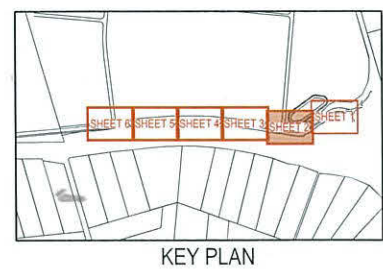


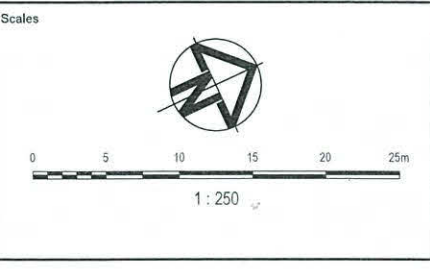
LEGEND

- BIKE PAVEMENT MARKING SYMBOL
- GREEN BIKE LANE PAVEMENT MARKING
- BROKEN LANE LINE (BLL)
- UNBROKEN LANE LINE (LL)
- CONTINUITY LINE (CL)
- GIVE WAY LINE (GW)
- EDGE LINE (EL) REFER NOTE 4
- BARRIER LINE (DBL) REFER NOTE 4
- BARRIER LINE (BL) ONE DIRECTION REFER NOTE 4
- CHEVRON
- SITE BOUNDARY
- PROPOSED GUARDRAIL

- ### NOTES
- ALL SIGNAGE, LINEMARKING & REFLECTORISED PAVEMENT MARKERS ARE TO BE IN ACCORDANCE WITH THE CURRENT MUTCD AND TMR SUPPLEMENTS.
 - ALL LINEMARKING TO BE REFLECTORISED WHITE.
 - FINAL SIGN LOCATIONS TO BE DETERMINED ON SITE BY THE SUPERINTENDENT.
 - EXISTING LINEMARKING MADE REDUNDANT BY NEW LINEMARKING IS TO BE REMOVED BY ROUTING OR OTHER METHOD APPROVED BY DEPARTMENT OF TRANSPORT & MAIN ROADS.
 - ALL TRAFFIC SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
 - FOR GUIDE POST INSTALLATION & DETAILS, REFER TMR STANDARD DRAWING No.1355
 - FOR TRAFFIC SIGN SUPPORT DETAILS, REFER TMR STANDARD DRAWING No.'s 1390 & 1392.
 - ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
 - ALL SIGN MATERIAL TO BE CLASS 1.
 - DIRECTION SIGNS ARE SHOWN INDICATIVE ONLY. DETAILED DESIGNS ARE TO BE USED FOR ORDERING.



Issue	Description	DR	CH	VE	Date
D	GUARD RAIL DIMENSIONS AMENDED	A.O.	S.S.	C.R.	20.01.25
C	IFC - DRAWING STATUS UPDATED	A.O.	S.S.	C.R.	22.11.24
B	UPDATED ISSUE	A.O.	S.S.	C.R.	08.08.24
A	FOR CONSTRUCTION	S.G.	G.P.	C.R.	7.05.24



Surveyor

Architect

Client

Status	FOR CONSTRUCTION
Drawn	Original Size: A1
Designed	Height Datum: AHD
Project Manager	Grid: LOCAL
Verified	R.P.E. Date: N/R

Project

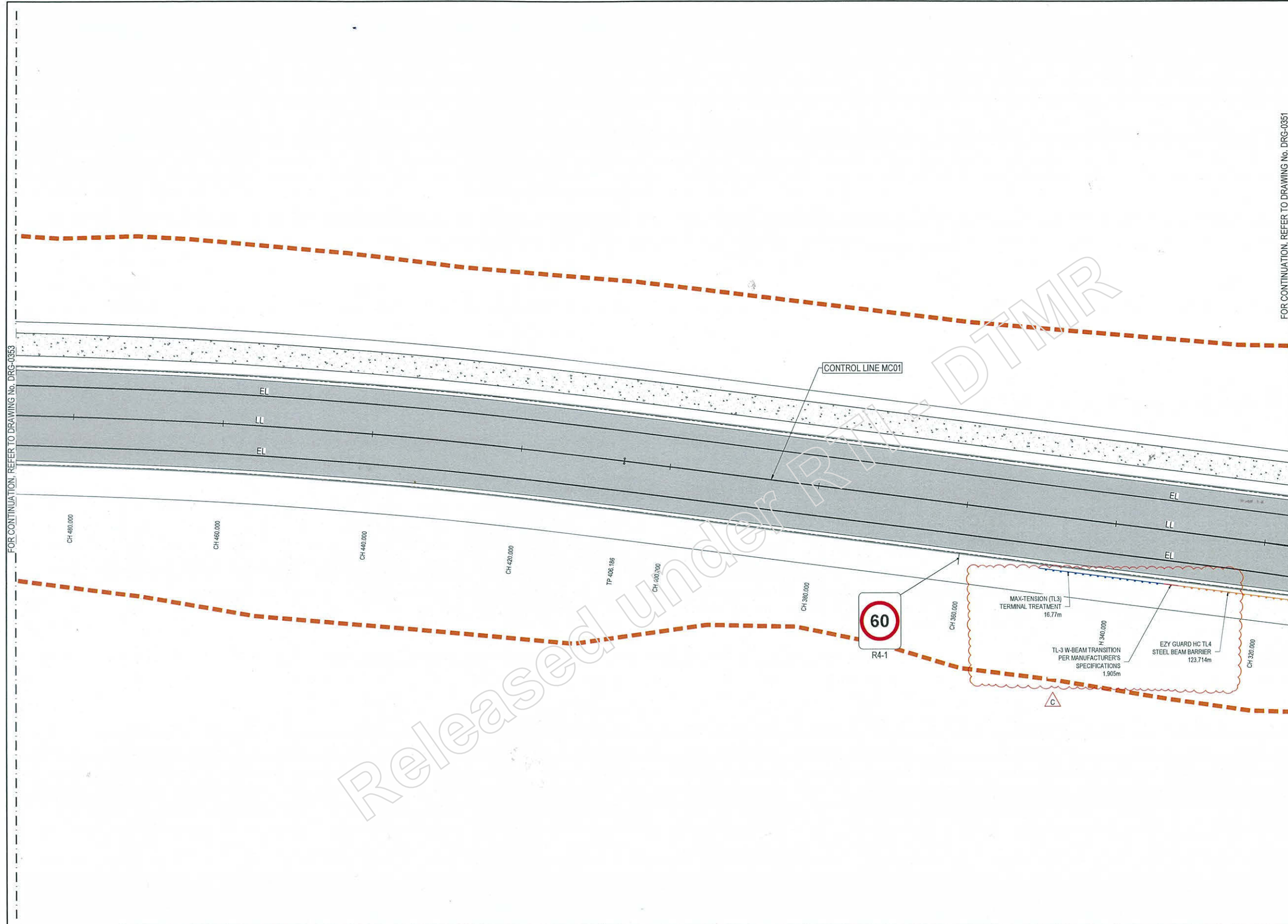
FLAGSTONE LOGISTICS ESTATE - SERVICE ROAD

Title

SIGNAGE AND LINEMARKING LAYOUT PLAN SHEET 2 OF 6

Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com.au

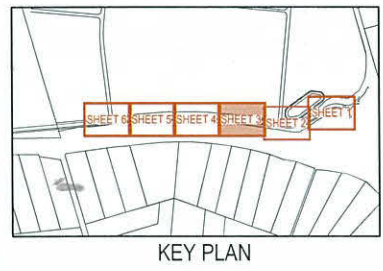
Project No. 30109334 - AAP - EX000P - CV - DRG - 0351 - D



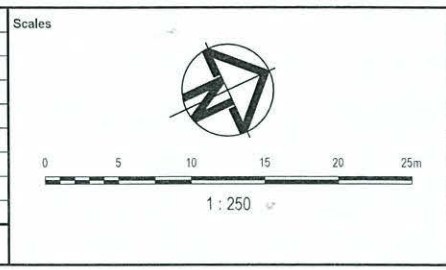
LEGEND

- BIKE PAVEMENT MARKING SYMBOL
- GREEN BIKE LANE PAVEMENT MARKING
- BROKEN LANE LINE (BLL)
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- BARRIER LINE (BL) ONE DIRECTION REFER NOTE 4
- CHEVRON
- SITE BOUNDARY
- PROPOSED GUARDRAIL

- ### NOTES
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 - ALL TRAFFIC SIGNS TO BE SIZE 'B' UNLESS NOTED OTHERWISE.
 - FOR GUIDE POST INSTALLATION & DETAILS, REFER TMR STANDARD DRAWING No.1356
 - FOR TRAFFIC SIGN SUPPORT DETAILS, REFER TMR STANDARD DRAWING No.'s 1360 & 1362.
 - ALL ROUTE NAMES ON NEW GUIDE SIGNS TO BE BLACK LETTERING ON WHITE BACKGROUND U.N.O.
 - ALL SIGN MATERIAL TO BE CLASS 1.
 - DIRECTION SIGNS ARE SHOWN INDICATIVE ONLY. DETAILED DESIGNS ARE TO BE USED FOR ORDERING.



Issue	Description	DR	CH	VE	Date
C	GUARD RAIL DIMENSIONS AMENDED	A.O.	S.S.	C.R.	20.01.25
B	IFC - DRAWING STATUS UPDATED	A.O.	S.S.	C.R.	22.11.24
A	FOR CONSTRUCTION	J.Q.	G.P.	C.R.	7.06.24



Surveyor

Architect

Client

Status	FOR CONSTRUCTION
Drawn	Original Size A1
Designed	Height Datum AHD
Project Manager	Grid LOCAL
Verified	R.P.E. N/R
Date	24/01/2025

Project

FLAGSTONE LOGISTICS ESTATE - SERVICE ROAD

Title

SIGNAGE AND LINEMARKING LAYOUT PLAN SHEET 3 OF 6

Arcadis Australia Pacific Pty Limited
Level 16, 580 George Street
SYDNEY NSW 2000
ABN 76 104 485 289
Tel No: +61 2 8907 9000
www.arcadis.com.au

Project No. 30109334 - AAP - EX00OP - CV - DRG - 0352 - C

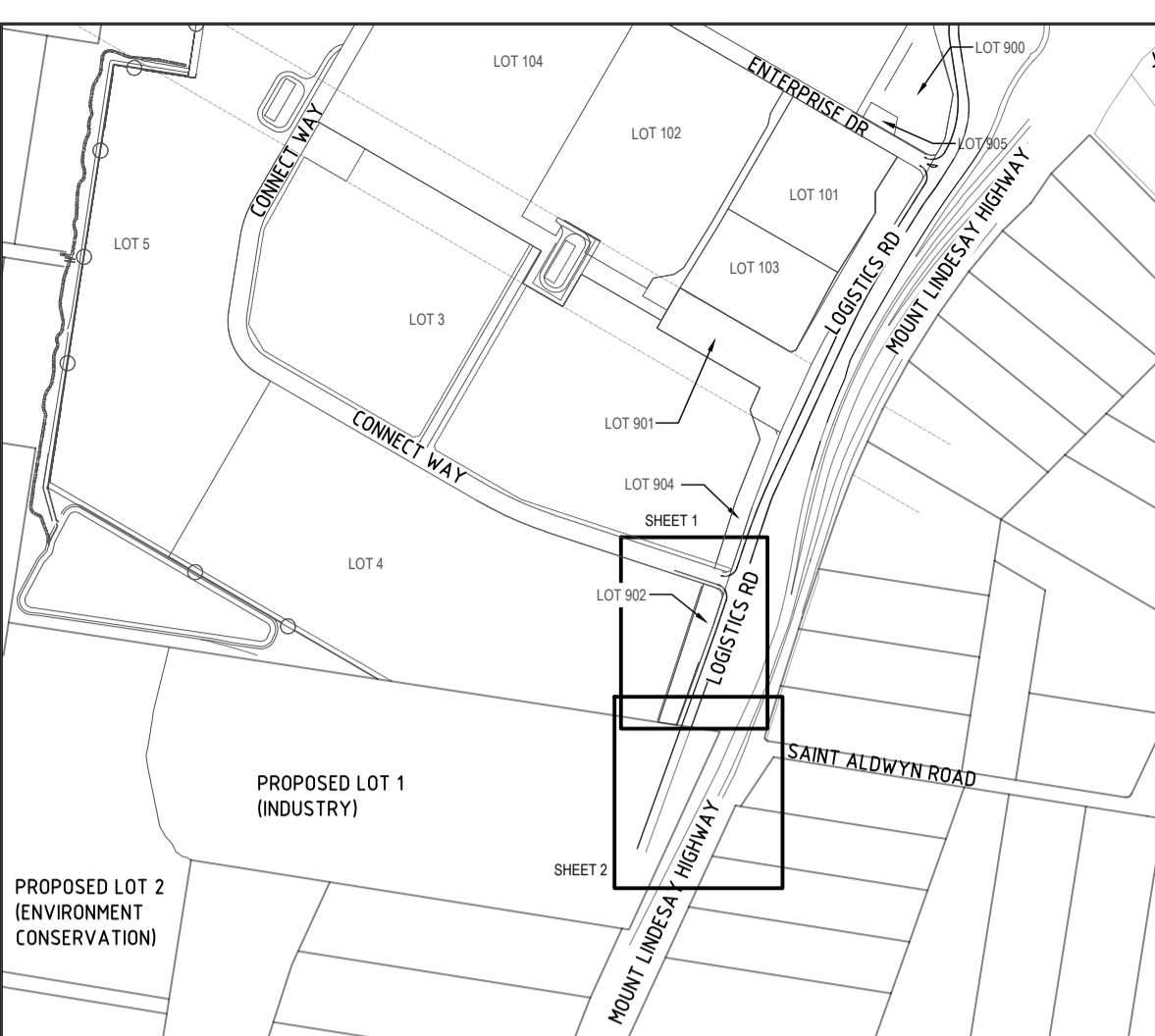
STATION ID	LOCATION	CHAINAGE (m)	CONTROL	SUPPORT WORK ITEM	SIGN TYPE	DESCRIPTION / OFFSET TYPE	SIGN TYPE	SIGN SIZE (mm)		AREA (m2)	OFFSET (m)	MOUNTING HEIGHT TO BOTTOM OF SIGN (m)	NUMBER OF POSTS	CHS POST SIZE	FOUNDATION DIAMETER (m)	FOUNDATION DEPTH (m)	SIGN WORK ITEM
								WIDTH	HEIGHT								
1	CROWSON LANE	EXISTING	-	NEW POST	G1-5	VERGE	GUIDANCE	4900	1700	8.33	EXISTING LOCATION (MIN 0.6m)	2.000	2	114.3x3.6 SLIP BASE	0.45	1.2	REMOVE EXISTING & NEW SIGN
2	CROWSON LANE	EXISTING	-	NEW POST	G1-5	VERGE	GUIDANCE	6000	2200	13.2	EXISTING LOCATION (MIN 0.6m)	2.000	3	114.3x3.6 SLIP BASE	0.45	1.2	REMOVE EXISTING & NEW SIGN
3	ML LINDESAY Hwy	EXISTING	-	NEW POST	G1-5	VERGE	GUIDANCE	4900	2200	10.78	EXISTING LOCATION (MIN 0.6m)	2.000	2	139.7x5.0 SLIP BASE	0.45	1.35	REMOVE EXISTING & NEW SIGN
4	NEW ROAD	75	MC01	NEW POST	G1-5	VERGE	GUIDANCE	5200	2000	10.4	0.6	2.5	3	114.3x3.6 SLIP BASE	0.45	1.2	NEW SIGN
5	CROWSON LANE	-	-	EXISTING	R2-4	VERGE	NO ENTRY	-	-	-	-	-	1	-	-	-	REMOVAL
6	CROWSON LANE	-	-	NEW POST	G2-2	MEDIAN	GUIDANCE	-	-	-	-	-	2	60.3x2.9	0.300	0.750	NEW SIGN
7	CROWSON LANE	-	-	NEW POST	R1-3A	VERGE	ROUABOUT	-	750	0.120	0.600	2.000	1	60.3x2.9	0.30	0.75	NEW SIGN
8	NEW ROAD	95	MC01	NEW POST	W2-7	MEDIAN	ROUNDABOUT AHEAD	600	600	0.360	0.600	2.000	1	60.3x2.9	0.300	0.750	NEW SIGN
9	NEW ROAD	100	MC01	NEW POST	R4-1	VERGE	SPEED RESTRICTION	450	600	0.270	0.600	2.000	1	60.3x2.9	0.300	0.750	NEW SIGN
10	NEW ROAD	180	MC01	NEW POST	R4-1	VERGE	SPEED RESTRICTION	450	600	0.270	0.600	2.000	1	60.3x2.9	0.30	0.75	NEW SIGN
11	NEW ROAD	10	MC04	NEW POST	R1-2A	VERGE	GIVEWAY	-	750	0.360	0.600	2.000	1	60.3x2.9	0.30	0.75	NEW SIGN
12	NEW ROAD	10	MC04	NEW POST	R2-6R	MEDIAN	NO RIGHT TURN	450	450	0.202	0.600	2.000	0	60.3x2.9	0.30	0.75	NEW SIGN
13	NEW ROAD	17	MC04	NEW POST	R2-6L	MEDIAN	KEEP LEFT	450	600	0.270	0.300	0.300	1	60.3x2.9	0.30	0.75	NEW SIGN
14	NEW ROAD	360	MC01	NEW POST	R4-1	VERGE	SPEED RESTRICTION	450	600	0.270	0.600	2.000	1	60.3x2.9	0.300	0.750	NEW SIGN
15	NEW ROAD	800	MC01	NEW POST	R4-1	VERGE	SPEED RESTRICTION	450	600	0.270	0.600	2.000	1	60.3x2.9	0.300	0.750	NEW SIGN
16	NEW ROAD	885	MC01	NEW POST	D4-2-3-A	VERGE	HAZARD MARKER	1600	400	0.64	0.600	1.500	2	60.3x2.9	0.30	0.75	NEW SIGN
17	NEW ROAD	915	MC01	NEW POST	D4-5	VERGE	HAZARD MARKER	1600	400	0.64	0.600	1.500	2	60.3x2.9	0.30	0.75	NEW SIGN
18	NEW ROAD	10	MC04	NEW POST	R1-2A	VERGE	GIVEWAY	-	750	0.360	0.600	2	1	60.3x2.9	0.30	0.75	NEW SIGN

ID	DESCRIPTION	CONTROL LINE	START CHAINAGE	END CHAINAGE	WORKING WIDTH	VARIANT
1	TL-3 MAX-TENSION TERMINAL TREATMENT 16.77m	MC01	196	213	1.8m	N/A
2	TL-3 W-BEAM TRANSITION 1.905m	MC01	213	215	1.8m	N/A
3	TL-4 STEEL BEAM BARRIER 123.714m L	MC01	215	339	1.8m	N/A
4	TL-3 W-BEAM TRANSITION 1.905m	MC01	341	343	1.8m	N/A
5	TL-3 MAX-TENSION TERMINAL TREATMENT 16.77m	MC01	343	360	1.8m	N/A

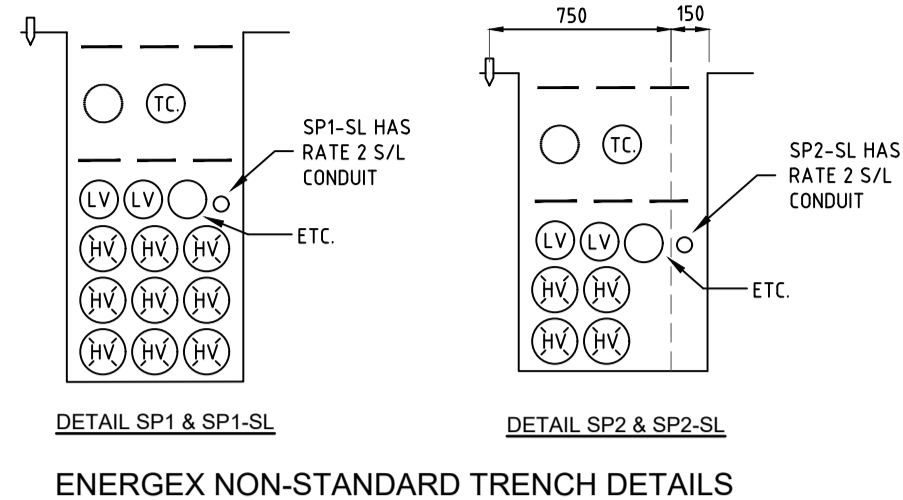


Released under RTI

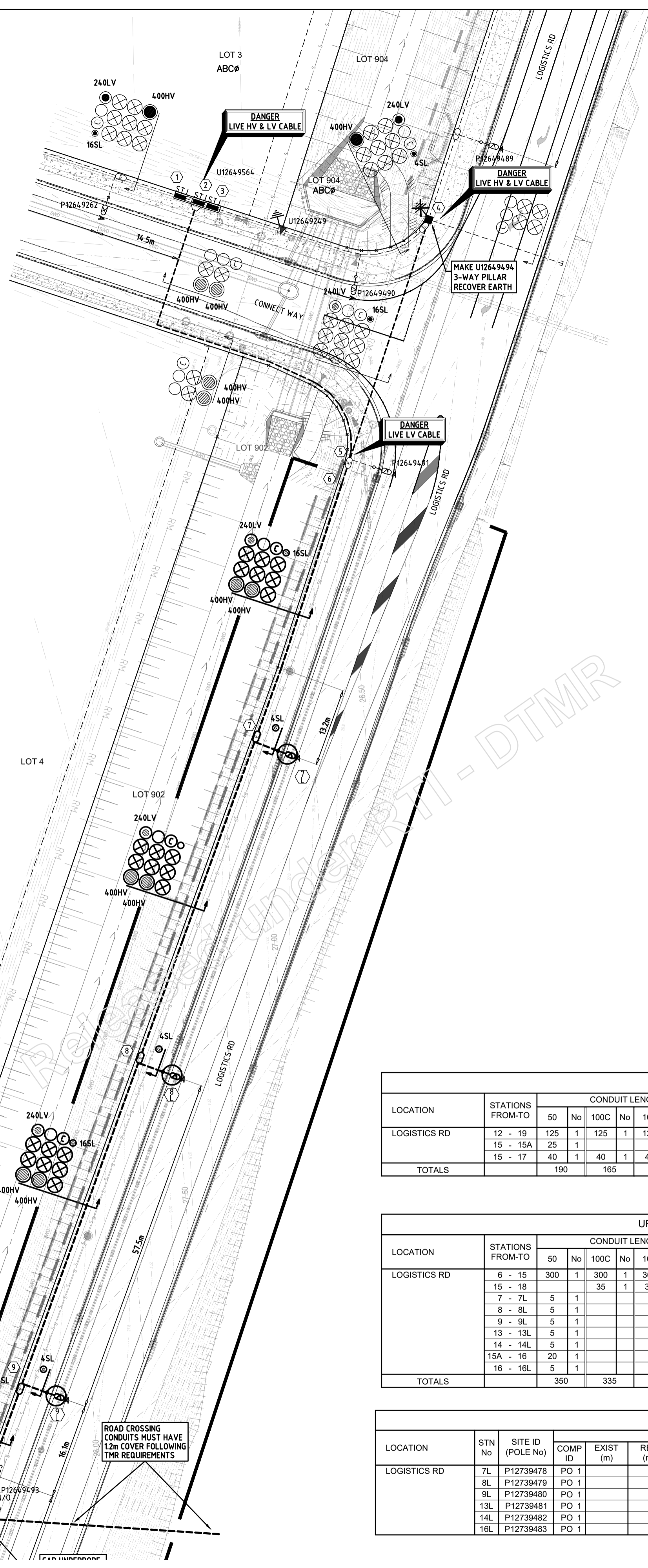
Scales						FOR CONSTRUCTION © Copyright reserved Verified		Project FLAGSTONE LOGISTICS ESTATE - SERVICE ROAD			
D GUARD RAIL DIMENSIONS AMENDED A.O. S.S. C.R. 20.01.25 C IFC - DRAWING STATUS UPDATED A.O. S.S. C.R. 22.11.24 B UPDATED ISSUE A.O. S.S. C.R. 08.08.24 A FOR CONSTRUCTION J.Q. G.P. C.R. 7.05.24		Architect				Drawn Designed Project Manager Verified		Title SIGNAGE AND GUARDRAIL SCHEDULE		Arcadis Australia Pacific Pty Limited Level 16, 580 George Street SYDNEY NSW 2000 ABN 76 104 485 289 Tel No: +61 2 8907 9000 www.arcadis.com/au	
Issue Description DR CH VE Date						Original Size: A1 Height Datum: AHD Grid: LOCAL R.P.E.C. Date: N/R / N/R		Project No. Folder Profile Zone Stage Phase Discipline Type Drawing No. Issue 30109334 - AAP - EX00OP - CV - DRG - 0356 - D		N/R	



SITE LOCALITY (SCALE:1:10000@A1)



ENERGEX NON-STANDARD TRENCH DETAILS



ELECTRICAL / STREET LIGHT CERTIFICATION

THIS IS TO CERTIFY THAT THE DESIGN OF ENEREX RETICULATION IS IN ACCORDANCE WITH ENEREX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47.1 & 47.3 WHERE APPLICABLE.

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENEREX CONTRACT. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

- * LED LAMP REPLACEMENT AT 5 YEAR INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE EVERY 48 MONTHS.
- * LAMP REPLACEMENT AT 36 MONTH INTERVALS INC. CLEANING & INSPECTION OF LUMINAIRE.
- * VEGETATION TO BE KEPT CLEAR OF LUMINARIES.
- * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- * LUMINARIES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME	LIGHTING CATEGORY
LOGISTICS RD	V5

DATE: 16/06/2025

MAINTENANCE REGIME

Maintenance Factor Assumed: The maintenance factor assumed in the calculations is as follows:

- * Luminaire Maintenance Factor (refer AS 1158.1:2022 APPENDIX E).
- * Lamp Lumen Depreciation Factor (Refer Lamp Manufacturer's "Lamp Lumen Depreciation Curves").

Maintenance Factor Calculated: 0.75

Schedule of Maintenance: This road lighting design is based on the following maintenance schedule:

- * LED lamp replacement carried out at 5 year intervals. Cleaning regime every 48 months.
- * All other luminaires lamp replacement & cleaning carried out at 36 month intervals.

At this time the following shall also occur:

- * All optical surfaces, both internal and external, of the luminaire shall be cleaned.
- * All gaskets shall be checked for deterioration and replaced where necessary.
- * Damaged/Weathered visors shall be replaced.
- * All accessible screws, nuts etc. shall be checked for tightness.
- * A visual check shall be made of the electrical components and wiring for signs of overheating.
- * If required, the luminaire shall be realigned/adjusted to the design specification.

**!WARNING!
FIRE ANT TERRITORY**

THIS SITE IS WITHIN A RED IMPORTED FIRE ANT BIOSECURITY ZONE. CALL 132523 FOR FURTHER INFORMATION.

**ISSUE FOR ENEREX & COUNCIL ACCEPTANCE ONLY
NOT FOR CONSTRUCTION**

This drawing is to be considered preliminary until this disclaimer is removed by Peter Eustace Pty. Ltd.

CERTIFICATE OF COMPLIANCE

DESIGN DOCUMENTATION IN ACCORDANCE WITH THE REQUIREMENTS OF COMPLIANCE OF AS/NZS 1158

- * Refer AS1158.1:2022 Appendix D for information regarding V category
- * Refer AS1158.3:2020 Appendix C for information regarding P category
- * Particulate 5.06 computer software used
- * AGIS2 computer software used

ITEM	PROJECT SPECIFICATION	PROJECT SPECIFICATION		
LIGHTING CATEGORY				
Road Name	LOGISTICS RD	LOGISTICS RD		
Nominated Lighting Category	V5	V5		
Road Surface Reflection Characteristic	R3	R3		
INSTALLATION GEOMETRY				
Carriageway Lighting Design Width	12m	14m		
Mounting Height	10.5m	12m		
Overhang	3.7m	3.7m		
Lighting Arrangement	ARR1	ARR3		
Pole Setback	0.8m BoK	0.8m BoK		
Upcast Angle	0°	0°		
LUMINAIRE/LAMP 1 DETAILS				
Lamp Type / Wattage	L67A	L67A		
Luminaire Identification	Philips RoadFlair	Philips RoadFlair		
Lamp Flux (Lumens)	10838	10838		
I-Table Number (.cie)	BRP392 LED108NW 67W 220-240V DWV	BRP392 LED108NW 67W 220-240V DWV		
Lighting Tariff	2	2		
Power Factor	HPF (> 0.95)	HPF (> 0.95)		
Start/Run Currents (Amps)	0.28	0.28		
IP Rating	IP66	IP66		
LUMINANCE BASED DESIGN - CATEGORY V LUMINAIRE/LAMP 1 TECHNICAL PARAMETER COMPLIANCE				
Spacing (m)	63	72		
Traffic Direction	Normal	Oncoming	Normal	Oncoming
Average carriageway luminance (L) cd/m ²	0.46	0.48	0.35	0.36
Overall uniformity (U _o)	0.36	0.35	0.34	0.38
Longitudinal Uniformity (U _l)	0.51	0.57	0.53	0.55
Upward wasted light ratio (UWLR) %	0	0	0	0
Threshold increment (T _h) %	12.45	10.33	12	8.89
Surround verge illuminance (E _v) %	59.76	76.15	64.8	76.02
Complies with standard	YES	YES	YES	YES
ILLUMINANCE BASED DESIGN - CATEGORY V5 TECHNICAL PARAMETER COMPLIANCE - "design area" i.e. Intersection of x and x roads				
Point Horizontal Illuminance (E _p)	3.5		3.5	
Illuminance (Horizontal Uniformity) Cat V (U _h)	8		8	

SYMBOL LEGEND

- PROPOSED 50mm S/L
- PROPOSED 50mm S/L (RATE 3)
- ⊙ PROPOSED ENEREX 100mm COMMS
- ⊙ PROPOSED 100mm
- ⊙ PROPOSED 125mm
- ⊙ EXISTING 40mm S/L
- ⊙ EXISTING ENEREX 100mm COMMS
- ⊙ EXISTING 100mm
- ⊙ EXISTING 125mm
- ⊙ PROPOSED CABLE (AS MARKED)
- EXISTING CABLE (AS MARKED)
- PROPOSED UNDERGROUND HV/LV ROUTE
- EXISTING UNDERGROUND HV/LV ROUTE
- PROPOSED OVERHEAD HV/LV ROUTE
- EXISTING OVERHEAD HV/LV ROUTE
- PROPOSED S/L CABLE
- EXISTING S/L CABLE
- ⊕ PADMOUNT TRANSFORMER
- ⊕ PMT LV GEOGRAPHIC
- ⊕ PMT HV GEOGRAPHIC
- ⊕ RING MAIN UNIT
- ⊕ RMU HV SCHEMATIC
- PROPOSED SUPPLY PILLAR
- EXISTING SUPPLY PILLAR
- ▣ PROPOSED LINK PILLAR
- ▣ EXISTING LINK PILLAR
- ▣ COMMERCIAL PILLAR
- ⊕ EARTH
- ⊕ PROPOSED TYPE 4 PIT
- ⊕ EXISTING TYPE 4 PIT
- ⊕ RECOVER EQUIPMENT
- STJ 1kV STRAIGHT JOINT
- ⊕ OVERHEAD POLE (HV ONLY)
- ⊕ OVERHEAD POLE (LV ONLY)
- ⊕ OVERHEAD POLE (HV & LV)
- ▶ OVERHEAD HV TERMINATION
- ▶ OVERHEAD LV TERMINATION
- ⊕ AIR BREAK SWITCH (OPEN)
- ⊕ AIR BREAK SWITCH (CLOSED)
- ⊕ DISCONNECT LINKS (OPEN)
- ⊕ DISCONNECT LINKS (CLOSED)
- ⊕ WATER METER
- ⊕ SURVEY PEG
- ⊕ STATION NUMBER

STREET LIGHT SYMBOL LEGEND

- ⊕ PROPOSED L67A (RATE 2)
- ⊕ PROPOSED L67A (RATE 2)
- ⊕ PROPOSED L90A (RATE 2)

URD CIVIL WORKS SCHEDULE (ROAD CROSSINGS BY CIVIL CONTRACTOR)

LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)								BENDS (<70°)				X-SECTION (m)			DRAW WIRE	KERB MARK	STANDARD COVER	REMARKS			
		50	No	100C	No	100	No	125	No	50	No	100C	No	100	No	125					No	EXCAV/TAPE	COVER STRIP
LOGISTICS RD	12 - 19	125	1	125	1	125	2	125	9									125	SP1-SL	1625	2	YES	UNDERBORED HIGHWAY REFER LAYOUT NOTES REFER LAYOUT NOTES
	15 - 15A	25	1															40	SP1-SL	520	2	YES	
TOTALS	15 - 17	40	1	40	1	40	2	40	9									190		2170	6		

URD CIVIL WORKS SCHEDULE (ALONG FOOTPATHS BY ELECTRICAL CONTRACTOR)

LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)								BENDS (<70°)				X-SECTION (m)			DRAW WIRE	KERB MARK	STANDARD COVER	REMARKS		
		50	No	100C	No	100	No	125	No	40	No	100C	No	100	No	125					No	EXCAV/TAPE
LOGISTICS RD	6 - 15	300	1	300	1	300	2	300	9									300		3900		YES
	15 - 18	35	1	35	1	35	2	35	4									35	SP2	245		YES
	7 - 7L	5	1															5	O	5		YES
	8 - 8L	5	1															5	O	5		YES
	9 - 9L	5	1															5	O	5		YES
	13 - 13L	5	1															5	O	5		YES
	14 - 14L	5	1															5	O	5		YES
TOTALS	15A - 16	20	1															20	O	20		YES
	16 - 16L	5	1															5	O	5		YES

RATE 2 STREETLIGHT SCHEDULE

LOCATION	STN No	SITE ID (POLE No)	POLE or COMPONENTS					LANTERN					OUTREACH BRACKET					MOUNT HEIGHT (m)	REMARKS	
			COMP ID	EXIST (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COMP ID	EX	RECOVER LUMIN	CUST	DATE DE-ENERG	ERECT LUMIN	CUST	DATE ENER	SLM or IIN	EXIST (m)			ERECT (m)
LOGISTICS RD	7L	P12739478	PO 1		8.5BPM	SB105145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	10.5	
	8L	P12739479	PO 1		8.5BPM	SB105145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	10.5	
	9L	P12739480	PO 1		8.5BPM	SB105145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	10.5	
	13L	P12739481	PO 1		8.5BPM	SB105145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	10.5	
	14L	P12739482	PO 1		10BPM	SB120145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	12	
	16L	P12739483	PO 1		10BPM	SB120145UC1	0.8BOK	SL 1					L67A	LGAN		4.5	ASSY808-3	0°	12	

DATE	28.03.25	16.06.25
ISSUED FOR ENEREX & COUNCIL ACCEPTANCE ONLY FOR CONSTRUCTION		
REVISED FOR ENEREX & COUNCIL ACCEPTANCE ONLY NOT FOR CONSTRUCTION		

PE CONSULTING ENGINEERS

STREET ADDRESS: U14, 39 Lawrence Dr, Nareng QLD 4211
 POSTAL ADDRESS: PO Box 2835, Nareng DC QLD 4211
 TELEPHONE: (07) 6596 1425
 EMAIL: mail@pece.com.au
 WEB: pece.com.au

23-0306-EGX-01

SITE CONTACT DETAILS	COUNCIL STANDARD ALIGNMENTS	WORKS COORDINATOR	PECE
NAME: TBC	Ennergex OH: 3.075m RP	PARENT PROJECT NO.:	
COMPANY: NBN	Ennergex UG: 0-0.75m RP	WORK REQUEST NO.:	
PHONE: -	REFER NBN	LOTS:	1 & 2
MOBILE: -	REFER GAS	CANCELLING LOTS:	LOT 1 RP113251
FAX: -	REFER GAS	LOCAL AUTHORITY:	LOGAN CITY COUNCIL
	REFER CIVIL	UBD REF:	
	REFER CIVIL	PEGGED?	

APPROVED	CHECKED	DESIGNER	PLANNER	PHONE	ISSUE DATE
					16 JUNE 2025

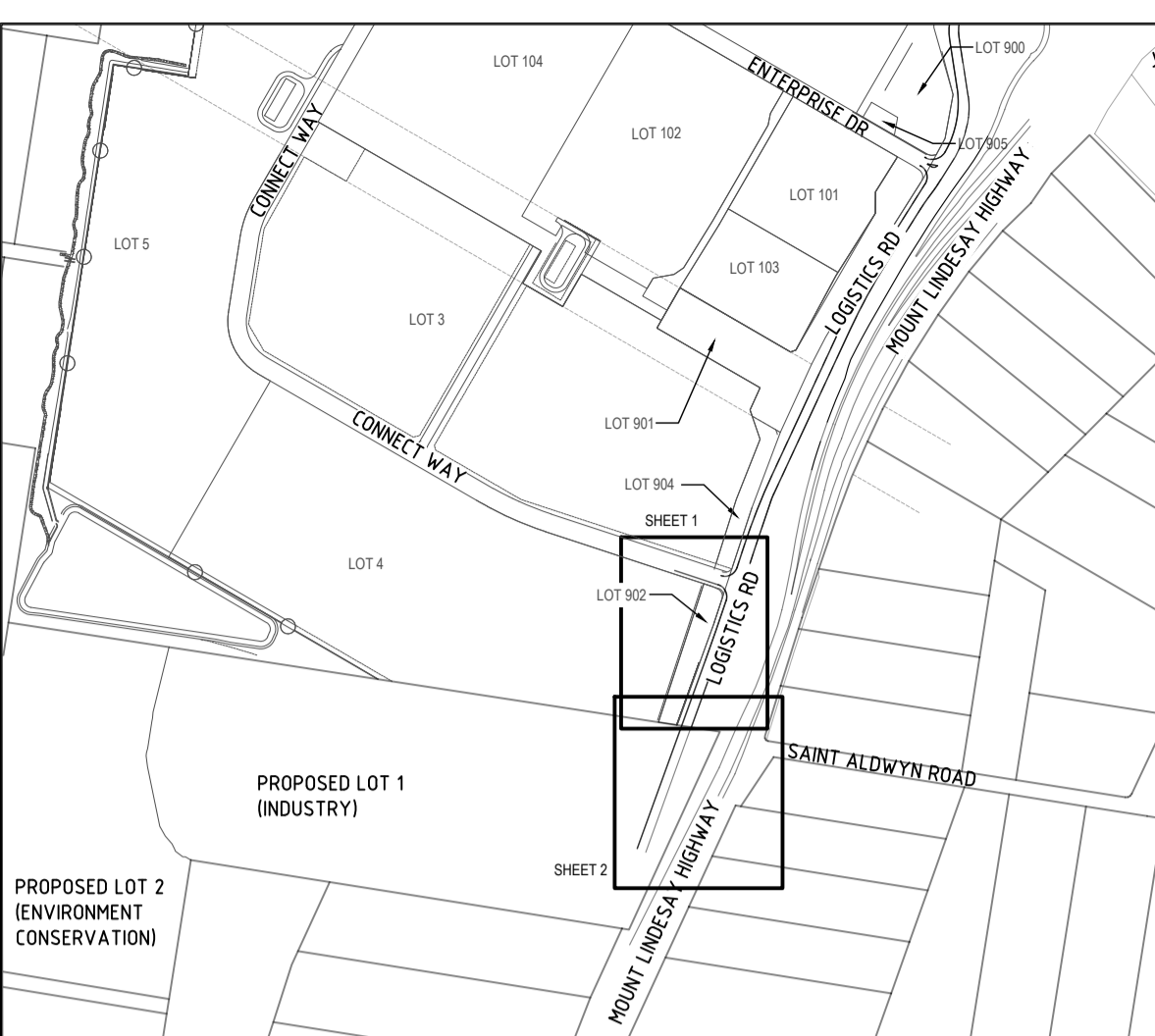
PECE

INSTALL HV & LV CONDUITS, CABLES, PILLARS, PMT & RMU RATE 2 LIGHTING

2 LOT C&I SUBDIVISION LOGISTICS RD NORTH MACLEAN

WORKPLAN VERSION 5.5
 SCALE: 1:500@A1
 PROJECT / SUB PROJECT NO. **S1302457**

Sheet 1 of 4
 ISSUE NO: B

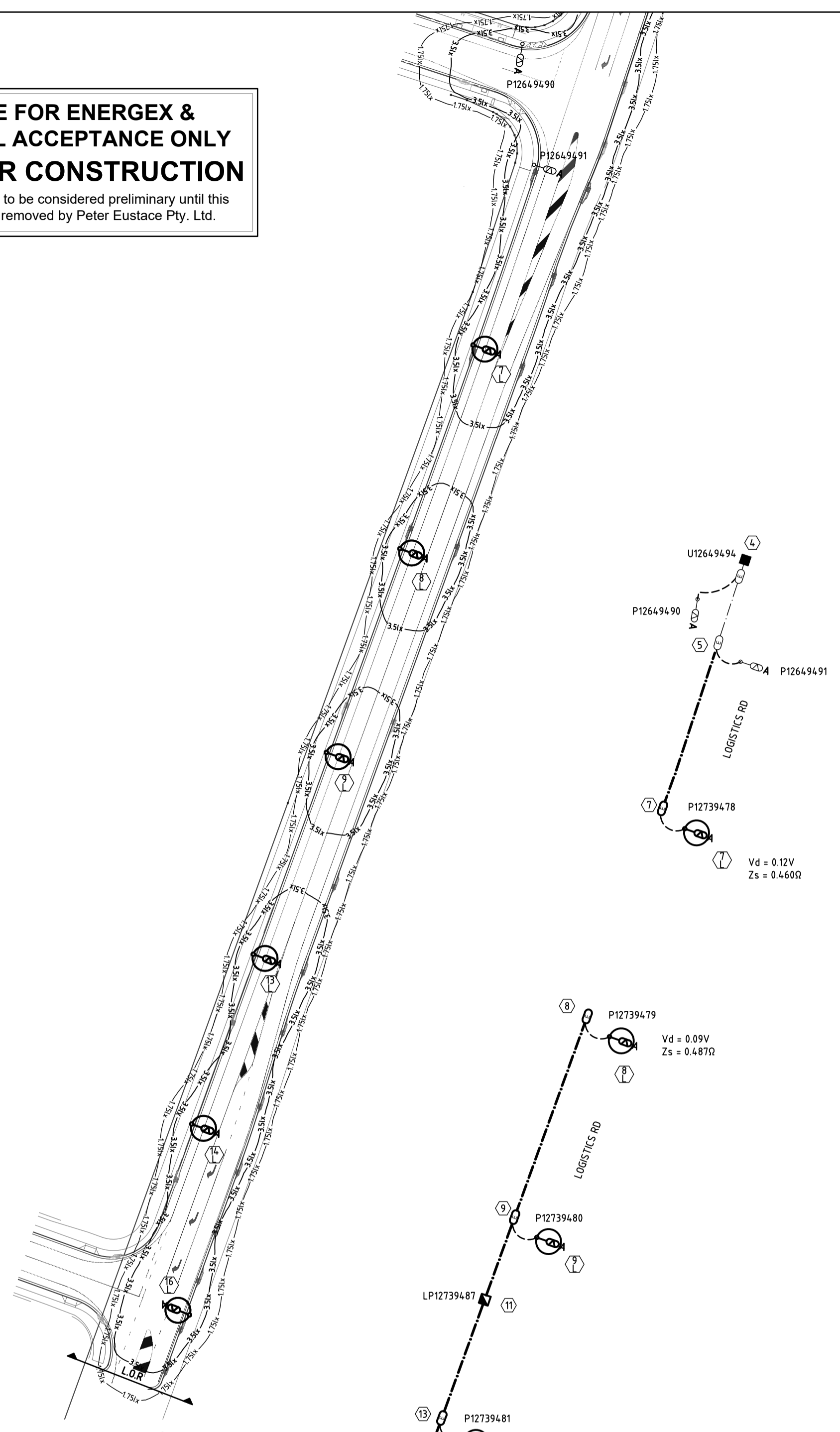
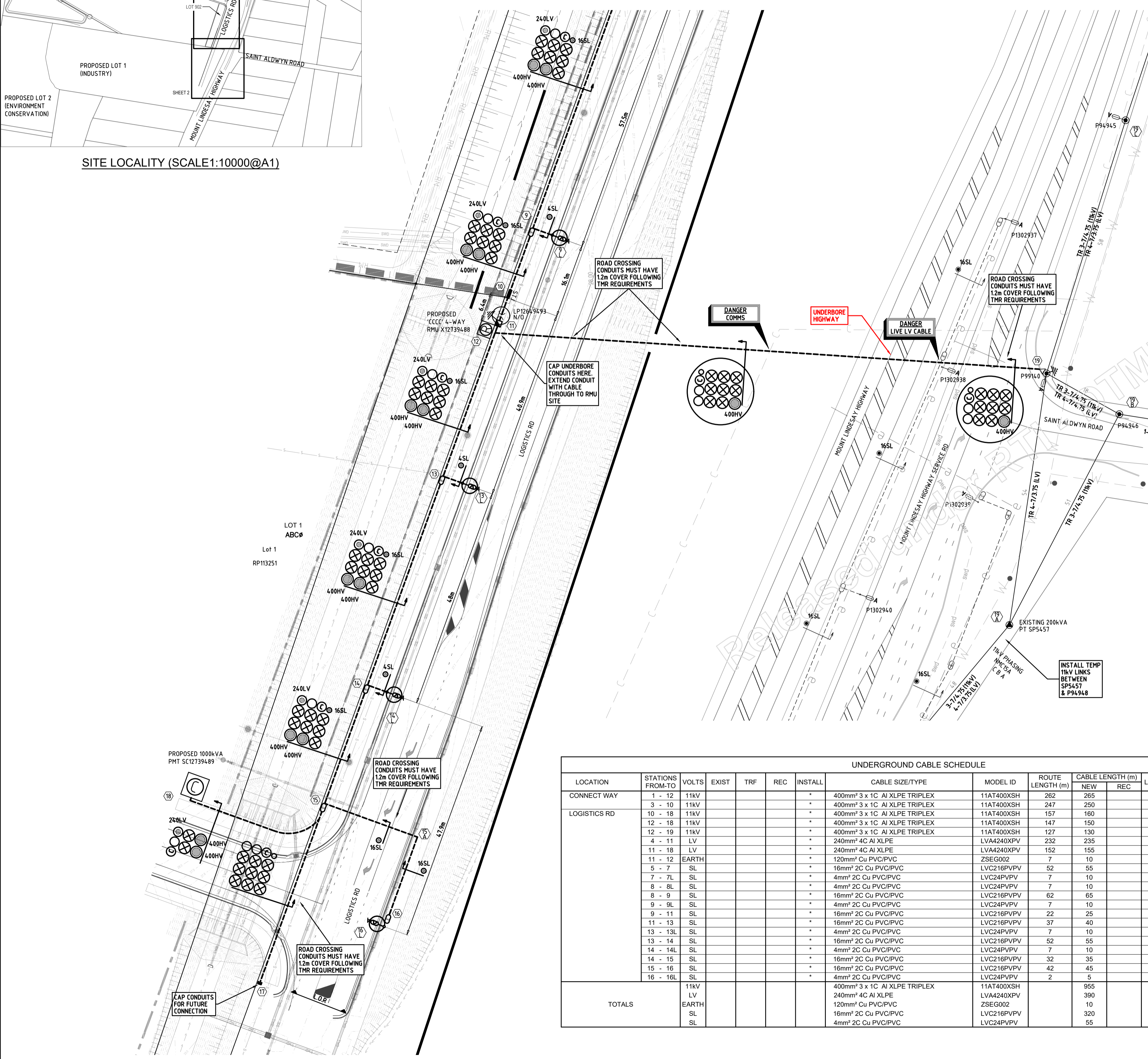


SITE LOCALITY (SCALE:1:10000@A1)

**!WARNING!
FIRE ANT TERRITORY**
THIS SITE IS WITHIN A RED IMPORTED FIRE ANT BIOSECURITY ZONE. CALL 132523 FOR FURTHER INFORMATION.

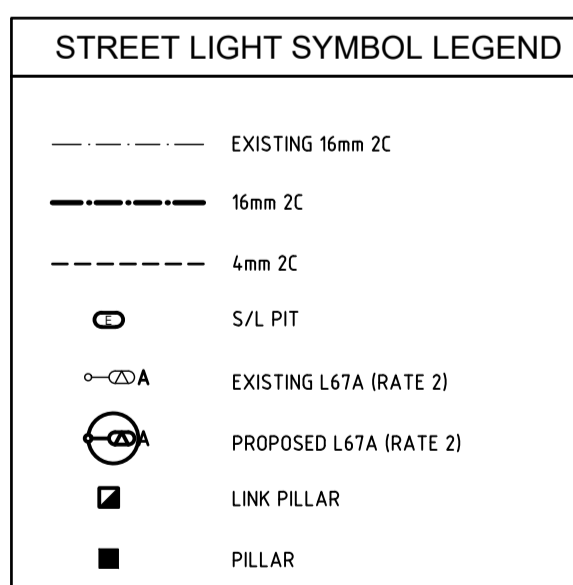
**ISSUE FOR ENEREX & COUNCIL ACCEPTANCE ONLY
NOT FOR CONSTRUCTION**
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JOINS SHEET 1

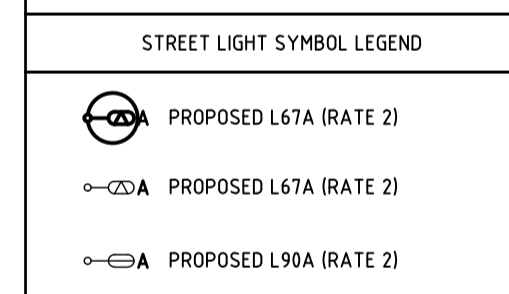
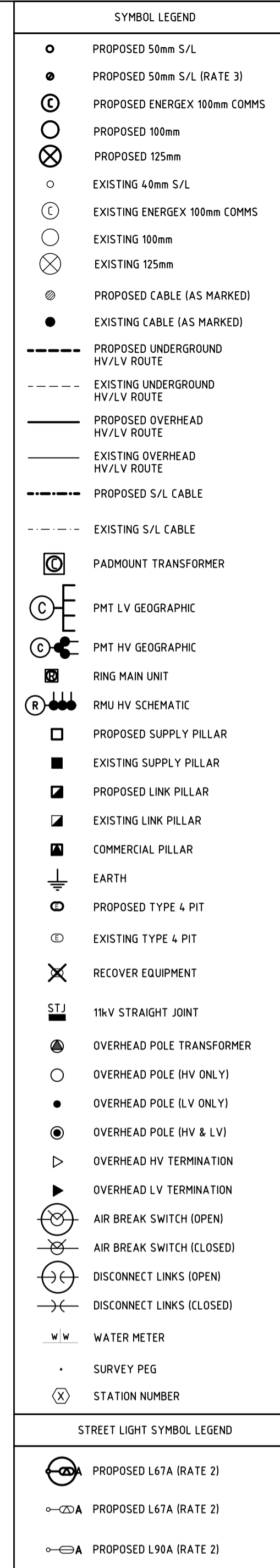


LUX PLOT (NOT TO SCALE)

UNDERGROUND CABLE SCHEDULE												
LOCATION	STATIONS FROM TO	VOLTS	EXIST	TRF	REC	INSTALL	CABLE SIZE/TYPER	MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m)	LCC	REMARKS
									NEW	REC		
CONNECT WAY	1 - 12	11kV				*	400mm² 3 x 1C AI XLPE TRIPLEX	11AT400XSH	262	265		
	3 - 10	11kV				*	400mm² 3 x 1C AI XLPE TRIPLEX	11AT400XSH	247	250		
LOGISTICS RD	10 - 18	11kV				*	400mm² 3 x 1C AI XLPE TRIPLEX	11AT400XSH	157	160		
	12 - 18	11kV				*	400mm² 3 x 1C AI XLPE TRIPLEX	11AT400XSH	147	150		
	12 - 19	11kV				*	400mm² 3 x 1C AI XLPE TRIPLEX	11AT400XSH	127	130		
	4 - 11	LV				*	240mm² 4C AI XLPE	LV4A240XPV	232	235		
	11 - 18	LV				*	240mm² 4C AI XLPE	LV4A240XPV	152	155		
	11 - 12	EARTH				*	120mm² Cu PVC/PVC	ZSE002	7	10		
	5 - 7	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	52	55		
	7 - 7L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	7	10		
	8 - 8L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	7	10		
	8 - 9	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	62	65		
	9 - 9L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	7	10		
	9 - 11	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	22	25		
	11 - 13	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	37	40		
	13 - 13L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	7	10		
	13 - 14	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	52	55		
	14 - 14L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	7	10		
14 - 15	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	32	35			
15 - 16	SL				*	16mm² 2C Cu PVC/PVC	LVC216PVPV	42	45			
16 - 16L	SL				*	4mm² 2C Cu PVC/PVC	LVC24PVPV	2	5			
TOTALS		11kV LV EARTH SL SL					400mm² 3 x 1C AI XLPE TRIPLEX 240mm² 4C AI XLPE 120mm² Cu PVC/PVC 16mm² 2C Cu PVC/PVC 4mm² 2C Cu PVC/PVC	11AT400XSH LV4A240XPV ZSE002 LVC216PVPV LVC24PVPV	955 390 10 320 55			



PROPOSED STREETLIGHT GEOGRAPHICS (NOT TO SCALE)



DATE	28.03.25	16.06.25
ISSUED FOR ENEREX & COUNCIL ACCEPTANCE ONLY FOR CONSTRUCTION		
REVISED FOR ENEREX & COUNCIL ACCEPTANCE ONLY NOT FOR CONSTRUCTION		

PE CONSULTING ENGINEERS
STREET ADDRESS: U14, 39 Lawrence Dr, Nareng QLD 4211
POSTAL ADDRESS: PO Box 2835, Nareng QLD 4211
TELEPHONE: (07) 6596 1425
EMAIL: mail@pece.com.au
WEB: pece.com.au

23-0306-EGX-02

SITE CONTACT DETAILS	COUNCIL STANDARD ALIGNMENTS	WORKS COORDINATOR	PECE
NAME: TBC	Energex OH: 3.075m RP	PARENT PROJECT NO.:	
COMPANY: NBN	Energex UG: 0-0.75m RP	WORK REQUEST NO.:	
PHONE: -	REFER NBN	LOTS:	1 & 2
MOBILE: -	REFER GAS	CANCELLING LOTS:	LOT 1 RP113251
FAX: -	HP GAS	LOCAL AUTHORITY:	LOGAN CITY COUNCIL
	WATER	UBD REF:	
	STORMWATER	LIBD REF:	
	SEWERAGE	PECE?	
	OTHER		

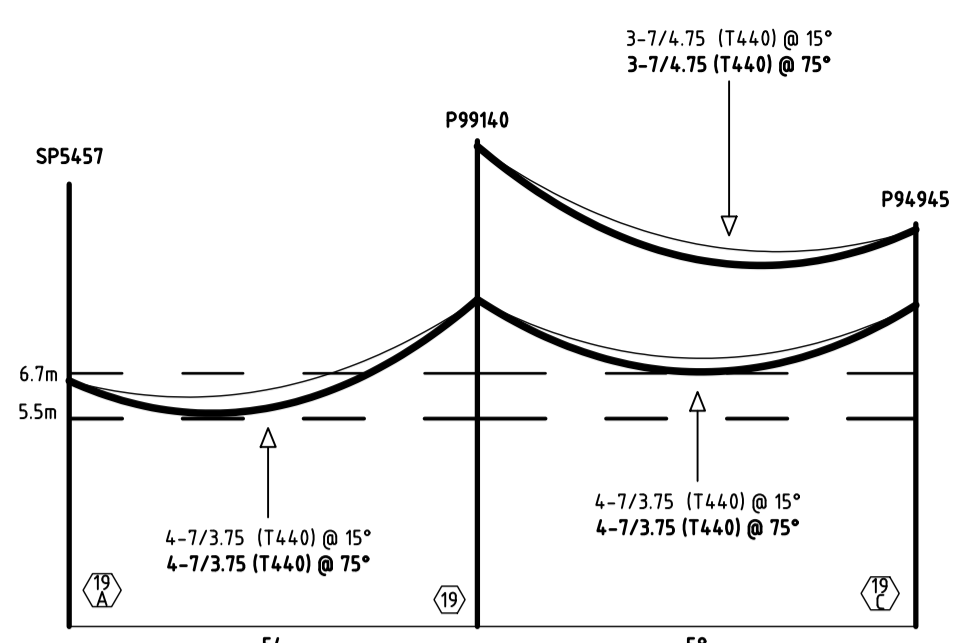
APPROVED	
CHECKED	
DESIGNER	
PLANNER	
PHONE	
ISSUE DATE	16 JUNE 2025

PECE
INSTALL HV & LV CONDUITS, CABLES, PILLARS, PMT & RMU RATE 2 LIGHTING

2 LOT C&I SUBDIVISION
LOGISTICS RD
NORTH MACLEAN

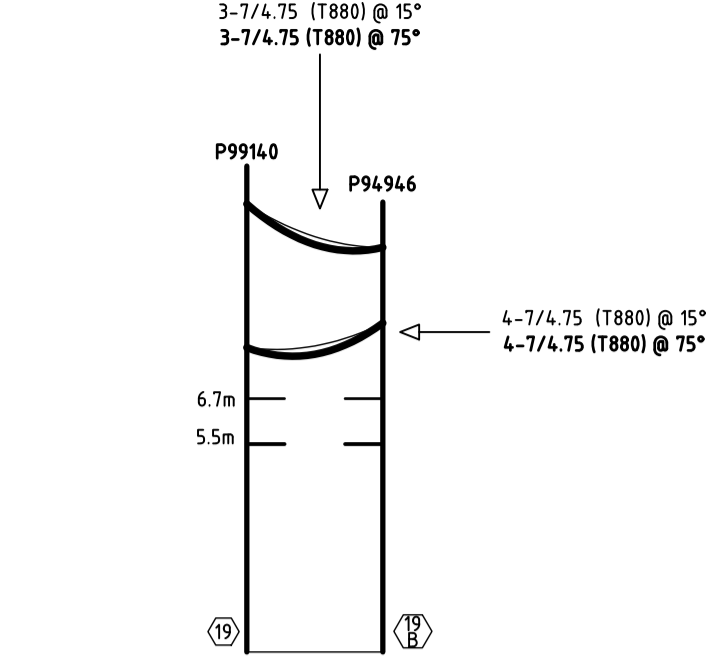
WORKSHEET VERSION 5.5
SCALE: 1:500@A1
PROJECT / SUB PROJECT NO.
S1302457

Sheet 2 of 4
ISSUE NO: B



PROPOSED OVERHEAD PROFILE

STANDARD 15°C & HOT 75°C
V. SCALE 1:200 @A1
H. SCALE 1:1000 @A1



PROPOSED OVERHEAD PROFILE

STANDARD 15°C & HOT 75°C
V. SCALE 1:200 @A1
H. SCALE 1:1000 @A1

ISSUE FOR ENERGEX & COUNCIL ACCEPTANCE ONLY
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EXISTING LINK PILLAR				STATION: LP1264943
CIRCUIT No.	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
1 (LHS)	150x50	WB	5	TO CONNECT WAY SC12649247 (FS1) / LOGISTICS RD LP12739487 (RHS) & SERVICES
2 (RHS)	150x50	WB	5	EXISTING

MATERIAL: GRAVOPLY II (1.5mm) or similar

NEW STYLE LINK PILLAR				STATION: LP12739487
CIRCUIT No.	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
1 (LHS)	150x50	WB	5	TO LOGISTICS RD SC12739489 (FS1) & SERVICES
2 (RHS)	150x50	WB	5	TO CONNECT WAY SC12649247 (FS1) / LOGISTICS RD LP12649493 (LHS) & SERVICES

MATERIAL: GRAVOPLY II (1.5mm) or similar

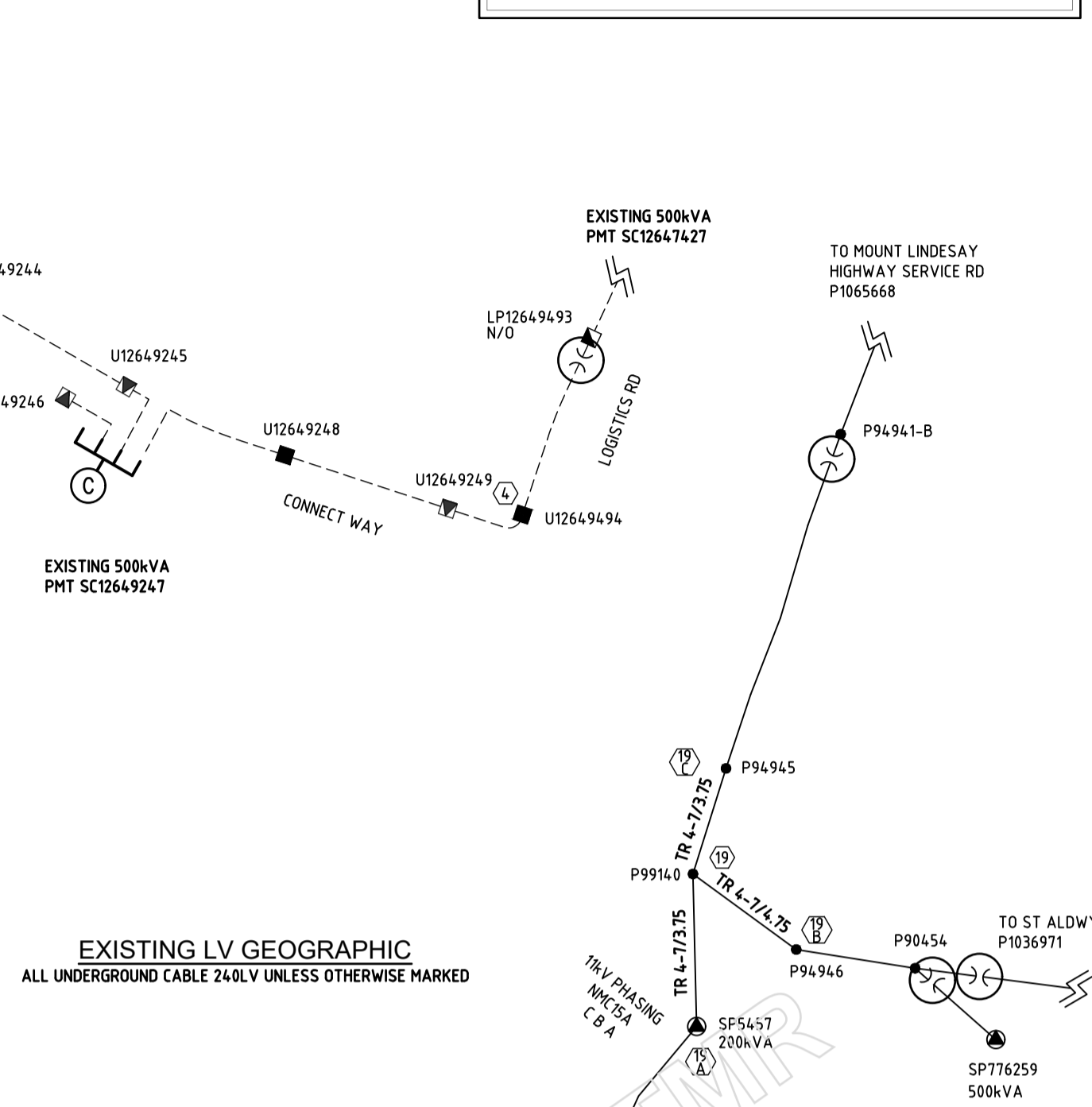
EQUIPMENT SCHEDULE													
LOCATION	STN No.	SITE I.D.	EXIST	REC	INSTALL	SIZE & DESCRIPTION	IIN	COMP ID	PLANT No.	MODEL ID	QTY	LCC	REMARKS
CONNECT WAY	1	U12739484	*	*	*	11KV STRAIGHT JOINT		SJ1		2JT40TCV7D	1		
	2	U12649564	*	*	*	EXISTING - 11KV STRAIGHT JOINT		SJ1		EX	-		
	3	U12739485	*	*	*	11KV STRAIGHT JOINT		SJ1		2JT40TCV7D	1		
LOGISTICS RD	4	U12649494	*	*	*	SERV PILLAR		PI1		EX	-		MAKE 3-WAY DISCONNECT EARTH
	5		*	*	*	CONVERT 2-WAY PILLAR TO 3-WAY		PT1		LVSP2W3	-		
	6		*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-5	1		
	7		*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-1	1		
	8		*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-5	1		
	9		*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-1	1		
	10	U12739486	*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-5	1		
	11	LP12739487	*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-1	1		
	12	X12739488	*	*	*	11KV STRAIGHT JOINT		SJ1		2JT40TCV7D	1		
			*	*	*	LINK PILLAR (240-240 7F)		LP1		LVSP14-6SL	1		MAKE N/O EARTH TIE TO SC12739488
			*	*	*	120mm² CU LUG				5931	1		
			*	*	*	SIL FUSE				ASSY801-1	2		
			*	*	*	EARTH				ASSY1037-1	1		
			*	*	*	ABB SAFELINK 2 'CCCC' RMU - OUTDOOR		RM1		34142	1		CONNECT TO COMMON EARTH IN LP12739487
			*	*	*	BASE SLAB FOR UNICULVERT				19960	1		
			*	*	*	BOX CULVERT FOUNDATION				19566	1		
			*	*	*	STEEL SUPPORT CHANNELS				18434	3		
			*	*	*	EARTH GRID				DSGT4EGS	1		
		*	*	*	EARTH TAILS TO RMU				DSRMEGT	1			
		*	*	*	11KV TERMINATION				1CFC40XLG	3			
		*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-1	1			
		*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-5	1			
		*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-1	1			
		*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-5	1			
		*	*	*	SIL PIT & LID (TYPE 4)		PT1		ASSY833-1	1			
		*	*	*	JUNCTION BOX KIT (NO FUSE)		PT1		ASSY833-5	1			
		*	*	*	1000kVA PMT TRANSFORMER SAFELINK 2 CFCC		TR1		2477958	1			
		*	*	*	CULVERT & BASE				C & B	1			
		*	*	*	PMT INSTALLATION				PMTINSTALL	1			
		*	*	*	PMT COMMISSION				PMTCOM	1			
		*	*	*	HV FUSES				DSHFV10SLK	1			
		*	*	*	LV FUSES (315A)				DSLVF31	1			
		*	*	*	HV TERMINATIONS				1CFC40XLG	2			
		*	*	*	LV TERMINATIONS				LTS2424	1			
		*	*	*	SINGLE FUSE SWITCH				SC0022545	2			
		*	*	*	DOUBLE FUSE SWITCH				SC0022546	1			
		*	*	*	COMMON EARTHING				DSSQPMCEG	1			

PMT LV SWBD - SWITCH FUSE CIRCUITS				STATION: SC12739489
CIRCUIT No.	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
TFMR ISOLATOR	80 x 35	WB	6	TO TRANSFORMER
1	80 x 35	WB	5	TO LOGISTICS RD LP12739487 (LHS) (DIRECT) & SERVICES
2	80 x 35	WB	5	SPARE
3	80 x 35	WB	5	SPARE
4	80 x 35	WB	5	SPARE

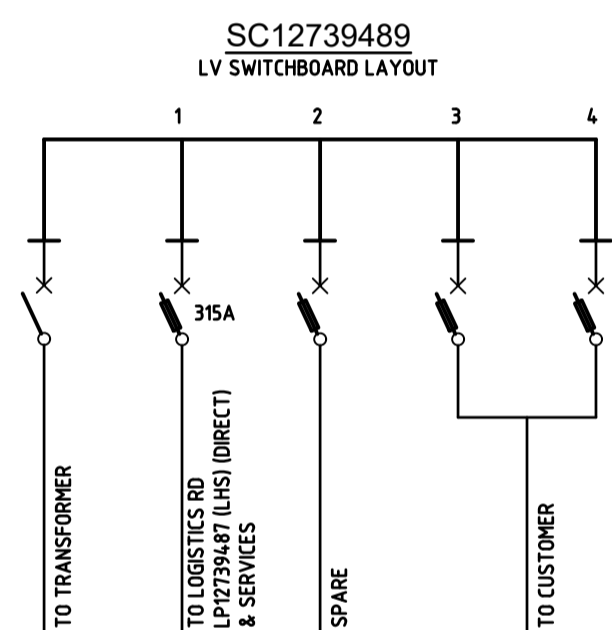
MATERIAL: GRAVOPLY II (1.5mm) or similar

PMT LV SWBD - SWITCH FUSE CIRCUITS				STATION: SC12649247
CIRCUIT No.	LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION
TFMR ISOLATOR	80 x 35	WB	6	EXISTING
1	80 x 35	WB	5	TO CONNECT WAY U12649248 (DIRECT) / LOGISTICS RD LP12739487 (RHS) / LOGISTICS RD LP12649493 (LHS) & SERVICES
2	80 x 35	WB	5	EXISTING
3	80 x 35	WB	5	EXISTING
4	80 x 35	WB	5	EXISTING

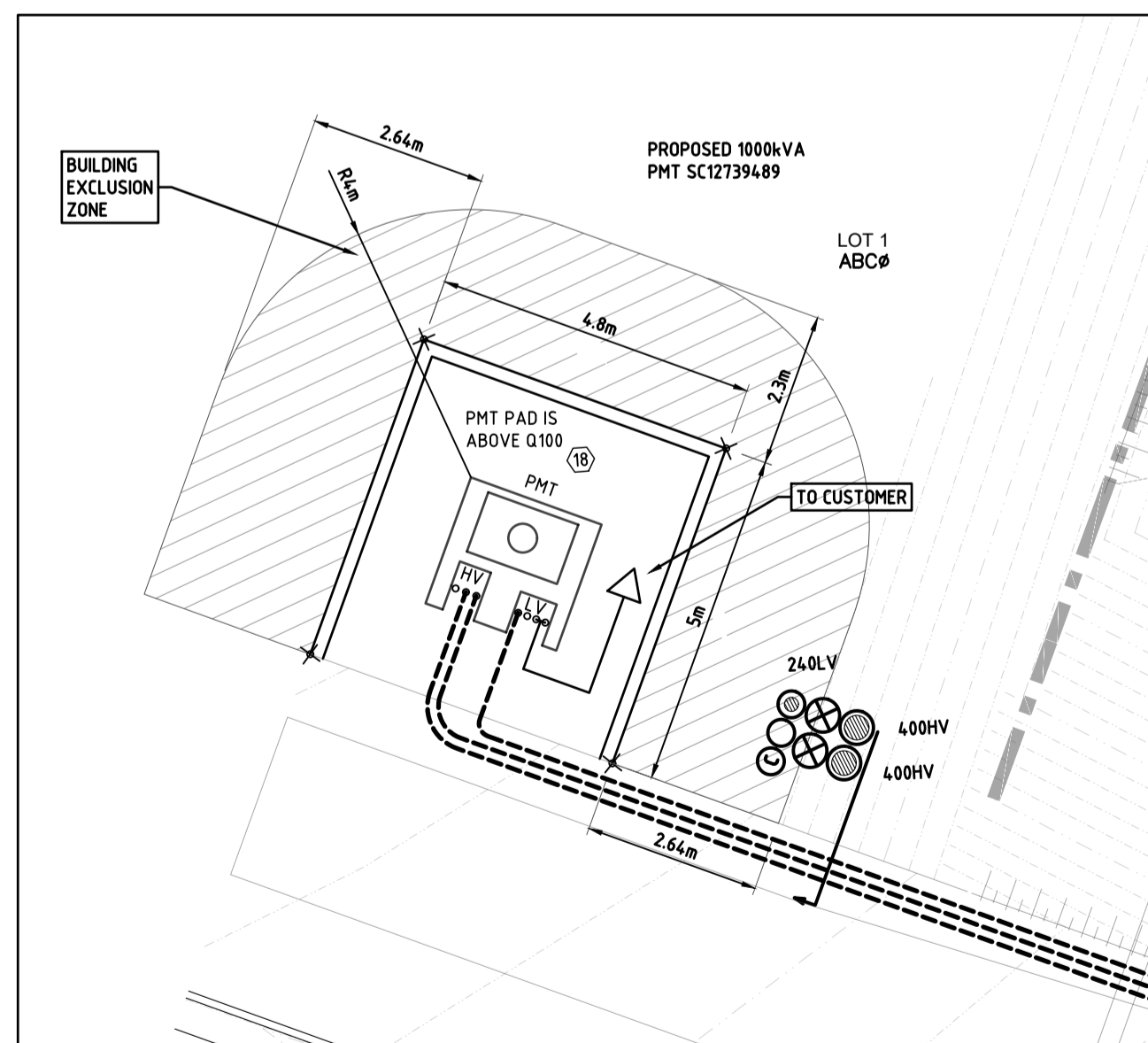
MATERIAL: GRAVOPLY II (1.5mm) or similar



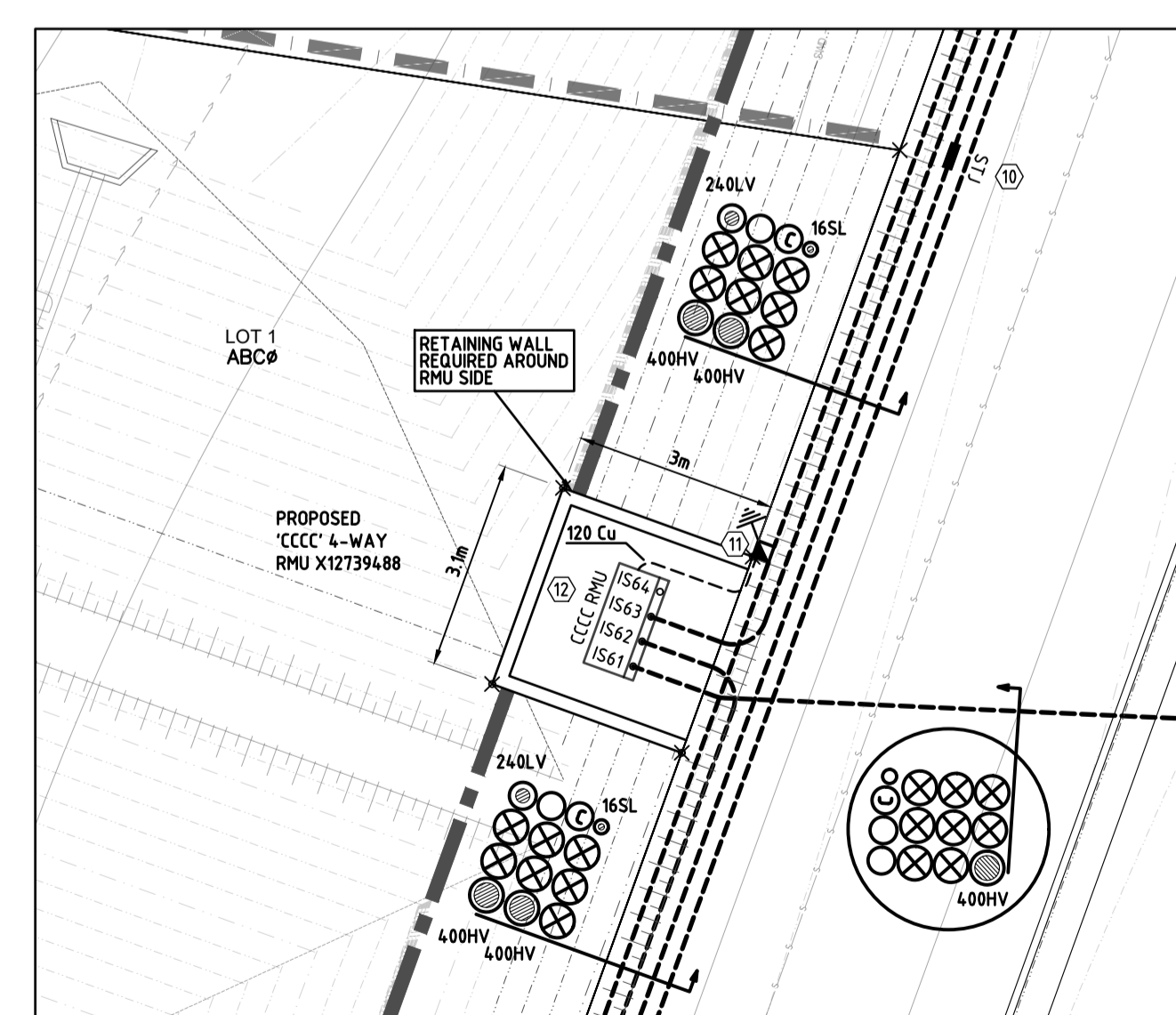
EXISTING LV GEOGRAPHIC
ALL UNDERGROUND CABLE 240LV UNLESS OTHERWISE MARKED



PROPOSED LV / EARTH TIE GEOGRAPHIC
ALL UNDERGROUND CABLE 240LV UNLESS OTHERWISE MARKED



PROPOSED 1000kVA PMT SC12739489 DETAIL
SCALE 1:100@A1



PROPOSED 'CCCC' 4-WAY RMU X12739488 DETAIL
SCALE 1:100@A1

DATE	28.03.25	16.06.25
DESCRIPTION	ISSUED FOR ENERGEX & COUNCIL ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.	REVISED FOR ENERGEX & COUNCIL ACCEPTANCE ONLY. NOT FOR CONSTRUCTION.

PE CONSULTING ENGINEERS

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POSTAL ADDRESS: PO Box 2835, Nering QLD 4211
TELEPHONE: (07) 5596 1425
EMAIL: mail@pece.com.au
WEB: pece.com.au

23-0306-EGX-03

SITE CONTACT DETAILS		COUNCIL STANDARD ALIGNMENTS		WORKS COORDINATOR		PECE	
NAME	TBC	Energex OH	3.075m RP	PARENT PROJECT NO.		APPROVED	
COMPANY	NBN	Energex UG	0-0.75m RP	WORK REQUEST NO.		CHECKED	
			REFER NBN	LOTS	1 & 2	DESIGNER	
			REFER GAS	CANCELLING LOTS	LOT 1 RP113251	PHONE	
PHONE	-		REFER GAS	LOCAL AUTHORITY	LOGAN CITY COUNCIL	PLANNER	
MOBILE	-		REFER CIVIL	UBD REF		PHONE	
FAX	-		REFER CIVIL	PEGGED?		ISSUE DATE	16 JUNE 2025

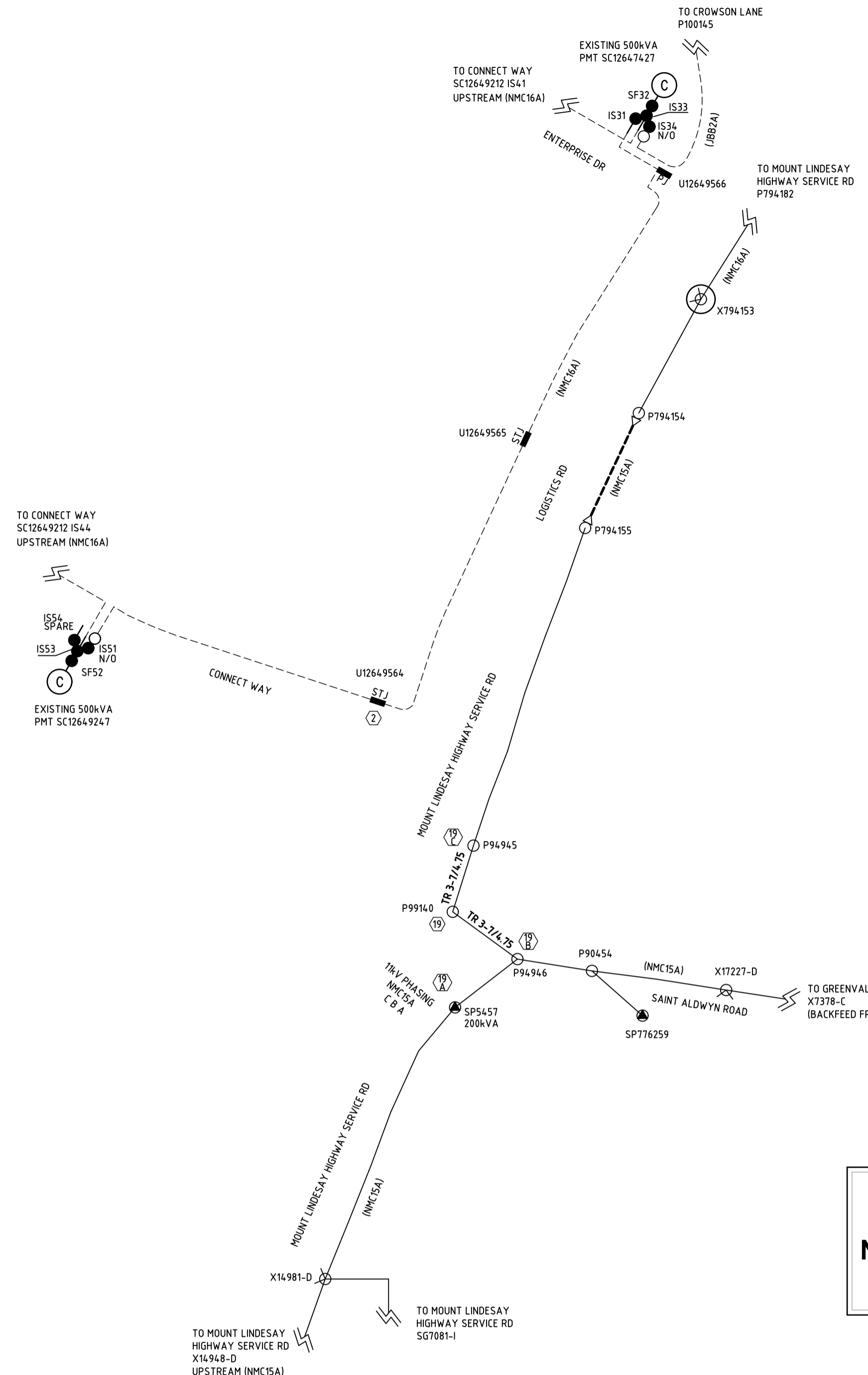
PECE

INSTALL HV & LV CONDUITS, CABLES, PILLARS, PMT & RMU
RATE 2 LIGHTING

2 LOT C&I SUBDIVISION
LOGISTICS RD
NORTH MACLEAN

Worksplan Version 5.5
SCALE: N.T.S.
PROJECT / SUB PROJECT NO.
S1302457

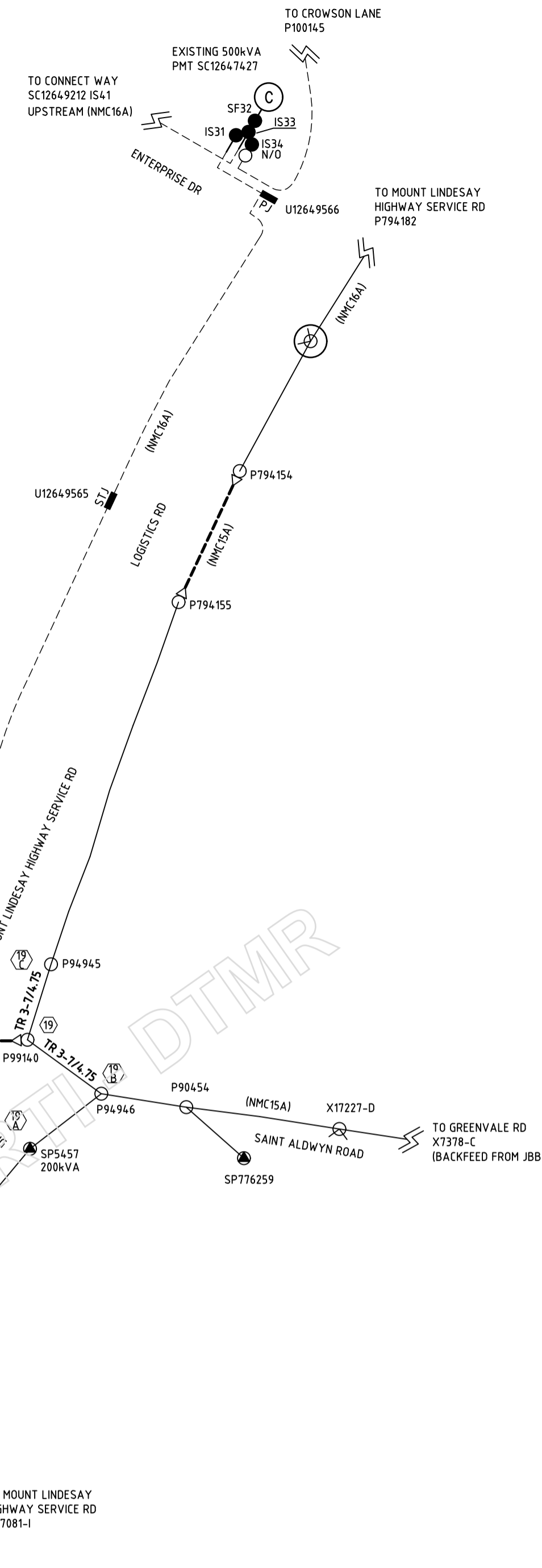
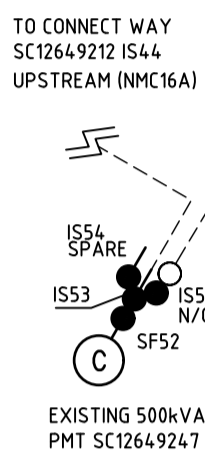
Sheet 3 of 4
ISSUE NO: B



EXISTING HV GEOGRAPHIC
11kV FEEDER NMC16A & NMC15A

RMU EARTH TIE TO CMEN					
LOCATION: LOGISTICS RD			STATION: LP12739487		
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION	LABEL LOCATION	LABEL DESCRIPTION
120x50	YELLOW BACKGROUND NO BLACK LETTERS	5	! WARNING ! HIGH VOLTAGE EARTH TIE CABLE TO CMEN TO X12739488 DO NOT DISCONNECT	ATTACHED TO EARTH INSIDE PILLAR	HV EARTH TIE CABLE TO CMEN

RMU EARTH TIE TO CMEN					
LOCATION: LOGISTICS RD			STATION: X12739488		
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION	LABEL LOCATION	LABEL DESCRIPTION
120x50	YELLOW BACKGROUND NO BLACK LETTERS	5	! WARNING ! HIGH VOLTAGE EARTH TIE CABLE TO CMEN FROM LP12739487 DO NOT DISCONNECT	ATTACHED TO EARTH INSIDE RMU	HV EARTH TIE CABLE TO CMEN



PROPOSED HV GEOGRAPHIC
11kV FEEDER NMC16A & NMC15A

**ISSUE FOR ENERGEX & COUNCIL ACCEPTANCE ONLY
NOT FOR CONSTRUCTION**

This drawing is to be considered preliminary until this disclaimer is removed by Peter Eustace Pty. Ltd.

OVERHEAD WORKS SCHEDULE																												
LOCATION	STN No.	SITE I.D (POLE No)	POLES							CONSTRUCTIONS (Note: KBS is top KB to top KB)										REMARKS								
			EDT ANG	EDT LN	SST KN	LST KN	EXISTING	RECOVER	ERECT	SINK	FOOT	COMP ID	ALIGN	LCC	EXISTING	RECOVER	ERECT	No	KBS		ANG	LCC						
MOUNT LINDESAY HIGHWAY SERVICE RD	19	P99140	EX	EX	EX	EX	WP14/12-22	WP14/12-22										11TCS	11TCS	1	150							
																			LVS	LVS	1	900						
																				LVT	LVT	1	1400					
																				SWPM2	SWPM2	1	700					
																				1	1300							
			66°	3.52	7.71	20.66												11TCS		1	150							
																		SC00020279		1	850							
																		HVTMO		6	-							
																		11BRAL240XL		1	-							
																		11PTTRIPXW2		1	1400							
																		LVS		1	1800							
																		LVTMA		8	-							
																		BR95		4	-							
																		LVT		1	600							
																		LVTMO		4	-							
																		SWPM2		1	1200							
																		CGECROD		1	-							
																				1	150							
																		11ED03		1	1800							
																		11PTZ00		1	1600							
																		LVPTS2		1	1400							
																		2 x SIL		1	400							
																		PTSMRC200		1	1300							
																				1	150							
																		11TCS		1	800							
																		11SC		1	2000							
																		LVT		1	150							
																		11P		1	2000							
																		LVPTS2		1	1300							
																		SIL		1	1300							

11kV FEEDER DESTINATION LABELS		
LABEL SIZE	POLE No:	LABEL INFORMATION
300 x 100	P99140	TO LOGISTICS RD X12739488 IS61

MATERIAL: ANODISED ALUMINIUM (1.6mm) or similar

OVERHEAD CONDUCTOR SCHEDULE																	
LOCATION	STATIONS FROM-TO	VOLTS	EXISTING	TRANSFER	RECOVER	ERECT	No. OF SPANS	DIST (m)	STRING TABLE	M.E.S	SAG SPAN FROM-TO	SAG (m)		CONDUCTOR LENGTH (m)		LCC	REMARKS
												15'	30'	NEW	REC		
MOUNT LINDESAY HIGHWAY SERVICE RD	19 - 19A	LV	4-7/3.75	4-7/3.75			1	54	T440	54	19 - 19A	1.28	1.42				
	19 - 19B	11kV	3-7/4.75	3-7/4.75			1	18	T880	18	19 - 19B	0.28	0.35				
	19 - 19C	11kV	4-7/4.75	4-7/4.75			1	18	T880	18	19 - 19B	0.28	0.35				
	19 - 19C	11kV	3-7/4.75	3-7/4.75			1	58	T440	64.48	19 - 19C	1.48	1.58				
	19 - 19C	LV	4-7/3.75	4-7/3.75			1	58	T440	70.47	19 - 19C	1.48	1.58				

PROPOSED COMMISSIONING SCHEDULE			
TENTATIVE ONLY SUBJECT TO AMENDMENT BY SWITCHING CO-ORDINATOR			
ITEM No	LOCATION	APPARATUS	ACTION
1	COMMISSION NEW PMT - LV AND HV SWITCHING		
2	ADVISE CONTRACT SUPERVISOR SWITCHING TO COMMENCE		
3	RECEIVE CLEARANCE FROM WORK CREWS ALL WORK COMPLETED		
4	NOTIFY ALL WORK CREWS TREAT PILLARS AS LIVE		
5	CONNECT WAY SC12649247	IS51	CHECK OPEN
6	ENTERPRISE DR SC12647427	IS31	OPEN
7	GREENVALE RD (BACKFEED FROM 11kV FEEDER JBB2A)	X7378-C	CLOSE
8	ST ALDWIN RD	X17227-B	OPEN
9	ST ALDWIN RD SP776259	GENSET	CONNECT
10	ST ALDWIN RD P90454 (LV BACKFEED)	LV LINKS	CLOSE
11	MT LINDESAY HWY SERVICE RD SP6457-K (LV ISOLATE)	LV FUSES	OPEN
12	LOGISTICS RD	X14981-D	OPEN
13	LOGISTICS RD	NEW EQUIPMENT	CONNECT & MAKE READY
14	LOGISTICS RD	SC12739489	REVERSE
15	LOGISTICS RD	X12739488	COMMISSION
16	LOGISTICS RD	NEW LV EQUIPMENT	COMMISSION
17	ADVISE CONTRACT SUPERVISOR SWITCHING COMPLETE		COMMISSION & TEST

ABB SAFELINK 2 CFCC RMU								
LOCATION: ENTERPRISE DR			STATION: SC12647427					
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION			LABEL LOCATION	LABEL DESCRIPTION	
100x40	BW	20	IS31	SF32	IS33	IS34	NEAR ISOLATOR	ISOLATOR IDENTIFICATION
150x40	BW	15	EXISTING				FRONT	FEDER IDENTIFICATION
150x50	BW	10	TO LOGISTICS RD SC12739489 IS73	EXISTING	EXISTING	EXISTING	CABLE BOX	CABLE DESTINATION
150x50	BW	10	TO LOGISTICS RD SC12739489 IS73	EXISTING	EXISTING	EXISTING	INSIDE SIDE WALL	CABLE DESTINATION

NOTES: 1) Label to be made in GRAVOPLY II (1.5mm) or similar
2) The Feeder I.D Label is only required if the RMU is the first termination outside a Zone Substation
3) Design I.D and Component I.D labels are only required if the RMU is installed in a Zone Substation

ABB SAFELINK 2 CFCC RMU								
LOCATION: CONNECT WAY			STATION: SC12649247					
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION			LABEL LOCATION	LABEL DESCRIPTION	
100x40	BW	20	IS51	SF52	IS53	IS54	NEAR ISOLATOR	ISOLATOR IDENTIFICATION
150x40	BW	15	EXISTING				FRONT	FEDER IDENTIFICATION
150x50	BW	10	TO LOGISTICS RD X12739488 IS63	EXISTING	EXISTING	EXISTING	CABLE BOX	CABLE DESTINATION
150x50	BW	10	TO LOGISTICS RD X12739488 IS63	EXISTING	EXISTING	EXISTING	INSIDE SIDE WALL	CABLE DESTINATION

NOTES: 1) Label to be made in GRAVOPLY II (1.5mm) or similar
2) The Feeder I.D Label is only required if the RMU is the first termination outside a Zone Substation
3) Design I.D and Component I.D labels are only required if the RMU is installed in a Zone Substation

ABB SAFELINK 'CCCC' RMU								
LOCATION: LOGISTICS RD			STATION: X12739488					
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION			LABEL LOCATION	LABEL DESCRIPTION	
150x40	WB	20	EXISTING				FRONT	RMU IDENTIFICATION
100x40	WB	15	IS61	IS62	IS63	IS64	NEAR ISOLATOR	ISOLATOR IDENTIFICATION
150x50	BW	10	TO ST ALDWIN RD P99140	TO LOGISTICS RD SC1273489 IS74	TO CONNECT WAY SC12649247 IS51	SPARE	CABLE BOX	CABLE DESTINATION
150x50	BW	10	TO ST ALDWIN RD P99140	TO LOGISTICS RD SC1273489 IS74	TO CONNECT WAY SC12649247 IS51	SPARE	CABLE BOX	CABLE DESTINATION

NOTES: 1) Label to be made in GRAVOPLY II (1.5mm) or similar
2) The Feeder I.D Label is only required if the RMU is the first termination outside a Zone Substation
3) Design I.D and Component I.D labels are only required if the RMU is installed in a Zone Substation

ABB SAFELINK 2 CFCC RMU								
LOCATION: LOGISTICS RD			STATION: SC12739489					
LABEL SIZE	LABEL COLOUR	LETTER SIZE	LABEL INFORMATION			LABEL LOCATION	LABEL DESCRIPTION	
100x40	BW	20	IS71	SF72	IS73	IS74	NEAR ISOLATOR	ISOLATOR IDENTIFICATION
150x40	BW	15	EXISTING				FRONT	FEDER IDENTIFICATION
150x50	BW	10	SPARE	TO TRANSFORMER	TO ENTERPRISE DR SC12647427 IS31	TO LOGISTICS RD X12739489 IS62	CABLE BOX	CABLE DESTINATION
150x50	BW	10	SPARE	TO TRANSFORMER	TO ENTERPRISE DR SC12647427 IS31	TO LOGISTICS RD X12739489 IS62	INSIDE SIDE WALL	CABLE DESTINATION

NOTES: 1) Label to be made in GRAVOPLY II (1.5mm) or similar
2) The Feeder I.D Label is only required if the RMU is the first termination outside a Zone Substation
3) Design I.D and Component I.D labels are only required if the RMU is installed in a Zone Substation

DATE	28.03.25	16.06.25
ISSUED FOR ENERGEX & COUNCIL ACCEPTANCE ONLY NOT FOR CONSTRUCTION		
REVISED FOR ENERGEX & COUNCIL ACCEPTANCE ONLY NOT FOR CONSTRUCTION		

PE CONSULTING ENGINEERS

STREET ADDRESS: U14, 39 Lawrence Dr, Nering QLD 4211
POSTAL ADDRESS: PO Box 2835, Nering DC QLD 4211
TELEPHONE: (07) 5596 1425
EMAIL: mail@pece.com.au
WEB: pece.com.au

23-0306-EGX-04

SITE CONTACT DETAILS		COUNCIL STANDARD ALIGNMENTS		WORKS COORDINATOR		PECE	
NAME	Energex OH	3.075m RP	PARENT PROJECT NO.				
TBC	Energex UG	0-0.75m RP	WORK REQUEST NO.				
COMPANY	NBN	REFER NBN	LOTS		1 & 2		
	GAS	REFER GAS					
PHONE	HP GAS	REFER GAS	CANCELLING LOTS		LOT 1 RP113251		
MOBILE	WATER	REFER CIVIL					
FAX	STORMWATER	REFER CIVIL	LOCAL AUTHORITY		LOGAN CITY COUNCIL		
	SEWERAGE	REFER CIVIL	UBD REF				
	OTHER	REFER CIVIL	LEGED?				

APPROVED: [Signature]

CHECKED: [Signature]

DESIGNER: [Signature]

PLANNER: [Signature]

ISSUE DATE: 16 JUNE 2025

PECE
INSTALL HV & LV CONDUITS, CABLES, PILLARS, PMT & RMU
RATE 2 LIGHTING

2 LOT C&I SUBDIVISION
LOGISTICS RD
NORTH MACLEAN

WORKSPAN VERSION 5.5
SCALE: N.T.S.
PROJECT / SUB PROJECT NO.
S1302457

Sheet 4 of 4
ISSUE NO: B

Shadforth Civil Pty Ltd
99 Sandalwood Lane,
Forest Glen, QLD, 4556

Project Number: PTP/15193
Letter Number: PTP/15193 - 0002 - Rev2
Project Name: North Maclean 2 - Service Road

Email: N/R@shadcivil.com.au

CBR Letter
Proposed Pavement
4653-4691 Mount Lindesay Highway, North Mclean

INTRODUCTION

At the request of Shadforth Civil Pty Ltd, a Geotechnical Engineer from PTG Consulting (PTG) has undertaken a site inspection at the above site on 12 September 2025. It is understood that further testing is required for proposed pavement section from CH 1020 m to CH 1250 m to determine design CBR for the proposed pavement.

The samples were collected by experienced geo-technician on 15 September at CH 1020 m, CH 1080 m and CH 1115 m. It is understood that the rock has been ripped to the current founding level, with the rock surface at RL 26.92 m at CH 1020, RL 26.98 m at CH 1150, and RL 26.62 m at CH 1250.

LABORATORY TESTING

Laboratory testing was undertaken on three bulk samples collected along the proposed pavement area in accordance with AS1289 - *Methods of Testing for Engineering Purposes*. The testing program comprised, three Atterberg Limit test, three Particle Size Distribution (PSD) test, three Emerson Class tests and three 4-day soaked California Bearing Ratio (CBR) tests. The results of these laboratory tests are summarised in Table 1, Table 2, Table 3 and Table 4 with the full reports attached.

Table 1: Summary of Atterberg Limits Testing

Location	Depth from subgrade level (m)	Material	W _L (%)	W _p (%)	I _p (%)	LS (%)
CH1020	1.5	Clayey Sand trace gravel	23.6	18.2	14.4	6.8
CH1080	1.5	Clayey Sand trace gravel	35	19.2	15.8	8
CH1115	1.5	Clayey Sand trace gravel	32.2	18.6	13.6	6.8

Note: W_L = Liquid limit; W_p = Plastic limit; I_p = Plasticity index; LS = Linear shrinkage

Table 2: Summary of PSD Testing

Location	Depth from subgrade level (m)	Material	Gravel (%)	Sand (%)	Fines (%)
CH1020	1.5	Clayey Sand trace gravel	2	67	31
CH1080	1.5	Clayey Sand trace gravel	10	58	32
CH1115	1.5	Clayey Sand trace gravel	2	69	29

Table 3: Summary of Emerson Class Results

Location	Depth from subgrade level (m)	Materials	Emerson Class Number
CH1020	1.5	Clayey Sand trace gravel	2
CH1080	1.5	Clayey Sand trace gravel	2
CH1115	1.5	Clayey Sand trace gravel	2

Table 4: Summary of CBR Testing

Location	Depth from subgrade level (m)	Material	FMC (%)	OMC (%)	MDD (t/m ³)	Swell (%)	CBR (%)
CH1020	1.5	Clayey Sand trace gravel	5	13.1	1.9	2.0	9
CH1080	1.5	Clayey Sand trace gravel	6.0	11.7	1.89	2	11
CH1115	1.5	Clayey Sand trace gravel	7	14	1.86	2	6

Notes: FMC – field moisture content; MDD – Maximum dry density; OMC – optimum moisture content

It should be noted that the Emerson classification results report in Table 3 above is based on laboratory testing of disturbed samples. Insitu (undisturbed) materials may exhibit a higher Emerson classification and improved stability.

CBR VALUES

Based on the results of the fieldwork and provided information. The CBR values and modules of subgrade reaction may be adopted for pavement design. These values assume that the materials are compacted to a minimum of 100 % MDD.

Table 5: Preliminary Pavement Design Parameters

Soil Type	CBR Value (%)	Swell (%)	Modulus of Subgrade Reaction (kPa/mm)
Clayey Sand trace gravel	5	2	45

Site management (ie drainage and surface water run-off) and construction timing must be considered during pavement construction. Once subgrade areas have been stripped or boxed out, the exposed subgrade will deteriorate if exposed to wet weather or water ponding and will require over excavation or subgrade remediation.

It should be noted that the tests provide information on soil strength only at the specific locations tested. It is possible for the soil profile to differ between test locations, and if this would become evident. PTG should be contacted for re assessment.

We trust this information is satisfactory for your current needs. Should you have any questions, please feel free to contact the undersigned.

Regards,

PTG Consulting

N/R

N/R

Graduate Geotechnical Engineer

p N/R

e r@ptgconsulting.com.au

N/R

Reviewed By

N/R

N/R

Branch Leader - Geotechnical Gold Coast RPEQ

N/R

p N/R

e z@ptgconsulting.com.au

N/R

Attachments:

- » Site Images
- » Laboratory testing

SITE IMAGES



Figure 1: General site conditions during inspection (12/09/2025)

California Bearing Ratio Report

Client :	Shadforth	Report Number :	SP/PTP/15193 - 3/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		
Test Methods :	AS1289.6.1.1, AS1289.5.1.1, AS1289.2.1.1		
Material Description :	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Mottled Grey, Moist		
Sample Number :	S/318555	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - cl6.5
Material Source :	Insitu	Time :	09:18
For Use As :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1020
Specification (CBR Value) :	.	Location 3 :	Centreline
		Location 4 :	1.5m Below Subgrade Level
MDD (t/m ³) : 1.90	Nominated % of MDD : 100.0%	Target Dry Density (t/m ³) : 1.90	Achieved % of MDD : 100.0%
OMC (%) : 13.1	Nominated % of OMC : 100.0%	Target Moisture Content (%) : 13.1	Achieved % of OMC : 99.5%
Compactive Effort :	Standard	<p>CBR 1 Point Graph</p>	
Dry Density Before Soak (t/m ³) :	1.90		
Dry Density After Soak (t/m ³) :	1.86		
Field Moisture Content (%) :	5.0%		
Compaction Moisture Content (%) :	13.1%		
After Penetration - Top Moisture (%) :	15.1%		
After Penetration - Total Moisture (%) :	14.0%		
Period of Soaking (Days) :	7		
Mass of Surcharge (kg) :	4.5		
Oversize (%) :	7.2%		
Oversize Included :	Excluded		
Method of Determining Plasticity :	Tactile/Visual Assessment		
CBR Sample Curing Time :	7 Hours		
Swell (%) :	2.0%		
CBR Value at 5mm :	9%		
Pre-treatment (CAn) :	-		
Pre-treatment (Wn) :	-		
Mass Retained (k) :	-		
Remarks :			
<p>Accredited for Compliance with ISO/ IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY <div style="border: 1px solid red; width: 100px; height: 40px; margin: 5px auto; display: flex; align-items: center; justify-content: center;">N/R</div> <div style="border: 1px solid red; width: 100px; height: 40px; margin: 5px auto; display: flex; align-items: center; justify-content: center;">N/R</div> - Signatory		
	Document Number : RF03	Date : 24/06/2025	

Material Quality Report

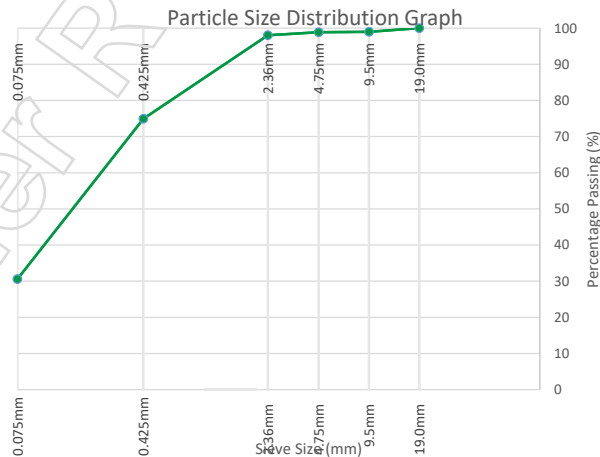
Client :	Shadforth	Report Number :	S/P/PTP/15193 - 4/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		

Test Methods :	Q103A, AS1289.2.1.1, Q101,
----------------	----------------------------

Material Description	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Mottled Grey, Moist
----------------------	---

Sample Number :	S/318555	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - cl6.5
Material Source :	Insitu	Date Sampled :	15/09/2025
Material Type :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1020
PSD Specification Number :	N/A	Location 3 :	Centreline
ATT Specification Number :	N/A	Location 4 :	1.5m Below Subgrade Level
Emerson Specification Number :	N/A		

AS Sieve Size (mm) :	Percent Passing (%) :	Specification Limits :
75.0		
63.0		
53.0		
37.5		
26.5		
19.0	100	
16		
13.2		
9.5	99	
6.7		
4.75	99	
2.36	98	
1.18		
0.600		
0.425	75	
0.300		
0.150		
0.075	31	



Moisture Content (%) :	4
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Atterberg Limits :	Test Methods :	Test Results :	Specification Limits :	Test Results :	Specifications Limits :
Liquid Limit (%) :	Q104D	32.6	WPI : Q252	1081	
Plastic Limit (%) :	Q105	18.2	WLS : Q106	505	
Plasticity Index (%) :	Q105	14.4	FR : Q253	0.41	
Linear Shrinkage (%) :	Q105	6.8	Linear Shrinkage Mould Length (mm) :		150

Notes :	History of Sample: Air Dried, Method of Preparation: Dry Sieved, Linear Shrinkage: Nil Occurred
---------	---

Pre-treatment (CAN) :	-
Pre-treatment (Wn) :	-
Mass Retained (R) :	-


Remarks :	
-----------	--

<p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY <div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">N/R</div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="border: 1px solid black; width: 60px; height: 20px; text-align: center; line-height: 20px;">N/R</div> <div>Signatory</div> </div>
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Emerson Class Report

Client :	Shadforth			Report Number :	SR/PTP/15193 - 5/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	1/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	Q168					
Sample Number :	S/318555					
Date/s Tested :	15/09/2025 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Time :	09:18					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1020					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Water Type :	Distilled					
Soil Description :	(SC) Clayey SAND trace Gravel, Fine- Grained, Pale Brown, Mottled White, Mottled Grey, Moist					
Emerson Specification Number :	N/A					
Specification Limits :	-					
Emerson Class Number :	2					
Emerson Class Description :	Slakes. Some dispersion.					
Remarks :						
 <p>Accredited for Compliance with ISO/ IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>				APPROVED SIGNATORY <div style="border: 1px solid red; width: 100px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> <div style="display: flex; justify-content: space-between; margin-top: 5px;"> <div style="border: 1px solid red; width: 60px; height: 15px; display: flex; align-items: center; justify-content: center;">N/R</div> Signatory </div>		

Moisture Content Report

Client :	Shadforths			Report Number :	SR/PTP/15193 - 6/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	7/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	AS1289.2.1.1					
Sample Number :	S/318555					
Date/s Tested :	17/09/2025 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Sampling time :	09:18					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1020					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Moisture Content (%) :	5.5					
Remarks :	-					
 <p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY <div style="border: 1px solid red; width: 100px; height: 30px; margin: 0 auto; text-align: center; line-height: 30px;">N/R</div>					
	<div style="border: 1px solid red; width: 60px; height: 20px; display: inline-block; margin-right: 5px;">N/R</div> Signatory					

Document Number : RF13

Date : 22/07/2025

California Bearing Ratio Report

Client :	Shadforth	Report Number :	SR/PTP/15193 - 7/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		
Test Methods :	AS1289.6.1.1, AS1289.5.1.1, AS1289.2.1.1		
Material Description :	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Moist		
Sample Number :	S/318556	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - d6.5
Material Source :	Insitu	Time :	09:36
For Use As :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1080
Specification (CBR Value) :	.	Location 3 :	Centreline
		Location 4 :	1.5m Below Subgrade Level
MDD (t/m ³) : 1.89	Nominated % of MDD : 100.0%	Target Dry Density (t/m ³) : 1.89	Achieved % of MDD : 100.0%
OMC (%) : 11.7	Nominated % of OMC : 100.0%	Target Moisture Content (%) : 11.7	Achieved % of OMC : 100.0%
Compactive Effort :	Standard	<p>CBR 1 Point Graph</p>	
Dry Density Before Soak (t/m ³) :	1.88		
Dry Density After Soak (t/m ³) :	1.85		
Field Moisture Content (%) :	6.0%		
Compaction Moisture Content (%) :	11.7%		
After Penetration - Top Moisture (%) :	13.6%		
After Penetration - Total Moisture (%) :	11.6%		
Period of Soaking (Days) :	4		
Mass of Surcharge (kg) :	4.5		
Oversize (%) :	7.1%		
Oversize Included :	Excluded		
Method of Determining Plasticity :	Tactile/Visual Assessment		
CBR Sample Curing Time :	2 Hours		
-	-		
-	-		
Swell (%) :	2.0%		
CBR Value at 5mm :	11%		
Pre-treatment (CAN) :	-		
Pre-treatment (Wn) :	-		
Mass Retained (R) :	-		
Remarks :	-		
<p>Accredited for Compliance with ISO/ IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast</p> <p>Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY		
	<div style="border: 1px solid red; width: 80px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div>		
	<div style="border: 1px solid red; width: 80px; height: 25px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> Signatory		

Material Quality Report

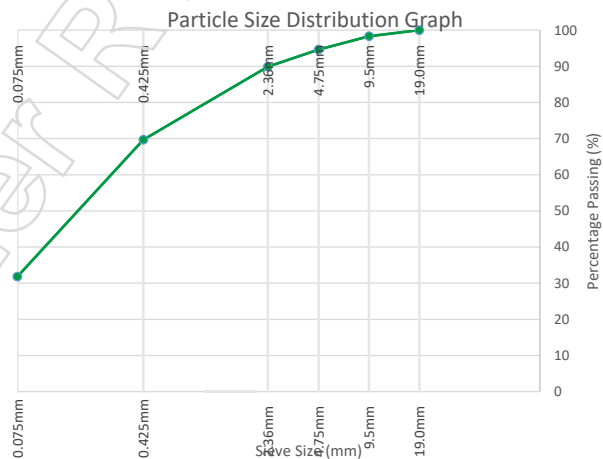
Client :	Shadforth	Report Number :	S/P/PTP/15193 - 8/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		

Test Methods :	Q103A, AS1289.2.1.1, Q101,
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Material Description	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Moist
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Sample Number :	S/318556	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - cl6.5
Material Source :	Insitu	Date Sampled :	15/09/2025
Material Type :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1080
PSD Specification Number :	N/A	Location 3 :	Centreline
ATT Specification Number :	N/A	Location 4 :	1.5m Below Subgrade Level
Emerson Specification Number :	N/A		

AS Sieve Size (mm) :	Percent Passing (%) :	Specification Limits :
75.0		
63.0		
53.0		
37.5		
26.5		
19.0	100	
16		
13.2		
9.5	98	
6.7		
4.75	95	
2.36	90	
1.18		
0.600		
0.425	70	
0.300		
0.150		
0.075	32	



Moisture Content (%) :	4.7
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Atterberg Limits :	Test Methods :	Test Results :	Specification Limits :	Test Results :	Specifications Limits :
Liquid Limit (%) :	Q104D	35	WPI : Q252	1092	
Plastic Limit (%) :	Q105	19.2	WLS : Q106	557	
Plasticity Index (%) :	Q105	15.8	FR : Q253	0.46	
Linear Shrinkage (%) :	Q105	8	Linear Shrinkage Mould Length (mm) :		150

Emerson Number :	-
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Notes :	History of Sample: Air Dried, Method of Preparation: Dry Sieved, Linear Shrinkage: Nil Occurred
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Pre-treatment (CAN) :	-
Pre-treatment (Wn) :	-
Mass Retained (R) :	-


Remarks :	
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<p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY <div style="border: 1px solid red; width: 80px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">N/R</div> <div style="border: 1px solid red; width: 80px; height: 20px; margin: 5px auto; text-align: center; line-height: 20px;">N/R</div> Signatory

Emerson Class Report

Client :	Shadforth			Report Number :	SR/PTP/15193 - 9/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	1/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	Q168					
Sample Number :	S/318556					
Date/s Tested :	15/09/2025 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Time :	09:36					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1080					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Water Type :	Distilled					
Soil Description :	(SC) Clayey SAND trace Gravel, Fine- Grained, Pale Brown, Mottled White, Moist					
Emerson Specification Number :	N/A					
Specification Limits :						
Emerson Class Number :	7					
Emerson Class Description :	Slakes. Some dispersion.					
Remarks :						
 <p>Accredited for Compliance with ISO/ IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>				APPROVED SIGNATORY <div style="border: 1px solid black; width: 80px; height: 40px; margin: 0 auto; text-align: center; line-height: 40px;">N/R</div> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="border: 1px solid black; width: 60px; height: 20px; text-align: center; line-height: 20px;">N/R</div> Signatory </div>		

Moisture Content Report

Client :	Shadforth			Report Number :	SR/PTP/15193 - 10/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	7/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	AS1289.2.1.1					
Sample Number :	S/318556					
Date/s Tested :	16/09/2025 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Sampling time :	09:36					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1080					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Moisture Content (%) :	4.8					
Remarks :	-					
 <p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	<div style="border: 1px solid red; padding: 10px; width: fit-content; margin: 0 auto;">N/R</div>					
	<div style="border: 1px solid red; padding: 10px; width: fit-content; margin: 0 auto;">N/R</div> - Signatory					

Document Number : RF13

Date : 22/07/2025

California Bearing Ratio Report

Client :	Shadforth	Report Number :	SR/PTP/15193 - 11/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		
Test Methods :	AS1289.6.1.1, AS1289.5.1.1, AS1289.2.1.1		
Material Description :	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Mottled Grey, Moist		
Sample Number :	S/318557	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - d6.5
Material Source :	Insitu	Time :	10:03
For Use As :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1115
Specification (CBR Value) :	.	Location 3 :	Centreline
		Location 4 :	1.5m Below Subgrade Level
MDD (t/m ³) : 1.86	Nominated % of MDD : 100.0%	Target Dry Density (t/m ³) : 1.86	Achieved % of MDD : 100.0%
OMC (%) : 14.0	Nominated % of OMC : 100.0%	Target Moisture Content (%) : 14.0	Achieved % of OMC : 100.5%
Compactive Effort :	Standard		
Dry Density Before Soak (t/m ³) :	1.85		
Dry Density After Soak (t/m ³) :	1.82		
Field Moisture Content (%) :	7.0%		
Compaction Moisture Content (%) :	14.0%		
After Penetration - Top Moisture (%) :	15.7%		
After Penetration - Total Moisture (%) :	14.7%		
Period of Soaking (Days) :	4		
Mass of Surcharge (kg) :	4.5		
Oversize (%) :	3.5%		
Oversize Included :	Excluded		
Method of Determining Plasticity :	Tactile/Visual Assessment		
CBR Sample Curing Time :	2 Hours		
	-		
	-		
Swell (%) :	2.0%		
CBR Value at 5mm :	6%		
Pre-treatment (CAN) :	-		
Pre-treatment (Wn) :	-		
Mass Retained (R) :	-		
Remarks :	-		
	APPROVED SIGNATORY		
	<div style="border: 1px solid black; width: 80px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> <div style="border: 1px solid black; width: 80px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> Signatory		

Material Quality Report

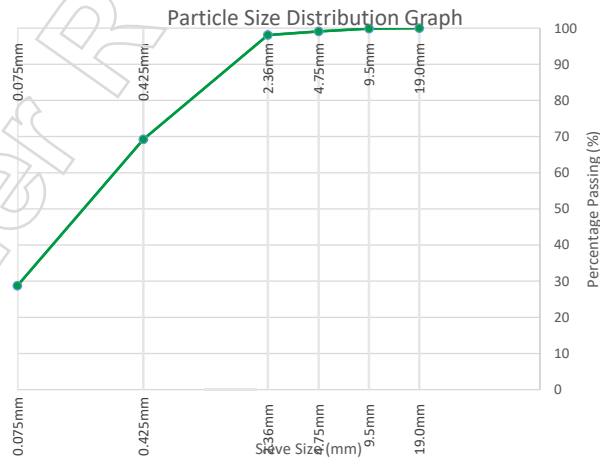
Client :	Shadforth	Report Number :	SR/PTP/15193 - 12/1
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD	Report Date :	1/10/2025
Project Name :	North Maclean 2 - Service Road	Test Request :	TR-1
Project Number :	PTP/15193	Page 1 of 1	
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280		

Test Methods :	Q103A, AS1289.2.1.1, Q101,
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Material Description	(SC) Clayey SAND trace Gravel, Fine-Grained, Pale Brown, Mottled White, Mottled Grey, Moist
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Sample Number :	S/318557	Sampling Location :	Client Selected
Date(s) Tested :	15/09/2025 - 01/10/2025	Sampling Method :	AS1289.1.2.1 - cl6.5
Material Source :	Insitu	Date Sampled :	15/09/2025
Material Type :	Material Verification	Location 1 :	Service Road
Lot Number :	NM2ESUB1	Location 2 :	CH 1115
PSD Specification Number :	N/A	Location 3 :	Centreline
ATT Specification Number :	N/A	Location 4 :	1.5m Below Subgrade Level
Emerson Specification Number :	N/A		

AS Sieve Size (mm) :	Percent Passing (%) :	Specification Limits :
75.0		
63.0		
53.0		
37.5		
26.5		
19.0	100	
16		
13.2		
9.5	100	
6.7		
4.75	99	
2.36	98	
1.18		
0.600		
0.425	69	
0.300		
0.150		
0.075	29	



Moisture Content (%) :	3
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Atterberg Limits :	Test Methods :	Test Results :	Specification Limits :	Test Results :	Specifications Limits :
Liquid Limit (%) :	Q104D	32.2	WPI : Q252	935	
Plastic Limit (%) :	Q105	18.6	WLS : Q106	468	
Plasticity Index (%) :	Q105	13.6	FR : Q253	0.41	
Linear Shrinkage (%) :	Q105	6.8	Linear Shrinkage Mould Length (mm) :		150

Emerson Number :	-
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Notes :	History of Sample: Air Dried, Method of Preparation: Dry Sieved, Linear Shrinkage: Nil Occurred
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Pre-treatment (CAN) :	-
Pre-treatment (Wn) :	-
Mass Retained (R) :	-


Remarks :	
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<p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	APPROVED SIGNATORY <div style="border: 1px solid black; width: 100px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> <div style="display: flex; justify-content: space-between; width: 100%; margin-top: 5px;"> <div style="border: 1px solid black; width: 60%; height: 30px; margin: 0 auto;"></div> <div style="margin-left: 10px;">Signatory</div> </div>

Emerson Class Report

Client :	Shadforth			Report Number :	SR/PTP/15193 - 13/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	1/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	Q168					
Sample Number :	S/318557					
Date/s Tested :	15/09/2025 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Time :	10:03					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1115					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Water Type :	Distilled					
Soil Description :	(SC) Clayey SAND trace Gravel, Fine- Grained, Pale Brown, Mottled White, Moist					
Emerson Specification Number :	N/A					
Specification Limits :						
Emerson Class Number :	2					
Emerson Class Description :	Slakes. Some dispersion.					
Remarks :						
 <p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>				APPROVED SIGNATORY <div style="border: 1px solid red; width: 80px; height: 40px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> <div style="border: 1px solid red; width: 80px; height: 20px; margin: 0 auto; display: flex; align-items: center; justify-content: center;">N/R</div> - Signatory		

Moisture Content Report

Client :	Shadforths			Report Number :	SR/PTP/15193 - 14/1	
Client Address :	99 Sandalwood Lane, Forest Glen, 4556, QLD			Report Date :	7/10/2025	
Project Name :	North Maclean 2 - Service Road			Test Request :	TR-1	
Project Number :	PTP/15193			Page 1 of 1		
Location :	4653-4691 Mount Lindesay Highway, North Maclean, QLD, 4280					
Test Methods :	AS1289.2.1.1					
Sample Number :	S/318557					
Date/s Tested :	00/01/1900 - 01/10/2025					
Material Source :	Insitu					
For Use As :	Material Verification					
Sampling Location :	Client Selected					
Sampling Method :	AS1289.1.2.1 - cl6.5					
Sampling time :	10:03					
Lot Number :	NM2ESUB1					
Location 1 :	Service Road					
Location 2 :	CH 1115					
Location 3 :	Centreline					
Location 4 :	1.5m Below Subgrade Level					
Moisture Content (%) :	5.7					
Remarks :	-					
 <p>Accredited for Compliance with ISO/IEC 17025 - Testing Protest Engineering (Gold Coast) Accreditation Number - 19667 Base Laboratory Site Number - 22838 - Gold Coast Base Laboratory Address - 8/36 Blanck Street, Ormeau, 4208, QLD</p>	N/R					
	N/R					Signatory

Document Number : RF13

Date : 22/07/2025