Working in partnership

CONSTRUCTION SKILLS CENTRE & SITE ACCOMMODATION AT FORMER MARIA FIDELIS SCHOOL SITE

EXTERNAL LIGHTING STATEMENT

August 2021

1CP01-MDS_MFL-PL-REP-SS08_SL22-000001 - REV_C01

Revision Key:
P =Preliminary Documents/Drawings – P01, P02, P02
C = Contractual Documents/Drawings – C01, C02, C03
X = As Built Mark-Up Drawings – X01, X02, X03
Z = As Built Record Drawings – Z01, Z02, Z03

Revision	Author	Checked By	Approved By	Date Approved **/**/****	Reason for Revision
C01	JV	TB	TB	07/07/2021	

1 Executive Summary

1.1.1 The external lighting strategy for the Proposed Development on the former Maria Fidelis site has been developed to a stage which defines the areas to be illuminated, method of illumination and the target lux levels for different areas. The strategy proposed includes the necessary measures required to optimise the efficiency of the scheme and reduce night time light pollution. The exact location and quantity of fittings will be defined at the next design stage.

1.1.2 The proposed lighting design will provide an efficient solution through the selection of fittings and lamps, the effective arrangement of fittings, and the use of controls to limit the use of artificial lighting outside of normal operating hours and when adequate daylight is available.

1.1.3 Both light pollution and the impact on the surrounding areas will be minimised by specifying directional fittings that deliver light directly downwards, or by selecting fittings with hoods / visors to limit light spill. Fittings that provide direct up-light are to be avoided.

1.1.4 The final proposed lighting installation will be assessed against the Institution of Lighting Professionals "Guidance Notes for the Reduction of Obtrusive Light GN01:2020".

2 Introduction

2.1.1 This report has been produced by the Mace Dragados Joint Venture (MDjv) on behalf of High Speed 2 Ltd (HS2), to support a full planning application for a Construction Skills Centre and Site Accommodation at the former Maria Fidelis school site (the 'Proposed Development').

2.1.2 The Proposed Development would provide:

- Construction Skills Centre ('CSC') on behalf of London Borough of Camden ('LBC'), for which a similar scheme was previously granted planning permission under LBC application reference 2019/3091/P; and
- a Site Accommodation facility to accommodate approximately 2,500 site operatives and management staff, including office space, ancillary rooms, WCs, showers and changing rooms, and on-site catering. This is required as part of the High Speed Two ('HS2') railway project and will facilitate the construction of HS2 Euston Station.

2.1.3 The Proposed Development is required for a temporary period of 10 years from occupation and will be removed following the construction of HS2 Euston Station.

2.1.4 A summary of the application and how this report fits into the suite of documents can be found in the Planning Statement.

2.2 Site description

2.2.1 The site is located in the northern part of the former Maria Fidelis Catholic School in the London Borough of Camden. The site is currently vacant but had most recently been used as outdoor play space associated with the school and a two-storey ancillary school building, constructed in the 1990s, remains onsite.

2.2.2 The land immediately to the south of the site is occupied by the five-storey former school building, which was constructed in the interwar period. Planning consent was granted (subject to completion of s.106 agreement) in October 2020 for the mixed-use redevelopment of the former school building.

2.2.3 The surrounding area is a mix of residential and commercial uses, with Euston Station located to the north east. To the north of the site is the HS2 Euston Station construction site, which was formerly St. James' Gardens.

2.2.4 The site is accessed via North Gower Street to the west and via Cobourg Street to the east. Starcross Street is located to the south of the wider Maria Fidelis site and connects North Gower Street and Cobourg Street. Hampstead Road is located beyond North Gower Street to the west of the site.

2.2.5 There are no Listed buildings onsite and the application site is not within a Conservation Area. The buildings on the eastern (no's 190-204) and western (no's 211-229) North Gower Street, located approximately 100 metres to the south of the site, are Grade II Listed. 108 Hampstead Road, located 20 metres to the north east of the application site, is Locally Listed.

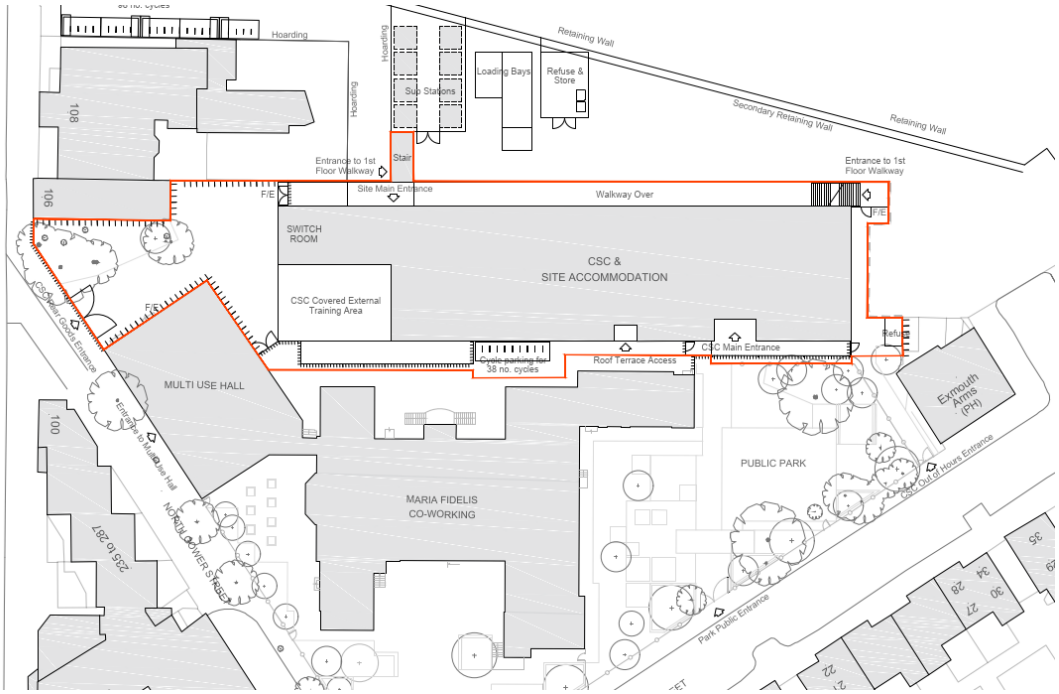

Figure.1 – Site Plan, showing application red line boundary

2.3 Description of development

2.3.1 Erection of a six-storey combined Construction Skills Centre (Class F1(a) - Education) and Site Accommodation (Class E(g)(i) – Offices) to facilitate the construction of HS2 Euston station, as meanwhile uses for a period of up to 10 years from occupation.

2.3.2 The Proposed Development would provide 1,378sqm of CSC floorspace and 5,747sqm of Site Accommodation floorspace. The overall site area is 0.24ha. The maximum height of the building would be 22.4m and the building would be 77m wide and 18m deep.

2.3.3 The building would utilise modular construction, using modern methods of construction and assembly on-site to the form described above.

2.3.4 Vehicular access to the Site Accommodation would be delivered via a combination of the existing HS2 worksite to the north and Cobourg Street. Vehicular access arrangements for the Site Accommodation would change throughout the construction

and operational period to accommodate wider HS2 works to the north of the site. Vehicular access for the Construction Skills Centre would remain as previously approved with infrequent servicing use of North Gower Street (consented under extant permission 2019/3091/P).

2.3.5 Pedestrian access to the Construction Skills Centre would be via the open space to the south of the building. Pedestrian access to the Site Accommodation would only be from Hampstead Road and through the existing HS2 worksite to the north.

3 External Lighting Design

3.1.1 See Appendix A for the External lighting plan and the Schedule of fittings, which describe the extent of the proposed external lighting strategy, and the type of fittings to be used.

3.1.2 As the project progresses a detailed design will be developed, based on the information submitted under this report. The following sections set out standards that have been considered when forming the strategy.

3.2 Standards for the Reduction of Night Time Light Pollution

3.2.1 Lighting will be provided to satisfy the requirements of the Institution of Lighting Professionals "Guidance Notes for the Reduction of Obtrusive Light GN01:2020". The key elements of this guidance being:

- To provide adequate levels of light to external areas, allowing spaces to be used effectively and safely, while avoiding "over-lighting". Lights should be turned off or dimmed at times when they are not required.
- To limit the visible source intensity by reducing the beam angle of light from external fittings to no greater than 70° from the downward vertical plane. Where fittings do not comply with this requirement, buildings or other fixed structures should be used to obstruct light spill.
- To limit light spill above the horizontal plane, which causes "Sky Glow".
- To limit light trespass into the windows of nearby properties.
- To minimise deliberate feature lighting.
- To reduce the levels of light trespass, visible source intensity and building luminance after a curfew in the evening.

3.2.2 The following table summarises the Institution of Lighting Professionals (ILP) document, and offers guidance on the reasonable constraints for external lighting installations in a range of different environmental zones:

Obtrusive Light Limitations for Exterior Lighting Installations						
Environmental Zone	Sky Glow ULR (max %)	Light Intrusion (into Windows) Ev (lux)		Luminaire Intensity I (kcd)		Building Luminance Pre-curfew
		Pre-curfew	Post-curfew	Pre-curfew	Post-curfew	Average L (cd/m2)
E0	0	0	0	0	0	0
E1	0	2	0.1	2.5	0	0
E2	2.5	5	1	7.5	0.5	5
E3	5.0	10	2	10	1.0	10
E4	15.0	25	5	25	2.5	25

Table.1 - Obtrusive Light Limitations for Exterior Lighting Installations

3.2.3 Where Environmental Zones E3 and E4 are defined as:
E3: Medium district brightness areas (Small town centres or urban locations).
E4: High district brightness areas (Town city centre with high levels of night-time activity).

The Proposed Development on the former Maria Fidelis site will therefore be assessed under Environmental Zone "E4"

3.3 External Lighting Levels

3.3.1 External lighting will be provided to deliver lux levels in accordance BS EN 12464-2, lighting of outdoor work places.

Specifically, the following light levels form the basis for the stage 3 design:

- Pedestrian circulation routes: 10 lux average.
- Lorry turning / goods delivery area: 50 lux average.
- External training yard: 500 lux average.
- Emergency lighting will be provided from building exits to Assembly points.

3.4 Controls

3.4.1 The design will include daylight sensor and time clock control, to make sure that the lighting only turns on when its gets dark, and will turn off overnight between the curfew time and the morning (23:00 – 07:00), or earlier as daylight levels dictate.

3.4.2 Some functional lighting meeting the ILP guidance will remain on for security and safety reasons.

3.5 Control of Upward Light, Trespass and Source Intensity

3.5.1 Upward light from the scheme will be less than the ILP recommended maximum of 15% of the total luminaire flux of lights within the site.

Additionally, the light trespass resulting from the scheme will also be below the recommended maximum trespass levels of 25lux before and 5lux after the curfew.

3.6 Control of Spill Light

3.6.1 General light spill will be limited by the careful selection and placement of luminaires for each task. Where possible fittings will be supplied with hoods / visors, and will provide directional light to avoid the unnecessary illumination of surrounding areas.

3.6.2 There are no quantitative recommendations for this made by the ILP document, but the reduction of spill light is largely achieved as a result of compliance with the recommendations to control upward light, light trespass and source intensity.

4 Conclusion

4.1.1 In summary, the external lighting design will meet the requirements of the site without compromising the amenities of the surrounding properties. Light spill and glare will be considered and controlled throughout the development of the design.

5 APPENDIX A

5.1 External lighting plan

5.1.1 See attached below

5.2 Schedule of fittings

5.2.1 See attached below

Space Type	Design Lux Level	Design Uniformity	Fitting Suggestion*
Walkway at building perimeter	10 Lux	0.25	EX.1
External training area	500 Lux	0.4	EX.2
Lorry turning bay	50 Lux	0.4	EX.3
Emergency escape routes	To Comply with BS 5266-1		

*(see MXF Lighting Schedule for references)

All external lighting (except for lighting along circulation routes required for 24hour operation of the site) to be automatically switched off between 23:00 and 07:00, via a daylight sensor and timeclock.

NOTES

1. External lighting to be designed to standards given in BS EN 12464-2 Lighting of Work Places - Part 2: Outdoor Work Places.
2. Design to comply with ILP Guidance for the Reduction of Obtrusive Light GNO1:2011 (Environmental Zone Standard E1).
3. Contractor to allow for a sufficient number of fittings to provide the Lux level and uniformity performance described in the adjacent table.
4. Contrator to allow for emergency versions of fittings to illuminate escape routes defined in the Fire consultants report, in line with standards set in BS 5266-1

KEY

- CCTV Camera
- Site Boundary

N

Routes forming part of the emergency escape strategy to be illuminated in emergency conditions to comply with the requirements of BS 5266-1. Illumination to be provided all the way to assembly points.

Type of fitting TBC by Contractor.

Lighting beyond site boundary for illustrative purposes only and not for approval.

Lorry turning bay

External training area

Perimeter walkways

Routes forming part of the emergency escape strategy to be illuminated in emergency conditions. Illumination to be provided all the way to assembly points.

Type of fitting TBC by Contractor.

Rev	Description	Drawn	Checked	Approved	Con App
P01	Stage 3 Issue	ET	JV	TB	

Scale with caution as distortion can occur.

Legends/Notes:

HS2

OFFICIAL

Registered in England
Registration No. 06791686
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Birmingham, B4 6GA

Project/Contract: Maria Fidelis		Creator/Originator: MDS	Sub-Originator: MFH
Zone	Work Package Description: External Lighting	Discipline/Function	System Description
Drawing Title: External Lighting Level GF Site Wide		Drawn by: ET / Checked by: JV / Approved by: TB / Date: 16/06/21	
		Scale: 1 : 200 / Size: A1 / Stage / Suitability	
		Drawing No.: 1CP01- MDS_ MFH- EL- DGA- S008_ SL23- 000001	Rev.: P01

Maria Fidelis – Site Accommodaton & CSC Building

Architect: **Fraser Brown Mackenna Architects**
Issue Status: **Stage 3 Issue**

REF.	IMAGE	DESCRIPTION / LOCATION TO BE USED	MANUFACTURER / MODEL	LAMP / POWER / LUMENS	COLOUR TEMP K/ EFFICACY	TRIM / FINISH / ACCESSORIES	MOUNTING DETAILS	DIMENSIONS (LxWxH OR dia.xH) mm	NOTES
EX.1		Wall mounted bulkhead fitting External walkways at biulding perimeter	Thorn Piazza 2 LED	LED **Lumen output and power rating to be selected by the Contractor, to deliver the lighting performance defined on Max Fordham's layout drawings**	4000K 100 lm/W		Wall mounted at 2.0 meters	400 x 200 x 300	Emergency fittings to be self-test type, with integrated battery
EX.2		Ceiling mounted Linear fitting External training area	Thorn Aquaforce Pro - LED	LED **Lumen output and power rating to be selected by the Contractor, to deliver the lighting performance defined on Max Fordham's layout drawings**	4000K 110 lm/W			1100 x 100 x 100	Emergency fittings to be self-test type, with integrated battery
EX.3		Spotlight Lorry turning bay	Whitecroft Euroflood MidiLED	LED **Lumen output and power rating to be selected by the Contractor, to deliver the lighting performance defined on Max Fordham's layout drawings**	4000K 110 lm/W			333 x 85 x 568	To be supplied with a hood to minimise light spill

MAX FORDHAM

Schedule of Light Fittings
1CP01-MDS_MFH-EL-SCH-SS08_SL23-000003 Rev P01

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Maria Fidelis – Site Accommodaton & CSC Building

Architect: **Fraser Brown Mackenna Architects**
Issue Status: **Stage 3 Issue**

Notes

1. Emergency conversion is to be carried out in accordance with ICEL 1004 by an approved supplier, to comply with BS EN 60598-2-22:1999.
2. All light fittings and gear must have a minimum power factor of 0.9.
3. Contractor to provide samples of all fittings.
4. All Lighting control gear / ballasts to operate safely on 230V +10%/-6% unless otherwise indicated. Contractor to verify & confirm compliance prior to ordering & installation on site.

Rev	Date	Status	Description	Engineer	Project Leader
P01	16/06/21		Stage 3 Issue	JV	TB

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Schedule of Light Fittings
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