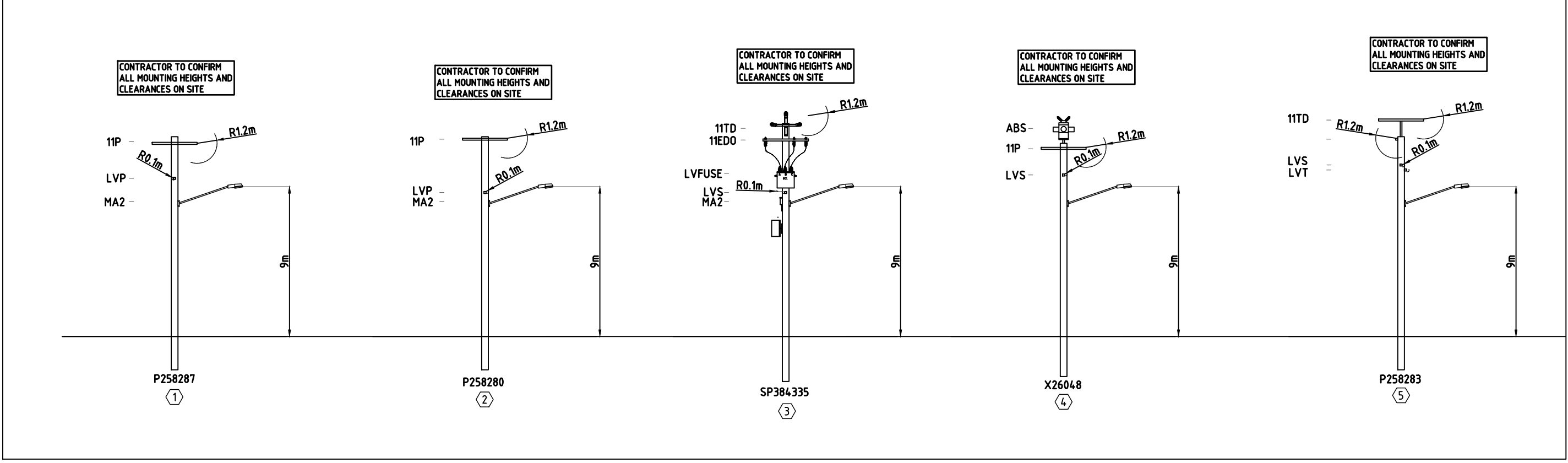
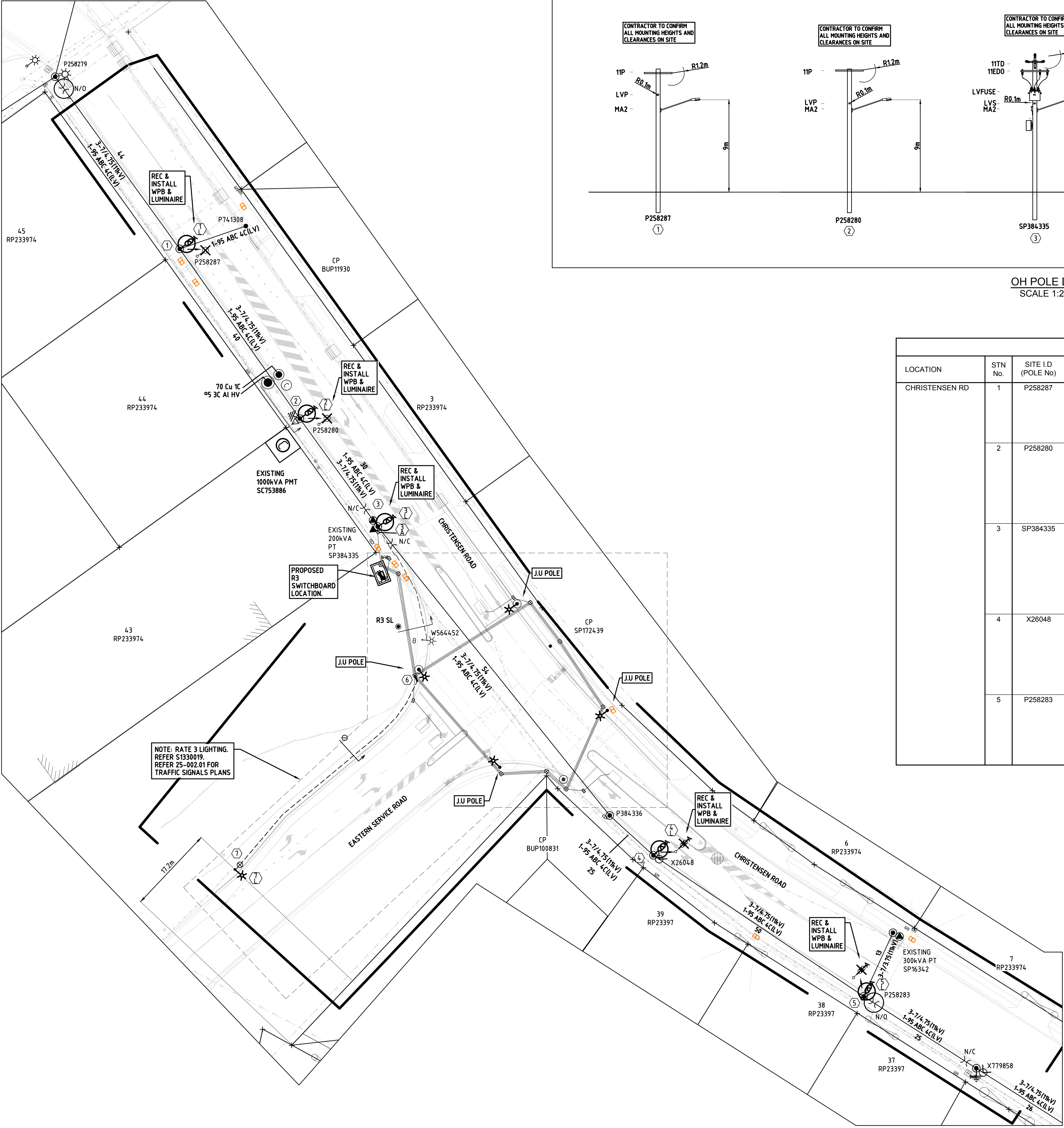




OH POLE DETAILS
SCALE 1:250 @ A1



SITE LOCALITY
(SCALE: N.T.S.)

OVERHEAD WORKS SCHEDULE																			
LOCATION	STN No.	SITE I/D (POLE No)	POLES										CONSTRUCTIONS (Note: KBS is top KB to top KB)						
			EDT ANG	EDT KN	SST KN	LST KN	EXISTING	RECOVER	ERECT	SINK	FOOT	COMP ID	ALIGN	LCC	EXISTING	RECOVER	ERECT	No	KBS
CHRISTENSEN RD	1	P258287					P14/5-8			EX	EX	EX	EX		11P/N/MOS LVABC/1 LVABC/S SERVICE SWPBPT2	SWPBPT2	SWPBMA2	EX EX EX EX 1 1	3900
	2	P258280					P14/5-8				EX	EX	EX		11P/N/MOS PAGE7-54-2 11BRAL/240XL SERVICE LVABC/S SWPBPT2	SWPBPT2	SWPBMA2	EX EX EX EX 1 1	3900
	3	SP384335					P15.5/12-22				EX	EX	EX	EX	CGEC 11T/N/MOS PAGE7-53-4 11ED03 S21652 LVABC/PTSU LVABC/DS2 SWPBPT2	SWPBPT2	SWPBMA2	EX EX EX EX 1 1	3900
	4	X26048					P14/8-14				EX	EX	EX	EX	LV MONITOR 11ABSUMPLP SC0020279 11SC HVTMO LVABC/SU SERVICE SWPBPT2	SWPBPT2	SWPBMA2	EX EX EX EX 1 1	4700
	5	P258283					P14/8-14				EX	EX	EX	EX	11P/M/MOS 11TC HVTMA LVABC/S SERVICE SWPBPT2	SWPBPT2	SWPBMA2	EX EX EX EX 1 1	3500
																			REMARKS
																			KBS FROM TOP OF POLE. CONTRACTOR TO CHECK MH FROM GL. REFER SL SCHEDULE.
																			KBS FROM TOP OF POLE. CONTRACTOR TO CHECK MH FROM GL. REFER SL SCHEDULE.
																			KBS FROM TOP OF POLE. CONTRACTOR TO CHECK MH FROM GL. REFER SL SCHEDULE.
																			KBS FROM TOP OF POLE. CONTRACTOR TO CHECK MH FROM GL. REFER SL SCHEDULE.
																			KBS FROM TOP OF POLE. CONTRACTOR TO CHECK MH FROM GL. REFER SL SCHEDULE.

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
- 11kV STRAIGHT JOINT
- OVERHEAD POLE TRANSFORMER
- 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 S/L (RATE 3)
- EXISTING S/L (RATE 3)
- RECOVER S/L (RATE 3)
- PROPOSED L60 (RATE 2)
- EXISTING L14A (RATE 2)
- EXISTING M50 (RATE 2)
- EXISTING M400 (RATE 2)
- EXISTING L155 (TMR)
- EXISTING M50 (RATE 9)
- FUTURE CIRCULAR PIT (RATE 3)

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!WARNING!
ACID SULPHATE SOILS
THIS SITE HAS BEEN IDENTIFIED AS WITHIN OR IN VICINITY OF AN ACID SULPHATE SOILS (ASS) AREA.
ASS MAY BE PRESENT.

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

REFER TO PROJECT S1330019 WORKS PLANS FOR RATE 3 LIGHTING WORKS PLANS.

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 1158.1:1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3:1:2020 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 LUMINAIRES.
- INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME: CHRISTENSEN RD
LIGHTING CATEGORY: PR3

KRIS BOVEINIS (RPEQ 22272)
DATE: 18.03.25

PROPOSED COMMISSIONING SCHEDULE			
TENTATIVE ONLY SUBJECT TO AMENDMENT BY SWITCHING CO-ORDINATOR			
ITEM No	LOCATION	APPARATUS	ACTION
1	COMMISSION NEW LV EQUIPMENT - LV 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	CHRISTENSEN RD, EASTERN SERVICE RD	NEW EQUIPMENT	MAKE READY
6	CHRISTENSEN RD, SP384335	SP384335	MAKE BRIDGES LIVE
7	CHRISTENSEN RD, EASTERN SERVICE RD	NEW LV EQUIPMENT	COMMISSION & TEST
7	ADVISE CONTRACT SUPERVISOR SWITCHING COMPLETE		



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RATE 2 STREETLIGHT SCHEDULE																							
LOCATION	ST N No	SITE ID (POLE No)	POLE or COMPONENTS					LANTERN								OUTREACH BRACKET				MOUNT HEIGHT (m)	REMARKS		
			COM P ID	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COM P ID	EX	RECOVER LUMIN	CUST	DATE DE-ENERG	ERECT LUMIN	CUST	DATE ENERG	SLM or IIN	EXIST (m)	REC (m)			EREC T (m)	SLM or IIN
CHRISTENSEN RD	1L	P258287	PO 1	14			WOOD POLE	0.7 FoK	SL 1		L14A 3k	GCCC				EX	0.3	0.3		SWPBPT2	0"	EX	
									SL 1				L60A		SLDDPH0622A				3	SWPBMA2	0"	9	
	2L	P258280	PO 1				WOOD POLE	0.7 FoK	SL 1		M50	GCCC				SWPBPT2	0.3	0.3		SWPBMA2	0"	EX	
	3L	SP384335	PO 1	15.5			WOOD POLE	0.7 FoK	SL 1		EX	GCCC			L60A		SLDDPH0622A	0.3	0.3	3	SWPBMA2	0"	9
									SL 1				L60A		SLDDPH0622A				3	SWPBMA2	0"	9	
	4L	X26048	PO 1	14			WOOD POLE	0.7 FoK	SL 1		L14A 3k	GCCC				EX	0.3	0.3		SWPBPT2	EX		
									SL 1				L60A		SLDDPH0622A				3	SWPBMA2	0"	9	
	5L	P258283	PO 1	14			WOOD POLE	0.7 FoK	SL 1		L14A 3k	GCCC				EX	0.3	0.3		SWPBPT2	EX		
									SL 1				L60A		SLDDPH0622A				3	SWPBMA2	0"	9	

ELECTRICAL / STREET LIGHT CERTIFICATION	
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STREET NAME CHRISTENSEN RD	LIGHTING CATEGORY PR3
KRIS BOVEINIS (RPEQ 22272) DATE	18.03.25

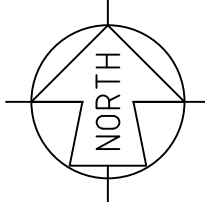
SYMBOL LEGEND	
	PROPOSED 50mm S/L
	PROPOSED 50mm S/L (RATE 3)
	PROPOSED ENERGEX 100mm COMMS
	PROPOSED 100mm
	PROPOSED 125mm
	EXISTING 4.0mm S/L
	EXISTING ENERGEX 100mm COMMS
	EXISTING 100mm
	EXISTING 125mm
	PROPOSED CABLE (AS MARKED)
	EXISTING CABLE (AS MARKED)
	PROPOSED UNDERGROUND HV/LV ROUTE
	EXISTING 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
	11kV STRAIGHT JOINT
	OVERHEAD POLE TRANSFORMER
	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 S/L (RATE 3)
	EXISTING S/L (RATE 3)
	RECOVER S/L (RATE 3)
	PROPOSED L46 (RATE 2)
	EXISTING L14A (RATE 2)
	EXISTING M50 (RATE 2)
	EXISTING M400 (RATE 2)
	EXISTING L155 (TMR)
	EXISTING M50 (RATE 9)
	FUTURE CIRCULAR PIT (RATE 3)



CONSULTING
ENGINEERS

STREET ADDRESS
POSTAL ADDRESS
TELEPHONE
EMAIL
WEB

U14, 39 Lawrence Dr, Nerang QLD 4211
PO Box 2835, Nerang DC QLD 4211
(07) 5596 1425
mail@pece.com.au
pece.com.au



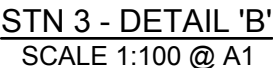
WORKSPPLAN VERSION 5.5
SCALE: 1:500@A1
PROJECT / SUB PROJECT NO.

S1302459

Sheet 2 of 2
ISSUE NO: A



REFER TO PROJECT S1302459 WORKS PLANS FOR
RATE 2 LIGHTING WORKS PLANS.



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

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3.1:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENERGEX CONTRACT. THE LIGHTING DESIGN IS BASED UPON THE FOLLOWING MAINTENANCE SCHEDULE:

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- * VEGETATION TO BE KEPT CLEAR OF LUMINAIRES.
- * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- * LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME
CHRISTENSEND RD, EASTERN SERVICE RD
CHRISTENSEND RD x EASTERN SERVICE RD INTERSECITON

LIGHTING CATEGORY
PR3
V5

KRIS BOVEINIS (RPEQ 22272)

DATE 18.03.25

LOCATION	STATIONS FROM-TO	VOLTS	EXIST	TRF	REC	INSTALL	CABLE SIZE/TYPE	MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m)			LCC	REMARKS
										NEW	REC			
CHRISTENSEN RD	3 - 8	LV				*	16mm² 4C Cu XLPE	LV/C416XPV	17	20				
TOTALS		LV					16mm² 4C Cu XLPE	LV/C416XPV		20				

LOCATION	STATIONS FROM-TO	VOLTS	EXIST	TRF	REC	INSTALL	CABLE SIZE/TYPE	MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m)		LCC	REMARKS
										NEW	REC		
CHRISTENSEN RD	3 - 9L SL	*	*				16mm ² 2C Cu PVC/PVC	LCV216BPVPV	37		40		
	6 - 8 SL				*		16mm ² 2C Cu PVC/PVC	LCV216BPVPV	27	30			
	6 - 8 SL				*		4mm ² 2C Cu PVC/PVC	LCV24PVPV	2	5			
	6 - 7L SL				*		16mm ² 2C Cu PVC/PVC	LCV216BPVPV	2	5			
	6 - 10L SL				*		16mm ² 2C Cu PVC/PVC	LCV216BPVPV	27	30			
	6 - 11 SL				*		16mm ² 2C Cu PVC/PVC	LCV216BPVPV	27	30			
	11 - 11L SL				*		4mm ² 2C Cu PVC/PVC	LCV24PVPV	2	5			
	11 - 12L SL				*		16mm ² 2C Cu PVC/PVC	LCV216BPVPV	27	30			
							16mm ² 2C Cu PVC/PVC	LCV216BPVPV			40		

LOCATION	STN No	SITE I.D.	EXIST	REC	INSTALL	SIZE & DESCRIPTION	IIN	COMP ID	PLANT No.	MODEL ID	QTY	LCC	REMARKS
CHRISTENSEN RD	3A		*			EX SQUARE T.S PIT		PT1		EX			INSTALLED BY OTHERS
	6		*			CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
	8				*	GCCE RATE 3 SWITCHBOARD		MSB-SL					INSTALLED BY OTHERS
	9		*	*		SL/PIT & LID (TYPE 4)		PT1		EX			
	10		*			CIRCULAR PIT		PT1		EX			INSTALLED BY OTHERS
	11		*		*	CIRCULAR PIT JUNCTION BOX KIT (FUSED)		PT1		EX SD1699 - 216			INSTALLED BY OTHERS
	12		*			CIRCULAR PIT		PT1		EX			INSTALLED BY OTHERS
EASTERN SERVICE RD	7				*	CIRCULAR PIT - TYPE 60		PT1	EX	SD1415			INSTALLED BY ELECTRICAL CONTRACTOR

LOCATION	STATIONS FROM-TO	CONDUIT LENGTH (m)										BENDS (<7°/No)								X-SECTION (m)			DRAW WIRE	KERB MARK	STANDARD COVER	REMARKS
		RATE 3		ENERGEX URD																EXCAV/ TAPE	COVER STRIP	TRENCH DETAIL				
		50	No	50	No	100C	No	100	No	125	No	40	No	100C	No	100	No	125	No							
CHRISTENSEN RD	3 - 3A	5	1																		5	R3-O	60		YES	
EASTERN SERVICE RD	6 - 7	60	1																		60	R3-O	60		YES	
TOTALS		65																			65		65			

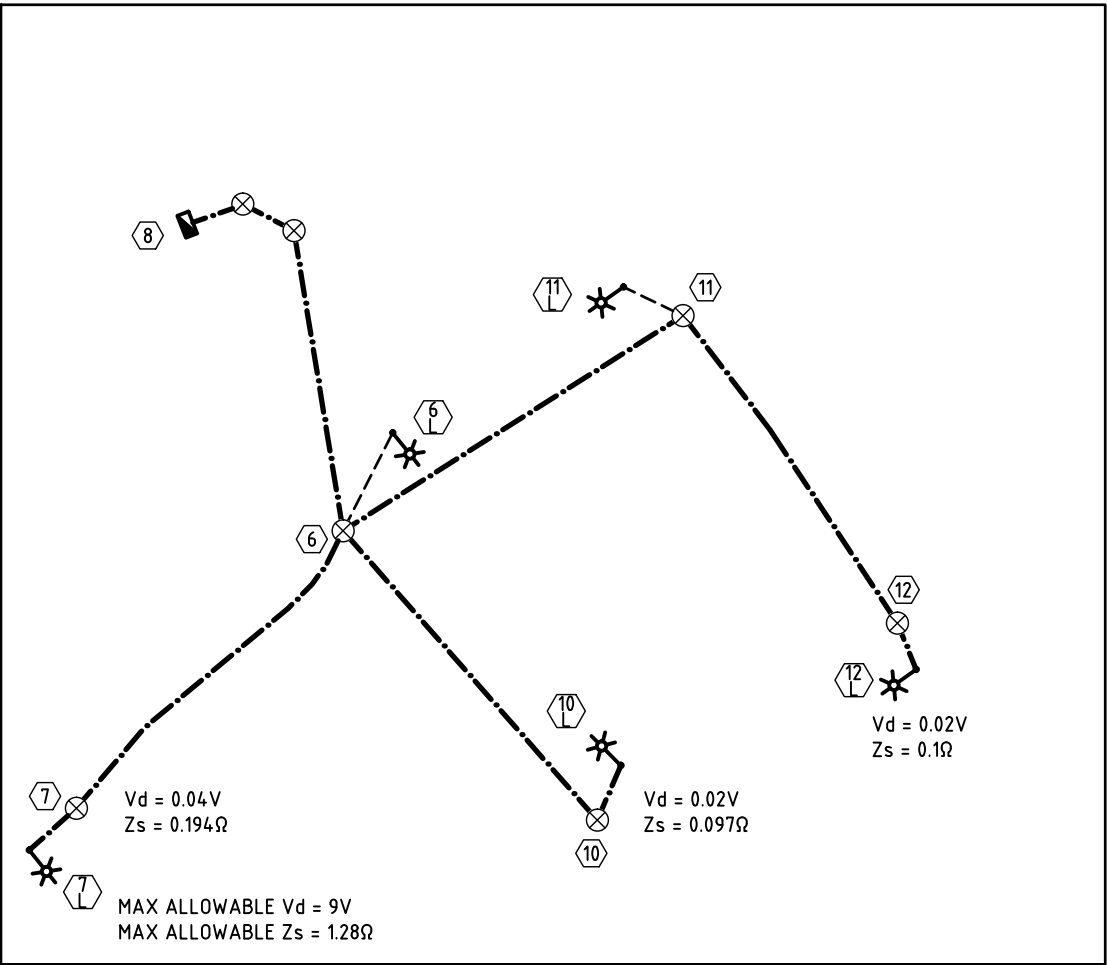
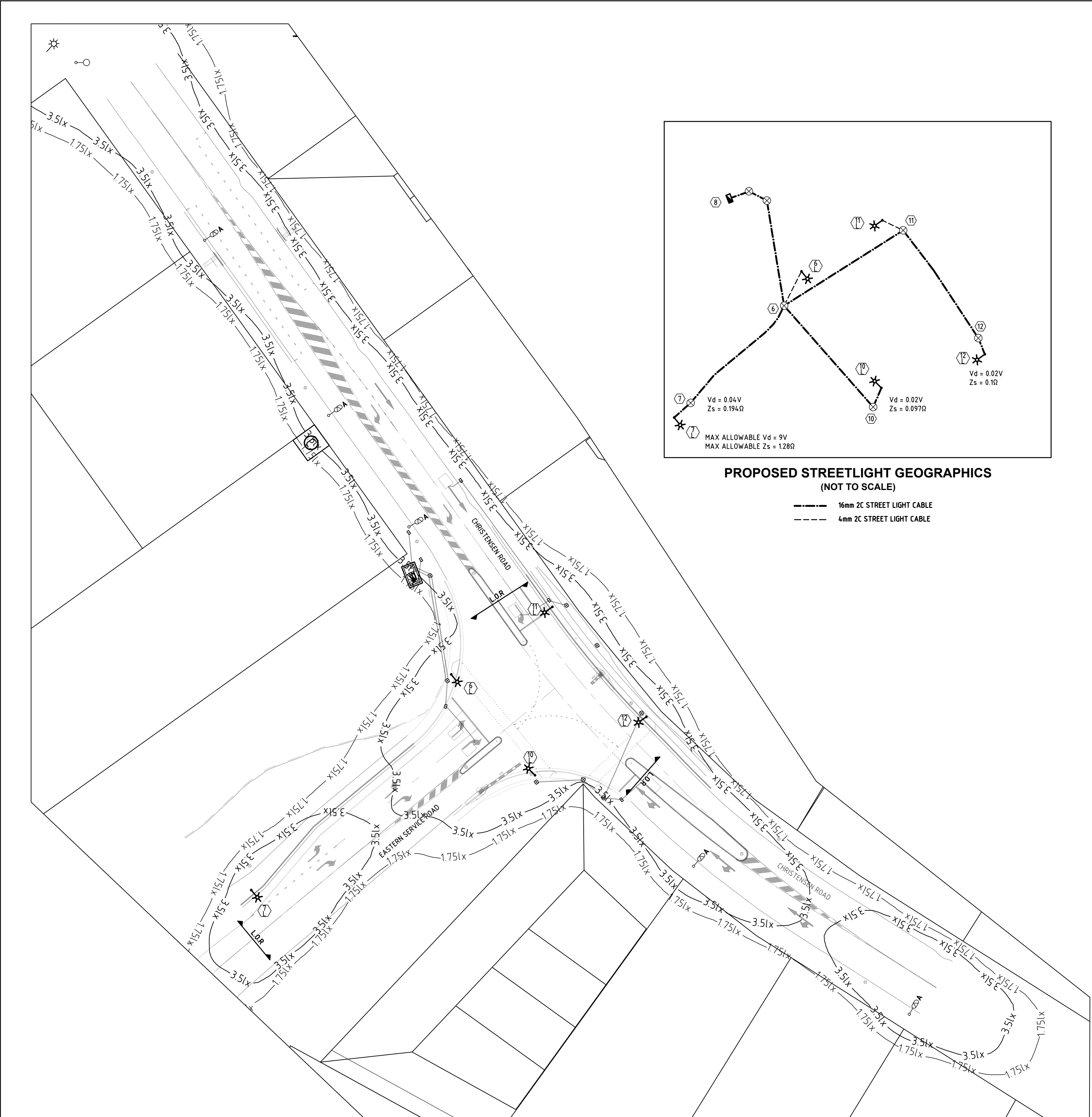
SYMBOL LEGEND	
	PROPOSED 50mm S/L
	PROPOSED 50mm S/L (RATED 3)
	PROPOSED ENERGEN 100mm COMMS
	PROPOSED 100mm
	PROPOSED 125mm
	EXISTING 40mm S/L
	EXISTING ENERGEN 100mm COMMS
	EXISTING 100mm
	EXISTING 125mm
	PROPOSED CABLE (AS MARKED)
	EXISTING CABLE (AS MARKED)
	PROPOSED UNDERGROUND HV/LV ROUTE
	EXISTING 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
	11kV STRAIGHT JOINT
	OVERHEAD POLE TRANSFORMER
	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 S/L (RATE 3)
	EXISTING S/L (RATE 3)
	RECOVER S/L (RATE 3)
	EXISTING L60 (RATE 2)
	EXISTING L14A (RATE 2)
	EXISTING M50 (RATE 2)
	EXISTING M400 (RATE 2)
	EXISTING L155 (TMR)
	EXISTING M50 (RATE 9)
	EX CIRCULAR PIT (RATE 3)
	PROPOSED CIRCULAR PIT (RATE 3)
	EX SQUARE (RATE 3)

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PROPOSED STREETLIGHT GEOGRAPHICS
(NOT TO SCALE)

----- 16mm 2C STREET LIGHT CABLE
----- 4mm 2C STREET LIGHT CABLE

LUX PLOT

RATE 3 STREETLIGHT SCHEDULE																							
LOCATION	ST N P ID	SITE ID (POLE No)	POLE or COMPONENTS					LANTERN					OUTREACH BRACKET					MOUNT HEIGHT (m)	REMARKS				
			COM P ID	EXIST (m)	REC (m)	ERECT (m)	SLM or IIN	ALIGN (m)	COM P ID	EX	RECOVER LUMIN	CUST	DATE DE- ENERG	ERECT LUMIN	CUST	DATE ENERG	SLM or IIN			EXIST (m)	REC (m)	EREC T (m)	SLM or IIN
CHRISTENSEN RD	6L	W12739498	PO 1	8.5			J.U POLE	EX	SL 1				L60A	GCCC		SLEDPH0622A					0°	10.5	NEW LIGHTS TO BE FIT WITH PE CELL SHORTING CAP
	9L	W564452	PO 1	8.5			J.U POLE	EX	SL 1	S250C	GCCC		L60A	GCCC		SLS250C	10.5			EX	0°	10.5	
	10L	W12739499	PO 1	8.5			J.U POLE	EX	SL 1				L60A	GCCC		SLEDPH0622A			3	SLJU130	0°	10.5	
	11L	W12739500	PO 1	8.5			J.U POLE	EX	SL 1				L60A	GCCC		SLEDPH0622A			3	SLJU130	0°	10.5	
	12L	W12739501	PO 1	8.5			J.U POLE	EX	SL 1				L60A	GCCC		SLEDPH0622A			3	SLJU130	0°	10.5	
EASTERN SERVICE RD	7L	W12739502	PO 1			8.5BPM	SB90130UC11	0.8 BoK	SL 1	1			L60A	GCCC		SLEDPH0622A			3		0°	10.5	

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CERTIFICATE OF COMPLIANCE	
DESIGN DOCUMENTATION IN ACCORDANCE WITH THE REQUIREMENTS OF COMPLIANCE OF AS/NZS 1158	
* Refer AS1158.1.1:2022 Appendix D for information regarding V category * Refer AS1158.3.1:2020 Appendix C for information regarding P category * PerfectLite 5.06 computer software used * AGI32 computer software used	
ITEM	PROJECT SPECIFICATION
LIGHTING CATEGORY	
Road Name	CHRISTENSEN RD, EASTERN SERVICE RD
Nominated Lighting Category	PR3
Road Surface Reflection Characteristic	R3
INSTALLATION GEOMETRY	
Road Reserve Lighting Design Width	21
Mounting Height	10.5
Overhang	2.3
Lighting Arrangement	ARR1
Pole Setback	0.8 BoK
Upcast Angle	0°
LUMINAIRE/LAMP 1 DETAILS	
Lamp Type / Wattage	L60A
Luminaire Identification	Philips RoadFlair
Lamp Flux (Lumens)	9680
I-Table Number (cie)	BRP392 LED96NW 60W 220-240V DWV
Lighting Tariff	2
Power Factor	HPF (> 0.95)
Start/Run Currents (Amps)	0.25
IP Rating	IP66
ILLUMINANCE BASED DESIGN - CATEGORY V TECHNICAL PARAMETER COMPLIANCE - "design area" ie. intersection of x and x roads	
Point Horizontal Illuminance (E _h)	3.5
Illuminance (Horizontal Uniformity) Cat V (U _h)	8
CATEGORY PR3 LUMINAIRE/LAMP 1 MAXIMUM SPACING CALCS	
Average Horizontal Illuminance (E _a)	21.75 lx
Minimum Point Horizontal Illuminance (E _h)	20.30 lx
Illuminance Uniformity (U _h)	SB
Upward wasted light ratio (UWLR) %	≤0%
Road Reserve Lighting Design Width (m)	Maximum Spacing (m)
21	93.8

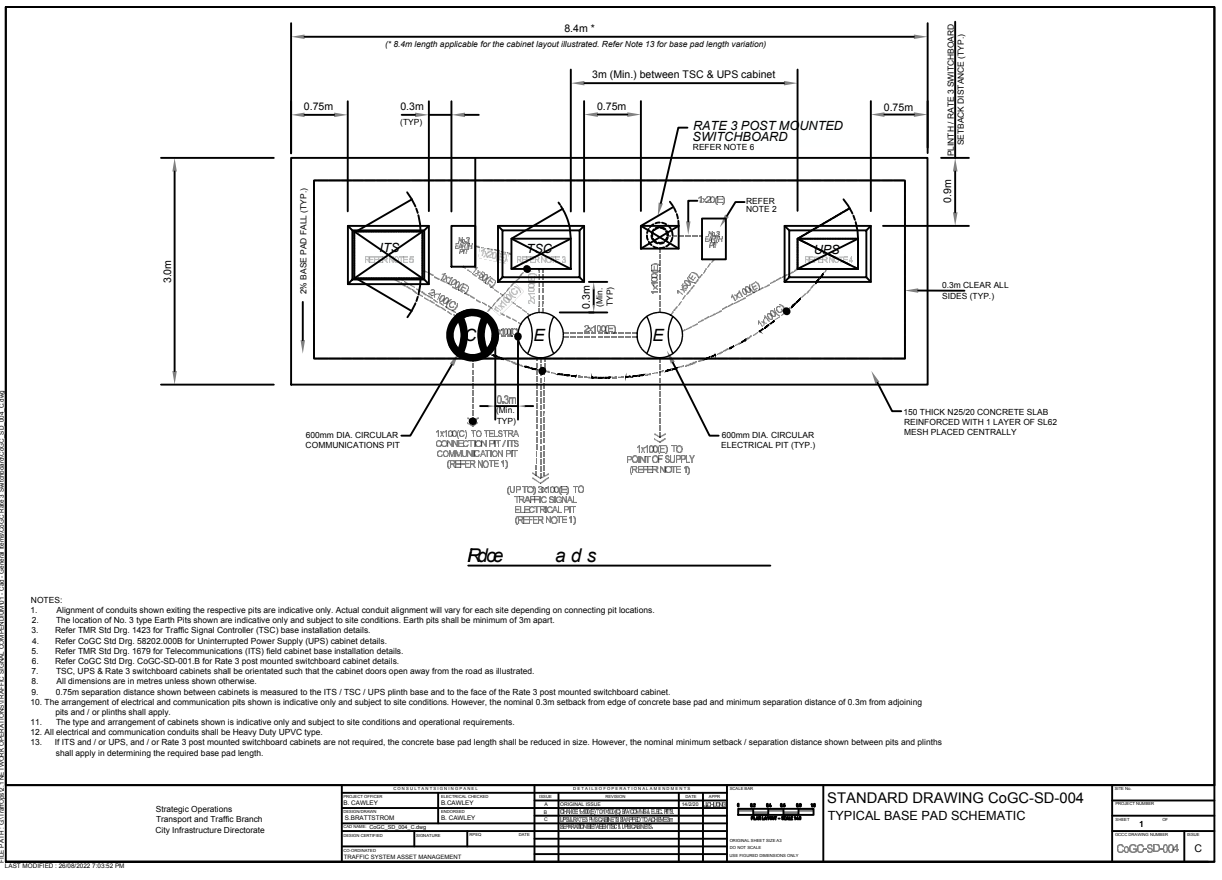
ELECTRICAL / STREET LIGHT CERTIFICATION	
THIS IS TO CERTIFY THAT THE DESIGN OF ENERGEX RETICULATION IS IN ACCORDANCE WITH ENERGEX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47.1 & 47.3 WHERE APPLICABLE.	
ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3.1:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENERGEX 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 LUMINAIRES. * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%. * LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.	
STREET NAME	LIGHTING CATEGORY
CHRISTENSEN RD, EASTERN SERVICE RD	PR3
CHRISTENSEN RD x EASTERN SERVICE RD INTERSECTION	V5
KRIS BOVEINIS (RPEQ 22272)	
DATE	18.03.25

MAINTENANCE REGIME	
Maintenance Factor Assumed: The maintenance factor assumed in the calculations is as follows: * Luminaire Maintenance Factor (refer AS 1158.1.1:2022 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.	

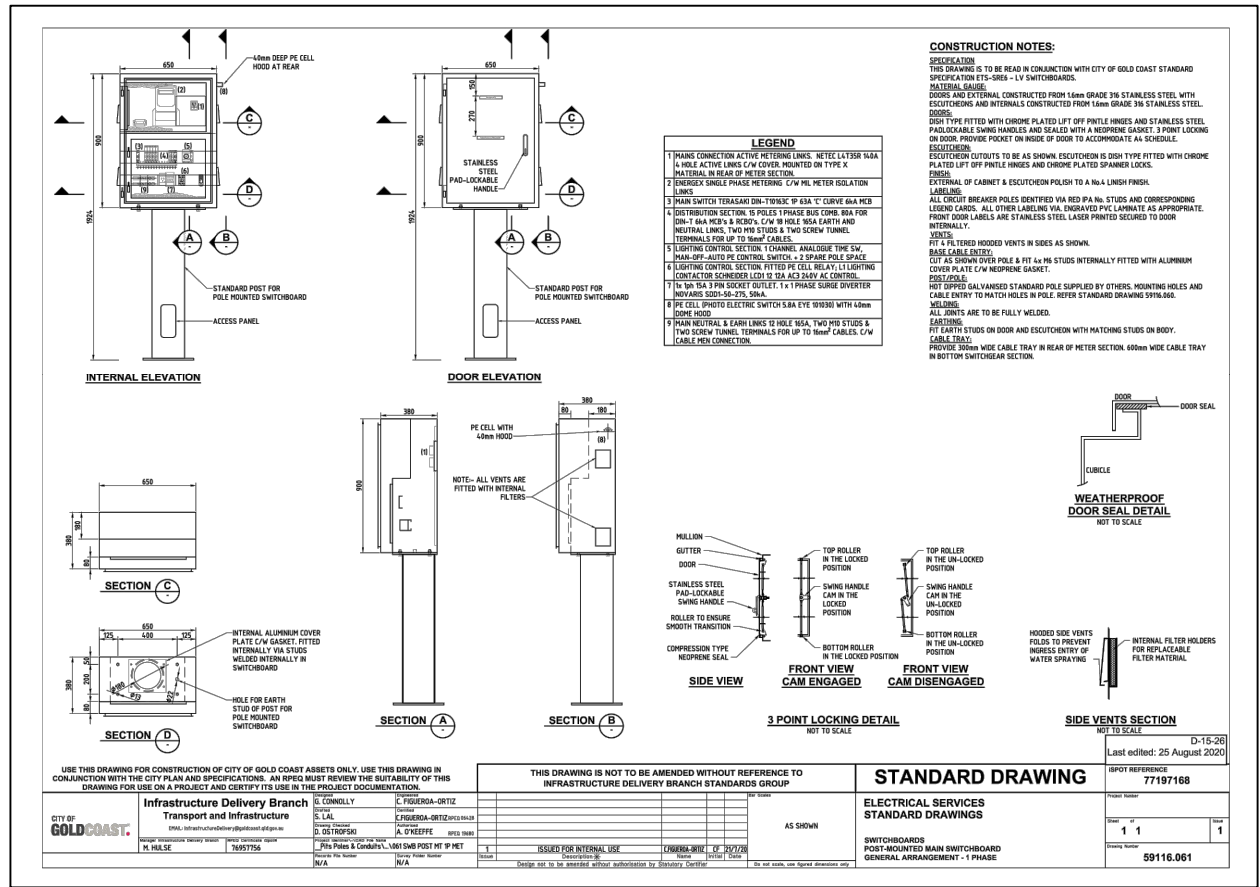
REFER TO PROJECT S1302459 WORKS PLANS FOR RATE 2 LIGHTING WORKS PLANS.

SYMBOL LEGEND	
	PROPOSED 50mm S/L
	PROPOSED 50mm S/L (RATE 3)
	PROPOSED ENERGEX 100mm COMMS
	PROPOSED 100mm
	PROPOSED 125mm
	EXISTING 40mm S/L
	EXISTING ENERGEX 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
	11kV STRAIGHT JOINT
	OVERHEAD POLE TRANSFORMER
	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 S/L (RATE 3)
	EXISTING S/L (RATE 3)
	RECOVER S/L (RATE 3)
	EXISTING L60 (RATE 2)
	EXISTING L14A (RATE 2)
	EXISTING M50 (RATE 2)
	EXISTING M400 (RATE 2)
	EXISTING L155 (TMR)
	EXISTING M50 (RATE 9)
	EX CIRCULAR PIT (RATE 3)
	PROPOSED CIRCULAR PIT (RATE 3)
	EX CIRCULAR PIT (RATE 3)

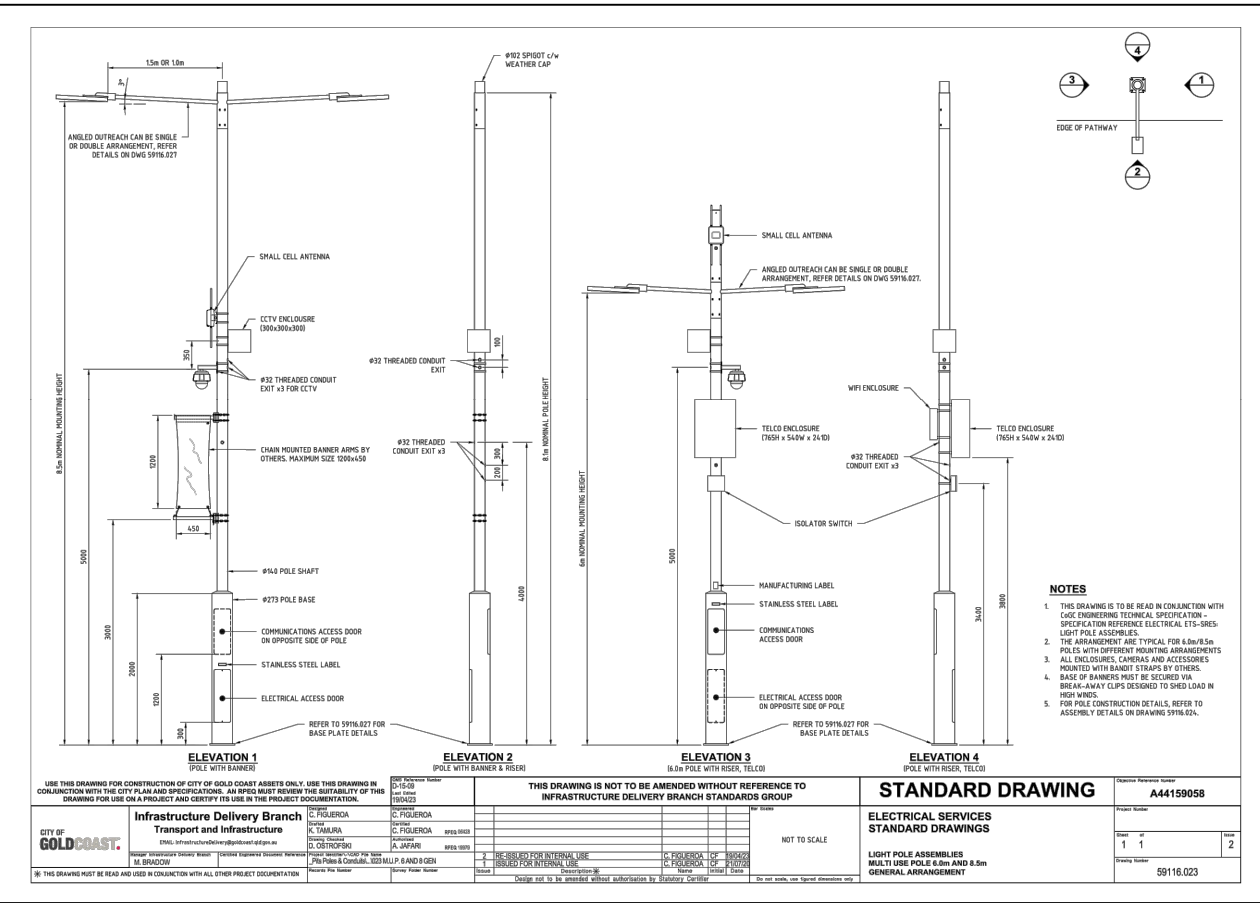
R DESCRIPTION	DATE	21.02.25	18.03.25	T1 ISSUED FOR TENDER ONLY, NOT FOR CONSTRUCTION A ISSUE FOR COUNCIL ACCEPTANCE ONLY, NOT FOR CONSTRUCTION	PE CONSULTING ENGINEERS U14, 39 Lawrence Dr, Naring QLD 4211 PO Box 2835, Naring DC QLD 4211 (07) 5596 1425 mail@pece.com.au pece.com.au	NORTH 22-0641A- R3 - 02	SITE CONTACT DETAILS		COUNCIL STANDARD ALIGNMENTS		WORKS COORDINATOR		PECE		APPROVED		KRIS BOVEINIS		PECE		WORKSPLAN VERSION 5.5	
	NAME		Energex OH				0.7m FoK		PARENT PROJECT NO.		CHECKED		KRIS BOVEINIS		DESIGNER		LUKE ARACE		SCALE: 1:500@A1			
	TBC COMPANY		NBN				0-0.9m RP		WORK REQUEST NO.		NIL		DESIGNER PHONE		PLANNER		KRIS BOVEINIS		PROJECT / SUB PROJECT NO.			
	-		GAS				REFER GAS		LOTS		CANCELLING LOTS		NIL		PLANNER PHONE		(07) 5596 1425		S1330019			
PHONE		-		HP GAS		REFER GAS		LOCAL AUTHORITY		GOLD COAST CITY COUNCIL		ISSUE DATE		18 MARCH 2025		RATE 3 LIGHTING		EASTERN SERVICE ROAD INTERSECTION				
MOBILE		-		WATER		REFER CIVIL		UBD REF								STAPLYTON, QLD, 4207		Sheet 2 of 3				
FAX		-		STORMWATER		REFER CIVIL		PEGGED?										ISSUE NO: A				
				SEWERAGE		REFER CIVIL																
				OTHER		REFER CIVIL																



NOTE: REFERENCE ONLY NOT REQUIRED AS PART OF S1302102 WORKS



NOTE: REFERENCE ONLY.

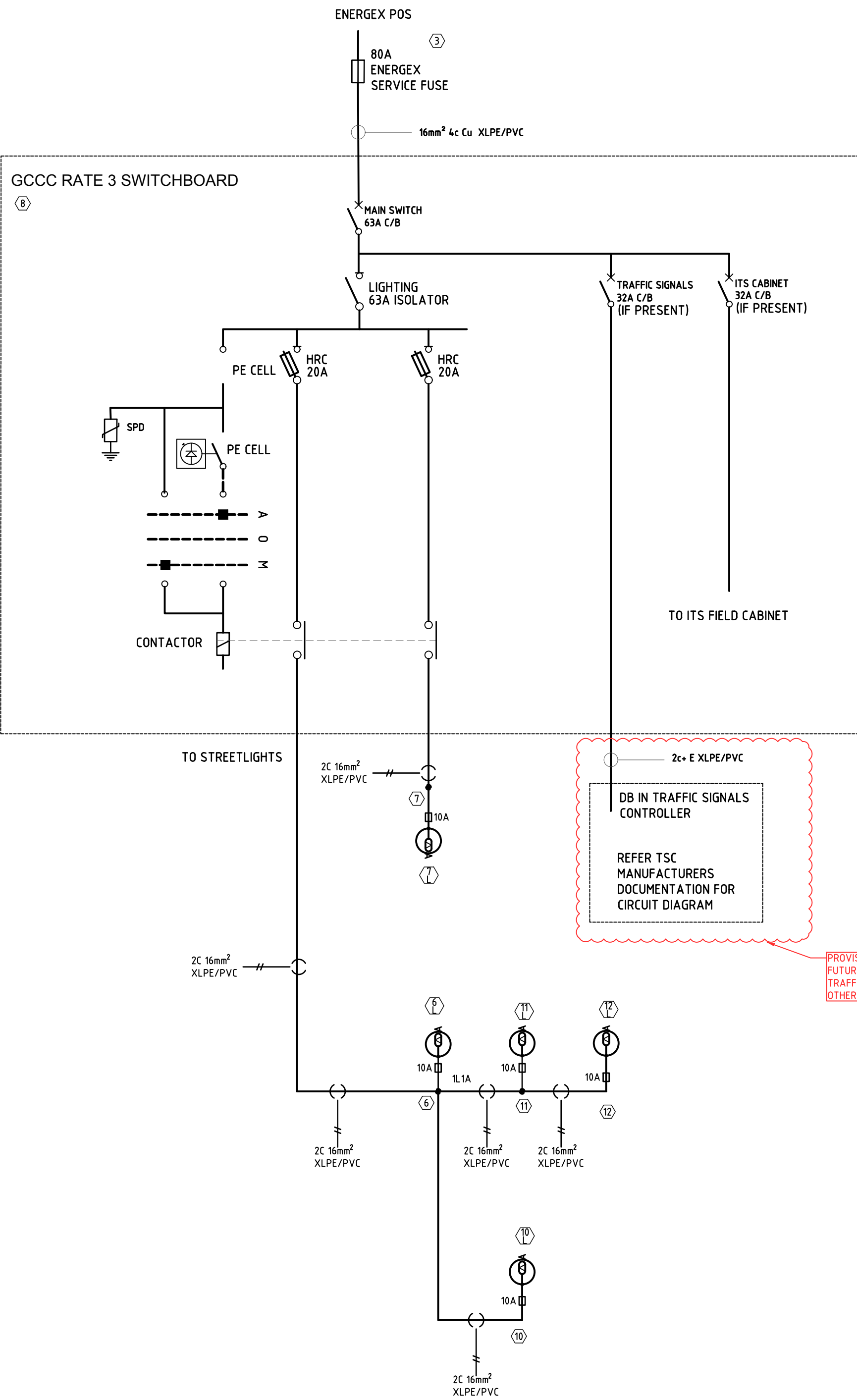


NOTE: REFERENCE ONLY.

REFER TO PROJECT S1302459 WORKS PLANS FOR RATE 2 LIGHTING WORKS PLANS.

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

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



NOTES

- RATE 3 SWITCHBOARD TO COMPLY W/ ENERGEX MANUAL AND COUNCILS STANDARD DRAWING CoGC-SD-001-C
- CABLE SIZE/TYPE, SWITCHGEAR/FUSES RATING AND TYPE SHOWN ARE INDICATIVE ONLY. SITE SPECIFIC ELECTRICAL CALCULATIONS MUST BE COMPLETED BY A SUITABLY EXPERIENCED AND QUALIFIED ELECTRICAL RPEQ IN ACCORDANCE WITH TMR REQUIREMENTS OF AS/NZS3000 & TMR TRUM
- ALL SWITCHGEAR/FUSES SHALL BE RATED GREATER THAN THE MAXIMUM FAULT LEVEL ON-SITE. ELECTRICAL CONTRACTOR SHALL MEASURE AND CONFIRM RATINGS ON-SITE.
- ALL CIRCUIT BREAKERS TO BE 'C' CURVE TYPE.
- ALL SWITCHGEAR TO BE LABELED IN ACCORDANCE WITH AS/NZS 3000 AND TMR SPECIFICATIONS.
- CABLE TO BE INSTALLED TO BE EITHER OF 45QMM OR 165QMM 2C CU/XLPE OR X90 AS PER APPLICABLE DISTANCE LIMIT.
- LIGHTING ONLY TO TMR STANDARDS AND SPECIFICATIONS. TRAFFIC SIGNALS DESIGN DONE BY OTHERS
- DESIGN IS TO CoGC SUPPLEMENTARY SPECIFICATIONS

CoGC SWITCHBOARDS

A RATE 3 POST MOUNTED SWITCH BOARD COMPLYING WITH ALL TMR SPECIFICATIONS AND STANDARD DRAWINGS SHALL BE INSTALLED ADJACENT TO THE TRAFFIC SIGNAL CONTROLLER AND THE TRAFFIC SIGNAL CONTROLLER SHALL BE ENERGISED FROM THIS POST MOUNTED SWITCH BOARD WHEN JOINT USE STREET LIGHTING IS INSTALLED.

IF NO JOINT USE LIGHTING IS INSTALLED THEN NO RATE 3 SWITCHBOARD IS REQUIRED.

THE RATE 3 SWITCHBOARD SHALL BE IN ACCORDANCE WITH COUNCIL'S STANDARD DRAWING CoGC-SD-001C. THE RATE 3 SWITCHBOARD SHALL BE CONSTRUCTED TO THE LATEST CoGC WIRING DIAGRAM (I.E. 2 MAIN SWITCHES).

NOTE WITHIN ITEM 4 (CITY OF GOLD COAST SUPPLEMENTARY SPECIFICATION VERSION 23) REGARDING COMMUNICATIONS PIT TO BE TYPE ROUND.

ADDITIONAL CITY RELATED INFRASTRUCTURE (ITS CABINET, CCTV ETC.) SHALL BE ENERGISED FROM THE RATE 3 SWITCHBOARD - NOT THE TRAFFIC SIGNAL CONTROLLER.

CoGC CONDUITS

ALL ELECTRICAL AND COMMUNICATIONS CONDUITS ARE TO BE HEAVY DUTY IN ACCORDANCE WITH TMR SPECIFICATIONS.

A 50MM WHITE HEAVY DUTY COMMUNICATIONS CONDUIT SHALL BE INSTALLED LINKING THE TRAFFIC SIGNAL CONTROLLER WITH THE NEAREST TELECOMMUNICATIONS PIT (CONFIRMED SUITABLE BY TELSTRA / NBN). CONNECTION IS VIA A TYPE ROUND PIT IN THE CONTROLLER SLAB AND NO. 4 PIT ADJACENT TO THE TELECOMMUNICATIONS INFRASTRUCTURE.

ELECTRICAL CONDUITS INSTALLED FOR ADVANCED VEHICLE LOOPS ARE TO BE 80MM AND INSTALLED WITH 500MM COVER (FOR ALL MEDIAN AND FOOTPATH AREAS).

NOTE TMR NRTS91 REQUIREMENTS FOR ELECTRICAL AND COMMUNICATIONS CONDUIT INSTALLATION (SECTION 9.4)

REINSTATEMENT OF ALL ROAD CROSSINGS IS TO BE IN ACCORDANCE WITH COUNCIL STANDARD DRAWING 05-02-602.

FOR ALL ELECTRICAL AND COMMUNICATIONS CONDUIT RUNS PROOF OF HANDREL TESTING AND ROPING OF CONDUITS IS REQUIRED BEFORE COMMISSIONING.

WIRING RULES

ALL WORKS SHALL COMPLY WITH THE FOLLOWING CURRENT EDITIONS OF STANDARDS AND PUBLICATIONS AND ALL CURRENT AUSTRALIAN STANDARDS:

- AS 3000 SAA WIRING RULES
- AS 3008.1.1 SELECTION OF CABLES
- BCA BUILDING CODE OF AUSTRALIA

WIRING NOTES

1. UNDERGROUND WIRING SYSTEMS.

a) ALL TRENCH ROUTES SHALL BE CONFIRMED PRIOR TO EXCAVATION COMMENCING.

b) EXISTING UNDERGROUND SERVICES SHALL BE LOCATED BY THE CONTRACTOR AND SHALL BE AVOIDED AND PROTECTED TO PREVENT DAMAGE. ALL DAMAGE TO EXISTING SERVICES SHALL BE IMMEDIATELY

REPAIRED TO ORIGINAL CONDITION AT THE CONTRACTORS EXPENSE.

c) UNLESS NOTED OTHERWISE ALL ELECTRICAL AND COMMUNICATIONS SERVICES SHALL BE ENCLOSED IN CONDUIT AND ALL SPARE CONDUITS SHALL BE COMPLETE WITH NYLON DRAW ROPES. REFER EXTENT OF WORKS

d) ALL TRENCHES SHALL BE KEPT AS STRAIGHT AS POSSIBLE AND ON THE NOMINATED ALIGNMENT WHERE INDICATED. THE DEPTH OF TRENCHES SHALL BE INCREASED TO ALLOW FOR STACKED CONDUIT RUNS AND BEDDING SAND.

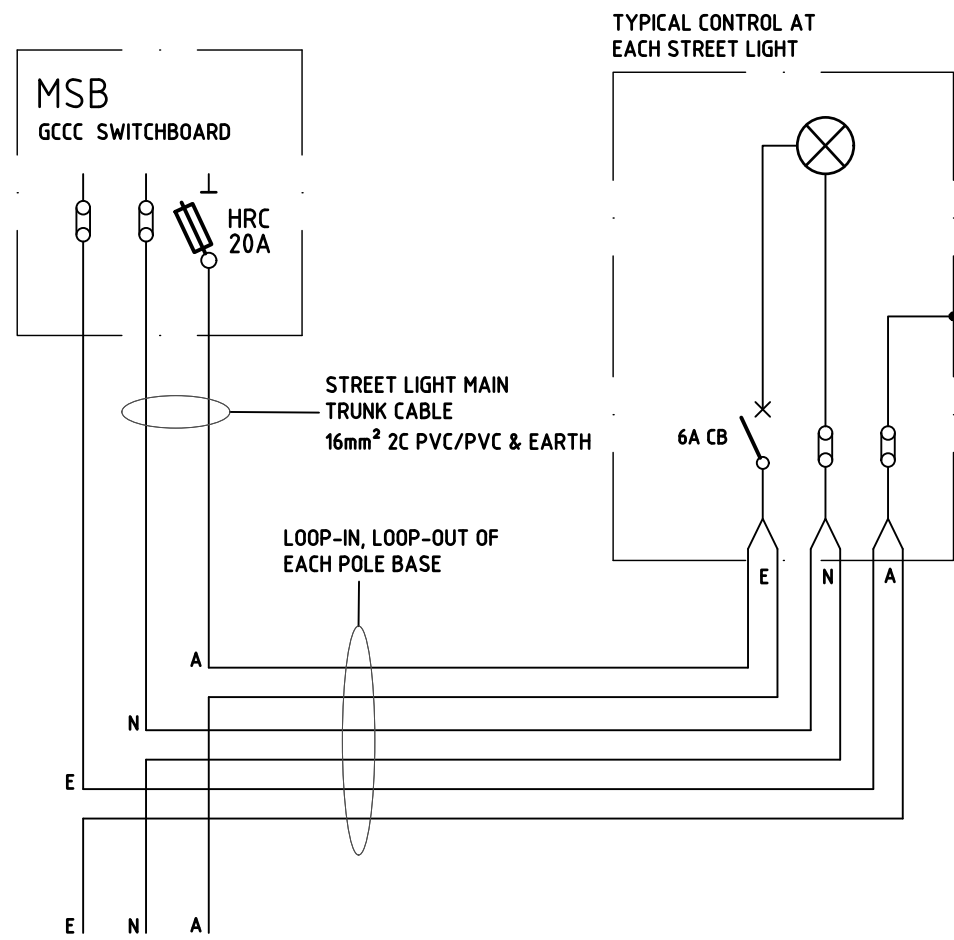
e) ALL TRENCHES SHALL BE COMPLETE WITH A MINIMUM 50mm COVER OF BEDDING SAND ON ALL SIDES OVER CONDUITS AND CABLES AND WARNING TAPES ALONG THE FULL LENGTH (ADDITIONAL PARALLEL WARNING TAPE RUNS ARE REQUIRED OF EACH 300mm WIDTH OF TRENCH).

f) BACKFILLING MATERIAL SHALL BE FREE FROM ROCKS AND GRAVEL AND SHALL BE SIEVED OR REPLACED WITH CLEAN FILL WHERE REQUIRED.

g) ROAD CROSSING AND EXISTING PAVED AREA TRENCH RUNS SHALL BE SAW CUT UNLESS NOTED OTHERWISE. CLEAN BACK FILLING SHALL BE USED AND MECHANICALLY COMPACTED. THE SURFACE TREATMENT REINSTATED TO MATCH EXISTING.

h) UNLESS SPECIFIED OTHERWISE, UNDERGROUND CABLE JOINTS SHALL BE CRIMP LINKED AND INSULATED WITH RESIN INFILLED HEAT SHRINK PROPRIETARY JOINTING KIT (RAYCHEM OR EQUAL)

- INCOMING CABLE - SOURCE, SIZE AND TYPE
- MAIN SWITCHBOARD MANUFACTURERS SPECIFICATION DETAILS LABEL.



TYPICAL STREET LIGHT POLE INSTALLATION SCHEMATIC

AS BUILT DRAWINGS AND MAINTENANCE MANUALS

"AS BUILT" DRAWINGS AND OPERATING/MAINTENANCE MANUALS SHALL BE PREPARED AND SUBMITTED TO THE CLIENTS REPRESENTATIVE FOR APPROVAL TWO WEEKS PRIOR TO THE GRANTING OF PRACTICAL COMPLETION, WITH THE FINAL ISSUE WITHIN FOUR WEEKS AFTER PRACTICAL COMPLETION. HARD BACKED MANUALS AND "AS BUILT" DRAWINGS SHALL BE PROVIDED IN TRIPPLICATE TOGETHER WITH AN AUTO CAD (LATEST VERSION) DISK COPY OF DRAWINGS IN EACH HARD BACKED MANUAL.

MAINTENANCE MANUALS SHALL BE WITHIN A HARD BACKED THREE RING FOLDER. THE MANUAL SHALL HAVE -

A) A TITLE SHEET STATING THE NAME OF THE PROJECT, SERVICES COVERED BY THE MANUAL AND THE NAME AND ADDRESS OF THE BUILDER AND THE SUB-CONTRACTOR.

B) AN INDEX AND HEAVY DUTY DIVIDER TABS

C) TECHNICAL DATA SHEETS OF ALL ITEMS OF EQUIPMENT USED IN THE PROJECT I.e. LUMINAIRES, ACCESSORIES, DISTRIBUTION BOARDS, COMMUNICATIONS EQUIP ETC.

D) A BRIEF DESCRIPTION OF EACH SYSTEM INSTALLED AND RECOMMENDATIONS REGARDING MAINTENANCE. PREFERABLY MANUFACTURER'S RECOMMENDED MAINTENANCE DETAILS.

E) ALL AS INSTALLED DRAWINGS PLUS COPIES OF ALL WORKSHOP DRAWINGS ALSO UPDATED TO AS INSTALLED.

F) A LAMINATED A3 COPY IS TO BE INSTALLED IN THE CONTROLLER, RATE 3 SWITCHBOARD AND ITS INSTALLATIONS UPON COMPLETION OF PROJECT

G) ELECTRICAL CONTRACTORS SHALL PROVIDE A CERTIFIED AS CONSTRUCTED DOCUMENT AND CERTIFICATE OF TEST FOR ALL NEW AND MODIFIED INSTALLATIONS WITHIN 24HOURS OF COMMISSIONING

EXTENT OF WORK

ELECTRICAL RETICULATION CONTRACTOR

1. SUPPLY AND INSTALL ALL UNDERGROUND CONDUITS INCLUDING BEDDING SAND AND MARKER TAPE, AS DESCRIBED ON THE DRAWING INCLUDING OTHER SERVICES CONDUITS AND ROAD CROSSINGS.

2. EXTEND STREET LIGHTING CABLES.

3. SUPPLY AND INSTALL STREET LIGHTING.

4. TESTING AND COMMISSIONING PLUS AS MAINTENANCE MANUALS AND 12 MONTHS MAINTENANCE.

NOTES:

1. ALL WORKS SHALL COMPLY WITH AS3000 AND ENERGEX SPECIFICATIONS WHERE APPLICABLE.

2. WHEREVER INDICATED, ALL ELECTRICAL CONDUITS SHALL BE RUN IN COMMON TRENCHES WITH COMMUNITY POWER AND COMMUNICATIONS SERVICES.

3. PROVIDE MARKER TAPE AND BEDDING SAND IN ALL CABLE TRENCHES.

4. PROVIDE KERB MARKERS AT ALL CONDUIT ROAD CROSSINGS.

5. MAINTAIN ALL STATUTORY CLEARANCES FROM ALL OTHER SERVICES AND STRUCTURES.

6. ALL SPARE CONDUITS SHALL BE COMPLETE WITH 4mm DIA NYLON DRAW ROPES.

7. REFER TO LANDSCAPE LAYOUT DRAWINGS PRIOR TO CONFIRMING FINAL LOCATION OF LUMINAIRES WITH THE PRINCIPAL.

ELECTRICAL / STREET LIGHT CERTIFICATION

THIS IS TO CERTIFY THAT THE DESIGN OF ENERGEX RETICULATION IS IN ACCORDANCE WITH ENERGEX DESIGN MANUALS AND WORK CATEGORY SPECIFICATION 47-1 & 47-3 WHERE APPLICABLE.

ROAD LIGHTING CERTIFIED TO COMPLY WITH AS/NZS 1158.1.1:2022 FOR 'V' CATEGORY & AS/NZS 1158.3.1:2020 FOR 'P' CATEGORY LIGHTING FOR ROADS & PUBLIC SPACES SUPPLIED UNDER ENERGEX 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 LUMINAIRES
- * INSPECTION PATROLS & SPOT LAMP REPLACEMENT TO MAINTAIN SERVICE AVAILABILITY AT MIN. 95%.
- * LUMINAIRES & LAMPS TO BE REPLACED WITH EXACT EQUIVALENTS.

STREET NAME
CHRISTENSEND RD, EASTERN SERVICE RD

LIGHTING CATEGORY
PR3

CHRISTENSEND RD x EASTERN SERVICE RD INTERSECTION

V5

KRIS BOVEINIS (RPEQ 22272)

DATE 18.03.25

PECE

INSTALL STREETLIGHTING, CABLE & EQUIPMENT

**RATE 3 LIGHTING
EASTERN SERVICE ROAD INTERSECTION
STAPLYTON, QLD, 4207**

WORKSPLAN VERSION 5.5

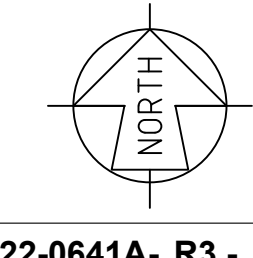
SCALE: N.T.S.

PROJECT / SUB PROJECT NO.

S1330019

Sheet 3 of 3

ISSUE NO: A



22-0641A- R3 - 03

SITE CONTACT DETAILS
NAME Energex OH
TBC Energex UG
COMPANY NBN
- GAS
PHONE - HP GAS
MOBILE - WATER
FAX - STORMWATER
SEWERAGE
OTHER REFER CIVIL

COUNCIL STANDARD ALIGNMENTS
0.7m FoK
0-0.9m RP
REFER NBN
REFER GAS
REFER GAS
REFER CIVIL
LOCAL AUTHORITY
UBD REF
PEGGED?

WORKS COORDINATOR
PARENT PROJECT NO.
WORK REQUEST NO.
LOTS
CANCELLING LOTS
GOLD COAST CITY COUNCIL

PECE
NIL
NIL
GOLD COAST CITY COUNCIL

APPROVED
CHECKED
DESIGNER
PLANNER
PHONE
PHONE
ISSUE DATE

KRIS BOVEINIS
LUKE ARACE
(07) 5596 1425
(07) 5596 1425
18 MARCH 2025