FEASIBILITY REPORT AND DESIGN AND ACCESS STATEM ENT

FOREST HILL SCHOOL

PROVISION OF FLOODLIT SYNTHETIC TURF FOOTBALL PITCH

LABOSPORT

FEASIBILITY REPORT AND D&A STATEMENT
FOREST HILL SCHOOL – PROVISION OF FLOODLIT SYNTHETIC TURF FOOTBALL PITCH

CLIENT	Forest Hill School	
SITE ADDRESS	Forest Hill School, Dacres Road, London SE23 2XN	
CLIENT CONTACT	Mrs Samantha Davies (Director of Strategy and Resources)	
DOCUMENT NUMBER	LSUK.24-0663_FDAS	
VERSION NUMBER & DATE	2.0	20.3.25
REPORTED BY	[redacted]	Bob Froud Senior Consultant Bob.Froud@labosport.com
APPROVED BY	[redacted]	Louis Keeley Senior Consultant & Framework Manager Louis.keeley@labosport.com

SUMMARY OF PROJECT	Labosport Ltd have been commissioned by Forest Hill School to carry out Design Consultancy services for the above artificial football pitch . This document is a feasibility study and design and access statement for the formation of a floodlit Synthetic Turf Pitch.

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Section 1 –Executive Summary

General Information	
SITE VISIT	Labosport Ltd carried out an initial appraisal and feasibility study at Forest Hill School for the provision of a floodlit synthetic turf Football pitch (STP) on the 15/10/2024. This executive summary outlines recommended actions discussed within the following report and proposals for the provision of the new pitch. The proposal is based on refurbishing an existing non floodlit macadam surfaced football pitch within the School grounds.
RAG SYSTEM DETAILS	The RAG (Red, Amber, Green) ratings shown below represent the following scenarios: - • Red –Immediate action needed as the issue(s) deemed to constitute a direct and significant threat to the project or present a risk to one or more party • Amber –Issues identified that have potential to develop into red alert status • Green –Items that are compliant, agreed, acceptable and present no risk to the project or the key parties

Executive Summary		
SITE CHARACTERISTICS AND CONSTRAINTS		The existing football pitch is surfaced with porous macadam and surrounded with 4m high roll weldmesh fencing. It is suitable for conversion to an FA guideline 7v7 STP. The existing pitch is a nominal 64m x 45m fenced enclosure comprising a nominal 64m x 42m principle playing area with 3m wide spectator area on one side with a 1.1m barrier between pitch and spectator area. The proposed works comprise resurfacing the existing pitch with a 3G carpet (including shockpad beneath) increasing the pitch footprint on the eastern side to form two goal storage recesses, new fence installation around the pitch and installation of a new six column floodlight system within the fenced enclosure. 3G carpet infill mitigation features will be fitted to the new fencing and surrounds. The surrounding features of the pitch include the school to the south and trees on the N, W and E boundaries beyond which there are residential dwellings. The existing diagonal fall of the pitch is 1.0% (1:100), with a longitudinal fall which varies from side to side of 1.1% (1:90) and 0.83% (1:120) and a lateral fall of 0.55% (1:183) 0.16% (1:646). Rectification of the NE corner and raising the corner should reduce the 1:90 to 1:120.

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PROJECT SURVEY RESULTS		Google Earth images show the football facility present on site since at least 2005. The topographical survey shows a maximum single plane diagonal gradient of 1:100 (1%) and that the pitch is suitable for the proposed refurbishment project being within the required gradients to maintain good sporting characteristics and meet the relevant governing body standard requirements.
DESIGN AND ACCESS STATEMENT		Planning permission is sought to resurface the existing macadam surfaced pitch with 3G synthetic surf carpet with associated features including: • Installation of new 4.5m and 6m high twin bar panel fencing with associated noise reducing dampeners. • Installation of a new LED floodlighting system with low spillage of light. A lighting design and overspill plan has been submitted to support this application.

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Section 2 –General Information and Briefing Notes

General Information	
FEASIBILITY REPORT & DESIGN AND ACCESS STATEMENT REQUIREMENTS	Labosport Ltd have been appointed to undertake a feasibility study regarding the refurbishment of a macadam surfaced sports pitch at Forest Hill School. As part of this, Labosport have been asked to produce a design and access statement concerning the planning application for the proposed refurbishment of the pitch. This feasibility report & design and access statement (DAS) presents a concise explanation of the appropriate design principles applied to this project; demonstrating the merits of this proposal in context and describing relevant design influences that have underpinned decision making throughout, to ensure that the proposals meet client expectations, planning policy recommendations and published technical guidance, including material considerations associated with the proposal. We consider the proposal is based upon best design practices for external sports facility provision.
DEVELOPMENT LOCATION	The location of the proposed STP is shown below: **Forest Hill School, Dacres Road, London, SE23 2XN** Centred approximately at National Grid Reference: **Easting: 535733** **Northing: 172282** 
SITE OVERVIEW	The site has a macadam surfaced football facility and a macadam surfaced playground to the south of the pitch marked out for basketball. There are school buildings and sports hall. There are no car parking spaces within the school.
APPLICANT	**Forest Hill School** Dacres Road, London SE23 2XN
PROPOSAL DESCRIPTION	The conversion of a macadam surfaced football area at Forest Hill School, Dacres Road, London SE23 2XN. Resurfacing of the pitch with a 3g carpet and shockpad including adjustment of pitch footprint to form goal recesses. Installation of new LED floodlighting system and new fencing and equipment.

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ADDITIONAL SUBMITTED DOCUMENTS AND DRAWINGS	**Drawings** Forest Hill School-LSUK 24-0663 Drawing 01 Proposed Layout Forest Hill School-LSUK 24-0663 Drawing 02 Location Plan Forest Hill School-LSUK 24-0663 Drawing 03 Existing Block Plan Forest Hill School-LSUK 24-0663 Drawing 04 Proposed Block Plan Forest Hill School-LSUK 24-0663 Drawing 05 Existing Elevation Plan Forest Hill School-LSUK 24-0663 Drawing 06 Proposed Elevation Plan Forest Hill School-LSUK 24-0663 Drawing 07 Floodlighting Overspill Plan **Information: -** Pitch Lighting Design –20250123 Arboricultural Impact Assessment - Rt-mme-181796 –02 Arboricultural Method Statement - Rt-mme-181796 –03 Preliminary Ecological Appraisal - RT-MME-181796 - 04 Preliminary Bat Roost Assessment RT –MME –181796 - 05 Topographical Survey BRI 1090 T01
PURPOSE AND USE	This application seeks planning approval to refurbish the existing macadam football pitch in accordance with relevant technical guidance. The facility will be designed to meet the following sporting provision(s): Football –EN15330 (FA Community Use Standard)
PROPOSAL LOCATION	Pictures from the site investigation providing context as to the location for the proposed development are included in Appendix A. Further details of the proposed development are contained within this report and additional documentation (drawings and documents).
HOURS OF USE OF DEVELOPMENT	The proposed hours of use for the development are shown below: **Day** / **Start Tim** / **End Tim** Monday-Friday / 08:00 / 22:00 Saturday / 08:00 / 22:00 Sunday / Bank Holiday / 08:00 / 22:00 **Please note, the hours of potential use of sports lighting has been described in lighting section of report.*

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Briefing Notes	
BRIEFING NOTES	Refurbishment of an existing nominal 64m x 45m fenced pitch footprint to form a 55m x 37m 7v7 synthetic surfaced football pitch (3G) with run offs outside the touchlines ranging from 3.5m to 4.5m. New fencing and floodlighting is proposed to provide a pitch for community use. The project is to refurbish the existing pitch by; • Resurfacing the existing porous macadam pitch with new 3G carpet (with a new shockpad beneath). Surfacing to include 7 a side pitch markings with two cross pitch inlaid 5v5 pitches. All lines to be permanently inlaid. • Two new goal storage areas on the eastern side of the pitch. • Installing new twin bar rebound mesh panel fencing. The fencing will be 4.5m high on the south and 6m high on all other perimeters. • New LED floodlighting system based on 6 No. static 12m high columns. • Provision of new football goals The proposed 3G pitch aims to enhance sports facilities for both the school and the local community, promoting physical activity, community engagement, and potential revenue generation which can be used to further enhance the school facilities not just for the current users but also for future generations to come. In addition to being used by the students for the delivery of the curriculum the pitch will also provide a training and competition facility for local community football clubs. The current MUGA surface is of very poor quality which is a health and safety concern given the number of injuries sustained by the student population and not fit for community use. The indoor sports facilities are fully booked with waiting lists of potential hirers, many of who are local grass roots football clubs. Lewisham Council are aware of the school plans for this project and are fully supportive of the schools aims to improve the facilities for PE classes, social times and school sports teams. The School are committed to ensuring that this site not only survives but thrives for the local community, not just traditional football but also non-traditional forms of physical activity and mental wellbeing. The school has established community lettings procedures in place for hire of the School Sports Centre which comprises a large sports hall, a small sports hall, dance studio and associated changing rooms. The 7 aside 3G pitch will be added to the spaces already available to hire and managed by the same lettings team and the same procedures as the indoor spaces. Hirers will access the space via the Sports Centre entrance also located in Brampton Road. Hirers can park in Brampton Road.

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Section 3 –Site Characteristics and Constraints

Site Location	
SURROUNDING FEATURES	The proposed location of the facility is bounded by the following: - • North –Perimeter of trees beyond which are residential properties • East –Perimeter of trees beyond which are residential properties • South –School playground and School buildings. • West –Trees beyond which is Bampton Road
SITE LEVELS AND GRADIENTS	A topographical survey of the site has been undertaken to ascertain the development perimeter, levels of the ground and any salient features within the area. This has been submitted as an additional drawing. The information has been used to develop the proposed design. The existing diagonal fall of the pitch is 1.0% (1:100), with a longitudinal fall which varies from side to side of 1.1% (1:90) and 0.83% (1:120) and a lateral fall of 0.55% (1:183) 0.16% (1:646). Rectification of the NE corner and raising the corner should reduce the 1:90 to 1:120.

Site Characteristics		
The RAG (Red, Amber, Green) ratings used below represent the following scenarios: - • Red –Immediate action needed as the issue(s) deemed to constitute a direct and significant threat to the project or present a risk to one or more party • Amber–Issues identified that have potential to develop into red alert status • Green –Items that are compliant, agreed, acceptable and present no risk to the project or the key parties		
Aspect	**LSUK Comment**	**Risk Status**

DEVELOPMENT AREA	The pitch footprint is to be adjusted to create a new goal recesses, but retaining minimum 3m run offs which is a standard FA pitch run off.	The proposed area appears conducive for development, subject to:
		• Survey results that may influence the practicality of delivering the STP and its final design
		• Local council policies which are likely to set out that the proposed STP may be permitted where development is for the following:
		  • Uses directly related to the existing use of the site or which sustain the viability of the existing use of the site
		  • Community-based recreation or sports facilities ancillary to the existing use of the site
		The development is likely to meet both of those criteria, although there will be other council policies the proposal will need to comply with.

SITE OWNERSHIP	The site is owned by LB Lewisham (the School is a locally maintained Lewisham School).	No perceived risk.

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CHANGES TO SPORTING PROVISION	The pitch macadam surfacing is at the end of it's product life. It is currently marked out for Football. It has a longitudinal seven a side pitch and three 5 a side pitches marked transversely. This general configuration will remain although the five a side cross pitches will be resized to meet current FA size requirements resulting in two five a side cross pitches. The proposed 3G carpet will have a shockpad installed beneath it.	Sport England will review proposals, as a statutory consultee on planning applications that affect playing fields / provision. Their comment will be based upon meeting one (or more) of the five exception criteria, to allow development to occur. Sport England will assess whether the proposed development provides sufficient benefit to the development of sport as to outweigh any detriment caused by the loss, or prejudice to the use to any existing sport, to satisfy exception policy E5 of Sport England's Playing Fields Policy and Guidance March 2018. The proposed 3G carpet installation on the pitch will greatly improve the football experience for pitch users in terms of performance and safety.
PROPOSAL LOCATION	We believe the critical issues to consider in respect of the pitch location are: • Convenient proximity to management / supervision. • Avoidance of unacceptable impact to residential neighbours in relation to noise / visual / residential amenity (or ability to introduce impact mitigation measures) • Avoidance of unacceptable impact to local biodiversity / ecology (or ability to introduce impact mitigation measures)	Proposals are suitably located close to existing management and supervision facilities. Proposed location will be in the same area as the existing pitch and no additional impact in relation to noise, visual or residential amenity to neighbours is expected. The new goal recesses do not exceed 25m^2 and hence no BNG implications.

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Section 4 –Project Surveys Overview

Surveys Undertaken	
The following surveys have been undertaken, to provide information relevant to developing the design proposals. The key findings have been summarised below:	
LABOSPORT CONDITION SURVEY	Labosport have summarised the findings for the existing macadam pitch below: • Extent of proposed resurfaced 3G pitch within existing macadam surfaced football pitch. Slight extension into existing grass area to the east for new goal recesses. • Existing construction comprises 100mm depth of porous macadam over at least 100mm of 40mm aggregate sized angular stone onto 100mm of ash and clinker. Water drained freely through the stone base. • Surface regularity of pitch excellent beneath a 3m straight edge with only two irregularities above the 10mm maximum stipulated by the FA. This indicates that the base construction has performed well. • Subsidence in NE corner over and area of approximately 200m2 due to some slippage outside the pitch • Macadam is fretting with loose granules strewn over surface indicating macadam at the end of its surface life. • Levels were taken and showed generally a 1% diagonal gradient which is the maximum typically adopted for synthetic turf football pitches.
PRELIMINARY ECOLOGICAL ASSESSMENT	The attached report concludes that the site is exempt from the biodiversity net gain (BNG) mandate as the site does not impact upon any priority habitat and it will impact less than 25 square metres of on-site habitat that has a biodiversity value greater than zero. It recommends an Ecological Lighting Strategy Review should be produced for the site to ensure that any proposed lighting is designed to safeguard dark boundary corridors of value to nocturnal fauna including foraging and commuting bats. It recommends a CEcMP should be produced for the site setting out the safeguards and appropriate working practices that will be employed to minimise adverse effects on biodiversity and ensure compliance with UK Wildlife Legislation.
BAT ROOST SURVEY	It concludes that no immediate action is required but an Ecological Lighting Review is undertaken.
ARBORICULTURAL ASSESSMENT	The attached report concludes that the proposed development of the site is unlikely to significantly impact the visual amenity of the local area as a result of the proposed tree removal. Whilst some works are to be undertaken within the RPAs of retained trees, the nature of those works are such that they can be completed without causing significant impact, subject to the adoption of appropriate working practices as detailed in the attached Arboricultural Method Statement following approval of the current planning application.

Section 5 –Local Planning Authority Planning Requirements

Planning Requirements	
Labosport have assessed guidance on planning applications for the relevant Local Planning Authority based on their planning website, and have noted the following features that will be required for this particular application:	
RELEVANT COUNCIL	**LONDON BOROUGH OF LEWISHAM**
PLANNING AUTHORITY ESSENTIAL CHECKLIST	• Completed application form • Site Location Plan • Other plans/Information necessary to fully describe the development • Completed certificate of ownership • Design and Access Statement • Location Plan
PLANNING AUTHORITY SITE SPECIFIC ADDITIONAL INFORMATION	Labosport have determined that the following additional surveys in relation to the upgrade of floodlighting and installation of ancillary equipment will be required by the local authority during the planning process. • Lighting Design including overspill • Preliminary Ecological Assessment • Preliminary Bat Roost Assessment • Preliminary Arboricultural Assessment

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Section 6 –Design and Access Statement

Design & Access Statement Principles	
NATIONAL PLANNING POLICY FRAMEWORK	The National Planning Policy Framework sets out the Government's planning policies for England and how these are expected to be applied. It provides a framework within which local authorities can produce their own distinctive local / neighbourhood plans, which reflect the priorities of their own communities.
DESIGN AND ACCESS STATEMENT REQUIREMENTS	A Design and Access Statement should be a short report accompanying and supporting a planning application, to illustrate the process that has led to the development proposal, explaining the proposal in a structured manner, with due detail included depending on the scale / complexity of the application. The general thesis is a Design and Access Statement should: • Help to ensure that development proposals are based on thoughtful design processes with a sustainable approach to access. • Improve the quality of the proposal, by clear explanation of the design and how it relates to the current site. • Help Local Planning Authorities understand the analysis that has been previously undertaken to prepare the final design prior to the seeking of necessary statutory approvals. • Provide local communities, access groups, residents, and other stakeholders with a clear understanding of the proposals, with the aim of minimising potential wrongful interpretation of proposals due to technically confusing documentation. A Design and Access Statement should increase certainty for people affected by the development, enabling transparency to all potential stakeholders, improving trust between communities and developers.
DESIGN COMPONENT	A Design and Access Statement should explain the design principles that have been applied to particular aspects of the proposal including: • Scale: Length, Width and Height of any development proposal. • Amount: The amount of any development. (For non-residential development, this means the proposed floor space for each proposed use). • Layout: The way in which any buildings, routes, open spaces are provided, in relation to each other surrounding the development. • Landscaping: The treatment of private and public spaces to enhance & protect the amenities of the site and the area it is situated through hard / soft landscaping measures. Statements should explain the function of any landscaping, for example sustainable drainage purposes, shading, climate change adaptation purposes, and explain how it will be maintained. • Appearance: The aspect of a proposal that determines the visual impression it makes, including the external built view of the development, its materials, lighting, colour, etc.
ACCESS COMPONENT	A Design and Access Statement should explain the access principles, in relation to 'access to the development', explaining how access arrangements will ensure that all potential users will have equal and convenient access to the development and the public transport networks. The statement should address the need for flexibility of the development and how it may adapt to changing needs.

<table>
<tr><th colspan="2">Proposal Description</th></tr>
<tr><td>PROPOSAL DESCRIPTION</td><td>Planning permission is sought to adjust the existing macadam surfaced football pitch with associated features including:
Installation of new 3G carpet above a new shockpad.
New goal recesses on the eastern side.
Installation of new 4.5m and 6m high twin bar panel fencing with associated noise reducing dampeners within and around the entire pitch and goal recesses. Infill containment mitigation measures are included.
Installation of a new LED floodlighting system.
New Goals</td></tr>
<tr><td>PURPOSE AND USE</td><td>The proposals will result in a 7v7 and 5v5 floodlit synthetic turf pitch for the benefit of current and potential future users of the facility, both during the day and evenings / weekends via pre-arranged and structured community access.

The new 3G carpet and shockpad beneath will be installed directly onto the existing porous macadam base. The new 3G surface will offer increased opportunity for the desired Football use, which in turn aims to improve the health and wellbeing of the local community by offering a facility that is built for purpose given community demand. The new carpet will be installed above a new shockpad which will assist in maintaining the performance properties of the carpet.

The proposed facility will offer a variety of football pitch sizes and training areas suitable for a range of age groups within the same enclosed playing space. This supports grassroots sport development plans.

The STP will be capable of supporting the following formal pitch arrangement(s):
<table>
<tr><th>Application Type</th><th>Nominal Pitch Size</th><th>Quantity</th></tr>
<tr><td>7v7 Football</td><td>55m x 37m</td><td>1</td></tr>
<tr><td>5v5 Football</td><td>37 x 26m</td><td>2</td></tr>
</table>
This is in line with FA / FF Recommended Pitch Layout documentation.</td></tr>
<tr><td>SPORTING PROVISION</td><td>The proposed STP will enhance current School, community and Club use and make the facility more family and spectator friendly.</td></tr>
<tr><td>SITE LAYOUT AND LOCATION</td><td>The location of the STP is in convenient proximity to:
The sports centre
Vehicular parking on the road
Consideration was given to:
Avoidance of unacceptable lighting by careful selection of energy efficient LED fittings and overspill.
It was concluded the proposed design provides the best solution in relation to the above considerations, given the specific site scenario.</td></tr>
</table>

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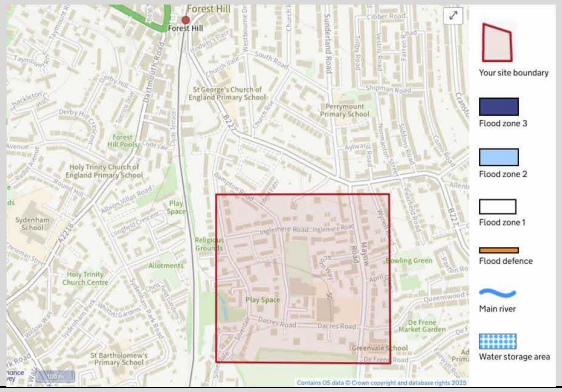
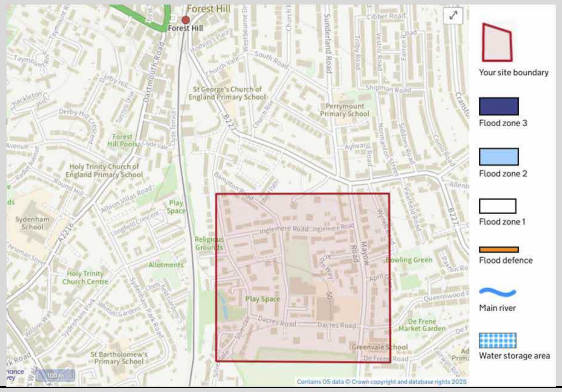
Flood Risk	
FLOOD RISK GENERAL SUMMARY	A desktop flood risk assessment has been carried out on the area of the proposed development by Labosport, using web services located at https://check-long-term-flood-risk.service.gov.uk/risk As the proposed site is in flood risk zone 1, therefore Flood Risk Assessment not required. *It is noted that this development is a refurbishment of an existing facility, which would not result in any increase in flood risk, further than any existing risk identified.*
SURFACE WATER FLOOD RISK	Low risk identified. 
RIVERS AND SEA FLOOD RISK	Very low risk identified. 
RESERVOIRS FLOOD RISK	Flooding from reservoirs is unlikely in this area.
GROUNDWATER FLOOD RISK	Flooding from groundwater is unlikely in this area.
WATER COMPATIBLE DEVELOPMENT	The National Planning Policy Framework in Annex 3; Flood Risk Vulnerability Classification, defines in the section that Water-Compatible Development includes: Amenity open space, nature conservation and biodiversity, **outdoor sports and recreation** and essential facilities such as changing rooms. It has therefore been considered that this proposed development would fall under this classification.

Facility Design	
PITCH DIMENSIONS	The development is to include: • Main pitch size of nominal 55m x 37m (FA 3G Pitch Guideline 7v7 size) resulting in a total synthetic turf surface of nominal 64m x 45m (FA recommended minimum 3m run off installed). • Additional Goal Recesses and Access Route as outlined in design drawings.
SURFACE LEVEL & GRADIENTS	The topographical survey shows the gradients to the existing macadam pitch, where the proposed pitch is to be placed, are: Diagonal Gradient: 1.0% Longitudinal Gradient: Varies side to side from 1.1% to 0.83% Lateral Gradient: Varies from end to end from 0.55% to 0.16% It is recommended to build a sports pitch to a maximum gradient of 1%, where possible, to maintain good sporting characteristics. Through keeping the existing gradients of the pitch with some rectification of a subsided area in the NE corner, this requirement will be met.
CONSTRUCTION MAKE UP	The refurbishment of the facility will involve: • Pressure wash and pierce existing macadam base to assist drainage • Undertaking of any macadam remedial works to ensure base construction compliance (subsided are in NE corner) • Installation of new synthetic turf surface system and shockpad (FA Community Use Compliant system). New Fencing and Lighting
DRAINAGE DESIGN	As previously stated, The National Planning Policy Framework classifies this type of proposed development as a Water-Compatible Development, being an **outdoor sports and recreation** facility. It is however, a design requirement to ensure that all weather sports pitches can drain during wet weather to allow continuous play. The proposal is for the refurbished synthetic turf pitch to have the following design features: • Surface layer will be a new synthetic turf surface, which will have a porosity rate measured at a minimum of 500mm/hr • Beneath the synthetic turf will be a new permeable shockpad layer, which will have a porosity rate measured at a minimum of 1000mm/hr • Beneath the shockpad layer will be the existing open textured porous macadam, which typically has a porosity rate measured at a minimum of 1000mm/hr • Beneath the open textured porous macadam is a sub base comprising of stone, which typically has a porosity rate > 2000mm/hr. Whilst the proposed development is designed to be a water compatible development which is not damaged during flood event. In the case that percolation into the ground or attenuation within the construction is not enough to prevent surface flooding, the surface materials used within the development have been chosen as they are not affected by flood events, in accordance with guidance for water compatible developments as outlined in NPPF documentation. It is also noted that this development is a refurbishment of an existing facility, which would not result in any increase in flood risk.

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<table>
<tr><th colspan="2">Proposal Component Design</th></tr>
<tr><td>SYNTHETIC TURF PITCH (STP) SURFACING SYSTEM</td><td>The proposed pitch surface will be a long pile length (50mm –60mm), tufted synthetic turf, coloured grass green, partially in-filled with Stabilising & Performance material. Designed to meet necessary National / International Sports Governing Body Performance Requirements. This will include an associated shockpad component (for enhanced performance and infill reduction). The system will be a FA Community Use Certified system (to EN15330), and will be tested upon completion for adherence to FA performance standards for a community use pitch.</td></tr>
<tr><td>PERIMETER BALL STOP FENCING / PITCH PERIMETER BARRIER</td><td>Ball stop fencing will be adjusted around the perimeter of the pitch in locations shown in the drawings associated with this proposal. This includes 4.5m and 6m high twin bar panel fencing, with noise reducing dampeners, finished to polyester powder coated black, supported with an intermediate post system and entrance gates of matching colour.

The new fencing type will be steel open mesh fencing containing a general 200 x 50mm aperture and for the lower 1.2m of the fence 66 x 50mm apertures. Fence panels are fixed onto posts with 8mm galvanised security bolts to (U shape) brackets containing threaded inserts. Fence panels are fixed onto posts with 8mm galvanised security bolts to (U shape) brackets containing threaded inserts and are insulated from the posts using noise reducing dampeners (neoprene washers or similar) on every fence post / mesh fixing point, to aid noise reduction and acoustic attenuation by reducing rattle and vibration from ball impacts. Panel connectors are applied at horizontal panel joins to increase rigidity of the fencing system.</td></tr>
<tr><td>LED FLOODLIGHTING SYSTEM</td><td><u>General Appearance / Lighting Requirements</u>
A new LED floodlighting will be installed in locations shown in the drawings associated with this proposal. The lighting system will include 6Nr 12m high tubular steel masts finished galvanised 7275 self-coloured, mounted with 6 Nr LED luminaires (1 on each column), designed to meet the required Sports Governing Body requirements.

LED floodlighting is required to satisfy the necessary and planned weekly usage for community participation. The lighting system will be operated during evenings of permitted use, after dusk, and up to the approved curfew hour. A lighting plan supplements this planning application, and is based around the following:

<table>
<tr><th>Requirement</th><th>Detail</th></tr>
<tr><td>Description of Lighting Column / Luminaire Design</td><td>Refer to lighting design document</td></tr>
<tr><td>Lighting Performance Requirements</td><td>BS EN 12193
FA Guide to Floodlighting
ILP <u>Guidance Documentation</u></td></tr>
<tr><td>Specific Lighting Performance Requirements</td><td>Average Lux = >200Lux
Uniformity = >0.6
Colour Temperature = 4200K-5700K</td></tr>
<tr><td>Details of any cowls / hoods / shades / baffles to control light spill & glare</td><td>All luminaires are designed to have a zero upward light ratio without the need for additional accessories (rear louvres) to limit overspill.</td></tr>
</table>
</td></tr>
</table>

The floodlight system has been designed to provide sufficient performance as required by the sports to be played on the surface, as detailed in relevant sporting application lighting documentation.

BS EN 12193 is the standard that specifies requirements for sports lighting to ensure good visual conditions for players, athletes, referees, spectators, and CTV transmission. Its objective is to provide requirements for good quality sports lighting by:

- Optimising the perception of visual information used during sports events
- Maintaining the level of visual performance
- Providing acceptable visual comfort
- Restricting obtrusive light

Exterior Lighting Environmental Status

ILP GN01 documentation categorises the environment into five zones as per below:

Zone	Surrounding	Lighting environment	Examples
E0	Protected	Dark (SQM 20.5+)	Astronomical Observable dark skies, UNESCO starlight reserves, IDA dark sky places
E1	Natural	Dark (SQM 20 to 20.5)	Relatively uninhabited rural areas, National Parks, Areas of Outstanding Natural Beauty, IDA buffer zones etc.
E2	Rural	Low district brightness (SQM ~15 to 20)	Sparsely inhabited rural areas, village or relatively dark outer suburban locations
E3	Suburban	Medium district brightness	Well inhabited rural and urban settlements, small town centres of suburban locations
E4	Urban	High district brightness	Town / City centres with high levels of night-time activity

This site would fall into environmental **Zone E3**, and has been designed to meet the below limitations, as outlined in ILP GN01:

Obtrusive Light Limitations for Exterior Lighting Installations						
Zone	Sky Glow ULR (max %)	Light Intrusion (into windows) EV (lux)		Luminaire Intensity		Building Luminance
		Pre Curfew	Post Curfew	Pre Curfew	Post Curfew	Average L (cd/m2)
E0	0	n/a	n/a	0	0	<0.1
E1	0	2	<0.1	2500	0	<0.1
E2	2.5	5	1	7500	500	5
E3	**5**	**10**	**2**	**10000**	**1000**	**10**
E4	15	25	5	25000	2500	25

LED luminaire technology has been chosen to meet the requirements set out in ILP GN01, whilst reducing energy consumption and potential impact on the surrounding environment / ecology. ILP GN08 states: *Many night-flying species of insect that bats hunt are attracted to light, especially those light sources that emit an ultraviolet component (LEDs) have removed this) or have a high blue spectral content (this can include LEDs).*

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ILP GN08 Hierarchy of Light Impact

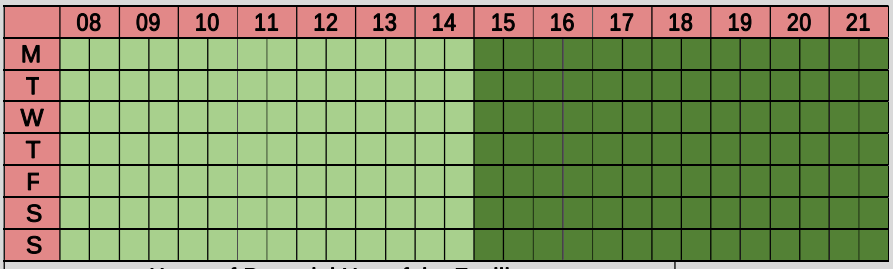
The lighting design has been produced in accordance with the mitigation hierarchy outlined in ILP GN08, by:

- Avoidance –Where possible, impact to biodiversity has been avoided. Where this is not possible:
- Mitigation –Where complete avoidance of impact to roosts, foraging and commuting habitat is not possible, the lighting design has been developed to minimise such impact. It is noted that the core performance requirements for the relevant sporting applications must be maintained, but where necessary, detailed designing of the lighting system including the areas of potential light spillage onto impacting areas has been undertaken by professionals tasked with minimising impact, to ensure that the light design proposed provides minimises potential impact whilst still providing the performance requirements required for the applications they are to be used for. Where this is not possible:
- Compensation –Where impact is noted and there is no ability to avoid or mitigate against the impact of the lighting scheme, as per the hierarchy in ILP GN08, constructive discussion with Local Planning Authorities Ecology department should be undertaken during the planning process, with an aim for setting a relevant Pre-Use Condition for off-setting of unavoidable impacts.

Mitigation Measures Included

The following specific mitigation measures / considerations were discussed and have been adopted on this project as per ILP GN08 Step 4 (Mitigation Measures / Sensitive Design):

- LED Lights –LED luminaires have been specified, due to their sharp cut-off, low intensity and good colour rendition. The design is to meet necessary 200lux average illuminance as per the relevant sporting performance requirements.
- Warm white light source (2700K or lower) was not possible on this application due to the performance requirement of needing to provide lighting between 4200-5700K to meet the relevant performance requirements. Reducing the light source to 2700K would mean the lighting system would not be fit for purpose, and not provide adequate safety for use of the facility by sporting users.
- Column heights of 12m are considered to produce a design maximising downwards light, and therefore minimising light spill and glare visibility.
- Operation hours –It is noted that the hours of use for the facility only shows the intended use of the facility as a whole, and do not detail how lighting will be operated during these uses. Further clarity is provided in the following table, illustrating an expected weekly plan of floodlight use during winter months
- It is possible to introduce a control system to the switching to allow the lights to run at lower lux levels (120 Lux) for training purposes.



Please note:

- During spring, summer and autumn seasons, it would be possible to turn the floodlights on later during each day (given the usual longer daylight hours), to further minimise impact on species during months other than winter.
- Floodlighting will only be operational when the facility is in use, and therefore it is not intended that the lighting will automatically run continuously as per the above table every day.
- The above table details the typical winter usage, assuming the pitch is in use for all operational hours, and therefore provides a 'Maximum' illustration of floodlight use.
- The floodlighting is designed to meet the performance requirements as set out for the relevant sporting application.

Part Night Lighting

The lighting proposed is to be controlled by human activity (light on demand) at any given period. *Given this, it is expected that the Local Planning Authority will accept the above information and subsequent lighting design as the 'worst-case' practical scenario on site, and their response to proposals will take into account that the sports facility lighting design proposed will only be operated during specific times of day / year during use of the facility, as opposed to other lighting applications they may assess that seek constant use.*

Floodlight Mast Design

The existing mast height would have been calculated using methods detailed in CIBSE Document 'LG04 Sports Lighting (2023)', ensuring that:

- Vertical overspill is low.
- Good uniformity around the playing surface is obtained.
- Lights are directed downwards towards the playing pitch surface.
- Sky glow is avoided.
- Full cut-off is achieved (as recommended by The British Astronomical Association's Campaign for Dark Skies).

If higher columns were used, more intensive lighting would be required to provide necessary performance results at ground level.
If lower columns were used, a higher aiming angle would be needed on each luminaire, which would increase overspill and glare during use.

The masts are of a slim design, which will prove further benefit to the visual impact of floodlighting during the daytime.

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Floodlight Performance

The necessary performance requirements for floodlighting development is outlined in the following documents:

- BS EN 12193
- FA Guide to Floodlighting
- ILP Guidance Documentation

The lighting plan show the mast locations, floodlight orientations, luminance levels on the pitch (confirming it meets necessary performance requirements for the specific applications to be used). It is noted that ILP Guidance Documentation directly conflicts with BS EN 12193 / FA Guide to Floodlighting requirements in terms of the value of light source *(ILP GN08 suggests 2700K or lower, in comparison to FA Requirements of 4200-5700K)*. As ILP is Guidance documentation, the lighting plan has been produced to meet the required sporting performance requirements, whilst also adhering to ILP Guidance where this does not conflict and taking into account GN08's hierarchy of Avoidance – Mitigation –Compensation.

Obtrusive Light

With the Lighting design document results for the Obtrusive light on several of the nearest properties have been calculated. The closest residential properties have been assessed to establish obtrusive vertical light calculations, to assess whether the lighting plan meets requirements for the relevant environmental zone.

This result is:

Value Attained	Pre-Curfew Requirement E3	Post-Curfew Requirement E3	Result
Max 1.19 Lux	10	2	**PASS***

*As use of the facility is until 10pm, the measured illuminance during post-curfew scenarios (after 10pm) will be **0Lux**, as the lights will not be on, which results in the system being below the Post-curfew threshold for the Environmental Zone.

Lighting Design Conclusions

- The proposed floodlighting system is specifically designed to meet sports lighting requirements, and subsequently meets the requirements for the intended sporting applications and standards of play.
- The proposed hours of potential use for floodlighting has been shown, but it is noted that the floodlighting will only be on during actual use of the site, and this therefore represents worse-case scenario.
- Given natural light during Spring, Summer and Autumn, it would be possible to turn floodlights on only when light is actually required.
- Warm white light source (2700K or lower) was not possible, due to the sporting requirements outlined.
- Other guidance notes in ILP GN01 & GN08 have been adhered to, where not in direct conflict with the sporting application requirements.
- In line with ILP Guidance Hierarchy when creating a lighting design, where avoidance of impact to biodiversity was not possible, mitigation, by adjusting the lighting design specifically for the site scenario, has been undertaken to

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	minimise the spillage of light as much as possible from areas that are not specifically the pitch. • The height of masts was chosen to provide the most efficient solution, in terms of minimising intensity required / spillage / glare. • The lighting design meets obtrusive light requirements for residential properties within the relevant Environmental Zone in which it is being installed. • Lighting columns and cabling have been designed within the pitch enclosure to minimise impact on surround trees but located outside the 3m safety run off. The lower section of each lighting column will have a padded shroud.
HARD STANDING AREAS / GOAL STORAGE AREAS / ACCESS PATHWAYS	Goal recesses have been created on the eastern side of the existing pitch footprint, as per the associated drawings, to provide goal storage within the pitch but outside the 3m safety run off. Pitch users wishing to use the northern 5 a side pitch whilst the southern 5 a side pitch is in play can access it along the eastern side of the pitch along the 1.5m wide path between pitch fence and 3m safety run off. As per Sport England's Design Guidance Note –Accessible Sports Facilities, where access routes are steeper than 1:60, but not as steep as 1:20, a level landing has been created for every 0.5m rise along any access route. The proposed pitch is accessible by a ramped access as well as stairs.
INFILL MIGRATION MITIGATION FEATURES	Measures detailed in CEN/TR 17519 have been adopted in full, ensuring the proposed development contains all relevant mitigation features to minimise any potential infill dispersion into the local environment, including: • Infill Containment Barriers (500mm high as per CEN documentation for synthetic turf that is laid up to the outer perimeter fencing) • Decontamination Grates / Scraper Mats (at all entrances) • Boot Cleaning Stations (at all entrances) To further reduce the potential of any infill dispersion into the local environment, further measures have also been adopted, including: • Surface System: The surface system installed will include a shockpad, which will provide sufficient performance characteristics that minimise the volume of performance infill required to meet Governing Body Performance Requirements. Installation of a shockpad typically reduces the amount of performance infill required by approx. 6-8KG/m2 (24-32 Tons over the size of the pitch), and therefore its inclusion will provide a system with much reduced loose infill.

Ancillary Equipment	
GOALS	Portable football goals will be provided and installed as required by the sporting pitches marked. These goals will be of a type for use on synthetic turf pitches. All goals supplied will comply with BS EN 16579.
STORAGE CONTAINER	Existing storage containers located outside the pitch double gates will be used to store maintenance and loose sports equipment to ensure regular maintenance can be undertaken to the pitch. Regular maintenance of synthetic turf pitches ensures the following performance / environmental benefits: • Less compaction of turf and infill, resulting in better adherence to performance requirements over the medium / longer term. • Extended longevity of the turf system.

Section 7 –Planning Conclusions

Conclusions	
CONCLUSIONS	Having assessed relevant planning policies and material considerations relevant to this proposal, we request this proposal is accepted, due to the following: • The proposed Synthetic Turf Pitch layout and modifications will replace an existing macadam football pitch therefore providing access to a similar but enhanced provision, with the addition of a sports governing body compliant surface, in a suitable location and supported by effective and appropriate management arrangements, whilst implementing construction techniques outlined for the various specific components to ensure minimum waste and pollution is caused by the development, in accordance with **National Planning Policy Framework Section 2 - Achieving Sustainable Development**. • The proposal will give rise to a considerable benefit to the wider community through the provision of an enhanced playing facility and the opportunity for usage throughout the year, in accordance with **National Planning Policy Framework Section 8 –Promoting Healthy and Safe Communities** • The proposal will ensure surface water run-off is effectively managed and does not increase flood risk elsewhere, in accordance with **National Planning Policy Framework Section 10 –Meeting the Challenge of Climate Change, Flooding and Coastal Change**

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Appendix A –Existing Site Photographs

View South Towards the School	Double gate and Containers
	
Ramped Access at Southern End	**Stairs Access at Southern End**
	
Western Side of Pitch	**Northern End of Pitch**
	

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Proposed new perimeter fence type	Rubber infill containment gates
	
Proposed Containment Boards at Base of Fence	**Proposed 3G Surfacing**
	

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