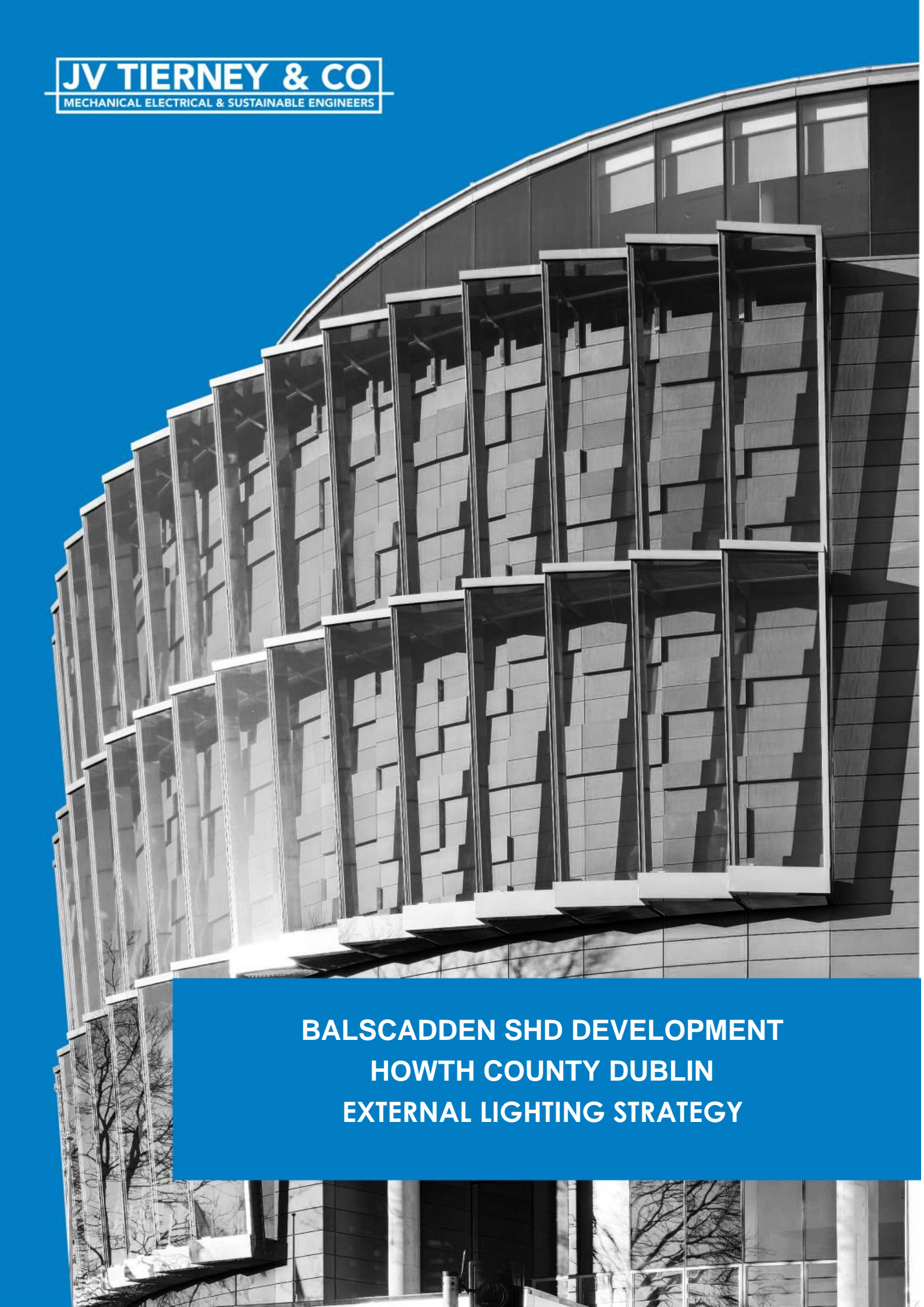


JV TIERNEY & CO

MECHANICAL ELECTRICAL & SUSTAINABLE ENGINEERS



**BALSCADDEN SHD DEVELOPMENT
HOWTH COUNTY DUBLIN
EXTERNAL LIGHTING STRATEGY**

**BALSCADDEN SHD RESIDENTIAL DEVELOPMENT
HOWTH COUNTY DUBLIN
EXTERNAL LIGHTING STRATEGY**

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1. Executive Summary

This report outlines the proposed external LED lighting scheme for the development at Balscadden SHD, Howth, Co. Dublin and provides evidence that the proposed external lighting scheme and design shall be fit for purpose, achieve all applicable regulatory requirements and concludes that the light spill and glare from the new apartment development will have minimal impact on the surrounding area.

The recommendations made in this report for the external LED lighting scheme are as follows:

- Zero Upwards Light Output Ratio (ULOR) column and bollard light fittings are used.
- The height of the new roadway lights are restricted to 6m maximum and the landscape area is lit using up to 1200mm high bollards.
- The external LED lighting installation shall be controlled via a combination of timeclock and photocell operation which will restrict the lighting operation to only when essential.

2. Design Guidelines

The preliminary lighting design for the proposed apartment development at Balscadden have been based upon the following European/British Standards and best practice guidelines:

1. Luminaires should be selected to ensure that when installed, there shall be zero direct upward light emitted to the sky (all output shall be at or below 90° to the horizontal) to help prevent sky glow from light pollution in the night sky.
2. The light emitted from these fittings shall have no photo biological risk and shall be categorised as 'Exempt Group' in relation to emissions of Blue Light, Infrared and Ultra Violet Radiation in accordance with EN 62741:2008.
3. All luminaires shall have a Luminous Intensity Classification of between G4 and G6 to IS EN 13201-2:2003/BS 5489-1:2013 and recommendations of Institution of Lighting Professionals and Bat Conservation Trust 'Bats and Lighting in the UK' documentation and Bat Conservation Ireland Guidance Notes for Planners, Engineers, Architects and Developers December 2010.
4. Guidance note for the Reduction of Obtrusive Light GN01:2011, produced by the Institute of Lighting Professionals (ILP).
5. LED technology will be utilised to ensure no UV component as recommended by Bat Conservation Ireland.
6. Lighting Standards as issued by Fingal County Council.



3. Methodology

The proposed external lighting scheme will be designed using LED fittings with high performance optics to provide visual comfort. The external lighting scheme will specifically respond to the landscape treatment and be sensitively designed to ensure minimum light pollution. Luminaires will be selected to ensure that when installed there shall be zero direct upward light emitted to the sky (all output shall be at or below 90° to the horizontal) to help prevent sky glow from light pollution in the night sky. The light emitted from these fittings shall have no photo biological risk and shall be categorised as ‘Exempt Group’ in relation to emissions of Blue light, Infrared and Ultra Violet Radiation in accordance with EN 62741:2008.

All luminaires shall have a Luminous Intensity Classification of between G4 and G6 to IS EN 13201-2:2003(E)/BS 5489-1:2013 and recommendations of Institution of Lighting Professionals and Bat Conservation Trust ‘Bats and Lighting in the UK’ documentation and Bat Conservation Ireland Guidance Notes for Planners, Engineers, Architects and Developers December 2010. As also recommended in the above guides and standards, Variable Lighting and Part-Night Lighting shall be utilised.

4. External Lighting Layout & Design

The proposed external lighting layout is detailed on Drawing. 3992-(60) S00-01 appended to this report.

The external lighting scheme will be designed using lighting design software such as Dialux/ Relux / Lighting Reality to ensure all regulations are achieved and to review its effects on the local residents, ecology and environment.

The external lighting design within the site boundary generally comprises of 6-metre-high LED lighting columns and 1200mm high LED bollards controlled via a combination of photocell and timeclock lighting.

All light fittings used shall comply with the requirements set out within the Institute of Lighting Professionals Guidance notes for the Reduction of Obtrusive Light GN01:2011.

5. Mitigate Effect on Bats

All luminaires used will lack UV/IR elements to reduce impact.

LED luminaires will be used due to the fact that they are highly directional, lower intensity, good colour rendition and dimming capability.

A warm white spectrum (<2700 Kelvins will be used to reduce the blue light component of the LED spectrum).

Luminaires will feature peak wavelengths higher than 550nm to avoid the component of light most disturbing to bats.

Column heights will be carefully considered to minimise light spill. The shortest column height allowed should be used where possible.



Only luminaires with an upward light ratio of 0% and with good optical control will be used.

Luminaires will be mounted on the horizontal, i.e. no upward tilt.

Any external security lighting will be set on motion-sensors and short (1 min) timers.

This report was prepared by:

Signed:



Rory Burke
Director
J.V. Tierney & Co.

Date: 09-03-2022





FIGURE 1
LIGHT TYPE A
SCALE N.T.S.

LEGEND:

- TYPE A - ESCOFET BALL 6M SINGLE HEAD COLUMN CW SINGLE HEAD LED LAMP SOURCE WITH INTEGRAL LIGHTING CONTROL MODULE.
- TYPE B - LOW LEVEL BOLLARD, LED LAMP SOURCE WITH INTEGRAL LIGHTING CONTROL MODULE.
- TYPE C - ZEBRA CROSSING LED LIGHT FITTING
- TYPE D1 - IP85 WALL MOUNTED DECORATIVE LED LIGHT FITTING
- TYPE F - IP65 RECESSED LED WALL LIGHT.



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0	17-02-22	ISSUED FOR PROGRESS	PR	SM

Project
BALSCADDEN SHD DEVELOPMENT,
HOWTH,
COUNTY DUBLIN

Title
PUBLIC REALM
PROPOSED LIGHTING LAYOUT

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