



ORCHARD STREET INVESTMENT LTD

4 HARDMAN SQUARE - REFURBISHMENT

External Lighting Statement





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External Lighting Statement

TYPE OF DOCUMENT (VERSION) CONFIDENTIAL

PROJECT NO. 70091798

OUR REF. NO. 4HS-WSP-XX-XX-RP-E-630001

DATE: SEPTEMBER 2022

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QUALITY CONTROL

Issue/revision	First issue	Revision 1	Revision 2	Revision 3
Remarks	For Information			
Date				
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Project number				
Report number	4HS-WSP-XX-XX-RP-E-630001			
File reference	\\uk.wspgroup.com\central data\Projects\70091xxx\70091798 - 4 Hardman Square - Refurb\03 WIP\Electrical\09 Documents			



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EXTERNAL LIGHTING STATEMENT



1.1 EXTERNAL LIGHTING STATEMENT

WSP has been appointed by Orchard Street Investments to provide planning stage advisory services in relation to the design and construction of the 4 Hardman Square development in Manchester.

This document forms part of the Full Planning Application for the site and will inform the Manchester Council planning department of the proposed External Lighting Strategy for the terrace areas on the 6th floor roof level. The purpose of this document is to inform the design team and Manchester City Council of the external lighting strategy for the project and how this will address local and regional planning policies.

1.2 PURPOSE OF REPORT

The following design statement is provided for planning purposes to describe proposals for the new external lighting scheme for the proposed terrace areas on the top roof of the development, with the specific intention of expressing methods for the reduction of obtrusive light. The proposal will be a guide to ensure the future external lighting scheme is as unobtrusive as possible, complies with guidelines for reducing light pollution and satisfying the local planners and the local community.

The external lighting scheme will be designed to create a safe external environment by providing artificial lighting in the hours of darkness whilst ensuring the lighting does not affect neighbouring buildings. This report focuses on lighting the private external terraces and the plant room areas on the top floor.

1.3 DEVELOPMENT DETAILS

4 Hardman Square is situated in the city of Manchester's financial centre, Spinningfields. It is an existing five storey office building with retail units to the ground floor. Located on Hardman Square (between Gartside Street, Bryom Street, and Hardman Street) the building is ideally located with public transport links and car parking facilities available.

The building was constructed in 2006. The structure is a steel frame and is predominately clad in a glazed curtain walling. A plant area is located on the ground floor adjacent to the reception. There is additional roof-top plant area.

The entrance is located on the south elevation of the building, central on plan. This is a double height space with a height of approximately 7-8m (this height is used to provide mezzanine areas within the retail units).

The entrance is recessed slightly from the first floor above and leads into the main atrium. The lift core opens onto the atrium which extends the full height of the building with a rooflight above the top floor.

The key elements of the scheme are as follows:

- Reception refurbishment
- Common area and WC refurbishment
- CAT A office floor refurbishment
- Increase of WC provision
- Roof terrace refurbishment

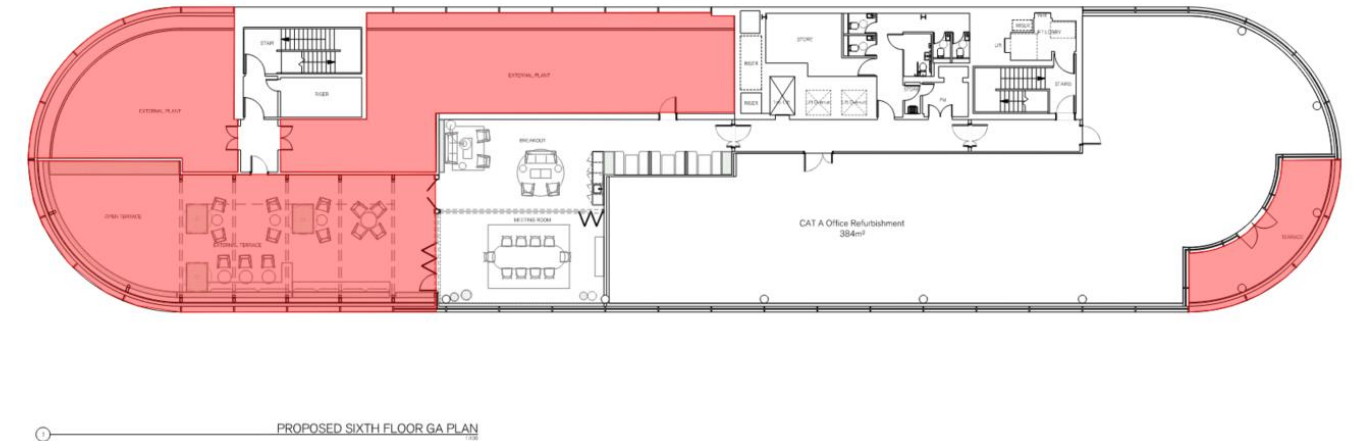


Figure 1 - Proposed External Plant room and terraces – Sixth Floor GA Plan

1.4 PLANNING STATEMENT/ CODE OF PRACTICE

The external lighting scheme shall be designed in accordance with the following guidance documents:

- BS EN 12464 - 2: 2014: Lighting of work Places – Part 2: Outdoor work places (building mounted fittings, car parking, cycle storage, entrances and walkways)
- ILP Guidance Notes for the Reduction of Obtrusive Light
- CIBSE Lighting Guide 6 (LG 6) – The Exterior Environment

The ILP Guide for the Reduction of Obtrusive Light is the primary document used by most local councils and planning departments to categorise the provision of external lighting.

All external lighting areas shall be illuminated via low energy luminaires and lamp fittings and include provision for time switching and photocell control. All fittings will be chosen and positioned to avoid light spill onto adjacent properties.

External lighting shall be compliant to Dark Sky requirements and to Lighting Environmental Zone.

1.5 CATEGORY OF SYSTEM AND LIGHTING LEVELS

The site for the scheme will be located within an urban area, we would therefore assess this site as requiring a Category E4 Environmental Zone. A Category E4 Environmental Zone is defined in the ILP guides as 'Town/city centres with high levels of night-time activity'. BS EN 12464 Part 2 expands the E4 Environmental zone to include the following definition 'high district brightness areas, such as town centre and commercial areas. This site would comply with both the definitions provided for a category E4 scheme.

Lighting levels and uniformity shall be in accordance with the following standard:

Type of area, task or activity	Maintained Illuminance	Illuminance Uniformity	Colour Rendering index
Terraces	150 lux	0.4	80
Plant Rooms	200 lux	0.4	60
Walkways for pedestrians	5 lux	0.25	20

External lighting shall be compliant to Dark Sky requirements and to the CIE 150 Guide on the effects of obtrusive light. The lighting levels required for category E4 are maximum 15% upward light ratio and 10 lux on the building facade.

1.6 PROPOSED EXTERNAL LIGHTING STRATEGY

A desktop simulation has been conducted using Relux modelling software to identify the approximate light spill caused from the prospective site external lighting design with a specific focus onto the site boundaries and building's facade.

The proposed amenity terrace area lighting is a suspending lighting system based on the proposed architectural design aspirations.

The proposed external balcony area lighting is a wall-mounted lighting system.

The proposed external plant room area lighting is a wall-mounted lighting system.

The proposed wall-mounted luminaires will use a white lamp source LED.

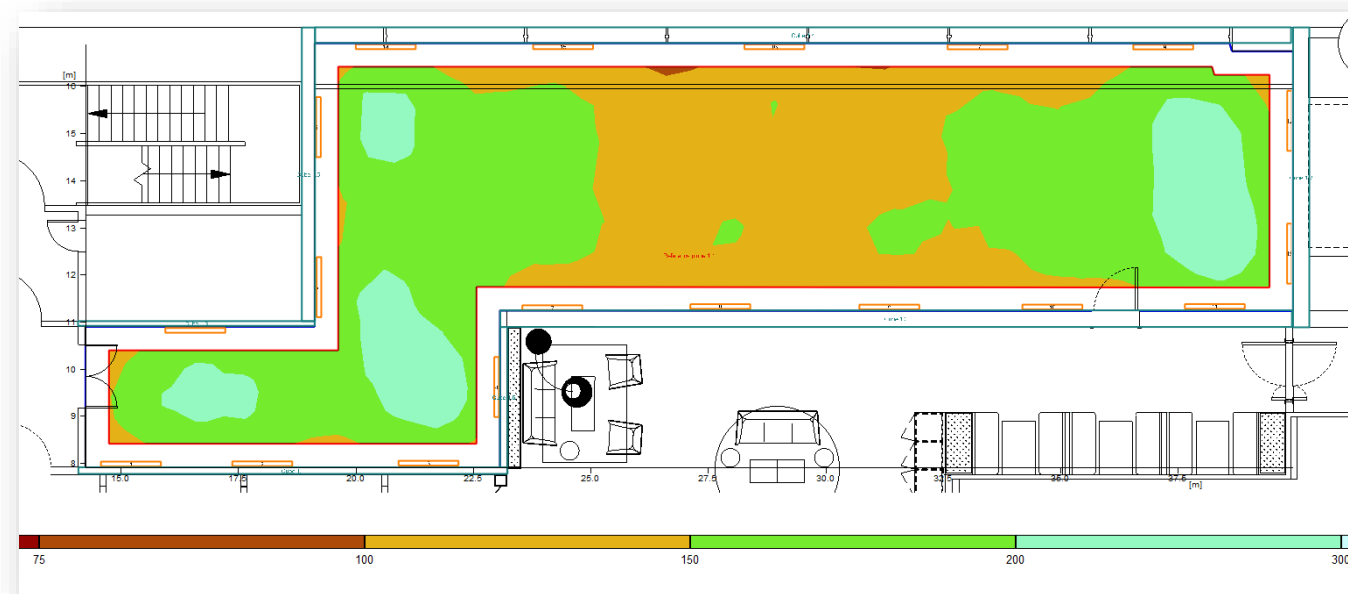


Figure 2 - Proposed External Lighting Plant Rooms No.01

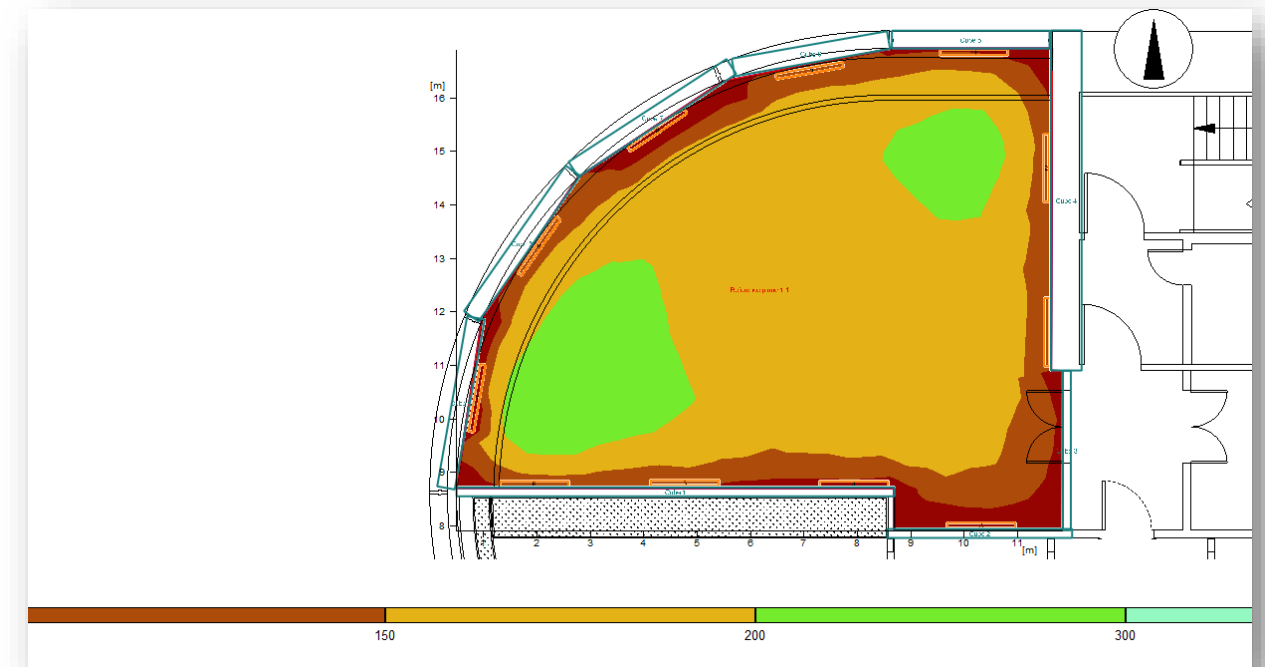


Figure 3 - Proposed External Lighting Plant Rooms No.02

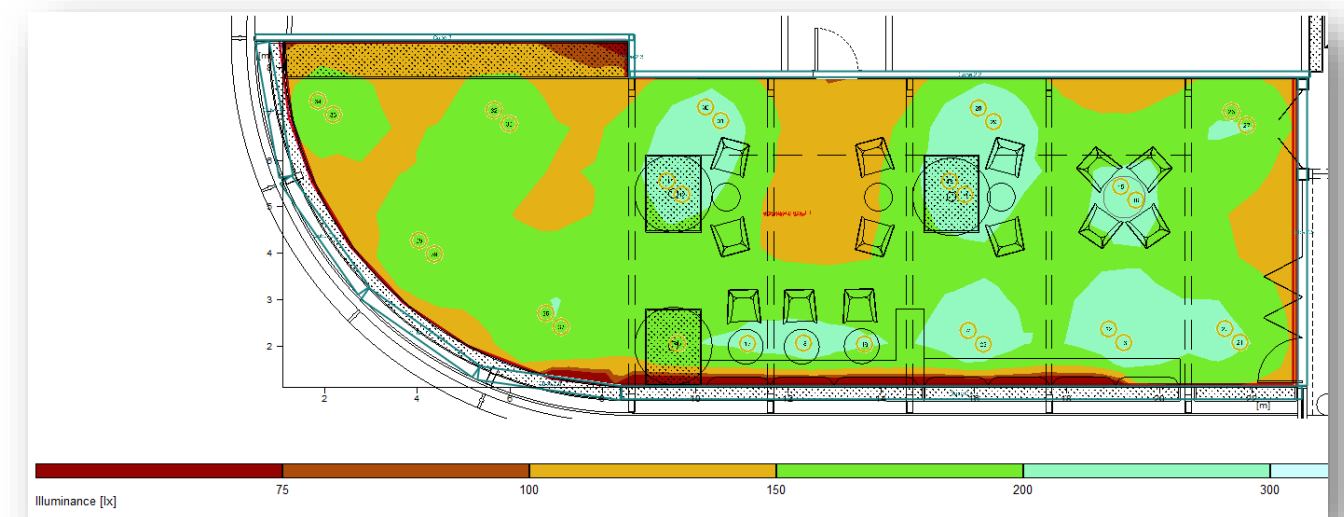


Figure 4 - External Terrace

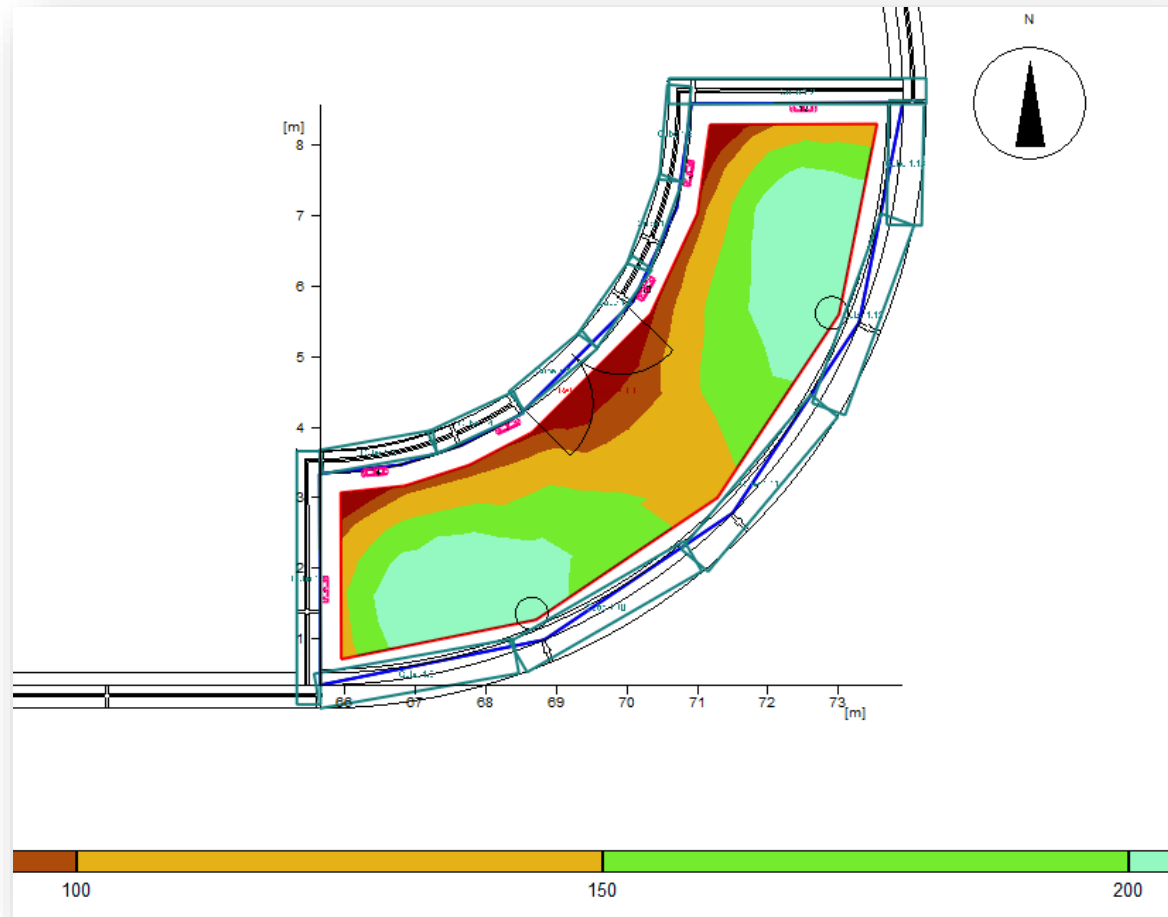


Figure 5 - Open Terrace

1.7 LIGHTING CONTROL

The external lighting controls are proposed to consist of manual switching to the external plant areas, and a photocell & time clock arrangement for the terrace areas with manual override facility to give the end user more flexibility and control.

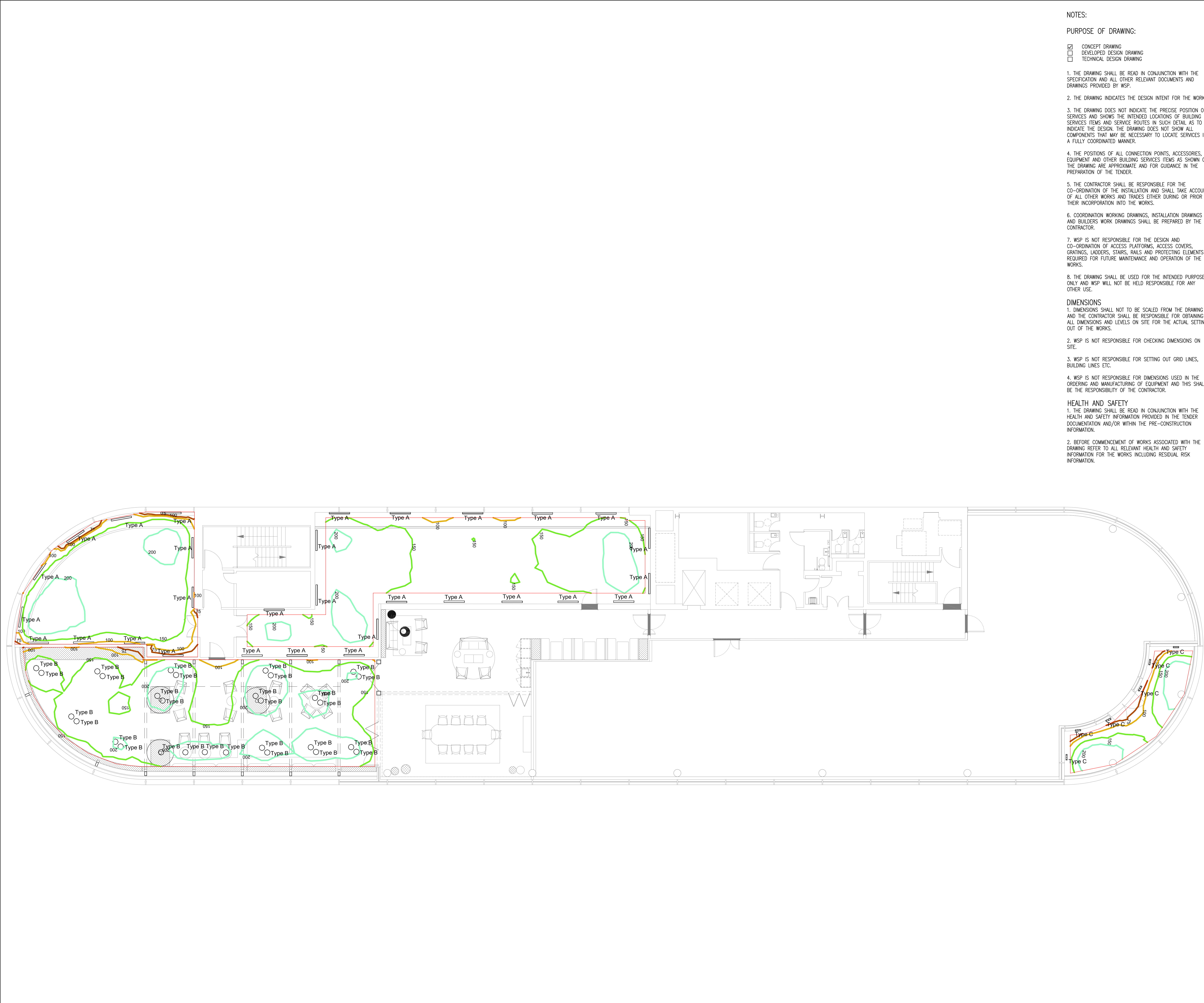
1.8 CONCLUSION

The above methods of lighting and control are proven methods for reducing light spill over the site boundary onto neighbouring areas and also to reduce sky glow from upward light distribution.

The purpose of the lighting scheme is ultimately to provide a safe and secure environment for the residents, and also to minimise or eliminate any negative impact on the existing environment to ensure that the new development blends into the surrounding city scape.



APPENDIX A - PROPOSED EXTERNAL LIGHTING LAYOUT ROOF LEVEL



NOTES:

PURPOSE OF DRAWING:

- ☒ CONCEPT DRAWING
- ☐ DEVELOPED DESIGN DRAWING
- ☐ TECHNICAL DESIGN DRAWING

1. THE DRAWING SHALL BE READ IN CONJUNCTION WITH THE SPECIFICATION AND ALL OTHER RELEVANT DOCUMENTS AND DRAWINGS PROVIDED BY WSP.
2. THE DRAWING INDICATES THE DESIGN INTENT FOR THE WORKS.
3. THE DRAWING DOES NOT INDICATE THE PRECISE POSITION OF SERVICES AND SHOWS THE INTENDED LOCATIONS OF BUILDING SERVICES ITEMS AND SERVICE ROUTES IN SUCH DETAIL AS TO INDICATE THE DESIGN. THE DRAWING DOES NOT SHOW ALL COMPONENTS THAT MAY BE NECESSARY TO LOCATE SERVICES IN A FULLY COORDINATED MANNER.
4. THE POSITIONS OF ALL CONNECTION POINTS, ACCESSORIES, EQUIPMENT AND OTHER BUILDING SERVICES ITEMS AS SHOWN ON THE DRAWING ARE APPROXIMATE AND FOR GUIDANCE IN THE PREPARATION OF THE TENDER.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE CO-ORDINATION OF THE INSTALLATION AND SHALL TAKE ACCOUNT OF ALL OTHER WORKS AND TRADES EITHER DURING OR PRIOR TO THEIR INCORPORATION INTO THE WORKS.
6. COORDINATION WORKING DRAWINGS, INSTALLATION DRAWINGS AND BUILDERS WORK DRAWINGS SHALL BE PREPARED BY THE CONTRACTOR.
7. WSP IS NOT RESPONSIBLE FOR THE DESIGN AND CO-ORDINATION OF ACCESS PLATFORMS, ACCESS COVERS, GRATINGS, LADDERS, STAIRS, RAILS AND PROTECTING ELEMENTS REQUIRED FOR FUTURE MAINTENANCE AND OPERATION OF THE WORKS.
8. THE DRAWING SHALL BE USED FOR THE INTENDED PURPOSE ONLY AND WSP WILL NOT BE HELD RESPONSIBLE FOR ANY OTHER USE.

DIMENSIONS

1. DIMENSIONS SHALL NOT TO BE SCALED FROM THE DRAWING AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL DIMENSIONS AND LEVELS ON SITE FOR THE ACTUAL SETTING OUT OF THE WORKS.
2. WSP IS NOT RESPONSIBLE FOR CHECKING DIMENSIONS ON SITE.
3. WSP IS NOT RESPONSIBLE FOR SETTING OUT GRID LINES, BUILDING LINES ETC.
4. WSP IS NOT RESPONSIBLE FOR DIMENSIONS USED IN THE ORDERING AND MANUFACTURING OF EQUIPMENT AND THIS SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.

HEALTH AND SAFETY

1. THE DRAWING SHALL BE READ IN CONJUNCTION WITH THE HEALTH AND SAFETY INFORMATION PROVIDED IN THE TENDER DOCUMENTATION AND/OR WITHIN THE PRE-CONSTRUCTION INFORMATION.
2. BEFORE COMMENCEMENT OF WORKS ASSOCIATED WITH THE DRAWING REFER TO ALL RELEVANT HEALTH AND SAFETY INFORMATION FOR THE WORKS INCLUDING RESIDUAL RISK INFORMATION.

P01	30/09/22	DRB	PRELIMINARY ISSUE	AC	AL
REV	DATE	BY	DESCRIPTION	CHK	APD

DRAWING STATUS FOR INFORMATION



CLIENT:
ORCHARD STREET INVESTMENT MANAGEMENT

ARCHITECT:
SPRATLEY & PARTNERS

PROJECT:
4 HARDMAN SQUARE REFURBISHMENT

TITLE:
EXTERNAL LIGHTING CALCULATION
ROOF LEVEL

SCALE @ SIZE NTS	CHECKED: AC	APPROVED: AL
CAD FILE ###	DESIGN/DRAWN: DRB	DATE: 30/09/2022
PROJECT No: 70091798	DRAWING No: ###	REV: P01



APPENDIX B - PROPOSED LUMINAIRE SCHEDULE

70091798 4 Hardman Square - Refurb
Luminaire Schedule

Ref	Location	Luminaire Type	Description	Lamp Wattage (W)	IP Rating	Mounting	Lamp Type	Manufacturer	Product Catalogue/Model No.	Image
A	Plant Rooms	ACL Industry	1,282mm (Dia), 4,628 lumens, 4000K, DALI	32.1	IP66	Surface/ Suspended	LED	Whitecroft	ACH44K	
B	Open Terrace	Pendant	350mm(Dia), 2,631 lumens, 4000K, DALI	17.6	IP64	Suspended	LED	BEGA	24 129	
C	Terrace	Ceiling/Wall	350mm (Dia), 5721 lumens, 4000K, DALI	41	IP65	Ceiling/Wall Mounted	LED	BEGA	24 649	



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