ADAMSTOWN ACD,

Adamstown Station District Centre

CO. Dublin

QUINTAIN

Site Lighting Report

IN2 Project. No. D2342

19th December 2023

Rev00

Revision History

Date	Revision	Description
19/12/2023	00	Planning Amendment

Registered Office: Unit E, Mount Pleasant Business Park, Upper Mount Pleasant Avenue, Dublin 6

Company Registration No.: 466565

CONTENTS

1.0 Introduction

IN2 Engineering Design Partnership have been retained by Quintain Limited to complete a Planning Amendment following the planning condition No.8 of REG.REF.SDZ22A/0005 – STREET LIGHTING for the proposed residential development at Adamstown Block ACD Co. Dublin.

The purpose of this report is to demonstrate that the proposed public lighting design will both enhance the development and maintain safe levels of illumination to circulation areas while minimising light overspill on the neighbouring properties and mitigating the residual impacts that the proposed lighting scheme may have on existing habitats within the site.

2.0 Executive Summary

The following report contains the design layout and accompanying calculations of the site lighting scheme for the proposed Residential development.

The external lighting for this proposed development has been designed to achieve the performance requirements as set out in the following standards.

- SDCC - Public Lighting General Specification
- BS 5489-1:2013 Code of Practice for the Design of Road Lighting
- BS EN 13201-2:2015 – Road Lighting Part 2: Performance Requirements
- BS 8300:2018 - Design of an accessible and inclusive built environment
- Institution of Lighting Professionals – Guidance Notes for the Reduction of Obtrusive Light GN01:2011
- CIBSE – Lighting Guide 6: The Exterior Environment
- NSAI National Rules for Electrical Installations I.S. 10101:2020
- Bats and Lighting – Guidance Notes for Planners, Engineers, Architects and Developers (Bat Conservation Ireland, 2010).
- Bats and Lighting in the UK – Bats and the Built Environment Series (Institute of Lighting Professionals, September 2018).

The design criteria set out for this proposed development is based on the lighting requirements of the BS EN 13201-2:2015, BS 5489-1:2013 and BS 8300:2018, as specified in the table below.

BS 8300:2018		
Area	Lighting Levels (Lux)	Uniformity (Uo)
Pedestrian Access Routes in the open Environment. Level and gently sloped.	*5*	-
Pedestrian routes adjacent to the entrances/exits of buildings	*100*	-
Stairways and ramps in the external Environment	*30*	-
Outdoor Car Parks (light traffic)	*5*	-
Outdoor Car Park (Medium traffic)	*10*	-

Table 2.1 Minimum Lighting Requirements BS 8300:2018

BS EN 13201-2:2015		
Class	Average Lighting Levels (LUX)	*Minimum Lighting Levels (LUX)*
P1 Lighting Class	*15*	*3*
P2 Lighting Class	*10*	*2*
P3 Lighting Class	*7.5*	*1.5*
P4 Lighting Class	*5*	*1*
P5 Lighting Class	*3*	*0.6*

Table 2.2 3 Minimum Lighting Requirements P Classes BD 13201-2

3.0 Development Overview

The proposed development is an amendment under SDCC Reg. Ref. SDZ22A/0005 located in Development Area 11 – Adamstown Station of the Adamstown SDZ Planning Scheme area in Adamstown, Lucan, Co. Dublin. The development consists of 436 No. apartments over three residential blocks (Blocks A – Block C – Block D). The Blocks ACD will be provided with a total of 223 No Car parking spaces.

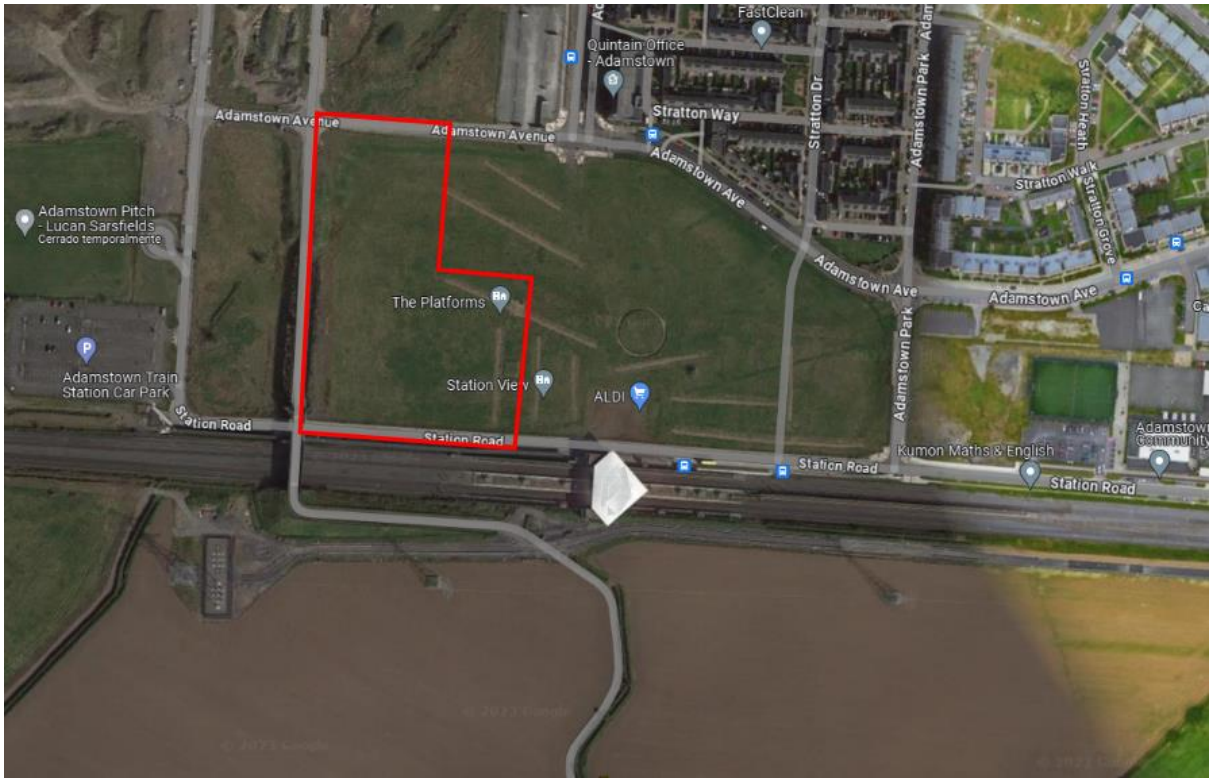

Figure 3.1 Development Site

4.0 Methodology

The proposed public lighting for the new development has been designed to ensure that the lighting criteria set out in each of the relevant standards listed previously are met or exceeded and that sufficient illumination is provided to ensure that key requirements such as access/egress, enhanced site security and the safe use of paths is provided. The design has been assessed to establish minimal environmental impact through glare, sky glow and obtrusive light (light spill).

- Provide adequate illumination to contribute towards the safe use of all public roads, footpaths and cycle paths by vehicles and bicycles.
- Provide adequate illumination to contribute towards the safe use of all walkways and footpaths by pedestrians.
- The height of the roadway columns is restricted to 8m maximum.
- All Luminaires to be LED.
- All LED shall be natural white. Correlated colour index Maximum 4000K
- All lanterns to have 5pin NEMA sockets fitted.
- All columns, luminaires, cable, and pillars, shall comply with Local Authority General Specification for Public Lighting.
- Achieve compliance with BS8300:2018 of the building regulations “Access for People with Disabilities” in determining the required illuminance on access routes as noted the Disability Access Certificate (DAC) for the development.

It is proposed to illuminate the Station Road, Adamstown Avenue and Great Western using Type ‘X3’ 8-meter pole mounted Luminaires. Further, Pedestrian path Great Western Lane will be illuminate using ‘X4’ 6-meter pole mounted Luminaires as per Site lighting Luminaire schedule (Appendix A).

A lighting calculation has been done using Lighting Reality software to ensure lux levels compliance (Appendix B). The calculation Include all the existing Luminaries and the new Private Luminaries which performance might affect the lux level within public spaces.

5.0 Results

Main Road

The lighting performance in the main road has been assessed with fitting Type ‘X3’ 62W LED 8-metre-high lighting columns as per luminaire schedule, Appendix A.

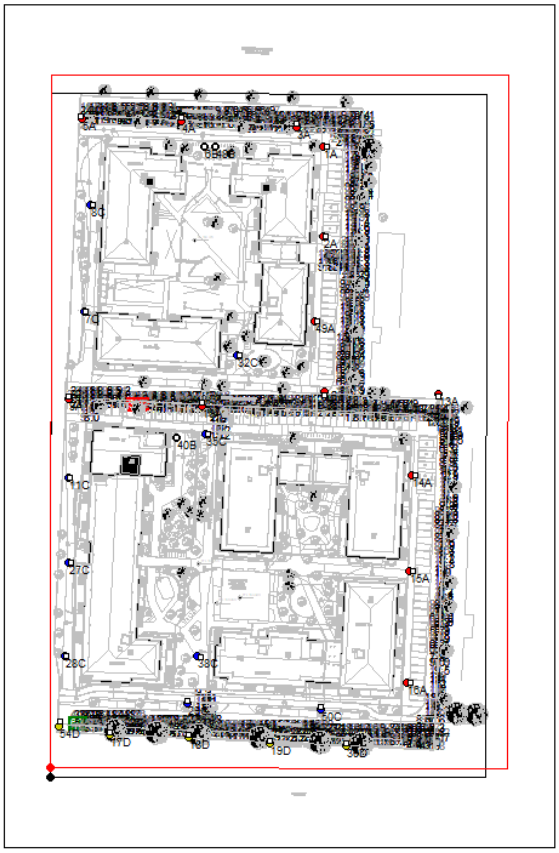

Figure 5.1 Illumination Level - Main Road

Evaluation	Target	Result	
Eaverage (maintained)	10 lux	14.25	Pass
Eminimun (maintained)	2 lux	3.22	Pass

Due the characteristics of the roads at the vicinity of the development and No.4 future road junctions a P2 class has been assessment for the main road.

Foot path & Cycle path

The lighting performance in the main road has been assessed with fitting Type ‘X4’ 16.2W LED 6-metre-high lighting columns as per luminaire schedule, Appendix A.

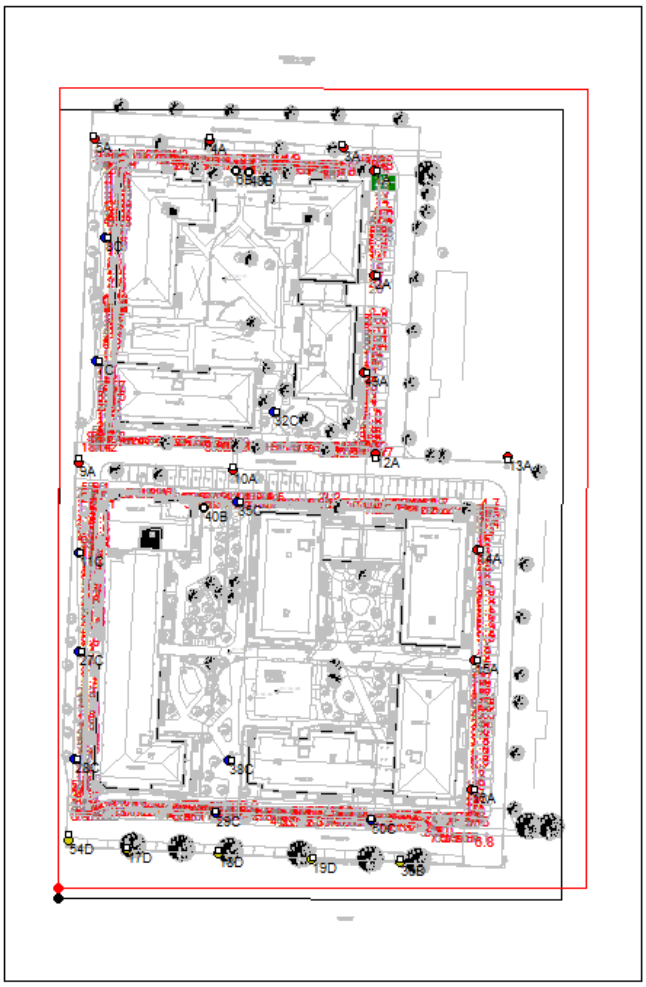

Figure 5.2 Illumination Level - Foot and Cycle Path

Evaluation	Target	Result	
Eaverage (maintained)	5 lux	7.36	Pass
Eminimun (maintained)	1 lux	1,16	Pass

A P4 class has been assessment for foot and Cycle path to provide minimum and secure lux levels.

6.0 Conclusion

The new Public Lighting has been designed to provide a performance which comply with planning condition 8 reaching lux Level that ensure security with the minimum environmental impact.

7.0 APPENDIX A – Luminaire Schedule

8.0 APPENDIX B – Lighting Reality Calculation

9.0 APPENDIX C– Drawing.

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