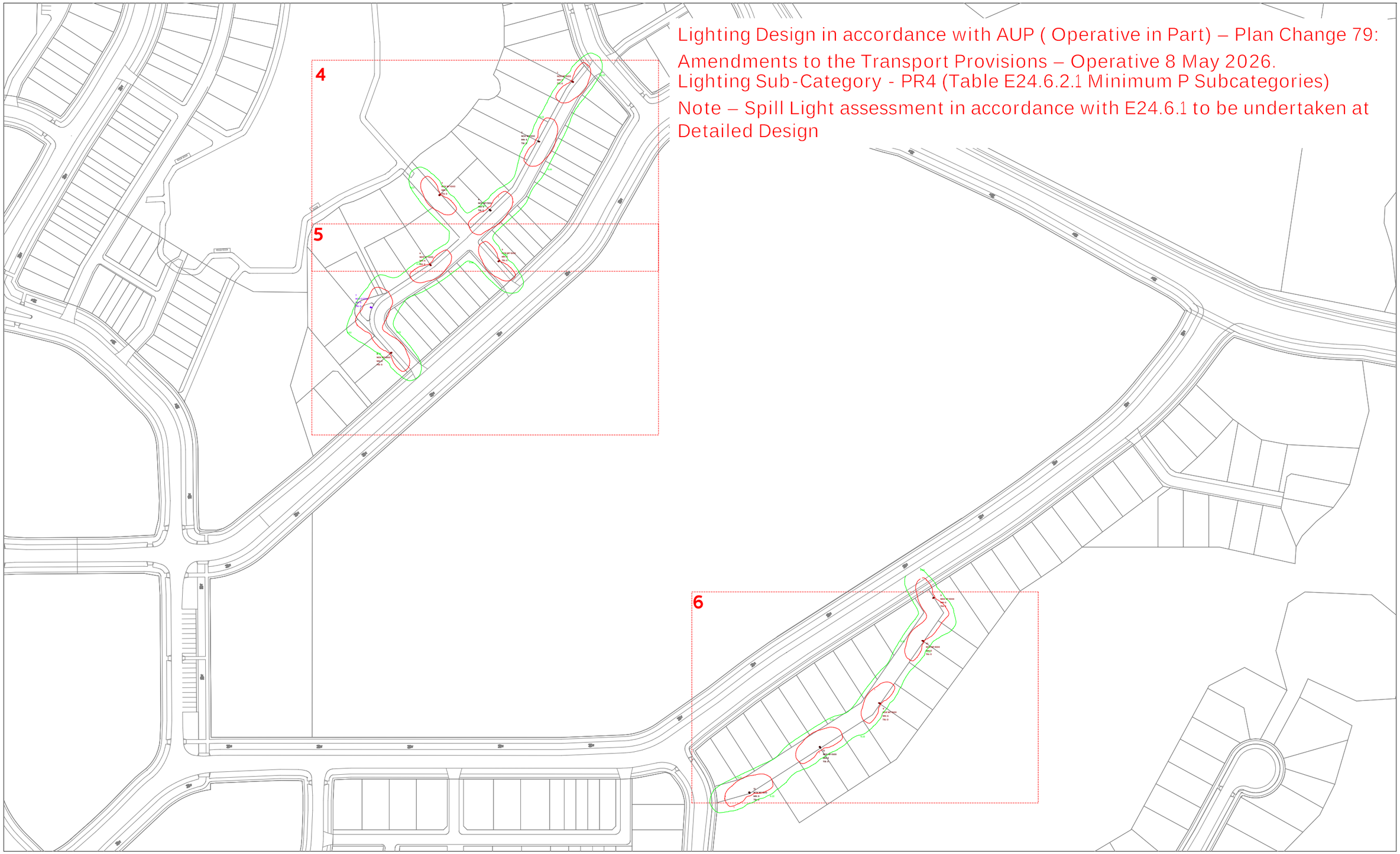
Lighting Design in accordance with AUP (Operative in Part) – Plan Change 79: Amendments to the Transport Provisions – Operative 8 May 2026.
Lighting Sub-Category - PR4 (Table E24.6.2.1 Minimum P Subcategories)

Note – Spill Light assessment in accordance with E24.6.1 to be undertaken at Detailed Design



PROJECT NUMBER		PROJECT	DRAWING INFORMATION		COMPANY	AS PREPARED FOR
10360		BEACHLANDS SOUTH 110 JACK LACHLIN DRIVE COALS	ROADWAY LIGHTING PLAN - ISOLUX PLOTS		IBEX LIGHTING L1 THE PRECINCT 40 ONEHUNGA MALL AUCKLAND 1061 2 MATARAWA PLACE TAURIKO TAURANGA 3171 NZ FREEPHONE 0800 63 65 67 www.ibexlighting.com	ELECTRICAL CONSULTING SERVICES LTD THE POWER TO DELIVER
DRAWING NO. : 1	REVISION: -		Scale : 1 : 2000 @ A3	DESIGNED BY: SF		
			Date:17-June-2026	CHECKED BY: /		

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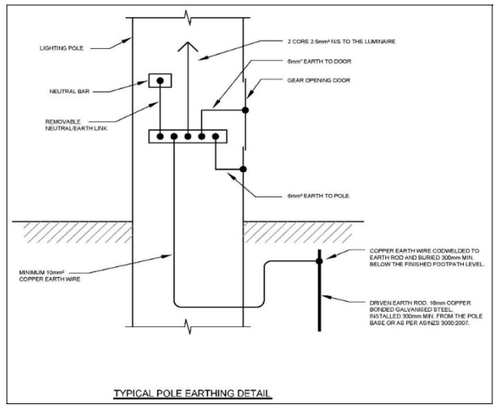
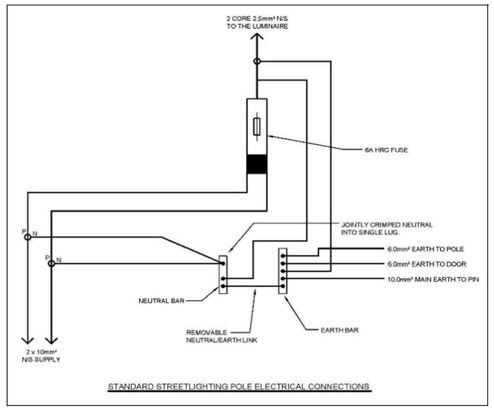
Luminaire Schedule					
Project: 10 - Luminaires - Proposed					
Symbol	Qty	Label	Mounting Height	Outreach Length	Lum. Tilt Angle
	8	NOX W1 1000	6 metres	N/A	0 degrees
	4	NOX W1 1500	6 metres	N/A	0 degrees
	1	NOX S 1200C	6 metres	N/A	0 degrees

Luminaire Details	**"NOX W1 1000"**	**"NOX W1 1500"**	**"NOX S 1200C"**
Manufacturer and Product Name	NOX S Walkway LL062304PH	NOX S Walkway LL062304PH	NSS-08-012-730-P1BLS
Lamp type and Rating	LED 8.6W	LED 12.9W	LED 9.5W
Luminous flux	1000 Lumens (3000K)	1500 Lumens(3000K)	1231 Lumens (3000K)
Origin of Photometric Data	LL062304PH	LL062304PH	NSS-08-013-740-P1BLS
Upward Waste Light Ratio	0.0% at 0 degree tilt	0.0% at 0 degree tilt	0.0% at 0 degree tilt
Maintenance factor used	0.80	0.80	0.80
Peak Luminous Intensity (Glare) : 80-90 degrees	1.6 Candela	2.5 Candela	0 Candela

LIGHTING DESIGN EXECUTIVE SUMMARY - COMPLIANCE WITH AUP E24
1. Luminaires used in this design have a Colour Correlated Temperature (CCT) of 3000 K
2. The Lighting Design meets the requirements of AS/NZs1158.3.1:2020 for the nominated Sub-Categories which have been defined for each respective JOAL in accordance with AUP E24.6.2 Table 24.6.2.1 and AUP E27.6.3.7 (2).
3. Maintenance Factor = 1 (Refer to above Luminaire Details Table)
4. Threshold Increment - Note no assessment has been undertaken as the JOAL Lighting is either shielded by vegetation, below the maximum height of the dwellings or where visible facing away from vested roads either existing or new forming the wider development.
5. Curfew Luminous Intensity Limits - Environmental Zone A3 (AS/NZS4282:2023 Table 3.1 and Table 3.3) = 2500 Cd. Luminaire used in the design has a maximum Peak Intensity of 1297 Cd.



TYPICAL POLE EARTHING DETAIL



STANDARD STREETLIGHTING POLE ELECTRICAL CONNECTIONS

GENERAL NOTES
1. Liaise with Vector with regard to extending the existing street lighting circuit to supply the new installation.
2. All work shall conform to the requirements of Vector or Counties Power (as appropriate), Auckland Transport and the requirements of Electrical (Safety) Regulations 2010, AS/NZS 3008 and AS/NZS 1158.
3. Liaise with Vector / Counties Power (as appropriate) to ensure all poles are well clear of underground services. If necessary, positions may be altered up to 1m while retaining general pole arrangement to avoid clashes with underground services. Confirm with engineer first.
4. The contractor shall be a Auckland Transport accredited contractor and approved by Auckland Transport to install assets on the appropriate network.
5. Ensure the RAMM and SLIM database is accurately updated for every new or modified streetlight location, and liaise with Auckland Transport to ensure records are appropriately completed.
6. These works shall include the removal and disposal of old luminaires/mounting brackets and lamps. Remove all existing concrete columns and luminaires.
7. All columns and luminaires specified in this design are listed on the Auckland Transport Approved product lists. Luminaires are to be labelled as per the requirements of setion 12.5.1 of version 11 of the AT-TDM.

DESIGN NOTES:
1. These lighting calculations are based on the Initial Lamp Lumens as described in the product information tables(s) with the appropriate Maintenance Factor applied (in accordance with AS/NZS1158).
2. The Isoplots shown are the representation of the Illuminance value at Ground Level.
3. The Luminaire Mounting Height and Tilt Angle (Upcast) are indicated on the drawing.
4. The typical luminaire Tilt Angle for this design is 0 (zero) degrees, i.e. horizontal.
5. These lighting calculations are subject to accuracies and tolerances in accordance with AS/NZS3827.1:1998 and AS/NZS 3827.2:1998.
6. Final design locations will have been agreed to by the client and the appropriate local authority (council).

INSTALLATION NOTES
1. The contractor shall be responsible for the fixing of outreaches taking into account work on or near existing services. The contractor shall liaise with the appropriate service provider in relation to working on or near services, giving appropriate notice period.
2. The internal wiring between the terminal blocks and the luminaire shall be circular 2C 2.5sq.mm Neutral Screen cable.
3. Wiring shall be in accordance with AS/NZS3000 and AS/NZS3008:1.2
4. Minimum street lighting supply cable shall be 1C 10sq.mm Neutral Screen cable.
5. Cable protection shall be implemented as per Vector / Counties Power requirements.
6. Each column must be earthed by means of 10mm2 copper insulated wire, exothermically welded to a driven earth electrode (16mm diameter copper-bonded steel earth rod) located 300mm from the column base. Sherlock Connectors are approved for burying. The connector must be buried 300mm below the pavement surface. AS/NZS 3000 applies. (See diagram on this page)
   Where it is not possible to install a driven earth electrode due to rock for example, the following horizontal earth electrode is acceptable:
   - a six metre (6m) length of 35mm2 (19/16) bare (uninsulated) copper conductor buried to a depth of 600mm below the surface. The conductor must be embedded in Bentonite slurry or Ground Enhancement Material (GEM). The buried conductor should be placed with 3m either side of the lighting column. The horizontal earth electrode to column connection shall be the same as described above for the driven earth electrode.
7. The contractor is responsible for all cable design, liaison with Vector / Counties Power, and updating of Vector / Counties Power and Auckland Transport records.
8. Final pole locations are to be confirmed on site prior to installation.
9. Mounting heights are to be measured with respect to the luminaires above the carriageway. Final location to be coordinated on site.
10. Where a pole is within five metres of a tree, assess whether the tree requires trimming to minimise shadowing, and notify the engineer for further action if required.
11. A minimum ten (10) year warranty from date of on site installation shall be provided for the luminaire and electronic control gear.
12. In general, columns are to be installed 1.0m behind kerb (between kerb face and the face of the column). Variations to this may be required to meet the requirements of AT-TDM Volume 4 Chapter12 section 12.4.2 and/or AS/NZS 1158. Columns should also have at least 1.0m clearance to driveways to prevent damage by manoeuvring vehicles.
13. The contractor shall be responsible for the final location of the lighting poles taking into account
    a. Location of existing services. The contractor shall be responsible for locating all underground services and Land Information NZ markers before work commences. Any damage caused to underground services shall be repaired at the contractor's expense.
    b. Work on or near existing services. The contractor shall liaise with the appropriate service provider in relation to working on or near services, giving appropriate notice period.
    c. Permitted location tolerance
       i. 0.5m parallel to the carriageway
       ii. 0.2m perpendicular to the carriageway
       iii. 0.2m vertically
    If the final pole location exceeds the permitted tolerance further lighting design may be required.
14. Pole details shall be as per Auckland Transport Engineering Standards. Departing from the standard installation due to ground conditions shall be confirmed by a written approval prior to installation.
15. Each luminaire must be fitted with either a 5 or 7 contact NEMA receptacle, compliant with ANSI C136.41:2013. The NEMA receptacle shall be fitted with blanking cap at the time of installation. The Light Point Controller will be installed at the time the streetlights are entered into RAMM by AT approved contractor.
16. New LED luminaires shall be provided with electronic DALI dimmable control gear.
17. As per AT requirements, columns are to be supplied with a 6 Amp Type C HRC Fuse link for connection of the luminaire to the incoming supply. (Wiring diagram on this page)

Design Revision Summary		
Rev.	Date	Comment
-	17/06/26	Original design

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DRAWING NO. : 2	REVISION: -		Scale : n / a	DESIGNED BY: SF		
			Date:17-June-2026	CHECKED BY: /		

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