

PILLARS ON ZERO LOT BOUNDARY

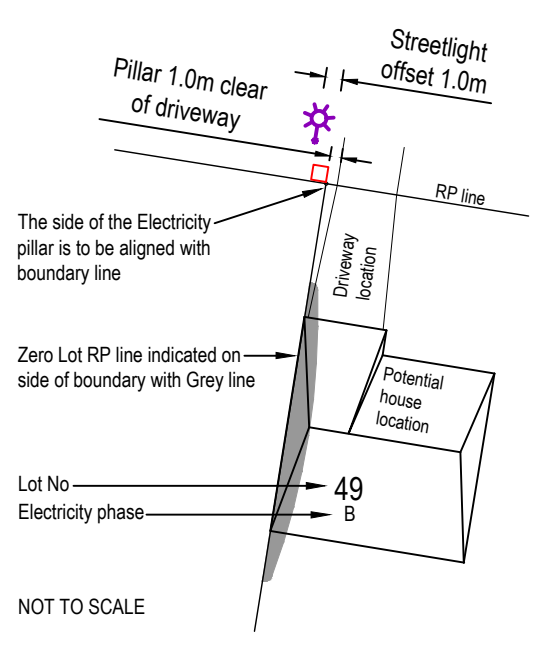
REQUIREMENTS FOR ELECTRICAL, GAS & COMMUNICATIONS CONTRACTORS

The proposed pillar shall be offset, as indicated, at the zero lot line boundary. The side of the pillar shall be aligned with the lot boundary, to provide at least 1.0m clearance from the future driveway.

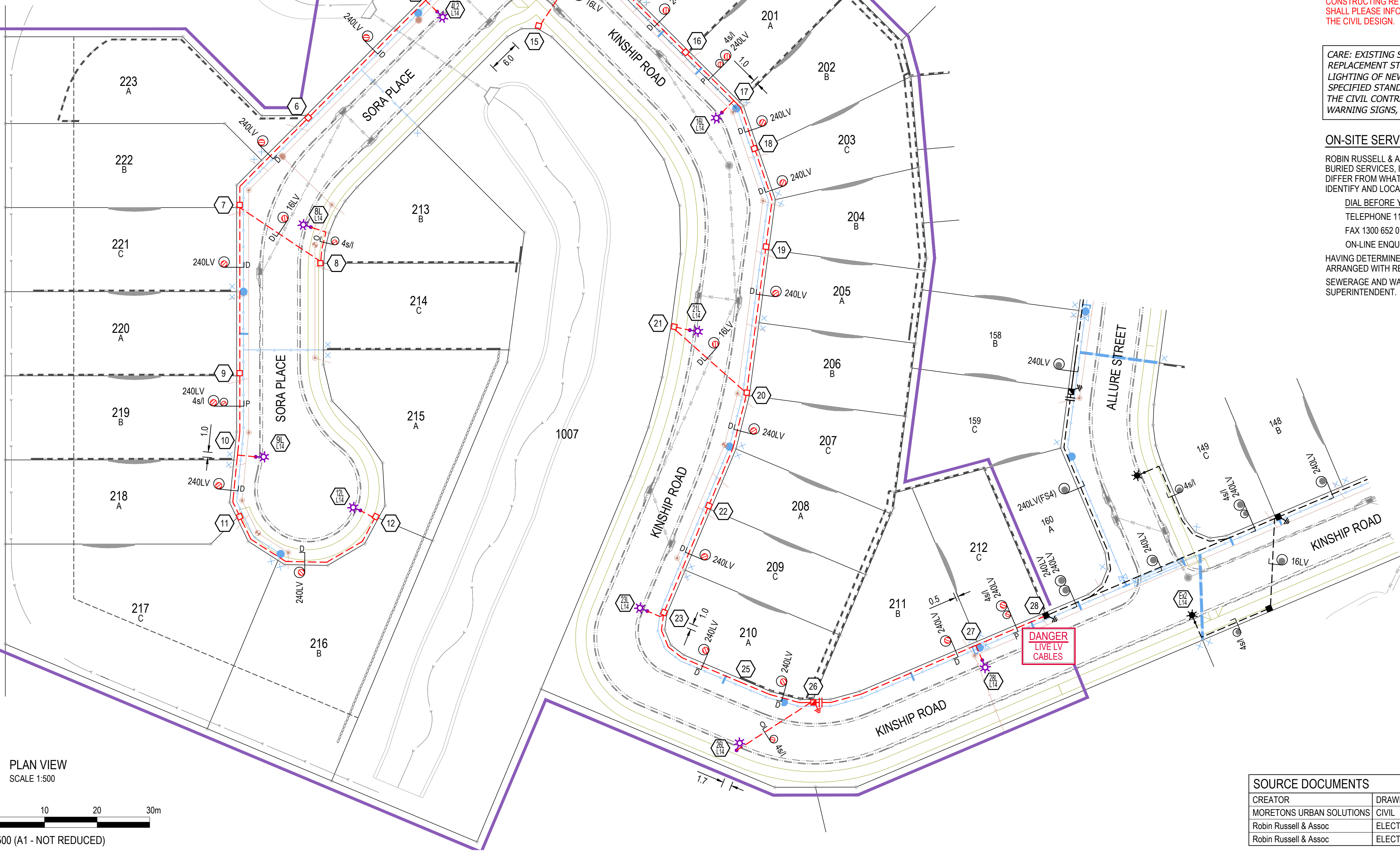
A proposed streetlight shall be offset 0.5m from the zero lot line boundary, away from the future driveway.

COMMUNICATIONS PITS shall not clash with potential driveway positions indicated

GAS DOMESTIC SERVICE TEE-OFFS shall be adjusted to remain outside 100mm pillar exclusion zone if a pillar is offset to align with one side of a survey peg.



NOT TO SCALE



INSTALLATION OF RRA DESIGNED TELECOMMUNICATIONS CONDUITS

TELECOMS CONDUITS AND PITS SHALL BE SUPPLIED AND INSTALLED BY THE CIVIL AND ELECTRICAL CONTRACTORS AS SPECIFIED ON THE ASSOCIATED RRA WORKS PLAN.

IN RESIDENTIAL SUBDIVISIONS, TELECOMMUNICATIONS CONDUITS SHALL BE INSTALLED GENERALLY IN SHARED TRENCHES, DIRECTLY ABOVE THE ELECTRICAL CONDUITS.

IN COMMERCIAL SUBDIVISIONS OR OTHER SITUATIONS WHERE THIS IS NOT POSSIBLE, TELECOMMUNICATIONS CONDUITS SHALL BE INSTALLED IN A SEPARATE TRENCH ON THE SPECIFIED COMMUNICATIONS ALIGNMENT.

TELECOMMUNICATIONS INFRASTRUCTURE

CONDUITS & PITS to be designed by: Robin Russell & Associates
to be installed by: civil & electrical contractors
to be owned by:
TELECOMMUNICATIONS INFRASTRUCTURE to be provided by:



ATTN: CIVIL CONTRACTOR

THE COVER ABOVE THE STORM WATER MAIN AND THE SEWER MAIN HAS NOT BEEN REVIEWED AT THIS TIME AS THE CIVIL SERVICES LONG SECTION DRAWINGS WERE EITHER NOT AVAILABLE OR NOT PROVIDED PRIOR TO ISSUING THE PRELIMINARY DRAWINGS.

ROCK EXCAVATION BY ELECTRICAL CONTRACTOR

- The electrical contractor shall:
- excavate electricity trenches to the depth required,
 - excavate street light foundations to a depth of 1500mm,

GENERAL NOTES

IN THE EVENT OF CONFLICT BETWEEN THIS WORKS PLAN AND DRAWINGS AND SPECIFICATIONS OF THE RELEVANT FUTURE ASSET OWNER, I.E. ENERGEX, ERGON, LOCAL AUTHORITY, DEPARTMENT OF TRANSPORT & MAIN ROADS, NBN™, ETC., THE DRAWINGS AND SPECIFICATIONS OF THE FUTURE ASSET OWNER SHALL TAKE PRECEDENCE. EXCEPTIONS APPLY WHERE RRA DESIGN DOCUMENTATION SPECIFY CLEARANCES, DEPTHS & SEPARATIONS GREATER THAN THE MINIMUM REQUIRED BY THE AUTHORITIES.

THE CONTRACTOR SHALL NOT ACCEPT A VERBAL INSTRUCTION FROM ANY PERSON TO DEPART FROM THE REQUIREMENTS OF THIS WORKS PLAN OR RRA GENERAL SPECIFICATION. ANY DEPARTURE FROM THE WORKS PLAN OR SPECIFICATION MUST FIRST BE AUTHORISED IN WRITING BY THE CONTRACT SUPERINTENDENT.

ELECTRICAL CONTRACTOR

THE WORKS DETAILED ON THIS DRAWING SHALL BE CONSTRUCTED IN ACCORDANCE WITH ROBIN RUSSELL & ASSOCIATES' GENERAL SPECIFICATION FOR INSTALLATION OF ELECTRICITY RETICULATION AND STREET LIGHTING - ISSUE 'A'.

CIVIL CONTRACTOR

THE INSTALLATION OF ALL ELECTRICAL CONDUITS SHALL BE SUPERVISED BY THE HOLDER OF AN ELECTRICAL WORK LICENCE - ELECTRICAL SAFETY ACT 2002.

ENERGEX CONDUITS AND TRANSFORMER SITE RETAINING WALLS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH ENERGEX'S SPECIFICATIONS (SEE BELOW). THEY WILL BE INSPECTED FOR COMPLIANCE UPON COMPLETION.

WHERE ROAD-CROSSING CONDUITS ARE INSTALLED DEEPER THAN USUAL (UNDER CULVERTS OR PIPES) THEY MUST RISE TO A DEPTH OF NOT MORE THAN 1200mm AT EACH END. IF UNCERTAIN, SEEK ADVICE FROM RRA CONSTRUCTION COORDINATOR.

THE CIVIL CONTRACTOR SHALL INSTALL ENVELOPING CONDUITS UNDER RETAINING WALLS BEHIND PILLARS - TWO 100mm CONDUITS INTO EACH LOT (ONE FOR ELECTRICITY, ONE FOR COMMUNICATIONS), 500mm DEEP BEHIND THE PILLAR, NEAR GROUND LEVEL INSIDE THE LOT.

RELEVANT SPECIFICATIONS IN ENERGEX'S UNDERGROUND DISTRIBUTION CONSTRUCTION MANUAL ARE FOUND AT -

SECTION C1: CONDUITS
SECTION C2: EXCAVATION
SECTION C3: TRANSFORMER SITES

THESE SECTIONS OF THE MANUAL CAN BE DOWNLOADED FROM THE FOLLOWING ENERGEX WEB SITE: https://swp.energex.com.au/service_providers/technical_docs/aspt/technical_documents.asp

CIVIL ENGINEERS WHO HAVE REGISTERED FOR ACCESS TO THE FOLLOWING RRA WEBSITE MAY DOWNLOAD EXTRACTS FROM ENERGEX'S MANUAL AT: <http://www.robrus.com.au>

THE CIVIL CONTRACTOR SHALL ENSURE THAT ALL CONDUITS HAVE BEEN INSTALLED BEFORE CONSTRUCTING RETAINING WALLS, PATHS, DRIVEWAYS & WATER SERVICES. THE CIVIL CONTRACTOR SHALL PLEASE INFORM THE ELECTRICAL CONTRACTOR OF ANY 'AS CONSTRUCTED' DEPARTURES FROM THE CIVIL DESIGN.

CARE: EXISTING STREET LIGHTS SHALL NOT BE RECOVERED UNLESS REPLACEMENT STREET LIGHTS WILL BE COMMISSIONED BEFORE NIGHTFALL. LIGHTING OF NEW OR ALTERED EXISTING ROADS MIGHT NOT COMPLY WITH SPECIFIED STANDARDS UNTIL NEW ROAD LIGHTING HAS BEEN COMMISSIONED. THE CIVIL CONTRACTOR SHALL APPLY APPROPRIATE RISK MANAGEMENT. E.G. WARNING SIGNS, SPEED RESTRICTIONS, TEMPORARY LIGHTING, ETC.

ON-SITE SERVICES CHECKS

ROBIN RUSSELL & ASSOCIATES GIVES NO WARRANTY REGARDING THE PRESENCE OR LOCATION OF BURIED SERVICES, INCLUDING NEWLY-INSTALLED SERVICES. 'AS CONSTRUCTED' LOCATIONS MAY DIFFER FROM WHAT IS DRAWN ON THIS WORKS PLAN. CONTRACTORS SHALL BE RESPONSIBLE TO IDENTIFY AND LOCATE ALL BURIED SERVICES. INITIAL IDENTIFICATION CAN BE OBTAINED FROM:

DIAL BEFORE YOU DIG SERVICE

TELEPHONE 1100

FAX 1300 652 077

ON-LINE ENQUIRIES CAN BE MADE AT: <http://www.1100.com.au>.

HAVING DETERMINED WHICH SERVICES MAY BE PRESENT, ON-SITE LOCATIONS SHOULD THEN BE ARRANGED WITH RELEVANT SERVICE AUTHORITIES.

SEWERAGE AND WATER PLANS FOR THE SUBDIVISION MAY BE OBTAINED ON REQUEST FROM THE SUPERINTENDENT.

LEGEND: ELECTRICAL

- EXISTING UNDERGROUND CABLE / CONDUIT
- - - PROPOSED UNDERGROUND CABLE / CONDUIT
- - - FUTURE UNDERGROUND CABLE / CONDUIT
- - - END OF CONDUIT POINT / CONDUIT CAP
- BORED CONDUIT
- 12 STATION NUMBERS
- 12/12/12 PADMOUNT TRANSFORMER, EXISTING / PROPOSED / FUTURE
- 12/12/12 RING MAIN UNIT, EXISTING / PROPOSED / FUTURE
- 12/12/12 POLE TRANSFORMER, EXISTING / PROPOSED / FUTURE
- 12/12/12 CABLE FAULT INDICATOR
- 12/12/12 SERVICE PILLAR, EXISTING / PROPOSED / FUTURE
- 12/12/12 LINK PILLAR, EXISTING / PROPOSED / FUTURE
- 12/12/12 C&I PILLAR, EXISTING / PROPOSED / FUTURE
- 12/12/12 LV LINKS (OPEN), EXISTING / PROPOSED / FUTURE
- 12/12/12 LV LINKS (CLOSED), EXISTING / PROPOSED / FUTURE
- EXISTING OVERHEAD ELECTRICITY MAINS
- PROPOSED OVERHEAD ELECTRICITY MAINS
- FUTURE OVERHEAD ELECTRICITY MAINS
- 12/12/12 HV POLE, EXISTING / PROPOSED / FUTURE
- 12/12/12 HV + LV POLE, EXISTING / PROPOSED / FUTURE
- 12/12/12 LV POLE, EXISTING / PROPOSED / FUTURE
- 12/12/12 EARTH, EXISTING / PROPOSED / FUTURE
- 12/12/12 STREET LIGHT, EXISTING / PROPOSED / FUTURE
- 12/12/12 EXISTING RATE 3 STREETLIGHT CABLE
- 12/12/12 PROPOSED RATE 3 STREETLIGHT CABLE
- 12/12/12 FUTURE RATE 3 STREETLIGHT CABLE
- 12/12/12 RATE 3 STREET LIGHT, EXISTING / PROPOSED / FUTURE
- 12/12/12 RATE 3 SWITCHBOARD, EXISTING / PROPOSED
- 12/12/12 EXISTING CONSUMERS UNDERGROUND CABLE
- 12/12/12 PROPOSED CONSUMERS UNDERGROUND CABLE
- 12/12/12 TO BE RECOVERED
- 12/12/12 CABLE, EXISTING / PROPOSED
- 12/12/12 32 - 50mm HD CONDUIT
- 12/12/12 80/100mm LD CONDUIT
- 12/12/12 100mm WHITE ENERGEX COMMS. CONDUIT
- 12/12/12 125mm LD CONDUIT
- 12/12/12 ELECTRIC CABLE MARKER PLATE

"AS CONSTRUCTED" DOCUMENTS

The electrical contractor shall email the "as constructed" drawing, test results & closure documents to:

- contestable@energyq.com.au
- as.constructed@robrus.com.au

UNDERGROUND CABLE CERTIFICATION

All cables detailed on this drawing have been checked using the cable locator described below and are, according to measurements taken, on the correct alignment and at correct depths below the finished level, except as marked up. Alignments are subject to the accuracy of survey pegs present at the time of measurement.

Make: _____ Model: _____
Serial No: _____ Date Cables Checked: ____/____/____
Name of Person Who Conducted Checks: _____
Certified (signature of checker): _____
Phone No. of checker: _____

CONSTRUCTION CONTACTS

ELECTRICAL ENGINEER
ROBIN RUSSELL & ASSOCIATES PTY LTD
DESIGNER
WILLIAM SCHARDT Ph: 0419 778 552
CONSTRUCTION COORDINATOR
SHANE HYDE Ph: 0419 021 772
CIVIL ENGINEER
MORTONS URBAN SOLUTIONS
JOHN HARRISON Ph: (07) 5571 1099
SURVEYOR
BENNETT & BENNETT (GC)
STEPHEN MAVOR Ph: (07) 5631 8000

SITE INFORMATION

TOTAL NUMBER OF LOTS
30
PROPERTY DESCRIPTION
PROPOSED LOTS 194 - 223
CANCELLING LOTS 188 - 192 ON RP173728

SOURCE DOCUMENTS

CREATOR	DRAWING	DWG No.	REV	DATE
MORTONS URBAN SOLUTIONS	CIVIL	03-BASE	-	7/05/2024
Robin Russell & Assoc	ELECTRICAL	F018 (S0107643)	D	16/11/2023
Robin Russell & Assoc	ELECTRICAL	F019 (S0107644)	B	13/05/2024

DATE	REV	REVISION	APP.	DATE	REV	REVISION	APP.	CURRENT REVISION CHANGES:
17/05/2024	A	PRELIMINARY ISSUE	RR					



Robin Russell
& ASSOCIATES PTY. LTD.
CONSULTING ENGINEERS - ELECTRICAL

SUBDIVISION
ELECTRICAL SERVICES
20416 Salama Street,
Stafford, QLD 4053
Tel: (07) 3872 5555
Fax: (07) 3872 5566
Email: rr@robrus.com.au
www.robrus.com.au
A.B.N. 78 010 589 661
THIS IS A UDC GENERATED DESIGN

COUNCIL	GOLD COAST	DWT REV.	V53-3 20210504
COUNCIL REF	COM/2019/82		
DESIGNED	W.Schardt	DRAWN	B.Hyland
CHECKED	D.Lloyd RPEQ 5060	APPROVED	ROBIN RUSSELL RPEQ 1546
DATE	17/05/2024	SIGNED	<i>Robin Russell</i>

DESCRIPTION
ELECTRICITY RETICULATION - RESIDENTIAL
CLIENT
HB QLD PTY LTD

LOCATION

**CALLI ESTATE - STAGE 3
COURTNEY DRIVE
UPPER COOMERA**

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DRAWING No.	REVISION
F020-01	A
ENERGEX PROJECT No.	SHEET No.
S0107645	1 OF 4

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URD CONDUIT SCHEDULE - FOOTPATHS - BY ELECTRICAL CONTRACTOR

LOCATION	STATIONS FROM - TO	CONDUIT LENGTH (m)						X-SECTION (m)				DRAW WIRE	KERB MARKERS	REMARKS
		50mm HD	No.	100mm LD	No.	125mm LD	No.	EOL 100mm COMMS MD	PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL			
KINSHIP ROAD	2 3			29	1				29	D	31			
	3 4	5	1	5	1				5	P	14			
	3 4L1	5	1						5	O	7			
SORA PLACE	4 5	10	1	10	1				10	P	24			
	5 4L2	4	1						4	O	6			
	5 6			33	1				33	D	35			
	6 7			22	1				22	D	24			
	7 9			32	1				32	D	34			
	8 8L	10	1						10	O	12			
	9 10	17	1	17	1				17	P	38			
	10 9L	4	1						4	O	6			
	10 11			13	1				13	D	15			
	11 12			34	1				34	D	36			
	12 12L	4	1						4	O	6			
	13 14			28	1				28	D	30			
KINSHIP ROAD	14 16			28	1				28	D	30			
	16 17	14	1	14	1				14	P	32			
	17 16L	4	1						4	O	6			
	17 18			11	1				11	D	13			
	18 19			20	1				20	D	22			
	19 20			28	1				28	D	30			
	20 22			23	1				23	D	25			
	21 21L	4	1						4	O	6			
	22 23			22	1				22	D	24			
	23 23L	5	1						5	O	7			
	23 25			24	1				24	D	26			
	26 27			34	1				34	D	36			
	27 28	16	1	16	1				16	P	36			
	27 28L	4	1						4	O	6			
	TOTAL		106m		443m				44m	487m	617m			

- NOTES:
- CONDUITS SHALL BE INSTALLED WITHIN A CORRIDOR 300-900mm FROM PROPERTY ALIGNMENT, IN ACCORDANCE WITH ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION (UDC) MANUAL.
 - FOOTPATH CONDUITS SHALL HAVE MINIMUM 700mm COVER, REGARDLESS OF ENERGEX'S REQUIREMENTS.
 - CONNECT EXISTING CONDUITS, INCLUDING ROAD CROSSING CONDUITS, TO NEW FOOTPATH CONDUITS
 - TELECOMMUNICATION CONDUITS SHALL BE INSTALLED ABOVE THE ENERGEX CONDUITS IN A JOINT USE TRENCH ARRANGEMENT.

URD CONDUIT SCHEDULE - ROADWAYS - BY CIVIL CONTRACTOR

LOCATION	STATIONS FROM - TO	CONDUIT LENGTH (m)						X-SECTION (m)				DRAW WIRE	KERB MARKERS	REMARKS
		50mm HD	No.	100mm LD	No.	125mm LD	No.	EOL 100mm COMMS MD	PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL			
KINSHIP ROAD	1 2			20	1				20	20	D	22	2	
SORA PLACE	7 8			20	1				20	20	D	22	2	
KINSHIP ROAD	14 15			18	1				18	18	D	20	2	
	20 21			19	1				19	19	D	21	2	
	26 26L	18	1						18	18	O	20	2	
TOTAL		18m		77m					95m	95m		105m	10	

- NOTES:
- ROAD CROSSING CONDUITS SHALL BE INSTALLED STRICTLY IN ACCORDANCE WITH THE ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION (UDC) MANUAL.
 - ROAD CROSSING CONDUITS SHALL HAVE A MINIMUM COVER OF 800mm AT ALL PLACES UNDER THE ROAD, EXCEPT UNDER STATE-CONTROLLED "MAIN" ROADS, WHERE CONDUITS SHALL HAVE A MINIMUM COVER OF 1200mm.
 - CONDUITS SHALL EXTEND TO WITHIN 900mm OF PROPERTY ALIGNMENT; PVC PROTECTIVE COVER STRIPS SHALL BE LAID ABOVE ALL ROAD-CROSSING CONDUITS.
 - REFER ENERGEX UDC MANUAL SECT. C2 FOR CROSS-SECTION DETAILS.
 - BRASS "E" MARKERS SHALL BE INSTALLED IN KERBS DIRECTLY ABOVE ELECTRICITY CONDUITS.

RATE 2 - STREETLIGHT SCHEDULE

LOCATION	STN No.	SITE ID (POLE No.)	COMP ID	POLE OR COMPONENTS				POLE CODE	ALIGN (mm)	COMP ID	EX	LANTERN				DATE ENERG	LUMINAIRE CODE	OUTREACH BRACKET				UPCAST ANGLE	MOUNT HT (m)	REMARKS
				EX (m)	REC (m)	ER (m)						RECOVER LUMIN	CUST	DATE DE-ENERG	LUMIN	ERECT CUST		EX (m)	REC (m)	ER (m)	CU ID			
KINSHIP ROAD	4L1	P12709699	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
SORA PLACE	4L2	P12709700	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	8L	P12709701	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	9L	P12709702	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
KINSHIP ROAD	12L	P12709703	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	16L	P12709704	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	21L	P12709705	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	23L	P12709706	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	26L	P12709707	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE
	28L	P12709708	P01			4.5m BPM		SLNOS3CI	700 NKL	SL1					L14L2	GCCC	SLEDSY01375					0°	5.1	BLACK AVENUE

- NOTES:
- ALL LIGHTS TO BE CONNECTED ON EQL RATE 2.
 - CHECK CLEAR OF ALL SERVICES BEFORE EXCAVATING.
 - "NKL" ALIGNMENT MEASURED FROM NOMINAL KERB LINE TO FRONT OF POLE.

UNDERGROUND CABLE SCHEDULE

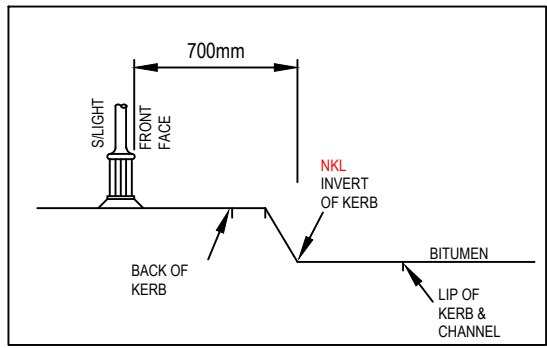
LOCATION	STATIONS FROM - TO	VOLTS	EX	REC	IN	CABLE SIZE/TYPE	CU CODE	CABLE LENGTH (m)		REMARKS
								NEW	REC	
KINSHIP ROAD	1 2	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	23		
	1 14	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	48		
SORA PLACE	2 4	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	38		
	4 4L2	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	19		
	4 4L1	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	16		
	4 6	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	46		
	6 7	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	27		
	7 8	LV			*	16mm² Cu 4C XLPE/PVC	SCS820365	25		
	7 9	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	37		
	8 8L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	16		
	9 9L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	26		
	9 11	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	33		
	11 12	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	39		
	12 12L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	10		
KINSHIP ROAD	14 15	LV			*	16mm² Cu 4C XLPE/PVC	SCS820365	23		
	14 16	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	33		
	16 16L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	23		
	16 18	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	29		
	18 19	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	25		
	19 20	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	33		
	20 21	LV			*	16mm² Cu 4C XLPE/PVC	SCS820365	24		
	20 22	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	28		
	21 21L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	10		
	22 23	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	27		
	23 23L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	5		
	23 26	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	42		
	26 26L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	24		
	26 28	LV			*	240mm² Al 4C XLPE/PVC	SCS820364	51		
	28 28L	SL			*	4mm² Cu 2C PVC/PVC	LVC24PVPV	22		
TOTALS	(Variance 2%)					240mm² Al 4C XLPE/PVC	SCS820364	559		
						16mm² Cu 4C XLPE/PVC	SCS820365	72		
						4mm² Cu 2C PVC/PVC	LVC24PVPV	171		

- NOTES:
- THE CONTRACTOR SHALL MEASURE ACTUAL CABLE LENGTHS REQUIRED, AFTER INSTALLATION OF CONDUITS, THEN ORDER CABLE ACCORDINGLY.

URD CONDUIT SCHEDULE - FOOTPATHS - BY CIVIL CONTRACTOR

LOCATION	STATIONS FROM - TO	CONDUIT LENGTH (m)						X-SECTION (m)				DRAW WIRE	KERB MARKERS	REMARKS
		50mm HD	No.	100mm LD	No.	125mm LD	No.	EOL 100mm COMMS MD	PVC CABLE PROTECTION (m)	EXCAV /TAPE	TRENCH DETAIL			
KINSHIP ROAD	1 13			19	1					19	D	21		
	25 26			16	1					16	D	18		
TOTAL				35m						35m		39m		

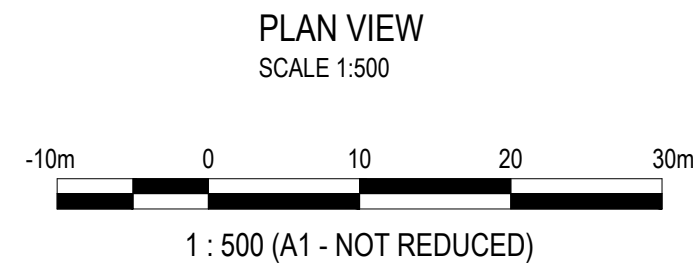
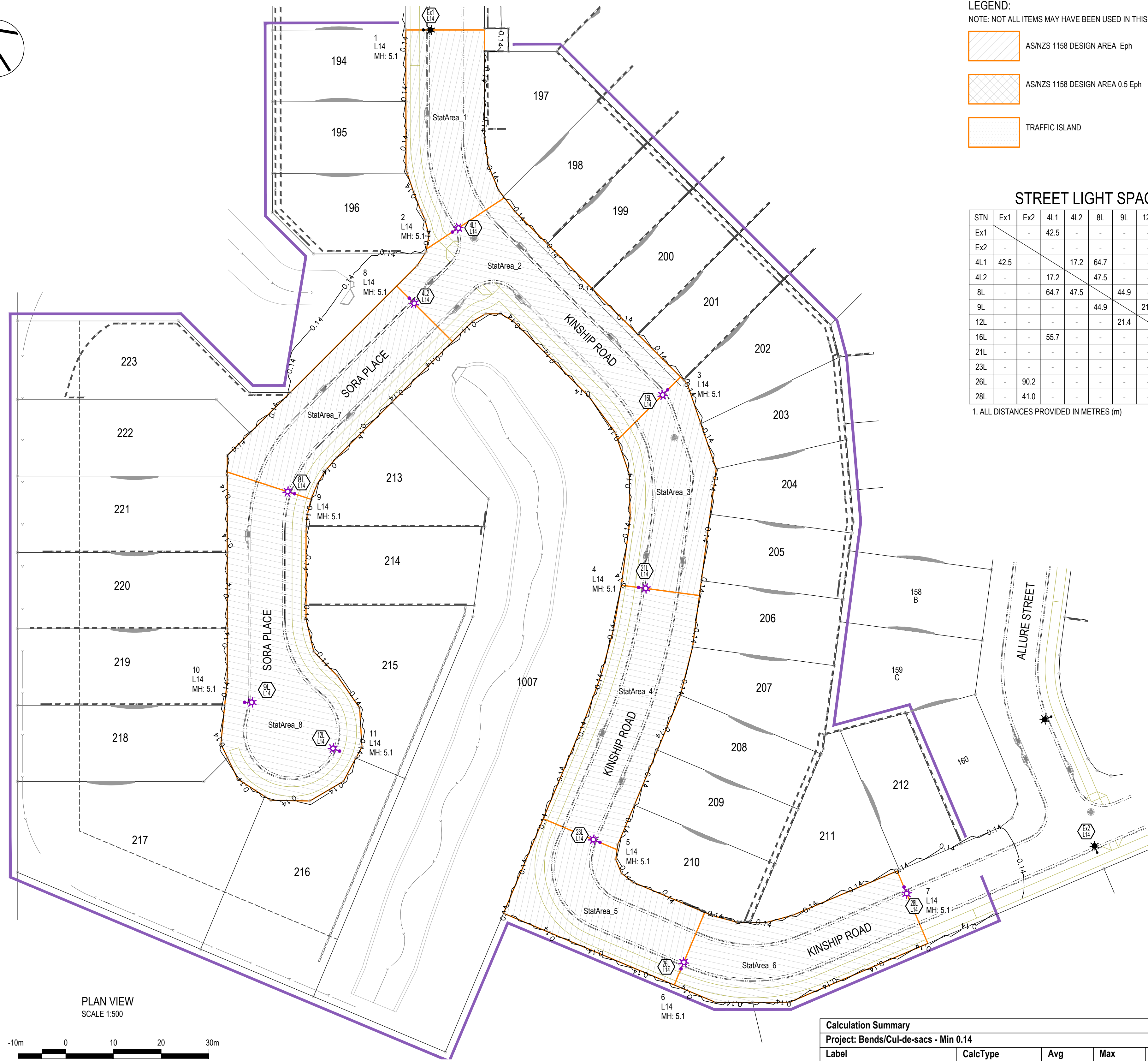
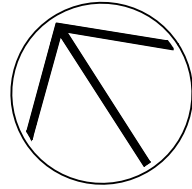
- NOTES:
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 - FOOTPATH CONDUITS SHALL HAVE MINIMUM 700mm COVER, REGARDLESS OF ENERGEX'S REQUIREMENTS.
 - CONNECT EXISTING CONDUITS, INCLUDING ROAD CROSSING CONDUITS, TO NEW FOOTPATH CONDUITS
 - TELECOMMUNICATION CONDUITS SHALL BE INSTALLED ABOVE THE ENERGEX CONDUITS IN A JOINT USE TRENCH ARRANGEMENT.



GOLD COAST CITY COUNCIL
STREETLIGHT ALIGNMENT DETAIL
NTS

CONDUIT BENDING RADIUS (mm)			
LOCATION	50mm Ø	100mm Ø	125mm Ø
HORIZONTAL BEND	600	1830	1830
PILLAR - MAIN CABLE	-	1200	-
PILLAR - X-ROAD CABLE	-	450	-
PILLAR - STREET LIGHT CABLE	600	-	-
STREET LIGHT	300	-	-
POLE TERMINATION	300	1200	1830
TRANSFORMER	no bends required		

DATE	REV	REVISION	APP.	DATE	REV	REVISION	APP.	CURRENT REVISION CHANGES:	 Robin Russell & ASSOCIATES PTY. LTD. CONSULTING ENGINEERS - ELECTRICAL	SUBDIVISION ELECTRICAL SERVICES 20416 Babarra Street, Stafford, QLD 4053 Tel: (07) 3872 5555 Fax: (07) 3872 5566 Email: info@robusrussell.com.au www.robusrussell.com.au A.B.N. 78 010 589 661 THIS IS A UDC GENERATED DESIGN	COUNCIL	GOLD COAST	DWT REV.	V53-3 20210504	DESCRIPTION ELECTRICITY RETICULATION - RESIDENTIAL	LOCATION CALLI ESTATE - STAGE 3 COURTNEY DRIVE UPPER COOMERA	DRAWING No. F020-03	REVISION A	
17/05/2024	A	PRELIMINARY ISSUE	<i>R.R.</i>							DESIGNED	W.Schardt	DRAWN	B.Hylland	CLIENT HB QLD PTY LTD	C	THIS DOCUMENT IS COPYRIGHT AND THE PROPERTY OF ROBIN RUSSELL & ASSOCIATES PTY LTD AND MUST NOT BE RETAINED, COPIED OR USED WITHOUT AUTHORITY.	A1	S0107645	3 OF 4
										CHECKED	D.Lloyd RPEQ 5060	APPROVED	ROBIN RUSSELL RPEQ 1546						
										DATE	17/05/2024	SIGNED	<i>Rob Russell</i>						



Luminaire Schedule					
Qty	Configuration	Description	MF	Filename	Arm
11	Single	SYLVANIA Nostalgia2 T2 L14 4K (Avenue)	0.750	AVENUE II 4K 14W V2 210729PH.ies	0.535

LEGEND:

NOTE: NOT ALL ITEMS MAY HAVE BEEN USED IN THIS DESIGN

Isolines	
Linetype	Value (Lux)
	0.07
	0.14
	1.75
	3.5
	3.75
	7.5

	AS/NZS 1158 DESIGN AREA Eph
	AS/NZS 1158 DESIGN AREA 0.5 Eph
	TRAFFIC ISLAND

STREET LIGHT SPACING MATRIX

STN	Ex1	Ex2	4L1	4L2	8L	9L	12L	16L	21L	23L	26L	28L
Ex1	-	-	42.5	-	-	-	-	-	-	-	-	-
Ex2	-	-	-	-	-	-	-	-	-	-	90.2	41.0
4L1	42.5	-	-	17.2	64.7	-	-	55.7	-	-	-	-
4L2	-	-	17.2	-	47.5	-	-	-	-	-	-	-
8L	-	-	64.7	47.5	-	44.9	-	-	-	-	-	-
9L	-	-	-	-	44.9	-	21.4	-	-	-	-	-
12L	-	-	-	-	-	21.4	-	-	-	-	-	-
16L	-	-	55.7	-	-	-	-	41.4	95.3	-	-	-
21L	-	-	-	-	-	-	-	41.4	53.9	-	-	-
23L	-	-	-	-	-	-	95.3	53.9	-	31.6	-	-
26L	-	90.2	-	-	-	-	-	-	31.6	-	-	49.4
28L	-	41.0	-	-	-	-	-	-	-	49.4	-	-

1. ALL DISTANCES PROVIDED IN METRES (m)

ROAD LIGHTING INFORMATION

Design documentation in accordance with the requirements of :
AS/NZS 1158.3.1:2020 Appendix C

ARRANGEMENT / GEOMETRY				
Category	Road Name(s)			
PR5	KINSHIP ROAD, SORA PLACE			
Arrangement	Height (m)	Outreach (m)	Uppcast	Offset (m)
Single Sided	5.1	0.535	0°	4.185
LUMINAIRE / LAMP DETAILS				
Type / Wattage	Lumens	IP Rating	Origin of Data	
14W LED	1969	66	SYLVANIA SCHREDER	
Luminaire Type	Avenue L14 T2 Black			
I Table No.	AVENUE II 4K 14W V2 210729PH.cie			
TECHNICAL PARAMETERS				
Average Horizontal Illuminance	(E _h)	≥0.85		
Min Point Horizontal Illuminance	(E _{ph})	≥0.14		
Illuminance Uniformity	(U _{e2})	≤10		
Upward Waste Light Ratio %	(UWLR)	≤1		
Road Reserve Lighting Design Width	(m)	16.5		
Perfect Lite Maximum Spacing	(m)	57		

GENERAL NOTES:

CALCULATIONS WITHIN THIS DESIGN ARE SUBJECT TO THE TOLERANCES OUTLINED IN AS/NZS 1158.2 & AS/NZS 3827.1.

ILLUMINANCE CALCULATION FIELDS USE A 1m X 1m HORIZONTAL GRID ARRAY.

SETTINGS HAVE BEEN ADJUSTED TO ENSURE ALL CALCULATIONS ARE UNDERTAKEN TO A MINIMUM OF 2 DECIMAL PLACES.

LINEAR ILLUMINANCE ARRAYS CREATED HAVE BEEN SET UP WITH A MAXIMUM SPACING OF 2.0m.

ISOLUX VALUES, WHERE SHOWN ON DIAGRAMS, HAVE BEEN ROUNDED TO 2 DECIMAL PLACES TO ENSURE CLARITY.

LUMINAIRES MAY BE MOVED BY UP TO 200mm IN EITHER DIRECTION Laterally, AND/OR AWAY FROM THE PATHWAY, WHILE REMAINING COMPLIANT.

AS PER S4.4.3.1 (1158.1:1:2022) & S4.1.1 (1158.3.1:2020), BLOCKING OBJECTS HAVE BEEN EMPLOYED IN ORDER TO EXCLUDE LIGHT THAT MAY CROSS PROPERTY BOUNDARIES.

DEFINITIONS:

OFFSET: THE HORIZONTAL DISTANCE BETWEEN THE PHOTOMETRIC CENTRE OF A LUMINAIRE AND THE RP BOUNDARY OR EDGE OF PATH.

OVERHANG: THE HORIZONTAL DISTANCE BETWEEN THE PHOTOMETRIC CENTRE OF A LUMINAIRE AND THE ADJACENT KERB OR CARRIAGEWAY EDGE.

OUTREACH: THE HORIZONTAL DISTANCE BETWEEN THE PHOTOMETRIC CENTRE OF A LUMINAIRE, TO—

- (a) THE CENTRE OF THE POLE (E.G. STANDALONE STREET LIGHT POLES); OR
- (b) THE FACE OF POLE FOR BRACKET ARMS (E.G. TIMBER POWER POLES).

PROJECT SPECIFIC DETAILS:

THIS DESIGN IS COMPLIANT WITH AND PREPARED IN ACCORDANCE WITH THE REQUIREMENTS OF:
AS/NZS 1158.3.1:2020 APPENDIX C
AS DETAILED BELOW

LIGHTING SUBCATEGORIES:
KINSHIP ROAD, SORA PLACE - PR5

APPLICABLE CLAUSES:

P CATEGORY
S4.2(c) FOR CURVED SECTIONS OF ROAD AND BENDS.
S4.3 T-INTERSECTIONS (e)(iii)/FIGURE 4.2(iii)
S4.3.3 CUL-DE-SACS

DESIGN METHODS:

SPACING TABLES AND DESIGN RULES FOR ROADWAYS & INTERSECTIONS.
NB! ALL LUMINAIRES WITHIN THIS DESIGN ARE WITHIN THE MAXIMUM ALLOWABLE SPACING FOR THEIR CATEGORY.

ILLUMINANCE DESIGN FOR CUL-DE-SAC & CURVES/BENDS.

ROAD SURFACE REFLECTION CHARACTERISTICS:
R3

COMPUTER PROGRAM DETAILS

Name of Computer Program - Perfect Lite v5.06 & AGI32 v21.3.0.23
Source of program - Constant Energy & Lighting Analysts
Compliance - AS/NZS 1158.2:2005

NON-CONFORMANCES:

NIL

ROAD LIGHTING MAINTENANCE SCHEDULE:

THE MAINTENANCE FACTOR AND THE MAINTENANCE REGIME ARE THE RESPONSIBILITY OF THE ASSET OWNER (ENERGY QUEENSLAND).

THIS DESIGN UTILISES A MAINTENANCE FACTOR OF 0.75 BASED ON THE IP RATING OF 6X & 0.7 BASED ON THE IP RATING OF 5X AS SPECIFIED BY ENERGY QUEENSLAND.

NOTE: THIS CERTIFICATION IS ONLY APPLICABLE IF LUMINAIRES ARE REPLACED WITH EXACT EQUIVALENTS AND MAINTENANCE IS UNDERTAKEN AS SPECIFIED.

Calculation Summary

Project: Bends/Cul-de-sacs - Min 0.14

Label	CalcType	Avg	Max	Min	Max/Avg (UE2)
StatArea_1	Illuminance	1.81	9.39	0.24	5.19
StatArea_2	Illuminance	1.67	9.01	0.15	5.40
StatArea_3	Illuminance	1.71	9.03	0.14	5.28
StatArea_4	Illuminance	1.30	9.03	0.15	6.95
StatArea_5	Illuminance	1.76	8.95	0.17	5.09
StatArea_6	Illuminance	1.42	8.97	0.17	6.32
StatArea_7	Illuminance	1.46	8.82	0.17	6.04
StatArea_8	Illuminance	2.13	9.08	0.26	4.26

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17/05/2024	A	PRELIMINARY ISSUE	RR										ROAD LIGHTING DESIGN	CALLI ESTATE - STAGE 3 COURTNEY DRIVE UPPER COOMERA	F020-04	A
													CLIENT	HB QLD PTY LTD	ENERGEX PROJECT No.	SHEET No.
															S0107645	4 OF 4
															A1	



Robin Russell
& ASSOCIATES PTY. LTD.

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www.robrussell.com.au
A.B.N. 78 010 589 661
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COUNCIL

COUNCIL REF

DESIGNED

CHECKED

DATE

GOLD COAST

COM/2019/82

W.Schardt

D.Lloyd RPEQ 5060

17/05/2024

DWT REV.

DRAWN

APPROVED

SIGNED

V53-3 20210504

B.Hyland

ROBIN RUSSELL
RPEQ 1546

DESCRIPTION

ROAD LIGHTING DESIGN

CLIENT

HB QLD PTY LTD

LOCATION

CALLI ESTATE - STAGE 3
COURTNEY DRIVE
UPPER COOMERA

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DRAWING No.

F020-04

ENERGEX PROJECT No.

S0107645

A1

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A

SHEET No.

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