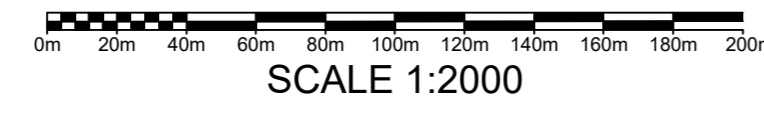




# Site Overview

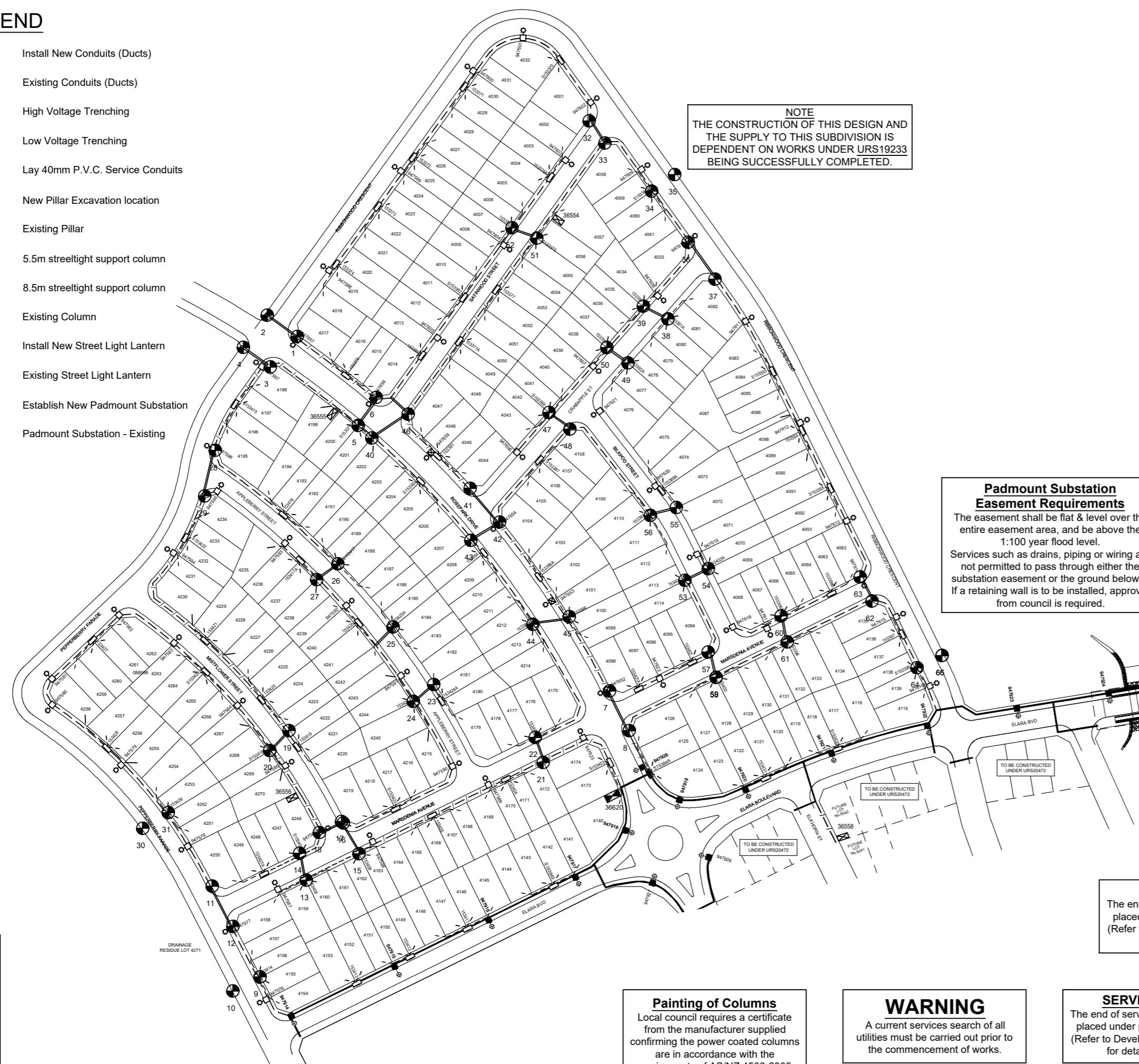


## LEGEND

- Install New Conduits (Ducts)
- Existing Conduits (Ducts)
- High Voltage Trenching
- Low Voltage Trenching
- Lay 40mm P.V.C. Service Conduits
- New Pillar Excavation location
- Existing Pillar
- 5.5m streetlight support column
- 8.5m streetlight support column
- Existing Column
- Install New Street Light Lantern
- Existing Street Light Lantern
- Establish New Padmount Substation
- Padmount Substation - Existing

### TRENCH LENGTH

High Voltage Trenching	678 m
Low Voltage Trenching	2365 m
Street Light Trenching	193 m
<b>TOTAL</b>	<b>3236 m</b>



**NOTE**  
THE CONSTRUCTION OF THIS DESIGN AND THE SUPPLY TO THIS SUBDIVISION IS DEPENDENT ON WORKS UNDER URS19233 BEING SUCCESSFULLY COMPLETED.

**Padmount Substation Easement Requirements**  
The easement shall be flat & level over the entire easement area, and be above the 1:100 year flood level.  
Services such as drains, piping or wiring are not permitted to pass through either the substation easement or the ground below it. If a retaining wall is to be installed, approval from council is required.

**Proposed Ducts/Conduits**  
All proposed 125mm ducts / conduits are to have a minimum 750mm cover. (in accordance with MD00028)

**Duct Requirements**  
A continuous spare 125mm duct is to be installed in all trenches where HV and LV mains cables are installed. (maximum of 1x HV & 1x LV)

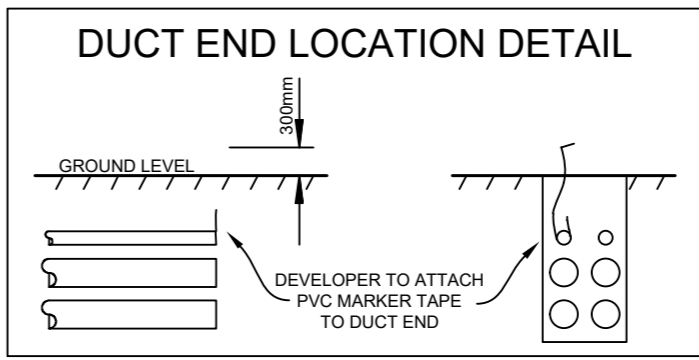
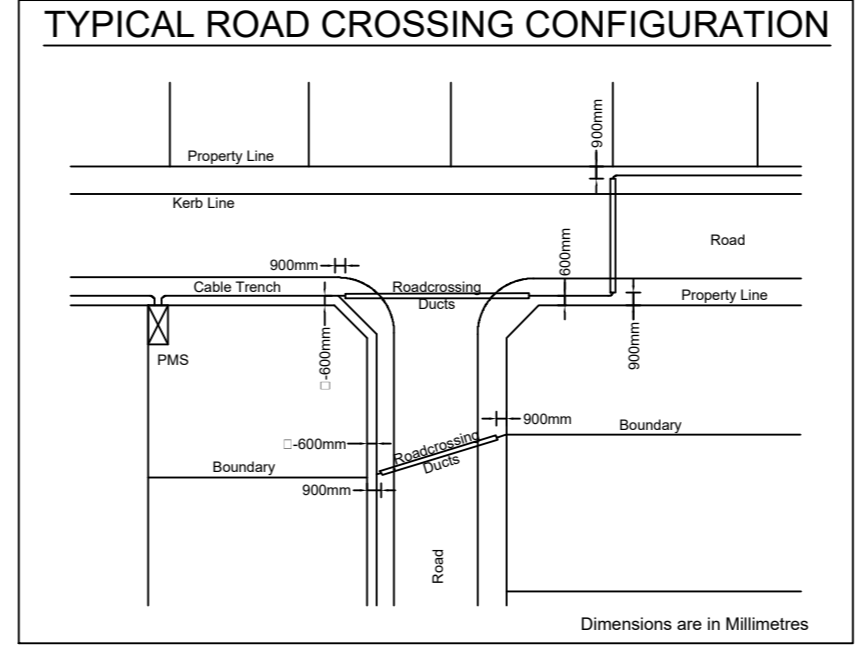
**Service Ducts**  
The end of service ducts must not be placed under proposed driveways. (Refer to Developers Representative for details for details)

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

**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.

**WARNING**  
A current services search of all utilities must be carried out prior to the commencement of works.

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



**CERTIFIED BY ENDEAVOUR ENERGY**  
Amendment: \_\_\_\_\_  
Date Approved: \_\_\_\_\_  
Examiner's Signature: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
This Certification is issued subject to Endeavour Energy's Standard Certification Terms.

**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.  
• MC: Mains Construction Instruction.  
• MD: Mains Design Instruction.  
• PD: Protection Design Instruction.  
• SD: Substation Design Instruction.  
• SAD: Design Drawing Standard.  
• MM: 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: **L McKinnon**  
Name: **L McKinnon**  
Service Provider Number: **2486** Date: **16.07.2018**

**AUTHORISATION OF ESTIMATE VALUE OF ENDEAVOUR ENERGY FUNDED ASSETS**  
Signed: \_\_\_\_\_  
Print Name: \_\_\_\_\_  
Service Number: \_\_\_\_\_  
Funding Amount: \$ \_\_\_\_\_  
Date: \_\_\_\_\_

### FUNDING ARRANGEMENTS FOR SCOPE OF WORKS

Endeavour Energy Funded & Level 1 ASP Constructed - Reimbursement (exc GST)	
Trenching & Ducts	
(T&R) HV Light Trenching & Reinstatement	\$11817
(LD) Lay HV 125mm Ducts in Trench	\$1380
(D) Lay HV Ducts in SL&LV Trench	\$30107
Lay Cable	
(PC) Pull HV Cable Through Ducts	\$840
(LC) Lay HV Cable Directly Buried in Trench	\$8790
(C) 11kV 240mm <sup>2</sup> Al 3C XLPE	\$25937
Joints	
Excavate 15m for 3 x STJ in Trench (HV)	\$1515
3 x STJ in Trench (HV)	\$4431
9 x PM Sub Term (HV)	\$27459
Padmount Substation	
Install 4 x New PM Substation	\$11440
Install 4 x Sub Culvert	\$9280
4 x Value of 500kVA 11kV Transformer only	\$54388
3 x Siemens RTR HV Switchgear	\$32235
2 x Siemens RTR HV Switchgear	\$34308
-1 x Siemens RTR HV Switchgear	-\$10745
4 x LV Switchgear CAT 1 FFFIF	\$27188
4 x Size 14 Fiberglass Caiside	\$15712
4 x Pinth	\$4932
4 x PM Substation Culvert	\$4892
Modify/Update HV Switchgear	\$1630

ASP Level 1 Electrical Works		Customer
<b>Endeavour Energy Supplied Materials</b>	<b>Customer Funded Non-Contestable Works</b>	<b>Customer Funded</b>
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.
<b>Endeavour Energy Funded &amp; Constructed</b>	<b>Customer Funded Contestable Works</b>	<b>Existing Duct Usage Charges (exc GST)</b>
Works Required Prior to Completion of Customer Contestable Project	All other works and materials including but not limited to: • Substation establishment & installation. • Excavation & Trenching. • Under-Sores. • Duct Installation. • Cable Installation (Pulling & Laying). • Cable Joining. • Installation of Earthing. • Removal of Redundant Assets.	NIL
NIL		
<b>Endeavour Energy Funded &amp; Level 1 ASP Constructed - Reimbursement (exc GST)</b>		
(see breakdown to the left)		
<b>Total EE Capital Contributions (exc PM &amp; Design)</b>		
<b>\$ 307,636</b>		
<b>Total EE Capital Contribution (HV Reimbursed)</b>		
<b>\$ 337,368</b>		

**SURVEY MARKS**  
Permanent survey marks may exist in this area, these are to be located by survey prior to the commencement of works.

**ROUTE LENGTHS**  
All route lengths are to be confirmed on site by the constructor prior to ordering materials.

**WARNING**  
Telecommunications assets in this area. Constructor to contact relevant provider prior to the commencement of works.

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

**KEY DOCUMENTS TABLE**  
The Certification of this project is supported by the following key documents

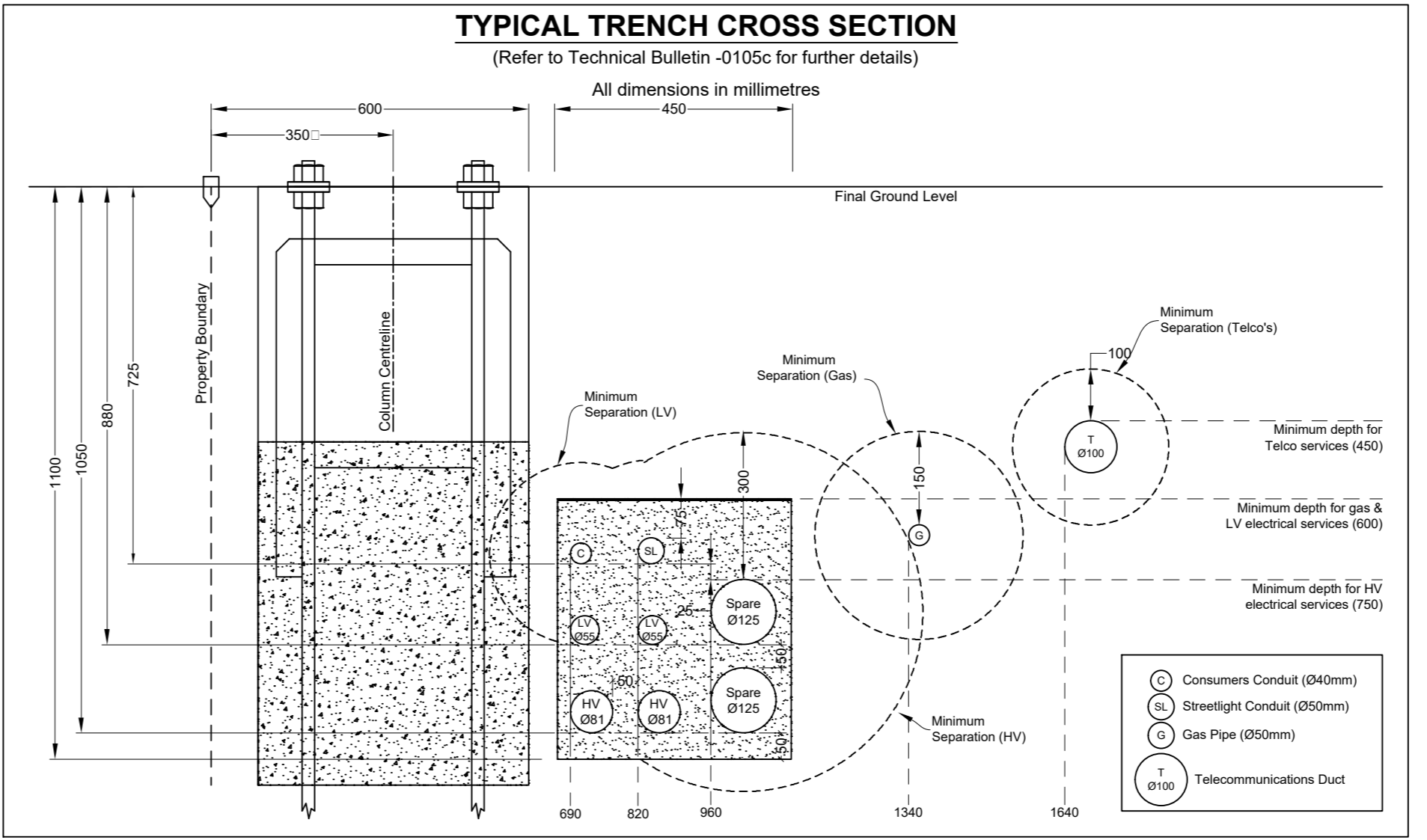
Document Name	Notation Date
Summary Environmental Report (SER) part of EMS 001	29 Jan 2018
Design Safety Report (DSR)	29 Jan 2018

### THIS DRAWING SUPPLIES 270 LOTS (SUBDIVISION OF LOT 3 & 7 DP1225885 & 1078187)

C.A.P. No.	FILE No.	LOT NUMBERS	No OF LOTS	DEVELOPER	DEVELOPERS REPRESENTATIVE	CONTACT No.
URS20162	2017/04198001	4001 - 4270	270	Winten Property Group	Tana Sainsbury (J Wyncham Prince Pty Ltd)	(02) 4720 - 3319

DEVELOPMENT CONSENT APPLICATION - BLACKTOWN COUNCIL

### TYPICAL TRENCH CROSS SECTION



- ### NOTES
- This drawing is to be read in conjunction with the relevant Endeavour Energy Network Standards and Connection Policy.
  - Endeavour Energy Contact Phone: 131081.
  - 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.
  - Accredited Service Provider to notify Endeavour Energy asset data customer department daily when cable works is in progress. (ph. 131 081).
  - ATTENTION:** Permanent survey marks may exist in this area, these are to be located by a surveyor prior to commencement of work.
  - ATTENTION:** All services searches must be checked before construction.
  - 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.
  - 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.
  - Reimbursements:** Reimbursements will be paid to the nominated party on the letter of intent after the works have been completed 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.
  - 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.
  - Environmental Management plan:** EMP EMS001 is part of this design (refer to EIA for details).
  - Pollution Controls:** All the requirements of the Environmental Protection Authority pollution control legislation is to be strictly adhered to.
  - Telecommunications:** Telecommunications assets are **NOT** affected by the proposed works.
  - Existing Assets:** Have all the existing assets been field checked and are accurate at the time of design? **YES**

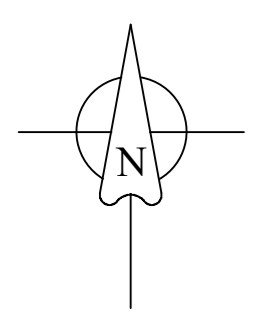
**MATERIAL QUANTITIES SPECIFIED ON THIS DESIGN:**  
The quantities or dimensions specified on this design are based on information supplied by the developer, DBVD, the Endeavour GIS, field books and site conditions at the time of the design. As quantities and dimensions are subject to change, the Constructor must check all quantities and dimensions on site prior to tendering, ordering and construction.

**DIAL BEFORE YOU DIG**  
Ref: 13261839 Date: 14 Nov 2017  
DBVD 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.

**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. \_\_\_\_\_

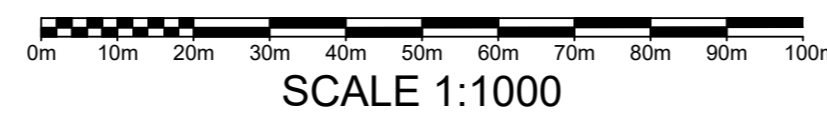
**WORKS COMPLETED / FIELD BOOK**  
Constructed By: \_\_\_\_\_  
Works Completed: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_  
Inspected By: \_\_\_\_\_  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ASSET RECORDING**  
I: \_\_\_\_\_  
of: \_\_\_\_\_  
Contact No: \_\_\_\_\_  
Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.  
Signature: \_\_\_\_\_ Date: \_\_\_\_\_



# Site Plan

Scale 1:1000



SCALE 1:1000

**Establish Proposed PMS No. PMS 36555**

- Transformer: 500kVA (11000.433V).
- HV Switchgear: Siemens 8DJH, Type: "RTR".
- HV Fuses: 12kV, 63A HRC (I-type).
- LV Switchgear: Weber CAT 1, Config: "FFIFF".
- LV Fuses: LV 250A (DIN, size 2)
- Cubicle: Size 14.
- Earthing: Common (refer Earth Design).

**Establish Proposed PMS No. PMS 36554**

- Transformer: 500kVA (11000.433V).
- HV Switchgear: Siemens 8DJH, Type: "RTR".
- HV Fuses: 12kV, 63A HRC (I-type).
- LV Switchgear: Weber CAT 1, Config: "FFIFF".
- LV Fuses: LV 250A (DIN, size 2)
- Cubicle: Size 14.
- Earthing: Common (refer Earth Design).

**Establish Proposed PMS No. PMS 36556**

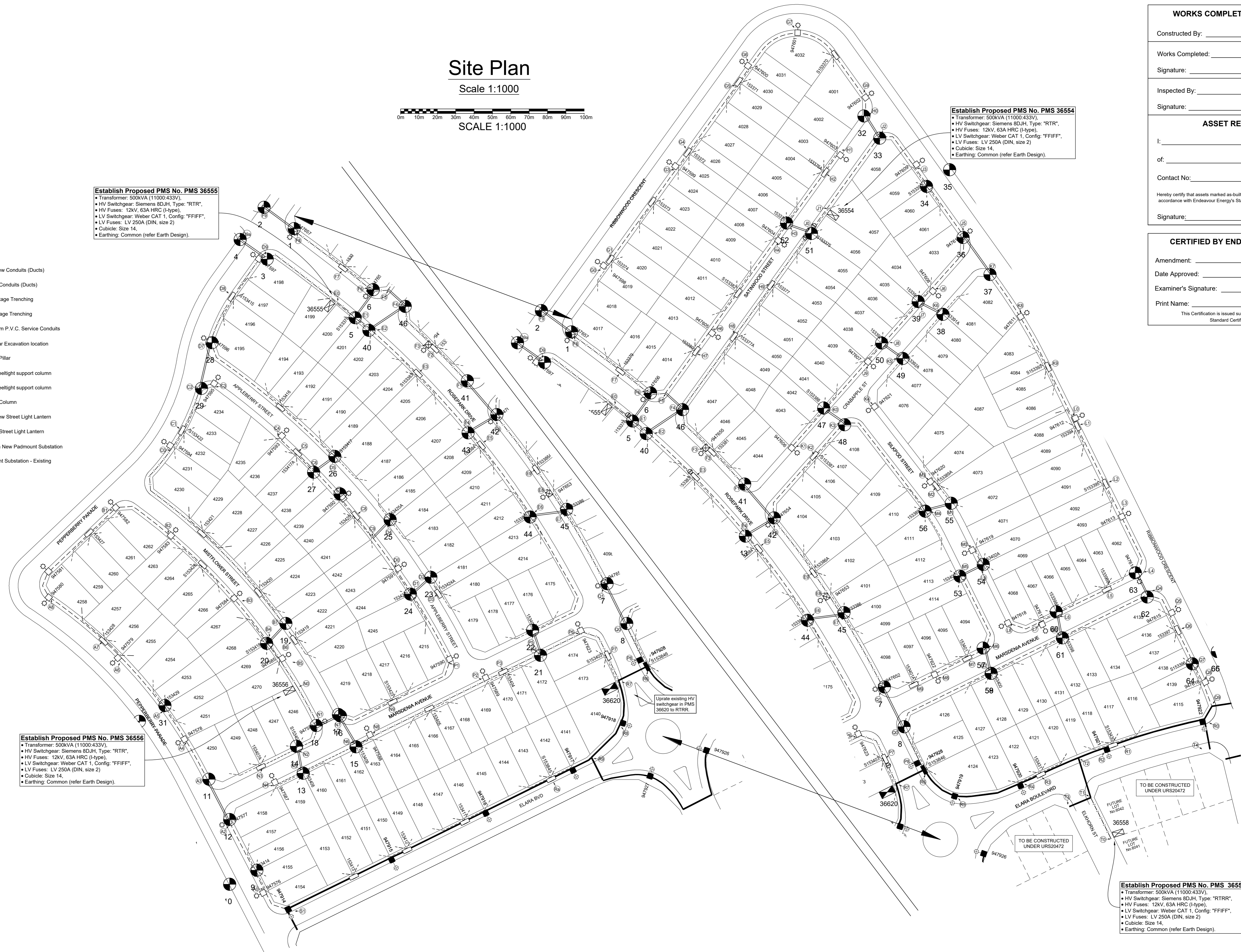
- Transformer: 500kVA (11000.433V).
- HV Switchgear: Siemens 8DJH, Type: "RTR".
- HV Fuses: 12kV, 63A HRC (I-type).
- LV Switchgear: Weber CAT 1, Config: "FFIFF".
- LV Fuses: LV 250A (DIN, size 2)
- Cubicle: Size 14.
- Earthing: Common (refer Earth Design).

**Establish Proposed PMS No. PMS 36558**

- Transformer: 500kVA (11000.433V).
- HV Switchgear: Siemens 8DJH, Type: "RTR".
- HV Fuses: 12kV, 63A HRC (I-type).
- LV Switchgear: Weber CAT 1, Config: "FFIFF".
- LV Fuses: LV 250A (DIN, size 2)
- Cubicle: Size 14.
- Earthing: Common (refer Earth Design).

## LEGEND

- Install New Conduits (Ducts)
- Existing Conduits (Ducts)
- High Voltage Trenching
- Low Voltage Trenching
- Lay 40mm P.V.C. Service Conduits
- New Pillar Excavation location
- Existing Pillar
- 5.5m streetlight support column
- 8.5m streetlight support column
- Existing Column
- Install New Street Light Lantern
- Existing Street Light Lantern
- Establish New Padmount Substation
- Padmount Substation - Existing



**WORKS COMPLETED / FIELD BOOK**

Constructed By: \_\_\_\_\_

Works Completed: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

of: \_\_\_\_\_

Contact No: \_\_\_\_\_

Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

AMENDMENTS	Original Issue
A	Date: 16.07.2018 Change to assessment for PMS 36554 & 36555 Drawn: Rich W Checked: Michael B
B	

THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS WHOLLY RESPONSIBLE FOR VERIFYING 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.

**POWER LINE DESIGN PTY LTD**  
PO Box 338 Mittagong NSW 2575  
Ph (02) 4872 1920 Fax (02) 4872 1240  
Accredited Designer Number 2486 / ABN: 53107 591 846

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Reference Drawings	Work Orders
B505359 URS19233 - Newport Precinct 2	General
A508329 PLT1059 - Elara Blvd Precinct 3 - Education	Overhead
B507917 URS20162 - DTE	Underground
	Substations

CAP / SAMP No.	URS20162
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	126 C:11
GIS Map No.	UR2674
HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY

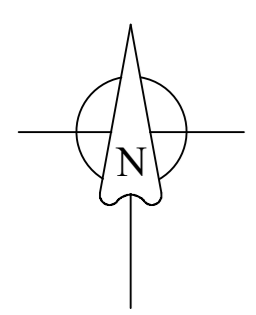
ORIGINAL SCALE	1:1000
Drawn	R. Walsh
Date	16.07.2018
Checked	Michael J.B

**DO NOT SCALE DIMENSIONS IN METRES**

**NEWPARK PRECINCT 4**  
RICHMOND ROAD  
MARSDEN PARK  
URS20162  
ELECTRICAL RETICULATION

**A1 507919 B**

Sheet No 2 of 11 Sheets



**WORKS COMPLETED / FIELD BOOK**

Constructed By: \_\_\_\_\_

Works Completed: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

of: \_\_\_\_\_

Contact No: \_\_\_\_\_

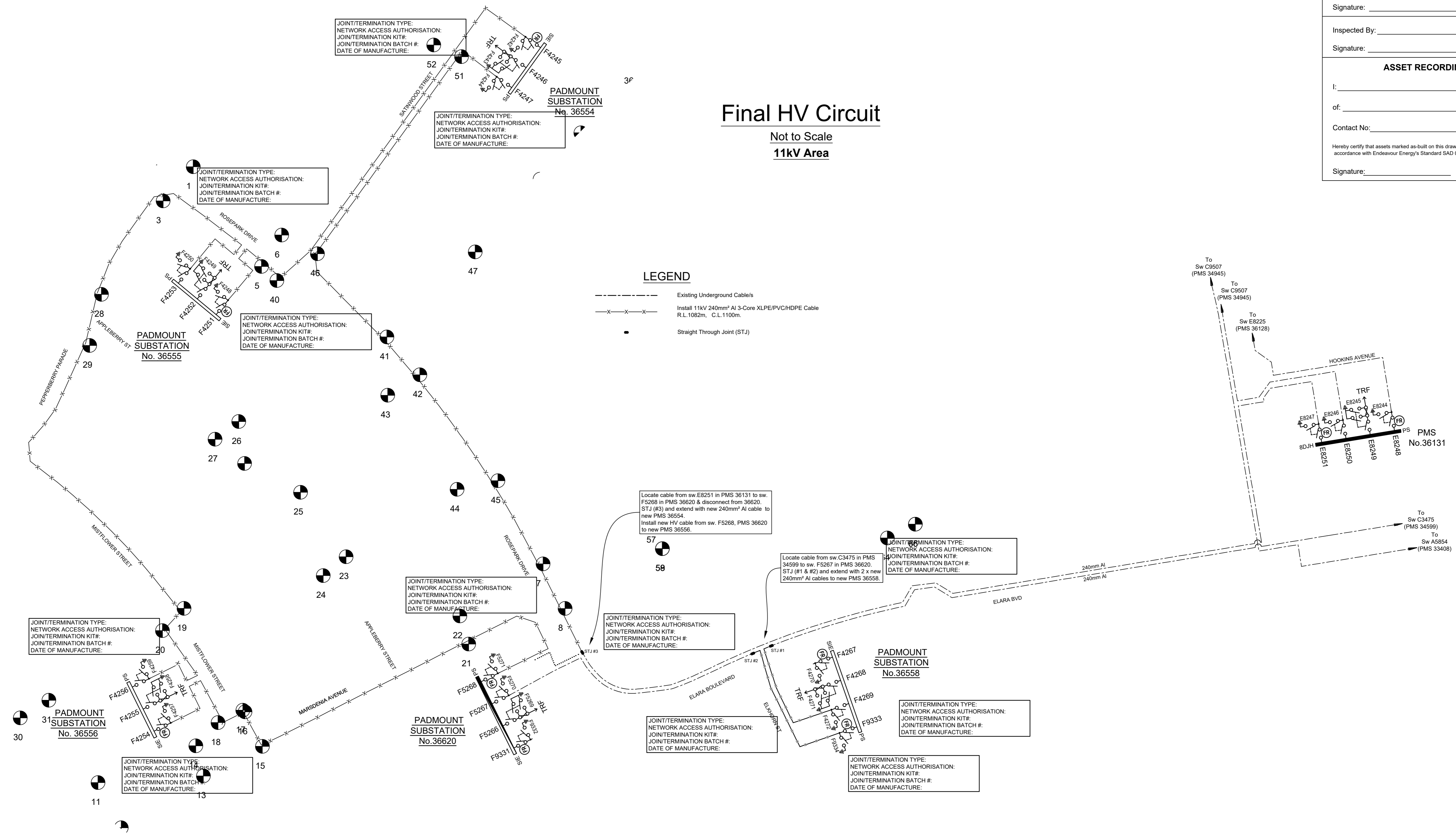
Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

# Final HV Circuit

Not to Scale  
11kV Area

- LEGEND**
- Existing Underground Cables
  - x-x- Install 11kV 240mm<sup>2</sup> Al 3-Core XLPE/PVC/HDPE Cable R.L. 1082m, C.L. 1100m.
  - Straight Through Joint (STJ)



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

**PADMOUNT SUBSTATION No. 36556**

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 BATCH #:  
DATE OF MANUFACTURE:

**PADMOUNT SUBSTATION No. 36620**

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 BATCH #:  
DATE OF MANUFACTURE:

**PADMOUNT SUBSTATION No. 36558**

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 BATCH #:  
DATE OF MANUFACTURE:

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

AMENDMENTS	Original Issue
<b>A</b>	Date: 16.07.2018 Change to assessment for 36556 & 36555 Drawn: Rich W Checked: Michael B
<b>B</b>	

THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS WHOLLY RESPONSIBLE FOR VERIFYING 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.



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A508329	PLT1059 - Elara Blvd Precinct 3 - Education	Overhead	
B507917	URS20162 - DTE	Underground	
		Substations	

CAP / SAMP No.	URS20162
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	126 C:11
GIS Map No.	UR2674
HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY

ORIGINAL SCALE	1:1000
Drawn	R. Walsh
Date	16.07.2018
Checked	Michael J.B
Design	R. Walsh

**DO NOT SCALE**  
DIMENSIONS IN METRES

**NEWPARK PRECINCT 4**  
RICHMOND ROAD  
MARSDEN PARK  
URS20162  
ELECTRICAL RETICULATION

**Endeavour Energy**

**A1 507919 B**

Sheet No 3 of 11 Sheets

# Final LV Circuit

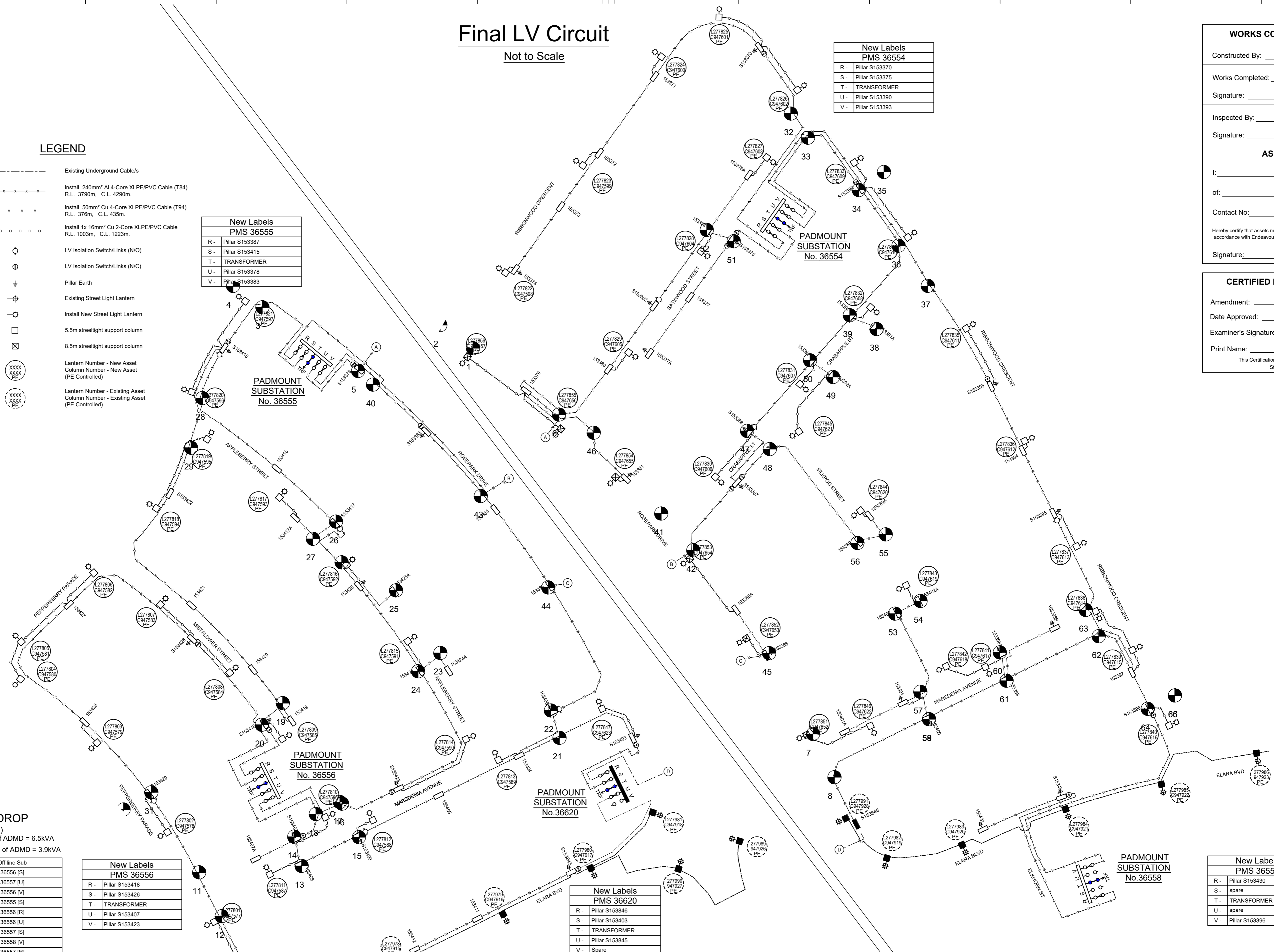
Not to Scale

New Labels PMS 36554	
R -	Pillar S153370
S -	Pillar S153375
T -	TRANSFORMER
U -	Pillar S153390
V -	Pillar S153393

New Labels PMS 36555	
R -	Pillar S153387
S -	Pillar S153415
T -	TRANSFORMER
U -	Pillar S153378
V -	Pillar S153383

## LEGEND

- Existing Underground Cables
- Install 240mm<sup>2</sup> Al 4-Core XLPE/PVC Cable (T84)  
R.L. 3790m, C.L. 4290m.
- Install 50mm<sup>2</sup> Cu 4-Core XLPE/PVC Cable (T94)  
R.L. 376m, C.L. 435m.
- Install 1x 16mm<sup>2</sup> Cu 2-Core XLPE/PVC Cable  
R.L. 1003m, C.L. 1223m.
- LV Isolation Switch/Links (NO)
- ⊙ LV Isolation Switch/Links (NC)
- ⊥ Pillar Earth
- ⊕ Existing Street Light Lantern
- ⊕ Install New Street Light Lantern
- 5.5m streetlight support column
- ⊠ 8.5m streetlight support column
- ⊙ Lantern Number - New Asset  
Column Number - New Asset  
(PE Controlled)
- ⊙ Lantern Number - Existing Asset  
Column Number - Existing Asset  
(PE Controlled)



## LEGEND FOR LV VOLTAGE DROP

(Of the 270 lots, 90<350m<sup>2</sup>, 180 >350m<sup>2</sup>)  
Normal Voltage Drop (Vd) Calculations Based on 100% of ADMD = 6.5kVA  
Emergency Voltage Drop (VdE) Calculations Based on 60% of ADMD = 3.9kVA

Supply Sub	Off line Sub
VdE1	36557 [U]
VdE2	36556 [S]
VdE3	36555 [S]
VdE4	36556 [V]
VdE5	36555 [S]
VdE6	36557 [S]
VdE7	36556 [U]
VdE8	36554 [V]
VdE9	36558 [V]
VdE10	36558 [V]
VdE11	36554 [U]
VdE12	36555 [R]
VdE13	36554 [S]
VdE14	36555 [V]
VdE15	36557 [S]
VdE16	36555 [U]

New Labels PMS 36556	
R -	Pillar S153418
S -	Pillar S153426
T -	TRANSFORMER
U -	Pillar S153407
V -	Pillar S153423

New Labels PMS 36620	
R -	Pillar S153846
S -	Pillar S153403
T -	TRANSFORMER
U -	Pillar S153845
V -	Spare

New Labels PMS 36558	
R -	Pillar S153430
S -	spare
T -	TRANSFORMER
U -	spare
V -	Pillar S153396

## Lighting Equipment & Billing Schedule

State	Luminaire Number	Support Number	Luminaire			Column / Pole			Outreach / Bracket			Upcast Angle	Column Colour	Charge To			
			Description	Part No.	Rate Code	QTY	Description	Part No.	Rate Code	QTY	Description				Part No.	Rate Code	QTY
Proposed	277851 - 277856	947652 - 947657	80W Street LED	PL99G01L90	950	6	8.5m Enlarged Base Column	IE/8.5.EB	Type 2 / Universal	995	6	4.5m Curved Pipe Outreach	IE4.5CPS/25	991	5°	Powder coated black	Blacktown Council
Proposed	277800 - 277847	947576 - 947623	17W Street LED	JLB99G05L17	889	48	5.5m Enlarged Base Column	IE/5.5.EB	Type 2 / Type 2	995	48	3.0m Curved Pipe Outreach	IE3.0CPS/25	991	5°	Powder coated black	Blacktown Council

AMENDMENTS	Original Issue
A	Date: 16.07.2018 Change to assessment 36555 & 36556 Drawn: Rich W Checked: Michael B
B	

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POWER LINE DESIGN PTY LTD  
PO BOX 338 Mittagong NSW 2575  
Ph (02) 4872 1920 Fax (02) 4872 1240  
Accredited Designer Number 2486 / ABN: 53107 591 846

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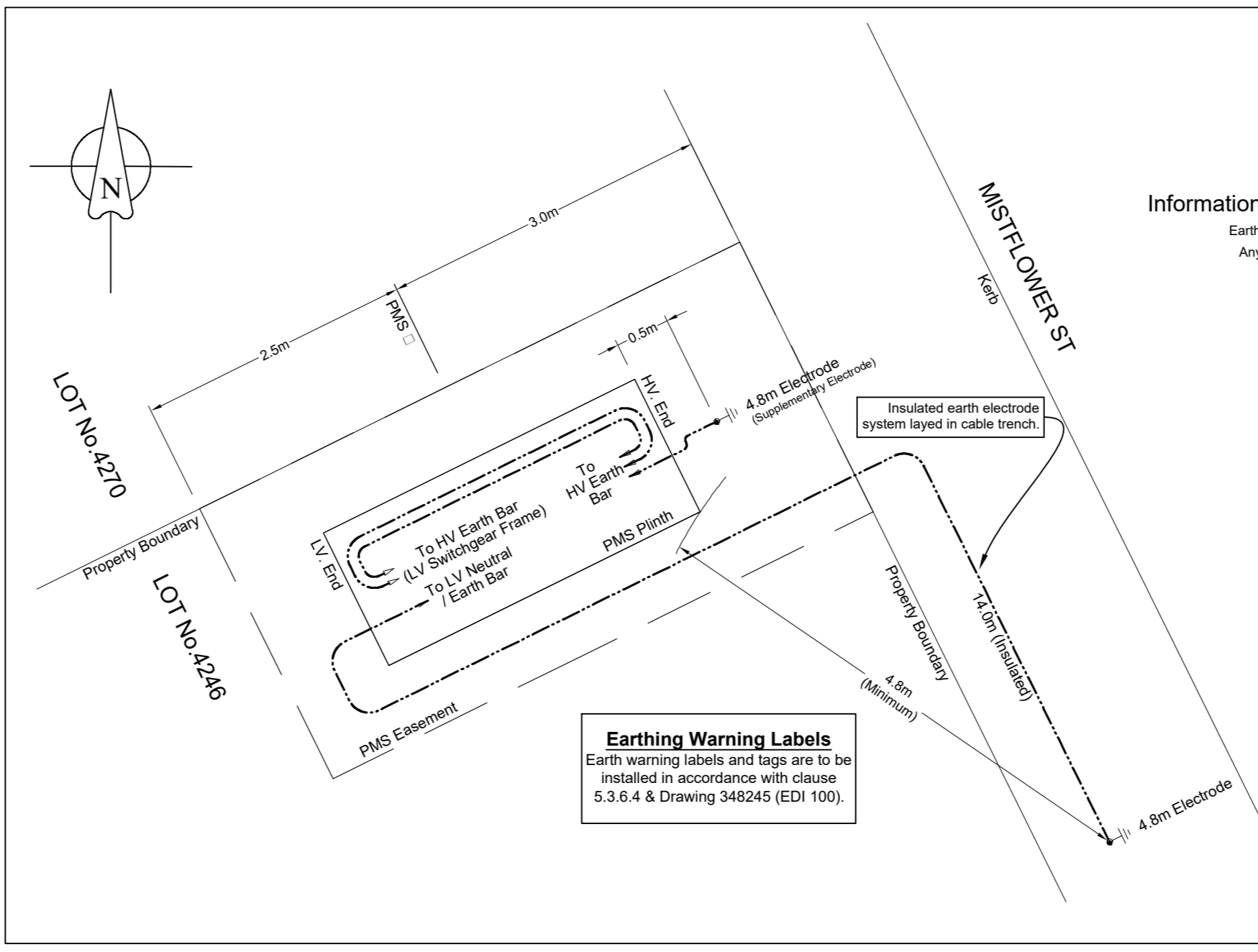
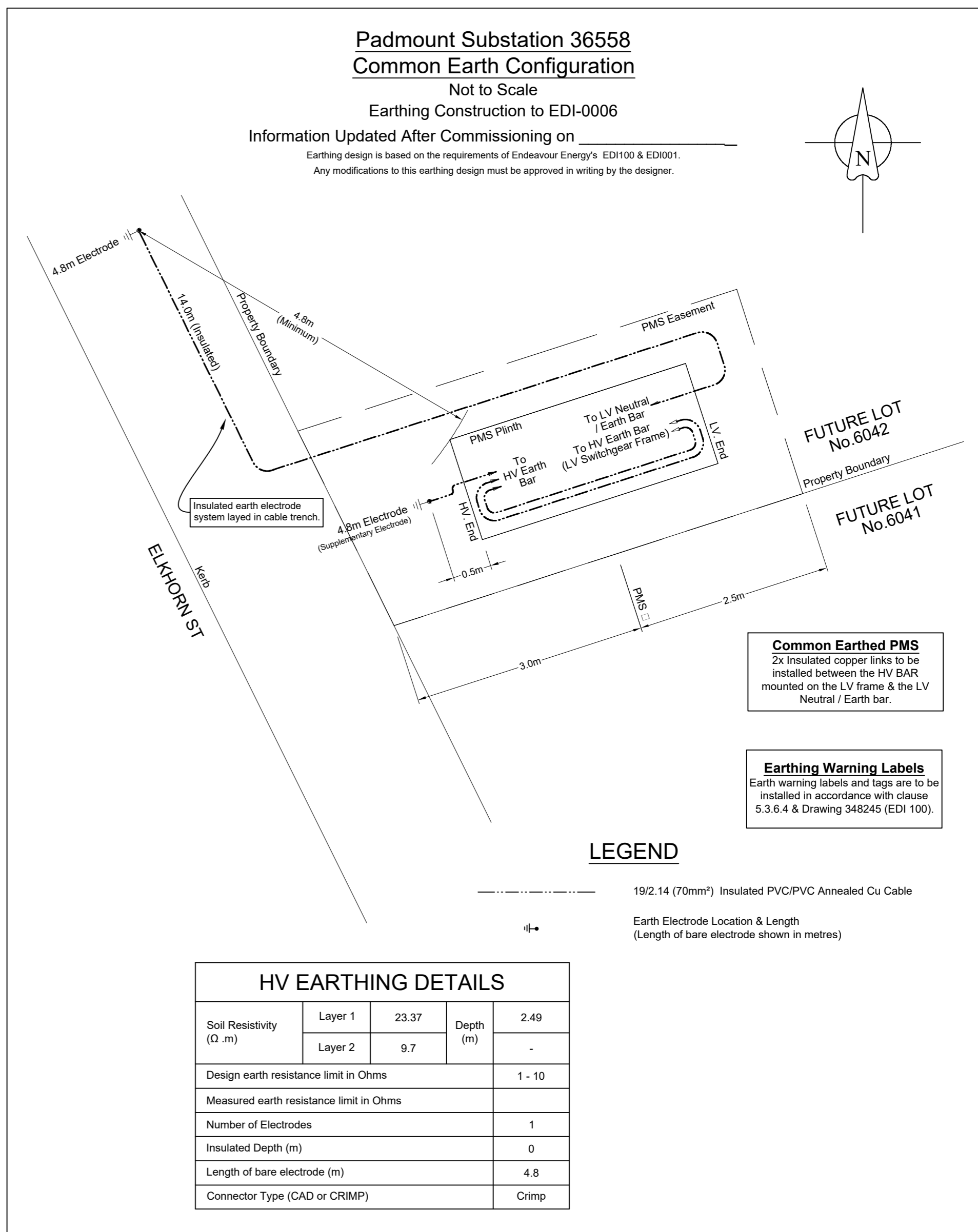
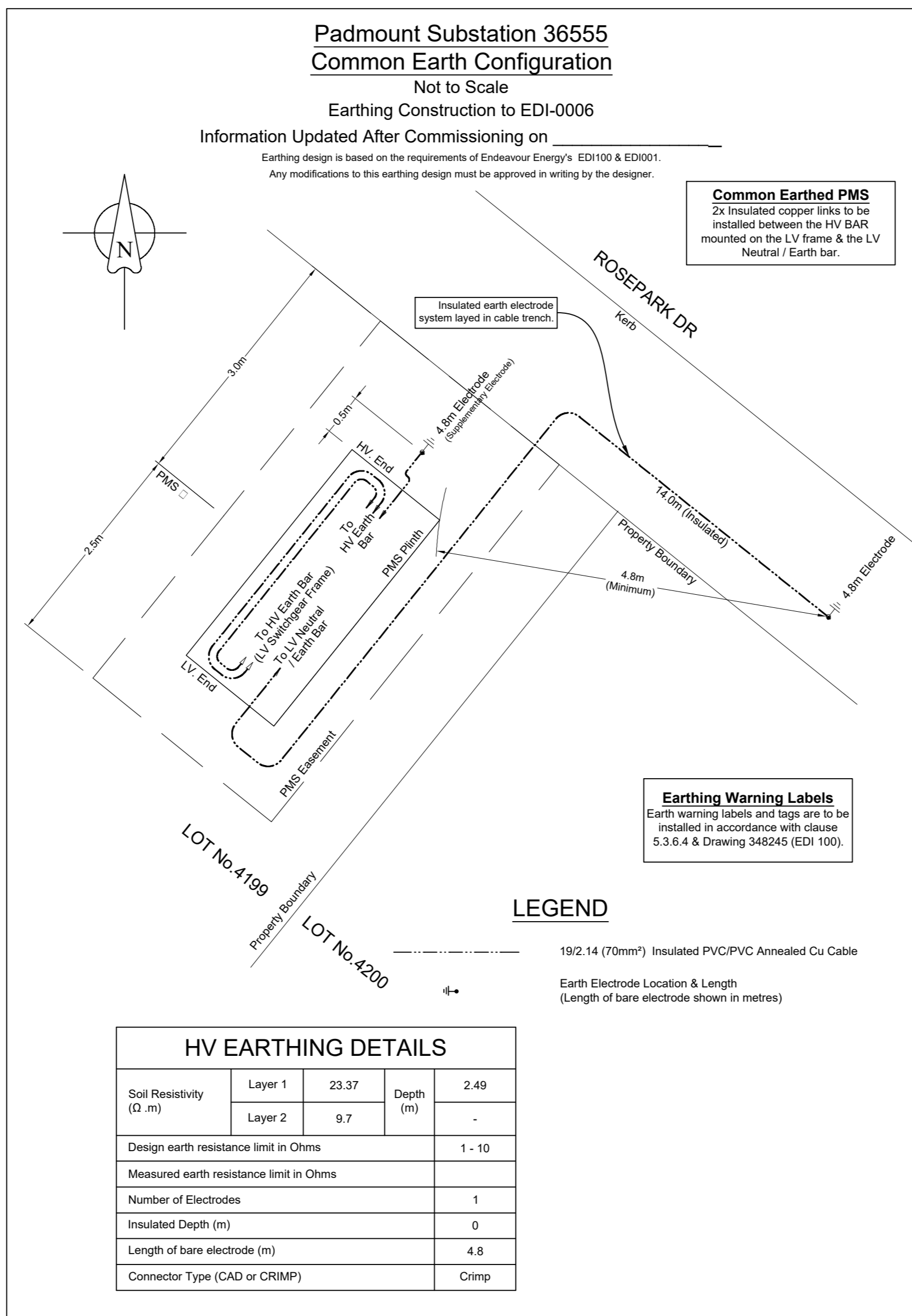
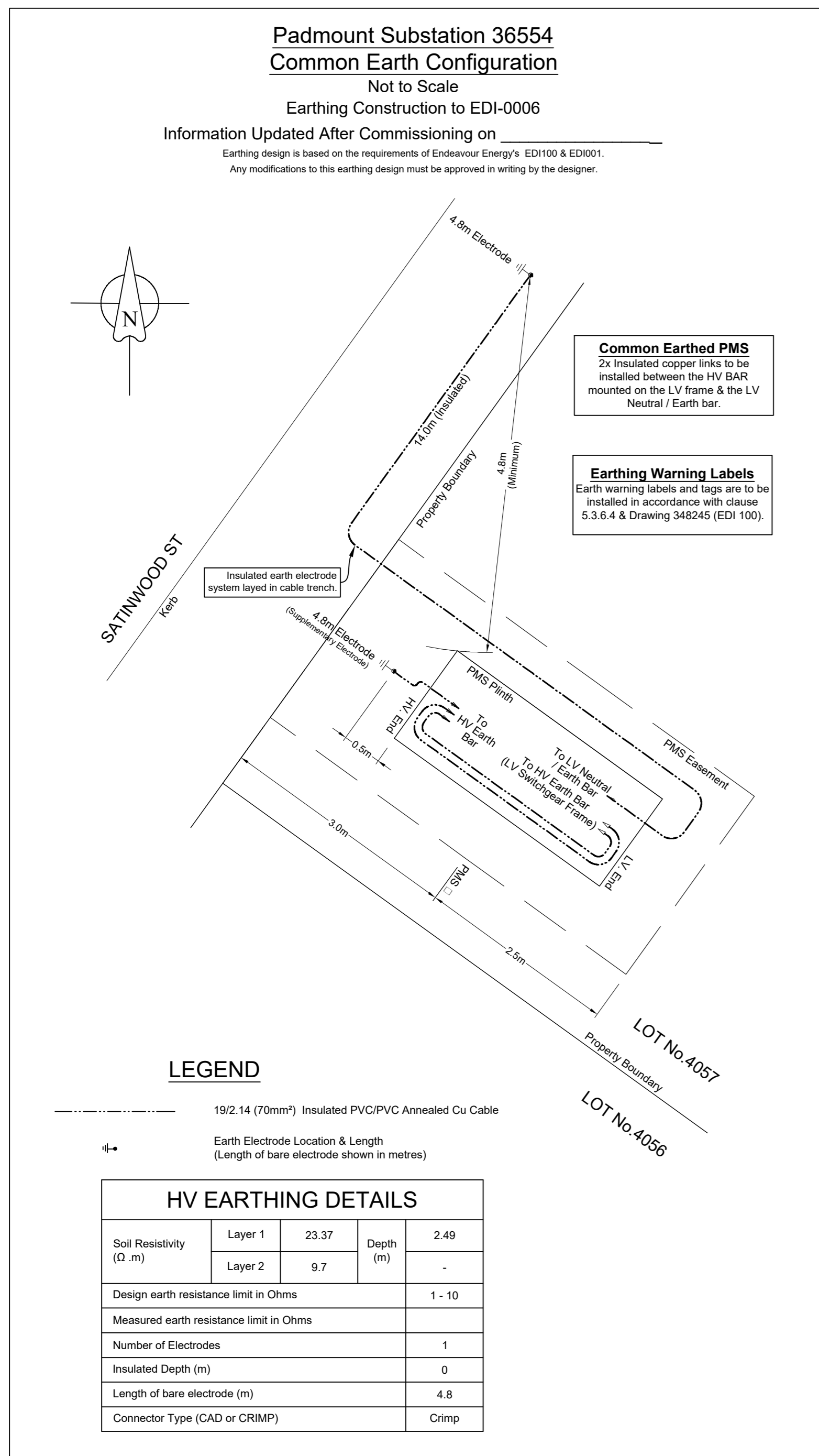
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A508329	PLT1059 - Elara Blvd Precinct 3 - Education	Overhead	
B507917	URS20162 - DTE	Underground	
		Substations	

CAP / SAMP No.	
URS20162	
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	
126 C:11	
GIS Map No.	
U82674	
HV OP Diagram	
MARSDEN PARK	
Local Government Area	
BLACKTOWN CITY	

ORIGINAL SCALE	
1:1000	
DO NOT SCALE DIMENSIONS IN METRES	
Drawn	R. Walsh
Date	16.07.2018
Checked	Michael.J.B
Design	R. Walsh

NEWPARK  
PRECINCT 4  
RICHMOND ROAD  
MARSDEN PARK  
URS20162  
ELECTRICAL RETICULATION

A1 507919 B  
Sheet No 4 of 11 Sheets



**WORKS COMPLETED / FIELD BOOK**

Constructed By: \_\_\_\_\_

Works Completed: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

of: \_\_\_\_\_

Contact No: \_\_\_\_\_

Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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A508329	PLT1059 - Elara Blvd Precinct 3 - Education	Overhead		AM Project No.	
B507917	URS20162 - DTE	Underground		HV Switching	
		Substations		UBD/Penguin Ref No.	126 C:11
				GIS Map No.	U82674
				HV OP Diagram	MARSDEN PARK
				Local Government Area	BLACKTOWN CITY

Drawn	R. Walsh
Date	16.07.2018
Checked	Michael.J.B

**DO NOT SCALE**  
DIMENSIONS IN METRES

NEWPARK  
PRECINCT 4  
RICHMOND ROAD  
MARSDEN PARK  
URS20162  
ELECTRICAL RETICULATION

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
A0-A2	New Footpath Ducts	44	-	-	-	-	-	-	-	-
A2-A3	New Road Crossing	26	-	-	-	-	-	-	-	-
A3-A4	New Footpath Ducts	25	-	-	-	-	-	-	-	-
A4-A5	New Footpath Ducts	21	-	-	-	-	-	-	-	-
A5-A6	New Footpath Ducts	37	-	-	-	-	-	-	-	-
A6-A7	New Footpath Ducts	13	-	-	-	-	-	-	-	-
A7-A8	New Footpath Ducts	38	-	-	-	-	-	-	-	-
A8-B1	New Footpath Ducts	63	-	-	-	-	-	-	-	-
B1-B2	New Footpath Ducts	33	-	-	-	-	-	-	-	-
B2-B3	New Footpath Ducts	48	-	-	-	-	-	-	-	-
B3-B4	New Footpath Ducts	30	-	-	-	-	-	-	-	-
B4-B5	New Footpath Ducts	12	-	-	12	-	12	12	-	-
B4-B7	New Road Crossing	18	-	-	-	18	18	36	-	-
B6-B7	New Footpath Ducts	10	-	-	-	-	-	-	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
B7-C0	New Footpath Ducts	130	-	-	-	-	-	-	-	-
C0-C1	New Footpath Ducts	10	-	-	10	-	10	10	-	-
C1-C2	New Footpath Ducts	25	-	-	25	-	25	25	-	-
C2-C3	New Footpath Ducts	6	-	-	-	-	-	-	-	-
C4-C5	New Footpath Ducts	13	-	-	-	-	-	-	-	-
C5-C6	New Footpath Ducts	14	-	-	-	-	-	-	-	-
C6-C7	New Footpath Ducts	22	-	-	-	-	-	-	-	-
C7-C8	New Footpath Ducts	12	-	-	-	-	-	-	-	-
C8-C9	New Footpath Ducts	13	-	-	-	-	-	-	-	-
C9-D0	New Footpath Ducts	22	-	-	-	-	-	-	-	-
D0-D1	New Footpath Ducts	16	-	-	-	-	-	-	-	-
D1-D2	New Road Crossing	16	-	-	-	-	-	-	-	-
D2-D3	New Footpath Ducts	10	-	-	-	-	-	-	-	-
C9-D4	New Road Crossing	16	-	-	-	-	-	-	-	-

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

OF: \_\_\_\_\_

CONTACT NO: \_\_\_\_\_

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Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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ALL ROUTE LENGTHS ARE TO BE CONFIRMED ON SITE BY THE CONSTRUCTOR PRIOR TO ORDERING MATERIALS.

ALL NEW SPARE 125mm DUCTS INSTALLED ARE TO HAVE A MINIMUM 750mm COVER.

**TRENCH LEGEND**

- Direct Buried Cable
- LV Cable (Direct Buried)
- HV Cable (Direct Buried)
- 125mm Duct - with Existing Cable
- 125mm Duct - with New Cable
- 125mm Duct - Spare
- 125mm Duct - Spare (Endeavour Energy Requested)
- 125mm Duct - Spare (Developer funded)
- 50mm Duct - with Existing Cable
- 50mm Duct - with New SL Cable
- 50mm Duct - Spare
- Existing Cable Abandoned

**Duct and Cable Schedule codes:**

T&R: HV Light trenching & reinstatement  
 PC: Lay Cable - Pull Conductor through Ducts  
 LD: Lay HV 125mm Ducts in Trench  
 C: Cable - Materials  
 LC: Lay HV Cable - Directly Buried in Trench  
 D: Lay HV duct in SL/LV Trench

\*All length entered in meters (m)

AMENDMENTS	Original Issue	Date: 16.07.2018 Change to assessment for construction at 3555 & 3555 Drawn: Rich W Checked: Michael B
A		
B		

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**powerline design**

POWER LINE DESIGN PTY LTD  
 PO BOX 338 Mittagong NSW 2575  
 Ph (02) 4872 1920 Fax (02) 4872 1240  
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B505359	URS19233 - Newport Precinct 2	General	
A508329	PLT1059 - Elara Blvd Precinct 3 - Education	Overhead	
B507917	URS20162 - DTE	Underground	
		Substations	

CAP / SAMP No.	URS20162	AM Project No.	
HV Switching		UBD/Penguin Ref No.	126 C:11
GIS Map No.	U82674	HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY		

ORIGINAL SCALE	1:1000	Drawn	R. Walsh
Date	16.07.2018	Checked	Michael J.B
Design	R. Walsh		

**DO NOT SCALE DIMENSIONS IN METRES**

**NEWPARK PRECINCT 4  
 RICHMOND ROAD  
 MARSDEN PARK  
 URS20162  
 ELECTRICAL RETICULATION**

**Endeavour Energy**

**A1 507919 B**

Sheet No 6 of 11 Sheets

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
C6-D5	New Road Crossing 	16	-	-	-	-	-	-	-	-
D5-D7	New Footpath Ducts 	92	-	-	-	-	-	-	-	-
D7-D8	New Footpath Ducts 	26	-	-	26	-	26	26	-	-
D8-D9	New Footpath Ducts 	25	-	-	25	-	25	25	-	-
C2-D7	New Road Crossing 	27	-	-	-	27	27	54	-	-
D9-E0	New Footpath Ducts 	49	-	-	49	-	49	49	-	-
E0-E1	New Footpath Ducts 	13	-	-	13	-	13	13	-	-
E1-E2	New Footpath Ducts 	10	-	-	10	-	10	10	-	-
E2-E3	New Footpath Ducts 	36	-	-	-	-	-	-	-	-
E3-E4	New Footpath Ducts 	42	-	-	-	-	-	-	-	-
E4-E5	New Footpath Ducts 	10	-	-	-	-	-	-	-	-
E5-E6	New Footpath Ducts 	47	-	-	-	-	-	-	-	-
E6-E7	New Road Crossing 	21	-	-	-	-	-	-	-	-
E7-E8	New Footpath Ducts 	13	-	-	13	-	13	26	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
E8-E9	New Footpath Ducts 	15	-	-	15	-	15	30	-	-
E9-F0	New Footpath Ducts 	36	-	-	36	-	36	72	-	-
E4-F0	New Road Crossing 	20	-	-	-	-	-	-	-	-
F0-K2	New Footpath Ducts 	42	-	-	-	-	-	-	-	-
F0-F1	New Road Crossing 	26	-	-	-	26	26	78	-	-
F1-F2	New Footpath Ducts 	24	-	-	24	-	24	48	-	-
F2-F3	New Footpath Ducts 	1	-	-	1	-	1	2	-	-
F3-F4	New Footpath Ducts 	27	-	-	27	-	27	54	-	-
E2-F4	New Road Crossing 	26	26	52	-	26	26	-	-	-
F4-F5	New Road Crossing 	16	-	-	-	-	-	32	-	-
F5-F6	New Footpath Ducts 	7	-	-	-	-	-	14	-	-
F6-F7	New Footpath Ducts 	20	-	-	-	-	-	40	-	-
F7-F8	New Footpath Ducts 	33	-	-	-	-	-	66	-	-
F8-F9	New Road Crossing 	22	-	-	-	-	-	44	-	-

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

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**TRENCH LEGEND**

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- LV Cable (Direct Buried)
- HV Cable (Direct Buried)
- 125mm Duct - with Existing Cable
- 125mm Duct - with New Cable
- 125mm Duct - Spare
- 125mm Duct - Spare (Endeavour Energy Requested)
- 125mm Duct - Spare (Developer funded)
- 50mm Duct - with Existing Cable
- 50mm Duct - with New SL Cable
- 50mm Duct - Spare
- Existing Cable Abandoned

**Duct and Cable Schedule codes:**

T&R: HV Light trenching & reinstatement  
 PC: Lay Cable - Pull Conductor through Ducts  
 LD: Lay HV 125mm Ducts in Trench  
 C: Cable - Materials  
 LC: Lay HV Cable - Directly Buried in Trench  
 D: Lay HV duct in SL/LV Trench

\*All length entered in meters (m)

AMENDMENTS	Original Issue	Date: 16.07.2018 Change to assessment for construction at 3555 & 3555 Drawn: Rich W Checked: Michael B
A		
B		

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		Substations	

CAP / SAMP No.	URS20162	ORIGINAL SCALE	1:1000
AM Project No.		Drawn	R. Walsh
HV Switching		Date	16.07.2018
UBD/Penguin Ref No.	126 C:11	Checked	Michael J.B
GIS Map No.	UR2674	Design	R. Walsh
HV OP Diagram	MARSDEN PARK		
Local Government Area	BLACKTOWN CITY		

**DO NOT SCALE**  
DIMENSIONS IN METRES

**NEWPARK PRECINCT 4**  
**RICHMOND ROAD**  
**MARSDEN PARK**  
**URS20162**  
**ELECTRICAL RETICULATION**

**A1 507919 B**

Sheet No 7 of 11 Sheets

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
G0-G1	New Footpath Ducts	1	-	-	-	-	-	-	-	-
G1-G3	New Footpath Ducts	62	-	-	-	-	-	-	-	-
G3-G4	New Footpath Ducts	10	-	-	-	-	-	-	-	-
G4-G5	New Footpath Ducts	48	-	-	-	-	-	-	-	-
G5-G6	New Footpath Ducts	10	-	-	-	-	-	-	-	-
G6-G7	New Footpath Ducts	39	-	-	-	-	-	-	-	-
G7-G9	New Footpath Ducts	51	-	-	-	-	-	-	-	-
G9-H0	New Footpath Ducts	8	-	-	-	-	-	-	-	-
H0-J2	New Road Crossing	17	-	-	-	-	-	-	-	-
H1-H2	New Footpath Ducts	13	-	-	-	-	-	-	-	-
H2-H3	New Footpath Ducts	35	-	-	-	-	-	-	-	-
H3-H4	New Footpath Ducts	10	-	-	-	-	-	-	-	-
H4-H6	New Footpath Ducts	62	-	-	-	-	-	-	-	-
H6-H7	New Footpath Ducts	13	-	-	-	-	-	-	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
H7-F5	New Footpath Ducts	28	-	-	-	-	-	-	-	-
F4-H8	New Footpath Ducts	48	48	48	96	-	96	-	-	-
H8-H9	New Footpath Ducts	35	-	-	70	-	70	35	-	-
H9-J0	New Footpath Ducts	35	-	-	70	-	70	35	-	-
J0-J1	New Footpath Ducts	14	-	-	28	-	28	14	-	-
J1-J2	New Footpath Ducts	50	-	-	-	-	-	-	-	-
J2-J3	New Footpath Ducts	25	-	-	-	-	-	-	-	-
J3-J5	New Footpath Ducts	46	-	-	-	-	-	-	-	-
J5-J6	New Footpath Ducts	34	-	-	-	-	-	-	-	-
J6-J7	New Footpath Ducts	10	-	-	-	-	-	-	-	-
J7-J8	New Footpath Ducts	30	-	-	-	-	-	-	-	-
J8-J9	New Footpath Ducts	13	-	-	-	-	-	-	-	-
J7-K6	New Road Crossing	17	-	-	-	-	-	-	-	-
J8-K5	New Road Crossing	17	-	-	-	-	-	-	-	-

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

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\*All length entered in meters (m)

AMENDMENTS	Original Issue	Date: 16.07.2018 Change to assessment for construction 35555 & 35555 Drawn: Rich W Checked: Michael B
A		
B		

THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS WHOLLY RESPONSIBLE FOR VERIFYING 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.

**powerline design**

POWER LINE DESIGN PTY LTD  
 PO BOX 338 Mittagong NSW 2575  
 Ph (02) 4872 1920 Fax (02) 4872 1240  
 Accredited Designer Number 2486 / A/NZ 53197 591 846

Reference Drawings	Work Orders
B505359 URS19233 - Newport Precinct 2	General
A508329 PLT1059 - Elara Blvd Precinct 3 - Education	Overhead
B507917 URS20162 - DTE	Underground
	Substations

CAP / SAMP No.	URS20162
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	126 C:11
GIS Map No.	U82674
HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY

ORIGINAL SCALE	1:1000
Drawn	R. Walsh
Date	16.07.2018
Checked	Michael J.B

**DO NOT SCALE**

DIMENSIONS IN METRES

Design R. Walsh

**NEWPARK PRECINCT 4**  
**RICHMOND ROAD**  
**MARSDEN PARK**  
**URS20162**  
**ELECTRICAL RETICULATION**

**Endeavour Energy**

**A1 507919 B**

Sheet No 8 of 11 Sheets



Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
J9-K0	New Footpath Ducts 	35	-	-	-	-	-	-	-	-
K0-K1	New Footpath Ducts 	28	-	-	-	-	-	-	-	-
K0-K3	New Road Crossing 	16	-	-	-	-	-	-	-	-
K2-K3	New Footpath Ducts 	23	-	-	-	-	-	-	-	-
K4-K5	New Footpath Ducts 	30	-	-	-	-	-	-	-	-
J5-K7	New Road Crossing 	26	-	-	-	-	-	-	-	-
K7-K8	New Footpath Ducts 	28	-	-	-	-	-	-	-	-
K8-K9	New Footpath Ducts 	31	-	-	-	-	-	-	-	-
K9-L0	New Footpath Ducts 	35	-	-	-	-	-	-	-	-
L0-L1	New Footpath Ducts 	1	-	-	-	-	-	-	-	-
L1-L2	New Footpath Ducts 	35	-	-	-	-	-	-	-	-
L2-L3	New Footpath Ducts 	20	-	-	-	-	-	-	-	-
L3-L4	New Footpath Ducts 	32	-	-	-	-	-	-	-	-
L5-L6	New Footpath Ducts 	30	-	-	-	-	-	-	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstate (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
L6-L7	New Footpath Ducts 	10	-	-	-	-	-	-	-	-
L7-L8	New Footpath Ducts 	16	-	-	-	-	-	-	-	-
L9-M0	New Footpath Ducts 	10	-	-	-	-	-	-	-	-
L9-M5	New Road Crossing 	16	-	-	-	-	-	-	-	-
M1-M2	New Footpath Ducts 	13	-	-	-	-	-	-	-	-
M2-M3	New Footpath Ducts 	1	-	-	-	-	-	-	-	-
M4-K3	New Footpath Ducts 	51	-	-	-	-	-	-	-	-
M5-M6	New Footpath Ducts 	42	-	-	-	-	-	-	-	-
M6-M7	New Footpath Ducts 	10	-	-	-	-	-	-	-	-
M6-Q2	New Road Crossing 	16	-	-	-	-	-	-	-	-
M7-M8	New Footpath Ducts 	20	-	-	-	-	-	-	-	-
M8-M9	New Footpath Ducts 	13	-	-	-	-	-	-	-	-
M9-Q1	New Footpath Ducts 	16	-	-	-	-	-	-	-	-
Q0-Q1	New Road Crossing 	26	-	-	-	-	-	26	26	52

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

OF: \_\_\_\_\_

CONTACT NO: \_\_\_\_\_

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED IN ACCORDANCE WITH ENDEAVOUR ENERGY'S STANDARD SAD 004

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

ALL ROUTE LENGTHS ARE TO BE CONFIRMED ON SITE BY THE CONSTRUCTOR PRIOR TO ORDERING MATERIALS.

ALL NEW SPARE 125mm DUCTS INSTALLED ARE TO HAVE A MINIMUM 750mm COVER.

**TRENCH LEGEND**

- Direct Buried Cable
- LV Cable (Direct Buried)
- HV Cable (Direct Buried)
- 125mm Duct - with Existing Cable
- 125mm Duct - with New Cable
- 125mm Duct - Spare
- 125mm Duct - Spare (Endeavour Energy Requested)
- 125mm Duct - Spare (Developer funded)
- 50mm Duct - with Existing Cable
- 50mm Duct - with New SL Cable
- 50mm Duct - Spare
- Existing Cable Abandoned

**Duct and Cable Schedule codes:**

T&R: HV Light trenching & reinstatement  
 PC: Lay Cable - Pull Conductor through Ducts  
 LD: Lay HV 125mm Ducts in Trench  
 C: Cable - Materials  
 LC: Lay HV Cable - Directly Buried in Trench  
 D: Lay HV duct in SL/LV Trench

\*All length entered in meters (m)

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstale (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
Q0-Q2	New Footpath Ducts 	56	-	-	-	-	-	-	-	-
Q2-Q3	New Footpath Ducts 	44	-	-	-	-	-	-	-	-
Q3-Q4	New Footpath Ducts 	52	-	-	-	-	-	-	-	-
Q4-L4	New Road Crossing 	16	-	-	-	-	-	-	-	-
Q4-Q5	New Footpath Ducts 	15	-	-	-	-	-	-	-	-
Q5-Q6	New Footpath Ducts 	10	-	-	-	-	-	-	-	-
Q6-Q7	New Footpath Ducts 	20	-	-	-	-	-	-	-	-
Q7-Q8	New Footpath Ducts 	12	-	-	-	-	-	-	-	-
Q8-Q9	New Footpath Ducts 	13	-	-	-	-	-	-	-	-
Q9-R0	Existing Ducts 	7	-	-	-	-	-	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
R0-R1	Existing Ducts 	51	-	-	-	-	-	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
R1-R2	Existing Ducts 	1	-	-	-	-	-	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
R2-T2	Existing Ducts 	19	-	-	-	-	-	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
T2-R3	Existing Ducts 	23	-	-	-	-	-	-	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstale (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
T2-T1	Existing Ducts 	25	-	-	-	50	50	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
T0-T1	New Footpath Ducts 	24	-	-	48	-	48	24	-	-
S1-A0	New Footpath Ducts 	15	-	-	-	-	-	-	-	-
B5-N0	New Footpath Ducts 	16	-	-	16	-	16	16	-	-
N0-N1	New Footpath Ducts 	25	-	-	25	-	25	25	-	-
N1-N2	New Footpath Ducts 	16	-	-	-	-	-	-	-	-
N2-N3	New Footpath Ducts 	23	-	-	-	-	-	-	-	-
N2-N5	New Road Crossing 	17	-	-	-	-	-	-	-	-
N5-N4	New Footpath Ducts 	16	-	-	-	-	-	-	-	-
N5-N6	New Footpath Ducts 	33	-	-	-	-	-	-	-	-
N6-N7	New Road Crossing 	21	21	42	-	21	21	-	-	-
N1-N7	New Road Crossing 	16	-	-	-	16	16	32	-	-
N6-N8	New Footpath Ducts 	10	-	-	10	-	10	10	-	-
N7-N9	New Footpath Ducts 	30	-	-	-	-	-	-	-	-

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

OF: \_\_\_\_\_

CONTACT NO: \_\_\_\_\_

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED IN ACCORDANCE WITH ENDEAVOUR ENERGY'S STANDARD SAD 004

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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**TRENCH LEGEND**

- Direct Buried Cable
- LV Cable (Direct Buried)
- HV Cable (Direct Buried)
- 125mm Duct - with Existing Cable
- 125mm Duct - with New Cable
- 125mm Duct - Spare
- 125mm Duct - Spare (Endeavour Energy Requested)
- 125mm Duct - Spare (Developer funded)
- 50mm Duct - with Existing Cable
- 50mm Duct - with New SL Cable
- 50mm Duct - Spare
- Existing Cable Abandoned

**Duct and Cable Schedule codes:**

T&R: HV Light trenching & reinstatement  
 PC: Lay Cable - Pull Conductor through Ducts  
 LD: Lay HV 125mm Ducts in Trench  
 C: Cable - Materials  
 LC: Lay HV Cable - Directly Buried in Trench  
 D: Lay HV duct in SL/LV Trench

\*All length entered in meters (m)

AMENDMENTS	Original Issue	Date: 16.07.2018 Change to assessment for construction drawings & 3D models Drawn: Rich W Checked: Michael B
A		
B		

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.

**powerline design**

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 Ph (02) 4872 1920 Fax (02) 4872 1240  
 Accredited Designer Number 2486 / ABN: 53107 591 846

Reference Drawings	Work Orders
B505359 URS19233 - Newport Precinct 2	General
A508329 PLT1059 - Elara Blvd Precinct 3 - Education	Overhead
B507917 URS20162 - DTE	Underground
	Substations

CAP / SAMP No.	URS20162
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	126 C:11
GIS Map No.	UR2674
HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY

ORIGINAL SCALE	1:1000
Drawn	R. Walsh
Date	16.07.2018
Checked	Michael J.B

**DO NOT SCALE**

DIMENSIONS IN METRES

NEWPARK PRECINCT 4  
 RICHMOND ROAD  
 MARSDEN PARK  
 URS20162  
 ELECTRICAL RETICULATION

**Endeavour Energy**

**A1 507919 B**

Sheet No 10 of 11 Sheets

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstale (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
N9-P1	New Footpath Ducts	38	-	-	-	-	-	-	-	-
P1-D1	New Footpath Ducts	41	-	-	-	-	-	-	-	-
N8-P2	New Footpath Ducts	70	-	-	70	-	70	70	-	-
P2-P3	New Footpath Ducts	10	-	-	10	-	10	10	-	-
P3-P4	New Footpath Ducts	23	-	-	23	-	23	23	-	-
P4-P5	New Road Crossing	16	-	-	-	-	-	-	-	-
P5-E6	New Footpath Ducts	81	-	-	-	-	-	-	-	-
P4-P6	New Footpath Ducts	25	-	-	25	-	25	25	-	-
P6-P7	New Footpath Ducts	17	-	-	17	-	17	17	-	-
P7-R7	New Footpath Ducts	15	-	-	15	-	15	15	-	-
E1-F6	New Road Crossing	20	-	-	-	-	-	-	-	-
H3-J0	New Road Crossing	16	-	-	-	-	-	-	-	-
M4-M1	New Road Crossing	17	-	-	-	-	-	-	-	-
L6-Q3	New Road Crossing	17	-	-	-	-	-	-	-	-

Urban Subdivision Related Reimbursement - Duct and Cable Schedule										
Nodes	Configuration	Route Length (m)	HV Trench & Reinstale (T&R)	Lay Duct (LD)	Lay Cable (LC)	Pull Cable (PC)	Cable (C) (AI)	Duct (D)	Other Duct Reimbursement (m) x (\$)	Existing Duct Usage (m) x (\$)
Q1-E7	New Footpath Ducts	45	-	-	45	-	45	90	-	-
P8-Q0	New Footpath Ducts	23	-	-	23	-	23	46	-	-
R6-P8	New Footpath Ducts	2	-	-	2	-	2	4	-	-
R6-R7	Existing Ducts	21	-	-	-	-	-	-	-	Nil Ducts installed by the same developer in an earlier stage - URS20472.
D9-D9a	New Road Crossing	22	22	88	-	-	-	-	-	-
Total:		4041m	117m	230m	879m	210m	1089m	1309m		
Total:			\$11,817	\$1,380	\$8,790	\$840	\$35,937	\$30,107	\$0	\$0

**WORKS COMPLETED / FIELD BOOK**

CONSTRUCTED BY: \_\_\_\_\_

WORKS COMPLETED: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

INSPECTED BY: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

OF: \_\_\_\_\_

CONTACT NO: \_\_\_\_\_

HEREBY CERTIFY THAT ASSETS MARKED AS-BUILT ON THIS DRAWING HAVE BEEN RECORDED IN ACCORDANCE WITH ENDEAVOUR ENERGY'S STANDARD SAD 004

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

ALL ROUTE LENGTHS ARE TO BE CONFIRMED ON SITE BY THE CONSTRUCTOR PRIOR TO ORDERING MATERIALS.

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**TRENCH LEGEND**

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- LV Cable (Direct Buried)
- HV Cable (Direct Buried)
- 125mm Duct - with Existing Cable
- 125mm Duct - with New Cable
- 125mm Duct - Spare
- 125mm Duct - Spare (Endeavour Energy Requested)
- 125mm Duct - Spare (Developer funded)
- 50mm Duct - with Existing Cable
- 50mm Duct - with New SL Cable
- 50mm Duct - Spare
- Existing Cable Abandoned

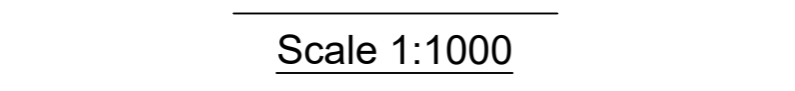
**Duct and Cable Schedule codes:**

T&R: HV Light trenching & reinstatement  
 PC: Lay Cable - Pull Conductor through Ducts  
 LD: Lay HV 125mm Ducts in Trench  
 C: Cable - Materials  
 LC: Lay HV Cable - Directly Buried in Trench  
 D: Lay HV duct in SL/LV Trench

\*All length entered in meters (m)

# Duct, Trench & Easement Site Plan

Scale 1:1000

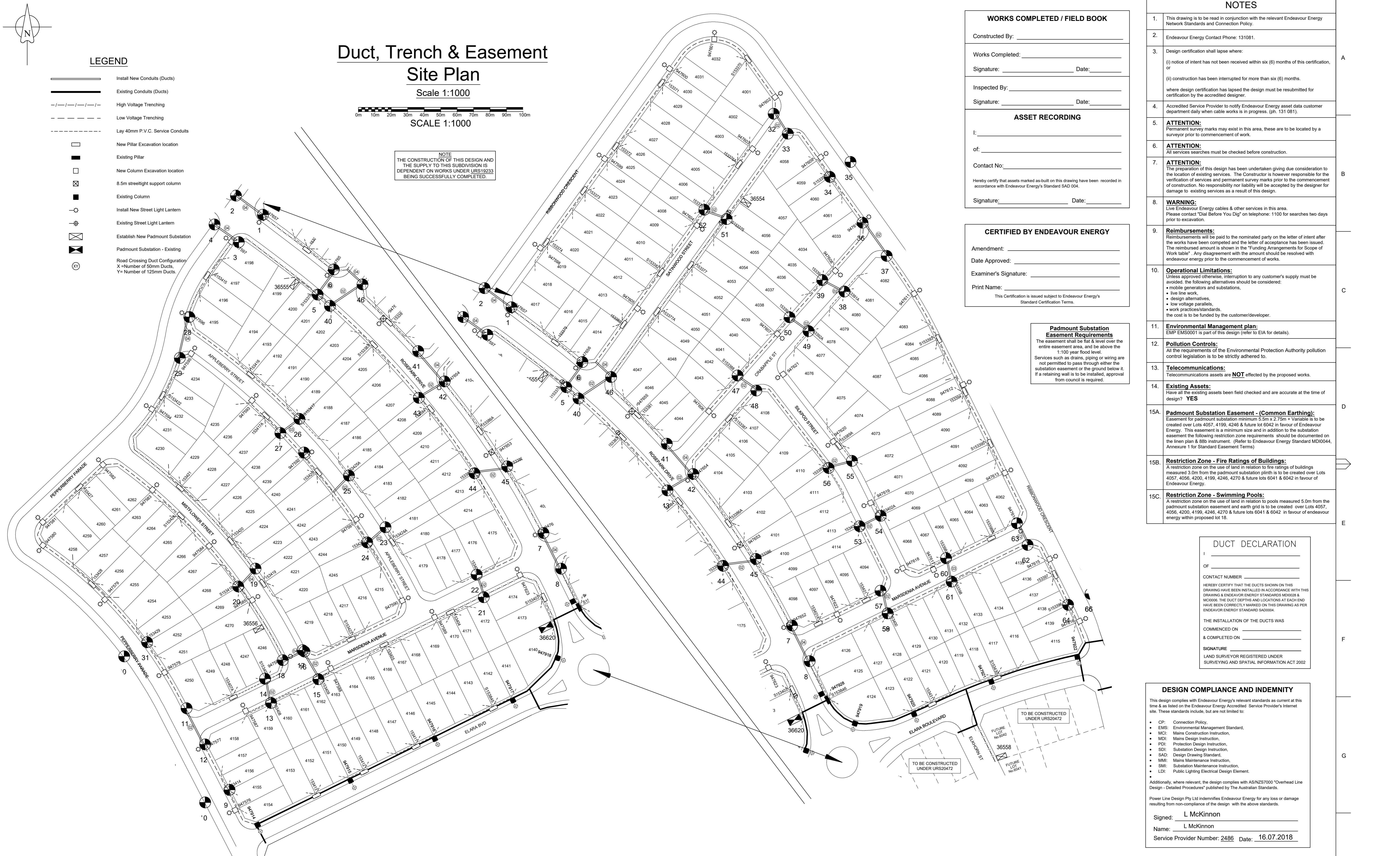


SCALE 1:1000

**NOTE**  
THE CONSTRUCTION OF THIS DESIGN AND THE SUPPLY TO THIS SUBDIVISION IS DEPENDENT ON WORKS UNDER URS19233 BEING SUCCESSFULLY COMPLETED.

## LEGEND

- Install New Conduits (Ducts)
- Existing Conduits (Ducts)
- High Voltage Trenching
- Low Voltage Trenching
- Lay 40mm P.V.C. Service Conduits
- New Pillar Excavation location
- Existing Pillar
- New Column Excavation location
- 8.5m streetlight support column
- Existing Column
- Install New Street Light Lantern
- Existing Street Light Lantern
- Establish New Padmount Substation
- Padmount Substation - Existing
- Road Crossing Duct Configuration  
X=Number of 50mm Ducts,  
Y=Number of 125mm Ducts



### WORKS COMPLETED / FIELD BOOK

Constructed By: \_\_\_\_\_

Works Completed: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### ASSET RECORDING

I: \_\_\_\_\_

of: \_\_\_\_\_

Contact No: \_\_\_\_\_

Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

### CERTIFIED BY ENDEAVOUR ENERGY

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

**Padmount Substation Easement Requirements**  
The easement shall be flat & level over the entire easement area, and be above the 1:100 year flood level.  
Services such as drains, piping or wiring are not permitted to pass through either the substation easement or the ground below it. If a retaining wall is to be installed, approval from council is required.

### 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 or 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. **Reimbursements:** Reimbursements will be paid to the nominated party on the letter of intent after the works have been completed 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.
10. **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.
11. **Environmental Management plan:** EMP ENMS001 is part of this design (refer to EIA for details).
12. **Pollution Controls:** All the requirements of the Environmental Protection Authority pollution control legislation is to be strictly adhered to.
13. **Telecommunications:** Telecommunications assets are **NOT** effected by the proposed works.
14. **Existing Assets:** Have all the existing assets been field checked and are accurate at the time of design? **YES**
- 15A. **Padmount Substation Easement - (Common Earthing):** Easement for padmount substation minimum 5.5m x 2.75m + Variable is to be created over Lots 4057, 4199, 4246 & future lot 6042 in favour of Endeavour Energy. This easement is a minimum size and in addition to the substation easement the following restriction zone requirements should be documented on the linen plan & 800 instrument. (Refer to Endeavour Energy Standard MDI0044, Annexure 1 for Standard Easement Terms)
- 15B. **Restriction Zone - Fire Ratings of Buildings:** A restriction zone on the use of land in relation to fire ratings of buildings measured 3.0m from the padmount substation plinth is to be created over Lots 4057, 4056, 4200, 4199, 4246, 4270 & future lots 6041 & 6042 in favour of Endeavour Energy.
- 15C. **Restriction Zone - Swimming Pools:** A restriction zone on the use of land in relation to pools measured 5.0m from the padmount substation easement and earth grid is to be created over Lots 4057, 4056, 4200, 4199, 4246, 4270 & future lots 6041 & 6042 in favour of endeavour energy within proposed lot 18.

### DUCT DECLARATION

I \_\_\_\_\_

OF \_\_\_\_\_

CONTACT NUMBER \_\_\_\_\_

HEREBY CERTIFY THAT THE DUCTS SHOWN ON THIS DRAWING HAVE BEEN INSTALLED IN ACCORDANCE WITH THIS DRAWING & ENDEAVOUR ENERGY STANDARDS MD0008 & MD0006. THE DUCT DEPTHS AND LOCATIONS AT EACH END HAVE BEEN CORRECTLY MARKED ON THIS DRAWING AS PER ENDEAVOUR ENERGY STANDARD SAD004.

THE INSTALLATION OF THE DUCTS WAS

COMMENCED ON \_\_\_\_\_

& COMPLETED ON \_\_\_\_\_

SIGNATURE \_\_\_\_\_

LAND SURVEYOR REGISTERED UNDER SURVEYING AND SPATIAL INFORMATION ACT 2002

### 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,
- MAM: 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: L McKinnon

Name: L McKinnon

Service Provider Number: 2486 Date: 16.07.2018

AMENDMENTS	Original Issue
A	Date: 16.07.2018 Location of substations 38554 & 38655 Character: Michael B
B	

THE PREPARATION OF THIS DESIGN HAS BEEN UNDERTAKEN GIVING DUE CONSIDERATION TO THE EXISTING SERVICES. THE PROJECT CONSTRUCTOR IS WHOLLY RESPONSIBLE FOR VERIFYING 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.

**POWER LINE DESIGN PTY LTD**  
PO BOX 338 Mittagong NSW 2575  
PH (02) 4872 1920 Fax (02) 4872 1340  
Accredited Designer Number 2486 | ADRN: 33107 991 846

Reference Drawings	Work Orders
B505359 URS19233 - Newport Precinct 2	General
A508329 PLT1059 - Elara Blvd Precinct 3 - Education	Overhead
B507919 URS20162 - RETIC	Underground
	Substations

CAP / SAMP No.	AM Project No.	HV Switching	UBD/Penguin Ref No.	GIS Map No.	HV OP Diagram	Local Government Area
URS20162			126 C-11	US2674	MARSDEN PARK	BLACKTOWN CITY

ORIGINAL SCALE 1:1000	Drawn R. Walsh	Date 16.07.2018	Checked Michael J.B
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**DO NOT SCALE DIMENSIONS IN METRES**

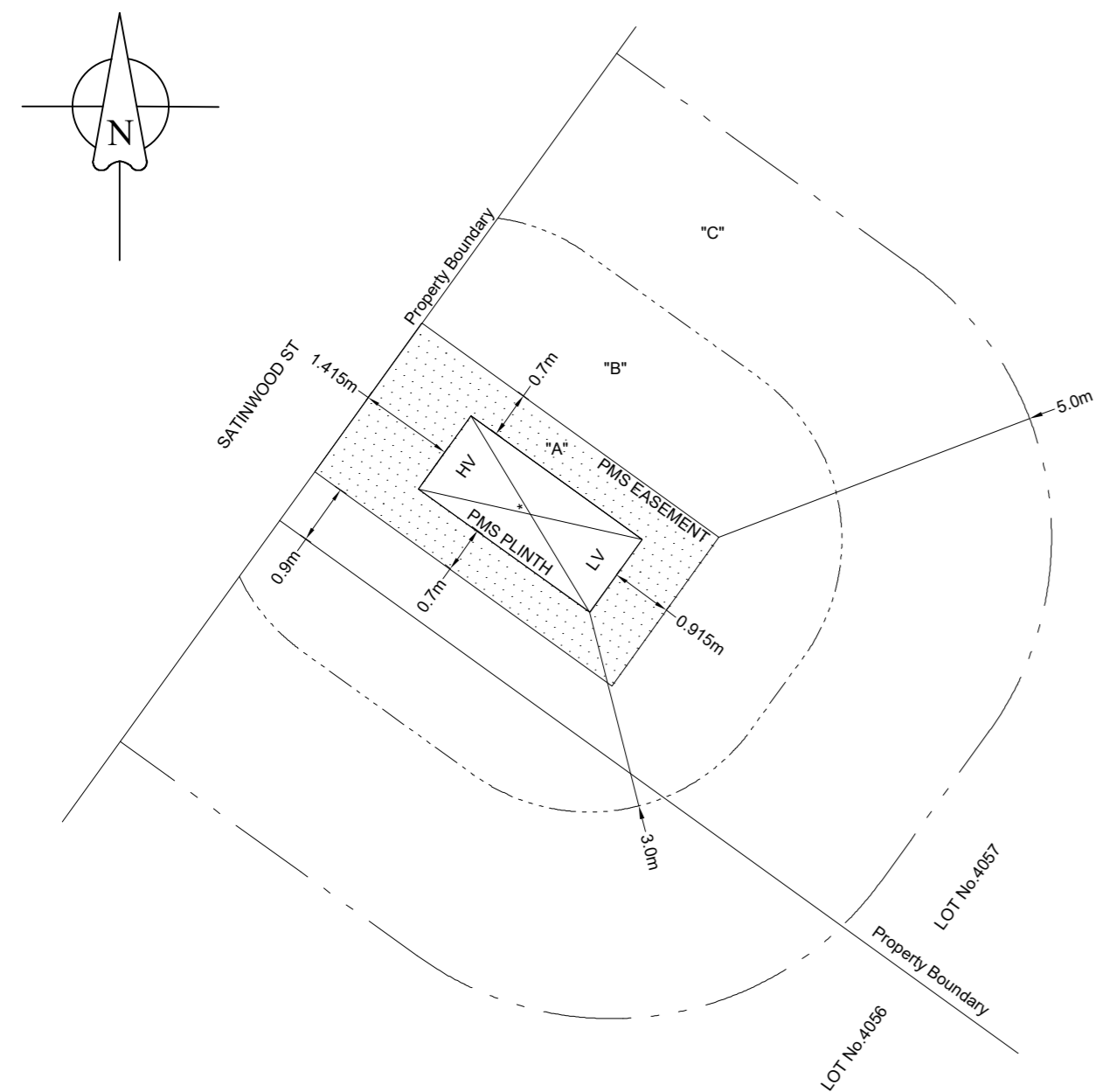
**NEWPARK PRECINCT 4  
RICHMOND PARK  
MARSDEN PARK  
URS20162  
DUCT TRENCH & EASEMENT**

**A1 507917 B**

Sheet No 1 of 3 Sheets

**EASEMENT AND RESTRICTION ZONES FOR PADMOUNT  
SUBSTATION 36554 - COMMON EARTHING**  
REFER TO PROJECT NOTES 15 A, B, C FOR DETAILS

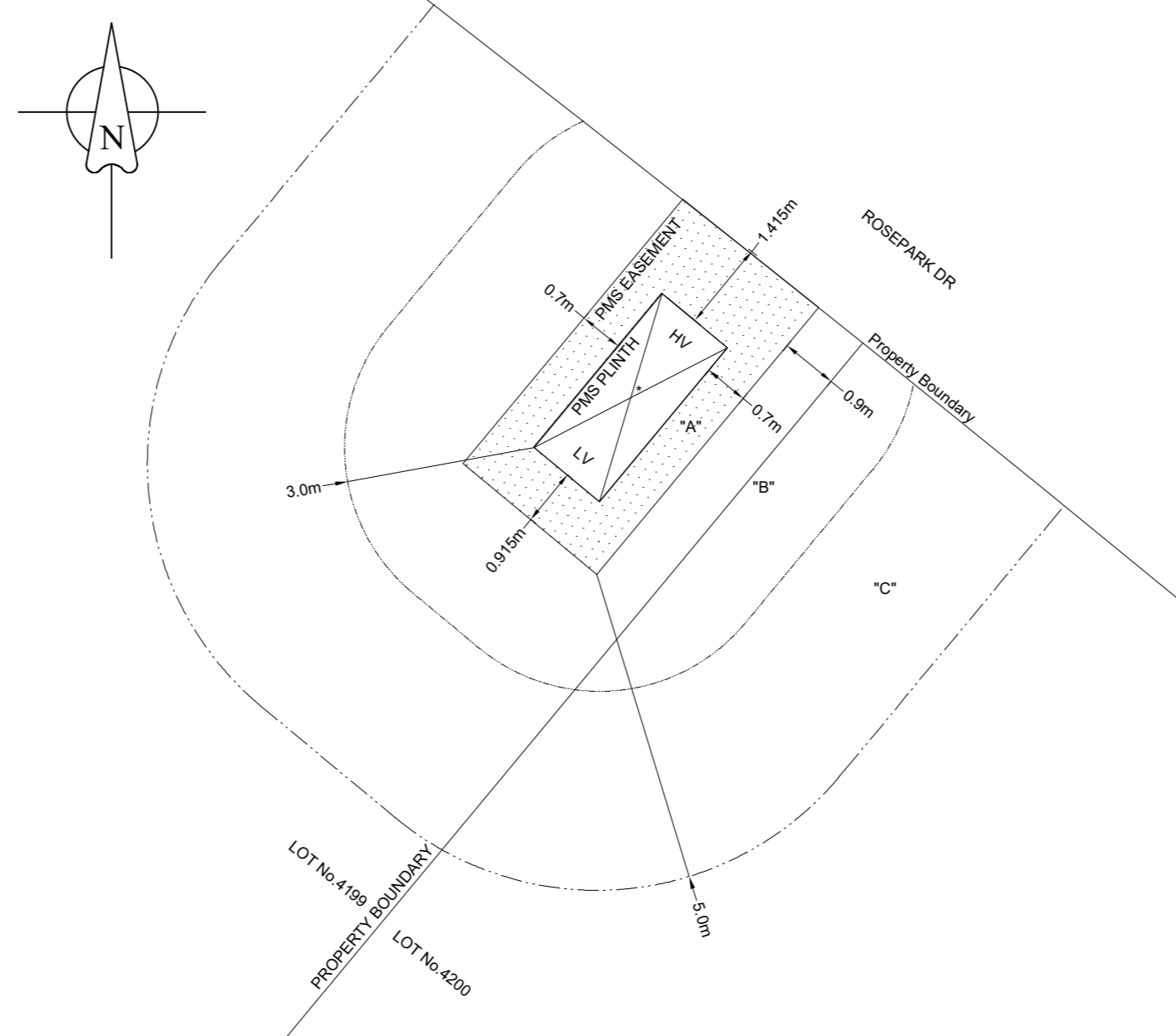
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m  
SCALE 1:100



- A. PADMOUNT SUBSTATION EASEMENT 2.75m x 5.5m, CENTRED AROUND THE SUBSTATION PLINTH EXCEPT FOR 0.25m OFFSET TOWARD THE HV END.
  - B. RESTRICTION ON THE USE OF LAND IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3.0m FROM SUBSTATION PLINTH.
  - C. RESTRICTION ON THE USE OF LAND IN RELATION TO THE SWIMMING POOLS MEASURED 5.0m FROM SUBSTATION EASEMENT
- \* **SUBSTATION PLINTH** 1.35m x 3.17m AT TOP OF CONCRETE. (ALL OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)

**EASEMENT AND RESTRICTION ZONES FOR PADMOUNT  
SUBSTATION 36555 - COMMON EARTHING**  
REFER TO PROJECT NOTES 15 A, B, C FOR DETAILS

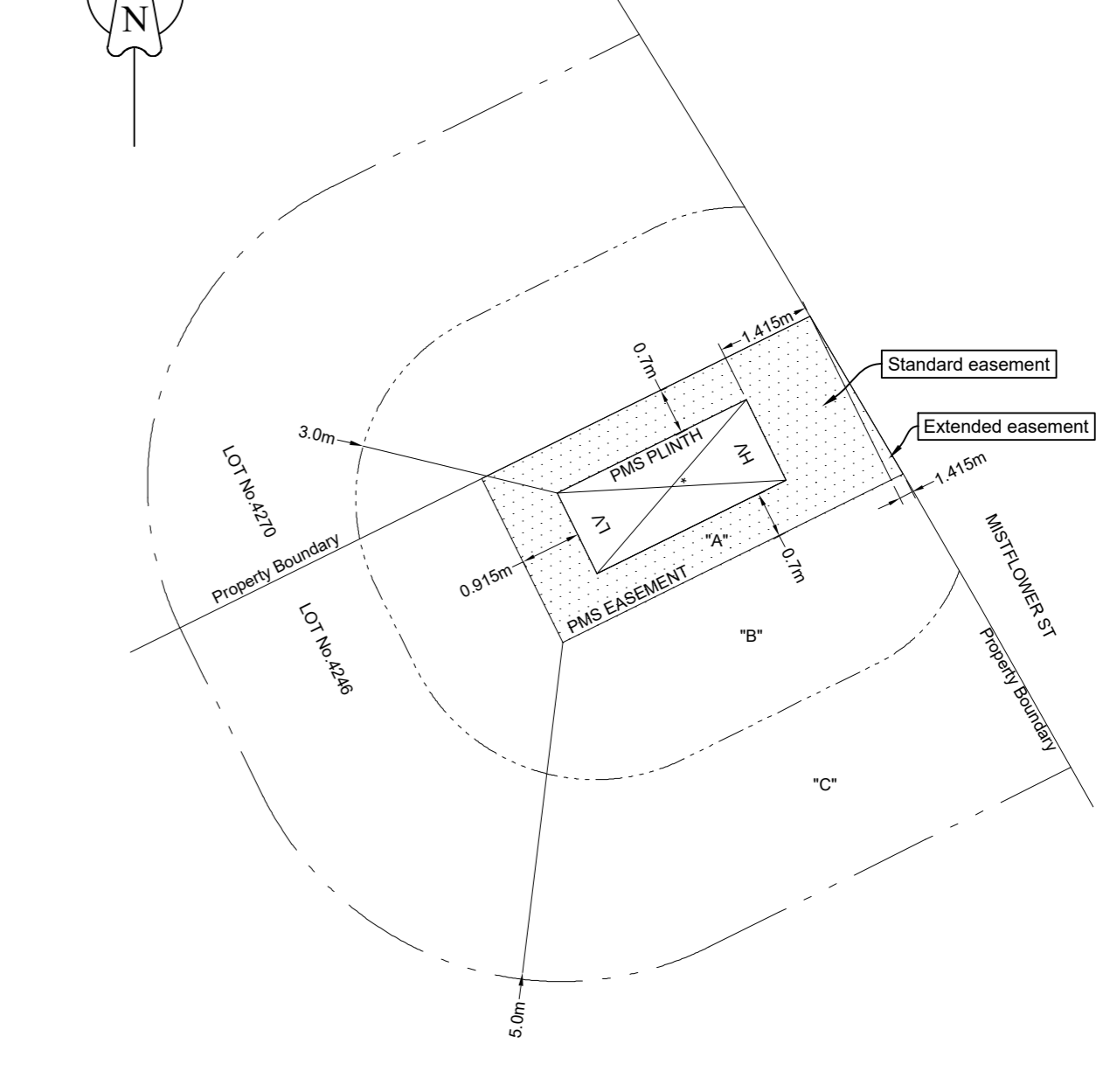
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m  
SCALE 1:100



- A. PADMOUNT SUBSTATION EASEMENT 2.75m x 5.5m, CENTRED AROUND THE SUBSTATION PLINTH EXCEPT FOR 0.25m OFFSET TOWARD THE HV END.
  - B. RESTRICTION ON THE USE OF LAND IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3.0m FROM SUBSTATION PLINTH.
  - C. RESTRICTION ON THE USE OF LAND IN RELATION TO THE SWIMMING POOLS MEASURED 5.0m FROM SUBSTATION EASEMENT
- \* **SUBSTATION PLINTH** 1.35m x 3.17m AT TOP OF CONCRETE. (ALL OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)

**EASEMENT AND RESTRICTION ZONES FOR PADMOUNT  
SUBSTATION 36556 - COMMON EARTHING**  
REFER TO PROJECT NOTES 15 A, B, C FOR DETAILS

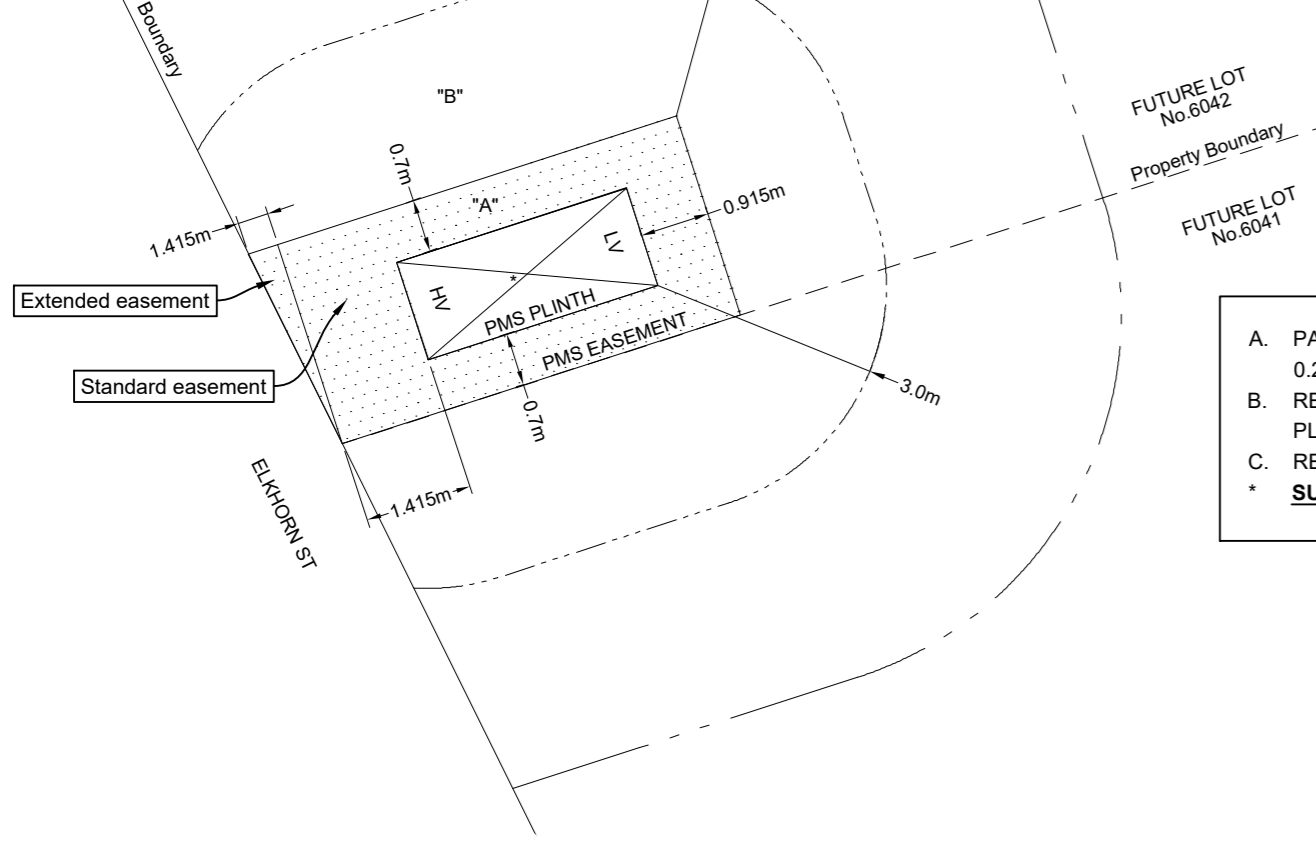
0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m  
SCALE 1:100



- A. PADMOUNT SUBSTATION EASEMENT 2.75m x 5.5m + VARIABLE, CENTRED AROUND THE SUBSTATION PLINTH EXCEPT FOR 0.25m OFFSET TOWARD THE HV END.
  - B. RESTRICTION ON THE USE OF LAND IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3.0m FROM SUBSTATION PLINTH.
  - C. RESTRICTION ON THE USE OF LAND IN RELATION TO THE SWIMMING POOLS MEASURED 5.0m FROM SUBSTATION EASEMENT
- \* **SUBSTATION PLINTH** 1.35m x 3.17m AT TOP OF CONCRETE. (ALL OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)

**EASEMENT AND RESTRICTION ZONES FOR PADMOUNT  
SUBSTATION 36558 - COMMON EARTHING**  
REFER TO PROJECT NOTES 15 A, B, C FOR DETAILS

0m 1m 2m 3m 4m 5m 6m 7m 8m 9m 10m  
SCALE 1:100



- A. PADMOUNT SUBSTATION EASEMENT 2.75m x 5.5m + VARIABLE, CENTRED AROUND THE SUBSTATION PLINTH EXCEPT FOR 0.25m OFFSET TOWARD THE HV END.
  - B. RESTRICTION ON THE USE OF LAND IN RELATION TO THE FIRE RATING OF BUILDINGS MEASURED 3.0m FROM SUBSTATION PLINTH.
  - C. RESTRICTION ON THE USE OF LAND IN RELATION TO THE SWIMMING POOLS MEASURED 5.0m FROM SUBSTATION EASEMENT
- \* **SUBSTATION PLINTH** 1.35m x 3.17m AT TOP OF CONCRETE. (ALL OFFSETS TO PLINTH SHOWN FROM TOP OF CONCRETE)

**CERTIFIED BY 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 By: \_\_\_\_\_

Works Completed: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

Inspected By: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**ASSET RECORDING**

I: \_\_\_\_\_

of: \_\_\_\_\_

Contact No: \_\_\_\_\_

Hereby certify that assets marked as-built on this drawing have been recorded in accordance with Endeavour Energy's Standard SAD 004.

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

AMENDMENTS

A	Original Issue
B	Date: 16.07.2018 Change to easement restrictions 36554 & 36555 Drawn: Rich W Checked: Michael B

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PO BOX 338 Mittagong NSW 2575  
Ph (02) 4872 1920 Fax (02) 4872 1240  
Accredited Designer Number 2486 / ABN: 53107 591 846

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B505359	URS19233 - Newport Precinct 2	General	
A508329	PLT1059 - Elara Blvd Precinct 3 - Education	Overhead	
B507919	URS20162 - RETIC	Underground	
		Substations	

CAP / SAMP No.	URS20162
AM Project No.	
HV Switching	
UBD/Penguin Ref No.	126 C:11
GIS Map No.	U82674
HV OP Diagram	MARSDEN PARK
Local Government Area	BLACKTOWN CITY

ORIGINAL SCALE 1:1000  
Drawn: R. Walsh  
Date: 16.07.2018  
Checked: Michael J.B  
Design: R. Walsh

**DO NOT SCALE DIMENSIONS IN METRES**

NEWPARK PRECINCT 4  
RICHMOND ROAD  
MARSDEN PARK  
URS20162  
DUCT TRENCH & EASEMENT

**A1 507917 B**  
Sheet No 2 of 3 Sheets

WAE Survey Coordinate Table							
ID	Quality Level	Asset	Property Line	Cover	Easting	Northing	AHD Height
1	A	WAE Duct	1.30	1.04	296182.68	6269561.21	17.78
2	A	WAE Duct	1.24	1.00	296166.30	6269572.83	17.46
3	A	WAE Duct	0.30	0.82	296167.99	6269544.56	17.88
4	A	WAE Duct	0.94	0.90	296153.26	6269555.27	17.49
5	A	WAE Duct	1.05	1.30	296215.96	6269512.63	17.79
6	A	WAE Duct	0.95	1.30	296225.79	6269527.92	17.82
7	A	WAE Duct	0.90	1.15	296353.19	6269367.65	19.37
8	A	WAE Duct	0.95	1.11	296363.93	6269345.95	19.57
9	A	WAE Duct	0.42	1.20	296162.38	6269211.41	17.90
10	A	WAE Duct	0.30	0.98	296147.54	6269203.78	17.90
11	A	WAE Duct	0.84	1.16	296136.26	6269261.06	17.53
12	A	WAE Duct	0.90	1.25	296147.58	6269239.05	17.60
13	A	WAE Duct	0.55	1.80	296187.62	6269264.31	17.16
14	A	WAE Duct	0.50	1.40	296183.94	6269278.99	17.65
15	A	WAE Duct	1.00	1.40	296216.39	6269278.72	18.11
16	A	WAE Duct	0.96	0.86	296207.90	6269295.54	18.11
17	A	WAE Duct	1.70	1.13	296206.83	6269296.33	17.80
18	A	WAE Duct	0.79	1.14	296194.75	6269290.30	17.83
19	A	WAE Duct	0.53	1.18	296178.18	6269345.97	17.41
20	A	WAE Duct	0.60	1.21	296167.66	6269335.12	17.39
21	A	WAE Duct	1.13	0.98	296316.93	6269328.58	19.05
22	A	WAE Duct	0.68	1.21	296312.63	6269342.28	18.85
23	A	WAE Duct	0.80	1.06	296257.18	6269371.14	18.08
24	A	WAE Duct	0.85	1.34	296246.03	6269361.94	17.82
25	A	WAE Duct	0.82	1.30	296234.98	6269402.54	17.58
26	A	WAE Duct	1.00	1.15	296204.85	6269437.04	17.40
27	A	WAE Duct	0.70	1.19	296193.29	6269428.42	17.36
28	A	WAE Duct	0.80	1.13	296137.93	6269499.02	17.16
29	A	WAE Duct	0.75	1.11	296132.18	6269474.10	17.02
30	A	WAE Duct	0.56	1.11	296098.34	6269292.60	17.06
31	A	WAE Duct	0.52	0.99	296112.28	6269301.20	17.41
32	A	WAE Duct	1.05	1.31	296342.04	6269678.93	16.63
33	A	WAE Duct	1.00	1.30	296350.63	6269666.82	16.60
34	A	WAE Duct	0.85	1.20	296376.15	6269640.54	16.76
35	A	WAE Duct	1.04	1.02	296388.74	6269649.61	16.76
36	A	WAE Duct	0.80	1.23	296396.05	6269612.66	16.94
37	A	WAE Duct	1.00	1.10	296410.73	6269592.49	16.93
38	A	WAE Duct	0.60	0.92	296385.05	6269570.80	17.20
39	A	WAE Duct	0.80	1.21	296371.61	6269577.75	16.92
40	A	WAE Duct	0.73	1.11	296223.43	6269505.76	18.07
41	A	WAE Duct	1.07	1.65	296277.07	6269478.26	17.93
42	A	WAE Duct	1.00	1.34	296293.14	6269459.82	18.43
43	A	WAE Duct	0.63	1.26	296277.46	6269449.86	18.47
44	A	WAE Duct	0.80	1.15	296311.28	6269404.00	18.98
45	A	WAE Duct	0.20	1.30	296331.18	6269408.19	18.94
46	A	WAE Duct	1.10	1.13	296243.21	6269518.81	17.66
47	A	WAE Duct	0.65	1.03	296320.12	6269519.71	17.74
48	A	WAE Duct	0.78	1.14	296331.51	6269510.59	17.61
49	A	WAE Duct	0.96	1.11	296363.22	6269546.76	17.25
50	A	WAE Duct	0.86	1.00	296351.70	6269555.13	17.37
51	A	WAE Duct	0.90	1.27	296313.44	6269614.88	16.99
52	A	WAE Duct	1.04	1.26	296299.90	6269620.55	17.01
53	A	WAE Duct	0.71	1.18	296394.30	6269428.05	17.96
54	A	WAE Duct	1.03	1.28	296407.08	6269434.39	17.85
55	A	WAE Duct	1.02	1.30	296389.63	6269467.80	17.55
56	A	WAE Duct	0.93	1.24	296375.44	6269463.48	17.57
57	A	WAE Duct	0.72	1.27	296406.98	6269388.85	18.69
58	A	WAE Duct	0.72	1.27	296411.35	6269375.06	18.79
59	A	WAE Duct	1.00	1.17	296411.35	6269375.07	18.80
60	A	WAE Duct	0.69	1.24	296446.84	6269408.60	18.41
61	A	WAE Duct	1.10	1.25	296450.22	6269394.40	18.41
62	A	WAE Duct	0.65	1.27	296496.42	6269416.70	18.11
63	A	WAE Duct	0.70	1.09	296489.93	6269429.87	18.24
64	A	WAE Duct	0.94	1.10	296521.02	6269380.28	18.07
65	A	WAE Duct	1.27	1.25	296534.65	6269386.99	17.75
66	A	WAE Duct	1.27	1.25	296534.65	6269386.99	17.74

**CERTIFIED BY ENDEAVOUR ENERGY**

Amendment: \_\_\_\_\_

Date Approved: \_\_\_\_\_

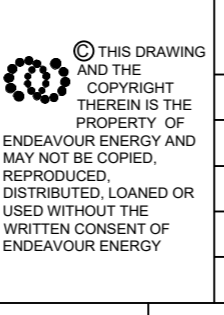
Examiner's Signature: \_\_\_\_\_

Print Name: \_\_\_\_\_

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

AMENDMENTS	Original Issue	Date: 16.07.2018 Change to assessment by 36556 & 36555 Drawn: Rich W Checked: Michael B
A		
B		

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Drawn	R. Walsh
Date	16.07.2018
Checked	Michael J.B

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URS20162  
DUCT TRENCH & EASEMENT

**A1 507917 B**

Sheet No 3 of 3 Sheets