



Appendix 1.1

2015 ES

Environmental Statement

Volume 1: Non-Technical Summary

Northumberland Development Project

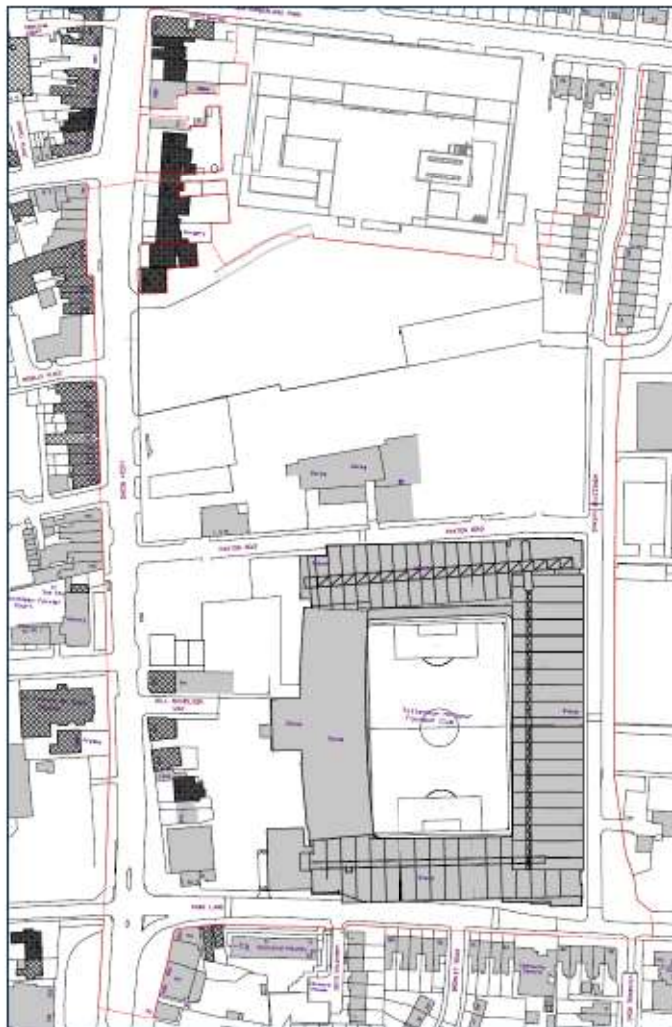
September 2015

Introduction

This Non-Technical Summary (NTS) of the Environmental Statement (ES) forms part of an application for planning permission by Tottenham Athletic Football Club Limited on behalf of Tottenham Hotspur Football Club (collectively known as "the Club") for the following:

"Proposed demolition and comprehensive phased redevelopment for stadium (Class D2) with hotel (Class C1), Tottenham Experience (sui generis), sports centre (Class D2); community (Class D1) and / or offices (Class B1); housing (Class C3); and health centre (Class D1) together with associated facilities including the construction of new and altered roads, footways; public and private open spaces; landscaping and related works. Details of "appearance" and "landscape" are reserved in relation to the residential buildings and associated community and / or office building. Details of "appearance" and "scale" are reserved in relation to the sports centre building. Details of "appearance" are reserved in relation to the health centre building."

The above development is referred to hereon after as "The Project". The Project Site, is shown below.



Background

In May 2010, the Club submitted a planning application for a new Football Stadium (designed by KSS Architects) together with associated development comprising retail, housing and a hotel (application reference HGY/2010/1000). That application was accompanied by an Environmental Statement ("the May 2010 ES"). In September 2011, the London Borough of Haringey ("the Council") granted planning permission for the application.

In December 2011, the Club submitted two separate further applications for planning permission which required addendums to the May 2010 ES. The addendums dealt with Phase 1 the Northern Development (planning application reference HGY/2011/2350, and Addendum No.1) and Phase 3 the Southern Development (planning application reference HGY/2011/2351 and Addendum No. 2). Planning Permission for the revised Southern and Northern applications was granted in March 2012. The Northern Development has since been completed.

The revised planning permission for the Southern Development (HGY/2011/2351) was granted in outline and reserved detailed matters relating to design, scale and landscape for approval at a later stage. A reserved matters application for scale was submitted by the Club in March 2015.

In April 2015 the Club submitted a minor material amendment application in respect of the original 2011 planning permission under Section 73 of the Town and Country Planning Act 1990. The application sought to incorporate a new basement beneath the proposed Stadium and was approved by the Council in July 2015. Further details of these applications are set out in Chapter 3 of this NTS.

The Current Position

A new planning application has been submitted for the Project. Populous were instructed as architects for the Stadium, Hotel, Tottenham Experience, Extreme Sports Centre, Community Health building and public realm components of the application. Allies and Morrison being appointed to design the residential blocks within the Southern Development. DP9 were appointed to prepare the planning application, with Savills being appointed to prepare and coordinate the Environmental Impact Assessment (EIA) and ES.

The specialist consultant team that were appointed to undertake the assessments for this EIA comprised the following:

- Air Quality: Air Quality Consultants
- Archaeology: L-P: Archaeology
- Cultural Heritage: Donald Insall Associates
- Ecology: CSA Environmental
- Surface Water Drainage and Flood Risk: Aecom
- Ground Conditions and Hydrogeology: Buro Happold
- Townscape and Visual Amenity: The Landscape Partnership
- Noise and Vibration: WSP and Vanguardia Consulting
- Socio-economics: Quod
- Traffic and Transport: Tim Spencer and Co
- Microclimate: BMT Fluid Mechanics Ltd
- Daylight, Sunlight and Overshadowing: GIA
- Electronic Interference: Tom Paxton

Structure of the Environmental Statement

The NTS presents the findings of the EIA, it is a statutory requirement that forms part of the ES. The ES is set out in a structured manner to allow for easier navigation:

- Volume 1 (this volume) comprises the Non-Technical Summary;
- Volume 2 comprises the Main Report; and
- Volume 3 comprises the appendices.

Opportunity for Public Consultation

Should interested parties wish to make representations on the content of the ES, or the rest of the planning application, they should be made in writing to London Borough of Haringey, Planning, Civic Centre, High Road, Wood Green, N22 8LE. Alternatively, comments can be submitted using the Council's website:

http://www.haringey.gov.uk/index/housing_and_planning/planning-mainpage.htm

Hard copies of the complete ES can be purchased from Savills at a cost of £400.00. The ES may also be purchased on CD at a cost of £5.00. This NTS can be obtained free of cost. An electronic copy of the ES report will be made available on the Council's website.

Project Site and Setting

Project Site Location

The Project Site occupies an area of 8.97 hectares, and is bound by Lilywhite House (comprising the Sainsburys foodstore fronting Northumberland Avenue; the Tottenham University College; and Tottenham Hotspur Football Club's administrative offices) to the north, High Road to the west (A1010), Worcester Avenue to the east, and Park Lane to the south. The site is focussed on the current Tottenham Hotspur Football stadium, which is located at Bill Nicholson Way, 748 High Road, London N17 0AP.

The Surrounding Area

The Project Site is located in Northumberland Park Ward. The administrative boundary with the London Borough of Enfield lies approximately 500m north of the site with Angel Edmonton and the A406 North Circular Road approximately 650m beyond. The Lee Valley and the London Borough of Waltham Forest lie approximately 1.5km to the east of the Project Site. The designated town centre of Bruce Grove lies approximately 700m to the south of the Project Site with the town centre of Seven Sisters a further 800m south of Bruce Grove. The Metropolitan Centre of Wood Green lies approximately 3km west of the Project Site with Alexandra Palace a further 1.5km beyond.

The stretch of the High Road immediately to the west of the Project Site that runs north from Bruce Grove to the Stadium accommodates various town centre uses such as Council Offices, Tottenham Sports Centre and a Public Library. This is supported by a range of retail uses.

Immediately to the east of Worcester Avenue is Northumberland Park Community Secondary School and Saint Paul's and All Hallows Church of England Infant and Junior Schools. Immediately to the west of High Road lies St Francis de Sales Roman Catholic infant and junior school and further west is the Lancastrian Primary School.

Project Site Accessibility

The Public Transport Accessibility Level (PTAL) for the site, which is a theoretical measure of the accessibility within London, ranges from 3 (moderate accessibility) to 5 (good accessibility).

There are several railway stations within easy access to the Project Site, these are:

- White Hart Lane- 6 min walk from the site;
- Northumberland Park- 600m to the east;
- Bruce Grove- 1.1km to the south;
- Tottenham Hale- 2.2km to the south; and
- Seven Sisters- 2.3km to the south.

On match days White Hart Lane is the most used railway station although Northumberland Park is also well used. The rail operator for the area (National Express East Anglia) also runs extra services on match days to cater for this demand.

The use of the London Underground rail network varies greatly between non-match days and match days. Seven Sisters and Tottenham Hale are the closest underground stations and are both on the Victoria Line. Of these two Seven Sisters is the most used station despite being further from the site. This is due to it providing access to a greater number of other lines and rail networks.

The Project Site is well served by bus routes from a wide range of neighbouring areas. Most routes can be accessed from bus stops on the High Road although a few can also be accessed from Northumberland Park to the North, Lansdowne Road to the south and Shelbourne Road to the east. Most of the bus routes connect the site with Seven Sisters rail and Underground station and central London.

Land Use Designations

The Development Plan

The relevant statutory development plans for the site comprises of: the Haringey Local Plan: Strategic Policies (2013); and the Saved Policies of the Haringey Unitary Development Plan (UDP) (2006) and the London Plan (March 2014 (as amended)).

In addition to the Development Plan, in assessing the Project, regard has been had by Savills and the Club's consultants to national planning policy and guidance as set out in the National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG). Regional supplementary documents and guidance as adopted by the Mayor of London and local supplementary guidance as adopted by LBH.

Description of the Project

The Need for the Project

The Club has already secured the necessary approvals to enable the development of a new stadium and associated developments on the Project Site. However, this process has taken over 7 years, during which time there has been a change in the Club's requirements (including technical requirements and specifications for a world class stadium).

In the intervening period the context for development and regeneration in the local and wider area has changed. The Council and the GLA are tasked with facilitating the regeneration of Tottenham with a focus on delivering in excess of 10,000 new homes in the wider area over a 20 year period. This is level of regeneration that was not anticipated at the time of the inception of consented applications and therefore this Project seeks to respond to the changing context.

The Club appointed a new design team with Populous appointed for their specialism in stadium and sports related development and Allies & Morrison appointed for the experience in residential buildings.

Key factors in the need for the for the Project include:

- The need to place the stadium in its heritage context in a more holistic manner;
- The need to improve crowd safety;
- The need to expand the multi use nature of the stadium, and
- The need to improve the overall viability of the Project.



The Planning Application

The planning application is a hybrid application in that it contains both full and outline elements

As well as the planning application a Listed Building Consent application has been submitted in relation to work to Warrington House.

The description of the Project is as follows:

"Proposed demolition and comprehensive phased redevelopment for stadium (Class D2) with hotel (Class C1), Tottenham Experience (sui generis), sports centre (Class D2); community (Class D1) and / or offices (Class B1); housing (Class C3); and health centre (Class D1) together with associated facilities including the construction of new and altered roads, footways; public and private open spaces; landscaping and related works. Details of "appearance" and "landscape" are reserved in relation to the residential buildings and associated community and / or office building. Details of "appearance" and "scale" are reserved in relation to the sports centre building. Details of "appearance" are reserved in relation to the health centre building."

Full planning permission is sought for the Stadium, the Tottenham Experience and the Hotel. Outline permission is sought for the Residential, Sports Centre and the Community Health Building.

Full Permission	Outline Permission
Stadium (Inc. Podium)	Residential (Inc. Plinth)
Tottenham Experience Centre	Sports Centre
Hotel	Community Health Building

The Project

The Project involves the comprehensive redevelopment of the Project Site, including demolition of the existing Stadium and a number of other buildings, with the exception of Warrington House. The below Tables set out the details of each development component of the Project.

1. Stadium	
Description	The Project will see a number of changes to that of the existing and consented Stadium. It has been proposed to enhance the Stadium's capacity from the consented scheme by 4,850 with the height increasing by 4m. The existing Stadium has a capacity of 36,284 and is approximately 22-24m in height. As well as the Stadium being used to host THFC matches, the Stadium has been designed to accommodate a number of concerts and non-football related events throughout the year including NFL matches. There will be a 'Skywalk' at the top of the Stadium which will be an attraction for supporters and tourists/visitors.
Total Floorspace (GIA) sqm	119,945
Maximum Height	48m to the eaves from pavement level (High Street) Maximum height of roof is 59.154 AOD
Capacity (seats)	The headline stadium capacity figure of the purposes of this EIA is 61,000 seated, which is based upon the number of seats that can be sold. In common with all sports stadia, the precise capacity will vary from event to event depending upon the configuration adopted for each event. When account is taken of media seats and seats associated with playing staff, the operational capacity will rise to 61,461.
Events	Annually, there will be 30 Football Matches (THFC events) (typically, but not limited to).

	In addition, there will be a total of 16 non-THFC events per annum comprising: 10 Other Major Events (at least 2 of which will be NFL matches); and 6 Concerts.
Car Parking	822 spaces comprising: 732 standard spaces 90 fully accessible spaces 60 blue badge spaces Access and egress from Worcester Avenue.
Cycle Parking	Already included as part of the Lilywhite House development
Lighting	Floodlighting will be provided to meet the requirements for English Premier League football and Category 3 recommendations for high definition television (HDTV), with 1,650 lux vertical illuminance value in the direction of the main fixed cameras in the West stand, and a 1,200 lux in direction of secondary fixed cameras in the East stand. Intermediate levels of illuminance will also be provided for reserve fixtures and training, while enhancements will be included for UEFA Champions League (Group Stage) and American Football (NFL) matches. Floodlighting lamps will be fixed to the secondary roof trusses around the pitch on all sides, angled to ensure the players, spectators and broadcasters are not subjected to unacceptable levels of glare. The field of play floodlighting is highly directional and is located within the roof and below the eaves line, so light spill to the surrounding area will be minimised.
Screens	The internal HDTV screens are as follows: The South screens (2no.) will be 29.05m x 10.9m and the 2no. screens to the north are 22m x 8.25m. The main TV camera gantry is at the front of the upper tier west and secondary cameras distributed as required by EPL and UEFA Champions League. The external screen is a low res LED stick and/or puck system incorporated into the Perforated Aluminium Cladding panels on the west elevation, with dimensions of 8.2m high and 15 wide. Beyond the screen dimensions the LEDs produce a lighting effect covering a proportion of the perforated panels on the west elevation.
Podium	The podium will be 4 storeys (Including 2 basement levels). All residents and visitors to will have access to the play and other outdoor amenity spaces on the podium level of the Stadium, as well as a piazza outside the Stadium entrances. The podium and other areas of public realm have been designed to connect the site with its surrounding area. The podium and other area of public realm will be designed to manage crowd movements on match days (enabling the Stadium to meet its 8 minute evacuation time providing an area for supporters to converge) with the provision of new public spaces. On non-match days there will be complete permeability across the site between the High Road and Worcester Avenue. With the exception of the north-east service access, there will be complete public access around the Stadium.

2. Tottenham Experience

Description	The Tottenham Experience incorporates the existing Grade II Warrington House. This building will be accessed from High Road and will comprise a shop for Spurs merchandise and a showroom/museum of the football clubs history and achievements.
Total Floorspace (GIA) sqm	4,311
Floorspace Breakdown (GIA) sqm	Megastore – 1,955 Museum – 728 Café – 260 Cinema – 400 Ticket Office – 242 Skywalk Change and Reception – 100
Maximum Height	14.1m above ground 25.1 AOD

EIA Environmental Statement

Volume 1: Non-Technical Summary



Storeys	3
Car Parking	No car parking spaces will be allocated for the Tottenham Experience
Cycle Parking	Already included as part of the Lilywhite House development

3. Hotel	
Description	A hotel will be located on the corner of Park Lane and High Road (south-western corner of the site). As with the Sports Centre, the hotel will be accessible from both levels off Park Lane and the Podium.
Total Floorspace (GIA) sqm	18,820
Units	180 hotel bedrooms 49 serviced apartments
Maximum Height	89.2m above ground 100 AOD
Storeys	23
Car Parking	Approximately 76 car parking spaces will be allocated for the Hotel (68 standard spaces and 8 fully accessible spaces)
Cycle Parking	6 racks for 12 cycles in the Hotel basement

4. Sports Centre	
Description	A Sports Centre will be located to the west of the residential blocks fronting Park Lane and will be accessible from the different levels from both Park Lane and the podium. This includes a Multi-Use Games Area (MUGA), and an indoor/ outdoor extreme sports facility with climbing walls and a diving pool. A gym associated with the Extreme Sports centre will provide further local recreation facilities, accessed both from street level and the podium adjacent to the westernmost Tower D.
Total Floorspace (GIA) sqm	2,100
Maximum Height	51.2m above ground 62m AOD
Storeys	7
Car Parking	No car parking spaces will be allocated for the Sports Centre
Cycle Parking	8 racks for 16 cycles along Park Lane

5. Community Health Building	
Description	The Project includes a building to the north-east of the site that will accommodate a Health Centre. The ground floor of this building will be used for servicing of the Stadium. Levels 1 and 2 will be used as a community health centre. The roof of this building will accommodate plant for the Stadium which will include generators and air vents.
Total Floorspace (GIA) sqm	2,000
Maximum Height	21m above ground level 31.8m AOD
Storeys	2
Car Parking	No car parking spaces will be allocated for the Community Health Building
Cycle Parking	6 racks for 12 cycles at north end of Worcester Avenue

6. Residential	
Description	The Project comprise a cluster of four residential towers of varying height above a three storey plinth in the southeast corner of the Stadium redevelopment site. 25m x 25m and 25m x 30m masonry clad rectangular towers with recessed balconies are proposed. The tallest Tower C in the centre of the group is set back from both Park Lane and Worcester Avenue to minimise the visual impact and overshadowing of the immediate setting. Each flat has been designed with a private inset or semi-recessed balcony. Additionally, the Project includes private and semi-private open space for the residents. Rooftop 'sky gardens' are proposed within the chamfered roof form

	at the tops of each tower, providing external amenity space for all residents to enjoy. In addition to 5 townhouses, a total of 580 units will be split across blocks A, B, C and D set out in the below table. All Apartments with the exception of 2 no. Studio units and 3 no. 2 Bed units have private balconies or wintergardens; Area calculation as follows: 5m2 min (for studio or 1bed) + 1m2 per each additional occupant in unit. There will be Community and / or Office space at ground, first and second floor (within the Plinth, as per consented scheme). Car parking and cycle parking spaces will be accommodated over first, ground, basement and lower basement levels of the Plinth.					
Flexible Community Office Use Floorspace (GIA) (Sqm)	3,897 over ground, first and second floor					
Communal Amenity Space / Playspace	There will be a total of 2,695 sqm of Community Amenity Space, which is inclusive of playspace: Residential Plinth: 1,835sqm* Roof Gardens: 860sqm** <i>*Includes 866sqm of green space</i> <i>**Includes 250sqm of green roof space</i>					
Brown Roof	1,090 sqm					
Total No. of Units	585 (including 5 x 3bed Townhouses)					
Indicative Unit Mix						
Block	Studio	1 Bed	2 Bed	3 Bed	Total	
A	4	69	88	6	167	
B	6	49	30	6	91	
C	4	101	120	6	231	
D	6	49	30	6	91	
Total	16	250	288	31	580	
Maximum Height	Tower A: 94m above ground (104,620m AOD) Tower B: 67m above ground (78,220m AOD) Tower C: 121m above ground (131,020m AOD) Tower D: 69m above ground (80,220 AOD)					
Storeys	Tower A: 24 (27 above ground) Tower B: 16 (19 above ground) Tower C: 32 (35 above ground) Tower D: 16 (19 above ground)					
Car Parking	243 (216 standard and 27 Blue Badge Holders). In addition, there will be 31 motorcycle parking spaces. In total, there will be 0.47 parking spaces per dwelling.					
Cycle Parking	882					
Plinth	The plinth will be 4 levels (including 2 lower basement levels). Courtyard roof gardens are provided at raised plinth level, which will incorporate local play space and landscaped outdoor garden spaces (Drawing No. 1007-SK 002 in Appendix 1.1 set out details of Amenity Space and Ecological planting). There will be up to 3,897 sqm (GIA) of commercial floorspace located partially at ground and first floor level, with the substantive element at second floor level. Access from the Plinth down to basement levels provides access for residents to recycling and refuse storage spaces, plant rooms and car and cycle parking areas. Additionally, a members' club with a bar, lounge and spa facility for residents and local neighbours is proposed at Plinth level 2. This will be accessed directly from street and main podium levels, and will feature landscaped courtyards providing daylight and planted					

	spaces. Courtyard roof gardens are provided at raised plinth level, which will incorporate local play space and landscaped outdoor garden spaces.
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In summary, the Project will deliver the following floorspaces:

Land Use	Use Class	Area GIA (sqm)	Units
Leisure (including stadium)	D2	122,000	n/a
Residential	C3	49,000	585 (max)
Sui Generis / Tottenham Experience	Sui Generis	4,311	n/a
Business	B1	4,000 (max)	n/a
Community and Culture	D1	4,000 (max)	n/a
Hotel / Serviced Apartments	C1	18,820	925

Fan Zones

During NFL events, Fan Zones are anticipated to be set up which will be in situ before, during and after the match. The public and ticket holders will be able to congregate in these areas which will accommodate a number of facilities including food and beverage, potentially music and family friendly events.

Given the temporary nature and type of facilities being investigated, it is not anticipated that they will have the potential to give rise to significant effects. When further information is made available, these areas can be taken into further consideration, for example, through an EIA Screening where appropriate.

Public Realm / Landscaping

The public realm stretches around all sides of the Project site, connecting the stadium with the other buildings in the Southern Development and the community health centre. The landscaping arrangements includes new streetscapes running along the perimeter of the site as well as areas of podium to the north and south of the Stadium. The south podium incorporates a new public square intended to host a variety of sports and community uses, as well as connecting the wider regeneration areas to the east and west of the site.

The Southern Podium will incorporate a number of features, including a Multi-use hardcourt zone, tiered planter benches, a water feature, abseiling 'landing pad' and a nature garden.

New trees and landscaping will be incorporated along High Road, Park Lane, Worcester Avenue, Square and podium levels.

Heritage Assets

It is proposed that Number 744 High Road (Warmington House) will be retained as part of the Project. Numbers 750 High Road (formerly Valentino's Nightclub), 748 High Road (Redhouse Coffee Palace) and 746 High Road (Edmonton Dispensary) are proposed to be demolished. Number 750 High Road is a public house with all floors of the property in this use. Number 748 High Road includes a coffee shop at ground floor with club meeting room and administrative offices above. Numbers 746 and 744 High Road are used by the Club as offices ancillary to the Stadium. Number 744 High Road (Warmington House) is a Grade II listed building. Numbers 746, 748, 750 are locally listed buildings.

Accessibility

Pedestrians and Cyclists

Pedestrian improvements are focussed on the provision of large open spaces around the Stadium which increase the permeability of the Project Site compared with the existing situation.

The Project will result in changes to the cycling network and facilities. These include the removal of Paxton Road from the centre of the site, resulting in the loss of a cycling route. However, there will be an increase in the number of lanes on Northumberland Park adding capacity to the street and secure, covered cycle parking facilities across the site. This will result in a significant increase in cycle parking provision. Cycle access to the buildings and the site will be provided from High Road, Northumberland Park, Worcester Avenue and Park Lane.

Highway Arrangements

Paxton Road and Bill Nicholson Way (together with two small sections of the High Road) were stopped up earlier in 2015. Access to the Project Site will be provided from High Road, Northumberland Park, Worcester Avenue and Park Lane. There will be an overall reduction in vehicular accesses across the site.

A new junction will be created to establish an access point into the basement for the Stadium and Hotel car parking. A servicing access point will be created at the north-east of the Stadium providing an access point for service vehicles. Furthermore, a new junction will be created on Worcester Avenue to create an access into the car park in the lower levels of the Plinth.

There will be the creation of two new pedestrian crossings across High Road opposite Moselle Place and Brereton Road.

Sustainability and Energy

To ensure sustainable development, the specification of new construction materials will prioritise those with minimal environmental impact associated with their use and that are economically feasible.

All major non-domestic developments will achieve a 'Very Good' rating as a minimum under the most up-to-date BREEAM or equivalent scheme.

The approach aims to minimise energy consumption from the outset through the use of low energy, passive measures and efficiency systems before the deployment of low and zero carbon technologies.

Water

The water strategy shall follow a hierarchical structure to minimise the potential impacts of the Project on the local natural resources and existing infrastructure. The approach taken is to reduce water demand as far as possible at source, before considering efficient fixtures and fittings, efficient distribution and alternative sources for lower grade uses. Importantly, given the nature of the site, the strategy will also tie in with a site-wide sustainable drainage strategy which incorporates the use of sustainable drainage systems (SUDS).

Drainage

The surface water drainage of the site will aim to improve the existing situation through the introduction of SUDS across the site. This will provide attenuation of storm water to reduce the flood risk to the downstream catchments as well as to the Project itself.

The foul drainage of the Project will connect into the existing network and upgrades will be provided to ensure that the systems do not back up and avoid exceeding existing network capacity. The Stadium will drain into the High Road sewer to the west, the hotel and residential development to the South to Park Lane. The foul water drainage strategy will require a pumped system and has been approved in principle by TWUL.

Flood Risk

The site is located in EA Flood Zone 1. The provision of surface water attenuation will significantly reduce the risk of surface water flooding for the site. A controlled discharge rate from the underground storage tanks will also reduce the risk of the Project surcharging the surface water drainage network and impacting on third parties.

Waste

Construction Waste

Tottenham Athletic Football Club Limited are committed to a strategic approach to managing materials and construction materials and ensuring the impact on the environment is minimised by reducing amount sent to landfill.

Operational Waste

The Club recognises that in order for the buildings to operate in a productive and efficient manner good waste management is required. A meeting with THFC staff and the design team was held on 12th February 2015 to discuss the preliminary waste management aims and aspirations. THFC have produced the Waste Management Policy to ensure that all waste generated is disposed of safely and efficiently to ensure good waste management.

Alternatives

There are limited realistic options that have been considered by the developers prior to submission of the planning application: the Consented Scheme could be considered to be an alternative option as it has the benefit of planning permission. The design process was an iterative process whereby different design and massing were explored before. This is detailed within the Design and Access Statement which is submitted with the application documentation. For completeness some key points of this process have been set out below in Option 2,

Option 1: Consented Scheme

The consented scheme would see the stadium built out at a capacity of 56,250 together with associated development including housing (285 residential units). This scheme was fully assessed under EIA and Environmental Statements where submitted with the submission and as such it is not considered appropriate to duplicate the assessment.

Option 1: Illustration



Option 2: The Project

The consented scheme design has its origins back in 2007, with the stadium design finalised in 2010, at which point a planning application was submitted and subsequently approved in 2011. However it was not until earlier this year (2015) that the Club had secured all the relevant statutory approvals (in particular the resolution of a legal challenge to a compulsory purchase order) to allow it to commence with construction of the development.

During this significant delay the regeneration context for the Project has changed considerably and so too has the Club's own requirements for the stadium and associated development, as well as the technical requirements and specifications demanded for world class stadia.

Responding to this changing context, the Club appointed a new design team of market leading design specialists, including Populous (stadia and sports related development); Allies & Morrison (residential); and Donald Insall Associates (heritage architects and advisors). As part of a design review Populous sought to investigate ways to improve the crowd safety along the High Road. Movement Strategies were brought on board as crowd safety specialists who considered the consented scheme unsafe in terms of crowd movement along the High Road. In order to address this the design team, with input from heritage specialists Donald Insall Associates, explored the option to demolish the three locally listed buildings but to retain and incorporate Warrington House into the scheme (the Tottenham Experience).

The result of the design process is the scheme that is submitted for planning and is assessed as part of this Environmental Statement.

Option 2: Illustration



Approach to the EIA

Given the nature and scale of the Project, the applicant has concluded that it would be prudent to undertake an EIA for the emerging proposals. Therefore a Screening Opinion has not been sought.

Scope of the EIA

As an ES was submitted with the original outline application, it has been considered appropriate to replicate the Scope of that ES for this application.

The technical scope of the EIA comprises:

- Chapter 6 - Air Quality
- Chapter 7 - Archaeology
- Chapter 8 - Cultural Heritage
- Chapter 9 - Ecology
- Chapter 10 - Flood Risk and Surface Water Drainage
- Chapter 11 - Ground Conditions and Hydrogeology
- Chapter 12 - Townscape and Visual Amenity
- Chapter 13 - Noise and Vibration
- Chapter 14 - Socio-economics
- Chapter 15 - Traffic and Transport
- Chapter 16 – Microclimate
- Chapter 17 - Daylight and Sunlight
- Chapter 18 - Electromagnetic Interference

A draft Scoping Report was submitted to the Council on 19th June 2015 which formed the basis for informal comments and discussion held with the Council in relation to the Scope of the EIA.

There has been extensive pre-application discussions with the local planning authority and other statutory bodies in relation to the planning application and the EIA.

Consultation Process

Formal pre-application discussions have been held the Council, TfL and the GLA. The pre-application consultation with these bodies has intensified in frequency to weekly meetings since May 2015. Emerging scheme proposals were presented to Historic England's London Advisory Committee (LAC).

Public consultation with the key stakeholders and local community was initiated in July 2015. The consultation was focused on the use of a website at www.tottenhamhotspur.com/new-scheme. The website provides updates on the scheme and an opportunity for users to provide formal feedback. In addition a newsletter was distributed to local residents.

A Development Management Forum was held on 15th July 2015 which members of the public were able to attend. The event, which was advertised and chaired by the Council, was attended by the Club and the Project Design Team and comprised of a presentation followed by a question and answer session.

Phasing

There are three key phases to deliver the Project; Phase 1, 2 and 3.

Phase 1 will be the construction of the northern section of the Stadium around the existing White Hart Lane, during which the existing Stadium will be demolished. The North-east building will also be construction during this phase. Preparatory works are underway for this phase pursuant to existing permission.

Phase 2 will be the construction of the southern section of the Stadium and the associated podium. This phase will also include the installation of the new retractable pitch. On completion of this phase in 2018, the Stadium will be fully operational.

The Tottenham Experience will also be constructed and operational at the same time as the Stadium.

Phase 3 will be the final phase of development which will commence after the completion of Phase 2, with construction work commencing during the operation of the Stadium. The four residential towers and associated landscaping will be constructed during this phase, along with the extreme sports centre and hotel.

The Project is intended to be construction between 2015 and 2022.

Air Quality

The potential air quality effects which the Project may have on the local area during both the construction and operation phases have been assessed. The assessment summarises current conditions within the study area and identifies mitigation measures where appropriate for adverse air quality effects that may arise as part of the Project.

The Project Site lies within an Air Quality Management Area (AQMA) declared by Haringey Council for exceedences of the nitrogen dioxide and fine particulate matter (PM₁₀) objectives set to protect human health. Without the Project, the predicted annual mean concentrations of nitrogen dioxide exceed the objective in 2014 at a large number of existing residential properties in the study area. This number reduces in 2016, 2018 and 2021 due to reductions in vehicle emissions, although there are still predicted to be a small number of properties where concentrations will remain above the objective. These are predominately along High Road. The results are consistent with the conclusions of Haringey Council in the outcome of its air quality review and assessment work that an AQMA is required.

The focus of the assessment of the operational impacts is on changes in traffic flow and the new energy plant that will serve the Project. Two future years are considered (2018 and 2021) to reflect the phasing of the Project. The assessment of construction dust impacts focuses on the anticipated duration of the works and the assessment of construction traffic focuses on 2016 when most construction vehicles will be accessing the site. The main air pollutants of concern related to traffic emissions are nitrogen dioxide and fine particulate matter (PM₁₀ and PM_{2.5}), whilst those from the boiler plant are nitrogen dioxide and for the proposed diesel generators the main air pollutants of concern are nitrogen dioxide, PM₁₀ and PM_{2.5}.

The construction and operational impacts of increased traffic emissions arising from the additional traffic on local roads, due to the Project, and the newly introduced emissions from the on-site boilers and generators have been assessed. Concentrations have been modelled for 100 receptor locations within the study area. In addition, the impacts of traffic from local roads on the air quality for future residents have been assessed at a number of locations within the Project Site itself.

Construction

The construction works have the potential to create dust. During construction it will therefore be necessary to apply a package of mitigation measures to minimise dust emission. With these measures in place, it is expected that any residual effects will be *not significant*. However, the guidance recognises that, even with a rigorous dust management plan in place, it is not possible to guarantee that the dust mitigation measures will be effective all of the time, for instance under adverse weather conditions. The local community may therefore experience occasional, short-term dust annoyance. The scale of this would not normally be considered sufficient to change the conclusion that the effects will be *not significant*.

The impacts of increased traffic during the construction phase have been assessed. There may be some *moderate adverse* impacts at properties along High Road resulting in potentially significant effects but these will be temporary and not applicable when the site is fully operational. If a local offsite construction compound is utilised then the impacts for receptors along High Road north of White Hart Lane, where adverse impacts have been predicted, will be reduced marginally, but are likely to remain *moderate adverse* compared with the baseline. Additional *moderate adverse* impacts may be introduced along White Hart Lane due to this local construction compound. Taking into

account that the use of the construction compound will dramatically reduce the distance construction traffic must travel to deliver concrete to the development site and therefore the benefit to the wider area of the construction compound, this construction compound is judged to be overall beneficial compared with the scheme without the construction compound. Nevertheless, the local impacts would remain *moderate adverse* and the effects are considered potentially *significant*, although temporary.

Operation

The operational air quality impacts without mitigation are judged to be potentially *significant*. This takes account of the assessment that:

- concentrations are predicted to remain above the nitrogen dioxide objective at some locations;
- the impacts on the nitrogen dioxide concentrations are likely to be slight adverse at some locations, mainly along High Road due to both road traffic and generator plant emissions and to a smaller degree boiler plant emissions;
- the PM concentrations are all below the objectives, however, the impacts are slight to moderate adverse at a number of receptors particularly to the northeast of the stadium, due to the PM emissions from the generators. In particular there are moderate adverse impacts at the exiting residential tower to the northeast of the stadium, which will represent a large number of receptors; and
- the short-term nitrogen dioxide and PM10 objectives will not be exceeded providing the operations of the generators does not exceed the modelled number of operating hours assessed.

The impacts of local traffic and the boiler and generator plant on the air quality for new residents living within the Project have been shown to be acceptable at the worst-case locations assessed, with concentrations being well below the air quality objectives. The overall operational air quality impacts of the Project without additional mitigation are judged to be *significant*.

No additional mitigation has been proposed for the operational impacts, however, mitigation measures to reduce and minimise the impacts of the on-site diesel generators could be included by specifying a requirement for the generators to conform to emission limits defined for Stage IV or V non-road machinery and equipment. These are not strictly applicable to stationary generator sets; Stage V is not due to be implemented until 2019 although it is in line with the US EPA Tier 4 emission limits which are already in force in the USA. Enforcing the stricter emission limits should remove the adverse PM impacts due to the generator plant and minimise the adverse nitrogen dioxide impacts at the locations near to the significant road traffic impacts (High Road).

The building and transport related emissions associated with the Project are both below the relevant air quality neutral benchmarks. The Project therefore complies with the requirement that all new developments in London should be at least air quality neutral. The Project is better than air quality neutral and is thus compliant with Policy 7.14 of the London Plan.

Archaeology

The Project Site has an overall low potential for archaeology and low significance across the development area with the exception of the northwest corner which lies within a designated Archaeological Priority Area. The western edge of the site has a higher potential for archaeology as it is adjacent to Roman Ermine Street which has remained a major thoroughfare through to the present day.

The baseline data collection is aided by a desk based assessment and two phases of archaeological evaluation. The trial trenches indicated that The Site has been subject to extensive truncation and that no deposits of significance remain within the tested areas.

For the purposes of measuring the impact of the development upon the significance of the known receptors identified in the baseline collection; the development area was divided into six areas. This division was based upon the type of impact that the land would receive from groundworks, piling and landscaping. The exercise confirmed that any archaeology that is present on the Project Site will be subject to a major impact from the development but that due to the low significance of the receptors the effect would be low. If mitigation by means of watching brief were to be carried out in the western areas of the site, then the archaeology would be subject to preservation by record and thus reduce the overall impact to minor and therefore the overall significance of the impact is neutral/slight.

Cultural Heritage

The cultural heritage assessment considers the effect of the Project on the listed and locally listed buildings on the site and in the North Tottenham Conservation Area. It also considers the effect on a number of heritage assets in the wider area, including the following six conservation areas in the London Borough of Haringey: Scotland Green Conservation Area, Bruce Grove Conservation Area, Bruce Castle Conservation Area, Tottenham Cemetery Conservation Area, Tottenham Green Conservation Area and Alexandra Palace and Park Conservation Area which is also listed as a Registered Park and Garden.

There are a number of designated and undesignated heritage assets on the Project Site. At the eastern boundary of the application site, between the stadium car park and the High Road are four historic buildings: Warmington House 744 High Road, which is statutorily listed at Grade II and three locally listed buildings; 746, 748 and 750 High Road all of which are included on Haringey Council's Register of Local Listed Buildings of Merit. At the north-western corner of the Project Site is the historic terrace known as the Northern Terrace comprising 790-814 High Road, although 790 (Dial House) and 792 are excluded from the application site. The Northern Terrace incorporates seven listed buildings (excluding Dial House and 792 High Road which are also listed). Three of these – 796 (Percy House), 808 and 810 High Road are listed at Grade II* and four at Grade II. No.804-806 High Road and 814 High Road are not statutorily listed but overall make a positive contribution to the character and appearance of the North Tottenham Conservation Area. No.814 is included on Haringey Council's local list.

It is considered that the demolition of the three locally listed buildings on the Project Site at 746, 748 and 750 High Road and their replacement with the proposed Tottenham Experience building would have a moderate beneficial impact on the North Tottenham Conservation Area; while the restoration of Warmington House, a Grade-II listed building would have a major beneficial impact on Warmington House and moderate beneficial impact on the North Tottenham Conservation Area. Overall, the proposed stadium development would have a beneficial impact on the North Tottenham Conservation Area. It would address the High Road in a way that would improve the public realm, provide an active street frontage and, by incorporating a café at its northern end, accord with the scale of the adjoining Northern Terrace at lower levels. The full structure of the stadium would clearly contrast dramatically in terms of scale with the surrounding historic buildings, including the neighbouring Northern Terrace, but on balance would enhance their wider setting resulting in a minor beneficial impact on the Northern Terrace.

The impact on the views across the North Tottenham Conservation Area and on the setting of six conservation areas in the wider area has been assessed using verified views. These show that in a number of views the proposed development would be screened by existing buildings and trees. Where visible, the proposed stadium and hotel would generally have a minor beneficial impact, providing a striking landmark development in views along the High Road with the hotel aligned with and reinforcing the building line. The proposed residential towers would have an adverse impact on the wider setting of the Scotland Green and Bruce Grove Conservation Areas to the south of the Project site when seen in isolation from the proposed stadium and hotel, but this impact would be mitigated by the high-quality design of the towers and their chamfered form. The proposals would also have a minor adverse impact on the wider setting of the Bruce Castle Conservation Area in views east from the northern end of the conservation area from which a large proportion of the proposed development would be visible, contrasting in scale with the lower development that currently forms the setting of this conservation area. This impact would be partly mitigated in the summer months when the trees in the park are in leaf.

The Project, including the renovation and re-use of the Grade-II listed Warmington House and the creation of new buildings that are distinguished architecturally, would provide a beneficial effect on heritage assets overall that would mitigate the adverse impacts identified above. This beneficial effect would be immediate and long-term. The increase in the economic and social prosperity of the area that would follow the completion of the Project would provide an additional long-term beneficial impact.

Ecology

Detailed ecological survey of the Project Site was undertaken to establish baseline conditions. The Project Site is largely occupied by buildings, bare ground and hard standing with limited areas of amenity grassland and scattered semi-mature/mature trees. Buildings and trees typically provide shelter and breeding opportunities for bats and birds and therefore surveys for both species groups have been completed.

Previous bat transect surveys undertaken by CSa Environmental Planning in 2008 confirmed low levels of bat activity in association with the Project Site and found no evidence to suggest that bats roost at the Site. Update transect surveys undertaken in 2015 again confirmed low levels of activity in association with the site and found no evidence to suggest that bat roost are present on site. Static detector survey carried out in 2015 provided additional evidence of low levels of bat activity on Site, although on three occasions pipistrelle bats were recorded within 30 minutes of sunset. These calls are likely to have been recorded from bats emerging from roosts near to the Project Site. No bat calls were recorded at a time to suggest that any bats were returning to roost on site during either the transect or static detector surveys.

Inspection of all accessible buildings on site in 2015 found no evidence to indicate that bats roost in any of these buildings. Based on the survey findings, the local bat population is not considered to be a Valued Ecological Receptor (VER).

A nesting bird survey undertaken in 2014 recorded kestrel (amber-listed Bird of Conservation Concern) and starling (red-listed Bird of Conservation Concern) nests on site. Both species are well adapted to urban environment and therefore are not considered to be at risk of adverse effects resulting from the Project. Nesting birds are not considered to be a VER as part of this assessment.

Two internationally important wildlife sites (a Ramsar site and a Special Area of Conservation) and two nationally important wildlife site (both Sites of Special Scientific Interest) were identified as VERs, alongside two Sites of Importance for Nature Conservation. No significant effects to any of these sites are anticipated during the construction or occupation phase of the Project.

No mitigation measures are required in relation to any VER and no residual or cumulative effects are anticipated.

A range of roosting/nesting features will be provided as part of the Project in order to increase the ecological value of the Project Site. These will benefit a range of locally important species including bats, kestrels, starlings, swifts and a range of other bird species commonly found in urban environments.

Surface Water Drainage and Flood Risk

The potential surface water drainage and flood risk effect on the receptors in the surrounding area, namely the Moselle Brook and ground water aquifer have been assessed.

Mitigation measures have been recommended to reduce contamination of the receiving water bodies flood risk.

During the construction phase of the Project, good site practice should be carried out. The Project Site should be kept clean and all runoff from the Project Site should be collected and passed through a settlement tank and/or oil separator as required before discharging at an agreed rate into the Thames Water Sewer or Moselle Brook. Drip trays should be used under all standing plant. The soil affected by a spillage should be removed and sent to a licensed waste site. Water for washing down should also be sent to an approved waste site. Precast concrete units should be used to minimise the use of fresh concrete on the Project Site. When necessary, premix concrete and mortar will be used. During deep excavations, e.g. for the basements, the protective clay layer should be monitored to ensure the aquifer or a path to the aquifer is not exposed. Any existing boreholes should be decommissioned to the satisfaction of the Environment Agency. Existing water utilities should be identified and blocked if they are not to be used in the Project. The Contractor should follow the Environmental Action Plan for the Project Site.

During the operation phase of the Project, the drainage system, SuDS components and pumped outlets should be regularly maintained to ensure their effective operation in a flood event. The new drainage system is designed to store the runoff from a 1:100 year flood event increased for the climate change effect in the underground storage tanks and in the oversized pipes in excess of the agreed discharge rates. Thus ensuring that the Project does not flood and the Project Site does not increase flood risk elsewhere. Back up pumping facilities should be available to ensure the pumped outfalls remain operation. Runoff from the paved areas will be stored separately from the roof runoff. Hydrocarbons and silt should be removed from the runoff from the paved areas before entering the drainage system. The paved areas should be regularly cleaned to remove pollutant.

With these mitigations measures, the effects are shown to be minor or minor neutral.

Ground Conditions and Hydrogeology

The ground conditions and hydrogeology assessment found that the project site has a long industrial history. A risk of ground contamination from arsenic, chromium, lead as well as petroleum products has been identified from past usage and results from the ground investigation. There could be a moderate adverse impact on groundwater and construction workers if these contaminants are encountered during construction and piling into groundwater. If mitigation measures are not adopted. Through the CEMP, risk of contamination of the identified receptors will be minimised.

Townscape and Visual Amenity

The effects of the Project on the townscape character and visual amenity of local people has been assessed in accordance with best practice as set out in the Guidelines for Landscape and Visual Impact Assessment 3rd Edition. The approach was also guided by CABI By Design and Guidance on the Methodology for Multi-Modal Studies (GOMMMS).

The Chapter provides a description of the existing townscape and built features within the Project Site and immediate vicinity. The key characteristics of the local townscape character and how these relate to the Site are assessed and the contribution that these features have within views. The presence of statutory or local townscape and visually related designations have been considered together with relevant planning policy.

The assessment considers the effect on natural and built features, the perceived change to the character of the 10 local townscape areas and how views would change in relation to a range of visual receptors through some 30 representative viewpoints. A number of fully rendered Accurate Visual Representations (AVRs) have been provided from a number of viewpoints to illustrate the appearance of the Project. In addition a number of wireframes have been produced to appreciate the scale and location of the Project within views.

The effects during the Construction Phase to the Townscape Site Features would occur to existing built form although parts of the site comprise open land following the demolition of buildings related to the existing consented development. The demolition works and the construction of the new buildings would create a major or substantial change to the character of Townscape Character Area (TCA) 1: Stadium and TCA 2: Tottenham High Road and

within views approximately up to 400m from the Project.

The proposed Stadium would involve an additional 6 months construction period compared to the consented Stadium and an additional 8 months for the Southern development. The other main difference would be the additional height of the proposed residential towers. This would include the requirement to utilise much taller cranes to construct the tops of the towers, in particular Tower C. The additional timescale for completion of the construction works would be a relatively small proportion of the overall construction period. The visual disruption resulting from the construction of the towers and requirement to use cranes of much greater height would create an additional adverse effect over a wider area, but would form a short-term temporary effect.

The Project would create substantial and major changes to the site. These would noticeably affect the built features within the site, the character of the townscape within and immediately adjacent to it and for views principally within approximately 400m. The Project would introduce: a substantially larger stadium compared with the existing stadium by occupying much of the site; the provision of a southern mixed used development, incorporating a predominantly residential use; and the addition of an extensive new area of public realm. The Project also incorporates a hotel, an extreme sports building and a north building in the location of the demolished houses on Worcester Avenue. Within close proximity to the site, the Project would result in significant effects to the site's built form, TCA 2: Tottenham High Road, and representative viewpoints: 17 (Northumberland Park and the junction with Worcester Avenue); 21 (Corner of Vicarage Road and Park Lane); 22 (Bromley Road); 24 (Breton Road); 25 (Whitehall Street); 27 (High Road at the junction with White Hart Lane). Changes to the built form, TCA 2, and Viewpoint 21 would be Beneficial, with a Neutral effect on the other views. A small number of townscape and visual effects were assessed as adverse in nature including; TCA8 Bruce Castel Mixed Open Space and Viewpoints, 10 (Tottenham Cemetery), 11 and 12 (Bruce Castle Park). However, the level of these effects were considered no greater than Moderate.

Further from the site the effects would dissipate with distance. In relation to townscape character areas other than TCA 1 and TCA2, the changes from the Project would largely be understood as occurring beyond and separate from the character area and would thereby retain the existing continuity and integrity of the townscape, whilst introducing a new focal feature to some streetscapes. The Project would introduce new buildings that are of higher quality, and due to the influence of distance and perspective, would be experienced as being proportionate to the existing features within the view. The most noticeable long distance view that would be effected, would be from Viewpoint 1: Alexandra Palace where there would be a Moderate Beneficial significance of effect.

The stadium would be larger than the consented development in the immediate local context, but the extent of change would not be significantly different. The predominantly oval curving form of the proposed stadium would be retained, but the elevational treatments would be noticeably different. The stadium would present a positive interface with the site boundaries and neighbouring streets which would be a notable improvement over the existing stadium. The balanced mixture of glazing and cladding, with form and pattern varied on different elevations, and the use of varying degrees of perforation within the aluminium panels that express an outer skin would create a sense of lightness. This would also create visual interest and detailing that would help to reduce the building's scale and mass, yet still provide a building with a uniform appearance.

The proposed hotel, extreme sports building and residential towers would constitute a major change to the built form, within the site and surroundings. The introduction of town houses and residential towers on Park Road and Worcester Road would provide a more appropriate townscape character compared with the rear facades of the existing stadium. The large scale of the Project in comparison to neighbouring houses would be clearly evident in close proximity. However, the viewer would be predominantly aware of changes at the street level, where the view would be greatly enhanced by the improved quality of the built form and appearance (e.g. Viewpoint 21).

The proposed public realm works, would contribute a greatly enhanced area of benefit to both fans on match days and to the wider local community and visitors at other times. This would improve legibility and movement, as well as providing dynamic spaces at different levels. The Project would use high quality paved materials, creating areas for interaction, seating and planting, as well as clearly defined areas for the movement of large numbers of people on match days.

The scale and mass of the proposed buildings would be much greater than the existing built character along High Road. This would change the historical context of the street scene, in terms of the scale, form and appearance of the existing buildings that define the character at this part of the route. Nevertheless, the proposals would reflect the evolving character of the High Road, and whilst a major change, would create a significant destination along the High Road, defined by high quality architecture. The proposals also enable a more extensive area of public realm to be created along the High Road, within enhanced public access, movement and legibility, which extends into the adjoining parts of the site.

Overall on balance the Project would create a notable enhancement to the townscape character and views by providing a well-defined and formed built character and public realm, through high quality architecture and materials.

Noise and Vibration

A baseline survey has been undertaken to quantify the noise climate on and around the site both during and in the absence of a football match. These data have been used to inform the assessment.

An assessment of construction noise and vibration has been undertaken. Whilst there are certain works that will generate high noise, and to a lesser extent, vibration levels, these will be mitigated by employing best practicable means.

The noise impact of the stadium has been assessed at the existing dwellings close to the site. The assessment considers noise levels generated during football matches, music concerts (6 no.) and major sporting events, of which a minimum of two will be NFL games (American Football). Noise levels have been predicted for these events and compared against the appropriate criteria. A comparison against the existing noise levels has also been made.

The assessment found that, whilst there will be a slight increase in noise levels during football matches mostly due to increased crowd numbers, this should be insignificant at the existing dwellings. Noise levels during NFL games and music concerts will be slightly higher. The noise levels during these events meet the appropriate criterion at the existing dwellings.

There will also be external fixed plant items such as building services plant. A noise limit has been set at the existing dwellings in accordance with relevant guidance.

The existing and future noise levels have also been predicted and assessed at the proposed residential buildings in the south of the development. Mitigation measures have been recommended to ensure that internal noise levels are suitable for residential use.

Socio-Economics

The Socio-Economic chapter of the Environmental Statement (ES) provides an assessment of the socio-economic effects of the Project and the extent to which these contribute towards planning policy and other relevant legislation. The key areas of potential impact that have been considered as part of this assessment include:

- Economic effects such as employment creation and spending generation;
- Effects arising from the new resident population brought to the Project Site by the new homes proposed (based on an indicative unit mix). This includes increased demand for social infrastructure e.g. schools, primary healthcare, open space and play space.

The Project is assessed in the context of relevant policy as well as against the current socio-economic baseline conditions at the local level and, where appropriate, at the Wider Impact Area (London Boroughs of Haringey and Enfield) and regional level.

The demolition and construction phase of the Project is expected to support around 890 FTEs in mainly manual labour positions during the 4-year construction period (NB – this figure represents a range of people likely to be involved in the construction process including in the supply chain. The number of people on-site at any one time will fluctuate over the construction period). The net effect of the Project during the construction phase against the baseline is considered to provide a minor beneficial impact at local and district level which could be enhanced through employment brokerage schemes. Due to the mobile nature of a construction workforce it is not meaningful to consider this impact at a regional level, and as such the impacts would be negligible at this scale.

The Project comprises commercial and flexible floorspace which could accommodate a range of uses including employment/office, retail, community and/or leisure. Collectively, these uses could generate up to 700 gross FTE jobs in a range of positions. The creation of net additional employment opportunities from the end-use phase of the development is assessed to be a major beneficial effect at the local level, and a moderate beneficial effect within the Wider Impact Area.

The type of employment generated will primarily be in the service sector – in retail, leisure, hospitality and catering. The occupational breakdown of jobs in these sectors is comparable to both the local skill set of residents, but more crucially the sought occupation of current unemployed people. This demonstrates a very good fit between the large number of entry-level jobs in the Project and the types of jobs in demand locally. There is also a high proportion of managerial employment in these sectors, and large employers are keen to train and retain staff, offering opportunities for local residents to gain and keep jobs, and progress to other opportunities in the sector while gaining new skills.

The new resident, visitor and worker population brought to the Project Site have the potential to generate in the region of £40million in spending each year – once the Site is fully occupied and operational. This is assessed to be a major beneficial effect at the local level, and a moderate beneficial in the Wider Impact Area.

The wider economic effects associated with investment, visitor, resident and employee expenditure and GVA generation would lead to an even greater number of indirect employment generation.

The new homes in the indicative scheme are expected to accommodate up to 900 residents on a Site which currently has no resident population. The contribution of these new homes towards housing targets are assessed to be major beneficial at the local level, and minor beneficial in London.

The new resident population is expected to generate demand for social infrastructure such as schools, healthcare, open space, and play space. The number of children likely to live in the development is around 40, across all forms of entry. Given the current and future levels of secondary school provision across the Borough as a whole, the impact of the Project is assessed to be negligible.

The additional primary healthcare (GP) needs of the population forecast would equate to demand for around 0.5 GPs to maintain current levels of provision. The Project includes the provision of a community health facility which will host an NHS health centre including a GP surgery, facilities for other health specialists and represent increased access for new and existing residents. As such, the Project will have a minor beneficial effect on access to healthcare in the local area.

The Project includes provision of areas of open space and play space. Open space provision takes the form of private communal space, semi-private space, public open space, and a significant public square to the south of the stadium. This will be provided within an area comparable in size to Trafalgar Square to the south of the stadium and includes a multi-use games area, high quality landscaping, cafes, dedicated events and community programmes managed by the Tottenham Hotspur Foundation. The impact of the Project on demand for open space is assessed to be a major beneficial effect at the local level, minor beneficial at the borough level and negligible at all other spatial levels.

In the context of open space deficiency outlined in the policy and baseline sections above, this provision of space will bring a major beneficial effect at the local scale. In addition to the amenity benefits provided by the investment in new building, the retained listed buildings and the public realm will also contribute to maximising the economic benefits.

Transport

The assessment considers of transport issues associated with the redevelopment of the Project, located in the northeast of the London Borough of Haringey.

The Project Site is very well served by public transport in the form of buses, rail access and the London underground, with Seven Sisters and Tottenham Hale stations, located to the south of the development, acting as key transport interchanges. This level of provision, coupled with the management plans being promoted through the new stadium, will help to shape the way in which future spectators will choose to travel.

The TfL London Travel Report 2007 presents statistics which indicate that should the bus service provision trends

be projected forwards then the future service provision would be sufficient to meet the proposed demand for bus services to and from Seven Sisters station. However, the Club are committed to providing financial support to TfL in order to bring forward any improvements to bus travel capacity. Furthermore, new stops, changes to bus stop locations, a new diversion route, and junction improvements will all serve to additionally support the increased demand.

The trip generation associated with the regenerated stadium proposals was established using assessments of the local transport capacities, existing transport surveys, match day questionnaires and validated using experience from the recently built Emirates stadium, which has a similar fan base. In addition the effect of improving the onsite facilities is shown to attract and retain spectators, so that they arrive early and remain on site following an event. This reduces the peak demands normally associated with arriving and departing spectators.

The resulting assessments have shown that the improved stadium and associated improved public realm, with support from stewarding and effective management, will be able to disperse spectators much more efficiently than is currently experienced at the existing stadium, such that any High Road diversions could be lifted within 20 minutes of an event ending. Diversions are currently in place for approximately 30 minutes. This is largely the result of away fans being located in the prominent southwest corner of the site. The proposed stadium will see them relocated to the northeast corner and closer to the coach parking.

Assessments of the rail and underground impact have demonstrated that post-event management at the relevant entry points will be required in order to safely regulate access, and a range of proposals have been reported to allow this to be implemented. Improvements to station facilities will also support the increased numbers, as part of which THPCL is proposing to adopt White Hart Lane station and to contribute towards works to Tottenham Hale LUL station.

To provide a robust assessment the capacity assessments have been undertaken with the stadium impact at full capacity, and have shown that the various transport access points are cleared of spectator queuing well within an hour.

The Coach Travel Strategy will identify a package of proposals that, as a longer term goal, will make it conceivable for up to 5% of home supporters to travel by coach, rising over time from the currently proposed 2.5% mode share. This provides a scenario within which many of the impacts on other modes could be reduced.

The concert scenario presents a case whereby the transport network is at the limit of what is likely to be an acceptable outcome in terms of queues and delays. Further mitigation measures are likely to be necessary. The means of improving the reported outcome will be delivered as part of the transport strategy for the license application for any particular event.

Work on the Transport Assessment so far has included both generalised demand forecasting and more detailed mode-by-mode analysis of the capacity of the public transport routes and capability of existing and future networks to carry the increased demand that is expected.

The assessment has demonstrated that with the proposed mitigation measures and transport management plans in place, agreed between the Club, the London Borough of Haringey, and the Metropolitan Police Service, there is sufficient capacity to safely and effectively transport the anticipated spectator demand to and from the stadium.

For the residential elements the analysis indicates that there would be approximately:

- 39 cars entering or leaving the site in the morning peak;
- 37 cars entering or leaving the site in the evening peak; and
- 200 cars entering and 200 cars leaving the Project Site every day (total c.400).

These trips would result in a very modest impact on the surrounding highway network. It is considered that there would be no significant impact on the network.

For the Tottenham Experience, Hotel, Sports Centre and Health Centre, estimates of the number of visitors have been made using relevant comparators. Cautious assumptions for combined trips and allowances for variations on a day to day basis have been incorporated into the analysis. On a busy day it is estimated that the combined visitor attractions would generate 1,655 person trips to and from the local area.

The modal split assumptions/targets are that 10% of the journeys would be cars/taxis with an average occupancy of 2 visitors per trip. Half (50%) of the visitors are assumed to use the local rail services at White Hart Lane and Northumberland Park before walking to the stadium.

A total of 20% of visitors are assumed to use local bus services – in particular the services that connect to the Victoria Line at Seven Sisters station. 5% of visitors are expected to arrive in organised coaches – which would be equivalent to 2-3 coach trips per day. Finally, 5% of visitors will walk or cycle to the visitor attractions. However, it is expected that these figures will change on a day to day basis depending on the activities running at the time.

The numbers of vehicles using the Park Lane/High Road Junction has been forecast, including the trips generated by the new development. The key conclusion is that even with the additional trips from the southern development, the total vehicle flows of up to 1,374 in the peak hour of 0800 - 0900 are less than those previously forecast for a 2016 baseline (1,662 vehicles in the AM peak), without the southern development. This is due to the fact that background traffic flows have decreased significantly over the last few years. Therefore it is not considered that there will be a significant impact on the highway network.

It is therefore concluded that none of these outcomes are likely to cause any significant impacts on with travel capacity in the local transport networks.

Microclimate

A boundary layer wind tunnel study has been carried out by BMT Fluid Mechanics Ltd. (BMT) to assess the wind microclimate for the Project.

The boundary layer wind tunnel study has enabled the pedestrian level wind environment at the Project Site to be quantified and classified in terms of suitability for planned usage, based on the industry standard Lawson criteria for pedestrian comfort and safety.

The study combines measured pedestrian level wind speeds at key areas in and around the site with long-term wind frequency statistics to determine the probability of local wind speeds exceeding comfort and safety thresholds for a range of common pedestrian activities based on the industry standard Lawson criteria. This defines the type of activities for which the wind conditions would be safe and comfortable.

The boundary layer wind tunnel study has assessed the wind microclimate for the proposed development. On the basis of the wind tunnel modelling, the following conclusions have been drawn:

- In the absence of soft landscaping and wind mitigation measures, pedestrian wind conditions are generally considered suitable in terms of pedestrian comfort and/or safety for planned activities. However, several exceptions to this occur both in terms of pedestrian safety and comfort.
- With the introduction of proposed landscaping and wind mitigation, all locations in and around the site are considered suitable in terms of pedestrian safety, throughout the year and for all phases of construction.
- While the majority of locations are considered comfortable for the intended use with the introduction of proposed landscaping and wind mitigation, there are some areas that remain unsuitable in terms of pedestrian comfort during the various construction stages and for the completed project.

Daylight, Sunlight and Overshadowing

This assessment of the Proposed Development's potential effect on daylight and sunlight availability to surrounding neighbouring properties as well as the internal daylight conditions, overshadowing, light pollution and solar glare.

The technical assessments have been undertaken using a three-dimensional model of the site and surrounding context and by reference to the BRE guidelines. An assessment has been undertaken against the existing baseline conditions in order to understand whether the Proposed Development will result in any significant effects.

The assessment considers all of the surrounding residential properties as these are considered sensitive in terms of daylight and sunlight within the BRE. In addition, the BRE provide that schools may also be considered sensitive in daylight terms and therefore these have also been assessed.

To assess the surrounding existing properties, the BRE Guidelines provide two main methods for assessing daylight: 'Vertical Sky Component' (VSC) and 'No Sky Line' (NSL). The VSC method measures the amount of light available on a vertical wall or window following the introduction of barriers such as buildings. The NSL method is a measure of the distribution of daylight at the 'working plane' within a room (i.e. a horizontal 'desktop' plane of 0.85 metres (m) in height). The NSL divides those areas of working plane in a room which receive direct sky light through the windows from those areas of the working plane which cannot. Where all of the windows meet the VSC and all of the rooms meet the NSL criteria within a property the effect is considered to be negligible.

For the assessment of sunlight, the approach considers the 'Annual Probable Sunlight Hours' (APSH) for a reference point on a window (i.e. if a window point can receive at least 25% APSH, then the room should still receive enough sunlight). Windows are checked if see if they are facing 90° due south, with the emphasis on main living rooms and other rooms such as the kitchen and bedrooms being is less importance.

In regards to daylight, 954 (60%) of the 1589 windows assessed will meet the BRE guidelines for VSC compared to 66% in the baseline whereas 696 (76%) out of the 917 rooms assessed will meet the criteria for NSL compared to 84% in the baseline. The likely residual effects of the completed Development would remain the same as the potential effects. 76 properties will experience a negligible effect whereas the remaining 71 properties will experience adverse effects ranging from minor adverse with instances of moderate to major adverse. However, as the room uses for these properties are unknown there is a possibility that many of the windows/rooms expected to experience significant adverse impacts could serve/be bedrooms which are considered less sensitive to daylight conditions and sunlight than living rooms. There is also a possibility that a number of the windows/rooms assessed could also serve/be bathrooms, circulation space, ancillary rooms or commercial which are not considered relevant for assessment for daylight and sunlight as per the BRE.

In addition, given that these properties are within a dense, urban environment, the current levels of daylight cannot be expected to be maintained. This low level of expectation with regard to daylight levels being maintained must be emphasised regarding the aspirations to regenerate the area and the demand for new development in Tottenham.

In regards to sunlight, 432 (85%) out of the 508 windows assessed will meet the BRE guidelines for APSH compared to 96% in the baseline. The likely residual effects would be negligible for 60 properties whereas the remaining 24 properties will experience adverse impacts ranging from minor to moderate adverse. The moderate adverse effect is predicted for the residential terraced properties 11 and 15-41 Worcester Avenue as a result of the close proximity of the properties to the site. As with daylight, the high levels of existing sunlight cannot be expected to be maintained given the aspirations to regenerate the site and surrounding area.

In regards to overshadowing, all of the amenity spaces assessed for sun hours on ground will meet the BRE guidelines and therefore there is a negligible effect. For transient overshadowing, there will be an increase in the levels of shadow cast over the surrounding area and amenity spaces although this is not likely to be significantly adverse.

For light pollution, the qualitative assessment concludes that it is unlikely that any significant adverse effects will occur.

In regards to solar glare the majority of the viewpoints will experience negligible to minor adverse effects. The instances of reflection identified will likely be brief in nature and do not obstruct a driver's line of sight or a view of any traffic signals.

In regards to the potential for daylight within the scheme the assessment concludes that the proposed illustrative massing will provide very good daylight potential overall which in turn has the potential to deliver accommodation which sees good levels of daylight indoors.

Electronic Interference

This assessment presents an assessment of the effect of the Project on television reception (both terrestrial and satellite), mobile telephones, wireless networks and emergency services communication signals.

The reception of mobile telephone signals, wireless networks and emergency service communications should not be compromised unless their transmitting aerials are sited on top of nearby buildings at heights less than those of the proposed development. No such aerials were noted from a search of the Office of Communications (Ofcom) database and a visual inspection around the area during the site visit. As such it is considered unlikely that there will be any impact on this receptor and this issue is therefore not considered further.

Digital terrestrial TV signals are provided three transmitters; the Crystal Palace transmitter, located approximately 20.1 kilometres (km) south of the site, the Alexandra Palace transmitter that is located about 4.5km away to the west and the Edmonton transmitter that is located 2.4km to the north. The on-site survey of the housing in the predicted TV shadow areas identified that the buildings are a mix of two storey dwellings and blocks of flats ranging from 5 to 20 storeys.

The likely effect on TV reception during the construction phase will steadily increase in magnitude as the superstructure of the proposed new buildings are built and then clad. As the superstructures and cladding are progressed, the predicted effects will be a subset of those of the completed development. The magnitude of the effects will therefore be less than the likely effects of the completed development, as construction will increase the extent of the massing of the proposed development over time. Therefore, the effects of the completed development provide a worst-case scenario.

The Project is predicted to cast three terrestrial TV shadows; one for each of the transmitters. The shadow to the north contains 39 Crystal Palace aerials that appear to be depending solely on those signals (they don't have satellite dishes as well) and therefore would potentially be at risk of losing their TV service. There is also one viewer of Alexandra Palace signals in the eastern shadow that is similarly at risk. Suitable mitigation would include increasing the height and gain of the terrestrial aerials or providing a non-subscription satellite service such as 'Freesat' or the 'Sky' equivalent. Following mitigation it is predicted that there will be no residual effects.

The Project is predicted to cast a small satellite TV shadow up to 100m to the north-west. There are 11 domestic satellite dishes within this shadow. Mitigation would include raising the dishes on 2m poles or resiting them onto parts of the properties that are outside of the shadow. Following mitigation it is predicted that there will be no residual effects.

Conclusion

The conclusions of the Environmental Impact Assessment are set out at the end of this Non-Technical Summary.

EIA Environmental Statement

Volume 1: Non-Technical Summary

Topic	Environmental Effect	Sensitivity of Receptor	Nature of Impact	Impact Magnitude	Significance	Additional Mitigation	Residual Impact Magnitude	Residual Significance of Effect
Construction Effects								
Chapter 6: Air Quality	Construction Dust Impacts	High	Negative	n/a	n/a	A package of mitigation measures	n/a	Neutral
	Construction Traffic Impact – No Local Construction Compound	High	Negative	Very Low	Minor	None	Very Low	Minor
	Construction Traffic Impact – Local Construction Compound	High	Negative	Very Low	Minor	None	Very Low	Minor
Chapter 7: Archaeology	Potential buried archaeological deposits	Low	Negative	Major	Slight/Moderate	None	Slight/moderate	Slight/moderate
	Potential buried archaeological deposits	Low	Negative	Major	Slight/Moderate	WB in west of Area A	Minor	Neutral/slight
	Potential buried archaeological deposits	Low	Negative	Major	Slight/Moderate	WB in west of area B	Minor	Neutral/slight
	Potential buried archaeological deposits	Low	Negative	Moderate/Major	Slight/Moderate	None	Slight/moderate	Slight/moderate
	Potential buried archaeological deposits	Low	Negative	Major	Slight/Moderate	WB in west of area D	Minor	Neutral/slight
	Potential buried archaeological deposits	Low	Negative	Major	Slight/Moderate	None	Slight/moderate	Slight/moderate
Chapter 8: Cultural Heritage	Potential buried archaeological deposits	Medium	Negative	Negligible	Neutral	None if no instructive works take place	Neutral	Neutral
Please see table below: Cultural Heritage has been assessed against a different Significance Criteria								

EIA Environmental Statement

Volume 1: Non-Technical Summary

Chapter 9: Ecology	No Construction Effect Predicated							
Chapter 10: Surface Water Drainage and Flood Risk	Suspended Sediment into Moselle Brook and shallow aquifer	Low	Positive	High	Moderate	Controlled surface water releases; Clean site; Settlement tanks;	Very Low	Minor-neutral
	Oil and hydrocarbons into Moselle Brook and shallow aquifer.	Low	Positive	High	Moderate	Store hydrocarbons in bunded tank in designated area; Valves protected against vandalism; Drip trays for plant; Oil separators prior to discharge; Emergency Spillage action plan in place.	Very Low	Minor-neutral
	Concrete and cement products in to Moselle Brook and shallow aquifer	Low	Positive	High	Moderate	Pre-mix and delivered from off-site source; Designated impermeable areas; Water for washing down will be tankered to licensed waste operator; Use of precast concrete units.	Very Low	Minor-neutral
	Contaminated Land affecting Moselle Brook and shallow aquifer.	Low	Positive	High	Moderate	Regular monitoring; If discovered, stop work, treat contaminated soil; or remove off site to licensed Waste operator.	Very Low	Minor-neutral
	Physical Disturbance to chalk aquifer	High	Positive	High	Moderate	Monitoring to ensure confining impermeable clay layer, approx. 10m thick, to the chalk aquifer remains intact.	Very Low	Minor
	Preferential pathways to surface water drainage system and shallow aquifer	Low	Positive	High	Moderate	Decommissioning of Boreholes to satisfaction of EA; Dewatering of excavations to approved repository; All existing utilities will be identified and marked prior to work commencing; any damage to the drainage network will be immediately repaired.	Very Low	Minor-neutral
	Flood Risk to surrounding area	High	Positive	High	Moderate	The discharge rates into Moselle Brook and Thames Water Sewers will be regulated to an agreed rate ensuring no increase in flood risk.	Very Low	Minor
Chapter 11: Ground Conditions and Hydrogeology	Direct contact with contaminants in the Made Ground and potential contaminated soil during site development	High	Negative	Medium	Moderate	Appropriate use of personal protective equipment (PPE) and safe working procedures. Construction workers should remain vigilant of ground conditions at all times and should report any suspect areas of potential contamination.	Very Low	Minor

EIA Environmental Statement

Volume 1: Non-Technical Summary

Health impacts from inhalation and ingestion of contaminated dust particles Impacts to adjacent flora from exposure to phytotoxic contaminated dust particles Gas migration/accumulation	High	Negative	Medium	Moderate	During both demolition and construction phases of work, dust suppression measures will be employed by the contractor when necessary to prevent the potential generation of contaminated dust particles and migration off site.	Very Low	Minor
	High	Negative	Medium	Moderate	Site investigation data suggests there is potential for exposure to low levels of CO2 in any confined spaces in the northern development area. There is limited potential for accumulation to hazardous concentrations due to consistently low flow rates and the nature/extent of Made Ground. Historical site investigation data (Soiltechnics) suggests there is potential for exposure to moderate levels of CO2 and CH4 in the stadium development area. Further investigation in this area will be carried out prior to development. Appropriate use of PPE and safe working procedures in any below ground/confined space work.	Very Low	Minor
	Medium	Negative	Medium	Moderate	Excavation associated with basement carpark, infrastructure and pile caps so stockpiling of soil is likely. Where excavation of grossly contaminated soils (if encountered) is required (as part of remedial measures) stockpiling of this material will be avoided if possible. Stockpiles will be covered when not in use and placed on impermeable sheeting/hardstanding. Pollution control measures will be implemented by the contractor where required and spillage containment will be present on site at all times. Development of a foundation works risk assessment and the adoption of appropriate	Low	Minor
Degradation of Minor Aquifer and River Mousell via increased leaching and mobilisation of contaminants	Medium	Negative	Medium	Moderate		Low	Minor
Degradation of Minor Aquifer via	Medium	Negative	Medium	Moderate		Low	Minor

EIA Environmental Statement

Volume 1: Non-Technical Summary

Chapter 12: Townscape and Visual	creation of temporary preferential pathway or driving of solid contaminants into the underlying aquifer during piling.	Medium	Negative	Medium		piling methods/design to mitigate risk. The impact to the Chalk Major Aquifer from piling has not been assessed. This is because piles will not breach the Lambeth Group, the nature and extent of expected contamination, and the depth of the Major Aquifer. There is therefore no requirement for a Foundations Work Risk Assessment as outlined in NGWCLC Report NC/99/73.	Very Low	Minor
	Degradation of Minor Aquifer and River Mousell via fuel and chemical spills.				Moderate	Control measures will be implemented by the contractor on re-fuelling activities, storage of fuels and chemicals and vehicle movements and parking. Spill response measures will be implemented by the contractor and spillage containment will be present onsite at all times.		
Please see table below: Townscape and Visual Residual Effects								
Chapter 13: Noise and Vibration	Construction noise (worst-case assessment)							
	Worcester Avenue (dwellings)	High	Negative	Negligible to moderate	Neutral to moderate	Implementation of a CEMP Application of the principle of Best Means	Negligible to moderate	Neutral to moderate
	Worcester Avenue (schools)	High	Negative	Moderate to major	Moderate to major	Implementation of a CEMP Application of the principle of Best Means	Moderate to major	Moderate to major
	Park Lane	High	Negative	Negligible to major	Neutral to major	Implementation of a CEMP Application of the principle of Best Means	Negligible to major	Neutral to major
	High Road	High	Negative	Negligible to major	Neutral to major	Implementation of a CEMP Application of the principle of Best Means	Negligible to major	Neutral to major
	Construction noise (average-case assessment)							
	Worcester Avenue (dwellings)	High	Negative	Negligible to moderate	Neutral to moderate	Implementation of a CEMP Application of the principle of Best Means	Negligible to moderate	Neutral to moderate
	Worcester Avenue (schools)	High	Negative	Moderate to major	Moderate to major	Implementation of a CEMP Application of the principle of Best Means	Moderate to major	Moderate to major

EIA Environmental Statement

Volume 1: Non-Technical Summary

	Park Lane	High	Negative	Negligible to major	Neutral to major	Implementation of a CEMP Application of the principle of Best Practicable Means	Negligible to major	Neutral to major
	High Road	High	Negative	Negligible to major	Neutral to major	Implementation of a CEMP Application of the principle of Best Practicable Means	Negligible to major	Neutral to major
	Construction vibration							
	Worcester Avenue (dwellings)	High	Negative	Negligible to moderate	Neutral to moderate	Implementation of a CEMP Application of the principle of Best Practicable Means	Negligible to moderate	Neutral to moderate
	Worcester Avenue (schools)	High	Negative	Moderate to major	Moderate to major	Implementation of a CEMP	Moderate to major	Moderate to major
	Park Lane	High	Negative	Negligible to major	Neutral to major	Application of the principle of Best Practicable Means	Negligible to major	Neutral to major
	High Road	High	Negative	Negligible to major	Neutral to major	Implementation of a CEMP	Negligible to major	Neutral to major
Chapter 14: Socio Economics	Employment generation	Medium	Beneficial	Low	Minor (local) Negligible (regional)	None required	Low	Minor (local) Neutral (regional)
Chapter 15: Transport	Excavation activity, site preparation, piling and foundations - HGV Impact on highway network	Low	Negative	Low	Minor	Routing and scheduling of construction HGVs and delivery times	Very Low	Minor - Neutral
	Construction of stadium - HGV Impact on highway network	Low	Negative	Medium	Minor	Routing and scheduling of HGVs and delivery times Use of construction compound near White Hart Lane Stations	Very Low	Minor - Neutral
	Construction of southern area uses - HGV Impact on highway network	Low	Negative	Very Low	Neutral	Routing and scheduling of construction HGVs and delivery times	Very Low	Minor - Neutral
Chapter 16: Microclimate	Wind effect on construction site	Medium	Negligible	Neutral	Neutral	None	Negligible	Neutral
Chapter 17: Daylight, Sunlight and Overshadowing	Please see table below: Daylight, Sunlight and Overshadowing Residual Impact Summary							

EIA Environmental Statement

Volume 1: Non-Technical Summary

Operational Effects									
Chapter 6: Air Quality	Operation Traffic Impact in 2018 – Nitrogen Dioxide	High	Negative	Very Low	Minor	None	Very Low	Minor	
	Operation Traffic Impact in 2018 – PM	High	Negative	Negligible	Neutral	None	Negligible	Neutral	
	Combined Energy Plant and Operational traffic Impact in 2021 – Nitrogen Dioxide	High	Negative	Low	Moderate	None	Low	Moderate	
	Combined Energy Plant and Operational traffic Impact in 2021 – PM	High	Negative	Low	Moderate	Onsite generators with lower emission limits	Very Low	Minor	
	No Operational Effects Predicated								
Chapter 7: Archaeology									
Chapter 8: Cultural Heritage	Please see table below: Cultural Heritage has been assessed against a different Significance Criteria								
Chapter 9: Ecology	No Operational Effects Predicated								
Chapter 10: Surface Water Drainage and Flood Risk	Leaks, spillage, application of fertilisers and pesticides – risk of contaminating surface water	Low	Positive	High	Moderate	Emergency spill response; Vehicle speed limits; Management plan for use of fertilisers etc.	Very Low	Minor-neutral	
	Contamination for insitu materials.	Low	Positive	High	Moderate	Building above damp-proof course hence isolated from underground strata and groundwater; New drainage will be constructed to meet Building Regulations Part H.	Very Low	Minor-neutral	

EIA Environmental Statement

Volume 1: Non-Technical Summary

	Flood risk to surrounding area	High	Positive	High	Moderate	The Project does not increase the impermeable area; The discharge from the Project will be attenuated by storage tanks and discharged at agreed rates; Design is for the 1:100 year plus climate change event to be stored in the underground storage tanks and oversized pipe in excess of the agreed discharge rate. The drainage system will be regularly maintained and back up pumps will be available.	Very Low	Minor
	Flood risk to the Project Site	Low	Positive	High	Moderate		Very Low	Minor-neutral
Chapter 11: Ground Conditions and Hydrogeology	No Operational Effects Predicated							
Chapter 12: Townscape and Visual	Please see table below: Townscape and Visual Residual Effects							
Chapter 13: Noise and Vibration	Operational road traffic noise							
	Park Lane	High	Negative	Minor	Minor	None	Minor	Minor
	Worcester Road	High	Negative	Minor	Minor	None	Minor	Minor
	Match day noise							
	Worcester Avenue (dwellings)	High	Negative	Minor major	Minor to major	None	Minor to major	Minor to major
	Worcester Avenue (schools)	High	Negative	Minor major	Minor to major	None	Minor to major	Minor to major
	Park Lane	High	Positive	Major	Major	None	Major	Major
	High Road	High	Negative	Negligible to minor	Neutral to minor	None	Negligible to minor	Neutral to minor
	Music concert noise							
	Worcester Avenue (dwellings)	High	Negative	Negligible to minor	Neutral to minor	None	Negligible to minor	Neutral to minor
Worcester Avenue (schools)	High	Negative	Negligible to minor	Neutral to minor	None	Negligible to minor	Neutral to minor	
Park Lane	High	Negative	Negligible to minor	Neutral to minor	None	Negligible to minor	Neutral to minor	
High Road	High	Negative	Negligible to minor	Neutral to minor	None	Negligible to minor	Neutral to minor	
NFL noise								

EIA Environmental Statement

Volume 1: Non-Technical Summary

	Worcester Avenue (dwellings)	High	Negative	Negligible to minor	Neutral to minor	None		Negligible to minor	Neutral to minor
	Worcester Avenue (schools)	High	Negative	Negligible to minor	Neutral to minor	None		Negligible to minor	Neutral to minor
	Park Lane	High	Negative	Negligible to minor	Neutral to minor	None		Negligible to minor	Neutral to minor
	High Road	High	Negative	Negligible to minor	Neutral to minor	None		Negligible to minor	Neutral to minor
	External fixed plant noise								
	No specific receptors assessed.	High	Negative	Not assessed but potentially major	Not assessed but potentially major	Mitigation to be considered at the detailed design stage to ensure all relevant noise sources meet the noise limits in Table 13. 19.		Negligible	Negligible
Chapter 14: Socio Economics	Gross Direct Employment	Medium	Beneficial	Medium/High	Major (local) Moderate (Wider Impact Area)	None required		Medium/High	Major (local) Moderate (Wider Impact Area)
	Visitors & Spending	Medium	Beneficial	Medium/High	Major (local) Moderate (Wider Impact Area)	None required		Medium/High	Major (local) Moderate (Wider Impact Area)
	Provision of new homes	Medium	Beneficial	Medium/High	Major (local) and Wider Impact Area Minor (regional)	None required		Medium/High	Major (local) Moderate (Wider Impact Area)
	Healthcare requirements (including delivery of Community Medical Centre Education	Medium	Beneficial	Low	Minor (local)	None required		Low	Minor (local)
	Open Space and Public Realm including provision of plaza and improvements to public realm	Low	Neutral	Low	Neutral	None required		Low	Negligible
		Medium	Beneficial	Medium	Major (local)	None required		Medium	Major (local)

EIA Environmental Statement

Volume 1: Non-Technical Summary

	Play space provision	Low	Beneficial	Low	Minor (local)	None required	Low	Minor (local)
Chapter 15: Transport	Sport and recreation	Medium	Beneficial	Medium	Moderate (local)	None required	Medium	Moderate (local)
	Crime and Safety	High	Beneficial	Medium	Major (local)	None required	Medium	Major (local)
	Cumulative additional trips on the highway network. Local roads around the project site eg Park Lane (non-event day)	Low	Negative	Low	Minor	Local traffic flows much lower. Local traffic congestion reduced by northern development highway improvements. New CPZ implemented by LBH. Major scheme to remove Tottenham Hale Gyratory.	Low	Minor
	Cumulative additional trips on rest of the highway network (non-event day)	Very Low	Negligible	Negligible	Neutral	Local traffic flows much lower. Local traffic congestion reduced by northern development highway improvements. New CPZ implemented by LBH. Major scheme to remove Tottenham Hale Gyratory.	Negligible	Neutral
	Additional passengers on rail services, Underground services and bus services (non-event day)	Low	Negligible	Negligible	Neutral	Once completed service enhancements and station upgrades will improve the passenger experience. Improvements at Seven Sisters interchange. New bus station at Tottenham Hale. New Victoria Line timetable with increased frequency. New Tottenham Hale railway station, new Overground rolling stock. Upgrades to pedestrian environment along the High Road. Reconfiguration of footways along the High Road.	Medium positive	Minor positive
	Pedestrians along the High Road. Additional pedestrians on non-event days	Medium	Negative	Low	Minor		Very Low	Minor
	Event Day Road Closures	Low	Negative	Medium	Minor	Time that Road closures are in operation on event days will be reduced.	Negligible	Neutral
	Additional queues at rail stations and Underground stations event days. Impact on background users.	Medium	Negative	Medium	Moderate	Better pedestrian routes to public transport facilities Station Management Plans in operation Enhanced transport services and station improvements eg Seven Sisters Interchange. Event day CPZ has been extended.	Low	Minor

EIA Environmental Statement

Volume 1: Non-Technical Summary

										New Victoria Line timetable with increased frequency. New Tottenham Hale railway station, new Overground rolling stock, new shuttle bus services. Upgrades to pedestrian environment along the High Road.		
Chapter 16: Microclimate	Operational Effects – Opening Day Scenario											
	Exceedance of safety criteria	High	Negative	High		Major		landscaping, screens/signs & hoarding	Negligible	Neutral		
	Wind effect on thoroughfares	High	Negative	Medium		Moderate		landscaping, screens/signs & hoarding	Low	Moderate		
	Wind effect on entrances	High	Negative	Medium		Moderate		side screens	Negligible	Neutral		
	Wind effect on recreational spaces	High	Negligible	Neutral		Neutral		None	Negligible	Neutral		
	Wind effect on outdoor seating	High	Negative	Medium		Moderate		hoarding	Negligible	Neutral		
	Operational Effects – Completed Podium											
	Exceedance of safety criteria	High	Negligible	-		-		As per Opening Day Scenario with the addition of further landscaping to the southern podium area	Negligible	Neutral		
	Wind effect on thoroughfares	High	Negligible	-		-			Negligible	Neutral		
	Wind effect on entrances	High	Negligible	-		-			Negligible	Neutral		
	Wind effect on recreational spaces	High	Negligible	-		-			Negligible	Neutral		
	Wind effect on outdoor seating	High	Negligible	-		-			Negligible	Neutral		
	Operational Effects – Completed Hotel											
	Exceedance of safety criteria	High	Negligible	-		-		As per Completed Podium	Negligible	Neutral		
	Wind effect on thoroughfares	High	Negative	-		-			Low	Moderate		
	Wind effect on entrances	High	Negligible	-		-			Low	Moderate		
	Wind effect on recreational spaces	High	Negative	-		-			Low	Moderate		
	Wind effect on outdoor seating	High	Negative	-		-			Medium	Moderate		
	Operational Effects – Completed Project											

EIA Environmental Statement

Volume 1: Non-Technical Summary

Chapter 17: Daylight, Sunlight and Overshadowing	Exceedance of safety criteria	High	Negative	High	Major	Landscaping & screens	Negligible	Neutral
	Wind effect on thoroughfares	High	Negligible	Neutral	Neutral	None	Negligible	Neutral
	Wind effect on entrances	High	Negative	Medium	Moderate	side screens	Negligible	Neutral
	Wind effect on recreational spaces	High	Negative	Medium	Moderate	Landscaping & balustrades	Low	Moderate
	Wind effect on outdoor seating	High	Negligible	-	-	None	Negligible	Neutral
	Wind effect on balconies	High	Negative	-	-	Landscaping & parapets	Low	Moderate
Please see table below: <i>Daylight, Sunlight and Overshadowing Residual Impact Summary</i>								

EIA Environmental Statement

Volume 1: Non-Technical Summary

Cultural Heritage Residual Effects

Heritage Asset	Description of Potential Impact/Description of View Location	Residual Impact
Warmington House, Grade-II listed building	Restoration and re-use of Warmington House as part of the proposed Tottenham Experience Museum	Major Beneficial
Northern Terrace, Grade-II and Grade-II* listed buildings	Construction of the proposed development within the wider setting of the listed terrace	Minor Beneficial
North Tottenham Conservation Area	Demolition and replacement of three locally listed buildings in the conservation area with new buildings forming the proposed Tottenham Experience	Moderate Beneficial
	Restoration and re-use of Warmington House and construction of the proposed Tottenham Experience building in the conservation area	Moderate Beneficial
	Construction of new stadium in, and within the setting of, the conservation area	Moderate Beneficial
	Construction of hotel within the setting of the conservation area	Minor Beneficial
	Construction of four residential towers within the setting of the conservation area	Negligible
North Tottenham Conservation Area, Views Assessment:	Construction of Extreme Sports Centre within the setting of the conservation area	Negligible
	<i>Impact of proposed development on views within the conservation area (view locations described below):</i>	
	View 15	West side of the High Road at the junction with Lordship Lane
	View 16	West side of the High Road opposite the junction with Northumberland Park
	View 23	West side of the High Road, at junction with Cedar Road
	View 26	White Hart Lane
	View 27	West side of the High Road, at the junction with White Hart Lane
	View 31	South side of Church Road, looking northeast
	View 32	West side of the High Road, at the junction with Ruskin Road
		Minor Beneficial

EIA Environmental Statement

Volume 1: Non-Technical Summary



View 33	West side of the High Road opposite, and just north of junction with Bromley Road	Moderate Beneficial
View 34	West side of the High Road, just north of junction with Hampden lane	Minor Beneficial
Alexandra Palace and Park Conservation Area: View 1	Impact of proposed development on wider setting of conservation area.	Major Beneficial
Tottenham Cemetery Conservation Area: View 10	Impact of proposed development on wider setting of conservation area.	Negligible
Bruce Castle Conservation Area:	Impact of proposed development on wider setting of conservation area (view locations described below):	
View 11	Bruce Castle Conservation Area, north-western edge of Bruce Castle Park	Moderate Adverse
View 12	Bruce Castle Conservation Area, southern end of Bruce Castle Park	Negligible
View 35	Bruce Castle Conservation Area, Bruce Grove adjoining Edmansons Close	Negligible
Tottenham Green Conservation Area: View 13	Impact of proposed development on wider setting of conservation area	Minor Beneficial
Scotland Green Conservation Area: View 36	Impact of proposed development on wider setting of conservation area	Minor Adverse
Bruce Grove Conservation Area: View 37	Impact of proposed development on wider setting of conservation area	Minor Adverse

EIA Environmental Statement

Volume 1: Non-Technical Summary

Townscape and Visual Residual Effects

Location	Sensitivity			Magnitude (Construction)				Significance of Effect (Construction)	Magnitude (Year 1 - Winter)				Significance of Effect (Year 1 - Winter)	Magnitude				Significance of Effect (Year 15 - summer)
	Value	Susceptibility	Overall Sensitivity	Size / Scale of Change	Geographical Influence	Duration and Reversibility	Overall Magnitude		Size / Scale of Change	Geographical Influence	Duration and Reversibility	Overall Magnitude						
Effects on Townscape Site Features																		
Landform	Low	Medium	Low	Negligible	Medium	High	Low Adverse	Minor Adverse	Negligible	Medium	High	Low Adverse	Minor Adverse	Negligible	Medium	High	Low Adverse	Minor Adverse
Vegetation	Medium	Medium	Medium	Low	Medium	High	Low Adverse	Minor Adverse	Low	Medium	High	Low Beneficial	Minor Beneficial	Medium	Medium	High	Medium Beneficial	Moderate Beneficial
Built Form	Medium	High	Medium	Very High	Very High	High	Very High Adverse	Major Adverse	Very High	Very High	High	High Beneficial	Major Beneficial	Very High	Very High	High	Major Beneficial	Major Beneficial
Free Standing Built Structures	Medium	Medium	Medium	Low	Low	High	Low Adverse	Minor Adverse	Low	Low	High	Low Beneficial	Minor Beneficial	Low	Low	High	Low Beneficial	Minor Beneficial
Land Use	Medium	High	Medium	Medium	High	High	Medium Adverse	Moderate Adverse	Medium	High	High	Medium Beneficial	Moderate Beneficial	Medium	High	High	Medium Beneficial	Moderate Beneficial
Public Access	Medium	High	Medium	Medium	High	High	Medium Beneficial	Moderate Adverse	Medium	High	High	Medium Beneficial	Moderate Beneficial	Medium	High	High	Medium Beneficial	Moderate Beneficial
Effects on Surrounding Area																		
1: THFC Stadium	Low	Low	Very Low	Very High	Very High	Low	Very High Neutral	Moderate Neutral	Very High	Very High	High	Very High Beneficial	Moderate Beneficial	Very High	Very High	High	Very High Beneficial	Moderate Beneficial
2: Tottenham High Road	High	High	High	High	High	Low	High Adverse	Major Adverse	High	High	High	High Beneficial	Major Beneficial	High	High	High	Major Beneficial	High Beneficial
3: North Tottenham Low Level Industrial Estates	Low	Low	Very Low	Medium	Low	Low	Medium Adverse	Minor Adverse	Medium	Low	High	Medium Beneficial	Minor Beneficial	Medium	Low	High	Medium Beneficial	Minor Beneficial
4: East Tottenham	Medium	Low	Low	High	High	Low	High Adverse	Moderate Adverse	High	High	High	High Beneficial	Moderate Beneficial	High	High	High	High Beneficial	Moderate Beneficial

EIA Environmental Statement

Volume 1: Non-Technical Summary

Large Scale Residential	Medium	Medium	Medium	Low	Low	Low	Medium Adverse	Medium Adverse	Medium	High	Medium Beneficial	Moderate Beneficial	Medium Beneficial	High	Low	Medium	Moderate Beneficial
5: East Tottenham Linear Residential	Medium	Medium	Medium	Low	Low	Low	Medium Adverse	Medium Adverse	Medium	High	Medium Beneficial	Moderate Beneficial	Medium Beneficial	High	Low	Medium	Moderate Beneficial
6: East Tottenham Mixed Linear Residential	Medium	Medium	Medium	Low	Medium	Low	Medium Adverse	Medium Adverse	Medium	High	Medium Neutral	Moderate Neutral	Medium Neutral	High	Medium	Medium	Moderate Neutral
7: Northumberland Park Discordant Residential	Low	Medium	Medium	Low	Medium	Low	Medium Adverse	Minor Adverse	Medium	High	Medium Beneficial	Minor Beneficial	Medium Beneficial	High	Medium	Medium	Minor Beneficial
8: Bruce Castle Mixed Open Space	High	Very High	Medium	High	Low	Low	Medium Adverse	Moderate Adverse	Medium	High	Medium Adverse	Moderate Adverse	Medium Adverse	High	Low	Medium	Moderate Adverse
9: Lee Valley Large Scale Industrial	Low	Low	Very Low	Low	Low	Low	Very Low Adverse	Negligible Adverse	Very Low	High	Very Low Beneficial	Negligible Beneficial	Very Low Beneficial	High	Low	Very Low	Negligible Beneficial
10: West Tottenham Large Scale Mixed Development	Low	Medium	Very Low	Low	Very Low	Low	Very Low Adverse	Negligible Adverse	Very Low	High	Very Low Beneficial	Negligible Beneficial	Very Low Beneficial	High	Very Low	Very Low	Negligible Beneficial
1. Alexandra Palace	High	High	High	High	Low	Low	Medium Adverse	Moderate Adverse	Medium	High	Medium Beneficial	Moderate Beneficial	Medium Beneficial	High	Low	Medium	Moderate Beneficial
2. Parliament Hill	High	High	High	High	Very Low	Low	No Change	No Change	Very Low	High	Very Low Neutral	Minor Neutral	No Change	High	No Change	No	No Change
3. Royal Observatory, Greenwich Park	High	High	High	High	No Change	Low	No Change	No Change	No	High	No Change	No Change	No Change	High	No Change	No	No Change
4. Intersection of Lordship Lane and High Road, Wood Green	Medium	High	High	High	No Change	Low	No Change	No Change	No	High	No Change	No Change	No Change	High	No Change	No	No Change

EIA Environmental Statement

Volume 1: Non-Technical Summary

5. Western edge of Lordship Recreation Ground	Medium	High	High	Low	Low	Low	Low	Adverse	Moderate	Low	High	Low	Low	High	Low	Moderate Neutral
6. Forest Lane Bridge Crossing of River Lea	Low	Medium	Low	Low	Low	Low	Low	Adverse	Minor	Low	High	Low	No Change	High	No Change	No Change
7. Public Footpath, Tottenham Marshes	Medium	High	High	Medium	Low	Low	Low	Adverse	Moderate	Medium	High	Medium	Medium	High	Medium	Moderate Neutral
8. Eastern End of Park Lane	Low	Medium	Low	High	Low	Low	Low	Adverse	Moderate	High	High	High	High	High	High	Moderate Neutral
9. Northern End of Fore Street, Upper Edmonton	Low	Medium	Low	Low	Low	Low	Low	Adverse	Minor	Low	High	Low	Low	High	Low	Minor Neutral
10. War Memorial, Tottenham Cemetery	Medium	High	High	Low	Low	Low	Low	Adverse	Minor	Low	High	Very Low	Very Low	High	Very Low	Minor Adverse
11. Bruce Castle Park, close to the boundary with Church Lane	Medium	High	High	Medium to High	Low	Low	Low	Adverse	Moderate	Medium to High	High	Medium	Medium to High	High	Medium	Moderate Adverse
12. North-east of Bruce Castle within Bruce Castle Park	Medium	High	High	Very Low	Low	Low	Low	Adverse	Minor	Very Low	High	Low	Very Low	High	Very Low	Minor Adverse
13. High Cross at the Junction of High Road with Monument Way	Medium	Medium	Medium	Low	Low	Low	Low	Adverse	Minor	Low	High	Low	Low	High	Low	Minor Beneficial

EIA Environmental Statement

Volume 1: Non-Technical Summary

14. Hartington Park	Medium	High	High	Low to Medium	Low	Low	Low	Low	Moderate Adverse	Low to Medium	Low	High	Low Neutral	Moderate Neutral	Low Neutral	Moderate Neutral
15. Crossroads of High Road and Lansdowne Road	Medium	Medium	Medium	Low	Low	Low	Medium Adverse	Moderate Adverse	Moderate Adverse	Low	Low	High	Low Beneficial	Minor Beneficial	Low Beneficial	Minor Beneficial
16. Junction with High Road and Northumberland Park	Medium	Medium	Medium	High	Medium	Low	High Adverse	Moderate Adverse	Moderate Adverse	High	Medium	High	High Neutral	Moderate Neutral	High Neutral	Moderate Neutral
17. Northumberland Park at the junction with Worcester Avenue	Medium	High	High	High	High	Low	High Adverse	Major Adverse	Major Adverse	High	High	High	High Neutral	Major Neutral	High Neutral	Major Neutral
18. Trillick Road, Tottenham	Low	Medium	Low	High	High	Low	High Adverse	Moderate Adverse	Moderate Adverse	High	High	High	High Beneficial	Moderate Beneficial	High Beneficial	Moderate Beneficial
19. Almond Road near to Lea Valley School	Low	Medium	Low	High	Medium	Low	High Adverse	Moderate Adverse	Moderate Adverse	High	High	High	High Beneficial	Moderate Beneficial	High Beneficial	Moderate Beneficial
20. Park Lane at the junction with St Paul's Road	Low	Medium	Low	High	High	Low	High Adverse	Moderate Adverse	Moderate Adverse	High	High	High	High Neutral	Moderate Neutral	High Neutral	Moderate Neutral
21. Corner of Vicarage Road and Park Lane, Tottenham	Medium	High	High	Very High	Very High	Low	Very High Adverse	Substantial Adverse	Substantial Adverse	Very High	Very High	High	Very High Beneficial	Substantial Beneficial	Very High Beneficial	Substantial Beneficial

EIA Environmental Statement

Volume 1: Non-Technical Summary

22. Bromley Road	Medium	High	High	Very High	Very High	Low	Very High Adverse	Substantial Adverse	Very High	High	Very High Neutral	Substantial Neutral	Very High	High	Very High Neutral	Substantial Neutral
23. Tottenham High Road at the Junction with Cedar Road	Medium	Medium	Medium	High	High	Low	High Adverse	Moderate Adverse	High	High	High Neutral	Moderate Neutral	High	High	High Neutral	Moderate Neutral
24. Breton Road	Medium	High	High	High	High	Low	High Adverse	Major Adverse	High	High	High Neutral	Major Neutral	High	High	High Neutral	Major Neutral
25. Whitehall Street	Medium	High	High	High	High	Low	High Adverse	Major Adverse	High	High	High Neutral	Major Neutral	High	High	High Neutral	Major Neutral
26. White Hart Lane	Low	Medium	Low	Medium	High	Low	Medium Adverse	Minor Adverse	Medium	High	Medium Beneficial	Minor Beneficial	Low	High	Low Beneficial	Minor Beneficial
27. High Road at the junction with White Hart Lane	Medium	Medium	Medium	Very High	High	Low	High Adverse	Major Adverse	High	High	Very High Neutral	Major Neutral	Very High	High	Very High Neutral	Major Neutral
28. Sandpiper Close, Waltham Forest	Medium	High	High	Low	Low	Low	Low Adverse	Moderate Adverse	Low	High	Low Neutral	Moderate Neutral	Low	High	Low Neutral	Moderate Neutral
29. Church Road	Low	Medium	Low	High	High	Low	High Adverse	Moderate Adverse	High	High	High Beneficial	Moderate Beneficial	High	High	High Beneficial	Moderate Beneficial
30. Finsbury Park	Medium	High	High	No Change	No Change	Low	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change	No Change

EIA Environmental Statement

Volume 1: Non-Technical Summary

Daylight, Sunlight and Overshadowing Residual Effects

Environmental Effect	Potential Effect	Additional Mitigation	Residual Effect
Demolition and Construction Effects			
Daylight, sunlight, sun hours on ground, overshadowing, light pollution and solar glare	As per completed development In terms of light pollution minor adverse effects may occur due to portable lighting units in proximity to residential receptors.	None required Positioning of portable lighting units away from residential receptors.	As per completed development. Negligible
Operational Effects			
Daylight	Negligible to 76 properties with 17 instances of minor adverse, two instances of minor to moderate adverse, three instances of moderate adverse, two instances of moderate to major adverse and two instances of major adverse.	The scheme is fixed and therefore no further mitigation is available.	Negligible to minor adverse with instances of moderate and major adverse effects.
Sunlight	Negligible to 60 properties with six instances of minor adverse and one instance of moderate adverse effects.	The scheme is fixed and therefore no further mitigation is available.	Negligible to minor adverse with instances of moderate adverse effects.
Sun Hours on Ground	Negligible to surrounding amenity areas. Proposed amenity areas will meet the BRE guidelines.	None required	Negligible
Transient Overshadowing	Minor adverse for March and June 21 st and minor to moderate adverse for December 21 st .	None required given the nature of the effects.	Minor adverse with one instance of minor to moderate adverse.
Light Pollution	No significant light pollution effects likely.	None required	No significant light pollution effects likely.
Solar Glare	Negligible for seven viewpoints with one instance of negligible to minor adverse, one instance of minor adverse and one instance of minor to moderate adverse.	None required due to the brief and isolated nature of the effects.	Negligible with instances of minor to moderate adverse.
Internal Daylight to proposed residential towers	The proposed illustrative massing will provide very good daylight potential overall which in turn has the potential to deliver	N/A	The proposed illustrative massing will provide very good daylight potential overall which in turn has

EIA Environmental Statement

Volume 1: Non-Technical Summary



	accommodation which sees good levels of daylight.		the potential to deliver accommodation which sees good levels of daylight.
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EIA Environmental Statement

Volume 1: Non-Technical Summary

Combined Residual Effects

The table below sets out the combined residual effects from multiple disciplines. These potential combined effects have not been quantitatively measured and are based on professional judgement

Combined Residual Effects

Topics	Environmental Effect	Sensitivity of Receptor	Nature of Impact	Impact Magnitude	Significance	Additional Mitigation	Residual Impact Magnitude	Residual Significance of Effect
Cumulative Construction Effects								
Chapter 10: Surface Water Drainage and Flood Risk	There are a number of potential cumulative environmental effects during construction that could affect the Moselle Brook.	High	Negative	Medium	Moderate	A number of appropriate mitigation measures have been set out to mitigate any potential significant adverse impacts on the Moselle Brook. The mitigation set out for both of these topics does not conflict, and the potential impacts do not give rise to any significant adverse effects.	Very Low	Minor
Chapter 11: Ground Conditions and Hydrogeology								
Chapter 10: Surface Water Drainage and Flood Risk	There are a number of potential cumulative environmental effects during construction that could affect the aquifer.	High	Negative	Medium	Moderate	A number of appropriate mitigation measures have been set out to mitigate any potential significant adverse impacts on the Aquifer. The mitigation set out for both of these topics does not conflict, and the potential impacts do not give rise to any significant adverse effects.	Low	Minor
Chapter 11: Ground Conditions and Hydrogeology								
Chapter 6: Air Quality	Construction traffic along High Road may result	High	Negative	Negligible to High	Neutral to Major	Details of measures to protect the environment during the construction of the Project will be set out in a Construction	Negligible to High	Neutral to Major

EIA Environmental Statement

Volume 1: Non-Technical Summary

Chapter 13: Noise and Vibration Chapter 12: Townscape and Visual Chapter 15: Transport	in potential cumulative environmental effects during construction that could affect air quality, noise/vibration and traffic. Additionally, the existing townscape of High Road will be temporarily affected during construction.	Low to High	Negative	Negligible to High	Neutral to Major	Environmental Management Plan (CEMP). Such measures will address hours of working, noise, vibration, dust, light spill, wheel washing and control of run-off. It is anticipated that the implementation of the CEMP will be a condition on the planning permission and it will be regularly monitored. Therefore, no additional mitigation is proposed.	Negligible to High	Neutral to Major
Chapter 6: Air Quality Chapter 13: Noise and Vibration Chapter 12: Townscape and Visual Chapter 15: Transport	Construction traffic along Park Lane may result in potential cumulative environmental effects during construction that could affect air quality, noise/vibration and traffic. Additionally, the existing townscape of High Road will be temporarily affected during	Low to High	Negative	Negligible to High	Neutral to Major	Details of measures to protect the environment during the construction of the Project will be set out in a Construction Environmental Management Plan (CEMP). Such measures will address hours of working, noise, vibration, dust, light spill, wheel washing and control of run-off. It is anticipated that the implementation of the CEMP will be a condition on the planning permission and it will be regularly monitored. Therefore, no additional mitigation is proposed.	Negligible to High	Neutral to Major

EIA Environmental Statement

Volume 1: Non-Technical Summary

	construction.								
Cumulative Operational Effects									
Chapter 8: Cultural Heritage	The existing townscape of Bruce Castle Park may be temporarily affected during construction.	Medium	Negative	Negligible to High	Neutral to Moderate	No additional mitigation.	Negligible to High	Neutral to Moderate	
Chapter 12: Townscape and Visual									
Chapter 6: Air Quality	Cumulative additional trips on the highway network. Local roads around Project Site, e.g. Park Lane.	Medium to High	Negative	Low to Medium	Minor to Moderate	No additional mitigation.	Low to Medium	Minor to Moderate	
Chapter 13: Noise and Vibration									
Chapter 15: Transport	The surrounding road network may be impacted by combined effects from traffic, noise and air quality.								

Environmental Statement

Volume 2: Main Report

Northumberland Development Project

September 2015

Contents

1.	Introduction	1.1
1.2	Background	1.1
1.3	The Current Position	1.2
1.4	Structure of the Environmental Statement	1.2
1.5	Opportunity for Public Consultation	1.3
2.	EIA Regulatory Framework	2.1
2.1	What Is an Environmental Impact Assessment?	2.1
2.2	Screening – Is an EIA Required?	2.2
2.3	Scope of the EIA	2.2
2.4	Community and Statutory Involvement	2.3
2.5	Project Plans and Parameters	2.4
2.6	Impact Assessment Guidance	2.4
2.7	Generic Assessment Framework	2.4
2.8	Initial and Residual Effects	2.6
2.9	EIA Assumptions and Limitations	2.6
3.	Project Site and Setting	3.1
3.1	Project Site Location	3.1
3.2	Project Site Boundary	3.1
3.3	Existing Buildings onsite	3.1
3.4	The Surrounding Area	3.3
3.5	Project Site Accessibility	3.3
3.6	Site History	3.4
3.7	Topography and Geology	3.5
3.8	Land Use Designations	3.5
3.9	The Baseline	3.6
4.	Description of the Project	4.1
4.1	The Need for the Project	4.1
4.2	The Planning Application	4.1
4.3	The Project	4.2
4.4	Sustainability	4.9
4.5	Energy	4.10
4.6	Water	4.10
4.7	Utilities	4.12
4.8	Waste	4.12
4.9	Comparison of Consented and Proposed	4.13
4.10	Alternative Locations and Options	4.14
4.11	Assessment Scenarios	4.16
5.	Construction, Phasing and Implementation	5.1
5.1	Overview	5.1
5.2	Site Preparation Works	5.1
5.3	Construction Programme	5.1
5.4	Construction of the Project	5.4
5.5	Plant and Equipment	5.8

5.6	Construction Environmental Management Plan	5.8
5.7	Construction Site Waste Management Plan	5.9
6.	Air Quality	6.1
6.1	Introduction	6.1
6.2	Assessment Criteria and Methodology	6.2
6.3	Baseline Conditions	6.14
6.4	Inherent Design Mitigation	6.18
6.5	Potential Environmental Impacts and Effects	6.19
6.6	Additional Mitigation, Compensation and Enhancement Measures	6.31
6.7	Assessment Summary and Residual Impacts and Effects	6.33
7.	Archaeology	7.1
7.1	Introduction	7.1
7.2	Assessment Criteria and Methodology	7.1
7.3	Baseline Conditions	7.5
7.4	Inherent Design Mitigation	7.8
7.5	Potential Environmental Impacts and Effects	7.8
7.6	Additional Mitigation, Compensation and Enhancement Measures	7.11
7.7	Assessment Summary and Residual Environmental Impacts and Effects	7.11
8.	Cultural Heritage	8.1
8.1	Introduction	8.1
8.2	Assessment Criteria and Methodology	8.2
8.3	Baseline Conditions	8.16
8.4	Low significance:	8.26
8.5	Inherent Design Mitigation	8.33
8.6	Potential Environmental Impacts and Effects and Additional Mitigation, Compensation and Enhancement Measures	8.34
8.7	Assessment Summary and Residual Environmental Impacts and Effects	8.57
9.	Ecology	9.1
9.1	Introduction	9.1
9.2	Assessment Criteria and Methodology	9.1
9.3	Baseline Conditions	9.12
9.4	Inherent Design Mitigation	9.25
9.5	Potential Environmental Impacts and Effects	9.25
9.6	Additional Mitigation, Compensation and Enhancement Measures	9.26
9.7	Assessment Summary and Residual Environmental Impacts and Effects	9.28
10.	Surface Water Drainage and Flood Risk	10.1
10.1	Introduction	10.1
10.2	Assessment Criteria and Methodology	10.1
10.3	Baseline Conditions	10.9
10.4	Inherent Design Mitigation	10.14
10.5	Potential Environmental Impacts and Effects	10.14
10.6	Additional Mitigation, Compensation and Enhancement Measures	10.19
10.7	Assessment Summary and Residual Environmental Impacts and Effects	10.23
11.	Ground Conditions and Hydrogeology	11.1
11.1	Introduction	11.1

11.2	Assessment Criteria and Methodology	11.1
11.3	Baseline Conditions	11.5
11.4	Inherent Design Mitigation	11.10
11.5	Potential Environmental Impacts and Effects	11.11
11.6	Additional Mitigation, Compensation and Enhancement Measures	11.15
11.7	Assessment Summary and Residual Environmental Impacts and Effects	11.18
12.	Townscape and Visual Amenity	12.1
12.1	Introduction	12.1
12.2	Assessment Criteria and Methodology	12.1
12.3	Baseline Conditions	12.16
12.4	Inherent Design Mitigation	12.22
12.5	Potential Environmental Impacts and Effects	12.23
12.6	Additional Mitigation, Compensation and Enhancement Measures	12.61
12.7	Assessment Summary and Residual Environmental Impacts and Effects	12.62
13.	Noise and Vibration	13.1
13.1	Introduction	13.1
13.2	Assessment Criteria and Methodology	13.1
13.3	Baseline Conditions	13.20
13.4	Inherent Design Mitigation	13.24
13.5	Potential Environmental Impacts and Effects	13.24
13.6	Additional Mitigation, Compensation and Enhancement Measures	13.36
13.7	Assessment Summary and Residual Environmental Impacts and Effects	13.39
14.	Socio-Economics	14.1
14.1	Introduction	14.1
14.2	Assessment Criteria and Methodology	14.1
14.3	Assessment Methodology	14.13
14.4	Baseline Conditions	14.18
14.5	Potential Environmental Impacts and Effects	14.34
14.6	Additional Mitigation, Compensation and Enhancement Measures	14.44
14.7	Assessment Summary and Residual Environmental Impacts and Effects	14.46
15.	Traffic and Transport	15.1
15.1	Introduction	15.1
15.2	Assessment Criteria and Methodology	15.1
15.3	Baseline Conditions	15.2
15.4	Inherent Design Mitigation	15.9
15.5	Potential Environmental Impacts and Effects	15.13
15.6	Additional Mitigation, Compensation and Enhancement Measures	15.38
15.7	Assessment Summary and Residual Environmental Impacts and Effects	15.39
16.	Microclimate	16.1
16.1	Introduction	16.1
16.2	Assessment Criteria and Methodology	16.1
16.3	Baseline Conditions	16.11
16.4	Inherent Design Mitigation	16.11
16.5	Potential Environmental Impacts and Effects and Additional Mitigation, Compensation and Enhancement Measures	16.11

16.6	Assessment Summary and Residual Environmental Impacts and Effects	16.32
17.	Daylight, Sunlight and Overshadowing	17.1
17.1	Introduction	17.1
17.2	Assessment Criteria and Methodology	17.1
17.3	Inherent Design Mitigation	17.23
17.4	Baseline Conditions	17.23
17.5	Potential Environmental Impacts and Effects	17.25
17.6	Additional Mitigation, Compensation and Enhancement Measures	17.50
17.7	Assessment Summary and Residual Environmental Impacts and Effects	17.52
18.	Electronic Interference	18.1
18.1	Introduction	18.1
18.2	Assessment Criteria and Methodology	18.1
18.3	Baseline Conditions	18.4
18.4	Inherent Design Mitigation	18.5
18.5	Potential Environmental Impacts and Effects	18.6
18.6	Additional Mitigation, Compensation and Enhancement Measures	18.7
18.7	Assessment Summary and Residual Environmental Impacts and Effects	18.7
19.	Summary of Residual Effects	19.1

1. Introduction

- 1.1.1 This Environmental Statement forms part of an application for planning permission by Tottenham Athletic Football Club Limited on behalf of Tottenham Hotspur Football Club (collectively known as "the Club") for the following:

"Proposed demolition and comprehensive phased redevelopment for stadium (Class D2) with hotel (Class C1), Tottenham Experience (sui generis), sports centre (Class D2); community (Class D1) and / or offices (Class B1); housing (Class C3); and health centre (Class D1) together with associated facilities including the construction of new and altered roads, footways; public and private open spaces; landscaping and related works. Details of "appearance" and "landscape" are reserved in relation to the residential buildings and associated community and / or office building. Details of "appearance" and "scale" are reserved in relation to the sports centre building. Details of "appearance" are reserved in relation to the health centre building."

- 1.1.2 The above development is referred to hereon after as "The Project".
- 1.1.3 A site plan has been submitted with this statement (Appendix 1.1) showing the location of the Project ("the Project Site"). The Project is known as the Northumberland Development Project (NDP).

1.2 Background

- 1.2.1 In May 2010, the Club submitted a planning application for a new Football Stadium (designed by KSS Architects) together with associated development comprising retail, housing and a hotel (application reference HGY/2010/1000). That application was accompanied by an Environmental Statement ("the May 2010 ES"). In September 2011, the London Borough of Haringey ("the Council") granted planning permission for the application.
- 1.2.2 In December 2011, the Club submitted two separate further applications for planning permission which required addendums to the May 2010 ES. The addendums dealt with Phase 1 the Northern Development (planning application reference HGY/2011/2350, and Addendum No.1) and Phase 3 the Southern Development (planning application reference HGY/2011/2351 and Addendum No. 2). Planning Permission for the revised Southern and Northern applications was granted in March 2012. The Northern Development has since been completed.
- 1.2.3 The revised planning permission for the Southern Development (HGY/2011/2351) was granted in outline and reserved detailed matters relating to design, scale and landscape for approval at a later stage. A reserved matters application for scale was submitted by the Club in March 2015.
- 1.2.4 In April 2015 the Club submitted a minor material amendment application in respect of the original 2011 planning permission under Section 73 of the Town and Country Planning Act 1990. The application sought to incorporate a new basement beneath the proposed Stadium and was approved by the Council in July 2015. Further details of these applications are set out in Chapter 3 of this Statement.

1.3 The Current Position

- 1.3.1 A new planning application has been submitted for the Project. Populous were instructed as architects for the Stadium, Hotel, Tottenham Experience, Extreme Sports Centre, Community Health building and public realm components of the application. Allies and Morrison being appointed to design the residential blocks within the Southern Development. DP9 were appointed to prepare the planning application, with Savills being appointed to prepare and coordinate the Scoping Report and this Environmental Statement.
- 1.3.2 The Plans and Drawings submitted as part of the application for approval (and those for illustrative purposes only) have been appended to this report (Appendix 1.1).
- 1.3.3 The specialist consultant team that were appointed to undertake the assessments for this EIA comprised the following:
- Air Quality: Air Quality Consultants
 - Archaeology: L-P: Archaeology
 - Cultural Heritage: Donald Insall Associates
 - Ecology: CSA Environmental
 - Surface Water Drainage and Flood Risk: Aecom
 - Ground Conditions and Hydrogeology: Buro Happold
 - Townscape and Visual Amenity: The Landscape Partnership
 - Noise and Vibration: WSP and Vanguardia Consulting
 - Socio-economics: Quod
 - Traffic and Transport: Tim Spencer and Co
 - Microclimate: BMT Fluid Mechanics Ltd
 - Daylight, Sunlight and Overshadowing: GIA
 - Electronic Interference: Tom Paxton

1.4 Structure of the Environmental Statement

- 1.4.1 The ES is set out in a structured manner to allow for easier navigation:
- Volume 1 comprises the Non-Technical Summary (NTS);
 - Volume 2 (this volume) comprises the Main Report; and
 - Volume 3 comprises the appendices.
- 1.4.2 In this volume, the ES is split into three parts:
- Chapters 1 – 5 set out the assessment requirements, the location and uses on and surrounding the Project Site, sets out alternatives that have been considered while formulating the Project, the Project description and sets out an approximate construction process.
 - Chapters 6 – 18 consider the potential effects of the Project on the sensitive receptors in the surrounding area. These chapters have been structured in a uniform manner so that the assessment method and criteria, the baseline conditions, the predicted effects and proposed mitigation measures can be easily identified.
 - Chapter 19 summarises the conclusions of the ES by setting out any residual significant effects that may

arise from the construction and development of the Project.

1.5 Opportunity for Public Consultation

- 1.5.1 Should interested parties wish to make representations on the content of this ES, or the rest of the planning application, they should be made in writing to London Borough of Haringey, Planning, Civic Centre, High Road, Wood Green, N22 8LE. Alternatively, comments can be submitted using the Council's website:

http://www.haringey.gov.uk/index/housing_and_planning/planning-mainpage.htm

- 1.5.2 Hard copies of the complete ES can be purchased from Savills at a cost of £400.00. The ES may also be purchased on CD at a cost of £5.00. The NTS can be obtained free of cost. An electronic copy of the ES report will be made available on the Council's website.

2. EIA Regulatory Framework

2.1 What Is an Environmental Impact Assessment?

Legal Background

- 2.1.1 On 3 March 1997, the Council of the European Union amended Directive 85/337/EEC through Council Directive 97/11/EC, which was given legal effect in England and Wales through The Town and Country Planning (Environmental Impact Assessment) Regulations 2011, insofar as it relates to development under The Town and Country Planning Act 1990.
- 2.1.2 The 1997 amended Directive has several purposes including, the introduction of provisions to “clarify, supplement and improve the rules on the assessment procedure” and enabling developers to obtain an opinion from the competent authority on the need for EIA. The Directive also extends the range of projects to which EIA applies and requires an outline of the main alternatives considered to the Project.
- 2.1.3 On the 1st of September 2008 the Town and Country Planning (Environmental Impact Assessment) (Amendment) (England) Regulations 2008 came into force to implement the requirements of the EU Directive in respect of applications for approval of reserved matters and the approval of conditions attached to planning permissions; as well as conditions attached to the grant of minerals permissions.
- 2.1.4 On 14 April 2014 the Council of the European Union adopted amendments to the EIA Directive in the form of the 2011/92/EU Directive (which consolidated the 85/337/EEC and its amendments 97/11/EC, 2003/35/EC, and COM/2009/378).
- 2.1.5 An amendment to the Town and Country Planning (Environmental Impact Assessment) Regulations 2011 came into force on the 6th April 2015. The new Regulations are cited as the Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015. The amendment concerns the thresholds at which certain types of development projects will need to be screened in order to determine whether EIA is required under the directive.
- 2.1.6 In addition to the EIA Regulations and Directive, there is a body of guidance that further informs the EIA process, including: DCLG (March 2014) Planning Practice Guidance EIA.

Case Law

- 2.1.7 The requirements of EIA have been further defined by a series of legal cases, which form an important body of guidance. Relevant cases have been considered throughout the EIA process.
- 2.1.8 EIA is a systematic and objective process through which the likely significant environmental effects of a project can be identified, assessed and, wherever possible, mitigated. This process and its outcomes are then reported in the ES to the local planning authority and its advisors, and the public. The NTS (Volume 1) is provided to allow a wider public understanding of the environmental effects of the Project.
- 2.1.9 EIA follows an iterative process that usually involves the following stages:

- Screening is the first stage of the EIA process where the relevant authority (local planning authority or the Secretary of State) decide if EIA is required.
 - Once it has been agreed that EIA is required for the Project, scoping is undertaken to define what should be assessed. This is done in partnership between the applicant, the local planning authority and statutory consultees (including the Environment Agency, Natural England and Historic England).
 - With the scope of the EIA set, relevant information on the environmental baseline conditions is collected. This information is then used initially to understand the dynamics of the likely environmental effects and inform the design of the Project to avoid and/or minimise potentially significant adverse environmental effects. It is also at this stage that areas of potential environmental enhancement are identified.
 - Any significant adverse effects that are identified during the formal assessment stage are then reviewed against the design to consider whether alterations could be made to avoid or reduce the effect. Should the design be altered the stage is repeated.
 - Where significant adverse effects cannot be avoided or reduced through alterations to the design itself, mitigation measures are considered. Monitoring may also be considered to measure the actual significance of the effect during and post-construction, and allow management of mitigation where appropriate.
- 2.1.10 Once the EIA is completed, the ES is submitted to the local planning authority for consideration with the planning application(s).

2.2 Screening – Is an EIA Required?

- 2.2.1 Development that falls within Schedule 1 of the Regulations always requires EIA and is referred to as 'Schedule 1 development'. Development listed in Schedule 2 that is located in a 'sensitive area' (Regulation 2(2)), or, exceeds one of the relevant criteria or thresholds given in Schedule 2 is referred to as 'Schedule 2 development'. Not all 'Schedule 2 development' will require an EIA, only that development likely to have significant environmental effects due to its size, location or nature. Development that requires EIA is referred to as 'EIA development'.
- 2.2.2 The Project falls within Schedule 2 section 10(b) 'Urban Development Projects'. The site does not fall within a sensitive area for the purposes of the Regulations but does exceed the applicable threshold of 150 dwellings. The test for the need for EIA is therefore whether the Project would be likely to give rise to significant effects on the environment by virtue of its size, nature or location.
- 2.2.3 Given the nature and scale of the Project, the applicant has concluded that it would be prudent to undertake an EIA for the emerging proposals. Therefore a Screening Opinion has not been sought.

2.3 Scope of the EIA

- 2.3.1 As an ES was submitted with the original outline application, it has been considered appropriate to replicate the Scope of that ES for this application.
- 2.3.2 The technical scope of this EIA comprises:
- Chapter 6 - Air Quality
 - Chapter 7 - Archaeology
 - Chapter 8 - Cultural Heritage

- Chapter 9 - Ecology
- Chapter 10 - Flood Risk and Surface Water Drainage
- Chapter 11 - Ground Conditions and Hydrogeology
- Chapter 12 - Townscape and Visual Amenity
- Chapter 13 - Noise and Vibration
- Chapter 14 - Socio-economics
- Chapter 15 - Traffic and Transport
- Chapter 16 - Microclimate
- Chapter 17 - Daylight and Sunlight
- Chapter 18 - Electromagnetic Interference

2.3.3 Operational waste has been reported within a Waste Management Strategy (see Appendix 2.1). This has informed the ES with regards to waste estimations specifically in relation to the estimation of trip generation within the Transportation chapter which has subsequently informed the Noise and Air Quality assessments. Therefore, Waste has not been included as a separate chapter within the ES.

2.3.4 Waste during construction has been considered in Chapter 5 of this Statement.

2.3.5 A draft Scoping Report was submitted to the Council on 19th June 2015 which formed the basis for informal comments and discussion held with the Council in relation to the Scope of the EIA.

2.3.6 There has been extensive pre-application discussions with the local planning authority and other statutory bodies in relation to the planning application and the EIA.

2.4 Community and Statutory Involvement

Consultation Process

2.4.1 Formal pre-application discussions have been held the Council, TfL and the GLA. The pre-application consultation with these bodies has intensified in frequency to weekly meetings since May 2015.

2.4.2 Emerging scheme proposals were presented to Historic England's London Advisory Committee (LAC) on 25th June 2015, with subsequent meetings taking place with Historic England in July.

2.4.3 Public consultation with the key stakeholders and local community was initiated in July 2015. The consultation was focused on the use of a website at www.tottenhamhotspur.com/new-scheme. The website provides updates on the scheme and an opportunity for users to provide formal feedback.

2.4.4 A newsletter was also distributed by the Club to over 20,000 local residents. Similar to the website, the newsletter contained all the key information relating to the emerging proposals for the Project.

2.4.5 A Development Management Forum was held on 15th July 2015 which members of the public were able to attend. The event, which was advertised and chaired by the Council, was attended by the Club and the Project Design Team and comprised of a presentation followed by a question and answer session.

2.4.6 Full details of the public consultation exercise are provided in the Statement of Community Involvement (SCI) which accompanies the planning application documentation.

2.5 Project Plans and Parameters

- 2.5.1 In order for the significant environmental effects of the Project to be identified and assessed, it is necessary to clearly identify all the components of the Project. Detailed plans have been assessed for the elements of the Project that are being applied for in Full (i.e. the Stadium, Tottenham Experience and Hotel), and fixed parameters of the Project will be assessed for the elements of the Project that are being submitted in outline (i.e. Residential, Community Health Building and Sports Centre). Further details of the Project are set out in Chapter 4 of this ES.

2.6 Impact Assessment Guidance

- 2.6.1 This ES will consider the potential for significant environmental impacts to affect the baseline conditions as a direct/ indirect result of the Project.
- 2.6.2 A description of the aspects of the environment likely to be significantly affected by the Project is a requirement of the EIA Regulations. The baseline conditions are defined as the existing state of the environment and how it may develop in the future in the absence of the Project and with certain committed developments included. In order to forecast potential future effects it is necessary to make predictions. To ensure that predictions are as accurate as possible, a description of the methods used to assess the effects of the Project is also required by the EIA Regulations.
- 2.6.3 Unless specifically stated otherwise, the proposed assessments have been undertaken in accordance with best practice guidelines published by the relevant professional bodies. Each technical chapter in this report provides brief details of the proposed baseline and assessment methodology to be employed for that topic area. This ES provides full details of the assessment criteria and terminology used in the context of each technical discipline.
- 2.6.4 Where there is no topic specific guidance available, a generic framework of assessment criteria and terminology has been developed to enable the prediction of potential effects and their subsequent presentation. The development of this framework has drawn upon Savills' experience of undertaking EIA.

2.7 Generic Assessment Framework

Receptor Sensitivity and Impact Magnitude

- 2.7.1 Receptors are those aspects of the environment sensitive to changes in baseline conditions. The sensitivity of a particular receptor depends upon the extent to which it is susceptible to such changes.
- 2.7.2 Impact magnitude is determined by predicting the scale of any potential change in the baseline conditions. Where possible, magnitude is quantified; however where this is not possible a fully defined qualitative assessment is undertaken. The assessment of magnitude is carried out taking account of any inherent design mitigation in the proposal that forms part of the Project description.

Table 2.1: Receptor Sensitivity and Impact Magnitude

Receptor		Impact	
Sensitivity to Change		Magnitude of Change	
Very High	VH	Very High	VH
High	H	High	H
Medium	M	Medium	M
Low	L	Low	L
Very Low	VL	Very Low	VL
Negligible	N	Negligible	N

Effect Significance

- 2.7.3 As shown in Table 2.2, the effect significance is determined by combining the predicted magnitude of impact with the assigned sensitivity of the receptor. Table 2.3 sets out the broad definitions of significance. The definition of the level of significance at which a significant impact arises will be provided within the topic method section of each chapter of the ES.

Table 2.2: Effect Significance

Criteria			Receptor Sensitivity				
			VH	H	M	L	VL
Impact Magnitude	Positive	VH	Substantial	Substantial	Major	Moderate	Moderate
		H	Substantial	Major	Moderate	Moderate	Minor
		M	Major	Moderate	Moderate	Minor	Minor
		L	Moderate	Moderate	Minor	Minor	Minor-Neutral
		VL	Moderate	Minor	Minor	Minor-Neutral	Minor-Neutral
	Negligible		Neutral	Neutral	Neutral	Neutral	Neutral
	Negative	VL	Moderate	Minor	Minor	Minor-Neutral	Minor-Neutral
		L	Moderate	Moderate	Minor	Minor	Minor-Neutral
		M	Major	Moderate	Moderate	Minor	Minor
		H	Substantial	Major	Moderate	Moderate	Minor
		VH	Substantial	Substantial	Major	Moderate	Moderate

Table 2.3: Definition of Significance

Significance	Definition
Substantial	These effects represent key factors in the decision-making process. They are generally, but not exclusively associated with sites and features of national importance and resources/ features which are unique and which, if lost, cannot be replaced or relocated.
Major	These effects are likely to be important considerations at a regional or district scale but, if adverse, are potential concerns to the Project, depending upon the relative importance attached to the issue during the decision making process.
Moderate	These effects, if adverse, while important at a local scale, are not likely to be key decision making issues. Nevertheless, the cumulative effect of such issues may lead to an increase in the overall effects on a particular area or on a particular resource.
Minor	These effects may be raised as local issues but are unlikely to be of importance in the decision making process. Nevertheless, they are of relevance in the detailed design of the Project.

Neutral	Effects which are beneath levels of perception, within normal bounds of variation or within the margin of forecasting error.
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2.7.4 As required by the EIA Regulations, the likely significant effects of the EIA proposals are described as:

- Adverse or beneficial
- Direct or indirect
- Temporary or permanent
- Reversible or irreversible
- Cumulative

2.7.5 Adverse effects are undesirable and result from negative impacts. Beneficial effects are desirable and result from positive impacts.

2.7.6 Each effect will have a source originating from the Project, a pathway and a receptor. Effects which operate in this direct way are regarded as direct effects. Effects on other receptors via subsequent pathways are regarded as indirect effects.

2.8 Initial and Residual Effects

2.8.1 As stated previously, the EIA process enables the likely significant effects of a Project to be identified so that, where possible, adverse effects predicted to arise as a result of the proposal can be avoided or mitigated through the adoption of suitable measures. Additionally, enhancement measures can be incorporated to maximise the beneficial effects of the Project. The adoption of mitigation and enhancement measures results in initial and residual effects. These can be defined as:

- Initial Effects: Effects occurring as a result of the Project prior to the adoption of any additional mitigation or enhancement measures.
- Residual Effects: Effects occurring as a result of the Project taking into account the adoption of identified additional mitigation or enhancement measures.

2.8.2 Additional mitigation and enhancement is defined as a measure that is additional to the Project as initially proposed. Measures that design out significant effects that form an inherent part of the Project as proposed, known as inherent effects, are considered in the initial impact. For example many environmental constraints, such as flood risk, must be designed out of a project for it to be viable and it would be impractical to consider the Project without such measures in place.

2.9 EIA Assumptions and Limitations

2.9.1 The following key assumptions will be made in preparing the ES:

- All legislative requirements will be met. Therefore, any standard guidance which is provided to ensure minimum legal compliance is not considered to constitute mitigation in the EIA and will not be taken into account.
- The assessment of effects prior to the adoption of mitigation measures will assume that the Project will be constructed in accordance with industry standard techniques. Such techniques will therefore not be

considered as mitigation.

- Where further assumptions have been made for individual topic assessments these will be identified within the relevant topic chapters.
- Any limitations or uncertainties associated with impact prediction or the sensitivity of receptors due to the absence of data or other factors will give rise to uncertainty in the assessment. Any such limitations will be referred to in the relevant technical chapters of the ES.

3. Project Site and Setting

3.1 Project Site Location

- 3.1.1 The Project Site occupies an area of 8.97 hectares, and is bound by Lilywhite House (comprising the Sainsbury's foodstore fronting Northumberland Avenue; the Tottenham University College; and Tottenham Hotspur Football Club's administrative offices) to the north, High Road to the west (A1010), Worcester Avenue to the east, and Park Lane to the south. The site is focussed on the current Tottenham Hotspur Football stadium, which is located at Bill Nicholson Way, 748 High Road, London N17 0AP.

3.2 Project Site Boundary

- 3.2.1 The southern site boundary runs east to west along the southern pavement of Park Lane, from Park Lane's junction with Vicarage Road to Park Lane's junction with the High Road, at which point it turns south along following the building line of the 732 High Road until the public conveniences that line the east side of High Road.
- 3.2.2 The western site boundary is formed by the western side of High Road from the point at which the boundary crosses the High Road to the south and extends north until White Hart Lane. The boundary then crosses High Road and continues up the eastern pavement of High Road to the junction of High Road and Northumberland Avenue.
- 3.2.3 The northern boundary is largely formed by the boundary with Lilywhite House, which runs east to west from Worcester Avenue to the edge of the Sainsbury's service car park to the rear of No. 792 High Road (Dial House). The site boundary then extends northwards up to Northumberland Avenue meeting the western boundary. The boundary includes the properties at 796 - 814 High Road. The site boundary in this location excludes Nos 792-794 High Road.
- 3.2.4 The eastern boundary runs along the eastern pavement of Worcester Avenue from Park Lane in the south to Northumberland Avenue in the north. The site boundary extends across the road to the pavement on the western side of the road but does not include the properties at Nos. 01-41 that flank Worcester Avenue to the west, and Nos. 02-32 that flank Worcester Avenue to the east.

3.3 Existing Buildings onsite

- 3.3.1 The majority of the site is currently occupied by the existing Stadium, which is located to the south east of the site, bound by Worcester Avenue to the east and Park Lane to the South. The current Stadium has a spectator capacity of 36,237. Its four stands have been built at different times with the current East and West stands redeveloped in the 1980s and the North and South stands redeveloped in the early 1990s. The Stadium comprises a variety of different architectural treatments and the result is a building that is does not make a positive contribution to setting of nearby Listed Buildings of the High Road Conservation Area. The current stadium is generally between 22-24m high, which is broadly equivalent to 7-8 residential storeys.
- 3.3.2 To the west of the Stadium, fronting on to High Road, are a series of buildings including:

- The Club's merchandise store "Spurs Shop", located immediately west of the stadium on the junction of High Road and Park Lane. It is a single storey white rendered building and its existence is subject to a temporary planning permission. This building is identified as a detractor in the Conservation Area Appraisal.
 - No.744 High Road named "Warmington House". This is a grade II listed three storey building, three bays wide built in circa. 1828. The building, now vacant and boarded up, is built from period materials of brick and stucco, and was last used as the Tottenham Hotspurs Supporters Club offices. The building is set back from the High Road and has a two storey extension to the south and a further two storey extension to the west.
 - No.746 High Road named the "Dispensary". This is a locally listed building built in circa. 1910, it is three storeys high, and taller than Warmington House, and three bays wide. It is built from stone and red brick and is now vacant and boarded up.
 - No.748 High Road named the "Red House Coffee Palace". This is a locally listed building is three storeys high with two pitched roofs. It is situated on the southern corner plot at the junction of High Road and Bill Nicholson Way. It is accessed from Bill Nicholson Way.
 - No.750 High Road named "Valentino's". This is a locally listed building, and a former public house was built in circa. 1890/early C20. The building occupies the northern corner plot of High Road and Bill Nicholson Way. It is three storeys high and currently vacant.
- 3.3.3 To the north of the Stadium and Valentino's up to Lilywhite House and Dial House, the site is hoarded along the High Road and Worcester Avenue. The land within this hoarding includes the Archway Metals buildings with the rest of this part of the site currently subject to site clearance and preparatory ground works associated with the previous planning permission for the development of a new stadium (ref: HGY/2010/1000).
- 3.3.4 The northern part of the site, known as the "Northern Terrace" includes the following buildings:
- Nos. 794, 796, 798 – 802. These buildings are a continuous terrace of three storey high mid C18 period properties. The houses are of irregular size; Nos. 794 and 796 are of five bays, the others narrower. Nos. 798-802 continue the mid C18 terrace. The narrow gap that once existed between Nos.798 and 802 has been built over at 1st and 2nd floor levels in modern times in a reasonably sympathetic style. The properties are built within plots and set back from the High Road, with each having a front forecourt and boundary treatment. They are all statutorily grade II listed apart from 796 High Road, named "Percy House" which along with its forecourt, walls and railings, is Grade II*. Percy House has recently been the subject of an approved application by the Tottenham Hotspur Foundation (a charity founded and associated with Tottenham Hotspur Football Club) that will refurbish and bring the building back into use as a community facility.
 - Nos. 804/806. These properties are contained within a further three storey terrace block. They are not statutorily or locally listed and are not identified as positive contributors to the Conservation Area.
 - Nos. 808/810. They are grade II* listed buildings and together are a pair of early red brick C18 symmetrical properties of 3 storeys plus attic. They sit back from High Road and have front forecourts and boundary treatments. No. 810 benefitted from investment from Historic England (previously English Heritage) to restore it.
 - No. 814. This property is located on the southern corner plot at the junction of the High Road and Northumberland Park in a single mid C19 two storey building, with its principal elevation fronting onto

Northumberland Park. The building is locally listed.

- 3.3.5 Dial House, located at No. 790 High Road and the adjacent property at No. 792 High Road do not form part of the application site.

3.4 The Surrounding Area

- 3.4.1 The Project Site is located in Northumberland Park Ward. The administrative boundary with the London Borough of Enfield lies approximately 500m north of the site with Angel Edmonton and the A406 North Circular Road approximately 650m beyond. The Lee Valley and the London Borough of Waltham Forest lie approximately 1.5km to the east of the Project Site. The designated town centre of Bruce Grove lies approximately 700m to the south of the Project Site with the town centre of Seven Sisters a further 800m south of Bruce Grove. The Metropolitan Centre of Wood Green lies approximately 3km west of the Project Site with Alexandra Palace a further 1.5km beyond.

- 3.4.2 The stretch of the High Road immediately to the west of the Project Site that runs north from Bruce Grove to the Stadium accommodates various town centre uses such as Council Offices, Tottenham Sports Centre and a Public Library. This is supported by a range of retail uses.

- 3.4.3 Immediately to the east of Worcester Avenue is Northumberland Park Community Secondary School and Saint Paul's and All Hallows Church of England Infant and Junior Schools. Immediately to the west of High Road lies St Francis de Sales Roman Catholic infant and junior school and further west is the Lancastrian Primary School.

- 3.4.4 The closest public park is Bruce Castle Park approximately 300m south west of the site.

3.5 Project Site Accessibility

- 3.5.1 All of the streets surrounding the Project Site are accessible to pedestrians and have footpaths on both sides with a number of crossing facilities. On the High Road the pedestrian crossing facilities are focused at the junctions with Northumberland Park, White Hart Lane and Park Lane with additional facilities along the street. There are also a number of facilities situated on Northumberland Park and Park Lane further from the site. The Public Transport Accessibility Level (PTAL) for the site, which is a theoretical measure of the accessibility within London, ranges from 3 (moderate accessibility) to 5 (good accessibility).

- 3.5.2 There are several railway stations within easy access to the Project Site, these are:

- White Hart Lane- 6 min walk from the site;
- Northumberland Park- 600m to the east;
- Bruce Grove- 1.1km to the south;
- Tottenham Hale- 2.2km to the south; and
- Seven Sisters- 2.3km to the south.

- 3.5.3 On match days White Hart Lane is the most used railway station although Northumberland Park is also well used. The rail operator for the area (National Express East Anglia) also runs extra services on match days to cater for this demand.

3.5.4 The use of the London Underground rail network varies greatly between non-match days and match days. Seven Sisters and Tottenham Hale are the closest underground stations and are both on the Victoria Line. Of these two Seven Sisters is the most used station despite being further from the site. This is due to it providing access to a greater number of other lines and rail networks.

3.5.5 The Project Site is well served by bus routes from a wide range of neighbouring areas. Most routes can be accessed from bus stops on the High Road although a few can also be accessed from Northumberland Park to the North, Lansdowne Road to the south and Shelbourne Road to the east. Most of the bus routes connect the site with Seven Sisters rail and Underground station and central London.

3.6 Site History

3.6.1 The Tithe map of 1844 shows the Project Site to comprise a number of fields with several houses, cottages and tenements. For a period prior to the 1900s much of the Project Site was formed by the properties (and their gardens to the rear) that front on to the High Road. Maps dating from 1867, 1876 and 1896 indicate that much of the area to the rear of these properties was used as orchard. The Middlesex map from 1896 identifies Tottenham Nursery on the southern part of the Project Site.

3.6.2 By the early 1900s the a pair of semi-detached villas on the High Road south of Fletcher House had been demolished to form Paxton Road, while four terraced houses had been constructed to form the eastern end of Paxton Road. However, the High Road frontage north of Paxton Road onto the High Road retained some of its 18th Century features late into the 19th Century. The Grade II Listed Fletcher House is situated adjacent to Paxton Road facing the High Road. This early 19th Century house was owned by Joseph Fletcher and occupied as early as 1844.

3.6.3 The 1913 and 1920 edition maps show that the nursery had been replaced by the football ground located towards the southern end of the site to the rear of buildings fronting onto the High Road. Its northern and southern boundaries formed by Paxton Road and Park Lane. At this time a west stand is shown with the other three sides shown as inclined ground. The northern part of the site is shown as having undergone less change during this period from 1896 to 1920.

3.6.4 By 1935 stands are shown on all four sides of the Stadium. A public house and engineering works along with other properties are shown fronting on to the High Road adjacent to the Stadium and these uses remained in place on the 1958 map. To the north a series of three terraced blocks of residential dwellings were present on the Project Site facing directly onto Paxton Road (22 dwellings), or immediately behind these (four dwellings). To the north of these is shown a brewery and allotment gardens. These again remain in place on the 1958 map. Further north on the Project Site to Northumberland Park is an area of predominantly industrial and engineering buildings with residential and commercial property fronting on to the High Road.

3.6.5 The area of Tottenham has a history of industry, particularly light industry and engineering. Wingate Trading Estate, to the north of Paxton Road, is an existing brownfield site and has been operating as an industrial site for at least 73 years. By 1959 some 40 firms occupied the site.

3.6.6 By 2001, the southern part of the Project Site comprised the current Stadium and associated buildings along with a number of buildings fronting on to the High Road. To the north of Paxton Road were a series

of terraced dwellings, a church hall, works, Council offices, funeral directors and a petrol filling station among other uses. To the north of this is the Wingate Trading Estate.

- 3.6.7 In front of the existing football Stadium, there are two Grade II listed buildings. Further along the High Road are eleven buildings, four which are Grade II* and seven which are Grade II. A forecourt and railings have also been listed as Grade II*. Two of these buildings are listed on English Heritage's Buildings at Risk Register. Part of the site is located within a Conversation Area that includes the High Road frontage.

3.7 Topography and Geology

- 3.7.1 The site and the immediate environs are located on level ground around the 12m contour above ordnance datum (AOD). To the east the land slopes gently to the River Lea, the most influential natural feature of the area and the largest tributary of the lower Thames Valley.
- 3.7.2 The site is underlain by brick earth and floodplain gravel over London Clay in turn over the Lambeth Group and over Cretaceous Upper Chalk at depth. These gravel deposits vary in thickness and in some places are up to 5.7m in depth. It is not known how deep the deposits are within the immediate area of the site.

3.8 Land Use Designations

The Development Plan

- 3.8.1 The relevant statutory development plans for the site comprises of: the Haringey Local Plan: Strategic Policies (2013); and the Saved Policies of the Haringey Unitary Development Plan (UDP) (2006) and the London Plan (March 2014 (as amended).
- 3.8.2 In addition to the Development Plan, in assessing the Project, regard has been had by Savills and the Club's consultants to national planning policy and guidance as set out in the National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG). Regional supplementary documents and guidance as adopted by the Mayor of London and local supplementary guidance as adopted by LBH.
- 3.8.3 A overview of the current policy position for the site is set out in Appendix 3.1 of this ES.

Ecological Designations

- 3.8.4 The site is located within 2km of Walthamstow Reservoirs Site of Special Scientific Interest (SSSI), designated due to its importance for wildfowl and wetland birds. The SSSI is a component of a Special Protection Area (SPA) and Ramsar site because it supports internationally important overwintering populations of three bird species. These designations afford the site protection under both European and international law.
- 3.8.5 Furthermore, London Wildlife Trust's website WildWeb has listed two non-statutory Sites of Importance for Nature Conservation (SINC) located within proximity to the Project Site. These are: Tottenham Hale and Northumberland Park Railsides; and, Tottenham Cemetery, All Hallows Churchyard and Bruce Castle Park; both of which are of Borough Grade 2 Importance.