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Club De Padel, Great Jackson Street, Manchester External Lighting Strategy

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Section 1 – Introduction

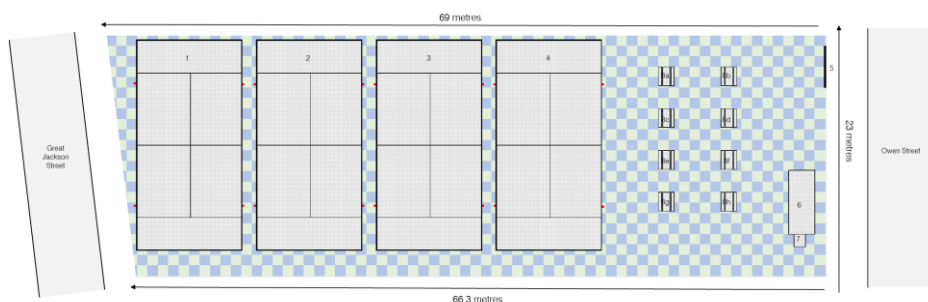
This Technical Note summarises the external lighting strategy for the proposed 'Club de Padel' facility within the Great Jackson Street development area.

The proposed facility includes the formation of 4no. padel tennis courts and associated facilities to be located externally adjacent to Deansgate Square.

The main objectives are to provide appropriate levels of artificial lighting at court level to allow safe use of the facility during evening hours whilst minimising obtrusive light and light spill to the surrounding residential properties.

This report provides a high level summary of the proposed lighting strategy. A detailed technical assessment with lux level plot will be produced during the design development period to demonstrate that the lighting performs within the agreed parameters.

The proposed facility comprises of 4no. standard design padel tennis courts with an informal seating area, storage container and WC all enclosed within a 2.4mtr high perimeter hoarding.



Site Layout

Section 2 – Site Constraints and Requirements

The proposed location for the facility is on a parcel of land between Great Jackson Street and Owen street adjacent Deansgate Square with the site boundary as indicated red below.



Site Location

The main objectives for providing external lighting to the development site are:

- Provide appropriate levels of illumination for recreational use of the courts.
- Provide illumination for safe movement around the facility.
- Minimise light spill outside of the facilities perimeter hoarding.
- Minimise upward light and glare to the surrounding properties.
- Provide a low energy, low maintenance lighting solution.

Section 3 – Design Criteria

The external lighting solutions will be designed in accordance with the following key design standards and also follow industry best practice.

- SAPCA Code of Practice for the Construction of Padel Courts
- CIBSE LG6 - Lighting Guide 06 : The Exterior Environment.
- GN01 – Guidance Note For The Reduction of Obtrusive Lighting (where applicable).

Design Lighting Levels

A summary of target lighting levels is included below following the design criteria standards. Industry standard computer modelling and simulation software (e.g. Relux or Dialux) will be utilised to calculate resulting lux levels to the courts and also spill light outside of the site boundary prior to installation.

	<i>Target Illuminance</i>	<i>Uniformity</i>
▪ Court surface level*	300 lux	0.5
▪ External seating area	15 lux	0.4

*Taken from SAPCA code of practice guidance.

Section 4 – Court Lighting Strategy

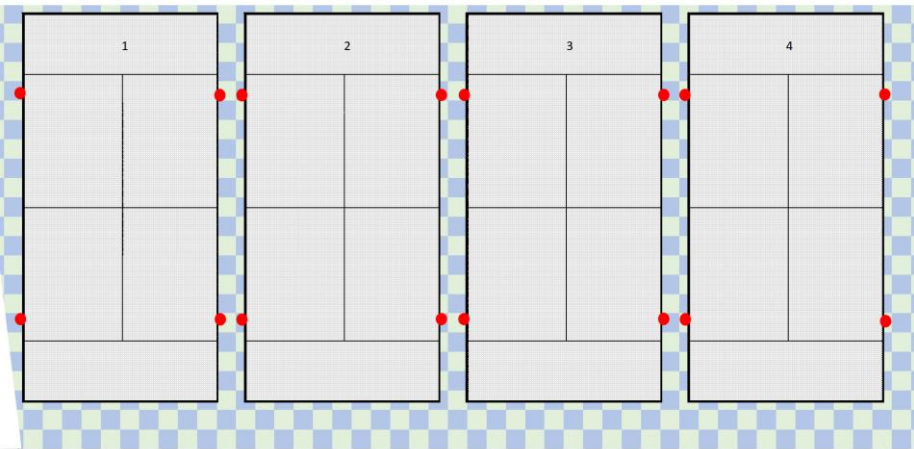
Each court will be provided with 4no. floodlights positioned as indicated on the following diagram. Each floodlight will incorporate a 150watt rated high efficiency LED light source producing white light and be mounted on a 6mtr tall column fixed to each court’s perimeter enclosure.

The floodlights will be fixed to the columns using an adjustable bracket to allow the light to be aimed directly onto the court surface.

Should additional lighting be required for the external seating and WC areas, this will be provided using LED bulkhead luminaires fixed to the site hoarding

assembly and will be of a low glare design. Where necessary, these luminaires will also provide backup escape lighting via integral battery packs.

- 150watt high efficiency floodlight mounted on a 6mtr tall column. Floodlights to be carefully aimed to limit spill and upwards light. Each court to be switched separately.



Lighting Column Locations

Section 5 – Light Pollution & Control of Obtrusive Light.

Selection of the floodlights will be made to minimise light spill beyond the facilities site boundary and also to limit unwanted upward light in accordance with guidance provided by the Institute of Lighting Professions (ILP).

The luminaire optics have been selected to ensure light distribution is uniform and focused across the court surface and utilise a flat LED panel to minimise upward light spill with.

An illustration of the proposed floodlight type is indicated on the following page.



150W flat panel LED projectors utilised for court lighting.

The LED projectors will provide white light (6400K) with a colour rendering index of >80.

Achieved lighting levels across the court will be in accordance with the SAPCA design standards and best practice ensuring that areas are not unnecessarily over-illuminated.

Section 6 – Lighting Controls

Manual control will be provided to allow individual switching ON/OFF of the lighting to each padel court.

This arrangement will provide the facility to illuminate only the courts in use further reducing both light spill and energy use.

Section 7 – Conclusions

A well designed, energy efficient external lighting scheme will allow use of the facility throughout the year and in particular during the evening periods when sufficient natural light is unavailable.

The Applicant has considered the lighting solutions to be employed at the proposed facility and it is concluded that the measures in place will control light spill and glare ensuring that any resulting impact to amenity will be minimal.

Due to the enhanced lighting levels required for sports activities typically exceeding general external amenity levels, it is essential that the lighting design for this facility is carefully developed using computer simulation software.

This approach will allow the most appropriate luminaires to be selected and ensure that the effects of glare and obtrusive spill light is minimised for both the users and also to neighbouring properties.

It is therefore proposed that a full technical lighting assessment will be carried out prior to commencement and a comprehensive lux plot generated to illustrate lighting levels.

The assessment will cover both the courts including amenity areas and also the area outside the site boundary to demonstrate that lighting levels will not be excessive and in line with industry guidance.