

BYDA Underground Search Report

Date: 28/08/2024

BYDA Sequence No: 243875490

BYDA Job No: 37459211

ENDEAVOUR ENERGY ASSETS AFFECTED

To:	Andries van der Walt	Company:	Rohrig
Address:	Unit 13,133-137 Beauchamp Road, Matraville, NSW 2036		
Cust. ID:	3601257	Email:	hyrqw10fouabxh.es894x82anfoy3@smarterwx-mail.byda.com.au
Phone:	+61437017720		
Enquiry Location:	10 Morris Grove, Kellyville, NSW 2155		

Our Search has shown that **UNDERGROUND ASSETS ARE PRESENT** on our plans within the nominated enquiry location. This search is based on the graphical position of the excavation site as denoted in the BYDA customer confirmation sheet.

WARNING

- **All electrical apparatus shall be regarded as live until proved de-energised.** Contact with live electrical apparatus will cause severe injury or death.
- Underground assets may be congested at the approach to bridges and other structures. Typical asset depths and alignment may vary substantially, rising and falling sharply and at much shallower depths than elsewhere as they are channelled into shared allocated spaces on bridges and other structures. Additional precautions and underground asset location methods will be required in proximity to bridges and other structures.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty **(20)** working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be made available at the worksite where excavation is to be undertaken in either printed or electronic format. If the plans are in an electronic format, they must be in a format visible on a screen size 10 inches or greater. Plans must be reviewed and understood by the crew on site prior to commencing excavation.
- Non-destructive water excavation must be operated at or below 2000PSI. Any operation exceeding 2000PSI must be classed and treated as a destructive excavation practice

SUPPLEMENTARY MATERIAL

Material	Purpose	Location
BYD Cover Letter	Endeavour Energy BYD response Cover Letter	Attached
BYD Important Information & Disclaimer	Endeavour Energy disclaimer, responsibilities and information on understanding plans	Attached
BYD Response Plans	Endeavour Energy BYD plans	Attached
Work Cover NSW "Work near underground assets: Guide"	Guideline for anyone involved in construction work near underground assets	Contact Work Cover NSW for a copy
Work Cover NSW "Excavation work: Code of practice"	Practical guidance on managing health and safety risks associated with excavation	URL [Click Here]
Safe Work Australia "Working in the vicinity of overhead and underground electric lines guidance material"	Provides information on how to manage risks when working in the vicinity of overhead and underground electric lines at a workplace	URL [Click Here]
Endeavour Energy Safety Brochures & Guides	To raise awareness of dangers of working on or near Endeavour Energy's assets	URL [Click Here]



WARNING
LIVE INTEGRAL ENERGY CABLES & OTHER SERVICES IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG ON TEL: 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.

ATTENTION
ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION.

WILLIAM CLARKE COLLEGE

INSTALL NEW LV SINGLE LINK 2 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

ENDEAVOUR ENERGY CONTACT
SEAN BLAKERS - PROJECT MANAGER
PHONE : 98534682

TOTAL PROJECT HOURS :
LABOUR (HRS) : 349

IMPORTANT NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH INTEGRAL ENERGY'S MCI0000 AND THE RELEVANT GENERAL TERMS AND CONDITIONS.
- ENDEAVOUR ENERGY'S ASSET MANAGEMENT HAS PREPARED THIS DESIGN TO SHOW THE EXISTING SERVICES AND ENVIRONMENTAL ISSUES AS ACCURATELY AS POSSIBLE AT THE TIME THE DESIGN WAS CARRIED OUT. THE CONSTRUCTORS OF THIS PROJECT SHOULD VERIFY ON SITE THE EXACT LOCATION OF ALL SERVICES & PERMANENT SURVEY MARKS. REGARDLESS OF WHETHER THEY APPEAR ON THIS PLAN OR NOT, INTEGRAL ENERGY'S ASSET MANAGEMENT WILL HOLD NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGE TO SERVICES OR THE ENVIRONMENT AS A RESULT OF THIS DESIGN OR CONSTRUCTION.
- ALL SERVICE WORKS TO BE DONE IN CONJUNCTION WITH THE NEW SERVICE AND INSTALLATION RULES.
- ALL REDUNDANT ENDEAVOUR ENERGY ASSETS TO BE RETURNED TO THE NEAREST INTEGRAL ENERGY DEPOT.
- NEW DUCTS TO BE INSTALLED WITHIN CABLE EASEMENT UNDER EXISTING DUCTS.
- UPDATE ELLIPSE AND CLOSE DEFECT WO'S AS APPLICABLE AS SHOWN IN SM113
- REFER TO GIS FOR CUSTOMER CONNECTION POINT (CCP) WITH LV GENERATOR LOCATION.

WORKS COMPLETED

CONSTRUCTED BY:	INTEGRAL ENERGY
WORKS COMPLETED:	NAME: _____ DATE: _____
SIGNED:	NAME: _____ DATE: _____
INSPECTED BY:	NAME: _____ DATE: _____
SIGNED:	NAME: _____ DATE: _____

THIS PROJECT IS TO BE DONE IN CONJUNCTION WITH OR AFTER:
PROJECT No: LVN00398
DRAWING No: 323038

OH TRANSMISSION LINE IN VICINITY

DESIGN COMPLIANCE
This design complies with Integral Energy's relevant standards as current at the time and as listed on the Integral Energy Accredited Service Providers internet site. These standards include, but are not limited to:

GT&C: General Terms and Conditions
SDI: Substation Design Instruction
EM&S: Environmental Management Standard
SAD0001: Design Drawing Standard
MCI: Mains Construction Instruction
MMI: Mains Maintenance Instruction
MDI: Mains Design Instruction
SMI: Substation Maintenance Instruction
PDI: Protection Design Instruction

Additionally, where relevant, the design complies with CDB-1 'Guidelines for Design and Maintenance of Overhead Distribution and Transmission Lines' published by EASA and other relevant Australian Standards.

Signed: _____
Name: NIKLESH RAM
Service No: 36954
Date: 23/05/2011

WORK METHOD STATEMENT REFERENCE
The contents of this table are for information only, and the required Work Method Statements may not be related to those listed here.

WMS No.	TASK NAME
SWM 01.001	Traffic Management
SWM 01.004a01	Excavation Work (Trenching, Boring, etc)
SWM 01.017	Carriage of Goods
SWM 01.019	Connection & Disconnection of Portable LV Generator sets
SWM 01.023	Polarity Testing & Phasing of Low Voltage Mains, Services & Apparatus
SWM 03.002	LV Switchgear Replacement (Post, Ground, Insulator Sub)
SWM 05.003	Repair / Replace Pillar (Termination, Base LID Replacement)
SWM 05.007	Reconnect 1 & 3 Phase Underground Service
SWM 05.009	Inspection and Maintenance of LV Distribution Pillars and Streetlight Columns
SWM 05.010a02	Install / Replace Underground Cables (including cut and cap)
SWM 05.011	Termination of Underground Cables
SWM 07.002	Transmission and Distribution Switching (Underground Mains)
SWM 13.001	Recording of Underground Assets (Cables & Ducts)
SWM 13.003	Inspection and Commissioning of Networks Assets (Underground)
SWM 14.004	Voltage Loading Crane Operation

THREE DEFECTS IDENTIFIED DURING DESIGN PROCESS. PLEASE RE-CHECK ELLIPSE JUST PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DEFECTS IN IMMEDIATE AREA

ASSET NO	PLANT NO	WORK ORDER	DESCRIPTION
9870	021970	02991985	OVERHEATING LV FEEDERS
9853	020853	02991941	OVERHEATING LV FEEDERS
9900	029990	02994452	NO ACCESS

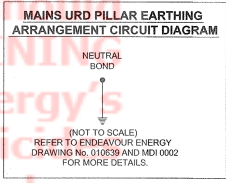


SITE PLAN (1:1000)

- EXISTING PADMOUNT SUBSTATION
- EXISTING O.H. MAINS
- EXISTING U.G. MAINS
- EXISTING U.G. SERVICE MAINS
- EXISTING POLE
- EXISTING COLUMN
- NEW PILLAR
- EXISTING PILLAR
- REPLACE PILLAR
- NEW UNDERBORE (REFER DUCT DETAILS)
- NEW ROAD CROSSING UNDERBORE (REFER DUCT DETAILS)
- EXISTING DUCTS
- DEFECTS (REFER DEFECT TABLE)

DUCT SCHEDULE

Label	Description
A-B	Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-20m)
B-C	Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-31m)
C-D	Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
D-E	Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-10m)
E-F	Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-20m)
F-G	Existing ducts. (RL-31m)
G-H	Existing ducts. (RL-20m)
H-I	Underbore road crossing & Lay 2 x 125mm HD PVC ducts. (RL-18m)
I-J	Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-48m)
L-M	Existing mains
M-N	Existing ducts.



NOTE TO CIVIL CONTRACTOR:

- LOCATE, PROVE AND INSTALL JETLINE IN EXISTING ROAD CROSSINGS TO BE USED. A SAND-FILLED PIT WHERE DUCTS CAN'T BE MADE CONTINUOUS.
- EXISTING ROAD CROSSING THAT ARE TO BE USED WILL BE EXTENDED TO ADJACENT OPEN POINTS.
- ALL HARD SURFACE SUCH AS DRIVEWAYS, FOOTPATH ETC. TO BE BORED
- SHOULD OPEN CUTTING BE REQUIRED FOR THE INSTALLATION OF ANY DUCTS, PERMISSION IS TO BE SOUGHT FROM THE PROJECT MANAGER PRIOR TO COMMENCEMENT
- OPEN POINTS ARE TO BE ESTABLISHED AT LOCATIONS, COORDINATED WITH THE PROJECT MANAGER.
- PRIOR TO COMMENCING WORK, THE CONTRACTOR IS TO ADVISE CUSTOMERS AFFECTED BY DUCT INSTALLATION IN WRITING.
- PERMANENT RESTORATIONS OF ALL TRENCHING TO BE ALLOWED FOR IN CIVIL QUOTATION.
- PERMANENT RESTORATION OF OPEN POINTS LEFT FOR ENDEAVOUR ENERGY WORK WILL BE COMPLETED BY INTEGRAL ENERGY ON COMPLETION OF PROJECT.
- ETCH/MARK ON THE CONCRETE KERB 'EC' TO INDICATE THE LOCATION OF BOTH ENDS OF THE NEW ROAD CROSSING DUCTS.

OPERATIONAL LIMITATIONS

UNLESS APPROVED OTHERWISE, INTERRUPTIONS TO ANY CUSTOMERS SUPPLY MUST BE AVOIDED.

THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED:

- MOBILE GENERATORS OR SUBSTATIONS
- LIVE LINE WORK
- DESIGN ALTERNATIVES
- WORK PRACTICES / STANDARDS
- LOW VOLTAGE PARALLELS

THE COST IS TO BE FUNDED BY THE CUSTOMER / DEVELOPER

REVISIONS ORIGINAL ISSUE A	DEFECTS IN IMMEDIATE AREA		REFERENCE DRAWINGS	WORK ORDERS	CAP / SAMP No. LV053N AM PROJ. No. LVN00551 HV SVT CHNG URD/PEN/UNG REF 150 G7 GIS MAP No. HV OP DIAGRAM W/CASTLE HILL 4 AXIS LOCAL GOV AREA BHSC	ORIGINAL SCALE 1:1000 DRAWN NR DATE 15/5/2011 CIP 246110	DO NOT SCALE DIMENSIONS IN METRES	CELESTE AVENUE CASTLE HILL LVN00551 PM SUB 19670 - OVERLOADED AND BLOWN FUSES CAPEX LV QUALITY OF SUPPLY	
	ASSET NO PLANT NO WORK ORDER DESCRIPTION	GENERAL OVERHEAD UNDERGROUND SUBSTATIONS	CAP / SAMP No. LV053N AM PROJ. No. LVN00551 HV SVT CHNG URD/PEN/UNG REF 150 G7 GIS MAP No. HV OP DIAGRAM W/CASTLE HILL 4 AXIS LOCAL GOV AREA BHSC	ORIGINAL SCALE 1:1000 DRAWN NR DATE 15/5/2011 CIP 246110	DO NOT SCALE DIMENSIONS IN METRES	CELESTE AVENUE CASTLE HILL LVN00551 PM SUB 19670 - OVERLOADED AND BLOWN FUSES CAPEX LV QUALITY OF SUPPLY			

Issue Date: 28/08/2024, BYDA Sequence No: 243875490

CERT-1105065/1



ATTENTION
SERVICE PROVIDER TO NOTIFY INTEGRAL ENERGY'S NETWORK DATA BRANCH DAILY WHEN CABLE / DUCT WORK IS IN PROGRESS. PHONE: 9853 4161

ATTENTION
ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION

NEW LABELS IN LV SWGR PM SUB 9930
"R" - PILLAR 89636 & 89635
"S" - PILLAR 68037
"T" - WILLIAM CLARKE COLLEGE (1250A TYPE 1 CB)
LV FUSES TO BE LEFT AS IS.

CONSUMERS MANS WILLIAM CLARKE COLLEGE

DISCONNECT, EARTH AND ABANDON EXISTING PARALLEL MAINS BETWEEN FUSE STRIP 'S' IN PM SUB 9930 AND PILLAR 92791.

NEW LABELS IN LV SWGR PM SUB 12689
"R" - PILLAR 92792
"S" - PILLAR 56372
"T" - TRANSFORMER
"U" - PILLAR 56308
"V" - PILLAR S116591 & 56374
LV FUSES TO BE LEFT AS IS.

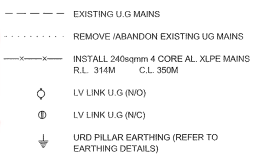
TOTAL PROJECT HOURS :
LABOUR (HRS) : 349

ENDEAVOUR ENERGY CONTACT
SEAN BLAKERS - PROJECT MANAGER
PHONE : 98534682

THIS PROJECT IS TO BE DONE IN CONJUNCTION WITH OR AFTER:
PROJECT No: LVN00398
DRAWING No: 323038

DUCT LEGEND	
●	DIRECT BURIED CABLE
○	SPARE 50mm PVC DUCTS
○	SPARE 125mm PVC DUCTS
○	EXISTING CABLE IN 50mm PVC DUCTS
○	EXISTING CABLE IN 125mm PVC DUCTS
●	NEW CABLE IN 125mm PVC DUCTS

FINAL L.V. CIRCUIT (NTS)



CONDUCTOR CODE

- T51 25 SQMM 4C CU XLPE/PVC
- T84 240 SQMM 4C AL XLPE

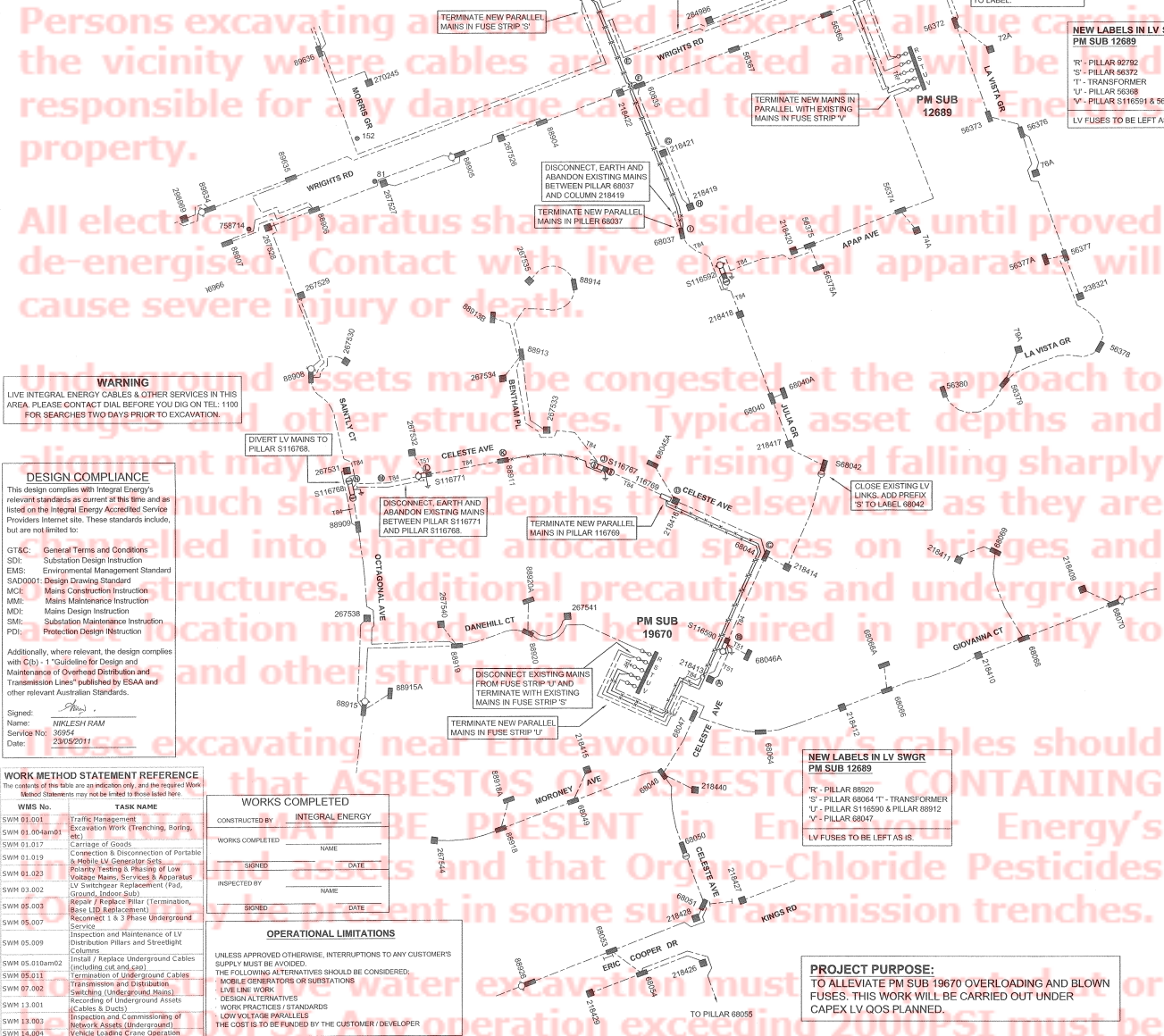
FINAL H.V. CIRCUIT (NTS)



IMPORTANT NOTES

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- ALL SERVICE WORKS TO BE DONE IN CONJUNCTION WITH THE NSW SERVICE AND INSTALLATION RULES.
- ALL REDUNDANT ENDEAVOUR ENERGY ASSETS TO BE RETURNED TO THE NEAREST INTEGRAL ENERGY DEPOT.
- NEW DUCTS TO BE INSTALLED WITHIN CABLE EASEMENT UNDER EXISTING DUCTS.
- UPDATE ELLIPSE AND CLOSE DEFECT W/O'S AS APPLICABLE AS SHOWN IN SM113
- REFER TO GIS FOR CUSTOMER CONNECTION POINT (CCP) WITH LV GENERATOR LOCATION.

DUCT SCHEDULE	
	A - B Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-20m)
	B - C Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	C - D Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	PM SUB 9930 - E (REFER NOTE 5) Underbore & Lay 4 x 125mm HD PVC ducts under existing ducts. (RL-10m)
	E - F Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-20m)
	F - G Existing ducts. (RL-31m)
	G - H Existing ducts. (RL-26m)
	H - I Underbore road crossing & Lay 2 x 125mm HD PVC ducts. (RL-38m)
	I - K Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-48m)
	L - M Existing mains
	M - N Existing ducts.



WARNING
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DESIGN COMPLIANCE

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

- GT&C: General Terms and Conditions
- SDI: Substation Design Instruction
- EMS: Environmental Management Standard
- SD00001: Design Drawing Standard
- MCI: Mains Construction Instruction
- MMI: Mains Maintenance Instruction
- MDI: Mains Design Instruction
- SMI: Substation Maintenance Instruction
- PDI: Protection Design Instruction

Additionally, where relevant, the design complies with (C/b) - 1 "Guideline for Design and Maintenance of Overhead Distribution and Transmission Lines" published by ESA and other relevant Australian Standards.

Signed: *Nikesh Ram*
Name: NIKESH RAM
Service No: 36954
Date: 23/05/2011

WORK METHOD STATEMENT REFERENCE

WMS No.	TASK NAME
SWM 01.001	Traffic Management
SWM 01.004a01	Excavation Work (Trenching, Boring, etc)
SWM 01.017	Carriage of Goods
SWM 01.019	Connection & Disconnection of Portable & Mobile LV Consumer Sets
SWM 01.023	Polarity Testing & Phasing of Low Voltage Mains, Services & Apparatus
SWM 03.002	LV Switchgear Replacement (Pad, Ground, Indoor Sub)
SWM 05.003	Repair / Replace Pillar (Termination, Base LID Replacement)
SWM 05.007	Reconnect 1 & 3 Phase Underground Service
SWM 05.009	Inspection and Maintenance of LV Distribution Pillars and Streetlight Cabinets
SWM 05.015a002	Install / Replace Underground Cables (Including C&A and C&P)
SWM 05.011	Termination of Underground Cables
SWM 07.002	Transmission and Distribution Switches (Underground Mains)
SWM 13.001	Recording of Underground Assets (Cables & Ducts)
SWM 13.003	Inspection and Commissioning of Network Assets (Underground)
SWM 14.004	Vehicle Loading Crane Operation

WORKS COMPLETED	
CONSTRUCTED BY	INTEGRAL ENERGY
WORKS COMPLETED	NAME
SIGNED	DATE
INSPECTED BY	NAME
SIGNED	DATE

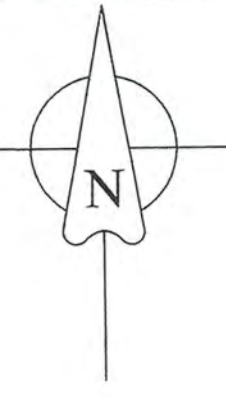
OPERATIONAL LIMITATIONS
UNLESS APPROVED OTHERWISE, INTERRUPTIONS TO ANY CUSTOMERS SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED:
MOBILE GENERATORS OR SUBSTATIONS
WATER EXCAVATION
DESIGN ALTERNATIVES
WORK PRACTICES / STANDARDS
LOW VOLTAGE PARALLELS
THE COST IS TO BE FUNDED BY THE CUSTOMER / DEVELOPER

PROJECT PURPOSE:
TO ALLEVIATE PM SUB 19670 OVERLOADING AND BLOWN FUSES. THIS WORK WILL BE CARRIED OUT UNDER CAPEX LV QOS PLANNED.

ADMITTANCE ORIGINAL ISSUE	REFERENCE DRAWINGS	WORK ORDERS	AM / SAMP No: LV903N AM PROJ No: LVN00551 HV SWITCHING	ORIGINAL SCALE: 1:1000	DO NOT SCALE DIMENSIONS IN METRES	CELESTE AVENUE CASTLE HILL LVN00551 PM SUB 19670 - OVERLOADED AND BLOWN FUSES CAPEX LV QUALITY OF SUPPLY PLANNED	INTEGRAL The power is in your hands
	GENERAL	OVERHEAD	UNDERGROUND	SUBSTATIONS			
1	2	3	4	5	6	7	8

Issue Date: 28/08/2024, BYDA Sequence No: 243875490

CERT-1105065/2



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ATTENTION
SERVICE PROVIDER TO NOTIFY INTEGRAL ENERGY'S NETWORK DATA BRANCH DAILY WHEN CABLE / DUCT WORK IS IN PROGRESS. PHONE: 9853 4161

INSTALL NEW NA2 PADLOCK ON WILLIAM CLARKE COLLEGE GATE TO GAIN ACCESS TO THE PM SUB

INSTALL NEW LV SINGLE LINK 2 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

REPLACE EXISTING PILLAR WITH NEW LV DOUBLE LINK 3 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

REPLACE EXISTING PILLAR WITH NEW LV DOUBLE LINK 3 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

REPLACE EXISTING PILLAR WITH NEW LV DOUBLE LINK 3 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

INSTALL NEW LV DOUBLE LINK 3 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

INSTALL NEW LV MAINS PILLAR

ENDEAVOUR ENERGY CONTACT
SEAN BLAKERS : PROJECT MANAGER
PHONE : 98534682

TOTAL PROJECT HOURS :
LABOUR (HRS) : 349

All Civil works by Baskow Construction.

WORKS COMPLETED	
CONSTRUCTED BY	INTEGRAL ENERGY
WORKS COMPLETED	<i>PS</i>
SIGNED	<i>PS</i>
INSPECTED BY	
SIGNED	

Scanned DWG/Email: CFB: 2/6/11
Scanned WAE/Email: Date: _____
Scanned DDCS/Archived: Date: _____

THIS PROJECT IS TO BE DONE IN CONJUNCTION WITH OR AFTER:
PROJECT No: LVN00398
DRAWING No: 323038

IMPORTANT NOTES

- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH INTEGRAL ENERGY'S MCI0006 AND THE RELEVANT GENERAL TERMS AND CONDITIONS.
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- UPDATE ELLIPSE AND CLOSE DEFECT WO'S AS APPLICABLE AS SHOWN IN SMI113
- REFER TO GIS FOR CUSTOMER CONNECTION POINT (CCP) WITH LV GENERATOR LOCATION.

DUCT LEGEND

- DIRECT BURIED CABLE
- SPARE 50mm PVC DUCTS
- SPARE 125mm PVC DUCTS
- EXISTING CABLE IN 50mm PVC DUCTS
- EXISTING CABLE IN 125mm PVC DUCTS
- NEW CABLE IN 125mm PVC DUCTS

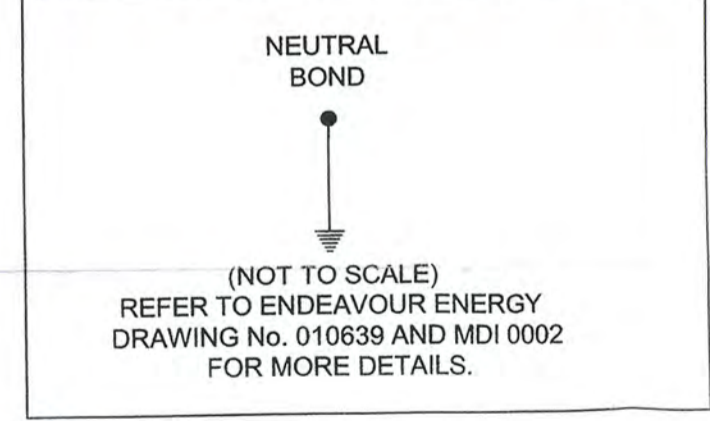
DUCT SCHEDULE

	A - B Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-20m)
	B - C Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	C - D Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	PM SUB 9930 - E (REFER NOTE 5) Underbore & Lay 4 x 125mm HD PVC ducts under existing ducts. (RL-10m)
	E - F Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-20m)
	F - G Existing ducts. (RL-31m)
	G - H Existing ducts. (RL-26m)
	H - I Underbore road crossing & Lay 2 x 125mm HD PVC ducts. (RL-18m)
	J - K Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-48m)
	L - M Existing mains
	M - N Existing ducts. OPEN HOLE FOR NEW PILLAR REQUIRED AT 'N'.

SITE PLAN (1:1000)

- EXISTING PADMOUNT SUBSTATION
- EXISTING O.H MAINS
- EXISTING U.G MAINS
- EXISTING U.G SERVICE MAINS
- EXISTING POLE
- EXISTING COLUMN
- NEW PILLAR
- EXISTING PILLAR
- REPLACE PILLAR
- NEW UNDERBORE (REFER DUCT DETAILS)
- NEW ROAD CROSSING UNDERBORE (REFER DUCT DETAILS)
- EXISTING DUCTS
- DEFECTS (REFER DEFECT TABLE)

MAINS URD PILLAR EARTHING ARRANGEMENT CIRCUIT DIAGRAM



OPERATIONAL LIMITATIONS

UNLESS APPROVED OTHERWISE, INTERRUPTIONS TO ANY CUSTOMER'S SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED:
- MOBILE GENERATORS OR SUBSTATIONS
- LIVE LINE WORK
- DESIGN ALTERNATIVES
- WORK PRACTICES / STANDARDS
- LOW VOLTAGE PARALLELS
THE COST IS TO BE FUNDED BY THE CUSTOMER / DEVELOPER

PROJECT PURPOSE:
TO ALLEVIATE PM SUB 19670 OVERLOADING AND BLOWN FUSES. THIS WORK WILL BE CARRIED OUT UNDER CAPEX LV QOS PLANNED.

NOTE TO CIVIL CONTRACTOR:

- LOCATE, PROVE AND INSTALL JETLINE IN EXISTING ROAD CROSSINGS TO BE USED. A SAND-FILLED PIT WHERE DUCTS CAN'T BE MADE CONTINUOUS
- EXISTING ROAD CROSSING THAT ARE TO BE USED WILL BE EXTENDED TO ADJACENT OPEN POINTS.
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- ETCH/MARK ON THE CONCRETE KERB "EC" TO INDICATE THE LOCATION OF BOTH ENDS OF THE NEW ROAD CROSSING DUCTS.

DESIGN COMPLIANCE

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

GT&C: General Terms and Conditions
SDI: Substation Design Instruction
EMS: Environmental Management Standard
SAD0001: Design Drawing Standard
MCI: Mains Construction Instruction
MMI: Mains Maintenance Instruction
MDI: Mains Design Instruction
SMI: Substation Maintenance Instruction
PDI: Protection Design Instruction

Additionally, where relevant, the design complies with C(b) - 1 "Guideline for Design and Maintenance of Overhead Distribution and Transmission Lines" published by ESAA and other relevant Australian Standards.

Signed: *Niklesh Ram*
Name: NIKLESH RAM
Service No: 36954
Date: 23/05/2011

WORK METHOD STATEMENT REFERENCE

The contents of this table are an indication only, and the required Work Method Statements may not be limited to those listed here.

WMS No.	TASK NAME
SWM 01.001	Traffic Management
SWM 01.004am01	Excavation Work (Trenching, Boring, etc)
SWM 01.017	Carriage of Goods
SWM 01.019	Connection & Disconnection of Portable & Mobile LV Generator Sets
SWM 01.023	Polarity Testing & Phasing of Low Voltage Mains, Services & Apparatus
SWM 03.002	LV Switchgear Replacement (Pad, Ground, Indoor Sub)
SWM 05.003	Repair / Replace Pillar (Termination, Base LID Replacement)
SWM 05.007	Reconnect 1 & 3 Phase Underground Service
SWM 05.009	Inspection and Maintenance of LV Distribution Pillars and Streetlight Columns
SWM 05.010am02	Install / Replace Underground Cables (including cut and cap)
SWM 05.011	Termination of Underground Cables
SWM 07.002	Transmission and Distribution Switching (Underground Mains)
SWM 13.001	Recording of Underground Assets (Cables & Ducts)
SWM 13.003	Inspection and Commissioning of Network Assets (Underground)
SWM 14.004	Vehicle Loading Crane Operation

THREE DEFECTS IDENTIFIED DURING DESIGN PROCESS. PLEASE RE-CHECK ELLIPSE JUST PRIOR TO COMMENCEMENT OF CONSTRUCTION.

DEFECTS IN IMMEDIATE AREA

ASSET NO.	PLANT NO.	WORK ORDER	DESCRIPTION
19670	DS19670	02591955	OVERHEATING LV FEEDERS
9853	DS9853	02591941	OVERHEATING LV FEEDERS
9930	DS9930	02954452	NO ACCESS

AMENDMENTS	ORIGINAL	ISSUE
A		

REFERENCE DRAWING'S	WORK ORDERS
GENERAL	
OVERHEAD	
UNDERGROUND	
SUBSTATIONS	

CAP / SAMP No.	LV003N	ORIGINAL SCALE	1:1000
AM PROJ. No.	LVN00551	DRAWN	NR
UBD/PENGUIN REF	150 G7	DATE	23.5.2011
GIS MAP No	W CASTLE HILL 4 AX15	CHD	2/6/11
HV OP DIAGRAM	BHSC	DESIGN	NR
LOCAL GOV AREA			

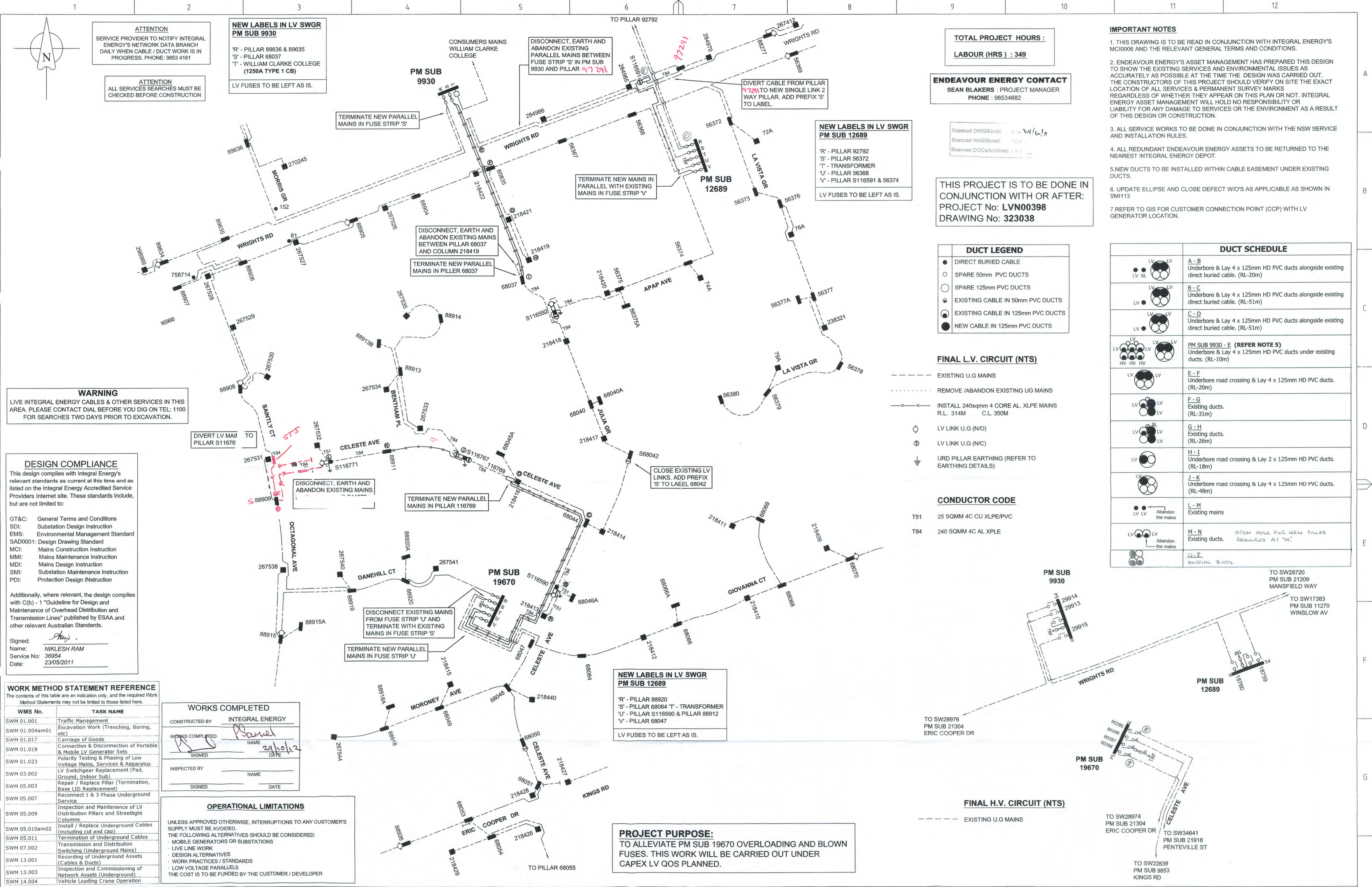
DO NOT SCALE DIMENSIONS IN METRES

CELESTE AVENUE
CASTLE HILL
LVN00551
PM SUB 19670 - OVERLOADED AND BLOWN FUSES
CAPEX LV QUALITY OF SUPPLY

INTEGRAL energy
The power is in your hands

A1 349647 A

SHEET No 1 OF 2 SHEETS



ATTENTION
SERVICE PROVIDER TO NOTIFY INTEGRAL ENERGY'S NETWORK DATA BRANCH DAILY WHEN CABLE / DUCT WORK IS IN PROGRESS. PHONE: 9853 4161

NEW LABELS IN LV SWGR PM SUB 9930
"R" - PILLAR 89636 & 89635
"S" - PILLAR 68037
"T" - WILLIAM CLARKE COLLEGE (1250A TYPE 1 CB)
LV FUSES TO BE LEFT AS IS.

ATTENTION
ALL SERVICES SEARCHES MUST BE CHECKED BEFORE CONSTRUCTION

TOTAL PROJECT HOURS :
LABOUR (HRS) : 349

ENDEAVOUR ENERGY CONTACT
SEAN BLAKERS : PROJECT MANAGER
PHONE : 98534682

Scanned DWG/Email: Date: 24/01/11
Scanned WAE/Email: Date: _____
Scanned DOCs/Archived: Date: _____

THIS PROJECT IS TO BE DONE IN CONJUNCTION WITH OR AFTER:
PROJECT No: **LVN00398**
DRAWING No: **323038**

- IMPORTANT NOTES**
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH INTEGRAL ENERGY'S MCI0006 AND THE RELEVANT GENERAL TERMS AND CONDITIONS.
 - ENDEAVOUR ENERGY'S ASSET MANAGEMENT HAS PREPARED THIS DESIGN TO SHOW THE EXISTING SERVICES AND ENVIRONMENTAL ISSUES AS ACCURATELY AS POSSIBLE AT THE TIME THE DESIGN WAS CARRIED OUT. THE CONSTRUCTORS OF THIS PROJECT SHOULD VERIFY ON SITE THE EXACT LOCATION OF ALL SERVICES & PERMANENT SURVEY MARKS REGARDLESS OF WHETHER THEY APPEAR ON THIS PLAN OR NOT. INTEGRAL ENERGY ASSET MANAGEMENT WILL HOLD NO RESPONSIBILITY OR LIABILITY FOR ANY DAMAGE TO SERVICES OR THE ENVIRONMENT AS A RESULT OF THIS DESIGN OR CONSTRUCTION.
 - ALL SERVICE WORKS TO BE DONE IN CONJUNCTION WITH THE NSW SERVICE AND INSTALLATION RULES.
 - ALL REDUNDANT ENDEAVOUR ENERGY ASSETS TO BE RETURNED TO THE NEAREST INTEGRAL ENERGY DEPOT.
 - NEW DUCTS TO BE INSTALLED WITHIN CABLE EASEMENT UNDER EXISTING DUCTS.
 - UPDATE ELLIPSE AND CLOSE DEFECT W/O'S AS APPLICABLE AS SHOWN IN SM1113
 - REFER TO GIS FOR CUSTOMER CONNECTION POINT (CCP) WITH LV GENERATOR LOCATION.

NEW LABELS IN LV SWGR PM SUB 12689
"R" - PILLAR 92792
"S" - PILLAR 56372
"T" - TRANSFORMER
"U" - PILLAR 56368
"V" - PILLAR S116591 & 56374
LV FUSES TO BE LEFT AS IS.

DISCONNECT, EARTH AND ABANDON EXISTING MAINS BETWEEN PILLAR 68037 AND COLUMN 218419
TERMINATE NEW PARALLEL MAINS IN PILLAR 68037

TERMINATE NEW MAINS IN PARALLEL WITH EXISTING MAINS IN FUSE STRIP 'V'

DIVERT CABLE FROM PILLAR 97291 TO NEW SINGLE LINK 2 WAY PILLAR. ADD PREFIX 'S' TO LABEL.

DUCT LEGEND

- DIRECT BURIED CABLE
- SPARE 50mm PVC DUCTS
- SPARE 125mm PVC DUCTS
- EXISTING CABLE IN 50mm PVC DUCTS
- EXISTING CABLE IN 125mm PVC DUCTS
- NEW CABLE IN 125mm PVC DUCTS

FINAL L.V. CIRCUIT (NTS)

- EXISTING U.G MAINS
- - - REMOVE /ABANDON EXISTING UG MAINS
- x-x- INSTALL 240sqmm 4 CORE AL. XLPE MAINS R.L. 314M C.L. 350M
- LV LINK U.G (N/O)
- ⊙ LV LINK U.G (N/C)
- ↓ URD PILLAR EARTHING (REFER TO EARTHING DETAILS)

CONDUCTOR CODE

- T51 25 SQMM 4C CU XLPE/PVC
- T84 240 SQMM 4C AL XLPE

DUCT SCHEDULE

	A - B Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-20m)
	B - C Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	C - D Underbore & Lay 4 x 125mm HD PVC ducts alongside existing direct buried cable. (RL-51m)
	PM SUB 9930 - E (REFER NOTE 5) Underbore & Lay 4 x 125mm HD PVC ducts under existing ducts. (RL-10m)
	E - F Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-20m)
	F - G Existing ducts. (RL-31m)
	G - H Existing ducts. (RL-26m)
	H - I Underbore road crossing & Lay 2 x 125mm HD PVC ducts. (RL-18m)
	J - K Underbore road crossing & Lay 4 x 125mm HD PVC ducts. (RL-48m)
	L - M Existing mains
	M - N Existing ducts. OPEN HOLE FOR NEW PILLAR REQUIRED AT 'N'
	O - P EXISTING DUCTS.

WARNING
LIVE INTEGRAL ENERGY CABLES & OTHER SERVICES IN THIS AREA. PLEASE CONTACT DIAL BEFORE YOU DIG ON TEL: 1100 FOR SEARCHES TWO DAYS PRIOR TO EXCAVATION.

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- SDI: Substation Design Instruction
- EMS: Environmental Management Standard
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- MCI: Mains Construction Instruction
- MMI: Mains Maintenance Instruction
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Signed: *Niklesh Ram*
Name: **NIKLESH RAM**
Service No: 36954
Date: 23/05/2011

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SWM 13.001	Recording of Underground Assets (Cables & Ducts)
SWM 13.003	Inspection and Commissioning of Network Assets (Underground)
SWM 14.004	Vehicle Loading Crane Operation

WORKS COMPLETED
CONSTRUCTED BY: **INTEGRAL ENERGY**
WORKS COMPLETED: *[Signature]*
SIGNED: _____ DATE: 23/05/11
INSPECTED BY: _____
SIGNED: _____ DATE: _____

OPERATIONAL LIMITATIONS
UNLESS APPROVED OTHERWISE, INTERRUPTIONS TO ANY CUSTOMER'S SUPPLY MUST BE AVOIDED. THE FOLLOWING ALTERNATIVES SHOULD BE CONSIDERED:

- MOBILE GENERATORS OR SUBSTATIONS
- LIVE LINE WORK
- DESIGN ALTERNATIVES
- WORK PRACTICES / STANDARDS
- LOW VOLTAGE PARALLELS

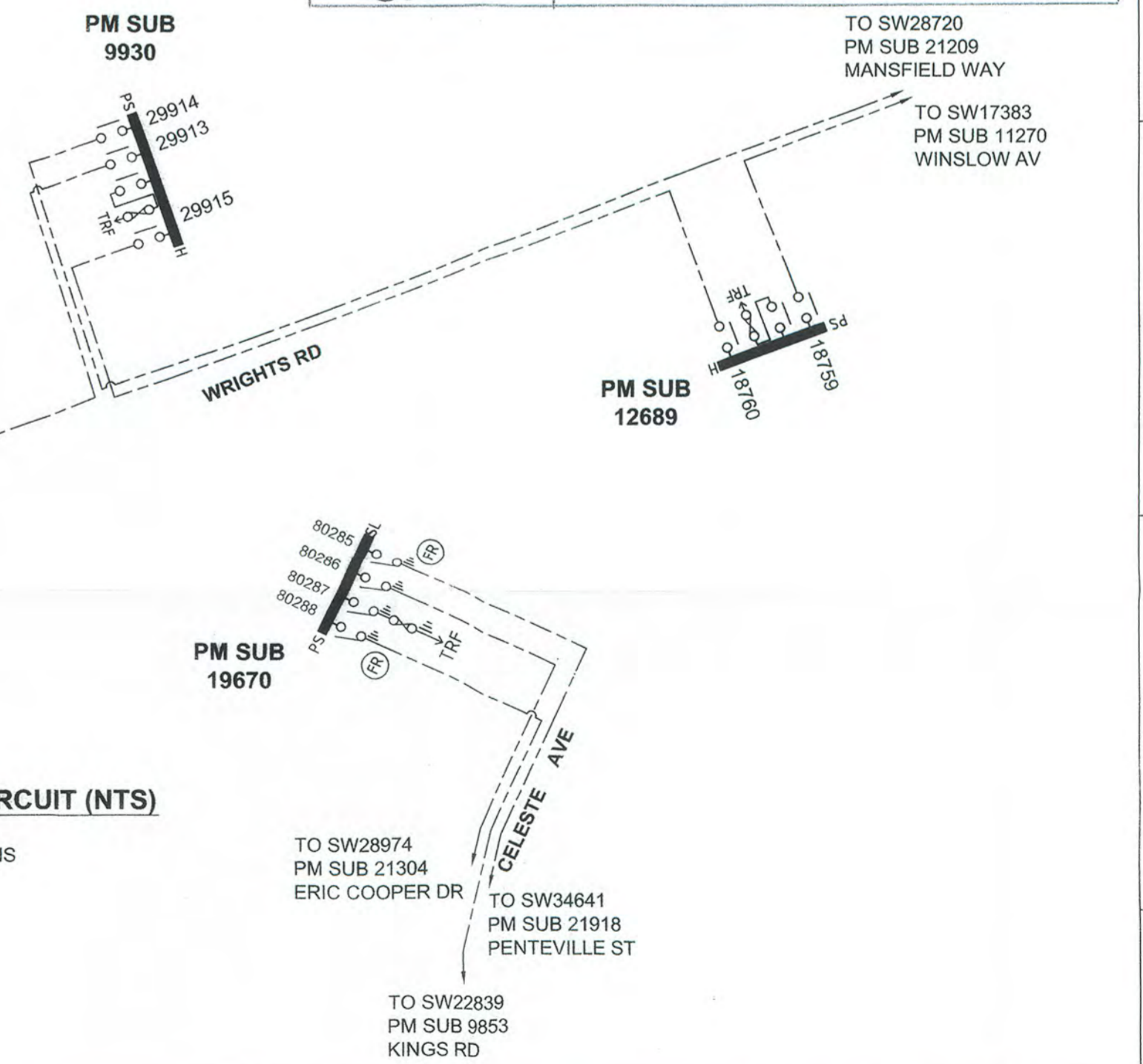
THE COST IS TO BE FUNDED BY THE CUSTOMER / DEVELOPER

NEW LABELS IN LV SWGR PM SUB 12689
"R" - PILLAR 88920
"S" - PILLAR 68064 "T" - TRANSFORMER
"U" - PILLAR S116590 & PILLAR 88912
"V" - PILLAR 68047
LV FUSES TO BE LEFT AS IS.

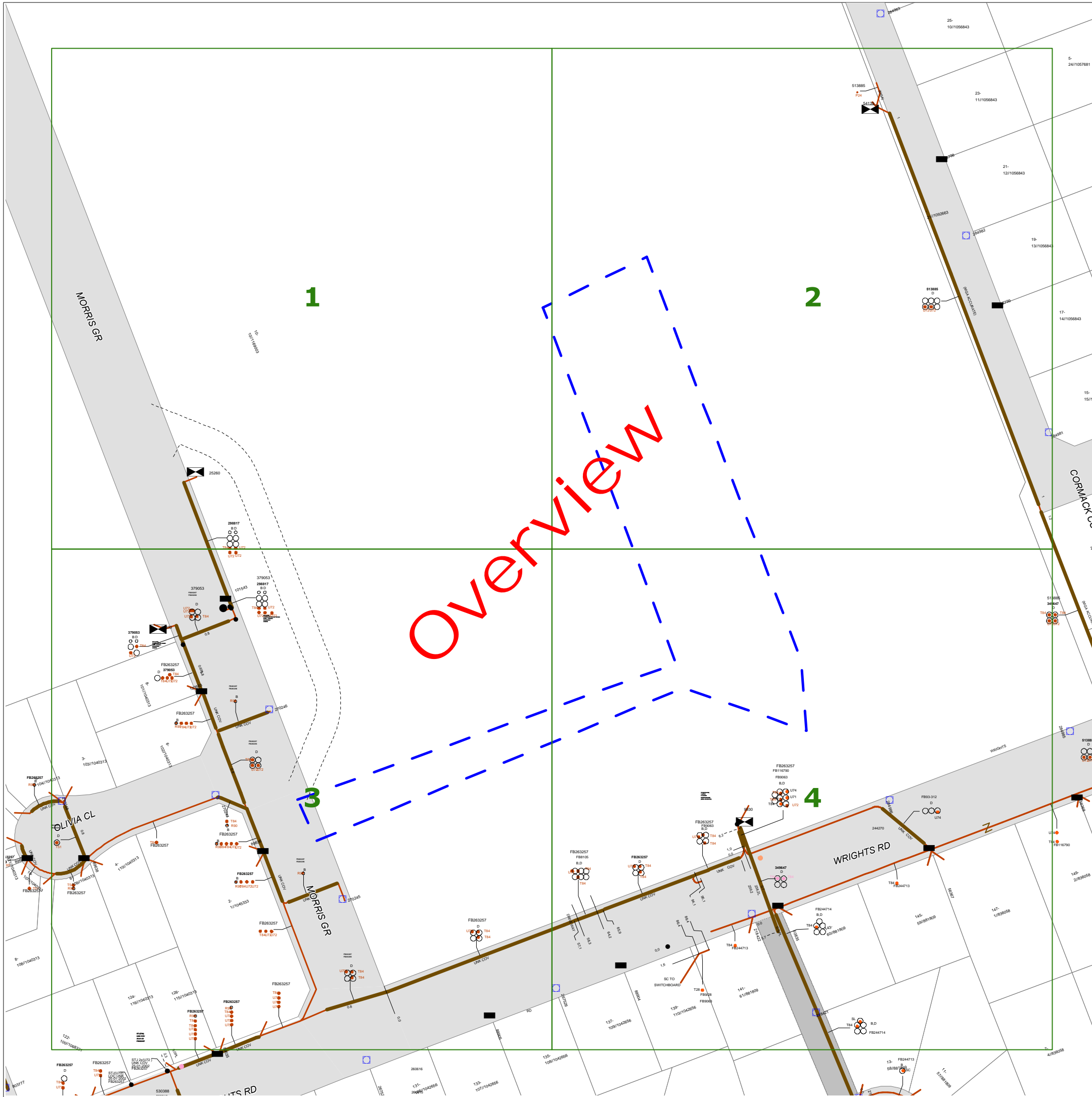
PROJECT PURPOSE:
TO ALLEVIATE PM SUB 19670 OVERLOADING AND BLOWN FUSES. THIS WORK WILL BE CARRIED OUT UNDER CAPEX LV QOS PLANNED.

FINAL H.V. CIRCUIT (NTS)

- EXISTING U.G MAINS



AMENDMENTS ORIGINAL ISSUE	A	REFERENCE DRAWING'S	WORK ORDERS	CAP / SAMP No. LV003N	AM PROJ. No. LVN00551	ORIGINAL SCALE 1:1000	DO NOT SCALE DIMENSIONS IN METRES	CELESTE AVENUE CASTLE HILL LVN00551 PM SUB 19670 - OVERLOADED AND BLOWN FUSES CAPEX LV QUALITY OF SUPPLY PLANNED	INTEGRAL ENERGY The power is in your hands
		GENERAL	OVERHEAD	UBD/PENGUIN REF 150 G7	GIS MAP No 9167 - 93				
				HV SWITCHING	LOCAL GOV AREA W CASTLE HILL 4 AXIS	CHD		A1	349647
									SHEET No 2 OF 2 SHEETS



WARNING











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- Underground assets may be congested at the approach to bridges and other structures. Typical asset depths and alignment may vary substantially, rising and falling sharply and at much shallower depths than elsewhere as they are channelled into shared allocated spaces on bridges and other structures. Additional precautions and underground asset location methods will be required in proximity to bridges and other structures.
- In accordance with the *Electricity Supply Act 1995*, you are obliged to report any damage to Endeavour Energy Assets immediately by calling **131 003**.
- The customer must obtain a new set of plans from Endeavour Energy if work has not been started or completed within twenty (20) working days of the original plan issue date.
- The customer must contact Endeavour Energy if any of the plans provided have blank pages, as some underground asset information may be incomplete.
- Endeavour Energy underground earth grids may exist and their location **may not** be shown on plans. Persons excavating are expected to exercise all due care, especially in the vicinity of padmount substations, pole mounted substations, pole mounted switches, transmission poles and towers.
- Endeavour Energy plans **do not** show any underground customer service mains or information relating to service mains within private property.
- Asbestos or asbestos-containing material may be present on or near Endeavour Energy's underground assets.
- Organo-Chloride Pesticides (OCP) may be present in some sub-transmission trenches.
- All plans must be made available at the worksite where excavation is to be undertaken in either printed or electronic format. If the plans are in an electronic format, they must be in a format visible on a screen size 10 inches or greater. Plans must be reviewed and understood by the crew on site prior to commencing excavation.
- Non-destructive water excavation must be operated at or below 2000PSI. Any operation exceeding 2000PSI must be classed and treated as a destructive excavation practice

INFORMATION PROVIDED BY ENDEAVOUR ENERGY

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DISCLAIMER

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-  or  Street light column
-  Padmount substation
-  or  Overground pillar (O.G.Box)
-  Underground pit
-  Duct run
-  Cable run
-  Typical duct section
-  Asbestos warning



NOT TO SCALE

BYDA Sequence No.:	243875490
Issued Date:	28/08/2024

WARNING

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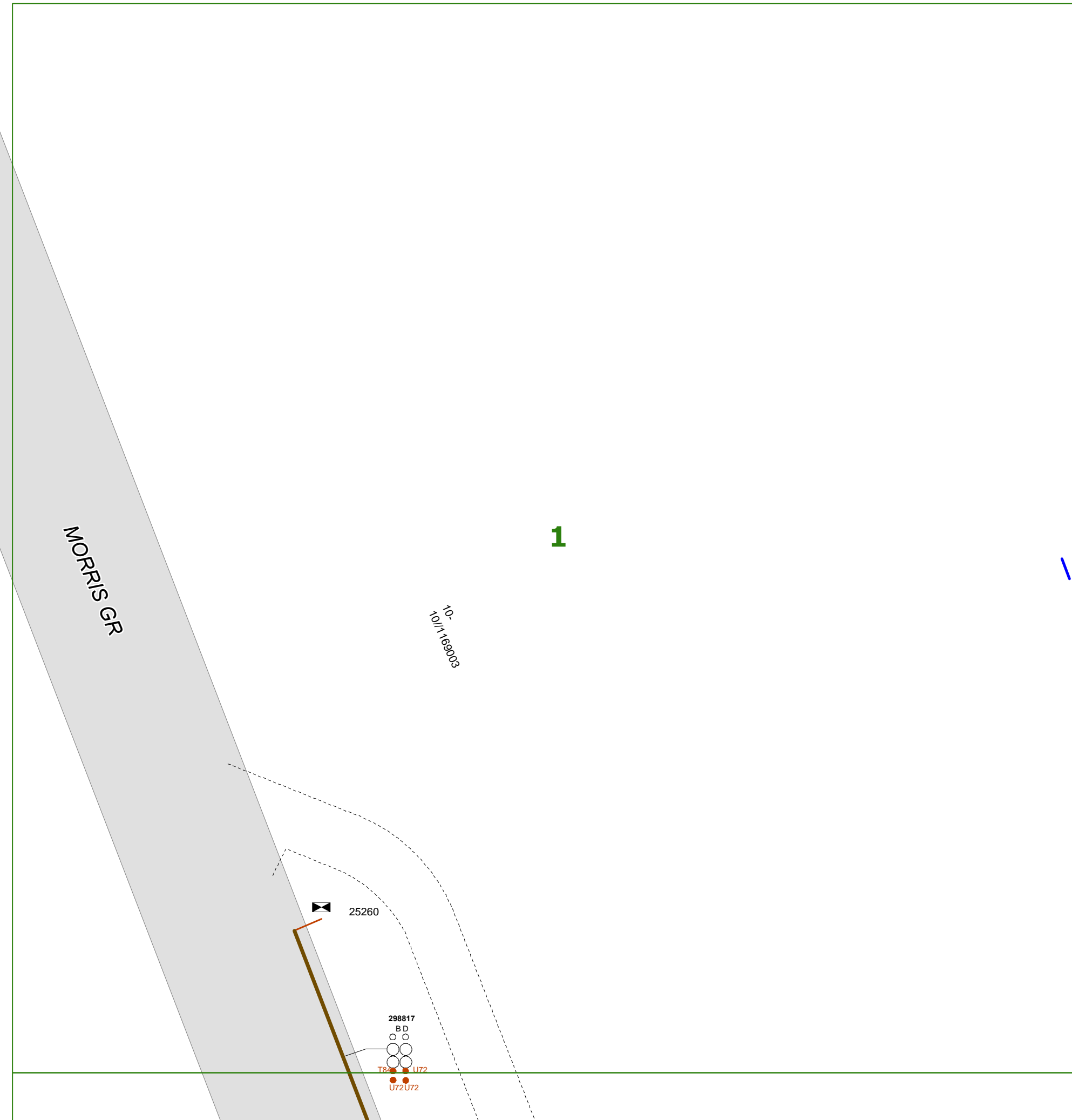
- or ■ Street light column
- ▭ Padmount substation
- or ■ Overground pillar (O.G.Box)
- ▭ Underground pit
- Duct run
- Cable run
- ⊙ Typical duct section
- ▲ Asbestos warning

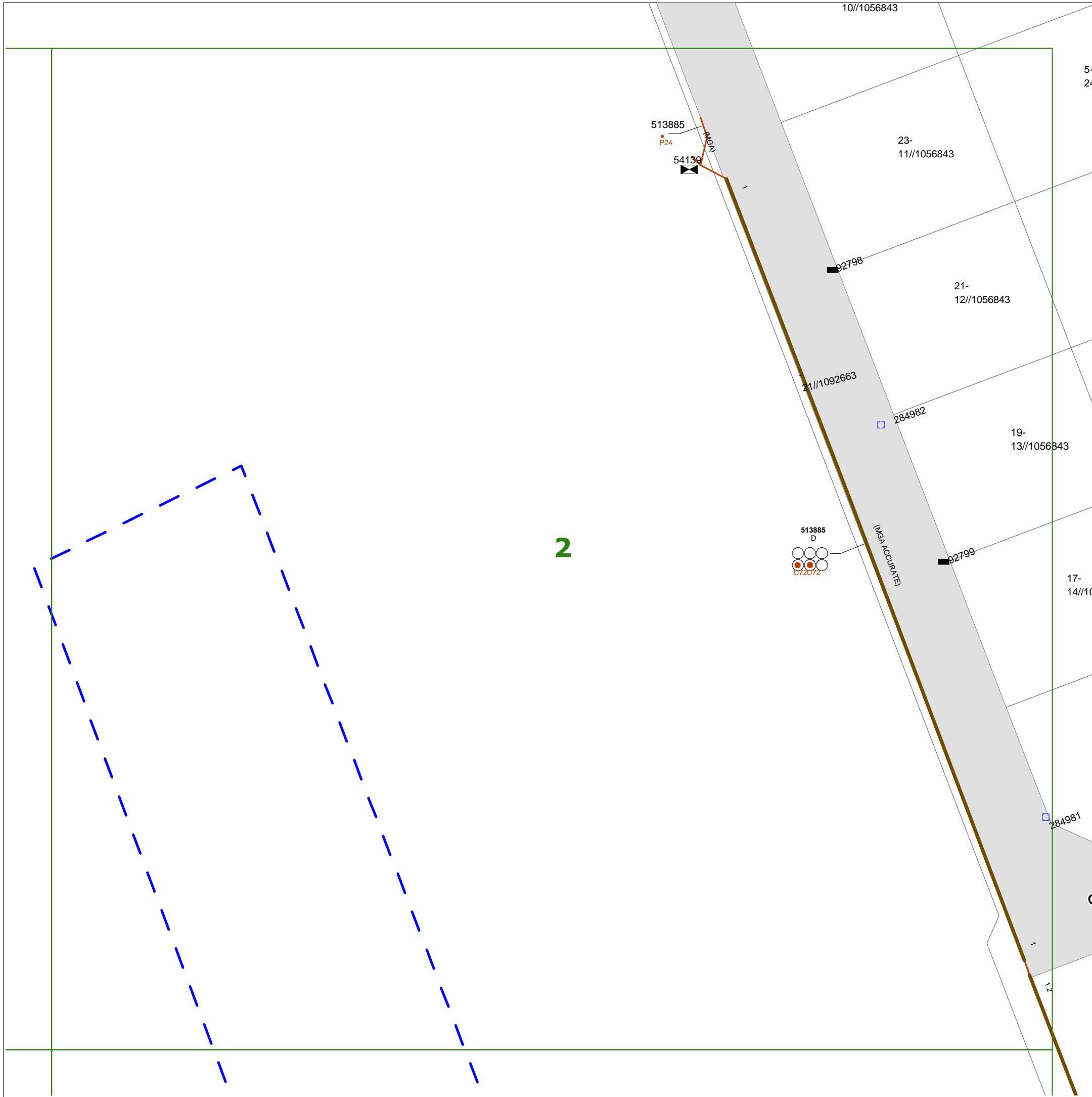


NOT TO SCALE

BYDA Sequence No.:	243875490
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Cadastre: © Land and Property Information 2015, 2016





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NOT TO SCALE

BYDA Sequence No.:	243875490
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WARNING











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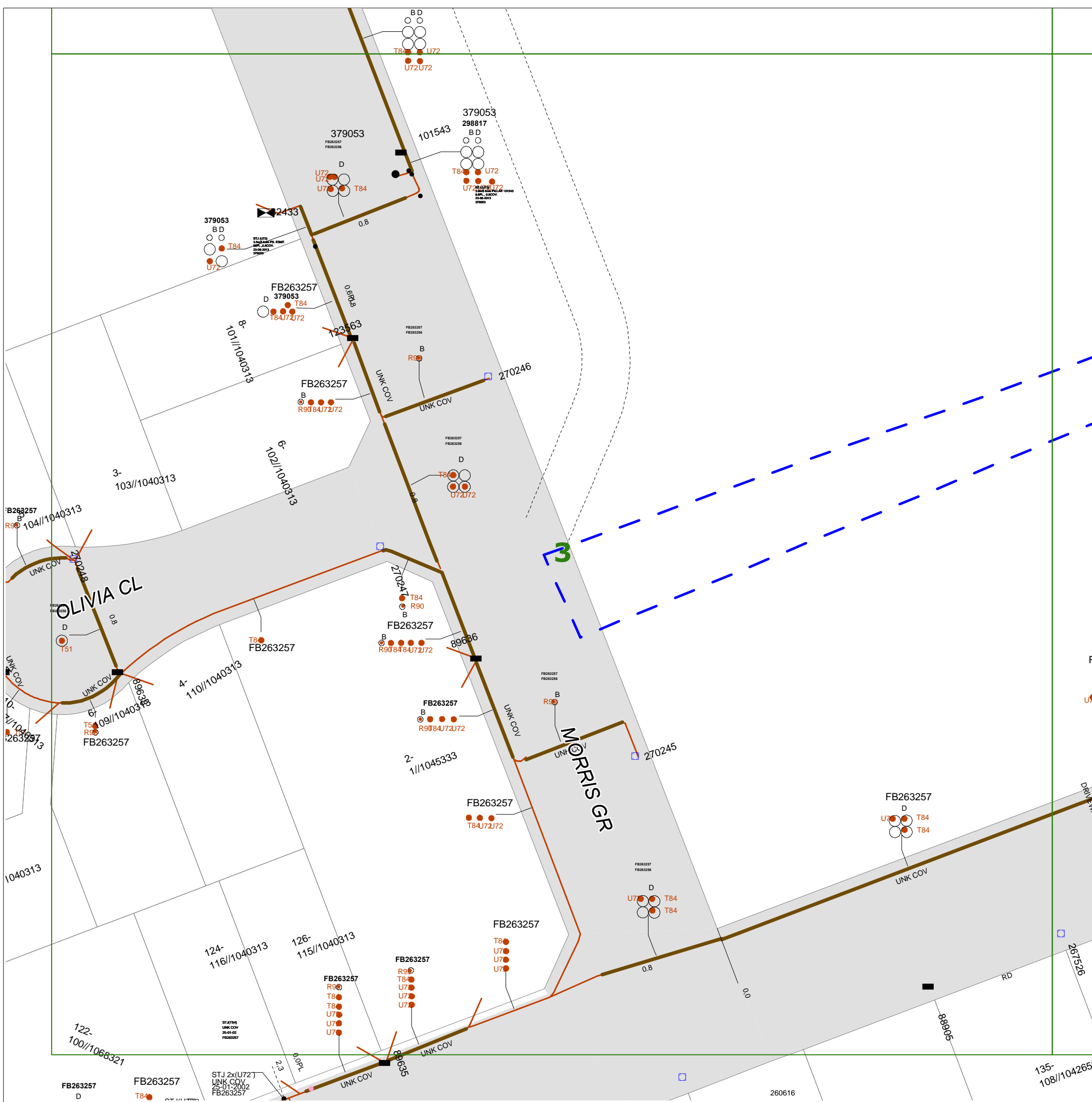
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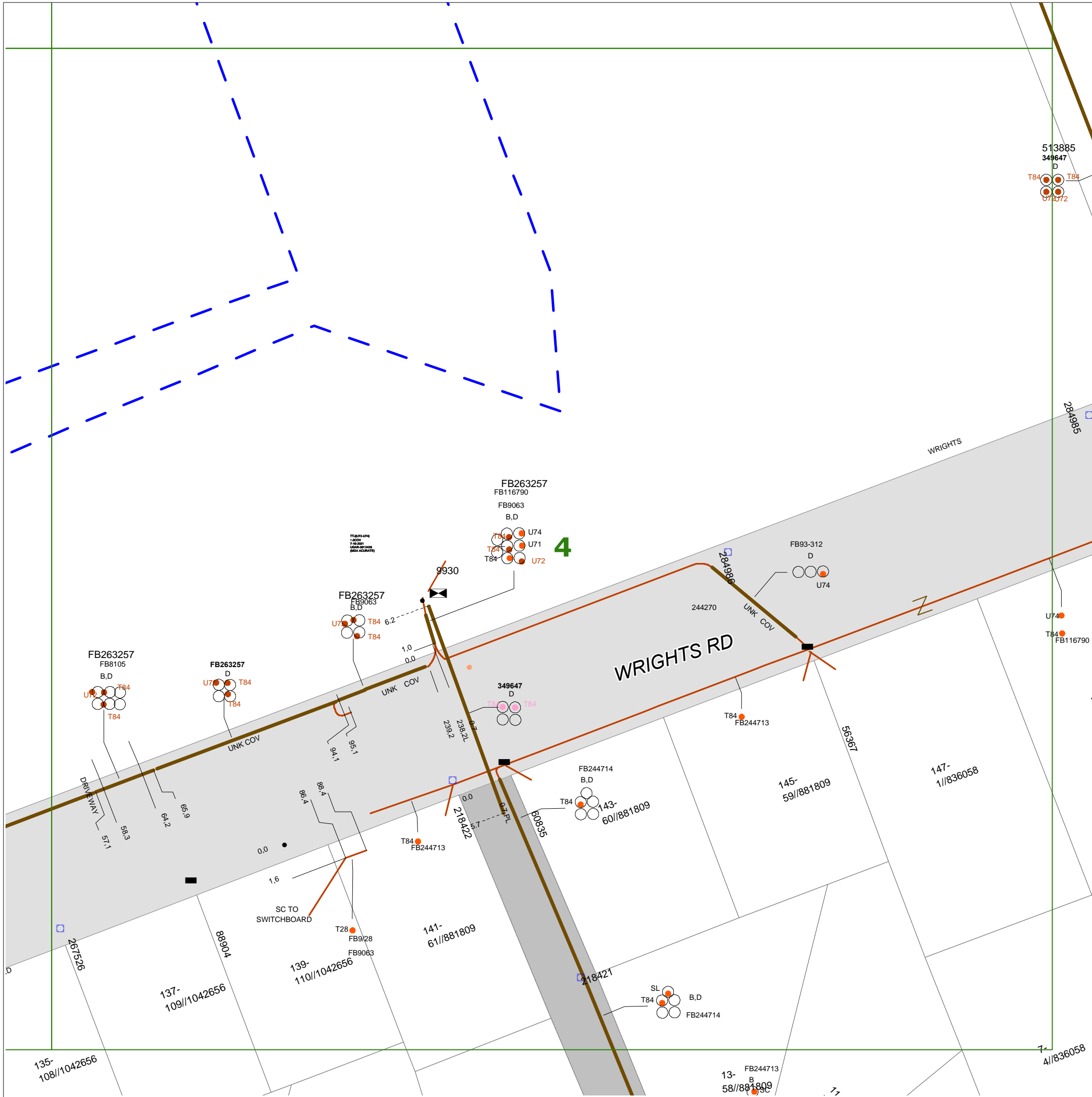


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BYDA Sequence No.:	243875490
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Cadastre: © Land and Property Information 2015, 2016





WARNING











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DISCLAIMER

Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

-  or  Street light column
-  Padmount substation
-  or  Overground pillar (O.G.Box)
-  Underground pit
-  Duct run
-  Cable run
-  Typical duct section
-  Asbestos warning



NOT TO SCALE

BYDA Sequence No.:	243875490
Issued Date:	28/08/2024

Cadastre: © Land and Property Information 2015, 2016

If further clarification is required, please contact:
Endeavour Energy
Phone: (02) 9853 4161 (8:00am-4:30pm Mon-Fri)
Emergency Phone Number: 131 003



BEFORE COMMENCING EXCAVATION YOU MUST READ AND UNDERSTAND ALL INFORMATION PROVIDED IN THE BYDA RESPONSE AND LISTED BELOW

BACKGROUND

Endeavour Energy is able to make available plans of its underground assets to persons who intend to undertake excavation works in Endeavour Energy's distribution area. Any plans provided to you are made available subject to the provisions set out below, in the provided plans, and in the Endeavour Energy BYDA response Cover Letter.

We have set out below important information regarding the recommended procedures that should be followed when using this service and also the extent of our responsibility in respect of any plans provided. It is very important that you read and understand all the information and disclaimers provided below before excavating.

Information Provided by Endeavour Energy:

- Any plans provided pursuant to this service are intended to show the approximate location of underground assets relative to road boundaries, property fences and other structures at the time of installation.
- Underground assets may be congested at the approach to bridges and other structures. Typical asset depths and alignment may vary substantially, rising and falling sharply and at much shallower depths than elsewhere as they are channeled into shared allocated spaces on bridges and other structures. Additional precautions and underground asset location methods will be required in proximity to bridges and other structures.
- Depth of underground assets may vary significantly from information provided on plans as a result of changes to road, footpath or surface levels subsequent to installation.
- Such plans have been prepared solely for use by Endeavour Energy staff for design, construction and maintenance purposes.
- All enquiry details and results are kept in a register.

DISCLAIMER

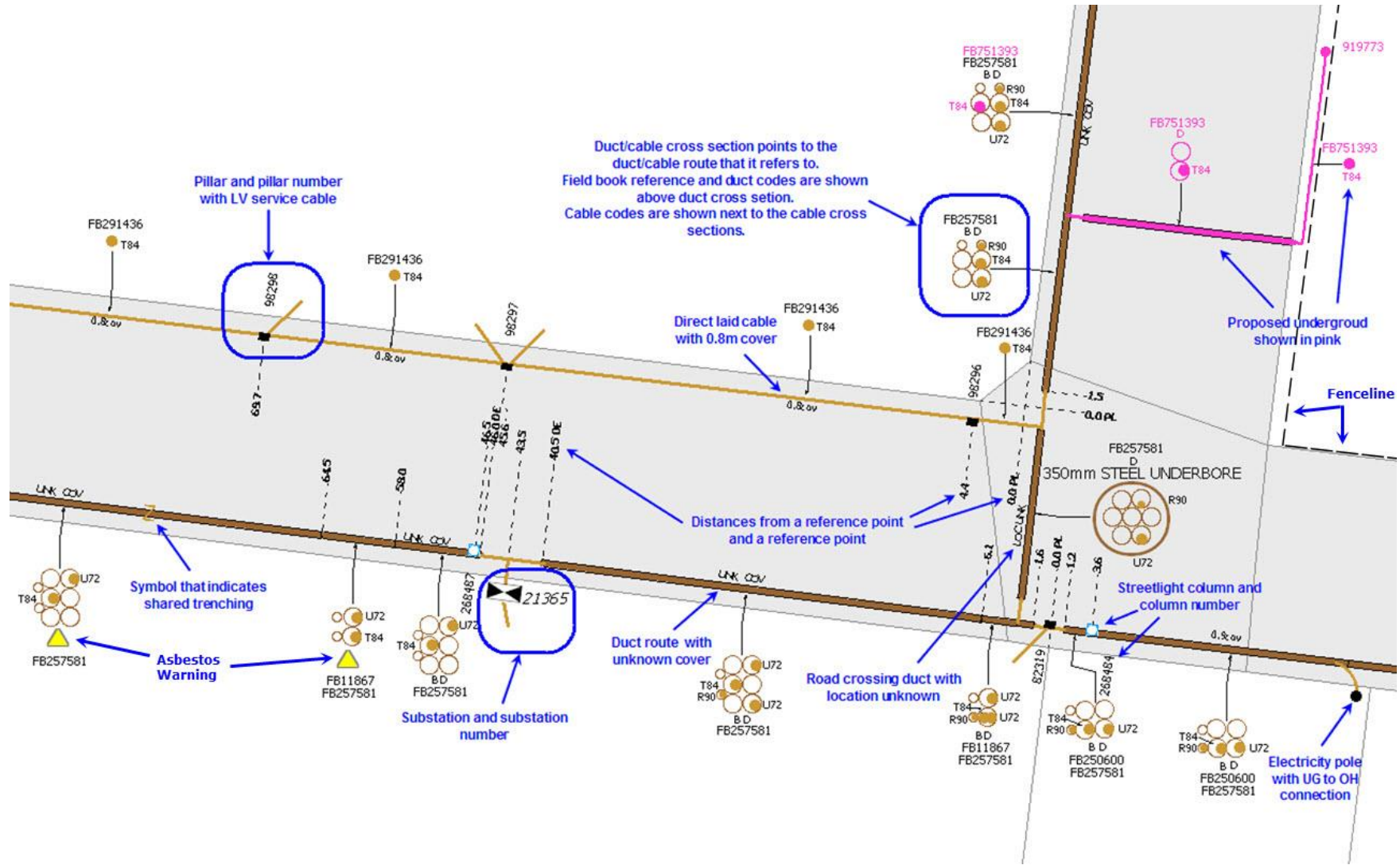
Whilst Endeavour Energy has taken all reasonable steps to ensure that the information contained in the plans is as accurate as possible it will accept no liability for inaccuracies in the information shown on such plans.

CUSTOMER REQUESTS AND RESPONSIBILITIES

- Endeavour Energy expects to be able to provide relevant plans within 48 hours after a request is made.
- If the enquiry falls within the Transmission Mains area, additional notification requirements shall be complied with as per the instructions in the response Cover Letter.
- Endeavour Energy retains copyright over all plans and details provided in response to a customer's request.
- Persons excavating are expected to exercise all due care in the vicinity where underground assets are indicated and will be held responsible for any damage to any underground assets (including any Endeavour Energy property) or any other loss caused (including consequential losses) as a result of such excavations.
- All underground assets should be visually located by soft digging (pot holing) or hand digging.
- A person who undertakes excavation work is subject to duties and responsibilities under the [Work Health and Safety Act 2011](#) and [Work Health and Safety Regulation 2011](#). Please refer to the Work Cover NSW "[Work near underground assets: Guide](#)" and "[Excavation work: Code of practice](#)" which contain practical advice for working near underground utility services.
- Any damage to Endeavour Energy's assets must be immediately reported on **131 003**.
- In all cases of electric shock or suspected electric shock the victim shall immediately be transported to hospital or medical centre for treatment.
- If conduit material cannot be identified, it should be assumed to contain asbestos material.
- Endeavour Energy plans are frequently updated to record changes to underground assets. All plans are valid for **20** working days from the date of issue.

If further clarification is required, please contact:
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Emergency Phone Number: 131 003

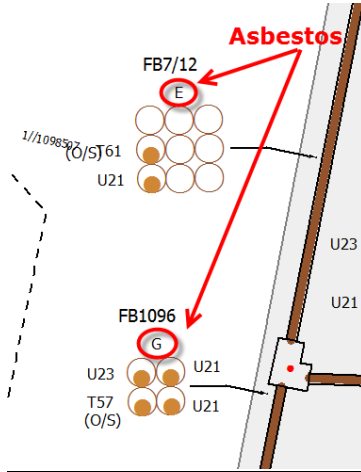
EXAMPLE OF HOW TO READ ENDEAVOUR ENERGY PLANS



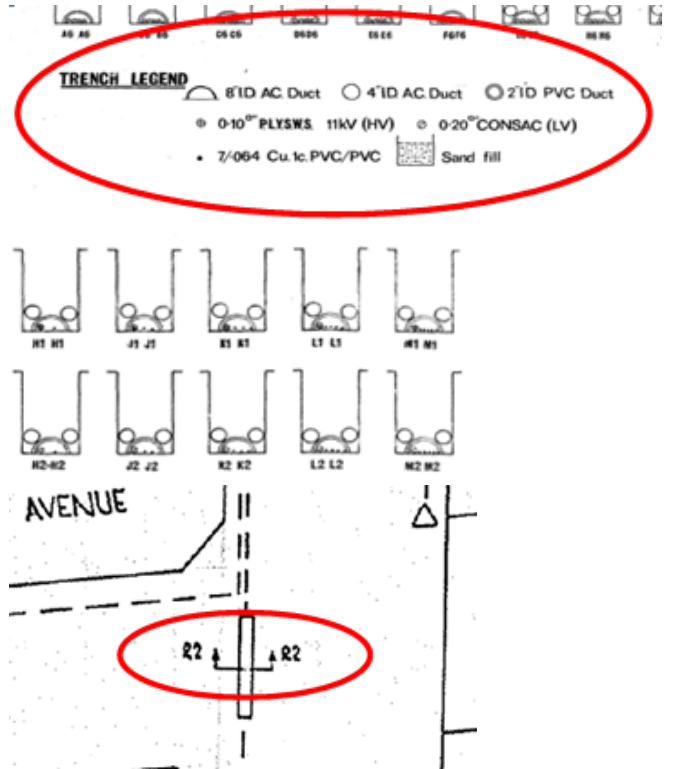
If further clarification is required, please contact:
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IDENTIFYING ASBESTOS DUCTS

1. Duct codes **E, F** and **G** identify Fibro Conduits

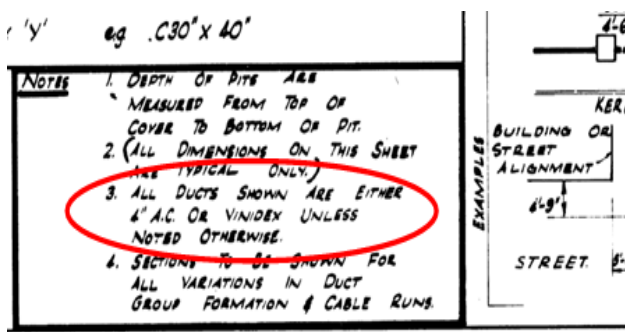


2. The duct codes **G,H,J,K,L,M Q,R,S,T,U,V,W & X** under each configuration are used on old Blue Mountains drawings to identify Asbestos

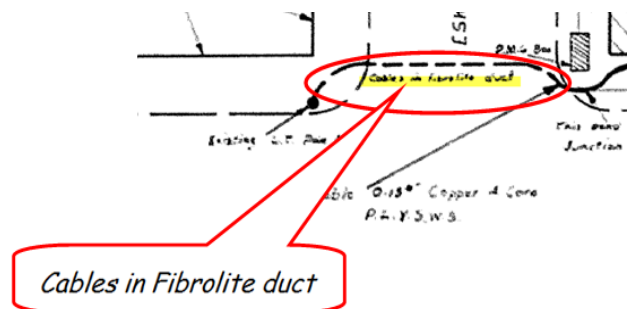


If underground details have not been captured and drawings are used, the method for identifying asbestos ducts and standards are different for the different utilities that amalgamated with Endeavour Energy. Using Reticulation Drawings, there are numerous ways to determine if a duct route has asbestos ducts, refer to following examples:

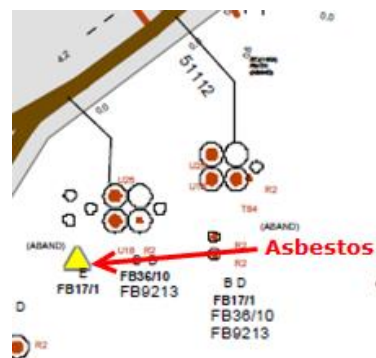
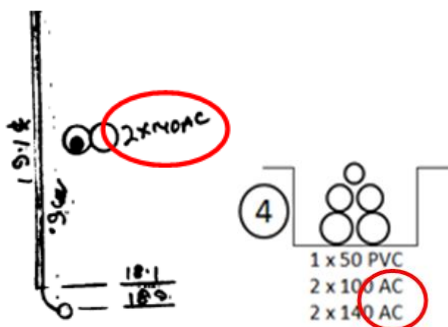
3. **AC** (Asbestos Cement) acronym



4. **Fibrolite** (asbestos) ducts



5. Yellow **triangle** identifies Fibro Conduits
















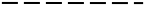

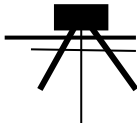


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Emergency Phone Number: 131 003

STANDARD UNDERGROUND SYMBOLS / LABELS

NOTE: *If symbology has not been provided on the plan use symbols as shown below.*

SYMBOLS & ACRONYMS

 or 	Street light column
	Padmount substation
 or 	Overground pillar (O.G.Box)
	Underground pit
	Duct run
	Cable run
	Typical duct section
	Typical underbore section
	Blocked duct
	Cable section
	Asbestos warning
	STJ, PBJ, TTJ
STJ	Straight through joint
PBJ	Parallel branch joint
TTJ	Transition through joint
	Underground to overhead pole
SL	Streetlight conductor
SC	Service cable
SE	Cable sealed end
SF	Service Feeder
OS	Out of Service
O.A.M.	Over awning main
U.A.M.	Under awning main
N.I.S.	Not in service
	Fence/dimensioning
	Shared trenching
	Service point of attachment

DUCT CODE LABELS

B	= 50 mm PVC
D	= 125mm PVC
E	= 100mm Fibro Conduit (Asbestos)
F	= 140mm Fibro Conduit (Asbestos)
G	= 150mm Fibro Conduit (Asbestos)

DEPTH & LOCATION LABELS

0.5- 0.7 COV	= 0.5m – 0.7m
0.9 COV	= 0.9m Depth
UNK COV	= Depth Unknown
LOC UNK	= Location Unknown
0.9 PL	= Located 0.9m from Property Line