

Engineering Design, Connetics Ltd

DOCUMENT TRANSMITTAL SHEET

PO Box 2237 Christchurch New Zealand. Ph. (03) 353 7200 Fax (03) 353 7335

ORN1018936

DRAWING ISSUE DETAILS

[illegible]

Notes:

555 BIRCHS ROAD - STAGE 1



14 LOT RESIDENTIAL SUBDIVISION

JOB No.

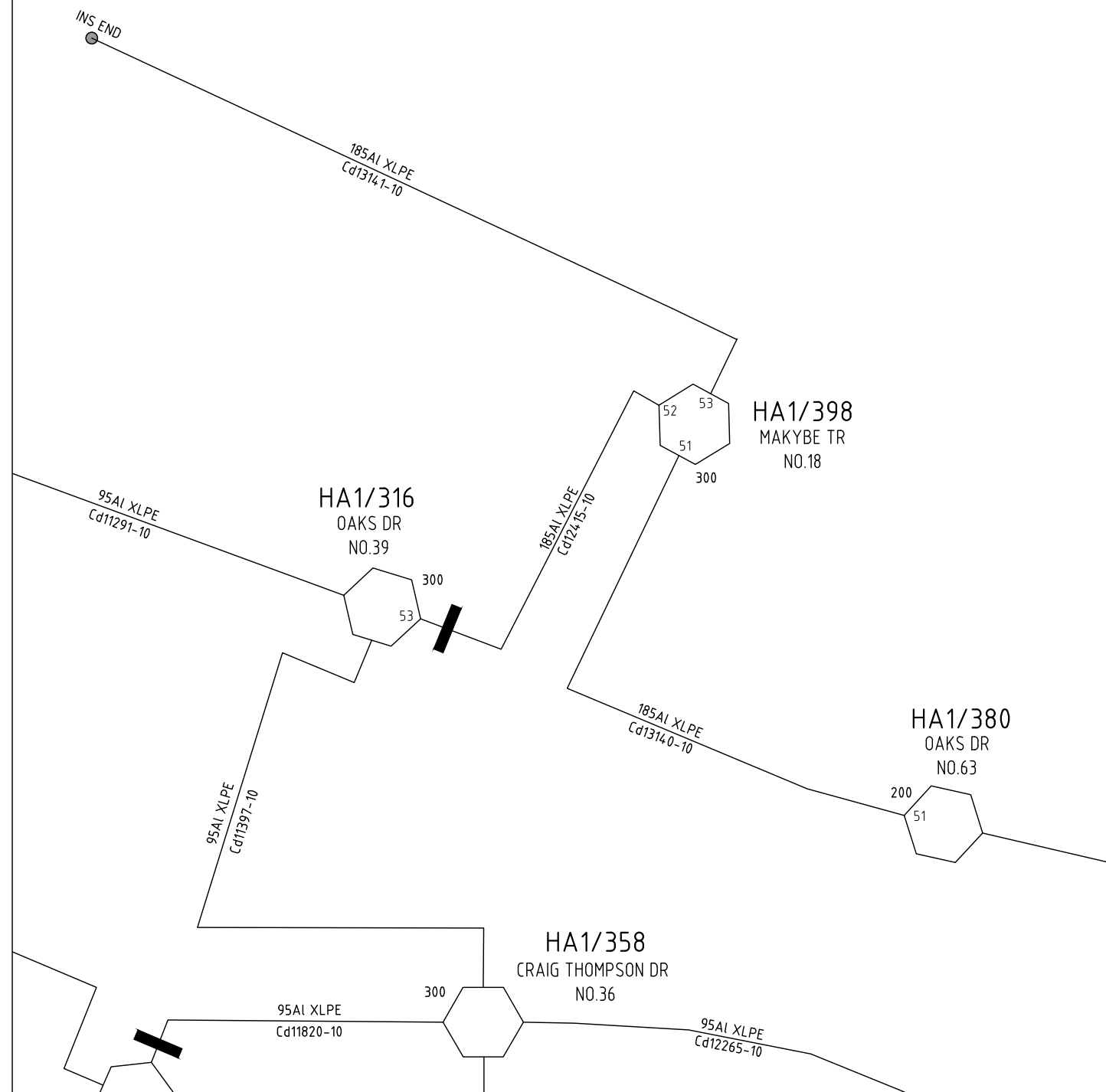
SHEET

106801

1 OF 1

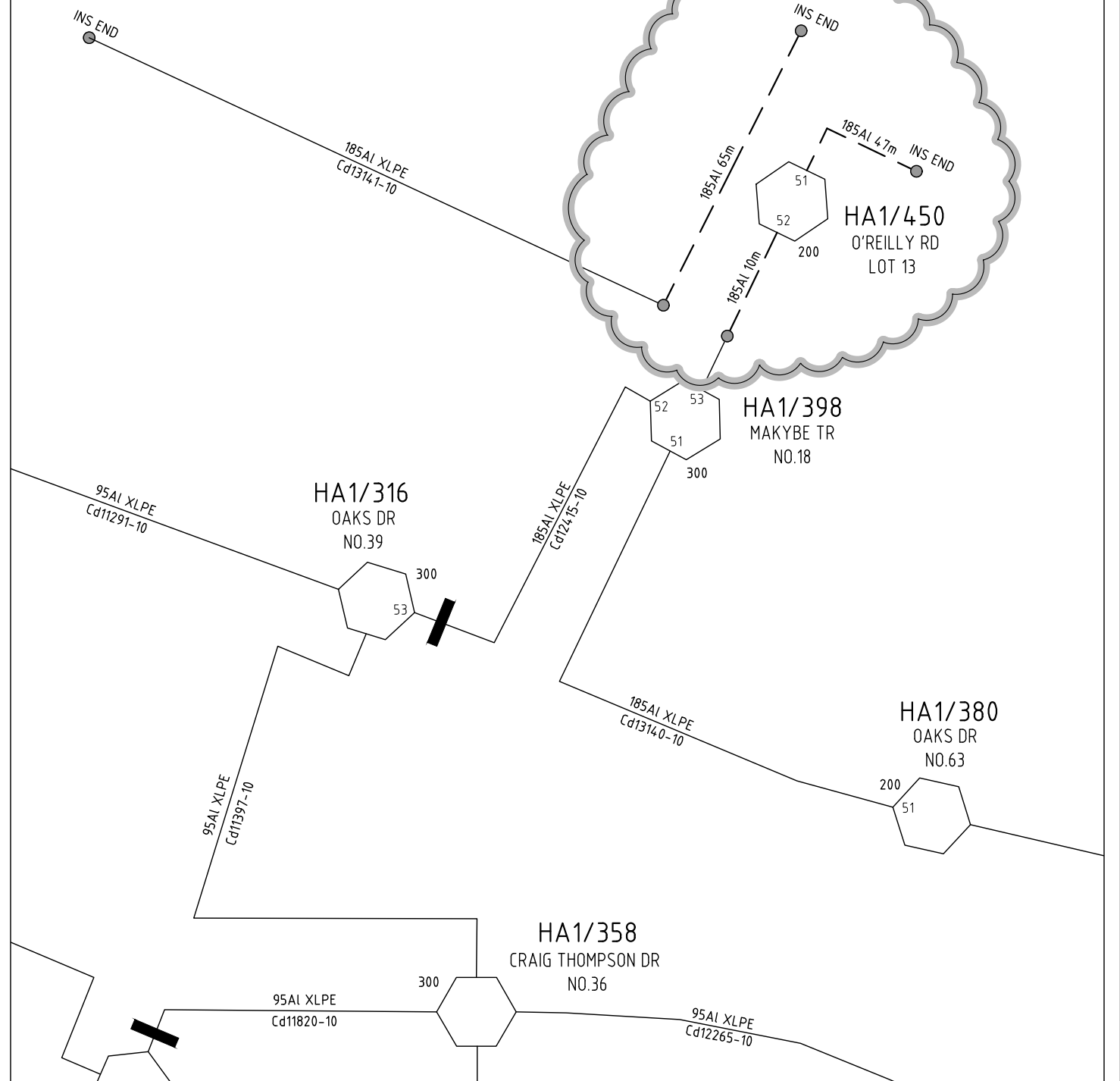
Engineering Design, Connetics Ltd PO Box 2237 Christchurch New Zealand. Ph. (03) 353 7200			WORKS INSTRUCTION SHEET		
WORK DESCRIPTION: In order to provide electrical reticulation to Stage 1 of the subdivision at 555 Birchs Rd, refer to Connetics working drawings 16801, HV, LV & SL schematics. 1. Install a full kiosk fitted with a 200kVA transformer 2. Lay 11kV and 400V cables 3. Carry out 11kV cable thru joints 4. Terminate all cables, complete test certificates & label circuits. 5. Liven all Circuits only after clearance from Orion's Contract Manager. 6. Test earthing to ensure compliance. 7. All Work shall comply with Orion NZ Ltd's Design Standards and Specifications 8. Customer service mains to be connected in accordance with the Electrical Safety Regulations.			ACCEPTED by Mark Williams on: 11 02 2026, 08:05 am Orion		PREPARED BY: A. Mechen DATE PREPARED: 10/02/2026 ORION CONTRACT MANAGER: ORN NUMBER: ORN1018936 WORK ORDER NUMBER:
SUBSTATION DETAILS					
Size	Switchgear	CCT	Cable Cable SizeNew/ExCircuit Destination		Comments
O'REILLY RD LOT 13 - HA1/450					
NEW 2K1T MSU			Install new full kiosk in Orion title site. Fit with a 2K1T MSU, a 200kVA transformer. Earthing to Orion Technical Spec. NW70.59.01		
16A	Links	51	185AI 3C 11kV	New	Insulated End Lot 13 Makybe Tr No.18 cct53 Local Transformer
	Links	52	185AI 3C 11kV	New/Ex	
	Fuses	53	3-25AI 1C 11kV	New	
NEW 800A DIN TYPE LV PANEL			Install 800Amp LV DIN panel. Fit with 630A incomer and 4 outgoing circuits. Install LV monitoring equipment as per NW72.22.22. Install lighting as per NW72.22.20		
Local service	32A fuse		6mm	New	Install local service panel UE2.11.4.
-	Not equipped	-	-	-	Fit cover kit.
-	Not equipped	-	-	-	Fit cover kit.
630A	355Amp fuses	3	185AI 3C+1 CuNS LV	New	Terminate and connect new cable, label circuit destination.
630A	630Amp Links	Incomer	4-185Cu 1C NS LV	New	Fit set of leads between transformer LV bushings and LV panel.
630A	355Amp fuses	4	185AI 3C+1 CuNS LV	New	Terminate and connect new cable, label circuit destination.
630A	355Amp fuses	5	185AI 3C+1 CuNS LV	New	Terminate and connect new cable, label circuit destination.
630A	Open	6	185AI 3C+1 CuNS LV	New	Terminate and connect new cable, label circuit destination.
-	Not equipped	-	-	-	Fit cover kit.
-	Generator Way	Gen.	-	-	Fit Generator spare way cover kit.
Street lighting: Install SL panel as per UE1.1.7 & terminate 4 SL pilots					
MAKYBE TR NO.18 - HA1/398					
Ex 3K1T MSU			Existing full kiosk fit with a 3K1T MSU and a 300kVA transformer.		
	Links	53	185AI 3C 11kV	New/Ex	O'Reilly Rd Lot 13 cct52
Ex 800A DIN TYPE LV PANEL			Relabel circuit destination.		
630A	Ex fuses	3	185AI 3C+1 CuNS LV	New/Ex	O'Reilly Rd Lot 13 cct6
			Ex 800Amp LV DIN panel.		
			Relabel circuit destination.		
DISTRIBUTION CABINET DETAILS					
Size	Switchgear	CCT	Cable Cable SizeNew/ExCircuit Destination		Comments
OFF O'REILLY LOT 1 - HA1/451					
630A	Open	1	185AI 3C+1 CuNS LV	New	O'Reilly Rd Lot 13 cct5
630A	Links	2	185AI 3C+1 CuNS LV	New	O'Reilly Rd Lot 13 cct4
630A	Links	3	185AI 3C+1 CuNS LV	New	Insulated End Lot 19
-	Spare	-	-	-	-
Street lighting: Terminate 2 SL pilots					
Notes: Revision B: Additional HV Changes			Accepted For Construction Name: Position: Date:		555 BIRCHS ROAD - STAGE 1
			Connetics Ltd. All Rights Reserved Unauthorised Use Prohibited		14 LOT RESIDENTIAL SUBDIVISION
			ISSUE B		JOB No. 106801
					Sheet WIS-1

EXISTING

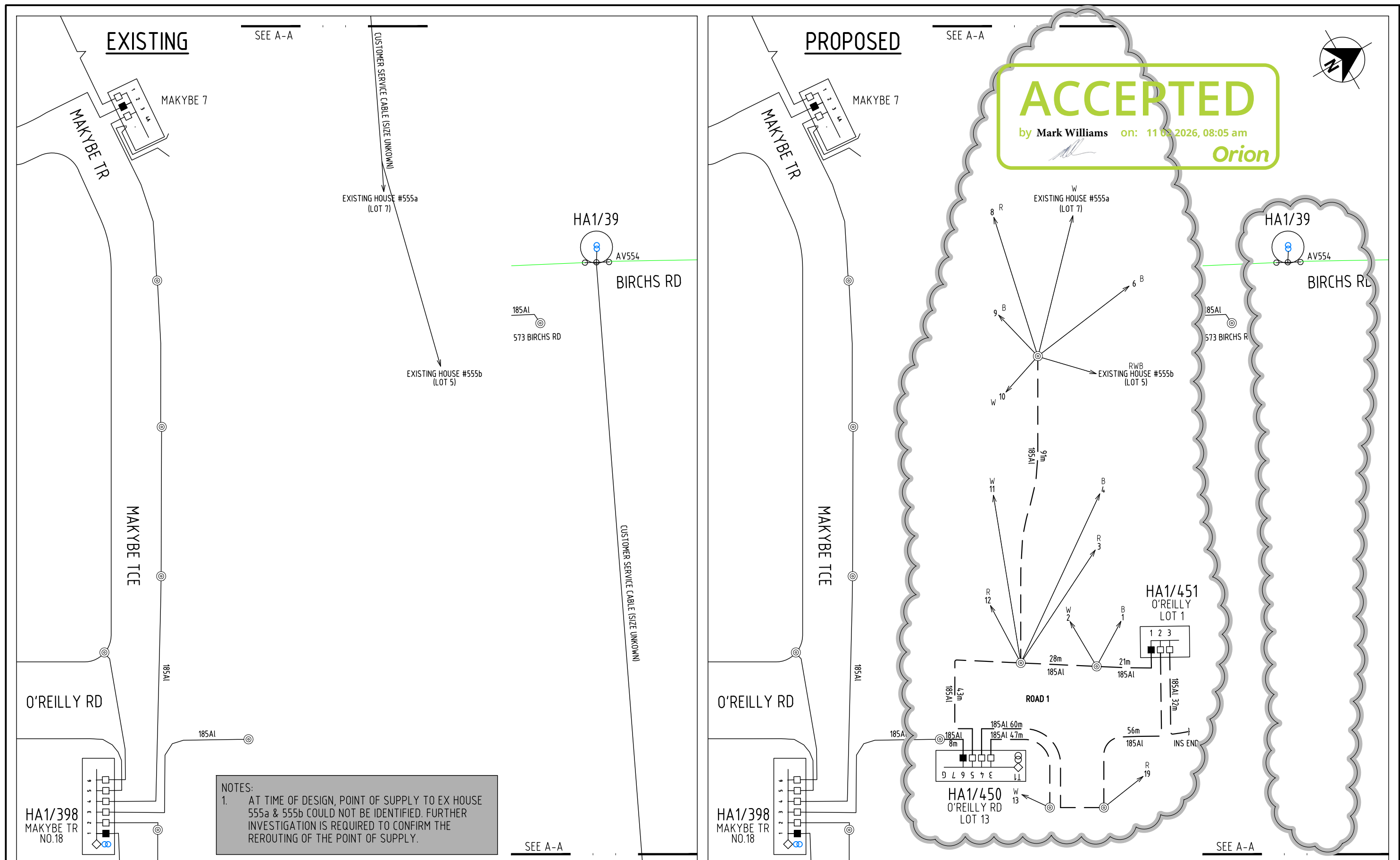


PROPOSED

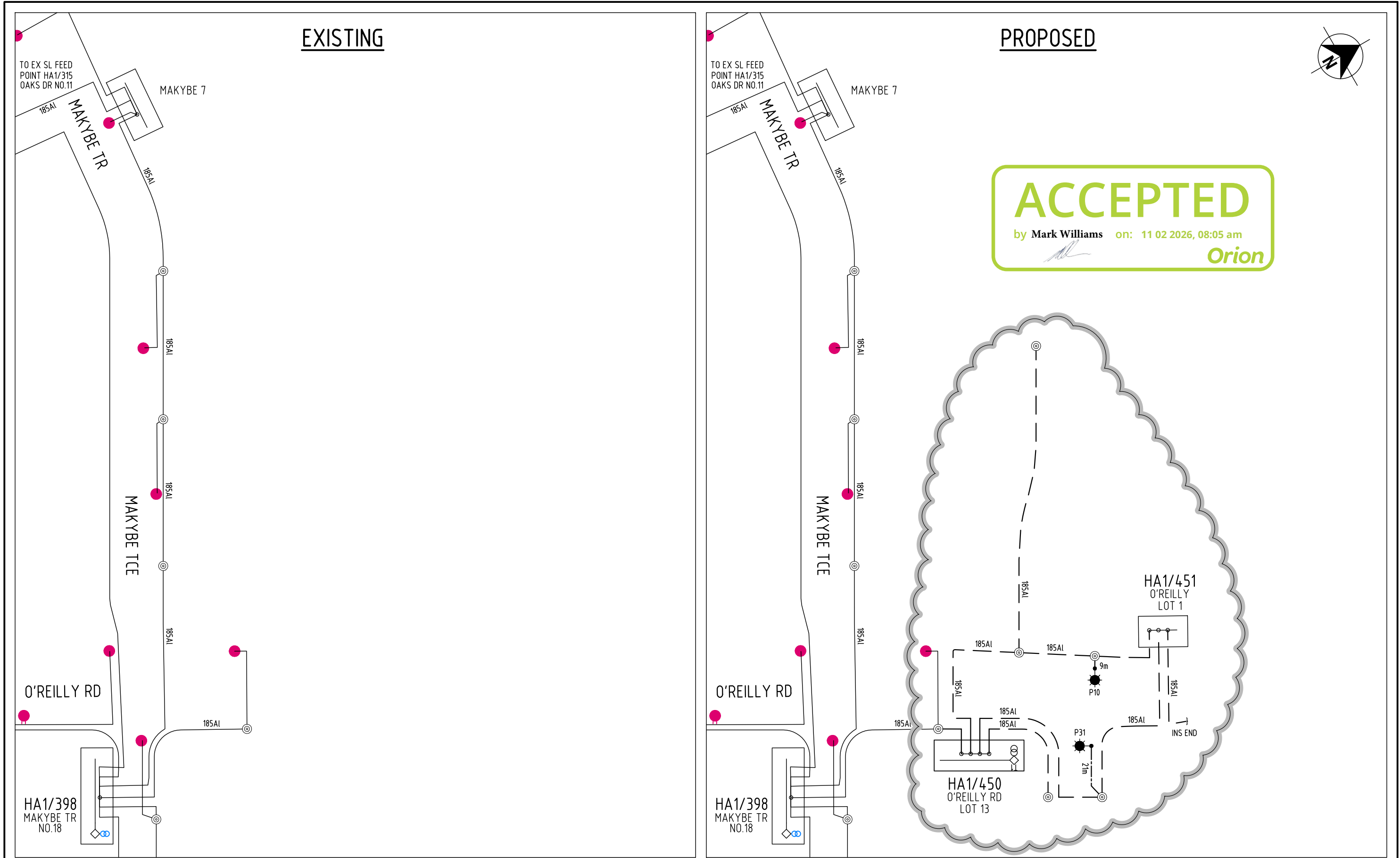
ACCEPTED
by Mark Williams on: 11 02 2026, 08:05 am
Orion



ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	555 BIRCHS ROAD - STAGE 1			 ALL WAYS CONNECTING		
A	ORIGINAL ISSUE	01/07/25	A.M.	A.M.	N.J.	DESIGNED	A. MECHEN		09/05/25						
B	ADDITIONAL HV CHANGES	11/02/26	A.M.	A.M.	R.P.	DRAWN	A. MECHEN		09/05/25	14 LOT RESIDENTIAL SUBDIVISION HV SCHEMATICS			SCALE(SIZE)	DRAWING NO.	SHEET
						CHECKED	N. JARRETT		01/07/25				NTS (A3)	106801	HV-1
						APPROVED									
						ORN1018936	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		B						



ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED	555 BIRCHS ROAD - STAGE 1 14 LOT RESIDENTIAL SUBDIVISION LV SCHEMATICS					
A	ORIGINAL ISSUE	01/07/25	A.M.	A.M.	N.J.	DESIGNED	A. MECHEN		09/05/25						
						DRAWN	A. MECHEN		09/05/25						
						CHECKED	N. JARRETT		01/07/25						
						APPROVED									
						ORN1018936	 CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A				SCALE(SIZE)	DRAWING NO.	SHEET
													NTS (A3)	106801	LV-1



ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	01/07/25	A.M.	A.M.	N.J.	DESIGNED	A. MECHEN		09/05/25
						DRAWN	A. MECHEN		09/05/25
						CHECKED	N. JARRETT		01/07/25
						APPROVED			
						ORN1018936	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A

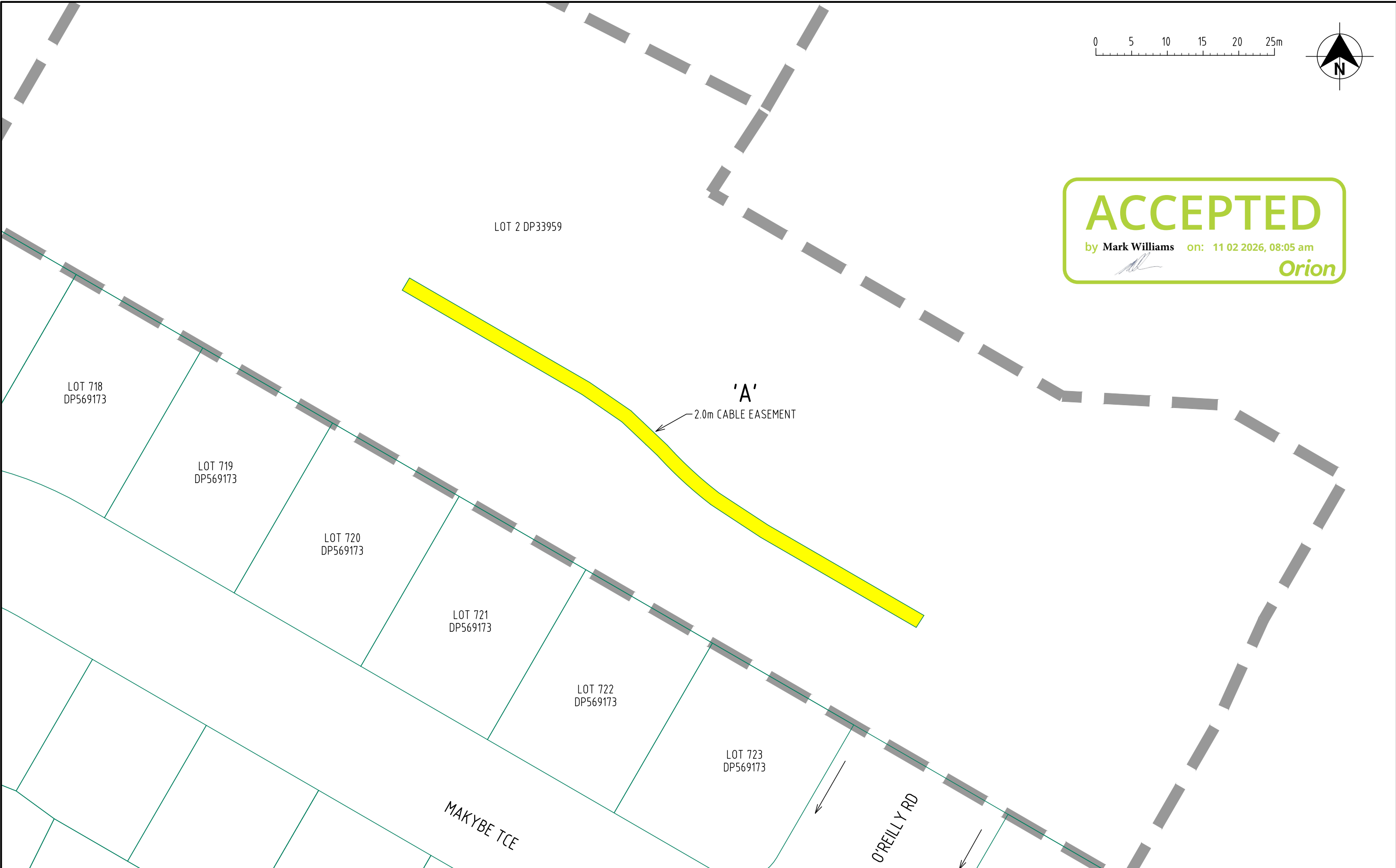
555 BIRCHS ROAD - STAGE 1

14 LOT RESIDENTIAL SUBDIVISION
SL SCHEMATICS

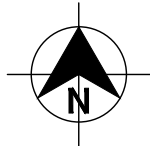


ALL WAYS CONNECTING

SCALE(SIZE)	DRAWING NO.	SHEET
NTS (A3)	106801	SL-1



0 5 10 15 20 25m



ACCEPTED

by Mark Williams on: 11 02 2026, 08:05 am

Orion

ISSUE	DESCRIPTION	DATE	DESIGN	DRAWN	CHECKD	TASK	NAME	SIGNATURE	DATED
A	ORIGINAL ISSUE	01/07/25	A.M.	A.M.	M.O.	DESIGNED	A. MECHEN		09/05/25
						DRAWN	A. MECHEN		09/05/25
						CHECKED	N. JARRETT		01/07/25
						APPROVED			
						ORN1018936	CONNETICS LIMITED. ALL RIGHTS RESERVED UNAUTHORISED USE PROHIBITED		A

555 BIRCHS ROAD - STAGE 1

14 LOT RESIDENTIAL SUBDIVISION
EASEMENT PLAN



SCALE(SIZE)	DRAWING NO.	SHEET
1:500 (A3)	106801	EP-1

				Design Hazard Assessment Register (HAZID)				Prepared By: Alex Mechen				Date: 26 June 2025 Document: HAR-1 Status: Design REV A							
								Reviewed By: Nick Jarrett											
								HAZID Phase: Detailed Design (Includes Modifications)											
Project: 106801 - 555 Birchs Road Stage 1				Identified Hazards, Causes & Risks Associated with Design/Redesign of new or existing Assets and/or Introduction of New Asset Types, or a change to the Operating Conditions of Assets								Proposed Risk Treatment/Mitigation Measures & Residual Risk Ratings						Notes to Residual Risk (Which Must be So Far As Is Reasonably Practicable and Manageable)	
ID	Risk/Hazard & Cause - Inherent & Without Any Form of Mitigation	Inherent Consequence	Inherent Likelihood	Inherent Risk Rating	Risk Owner	Proposed Mitigation (Eliminate or Minimise/Control) - Include Existing & Proposed Mitigation Measures	Revised Consequence	Revised Likelihood	Residual Risk Rating	Estimated Cost of Mitigation (\$)	Cost of Mitigation Disproportionate to Risk?	Risk Owner	Notes to Residual Risk						
A - Planning & Conceptual Design																			
A1	Potential for contaminated land	Moderate	Rare	Low	Consultant	Label drawings as such	Minor	Rare	Low	N/A	No	Consultant							
B - Detailed Design (Includes Modifications)																			
B1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A							
C - Construction & Commissioning																			
C1	Potential for contaminated land	Moderate	Rare	Low	Contractor	Develop a suitable risk management plan. Customer supplied trenches	Minor	Rare	Low	N/A	No	Contractor	PPE as required						
D - Operation & Maintenance																			
D1		Minor	Rare	Low	N/A		Minor	Rare	Low	N/A	No	N/A							
E - Decommission & Disposal																			
E1	Potential for contaminated land	Moderate	Rare	Low	Contractor		Minor	Rare	Low	N/A	No	Contractor	PPE as required						
Notepad - Use this space to describe the Project, any further information that cannot be described in the hazards above, and any other information that is important to document as part of the Safety in Design assessment																			

ACCEPTED

by Mark Williams on: 11 02 2026, 08:05 am




APPENDIX A: DESIGN STATEMENT OF ENVIRONMENTAL COMPLIANCE

Work Order:		
Work Title:	555 Birchs Road – Stage 1	
Are the proposed earthworks:	Yes/No (circle one)	
1. Excluded under the global earthworks consent (refer section 4.1 and 4.2)?	Yes / No	
2. In a Ground Contamination Risk Area? Adjacent Land & O'Reilly Rd	Yes / No	
3. In an Archaeology Area?	Yes / No	
4. In a Cultural Significance Area?	Yes / No	
5. Within 10m to the bed of a waterway identified as a Critical Habitat?	Yes / No	
Where any of the above questions 2 – 5 have been ticked 'yes', has the proposed management / controls to proceed with works been accepted by Orion?	Yes / No	
The design submitted to Orion complies with the Global Earthworks Consents requirements.		
Name:	Alex Mechen	
Signed:		
Company:	Connetics	
Date:	26/06/2025	

Issue Date 26.06.2020 NW70.10.31 Next Review 26.06.2025 24 of 39 Amendment 0

ACCEPTED

by Mark Williams on: 11 02 2026, 08:05 am

**Orion**

L1	Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 5.) Luminaire: Philips Roadrange 18W LED luminaire (BP8711 LED23NW 18W DWAP) Column: 7.5m Mini Standard Decorative Stepped C Column complete with Tuning Connection: Connect to U/G S/LN
L2	Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 6.) Luminaire: Philips Roadrange 20W LED luminaire (BP8711 LED28NW 20W DWAP) Column: 7.5m Mini Standard Decorative Stepped C Column complete with Tuning Connection: Connect to U/G S/LN
L3	Supply and install new luminaire on new column. (See Luminaire & Column Notes 1 to 6.) Luminaire: AEC Techlight ITALO 2 DOT 7040-100-AM AEP (6 Module LED) 106W Column: 10.5m Mini Sectional ground planted Octagonal column c/w 3.0m 15" tilt Connection: Connect to U/G S/LN

Street Name	Width	Arrangement Type*	Max Spacing
Road 3 - 2.7m Offset	12.0m	Single Sided	69.5m
Road 3 - 2.7m Offset	12.0m	Staggered	69.5m
Road 3 - 2.9m Offset	12.0m	Single Sided	69.9m
Road 3 - 2.7m Offset	12.0m	Staggered	69.9m
Road 2 - 3.1m Offset	15.0m	Single Sided	62.3m
Road 2 - 3.1m Offset	15.0m	Staggered	62.3m
Road 2 - 4.5m Offset	15.0m	Single Sided	64.6m
Road 2 - 4.5m Offset	15.0m	Staggered	64.6m
Road 4	16.0m	Single Sided	62.2m
Road 4	16.0m	Staggered	62.2m
Road 5-6	17.0m	Single Sided	59.9m
Road 5-6	17.0m	Staggered	59.9m
Road 1 - 4.9m Offset	21.0m	Single Sided	55.6m
Road 1 - 4.9m Offset	21.0m	Staggered	58.4m
Road 1 - 5.7m Offset	21.0m	Single Sided	59.5m
Road 1 - 5.7m Offset	21.0m	Staggered	59.5m
Birchs Road	10.0m	Single Sided	-

[illegible]

Column to be installed at
Boundary Line

Monday, 9 June 2025 1:07:29 pm

SPUNLITE POLES LTD.
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UNAUTHORISED USE PROHIBITED

Rev	Description	Date	Des
A	Issued to Client for Approval	09/06/25	RSD

555 Birchs Road Sub-Division
Stage 1 to 5
Lincoln

Contractor	Designed	R. St-Denis / Conn	June 25
-	Drawn	R. St-Denis / Conn	June 25
	Checked	J. Lim / Conn	-
	Approved	B. Hayman for SDC	-

Dn	Chk	Apd	Or Acp
RSD	.	.	.

SPUNLITE NOTE:

The use of this **FREE** Lighting design, is authorised by Windsor Urban Ltd and Spunlite Poles Ltd, and is conditional upon the specified lighting items (columns and luminaires), being purchased directly from Windsor Urban Ltd and Spunlite Poles Ltd, or our nominated agents. All nominated installing agents are to contact Windsor Urban Ltd and Spunlite Poles Ltd, to obtain product prices related to this project.

Any use of alternative manufacturer's products, differing from those listed in this design, and installed by any contractor, will automatically forfeit the right to use this intellectual property (lighting design)

Windsor Urban Ltd and Spunlite Poles Ltd hold all copyrights to any of our designs and manufactured products in accordance with the Berne Convention

The lighting designer reserves the right to request that any alternative products, sourced from a non-listed manufacturer, be removed and replaced with the specified products, prior to any audit being conducted.

1. Luminaire are to be fitted with mounting bracket to fit 42mm spigot.
2. Luminaire to be supplied with an integral TMS compatible dimmable DALI driver suitable for operating at the specified load and a prewired 7 pin Nema Socket and complete with shorting cap.
3. Luminaire to have an IP rating of IP66 unless stated otherwise.
4. Luminaire colour temperature to be 4000K
5. Luminaire to have identification label applied at time of installation

1. Luminaire are to be fitted with mounting bracket to fit 42mm spigot.
2. Luminaire to be supplied with an integral TMS compatible dimmable DALI driver suitable for operating at the specified load and a prewired 7 pin Nema Socket and complete with shorting cap.
3. Luminaire to have an IP rating of IP66 unless stated otherwise.
4. Luminaire colour temperature to be 4000K
5. Luminaire to have identification label applied at time of installation

	Lx	New column, Single outreach arm and luminaire.
	E	Existing column, outreach arm and luminaire to remain.

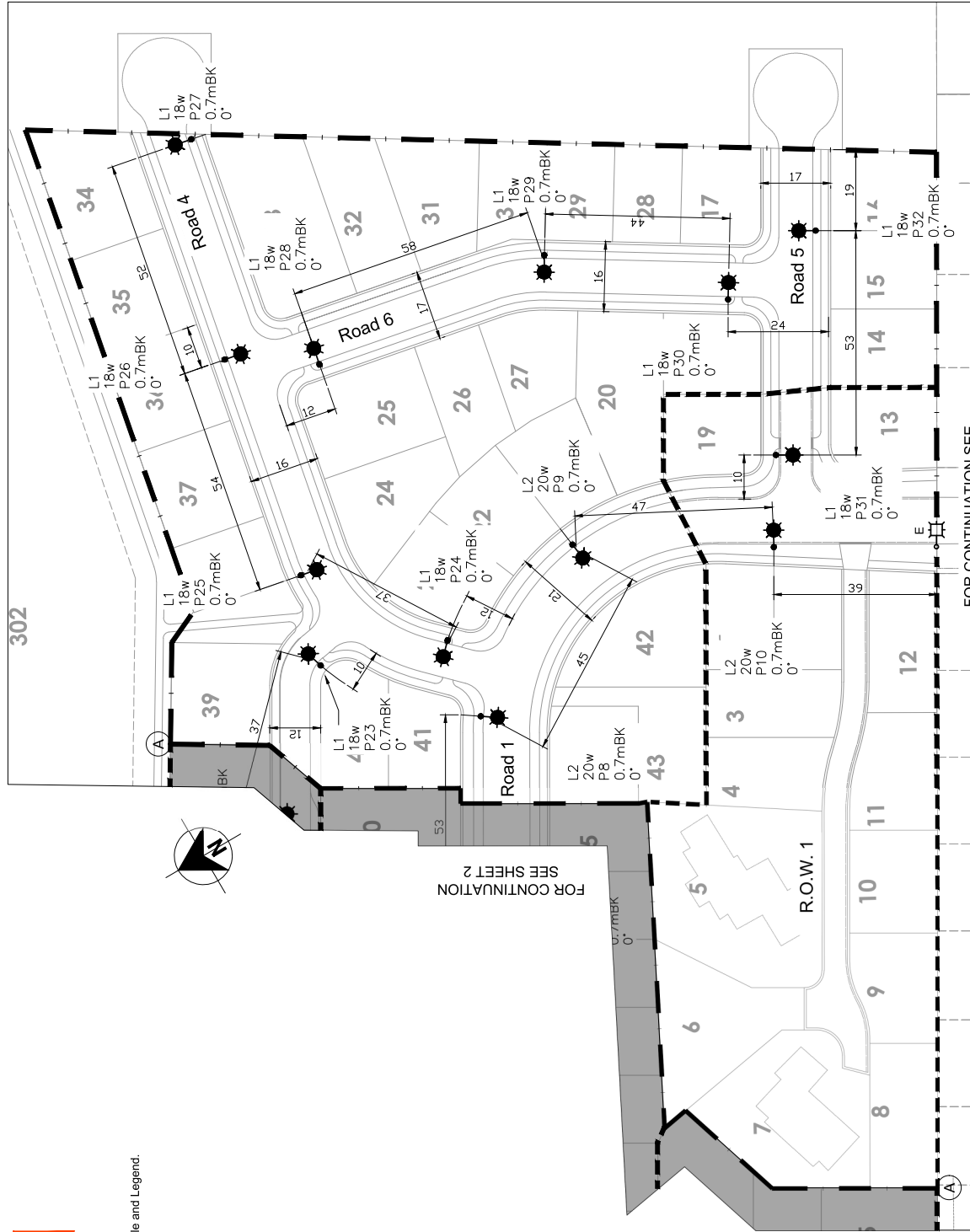
LX	Lighting Schedule Reference
XXW/XXXW	Original Luminaire Watts/Dimmed Watts
P1	Column Identification
0.0m-XX	Column offset
X°	Luminaire Tilt from the horizontal (See Adjustment Table)

For Decorative Tubular and Orthopaedic Column	With Decorative Arms and 0° Spigot*	Adjustment on Luminaire
	Value Shown on Plan	
	10°	10°
	5°	5°
	0°	0°
	-5°	-5°

For Sectional Octagonal Column	Adjustment on Luminaire
With Mired Arms and 5" Spigot*	10°
With Elliptical Arms and 5" Spigot*	5°
With Curved Arms and 5" Spigot*	0°
Subdivisional With 5" Spigot*	-5°
	-10°

* As per CCC and SNC Standard Column Requirements

1. Refer to Sheet 1 for Lighting Schedule and Legend.



FOR CONTINUATION SEE
DWG 400118
FLEMINGTON STAGE 12A

 SPINLIFE POLES 611 Holmwood Junction Rd, Hambly, Christchurch, NZ for (03) 346-6529 freeph (0800) 845-845 info: info@spinlifepoles.co.nz	STREETLIGHTING LAYOUT											
	Rev	Description	Date	Des	Dn	Chk	Or App	Contractor	Designed	R. St-Denis / Conn	June 25	Scale
	A	Issued to Client for Approval	09/09/25	RSD	RSD				Drawn	R. St-Denis / Conn	June 25	1:1000
									Checked	J. Lim / Conn	-	
									Approved	B. Hayman for SDC	-	Revision
555 Birchs Road Sub-Division Stage 1 & 2 Lincoln												
Size Drawing Number Sheet												
A3 400384 3 / 3												

Build Quotation for electrical reticulation at:
555 Birchs Road - Stage 1
Birchfield Estates Limited
c/o Fergus Matla (Davie Lovell-Smith)
email: Fergus.Matla@dls.co.nz

FROM ORION AUTHORISED ELECTRICAL CONTRACTOR:

Refer to Orion accepted Connetics design dwg 106801 shts CP-1, Work instruction sheets and schematics.

Quotation required by:

Schedule of prices:

1) 11kV CABLES & JOINTING

Supply and install 11kV cable, jointing and terminations
HV programs, Cable tests, certification and livening

2) LV RETICULATION, CABLES & JOINTING

Supply and install cables, distribution cabinets and boundary boxes
cable terminations and jointing (include all S/L cables)
Test and LVA

3) STREET LIGHTS

Refer to Spunlite street light design dwg 400384.
Install 2 street lights, including livening and associated documentation

4) SUBSTATIONS

Install 1 full kiosk. Include Earthing.

5) CUSTOMER SERVICE CABLES

Lay customer service cables as per cable plan & LV schematics.

TOTAL (EXCLUDES GST)

NOTES:
Allow for as built cable recording, to be sent directly to Orion.
All trenching and restoration provided by the Developer except where identified.

Underground Design

Designer:	A. Mechen	Date:	11/02/2026
Design number:	106801	Job name:	555 Birchs Road Stage 1 - REV B
Approx. start date:		Developer:	Birchfield Estates Limited
Orions Contract		Design/Build:	
Orion Contact		Design Only:	Yes

These quantity estimations are based on the CAD file and are for pricing purposes only. Actual quantities may vary on site.

Stock number	Description	Quantity (m)	Special requirements
1003401	6mm Cu 2ph NS LV	0	
1003402	16mm Cu 1ph NS LV	30	
1003403	16mm Cu 2ph NS LV	0	
1003404	16mm Cu 3ph NS LV	0	
1003405	25mm Cu 1ph NS LV	0	
1003406	25mm Cu 3ph NS LV	0	
1001995	35mm Cu 1ph NS LV	250	
1003407	35mm Cu 3ph NS LV	15	
1008940	70mm Al 1C NS LV	0	
1002009	95mm Al 1C NS LV	0	
1003397	120mm Ali 3ph NS +10mm LV	0	
1003398	185mm Ali 3ph NS +10mm LV	385	
1003399	300mm Ali 3ph NS +10mm LV	0	
1003400	400mm 1c Cu XLPE	0	
1003383	25mm 1c XLPE 11KV	0	
1003384	35mm Ali 3ph XLPE 11KV	0	
1003386	95mm Ali 3ph XLPE 11KV	0	
1003387	185mm Ali 3ph XLPE 11KV	124	
1003390	300mm Ali 3ph XLPE 11KV	0	
1009939	400mm Cu 3ph XLPE 11KV	0	
1003389	185mm 1c Cu 11KV	0	
1006345	95mm 1c AL XLPE 11KV	0	
1003394	300Al 1c 33kV	0	
1003423	25pr 0.9mm PAC PE SWA	0	
1003422	7pr 0.9mm PAC PE SWA	0	
1007115	Distribution Box S - 6 way	0	
1007156	Distribution Box T - 6 way	0	
1012372	DB-U (replaces DB-S & DB-T)	4	
1012376	DB-V (replaces DB-T1)	1	
1001152	Multi Box DC	1	
1000128	Full kiosk	1	
1000129	Half kiosk	0	
1000130	Quarter kiosk	0	