

NORTHUMBERLAND DEVELOPMENT PROJECT **HOTEL**

S73 APPLICATION

ENVIRONMENTAL STATEMENT ADDENDUM: MAIN TEXT

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1 Introduction

1.1 Purpose

- 1.1.1 This Environmental Statement ('ES') Addendum has been prepared by Quod and a team of technical specialists on behalf of Tottenham Hotspur Property Company Limited ('Applicant'). The ES Addendum provides further environmental information that appraises the potential environmental effects of the proposed amendments ('Amendments') to Plot 3 of the Northumberland Park Development Project ('NDP') ('Consented Scheme').
- 1.1.2 The NDP development site ('Site') is located 175m east of White Hart Lane rail station and is approximately 8.97 ha in area. A description of the Site and its surrounds, together with a figure showing the planning application boundary are provided in Chapter 3: Site and Setting.
- 1.1.3 The Applicant is submitting a Section 73 Application ('S.73 Application') to the London Borough of Haringey ('LB Haringey') for minor material amendments to the hybrid planning permission which was granted for the NDP on 15 April 2016¹ ('Operative Permission'). The Consented Scheme comprises full planning permission for demolition works and construction of Plot 1 (The Stadium), Plot 2 (The Tottenham Experience) and Plot 3 (Hotel) and outline planning permission for Plot 4 (The Extreme Sports Building), Plot 5 (The Residential Buildings and Flexible B1/D1 Space) and Plot 6 (The Community Health Building)². The Consented Scheme is part-occupied and operational, with Plots 1 and 2 completed. Development at the remaining plots have not yet started. A more detailed description of the Consented Scheme is provided in Chapter 4 of this ES Addendum.
- 1.1.4 The Amendments are focussed on changes to the Plot 3 Hotel building. The massing of the Plot 3 building will become taller and slenderer from east to west than the Consented Scheme massing. Site wide total floorspace for hotel use will increase from 15,537 square metres (sqm) to 16,132 sqm gross internal area (GIA). There will be no change to the permitted residential floorspace (53,298 sqm GIA) and it is not proposed to alter the maximum permitted number of hotel bedrooms (180) nor the change the number of residential units (49) previously approved in Plot 3. Full details on the Amendments proposed for the Consented Scheme ('Development') are provided in Chapter 4 of this ES Addendum.

¹ LPA Planning reference: HGY/2015/3000, as amended. Of note, a non-material amendment (NMA) approval was granted in May 2017 (LPA ref HGY/2017/1183) allowing the removal of the 90-day restriction (Condition D16) to allow operation of hotel serviced apartments as C3 Use, with consequential amendments to Conditions A4, A7 and D1. Planning permission for Plot 6 has lapsed. However, a Reserved Matters Application (RMA) for appearance of Plot 6 was approved by LB Haringey in June 2021 (LPA Ref: Ref. HGY/2021/1043). A RMA for scale of Plot 4 was approved in July 2021 (LPA ref: HGY/2021/1039). A RMA for landscaping detail of Plot 5 was submitted in December 2022 and is pending approval (LPA ref: HGY/2022/4504)

² Planning permission for Plot 6 has lapsed. As such, for the basis of this assessment, it is assumed that the health care provision for the (unbuilt) residential uses of the Consented Scheme (and Development) would be met by planned provision elsewhere in the vicinity of the Site

- 1.1.5 National Planning Practice Guidance³ states that a Section 73 application “*is considered to be a new application for planning permission under the 2017 EIA Regulations*” and “*where an EIA was carried out on the original application, the planning authority will need to consider if further information needs to be added to the original Environmental Statement to satisfy the requirements of the Regulations. Whether changes to the original Environmental Statement are required or not, an Environmental Statement must be submitted with a section 73 application for an EIA development*”.
- 1.1.6 In considering the Amendments, LB Haringey will need to have regard to the likely significant impacts of the proposed development in its entirety in the present day. Consequently, further EIA work has been undertaken which considers the implications of the Development in the context of the EIA Regulations and current legislation, policy, and baseline conditions. These findings of this are reported in this ES Addendum.
- 1.1.7 The 2015 ES is submitted alongside this ES Addendum in Appendix 1.1 to fulfil these requirements, providing an assessment of the potential environmental effects of the Consented Scheme at the time of assessment (2015). The 2015 ES and this ES Addendum together form the ES (as amended) for the purposes of decision making.

1.2 Structure of the ES Addendum

- 1.2.1 The ES Addendum is structured as follows:
- Volume 1: Non-Technical Summary;
 - Volume 2: ES Addendum Main Text; and
 - Volume 3: ES Addendum Technical Appendices.
- 1.2.2 In accordance with the EIA Regulations, this ES Addendum considers the environmental effects of the Development and provides additional or updated information that is considered relevant to decision making. The assessment approach is set out within Chapter 2.

1.3 EIA Team and Competence

- 1.3.1 The project team, authors of ES Addendum chapters and structure of the ES Addendum are set out in **Error! Reference source not found.**

Table 1.1: Consultant Project Team

ES Topic	Technical Team Lead
1: Introduction	Quod
2: EIA Methodology	
3: Site and Setting	

³ Department for Communities and Local Government (DCLG), 2015. Planning Practice Guidance - Environmental Impact Assessment. ID 4, updated: April 2015. Available online at:

ES Topic	Technical Team Lead
4: Description of Development	
5: Construction, Phasing and Implementation	
6: Air Quality	Air Quality Consultants
7: Archaeology	MoLA
8: Cultural Heritage	Cogent Heritage
9: Ecology	Tyler Grange
10: Water and Flood	Buro Happold
11: Ground Conditions and Hydrogeology	Buro Happold
12: Townscape and Visual	Citydesigner
13: Noise and Vibration	Buro Happold
14: Socio-economics	Quod
15: Transport	Arup
16: Wind	Arcaero
17: Daylight, Sunlight and Overshadowing	GIA
18: Electronic Interference	Quod
19: Climate Change	Ecolyse
20: Effect Interactions	Quod
21: Summary of Mitigation, Monitoring and Residual Effects	
Non-Technical Summary	Quod

1.3.2 As defined by Regulation 18(5)(a) of the EIA Regulations, the ES Addendum must be prepared by “competent experts”. This ES Addendum has been co-ordinated by Quod and presents the results of a further EIA process carried out by a number of technical specialists. Quod is a member of the Institute of Environmental Management and Assessment EIA Quality Mark Scheme, an accreditation scheme which sets high standards for EIA practice and demonstrates a commitment to excellence in EIA activities. Each member of the project team is a suitably qualified professional and details of topic authors are provided within the relevant technical chapters.

1.3.3 The Applicant has provided a statement below confirming that it considers the experts to be competent experts, as required by the EIA Regulations.

“In accordance with the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (as amended), Tottenham Hotspur Property Company Limited (the Applicant) can hereby confirm that the technical consultants appointed to contribute and author this Environmental Statement are competent experts and have demonstrated evidence of sufficient expertise to carry out robust assessment and reporting. This is evidenced in the technical chapters of the Environmental Statement.”

1.4 ES Addendum Availability

- 1.4.1 The ES Addendum and all S.73 Application documents are available online on LB Haringey's website. Appendix 1.1 provides a copy of the 2015 ES.
- 1.4.2 The updated Non Technical Summary can also be obtained free of charge upon request in hard copy or as an electronic file. All ES Addendum documents are available by emailing hello@quod.com quoting Reference No. Q230098.

2 EIA Regulatory Framework

2.1 Regulatory Context

- 2.1.1 This ES Addendum has prepared under the EIA Regulations⁴, bringing the EIA for the Site up to date to reflect the current EIA Regulations and other legal and policy changes. In accordance with the requirements of Regulation 18(2) and (3) of the EIA Regulations, this ES Addendum, in conjunction with the 2015 ES, reports the likely significant effects and mitigation measures of the proposed development, assessing the likely significant effects of the Amendments brought forward through this S.73 Application. For the purposes of this ES Addendum, the EIA Development is reasonably defined as the Consented Scheme as amended by the S.73 Application (i.e. the 'Development').

2.2 EIA Scoping

- 2.2.1 Consultation was held with LB Haringey during 2023 to discuss the approach to the EIA.
- 2.2.2 Obtaining a scoping opinion under the EIA Regulations is not mandatory and due to project timescales, the Applicant agreed with LB Haringey that an informal scoping process would be carried out to define and agree the scope of the EIA.
- 2.2.3 An informal EIA Scoping Note was submitted to LB Haringey on 5th June 2023 that summarised the findings of the scoping study and set out the proposed scope of the ES Addendum (included as Appendix 2.1). The EIA Scoping Note also included justification for topics being scoped out of the ES Addendum. No comments have been received from LB Haringey at the point of submission.
- 2.2.4 In parallel to the scoping process, the Applicant's project team has engaged with LB Haringey and other consultees as part of the pre-application and EIA process. As the principle of the Plot 3 and its design has already been accepted through the approval of the Consented Scheme, consultation and engagement has been targeted towards LB Haringey Officers (planning, design, heritage and sustainability) and the LB Haringey's Quality Review Panel. This has been supplemented with engagement with local community and other groups, with the Development proposals presented at the 13 June and 11 July meetings of the Business Community Liaison Group (BCLG).

2.3 Scope of the EIA

- 2.3.1 In accordance with the EIA Regulations, this ES Addendum considers the environmental effects of the Development and provides additional or updated information to that of the

⁴ HMSO, 2017. The Town and Country Planning (Environmental Impact Assessment) Regulations 2017. The Stationary Office. May 2017; and HMSO, 2018. The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2018, November 2018; and HMSO, 2020.

2015 ES where considered relevant to decision making. The assessment approach is set out in Section 2.4 of this chapter.

- 2.3.2 All topics previously assessed in the 2015 ES have been reappraised in this ES Addendum. The 2017 EIA Regulations introduced new environmental topics for consideration: climate change, human health and major accidents and / or disasters. While climate change has been scoped into the ES, human health and major accidents and / or disasters have been scoped out of the ES. Rationale for this is set out in the EIA Scoping Note (Appendix 2.1) issued to LB Haringey and these topics are not considered further in this ES Addendum. An assessment of climate change and greenhouse gases was not provided in the 2015 ES, however an assessment of the potential effects of this topic is now provided for the Development as a new chapter of this ES Addendum.
- 2.3.3 Where the passage of time and the S.73 Application would not materially affect the topic assessments and conclusions set out in the 2015 ES (i.e. no changes to the significance of any effects reported in the 2015 ES are expected), justification in the form of 'statements of conformity' are provided in this ES Addendum for those technical chapters. A statement of conformity provides an explanation of why, in light of this S.73 Application, the previous assessment findings in the 2015 ES remain valid. Where a change in legislation, policy, baseline conditions or the nature and scale of the Amendments are considered to have potential to give rise to a change in the significance of effects stated in the 2015 ES, further assessments have been considered necessary to supplement the 2015 ES and these are reported in this ES Addendum for the relevant technical chapters with supplementary information.
- 2.3.4 Table 2.1 summarises the technical scope of the ES Addendum and provides a summary of the main changes to the 2015 ES.
- 2.3.5 To reflect the revised context and ensure consistency across the ES Addendum for the updated assessments, the non-technical introductory chapters (1-5), Chapter 21: Summary of Effects, and the Non-Technical Summary have been updated and supersede the 2015 ES versions.

Table 2.1: Structure of ES Addendum and Summary of Changes to 2015 ES

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
Air Quality (2015 ES Chapter 6)	No material change – Statement of Conformity provided. Revised Air Quality Neutral Assessment provided. No Air Quality Positive Assessment	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided.	London Plan Air Quality Neutral Guidance. Introducing concept of Air Quality Positive for large-scale Development.	Improvement on previous background concentrations.	Assessment conclusions remain the same.	None required.
Archaeology (2015 ES Chapter 7)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has	No relevant changes to legislation or policy have been identified.	Basement excavations across the Site were undertaken in 2015.	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
		therefore been provided.				
Cultural Heritage (2015 ES Chapter 8)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided.	NPPF updated. London Plan updated. Historic England (HE) Advice Notes 3 and 4 Updated. The updates do not change the validity of the conclusions within the 2015 ES.	North Tottenham Conservation Area condition amended from ‘very bad’ to ‘poor’.	Assessment conclusions remain the same.	None required.
Ecology (2015 ES Chapter 9)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has	No relevant changes to legislation or policy have been identified.	No relevant changes baseline conditions have been identified.	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
		therefore been provided.				
Surface Water Drainage and Flood Risk (2015 ES Chapter 10)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided.	Update to climate change allowances and Planning Practice Guidance.	No relevant changes baseline conditions have been identified.	Assessment conclusions remain the same.	None required.
Ground Conditions and Hydrogeology (2015 ES Chapter 11)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has	No relevant changes to legislation or policy have been identified.	No relevant changes baseline conditions have been identified.	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
		therefore been provided.				
Townscape and Visual Amenity (2015 ES Chapter 12)	Chapter update to the 2015 ES. Chapter is supported by new Accurate Visual Representations (AVRs).	Provides an updated assessment of the potential effects of the Development on the setting of townscape and visual receptors in the vicinity of the Site.	No relevant changes to legislation or policy have been identified.	Baseline photography has been updated for all viewpoint locations where able.	Changes in likely significant effects have been reported from six viewpoint locations.	None required.
Noise and Vibration (2015 ES Chapter 13)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided.	No relevant changes to legislation or policy have been identified.	Plot 1 and Plot 2 are complete and operational. Ambient noise levels are slightly lower than those recorded for the 2015 ES.	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
Socio-Economics (2015 ES Chapter 14)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided. Chapter includes assessment of revised play space.	No relevant changes to legislation or policy have been identified.	No relevant changes baseline conditions have been identified.	Assessment conclusions remain the same.	None required.
Traffic and Transport (2015 ES Chapter 15)	No material change – Statement of Conformity provided.	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A	No relevant changes to legislation or policy have been identified.	Chapter provides updated baseline traffic flows which show reduced background flows compared to those	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
		Statement of Conformity has therefore been provided.		presented in the 2015 ES.		
Microclimate (2015 ES Chapter 16)	Chapter update to the 2015 ES	Provides an updated assessment of the potential effects of the Development on the setting of human receptors in the vicinity of the Site.	No relevant changes to legislation or policy have been identified.	Plots 1 and 2 have been constructed and are operational. Surrounding cumulative schemes identified within the 2015 ES have been built out and form part of the existing baseline.	Reduction from moderate adverse to negligible for pedestrian comfort wind conditions	Inclusion of new landscape mitigation. Summarised in Table 16.5.
Daylight, Sunlight and Overshadowing (2015 ES Chapter 17)	Updated Chapter to the 2015 ES	Includes assessment of the Development against the baseline scenario, for external receptors only.	No relevant changes to legislation or policy have been identified.	Plots 1 and 2 have been constructed and are operational. Surrounding cumulative schemes identified within	Assessment conclusions remain the same.	None required.

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
		Provides further assessment of the potential for likely significant effects resultant from the Amendments.		the 2015 ES have been built out and form part of the existing baseline.		
Electronic Interference (Chapter 18)	No material change – Statement of Conformity provided	The Amendments will not materially affect the significance of effects previously reported in the 2015 ES. A Statement of Conformity has therefore been provided.	No relevant changes to legislation or policy have been identified.	No relevant changes baseline conditions have been identified.	Assessment conclusions remain the same.	None required.
Climate Change and Greenhouse Gases (New Chapter 19)	N/A – New EIA topic assessment					

Topic	Summary of Changes to 2015 ES	Reason(s) for Change / Update	Change to Legislation and Policy	Change to Baseline	Change to Effects	Change to Mitigation
Effect Interactions (New Chapter 20)	N/A – New EIA topic assessment					

2.4 ES Addendum Approach

2.4.1 The EIA project team have reviewed the Amendments to establish whether they materially affect the remaining topic assessments provided as part of the 2015 ES. As set out in Table 2.1, preparation of the ES Addendum has involved the following:

- Review of the relevant legislation, policy and guidance for applicable updates;
- Review of the validity of baseline conditions and sensitive receptors stated in the 2015 ES;
- Review of the nature and scale of the Amendments relative to the Consented Scheme;
- Assessment of whether the environmental effects of the Consented Scheme as altered by the Amendments, bring about different or new effects from those reported in the 2015 ES and/or if mitigation requirements have changed; and
- Review of cumulative schemes considered in the 2015 ES and updates to the cumulative assessment, where appropriate.

2.4.2 The following sections sets out the general approach taken to the review of each technical ES chapters of the 2015 ES.

Legislation, Policy and Guidance Review

2.4.3 The EIA process undertaken under for the 2015 ES was carried out in accordance with the 2011 EIA Regulations (as amended)⁵. Updated EIA Regulations came into force on the 16th May 2017 which superseded the 2011 EIA Regulations. Furthermore, the 2017 EIA Regulations were subject to amendments in November 2018, May and December 2020 (i.e. the 'EIA Regulations'). This ES Addendum has been prepared pursuant to the EIA Regulations.

2.4.4 The relevant local policy at the time of assessment for the 2015 ES was the Haringey Development Plan that comprises the Haringey Local Plan: Strategic Policies (2013), and the Saved Policies of the Haringey Unitary Development Plan (2006). The current Haringey Development Plan ('Local Plan')⁶ was adopted in July 2017 and comprises Strategic Policies, Development Management Policies, Site Allocations and Tottenham Area Action Plan, alongside the North London Waste Plan⁷ and London Plan.

2.4.5 A new version of the London Plan⁸, which covers the period 2019 to 2041, was adopted in March 2021, superseding the March 2014 version considered in the 2015 ES. The assessments within this ES Addendum have taken due regard of the relevant policies. The only notable change to national planning policy since submission of the 2015 ES is

⁵ HMSO, 2011. The Town and Country Planning (Environmental Impact Assessment) Regulations 2011; HMSO, 2015. The Town and Country Planning (Environmental Impact Assessment) (Amendment) Regulations 2015 (S.I. 660)

⁶ London Borough of Haringey, 2017. Haringey Development Plan, July 2017.

⁷ London Borough of Haringey, 2022. North London Waste Plan. July 2022

⁸ Mayor of London, 2021. London Plan. March 2021.

publication of the updated National Planning Policy Framework⁹ (NPPF) in February 2019 and July 2021.

- 2.4.6 The content of the NPPF, London Plan and Haringey Local Plan are not considered to materially affect the 2015 ES since planning policy information is not required under Schedule 4 of the EIA Regulations (Information for Inclusion in Environmental Statements). Nevertheless, the planning policy and methodology presented within the 2015 ES for each technical assessment has been reviewed in relation to the S.73 Application and updates are provided in the respective topic chapters in this ES Addendum, where necessary. A review of relevant topic-specific guidance has also been undertaken and it is considered that there are no significant changes that would affect the findings of the 2015 ES.

Baseline Review

- 2.4.7 Since preparation of the 2015 ES, the Site has undergone a series of changes as a result of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 (The Stadium) and 2 (The Tottenham Experience). The rest of the Site is cleared or occupied by temporary activities and uses linked to delivery of the Consented Scheme. Given this ever-changing condition, thought has been given to the appropriate baseline to use for the ES Addendum.
- 2.4.8 If the baseline were updated to the current point in time, it would represent a temporary 'snapshot' which is not representative of the pre-development conditions, or indeed those when the wider masterplan has been built out.
- 2.4.9 The ES Addendum updates baseline conditions where relevant to the assessment as outlined in Table 2.1. However, for the most part, assessments are reliant on previously submitted information whilst recognising significant changes in circumstances, for example changes to surrounding sensitive receptors or presence of new ones.
- 2.4.10 Future baseline conditions will evolve over time until the Development is expected to be complete. In line with the EIA Regulations, this ES Addendum considers the likely evolution of the baseline conditions (i.e. future baseline conditions) in the absence of the Development. Realistically at the Site, this is likely to comprise implementation of the Consented Scheme between the time of writing and the estimated date of completion (2028).

Assessment of Effects

Basis of Assessment

- 2.4.11 The S.73 Application is submitted in detail for Plot 3, with future plots remaining in outline as consented. The ES Addendum is based on replacement versions of the detailed drawings for Plot 3, alongside the approved Parameter Plans and Design Code – which remain unchanged – and will control the delivery of the future plots of the Development. Further details of the above and the proposed S.73 amendments are provided in Chapter 4.

⁹ Ministry of Housing, Communities and Local Government, 2021. National Planning Policy Framework. July 2021.

- 2.4.12 Illustrative material and masterplan information has been used for sensitivity testing for emerging concept proposals for Plot 4, provided as appendices to relevant technical chapters. No amendments to Plot 4 are proposed at this time.

Baseline

- 2.4.13 As set out in Chapter 1, the Consented Scheme is part- operational, with Plots 1 (The Stadium) and 2 (The Tottenham Experience) completed; these are considered in the baseline scenario. Temporary football pitches are present on the extent of the Plot 5 Site. There are currently no other construction works ongoing within the Site.

Future Baseline

- 2.4.14 The planning permission for Plot 6 has lapsed and this Plot will no longer be implemented. It is assumed that the floorspace associated with this Plot will be delivered elsewhere within Plots 4 and 5. For the purposes of the ES Addendum, the massing of Plot 6 as defined by the parameter plans has been included within the future baseline scenario for the Townscape and Visual, Wind Microclimate and Daylight, Sunlight and Overshadowing assessments. The presence of this massing presents a worst-case assessment as it would incorporate additional built form.

Construction

- 2.4.15 The Amendments would not result in any material changes to the overall construction activities of the Development from those of the Consented Scheme. However, the indicative construction programme assumed by the 2015 ES has been amended, with the Development now anticipated to be complete in 2028 (rather than 2022). Further details are set out in Chapter 6: Construction. Consideration has been given to these revisions and potential for changes to the environmental effects reported in the 2015 ES in the respective technical chapters of this ES Addendum as appropriate. The Applicant remains committed to ensuring that all construction works are carried out in accordance with existing secured commitments, such as adherence to CEMPs and Construction Traffic Management Plans (CTMPs). In addition, the conditions attached to the 2015 planning permission will also be attached to any permission granted for this S.73 Application unless they have been discharged.

Operational Development

- 2.4.16 The year of full operation and occupation of the Development is not taken as 2028 (previously 2022).

Cumulative Assessment

- 2.4.17 The EIA Regulations require that, in assessing the effects of a particular development proposal, consideration should also be given to any cumulative effects. Potential cumulative effects are categorised into two types:
- Intra-project effects: The combined effects of individual effects resultant from the Development upon a set of defined sensitive receptors; for example, noise, dust and visual effects; and,

- Inter-project effects: The combined effects arising from another development site(s), which individually might be insignificant, but when considered together, could create a significant cumulative effect.

- 2.4.18 A review of the potential for intra-project effects has been carried out through a review of the potential likely significant effects stated the technical assessments in the ES Addendum. Qualitative discussion is provided in a new Chapter 20 of this ES Addendum to discern whether additive effects could arise on sensitive receptors due to a combination of different topic effects resultant from the Development.
- 2.4.19 A review of existing or approved cumulative schemes from those considered in the 2015 ES has also been undertaken. This review identified new cumulative schemes. The full schedule is provided in Appendix 2.2. Of note, the High Road West regeneration scheme submitted on behalf of Lendlease (the 'Lendlease Scheme') is located adjacent to the west of the Site and was granted planning permission by LB Haringey in August 2022. The Lendlease Scheme is pending judicial review and therefore two cumulative assessment scenarios are considered, with and without this development.

3 Project Site and Setting

Introduction

- 3.1.1 This chapter should be read alongside Chapter 3: Project Site and Setting of the 2015 ES. This chapter provides a description of the Site and its surrounding areas where there have been changes since preparation of the 2015 ES. This includes key features, designations and key sensitive receptor locations that may be affected by the Development. A full description of the baseline conditions relevant to the technical assessments is provided in each technical chapter of the ES Addendum (i.e. Chapters 6 – 19).
- 3.1.2 Chapter 3 of the 2015 ES provided a description of the Site, which comprises Plots 1-6. Figure 3.1 shows the layout of Plots 1 – 6. Table 3.1 sets out the Plots of the Site.

Site Boundary

- 3.1.3 The planning application boundary for this S.73 Application is not altered from that presented for the Consented Scheme.

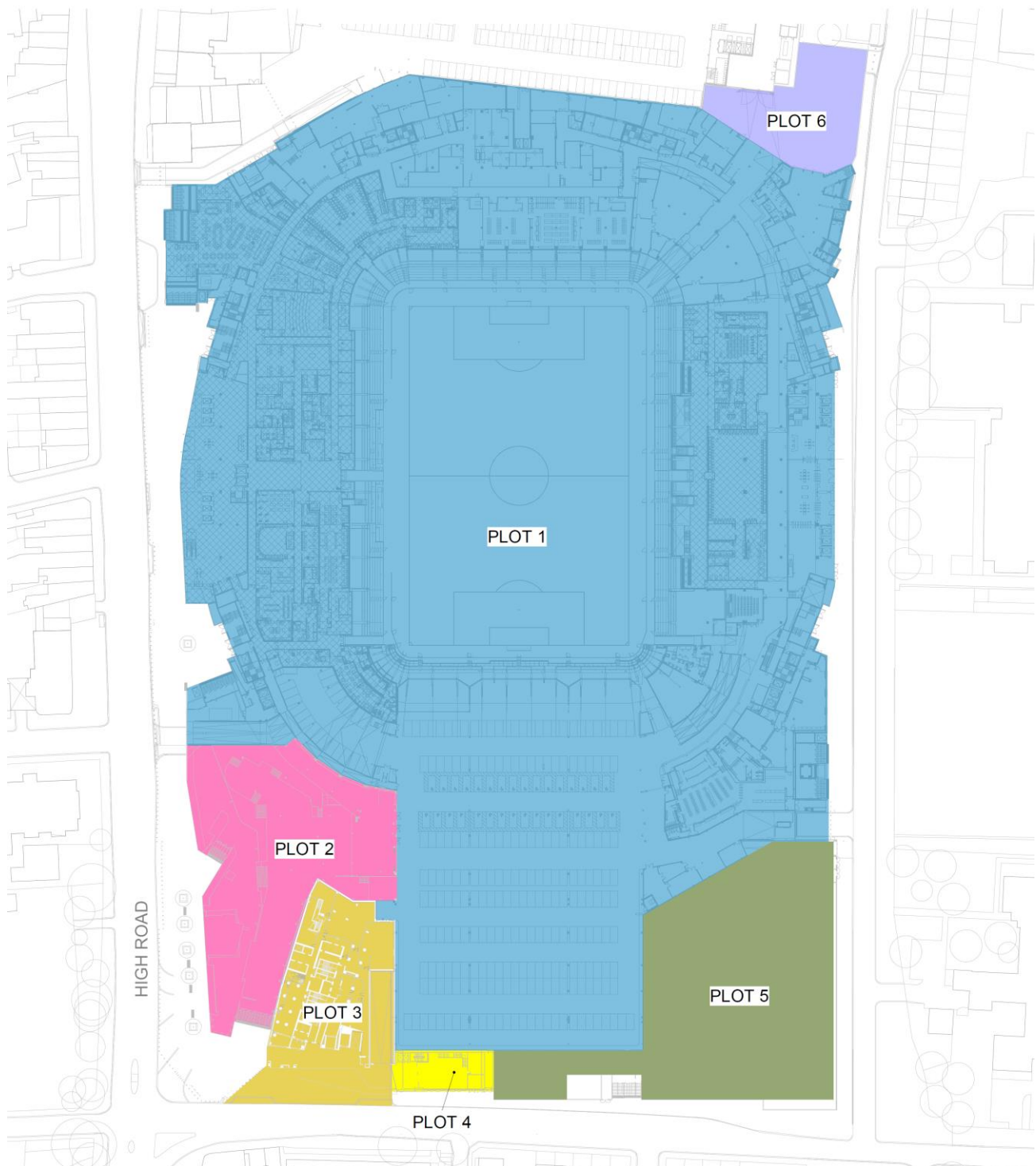
Site Description

- 3.1.4 The Site description remains as presented within the 2015 ES. Figure 3.1 presents the Indicative Plot boundaries, which remain unaltered from the Consented Scheme.

Table 3.1: Consented Scheme Development Plots

Plot	Name	Construction Status
1	Stadium	Complete and operational
2	Tottenham Experience	Complete and operational
3	Hotel	Earthworks and below ground basement is complete. Podium has been constructed. Above ground works have not commenced
4	Sports Centre	Construction not commenced
5	Residential Towers and Flexible Community / Open Space	Construction not commenced
6	Community Health Building	Construction not commenced. Planning permission lapsed.

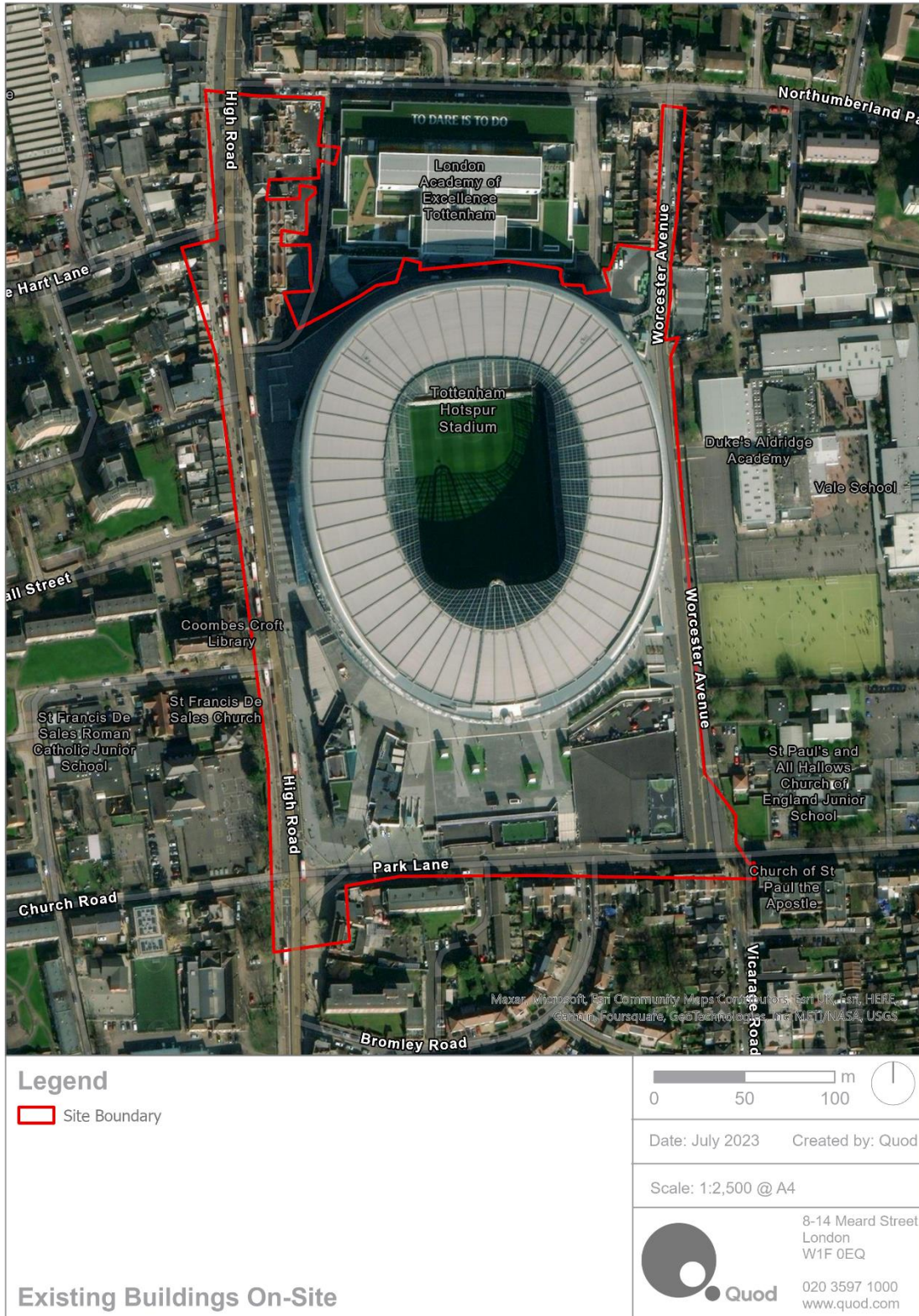
Figure 3.1: Indicative Plot Boundaries



- 3.1.5 Plots 1 and 2 have been completed and are operational as per the Consented Scheme. These two Plots form the majority of the Site area. The enabling works, below ground infrastructure to facilitate Plots 1 and 2, excavation and construction of the basement and podium associated with Plot 1 have been delivered. The basement is present underneath the Plots 1 and 3 extent, with the associated podium present on-site. The remainder of the Site is currently occupied by temporary uses including public realm and temporary structures

- 3.1.6 Temporary football pitches are present within the south-east corner of the Site below Plot 5. This meanwhile use is allowed due to a temporary application which was submitted in December 2021 (Ref. HGY/2022/0167). This was granted in April 2022, which gave permission for community events, sports and activation space including football pitches, lighting and hoarding to be implemented within a period of up to three years.

Figure 3.2: Existing Buildings On-Site



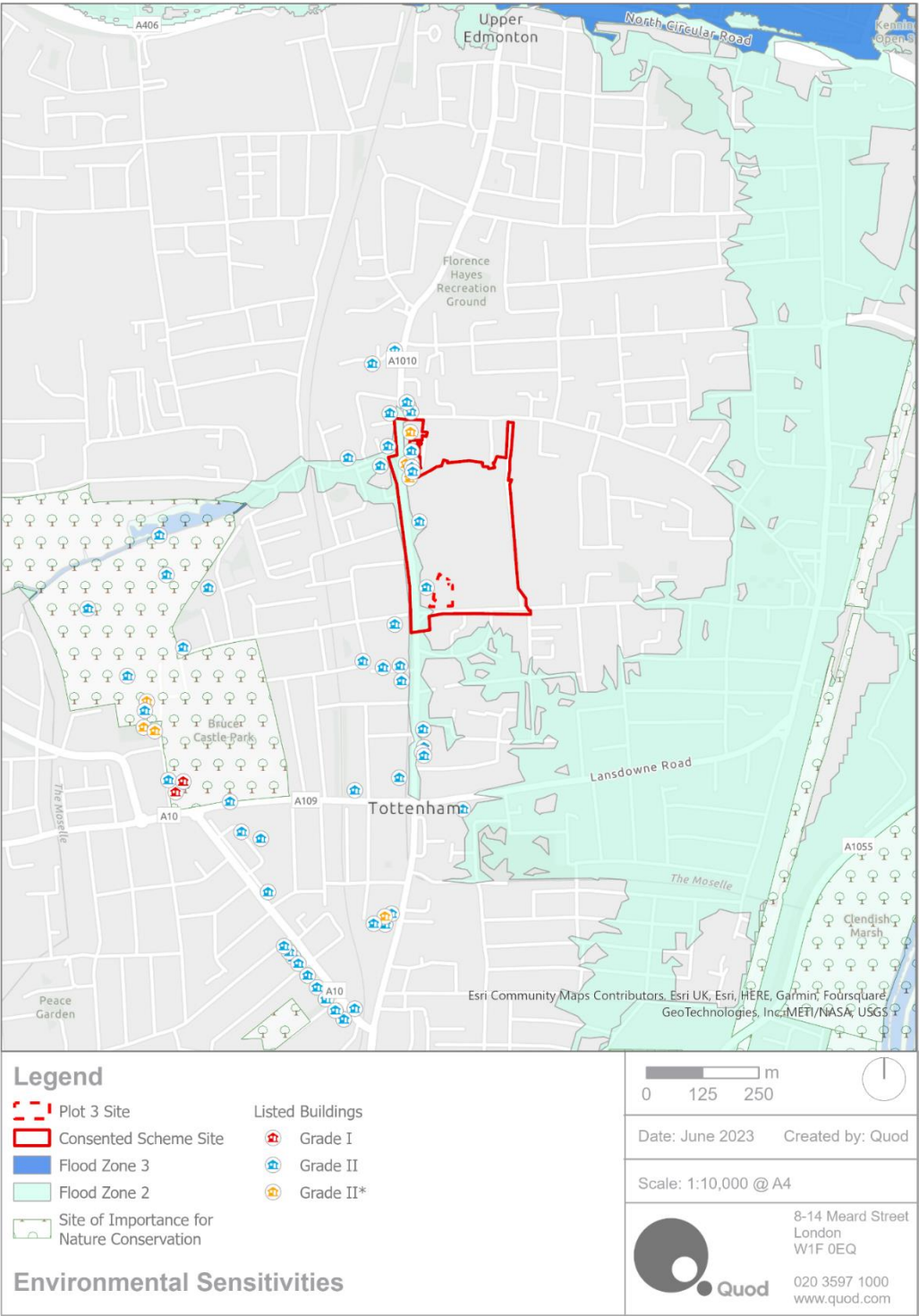
Surrounding Area

3.1.7 The surrounding land uses and existing access arrangements are as presented in the 2015 ES.

Site and Surrounding Sensitivities

3.1.8 Figure 3.3 identifies the key environmental sensitivities within and close to the Site.

Figure 3.3: Environmental Sensitivities Map



Archaeology, Built Heritage and Townscape

- 3.1.9 The area to the northwest of the Site located within an Archaeological Priority Zone. This is associated with a number of listed buildings circling the White Hart Lane and High Road Junction. At the eastern boundary of the Site are four historic buildings: Warmington House 744 High Road (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 northwest corner of the Site is the historic terrace known as the Northern Terrace. The 796 Percy House and 808-810 High Road which are listed at Grade II* (790 (Dial House) Grade II* and 792 High Road also form part of the terrace but are not part of the Site).
- 3.1.10 No buried remains or potential remains have been identified that would require preservation in situ.

Biodiversity

- 3.1.11 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 as it supports internationally important overwintering populations of three bird species. These designations afford the site protection under both European and international law.
- 3.1.12 There are two Sites of Importance for Nature Conservation (SINC) located within proximity to the Site. Tottenham Cemetery, All Hallows Churchyard and Bruce Castle Park is located 330m east from the Site. Tottenham Hale and Northumberland Park Railsides is located 670m to the east of the Site. Both of these SINC's are of Borough Grade 2 Importance.

Air Quality

- 3.1.13 The Site lies within an Air Quality Management Area (AQMA) declared by LB Haringey for exceedances of the nitrogen dioxide (NO₂) annual mean and the particulate matter (PM₁₀) 24-hour mean objectives.

Water Resources and Flood Risk

- 3.1.14 The majority of the Site is in Flood Zone 1 with small areas along the western boundary in Flood Zone 2.
- 3.1.15 The Site area located within Flood Zone 1 comprises land assessed as having less than 1 in 1000 annual probability of river or sea flooding in any year. However, immediately to the west of Tottenham High Road is the culverted Moselle Brook, which is assessed as being in Flood Zone 2, i.e. having between a 1 in 100 and 1 in 1000 annual probability of river flooding. The Moselle Brook flows eastwards from Tottenham Cemetery through a series of culverts before ultimately flowing into the River Lea to the east of the Site.

Future Development

- 3.1.16 The area is subject to significant regeneration for consideration including the surrounding cumulative schemes such as Goods Yard, The Depot, Printworks as described in Chapter 2: EIA Regulatory Framework and Appendix 2.2.

- 3.1.17 In addition to the cumulative schemes, the Lendlease Scheme (Ref: HGY/2021/3175) ('Lendlease Scheme') is located adjacent to the west of the Site and was granted planning permission from LB Haringey on 31 August 2022. The Lendlease Scheme is pending judicial review. Further details are provided in Chapter 2: EIA Regulatory Framework.

4 Description of the Project

4.1 Introduction

- 4.1.1 This chapter provides an overview of the Consented Scheme and a description of the Development with the Amendments in place. This chapter should be read in conjunction with Chapter 4: Description of the Project of the 2015 ES.
- 4.1.2 This chapter provides a description of the Development which forms the basis of the ES Addendum and was written by Quod, based on information provided by the project architects, F3 architects and other members of the project team.
- 4.1.3 The Design and Access Statement (DAS) which accompanies the planning application provides a more detailed description of the Development with illustrations.
- 4.1.4 A description of the anticipated construction programme and a description of proposed key construction activities is provided within Chapter 5: Construction.

4.2 Overview of the Consented Scheme

- 4.2.1 Planning permission for the Consented Scheme was granted on 15 April 2016 (LPA ref HGY/2015/3000)¹. This 'Hybrid Consent' gave full planning permission for Plot 1 (The Stadium), Plot 2 (The Tottenham Experience) and Plot 3 (Hotel) and outline planning permission for Plot 4 (The Extreme Sports Building), Plot 5 (The Residential Buildings and Flexible B1/D1 Space) and Plot 6 (The Community Health Building).
- 4.2.2 Planning permission for Plot 6 has lapsed. As such, for the basis of this assessment, it is assumed that the health care provision for the (unbuilt) residential uses of the Consented Scheme (and Development) would be met by planned provision elsewhere in the vicinity of the Site.
- 4.2.3 Once complete, the Consented Scheme would provide up to 205,146 sqm Gross Internal Area (GIA) of floorspace. The maximum approved site wide floorspace by use is set out in Condition A7 is presented in Table 4.1.

Table 4.1: Consented Scheme Land Use Schedule

Land Use	Use Class ¹⁰	Area GIA (sqm)	Units
Leisure (including stadium)	D2	122,000	n/a
Hotel	C1	15,537	180 rooms
Residential	C3	53,298	634

¹⁰ NB referral to previous use classes before the Use Classes Order amendments (2020).

Land Use	Use Class ¹⁰	Area GIA (sqm)	Units
Sui Generis/Tottenham Experience	Sui Generis	4,311	n/a
Business	B1	4,000 (max)	n/a
Community and Culture	D1	6,000 (max)	n/a

4.2.4 The Consented Scheme's illustrative housing mix is presented in as presented in Table 4.2. Condition F10 of the Operative Permission which requires no more than 5% of units as studios, no less than 5% as three bed units and no more than 50% as 1 bed units.

Table 4.2: Consented Scheme Illustrative Housing Mix

Unit	Plot 1	Plot 2	Plot 3	Plot 4	Plot 5	Plot 6	Total
Studio	0	0	0	0	0	16	16
1-bedroom	0	0	35	0	0	250	285
2-bedroom	0	0	14	0	0	288	302
3-bedroom	0	0	0	0	0	31	31
Total	0	0	49	0	0	585	634

4.2.5 The Consented Scheme plot heights are provided in Table 4.3, with an illustration of the Consented Scheme presented in Figure 4.1. For those plots granted outline consent (denoted with a '*') subsequent reserved matters will confirm the final fixed heights.

Table 4.3: Consented Scheme Building Heights

Plot	Maximum Height	Maximum No. Storeys
Plot 1	59.15 mAOD	N/A
Plot 2	25.10 mAOD	3
Plot 3	100.00 mAOD	23
Plot 4 *	62.00 mAOD	7
Plot 5 *	A – 104.62 mAOD B – 78.22 mAOD C – 131.02 mAOD D – 80.22 mAOD	32
Plot 6 *	31.8 mAOD	2

Figure 4.1: Consented Scheme Illustration (View from East)



4.3 S.73 Amendments

- 4.3.1 The Consented Scheme, as varied by the Amendments, is referred to as the Development. The S.73 Application is a detailed application with the following Development Description:

“Application under Section 73 of the Town and Country Planning Act for variations to Condition A4 (Consented Drawings and Documents) and Condition A7 (Maximum Quantity/Density) of the hybrid planning permission HGY/2015/3000 (as amended) for the proposed demolition and comprehensive redevelopment of the Northumberland Park Development Project (the amendments consist of revisions to the design, height and maximum floorspace at Plot 3 Hotel and other changes).”

- 4.3.2 The Amendments are focussed on the detailed design and heights of Plot 3 and surrounding public realm. The Development (as varied by the Amendments) is presented within Figure 4.2. No amendments are proposed to the other five development plots which comprise the majority of the NDP Site (i.e. Plot 1, Plot 2, Plot 4, Plot 5 and Plot 6). The Amendments do not seek to alter the description of development or the approved red line boundary of the Site for the Consented Scheme permission.

Figure 4.2: Illustration of the Development



Plot Layout

- 4.3.3 The layout of the Plots is consistent with the Consented Scheme with the exception of the removal of Plot 6 as the planning permission for this Plot has lapsed and will not be brought forward. The Plot Layout is presented within Figure 3.1, Chapter 3: Site and Setting.

Land Use

Location of Floorspace Delivery

- 4.3.4 The location of the land uses to be delivered across the Development is consistent with the Consented Scheme.

Floorspace

- 4.3.5 The approved floorspace is set out within Condition A7 of the Consented Scheme which presents the thresholds for floorspace by use class and a maximum developable floorspace within each Development Zone (Plot). The land use schedule within Condition A7 will be amended to revise the land use space to be delivered, which present a 768 sqm GIA increase in hotel floorspace within Plot 3 (15,537 sqm to 16,305 sqm). These updates are presented within Table 4.4.

Table 4.4: Development Land Use Schedule

Land Use	Use Class	Area GIA	Units	Change from Consented Scheme
Leisure (including stadium)	D2	122,000 sqm	N/A	N/A
Hotel	C1	15,537 16,132 sqm	180 rooms	+595 sqm
Residential	C3	53,298 sqm	634	N/A
Sui Generis/Tottenham Experience	Sui Generis	4,311 sqm	N/A	N/A
Business	B1	4,000 sqm (max)	N/A	N/A
Community and Culture*	D1	6,000 sqm (max)	N/A	N/A

Residential Mix

- 4.3.6 The number of units and the residential mix of the Development will remain in accordance with the Consented Scheme and provide a range of housing mixes. Whilst the size of the residential units will be larger than the Consented Scheme, they remain consistent with the site wide dwelling mix in Condition F10 of the Hybrid Permission which states that no more than 5% of units shall be studios, no less than 5% shall be three bed units and no more than 50% shall be 1-bedroom units.

Building Scale

- 4.3.7 The Plot 3 storey heights will increase from 23 to 29 storeys. The height of the Plot 3 building has been increased by between 21.6m (121.65m AOD) and 27m (to 127.2m AOD), with the high point representing the peak of the sloped roof. This compares to 100.00m AOD for the currently consented hotel, i.e. an increase in height of 21.6 and 27 metres.
- 4.3.8 A verified image of Plot 3 is presented in Figure 4.2. A computer generated image (CGI) of the Development is presented in Figure 4.3.

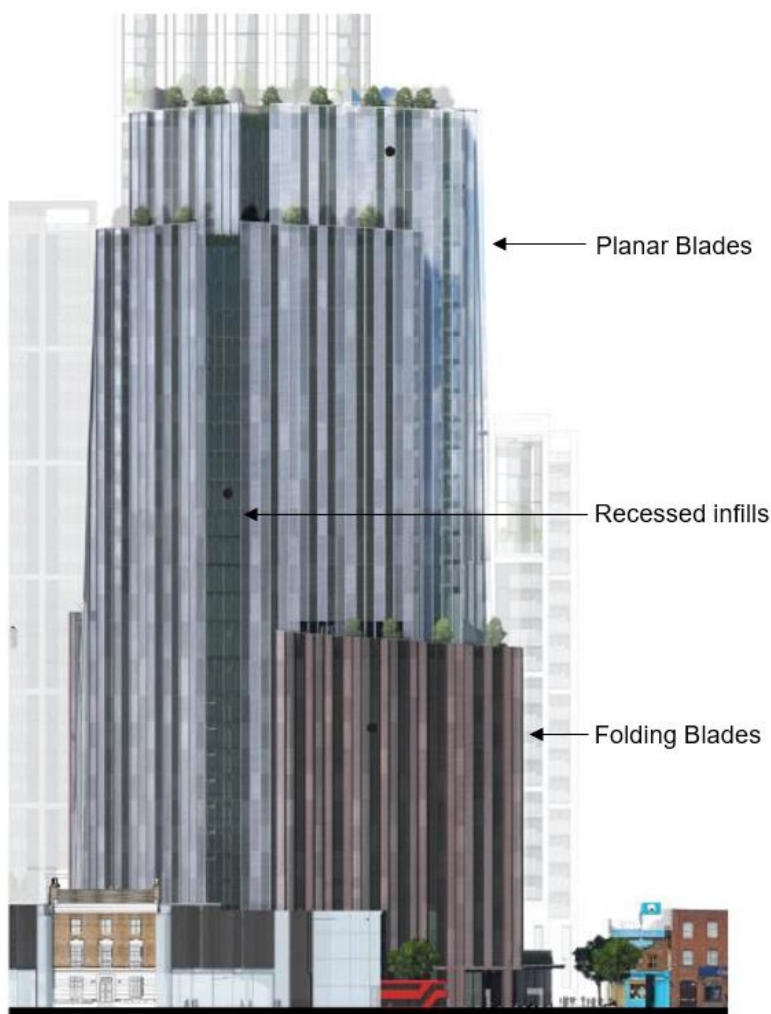
Figure 4.3: Plot 3 Massing



Appearance

- 4.3.9 The proposed architecture and materiality for Plot 3 will be of high quality and echo the colour and textural quality of the surrounding context, notably Warmington House and the existing Plot 1 (Stadium).
- 4.3.10 The architectural façade design will comprise a combination of opaque and glazing elements including:
- **Planar blades** across the entire façade of the building. These will be clad with aluminium and light bronze vertical brackets;
 - **Recessed infills** comprising of dark coated painted glass matched with charcoal grey aluminium fins. Recessed infilled balconies will be proposed along the opaque areas of the façade on the south and north elevations; and
 - **Folding blades** at the base of the building that will comprise of bronze coloured aluminium panels.
- 4.3.11 The main façade types outlined above are illustrated in Figure 4.4.

Figure 4.4: Plot 3 Facade Treatment



Access and Parking

- 4.3.12 No changes are proposed to the site-wide access strategy from the local highway network for cars or bicycles. Access arrangements to the car parking area in the basement of the hotel will remain unchanged via the constructed ramped access provided immediately to the east of the Plot 3 Site.
- 4.3.13 Three separate, secure and covered pedestrian entrances are proposed from street-level from Park Lane – the first provides access to the Hotel lobby; the second to the serviced apartment residential lobby; and the third to a shared amenity area.
- 4.3.14 Cycle access is taken via the back-of-house access. Short-stay cycle parking for visitor and long-stay cycle parking for hotel employees and guests will be located on the ground floor and will be accessed from this point; concierge service will be provided for hotel guests. Residential cycle parking is provided at the basement level; the cycle lift is proposed to be located adjacent to the visitors cycle parking area on the ground floor.
- 4.3.15 The cycle parking for the Development has been increased to be in line with the current London Plan standards. The Development will provide 104 long stay and eight short stay cycle parking spaces for all land uses.

- 4.3.16 The Consented Scheme included 76 car parking spaces at basement level and these have been constructed as part of Plots 1 and 2. The increase in the cycle parking and changes in the Development reduce the number of car parking spaces provided in the basement. Seven wheelchair accessible spaces and 60 standard spaces will be retained. Electric vehicle charging will be provided to 20% of the spaces as active charging facilities and the remaining 80% will have passive provision meaning that all spaces can be upgraded to provide electric vehicle charging if there is demand.

Delivery and Servicing

- 4.3.17 The delivering and servicing arrangements for Plots 1, 2 and 4-6 remain as per the Consented Scheme.
- 4.3.18 Since grant of the Operative Permission, delivery and servicing patterns have changed significantly for Plot 3. The design team have therefore reviewed the requirements and identified the need to accommodate up to four vehicles for deliveries and servicing during a peak period. This could not be accommodated under the Consented Scheme without a significant loss of public realm. As such, delivery and servicing are proposed to be taken from a designated loading area at the forecourt of the Plot 3 Site accessed from Park Lane. Swept path analysis presented as part of the planning application confirms this can accommodate a 6m van accessing and egressing the designated residential loading area and a 15m coach accessing and aggressing the Plot 3 Site forecourt.
- 4.3.19 Delivery and serving for Plot 3 will be split between the basement and podium. Car-derived vans will be used for smaller deliveries in the basement and large deliveries and refuse collection will take place at the podium level.
- 4.3.20 Coaches and taxi drop off will be accommodated in front of the hotel, separate to the loading facilities to ensure demand is managed appropriately. Fire tenders are also able to access the drop off zone.

Basements

- 4.3.21 The proposed basements across the Development remain consistent with the Consented Scheme. These are present underneath Plots 1 and 3 and have been delivered as part of enabling works and construction of the early phases.

Landscaping and Play Space

- 4.3.22 The landscaping strategy aims to improve pedestrian access and permeability into the Site at street level with a more open aspect incorporating a wider canopy. Within the canopy, fully accessible lifts and stairs are provided externally to podium level.
- 4.3.23 The landscape design has been developed to increase space for pedestrians and the amount of greening. This has been achieved through planting at the street level and podium level.
- 4.3.24 A revised landscape design at the junction between Park Lane and the High Road proposes an entrance plaza/square at street level, creating an enhanced civic public realm at the southern approach from the High Road to the Hotel and wider stadium precinct. A

combination of paving is proposed including the existing herringbone block paving, high quality stone paving and stone sets. Two large seating areas are proposed adjacent to Park Lane which are integrated with a raised steel edge planter to include three trees. Bollards are proposed in the paving and are required for safety purposes.

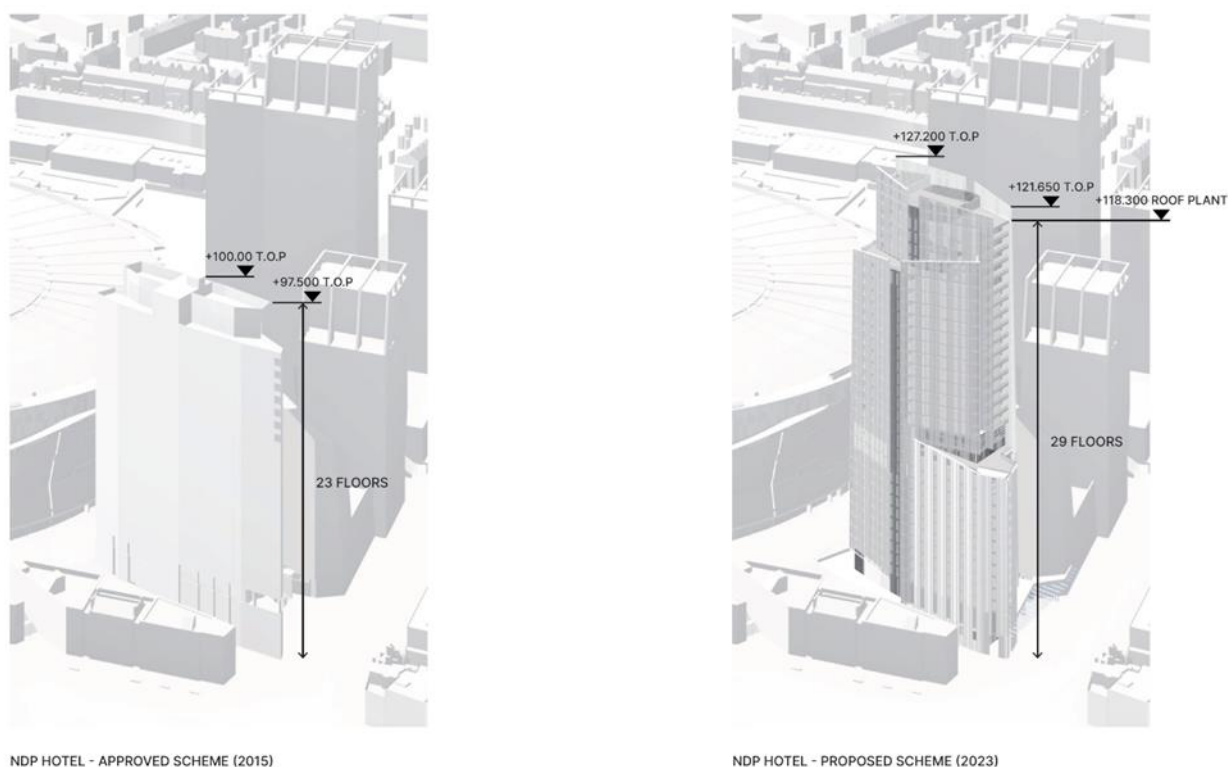
- 4.3.25 At podium level, an enclosed terrace for the restaurant is proposed at the northern edge for spill out seating. This will be paved with high quality stone and include planting in raised planters and four trees set in a structural slab pocket. A southern terrace is also proposed with further seating which will also include a planter edge with integrated seating and small multi-stem trees.
- 4.3.26 The Consented Scheme did not propose any on-site playspace, as the original masterplan allowed for serviced apartments which did not generate a child yield.
- 4.3.27 Based on the unit/tenure mix, the total demand for playspace generated by Plot 3 is 220.6 sqm. Playspace is proposed within a 35 sqm area on the Level 13 terrace. This will provide an accessible doorstep playable space for the 0 – 5 year category which is safe, overlooked and easily accessible for residents and visitors of residents. The remainder of the playspace required by the Amendments will be delivered within Plot 5 of the Consented Scheme, at reserved matters stage.

4.4 Alternatives

- 4.4.1 Regulation 18(3)(d) and Paragraph 2 of Schedule 4 of the EIA Regulations, requires an ES to include a description of the ‘*reasonable alternatives*’ to the proposed development studied by the developer, which are relevant to the proposed project and an indication of the main reasons for selecting the chosen option, including a comparison of the environmental effects as applicable.
- 4.4.2 Section 4.10 of Chapter 4: Description of the Project of the 2015 ES set out the ‘main’ alternative designs considered for the Consented Scheme. The discussion on alternatives remains materially unchanged by this S.73 Application. The 2015 ES is provided within Appendix 1.1.
- 4.4.3 No alternative sites have been considered by the Applicant due to the Applicant’s ownership of the Site and the assessment of alternative sites have therefore not been considered further in this ES Addendum.
- 4.4.4 The ‘No Development’ alternative is not considered further in this ES Addendum as the Consented Scheme has planning permission for redevelopment and construction is already underway, with Plots 1 and 2 complete and operational.
- 4.4.5 The Amendments have been developed to respond to the evolving regeneration of the surrounding area, informed by engagement with hotel operators. The main reason for taking forward the S.73 Application over the Consented Scheme is to improve the design of the hotel building (taller and more elegant), take into account occupier requirements and respond to up to date building and fire regulations which require a second stair core.

- 4.4.6 Following technical analysis of the design and consultation with LB Haringey, additional embedded mitigation was introduced through additional landscaping at ground and podium levels to mitigate potential wind effects as well as additional balustrades provided for wind mitigation. Amendments were also introduced to slightly reduce the maximum extent of development area and provide more certainty on distribution of future land uses. To illustrate these changes, Figure 4.5 provides a visual comparison between the Consented Scheme and the Development.

Figure 4.5: Visual Comparison of the Consented Scheme vs Proposed Development



- 4.4.7 Table 4.4 provides a high-level comparison of the environmental effects between the Consented Scheme and the Development where new technical assessments have been carried out. For other technical topics (i.e. air quality, archaeology, cultural heritage, ecology, water and flood risk, ground conditions and hydrogeology, noise and vibration, socio-economics, transport, and electronic interference), Statements of Conformity have been completed that illustrate that there is no new or materially different significant effects for these environmental considerations.

Table 4.4: Comparison of Environmental Effects between the Consented Scheme and the Development

Topic	Comparison
Townscape and Visual	A comparison of the predicted overall likely residual effects of the Development and the Consented Scheme has been undertaken for townscape and visual effects. This concluded the potential for an change in significant townscape and visual effects at a small number of receptors.

Topic	Comparison
Wind	A comparison of the predicted overall likely residual effects of the Development and the Consented Scheme has been undertaken for wind microclimate. This concluded no material change to wind microclimate effects.
Daylight, Sunlight and Overshadowing	A comparison of the predicted overall likely residual effects of the Development and the Consented Scheme has been undertaken for daylight, sunlight and overshadowing. This concluded the potential for an increase in significant solar glare effects at a small number of receptors, but no material change in daylight, sunlight and overshadowing effects.
Climate Change	Comparison not possible – no previous assessment was undertaken within the 2015 ES.

- 4.4.8 Table 4.4 shows that the environmental effects of the Consented Scheme and the Development, as assessed through this EIA process, are within the same order of significance as those reported within the 2015 ES for the majority. For those topics considered in the 2015 but scoped out of this EIA, the scheme changes are not considered to give rise to a new or materially different change in environmental effects. Furthermore, the previously agreed mitigation and controls secured by planning condition (or other planning mechanism) for these topics are not proposed to be amended by the S.73 application.

5 Construction, Phasing and Implementation

5.1 Works Undertaken On-Site

- 5.1.1 Construction of the Consented Scheme commenced with earthworks and basement excavation in 2015. Within the 2015 ES, the construction stages were split into three phases:
- Phase 1 – Stadium Phase (A) (i.e. Plot 1);
 - Phase 2 – Stadium Phase (B) (i.e. Plot 2); and
 - Phase 3 – Mixed-use Phase.
- 5.1.2 Phases 1 and 2 (i.e. Plots 1 and 2) have been built out and are operational as of 2019. As part of the delivery of Plots 1-2 and below ground works to Plot 3, the ground excavation and remediation has been completed.
- 5.1.3 Following approval of the Operative Permission, the basement which is located beneath Plots 1 and 3 was excavated in two phases, to 10.5mAOD. Sheet pile walls were then installed and excavation to formation level as detailed below was undertaken. Basements were excavated to between 7.01mAOD on the west and 6.773mAOD on the east of the Site with formation level excavations (in the area of the new pitch and surrounding surfacing areas) extending up to 10.5mAOD, pre-construction site levels being between 11.3mAOD and 12.5mAOD.

5.2 Construction Sequence and Phasing

- 5.2.1 The Consented Scheme assumed a 2022 opening year for all of the Plots.
- 5.2.2 It is now anticipated that the Development would be completed and fully occupied by 2028 and therefore the preparation and construction works would span approximately 4 years.
- 5.2.3 Given the hybrid nature of the consent, with Plots 4-6 forming Outline Components, it is not possible to provide exact construction programming and exact phasing of works in this ES Addendum. This is line with the approach undertaken for the 2015 ES. Due to the outline nature of Plots 4 - 6, there is greater uncertainty of the form and delivery of each Plot that will come forward. While the exact durations of the construction programmes of Plots 4 – 6 will be defined during Reserved Matters Applications, for the purposes of this ES Addendum, the durations of these construction stages have been based on those presented in the 2015 ES.
- 5.2.4 As such, the previous sequencing of works outlined in the Indicative Phasing Plan associated with the Consented Scheme is revised for construction of the remainder of the Consented Scheme based on Table 5.1.

Table 5.1: Construction and Phasing Programme

Description of Works	Start Date	Anticipated Completion	Duration
Construction of Plot 3 (Hotel)	Q4 2025	Q4 2027	24 months
Construction of Plot 4 (Extreme Sports Centre)	Q2 2026	Q2 2027	12 months
Construction of Plot 5 (Residential)	Q4 2026	Q4 2028	24 months
Construction of Plot 6 (Community Health)	Planning permission lapsed.		N/A

5.2.5 This change to the principles of construction phasing is not considered to be material to the findings of the 2015 ES given that the appropriate measures to mitigate such works are already secured as part of the Consented Scheme. These are principally controlled by managements plans as follows:

- Phase-specific CEMPs in line with Consented Scheme Conditions D2, E3, F3, and G3 for future plots;
- Phase-specific Air Quality Dust Management Plans in line with Consented Scheme Conditions D3, E4, F4 and G4 for future plots;
- Phase-specific Construction Waste Management Plans (CWMP) in line with Consented Scheme Conditions D4, E5, F5 and G5 for future plots.

5.2.6 These management plans would be implemented during development of the future Plots and resecured through conditions on this S.73 Application.

5.2.7 More details on construction phase mitigation are provided in the technical chapters of this ES Addendum. Further consideration of construction phasing and sequencing will be provided within each Reserved Matters Application for future plots.

5.3 Description of Site Preparation and Construction Activities

5.3.1 The description of construction works for the Development remains largely unchanged from that set out for the Consented Scheme in the 2015 ES. This is summarised as follows:

- Main cores – construction of cores would use combination of jump / slip / twin wall or traditional shuttering methods assisted by tower cranes. This would be confirmed by the appointed contractor for each Phase of development.
- Floor slabs – the progress of the cores would be closely followed by the construction of the floor slabs. These would be constructed using a table form or a lightweight assembled falsework system, which would also be assisted by tower cranes.
- Fit out – comprises non-weather and weather sensitive fit outs, including partitions to the apartments and the installation of primary services including the risers.

- Commissioning and completion – comprise the final snagging and de-snagging stage to bring the buildings to completion and ready for occupation.

5.4 Material and Resource Use

- 5.4.1 As noted in the 2015 ES, relatively little demolition work would take place across the Site as the areas above ground for Plots 3-6 are predominantly clear. While there are meanwhile uses present on the south eastern portion of the Site including temporary football pitches, there are no permanent structures on-site that would require demolition. The majority of the material generation from the Development as a whole was from excavation of the basement area under the Plot 1 and Plot 3, of which the works have been completed. This is as presented within the 2015 ES.

5.5 Plant and Equipment

- 5.5.1 The plant and equipment associated with each key construction activity of the Consented Scheme was set out in the 2015 ES (Chapter 5: Construction, Phasing and Implementation, see Appendix 1.1). The Amendments will not result in any changes to the construction works and therefore the likely plant and equipment remains as stated in the Current ES.

5.6 Construction Management

- 5.6.1 The site preparation and construction of the Development would be carried out in accordance with agreed construction mitigation strategies currently being implemented on the Consented Scheme as far as practicable. A summary of the key aspects of these management processes are set out below.

Hours of Work

- 5.6.2 The core working hours for site preparation and construction for the Development would be in line with the Conditions of the Operative Permission as follows:
- 08:00 – 20:00 hours.
- 5.6.3 As noted in the 2015 ES, any work outside these hours would be subject to prior agreement via S.71 agreement, and/or reasonable notice given to the LB Haringey, the LB Haringey and Environmental Health Officers (where appropriate).

Traffic Management

- 5.6.4 All the construction traffic would route to the Site by way of the A1010 High Road/Fore Street that connects to site to the A406 North Circular Road.
- 5.6.5 As set out in ES Addendum Chapter 15: Transport and Access and the Transport Assessment Addendum (Appendix 8.1), it is not expected that construction vehicle trips would exceed the peak of that forecasted for the Consented Scheme.
- 5.6.6 Construction Travel Plans (CTP) would be prepared for construction workers. The CTP would specify no construction worker parking on-site and construction workers would be encouraged to use the local public transport infrastructure. Unapproved parking on public

roads would not be allowed. Provisions would be made for essential on-site parking. Any local traffic management measures for site access would be agreed with LB Haringey.

- 5.6.7 During the removal / diversion of associated existing services there may be the requirement for temporary road closures and / or diversions to occur. Details of this would be discussed and agreed with the LB Haringey at the appropriate time.

Public Relations

- 5.6.8 The Applicant is already committed to a number of measures for community engagement with neighbours and local stakeholders and will continue with such measures for the duration of the construction phase for the Development. No amendments to the existing complaints management process are proposed and complaints will continue to be immediately investigated.
- 5.6.9 The Applicant would also register each Plot on the Considerate Constructors Scheme and comply with the relevant guidelines.

6 Air Quality

6.1 Introduction

- 6.1.1 This ES Addendum chapter, prepared by Air Quality Consultants Ltd (AQC), provides a Statement of Conformity that reports the findings related to whether the S.73 Application, or other changes in circumstances, materially affect the environmental information pertaining to air quality effects provided within the 2015 ES to inform decision making.
- 6.1.2 This chapter is also supported by the following technical appendices presented within Volume III:
- Appendix 6.1: Glossary;
 - Appendix 6.2: Legislation and Policy Context;
 - Appendix 6.3: Professional Experience; and
 - Appendix 6.4: Air Quality Neutral Assessment.

6.2 Competence

- 6.2.1 The principal authors of this chapter are Isabel Stanley and Dr Kate Wilkins. Isabel Stanley is a Consultant at AQC with over 3 years' experience in the field of air quality. Dr Wilkins is a Senior Consultant with AQC and is a Member of the Institute of Air Quality Management (IAQM)¹¹. Both authors have experience undertaking air quality assessments for a number of schemes, including road traffic schemes for residential and commercial projects, and EIA schemes with emergency diesel generators.
- 6.2.2 The chapter was reviewed by Guido Pellizzaro, Technical Director at AQC. Mr Pellizzaro has more than 15 years' experience in the field of air quality management and assessment. His main experience relates to managing and delivering air quality assessments for major planning applications and EIA development. He is a Member of the Institution of Environmental Sciences and of the IAQM, and a Practitioner of the Institute of Environmental Management and Assessment.
- 6.2.3 A summary of the professional experience of the consultants contributing to this assessment is provided in Appendix 6.3.

6.3 EIA Topic Overview

- 6.3.1 The conclusions of the 2015 ES are summarised in Table 6.1.

Table 6.1: Reported Findings in 2015 ES

Aspects Previously Considered in 2015 ES	Scale of Impact	Significance
<i>Construction Phase</i>		

¹¹ The IAQM is the professional body for air quality practitioners in the UK.

Aspects Previously Considered in 2015 ES	Scale of Impact	Significance
Construction dust impacts	n/a ^a	Not Significant ^a
Construction traffic impacts – no local construction compound	Negligible to Moderate Adverse	Potentially Significant
Construction traffic impacts – with local construction compound	Negligible to Moderate Adverse	Potentially Significant
<i>Completed Development Phase</i>		
Operational traffic impact in 2018	Negligible to Moderate Adverse ^b	Potentially Significant
Operational traffic, energy plant and diesel generator emissions in 2021	Negligible to Substantial Adverse ^c	Potentially Significant
Impacts of existing and proposed sources on proposed receptors	Concentrations below the objectives ^d	Not Significant

^a The scale of impacts at individual receptor locations was not determined for demolition and construction. A qualitative assessment was undertaken, and it is considered that with the application of recommended mitigation measures, residual effects would be 'not significant'.

^b It is stated in the 2015 ES that the scenario generating *moderate adverse* impacts (Nitrogen Dioxide Without Emissions Reduction) is *"based on worst-case assumptions and is unlikely to be realised. It is likely that the actual concentrations will lie between the two scenarios [with and without emissions reductions] and probably be nearer to the without emission reduction scenario in 2018 given the absence of any local downward trend over the 10 year period to 2014."*

^c It is stated in the 2015 ES that the scenario generating *substantial adverse* impacts (Nitrogen Dioxide Without Emissions Reduction) is *"based on worst-case assumptions and is unlikely to be realised. It is likely that the actual concentrations will lie between the two scenarios [with and without emissions reductions] and should be nearer to the without emission reduction scenario in 2021 given the expected performance of the new vehicle emission standards."*

^d No impact assessment was undertaken for introduced receptors.

6.3.2 Regarding construction traffic impacts in 2016, the 2015 ES states that *"There may be some moderate adverse impacts at properties along High Road but these will be temporary and not applicable when the site is fully operational."*

6.3.3 Regarding operational impacts, the 2015 ES states that *"There are likely to be some slight to moderate adverse impacts at properties along High Road in 2018, however, the number will depend on how effective the new cleaner Euro 6 and Euro VI vehicles are"*, and that *"There are likely to be a small number of adverse impacts at properties along High Road at relevant receptor locations due mainly to road traffic, however, in the wider study area the impacts are mainly negligible. There are also likely to be adverse impacts due to the operation of the stadium generator plant, in particular to the northeast of the stadium"*.

6.3.4 Regarding impacts on introduced receptors, taking into account existing and proposed emissions, the 2015 ES states that air quality for future residents within the Site and users of the development will be acceptable.

6.3.5 The purpose of this chapter is to consider the air quality implications, if any, that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.

6.4 Relevant Amendments

- 6.4.1 The S.73 Application seeks to amend Plot 3 of the Consented Scheme. The Amendments of relevance to this assessment are as follows:
- Changes to the building form and layout of the building;
 - Increase to the height of the building (an increase of approximately 27m from 100 m to c.127m); and
 - The overall floorspace of the hotel building would increase from approximately 18,820 sqm to 25,798 sqm.
- 6.4.2 It is important to note that the overall level of parking, and therefore vehicle trip generation associated with those occupiers who will hold a car parking space, would not materially change from that assessed in the 2015 ES.
- 6.4.3 The 2015 ES stated that the Applicant is committed to working with the LB Haringey on the delivery of a District Heat Network (DHN) and all buildings would be designed to connect to this network when completed. However, as full details of the location and specification of the DHN were unknown at the time of the assessment, it assumed that various components of the scheme would have their own independent energy solutions (a range of boiler and generator plant).
- 6.4.4 The mechanical and electrical (M&E) consultants for this planning application (Buro Happold) have confirmed that the energy strategy for Plot 3 (Hotel) and Plot 5 (Residential) has been updated and the proposed gas boilers will now be replaced by Air Source Heat Pumps (ASHPs) for the routine provision of heating and hot water while the details of the connection to the DHN are confirmed. The connection to the DHN will also remove the requirement for boilers in the Extreme Sports Centre (Plot 4) and may reduce the demand on the boilers already installed in the Stadium (Plot 1).
- 6.4.5 There are no on-site emissions associated with ASHPs, which will represent an air quality improvement relative to what was assessed in the 2015 ES. There will, however, still be emergency diesel generators included within Plots 3 and 5 for life-safety purposes but the overall testing duration for the generator within Plot 3 has reduced from the Consented Scheme. For the purposes of this SoC, it is assumed that aside from the changes set out above, future plots will implement the energy strategy as presented within the Consented Scheme to provide a worst-case assessment should the connection to the DHN be delayed.

6.5 Assessment Review

- 6.5.1 The scope of the air quality assessment is as follows:
- Review and update the baseline conditions where necessary;
 - Review and update the policy and guidance section, where necessary;
 - Review and identify any new sensitive locations where people might be affected by changes in air quality;
 - Qualitatively consider the changes to air quality, using technical guidance; and
 - Review of cumulative schemes for assessment.

- 6.5.2 Based on the Amendments updated air quality modelling is not considered necessary. A qualitative review of the potential impacts of the Amendments has therefore been provided.

6.6 Legislation, Policy and Guidance Review

- 6.6.1 A review of UK legislation, planning policy and guidance relevant to the assessment has been undertaken; there have been a number of updates to legislation and national planning policy, however, they do not alter the approach to the assessment.

Assessment Criteria

- 6.6.2 The PM_{2.5} objective set by Defra for local authorities is to work toward reducing concentrations without setting any specific numerical value. In the absence of a numerical objective, it is convention to assess local air quality impacts against the limit value, originally set at 25 µg/m³ and currently set at 20 µg/m³.
- 6.6.3 Defra has also recently set two new targets, and two new interim targets, for PM_{2.5} concentrations in England. One set of targets focuses on absolute concentrations. The long-term target is to achieve an annual mean PM_{2.5} concentration of 10 µg/m³ by the end of 2040, with the interim target being a value of 12 µg/m³ by the start of 2028¹². The second set of targets relate to reducing overall population exposure to PM_{2.5}. By the end of 2040, overall population exposure to PM_{2.5} should be reduced by 35% compared with 2018 levels, with the interim target being a reduction of 22% by the start of 2028.
- 6.6.4 Defra will assess compliance with the population exposure targets by averaging concentrations measured at its own background monitoring stations. This will not consider small changes over time to precisely where people are exposed (such as would relate to exposure introduced by a new development). Furthermore, all four new targets provide metrics against which central Government can assess its own progress. While local authorities have an important role delivering the required improvements, these are expected to relate to controlling emissions and not to directly assessing PM_{2.5} concentrations against the targets.
- 6.6.5 In March 2023, the Department for Levelling Up, Housing and Communities¹³ explained that the new PM_{2.5} targets will:
- “need to be integrated into the planning system, and in setting out planning guidance for local authorities and businesses, we will consider the specific characteristics of PM_{2.5}. The guidance will be forthcoming in due course, until then we expect local authorities to continue to assess local air quality impacts in accordance with existing guidance.”*
- 6.6.6 For the time being, therefore, no assessment is required, and indeed no robust assessment is possible, in relation to the new PM_{2.5} targets and they are not considered further.

¹² Meaning that it will be assessed using measurements from 2027. The 2040 target will be assessed using measurements from 2040. National targets are assessed against concentrations expressed to the nearest whole number, for example a concentration of 10.4 µg/m³ would not exceed the 10 µg/m³ target.

¹³ Department for Levelling Up, Housing and Communities. Planning Newsletter. Available https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/1140170/03_Chief_Planners_Newsletter_March_2023.pdf. 2023

- 6.6.7 As explained in Paragraph A2.29 in Appendix 6.2, the GLA has set a target to achieve an annual mean PM_{2.5} concentration of 10 µg/m³ by 2030. This target was derived from an air quality guideline set by WHO in 2005. In 2021, WHO updated its guidelines, but the London Environment Strategy (GLA, 2018a) considers the 2005 guideline of 10 µg/m³. While there is no explicit requirement to assess against the GLA target of 10 µg/m³, it has nevertheless been considered within this assessment.

Legislation Context

- 6.6.8 The following updated legislation is relevant to the Development, which are summarised in Appendix 6.2:

- Environment Act 2021¹⁴;
- Environment Improvement Plan 2023¹⁵;
- Building Regulations (2020, as amended June 2022)¹⁶;
- Environmental Permitting (England and Wales) (Amendment) Regulations (2018)¹⁷;
- National Air Quality Plan (2017)¹⁸ and supplement (2018)¹⁹;
- Air Quality Strategy 2023²⁰;
- Clean Air Strategy 2019²¹; and
- Reducing Emissions from Road Transport: Road to Zero Strategy²².

Planning Policy Context

- 6.6.9 Key updated national, regional and local planning policies are listed below; summaries of each policy are provided in Annex 6.2:

National

- The National Planning Policy Framework (NPPF) (2021)²³; and
- Planning Practice Guidance (2019)²⁴.

London-Specific

- The London Plan²⁵;

¹⁴ Environment Act 2021. Available: <https://www.legislation.gov.uk/ukpga/2021/30/contents/enacted>

¹⁵ Defra. Environmental Improvement Plan 2023. 2023.

¹⁶ Ministry of Housing, Communities & Local Government. The Building Regulations 2010 The Merged Approved Documents. 2020.

¹⁷ HMSO. The Environmental Permitting (England and Wales) (Amendment) Regulations 2018 Statutory Instrument 110, 2018.

¹⁸ Defra. Air quality plan for nitrogen dioxide (NO₂) in the UK. 2017.

¹⁹ Defra. Supplement to the UK plan for tackling roadside nitrogen dioxide concentrations. 2018.

²⁰ Defra. Air Quality Strategy: Framework for Local Authority Delivery. 2023.

²¹ Defra. Clean Air Strategy 2019. 2019.

²² DfT. The Road to Zero: Next steps towards cleaner road transport and delivering our Industrial Strategy. 2018.

²³ Ministry of Housing, Communities and Local Government. Revised National Planning Policy Framework. 2021.

²⁴ Ministry of Housing, Communities & Local Government. Planning Practise Guidance. 2019.

²⁵ GLA. The London Plan: The Spatial Development Strategy for London. 2021.

- London Environment Strategy²⁶; and
- Mayor's Transport Strategy²⁷.

Local

- Development Plan Document²⁸; and
- Air Quality Action Plan²⁹.

Guidance

- 6.6.10 A new London Plan was adopted in March 2021³⁰. The main change relevant to this assessment is the GLA's aspiration to achieve the World Health Organisation (WHO) guideline value for annual mean PM_{2.5} of 10 µg/m³ by 2030. While there is no explicit requirement to assess against the GLA target of 10 µg/m³, it has nevertheless been considered within this chapter.
- 6.6.11 The London Plan introduced the concept of Air Quality Positive for large-scale development. This approach is designed to consider air quality from early in the design process; the scheme has already been designed and consented and a full air quality positive statement is not necessary. However a list of design measures implemented which inherently contribute towards air quality positive targets within the Consented Scheme has been provided. There have also been changes to Air Quality Neutral guidance³¹, and the air quality neutrality of the Development is reconsidered in light of this updated guidance.
- 6.6.12 Since the 2015 ES, a new version of the IAQM's Guidance on Land-Use Planning & Development Control: Planning For Air Quality³² has been published. The changes to this guidance do not affect the outcome of the assessment presented in the 2015 ES.

6.7 Baseline Review

- 6.7.1 Since approval of the Consented Scheme, the Site has undergone significant change, with the completion and occupation of Plot 1 (Stadium) and Plot 2 (Tottenham Experience). The rest of the Plot 3 Site is currently occupied by temporary uses including a podium associated with the stadium, public realm and temporary structures.

Local Authority Monitoring Review

- 6.7.2 Additional air quality monitoring data are available for monitoring sites operated by LB Haringey in the vicinity of the Site. Data from the latest year presented in the previous assessment (2014) are reproduced in Table 6.2 for the High Road Automatic site and the four closest diffusion tubes to the Site, along with the more recent data for 2015 - 2021. Concentrations were below the objectives at all monitoring sites in 2019 (the most recent year unaffected by restrictions introduced as a result of the Covid-19 pandemic). A slight downward trend in concentrations is seen at all monitoring sites where there are sufficient

²⁶ GLA. London Environment Strategy. 2018.

²⁷ GLA. Mayor's Transport Strategy. 2018.

²⁸ London Borough of Haringey. Development Management Development Plan Document. 2017.

²⁹ London Borough of Haringey. Air Quality Action Plan 2019-2024. 2019.

³⁰ GLA. The London Plan: The Spatial Development Strategy for London. 2021.

³¹ GLA. London Plan Guidance - Air Quality Neutral. 2023.

³² IAQM. Land-Use Planning & Development Control: Planning For Air Quality. 2017.

data available between 2014 and 2019, with an average of a 15% decrease between 2014 and 2019. There have been no exceedances of the 1-hour mean objective at monitor HYG1 in any year between 2014 and 2021.

Table 6.2: Summary of Annual Mean Nitrogen Dioxide (NO₂) Monitoring (2014-2021) ^{a, b}

Site No.	Site Type	Location	2014	2015	2016	2017	2018	2019	2020	2021
Automatic Monitors – Annual Mean (µg/m³)										
HYG1	Roadside	639 High Rd	44 ^c	40	43	40	39	37	33	32
Objective			40							
Automatic Monitors – No. of Hours > 200 µg/m³										
HYG1	Roadside	639 High Rd	0	0	6	5	0	0	0	0
Objective			18							
Diffusion Tubes – Annual Mean (µg/m³)										
HR07	UB ^d	Park View Rd	25 ^e	-	-	-	-	-	-	-
HR14	Roadside	639 High Rd	37	39	33	34	33	34	31 ^f	31
HR23	Roadside	High St	30	38 ^g	-	-	-	-	-	-
HR25	Roadside	White Hart Ln	34	33	30	29	35	27	20	23
Objective			40							

^a Exceedances of the objectives are shown in bold.

^b Data have been taken from LB Haringey's 2021 Air Quality Annual Status Report³³.

^c Data capture was 64% in 2014 and therefore results have been annualised as part of the 2015 ES.

^d Urban Background.

^e Site HR07 closed in September 2014.

^f Site HR14 became a triplicate site from July 2020; average of triplicate presented.

^g Site HR23 closed in 2016.

6.7.3 No monitoring of PM₁₀ or PM_{2.5} concentrations is undertaken by LB Haringey in proximity to the Site.

Site-Specific Monitoring Survey

6.7.4 A site-specific monitoring survey for the Site has been undertaken to satisfy the requirements of Schedule 4 of the Section 106 agreement associated with the April 2016 planning consent. The survey includes one automatic monitoring site measuring NO₂ and PM₁₀ concentrations, and 12 NO₂ diffusion tube monitoring sites, which have been operational since 2019. The monitoring locations are shown in **Error! Reference source not found.** and data from these sites and presented in Table 6.3. Concentrations have been consistently above the annual mean objective at four monitoring sites adjacent to High Road. The 1-hour mean objective was exceeded in 2019 at the automatic monitor.

6.7.5 Measured PM₁₀ concentrations are shown in Table 6.4. Concentrations of PM₁₀ were below the annual mean and 24-hour mean objectives in all years.

³³ London Borough of Haringey. Air Quality Annual Status Report 2021. May 2022.

Table 6.3: Summary of Site-Specific Nitrogen Dioxide (NO₂) Monitoring (2019-2022) ^a

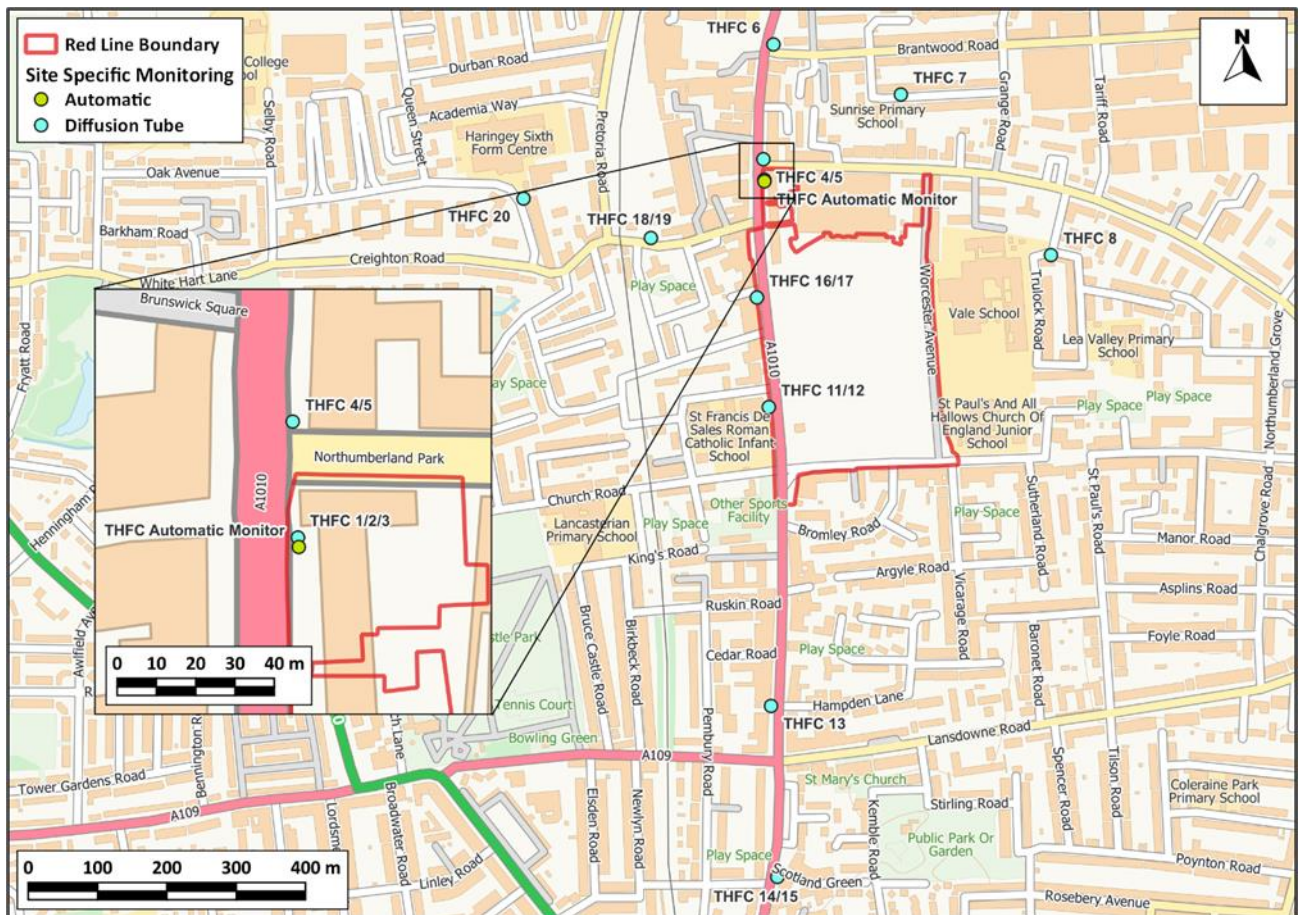
Site No.	Site Type	2019	2020	2021	2022
Automatic Monitor – Annual Mean (µg/m³)					
Automatic	Roadside	40.4	40.2	43.5	38.9
Objective		40			
Automatic Monitor – No. of Hours > 200 µg/m³					
Automatic	Roadside	0	20	1	1
Objective		18			
Diffusion Tubes – Annual Mean (µg/m³)					
THFC1/2/3	Roadside	46.7	40.3	43.6	39.4
THFC 4/5	Roadside	57.4	47.8	51.8	48.4
THFC 6	Roadside	50.8	37.0	38.4	34.0
THFC 7	Roadside	26.5	19.9	22.2	19.7
THFC 8	Roadside	32.1	20.4	21.1	16.7
THFC 9/10	Roadside	31.1	23.3	25.8	25.1
THFC 11/12	Roadside	45.3	35.8	37.7	32.6
THFC 13	Roadside	50.9	36.5	31.9	28.7
THFC 14/15	Roadside	47.1	43.8	51.5	45.2
THFC 16/17	Roadside	47.9	42.1	46.2	41.4
THFC 18/19	Roadside	44.0	39.3	41.6	39.7
THFC 20	Roadside	28.8	22.2	24.4	23.3
Objective		40			

^a Exceedances of the objectives are shown in bold.

Table 6.4: Summary of Site-Specific PM₁₀ Monitoring (2019-2022) ^a

Site No.	Site Type	2019	2020	2021	2022
Automatic Monitor – Annual Mean (µg/m³)					
Automatic	Roadside	25.1	19.8	22.1	27.6
Objective		40			
Automatic Monitor – No. of Days > 50 µg/m³					
Automatic	Roadside	12	7	7	18
Objective		35			

Figure 6.1: Site-Specific Monitoring Locations



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Sensitive Receptors

- 6.7.6 A review of new sensitive receptors in the vicinity of the Site that were not present at the time of the EIA for the 2015 ES has been undertaken. This review has identified new committed developments in the vicinity of the Site, most of which are located adjacent to High Road, to the west of the Site. A number of receptors adjacent to High Road were modelled as part of the 2015 ES; these receptors are considered represent worst-case exposure of the new receptors.
- 6.7.7 Since the completion of the 2015 ES, the old ticket office on Plot 1 (Stadium) has been refurbished and is now an operational public house. This new use is sensitive to the 1-hour mean nitrogen dioxide (NO₂) objective. This was modelled as a receptor in the 2015 ES and the impacts have therefore been considered.
- 6.7.8 Plots 1 and 2 of the Consented Scheme are now fully built and occupied. Receptors within these phases were previously assessed as 'proposed receptors' and are now be treated as 'existing receptors'.

- 6.7.7 Since the completion of the 2015 ES, the old ticket office on Plot 1 (Stadium) has been refurbished and is now an operational public house. This new use is sensitive to the 1-hour mean nitrogen dioxide (NO₂) objective. This was modelled as a receptor in the 2015 ES and the impacts have therefore been considered.

- 6.7.8 Plots 1 and 2 of the Consented Scheme are now fully built and occupied. Receptors within these phases were previously assessed as 'proposed receptors' and are now be treated as 'existing receptors'.

- 6.7.9 Within Plot 3 itself, the use class of the 49 serviced apartments within the hotel has been updated³⁴ since preparation of the 2015 ES and can now be used as C3 (residential).
- 6.7.10 Residential dwellings represent exposure to the long-term and short-term air quality objectives. The annual mean concentrations were assessed within the 2015 ES for all elements of the scheme, as a worst case.
- 6.7.11 The Amendments has increased the height of the Plot 3 building approximately 27m and there is now residential exposure at a higher level. This has been considered in the assessment of energy plant and generator emissions for the Consented Scheme, as flues are located at roof level. The location of the façade of the Plot 3 building, in relation to the adjacent road network, has not significantly changed.

6.8 Scheme Design and Management Measures Review

Construction

- 6.8.1 The Consented Scheme includes a series of measures designed to control dust emissions during construction, taking into account air quality sensitive receptors both within and adjacent to the Site. These measures are outlined in Appendix 6.10 of the 2015 ES. The measures are principally controlled by relevant management plans as follows:
- Phase-specific CEMPs in line with Consented Scheme Conditions D2, E3, F3, and G3 for future plots; and
 - Phase-specific Air Quality Dust Management Plans in line with Consented Scheme Conditions D3, E4, F4 and G4 for future plots.
- 6.8.2 These management plans would be implemented during development of the future Plots and resecured through conditions on this S.73 Application.

Completed Development

- 6.8.3 The Consented Scheme includes a series of measures designed to mitigate road traffic emissions during the operational phase, taking into account sensitive receptors both within and adjacent to the Site. Namely this includes electric vehicle charging infrastructure in line with the London Plan requirements.
- 6.8.4 A number of recommended mitigation measures outlined in the GLA's Sustainable Design and Construction SPG⁴⁰⁴⁰ are included within the 2015 ES, in order to minimise the impacts of boiler and generator emissions. These measures include:
- all stacks should discharge vertically upwards and be unimpeded by any fixture on top of the stack (e.g., rain cowls);
 - flues should terminate at least 1 m above the roof level;
 - boiler flues will be designed to emit emissions with a velocity of at least 7.5 m/s, which is the minimum velocity that was modelled;

³⁴ NMA permission, LPA ref: HGY/2017/1183, as described in ES Chapter 1: Introduction.

- installed plant should adhere to the specifications set out in Appendix 6.11 of the 2015 ES; and
- generators were modelled with emissions limits conforming to Stage IIIA; using plant that does not meet these basic emission rates would lead to significantly worst impacts. If the stationary non-road generator conformed to the non-road mobile machinery Stage IV emission limits (in force from 2014) or proposed Stage V emission limits, which would apply from 2019 the impacts would be significantly reduced. Buro Happold, the project energy and sustainability consultants, have confirmed that the intention is to meet Stage IV standards for the proposed generators, and that they are to be fuelled by Hydrotreated Vegetable Oil (HVO).

6.8.5 The 2015 assessment did not predict any exceedances of the air quality objectives at relevant locations within the Consented Scheme and as such no measures are proposed to reduce exposure of future residents and users to poor air quality.

6.9 Assessment of Environmental Effects Review

Construction

Construction Vehicle Movements

6.9.1 The impact of construction vehicle movements was predicted to be a maximum of *Moderate Adverse* in the 2015 ES. Since then, Plots 1 and 2 of the Consented Scheme have already been built out. Plot 1 (Stadium) was anticipated to be the most significant producer of construction traffic, generating a maximum of 60 Annual Average Daily Traffic (AADT) movements from Heavy Duty Vehicles (HDVs) in the peak year of 2015, while the construction of the Plot 3 (Hotel), Plot 4 (Extreme Sports Centre) and Plot 5 (Residential) anticipated to generate a maximum of approximately 14 AADT movements³⁵. This is below the relevant screening criteria of 25 AADT for HDVs, recommended for use within an Air Quality Management Area (AQMA) by the EPUK/IAQM guidance³⁶.

6.9.2 In addition to this, the peak year of construction will now be significantly later than the previously assessed year of 2016. Due to improvements in emissions standards and uptake of cleaner vehicles, concentrations during the construction of the remainder of the Consented Scheme will be lower than those predicted for 2016. It is, therefore, anticipated that the impacts of construction vehicle movements from Phase 3 will be lower than those predicted in the 2015 ES, and it can be concluded that the construction of the Development will not have a significant impact on local roadside air quality as a result of construction traffic emissions.

Construction Dust

6.9.3 The risk categories for the four construction activities, as identified in the 2015 ES, are presented in Table 6.5. The risk categories are for the entire Consented Scheme, including Plots 1 and 2 which are now built out and operational. No changes to construction method are expected.

³⁵ The construction year of 2016 was assessed in the 2015 ES, as some work had already been undertaken on site at the time of the assessment.

³⁶ Moorcroft and Barrowcliffe et al. Land-Use Planning & Development Control: Planning For Air Quality v1.2. 2017.

Table 6.5: Summary of Risk of Impacts Without Mitigation

Source	Dust Soiling	Human Health
Demolition	High Risk	High Risk
Earthworks	High Risk	High Risk
Construction	High Risk	High Risk
Trackout	High Risk	High Risk

- 6.9.4 The risk categories identified for all construction activities are high risk for both dust soiling and human health. These risk categories were used to determine the appropriate level of mitigation, as outlined in Appendix 6.10 of the 2015 ES. Given the highest level of mitigation has already been set out due to the High Risk classification, the Amendments to the Consented Scheme will not affect the level of mitigation proposed.

Completed Development

- 6.9.5 The overall predicted operational combined road traffic and energy plant impacts in 2021 are presented in Section 6.5 of the 2015 ES. There were a small number of adverse impacts predicted adjacent to High Road, primarily as a result of road traffic emissions. However, *negligible* impacts were predicted for the majority of the study area.

Operational Road Traffic Emissions

- 6.9.6 The project transport consultants (Arup) have confirmed that the traffic generation of the Site, as a result of the Amendments, will not exceed the traffic figures modelled for the Consented Scheme.
- 6.9.7 The impacts of operational road traffic emissions from the Consented Scheme were modelled for a future year of 2018 and 2021. The Consented Scheme has not been fully built out by 2021 and the Development is now not anticipated to open until 2028. Vehicle emissions are expected to reduce in the future (as a result of local, regional and national measures). Measured concentrations in the vicinity of the Site have continued to reduce in recent years, as evidenced in Table 6.2. It is judged that the impacts of the Development will be less than those predicted in the 2015 ES.

Emergency Diesel Generator and Boiler Emissions

- 6.9.8 The 2015 ES assessed the Plot 3 generator and boiler plant emissions (in combination with other gas-boilers and diesel generators within the wider scheme) in a future year of 2021, in combination with operational traffic emissions. The proposed boiler plant within Plot 3 and Plot 5 have now been removed, to be replaced with ASHPs while the details of the connection to the DHN are finalised. There will be emergency diesel generators within the Plot 3 and Plot 5 buildings for life-safety purposes, which will be operated during routine testing and maintenance only. The intention is that they will meet Stage IV emissions standards, where previously they were modelled as Stage III compliant, which will reduce the overall emissions from these generators compared to those previous assessed.
- 6.9.9 A weekly test of one hour for the generator in Plot 3 (rated at 330 kVA) was assessed within the 2015 ES. Since then, the testing regime has decreased in duration, it will now be tested once per week for 5 minutes with an annual load test of 1-hour. This reduction in testing will reduce the overall emissions from the testing and thus reduce the overall impacts on air quality, compared to those presented in the 2015 ES. The size of the generator has

increased to 500 kVA, but it is considered that the large reduction in testing duration will lead to a reduction in concentrations at nearby receptors, regardless of the increase in generator capacity. For the purposes of this SoC the testing and size of the generator in Plot 5 is assumed to remain as per assessed in the 2015 ES (i.e. 330 kVA tested for one hour per week).

- 6.9.10 Plots 3 and 5 did not open in 2021 as previously assumed, and it is now assumed that the generators in Plots 3 and 5 will not be fully operational until 2027 and 2028 respectively. As measured concentrations in the vicinity of the Site have continued to reduce in recent years (as evidenced in Table 6.2), and the boilers within those plots have now been removed, it is anticipated that the impacts of the operation of Plots 3 and 5 will be less than those predicted in the 2015 ES.

Site Suitability

- 6.9.11 The predicted maximum concentrations of NO₂, PM₁₀ and PM_{2.5} within different aspects of the Site were presented in Table 6.9 the 2015 ES for an opening year of 2021; maximum concentrations predicted within Plot 3 are presented in Table 6.6. The highest modelled floor levels at the hotel (90.2 m) had the highest predicted concentrations of long-term PM₁₀ and PM_{2.5} and the highest concentrations of short-term NO₂ and PM₁₀, primarily due to the operation of the boilers and generators within the Consented Scheme. The highest concentration of annual mean NO₂ was modelled at ground floor level, closest to the road. Concentrations of NO₂ and PM₁₀ were below the short-term objectives; the long-term objectives did not apply as the hotels do not represent relevant exposure to those objectives.
- 6.9.12 The Amendments have increased the height of the Plot 3 building by approximately 27 m compared to the Consented Scheme, and there is now residential exposure (relevant to the objectives) with the potential to be impacted by gas boiler and diesel generator emissions above the maximum modelled height. The annual mean PM_{2.5} concentration shown in Table 6.6 exceeds the objective and the GLA target of 10 µg/m³; the GLA's aspiration is to meet the target of 10 µg/m³ by 2030. Thus, further assessment is required to determine the impacts of emissions at the proposed residential units at the top of the hotel.

Table 6.6: Maximum Concentrations within the Hotel in 2021, as presented in the 2015 ES (µg/m³)

Concentration	Annual Mean			Short-Term	
	NO ₂	PM ₁₀	PM _{2.5}	NO ₂	PM ₁₀
Plot 3 (Hotel)	32.7 ^a	35.8 ^b	29.2 ^b	185.0 ^b	43.1 ^b
Objective	40	40	20 / 10	200	50

^a Modelled at 1.5 m height.

^b Modelled at 90.2 m height.

Emissions from Road Traffic

- 6.9.13 The hotel remains the same distance from High Road as modelled in the 2015 ES; the hotel receptors remain representative of receptors in the Development, in terms of exposure to road traffic emissions. Plot 3 did not open in 2021 as previously assumed, and it is assumed that the opening year for Plot 3 will be pushed back until at least 2027. As vehicle emissions are expected to reduce in the future, and as measured concentrations in the vicinity of the Site have continued to reduce in recent years (as evidenced in Table 6.2), it is anticipated that the concentrations at the lower levels of Plot 3 will remain below the relevant objectives.

Emissions from Energy Plant

- 6.9.14 The closest flue locations to the hotel are the Plot 4 (Extreme Sports Building) boiler flue (40m east of Plot 3) and the Plot 5 generator flue (100m east of Plot 3). Within the 2015 ES, the flue for Plot 4 was modelled at a significantly lower level than the top of the Plot 3 building; the increase in height of Plot 3 will result in the residential receptors on the top floor levels being located further from the emissions source than previously assumed within the Consented Scheme. The generator flue located in the residential towers was modelled at a height of 121m, which is above the highest habitable floor level within the hotel (103.5 m above ground level). Energy plant flues within the rest of the Consented Scheme Site and offsite (Sainsbury's and UTC) are located over 180m from Plot 3. As such, the concentrations modelled at 90.2 m height within the 2015 ES are considered appropriate to apply to the new residential receptors.
- 6.9.15 To ensure a worst-case assessment, the predicted PM₁₀ and PM_{2.5} concentrations presented within the 2015 ES assumed constant operation of the on-site generators. To take account of the anticipated usage (i.e., 292 hours per year for the Plot 1 generator, one hour per week from the Plots 3 and 5 generators), the results of the previous generator modelling have been scaled for their long-term and short-term use³⁷. The predicted annual mean concentrations have been combined with the predicted road traffic emissions for 2021, as per the assessment within the 2015 ES.
- 6.9.16 The maximum updated concentrations within the hotel are shown in Table 6.5. This shows that annual mean PM₁₀ and PM_{2.5} concentrations are below the objective at all modelled heights, and that the maximum (100th percentile) of 24-hour mean PM₁₀ concentrations from all generators is well below the short-term objective value of 50 µg/m³ (not to be exceeded more than 35 times per year), indicating that it is very unlikely that the operation of the generators will cause an exceedance of the short-term objective at the hotel. The maximum annual mean PM_{2.5} concentration still exceeds the GLA target of 10 µg/m³, however there is no requirement to meet this target.

Table 6.5: Maximum PM₁₀ and PM_{2.5} Concentrations within the Hotel in 2021 (µg/m³)

Concentration	Annual Mean		Short-Term (100 th Percentile of 24-Hour Mean Concentrations)
	PM ₁₀	PM _{2.5}	PM ₁₀
Plot 3 (Hotel)	20.9 ^a	14.0 ^a	28.4 ^b
Objective	40	20 / 10	50

^a Modelled at 1.5 m height.

^a Modelled at 90.2 m height.

- 6.9.17 Thus, it is considered that air quality at the Development will be acceptable.

³⁷ The previous modelling has been rerun using the ADMS6 dispersion model. This is a later version than that used in the 2015 ES, however it is considered that changes in modelled concentrations due to the later model version will not affect the conclusions of this assessment.

Air Quality Neutral

- 6.9.18 Since the 2015 ES was prepared, the London Plan AQN has been updated. Plots 3 and 5 no longer includes gas-boilers for the routine provision of heating and hot water. The GLA's Air Quality Neutral guidance states that *"backup plant installed for emergency and life safety power supply, such as diesel generators, may be excluded from the calculation of predicted building emissions"*.
- 6.9.19 The Building Emissions Benchmarks (BEBs) for each land use category have been updated based on the updated Gross Internal Area (GIA) of different land uses. The building emissions for the Development have been derived based on information within the 2015 ES, however, the building emissions no longer include the emergency diesel generators or the boilers within Plots 3 and 5. These calculated emissions are set out in Table 6.6, and assume 100% utilisation of the remaining boilers.
- 6.9.20 The building emissions as lower than the BEB and the Development is therefore Air Quality Neutral in terms of building emissions.

Table 6.6: Calculation of Building Emissions and Building Emissions Benchmarks for the Development

Use Class	GIA (m ²)	Benchmark		NOx Emissions from Development (kg/yr)
		g/m ² /yr	kg/yr	
Hotel	16,132	15.4	248.8	0.0
Residential ^a	60,634	5.7	345.6	0.0
Assembly and Leisure ^b	126,355	4.84	611.6	493.1
Schools, Nurseries, Doctors' Surgeries, other Non-Residential Institutions	2,000	1.66	3.3	0.0
Total NOx Emissions			1,209.3	493.1

^a Residential towers and the 49 residential units within the hotel building.

^b Extreme sports centre, stadium and Tottenham Experience.

- 6.9.21 The intention remains to connect the Development to the DHN. The most recent GLA guidance on undertaking AQN assessments³⁸ states that *"Where the heat is genuinely from an existing source that would otherwise be wasted, the emission rate is zero"*. As the DHN is from an existing waste incineration plant, with waste heat from the waste incinerator process being used to provide heating and hot water to the Development (should the connection go ahead) the Development would remain Air Quality Neutral.
- 6.9.22 The recent AQN guidance now uses benchmarks based on trip rates rather than emissions. The updated Transport Benchmark is provided in Table 6.9 using the new guidance; the development trip generation (for the Development) remains below the Benchmark³⁹. The

³⁸ GLA. London Plan Guidance - Air Quality Neutral. 2023.

³⁹ Updated car trips for the hotel and residential uses have been provided by Arup, these are lower than those used in the 2015 ES. To provide a robust assessment, the updated air quality neutral calculations are based on the trip rates used in the 2015 ES.

Development therefore remains compliant with the London Plan requirement that new developments are air quality neutral with regards to transport emissions.

Table 6.9: Calculation of Transport Benchmarks for the Development

Use Class	GIA (m ²) / dwellings ^b	Benchmark		Annual Trips from Development
		Trips/m ² /yr	Trips/yr	
Hotel	16,132	6.9	111,311	87,053
Residential ^a	629	447	281,163	143,810
Assembly and Leisure ^b	126,355	47.2	5,963,956	124,086
Schools, Nurseries, Doctors' Surgeries, other Non-Residential Institutions	2,000	44.4	93,240	79,511
Total Trip Rate			6,445,230	434,460

^a Residential towers and the 49 residential units within the hotel building.

^b Extreme sports centre, stadium and Tottenham Experience.

6.10 Mitigation Measures and Likely Residual Effects Review

Construction Dust

- 6.10.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme. The effects of construction dust generated during the construction phase will remain 'not significant'.

Construction Traffic

- 6.10.2 As part of the Development has already been built out, the remaining construction trips will be lower than presented in the 2015 ES, and below the relevant screening threshold. As such, no further mitigation is required.

Completed Development

- 6.10.3 With regards to the potential adverse effects of operational road traffic emissions, the impacts of the operation of the Development are anticipated to be less than the predicted impacts in the 2015 ES, but these have not been quantified here. The residual effects will remain as stated in the 2015 ES. No further mitigation is required beyond that already detailed within the 2015 ES.
- 6.10.4 Provided appropriate mitigation measures are implemented as stated in the GLA's Sustainable Design and Construction SPG⁴⁰ and the 2015 ES, the impacts of the proposed generator and boiler plant emissions are anticipated to be less than the predicted impacts in the 2015 ES.

Air Quality Positive

- 6.10.5 Air Quality Positive is designed as an approach to be used within the design process, as such, in accordance with the GLA Guidance, an air quality positive assessment is not required as the Amendments are an evolution of the Consented Scheme. Nonetheless there are a number of measures inherent in the Consented Scheme which contribute towards making the scheme Air Quality Positive. These are stated in section 6.4.2 of the 2015 ES, including but not limited to a scheme design so as residential properties are away from pollution sources (roads), provision of a car club parking space, provision of EV charging infrastructure and cycle parking.

6.11 Cumulative Effects Review

Construction

- 6.11.1 The IAQM guidance⁴¹ (upon which the GLA's guidance⁴² is based) is clear that, with appropriate mitigation measures in place, any residual demolition and construction dust effects from an individual site will be not significant. The guidance also suggests that cumulative construction dust impacts are only likely where sites are within 500m of each other. Work would also have to be taking place in areas of both sites that are close to a receptor in order for cumulative effects to occur.
- 6.11.2 In accordance with the mitigation measures set out in Appendix 6.10 of the 2015 ES, if there is concurrent construction work on sites within 500m of each other, the construction contractors should *“hold regular liaison meetings with other high risk construction sites within 500m of the site boundary, to ensure plans are co-ordinated and dust and particulate matter emissions are minimised”*.
- 6.11.3 Of the cumulative schemes identified, six are located within 500m of the Site. It is anticipated that all construction sites will adopt appropriate mitigation measures to limit emissions of dust, will hold the liaison meetings recommended above and will ensure that plans are co-ordinated to minimise impacts upon the most sensitive receptors. With these measures in place, the cumulative effect of construction activities should be 'not significant'.
- 6.11.4 With regards to the cumulative effect of construction vehicle emissions, a Construction Logistics Plan would be implemented to minimise the environmental and road traffic related impacts of construction. During constructions the appointed contractor would collaborate with the developers of the committed development where there is likely to be cumulative effects in construction traffic to avoid any overlap in peak construction vehicle activities in order to reduce the potential cumulative effects of construction emissions. The cumulative effects of construction traffic are therefore anticipated to be 'not significant'.

Completed Development

- 6.11.5 The completed Development is not anticipated to increase development generated traffic compared to the Consented Scheme. Whilst the nearby new consented schemes were not specifically accounted for in the 2015 ES modelling, the future modelled emissions account

⁴¹ IAQM. Guidance on the assessment of dust from demolition and construction. 2014

⁴² GLA. Sustainable Design and Construction Supplementary Planning Guidance. 2014.

for traffic growth in future years. The consented schemes have therefore been considered in future year predictions. Furthermore, the development and consented schemes have not yet fully opened and vehicle emissions are expected to reduce in the future.

- 6.11.6 In terms of the cumulative impacts of energy plant emissions, most committed developments within 500 m of the Development will not include any on-site gas-fired energy plant, they will instead all utilise ASHPs, Solar PV or connect to a DHN. Cumulative Scheme 7 (50-56 Fore Street) will include temporary boilers for a period of approximately a year, due to the temporary nature of these boilers and the fact that it is located over 450m to the north of the Development, it is considered that the in-combination impacts will be not significant.

6.12 Comparison with the Consented Scheme

- 6.12.1 The potential impacts from air quality associated with the Amendments as detailed in the S.73 Application have been considered. This has considered the changes as reported in 2015 ES.
- 6.12.2 The potential changes resultant from the Amendments are not materially considered to affect the air quality conclusions stated for the construction phase and completed Development. The Amendments, alongside improvements in baseline concentrations and traffic emissions since the 2015 ES was prepared, and updates to the energy strategy, are expected to reduce the overall impacts associated with the completed Development. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application and all likely significant effects resulting from the Development are likely to remain as reported, or reduce, with no additional effects or mitigation identified.

Table 6.70: Suitability of Previous Reported Findings

Aspects previously considered in 2015 ES	Potential Changes in Effects due to Amendments	Comments
Construction Stage		
Dust from construction activities	No likely change – not significant.	A worst-case approach was adopted in the 2015 ES, as the construction dust risk assessment was based on entire Consented Scheme and the highest level of dust mitigation required for the entire Consented Scheme was proposed. Given the highest level of mitigation has already been set out due to the High Risk classification, the Amendments to the Consented Scheme will not affect the level of mitigation proposed.
Construction traffic	Anticipated improvement on previously reported effects. Consented scheme residual effect: negligible to moderate adverse – potentially significant. Revised effect: negligible - not significant.	Construction of part of the scheme has already been completed, therefore the anticipated vehicle movements generated by the construction of the remainder of the scheme have been considered. These will be below the relevant screening thresholds, and have therefore been screened out of this assessment. In addition, it is considered current mitigation in the form of a CLP is already in use and the Amendments to the Consented Scheme will not affect the ability of the CLP to be operated.
Completed Development Stage		
Vehicle trip generation associated with the occupiers	Anticipated improvement on previously reported effects. Consented scheme residual effect (combination of road traffic, boiler and generator emissions): negligible to substantial adverse – potentially significant.	Dispersion modelling was undertaken to assess impacts of operational traffic movements in the 2015 ES. No increase in vehicle movements is expected as a result of the Amendments as there will be no predicted changes to the operational traffic. The results presented in the 2015 ES will therefore be worst-case as there will have been an improvement in air quality baseline concentrations and vehicle emissions. This will result in impacts being less than those previously predicted.

Aspects previously considered in 2015 ES	Potential Changes in Effects due to Amendments	Comments
Operational energy plant emissions		Dispersion modelling was undertaken to assess impacts of emissions from the boiler plant within Plots 1, 3, 4 and 5 (and offsite plant) within the 2015 ES. Plot 3 and Plot 5 gas boilers replaced with Air Source Heat Pumps (ASHPs). There will no longer be any building emissions from routine heating and hot water provision within Plot 3 or Plot 5 as ASHPs do not have any emissions to air, which is an improvement over the 2015 ES.
Diesel generator emissions		Dispersion modelling was undertaken to assess impacts of emissions from the diesel generators in Plots 1, 3 and 5 within the 2015 ES. The testing regime for the Plot 3 generator has changed compared to the previous assessment (there is a reduction in overall testing duration), thus the impacts will be less than those previously predicted.
Impacts of existing and proposed sources on proposed receptors	No likely change – not significant.	The 2015 ES concluded that air quality would be acceptable for future occupants. This assessment has reviewed the results of that assessment against revised plans and concluded that air quality will be acceptable.

7 Archaeology

7.1 Introduction

- 7.1.1 This ES Addendum chapter, prepared by Museum of London Archaeology (MOLA), provides an SoC that reports the findings related to whether the Amendments, or other changes in circumstances, materially affect the environmental information pertaining to archaeology effects provided within the 2015 ES to inform decision making.

7.2 Competence

- 7.2.1 This chapter was written by Paul Riggott, BA, BSc, MSc, MCIfA; a Planning Archaeologist with over 11 years' consultancy experience and with proficiency in archaeology assessment and associated EIA inputs for numerous developments in the residential, commercial, health and transport sectors.
- 7.2.2 This chapter was approved Rupert Featherby, BA, MA, MPhil. Rupert has over 25 years' experience as a professional archaeologist and has specialised in archaeological assessments and EIAs for 16 years.

7.3 EIA Topic Overview

- 7.3.1 The purpose of this chapter is to consider the archaeology implications, if any, that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.
- 7.3.2 The 2015 ES Chapter identified potential effects during the construction phase with neutral to slight / moderate adverse residual effects identified on potential buried archaeological deposits.
- 7.3.3 No operational effects were predicted for the Consented Scheme.

7.4 Relevant Amendments

- 7.4.1 The S.73 Application seeks to amend Plot 3 of the Consented Scheme. There are no Amendments of relevance to archaeology. The basement excavations were completed in 2015 as described in Chapter 5: Construction and Section 7.7.

7.5 Assessment Review

- 7.5.1 The scope of the archaeology assessment review is as follows:
- Review and update the baseline conditions where necessary;
 - Review and update the policy and guidance section, where necessary;

- Review and identify any new sensitive locations where people might be affected by changes in archaeology;
- Qualitatively consider the changes to archaeology, using technical guidance;
- Review of cumulative schemes for assessment.

7.6 Legislation and Policy Review

- 7.6.1 A number of the policy documents reviewed as part of the archaeology chapter of the 2015 ES have been updated in their entirety or in part since that time. This includes the NPPF, the London Plan, and the Local Plan. The relevant policy within the Local Plan for Archaeology is still the saved Unitary Development Plan (UDP) Policy CSV8 (adopted 2006, saved March 2013). Therefore, the intent of policy, with regard to archaeology remains in line with that presented in the 2015 ES and, therefore, give the scale and scope of the changes requiring assessment, remains valid for the purposes of this ES Addendum.

7.7 Baseline Review

- 7.7.1 The Site has undergone significant change as a result of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 and 2.
- 7.7.2 Basements were proposed as part of the Consented Scheme and excavation works were completed in 2015. This comprised single-level basements underneath Plot 1 (Stadium) and Plot 3 (Hotel). Sheet pile walls were installed and the basement was excavated in two phases. Basements were excavated to 7.01m above Ordnance Datum (AOD) on the west and 6.773m AOD on the east. In the area of the new football pitch within the Plot 1 (Stadium) extent and surrounding surfacing areas excavations were undertaken to approximately 10.5m AOD. The established pre-construction site levels were between 11.3m AOD and 12.5m AOD. An archaeological watching brief was due to be undertaken on-site in line with Condition C12 of the Operative Permission. However, the watching brief was not undertaken, with an email from John Gould, Greater London Archaeological Advisory Service (GLAAS), dated 8th June 2016, stated that the watching brief was not required. Condition C12 was discharged on 4th November 2016.
- 7.7.3 Above ground, the Plot 3 Site is occupied the podium associated with the stadium, public realm and temporary structures.
- 7.7.4 LB Haringey's Archaeological Priority Areas (APA) were reviewed in 2021 and presented in an APA Appraisal⁴³. The APA Appraisal is evidence in support of the emerging Local Plan, which has not yet been adopted. The majority of the Site is located in the Tier 3 The Lea Valley APA covering the flood plain of the River Lea and Moselle Valley with alluvial deposits of the Lea and river terrace gravels on the western edge of the valley. Some areas in the western part of the Site extend into the Tier 2 Ermine Street APA covering the route of a major Roman road with the potential to contain remains of Roman settlement and roadside activities. The road appears to have continued in use into the early medieval, later medieval and post-medieval periods.

⁴³ Oxford Archaeology, 2021. London Borough of Haringey Archaeological Priority Area Appraisal.

- 7.7.5 Refreshed Greater London Historic Environment Record (GLHER) data was obtained on 20th July 2023 and is provided in Appendix 7.1. Archaeological evaluations undertaken within the Site in 2010⁴⁴ and 2014⁴⁵ reported no archaeological finds or features.
- 7.7.6 There are no new sensitive receptors in the vicinity of the Site that were not present at the time of writing the 2015 ES.

7.8 Scheme Design and Management Measures Review

Construction

- 7.8.1 The Consented Scheme includes a series of measures designed to mitigate impacts on archaeology during construction, taking into account sensitive receptors within the Site. These comprised the undertaking of an archaeological watching brief during the sub-structure works on areas within the north, central and western portions of the Site (Areas A, B and D presented in Appendix 7.5 of the 2015 ES). The archaeological watching brief was secured by Planning Condition C12. However, the watching brief was not undertaken on the advice of GLAAS and the condition was discharged. The Amendments do not propose further basement excavation works. While there will be piling and other ground disturbance activities for delivery of the Development, these will not change as a result of the Amendments and therefore the mitigation as presented within the 2015 ES is valid.

Completed Development

- 7.8.2 Any potential effects on buried heritage assets will occur as a result of ground disturbance during demolition and construction works. No impacts or effects will occur on buried heritage assets during the completed Development stage. No mitigation is therefore proposed for the completed Development stage.

7.9 Assessment of Environmental Effects Review

Construction

- 7.9.1 Given the scale and nature of the Amendments, the significance of the archaeological effects during the construction phase (as identified as part of the 2015 assessment) is not expected to alter. The duration of the overall Development construction period has extended beyond 2022, as predicted within the 2015 ES. However, the basement excavation works have been completed as part of the Consented Scheme.
- 7.9.2 Therefore, the effects during the demolition and construction stage will remain unaltered from that presented in the 2015 ES. The 2015 ES concluded there could be slight / moderate adverse effects from excavation within the Plots 1 and 2 extents. However, no archaeological finds were made during the basement excavation undertaken as part of the Consented Scheme. For the areas within the Site subject to further development, the 2015

⁴⁴ Barton, C. 2010 'Archaeological Evaluation Report Northumberland Park Development,' L – P : Archaeology Unpublished Archive Report. Ref:LP0627-AER.v1.1.

⁴⁵ Barton, C. 2014 'Archaeological Evaluation Report Tottenham Hotspur Football Club,' L – P : Archaeology Unpublished Archive Report Ref: LP0627-AER.v2.6.

ES reported at worse minor adverse (not significant). This remains unchanged as a result of the Amendments.

Completed Development

- 7.9.3 Any potential effects on buried heritage assets will occur as a result of ground disturbance during demolition and construction works. No impacts or effects will occur on buried heritage assets during the completed Development stage.

7.10 Mitigation Measures and Likely Residual Effects Review

Construction

- 7.10.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES (at worse, minor adverse for the extents of future plots). The 2015 ES did not identify the requirement for an archaeological watching brief for development works the future plots extents and no condition is present within the Operative Permission for an archaeological watching brief within these Plots. No further mitigation is required beyond those already agreed for the Consented Scheme.

Completed Development

- 7.10.2 No impacts or effects will occur on buried heritage assets during the completed Development stage.

7.11 Cumulative Effects Review

- 7.11.1 The list of cumulative schemes as presented in Appendix 2.1 differ from those assessed as part of the 2015 ES. However, below ground archaeology archaeological remains within the Site are considered to be of a small scale and localised nature. Any related archaeological remains which extended beyond the Site boundary, if present, would not be impacted by the Development itself. These committed developments would have been subject to an archaeological assessment and appropriate mitigation measures as secured by planning conditions through the planning process where necessary. As such, there would be no cumulative effects with other scheme and the conclusions reached in the 2015 ES remain valid.

7.12 Comparison with the Consented Scheme

- 7.12.1 The potential impacts from archaeology associated with the Amendments as detailed in the S.73 Application have been considered. This has considered the changes as reported in the 2015 ES.
- 7.12.2 The potential changes resultant from the Amendments are not materially considered to affect the archaeology conclusions stated for the demolition and construction stage and completed Development stage. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application and all likely effects resulting from the Development are likely to remain as reported, with no additional effects or necessary mitigation identified.

7.12.3 The Amendments will not significantly vary the Consented Scheme and, provided that all mitigation measures suggested in the 2015 ES are implemented, the assessment conclusions reported in the 2015 ES are considered to remain valid.

Table 7.1: Suitability of Previous Reported Findings

Aspects Previously Considered in 2015 ES	Potential Changes due to Amendments	Comments
<i>Construction Phase</i>		
Remediation – stripping ground for whole site to 500mm	No likely change (slight/moderate)	No longer relevant, remediation has occurred as part of the Consented Scheme.
Cutting of Area A to c.6.8m AOD	No likely change (minor adverse)	No longer relevant, below ground works within this extent have occurred as part of the Consented Scheme.
Foundational groundworks, Area B	No likely change (minor adverse)	No longer relevant, below ground works within this extent have occurred as part of the Consented Scheme.
Foundational groundworks, Area C	No likely change (slight/moderate)	Amendments do not change the below ground works to be undertaken within future plots.
Stripping and landscaping works in Area D	No likely change (minor)	Amendments do not change the below ground works to be undertaken within future plots.
Hard landscaping groundworks in Area E	No likely change (slight/moderate)	No longer relevant, below ground works within this extent have occurred as part of the Consented Scheme.
No planned impact upon buried deposits in Area F	No likely change (slight/moderate)	No longer relevant, below ground works within this extent have occurred as part of the Consented Scheme.
<i>Completed Development Phase</i>		
No impacts or effects	No likely change (no operational effects predicted)	No effects will occur on completion of the Development.

8 Cultural Heritage

8.1 Introduction

- 8.1.1 This ES Addendum chapter, prepared by Ignus Froneman of Cogent Heritage, provides a Statement of Conformity that reports the findings related to whether the S.73 Amendment Application, or other changes in circumstances, materially affect the environmental information pertaining to cultural heritage effects provided within the 2015 ES to inform decision making. In conformance with the 2015 ES, this assessment covers above ground cultural heritage only.
- 8.1.2 This chapter is supported by the following technical appendices presented within Volume III:
- Appendix 8.1: Heritage Assets Plan;
 - Appendix 8.2: Extracts from the 2015 ES assessment, relating to the Hotel and the Views Assessments with tracked changes in relation to the Amendments; and
 - Appendix 8.3: Additional Views Assessments for views not included in the 2015 and concluding observations about the Development as part of the experience of the heritage assets.
- 8.1.3 This chapter should be read in conjunction with the verified views presented within Chapter 12: Townscape and Visual Impact Assessment.

8.2 Competence

- 8.2.1 The author of this chapter, Ignus Froneman, is a Director at Cogent Heritage, an independent heritage consultancy established in August 2019. The author holds a degree in architecture and is an Associate member of the Chartered Institute for Archaeologists (ACIfA) and a member of the Institute of Historic Building Conservation (IHBC).
- 8.2.2 The author has over 20 years' experience in the historic built environment, both in terms of understanding and analysing physical fabric, and in terms of policy application, specifically by assessing impacts, providing advice and supporting development proposals. Experience includes a dealing with a diverse range of cases involving the assessment of physical changes to all manner of heritage assets, and/or development affecting their settings. This includes numerous assessments dealing with the impacts of new development on the historic environment (including physical impacts, setting and townscape). These include providing expert evidence at appeals, including public inquiries, on behalf of both appellants and local planning authorities involving tall buildings in London, such as in relation to the planning application and appeal in relation to the nearby The Goods Yard and The Depot scheme (HGY/2021/1771).

8.3 EIA Topic Overview

- 8.3.1 The purpose of this chapter is to consider the socio-economic implications, if any, that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.
- 8.3.2 During the construction phase, the residual effects during the demolition and construction phase stated in the 2015 ES chapter on built heritage assets were envisaged to be, at worst, minor adverse.
- 8.3.3 For the operational Consented Scheme, the 2015 ES chapter identified major beneficial effects from the restoration and reuse of Grade II Warrington House and minor to moderate beneficial effects the North Tottenham Conservation Area from the operational Consented Scheme, notably the Stadium, Tottenham Experience and Hotel. Minor beneficial effects were also identified on the setting of the Grade II* and Grade II listed buildings on Northern Terrace.

8.4 Relevant Amendments

- 8.4.1 The S.73 Application seeks to amend Plot 3 of the Consented Scheme. The Amendments of relevance to this assessment are as follows:
 - Changes to the form and layout of the building; and
 - Increase to the height of the building (an increase of approximately 27m from 100m to c.127m).

8.5 Assessment Review

- 8.5.1 The scope of the cultural heritage assessment review is as follows:
 - Review and update the baseline conditions where necessary;
 - Review and update the policy and guidance section, where necessary;
 - Review and identify any new sensitive locations where people might be affected by changes in cultural heritage;
 - Qualitatively consider the changes to cultural heritage, using technical guidance;
 - Review of cumulative schemes for assessment.

8.6 Legislation and Policy Review

- 8.6.1 A number of the policy documents reviewed as part of the Cultural Heritage chapter of the 2015 ES have been updated in their entirety or in part since that time. This includes the NPPF, the London Plan, the Local Plan, the Local Development Management DPD and Historic England's Planning Advice Notes 3 and 4. However, the intent of policy guidance and advice notes with regard to Cultural Heritage remains in line with that presented in the 2015 ES and, therefore, give the scale and scope of the changes requiring assessment, remains valid for the purposes of this ES Addendum.

8.7 Baseline Review

- 8.7.1 The Site has undergone significant change as a result of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 and 2. The Plot 3 Site is currently occupied by the podium associated with the stadium, public realm and temporary structures.
- 8.7.2 A notable change to the baseline with regard of cultural heritage is that the section of the North Tottenham Conservation Area, previously comprising 'Sub-Area C', has since been removed from the Conservation Area (this was the part of the High Road between Moselle Street and Park Lane, to the east of the Site (inc. the stadium and Warmington House). The boundaries of the Conservation Area have also changed in the northernmost end, where a section has been removed, and a small element on the south side of White Hart Lane has also been removed.
- 8.7.3 As part of the Consented Scheme, the locally listed buildings at 746, 748 and 750 High Road were demolished. The restoration and associated development at the Grade II listed 744 High Road / Warmington House has been completed.
- 8.7.4 In 2015, the North Tottenham Conservation Area was included on Historic England's 'Heritage At Risk Register' with its overall condition described as 'very bad'. The Conservation Area is still on the latest 'Heritage At Risk Register' although its condition has been revised to 'poor'. The Bruce Grove and Scotland Green Conservation Areas were also included and their conditions have remained the same ('very bad').

8.8 Sensitive Receptors

- 8.8.1 There are no new sensitive receptors in the vicinity of the Site that were not present at the time of the EIA for the 2015 ES.
- 8.8.2 The locally listed buildings that have been demolished as a result of the Development (746, 748 and 750 High Road) are no longer present.

8.9 Scheme Design and Management Measures Review

Construction

- 8.9.1 The 2015 ES for the Consented Scheme made provision for the production of a CEMP that would set out details of measures to protect the environment during the construction period. Similar to those prepared for Plots 1 and 2, the plot-specific CEMP's will be implemented during development of the future Plots and resecured through conditions on this S.73 Application.

Completed Development

- 8.9.2 The 2015 ES stated at paragraphs 8.6.42 and 8.6.46 of the Plot 3 (Hotel):

"8.6.42 The proposed 180-bedroom hotel tower at the southern boundary of the site would be a significant new element in the townscape that will enhance the North Tottenham Conservation Area and wider area, providing a landmark both for the

southern entrance to the stadium and to this part of the historic High Road heading north from London. In views north along the High Road its narrow southern end would form an elegant marker, forming a pleasing contrast between its vertical line and the horizontal emphasis of the proposed stadium.

8.6.46 The hotel has been designed by Populous (the stadium architects) to complement the design of the stadium, and also to follow the angle of the building line further south along the High Road so that in longer views it reinforces the directionality of the building line. Its cladding would be similar to that of the stadium comprising glazed and perforated metal panels positioned to form a striking diagonal line across its western elevation. The ground floor of the hotel would adjoin the southern steps to the south podium making the hotel a striking marker at this main southern entrance to the stadium development.”

8.9.3 The Development includes Amendments that take in a different cladding (predominantly glazed instead of the perforated metal panels of the Consented Scheme). This is material change would equally encompass the introduction of a modern material that is very different to the materiality of the traditional buildings and townscapes of the heritage assets and it is considered to be equally appropriate.

8.9.4 A more noticeable change would be the changes in the proportions and three dimensional form of the Development, when compared with the Consented Scheme. In essence, this can be described as a refinement of proportions and architectural language, whereby the Development would be taller but also narrower on its east / west sides, with the use of materiality and form breaking down the proportions more when compared with the Consented Scheme. The result is a more elegant, slightly narrower but slightly taller structure. Fundamentally these changes are minor in the context of the perception of Plot 3 (Hotel) as previously assessed in the 2015 ES, with the following aspects remaining essentially unchanged:

- Plot 3 (the Hotel) would remain ‘a significant new element in the townscape’ as was intended and assessed in the Consented Scheme;
- It would ‘provide a landmark’, as was intended and assessed in the Consented Scheme;
- Its narrow southern end would form ‘an elegant marker’, as was intended and assessed in the Consented Scheme. It can be noted that the Amendments would make for a more elegant form not only when seen as narrow ends, but of the building when seen in the round, where the Consented Scheme was less successful;
- It would form ‘a pleasing contrast between its vertical line and the horizontal emphasis of the proposed stadium’ as was intended and assessed in the Consented Scheme. It can be noted that the Amendments would make for a clearer and more legible distinction between Plot 1 (Stadium) and Plot 3 (Hotel) through the use of different materials, which would create more variety and avoid perceptions of coalescence due to similarities in elevational treatments and materials;
- The shape of the building would ‘reinforce the directionality of the building line’, as was intended and assessed in the Consented Scheme; and

- It would be 'a striking marker at this main southern entrance to the stadium development' as was intended and assessed in the Consented Scheme.

8.10 Assessment of Environmental Effects Review

Construction

- 8.10.1 The construction activities associated with the Development would not be perceived as materially different from those of the Consented Scheme in relation to the surrounding heritage assets.
- 8.10.2 The conclusions of the assessments in the 2015 ES in relation to construction effects on the surrounding heritage assets would remain unchanged.

Completed Development

- 8.10.3 The revisions to the assessment text in the 2015 ES, in light of the Amendments can be found at Appendix 8.2 of this Chapter. Additional views are assessed at Appendix 8.3. One of the purposes of the Hotel on Plot 3 was to perform a landmark function in relation to the stadium, as a marker of this significant new development in Tottenham. Where the Hotel is seen from, alongside, through, or juxtaposed with the heritage assets, including the kinetic experience of moving through the Conservation Area townscapes and the streetscapes taking in the listed and locally listed buildings, a fundamental aspect of the Consented Scheme was the visibility of this large scale, tall modern building. Its form is suggestive of the building line of the High Road and with narrow north and south elevations, often seen alongside the stadium and / or the residential towers. Proportionally, the increase in height would not introduce any significant changes to the visibility of this new element, and the principle of the introduction of such a building within the baseline heritage context, including the setting of the heritage assets, remains unchanged. Consequently, there is a visual change to the approved envelope of this new element to be introduced in the setting of the heritage assets, but the fundamental principle of introducing a new and very modern landmark, of broadly similar proportions (taller but narrower), remains unchanged.
- 8.10.4 The Development changes the proportions of the Hotel and, because of the increase in height, more of the upper part of the building would generally be seen and experienced across the surrounding townscape. However, this does not affect the fundamental way in which the Hotel serves as a modern and very different marker of the stadium.
- 8.10.5 In conclusion, the experience of the Development, when compared with the Consented Scheme, would be similar in the effect it has on the significance and appreciation of the heritage assets assessed. They would be juxtaposed with a very different, large scale new development that would change part of their settings. However, the changes in proportions and materials of the Hotel building would not materially alter the fundamental change inherent in the Consented Scheme, when experienced in conjunction with the heritage assets. There are no indications of any specific instances where the Development would result in an additional effect that was not already inherent to the Consented Scheme. Therefore, the findings of the 2015 ES in relation to the effects on cultural heritage receptors remain valid.

8.11 Mitigation Measures and Likely Residual Effects Review

Construction

- 8.11.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The plot-specific CEMPs will be implemented during development of the future Plots and resecured through conditions on this S.73 Application. The residual effects from the construction phase will remain not significant.

Completed Development

- 8.11.2 With regards to the potential effects on surrounding cultural heritage receptors, the residual effects will remain as stated in the 2015 ES. That is tabulated in Table 8.2 at the end of this chapter. No further mitigation is required beyond those already detailed within the 2015 ES (inherent design mitigation) and secured by planning condition(s).

8.12 Cumulative Effects

- 8.12.1 The revised verified views, showing the Development, are contained in the Townscape and Visual Impact Assessment (TVIA) in Chapter 12 of this ES Addendum. The cumulative versions of these also show the present-day cumulative scenario.
- 8.12.2 The assessment of the potential cumulative effects on receptors identified within the 2015 ES is presented in Table 8.1.

Table 8.1: Cumulative Effects

Receptors Previously Considered in 2015 ES	Comments
Northern Terrace (Nos. 790-814 High Road)	The only potential cumulative effects on the listed buildings in the Northern Terrace would be an increased perception of larger scale development in the context of these. However, that was already anticipated in the High Road West Masterplan Framework (HRWMF 2014), and can be seen as part of the wider regeneration that the Consented Scheme aimed to deliver. To the extent that there could be said to be an effect, this is an anticipated positive regeneration effect to the wider townscape. Conclusion: the increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
Warmington House	The only potential cumulative effect on the listed building would be an increased perception of larger scale development in the context of, i.e. on the west side of the High Road. However, that was already anticipated in the High Road West Masterplan Framework (HRWMF

Receptors Previously Considered in 2015 ES	Comments
	2014), and can be seen as part of the wider regeneration that the Consented Scheme aimed to deliver. Conclusion: the increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
The North Tottenham Conservation Area, including the listed and locally listed buildings within it.	The only potential cumulative effects on the North Tottenham Conservation Area (and the listed buildings and locally listed buildings within it) would be an increased perception of larger scale development in the context. However, that was already anticipated in the High Road West Masterplan Framework (HRWMF 2014), and can be seen as part of the wider regeneration that the Consented Scheme aimed to deliver. To the extent that there could be said to be an effect, this is an anticipated positive regeneration effect to the wider townscape. Conclusion: The increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
Alexandra Palace and Park Conservation Area	The only potential cumulative effects on the Alexandra Palace and Park Conservation Area would be an increased perception of larger scale development in the distance. The cumulative schemes (the consented The Goods Yard and the Depot, and the High Road West N17 scheme) would introduce further taller buildings breaking the skyline in the same broad area as the Consented Scheme to create a positive new landmark for Tottenham; together the buildings would mark the alignment of the High Road and allude to its linearity. Conclusion: the increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
Tottenham Cemetery Conservation Area, including the listed and locally listed buildings within it.	The only potential cumulative effects on the Tottenham Cemetery Conservation Area (including the listed and locally listed buildings within it) would be an increased perception of larger scale development in the context of these. However, that was already anticipated in the High Road West Masterplan Framework (HRWMF 2014). Conclusion: the increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
Bruce Castle Conservation Area, including the listed	The only potential cumulative effects on the Bruce Castle Conservation Area (including the listed and locally listed buildings within it) would be an increased perception of larger scale development in the context of

Receptors Previously Considered in 2015 ES	Comments
and locally listed buildings within it.	these. However, that was already anticipated in the High Road West Masterplan Framework (HRWMF 2014). Conclusion: the increased height associated with the Amendments would not materially change the interaction between the Consented Scheme and the cumulative schemes. Therefore the residual effect remains valid.
Tottenham Green Conservation Area, including the listed and locally listed buildings within it.	The revised verified views as presented within Chapter 12: Townscape and Visual Impact Assessment show that there would be no cumulative effect in relation to the Tottenham Green Conservation Area (including the listed and locally listed buildings within it).
Scotland Green Conservation Area, including the listed and locally listed buildings within it.	The revised verified views as presented within Chapter 12: Townscape and Visual Impact Assessment show that there would be no cumulative effect in relation to the Scotland Green Conservation Area (including the listed and locally listed buildings within it).
Bruce Grove Conservation Area, including the listed and locally listed buildings within it.	The revised verified views as presented within Chapter 12: Townscape and Visual Impact Assessment show that there would be no cumulative effect in relation to the Bruce Grove Conservation Area (including the listed and locally listed buildings within it).

8.13 Comparison with the Consented Scheme

- 8.13.1 The potential impacts on surrounding cultural heritage receptors, associated with the Development as changed by the Amendments, have been considered. This has considered the changes to the effects reported in 2015 ES.
- 8.13.2 The potential changes resulting from the Amendments are not considered to materially affect the surrounding cultural heritage receptors or the conclusions stated for the construction or completed Development assessment. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application. All likely significant effects resulting from the Development are likely to remain as reported, with no additional effects or mitigation identified.
- 8.13.3 Table 8.2 presents the suitability of the previous reported findings in the 2015 ES and changes to effects reported as a result of the Amendments considered in this ES Addendum.

Table 8.2: Suitability of Previous Reported Findings

Receptors Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
<i>Construction Stage</i>		
Warmington House	No change (major beneficial)	The construction activities would cover the external envelope changes to the building as per the Amendments. Plot 2 (The Tottenham Experience) and the restoration of Warmington House is complete and is operational. This has created a new setting to Warmington House that would not be affected by the construction activities associated with the Amendments.
Northern Terrace (Nos. 790-814 High Road)	No change (moderate adverse)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the Northern Terrace, where Plot 1 (the Stadium) has introduced the most visually striking and dominant modern structure seen within the setting of the Northern Terrace.
The North Tottenham Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction effects were not assessed in a single summary form in the 2015 ES, but in a series of representative views, each of which noted the presence of heritage assets within the view. In all cases the effects were assessed as negligible. It is reasonable to conclude that the overall construction effects on the conservation area was assessed as being negligible. The construction activities for the Amendments would not be perceived as materially different from the Consented Scheme in relation to the North Tottenham Conservation Area. A notable change to the baseline is that the section of the conservation area previously comprising 'Sub-Area C' has since been removed from the conservation area and this

Receptors Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
		is now no longer part of the conservation area.
Alexandra Palace and Park Conservation Area	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views towards it from Alexandra Palace and Park Conservation Area.
Tottenham Cemetery Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Tottenham Cemetery Conservation Area.
Bruce Castle Conservation Area, including the listed and locally listed buildings within it.	No change (moderate adverse – minor beneficial)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Bruce Castle Conservation Area.
Tottenham Green Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Tottenham Green Conservation Area.
Scotland Green Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views

Receptors Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
		towards it from the Scotland Green Conservation Area.
Bruce Grove Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The construction activities would cover the external envelope changes to the building as per the Amendments. The construction activities would not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Bruce Grove Conservation Area.

Completed Development Stage

Northern Terrace (Nos. 790-814 High Road)	No change (minor beneficial)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The completed Development would not be perceived as materially different from the Consented Scheme in relation to the Northern Terrace, where Plot 1 (the Stadium) has introduced the most visually striking and dominant modern structure seen within the setting of the Northern Terrace. In some views from the north, the top of Plot 3 (the Hotel) would be visible above Plot 1 (the Stadium) where previously it would not have been visible, but the experience of the terrace in the context of a very different and contrasting, large-scale development to the south of the terrace would remain essentially unaffected.
Warmington House	No change (major beneficial)	The Completed Development would cover the external envelope changes to the building as per the Amendments. Plot 2 (The Tottenham Experience) and the restoration of Warmington House has now been constructed and it is operational, along with Plot 1 (the Stadium). This has created a new and very different setting to Warmington House that would not be materially affected by the Amendments associated with the Completed Development.

Receptors Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
The North Tottenham Conservation Area, including the listed and locally listed buildings within it.	No change (minor beneficial)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the North Tottenham Conservation Area. In some views from the north, the top of Plot 3 (the Hotel) would be visible above Plot 1 (the Stadium) where previously it would not have been visible, but the experience of the North Tottenham Conservation Area (including the listed and locally listed buildings within it) in the context of a very different and contrasting, large-scale development in the location of the Stadium would remain essentially unaffected. A notable change to the baseline is that the section of the conservation area previously comprising 'Sub-Area C' has since been removed from the conservation area and this is now no longer part of the conservation area.
Alexandra Palace and Park Conservation Area	No change (major beneficial)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the views towards it from Alexandra Palace and Park Conservation Area, which the 2015 ES described as "<i>a new landmark for Tottenham defining its position in North London</i>".
Tottenham Cemetery Conservation Area, including the listed and locally listed buildings within it.	No change (negligible)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Tottenham Cemetery Conservation Area (including the listed and locally listed buildings within it).

Receptors Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
Bruce Castle Conservation Area, including the listed and locally listed buildings within it.	No change (north-western edge of Bruce Castle Park: moderate adverse, southern end of Bruce Castle Park: negligible)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Bruce Castle Conservation Area (including the listed and locally listed buildings within it).
Tottenham Green Conservation Area, including the listed and locally listed buildings within it.	No change (minor beneficial)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Tottenham Green Conservation Area (including the listed and locally listed buildings within it).
Scotland Green Conservation Area, including the listed and locally listed buildings within it.	No change (minor adverse)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments associated will not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Scotland Green Conservation Area (including the listed and locally listed buildings within it).
Bruce Grove Conservation Area, including the listed and locally listed buildings within it.	No change (minor adverse)	The Completed Development would cover the external envelope changes to the building as per the Amendments. The Amendments will not be perceived as materially different from the Consented Scheme in relation to the views towards it from the Bruce Grove Conservation Area (including the listed and locally listed buildings within it).

9 Ecology

9.1 Introduction

- 9.1.1 This ES Addendum chapter, prepared by Tyler Grange, provides a Statement of Conformity (SoC) that reports the findings related to whether the S.73 Application, or other changes in circumstances, materially affect the environmental information pertaining to ecology effects provided within the 2015 ES to inform decision making.

9.2 Competence

- 9.2.1 This ES Addendum chapter was written by George Siskos BSc (Hons) ACIEEM an Associate Consultant Ecologist with over 10 years' consultancy experience and with proficiency in ecology assessment and associated EIA inputs for numerous developments and both public and private sectors.
- 9.2.2 The report has been reviewed by Duncan Murray, Ecology Technical Director at Tyler Grange, who has over 24 years' experience as a professional ecologist, and has undertaken various Ecological Impact Assessments (EcIA) and Environmental Impact Assessments (EIA). Duncan is a Member of the Chartered Institute of Ecology and Environmental Management (MCIEEM), a member of the Institute of Environmental Management and Assessment (MIEMA) and is a Chartered Environmentalist (CEnv).

9.3 EIA Topic Overview

- 9.3.1 The purpose of this chapter is to consider the ecological implications, if any, that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.
- 9.3.2 No potential significant effects were predicted during the construction or operational phases for the Consented Scheme.

9.4 Relevant Amendments

- 9.4.1 The Amendments seek to amend Plot 3 of the Consented Scheme. The Amendments of relevance to the ecology assessment are as follows:
- Amendments to the Consented Scheme landscaping strategy.

9.5 Assessment Review

- 9.5.1 The scope of the ecology assessment review is as follows:
- Review and update the baseline conditions where necessary;
 - Review and update the policy and guidance section, where necessary;

- Review and identify any new sensitive locations where people might be affected by changes in ecology;
- Qualitatively consider the changes to ecology, using technical guidance; and
- Review of cumulative schemes for assessment.

9.6 Legislation and Policy Review

- 9.6.1 A number of the policy documents reviewed as part of the archaeology chapter of the 2015 ES have been updated in their entirety or in part since that time. This includes the NPPF, the London Plan, and the Local Plan. The Environment Act also came into force in 2021.
- 9.6.2 Section 15 of the NPPF (paragraphs 174 to 182) considers the conservation and enhancement of the natural environment including habitats and biodiversity (paragraphs 179-182). A summary of key changes from previously reported NPPF policy is set out below:
- It is now a requirement for opportunities to incorporate biodiversity improvements in and around development, rather than making it desirable:
 - minimising impacts on and providing net gains for biodiversity, including by establishing coherent ecological networks that are more resilient to current and future pressures”;
 - Higher emphasis on trees to the character of an area and the quality of the environment; and
 - Paragraph 182 states that the presumption in favour of sustainable development does not apply where the planned project is likely to have a significant effect on a habitat site (alone or in combination with other plans or projects) unless an appropriate assessment has concluded the plan or project will not adversely affect the integrity of the habitats site.
- 9.6.3 Under the Environment Act, the Government mandated biodiversity net gain (BNG) to ensure that new development enhances the environment. It will be a requirement for all housing and developments to achieve +10% BNG in habitat value for biodiversity from November 2023. However, as this is a section 73 application, and the full planning application was submitted before this date it is not a requirement for this project.
- 9.6.4 The updated London Plan states that all development proposals should incorporate elements of green infrastructure with major developments contributing to the greening of London through provision of high-quality landscaping including trees, green roofs, and SUDs. The landscape plans for this scheme have been updated from the 2015 ES to comply with the London Plan.
- 9.6.5 The Local Plan has no relevant changes from the 2015 version. A new emerging local plan is currently under consultation with the overarching aims to improve access to nature and maintain, expand, and connect green spaces which based on latest landscaping plans the scheme will be contributing to.

9.7 Baseline Review

- 9.7.1 The Site has undergone significant change because of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 and 2. Plot 3 is currently occupied by the podium associated with the stadium, public realm and temporary structures.
- 9.7.2 An updated desk search for statutory and non-statutory sites for nature conservation was undertaken which identified no changes.
- 9.7.3 The extent and surroundings of Plot 3 of the Site was re-assessed by a suitably qualified ecologist on the 6th July 2023 by an extended Phase 1 habitat and protected species survey. Habitats on site were dominated by areas of hardstanding and buildings (existing kiosk) with no soft landscaping or trees within Plot 3.

9.8 Sensitive Receptors

- 9.8.1 There are no new sensitive ecological receptors in the vicinity of the Site to those considered within the 2015 ES.

9.9 Scheme Design and Management Measures Review

Construction

- 9.9.1 Similar to Plots 1 and 2, a phase specific CEMP will be prepared for each Plot prior to commencement of works on-site. The CEMP will include mitigation measures for ecological receptors, including nesting bird checks prior to works. However, no significant changes are expected to the Consented Scheme.

Completed Development

- 9.9.2 The updated landscaping strategy includes ecological enhancements which are of higher biodiversity value than the Consented Scheme and satisfies updated local, regional and national policy in relation to ecology, with provision of:
 - Small street trees (including field maple) on podium level;
 - Herbaceous and ornamental planting within planters on podium level; and
 - Extensive green roof.

9.10 Assessment of Environmental Effects Review

Construction and Completed Development

- 9.10.1 The 2015 ES did not identify significant effects, and the Amendments do not change these conclusions.

9.11 Mitigation Measures and Likely Residual Effects Review

Construction and Completed Development

- 9.11.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The effects on breeding birds and off-site wildlife sites from the construction phase will remain not significant.

9.12 Cumulative Effects

- 9.12.1 No cumulative effects were identified during construction of operation of the Consented Scheme and none are anticipated in consideration of additional schemes. No further mitigation other than implementation of the agreed mitigation measures is considered necessary, as stated in the 2015 ES.

9.13 Comparison with the Consented Scheme

- 9.13.1 The potential impacts on ecology associated with Amendments have been considered against the conclusions reported in 2015 ES.
- 9.13.2 The potential changes resulting from the Amendments are not materially considered to affect the ecology conclusions stated for the construction stage and completed Development stage. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application and all likely significant effects resulting from the Development are likely to remain as reported, with no additional effects or mitigation identified.

Table 9.1: Suitability of Previous Reported Findings

Aspects Previously Considered in 2015 ES	Potential Changes due to Amendments	Comments
<i>Construction Stage</i>		
Construction Activities	No likely change (no residual effect)	It is not anticipated that the Amendments would alter the conditions during construction on any ecologically sensitive receptors on site or on nearby non-statutory or statutory designated wildlife sites. Demolition has commenced across the Site as part of the Consented Scheme. No significant effects were identified in the previous assessment.
<i>Completed Development Stage</i>		
Operational Stage	No likely change (no residual effect)	It is not anticipated that the Amendments would significantly alter the condition of the Site during operational phase on any ecologically sensitive receptors on site or on

Aspects Previously Considered in 2015 ES	Potential Changes due to Amendments	Comments
		nearby non-statutory or statutory designated wildlife sites. No significant effects were identified in the previous assessment.

10 Surface Water Drainage and Flood Risk

10.1 Introduction

- 10.1.1 This ES Addendum chapter, prepared by Buro Happold, provides a Statement of Conformity that reports the findings related to whether the S.73 Amendment Application, or other changes in circumstances, materially affect the environmental information pertaining to water and flood risk effects provided within the 2015 ES to inform decision making.

10.2 EIA Topic Overview

- 10.2.1 The purpose of this chapter is to consider the implications on surface water and flood risk that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.

- 10.2.2 The 2015 ES Chapter identified the following residual effects:

Construction (worst-case assessment):

- Pollutant discharge into Moselle Brook and shallow aquifer: minor-neutral adverse;
- Physical disturbance to chalk aquifer: minor adverse;
- Preferential pathways to surface water drainage system and shallow aquifer: minor-neutral adverse; and
- Flood risk to surrounding area: minor adverse.

Completed Development:

- Risk of contaminating surface water: minor adverse – neutral;
- Contamination for in-situ materials: minor adverse – neutral;
- Flood risk to surrounding area: minor adverse; and
- Flood risk to the Project site: minor adverse – neutral.

10.3 Relevant Amendments

- 10.3.1 The S.73 Application seeks to amend Plot 3 of the Consented Scheme. The Amendments are not of relevance to the surface water and flood risk assessment as no amendments to the below ground works are proposed. The below ground works for enabling and the construction of the basement have been delivered as part of the Consented Scheme. Changes to the Plot 3 height results in no change for the surface water and flood risk assessment.

10.4 Assessment Review

- 10.4.1 The scope of the water and flood risk assessment is as follows:

- Review and update the baseline conditions where necessary;
- Review and update the policy and guidance section, where necessary;
- Review and identify any new sensitive locations where people might be affected by changes in water and flood risk;
- Qualitatively consider the changes to water and flood risk, using technical guidance;
- Review of cumulative schemes for assessment.

10.5 Legislation and Policy Review

- 10.5.1 A number of the policy documents reviewed as part of the surface water and flood risk chapter of the 2015 ES have been updated in their entirety or in part since that time. This includes the NPPF and the Local Plan. However, the intent of policy, with regard to ground conditions and hydrogeology remains in line with that presented in the 2015 ES and, therefore, given the scale and scope of the changes requiring assessment, remains valid for the purposes of this ES Addendum.

10.6 Baseline Review

- 10.6.1 Since approval of the Operative Permission, the Site has undergone significant change as a result of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 and 2 which included the enabling works, below ground infrastructure, basement and podium. The basement is present underneath the Plots 1 and 3 extent, with the associated podium present on-site. The remainder of the Site is currently occupied by temporary uses including public realm and temporary structures.

10.7 Scheme Design and Management Measures Review

Construction

- 10.7.1 The Operative Permission includes a series of measures designed to mitigate potential sources of flood risk, taking into account sensitive receptors both within and adjacent to the Site. The inherent mitigation was that contaminated land was to be removed before construction commences. This has been completed as a result of the remediation works undertaken for the Site, as presented in Chapter 11: Ground Conditions and Hydrogeology. Above ground works to future plots will adhere to the series of mitigation measures which includes appropriate fuel storage, any run-off should pass through a separator to ensure hydrocarbons are removed and the use of an Environmental Action Plan for the Site.
- 10.7.2 No additional mitigation measures have been identified further to those presented within the 2015 ES as a result of the Amendments.

Completed Development

- 10.7.3 The consented Drainage Strategy for the completed Plots 1 and 2 remain as the Consented Scheme. An updated Flood Risk Assessment (FRA) and Drainage Strategy for Plot 3 have been prepared to account for the Amendments; these accompany the planning application. Plot-specific FRA's and drainage strategies will be developed for future plots as part of future Reserved Matters Applications. This is in line with Conditions A10 and A11 of the Operative Permission.

- 10.7.4 The climate change allowance for the Plot 3 Drainage Strategy has been updated from the Consented Scheme to reflect the latest data. The climate change allowance for peak rainfall intensity for the site has now increased from 20% to 40%. The drainage design has been updated to allow for the potential increase in rainfall associated with future climate change.

10.8 Assessment of Environmental Effects Review

Construction

- 10.8.1 The potential effects for the Development will be the same, or less as the earthworks has been completed, as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The potential for surface water and flood risk effects from the construction phase will remain not significant.

Completed Development

- 10.8.2 With regards to the potential adverse effects on surface water and flood risk receptors, the residual effects will remain as stated in the 2015 ES.

10.9 Mitigation Measures and Likely Residual Effects Review

Construction

- 10.9.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The effects from the construction phase will remain not significant.

Completed Development

- 10.9.2 The residual effects will remain as stated in the 2015 ES. No further mitigation is required beyond those already detailed within the 2015 ES and secured by planning condition(s).

10.10 Cumulative Effects

- 10.10.1 There is not considered to be any potential for cumulative effects with other schemes during construction or operation for surface water drainage and flood risk. No further mitigation is considered necessary, as stated in the 2015 ES.

10.11 Comparison with the Consented Scheme

- 10.11.1 The potential impacts from surface water drainage and flood risk associated with the Amendments as detailed in the S.73 Application have been considered. This has considered the changes as reported in 2015 ES.
- 10.11.2 The potential changes resultant from the Amendments are not considered to affect the surface water conclusions stated for the construction stage and completed Development stage. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application and all likely significant effects resulting from the Development are likely to remain as reported, with no additional effects or mitigation identified.

Table 11.1: Suitability of Previously Reported Findings

Aspects Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
<i>Construction Stage</i>		
Suspended Sediment into the Moselle Brook and shallow aquifer	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
Oil and hydrocarbons into Moselle Brook and shallow aquifer.	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
Concrete and cement products in to Moselle Brook and shallow aquifer	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
Contaminated Land affecting Moselle Brook and shallow aquifer.	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented

Aspects Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
		Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. The potential for a source of contamination is reduced as site-wide remediation has been undertaken. No significant effects were identified in the previous assessment.
Physical disturbance to chalk aquifer.	No likely change (minor adverse)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
Preferential pathways to surface water drainage system and shallow aquifer.	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
Flood Risk to surrounding area	No likely change (minor adverse – neutral)	It is not anticipated that the Amendments would alter the conditions during construction. Demolition has commenced across the Site as part of the Consented Scheme. Earthworks and construction of the basement has been undertaken. Construction of future plots will adhere to

Aspects Previously Considered in 2015 ES	Potential Changes in Residual Effects due to Amendments	Comments
		mitigation measures presented within the 2015 ES. No significant effects were identified in the previous assessment.
<i>Completed Development Stage</i>		
Leaks, spillage, application of fertilisers and pesticides – risk of contaminating surface water	No likely change (minor adverse – neutral)	It is not anticipated the Amendments will change the previously reported effects.
Contamination for in situ materials.	No likely change (minor adverse – neutral)	It is not anticipated the Amendments will change the previously reported effects.
Flood risk to surrounding area.	No likely change (minor adverse)	It is not anticipated the Amendments will change the previously reported effects. The updated Drainage Strategy for Plot 3 accounts for a 40% allowance for increase in peak rainfall taking into account future climate change.
Flood risk to the Project Site.	No likely change (minor adverse – neutral)	It is not anticipated the Amendments will change the previously reported effects.

11 Ground Conditions and Hydrogeology

11.1 Introduction

- 11.1.1 This ES Addendum chapter, prepared by Buro Happold, provides a Statement of Conformity that reports the findings related to whether the S.73 Application, or other changes in circumstances, materially affect the environmental information pertaining to ground conditions and hydrogeology effects provided within the 2015 ES to inform decision making.
- 11.1.2 This chapter is also supported by Appendix 11.1: Verification Report (2018).

11.2 Competence

- 11.2.1 This ES Addendum chapter was written by Geoffrey Perrett, MSci, C.WEM; a geoenvironmental engineer with over 15 years' consultancy experience and with proficiency in ground conditions and hydrogeology assessment and associated EIA inputs for numerous developments in residential and commercial sectors.

11.3 EIA Topic Overview

- 11.3.1 The purpose of this Chapter is to consider the implications on ground conditions and hydrogeology that could arise with the S.73 Application and whether the environmental effects and mitigation measures previously reported within the 2015 ES remain valid.
- 11.3.2 The 2015 ES Chapter only identified potential effects during the construction phase. Minor adverse residual effects were identified on human health associated with direct contact with contaminants in the Made Ground, exposure to ground gas, and/or contaminated soils, and inhalation / ingestion of contaminated dust. Minor adverse impacts were identified on adjacent flora from exposure to phytotoxic contaminated dust particles. Minor adverse residual effects were also identified on the River Moselle and underlying aquifer from leaching and mobilisation of contaminants, and via fuel and chemical spills. Aside from adherence to good practice site construction measures, no additional mitigation was specified.
- 11.3.3 No operational effects were predicted for the Consented Scheme.

11.4 Relevant Amendments

- 11.4.1 The S.73 Application seeks to amend Plot 3 of the Consented Scheme. The Amendments are not of relevance to the ground conditions and hydrogeology assessment as no amendments to the below ground works are proposed. Changes to the Plot 3 height results in no change for the ground conditions and hydrogeology assessment.

11.5 Assessment Review

- 11.5.1 The scope of the ground conditions and hydrogeology assessment is as follows:

- Review and update the baseline conditions where necessary;
- Review and update the policy and guidance section, where necessary;
- Review and identify any new sensitive locations where people might be affected by changes in ground conditions and hydrogeology;
- Qualitatively consider the changes to ground conditions and hydrogeology, using technical guidance;
- Review of cumulative schemes for assessment.

11.6 Legislation and Policy Review

- 11.6.1 A number of the policy documents reviewed as part of the ground conditions and hydrogeology chapter of the 2015 ES have been updated in their entirety or in part since that time. This includes the NPPF and the Local Plan. However, the intent of policy, with regard to ground conditions and hydrogeology remains in line with that presented in the 2015 ES and, therefore, give the scale and scope of the changes requiring assessment, remains valid for the purposes of this ES Addendum.

11.7 Baseline Review

- 11.7.1 Since approval of the Operative Permission, the Site has undergone significant change as a result of works to deliver the Consented Scheme, with the completion and occupation of Plots 1 and 2 which included the enabling works, below ground infrastructure, basement and podium. The basement is present underneath the Plots 1 and 3 extent, with the associated podium present on-site. The remainder of the Site is currently occupied by temporary uses including public realm and temporary structures.

11.8 Scheme Design and Management Measures Review

Construction

- 11.8.1 The Operative Permission includes a series of measures designed to investigate, control and remediation potential sources of contamination during construction, taking into account ground conditions and hydrogeology sensitive receptors both within and adjacent to the Site. Most of these have broadly been completed and are reported in the Appendix 11.1. These included an appropriate good standard of health safety and hygiene was adopted in line with the Health and Safety Plan which mitigated the potential risks to construction workers. That same good standard of construction practice mitigated the potential risks to site neighbours during construction.
- 11.8.2 There was no adverse impact on groundwater quality during the work with groundwater being lowered during the majority of the construction period and discharge to sewer, the quality of this discharge was monitored. No significant hotspots of contamination were encountered and those that were encountered were excavated and removed during earthworks so removing the potential source of groundwater contamination.
- 11.8.3 The report concluded that the satisfactory implementation of the Remediation Strategy has mitigated the potential risks to people and the environment such that there is no significant possibility of significant harm during the future occupation of the Plot 1 or Plot 3 [or other associated developments].

- 11.8.4 No additional mitigation measures have been identified further to those presented within the 2015 ES as a result of the Amendments.

Completed Development

- 11.8.5 The Consented Scheme planning permission that was implemented during construction, also protects future site users as any potential sources of residual contamination have been removed during construction.

11.9 Assessment of Environmental Effects Review

Construction

- 11.9.1 The potential effects for the Development will be the same, or less as the remediation undertaken during the earthworks has been completed, as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The potential for ground conditions and hydrogeology effects from the construction phase will remain not significant.

Completed Development

- 11.9.2 With regards to the potential adverse effects of potential contamination, the residual effects will remain as stated in the 2015 ES.

11.10 Mitigation Measures and Likely Residual Effects Review

Construction

- 11.10.1 The residual effects for the Development will be the same as those previously reported in the 2015 ES and no further mitigation is required beyond those already agreed for the Consented Scheme and secured by planning condition(s). The ground conditions and hydrogeological contamination effects from the construction phase will remain not significant.

Completed Development

- 11.10.2 No further mitigation is required beyond those already detailed within the 2015 ES and secured by planning condition(s). Provided appropriate mitigation measures are implemented for the remaining works, such as the import of clean topsoil in landscaped areas, then the residual effects will remain as stated in the 2015 ES.

11.11 Cumulative Effects Review

- 11.11.1 There is not considered to be any potential for cumulative effects with other schemes during construction or operation for ground conditions and hydrogeology. No further mitigation is considered necessary, as stated in the 2015 ES.

11.12 Comparison with the Consented Scheme

- 11.12.1 The potential impacts from ground conditions and hydrogeology associated with the Amendments as detailed in the S.73 Application have been considered. This has considered the changes as reported in 2015 ES.

11.12.2 The potential changes resultant from the Amendments are not considered to affect the ground conditions and hydrogeological conclusions stated for the construction stage and completed Development stage. Therefore, the findings of the 2015 ES are considered still valid and applicable to this application and all likely significant effects resulting from the Development are likely to remain as reported, with no additional effects or mitigation identified.

Table 11.1: Suitability of Previously Reported Findings

Aspects Previously Considered in 2015 ES	Potential Changes due to Amendments	Comments
<i>Construction Stage</i>		
Health impacts to construction workers and adjacent site neighbours.	No likely change (minor adverse)	Previous pathways are still present, e.g. direct contact or dust inhalation, however the potential for a source of contamination is reduced as site-wide remediation has been undertaken.
Degradation of water quality to groundwater and surface water and exposure of adjacent flora to phytotoxic materials.	No likely change (minor adverse)	Previous pathways are still present, e.g. transport via preferential pathways or root uptake, however the potential for a source of contamination is reduced as site-wide remediation has been undertaken.
<i>Completed Development Stage</i>		
Health impacts to site users, maintenance workers and adjacent site neighbours.	No likely change (minor adverse)	Previous pathways still present, e.g. direct contact or dust inhalation, however the potential for a source of contamination is reduced as site wide remediation has been undertaken.
Degradation of water quality to groundwater and surface water and exposure of adjacent flora to phytotoxic materials.	No likely change (minor adverse)	Previous pathways still present, e.g. transport via preferential pathways or root uptake, however the potential for a source of contamination is reduced as site wide remediation has been undertaken.

12 Townscape and Visual Impact Assessment
