49.51	49.93	50.04	50.04	50.31	50.40		50.62	50.97	51.17	51.22	51.28	51.33	51.39	51.46	51 51 51
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19(18	18		16	15	14	13(12;	12(~	10	06	80	73.	20	90	50	07

				DESIGNED BY D. GUNNELL	~~~~	TF	RENCHLESS ADV	/ISOR	DATE: 17.12.2020	PROJECT
				DRAFTED BY G. BAKER			P.O.BOX 6225		SHEET SIZE	TITLE
				DESIGN CHECKED BY			YATALA DC		HORIZ DATUM:	
							4207			
G.B.	DG		17/12/20	APPROVED BY	ADVISOR				LEVEL DATUM:	
RAWN	DESIGN	APPR.	DATE						XX	
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Image Image <th< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th>■ 375dia DRAINAGE</th><th>CH130.9 1.47D (RL4)</th><th></th><th></th><th></th><th></th><th>CH77.3 ASSUME 0.0 </th><th>ICH/9.0 1.9/HJ</th><th>CH63.6 0.76D (RL5 100dia ELEC 100dia ITS COMMS</th><th>CH61.36 0.71D (RL5</th><th>CH48.5 0.55D (RL5 </th><th>CH40.9 0.65D (RL5</th></th<>							■ 375dia DRAINAGE	CH130.9 1.47D (RL4)					CH77.3 ASSUME 0.0 	ICH/9.0 1.9/HJ	CH63.6 0.76D (RL5 100dia ELEC 100dia ITS COMMS	CH61.36 0.71D (RL5	CH48.5 0.55D (RL5 	CH40.9 0.65D (RL5
108.13m STRAIGHT TP2-1 TP2-1 <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td>375 (C)-</td> <td>375 (C)</td> <td>-</td> <td></td> <td></td> <td>••</td> <td></td> <td>- TP1</td> <td></td> <td></td> <td></td>								375 (C)-	375 (C)	-			••		- TP1			
190.00 14.60 41.80 185.00 31.45 10.03 41.48 180.00 31.45 10.03 41.48 180.00 31.45 10.03 41.48 180.00 31.45 10.03 41.48 170.00 10.03 41.48 10.03 170.00 10.00 49.93 10.04 170.00 114.0 50.04 10.04 170.00 31.45 18.86 50.31 10.05 170.00 31.45 18.86 50.31 10.05 100.00 31.45 18.86 50.40 10.05 100.00 31.45 18.86 50.40 10.05 100.00 31.45 18.86 50.31 10.05 100.00 31.45 50.40 10.05 10.05 100.00 14.98 51.28 10.05 10.05 100.00 14.98 51.28 10.05 10.05 100.00 14.98 51.33		h _	- 108.13m 1 SECTION 0%	STRAIGH ⁻	 T			TP2				DIUS E LENGTH						-20%
190.00 1.1.60 185.00 31.45 10.03 41.48 180.00 31.45 10.03 41.48 170.00 31.45 4.7.84 170.00 4.7.84 4.7.84 160.00 31.45 4.9.93 150.00 31.45 18.86 50.04 150.00 31.45 18.86 50.04 150.00 31.45 18.86 50.04 100.00 31.45 18.86 50.31 100.00 31.45 18.86 50.31 100.00 31.45 18.86 50.31 100.00 31.45 18.86 50.31 100.00 31.45 18.86 50.31 100.00 31.45 14.98 51.39 100.00 36.30 14.98 51.33 100.00 14.98 51.33 51.34 100.00 4.3.00 8.51 51.39 100.00 4.3.00 8.51 51.31																		
190.00 31.45 10.03 185.00 31.45 10.03 180.00 31.45 10.03 170.00 31.45 18.66 170.00 31.45 18.66 170.00 31.45 18.66 170.00 31.45 18.66 170.00 31.45 18.66 170.00 31.45 18.66 170.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 18.66 100.00 31.45 14.98 100.00 36.30 14.98 100.00 43.00 8.51 140.00 43.00 8.51	41.80	41.48	42.90 47.84		49.51	49.93	50.04	50.04 50.31	20.40	50.62	50.97	51.17	51.22	51.28	51.33	51.39	51.46	51.51
190.00 31.45 185.00 31.45 180.00 31.45 180.00 31.45 180.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 31.45 170.00 40.00 40.00 43.00 40.00 43.00		10.03						18 86						14.98				8.51
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	190.00	185.00	180.00 170.00		160.00	150.00	14.0.00	130.00 122 EA	120.00	110.00	100.00	90.00	80.00	73.47	70.00	60.00	50.00	40.00

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				DESIGNED BY D. GUNNELL		TI	RENCHLESS ADV	/ISOR	DATE: 17.12.2020	PROJECT
				. DRAFTED BY G. BAKER			P.O.BOX 6225		SHEET SIZE	
				DESIGN CHECKED BY	TRENCHLESS		YATALA DC 4207		HORIZ DATUM: XX	
G.B. AWN	DG DESIGN	 APPR.	17/12/20 DATE	APPROVED BY	ADVISOR		1201		LEVEL DATUM: XX	
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Portion 4 - Airport Business Park (ABP)

struction							
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R.B DESIGN M.Y CH'D | LOCAL GOV AREA LIVERPOOL C.C. 5 9

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	NO	TES								
	1. T ENDI	HIS DRAWING IS TO BE EAVOUR ENERGY NETWORK	READ IN	N CONJUNCTION WITH THE RELEVANT						
	2. AC	CCREDITED DESIGNER IS TO	BE CONT	ACTED REGARDING ISSUES RAISED WITH						
	3. EN	IDESIGN.		: 131 081						
	4. <u>DE</u>	ESIGN CERTIFICATION SHALL	LAPSE W	HERE:-						
	(I C (I WHE BY T) NOTICE OF INTENT HAS NO ERTIFICATION. I) CONSTRUCTION HAS BEEN RE DESIGN CERTIFICATION HE ACCREDITED SERVICE PF	DT BEEN F I INTERRU HAS LAPS ROVIDER I	RECEIVED WITHIN (6) SIX MONTHS OF THIS JPTED FOR MORE THAN (6) MONTHS. SED THE DESIGN MUST BE RESUBMITTED FOR RE-CERTIFICATION.						
	5. D ESTA	EVELOPER SHALL PEG ALI ABLISH FINAL LEVELS PRIOR	- PROPEI	RTY AND EASEMENT BOUNDARIES, AND IENCEMENT OF WORKS.						
	6. A ⁻ ALL \$	TTENTION SERVICES SEARCHES MUST	BE CHECł	KED BEFORE CONSTRUCTION.						
	7. AT TELS TELS TELS OPTI	TENTION STRA & OPTUS TO BE NOTIFIE STRA & OPTUS UNDERGROUN STRA NETWORK INTEGRITY H US: 1800 505 777	ED OF PRO ND ASSET IELP DESH	DPOSED WORK PRIOR TO CONSTRUCTION. S LOCATED IN THE AREA. CONTACTS K: 1800 653 935						
	8. AT SYDI CON SYDI	TENTION NEY WATER TO BE NOTIFIED TACTS NEY WATER :(02) 8849 3800) of pro	POSED WORK PRIOR TO CONSTRUCTION.						
1373	9. AT PERI PRIC	TENTION MANENT SURVEY MARKS MA OR TO COMMENCEMENT OF V	Y EXIST I VORK.	N THIS AREA. THESE ARE TO BE LOCATED						
1572	10. A SER DEP	0. ATTENTION SERVICE PROVIDER TO NOTIFY ENDEAVOUR ENERGY'S ASSETS DATA CUSTOMER DEPT DAILY WHEN CABLE WORKS IS IN PROGRESS. TELEPHONE 131081.								
180	11. W LIVE PLEA PRIC	11. WARNING _IVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES EXIST IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG, TEL. 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.								
	12. THIS ON I QUA PRO. TENI	12. DO NOT PLACE ANY RELIANCE ON ANY QUANTITIES OR DIMENSIONS GIVEN IN THIS DRAWING. QUANTITIES AND DIMENSIONS GIVEN ON THIS DRAWING ARE BASED ON DESIGN INFORMATION AND SITE CONDITIONS AT THE TIME OF DESIGN. AS QUANTITIES AND DIMENSIONS ARE SUBJECT TO CHANGE, THE BUILDER OF THIS PROJECT MUST CHECK ALL QUANTITIES AND DIMENSIONS ON SITE PRIOR TO TENDERING AND/ OR CONSTRUCTION.								
	13. CON HOW EXIS COM DESI OF T	13. THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS, HOWEVER, WHOLLY RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF EXISTING SERVICES AND PERMANENT SURVEY MARKS BEFORE CONSTRUCTION COMMENCES. NO RESPONSIBILITY NOR LIABILITY WILL BE ACCEPTED BY THE DESIGNER OF THIS PROJECT FOR DAMAGES TO EXISTING SERVICES AS A RESULT OF THIS DESIGN.								
	14. O UNLE MUS - MO - LIVI - DES - LOV - WO THE	PERATIONAL LIMITS ESS APPROVED OTHERWIS T BE AVOIDED. THE FOLLOW BILE GENERATORS AND SUB E LINE WORK SIGN ALTERNATIVES W VOLTAGE PARALLELS RK PRACTIVES/STANDARDS COST IS TO BE FUNDED BY T	E, INTERI ING ALTEI STATION	RUPTION TO ANY CUSTOMER'S SUPPLY RNATIVES SHOULD BE CONSIDERED: LOPER.						
			AUTHO OF EN Signed	DRISATION OF ESTIMATE VALUE IDEAVOUR ENERGY FUNDED ASSETS 1:						
			Print N	ame:						
			xxxx	x						
			Service	e Number: <u>XXXXXXX</u>						
			Fundin	g Amount: <u>\$ XXXXX</u>						
			Date:	XX/XX/XXXX						
			WORK	S COMPLETED/FIELD BOOK						
			CONSTRU	CTED BY:						
			WORKS CO	DMPLETED:						
			SIGNATURE	E: DATE:						
			INSPECTE	D BY:						
		IREP	SIGNATURE							
	HEREBY CERTIFY	THAT THE DUCTS SHOWN ON THIS BEEN INSTALLED IN ACCORDANCE WITH THIS		ASSET RECORDING						
IERGY	DRAWING & ENDE MCI0006. THE DUG HAVE BEEN CORF	EAVOR ENERGY STANDARDS MDI0028 & CT DEPTHS AND LOCATIONS AT EACH END RECTLY MARKED ON THIS DRAWING AS PER	l: OF							
	ENDEAVOR ENER	RGY STANDARD SAD0004. TION OF THE DUCTS WAS	CONTACT	No.:						

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004. SIGNATURE

DATE

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LAND SURVEYOR REGISTERED UNDER SURVEYING AND SPATIAL INFORMATION ACT 2002

COMMENCED ON

SIGNATURE

& COMPLETED ON .

LOT 2 DP 1260971 - BADGERYS CREEK ROAD BADGERYS CREEK DBL2559 CONNECTION OF LOAD METHOD OF SUPPLY

Endeavour Energy 123456 A SHEET No 1 OF 11 SHEETS 12

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	I	REFERENCE DRAWING'S		WORK ORDERS		DBL2559		ORIĢINAL SCALE	DO NOT		
			GENERAL		ULTEGRA PROJ. No.	80059_20210218	~		SCA	LE	
•			OVERHEAD		UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMENSIONS IN		
			UNDERGROUND		GIS MAP No	U73456		18/02/2021	METF	RES	
ISTS			SUBSTATIONS		HV OP DIAGRAM	KEMPS CREEK ZS		10/ 02/ 2021			
					LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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DUCT	ING SCHEDU	JLE			
	ROUTE LENGTH REIMBURSEMENT CHARGES EXISTING DUCT USAGE CHARGES 5 NIL NIL WIT 11.5 NIL NIL ROUTE ARGES 400 NIL NIL NIL 400 NIL NIL NEV 400 NIL NIL NEV 400 NIL NIL NEV 10 NIL NIL NEV	REMARKS			
	5	NIL	NIL	WITHIN ZONE SUB	
	11.5	NIL	NIL	ROAD CROSSING	E
	400	NIL	NIL	NEW HV TRENCH NEW STJs AT 'C'	
	400	NIL	NIL	NEW HV TRENCH NEW STJs AT 'D'	F
	218	NIL	NIL	NEW HV TRENCH OPEN POINT AT 'E'	
	10	NIL	NIL	NEW HV TRENCH	-
	18	NIL	NIL	ROAD CROSSING	Ĺ

LOT 2 DP 1260971 - BADGERYS CREEK ROAD BADGERYS CREEK		Endeavour Energy						
CONNECTION OF LOAD METHOD OF SUPPLY	A1	123456	A					
		SHEET No 2 OF 11 SI	HEETS					

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L'H				Γ	DUCTING SCHE	DULE			
					DOUTE	EE			

$\langle N \rangle$							
			DUC	CTING SCHEDU	ILE		
	ROUTE	CONFI	GURATION	ROUTE LENGTH	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES	REMARKS
LEGEND NEW DUCTS ROUTE	G - H		NEW 3 x 125mm DUCTS	197.5	NIL	NIL	NEW HV TRENCH
EXISTING POLE EXISTING OVERHEAD MAINS	Н-І	HVHVHV	NEW 6 x 125mm DUCTS	42	NIL	NIL	ROAD CROSSING
EXISTING SL LANTERN NEW TRENCH NEW CARLE IN CONDUIT	I - J		NEW 3 x 125mm DUCTS	157.5	NIL	NIL	NEW HV TRENCH
 NEW CABLE IN CONDUIT EXISTING CABLE IN CONDUIT DUCT WITH PROPOSED REMOVE CABLE 	J - K	HVHVHV	NEW 6 x 125mm DUCTS	10	NIL	NIL	ROAD CROSSING
	K - L		NEW 3 x 125mm DUCTS	400	NIL	NIL	NEW HV TRENCH NEW STJs AT 'L'

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WORKS	COMPLETED/FIELD BOOK
CONSTRUCTED	D BY:
WORKS COMPI	LETED:
SIGNATURE: _	DATE:
INSPECTED BY	:
SIGNATURE: _	DATE:
	ASSET RECORDING
l:	
OF:	
CONTACT No.:	
HEREBY CERTIFY RECORDED AS PE	THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN R ENDEAVOUR ENERGY STANDARD SAD 0004.
SIGNATURE:	
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CERTIFIED	ΒY	ENDEAVOUR	ENERGY							
Amendment:										
Date Approved:										
Examiner's Signature:										
Print Name:										

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	This Certification is issued subject to
	Endeavour Energy's
	Standard Certification Terms
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	DEEEDENICE DDAWINIC'S		WORK ORDERS		CAP / SAMP No.	DBL2559		ORIĢINAL			
	KEFI	ERENCE DRAWING S	WOR	AM PROJ. No.				SCALE	SCALE DU I		
			GENERAL		ULTEGRA PROJ. No.	80059_20210218			SCA	ALE	
			OVERHEAD		UBD/PENGUIN REF 33°52′58.9″S 150°44′35.5″E DF		DRAWN M.E		DIMENSIONS		
			UNDERGROUND		GIS MAP No	U73456	744'35.5"E DRAWN M.E IN DATE 18/02/2021 METRES				
LISTS				SUBSTATIONS HV		OP DIAGRAM KEMPS CREEK ZS		10/02/2021			_
					LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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А				1/1/1/2	UNDERBORE STARTS AT 'N'	16 2+480 2+480 1 2+480 1 2+480 1 2+480 1 598	2+4-0 2+4-0 1	2+420 G ENDEAVOUR ENE -//////////	²² RGY EASEMENT
	//	INSTALL NEW HV TREN	ICH						-/////
	• 	EXISTING POLE	MAINS		20				
В	æ	NEW TRENCH							
		NEW CABLE IN CONDU	IT						
		EXISTING CABLE IN CC	NDUIT						
		DUCT WITH PROPOSEI	D REMOVE CAB	SLE					
C									

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	DUCTING SCHEDULE									
ROUTE	CONFI	GURATION	ROUTE LENGTH	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES	REMARKS				
L - M	BOUNDARY LINE	NEW 3 x 125mm DUCTS	400	NIL	NIL	NEW HV TRENCH NEW STJs AT 'M'				
M - N	BOUNDARY LINE	NEW 3 x 125mm DUCTS	209	NIL	NIL	NEW HV TRENCH				
N - O	HVHV	NEW 6 x 125mm DUCTS	157.5	NIL	NIL	NEW UNDERBORE FROM 'N' TO 'O' NEW STJs AT 'O'				

Image: Selected product red: Date: Date: Date: Cadatre: 0: Land and Property Information 2016 PRELIMINARY DESIGN ONLY NOT FOR CONSTRUCTION Product red: Red: Selected product red: Selected product red: Selecter: Cadatre: 0: Land and Property Information 2016 Product red: Selected product red: Selecter: Selected product red: Selecter: Selected product red: Selecter: Selected prod: Selecter:		WORKS COM	PLETED/FIELD BOOK						
H	G	WORKS COMPLETED:	DATE: 						
Cadastre: © Land and Property Information 2016 H Cadastre: © Land and Property Information 2016 PRELIMINARY DESIGN ONLY NOT FOR CONSTRUCTION PRELIMINARY DESIGN ONLY NOT FOR CONSTRUCTION PREPARED BY: PREPARED BY: PREPA		I: OF: CONTACT No.: HEREBY CERTIFY THAT ASSET RECORDED AS PER ENDEAVC SIGNATURE: DATE:	TS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN DUR ENERGY STANDARD SAD 0004.	CERTIFIED BY ENDE Amendment: Date Approved: Examiner's Signature: Print Name: This Certification is isss Endeavour Ende Standard Certificat	AVOUR ENERGY				
84766	H	CATEGORY CONTENTS	1 1 1 1 1 1 1 1 1 1 1 1 1	IINARY DESIGN ON OR CONSTRUCTIO	ILY)N	TEMPLATE VERSION No. 5.0	CONTRIBUTED, LOANED OR WRITTEN CONSENT COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	PREPARED BY: UUILITIES & INFRAS WWW.ult	BODIC BTRUCTURE SPECIAL egra.com.au

	REFERENCE DRAWING'S	WORK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2559		ORIĢINAL SCALE	DON	NOT	
		GENERAL	ULTEGRA PROJ. No.	80059_20210218			SCA	ALE .	
•		OVERHEAD	UBD/PENGUIN REF	33°52′58.9"S 150°44′35.5"E	DRAWN	M.E	DIMENS	SIONS N	
		UNDERGROUND	GIS MAP No	U73456	DATE	19/02/2021	METI	RES	
ISTS		SUBSTATIONS	HV OP DIAGRAM	KEMPS CREEK ZS	DATE	10/ 02/ 2021	I		_
			LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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А							
	LEGEND						
	NEW DUCTS ROUTE						
	—/—/— INSTALL NEW HV TRENCH						
В	EXISTING POLE						
	EXISTING OVERHEAD MAINS	3					
							3+
	EXISTING CABLE IN CONDUIT	Т					3+32
С		IOVE CABLE					3+330
							3+340 85 3+350
	-		3+5, 3+54 3+550	ک ک			3+360
				3+500 +510	3490 CUTHEL RD-	3+43) 3+440 3+450	3+370
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	ASSET RECORDING						
	OF:	CERTIFIED BY END Amendment: Date Approved:	EAVOUR ENERGY				
	HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BE RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004. SIGNATURE:	EXaminer's Signature:					
	DATE:	This Certification is Endeavour Standard Certifi	issued subject to Energy's cation Terms				
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		DUCT	ING SCHEE				
ROUTE	CONFI	CONFIGURATION					
0 - P	BOUNDARY LINE	NEW 3 x 125mm DUCTS	453				
P - Q	BOUNDARY LINE	NEW 3 x 125mm DUCTS	10				
Q - R	HVHVHV	NEW 6 x 125mm DUCTS	19				
R - S	BOUNDARY LINE	NEW 3 x 125mm DUCTS	181				
S - T		NEW 6 x 125mm DUCTS	10				

PREPARED BY:		REFERENCE DRAWING'S	WOR	K ORDERS	CAP / SAMP No.	DBL2559		ORIĢINAL		NOT	
					AM PROJ. No.		((1111))	SLALE			
I litoara 1			GENERAL	ULTEGRA PROJ. No. 80059_20210218			SCALE				
			OVERHEAD		UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMEN	SIONS N	
			UNDERGROUND		GIS MAP No	U73456		19/02/2021	MET	RES	
UTILITIES & INFRAS	TRUCTURE SPECIALISTS		SUBSTATIONS		HV OP DIAGRAM	KEMPS CREEK ZS	DATE	10/ 02/ 2021			_
www.ulte	egra.com.au				LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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SHEET No 5 OF 11 SHEETS

		DUCT	DUCTING SCHEDULE							
ROUTE	CONF	GURATION	EXISTING DUCT USAGE CHARGES	REMARKS						
T - U	BOUNDARY LINE	NEW 3 x 125mm DUCTS	282	NIL	NIL	NEW HV TRENCH OPEN POINT AT 'U'				
U - V	BOUNDARY LINE HANNA	NEW 3 x 125mm DUCTS	41	NIL	NIL	NEW HV TRENCH				
V - W	HVHVHV	NEW 6 x 125mm DUCTS	30	NIL	NIL	ROADCROSSING				
W - X		NEW 3 x 125mm DUCTS	267.5	NIL	NIL	NEW HV TRENCH				
X - Y	HVHV	NEW 6 x 125mm DUCTS	216	NIL	NIL	NEW UNDERBORE FROM 'X' TO 'Y' NEW STJs AT 'X' & 'Y'				

	DEFEDENCE DD	AWINC'S	WOR	V ODDEDS	CAP / SAMP No.	DBL2559		ORIĢINAL			
	KEFEKENCE DK	Awind 5	WOK	K OKDEKS	AM PROJ. No.			SCALE	DO NOT		
			GENERAL		ULTEGRA PROJ. No.	80059_20210218			SCA	ALE	
•			OVERHEAD		UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMEN	SIONS N	
			UNDERGROUND		GIS MAP No	U73456		19/02/2021	MET	RES	
ISTS			SUBSTATIONS		HV OP DIAGRAM	KEMPS CREEK ZS	DATE	10/ 02/ 2021			
					LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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LOT 2 DP 1260971 - BADGE			dea erg	VOL Y	I	Н		
CONNEC METHO	TION OF LOAD D OF SUPPLY		A1	1234	+5	6	A	
				SHEET No 6	OF	11 9	SHEETS	
10			12					

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А		4 88 598427	⁴⁺⁸⁶⁰ 598428 PIT	4+820 T ST	4+770 954784 4+750 954784
В	LEGEND -/-/- INSTALL NEW HV TRENCH EXISTING POLE Image: Comparison of the state of th	954781		954782	/ ////////// //
C	EXISTING CABLE IN CONDUIT DUCT WITH PROPOSED REMOVE	ECABLE			
D					
E					
F	WORKS COMPLETED/FIELD BOOK				
G	CONSTRUCTED BY:	CERTIFIED BY ENDEAVOUR ENER	RGY		
H	OF:	Amendment: Date Approved: Examiner's Signature: Print Name: This Certification is issued subject to Endeavour Energy's Standard Certification Terms			PREPARED BY:
		NARY DESIGN ONLY		THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND	UITEO

AMENDMENT	ORIGINAL	ISSUE	No. 01	
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	DUCTING SCHEDULE										
ROUTE	CONF	IGURATION	ROUTE LENGTH	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES						
Y - Z		NEW 3 x 125mm DUCTS	400	NIL	NIL	NEW NEW					

	REFERENCE DRAV	WING'S	WORK ORDERS		AP / SAMP No. M PROJ. No.	DBL2559		original scale DO NOT			
		GENE	ERAL	U	LTEGRA PROJ. No.	80059_20210218	7		SCA	LE	
		OVEF	RHEAD	U	BD/PENGUIN REF	33°52′58.9"S 150°44′35.5"E	DRAWN	M.E	DIMENS	SIONS 1	
		UNDE	ERGROUND	G	IS MAP No	U73456		19/02/2021	METE	RES	
STS		SUBS	STATIONS	Н	V OP DIAGRAM	KEMPS CREEK ZS		10/ 02/ 2021	I		4
				L	OCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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	DEFEDENCE DDAWING'S		WOI			DBL2559		ORIĢINAL			
	KEFEI	KENCE DKAWING S	WOF	K OKDEKS	AM PROJ. No.			SCALE	DOI		
			GENERAL		ULTEGRA PROJ. No.	80059_20210218	<u> </u>		SCA	ALE	
			OVERHEAD		UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMEN	SIONS N	
			UNDERGROUND		GIS MAP No	U73456	DATE	19/02/2021	MET	RES	
STS			SUBSTATIONS		HV OP DIAGRAM	KEMPS CREEK ZS		107 027 2021			-
					LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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ROUTE LENGTH	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES	REMARKS		E
400	NIL	NIL	NEW HV TRENCH OPEN POINT AT '1A'		
220	NIL	NIL	NEW HV TRENCH	_	
30	NIL	NIL	ROADCROSSING		F
31	NIL	NIL	NEW HV TRENCH	-	
34	NIL	NIL	ROADCROSSING		G
385	NIL	NIL	NEW HV TRENCH		
85	NIL	NIL	NEW HV TRENCH		

LOT 2 DP 1260971 - BADGERYS CREEK ROAD BADGERYS CREEK DBL2559 CONNECTION OF LOAD METHOD OF SUPPLY

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B						JOIN NETV AUTI JOIN
С	JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #: JOINT/TERMINATION BATCH #: DATE OF MANUFACTURE: JOINT/TERMINATION TYPE: NETWORK ACCESS AUTHORISATION: JOINT/TERMINATION KIT #: JOINT/TERMINATION KIT #:					JOIN DATE JOIN NETV AUTH JOIN JOIN DATE
D	JOINT/TERMINATION BATCH #: DATE OF MANUFACTURE:			to to the second	80 ¹¹	
E						
F	WORKS COMPLETED/FIELD BOOK				T	A CONTRACT
G	WORKS COMPLETED:	CERTIFIED BY EN Amendment: Date Approved: Examiner's Signature:	IDEAVOUR ENERGY			
Н	RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004. SIGNATURE: DATE:	Print Name: This Certification Endeavo Standard Cer	is issued subject to ur Energy's tification Terms	2.0	PREPARED BY:	
	AMENDMENTS AMENDMENTS AMENDMENTS ISSUE DRAFT No. 01 84100			ON CONTRICT OF CONTRIBUTED. C	wing THE OF F UTILITIES & INFRAST www.ulte	RUCTURE SPECIALI gra.com.au

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•	NEW STRAIGHT	THROUGH JOINT

	REFERENCE DRAWING'S	WORK ORDERS	CAF 7 SAFIF NU.			ORIGINAL		лот				
			AM PROJ. No.		(1997)	SLALE	DUT					
		GENERAL	ULTEGRA PROJ. No.	80059_20210218			SCA	ALE				
•		OVERHEAD	UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMEN	SIONS N				
		UNDERGROUND	GIS MAP No	U73456		19/02/2021	MET	RES				
LISTS		SUBSTATIONS	HV OP DIAGRAM	KEMPS CREEK ZS	DATE	10/ 02/ 2021						
			LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y				
5	6	7		8			9		•			

LOT 2 DP 1260971 - BADGERYS CREEK ROAD BADGERYS CREEK DBL2559 CONNECTION OF LOAD METHOD OF SUPPLY

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	FINAL H.V. CIRCUIT NOT TO SCALE
	EXISTING HV UG MAINS
	EXISTING HV OH MAINS
x	INSTALL 22KV 240mmSq Cu 3C XLPE/PVC/HDPE CABLE R.L. 5340m C.L. 11214m
•	NEW STRAIGHT THROUGH JOINT

	DEFEDENCE DDAWINC'S		WORK ORDERS		CAP / SAMP No.	DBL2559		ORIĢINAL			
	КЕГ	KEFERENCE DRAWING S		WORK ORDERS				SCALE	DO	NOT	
			GENERAL		ULTEGRA PROJ. No.	80059_20210218			SCA	ALE	
			OVERHEAD		UBD/PENGUIN REF	33°52′58.9″S 150°44′35.5″E	DRAWN	M.E	DIMEN	SIONS N	
			UNDERGROUND		GIS MAP No	U73456		19/02/2021	MET	RES	
LISTS			SUBSTATIONS		HV OP DIAGRAM	KEMPS CREEK ZS	DATE	10/02/2021			-
					LOCAL GOV AREA	LIVERPOOL C.C.	CH'D	R.B	DESIGN	M.Y	
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CHECKING IATE VICE. NOTE : THE LOCATION OF FEATURES, TANGENT POINTS AND DIMENSIONS HAVE IN SOME INSTANCES BEEN OBTAINED FROM EXISTING DRAWINGS. CONSEQUENTLY THEY ARE APPROXIMATE ONLY AND MAY BE DIFFERENT TO CONDITIONS ON SITE. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND THE LOCATIONS OF FEATURES PRIOR TO THE COMMENCEMENT OF ANY INTERNAL WORK	

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DBL2560 CONNECTION OF LOAD	1	1	-	ΒA	DG	ERY	S CI	REE	K						Ēn	er	gy				
CONNECTION OF LOAD					C)BL2	560					Λ .	1		$\gamma\gamma$	29				$\sum_{i=1}^{n}$	
		(CC	N	NEC	CIT	ΝO	F LC	DAD			A					ر ر 				
10 11 12		10							11				SH	<u>ieet</u> 12	<u>NO 1</u>	UF	4	5	hee	15	

5	6	\bigwedge	7	8		9	
		LOT 2 DP 1260971					A
X	LON	IGLEYS RD					
x x x x	x x x x x x x x x x x x x x x x x x x	xx xx	-x x x x x x x x x x x x x x x x x x x	xxxx xxx	xxx xx	-x x x (x	

FINAL HV CIRCUIT NOT TO SCALE

	EXISTING HV OH MAINS
- 0	RE-ATTACH HV OH MAINS AT 18% CBL (STRINGING TABLE 2)
	STRING NEW 11kV 7/4.50 AAC 'MERCURY' CONDUCTOR R.L. 90m C.L. 297m
_x	INSTALL 240mm ² CU. 3C 22kV XLPE/PVC/HDPE CABLE R.L. 499m C.L. 986m

•	EXISTING POLE
•	NEW HV UGOH

 \bigcirc

NEW HV LBS (OPEN)

NEW HV STJ

	DEEEDENCE DDAWINC'S	WORK ORDERS	CAP / SAMP No.	DBL2560		ORIĢINAL		
	KEFERENCE DRAWING S	work orders	AM PROJ. No.	2014/02306/001) SCALE	DON	101
		GENERAL	ULTEGRA REF.	80114_20210629		AS SHOWN	SCA	ALE
•		OVERHEAD	UBD/PENGUIN REF	P244 M5	DRAWN	E. DERRY	DIMEN	SIONS 1
		UNDERGROUND	GIS MAP No	U73454	DATE	20/06/2021	MET	RES
ISTS		SUBSTATIONS	HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	2970672021		
			LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	N.F.
5	6	7		8			9	

	CERTIFIED	ΒY	ENDEAVOUR	ENERGY					
Amendment:									
Date Approved:									
Examiner's Signature:									

Print Name: This Certification is issued subject to

Endeavour Energy's Standard Certification Terms

WORKS	COMPLETED/FIELD BOOK								
CONSTRUCTED	CONSTRUCTED BY:								
WORKS COMPL	WORKS COMPLETED:								
SIGNATURE: _	DATE:								
INSPECTED BY	·								
SIGNATURE: _	DATE:								
	ASSET RECORDING								
l:									
OF:									
CONTACT No.:									
HEREBY CERTIEY	THAT ASSETS MARKED AS BUILT ON THIS DRAWING HAVE BEEN								
RECORDED AS PE	R ENDEAVOUR ENERGY STANDARD SAD 0004.								
SIGNATURE:									
DATE:									

OT 2 DP1260971 BADGERYS CREEK RD							
BADGERYS CREEK							
DBL2560							
CONNECTION OF LOAD							
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11kV UGOH AT POLE 3 SEPARATE EARTHING DESIGN NOT TO SCALE

· · · · ·	- CABLE 70mm2 INS Cu
.	EARTH ELECTRODE

EARTHING CONSTRUCTION TO EDI-0006

POLE 3 - 11kV UGOH EARTHING DETAILS							
SOIL RESISTIVELY (ohms.m)	LAYER 1	45.67	DEPTH	0.72			
	LAYER 2	8.70	(m)	-			
DESIGNED EAR	0.68						
MEASURED EAF							
NUMBER OF ELE	2						
LENGTH OF BAF	9.6						
CONNECTOR TY	EITHER						

LOT 2 DP 1260971

11kV LBS AT POLE 4 SEPARATE EARTHING DESIGN NOT TO SCALE

	CABLE 70mm2 INS Cu
₽	EARTH ELECTRODE

EARTHING CONSTRUCTION TO EDI-0006

POLE 4 - 11kV LBS EARTHING DETAILS							
SOIL RESISTIVELY (ohms.m)	LAYER 1	45.67	DEPTH (m)	0.72			
	LAYER 2	8.70		-			
DESIGNED EAR	0.68						
MEASURED EAR							
NUMBER OF ELE	2						
LENGTH OF BAF	9.6						
CONNECTOR TY	EITHER						

	FINA	AL GROUI	ND LEVEL
TC F	EARTHING ON POLE 5 UGOH	EARTH ROD	9.6m

11kV UGOH AT POLE 5 SEPARATE EARTHING DESIGN NOT TO SCALE

LOT 2

DP 1260971

— — — — — — CABLE 70mm2 INS Cu EARTH ELECTRODE

EARTHING CONSTRUCTION TO EDI-0006

POLE 5 - 11kV UGOH EARTHING DETAILS							
SOIL RESISTIVELY	LAYER 1	45.67	DEPTH (m)	0.72			
(ohms.m)	LAYER 2	8.70		-			
DESIGNED EAR	0.68						
MEASURED EAR							
NUMBER OF ELE	2						
LENGTH OF BAF	9.6						
CONNECTOR TY	EITHER						

PM SUB 55706 HV EARTHING DETAILS						
SOIL RESISTIVITY (ohms.m)	LAYER 1	45.67	DEPTH	0.72		
	LAYER 2	8.7	(m)			
DESIGNED EAR	TH RESISTAN	NCE LIMIT (ohms)	0.68		
MEASURED EAF	RTH RESISTA	NCE (ohms)			
NUMBER OF EL	ECTRODES			2		
LENGTH OF BAF	RE ELECTRO	DE (m)		9.6		
CONNECTOR T	PE (CAD or (CRIMP)		EITHER		
LOCATION CATEGORY: F - FREQUENTED, R - REMOTE, S - SPECIAL						
WHAT DESIGN TOOL USED?						
FAULT LEVEL (kA)						
IS THIS 'FIRST ASSET OUT' FROM ZS?						
ARE SCREENS	YES					
PM SUB	55706 LV	EARTH	ING DETA	AILS	[
DESIGNED EAR	0.68					
MEASURED EAF		E				
NUMBER OF ELI	2					
LENGTH OF BAF	RE ELECTRO	DE (m)		9.6	ŀ	
CONNECTOR TY	PE (CAD or (CRIMP)		EITHER	E	

HV EAR	TH M
	DESIG
DISTANCE TO 430V	1.5
DISTANCE TO MEN	1.5
DISTANCE TO BACKYARD	0.0
DISTANCE TO URBAN	ALWAY
HV-LV ELECTRODE SEPARATION	9.6

	DEEEDENICE DDAWINCIS	WORK ORDERS	CAP / SAMP No.	DBL2560		ORIĢINAL			
	REFERENCE DRAWINGS	WORK ORDERS	AM PROJ. No.	2014/02306/001		SCALE	DO NOT		
		GENERAL	ULTEGRA REF.	80114_20210629	AS SHOWN		SCALE		
		OVERHEAD	UBD/PENGUIN REF	P244 M5	DRAWN	E. DERRY	DIMENSIONS IN METRES		
		UNDERGROUND	GIS MAP No	U73454		20/06/2021			
STS		SUBSTATIONS	HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	DATE 29/06/2021			
			LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	N.F.	
	6	7		8			9		

- CABLE CU. ANNEALED 19/2.14 660V PVC/PVC

MIN. 0.5m TO 9.6m EARTH ELECTRODE

LOT 2 DP 1260971

EARTH ELECTRODE

	Date Approved:
	Examiner's Signature:
	Print Name: This Certification is issued subject to Endeavour Energy's Standard Certification Terms
	WORKS COMPLETED/FIELD BOOK
	WORKS COMPLETED:
	SIGNATURE: DATE:
N (m) - PM SUB	INSPECTED BY:
	SIGNATURE: DATE:
AL (m)	ASSET RECORDING
	- I: OF: CONTACT No.:
	- HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEE RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.
	- SIGNATURE:
BADGERYS CRE	EK RD

Amendment:

CERTIFIED BY ENDEAVOUR ENERGY

IINIMUM SEPARATION (m) - PM SUB 55706						
N (m)	ACTUAL (m)					
YS ACCEPTABLE						

LOT 2 DP1260971 BADGERYS CREEK DBL2560 CONNECTION OF LOAD

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5		6		7		8			9	
OT 2 P 1260971										LOT 2 DP 126097
	NEW PROPERTY BOUNDARY		5500	3190	905					
	Y		EW PROPERTY BOUN		X X X Z	690				
	EXISTING PROPE	RTY BOUNDARY	Y							
	LC	ONGLEYS RD								
SUE	3STATION PLINTH TC	SUBSTATION (REF) BE INSTALLED	SCALE 1 SCALE 1 ER TO NOTES 5, 6, 8 AS PER ENDEAVOUR	AREA AND REST :50 3, 9 & 10) ON SHEET R STANDARD ARRA	TRICTIONS 1 NGEMENT DRAWING	G: 016665 REV. S	RIGINAL SCAL	е - 1:50		
		[* + .]			n x 2 75m)			NEW PM	I SUB COOR	DINATES
		+ + +	(NO STRUCTURES (DR SERVICES ALLO	WED)			REF	EASTING	NORTHING
			SUBSTATION PLINT	Н				W x	291532.8191	6248013.5750 6248012 7311
				<u></u>				~	201000.2040	0270012.1311

	REFE	ERENCE DRAWING'S	W	VORK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2560 2014/02306/001		ORIĢINAL SCALE	DON	NOT
			GENERAL		ULTEGRA REF.	80114_20210629	T	AS SHOWN	SCA	чГЕ
			OVERHEAD		UBD/PENGUIN REF	P244 M5	DRAWN	E. DERRY	DIMENS	SIONS N
			UNDERGROUND		GIS MAP No	U73454		20/06/2021	METI	RES
ALISTS		SUBSTATIONS			HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	29/00/2021		
					LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	N.F.
5		6		7		8			9	

3m FIRE RESTRICTION ZONE

	Standard Certification Terms			
LC	T 2 DP1260971 BADGERYS CR	EEK RD	•	}
	BADGERYS CREEK			
	DBL2560		Λ 1	
	CONNECTION OF LOAD		AI	

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	Endeavour Energy
A 1	522883 A
	SHEET No 4 OF 4 SHEETS
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ΒY	ENDEAVOUR	ENERGY						
Date Approved:								
Examiner's Signature:								
Print Name:								
This Certification is issued subject to								
Endeavour Energy's								
	BY : natu	BY ENDEAVOUR : nature: Certification is issued subject Endeavour Energy's						

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WORKS	COMPLETED/FIELD BOOK
CONSTRUCTE	D BY:
WORKS COMP	LETED:
SIGNATURE: _	DATE:
INSPECTED BY	·:
SIGNATURE: _	DATE:
	ASSET RECORDING
I:	
OF:	
CONTACT No.:	
HEREBY CERTIFY RECORDED AS PE	THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN R ENDEAVOUR ENERGY STANDARD SAD 0004.
SIGNATURE:	
DATE:	

	1			2		3	
A	N N LONGL	EYS RD		BADGERYS CREEK RD NEW PROPERTY BOUNDARY	NOTE: EE GIS LV OVER ARE INACCURAT VICINITY. THER MAINS EAST OF EXISTING L INSTALLED EE PROJEC	HEAD RECORDS TE IN THIS E ARE NO LV OH POLE 598930. BS J2244 O UNDER CT DBL2560	
В	NO STREETLIO POLE 954771. FROM SITE VIS EE RECORD IS	GHT INSTALLED ON DATA OBTAINED SIT INDICATES THAT SINCORRECT. V OVERHEAD SPAN REMOVED UNDER PROJECT DBL2560.	YS CREEK DD	DS4771	J2244	954773 LED 3L2560	
C	STREETLIGHT IS EXIST POLE 598883. DATA OE FROM SITE VISIT INDIC THAT EE RECORD IS IN	2938 598883	BADGER	NO STRE POLE 59 FROM SI EE RECO	ETLIGHT INSTAI 8939. DATA OBT TE VISIT INDICA ORD IS INCORRE	LED ON AINED TES THAT CT.	
D	LEGEI — . — . EXISTI — . — . NEW U — . EXISTI	ND NG UNDERGROUND MA NDERGROUND MAINS NG OVERHEAD MAINS	AINS		 EXIST EXIST EXIST EXIST 	TING HV ABS (CLOS TING HV LBS (CLOS TING LV LINKS (OPE	SED) SED) EN)
\sub	/ NEW H	V TRENCH] [NEW	TRENCH	
		PADMOUNT SUBSTATIO	N		EXIST	TING CABLE IN CO	NDUI
	FXISTI	NG PADMOUNT SUBST	ATION		• EXIS	TING PRIOR CABLE	E DIRE
E	• EXISTI	NG POLE					
	► EXISTI	NG UGOH				WITTEROFUSEL	
	NEW S	TJ					
	- \\$ EXISTII	NG LANTERN					
				IENTS FOR SCOP	PE OF WOR	<s CI</s 	
F	ENDEAVOU	IR ENERGY	UKKS	CUSTOMER F	JNDED	CUSTO	MFR
	SUPPLIED I	MATERIALS		NON-CONTESTAB	LE WORKS	INCLUDES BUT IS	S NOT
	NIL			<u>AUTHORITY</u>	<u>ESS</u>	- PEGGING OF EA	ASEME JNDAF
	ENDEAVOL FUNDED & CO	IR ENERGY DNSTRUCTED		- PROVISION OF ACCE (AS PER FEE SENT BY	SS AUTHORITY EE'S CWA'S)	- REGISTERING C	OF EAS
	WORKS REQUIRED PRIOR TO COMPLETION OF CUSTOMER CONTESTABLE PROJECT	WORKS REQUIRE ASSOCIATION C CUSTOMER CONTES PROJECT	D IN DF STABLE	- SUBSTATION COMMI	SSIONING	- OWN SERVICE & - CONFIRM FINISI EXIS USAG	& SER HED (STING SE CH,
G				CUSTOMER F	UNDED WORKS		NIL
	NIL	NIL		ALL OTHER WORKS AN MATERIALS INCLUDING	ND G BUT NOT	CO-C	ORDIN
	ENDEAVOUR EN & ASP L1 CO	NERGY FUNDED		LIMITED TO: - JOINTING			
	- REIMBU			- CABLE INSTALLATION - SUPPLY & INSTALLAT	N TON OF	ASSET TO	BE RE
	EE CAPITAL CONTRIB	= NIL		SUBSTATION		NEAREST EN DEPOT	IDEAV F BY L
	(HV REIMBURSED) = NIL Cadastre: © Land and Property Information	2016					NII
Η	AMENDALA						EMPLATE VERSION No. 5.0
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NOTES									
I. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH WITH THE RELEVANT ENDEAVOUR ENERGY NETWORK STANDARDS AND CONNECTION POLICY.									
2. ACCREDITED DESIGNER IS DESIGN.	2. ACCREDITED DESIGNER IS TO BE CONTACTED REGARDING ISSUES RAISED WITH THIS								
3. ENDEAVOUR ENERGY CON	TACT PHONE: 1	131 08	1		A				
4. <u>DESIGN CERTIFICATION SH</u> (I) NOTICE OF INTENT HA CERTIFICATION. (II) CONSTRUCTION HAS B WHERE DESIGN CERTIFICATI	ALL LAPSE WH S NOT BEEN EEN INTERRUF ON HAS LAPSI	RECE RECE PTED F ED TH	IVED WITHIN (6) FOR MORE THAN IE DESIGN MUST	SIX MONTHS OF THIS (6) MONTHS. BE RESUBMITTED BY					
THE ACCREDITED SERVICE PI 5. DEVELOPER SHALL PEG ESTABLISH FINAL LEVELS PRI	ROVIDER FOR ALL PROPERT OR TO COMME	RE-CE FY AN NCEM	ERTIFICATION. ID LICENCE ARI IENT OF WORKS	EA BOUNDARIES, AND					
6. THE PADMOUNT SUBSTATI TO AN ELECTRICAL EQUIPM DISTRIBUTION MINISTERAL H ACQUIRE LAND OWNERSHIP 1260971.	THE PADMOUNT SUBSTATION SITE (5.5m X 2.75m) FOR PM SUB No.55713 IS SUBJECT O AN ELECTRICAL EQUIPMENT LICENCE BETWEEN SYDNEY METRO AND EPSILON ISTRIBUTION MINISTERAL HOLDING CORPORATION. SYDNEY METRO IS REQUIRED TO CQUIRE LAND OWNERSHIP BEFORE COMMENCING CONSTRUCTION ON LOT 2 DP								
7. A RESTRICTION ON USE OF MEASURED 3m FROM THE ENDEAVOR ENERGY WITHIN E	LAND IN RELA SUBSTATION EXISTING LOT 2	ATION PLINT 2 DP 12	TO THE FIRE RA H IS TO BE CF 260971.	TING OF THE BUILDING REATED IN FAVOR OF					
3. FINAL LOCATION OF LICEN PEGGED BY PROPONENT (OR	ICE AREA FOR THIER REPRES	R SUB SENTI	STATION SITE T TIVE) PRIOR TO (O BE SURVEYED, AND CONSTRUCTION.					
9. FIRE HYDRANTS AND BOOS SUBSTATION PLINTHS.	STER VALVES	ΝΟΤ Ι	O BE LOCATED	WITHIN 10 METRES OF					
IO. EARTHING OF THE SUB ENDEAVOUR ENERGY EDI 10 DIAGRAM IS A GUIDE ONLY EARTHING MAY BE REQUIREI MEASUREMENTS AS STATED	STATIONS TO 0. COMMON E 7 AND SHOW D TO MEET TH IN ENDEAVOUF	BE (ARTH S A I IE RE(R ENE	Carried out II Ing to be ach Minimum requ Quired Maximu Rgy's edi 100.	N ACCORDANCE WITH IEVED, THE EARTHING IREMENT, ADDITIONAL M EARTH RESISTANCE	C				
1. ATTENTION ALL SERVICES SEARCHES MU	IST BE CHECKE	ED BE	FORE CONSTRU	CTION.					
2. ATTENTION TELSTRA & OPTUS TO BE NO TELSTRA & OPTUS UNDERGRO TELSTRA NETWORK INTEGRIT OPTUS: 1800 505 777	OTIFIED OF PF OUND ASSETS TY HELP DESK:	ROPOS LOCA 1800	SED WORK PRIO TED IN THE ARE 653 935	R TO CONSTRUCTION. A. CONTACTS					
3. ATTENTION SYDNEY WATER TO BE NOTIFIED OF PROPOSED WORK PRIOR TO CONSTRUCTION. CONTACTS SYDNEY WATER :(02) 8849 3800									
4. ATTENTION PERMANENT SURVEY MARKS PRIOR TO COMMENCEMENT C	S MAY EXIST I DF WORK.	N THI	S AREA. THESE	ARE TO BE LOCATED	D				
15. ENDEAVOUR ENERGY EN THIS DESIGN.	VIRONMENTA	l man	NAGEMENT PLAN	N EMS001 IS PART OF					
I6. ATTENTION SERVICE PROVIDER TO NOTIF DAILY WHEN CABLE WORKS IS	TY ENDEAVOU	R ENE S. TEL	RGY'S ASSETS [EPHONE 131081.	DATA CUSTOMER DEPT					
17. WARNING LIVE ENDEAVOUR ENERGY CA CONTACT DIAL BEFORE YOU EXCAVATION.	ABLES AND OT J DIG, TEL. 1	HER \$ 100 F	SERVICES EXIST OR SEARCHES	IN THIS AREA. PLEASE TWO DAYS PRIOR TO					
18. DO NOT PLACE ANY RELI DRAWING. QUANTITIES AND DESIGN INFORMATION AND S AND DIMENSIONS ARE SUBJ CHECK ALL QUANTITIES ANI CONSTRUCTION.	ANCE ON ANY DIMENSIONS ITE CONDITIOI ECT TO CHAN D DIMENSIONS	QUAN GIVEN NS AT IGE, T S ON	NTITIES OR DIME N ON THIS DRA THE TIME OF D THE BUILDER OF SITE PRIOR TO	NSIONS GIVEN IN THIS WING ARE BASED ON ESIGN. AS QUANTITIES THIS PROJECT MUST TENDERING AND/ OR	E				
19. THE PREPARATION OF CONSIDERATION TO THE E HOWEVER, WHOLLY RESPON SERVICES AND PERMANENT S RESPONSIBILITY NOR LIABILIT FOR DAMAGES TO EXISTING S	THIS DESIG EXISTING SER SIBLE FOR VE SURVEY MARK TY WILL BE ACC SERVICES AS A	N HA VICES RIFYIN S BEF CEPTE RESL	AS BEEN UNDE 6. THE PROJEC NG THE EXACT L ORE CONSTRUC ED BY THE DESIG JLT OF THIS DES	RTAKEN GIVING DUE T CONSTRUCTOR IS, OCATION OF EXISTING TION COMMENCES. NO INER OF THIS PROJECT IGN.					
20. OPERATIONAL LIMITS JNLESS APPROVED OTHERWISE, INTERRUPTION TO ANY CUSTOMER'S SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED: MOBILE GENERATORS AND SUBSTATION LIVE LINE WORK DESIGN ALTERNATIVES LOW VOLTAGE PARALLELS WORK PRACTIVES/STANDARDS									
DUCTING SCHEDULE		1							
NC	ROUTE LENGTH (m)	EE RI	EIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES					
EXISTING 8 x 125mm DUCTS NEW ECT BURIED EARTH CABLE	13m		NIL	NIL	G				
EXISTING 8 x 125mm DUCTS NEW CT BURIED EXISTING CABLE (RE-DIRECTED) ECT BURIED EARTH CABLE	5m		NIL	NIL					
EXISTING 8 x 125mm DUCTS NEW ECT BURIED EARTH CABLE	30m		NIL	NIL					
	TOTAL		NIL	NIL					
				Endoniour	- ц				

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LOT 2 DP 1260971 BADGERYS CREEK RD BRINGELLY DBL2584 CONNECTION OF LOAD

-		
	JOINT/TERMINATION TYPE:	
J1	NETWORK ACCESS AUTHORISATION:	
	JOINT/TERMINATION KIT #:	
	JOINT/TERMINATION BATCH #:	
	DATE OF MANUFACTURE:	
r		
	JOINT/TERMINATION TYPE:	
12	NETWORK ACCESS AUTHORISATION:	
52	JOINT/TERMINATION KIT #:	
	JOINT/TERMINATION BATCH #:	
	DATE OF MANUFACTURE:	
l		
	JOINT/TERMINATION TYPE:	
	NETWORK ACCESS AUTHORISATION:	
33	JOINT/TERMINATION KIT #:	
	JOINT/TERMINATION BATCH #:	
	DATE OF MANUFACTURE:	

G

D

EXISTING HV OH MAINS EXISTING HV UG CABLE _____

> R.L. 5m C.L. 12m EXISTING UGOH

____x____

R NOA CB

FINAL L.V. CIRCUIT NOT TO SCALE LEVEL 2 ASP TO INSTALL SERVICE MAINS TO CUSTOMER MSB

INSTALL 240mm² CU. 3C 22kV XLPE/PVC/HDPE CABLE

	CAP / SAMP No.	DBL2584	(mark)	ORIĢINAL	DO NOT SCALE		
JKDEKS	AM PROJ. No.	2014/02306/001) SCALE			LOT 2 DP 1260
	ULTEGRA REF.	80115_20210716	<u> </u>	, 			
	UBD/PENGUIN REF	P244 M5	DRAWN E. DERRY		DIMENSIONS		
	GIS MAP No	U73454		16/07/2021	METRES		
	HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	10/07/2021			
	LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	A.Z.	CONN
7		8			9		10

971 BADGERYS CREEK RD							
BRII	NGELLY						
DBL2584							
IECT	TION OF LOAD						
	11						

SIGNATURE: _		DATE:					
INSPECTED BY	:						
SIGNATURE: _		DATE:					
	ASSET	RECORDING					
l:							
OF:							
CONTACT No.:							
HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.							
SIGNATURE:							
DATE:							

WORKS COMPLETED/FIELD BOOK CONSTRUCTED BY: WORKS COMPLETED:

Endeavour Energy's Standard Certification Terms

This Certification is issued subject to

Examiner's Signature: Print Name:

Amendment: Date Approved:___

CERTIFIED BY ENDEAVOUR ENERGY

J2236 ₹ Cor J2237 0J2238 0J2239

PM SUB 55706

7		8	9			10		11		1:	2	
					LC	NGLEYS	RD					
							EXISTING F	PROPERTY BOUNDAR	?γ			A
	D 12m	12m										В
HV LA	12m 12m 12m 12m 12m 12m HV EARTH ROD HV EARTH ROD VEARTH ELECTRODE SYSTEM AYED IN CABLE TRENCH OR IN SEPARATE TRENCH	PADMOUNT SUBSTATION 5.5mx2.75m LICENCE AREA	MIN INSULATED CAR SUPPLEMENTARY 4.8m EARTH ROD		12m SULATED CABLE 12m LV EARTH ROD	12m BARE CABLE L NEW	A 12m V EARTH ROD	LV EARTH ELECTRODE SY LAYED IN CABLE TRENCH SEPARATE TRENCH	YSTEM I OR IN I			C
	NEW PROPERTY BOUNDARY		HILL SULLATED		34	LOT 2 DP 1260	971					D
					PM SUB 55SOIL RESISTIVITY (ohms.m)LDESIGNED EARTHMEASURED EARTH	713 HV EA AYER 1 4 AYER 2 RESISTANCE	ARTHING 5.67 D 8.7 LIMIT (ohms	BDETAILS DEPTH (m) s) 0.41				E
	PM SUBSTATION 55713	SEPARATE EARTHI	NG LAYOUT		NUMBER OF ELECT LENGTH OF BARE E CONNECTOR TYPE LOCATION CATEGO F - FREQUENTED, F WHAT DESIGN TOO FAULT LEVEL (kA) IS THIS 'FIRST ASSI ARE SCREENS OF	TRODES ELECTRODE (CAD or CRIM DRY: R - REMOTE, S DL USED? ET OUT' FROM	(m) MP) S - SPECIAL M ZS? ABLE BOND	3 12 EITHER F 3E 1.55 NO ED TO YES	CERTIF Amendme Date Appr Examiner's Print Nam	IED BY ENDE nt: oved: s Signature: s Signature: This Certification is is Endeavour E Standard Certifica	EAVOUR ENERGY	F
	THIS EARTHING DIAGRAM IS A GU ADDITIONAL EARTHING MAY BE RE RESISTANCE MEASUREMENTS EARTH CA R.L. = 18m EARTH CA R.L. = 36m EARTH EL (LENGTH S	NOT TO SCALE. IDE ONLY AND SHOWS A MINIMUM EQUIRED TO MEET THE REQUIRED AS STATED IN ENDEAVOUR ENER LEGEND BLE 70mm ² INSULATED C 1 C.L. = 26m BLE 70mm ² BARE CU C.L. = 46m ECTRODE LOCATION & LI SHOWN IN METRES).	REQUIREMENT. MAXIMUM EARTH GY'S EDI 100		PM SUB 55 DESIGNED EARTH MEASURED EARTH NUMBER OF ELECT LENGTH OF BARE E CONNECTOR TYPE	713 LV EA RESISTANCE RESISTANCE RESISTANCE ELECTRODE (CAD or CRIM	ARTHING ARTHING LIMIT (ohm E (ohms) (m) (P)	B DETAILS s) 0.55 2 12 EITHER	INSPECTED BY:	Y:	DATE: date: CORDING	
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ORDERS	CAP / SAMP No. AM PROJ. No. ULTEGRA REF. UBD/PENGUIN REF GIS MAP No HV OR DIAGDAM	DBL2584 2014/02306/001 80115_20210716 P244 M5 U73454 DATE DATE	ORIĢINAL SCALE N E. DERRY 16/07/2021	DO NOT SCALE DIMENSIONS IN METRES	LOT 2	2 DP 1260	0971 BA BRING DBL2	ADGERYS CRE SELLY 2584	EEK RD	A 1	Endeavou Energy 522917	H A

SHEET No 3 OF 5 SHEETS

	AM PROJ. No.	2014/02306/001) SLALE	SCALE DIMENSIONS		LOT 2 DP 1260971 BADGERYS CF BRINGELLY		
	ULTEGRA REF.	80115_20210716							
	UBD/PENGUIN REF	P244 M5	DRAWN	E. DERRY					
	GIS MAP No	U73454		16 /07 /2021	METRES		DBL2584		
	HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	10/0//2021					
	LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	A.Z.	CONNECTION OF LOAL		
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ORDERS	CAP / SAMP No.	DBL2584				

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ORDERS	CAP / SAMP No. AM PROJ. No. ULTEGRA REF.	DBL2584 2014/02306/001 80115_20210716		ORIĢINAL) SCALE	DO I SCA	NOT Ale	LOT 2 DP 1260
	UBD/PENGUIN REF GIS MAP No	P244 M5 U73454	DRAWN	E. DERRY	DIMEN II MET	SIONS N RES	
	HV OP DIAGRAM LOCAL GOV AREA	KEMPS CREEK ZS Q:13 LIVERPOOL	DATE CH'D	16/07/2021 B.STRINGER	DESIGN	A.Z.	CONN
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0971 BADGERYS CREEK RD BRINGELLY DBL2584 NECTION OF LOAD 11





ODDEDC	CAP / SAMP No.	DBL2584		ORIĢINAL			
OKDEKS	AM PROJ. No.	2014/02306/001		SCALE	DO I	NO I	LOT 2 DP 12609
	ULTEGRA REF.	80115_20210716		ÁS SHOWN	SC /	ALE	
	UBD/PENGUIN REF	P244 M5	DRAWN	E. DERRY	DIMEN	SIONS	
	GIS MAP No	U73454		16 /07 /0001	MET	RES	
	HV OP DIAGRAM	KEMPS CREEK ZS Q:13	DATE	16/0//2021			
	LOCAL GOV AREA	LIVERPOOL	CH'D	B.STRINGER	DESIGN	A.Z.	CONN
7		8			9		10

Portion 6 - Aerotropolis



KEY DOCUMENTS TABLE THE CERTIFICATION OF THIS PROJECT IS SUPPORTED BY THE FOLLOWING KEY DOCUMENTS SUMMARY OF ENVIRONMENTAL REPORT - FAT0038 PART OF EMS0001 05/07/2021 DESIGNER'S SAFETY REPORT 05/07/2021 AUTHORISATION OF ESTIMATE VALU OF ENDEAVOUR ENERGY FUNDED Signed: COMMUNICATION ASSETS ALTERATION/RELOCATION Telecommunication Assets are /are not affected by this project. The construction ASP must coordinate the work with the following Telecommunication Companies: Print Name: Comms Co. Contact Name Phone No. Initial Contact Date Arrangement Details and Date Agreed XXXXX Service Number: <u>XXXXXXX</u> Name: ROHAN BHARDWAJ Funding Amount: <u>\$ XXXXX</u>

Date: 06	6/07/2021	Technical details of the ar	rangements are availa	able from the Design AS	P.			Da	ate: <u>XX/XX/</u>	<u>xxxx</u>	
	DEEED		WOT		CAP / SAMP No.	DBL2554		ORIĢINAL			
	KEFEF	KENCE DKAWING'S	WOF	KK OKDEKS	AM PROJ. No.	80082_20210706		SCALE	DO	NOT	
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			UNDERGROUND		GIS MAP No	U73457		0.6 (0.7 (0.0.04	- MET	RES	
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					LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
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1. THIS DRAWING IS TO BE READ IN CONJUNCTION WITH THE RELEVANT ENDEAVOUR ENERGY NETWORK STANDARDS AND CONNECTION POLICY.

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2. ACCREDITED DESIGNER IS TO BE CONTACTED REGARDING ISSUES RAISED WITH THIS DESIGN.

3. ENDEAVOUR ENERGY CONTACT PHONE: 131 081

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4. DESIGN CERTIFICATION SHALL LAPSE WHERE:-(I) NOTICE OF INTENT HAS NOT BEEN RECEIVED WITHIN (6) SIX MONTHS OF THIS CERTIFICATION.

(II) CONSTRUCTION HAS BEEN INTERRUPTED FOR MORE THAN (6) MONTHS. WHERE DESIGN CERTIFICATION HAS LAPSED THE DESIGN MUST BE RESUBMITTED BY THE ACCREDITED SERVICE PROVIDER FOR RE-CERTIFICATION.

5. DEVELOPER SHALL PEG ALL PROPERTY AND EASEMENT BOUNDARIES, AND ESTABLISH FINAL LEVELS PRIOR TO COMMENCEMENT OF WORKS.

6. LICENCE AREA FOR SWITCHING STATION SITE (2.75M X 2.75M) IS TO BE CREATED IN FAVOUR OF ENDEAVOUR ENERGY WITHIN LOT 10 DP1235662. THIS LICENCE AREA IS A MINIMUM SIZE ONLY, MUST BE LEVEL, AND MUST BE FREE OF ALL OTHER SERVICES.

7. LICENCE AREA FOR CABLES 3M WIDE IS TO BE CREATED IN FAVOR OF ENDEAVOUR ENERGY WITHIN LOT 10 DP1235662. THIS LICENCE AREA IS A MINIMUM SIZE ONLY, MUST BE LEVEL, AND MUST BE FREE OF ALL OTHER SERVICES.

8. FINAL LOCATION OF EASEMENT FDR SWITCHING STATION SITE TO BE SURVEYED, AND PEGGED BY PROPONENT (OR THIER REPRESENTATIVE) PRIOR TO CONSTRUCTION.

9. EARTHING OF THE SWITCHING STATION TO BE CARRIED OUT IN ACCORDANCE WITH ENDEAVOUR ENERGY EDI1100. COMMON EARTHING TO BE ACHIEVED. THE EARTHING DIAGRAM IS A GUIDE ONLY AND SHOWS A MINIMUM OF REQUIREMENT. ADDITIONAL EARTHING MAY BE REQUIRED TO MEET THE MAXIMUM EARTH RESISTANCE MEASUREMENTS AS STATED IN ENDEAVOUR ENERGY'S EDI100.

9. ATTENTION

SYDNEY WATER TO BE NOTIFIED OF PROPOSED WORK PRIOR TO CONSTRUCTION. CONTACTS SYDNEY WATER :(02) 8849 3800

10. ATTENTION

PERMANENT SURVEY MARKS MAY EXIST IN THIS AREA. THESE ARE TO BE LOCATED PRIOR TO COMMENCEMENT OF WORK.

11. ATTENTION

SERVICE PROVIDER TO NOTIFY ENDEAVOUR ENERGY'S ASSETS DATA CUSTOMER DEPT DAILY WHEN CABLE WORKS IS IN PROGRESS. TELEPHONE 131081.

12. WARNING

LIVE ENDEAVOUR ENERGY CABLES AND OTHER SERVICES EXIST IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG, TEL. 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.

13. DO NOT PLACE ANY RELIANCE ON ANY QUANTITIES OR DIMENSIONS GIVEN IN THIS DRAWING. QUANTITIES AND DIMENSIONS GIVEN ON THIS DRAWING ARE BASED ON DESIGN INFORMATION AND SITE CONDITIONS AT THE TIME OF DESIGN. AS QUANTITIES AND DIMENSIONS ARE SUBJECT TO CHANGE, THE BUILDER OF THIS PROJECT MUST CHECK ALL QUANTITIES AND DIMENSIONS ON SITE PRIOR TO TENDERING AND/ OR CONSTRUCTION.

14. THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS, HOWEVER, WHOLLY RESPONSIBLE FOR VERIFYING THE EXACT LOCATION OF EXISTING SERVICES AND PERMANENT SURVEY MARKS BEFORE CONSTRUCTION COMMENCES. NO RESPONSIBILITY NOR LIABILITY WILL BE ACCEPTED BY THE DESIGNER OF THIS PROJECT FOR DAMAGES TO EXISTING SERVICES AS A RESULT OF THIS DESIGN.

15. OPERATIONAL LIMITS

UNLESS APPROVED OTHERWISE, INTERRUPTION TO ANY CUSTOMER'S SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED: - MOBILE GENERATORS AND SUBSTATION

- LIVE LINE WORK

- DESIGN ALTERNATIVES

- LOW VOLTAGE PARALLELS

- WORK PRACTIVES/STANDARDS

THE COST IS TO BE FUNDED BY THE DEVELOPER.

		CERTIFIED BY ENDEAVOUR ENERGY Amendment: Date Approved: Examiner's Signature: Print Name: This Certification is issued subject to Endeavour Energy's Standard Certification Terms	F
	WOR	RKS COMPLETED/FIELD BOOK	
	WORKS		
UE ASSETS OF CONTACT NUMBER HEREBY CERTIFY THA DRAWING HAVE BEEN DRAWING & ENDEAVO MC10006. THE DUCT DE HAVE BEEN CORRECT ENDEAVOR ENERGY S THE INSTALLATION	DECLARATION INSPEC	ACT No.:	G
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215 BADGER BRING DBL CONNECTIC	YS CREEK RD GELLY 2554 DN OF LOAD	A1 522600 A SHEET NO 1 OF 12 SHEETS	H
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 D	 NEW TRENCH NEW CABLE IN CONDUIT NEW CABLE DIRECT BURIED SPARE DUCT 		5
E			210 30 210 V17 063493 25 BRINGELLY
F	WORKS COMPLETED/FIELD BOOK CONSTRUCTED BY:		30 082968
G	WORKS COMPLETED: SIGNATURE:	CERTIFIED BY ENDEAVOUR ENERGY Amendment: Date Approved: Examiner's Signature: Print Name: This Certification is issued subject to	
H	Cadastre: © Land and Property Information 2016 Gadastre: © Land and Property Information 2016 V I	Endeavour Energy's Standard Certification Terms	0:00000000000000000000000000000000000

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			CAP / SAMP No.	DBL2554		ORIGINAL			
	REFERENCE DRAWING'S	WORK ORDERS	AM PROJ. No.	80082_20210706		SCALE	DO I	NOT	
		GENERAL	HV SWITCHING	REQUIRED	7	/	SCA	4LE	
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		UNDERGROUND	GIS MAP No	U73457		04 107 10004	MET	RES	
LISTS		SUBSTATIONS	HV OP DIAGRAM	BRINGELLY 1K8	DATE	06/07/2021		l	_
			LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
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NEW 2 x 125mm PVC CONDUITS	290	NIL	NIL
NEW 2 x 125mm PVC CONDUITS	61	NIL	NIL
NEW (ROAD CROSSING) 6 x 125mm PVC CONDUITS	37	NIL	NIL
EXISTING 8 x 125mm PVC CONDUITS 2 x HV DIRECT BURIED	18	NIL	18m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$414.00
EXISTING 8 x 125mm PVC CONDUITS 2 x HV DIRECT BURIED	47	NIL	47m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1081.00
EXISTING 8 x 125mm PVC CONDUITS 2 x HV DIRECT BURIED	197	NIL	197m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$4531.00
EXISTING (ROAD CROSSING) 11 x 125mm PVC CONDUITS	20	NIL	20m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$460.00
EXISTING 14 x 125mm PVC CONDUITS	10	NIL	10m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$230.00
	SUBTOTAL	NIL	292m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6716.00
	TOTAL	NIL	996m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$22406.00
		1	1

DUCTING SCHEDULE

ROUTE LENGTH

(m)

CONFIGURATION

EE REIMBURSEMENT CHARGES

EXISTING DUCT USAGE CHARGES

ASSETS ARE SHOWN FOR	NOT ALL ENDEAVOUR
	ASSETS ARE SHOWN FOR
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215 BADGERYS CREEK RD BRINGELLY DBL2554 CONNECTION OF LOAD

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LEGEND							
——/— INSTALL NEW HV TRENCH							
INSTALL NEW DUCT							
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EXISTING POLE							
EXISTING/NEW UGOH		(1Z)					
■ EXISTING COLUMN							
			1254				
NEW TRENCH	1265						
NEW CABLE IN CONDUIT							
NEW EARTH CABLE DIRECT BURIED							
NEW CABLE DIRECT BURIED	65		BREAK INTO EXISTING CONDUITS TO INSTALL NEW HV STJ AT REF 2B				
SPARE DUCT		6m					
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			HAD I	ROUTE CO	EXISTING 8 x 125mm PVC 30	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS
				ROUTE CO	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30	EE REIMBURSEMENT CHARGES NIL	EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00
RKS COMPLETED/FIELD BOOK				ROUTE CO 1Z - 2A 2A - 2B	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC 87	EE REIMBURSEMENT CHARGES NIL	EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00
RKS COMPLETED/FIELD BOOK			A CONTINUED ON DEEVIOUS SHEET A	ROUTE CO 1Z - 2A Image: Comparison of the second s	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 30	EE REIMBURSEMENT CHARGES NIL NIL	EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00
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RKS COMPLETED/FIELD BOOK STRUCTED BY:	VOUR ENERGY		A CONTINUED ON PREVIOUS SHEET 1222 A	ROUTECO $1Z - 2A$ Image: Comparison of the test of	NFIGURATIONLENGTH (m)EXISTING 8 x 125mm PVC CONDUITS30EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS45EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS50		EXISTING DUCT USAGE CHARGES $30m \times 1 \times Ø125mm PVC DUCTS$ @ \$23/m = \$690.00 $87m \times 1 \times Ø125mm PVC DUCTS$ @ \$23/m = \$2001.00 $45m \times 1 \times Ø125mm PVC DUCTS$ @ \$23/m = \$1,035.00 $45m \times 1 \times Ø125mm PVC DUCTS$ @ \$23/m = \$1,035.00 $50m \times 1 \times Ø125mm PVC DUCTS$ @ \$23/m = \$1150.00
RKS COMPLETED/FIELD BOOK STRUCTED BY:	VOUR ENERGY	SITE PLAN B Implementation SITE PLAN B Implementation Site Relation ORIGINAL SCALE - 1:1000	A CONTINUED ON PREVIOUS SHEET 1222 A CONTINUED ON PREVIOUS SHEET 1222	ROUTE CO 1Z - 2A Image: Comparison of the c	NFIGURATIONLENGTH (m)EXISTING 8 x 125mm PVC CONDUITS30EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS45EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS50	EE REIMBURSEMENT CHARGES NIL NIL NIL NIL NIL	EXISTING DUCT USAGE CHARGES $30m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$690.00 $87m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$2001.00 $45m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1,035.00 $50m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $53m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $53m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00
RKS_COMPLETED/FIELD_BOOK structed by: ks completed: NTURE: Date: ected by: ASSET_RECORDING TACT No: Sy certify that assets marked as-built on this drawing have been rendeavour energy standard sad 0004. ATURE:	VOUR ENERGY	SITE PLAN B	A CONTINUED ON PREVIOUS SHEET 1222 A	ROUTECO $1Z - 2A$ $2A - 2B$ $2A - 2B$ $2B - 2C$ $2B - 2C$ $2C - 2D$ $2C - 2D$ $2D - 2E$	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 53		EXISTING DUCT USAGE CHARGES $30m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$690.00 $87m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$2001.00 $45m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1,035.00 $50m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $53m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $53m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1219.00 $265m \times 1 \times Ø125mm$ PVC DUCTS
RKS_COMPLETED/FIELD_BOOK STRUCTED BY: KS_COMPLETED: TURE:	VOUR ENERGY	SITE PLAN B Important methods SITE PLAN B Important methods ORIGINAL SCALE - 1:1001	A CONTINUED ON PREVIOUS SHEET A	ROUTECO $1Z - 2A$ Image: Comparison of the temperature $2A - 2B$ Image: Comparison of temperature $2B - 2C$ Image: Comparison of temperature $2C - 2D$ Image: Comparison of temperature $2D - 2E$ Image: Comparison of temperature	NFIGURATIONLENGTH (m)EXISTING 8 x 125mm PVC CONDUITS30EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS87EXISTING 8 x 125mm PVC CONDUITS45EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS50EXISTING 8 x 125mm PVC CONDUITS53EXISTING 8 x 125mm PVC CONDUITS53SUBTOTALSUBTOTAL	EE REIMBURSEMENT NIL NIL NIL NIL NIL NIL NIL NIL NIL	EXISTING DUCT USAGE CHARGES $30m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$690.00 $87m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$2001.00 $45m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1,035.00 $50m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $50m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1150.00 $53m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$1219.00 $265m \times 1 \times Ø125mm$ PVC DUCTS @ \$23/m = \$6095.00
DRKS COMPLETED/FIELD BOOK ISTRUCTED BY: ATURE:	VOUR ENERGY	SITE PLAN B Improvide a state of the st	A CONTINUED ON PREVIOUS SHEET 1222 40 1222 1225 1225 1225 1225 1225 1225 1255 1	ROUTE CO 1Z - 2A Image: Comparison of the second se	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 53		EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00 45m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1,035.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 53m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1219.00 265m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6095.00
RKS_COMPLETED/FIELD_BOOK STRUCTED BY: iks COMPLETED: NTURE: DATE: ECTED BY: DATE: ATURE: DATE: ASSET_RECORDING Inscrete Asserts MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RATURE: Date Approved: EXED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004. ATURE: This Certification is issue Endeavour Energy Standard Sad 0004. ATURE: This Certification is issue Endeavour Energy Standard Certificatio and Property Information 2016	VOUR ENERGY	SITE PLAN B SITE PLAN B </td <td>A CONTINUED ON PREVIOUS SHEET A 1222 H A CONTINUED ON PREVIOUS SHEET 1222 H A CONTINUED ON PREVIOUS SHEET</td> <td>ROUTE CO 1Z - 2A IZ - 2B 2A - 2B IZ - 2B 2B - 2C IZ - 2D 2C - 2D IZ - 2E 2D - 2E IZ - 2E</td> <td>NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 53 EXISTING 8 x 125mm PVC CONDUITS 53</td> <td></td> <td>EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00 45m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1,035.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 53m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1219.00 265m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6095.00</td>	A CONTINUED ON PREVIOUS SHEET A 1222 H A CONTINUED ON PREVIOUS SHEET 1222 H A CONTINUED ON PREVIOUS SHEET	ROUTE CO 1Z - 2A IZ - 2B 2A - 2B IZ - 2B 2B - 2C IZ - 2D 2C - 2D IZ - 2E 2D - 2E IZ - 2E	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 53		EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00 45m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1,035.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 53m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1219.00 265m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6095.00
IRKS COMPLETED/FIELD BOOK STRUCTED BY: IKS COMPLETED: ATURE: DATE: ECTED BY: INTURE: DATE: ATURE: DATE: INTURE: DATE: ASSET RECORDING INTURE: DATE: DATE: DATE: DATE: CERTIFIED BY: ASSET RECORDING Date Approved: Examiner's Signature: Print Name: This Certification is issue Endeavour Energy This Certification 2016	VOUR ENERGY	SIEPLAN B Imministration of the second se	WORK ORDERS CAP / SAMP No. DBL2554 M PROJ. No. 80082_20210706 GENERAL HV SWITCHING REGUIRED OVERHEAD UBD/PENGUIN REF 290225, 6244106 UNDERGROUND GIS MAP No. UT3457 SUBSTATIONS HV OP DIAGRAM BRINGFLI Y 1KB	ROUTE CO 1Z - 2A IZ - 2A 2A - 2B IZ - 2A 2B - 2C IZ - 2A 2C - 2D IZ - 2A 2D - 2E IZ - 2A DRAWN ME DATE 06/07/2021	NFIGURATION LENGTH (m) EXISTING 8 x 125mm PVC CONDUITS 30 EXISTING 8 x 125mm PVC CONDUITS 87 EXISTING 8 x 125mm PVC CONDUITS 45 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 50 EXISTING 8 x 125mm PVC CONDUITS 53 EXISTING 8 x 125mm PVC CONDUITS 53	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES 30m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$690.00 87m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2001.00 45m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1,035.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 50m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1150.00 53m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1219.00 265m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6095.00 265m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$6095.00





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	_//	INSTALL NEW HV TRENCH				
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			Amendment:	IERGY		
	HEREBY CERTIFY T RECORDED AS PER	HAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN 2 ENDEAVOUR ENERGY STANDARD SAD 0004.	Examiner's Signature:			
	SIGNATURE:		Print Name: This Certification is issued subject to			
Ca	adastre: © Land and Property	y Information 2016	Endeavour Energy's Standard Certification Terms			
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						1>	X - 1Y		EXISTING 8 x 125mm PVC CONDUITS	117	NIL	117m x 1 x Ø @ \$23/m = \$	0125mm PVC DUCTS 2691.00
									s	SUBTOTAL	NIL	398m x 1 x Ø @ \$23/m = \$	ð125mm PVC DUCTS 88654.00
	REFERENCE DRAWING'S	WO	RK ORDERS	CAP / SAMP No.	DBL2554		ORIĢINAL SCALF			21	5 BADGERYS CREEK RD		e Endeavour
		GENERAL		AM PRUJ. No. HV SWITCHING	REQUIRED			SCALE	LE				• • Energy
		OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMENSIONS		ſ	DBL2554 CONNECTION OF LOAD		
		UNDERGROUND		GIS MAP No	U73457		04 107 10004	METRES		· · · · ·			
jTS		SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8		00/0//2021						
				LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN RE	3				SHEET No 4 OF 12 SHEETS
	6		7		8			9		10	11		12



ORIGINAL SCALE - 1:1000

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			DL	JCTING SCHEDULE		
TE	CONFIG	URATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES	
1R		EXISTING 6 x 125mm PVC CONDUITS	24	NIL	24m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$552.00	
1S		EXISTING 6 x 125mm PVC CONDUITS NEW 2 x 125mm PVC CONDUITS	10	NIL	NIL	
1S		EXISTING 4 x 125mm PVC CONDUITS NEW 2 x 125mm PVC CONDUITS	8	NIL	NIL	
1T		EXISTING (ROAD CROSSING) 8 x 125mm PVC CONDUITS	57	NIL	57m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1,311.00	
1U		EXISTING 8 x 125mm PVC CONDUITS	60	NIL	60m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1380.00	
1V		EXISTING 8 x 125mm PVC CONDUITS 1 x DIRECT BURIED EARTH CABLE	24	NIL	24m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$552.00	
1W		EXISTING 8 x 125mm PVC CONDUITS	75	NIL	75m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1725.00	
1X		EXISTING 8 x 125mm PVC CONDUITS	41	NIL	75m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$1725.00	
1Y		EXISTING 8 x 125mm PVC CONDUITS	117	NIL	117m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$2691.00	
!			SUBTOTAL	NIL	398m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$8654.00	

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В	 -//- INSTALL NEW HV TRENCH INSTALL NEW DUCT EXISTING DUCT EXISTING POLE EXISTING/NEW UGOH EXISTING COLUMN 			
С	 EXISTING SL LANTERN NEW TRENCH NEW CABLE IN CONDUIT NEW EARTH CABLE DIRECT BURIED 	JRIED		
D	SPARE DUCT			
E			1335	DATIHERAN ROAD
F	WORKS COMPLETED/FIELD BOOK			₩
G	CONSTRUCTED BY:	CERTIFIED BY ENDEAVOUR ENERGY Amendment:	C	CONTINUED ON P
Н	HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004. SIGNATURE: DATE: Cadastre: © Land and Property Information 2016 SIGNATURE: UNING I NO. 1 Cadastre: © Land and Property Information 2016 SIGNATURE: LING I NO. 1 SIGNATURE: DATE: A	Examiner's Signature: Print Name: This Certification is issued subject to Endeavour Energy's Standard Certification Terms	O'S' ON NOISE COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	REPARED BY: UIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIIII

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			GENERAL		HV SWITCHING	NG REQUIRED			SCA		
			OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	ME DIMENSIO		
			UNDERGROUND		GIS MAP No	U73457		06/07/2021	METRES		
STS			SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8		00/07/2021			-
					LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
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			SHEET No	5	0
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215 BADGERYS CREEK RD BRINGELLY DBL2554 CONNECTION OF LOAD



	DUCTING SCHEDULE											
ATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES									
NEW 3x25mm PVC CONDUITS (UNDERBORE)	24	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS	50	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS	12	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS (ISTING 2 x 125mm PVC CONDUITS	13	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS (ISTING 2 x 125mm PVC CONDUITS	18	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS	102	NIL	NIL									
NEW 2 x 125mm PVC CONDUITS (ISTING 2 x 125mm PVC CONDUITS	75	NIL	NIL									
EXISTING 4 x 125mm PVC CONDUITS	41	NIL	41m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$943.00									
:	SUBTOTAL	NIL	41m x 1 x Ø125mm PVC DUCTS @ \$23/m = \$943.00									

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	LEGEND		735	57	
	PROPOSED PADMOUNT SUBSTATION				
	EXISTING POLE SUBSTATION		_		
B/	-/ INSTALL NEW HV TRENCH				
	INSTALL NEW DUCT		72	Ĩ	
	EXISTING DUCT			115	
•	EXISTING POLE				
			4.	2m INSTALL NEW	HV STJ AT REF 1E
				J2	
с Ф	- EXISTING SL LANTERN		66		
<u>م</u>	UNDERSLUNG LINKS			101	
=)=	EXISTING LV LINKS			Ĩ	
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۷ <u>۰</u>					E TO BE RUN
	NEW TRENCH			BETWEEN REF 1	F TO 1G
D	NEW CABLE IN CONDUIT		62		
	NEW FARTH CABLE DIRECT BURIED				
			j kek	95	
	NEW CABLE DIRECT BORIED		VS CP		
	SPARE DUCT		JGER		
	UNDERBORE		BAL BAL		
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SIGNATUR	RE: DATE:		50		
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l:	CERTIFIED BY ENDEAVOUR ENERGY		<u>SITE PLAN I SITE PLAN I</u> SITE PLAN I	<u>E</u> யாயாயா ஐ	
CONTACT	No.: Amendment: No.: Date Approved:		original scale -	WEI 22 49	
HEREBY CE RECORDED	ERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.				
SIGNATUF DATE:	RE: Print Name: This Certification is issued subject to Endeavour Energy's				
Cadastre: © Land and P	Standard Certification Terms Property Information 2016				
Н			REFERENCE DRAWING'S	WORK ORDERS	CAP / SAMP No. DBL2554 AM PROJ. No. 80082_20210706
NDMEN DRIGINA ISSUE		THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, MAY NOT BE COPIED, MAY NOT BE COPIED,		GENERAL OVERHEAD	HV SWITCHING REQUIRED UBD/PENGUIN REF 290225, 6244106
AME AME		USE INCODED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY UTILITIES & INFRASTRUCTURE SPECIALISTS		UNDERGROUND SUBSTATIONS	GIS MAP No U73457 HV OP DIAGRAM BRINGELLY 1K8
$ \langle A \rangle$		표 www.ultegra.com.au			LOCAL GOV AREA CAMDEN

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		GENERAL		HV SWITCHING	REQUIRED			SLALE						
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		UNDERGROUND		GIS MAP No	U73457			METRES				Λ 1	522600	Δ
STS		SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE 0670772021		1						
				LOCAL GOV AREA	CAMDEN	СН'Д	BH	DESIGN	RB				SHEET No 6 OF 12 S	J SHEETS
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		NZ												

	DUCTING SCHEDULE											
CONFIG	JRATION	ROUTE LENGTH (m)	EE REIMBURSEMENT CHARGES	EXISTING DUCT USAGE CHARGES								
	NEW 2 x 125mm PVC CONDUITS		NIL	NIL								
\mathbf{O}	NEW 3x25mm PVC CONDUITS (UNDERBORE)	15	NIL	NIL								
	NEW 2 x 125mm PVC CONDUITS	297	NIL	NIL								
	:	SUBTOTAL	NIL	NIL								

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		INSTALL NEW DUCT			120							
В		EXISTING DUCT										
U	•	EXISTING POLE								Ĩ	175	
	•	EXISTING/NEW UGOH										
	-	EXISTING COLUMN										
	- \$	EXISTING SL LANTERN										
	= ⊖ =	EXISTING LV LINKS										
С		NEW TRENCH								J1 1D		
		NEW CABLE IN CONDUIT										
	•	NEW EARTH CABLE DIRECT B	URIED		102				CREE	155		
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	l: _		CERTIFIED BY ENDEAVOUR	ENERGY					<u>SIIE PLAI</u>			
	CONTACT No.:	HAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN	Date Approved: Examiner's Signature:						ORIGINAL SCALE	- 1:1000		
	RECORDED AS PER	ENDEAVOUR ENERGY STANDARD SAD 0004.	Print Name:									
	DATE:		Inis Certification is issued subject Endeavour Energy's Standard Certification Terms									
H	Cadastre: © Land and Property	y Information 2016						REFERENCE DR.	AWING'S	WOI	RK ORDERS	
	VIDMENTS RIGINAL ISSUE				A CONSTRUCTION OF CONTROL OF CONT	Ulte	edra			GENERAL OVERHEAD		
	AMEN 0F 				Ar NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVIOUR ENLEDOCY	UTILITIES & INFRA	STRUCTURE SPECIALISTS			UNDERGROUND SUBSTATIONS		
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		REFERENCE DRAWING'S		WORK ORDERS		DBL2554		ORIĢINAL			
	K	EFERENCE DRAWING S	wor	K OKDEKS	AM PROJ. No.	80082_20210706		SCALE	DON		
			GENERAL		HV SWITCHING	REQUIRED			SCA	ALE .	
			OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMENS	SIONS I	
			UNDERGROUND		GIS MAP No	U73457		0(/07 /2021	METI	RES	
STS			SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE	06/07/2021			-
					LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
)		6		7		8			9		

SUBTOTAL				NIL		NIL		
215 BADGERYS CREEK RD BRINGELLY DBI 2554				Ę		Endeavo Energy		Н
CONNECTION OF LOAD				A1	52	22600	A	
					SHEET No	o 7 OF 12	SHEETS	,
10		11			12			

EE REIMBURSEMENT CHARGES

NIL

DUCTING SCHEDULE

ROUTE LENGTH (m)

370

CONFIGURATION

NEW 2 x 125mm PVC CONDUITS

JR	
/N FOR	
CLARITY	
	-

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EXISTING DUCT USAGE CHARGES

NIL

	1 2	3	4	5	6	7	8 9	10	11	12	2
$\langle N \rangle$											
	LEGEND										
	NEW SWITCHING STATION										
//	— INSTALL NEW HV TRENCH										
в	INSTALL NEW DUCT										
	EXISTING DUCT										
•	EXISTING POLE										
>	EXISTING/NEW UGOH					ESTABLISH NEW SWITCHING STA	FION DS55648 RRR				
						CUBICLE SIZE: SIZE 16 EARTHING SYSTEM: TO EDI 100					
- \						(COMMON EARTHING)		_			
	EXISTING SI CP			S CRE	H-C			_			
	Г			OGER	(1A) DS55648						
	NEW TRENCH				AEROTRO	POLISACOT					
•	NEW CABLE IN CONDUIT					ACCESS ROAD					
•	NEW EARTH CABLE DIRECT BURIED			1C							
D	NEW CABLE DIRECT BURIED										
\bigcirc	SPARE DUCT										
E											
_					NOT ALL ENDEAVOUR ASSETS ARE SHOWN FOR						
					THE PURPOSE OF CLARITY					EE REIMBURSEMENT	EXISTING DUCT
									(m)	CHARGES	USAGE CHARGES
F								DS55648-1A	NEW 2 x 125mm PVC 7 CONDUITS	NIL	NIL
WORKS	S COMPLETED/FIELD BOOK										
CONSTRUC	TED BY:			185				1A - 1B	NEW 2 x 125mm PVC 14 CONDUITS	NIL	NIL
SIGNATURE:	MPLETED: DATE:										
INSPECTED	BY:							1B - 1C	2 x 125mm PVC 77 CONDUITS	NIL	NIL
	DATE:			PREVIOUS SHEET					NEW		
L:		FIED BY ENDEAMOUR ENEROY		SITE PLAN G				1C - 1D	2 x 125mm PVC 310 CONDUITS	NIL	NIL
OF: CONTACT N	CERT Amendm Date App	roved:	e Linnlin						SUBTOTAL	NIL	NIL
HEREBY CERT RECORDED AS	IFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN Examine	's Signature:	0	JRIGINAL SCALE - 1:1000				L			I
SIGNATURE DATE:	: Print Na	This Certification is issued subject to Endeavour Energy's Standard Certification Terms									
Cadastre: © Land and Pro	perty Information 2016	อเลกเหลาน อยาแทเอสมีบท Terms		3Y:	DEEEDENCE DD AWINCIS	WORK ORDERS	No. DBL2554 ORIĢINAL				
ainal			O NO NO S NO S NO S NO S NO S NO S NO S	teara		GENERAL HV SWITCHIN	80082_20210706 G REQUIRED	DU NUI SCALE DIMENSIONS	ZIS BAUGERYS LREEK RD BRINGELLY DBL2554		 Energy
AMENDI ORIC IS IS No. 01			ENDEAVOUR ENERGY AND MAY NOT BE COPIED, PREPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF			OVERHEAD UBD/PENGUIN UNDERGROUND GIS MAP No	N REF 290225, 6244106 DRAWN ME U73457 DATE 06/07/2021	IN METRES	CONNECTION OF LOAD	Δ1	522600
A				w.ultegra.com.au			AREA CAMDEN CH'D BH [DESIGN RB		SH	





BRINGELLY	
DBL2554	
CONNECTION OF LOAD	



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UTILITIES & INFRASTRUCTURE SPECIA www.ultegra.com.au 4

				7	LOCAL GOV AREA		СН'D	ВН	DESIGN	RB	
ALISTS			SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE	00/0//2021			-
			UNDERGROUND		GIS MAP No	U73457		06/07/2021	MET	RES	
			OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMEN	SIONS N	
			GENERAL		HV SWITCHING	REQUIRED			SC/	ALE	
	KEFEKENCE DRAWING'S		WOr	AI		80082_20210706		SCALE	scale DO N		
			WOI	WORK ORDERS		DBL2554		ORIĢINAL			

JOINT/TERMINATION KIT #:	
JOINT/TERMINATION BATCH #	
DATE OF MANUFACTURE:	
JOINT/TERMINATION TYPE:	
NETWORK ACCESS AUTHORISATION:	
JOINT/TERMINATION KIT #:	
JOINT/TERMINATION BATCH #	

J7

J8

JOINT/TERMINATION BATCH DATE OF MANUFACTURE:	#:
JOINT/TERMINATION TYPE:	
NETWORK ACCESS AUTHORISATION:	

JOINT/TERMINATION TYPE:

JOINT/TERMINATION KIT #:

DATE OF MANUFACTURE:

NETWORK ACCESS

AUTHORISATION:

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	REFERENCE DRAWING'S		WOF	RK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2554 80082 20210706		ORIĢINAL SCALE	DO I	NOT	
			GENERAL		HV SWITCHING	REQUIRED			SCA	ALE	
			OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMEN	SIONS N	
			UNDERGROUND		GIS MAP No	U73457		06/07/2021	MET	RES	
ISTS			SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE	00/07/2021			-
					LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
5		6		7		8			9		

SHEET No 10 OF 12 SHEETS



	•	/	/	7	,

HV SWITCHING STATION								
REF ID.	EASTING	NORTHING						
W	290225.5087	6244602.9724						
х	290225.1454	6244600.2449						
Y	290227.8700	6244599.8793						
Z	290228.2362	6244602.6045						

		DEEEI	DENCE DDAWINC'S	WOR		CAP / SAMP No.	DBL2554		ORIĢINAL			
]	KEFEI	KENCE DKAWING 5	WOR	IN ORDERS	AM PROJ. No.	80082_20210706	(111)	SCALE	DOI		
				GENERAL		HV SWITCHING	REQUIRED			SCA	ALE	
•				OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMEN	SIONS N	
				UNDERGROUND		GIS MAP No	U73457		06/07/2021	MET	RES	
ISTS				SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE	00/07/2021			
						LOCAL GOV AREA	CAMDEN	CH'D	BH	DESIGN	RB	
5			6		7		8			9		
								1				

	Cadastre: C Land ar	nd Property Information 2016					
Η	AMENDMENTS A ORIGINAL ISSUE DRAFT No. 01				OG ON NOS AND THE COPYRIGHT THEREIN IS THE PROPERTY OF ENDEAVOUR ENERGY AND MAY NOT BE COPIED, REPRODUCED, DISTRIBUTED, LOANED OR USED WITHOUT THE WRITTEN CONSENT OF ENDEAVOUR ENERGY	PREPARED BY: UUILITIES & INFRAS WWW.ulte	BODI TRUCTURE SPECI egra.com.au
	88351	1	2	3		4	

SIGNATURE:			DATE:
	ASSET	RECORDIN	١G
l:			
05			
OF:			
CONTACT No.:			
HEREBY CERTIFY RECORDED AS PE	THAT ASSETS MAR R ENDEAVOUR EN	KED AS-BUILT ON THIS I ERGY STANDARD SAD 00	DRAWING HAVE BEE 004.
SIGNATURE:			

INSPECTED BY:

DATE:

SIGNATURE: ____

CONSTRUCTED BY: WORKS COMPLETED:

WORKS COMPLETED/FIELD BOOK

_ DATE: ___

Print Name:____ This Certification is issued subject to Endeavour Energy's Standard Certification Terms

Examiner's Signature:

Amendment:____ Date Approved:____

CERTIFIED BY ENDEAVOUR ENERGY

COMMON EARTH SYSTEM — LAYED IN CABLE TRENCH. 2.4m EARTH ROD

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HV SWITCHING STATIONS DS55648 COMMON EARTHING LAYOUT NOT TO SCALE

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LEGEND

— o — o —	70mm² CU INS R.L. 40m	SULATED C.L. 50m
	EARTH ROD	

\bullet	·	EARTH ROD

HV DS5564		N EARTHIN	G DETAILS	6 (CS1221)											
	LAYER 1	45.67	DEPTH	0.72											
(ohms.m)	LAYER 2	8.70	(m)												
DESIGNED EART	H RESISTANCE	ELIMIT (ohms)		1.30											
MEASURED EAR															
NUMBER OF ELE															
LENGTH OF BAR	ENGTH OF BARE ELECTRODE (m)														
CONNECTOR TY	PE (CAD or CRI	MP)		CRIMP											
LOCATION CATE	GORY: F - FREG	QUENT		F											
WHAT DESIGN T	OOL USED?			'3E'											
FAULT LEVEL (kA	A)			10.43											
IS THIS 'FIRST AS	SSET OUT' FRO	M ZS?		YES											
ARE SCREENS C SWITCHING SUB	OF INCOMING C	ABLE BONDED H BAR?	ТО	YES											

NOTE: CONSTRUCTION SHALL NOT COMMENCE UNTIL EASEMENTS ARE CREATED IN ENDEAVOUR ENERGY'S FAVOUR AS IDENTIFIED ON THE EASEMENT PLAN OF THIS DESIGN. IF AN EASEMENT ALTERATION IS REQUIRED DURING CONSTRUCTION, NO ALTERATIONS TO THE ENDEAVOUR ENERGY EXISTING NETWORK CAN OCCUR AND ASSETS PROPOSED IN THIS DESIGN ARE NOT TO BE COMMISSIONED PRIOR TO RECERTIFICATION AND EASEMENTS REGISTERED IN ACCORDANCE WITH THE CERTIFIED DESIGN.

	REF	FERENCE DRAWING'S	WOR	RK ORDERS	CAP / SAMP No. AM PROJ. No.	DBL2554 80082_20210706		ORIĢINAL) SCALE	DO I	NOT	
			GENERAL		HV SWITCHING	REQUIRED			SCA	4LE	
•			OVERHEAD		UBD/PENGUIN REF	290225, 6244106	DRAWN	ME	DIMEN	ISIONS N	
			UNDERGROUND		GIS MAP No	U73457	DATE	06 /07 /2021	MET	RES	
ISTS			SUBSTATIONS		HV OP DIAGRAM	BRINGELLY 1K8	DATE	06/0//2021			_
					LOCAL GOV AREA	CAMDEN	CH'D	ВН	DESIGN	RB	
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215 BADGERYS CREEK RD BRINGELLY DBL2554 CONNECTION OF LOAD



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Appendix C Indicative Construction Program

 101 of 102
 | Sydney Metro Western Sydney Airport Advanced and Enabling Works – Overarching Construction Traffic Management Plan

 24 January 2022
 Rev C

 UNCONTROLLED WHEN PRINTED

Works		Weekly Lookah	ead - Constru	uction Program		0	X																											
PLN ID		4022-WSA-WLA	H-001		<	Quick	way																											
Rev		Friday, 14 Janu	ary 2022		Tra	ansport & Utilitie	es Infrastructur	е																										
			Notes:																															
			 Approvals pe Subject to inc 	ending clement weather, and site conditions.		Month	Dec-21	Dec-21	Dec-21	Dec-21	Jan-22	Jan-22	Jan-22	Jan-22	Jan-22	Feb-22	Feb-22	Feb-22	Feb-22	Mar-22	Mar-22	Mar-22	Mar-22	Apr-22	Apr-22	Apr-22	Apr-22	May-22	May-22	May-22	May-22	May-22	Jun-22 Jur	22 Jun-22
						Week Start Date	29/11/2021	6/12/2021	13/12/2021	20/12/2021	27/12/2021	3/01/2022	10/01/2022	17/01/2022	24/01/2022	31/01/2022	7/02/2022	14/02/2022	21/02/2022	28/02/2022	7/03/2022	14/03/2022	21/03/2022	28/03/2022	4/04/2022	11/04/2022	18/04/2022	25/04/2022	2/05/2022	9/05/2022	16/05/2022	23/05/2022	30/05/2022 6/06	2022 13/06/2022
						Week End Date	5/12/2021	12/12/2021	19/12/2021	26/12/2021	2/01/2022	9/01/2022	16/01/2022	23/01/2022	30/01/2022	6/02/2022	13/02/2022	20/02/2022	27/02/2022	6/03/2022	13/03/2022	20/03/2022	27/03/2022	3/04/2022	10/04/2022	17/04/2022	24/04/2022	1/05/2022	8/05/2022	15/05/2022	22/05/2022	29/05/2022	5/06/2022 12/06	2022 19/06/2022
CTMP No.	Portion No.	Portion name	Street	Task	Day / Nights	No. Weeks																												
NA	NA	NA	NA	Finalisation of management plans, project	Day	5	Eng.	Eng.	Eng.			Eng.	Eng.	Eng.	Eng.	Eng.																		
NA	All	NA	Across project	Low Impact works - route alignment survey,	Day	2		Eng.	Eng.																									
	1		Patons Lane	Mobilise, site setup.	Day	2												Crew 1	Crew 1															
	1		Patons Lane	HDD & pipe installation. Demobilise HDD plant.	Day	2														Crew 2	Crew 2													
	1	Paton Lane	Patons Lane	Complete cable installation. Complete earth rod installation x7.	Day	1															Crew 1													
	1		Patons Lane	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations. Demobilise	Day	1																			Crew 1									
	2		Gipps St	Compound Establishment	Day	1											Crew 1																	
	2		Gipps St	Trial holing. Locate & mandrel existing conduits.	Night	1															Crew 1													
	2		Gipps St	Gipps St HDD & pipe installation	Night	2																Crew 2	Crew 2											
	2	Claremount Meadows	Gt Western Hwy	Excavate & install kiosk substation	Day	1																	Crew 1											
CTMD No.1	2		Gipps St	Complete conduit tie-ins. Install HV & Earth cable.	Night																			Crew 1										
CTMP NO.1	2		Gt Western Hwy	Endeavour Energy HV outage (x1 night). Complete backfilling & restorations. Demobilise	Night	1																					Crew 1							
	3		Sunflower Dr	Trial holing.	Day	2																			Crew 1			Crew 1						
	3		Gipps St	Trial holing. Locate & mandrel existing conduits.	Night	1																							Crew 1					
	3		Kent Rd	Trial holing. Locate & mandrel existing conduits.	Night	1																								Crew 1				
	3		Gipps St / M4	Mobilise HDD plant. M4 HDD & pipe installation	Day	4																						Crew 2	Crew 2	Crew 2	Crew 2			
	3		Kent Rd	Kent Rd HDD & pipe installation	Night	2																										Crew 2	Crew 2	
	3		Kent Rd	Kent Rd trenching 1A-1G	Day	2																								Crew 1	Crew 1			
	3	Orchard Hills	Kent Rd	Excavate & install 2 x swithcing stations at Kent Rd 1A	Day	1																										Crew 1		
	3		Caddens Rd	Caddens Rd trenching	Night	1																											Crew 1	
	3		Kent Rd	HDD conduit tie-ins	Day	1																											Cre	w 1
	3		Sunflower Dr	Complete conduit install 6O-6P Sunflower RDX & tie-ins to existing	Day	1																											Cre	N 1
	3		Kent Rd to Sunflower Dr	Cable installation	Day	3																												Crew 1
	3		Kent Rd to Sunflower Dr	Precommissioning cable jointing/ terminations	Day	0																												
	3		Sunflower Dr	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations.	Day	2																												

Works		Weekly Lookah	ead - Constru	uction Program		0																		
PLN ID		4022-WSA-WLA	-WLAH-001 January 2022 Notes: 1. Approvals pending 2. Subject to inclement weather, and site conditions.			QUICK	1																	
Rev		Friday, 14 Janu	ary 2022		Tra	ansport & Utilitie	:1																	
			Notes:		1		-																<u> </u>	1
			 Approvals per 2. Subject to ind 	ending clement weather, and site conditions.		Month	Jun-22	Jul-22	Jul-22	Jul-22	Jul-22	Jul-22	Aug-22	Aug-22	Aug-22	Aug-22	Sep-22	Sep-22	Sep-22	Sep-22	Oct-22	Oct-22	Oct-22	Oct-22
						Week Start Date	20/06/2022	27/06/2022	4/07/2022	11/07/2022	18/07/2022	25/07/2022	1/08/2022	8/08/2022	15/08/2022	22/08/2022	29/08/2022	5/09/2022	12/09/2022	19/09/2022	26/09/2022	3/10/2022	10/10/2022	17/10/2022
						Week End Date	26/06/2022	3/07/2022	10/07/2022	17/07/2022	24/07/2022	31/07/2022	7/08/2022	14/08/2022	21/08/2022	28/08/2022	4/09/2022	11/09/2022	18/09/2022	25/09/2022	2/10/2022	9/10/2022	16/10/2022	23/10/2022
CTMP No.	Portion No.	Portion name	Street	Task	Day / Nights	No. Weeks																		
NA	NA	NA	NA	Finalisation of management plans, project planning, procurement	Day	5																		
NA	All	NA	Across project	Low Impact works - route alignment survey, road dilap reports - commencing 10/12/21	Day	2																		
	1		Patons Lane	Mobilise, site setup.	Day	2																		
	1		Patons Lane	HDD & pipe installation. Demobilise HDD plant.	Day	2																		
	1	Paton Lane	Patons Lane	Complete cable installation. Complete earth rod installation x7.	Day	1																		
	1		Patons Lane	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations. Demobilise	Day	1																		
	2		Gipps St	Compound Establishment	Day	1																		
	2		Gipps St	Trial holing. Locate & mandrel existing conduits.	Night	1																		
	2		Gipps St	Gipps St HDD & pipe installation	Night	2																		
	2	Claremount Meadows	Gt Western Hwy	Excavate & install kiosk substation	Day	1																		
CTMP No.1	2		Gipps St	Complete conduit tie-ins. Install HV & Earth cable.	Night																			
CTMP NO.1	2		Gt Western Hwy	Endeavour Energy HV outage (x1 night). Complete backfilling & restorations. Demobilise	Night	1																		
	3		Sunflower Dr	Trial holing. Locate & mandrel existing conduits.	Day	2																		
	3		Gipps St	Trial holing. Locate & mandrel existing conduits.	Night	1																		
	3		Kent Rd	Trial holing. Locate & mandrel existing conduits.	Night	1																		
	3		Gipps St / M4	Mobilise HDD plant. M4 HDD & pipe installation	Day	4																		
	3		Kent Rd	Kent Rd HDD & pipe installation	Night	2																		
	3		Kent Rd	Kent Rd trenching 1A-1G	Day	2																		
	3	Orchard Hills	Kent Rd	Excavate & install 2 x swithcing stations at Kent Rd 1A	Day	1																		
	3		Caddens Rd	Caddens Rd trenching	Night	1																		
	3		Kent Rd	HDD conduit tie-ins	Day	1																		
	3		Sunflower Dr	Complete conduit install 6O-6P Sunflower RDX & tie-ins to existing	Day	1																		
	3		Kent Rd to Sunflower Dr	Cable installation	Day	3	Crew 1	Crew 1																
	3		Kent Rd to Sunflower Dr	Precommissioning cable jointing/ terminations	Day	0		HV	HV	HV														
	3		Sunflower Dr	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations.	Day	2										Crew 1	Crew 1							

Works		Weekly Lookah	ead - Constru	ction Program		0																													
PLN ID		4022-WSA-WLA	AH-001		(Quick	way																												
Rev		Friday, 14 Janu	ary 2022		Tra	ansport & Utilitie	es Infrastructu	re																											
			Notes: 1. Approvals per	nding		Month	Dec-21	Dec-21	Dec-21	Dec-21	Jan-22	Jan-22	Jan-22	Jan-22	Jan-22	Feb-22	Feb-22	Feb-22	Feb-22	Mar-22	Mar-22	Mar-22	Mar-22	Apr-22	Apr-22	Apr-22	Apr-22	May-22	May-22	May-22	May-22	May-22	Jun-22 J [.]	un-22	Jun-22
			2. Subject to inc	lement weather, and site conditions.		Week Start	29/11/2021	6/12/2021	13/12/2021	20/12/2021	27/12/2021	3/01/2022	10/01/2022	17/01/2022	24/01/2022	31/01/2022	7/02/2022	14/02/2022	21/02/2022	28/02/2022	7/03/2022	14/03/2022	21/03/2022	28/03/2022	4/04/2022	11/04/2022	18/04/2022	25/04/2022	2/05/2022	9/05/2022	16/05/2022	23/05/2022	30/05/2022 6/0)6/2022 1	3/06/2022
						Date Week End	E/12/2021	12/12/2021	10/12/2021	26/12/2021	2/01/2022	0/01/2022	16/01/2022	22/01/2022	20/01/2022	6/02/2022	12/02/2022	20/02/2022	37/02/2022	6/02/2022	12/02/2022	20/02/2022	27/02/2022	2/04/2022	10/04/2022	17/04/2022	24/04/2022	1/05/2022	8/05/2022	15/05/2022	22/05/2022	20/05/2022	E/0E/2022 12/	06/2022 1	0/06/2022
						Date	3/12/2021	12/12/202	13/12/2021	20/12/2021	2/01/2022	3/01/2022	10/01/2022	23/01/2022	30/01/2022	0/02/2022	13/02/2022	20/02/2022	21102/2022	0/03/2022	13/03/2022	20/03/2022	21103/2022	3/04/2022	10/04/2022	1110-4/2022	24/04/2022	1/03/2022	0/03/2022	13/03/2022	22/03/2022	23/03/2022	5/00/2022	0/2022	<i>#00/2022</i>
CTMP No.	Portion No.	Portion name	Street	Task	Day / Nights	No. Weeks																													
	4		Pitt St / Lawson Rd	Compound establishment at 195 Lawson Rd	Day	2											Crew 3	Crew 3																	
	4		Cross St	Cross St HDD A3-A4	Day	1													Crew 4														───┤──		
	4		Cross St	Cross St HDD A5-A6	Day	1			-											Crew 4													┢──┼─		
	4		Cross St	Cross St HDD A7-B1	Day	3														Crew 4	Crew 4	Crew 4											┢───┼──		
	4		Cross St	Cross St trenching	Day	1			-											Crow 3	Crow 3	Crew 3	Crow 3										i – – –		
	4		Western Rd	Western Rd trenching	Day	3														CIEW 3	CIEW 3	Clew 3	CIEW 3	Crew 3	Crew 3	Crew 3							<u> </u>		
	4		Western Rd	Western Rd HDD C1-C2	Day	1																1	Crew 4			0.0110							i – †		
	4		Western Rd	Western Rd HDD C4-C7	Day	2																	Crew 4	Crew 4											
	4		Unnamed Lane	Unnamed Lane trenching	Day	5																1					Crew 3	Crew 3	Crew 3	Crew 3	Crew 3				
	4		Unnamed Lane	Unnamed Lane HDD D3-E1 (South Creek)	Day	4															Crew 5	Crew 5	Crew 5	Crew 5											
	4	Airport Business	Martin Rd	Martin Rd trenching	Day	2																									Crew 3	Crew 3			
	4	Faik	Cuthel Rd	Cuthel Rd HDD F7-G1	Day	3																			Crew 4	Crew 4	Crew 4								
	4		Lawson Rd	Lawson Rd trenching	Day	2																		Crew 6	Crew 6										
	4		Pitt St	Pitt St HDD H2-H3 (Badgerys Creek)	Day	4																		Crew 5	Crew 5	Crew 5	Crew 5								
	4		Pitt St	Pitt St treching	Day	4																				Crew 6	Crew 6	Crew 6	Crew 6						
	4		Pitt St	Pitt St to Longelys Rd easement trenching	Day	3																							Crew 6	Crew 6	Crew 6				
	4		Badgerys Creek Rd	Badgerys Creek Rd HDD	Day	2																							Crew 4	Crew 4					
	4		Longleys Rd	WSA site HDD K4-K5	Day	3			-																					Crew 4	Crew 4	Crew 4			
	4		Longleys Rd	WSA site trenching. Excavate & install 2 x switching stations	Day	3																										Crew 6	Crew 6 C	rew 6	
	4		Cross St to Longleys Rd	Cable installation	Day	6																													Crew 6
CTMP No.2	4		Cross St to Longleys Rd	Precommissioning cable jointing/ terminations	Day	0																													
L	4		Cross St to Longleys Rd	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations.	Day	3																													
	5		Longleys Rd	Mobilise & complete site setup	Day	1																				Crew 7							$ \square $		
	5		Longleys Rd	Longleys Rd trenching	Day	4																				Crew 7	Crew 7	Crew 7	Crew 7				$ \longrightarrow $		
	5		Longleys Rd	substations	Day	1			-																					Crew 7					
	5	Precast Facilities	Creek Rd	Badgerys Creek Rd HDD	Day	2																								Crew 4	Crew 4				
	5		Longleys Rd	Cable installation	Day	1			-													-										Crew 7			
	5		Longleys Rd	Endeavour Energy HV outage (x1 day).	Day	0																											HV		
	5		Greendale Rd	Complete backfilling & restorations.	Day	1			-													Crew 8											i		
-	6		Greendale Rd	Trial holing.	Day	1																Crew 8												—	
	6		The Northern	Locate & mandrel existing conduits. Trial holing.	Night	1			+														Crew 8										i – – –		
	6		Rd Badgerys	Locate & mandrel existing conduits. Trial holing	Night	1																1		Crew 8											
	6		Wentworth Rd	Wentworth Rd trenching	Day	2																			Crew 8	Crew 8									
	6		Badgerys Crook Rd	Badgerys Creek Rd trenching	Night	6																1					Crew 8	Crew 8	Crew 8	Crew 8	Crew 8	Crew 8			
	6	Aerotropolis	Badgerys Creek Rd	Badgerys Creek Rd bores 1H-1I, 1M-1N, 1O- 1P	Night	4																	Crew 2	Crew 2	Crew 2							Crew 8			
	6		Access Rd	Excavation & installation of switching station, completion of trenching	Day	0																													
	6		Greendale Rd to Aerotropolis	Cable installation	Night	2																											Crew 8 C	rew 8	
	6		Greendale Rd to Aerotropolis	Precommissioning cable jointing/ terminations	Night	0																													HV
	6		Greendale Rd	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations	Day	1																													
			.o , loroli opolis	Tetala		124																													
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Works		Weekly Lookahe	ead - Constru	ction Program		0														
PLN ID		4022-WSA-WLA	H-001		(Quick	a													
Rev		Friday, 14 Janua	ary 2022		Tr	ansport & Utilitie	51													
			Notes:		1		_													1
			1. Approvals pe 2. Subject to inc	nding lement weather, and site conditions.		Month	Jun-22	Jul-22	Jul-22	Jul-22	Jul-22	Jul-22	Aug-22	Aug-22	Aug-22	Aug-22	Sep-22	Sep-22	Sep-22	Sep-22
						Week Start Date	20/06/2022	27/06/2022	4/07/2022	11/07/2022	18/07/2022	25/07/2022	1/08/2022	8/08/2022	15/08/2022	22/08/2022	29/08/2022	5/09/2022	12/09/2022	19/09/2022
						Week End Date	26/06/2022	3/07/2022	10/07/2022	17/07/2022	24/07/2022	31/07/2022	7/08/2022	14/08/2022	21/08/2022	28/08/2022	4/09/2022	11/09/2022	18/09/2022	25/09/2022
CTMP No.	Portion No.	Portion name	Street	Task	Day /	No. Weeks														
			Pitt St / Lawson		Nights															
	4		Rd Cross St	Compound establishment at 195 Lawson Rd	Day	2	_													
	4		Cross St	Cross St HDD A5-A6	Day	1														
	4		Croce St	Cross St HDD A7-R1	Day	2														+
	4		Cross St	Cross St HDD R3 R4	Day	3														
	4		Croce St	Croce St tranching	Day	1														+
	4		Wostorn Rd	Wostorn Rd transhing	Day															
	4		Western Pd	Western Rd HDD C1-C2	Day	1														
	4		Western Rd	Western Rd HDD C1-C2	Day	2														
	4		Western Rd	Uppered Long transhing	Day	2														
	4			Unnamed Lane HDD D2 E1 (South Crook)	Day	5														
	4	Airport Business	Martin Rd	Martin Bel transhing	Day	4														
	4	Park	Cuthol Rd	Cuthol Rd HDD E7 C1	Day	2														
	4		Louison Rd	Lawson Rd transhing	Day	3														+
	4		Ditt St		Day	2														
	4		Pill St	Pitt St traching	Day	4														
	4		Pill St	Pitt St to Longolus Pd assoment tranching	Day	4														
	4		Badgerys	Padaonie Crook Pd HDD	Day	2														
	4		Creek Rd		Day	2														
	4		Longleys Ru	WSA site trenching.	Day	3														
	4		Longleys Rd	Excavate & install 2 x switching stations	Day	3	_													<u> </u>
	4		Longleys Rd	Cable installation	Day	6	Crew 6	Crew 6	Crew 6	Crew 6	Crew 6									
CTMP No.2	4		Longleys Rd	Precommissioning cable jointing/ terminations	Day	0						HV	HV	HV	HV					<u> </u>
	4		Longleys Rd	Complete backfilling & restorations.	Day	3									Crew 3	Crew 3	Crew 3			
	5		Longleys Rd	Mobilise & complete site setup	Day	1														
	5		Longleys Rd	Longleys Rd trenching	Day	4														
	5		Longleys Rd	Excavation & installation of 2 x kiosk substations	Day	1														
	5	Precast Facilities	Badgerys Creek Rd	Badgerys Creek Rd HDD	Day	2														<u> </u>
	5		Longleys Rd	Cable installation	Day	1														<u> </u>
	5		Longleys Rd	Precommissioning cable jointing/ terminations	Day	0														<u> </u>
	5		Longleys Rd	Complete backfilling & restorations.	Day	1	Crew 7													<u> </u>
	6		Greendale Rd	Mobilise, site setup.	Day	1														<u> </u>
	6		Greendale Rd	Locate & mandrel existing conduits.	Day	1														<u> </u>
	6		Rd Rd	Locate & mandrel existing conduits.	Night	1														<u> </u>
	6		Creek Rd	Trial holing	Night	1														<u> </u>
	6		Wentworth Rd	Wentworth Rd trenching	Day	2														<u> </u>
	6		Creek Rd	Badgerys Creek Rd trenching	Night	6														<u> </u>
	6	Aerotropolis	Creek Rd	IP Evenue to a second the second termination of emitted and the second termination of emitted and the second termination of t	Night	4														<u> </u>
	6		Access Rd	completion of trenching	Day	0														<u> </u>
	6		Greendale Rd to Aerotropolis	Cable installation	Night	2														<u> </u>
	6		Greendale Rd to Aerotropolis	Precommissioning cable jointing/ terminations	Night	0	HV													
	6		Greendale Rd to Aerotropolis	Endeavour Energy HV outage (x1 day). Complete backfilling & restorations.	Day	1			Crew 8											
				Totals		124														

Oct-22	Oct-22	Oct-22	Oct-22
26/09/2022	3/10/2022	10/10/2022	17/10/2022
2/10/2022	9/10/2022	16/10/2022	23/10/2022

Appendix D Consultation & Communication

 102 of 102
 | Sydney Metro Western Sydney Airport Advanced and Enabling Works – Overarching Construction Traffic Management Plan

 24 January 2022
 Rev C

 UNCONTROLLED WHEN PRINTED







						Transport for NSW Australian Government	SW Sydney METRO Western	Sydney Me Sydney Air	tro - port _	R C C	ESPONSE STATUS Open Closed		
ltem No	Doc Rev	Item Description, (Page, Para, Drg ref)	Stakeholder (e.g. PCC, LCC, CJP, GS)	Reviewer (intials)	Date (comments mad	le) Stakeholder Comment	Contractor's Response	Date	Status (O,C,CS)	Stakeholder response	Contractor Response	Response Status (O,C,CS)	Date
1	В	Section 1.4	CJP	-	07-Dec-202	It should be noted any future works deemed to be of a high-impact, CJP may request additional CTMPs to be submitted for review and approval Raised by CJP TfNSW	Noted.	24-Jan-2022					
2	В	Section 1.5.2	CJP	-	07-Dec-202	Approved ROL hours may not always align with the nominated working hours listed in this section, particularly during activities with road and/or transport impacts. Raised by CJP TfNSW	Noted.	24-Jan-2022					
3	В	Section 3.2	CJP	-	07-Dec-202	MCoA E103 - All CTMPs must go through a formal review and obtai an approval from CJP prior to commencing any works that will have a road user impact Raised by CJP TfNSW	Noted.	24-Jan-2022					
4	В	Section 5.1	CJP	-	07-Dec-202	The site specific CTMPs will be subject to a review and approval process by the relevant stakeholders prior to the commencement of any works. Raised by CJP TfNSW	Noted. Site-specific CTMPs will be provided to TfNSW CJP, local council for review, comment and approval	24-Jan-2022					
5	В	Section 5.1	CJP	-	07-Dec-202	An ROL will also be required for any works with a road and transport impact. This needs to be submitted via the OPLINC system at least 10 business days prior to works commencing. Local council may require a similar application to be made. Raised by CJP TfNSW	Noted. Specific consultation with relevant CJP personnel will be continue prior, and ongoing during ROL applications. Local Councils applications processes have been determined and agreed.	24-Jan-2022					
6	В	Section 5.1	CJP	-	07-Dec-202	Road plates will need to be installed in acordance relevant TfNSW standards to avoid large flat edges that are unsafe and potetentially cause damage. Raised by CJP TfNSW	Noted. Section 5.1 amended to include relevant TfNSW for road plate installation. Relevant CTMPs will identify locations where road-plates and associated aftercare signage is required.	· 24-Jan-2022					
7	В	Section 5.3	CJP	-	07-Dec-202	Lead times may vary to what has been captured in this section. It would be beneficial to allow between 2-6 weeks for any changes tha may be required throughout this program of works. The end of paragraph 2 is in some ways contradictry to paragraph 4 and so not clear on what the process is that should be followed. Raised by CJP TfNSW	t Section 5.3 has been amendment to improve clarity and remove any potential contradictories.	24-Jan-2022					
8	В	Section 5.3.2 - 5.3.6	CJP	-	07-Dec-202	Is there any indication of timing/dates that these potential bus impacts will be experienced? Early engagement with the CJP Transport Integration team is paramount. Raised by CJP TfNSW	Noted. Specific consultation will be conducted with CJP Transport Intergration about potential bus impacts, dates/ timings. This will be completed outside of the CTMP review & comment process.	24-Jan-2022					
9	В	Section 6.1	CJP	-	07-Dec-202	CTMP 1 and 2 will contain a lot of detail considering the number of loaction contained within each. While I understand the rational it also runs the risk of holding up other works if there is a concern with 1 sit as the TMP as a whole will need to be approved. Raised by CJP TfNSW	 Noted. If any issues arise with certain sections of CTMP1 and/or e CTMP2, specific consultation will be undertaken to ensure timely resolutions. 	24-Jan-2022					
10	В	Section 6.1	CJP	-	07-Dec-202	A number of the works and traffic management arrangements described in the table would only be possible during off-peak hours and/or at night. Raised by CJP TfNSW	Noted-Working shifts will be subject to ROL approval timeframes.	24-Jan-2022					
11	В	Section 6.1.2	CJP	-	07-Dec-202	Future TMPs should address how onstreet queuing will be mitigated managed and monitored. Construction vehicles should also avoid obstructing or parking in bus zones or with in the statutory distances of a bus stop. Raised by CJP TfNSW	, Noted.	24-Jan-2022					
12	В	Section 6.1.2	CJP	-	07-Dec-202	Construction vehicles should also avoid obstructing or parking in bus zones or with in the statutory distances of a bus stop. Raised by CJF TfNSW	Noted.	24-Jan-2022					
13	В	Section 6.1.3	CJP	-	07-Dec-202	Construction vehicle traffic should be limited during peak periods where possible. Raised by CJP TfNSW	Noted.	24-Jan-2022					
14	В	Section 6.2	CJP	-	07-Dec-202	Given that these works are in association with a major Tranport project, ROLs may still be required on some local roads irrespective of its proximity to traffic signals and where public transport exists e.g. Kent Rd Raised by CJP TfNSW	Noted. Specific consultation with CJP regarding ROLs will be conducted prior and ongoing during ROL applications.	24-Jan-2022					
15	В	Appendix A	CJP	-	07-Dec-202	Haulage Routes: Have the appropriate approvals been obtained for routes not already approved as part of the EIS? Raised by CJP TfNSW	Heavy Vehicle use of Local Roads (for routes where relevant as shown in Appendix A) DPIE approval request is currently ongoing. This approval will be received by DPIE prior to Heavy Vehicles use of Local Roads.	24-Jan-2022					
16	В	Table 5.1 pg 45	Roads and Maritime Services (part of TfNSW division)	QML	09-Dec-202	TN - Recent SCATS records (refer to 'SCATS Counts' tab) indicate that heavy volumes are still expected at night on GWH. Traffic stoppages up to 5-min could cause serious congestion that couldn't be recovered within a short period. Any stoppages for cable works across GWH should therefore be scheduled at late/mid night, with close monitoring of queue formation to adjust the control strategy. Please specify the time schedule and frequency of stoppages in the upcoming CTMP. * Note the provided SCATS counts for reference only, taken on GWH ~200m east of Gipps St.	Noted this detail will be included in the relevant CTMP.	24-Jan-2022					
17	В	Appendix A pg 93	Roads and Maritime Services (part of TfNSW division)	QML	09-Dec-202	TN - The proposed haulage route on Sunflower Dr (north), Myrtle Ro and Sandpiper Cres are outside of approved B-double routes and are local streets for residential access. Consider safety these sections should be excluded from the haulage route.	Sunflower Dr (north), Myrtle Rd, Sandpipe Cres will have rigid HV use only. These roads, along with other local roads not included in the EIS documents are included in HVLR and submitted to the Planning Secretary for approval.	24-Jan-2022					







			Stakeholder	Contraction of the second s	SSW VERNMENT	Transport Or NSW Australian Government	SW Sydney METRO Western	Sydney Me Sydney Ai	etro - rport		RESPONSE STATUS O Open C Closed		
ltem No	oc Rev	Item Description, (Page, Para, Drg ref)	(e.g. PCC, LCC, CJP, GS)	Reviewer (intials)	Date (comments made) Stakeholder Comment	Contractor's Response	Date	Status (O.C.CS)	Stakeholder response	Contractor Response	Response Status (O,C,CS)	Date
18	в	Appendix A	Sydney Metro	TS	09-Dec-2021	Following on from my previous comments, it appears some of the routes on local roads shown don't align with the EIS? Will Quickway be seeking approval for these in accordance with CoA E105?	Correct. All local roads not included in documents listed in Condition A1 will be included in HVLR and submitted to the Planning Secretary for approval.	24-Jan-2022					
19	В	Section 6.10.2 Pg 80	Sydney Metro	TS	09-Dec-2021	For environmental incidents, it might also be worthwhile referencing the relevant section of the Quickway CEMP	Addition of last paragraph to Section 6.10.2	24-Jan-2022					
20	В	Section 6.9 Pg 78	Sydney Metro	TS	09-Dec-2021	"then (at the asset owner's discretion):" E108 refers to Relevant Road Authority, rather than asset owner - are these the same groups?	Corrected to assimilate same working as the MCoA.	24-Jan-2022					
21	В	Section 6.9 Pg 78	Sydney Metro	TS	09-Dec-2021	"The Road Pre-condition Report will be submitted to TfNSW, Penrith City Council and Liverpool City Council for review at least one (1) month prior to the commencement of construction and/or haulage." CoA E107 also requires that the reports must be provided within tree weeks of completion of the survey - this should also be clarified here.	Last sentence to paragraph 3 added in Section 6.9.	24-Jan-2022					
22	В	Section 6.9 Pg 78	Sydney Metro	TS	09-Dec-2021	'construction of the Rozelle Power Supply Works.' Please revise	Corrected.	24-Jan-2022					
23	В	Section 6.5.2 Pg 76	Sydney Metro	TS	09-Dec-2021	It might also be worth mentioning this specific part of CoA E111: The Proponent must maintain access to properties during the entirety of works unless an alternative access is agreed in writing with the landowner(s) whose access is impacted by the CSSI works. In addition, this section should also address CoA E112: Where construction of the CSSI restricts a property's access to a public road, the Proponent must, until their primary access to an agreed road decided through consultation with the landowner, at no cost to the property landowner, unless otherwise agreed with the landowner.	Addition of last paragprah text in Section 6.5.2.	24-Jan-2022					
24	В	Section 6.1.3 Pg 66	Sydney Metro	TS	09-Dec-2021	'Truck movements to and from site shall be restricted to these designated routes, unless otherwise agreed with the road authority,' There is also the requirement for Planning Secretary to approve the use of local roads proposed to be used by HV that are not identified in the Planning Approval. This section should outline the process for seeking approval by DPIE - ie preparation and submission of the HVLR referenced on page 33. This section should also reiterate the requirements of E106, should approval for the use of Local roads be sought	Addition of last paragprah text in Section 6.1.3.	24-Jan-2022					
25	В	Table 3.2 - T6 Pg 37	Sydney Metro	TS	09-Dec-2021	Suggest also referencing section 6.5 which includes information on how pedestrians and cyclists will be managed?	Reference to Section 6.5 included as suggested.	24-Jan-2022					
26	В	Table 3.2 - T1 Pg 36	Sydney Metro	TS	09-Dec-2021	'OCTMP and occupational CTMP's developed preconstruction.' Typo?	Typo corrected.	24-Jan-2022					
27	В	Table 3.1 - E106 Pg 32	Sydney Metro	TS	09-Dec-2021	'Relevant operational CTMPs will include swept path analysis, reports and advice for the use of Heavy Vehicle routes on local roads identified.' It might also be worth clarifying that the document that is to be provided to DPIE for their approval (I presume the HVLR), will include the content required in E106, in addition to the CTMP?	Table 3.1 hows addressed for E106 is updated as suggested.	24-Jan-2022					
28	В	Table 3.1 - E105 Pg 32	Sydney Metro	TS	09-Dec-2021	"Heavy Vehicle Local Roads (HVLR) document provided to Planning Secretary in separate submission." Given the lead times for seeking DPIE approval, have Quickway identified any local roads that are to be used by heavy vehicles that are no identified in the Planning Approval? It might be good to have a section flagging possible local roads that require approval somewhere in this OCTMP	HVLR document has been submitted to Planning Secretary in Dec- 2021 and current under final approval process.	24-Jan-2022					
29	в	Table 3.1 - E105 and E106 Pg 32	Sydney Metro	TS	09-Dec-2021	'Separate submission to the Planning Secretary will be made for approval for the use construction heavy vehicles on local roads.' suggest clarifying this statement: 'local roads that are not identified in the documents listed in Condition A1'	Table 3.1 hows addressed for E105 & E106 is updated as suggested.	24-Jan-2022					
30	В	Table 3.1 - E103 Pg 32	Sydney Metro	TS	09-Dec-2021	Clarification: As per my previous comment, does that also extend to this OCTMP??	Correct.	24-Jan-2022					
31	в	Section 2.1 - Pg 23	Sydney Metro	TS	09-Dec-2021	Clarification: Given the paragraph above says this OCTMP will following the approval process under the CTMF, does that mean this OCTMP will be provided to the Planning Secretary for info in line with MCOA E103 too?	Correct.	24-Jan-2022					
32	В	Section 1.5 - Pg 20	Sydney Metro	TS	09-Dec-2021	Suggest mentioning that off-airport works will be conducted under Quickway's Sydney Metro Western Sydney Airport Power Enabling Works CEMP	Added to Section 1.5	24-Jan-2022					







						Transport for NSW Australian Government	Signature Sydney METRO Western	Sydney Mo Sydney Ai	etro - irport _		RESPONSE STATUS O Open C Closed		
ltem No	Doc Rev	Item Description, (Page, Para, Drg ref)	Stakeholder (e.g. PCC, LCC,	Reviewer (intials)	Date (comments mad	ade) Stakeholder Comment	Contractor's Response	Date	Status	Stakeholder response	Contractor Response	Response Status (O,C,CS)	Date
33	В	General	Penrith City Council	LV	09-Dec-202	Relevant permits and approvals for road occupancy, closure and th like must be applied for from Council for works on local roads as per discussions held with Penrith City Council staff on Wednesday 8 December, 2021.	e ^r Noted and agreed.	24-Jan-2022	(0,0,03)				
34	В	General	Penrith City Council	LV	09-Dec-202	Council requests that dilapidation surveys pre and post works are completed and provided to Council.Inspection by Council officers post works is required and any damages to be 'made-good' to Council's satisfaction as per the Interface Agreement.	Noted. On 20/12/2021, pre-construction dilapidation reports transmitted for; work areas (e.g. for excavations), heavy vehicles routes on local roads.	24-Jan-2022					
35	В	General	Penrith City Council	LV	09-Dec-202	Ensure continued ease of access for cyclists and people of all abilities.	Noted.	24-Jan-2022					
36	В	General	Penrith City Council	LV	09-Dec-202	21 Ensure compatibility with existing Council assets, where appropriat	e. Noted.	24-Jan-2022					
37	в	General	Penrith City Council	LV	09-Dec-202	Ensure all best practice guidelines and standards, and Council policy, specifications and standard drawings are complied with. Any variation is to be discussed with Council for concurrence.	Noted.	24-Jan-2022					
38	В	General	Penrith City Council	LV	09-Dec-202	Ensure all local businesses, property owners and stakeholders are suitably consulted and not adversely affected. Stakeholders include but are not necessarily limited to emergency services, taxi service providers, bus operators, waste services.	Noted. Stakeholders (businesses, residents and others) have been and ongoing engagement and consultation with Sydney Metro community team.	24-Jan-2022					
39	В	General	Penrith City Council	LV	09-Dec-202	Council is to be notified of any impacts or safety issues that may arise during the course of the planned works and the actions taken appropriately manage those impacts and safety issues.	to Noted.	24-Jan-2022					
40	В	General	Penrith City Council	LV	09-Dec-202	21 NHVR permits are required for any Over Size Over Mass vehicles a	Noted.	24-Jan-2022					
41	В	General	Penrith City Council	LV	09-Dec-202	Haulage routes via local roads between work sites and exit onto a state road are to be identified on a plan and dilapidation reports provided.	In accordance with MCoA E107, dilapidation reports have been provided for local road proposed to be used by Heavy Vehicles. These were provided to relevant road authorities on 20/12/2021.	24-Jan-2022					
42	В	General	Penrith City Council	LV	09-Dec-202	Council has concern in regard to the proposed haulage routes. Appendix A shows maps with EIS approved routes and blue construction routes which cover a number of local roads that were not approved under the EIS. Local roads should not be used as haulage routes without strong justification demonstrating that there no alternative route for construction traffic. Restrictions on vehicle size, hours of use, volume of vehicles may be required.	 EIS approved haulage routes are primarily focused on the major construction and tunneling works where there is significant number of heavy vehicles for spoil haulage works to and from dedicated tunnel and site access points. The EIS's fails to assess of haulage routes for enabling works such as temporary construction power installation (this project). The construction power alignment design is fixed between existing electrical substations and the required construction power point, with power alignments stretching up to a couple of kilometers long where access and egress is required along each point for excavation works. Ultimately this results in numerous local roads where heavy vehicles must travel along to access/egress the trenching alignment work areas. All local roads not included in documents listed in Condition A1 will be included in HVLR and submitted to the Planning Secretary for approval, and also included in the relevant CTMPs with how they will be managed. 	24-Jan-2022					
43	В	Appendix A pg 94	Roads and Maritime Services (part of TfNSW division)	QML	08-Dec-202	BS - What construction vehicles are proposed to be used for truck movements outside of approved B-Double routes? It should be not that the intersections of Elizabeth Drive / Western Road and Elizabeth Drive / Devonshire Road experience heavy delays, especially for vehicles wishing to access Elizabeth Drive; thus thes routes should be avoided if possible.	Heavy vehicles would include combination of rigid trucks and truck & quad dogs. Refer details are included in relevant CTMPs. Noted, regarding possible delays for vehicles attempting to access Elizabeth Dr.	24-Jan-2022					
44	В	Appendix A	Roads and Maritime Services (part of TfNSW division)	QML	06-Dec-202	 RT -what construction vehicles are intending to use Reserve Road access the site compound? It should be noted that there is no dedicated right turn phase at intersection of Great Western Highwa & Reserve Road, and so delays may be experienced for vehicles turning right out of Reserve Road. 	Access to site compound via Reserve Rd would include rigid trucks and truck & quad dogs. Noted reagrding potential delays for delays at intersection. It is noted that the use of Reserve Rd access to site compound will only be utilised until the opening of the signalised intersection of Gipps St at Gipps St is open for traffic. This is currently under final stages of construction.	24-Jan-2022					







					NSW -	Transport	Sydney METRO Weste	Sydney M rn Sydney A	etro - irport		RESPONSE STATUS O Open C Closed		
ltem No	Doc Rev	Item Description, (Page, Para, Drg ref)	Stakeholder (e.g. PCC, LCC, CJP, GS)	Reviewer (intials)	Date (comments made	de) Stakeholder Comment	Contractor's Response	Date	Status (O,C,CS)	Stakeholder response	Contractor Response	Response Status (O,C,CS)	Date
45	В	Appendix A - Gipps St site compound	Transport for New South Wales	LW	30-Nov-2021	The haulage route diagram shows the use of Reserve Road from the EIS approved routes. There does not appear to be arrow protection for the left turn from Great Western Highwa Reserve Road - meaning that left turning vehicles will receir green signal at the same time pedestrians receive a green cross Reserve Road. This increases the likelihood of collisie especially with significant blind spot issues that HV have an McDonalds likely to see increased pedestrian movements. demonstrate how this risk will be mitigated SFAIRP.	be add differing be any redNoted.Specific reference to the awareness of pedestrians during this le turn movement from vehicles heading WB on GWH will be include in heavy vehicle driver induction.In signal to ision, and with a s. PleaseIt is noted that the use of Reserve Rd access to site compound to only be utilised until the opening of the signalised intersection of Gipps St at Gipps St is open for traffic. This is currently under fir stages of construction.	it led 24-Jan-2022 al					
46	В	Appendix A - haulage routes	Transport for New South Wales	LW	30-Nov-2021	A number of the haulage routes shown in this appendix app differ from the EIS approved routes. Can you please detail what safety analysis has been carried out (such as a HIRA) demonstrate that these routes are safe.	Ppear to all and add A) to Haulage route overview maps included in the OCTMP. Site-spec CTMPs include professional safety assessment, and the relevan swept path analysis for heavy vehicle maneuvers on local roads	ific t 24-Jan-2022					
47	В	6.5 Pedestrians and cyclists	Transport for New South Wales	LW	30-Nov-2021	The fourth paragraph details use of traffic controllers pendir construction activity. Please also consider using traffic cont manage conflicts entering and exiting site in any areas of hi pedestrian and cyclist activity.	ding on ontrollers to higher Section 6.5 updated - in locations where movements across high activity footpaths/ cyclists ways, traffic controllers will be implemented at all times during the works.	24-Jan-2022					
48	В	6.5 Pedestrians and cyclists	Transport for New South Wales	LW	30-Nov-2021	The first three paragraphs detail maintaining access around worksite - please consider adding driver awareness of spec locations where cyclists are expected to be riding along the areas with higher pedestrian numbers including vulnerable pedestrians around schools. This will assist in reducing the collisions with vulnerable users along haulage routes.	Ind the ecific he road or le specific heavy vehicle driver awarness of cyclists location in specific heavy vehicle driver induction.	ite 24-Jan-2022					
49	В	6.1.3 Construction traffic routes	Transport for New South Wales	LW	30-Nov-2021	Page 67 refers to all work vehicles shall give way at all time pedestrians on the footpath. Can you please expand this to pedestrians and cyclists - as there may be instances where can legally ride along the footpath, especially around the so	nes to to Bullet point no.3 in Section 6.1.3 has been updated to also inclu- cyclists. schools.	le 24-Jan-2022					
50	В	Whole Document	Liverpool City Council	CW	13-Dec-2021	Liverpool City Council (LCC) has provied the attached OCT approval letter (including in Appendix D of OCTMP).	CTMP Liverpool City Council (LCC) has provied the attached OCTMP approval letter (including in Appendix D of OCTMP). It is noted t all requipments outlined have been included in the site-specific Portion 4 to Portion 6 CTMP2 (LCC LGA) which LCC have revie and provided comments.	aat 24-Jan-2022 ved	С				



Our Ref: Contact: Ph: Date: 13

SSD1-25/2020 Charles Wiafe 8711 7542 13 December 2021

Joshua Maltese Quickway

Dear Joshua

Re: Sydney Metro Western Sydney Airport - Overarching Construction Traffic Management Plan

I refer to the submitted Overarching Construction Traffic Management Plan (OCTMP) (Reference No. 4022-WSA-OCTMP-001) for the Sydney Metro Western Sydney Airport Aerotropolis Metro Station enabling works – Installation and commissioning of construction power at Badgerys Creek Road area and Aerotropolis.

Portions 4 and 6 enabling works, are proposed within the Liverpool Local Government Area. Hence, Council has reviewed and provides the following comments and requirements on OCTMP2:

- 1. Sections of the proposed power supply routes are along Badgerys Creek Road, Martin Road and Pitts Street, which are future arterial roads with approximately 40-60 m wide SP2 zone classified road reserve. Consultation is required with Transport for NSW corridor protection team for any permanent new utility installation.
- 2. A number of construction traffic management plans (CTMPs) have been prepared for various construction works as part of the enabling works. Sydney Metro is to provide Council with an overview of the multiple construction traffic management plans, for review and endorsement. The OTMP as required in Minister's Conditions of Approval (MCoA) should cover all the enabling and main construction works for Sydney Metro Western Sydney Airport project.
- 3. Site specific CTMP are to be submitted to Council's comment at least 10 days prior to commence of work.

Each site specific CTMP is to include:

- Haulage routes showing proposed heavy vehicle and oversized vehicle routes to/from the construction sites and compounds,
- Haulage truck sizes
- Swept paths for heavy vehicle movement on local roads that would be used as haulage route
- 4. The OCTMP is to be include a Driver Code of Conduct prepared and included as part of a site specific CTMP.
- 5. The proposed locations of variable message boards (VMS) and associated messages is to be submitted to Council for review.



Customer Service Centre Ground floor, 33 Moore Street, Liverpool NSW 2170 All correspondence to Locked Bag 7064 Liverpool BC NSW 1871 Call Centre 1300 36 2170 Email lcc@liverpool.nsw.gov.au Web www.liverpool.nsw.gov.au NRS 13 36 77 ABN 84 181 182 471 6. Council's Road Occupancy permits are required for works within public roads under its care and control including Badgerys Creek Road and other local roads.

A road occupancy application, including work specific traffic control plans are to be submitted online to Council and if required the Transport Management Centre at least 7 business days prior to its proposed road occupancy. Application forms can be found on Council's website at: <u>https://www.liverpool.nsw.gov.au/council/Fees-Forms-Policies-and-Enforcement/forms</u>.

- 7. In addition, Council's Road opening approvals are required for works including connections to existing services within its public road reserves.
- 8. Working hours should be restricted to the approved times, in accordance with the development consent. If required, contact Council's Traffic and Transport Section for approval of alternative working hours for works within Council's public road reserves.
- 9. Pre-condition and dilapidation reports should include the existing bridges along sections of Pitt Street and Badgerys Creek Road.
- 10. Adequate off-street parking is to be provided for all construction workers. Alternatively
- 11. A notice with contact phone number and email details for community to make contacts regarding work activities are to be installed at the work site.
- 12. An updated indicative construction program is to be submitted to Council for review.
- 13. Haulage routes and any disturbed Council assets are to be maintained in good condition until completion of the project.
- 14. Temporary restorations shall be carried out as per the Ausspec 306U.
- 15. Pre and post dilapidation survey are to be carried out and compared to identified damage/s. Any damage is to be repaired to Council's satisfaction.

Should you require further clarification, please contact me again via email on Wiafec@liverpool.nsw.gov.au.

Yours sincerely

Charles Wiafe **Service Manager Traffic and Transport**