

URD CONDUIT SCHEDULE - FOOTPATHS - BY ELECTRICAL CONTRACTOR

LOCATION	STATIONS FROM - TO	CONDUIT LENGTH (m)						X-SECTION (m)		KERB MARK 'E'	REMARKS	TRENCH
		40mm HD	No	100mm LD	No	125mm LD	No	ENERGEX 100mm Comms MD	EXCAV/ TAPE	TRENCH DETAIL		
Christensen Road South, Staplyton Road 1	2 2L1	3	1						3	O		3
	5			94	2	94	4	94	94	AA		94
	5 9	56	1	56	2	56	4	56	56	BB		56
	6 6L1	3	1						3	O		3
	7 8			28	2	28	2	28	28	N		28
	8 8L	39	1						39	O		39
	9 10			53	2	53	4	53	53	AA		53
	10 11	38	1	38	2	38	4	38	38	BB		38
	11L	3	1						3	O		3
	11L	3	1						3	O		3
ALL STREETS	AT PILLARS & POLES								15	9	O	PVC COVER STRIP AT PILLARS AND TO LIGHT POLES
TOTAL		142		538		1020		249	24	317		317

- NOTES
- CONDUITS SHALL BE INSTALLED WITHIN A CORRIDOR 300-900mm FROM PROPERTY ALIGNMENT, IN ACCORDANCE WITH ENERGEX UNDERGROUND DISTRIBUTION CONSTRUCTION UDM 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 ON AN ALIGNMENT OF 2.1 - 3.0M FROM THE PROPERTY BOUNDARY.

EQUIPMENT SCHEDULE - SERVICE PILLARS

LOCATION	STN NO.	SITE I.D.	EX	REC	IN	SIZE AND DESCRIPTION	COMP I.D.	CU/SC/ CONST. CODE	CTY	REMARKS
Christensen Road South, Staplyton	1	U714386	*	*		2 WAY PILLAR, MEN	P11	LVSP17-CFS 1037-1	1	2x240
						2 WAY C&I PILLAR, CFS, MEN	P11	LVSP17-CFS 1037-1	1	
	2	U2210992				3 WAY PILLAR & S/L	P11	LVSP17-CFS 1037-1	1	3x240
	3	U714387	*	*		3 WAY PILLAR & S/L	P11	LVSP17-CFS 1037-1	1	3x240
Road 1	4	U2210993				240mm ² AI 4C PILLAR TERMINATION	P11	1044-1-240 1037-1	8	
						2 WAY C&I PILLAR, CFS, MEN & S/L	P11	LVSP17-CFS 1043-3 1037-1	1	2x240
	5	U2210994	*	*		4 WAY PILLAR, NO FUSE PANEL 185mm ² Cu TERMINATION	P11	LVSP17-NF 1043-3 1037-1	1	3x240, 1x185
	6	U2210995	*	*		1 WAY C&I PILLAR, CFS, MEN & S/L	P11	LVSP17-CFS 1043-3 1037-1	1	1x185
VARIOUS LOCATIONS	8	U2210996	*	*		185mm ² Cu TERMINATION	P11	LVSP17-CFS 1043-3 1037-1	1	1x240
						1 WAY C&I PILLAR, CFS, MEN & S/L	P11	LVSP17-CFS 1043-3 1037-1	1	1x240
	11	U2210997	*	*		1 WAY C&I PILLAR, CFS, MEN & S/L	P11	LVSP17-CFS 1043-3 1037-1	1	1x240
						SL SERVICE DIRECT FROM PILLAR (FUSE)	SUG SL PIL	ADE	6	

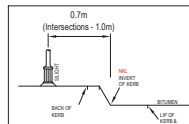
SITE INFORMATION

TOTAL NUMBER OF LOTS
8
PROPERTY DESCRIPTION
LOTS 16-17 CANCELLED LOT 23 ON SP193431

SOURCE DOCUMENTS

CREATOR	DRAWING	DWG. NO.	REV. NO.	DATE
1.3 (I Cabnet) Consulting Engineer	Civil Date	17-209-4000		14/05/2019
ENERGEX Ltd	Augmentation	C923/01A	REV B	03/05/2019

ELECTRICAL CONTRACTOR
REINSTATE ALL AREAS TO SAME



GOLD COAST CITY COUNCIL
STREETLIGHT ALIGNMENT DETAIL
NTS

CONSTRUCTION CONTACTS

ELECTRICAL ENGINEER

ROBIN RUSSELL & ASSOCIATES PTY LTD

DESIGNER
Chris Allen - 0411 812 188

CONSTRUCTION COORDINATOR
Shane Hyde - 0419 921 772

CIVIL ENGINEER
1/3 (I Cabnet) Consulting Engineer

Travis Smith - (07) 3870 8888

SURVEYOR
AUS Surveys Pty Ltd

Anthony Schmidt - (07) 3823 2144

"AS CONSTRUCTED" DOCUMENTS

The electrical contractor shall email the "as constructed" drawing, test results & closure documents to:
• subdivision@energex.com.au
• asconstructed@robus.com.au

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 Co, 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 Retention and Street Lighting - Issue 'AA'.

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 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_documents/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.robus.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.

Carrel Lighting of new or altered existing roads must comply with specified standards until new road lighting has been commissioned. The civil contractor shall ensure that necessary warning signs are installed and speed reductions are applied if necessary.

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 shown 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.

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: to be installed by: Robin Russell & Associates

to be owned by: to be owned by: civil & electrical contractors

to be provided by: to be provided by:

NBNCo Limited

LEGEND: ELECTRICAL

- EXISTING UNDERGROUND CABLE
- PROPOSED UNDERGROUND CABLE
- FUTURE UNDERGROUND CABLE
- BORED CONDUIT
- GAS IN SHARED TRENCH
- STATION NUMBERS
- PADMOUNT TRANSFORMER
- EXISTING / PROPOSED / FUTURE
- RING MAIN UNIT, EXISTING / PROPOSED / FUTURE
- POLE TRANSFORMER
- EXISTING / PROPOSED / FUTURE
- CABLE FAULT INDICATOR
- SERVICE PILLAR, EXISTING / PROPOSED / FUTURE
- LINK PILLAR, EXISTING / PROPOSED / FUTURE
- LV LINKS (OPEN), EXISTING / PROPOSED / FUTURE
- LV LINKS (CLOSED), EXISTING / PROPOSED / FUTURE
- EXISTING OVERHEAD ELECTRICITY MAINS
- PROPOSED OVERHEAD ELECTRICITY MAINS
- FUTURE OVERHEAD ELECTRICITY MAINS
- HP POLE, EXISTING / PROPOSED / FUTURE
- LV POLE, EXISTING / PROPOSED / FUTURE
- LV POLE, EXISTING / PROPOSED / FUTURE
- EARTH, EXISTING / PROPOSED / FUTURE
- STREET LIGHT, EXISTING / PROPOSED / FUTURE
- EXISTING RATE 3 STREETLIGHT CABLE
- PROPOSED RATE 3 STREETLIGHT CABLE
- FUTURE RATE 3 STREETLIGHT CABLE
- RATE 3 STREET LIGHT, EXISTING / PROPOSED / FUTURE
- RATE 3 SWITCHBOARD, EXISTING / PROPOSED
- EXISTING CONSUMERS UNDERGROUND CABLE
- PROPOSED CONSUMERS UNDERGROUND CABLE
- TO BE RECOVERED
- CABLE, EXISTING / PROPOSED
- 3240mm HD CONDUIT
- 80/100mm LD CONDUIT
- 100mm WHITE ENERGEX COMMS. CONDUIT
- 125mm LD CONDUIT
- "ENERGEX ELECTRIC CABLE" MARKER PLATE

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: _____

PLANS AND DOCUMENTS REFERRED TO IN THE DEVELOPMENT APPROVAL

Application No: OPW/2019/784

Dated: 17 June 2019

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

No building approvals shall form part of the development permit.

PLAN VIEW
SCALE: 1:500
1:500 (A1 - NOT REDUCED)

DATE	REV	REVISION	APP.	DATE	REV	REVISION	APP.	CURRENT REVISION CHANGES:
30/05/2019	A	INITIAL ISSUE	AS					REV A: PRELIMINARY DESIGN FOR REVIEW & ISSUE.

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

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Fax: (07) 3872 5556
Email: info@robus.com.au
www.robus.com.au
A.B.N. 78 010 088 681

ENERGEX SPECIFICATION	WCS47.1	DESIGNED	CHRIS ALLAN
COUNCIL	QCCC	DRAWN	CHRIS ALLAN
COUNCIL REF	OPW/2019/167	APPROVED BY	ROBIN RUSSELL
UBD REF	Map 289	SIGNED	RPEQ 1546
DWT REV	V45 - 2018/12/19	DATE	30/05/2019

CLIENT:
BURNSIDE DEVELOPMENTS P/L & YELLOWSTONE INVESTMENTS P/L

LOCATION
84-160 CHRISTENSEN ROAD SOUTH STAPLYTON

DRAWING No:
C923-01A
ENRGEX PROJECT No:
S0106535
SHEET No:
1 of 3

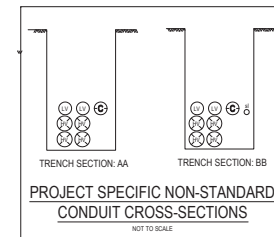
URD CONDUIT SCHEDULE - ROADWAYS - BY CIVIL CONTRACTOR

LOCATION	STATIONS FROM - TO		CONDUIT LENGTH (m)						X-SECTION (m)				REMARKS	TRENCH BY CIVIL	
									PVC CABLE PROTECTION (m)		EXCAV/ TAPE				KERB MARK 'E'
			40mm HD	No	100mm LD	No	125mm LD	No	ENERGEX 100mm Comms MD			TRENCH DETAIL			
Road 1, Stapylton	5	7			22	2	22		22	22	N	2		22	
	6L2	9	19	1					19	19	O	2		19	
TOTAL			19		44		44	22	41	41		4		41	

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 FOR THEIR FULL LENGTH.
- REFER ENERGEX UDC MANUAL, SECT. C2 FOR CROSS-SECTION DETAILS.
- BRASS 'E' MARKERS SHALL BE INSTALLED IN KERBS DIRECTLY ABOVE ELECTRICITY CONDUITS.
- CAUTION: DO NOT CONSTRUCT RETAINING WALLS, CONCRETE PATHS OR WATER SERVICES UNTIL FOOTPATH CONDUITS HAVE BEEN INSTALLED.**

CONDUIT BENDING RADIUS (mm)			
LOCATION	40mm 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		

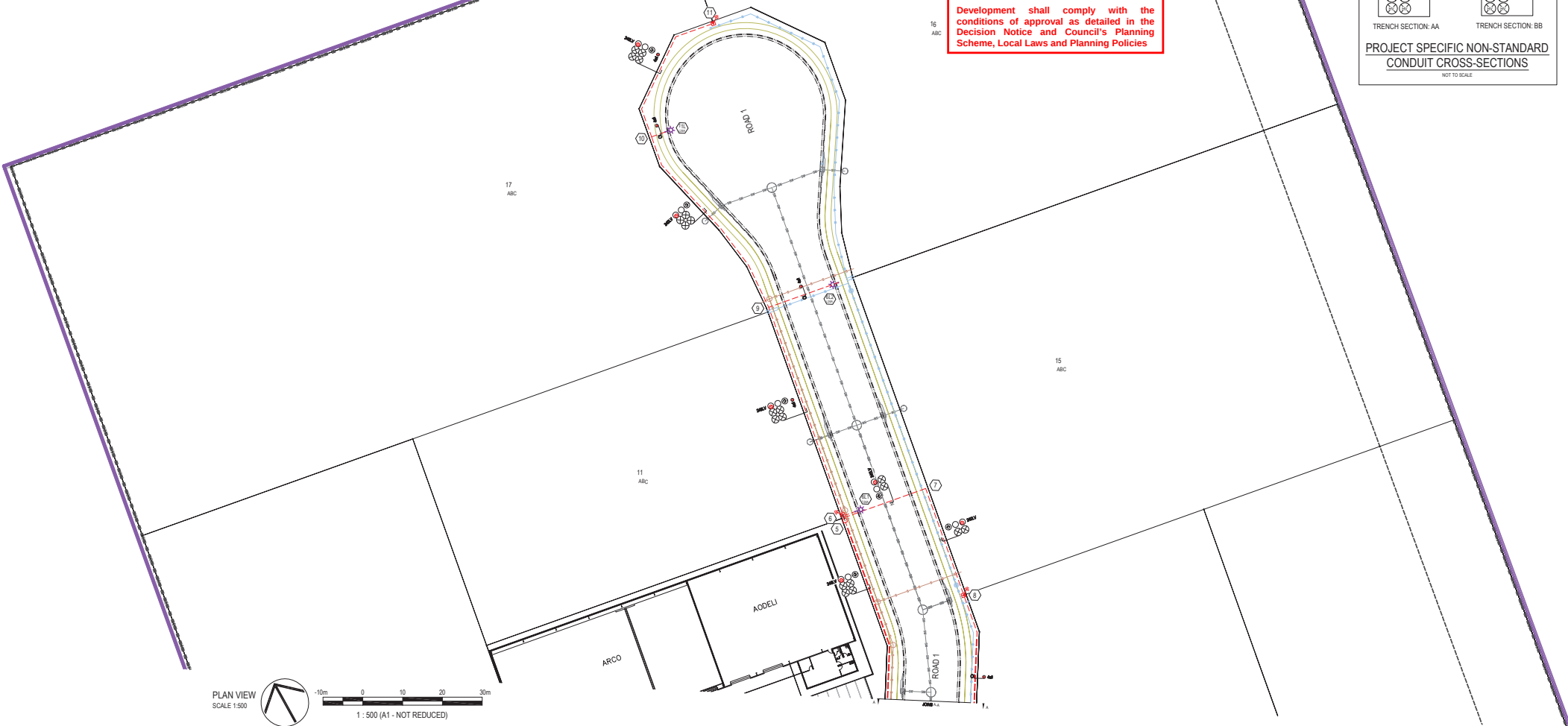


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PLAN VIEW
SCALE 1:500



10m 0 10 20 30m
1 : 500 (A1 - NOT REDUCED)

DATE	REV	REVISION	APP.	DATE	REV	REVISION	APP.	CURRENT REVISION CHANGES:
30/05/2019	A	INITIAL ISSUE	AS					REV A: PRELIMINARY DESIGN FOR REVIEW & ISSUE.



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ENERGEX SPECIFICATION	WCS47.1	DESIGNED	CHRIS ALLAN
COUNCIL	QCCC	DRAWN	CHRIS ALLAN
COUNCIL REF	OPW/2019/160	APPROVED BY	ROBIN RUSSELL RPEQ 1546
UBD REF	Map 285 E 13	SIGNED	<i>Rob Russell</i>
DWT REV	V45 - 20181219	DATE	30/05/2019

DESCRIPTION	ELECTRICAL RETICULATION
CLIENT	BURNSIDE DEVELOPMENTS P/L & YELLOWSTONE INVESTMENTS P/L

LOCATION	84-160 CHRISTENSEN ROAD SOUTH STAPYLTON
DRAWING No.	C923-02A
ENERGEX PROJECT No.	S0106535
SHEET No.	2 OF 3

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A1

STREET LIGHT SCHEDULE - RATE 2

LOCATION	STN NO.	SITE I.D.	POLE OR COMPONENTS										LANTERN										OUTREACH BRACKET					REMARKS	SL CABLE (m)
			COMP I.D.	EXIST (m)	REC (m)	POLE + O/R CODE	ACTION	ERECT (m)	POLE TYPE	ASSY	ALIGN	COMP I.D.	EXIST	RECOVER LANTERN	CUST.	LUMINAIRE CODE	ACTION	ERECT LANTERN	CUST.	ASSY / SC	EXIST (m)	REC (m)	ACTION	ERECT (m)	ASSY	MOUNT HT (m)			
Christensen Road South, Staplyton Road 1	2L1	F2210998	P01			S B 90 1 30 U CH	INST	7.0	BPM	809-6	1.0 NKL	SL1				SLED PH0808A	INST	L80CA L2	GCCC	913-10			INST	1 x 3.0	808-2	9.0	One Way Outreach	8	
	2L2	F1477744	P01	7.0	7.0		REC					EX	SL1	S100D	S100D-L2	GCCC		REC			3.0	3.0	REC				Recover SL Pole & Foundation		
	6L1	F2210999	P01			S B 75 1 15 CI	INST	5.5	BPM	872-4	0.7NKL	SL1				SLED GL 0244 A	INST	L24A L2	GCCC	817-36			INST	1x1.5	815-1	7.5		8	
	6L2	F2211000	P01			S B 75 1 15 CI	INST	5.5	BPM	872-4	0.7NKL	SL1				SLED GL 0244 A	INST	L24A L2	GCCC	817-36			INST	1x1.5	815-1	7.5			
	8L	F2211001	P01			S B 75 1 15 CI	INST	5.5	BPM	872-4	0.7NKL	SL1				SLED GL 0244 A	INST	L24A L2	GCCC	817-36			INST	1x1.5	815-1	7.5			
	11L	F2211002	P01			S B 75 1 15 CI	INST	5.5	BPM	872-4	0.7NKL	SL1				SLED GL 0244 A	INST	L24A L2	GCCC	817-36			INST	1x1.5	815-1	7.5			
TOTAL																													16

NOTES

1. ALL LIGHTS TO BE CONNECTED ON ENERGEX RATE 2.
2. CHECK CLEAR OF ALL SERVICES BEFORE EXCAVATING.
3. "N/LK" ALIGNMENT MEASURED FROM NOMINAL KERB LINE TO POLE FACE.

UNDERGROUND CABLE SCHEDULE

LOCATION	STATIONS FROM - TO	VOLTS	EX	REC	IN	CABLE SIZE/TYPE	MODEL ID	ROUTE LENGTH (m)	CABLE LENGTH (m)		REMARKS
									NEW	REC	
Christensen Road South, Staplyton	2	2A	LV	*		240mm² Al 4C XLPE/PVC		72			Cut Cable at Stn 2 & Turn Up into New Pillar
	4	LV	*	*		240mm² Al 4C XLPE/PVC		124		124	Va Stn 3
					*	240mm² Al 4C XLPE/PVC	SCS820364	124	130		
		11	LV			240mm² Al 4C XLPE/PVC	SCS820364	241		247	Va Stn 5.
	2L2	3	SL	*	*	4mm² Cu 2C PVC/PVC	LVC24PVPV	77		82	
	3	4	SL	*	*	4mm² Cu 2C PVC/PVC		43		43	
	4	4L	SL	*		4mm² Cu 2C PVC/PVC		35			Cut cable and Turn up into Stn 4.
Road 1	4A	LV	*			240mm² Al 4C XLPE/PVC		42			Cut cable and Turn up into Stn 4.
	5	6	LV		*	185mm² Cu 1C PVC	SC0007181	1	12		
	8	LV		*		240mm² Al 4C XLPE/PVC	SCS820364	51	54		
	6	6L2	SL	*	*	4mm² Cu 2C PVC/PVC	LVC24PVPV	74	79		
	8	8L	SL	*	*	4mm² Cu 2C PVC/PVC	LVC24PVPV	39	44		
ALL STREETS	AT PILLARS	LV		*		16mm² Cu 4C XLPE/PVC	SCS820365	12			BRIDGING
	STREETLIGHTS	SL		*		4mm² Cu 2C PVC/PVC	LVC24PVPV	16			
VARIANCE		5 %									
TOTALS						240mm² Al 4C XLPE/PVC	SCS820364	181	371		
						185mm² Cu 1C PVC	SC0007181	13			
						16mm² Cu 4C XLPE/PVC	SCS820365	13			
						4mm² Cu 2C PVC/PVC	LVC24PVPV	195	125		

NOTES:

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

PLANS AND DOCUMENTS referred to in the DEVELOPMENT APPROVAL

Application No: OPW/2019/784

Dated: 17 June 2019

Development shall comply with the conditions of approval as detailed in the Decision Notice and Council's Planning Scheme, Local Laws and Planning Policies

PROPOSED COMMISSIONING PLAN

Tentative only, subject to amendment by ENERGEX outage coordinator.

LV Switching

- OPEN SC777098 FS3 & FS4 - Christensen Road South
- Perform LV Works as Required.
- CLOSE SC777098 FS3 & FS4 - Christensen Road South

Where interruptions to existing consumers are required, they shall be notified in line with ENERGEX policies.

