Site Plan

Scale 1:1000

Scale 1:1000

DIAL BEFORE YOU DIG

Ref:	31901682	Date:	05 May, 2022

DBYD searches indicates the presence of services within the proposed work-site. The Level 1 ASP /Constructor is to confirm the location of "**all**" services prior to the commencement of works.

Construction of this Project

This Project will require the completion of Stage 7D under project (URS25542) Drawings 522560A. & 522559A

Establish Proposed PMS No. 95585

- Transformer: 500kVA (11000:433V),
- HV Switchgear: ABB Safelink, Type: "RTR",
- HV Fuses: 12kV, 50Amp (Full Range),
- LV Switchgear: Weber CAT 1, Config: "FFIFF",
- LV Fuses: LV 250A (DIN, size 2)
- Cubicle: Size 14,
- Earthing: Common (refer Earth Design).

SAP Data 95585

HV BusBar	19183
Trf	10003902
LV BusBar	36926

Trench Length

High Voltage Trenching	216m
Low Voltage Trenching	453m
Street Light Trenching	0m
Road Crossing	166m
Total	835m

Cable Lengths

Cable Lengths specified on this design have been calculated utilizing 2 dimensional data to align with Endeavour Energy's AVS. The Constructor **will need to allow for** additional cable to cater for topographic influences as well as cable terminations, cable setting, and vertical indifference.

Service Work

All service works to be carried out by an authorized level 2 ASP in accordance with the New South Wales Service & Installation Rules, Australian Standards and all other relevant standards.

Testing and Commissioning

All required testing in accordance with SDI 120 must be performed in strict accordance with the standard.

Service Ducts

The end of service ducts must not be placed under proposed driveways. (Refer to Developers Representative for details for details)

Final Ground Level

The constructor is to confirm finished ground level with the developer prior to the commencement of construction.

Pollution

Requirements of the environmental protection authority pollution control legislation is to be strictly adhered to.

Caution

Existing live electrical assets located in this vicinity, appropriate safety precautions must be utilized.

Caution

High Pressure Gas Assets in this area. constructor to contact Jemena on ph 1300 665 380 prior to the commencement of works.

Caution

Telstra assets in this area. Constructor to contact Telstra on ph 1800 653 935 prior to the commencement of works.

LEGEND

- Existing Underground Cable/s,
- Existing Conduits (Ducts),
- Proposed New Conduits (Ducts),
- Street Light Trenching
- Low Voltage Trenching
- High Voltage Trenching
- Lay 40mm P.V.C. Service Conduits
- Existing Service Mains
- Pillar Excavation Location,
- Existing Pillar,
- Proposed Column Excavation location - 4.5m Enlarged Base Column & 3.0m Eden Outreach - Type 2 Ragbolt (Type 2 Footing) - Colour Powdercoated Black
- Existing Column,
- Proposed New Streetlight Lantern,
- Existing Streetlight Lantern,
- Proposed New Padmount Substation,
- Existing Padmount Substation,
- Point Indicator,
- Lot Less Than 350m2 (ADMD 5.0kVA/Lot),

Painting of Columns

Local council requires a certificate from the manufacturer supplied confirming the power coated columns are in accordance with the requirements of AS/NZ 4506-2005.

Streetlight LV Supply

All active conductors extending from LV pillars to service streetlight columns to be fitted with a 16A in line fuse.

Streetlight Columns

All streetlight columns are to be installed 350mm from the property boundaries unless otherwise indicated.

Existing Conduits

All conduits are to be mandrelled, proven clear, free of foreign material, and deformation prior to the installation of cables.

Proposed Ducts/Conduits

All Proposed 125mm ducts / conduits are to have a minimum 750mm cover. (in accordance with MDI0028)

WAE NOTES

1. ONLY CHANGES MARKED UP IN RED FORM ARE PART OF THIS ASSET RECORDING.
2. ALL SURFACE ASSETS WERE RECORDED AT LEVEL QUALITY 'C'.
3. DUCT TABLE HAS BEEN AMENDED AS PER INSPECTION. REFER TO DUCT SCHEDULE FOR DETAILS.

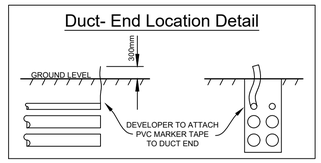
WAE LEGEND

- PVC DUCTS (TRENCH)
- PVC DUCTS (UNDERBORE)
- QUALITY LEVEL DATA POINT
- PL PROPERTY LINE
- DE DUCT END
- UB UNDERBORE END

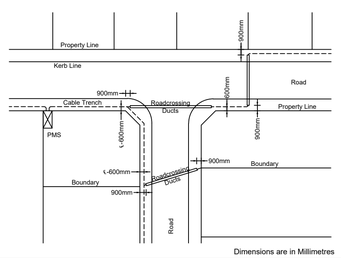
NOTE:

THE SURVEY IN THIS DRAWING HAS BEEN CONDUCTED IN GDA2020.

Duct- End Location Detail



TYPICAL ROAD CROSSING CONFIGURATION



Funding Arrangements for Scope of Works

ASP Level 1 Electrical Works		Customer
Endeavour Energy Supplied Materials	**Customer Funded Non-Contestable Works**	**Customer Funded**
NIL	• *All works associated with the inspection, testing, switching and the commissioning associated with this project.*	*Including but not limited to:* • *Pegging of easements, property boundaries and infrastructure locations,* • *Registering of Easements,* • *Provide Site Access,* • *Own Service and Service connections,* • *Confirm ground levels.*
Endeavour Energy Funded & Constructed		
Works Required Prior to Completion of Customer Contestable Project / Works Required in Association of Customer Contestable Project	**Customer Funded Contestable Works**	**Existing Duct Usage Charges (excl GST)**
NIL / *NIL*	*All other works and materials including but not limited to:* • *Substation establishment & installation,* • *Excavation & Trenching,* • *Duct Installation,* • *Cable Installation (Pulling & Laying),* • *Cable Jointing,* • *Installation of Earthing,* • *Removal of Redundant Assets.*	*Total Usage $0.00*
Endeavour Energy Funded & Level 1 ASP Constructed - Reimbursement (excl GST)		**Co-ordination Supply Required Date**
Item / Amount		*01/11/2022*
1x 500kVA (11000:433V) PMS Trfs / $12 576.00		**Assets to be Returned to the nearest Endeavour Energy Depot.**
		Nil
Total EE Capital Contribution (excl. PM & Design) / $12 576.00		
Total EE Capital Contribution (HV reimbursement) / **$13 796.00**		

KEY DOCUMENTS TABLE

The Certification of this project is supported by the following key documents

Document Name	Notation Date
Summary Environmental Report - FAT0038 (EMS0001)	09 May, 2022
Safe Design Report	09 May, 2022

Pioneer Cost Share Reimbursement SCHEME - Expiry Date : N/A

Pro-Rata Reimbursement for Customer's Load Over 50kVA

Asset	Asset Cost Estimate ($)	Unit Quantity	Net Asset Capacity (kVA)	Original Customer Utilization (kVA)	Maximum Reimbursement Amount ($)
HV Mains	N/A	(km)			N/A
LV Mains	N/A	(km)			N/A
Substation	N/A				N/A

Design Compliance and Indemnity

This design complies with Endeavour Energy's relevant standards as current at this time & as listed on the Endeavour Energy Accredited Service Provider's Internet site. These standards include, but are not limited to:

- CP: Connection Policy,
- EMS: Environmental Management Standard,
- MCI: Mains Construction Instruction,
- MDI: Mains Design Instruction,
- PDI: Protection Design Instruction,
- SDI: Substation Design Instruction,
- SAD: Design Drawing Standard,
- MMI: Mains Maintenance Instruction,
- SMI: Substation Maintenance Instruction,
- LDI: Public Lighting Electrical Design Element.

Additionally, where relevant, the design complies with AS/NZS7000 "Overhead Line Design - Detailed Procedures" published by The Australian Standards.

Power Line Design Pty Ltd indemnifies Endeavour Energy for any loss or damage resulting from non-compliance of the design with the above standards.

Signed: *Mike Baranowski*

Name: Michael j Baranowski

Service Provider Number: 2486 Date: 12-05-2022

WORK COMPLETED / FIELD BOOK

CONSTRUCTED BY C.J. DOYLE CONTRACTING

WORKS COMPLETED CHRIS JOWETT

SIGNATURE C JOWETT DATE 26/09/23

INSPECTED BY MICHAEL WEIR

SIGNATURE ..... DATE .....

ASSET RECORDING

I STEVE FRIDAY

OF C.J. DOYLE CONTRACTING

CONTACT No 8784-1922

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

SIGNATURE STEVE FRIDAY DATE 26/09/23

Certified by Endeavour Energy

Amendment: _____

Date Approved: _____

Examiner's Signature: _____

Print Name: _____

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

Authorisation of Estimate Value of Endeavour Energy Funded Assets

Signed: _____

Print Name: _____

Service Number: _____

Funding Amount: $ _____

Date: _____

Notes

1. This drawing is to be read in conjunction with the relevant Endeavour Energy Network Standards and Connection Policy.
2. Endeavour Energy Contact Phone: 131081.
3. Design certification shall lapse where:
   (i) notice of intent has not been received within six (6) months of this certification, or
   (ii) construction has been interrupted for more than six (6) months.
   where design certification has lapsed the design must be resubmitted for certification by the accredited designer.
4. Accredited Service Provider to notify Endeavour Energy asset data customer department daily when cable works is in progress. (ph. 131 081).
5. **ATTENTION:** Permanent survey marks may exist in this area, these are to be located by a surveyor prior to commencement of work.
6. **ATTENTION:** All services searches must be checked before construction.
7. **ATTENTION:** The preparation of this design has been undertaken giving due consideration to the location of existing services. The Constructor is however responsible for the verification of services and permanent survey marks prior to the commencement of construction. No responsibility nor liability will be accepted by the designer for damage to existing services as a result of this design.
8. **WARNING:** Live Endeavour Energy cables & other services in this area. Please contact "Dial Before You Dig" on telephone: 1100 for searches two days prior to excavation.
9. **Material Quantities Specified on this Design:** The quantities or dimensions specified on this design are based on design information supplied and site conditions at the time of the design. As quantities and dimensions are subject to change, the Constructor must check all quantities and dimensions on site prior to tendering and prior to construction.
10. **Reimbursements:** Reimbursements will be paid to the nominated party on the letter of intent after the works have been competed and the letter of acceptance has been issued. The reimbursed amount is shown in the "Funding Arrangements for Scope of Work table" . Any disagreement with the amount should be resolved with Endeavour energy prior to the commencement of works.
11. **Operational Limitations:** Unless approved otherwise, interruption to any customer's supply must be avoided. the following alternatives should be considered:
    - mobile generators and substations,
    - live line work,
    - design alternatives,
    - low voltage parallels,
    - work practices/standards.

    the cost is to be funded by the customer/developer.
12. **Environmental Management plan:** EMP EMS0001 is part of this design (refer to EIA for details).
13. **Pollution Controls:** All the requirements of the Environmental Protection Authority pollution control legislation is to be strictly adhered to.
14. **Aboriginal Heritage:** If during construction of this project the constructor or developer becomes aware of any previously unidentified Aboriginal Object(s), all work likely to affect the object(s) shall cease immediately, and the Office of Environment & Heritage shall be notified immediately in accordance with section 89a of the National Parks & Wildlife ACT 1974. Works shall not recommence until written authorization from the NSW Office of Environment and Heritage has been issued, in addition to written consent from the local aboriginal land council.
15. **Heritage:** If during construction of this project the constructor or developer becomes aware of any previously unidentified heritage object(s), all work likely to affect the object(s) shall cease immediately, and the Heritage Council of NSW shall be notified immediately in accordance with Section 146 of the Heritage ACT1977. Works shall not recommence until written authorization from the heritage council has been issued.
16. **Telecommunications:** Telecommunications assets are **NOT** effected by the proposed works.
17. **Existing Assets:** Have all the existing assets been field checked and are accurate at the time of design? **YES**

APPROVAL TO CONNECT TO PUBLIC LIGHTING

Reviewers Name: _____

Date Approved: _____

Reviewers Signature: _____

This Approval is issued subject to Endeavour Energy's General Terms & Conditions for Connection of Public Lighting and is specifically for drawing No. _____ Amendment ____ .

This Drawing Supplies 83 Lots (Subdivision of Lot 3, DP1230408)

C.A.P. No.	Lot Numbers	No. of Lots	Developer	Developers Representative	Contact No.
URS25734	Lot 8301 to 8383	83	Woorong Park Pty Limited	Briony Traish / Tana Sainsbury (J. Wyndham Prince)	(02) 4720 3319

Lighting Equipment & Billing Schedule

State	Luminaire Number	Support Number	Luminaire				Column / Pole				Outreach / Bracket				Upcast Angle	Category	Mounting Height	Column Colour	Charge To
			Description	Part No.	Rate Code	QTY	Description	Part NO.	Footing Bolt / Foundation	Rate Code	QTY	Description	Part No.	Rate Code	QTY					
New	302737 - 302750	2002067 - 2002080	17W StreetLED (Gerard)	JLB99G05L17	889	14	4.5m Enlarged Base Column	IE/4.5.EB	Type 2 /Type 2 (<9.0m)	995	14	3.0m Curved Pipe Outreach	IE3.0CPS/25	991	14	5°	PR5	6.5m	Black	Blacktown City Council

AMENDMENTS		
A	ORIGINAL ISSUE	01
	DRAFT No.	

powerlinedesign

POWER LINE DESIGN PTY LTD
PO BOX 338 Mittagong NSW 2575
Ph (02) 4872 1920 Fax (02) 4872 1240
Accredited Designer Number 2486 / ABN: 33107 591 846

The preparation of this design has been undertaken giving due consideration to the existing services. The project constructor is wholly responsible for verify the exact location of existing services and permanent survey marks prior to commencing construction. No responsibility or liability will be accepted by the designer of this project for damage to existing services as a result of this design.

PLD Ref: 3865

TEMPLATE VERSION No. 3/5

Reference Drawings		Work Orders		CAMS File No.	URS25734
526342A	(URS25734) Duct Trench & Easement	General		AM Project No.	
		Overhead		HV Switching	
		Underground		EE Depot	Kings Park
		Substations		EE Region	Northern
				HV OP Diagram	Marsden Park
				Local Government Area	Blacktown City

ORIGINAL SCALE 1:1000

Drawn	MIchael.j.B	DO NOT SCALE Dimensions in Meters
Date	12-05-2022	
Ch'd	MIchael.j.B	Design MIchael.j.B

Off Richmond Road
MARSDEN PARK
URS25734
Stage 7E

Electrical Reticulcation

Endeavour Energy

A1 526343 A

SHEET No 1 OF 5 SHEETS

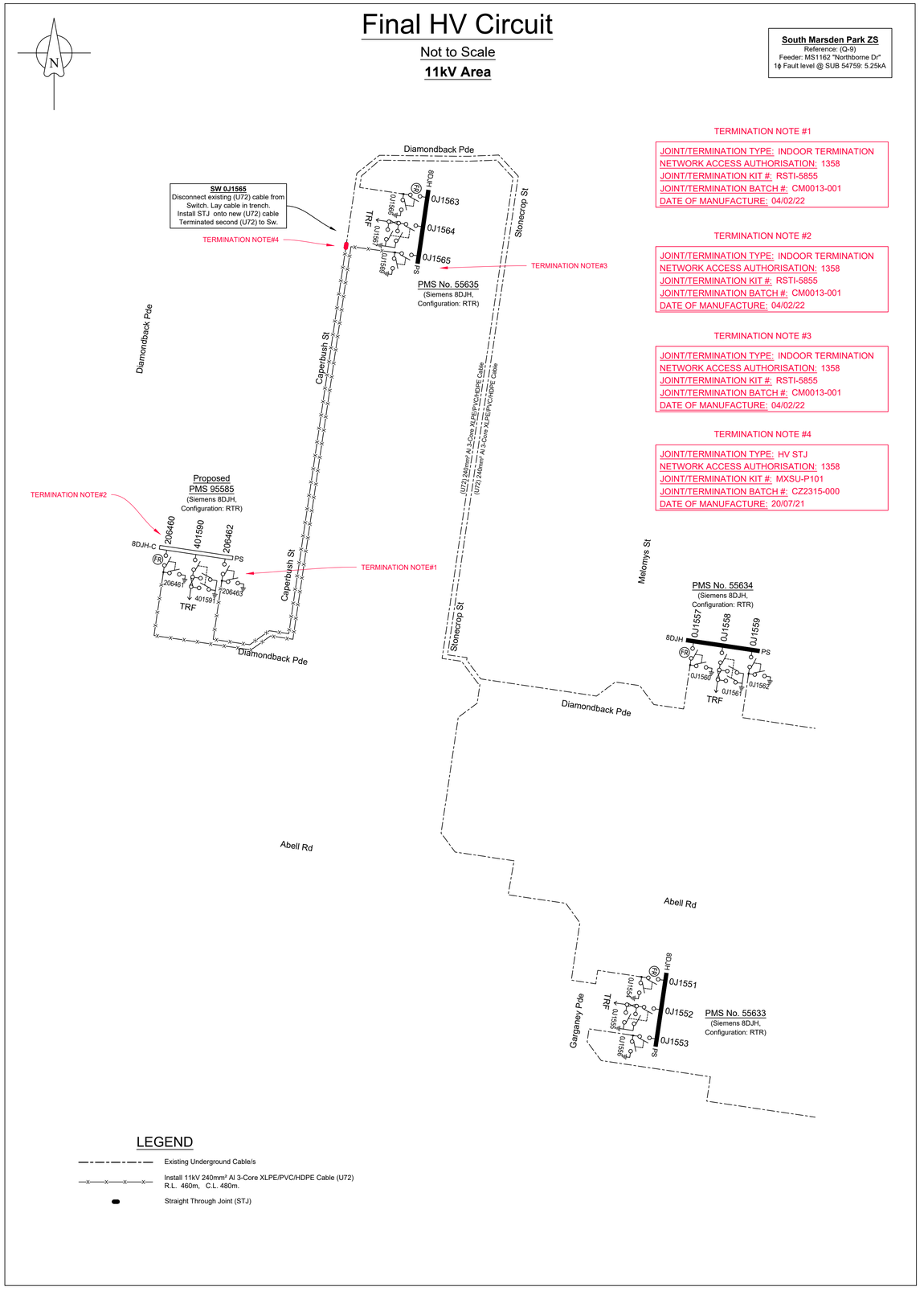
64545 #4299

Final HV Circuit

Not to Scale

11kV Area

South Marsden Park ZS
Reference: (Q-9)
Feeder: MS1162 "Northborne Dr"
1ϕ Fault level @ SUB 54759: 5.25kA



TERMINATION NOTE #1

JOINT/TERMINATION TYPE: INDOOR TERMINATION
NETWORK ACCESS AUTHORISATION: 1358
JOINT/TERMINATION KIT #: RSTI-5855
JOINT/TERMINATION BATCH #: CM0013-001
DATE OF MANUFACTURE: 04/02/22

TERMINATION NOTE #2

JOINT/TERMINATION TYPE: INDOOR TERMINATION
NETWORK ACCESS AUTHORISATION: 1358
JOINT/TERMINATION KIT #: RSTI-5855
JOINT/TERMINATION BATCH #: CM0013-001
DATE OF MANUFACTURE: 04/02/22

TERMINATION NOTE #3

JOINT/TERMINATION TYPE: INDOOR TERMINATION
NETWORK ACCESS AUTHORISATION: 1358
JOINT/TERMINATION KIT #: RSTI-5855
JOINT/TERMINATION BATCH #: CM0013-001
DATE OF MANUFACTURE: 04/02/22

TERMINATION NOTE #4

JOINT/TERMINATION TYPE: HV STJ
NETWORK ACCESS AUTHORISATION: 1358
JOINT/TERMINATION KIT #: MXSU-P101
JOINT/TERMINATION BATCH #: CZ2315-000
DATE OF MANUFACTURE: 20/07/21

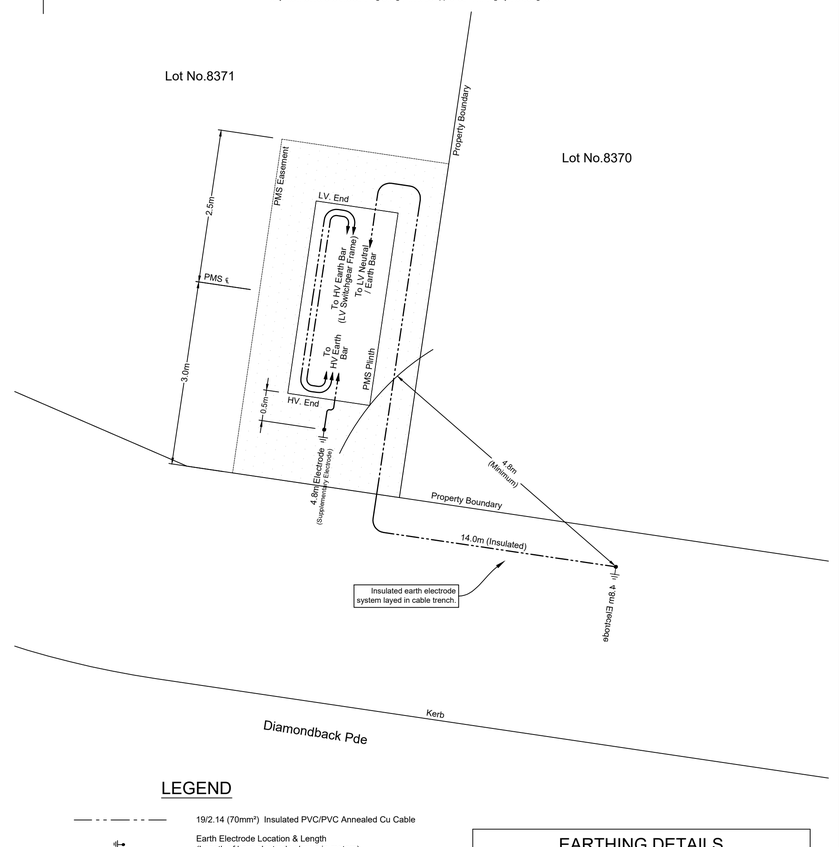
LEGEND

- Existing Underground Cable/s
- Install 11kV 240mm² Al 3-Core XLPE/PVC/HDPE Cable (U72) R.L. 460m, C.L. 480m.
- Straight Through Joint (STJ)

Padmount Substation PMS 95585
Common Earth Configuration

Not to Scale
Earthing Construction to EDI-0006
Information Updated After Commissioning on _____

Earthing design is based on the requirements of Endeavour Energy's EDI100 & EDI001.
Any modifications to this earthing design must be approved in writing by the designer.



LEGEND

- 19/2.14 (70mm²) Insulated PVC/PVC Annealed Cu Cable
- Earth Electrode Location & Length (Length of bare electrode shown in meters)

Common Earthed PMS
2x Insulated copper links to be installed between the HV BAR mounted on the LV frame & the LV Neutral / Earth bar.

HV Earth Minimum Separation

	Design	Actual		Design	Actual
TDMEN	0.0m	>5.0m	Telco	0.0m	>5.0m
TDB	0.0m	>5.0m	Pipes	0.0m	>5.0m
TDU	0.0m	>5.0m	HV - LV	4.8m	4.8m

EARTHING DETAILS

Soil Resistivity (Ohms.m)	Layer 1	28.17 Ω	Depth (m)	5.97m
	Layer 2	16.0Ω		Infinity
Design Earth Resistance (Ohms)				6.4Ω
Measured Earth Resistance (Ohms)				5.5
Number of Electrodes (Excluding Supplementary Electrodes)				1
Length of Bare Electrode (m)				4.8
Insulated Depth (m)				0.6
Connector Type (CAD or CRIMP)				Crimp
Location Category (F-frequented, R-remote, S-special)				F
What Design Tools Used?				3E
HV Fault Level (kA)				1.82kA
Is this the first Asset from Zone Substation? (If Yes, check Z/S Earthing Configuration)				N
Are Cable Screens of Incoming Cable Bonded to Distribution Substation Earth Bar?				Yes

Certified by Endeavour Energy

Amendment: _____
Date Approved: _____
Examiner's Signature: _____
Print Name: _____

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

WORK COMPLETED / FIELD BOOK

CONSTRUCTED BY C.J. DOYLE CONTRACTING
WORKS COMPLETED CHRIS JOWETT
SIGNATURE C JOWETT DATE 26/09/23
INSPECTED BY MICHAEL WEIR
SIGNATURE ..... DATE .....

ASSET RECORDING

I STEVE FRIDAY
OF C.J. DOYLE CONTRACTING
CONTACT No 8784-1922

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

SIGNATURE STEVE FRIDAY DATE 26/09/23

AMENDMENTS: ORIGINAL ISSUE A; DRAFT No. 01

powerlinedesign
POWER LINE DESIGN PTY LTD
PO BOX 338 Mittagong NSW 2575
Ph (02) 4872 1920 Fax (02) 4872 1240
Accredited Designer Number 2466 / ABN: 33107 591 846

The preparation of this design has been undertaken giving due consideration to the existing services. The project constructor is wholly responsible for verify the exact location of existing services and permanent survey marks prior to commencing construction. No responsibility or liability will be accepted by the designer of this project for damage to existing services as a result of this design.

PLD Ref: 3865

TEMPLATE VERSION No. 3.18

Reference Drawings		Work Orders		CAMS File No.	URS25734
526342A	(URS25734) Duct Trench & Easement	General		AM Project No.	
		Overhead		HV Switching	
		Underground		EE Depot	Kings Park
		Substations		EE Region	Northern
				HV OP Diagram	Marsden Park
				Local Government Area	Blacktown City

ORIGINAL SCALE 1:1000

Drawn	MIchael.j.B
Date	12-05-2022
Ch'd	MIchael.j.B
Design	MIchael.j.B

DO NOT SCALE
Dimensions in Meters

Off Richmond Road
MARSDEN PARK
URS25734
Stage 7E

Electrical Reticulcation

Endeavour Energy

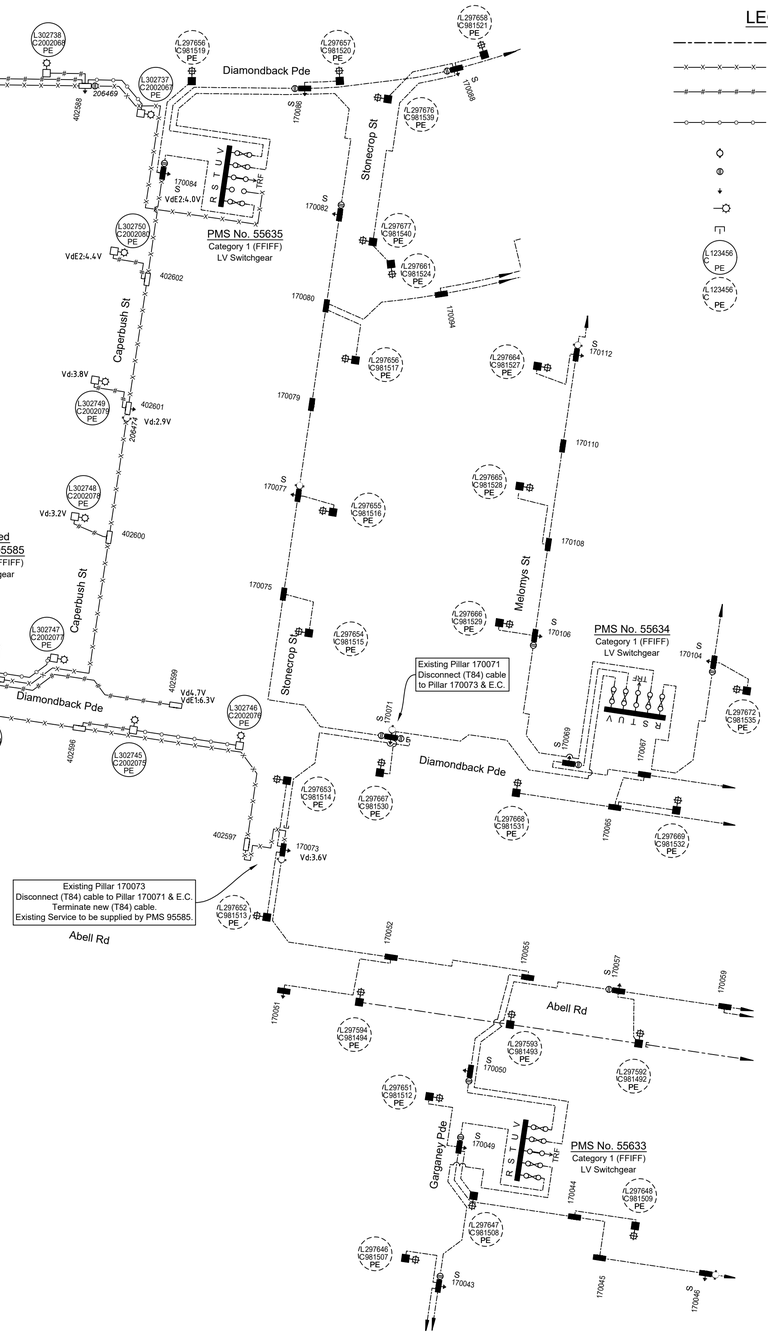
A1 526343 A

SHEET No 2 OF 5 SHEETS

64545 #4299

Final LV Circuit

Not to Scale



LEGEND

- Existing Underground Cable/s,
- Install 240mm² Al 4-Core XLPE/PVC Cable (T84) R.L. 720m, C.L. 774m.
- Install 50mm² Cu 4-Core XLPE/PVC Cable (T94) R.L. 410m, C.L. 440m.
- Install 1x 16mm² Cu 2-Core XLPE/PVC Cable In 50mm Conduit and a Spare 50mm Conduit. R.L. 81m, C.L. 89m.
- LV Isolation Switch/Links (N/O)
- LV Isolation Switch/Links (N/C)
- Pillar Earth
- Proposed New Street Light Lantern - 17W StreetLED
- End Cap (E.C),
- L123456 C PE — Lantern Number - Proposed Asset / Column Number - Proposed Asset (PE Controlled)
- /L123456 C PE — Lantern Number - Existing Asset / Column Number - Existing Asset (PE Controlled)

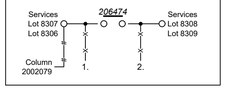
New Labels PM Sub. 55635	
'S' -	Pillar 402588

New Labels PM Sub. 95585		
'R' -	Pillar 402594	206464
'S' -	Spare (N/O)	206465
'T' -	Transformer	401591
'U' -	Pillar 402592	206466
'V' -	Pillar 402595	206467
'G' -	Generator Fuse Strip	206468

Pillar 402601 Linking Diagram

(Normal Link Positions Shown)

Cable 1 - Pillar 402602,
Cable 2 - Pillar 402601,



Legend for LV Voltage Drop

Voltage Drop Calculations Based on an ADMD of 5kVA/ lot for lots less than 350m², and 6.5kVA/Lot for lots 350m² and greater.

Vd = Voltage drop for normal supply @ 100% ADMD

Emergency / backup voltage drop @ 60% of ADMD

	Supply Sub (Fuse Strip)	Backed Up Sub (Fuse Strip)
VdE1	PMS 55365 (R)	PMS E1 (R)
VdE2	PMS E1 (R)	PMS 55365 (R)
VdE3	PMS 55365 (S)	PMS E1 (U)
VdE4	PMS E1 (U)	PMS 55365 (S)
VdE5	PMS 55633 (V)	PMS E1 (V)
VdE6	PMS E1 (V)	PMS 55633 (V)

Certified by Endeavour Energy

Amendment: _____

Date Approved: _____

Examiner's Signature: _____

Print Name: _____

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

WORK COMPLETED / FIELD BOOK

CONSTRUCTED BY C.J. DOYLE CONTRACTING

WORKS COMPLETED CHRIS JOWETT

SIGNATURE C.JOWETT DATE 26/09/23

INSPECTED BY MICHAEL WEIR

SIGNATURE ..... DATE .....

ASSET RECORDING

I STEVE FRIDAY

OF C.J. DOYLE CONTRACTING

CONTACT No 8784-1922

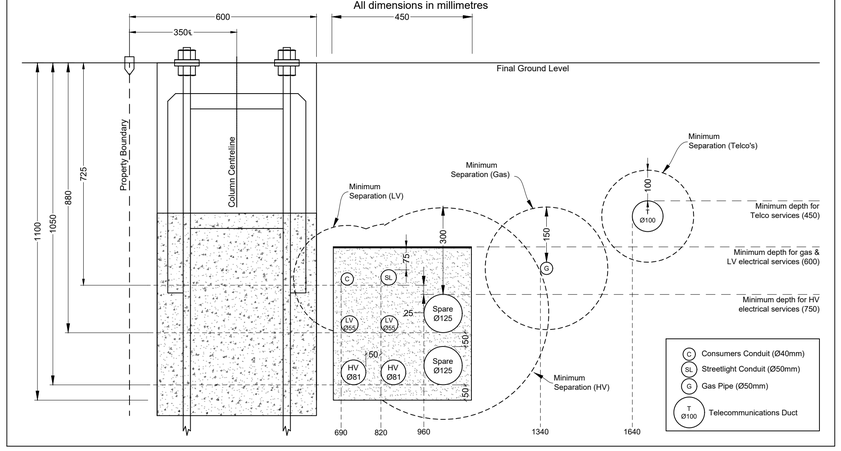
HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED AS PER ENDEAVOUR ENERGY STANDARD SAD 0004.

SIGNATURE STEVE FRIDAY DATE 26/09/23

TYPICAL TRENCH CROSS SECTION

(Refer to Technical Bulletin -0105c for further details)

All dimensions in millimetres



AMENDMENTS	
A	ORIGINAL ISSUE
DRAFT No. 01	

powerlinedesign
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Accredited Designer Number 2486 / ABN: 33107 591 846

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PLD Ref: 3865

TEMPLATE VERSION No. 3/3

Reference Drawings		Work Orders		CAMS File No.	URS25734
526342A	(URS25734) Duct Trench & Easement	General		AM Project No.	
		Overhead		HV Switching	
		Underground		EE Depot	Kings Park
		Substations		EE Region	Northern
				HV OP Diagram	Marsden Park
				Local Government Area	Blacktown City

ORIGINAL SCALE 1:1000

DO NOT SCALE
Dimensions in Meters

Drawn	MIchael.j.B
Date	12-05-2022
Ch'd	MIchael.j.B
Design	MIchael.j.B

Off Richmond Road
MARSDEN PARK
URS25734
Stage 7E

Electrical Reticulcation

Endeavour Energy

A1 526343 A

SHEET No 3 OF 5 SHEETS

#4299

64545

Duct Breakdown Table

Route	Configuration	Route Length	Duct Re-Imbursement				Duct Usage Charge			
			No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)	No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)
✓ a → b	Install new LV Cable in Existing Duct	21m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ b → c	New HV Trenching	33m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ c → d	New HV Trenching	5m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ d → e	New HV Trenching	35m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ e → f	New HV Trenching	5m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ f → g	New HV Trenching	43m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ g → h	New HV Trenching	45m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ h → i	New LV Trenching	31m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ h1 → j	New HV Trenching	18m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ j → k	New HV Trenching	27m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ k → l	New HV Trenching	1m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ l → m	New LV Trenching	14m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ m → n	New LV Trenching	24m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ n → o	New LV Trenching	13m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ o → p	New LV Trenching	23m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
	Sub Totals		0	$ 0	0	$ 0	0	$ 0	0	$ 0
	Total		$ 0				$ 0			

Duct Breakdown Table

Route	Configuration	Route Length	Duct Re-Imbursement				Duct Usage Charge			
			No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)	No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)
✓ p → q	New LV Trenching	27m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ q → r	New LV Trenching	15m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ r → s	New LV Trenching	32m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ s → t	New LV Trenching	42m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ t → u	New LV Trenching	33m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ u → v	New LV Trenching	13m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ v → a1	New LV Trenching	19m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ t1 → w	New LV Trenching	10m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ x → l1	New LV Trenching	26m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ l1 → y	New LV Trenching	8m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ y → z	New LV Trenching	18m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ z → A	New LV Trenching	30m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ A → B	New LV Trenching	18m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ B → C	New LV Trenching	35m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ C → D	New LV Trenching	32m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
	Sub Totals		0	$ 0	0	$ 0	0	$ 0	0	$ 0
	Total		$ 0				$ 0			

Duct Breakdown Table

Route	Configuration	Route Length	Duct Re-Imbursement				Duct Usage Charge			
			No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)	No. of 50mm Ducts	Amount (@ $7/m)	No. of 125mm Ducts	Amount (@ $27/m)
✓ D → E	Existing Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ a → a1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ c → c1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ e → e1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ g → g1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ h → h1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ l → l1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ m → m1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ o → o1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ q → q1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ s → s1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
✓ t → t1	Proposed Road Crossing	16m	0	$ 0.00	0	$ 0.00	0	$ 0.00	0	$ 0.00
	Sub Totals		0	$ 0	0	$ 0	0	$ 0	0	$ 0
	Total		$ 0				$ 0			

WORK COMPLETED / FIELD BOOK

CONSTRUCTED BY C.J. DOYLE CONTRACTING

WORKS COMPLETED CHRIS JOWETT

SIGNATURE C.JOWETT DATE 26/09/23

INSPECTED BY MICHAEL WEIR

SIGNATURE ..... DATE .....

ASSET RECORDING

I STEVE FRIDAY

OF C.J. DOYLE CONTRACTING

CONTACT No 8784-1922

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

SIGNATURE STEVE FRIDAY DATE 26/09/23

Certified by Endeavour Energy

Amendment: _____

Date Approved: _____

Examiner's Signature: _____

Print Name: _____

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

Conduit / Cable Legend

- LV Cable - Direct Buried.
- HV Cable - Direct Buried.
- 50mm Duct - Spare.
- 50mm Duct - with Existing Cable.
- 50mm Duct - with New SL Cable.
- 125mm Duct - with Existing LV Cable.
- 125mm Duct - with Existing HV Cable.
- 125mm Duct - with New LV Cable.
- 125mm Duct - with New HV Cable.
- 125mm Duct - Spare.

AMENDMENTS: A ORIGINAL ISSUE — DRAFT No. 01

powerlinedesign
POWER LINE DESIGN PTY LTD
PO BOX 338 Mittagong NSW 2575
Ph (02) 4872 1920 Fax (02) 4872 1240
Accredited Designer Number 2486 / ABN: 33107 591 846

The preparation of this design has been undertaken giving due consideration to the existing services. The project constructor is wholly responsible for verify the exact location of existing services and permanent survey marks prior to commencing construction. No responsibility or liability will be accepted by the designer of this project for damage to existing services as a result of this design.

PLD Ref: 3865

TEMPLATE VERSION No. 3.03

Reference Drawings		Work Orders		CAMS File No.	URS25734
526342A	(URS25734) Duct Trench & Easement	General		AM Project No.	
		Overhead		HV Switching	
		Underground		EE Depot	Kings Park
		Substations		EE Region	Northern
				HV OP Diagram	Marsden Park
				Local Government Area	Blacktown City

ORIGINAL SCALE 1:1000 — DO NOT SCALE — Dimensions in Meters

Drawn MIchael.j.B | Date 12-05-2022 | Ch'd MIchael.j.B | Design MIchael.j.B

Off Richmond Road
MARSDEN PARK
URS25734
Stage 7E

Electrical Reticulcation

Endeavour Energy

A1 | 526343 | A

SHEET No 4 OF 5 SHEETS

64545 — #4299

WAE SURVEY COORDINATE TABLE - GDA2020							
NODE ID #	QUALITY LEVEL	ASSET TYPE	PROPERTY LINE	COVER	NOTES	EASTING	NORTHING	REDUCED/SURFACE LEVEL
85	A	DUCT CROSSING	NA	-0.75		294834.28	6269008.33	17.03
86	A	ROUTE	0.99	-0.75		294832.36	6269004.61	17.27
87	A	ROUTE	0.88	-0.75		294831.75	6269002.53	17.3
89	A	DUCT CROSSING	NA	-0.75		294826.49	6268966.95	16.91
90	A	ROUTE	0.93	-0.75		294827.83	6268976.59	17.46
91	A	ROUTE	0.93	-0.75		294824.96	6268957.19	17.6
93	A	ROUTE	0.96	-0.75		294821.61	6268934.69	17.66
95	A	DUCT CROSSING	NA	-0.75		294819.5	6268920.07	17.35
96	A	ROUTE	0.99	-0.75		294818.63	6268914.89	17.81
98	A	ROUTE	0.91	-0.75		294815.44	6268892.66	18.08
101	A	DUCT CROSSING	NA	-0.75		294812.17	6268870.42	17.79
102	A	ROUTE	0.99	-0.75		294810.23	6268857.82	18.28
103	A	SPLAY ROUTE	0.84	-0.75		294807.77	6268840.53	18.48
104	A	SPLAY ROUTE	0.99	-0.75		294807.95	6268837.4	18.59
105	A	DUCT CROSSING	NA	-0.75		294808.88	6268833.54	18.22
106	A	SPLAY ROUTE	0.94	-0.75		294808.62	6268833.95	18.26
107	A	SPLAY ROUTE	0.99	-0.75		294812.12	6268829.07	18.6
109	A	DUCT CROSSING	NA	-0.75		294819.98	6268825.69	18.35
110	A	DUCT END	0.99	-0.75		294821.65	6268825.87	18.46
111	A	ROUTE	0.98	-0.75		294846.35	6268822.2	18.72
112	A	SPLAY ROUTE	0.84	-0.75		294856.67	6268820.87	18.92
113	A	DUCT END	0.81	-0.75		294861.99	6268824.79	18.8
114	A	DUCT CROSSING	NA	-0.75		294863.04	6268825.92	18.29
117	A	ROUTE	0.9	-0.75		294842.84	6268808.51	18.79
118	A	ROUTE	0.9	-0.75		294825.33	6268811.09	18.54
119	A	DUCT CROSSING	NA	-0.75		294818.14	6268812.53	18.25
120	A	ROUTE	0.87	-0.75		294816.5	6268812.37	18.53
122	A	ROUTE	0.99	-0.75		294810.61	6268813.35	18.54
123	A	ROUTE	0.95	-0.75		294803.3	6268816.32	18.5
125	A	DUCT END	0.95	-0.75		294797.72	6268821.44	18.5
126	A	DUCT CROSSING	NA	-0.75		294792.89	6268835.4	18.21
127	A	ROUTE	0.86	-0.75		294792.86	6268835.49	18.24
129	A	ROUTE	0.8	-0.75		294796.21	6268860.3	18.3
131	A	ROUTE	0.87	-0.75		294798.07	6268872.45	18.01
132	A	DUCT CROSSING	NA	-0.75		294798.11	6268872.57	17.92
133	A	ROUTE	0.86	-0.75		294799.92	6268884.83	18.01
136	A	ROUTE	0.74	-0.75		294803.48	6268909.84	17.94
137	A	DUCT CROSSING	NA	-0.75		294805.37	6268922.13	17.59
138	A	ROUTE	0.78	-0.75		294805.26	6268921.74	17.76
139	A	ROUTE	0.76	-0.75		294807.13	6268934.41	17.71
142	A	ROUTE	0.82	-0.75		294810.87	6268959.17	17.61
143	A	DUCT CROSSING	NA	-0.75		294812.73	6268971.44	17.1
144	A	ROUTE	0.79	-0.75		294812.64	6268971.48	17.19
145	A	ROUTE	0.8	-0.75		294814.5	6268983.99	17.24
149	C	DUCT END	0.93	-0.75		294819.58	6269017.83	17.25
150	A	ROUTE	0.88	-0.75		294818.26	6269009.32	17.42
151	A	DUCT CROSSING	NA	-0.75		294818.08	6269008.71	16.9
152	A	SPLAY ROUTE	0.83	-0.75		294833.68	6269007.71	17.26
153	A	SPLAY ROUTE	0.99	-0.75		294839.71	6269013	17.32
155	A	SPLAY ROUTE	0.99	-0.75		294845.45	6269013.97	17.28
156	A	ROUTE	0.98	-0.75		294862.02	6269013.73	17.13
157	A	ROUTE	0.99	-0.75		294874.39	6269013.59	17.09
162	A	ROUTE	0.91	-0.75		294872.64	6268804.07	18.99
163	A	ROUTE	0.9	-0.75		294889.89	6268801.54	19.04
168	A	SPLAY ROUTE	0.96	-0.75		294881.6	6268817.12	18.94
169	A	DUCT CROSSING	NA	-0.75		294877.03	6268823.78	18.35
173	A	DUCT CROSSING	NA	-0.75		294883.48	6268867.32	17.79
175	A	ROUTE	0.67	-0.75		294868.17	6268862.11	18.11
176	A	ROUTE	0.75	-0.75		294869.78	6268872.74	17.89
177	A	DUCT CROSSING	NA	-0.75		294869.76	6268871.67	17.79
178	A	ROUTE	0.73	-0.75		294871.5	6268884.31	18.01
181	A	ROUTE	0.81	-0.75		294874.94	6268906.94	17.8
182	A	ROUTE	0.7	-0.75		294876.14	6268915.94	17.37
183	A	DUCT CROSSING	NA	-0.75		294876.44	6268916.54	17.35
184	A	ROUTE	0.8	-0.75		294877.75	6268926.07	17.67
187	A	ROUTE	0.74	-0.75		294881.01	6268948.6	17.25
188	A	ROUTE	0.68	-0.75		294882.34	6268958	17.01
189	A	DUCT CROSSING	NA	-0.75		294882.66	6268958.58	17.02
190	A	ROUTE	0.72	-0.75		294883.9	6268968.22	17.19
192	A	SPLAY ROUTE	0.83	-0.75		294884.88	6269013.29	17.02
193	A	SPLAY ROUTE	0.99	-0.75		294889.58	6269008.28	16.93
194	A	ROUTE	0.7	-0.75		294916.54	6268812.11	19.23
196	A	SPLAY ROUTE	0.95	-0.75		294924.54	6268796.43	19.17
197	A	SPLAY ROUTE	0.94	-0.75		294929.4	6268790.27	19.54
198	A	DUCT CROSSING	NA	-0.75		294926.16	6268767.64	19.99
199	A	ROUTE	0.87	-0.75		294926.13	6268767.67	19.84
200	A	ROUTE	0.8	-0.75		294924.33	6268755.24	20.22
214	A	DUCT END	0.98	-0.75		294905.23	6268813.53	19.2
215	A	DUCT END	0.81	-0.75		294877.11	6268823.75	18.62
216	A	ROUTE @ SUB	INSIDE EASEMENT	-0.75		294820.59	6268828.37	18.39
217	A	EARTH STAKE	INSIDE EASEMENT	-0.75		294820.05	6268828.18	18.4
218	A	DUCT END	0.97	-0.75		294819.19	6268826.22	18.43
223	A	EARTH STAKE	0.59	-0.75		294825.27	6268825.73	18.55
226	A	ROUTE	0.87	-0.75		294883.51	6268867.4	17.99
230	A	ROUTE	0.93	-0.75		294886.7	6268889.31	17.81
232	A	ROUTE	0.98	-0.75		294889.59	6268909.37	17.7
233	A	DUCT CROSSING	NA	-0.75		294890.41	6268914.25	17.42
236	A	ROUTE	0.99	-0.75		294895.73	6268950.63	17.43
237	A	DUCT CROSSING	NA	-0.75		294896.63	6268956.22	17.03
239	A	DUCT END	0.81	-0.75		294901.49	6268988.44	17.21
240	A	ROUTE @ SUB	INSIDE EASEMENT	-0.75		294903.45	6268988.52	17.1
242	A	DUCT CROSSING	NA	-0.75		294904.2	6269007.35	16.73
243	A	EXISTING SPLAY ROUTE	NA	-0.75		294904.64	6269007.26	17.18
247	A	DUCT CROSSING	NA	-0.75		294889.98	6269008.12	16.92
331	A	STJ HV	0.62	-1.09		294901.39	6268987.61	16.91

WAE SURVEY COORDINATE TABLE - GDA2020 - SURFACE ASSETS					
NODE ID #	ASSET TYPE	NOTES	EASTING	NORTHING	REDUCED/SURFACE LEVEL
301	PAD MS 95585		294821.28	6268828.28	19.39
302	PAD MS 95585		294819.91	6268828.49	19.38
303	PAD MS 95585		294820.41	6268831.66	19.39
304	PAD MS 95585		294821.77	6268831.46	19.46
305	PILLAR 402597		294925.96	6268767.22	20.88
306	S/L 2002076		294924.38	6268796.04	20.19
307	S/L 2002075		294889.75	6268801.21	19.88
310	PILLAR 402596		294872.5	6268803.7	19.86
313	S/L 2002074		294842.69	6268808.18	19.61
314	PILLAR 402595		294825.63	6268810.72	19.48
317	S/L 2002073		294797.52	6268821.12	19.34
318	PILLAR 402593		294792.59	6268835.59	19.27
319	S/L 2002072		294797.75	6268872.62	18.97
320	PILLAR 402592		294810.73	6268857.76	19.01
321	PILLAR 402591		294815.81	6268892.58	18.82
322	PILLAR 402590		294822.06	6268934.71	18.46
323	S/L 2002071		294805.11	6268922.09	18.6
324	S/L 2002070		294812.43	6268971.61	18.27
325	PILLAR 402589		294826.75	6268966.74	18.25
326	S/L 2002069		294819.25	6269017.92	18.2
327	S/L 2002068		294861.95	6269013.25	18
328	PILLAR 402588		294874.63	6269013.2	17.99
329	S/L 2002067		294889.48	6269007.42	17.78
332	PAD MS 55635		294903.57	6268987.85	17.99
333	PAD MS 55635		294903.76	6268989.2	17.97
334	PAD MS 55635		294906.99	6268988.71	18
335	PAD MS 55635		294906.76	6268987.38	18.02
336	PILLAR 170084	EXISTING	294901.21	6268985.75	17.98
337	S/L 2002080		294882.29	6268958.66	18.16
338	PILLAR 402602		294896.26	6268951.32	18.26
339	PILLAR 402601		294890.07	6268909.28	18.64
340	S/L 2002079		294876.06	6268916.54	18.51
341	S/L 2002078		294869.45	6268872.02	18.95
342	PILLAR 402600		294883.84	6268867.18	18.97
343	PILLAR 402599		294904.34	6268814.11	20.01
344	S/L 2002077		294862.65	6268825.85	19.44
345	PILLAR 402598		294846.44	6268822.63	19.55
346	PILLAR 402594		294821.71	6268826.37	19.41
348	PILLAR 170073	EXISTING	294940.48	6268765.32	20.83

WORK COMPLETED / FIELD BOOK

CONSTRUCTED BY C.J. DOYLE CONTRACTING

WORKS COMPLETED CHRIS JOWETT

SIGNATURE C.JOWETT DATE 26/09/23

INSPECTED BY MICHAEL WEIR

SIGNATURE ..... DATE .....

ASSET RECORDING

I STEVE FRIDAY

OF C.J. DOYLE CONTRACTING

CONTACT No 8784-1922

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

SIGNATURE STEVE FRIDAY DATE 26/09/23

AMENDMENTS
A ORIGINAL ISSUE
DRAFT No. 01

powerlinedesign
POWER LINE DESIGN PTY LTD
PO BOX 338 Mittagong NSW 2575
Ph (02) 4872 1920 Fax (02) 4872 1240
Accredited Designer Number 2486 / ABN: 33107 591 846

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PLD Ref: 3865

TEMPLATE VERSION No. 3/19

Reference Drawings		Work Orders	
526342A	(URS25734) Duct Trench & Easement	General	
		Overhead	
		Underground	
		Substations	

CAMS File No.	URS25734
AM Project No.	
HV Switching	
EE Depot	Kings Park
EE Region	Northern
HV OP Diagram	Marsden Park
Local Government Area	Blacktown City

ORIGINAL SCALE 1:1000

DO NOT SCALE
Dimensions in Meters

Drawn	MIchael.j.B		
Date	12-05-2022		
Ch'd	MIchael.j.B	Design	MIchael.j.B

Off Richmond Road
MARSDEN PARK
URS25734
Stage 7E

Electrical Reticulcation

Endeavour Energy

A1 526343 A

SHEET No 5 OF 5 SHEETS

64545 #4299