



**PUBLIC LIGHTING REPORT
RESIDENTIAL DEVELOPMENT**

**ST. JOSEPH'S HOUSE AND ASSOCIATED PROPERTIES
AT BREWERY ROAD AND LEOPARDSTOWN ROAD, DUBLIN 18**

**St. Joseph's House and Associated Properties
at
Brewery Road and Leopardstown Road, Dublin 18**

**Project: 2027
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Project Details

Project: St. Joseph's House and Associated Properties
at Brewery Road and Leopardstown Road, Dublin 18

Client: Homeland Silverpines Ltd.
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1. Introduction

This report outlines the design intent and lighting standards implemented for the public lighting design of the residential development at St. Joseph's House and Associated Properties at Brewery Road and Leopardstown Road, Dublin 18

This report outlines the lighting design as developed by Fallon Design to provide adequate illuminance to meet all regulations and requirements as follows:

- To provide adequate illumination to contribute toward the safe use of the access roads and pathways for vehicular and pedestrians.
- Minimise lighting pollution on surrounding areas and neighbours
- Reduce glare on pedestrians and other users of the access areas
- Use of highly efficient artificial lighting to reduce energy consumption
- Sensitively reduce any impact on the local ecology and wildlife, including the bats as referenced later in this report.

The complete installation will be required to meet the following regulatory standards and policies:

- S.I. No. 291 of 2013: Safety, Health and Welfare at work (Construction Reg. 2013)
- ETCI National Rules for electrical Installation ET101-2008
- BS 5489-1:2013 Code of Practice for the design of road lighting
- IS EN 13201-1 & 2 -2015
- IS EN 13201-5-2015 S2 & ME4A
- CIBSE Lighting Guide 7
- Housing Scheme: Guidebook ESB Networks Standards for Electrical Services
- Guidance Note 08/18: Bats and artificial lighting in the UK (Bat Conservation Trust, 2018)
- Bats & Lighting Guidance notes for: Planners, engineers, architects and developers (12/2010)
- Dun Laoghaire Rathdown County Council Street Lighting Technical Specification.

2. Development Summary

The development will consist of a new residential and mixed use scheme to include apartments, residential amenity space, a café and a childcare facility as follows:

- The demolition of 10 no. properties and associated outbuildings at 'Madona House' (single storey), 'Woodleigh' (2 storeys), 'Cloonagh' (2 storeys), 'Souk El Raab (2 storeys), 'Welbrook' (2 storeys), 'Calador' (2 storeys), 'Alhambra' (2 storeys), 'Dalwhinnie' (2 storeys), 'Annaghkeen' (2 storeys) and 'The Crossing' (single storey) (combined demolition approx. 2,291.3 sq m GFA)
- The refurbishment, separation and material change of use of Saint Joseph's House (a Protected Structure, RPS No. 1548) from residential care facility to residential use and a childcare facility; and the construction of a new build element to provide for an overall total of 463 no. residential units, residential amenity space and a café as follows:
 - Block A (5 storeys) comprising 49 no. apartments (13 no. 1 bed units, 33 no. 2 bed units and 3 no. 3 bed units);
 - Block B (4 - 7 storeys) comprising 88 no. apartments (28 no. 1 bed units, 57 no. 2 bed units and 3 no. 3 bed units);
 - Block C (5 - 7 storeys) comprising 115 no. apartments (26 no. studio units, 26 no. 1 bed units and 57 no. 2 bed units and 6 no. 3 bed units);
 - Block D (5 - 10 storeys) comprising 157 no. apartments (36 no. studio unit, 40 no. 1 bed units and 81 no. 2 bed units), residential amenity areas of approx. 636 sq m and a café of approx. 49 sq m;
 - Block E (St. Joseph's House) (2 storeys) comprising 9 no. apartments (8 no. 2 bed units and 1 no. 3 bed units) and a childcare facility of 282 sq m with associated outdoor play areas of approx. 130 sq m;
 - Block F (3 - 6 storeys) comprising 45 no. apartments (23 no. studio units, 10 no. 1 bed units; and 12 no. 2 bed units);
- Open Space (approx. 9,885 sq m)
- 259 no. car parking spaces (232 no. at basement level and 27 no. at surface level)
- 968 no. bicycle spaces (816 no. at basement level and 152 no. at surface level)
- 10 no. motorcycle spaces (all at basement level)
- Vehicular Access
- Basement Areas
- Substations and Switch Rooms
- All associated site development works

3. Design Concept

The public lighting design for the Berwick Pines Development is to provide adequate illuminance for vehicular and pedestrian access to the proposed development. Protection of the existing trees was a critical part of the project and maintaining the root protection zone in proximity to the construction zone.

The design of the public lighting includes low energy LED lighting throughout. Energy efficient light fittings are a key element in reducing the developments energy consumption.

The selecting of light fittings and their locations has also been development to minimize any impact on the local ecology and wildlife.

4. Detailed Design

The public lighting design coordinated with the detailed landscaping scheme has led to the use of different luminaire types mounted at varying heights and with varying beam across the development.

Proposed luminaire design layout as per Fallon Design drawings.

Development Lighting - Residential Zone:

- The average light level is 7.52 lux with a minimum of 1 lux (uniformity 0.14). This complies with class P4 of IS EN 13201-2:2015 / BS5489-1:2020 (5 lux average, 1.0 lux minimum).

The following fitting and associated optics have been used mounted on 4 m columns in the design;

- Klif Series 32 No. K19W-27K Street Optic – 19 W
- Klif Series 11 No. K19F-27K Forward Throw Optic – 19 W
- Klif Series 1 No. K19S-T-27K Symmetric Optic – 19 W
- Vero Flat Series: 35 No. VF9-3K 9W
- Margen Wall: 3 No. MV6-3K 6W

Luminaires:

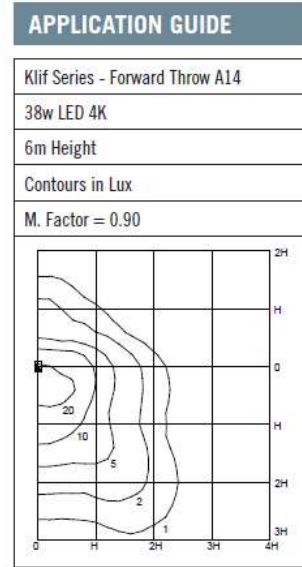
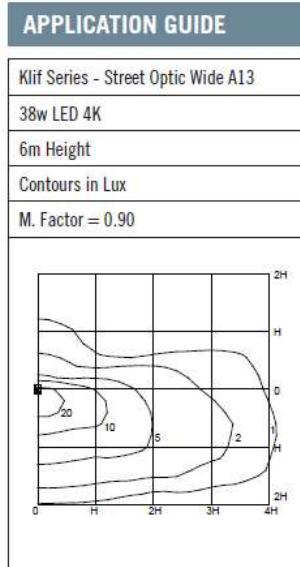
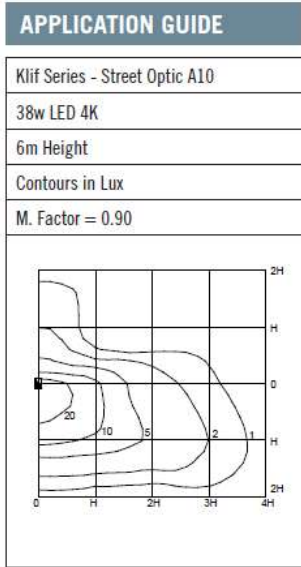


Klif Series
External lighting

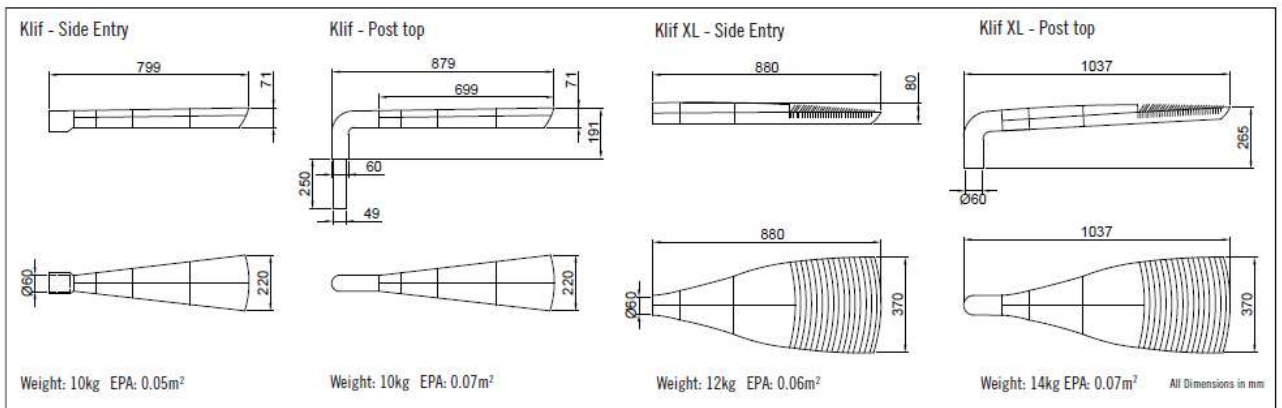


Margen Series
Recessed Wall lights

Vero Series - Flat
External Lighting

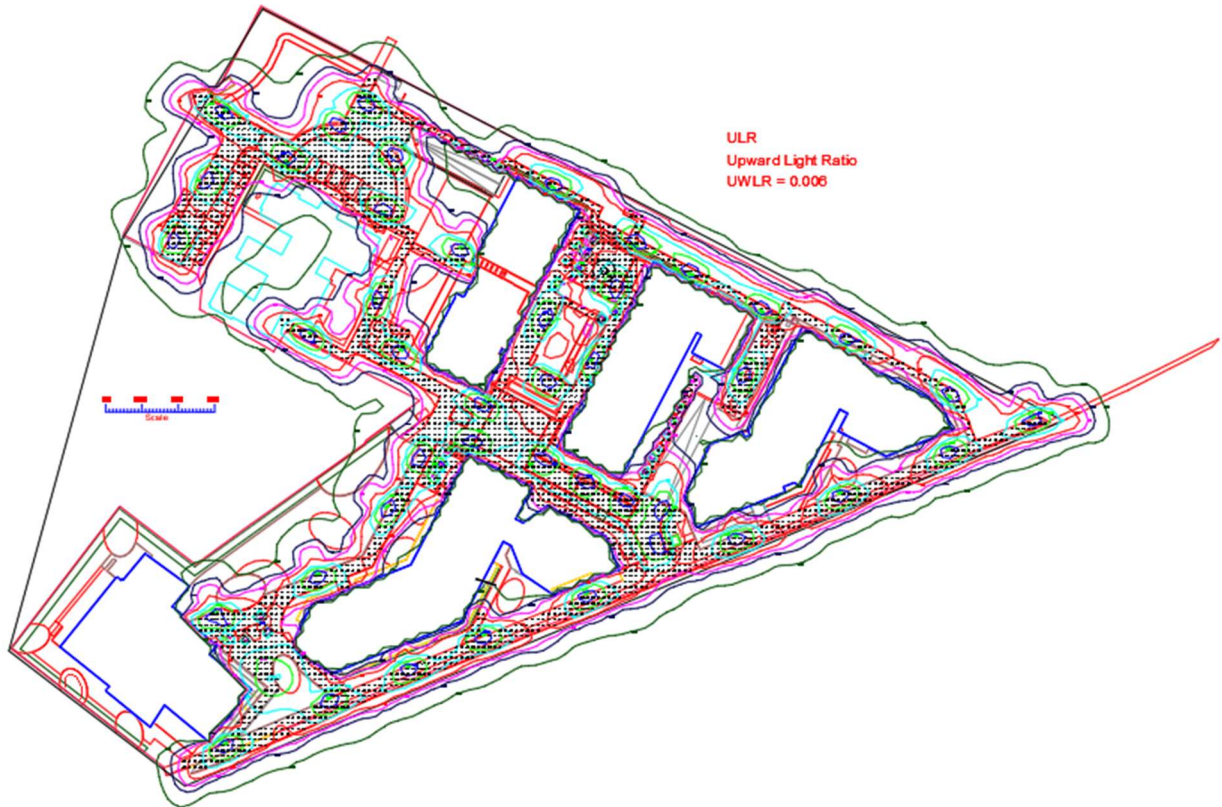


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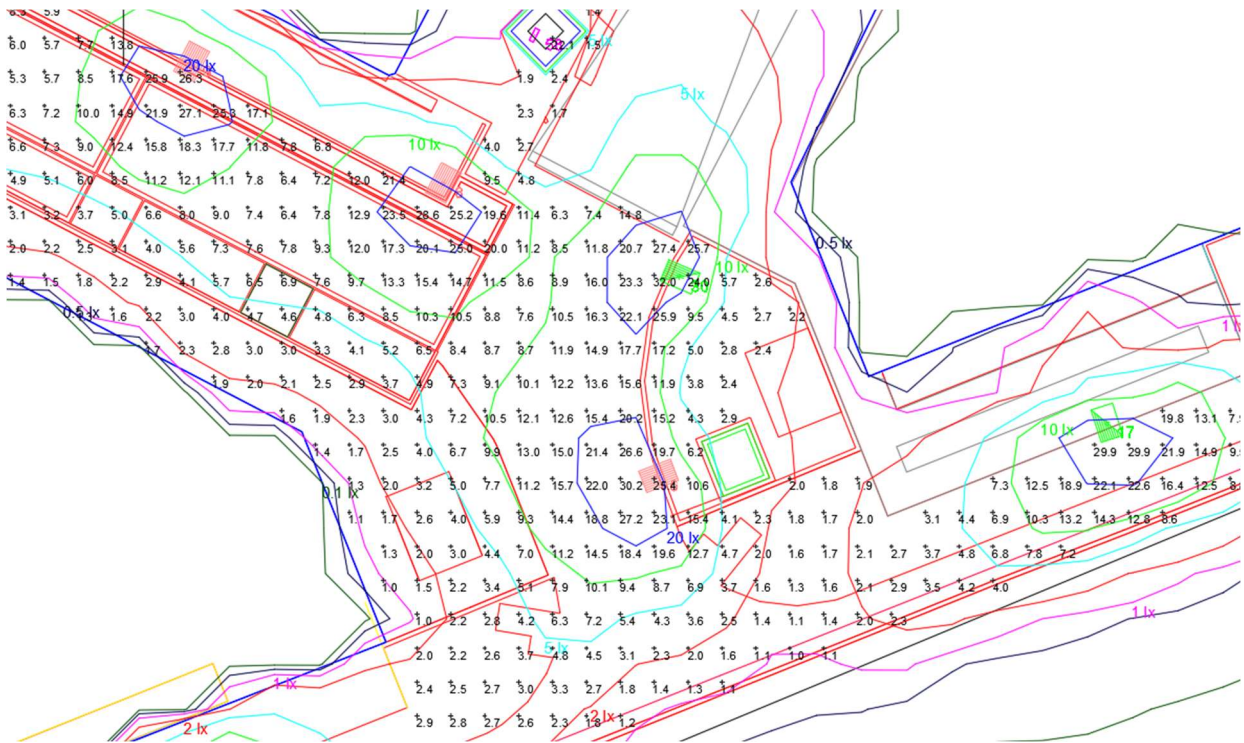
5. Grid Results

5.1 Lighting Isolines



Calculation Summary									
Description	Avg	Max	Min	Min/Avg	Min/Max	Units	PtSpcLr	PtSpcTb	# Pts
Road/ Paths	7.52	71.2	1.0	0.13	0.01	Lux	1.5	1.5	2892

5.2 Development Entrance - Lux Plot



Calculation Summary

Description	Avg	Max	Min	Min/Avg	Min/Max	Units	PtSpcLr	PtSpcTb	# Pts
Road/ Paths	7.52	71.2	1.0	0.13	0.01	Lux	1.5	1.5	2892

6. Ecological Impact Design Considerations:

Careful consideration has been given to the design of the Public Lighting with regard to the existing natural habitat and the wildlife. The chosen luminaire Veelight Tech Series has a full cut off lantern type, that offers with a G6 Glare rating and no upward light making it dark sky friendly.

- An inbuilt multi step dimming program within this luminaire allows for night time hours to be dimmed by up to 25%. This means during peak hours of nocturnal foraging, feeding and activity the adjacent public lighting can be further designed to minimize impact on the local wildlife.
- The colour rendering of the selected pole light fitting is 2700k resulting in a warmer light, helping to further minimize the impact on the local wildlife. Some of the wall lights are 3000k and only light at path level.
- Greater energy savings will also result using the inbuilt multi-step dimming program during late hours of darkness along the public lighting spaces.
- The particular local ecology and wildlife as referenced in the environmental services report has been incorporated into the scheme with a dark sky area designated around Block F.

The public lighting design references the following documents and best practice guides as outlined by Mr. Brian Keeley in his Biodiversity, Flora and Fauna at Berwick Pines, Leopardstown report.

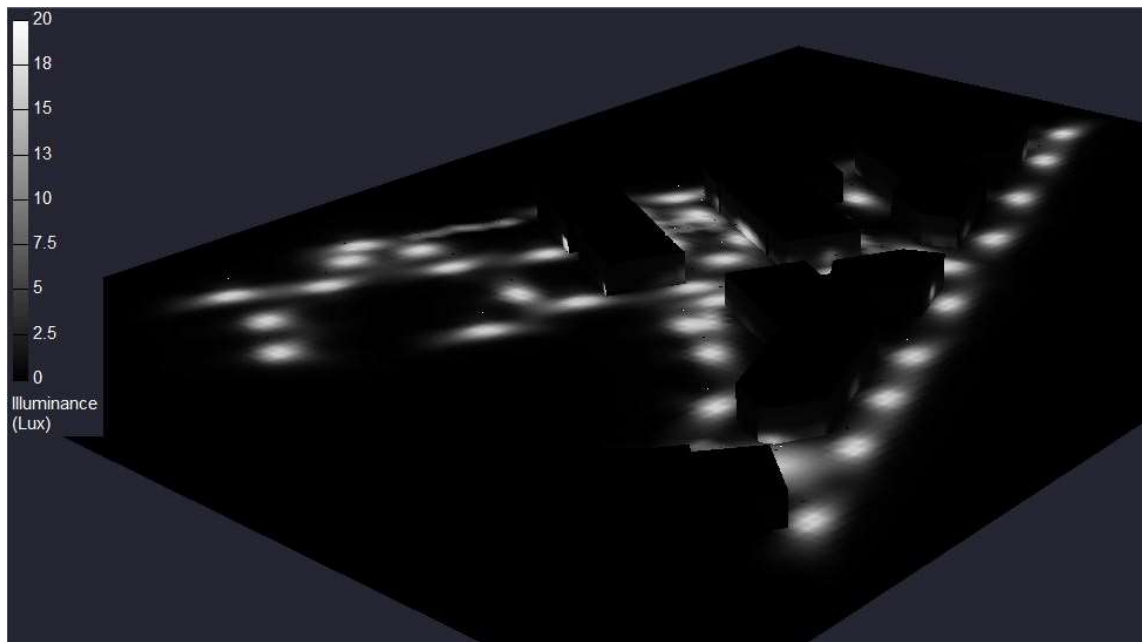
- Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2011);
- Guidance Notes for the Reduction of Obtrusive Light GN01 (Institute of Lighting Professionals, 2011.
- Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland);
- The Eurobats Mitigation of Lighting Document

7. Dark Sky - Upward Light Ratio:

As part of the ecological design elements of the Public Lighting outlined above, additional consideration was given to the upward light ratio (ULR). A ULR below 1 is ideal for minimizing disruption to Bats and maximizing the level of dark skies in the development.

The overall (ULR) Upward Light Ratio for the development is 0.6% which is below recommended levels in the above guidance documents and reference standards.

Dark Sky - 3D Render



Dark Sky - Plan Render:

