PUBLIC LIGHTING REPORT

MIXED RESIDENTIAL DEVELOPMENT
AT SUMMERHILL ROAD,
DUNBOYNE BUSINESS PARK,
DUNBOYNE,
COUNTY MEATH.

Prepared for:

Solkerry Ventures Limited

SRP-XX-60-XX-XXX-RP-FDE-EE-9000

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PROJECT DETAILS

Project Number	Project Name
2559	Dunboyne Summerhill D-Res

DOCUMENT DETAILS

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1 INTRODUCTION

This report outlines the design intent and technical basis for the proposed public lighting installation Dunboyne Summerhill D-Res at Summerhill Road, Dunboyne Business Park, Dunboyne, County Meath.

The lighting design has been developed by Fallon Design to provide adequate illuminance levels in compliance with all relevant Irish and European standards. The objectives of the proposed public lighting scheme are as follows:

- To provide adequate illumination to ensure the safe use of access roads and footpaths for vehicular and pedestrian traffic.
- To minimise light spill and lighting pollution to surrounding properties and adjacent areas.
- To reduce glare for pedestrians, cyclists, and vehicular users.
- To utilise high-efficiency LED luminaires to reduce energy consumption and long-term operational costs.

The installation will be designed and constructed in accordance with the following standards, regulations, and guidance documents:

- S.I. No. 291 of 2013 – Safety, Health and Welfare at Work (Construction) Regulations 2013
- ETCI National Rules for Electrical Installations (ET101:2008, as amended)
- IS EN 13201 (Parts 1–5) – Road Lighting
- BS 5489-1:2020 – Code of Practice for the Design of Road Lighting
- CIBSE Lighting Guide 7 – Outdoor and Public Amenity Lighting
- ESB Networks – Housing Scheme Guidebook and National Code of Practice
- Bat Conservation Trust – Guidance Note 08/18: Bats and Artificial Lighting
- Bats & Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (2010)
- Meath County Council Public Lighting Technical Specification

2 DEVELOPMENT DESCRIPTION

The proposed development will consist of:
A Large-Scale Residential Development comprising 248 No. Residential units and 1 No. Childcare facility with associated car parking, bicycle parking, public open spaces, communal open spaces and all ancillary works.
The development shall comprise:

a) Construction of 248 No. Residential units as follows:
   - 170 No. 2 storey houses in a mix of terraced, semi-detached and detached unit types consisting of 27 No. 2-bedroom units, 124 No. 3-bedroom units and 19 No. 4-bedroom units. Each house will have an associated rear private garden.
   - 26 No. Apartment units in a single 4 storey block consisting of 13 No. 1-bedroom units and 13 No. 2-bedroom apartments. All apartment units will be provided with private open space areas in the form of balconies.
   - 52 No. Duplex units in 4 No. 3 storey blocks (A-D) consisting of 26 No. 2-bedroom units and 26 No. 3-bedroom units. All duplex units will be provided with private open space areas in the form of balconies/terraces.
   - Communal open space associated with the proposed apartment / duplex units will be provided in the form of 5 No. landscaped areas located in the vicinity of the units (total approx. 1,340.4 sqm).

b) 1 No. Childcare facility at ground floor of apartment Block A with dedicated external open space (GFA approx. 285.7 sqm).
c) Total provision of 388 No. Car parking spaces including 6 No. Accessible spaces and 24 No. EV charging spaces (357 No. Resident car parking spaces, 18 No. Residential visitor car parking spaces and 13 No. Car parking spaces dedicated for the creche facility) and a total of 429 No. Bicycle parking spaces (319 No. Secure resident spaces and 88 No. Visitor spaces for the apartment / duplex / mid-terrace units; and 14 No. Childcare facility staff spaces and 8 No. Childcare facility visitor spaces).
d) Landscaped public open space areas including children's play areas totalling approx. 10,775 sqm;
e) A new vehicular and pedestrian access point is proposed via a simple priority junction on Summerhill Road (L2228).

All associated site and infrastructural works including a foul pump station with 24hr storage and associated rising main (580m) discharging to an existing foul line at the Navan Road and Dunboyne Business Park Road junction; diversion of an existing 600 mm diameter storm pipe and proposed storm drain outfall to the R157 / Summerhill Road roundabout; internal roads, road markings, homezones, footpaths and cycle infrastructure; provision of 3 No. ESB substations; bin stores and associated bin staging areas; public lighting; all hard and soft landscaping works; natural and formal play equipment; boundary treatments including retaining walls; green roof; PV panels and all associated site clearance, excavation, landscape and development works.

The lighting design covers all public roads, footpaths, and communal external areas intended for adoption (where applicable) or long-term management.

3 DESIGN CONCEPT

The public lighting design has been developed to provide safe and comfortable night-time visibility for residents and visitors, while maintaining environmental sensitivity.

Key design principles include:

- Compliance with the appropriate lighting class in accordance with IS EN 13201 and BS 5489.
- Use of energy-efficient LED luminaires throughout the development.
- Careful selection of luminaire optics to achieve required uniformity while minimising glare.
- Controlled light distribution to reduce upward light ratio (ULR) and obtrusive light.
- Consideration of ecological constraints, including minimisation of impact on bat habitats where applicable.

The scheme is designed to achieve a balance between safety, visual comfort, environmental responsibility, and long-term sustainability.

4 DETAILED DESIGN

The design uses 86 x Metro Streetlight 19w LED 3000K (56 x Single Street Optic R03, 22 x Single Street Optic R01 and 8 x Forward Throw A Optic) mounted on 6m columns with no tilt.

Light levels are as follows:

Road & Paths 1 : 5.5 lux average, 1.1 lux minimum (0.20 uniformity).
Road & Paths 2 : 5.4 lux average, 1.0 lux minimum (0.20 uniformity).
These levels comply with IS EN 13201-2:2015 / BS 5489-1:2020 for residential roads & paths - class P4 (5.0 lux average, 1.0 lux minimum).

Mounting heights and beam distributions selected to suit the road and footpath hierarchy throughout the development

The lighting design has been developed to achieve Class P4 in accordance with IS EN 13201-2:2015 and BS 5489-1:2020, appropriate for residential access roads and footpaths with low traffic volumes.

The proposed layout is shown on drawing:

SRP-XX-60-SW-XXX-DR-FDE-EE-1000, SRP-XX-60-SW-XXX-DR-FDE-EE-1001 – Public Lighting Layouts

Lighting calculations have been undertaken using approved lighting design software to verify:

- Average maintained illuminance
- Minimum illuminance
- Uniformity ratios
- Glare control (where applicable)

All calculated results demonstrate compliance with the required lighting class.

5 LUMINAIRES

All luminaires proposed are LED type, incorporating:



Luminaire A Data

Supplier	
Type	Veelite Metro Streetlight 19w LED Forward Throw A Optic
Lamp(s)	8LED 3000K G4 700mA
Lamp Flux (klm)	2.26
File Name	5MTA08LGA-FTA-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	401.3, 47.0, 0.5
No. in Project	8



Luminaire B Data

Supplier	
Type	Veelite Metro Streetlight 19w LED Street Optic R03
Lamp(s)	8LED 3000K G4 700mA
Lamp Flux (klm)	2.27
File Name	5MTA08LGA-R03-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	537.8, 56.5, 0.3
No. in Project	56



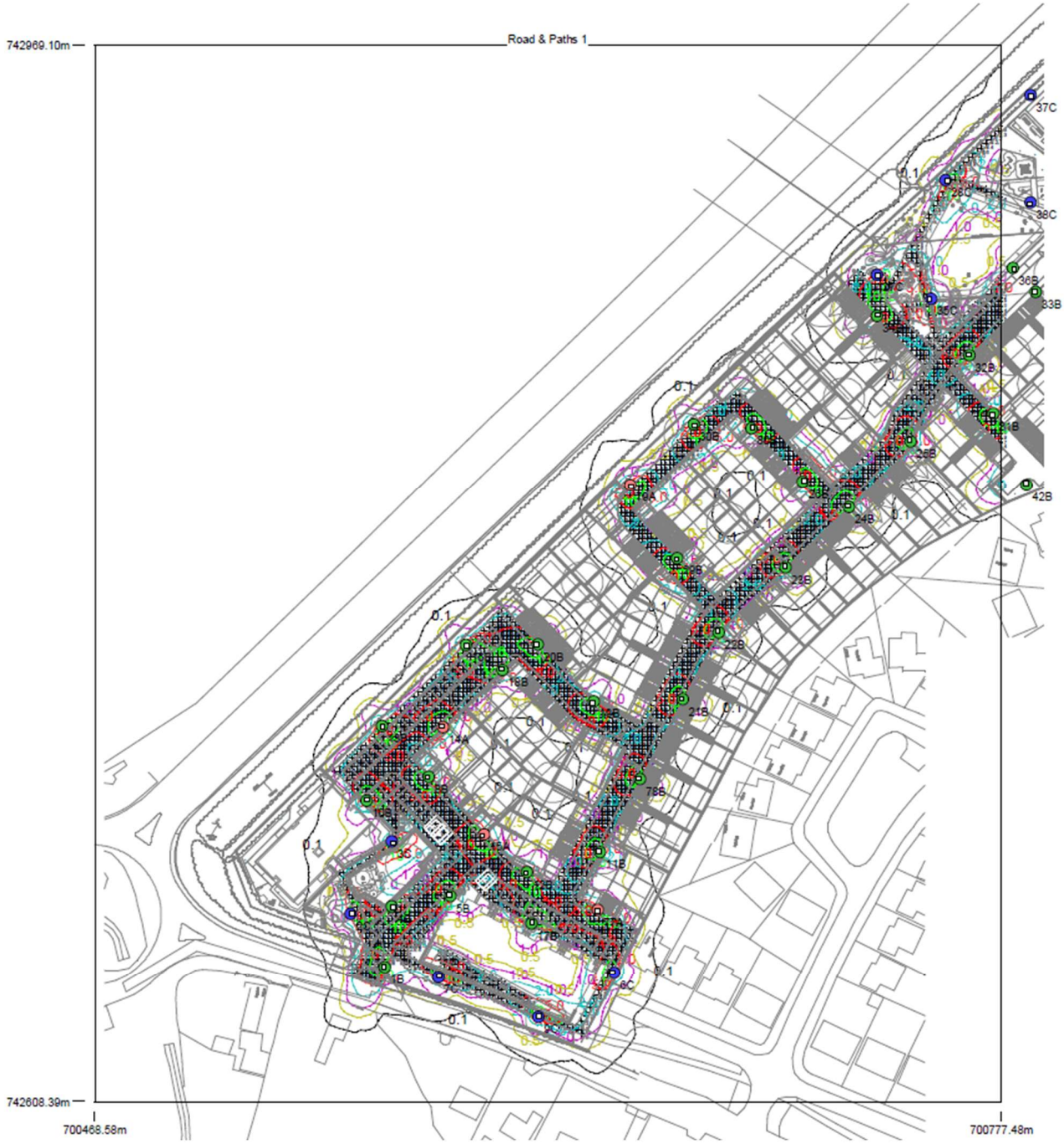
Luminaire C Data

Supplier	
Type	Veelite Metro Streetlight 19w LED Street Optic R01
Lamp(s)	8LED 3000K G4
Lamp Flux (klm)	2.15
File Name	5MTA08LGA-R01-3K.ies
Maintenance Factor	0.80
Imax70,80,90(cd/klm)	680.3, 387.6, 0.6
No. in Project	22

Final luminaire selection will comply with the relevant County Council technical specification.

6 LIGHTING CALCULATION RESULTS

6.1 Horizontal Illuminance (lux) – Road & Paths 1



Results

Eav	5.54
Emin	1.10
Emax	17.40
Emin/Emax	0.06
Emin/Eav	0.20

6.2 Horizontal Illuminance (lux) – Road & Paths 2



Results

Eav	5.49
Emin	1.08
Emax	17.14
Emin/Emax	0.06
Emin/Eav	0.20

7 ENERGY EFFICIENCY

Energy performance has been carefully considered in the design of the public lighting installation to ensure reduced operational costs and environmental impact over the lifetime of the development.

The following measures are incorporated:

- Use of high-efficiency LED luminaires to significantly reduce energy consumption compared to traditional discharge lighting.
- Long service life components to reduce maintenance requirements.
- Integrated programmable dimming profiles to reduce lighting levels during late-night periods of low activity, while maintaining safety compliance.
- Optimised spacing and optical design to prevent over-lighting.

The proposed installation represents a sustainable and compliant public lighting solution suitable for long-term operation.