

BRUNTWOOD
GREENHEYS DEVELOPMENT

External Lighting Assessment

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3210252 - Rev C

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Amendment Record Sheet

Revision	Description	Date	Author	Approved
A	Initial Issue	06.05.26	M Johnson	W Leedham
B	Updated to reflect the comments received.	01.06.26	M Johnson	W Leedham
C	Updated to reflect correct Environmental Assessment Zone	18.08.26	M Johnson	W Leedham
				

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1 Executive Summary

This Lighting Impact Assessment has been prepared to support a planning application for development at Biobank Greenheys, located close to the University of Manchester Campus on the outskirts of Manchester City Centre.

The report has been prepared in accordance with:

- Manchester Core Strategy (Policies EN16, DM1)
- Manchester Residential Quality Guidance
- Institution of Lighting Professionals (ILP) GN01/2021
- Relevant British Standards

The site lies within a Suburban Area of Greater Manchester and is classified as:

Environmental Zone E3 – Medium Brightness (Suburban)

The proposed lighting scheme is designed to:

- Protect residential amenity
- Limit obtrusive light and sky glow
- Support safety and placemaking objectives

Conclusion:
Based on the details provided within this report it is believed that the proposed lighting complies with Manchester City Council policy and best practice guidance. Particular attention was given to the more sensitive residential areas to the west of the site. It is generally considered that the effects on surrounding receptors are negligible to minor and not significant.

2 Introduction

2.1 Purpose

This report details the lighting strategy and a further assessment identifying the potential effects from obtrusive light that may arise from the scheme which has been designed for the proposed development

The Lighting Assessment will:

- Identify potential existing obtrusive light within and around the development site;
- Establish the minimum operational lighting required to safely and securely operate the proposed development;
- Describe potential effects on vulnerable areas as a result of obtrusive light from the proposed development.
- Set out details of the lighting strategy which includes measures to minimise obtrusive light following completion.

This assessment also evaluates the likely effects of artificial lighting associated with the proposed development on:

- Nearby residential properties
- Public realm and visual amenity
- The wider night-time environment

It demonstrates compliance with Manchester City Council's requirement to minimise light pollution and protect amenity.

3 Policy Context – Manchester City Council

3.1 Core Strategy

Policy EN16 – Air Quality, Noise and Amenity

Requires development to:

- Minimise light pollution
- Avoid adverse impacts on residential amenity
- Ensure lighting is appropriate in scale and design

Policy DM1 – Development Management

Requires all development to:

- Be compatible with surrounding uses
- Protect the amenity of occupiers
- Incorporate appropriate environmental design

3.2 Manchester Residential Quality Guidance (MRQG)

Key expectations:

- Avoid intrusive lighting into residential windows
- Ensure lighting does not create glare or visual discomfort
- Protect internal living conditions, especially at night

3.3 National and Technical Guidance

- ILP GN01/21 – Reduction of Obtrusive Light
- BS EN 12464-2 (Outdoor Work Lighting)
- BS EN 13201 (Road Lighting)

4 Site Context and Sensitivity

4.1 Location Characteristics

The site is located near to the University of Manchester Campus on the outskirts of Manchester City Centre. The site is characterised by:

- Mixed-use Commercial/residential surroundings
- Moderate night-time activity
- Having existing ambient lighting from street infrastructure, building facades and traffic.

4.2 Environmental Zone Classification

In accordance with ILP guidance and Manchester's urban context the site is designated as

- Zone E3 (Medium Brightness urban environment)

This designation reflects

- Medium ambient light levels
- Reduced sensitivity relative to rural locations

4.3 Sensitive Receptors

Sensitive receptors within and immediately around the Application Site have been identified taking into account the recommendations in ILP Guide 04 (2013). The following details the most significant receptors within the area.

Receptor Type	Sensitivity	Notes
Residential apartments	Medium	Upper floors most sensitive
Pedestrian areas	Low	Benefit from lighting
Commercial buildings	Low	Typically, not light-sensitive

It has been identified that there are residential properties to the west of the site on Greenheys Lane which directly face the Western elevation of the property.

The other sides of the property are facing commercial offices and industrial units.

5 Baseline Lighting Conditions

A walk round of the site was undertaken to identify any existing lighting at the application site. This identified the following within the area:

- LED street lighting columns
- Architectural lighting
- Vehicle movement

The existing areas around the site were assessed and baseline conditions were generally thought to be:

- Medium Brighness
- Varied
- Continuously illuminated

It is generally considered that the above findings reduces the relative impact of new lighting.

6 Proposed Lighting Scheme

6.1 Design Principles (Aligned with Manchester Policy)

The lighting design around the building has generally focused on the objectives listed above. The luminaires chosen are in keeping with the Architectural style of the building and are placed to ensure that all areas needing light are illuminates to the required levels.

Other considerations as part of the design include integrating the lighting into the City Centre character and to support safety and accessibility around and into the new development.

6.2 Lighting Components

The lighting has been designed to achieve various objectives and a list of these are detailed below

a) Public Realm Lighting

General lighting has been provided around the site for the purpose of access and safety. This mainly achieved using low level Bollards and wall lights to the pedestrian areas and columns where vehicle access is required.

In general, the illuminance has been designed in accordance with guidelines and within a range of 10-30lux.

b) Entrance Lighting

The main entrance to the building uses lighting to enhance the area and make the building welcoming during nighttime hours. This achieved by using the following:

- Canopy lighting
- Discrete lighting fixed to external furniture within the area
- Surface spot lighting within planter areas
- Lighting recessed into the external paving.

c) Rear Loading Area

Functional column mounted luminaires have been used to the rear of the premises to illuminate the loading area for the property. This achieved by the use of column mounted luminaires which are located at the perimeter of the site and direct lighting onto the loading area minimising any spill light outside the site.

d) Technical Specification

Luminaires and controls have been chosen to achieve the required objectives using the following specifications:

Parameter	**Specification**
Light Source	LED
Colour Temperature	2700K – 3000K
Upward Light Ratio	0%

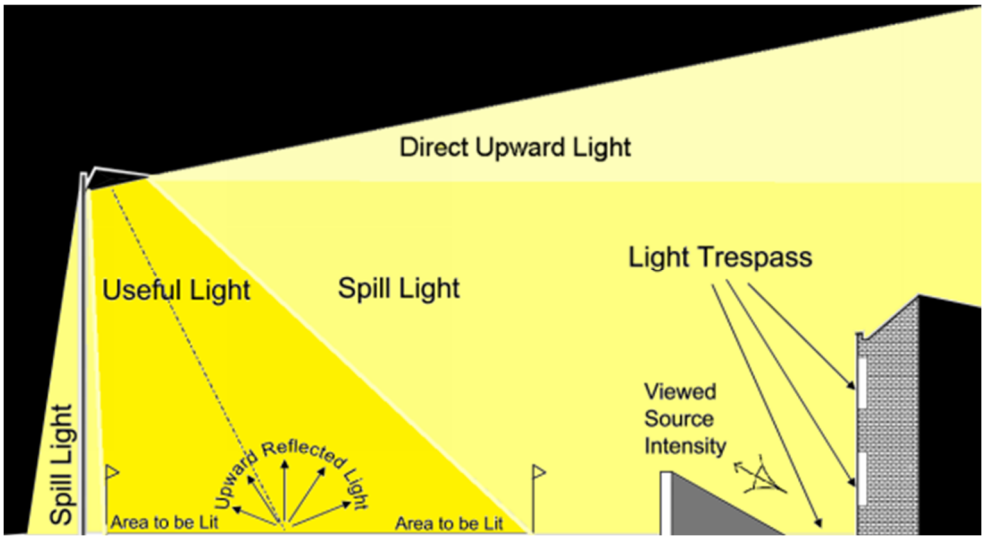
Controls	Timers / Dimming
Glare Control	Shielded Optics

7 Assessment Methodology

A qualitative assessment has been completed to establish the possible effects of obtrusive light that may arise from the proposed development. This assessment has been undertaken in line with ILP GN01/21 and includes the consideration of potential adverse effects of the following three components of obtrusive light:

- Sky glow – the brightening of the night sky above areas with large amounts of artificial light which may be reflected from illuminated surfaces or come from direct upward lighting installations
- Glare – the brightness of a light source which is uncomfortable when viewed against a dark background. This is mostly experienced when light sources are not covered by a shield or directed by a suitable lens / reflector set up.
- Light intrusion – when light affects areas beyond the boundary of the area which is to be lit. This is also known as 'spill' or 'trespass' and may cause nuisance or disturbance to sensitive receptors.

Table 5-2: Diagrammatic Representation of Types of Obtrusive Light (ILP, 2011)



A Lighting Strategy has been developed and this provides a quantitative analysis with suitable calculations in order to determine the light levels from the proposed design for sky glow, glare and light intrusion. The Lighting Strategy has been developed in order to meet the specified limitations of the relevant ILP Environmental Zone.

8 Assessment of Effects

8.1 Light Intrusion into Residential Properties

Manchester policy places strong emphasis on protecting residential amenity. The lighting has been designed with the following limitations:

ILP Limits (E3):

- Pre-curfew: 10 lux
- Post-curfew: 2 lux

Findings:

- Predicted levels at nearest windows: < 10 lux
- No exceedance of thresholds
- Reviewing the calculations for the Western side of the building which have the greatest impact on the local residential properties it has been demonstrated that the lighting levels at the boundary of the site at ground level are less that 1lux.

Mitigation of the above elements has been achieved as follows:

Careful positioning of the luminaires is the primary objective as this will allow the lighting levels to be achieved using standard luminaires without modifications.

Directional luminaires have been used to ensure that the lighting is aimed at the areas needing light and away from areas where the light is a nuisance.

After positioning of the luminaires within the areas designated any stray lighting identified as a problem has been provided with further shielding to block stray light that may be a nuisance.

Policy Compliance:

After evaluating the above it is considered that EN16 + MRQG have been satisfied.

8.2 Glare and Visual Comfort

Potential glare sources:

A review was carried out of the building and the lighting to be provided to identify possible sources of glare. Following this review the areas of concern were as follows:

- Entrance lighting
- Façade lighting
- Loading bay lighting

Mitigation:

In order to mitigate the impact of the lighting to these areas the following considerations were taken into account in the choice and positioning of the luminaires used.

- Recessed fittings
- Low-glare luminaires
- Careful positioning of luminaires so that the lighting is directed into the site rather than out.
- Avoidance of direct lines of sight

Result: Acceptable and within urban expectations

8.3 Sky Glow

As part of the design and choice of luminaires used consideration was given to the brightening of the night sky above areas with large amounts of artificial light which may be reflected from illuminated surfaces or come from direct upward lighting installations.

The objective was to ensure that no upward light was emitted and the scheme should be compliant with Manchester's objective to reduce unnecessary light spill

After a review of the scheme it was thought to have negligible impact

8.4 Impact on Townscape and Character

Following a review of the overall scheme and its impact on the local areas the scheme was thought to enhance the architectural quality of the build and improve legibility of space.

After the review the scheme was thought to have a positive contribution to the area.

9 Mitigation Measures

9.1 Design Controls

As detailed above the lighting scheme has been designed to ensure that the limitations and restrictions are fully considered and implemented in the use of the following:

- Full cut-off luminaires
- Beam control and shielding
- Warm white lighting

9.2 Operational Controls

Following installation further consideration was given to the operation of the lighting system and the following controls have been included

- Dimming after evening peak (e.g., post-23:00)
- Motion sensors in low-use areas

These controls will limit and restrict the lighting within the area reducing nuisance lighting around the site.

9.3 Maintenance

Following completion of the work and when the building is fully operational it has been identified that the lighting system will be subject to the regular inspections. Where necessary the alignment of luminaires will be checked and verified to ensure that they will match the original installation requirements.

10 Residual Effects

Following installation, a review was made of any residual effects of the scheme the following provides details of this review:

Impact	**Significance**
Light Spill	Negligible
Glare	Minor Adverse
Sky Glow	Negligible
Visual Amenity	Beneficial

11 Planning Balance and Compliance

After completion of the design it is considered that the proposal:

- Complies with **Manchester Core Strategy EN16**
- Meets **Residential Quality Guidance requirements**
- Meets **Core Strategy Policies SP1, CC9, EN3 and DM1**
- Follows **ILP GN01/21 standards**
- Minimises environmental impacts

12 Conclusion

A careful review has been made of the potential impact that the lighting will make to the local area. The sensitive residential areas to the west of the site has been given particular attention to ensure that they are not unduly affected by any lighting installed.

The proposed lighting scheme has been carefully designed to reflect:

- Manchester City Council's emphasis on amenity protection
- The characteristics of a high-brightness city centre
- Best practice environmental lighting design

There will be:

- No significant adverse effects on nearby residents
- No material contribution to light pollution
- Positive urban design benefits

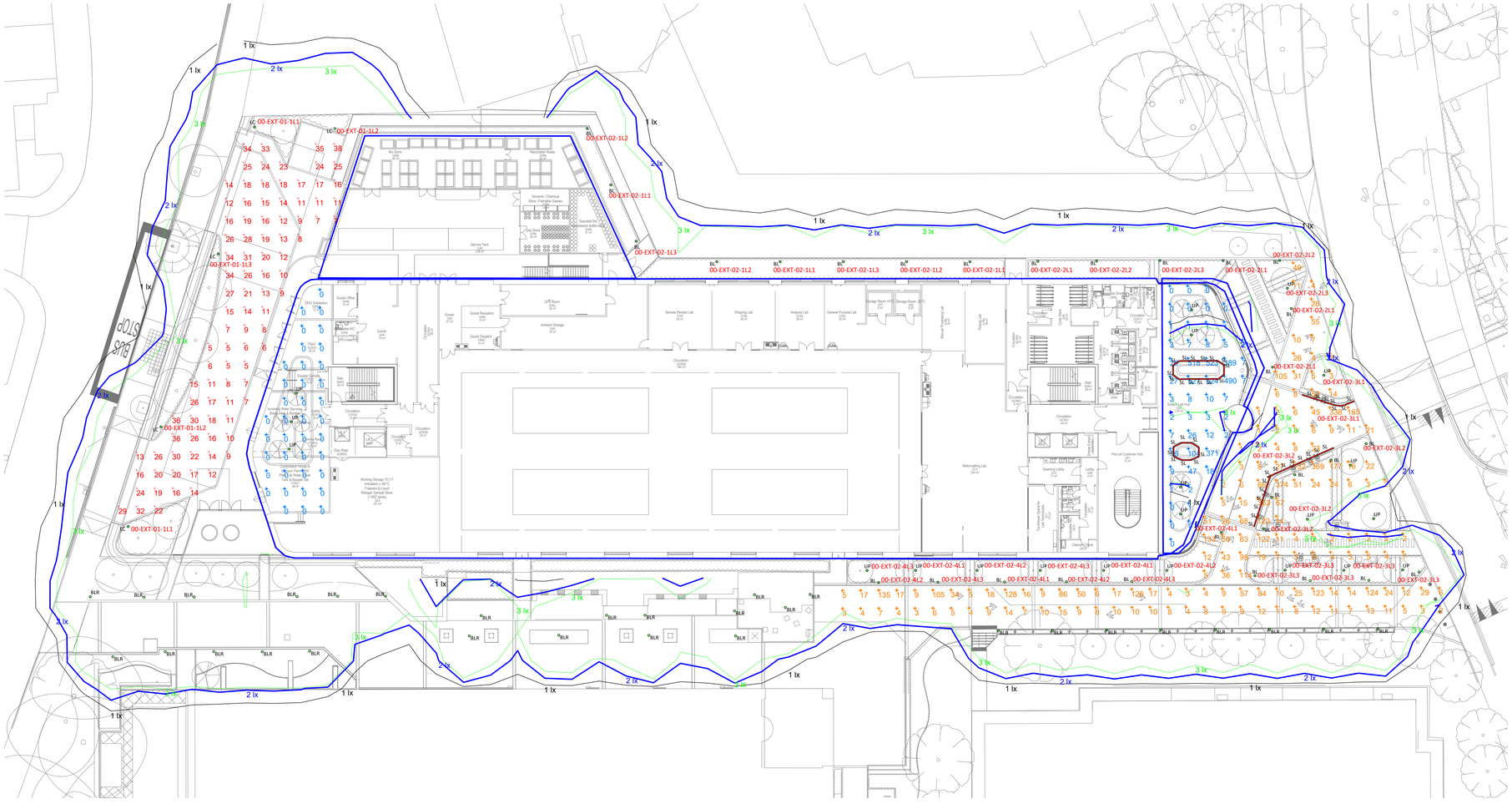
13 Layout Drawing and Design

THIS DRAWING IS BASED ON ARCHITECTS DWG No.

SITE LP00900 - LANDSCAPE LINEWORK RECEIVED: 2023/07/27

NOTES:

1. DO NOT SCALE FROM THIS DRAWING.
2. ALL DIMENSIONS ARE IN mm UNLESS INDICATED OTHERWISE.
3. TO READ IN CONJUNCTION WITH MEP SPECIFICATION GRE-SLCE-XX-XX-RP-ME-4005.


1 lx
2 lx
3 lx
BUS STOP
00-EXT-01-1L1
00-EXT-01-1L2
00-EXT-01-1L3
00-EXT-02-1L1
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00-EXT-02-2L1
00-EXT-02-2L2
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Goods Reception
Goods Dispatch
Ambient Storage
Sample Receipt Lab
Shipping Lab
Analysis Lab
General Purpose Lab
Circulation
Reformulating Lab
Pre-Lot Customer Hub
Meeting Room
Quiet Room
Lobby
Cleaners Store
Service Yard
Solvents / Chemical Store / Flammable Gasses
Specialist Fire Suppression Suite
Recyclable Waste
Non-Recyclable Waste
Working Storage 15-17 Ambient/ 4-8°C Freezers & Liquid Nitrogen Sample Store (-150°C temp) 42 m²
Equipment Hire & Platform Plant Store Tool & Bowser Set 48 m²
Electrical Intake & Switch Room 24 m²
Gas Store 12 m²
Gas Store 12 m²
Plant Room 12 m²
Plant Room 12 m²
Plant Room