



Environmental Impact Assessment Non- Technical Summary

Land North East of Harpenden between
Lower Luton Road, Bowers Heath Lane and
Common Lane

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Crest Nicholson Partnerships and Strategic
Land

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Land North East of Harpenden between Lower Luton Road, Bowers Heath Lane and Common Lane

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1 Introduction

1.1 Overview

- 1.1.1 This document is the Non-Technical Summary ('NTS') of an Environmental Statement ('ES') prepared by Stantec UK Ltd ('Stantec') on behalf of Crest Nicholson (the 'Applicant') in relation to an outline planning permission for a residential-led development (the 'Proposed Development') on land north east of Harpenden (the 'Site').
- 1.1.2 The Site, situated within the administrative area of St Albans City and District Council (SADC) and comprises approximately 32.94 hectares (ha) of land, as shown in **Appendix A**.

1.2 Terms and Definitions

- 1.2.1 The following terms have been used in this NTS:
- 'the Site' - the land on which the Proposed Development will be located;
 - 'the Proposed Development' – the application for which planning permission is sought;
 - 'SADC' – St Albans City and District Council, the local planning authority; and
 - 'the Applicant' – Crest Nicholson.

1.3 Purpose of the ES and NTS

- 1.3.1 The ES has been prepared in accordance with relevant national legislation: the Town and Country Planning (Environmental Impact Assessment) Regulations 2017 (the 'EIA Regulations').
- 1.3.2 The ES presents the findings of the Environmental Impact Assessment ('EIA') undertaken to report the likely significant environmental effects resulting from the demolition, construction and operation, phases of the Proposed Development, including measures to mitigate adverse environmental effects.
- 1.3.3 The purpose of the NTS is to describe the Proposed Development and explain the key findings of the ES in a concise way using non-technical language. A full version of the ES is provided with the planning application.



2 Site and Surrounding Area

2.1 Introduction

2.1.1 Chapter 2 of the ES provides details of the Site and surrounding area.

2.2 The Site and Surrounding Area

- 2.2.1 The Site (**Appendix 1.1**) is located immediately northeast of Harpenden and comprises of pasture fields with further fields, hedgerows and woodlands to the north, east and west. The Site is approximately 32.94 hectares (ha) in size. A track cuts through the northern and southern areas of the Site. It runs along the middle of the Site from the west to east. The track links up B652 Bower Heath Road and Common Lane.
- 2.2.2 The majority of the Site is currently made up of open fields. A small area within the western parcel of the Site is currently made up of an equestrian centre and a telecommunication mast and electrical substation is located near the centre of the Site.
- 2.2.3 The Site is bound by the B652 Bower Heath Lane to the north west and fields directly north. Common Lane runs next to the eastern boundary. To the south of the Site is Porters Hill Park and residential development. The B653 Lower Luton Road and fields are located on the western boundary.
- 2.2.4 Three Public Rights of Way (PRoW) cross the Site, footpath 'Harpenden 034' runs from Bower Heath Road to Turners Close, footpath 'Harpenden 061' runs from Common Lane to Whittings Close and footpath 'Harpenden043' / 'Wheathampstead 061' runs east west from Common Lane.
- 2.2.5 The closest residential property lies within Noke Shot, immediately south of the Site. Porters Hill Park lies immediately south of the Site which also includes Porters Hill Playground and Porters Hill Park Allotments.
- 2.2.6 The surrounding area to the north and east of the Site is mainly agricultural fields; residential properties; farms and associated buildings; hedgerows; and the local road network. There are various residential properties located along the B652 Bower Heath Lane and within Sauncey Wood. Additionally. There are two farms located to the northeast of the Site: Hornbeam Wood Farm (approximately 100 m from the Site) and Four Oaks Farm (approximately 320 m from the Site). Hornbeam Wood Hedgehog Sanctuary & Rescue facility is located approximately 100 m northeast.
- 2.2.7 The surrounding area to the south and west of the Site includes the hamlet of Bower Heath to the immediate south; Porters Hill Park; hedgerows; nearby residential properties; a local park; and the local road network.



3 The Proposed Development

3.1 The Proposed Development

3.1.1 The description of the Proposed Development is:

3.1.2 *“Outline Application for demolition of existing buildings and structures and construction of a mixed-use development comprising residential dwellings (including affordable housing), children’s home, elderly extra care facility, local centre (flexible retail/ health/ community use), sports pitches and associated building, green infrastructure and landscaping works (to include public open space and community growing space); primary school with early years provision, vehicular and active travel infrastructure (including pedestrian and cycle access) and diversion of Bower Heath Lane; drainage works; and related infrastructure. All matters reserved save for access from Lower Luton Road. An Environmental Statement has been submitted with the application under the Town and Country Planning (Environmental Impact Assessment) (England and Wales) Regulations 2011 (as amended).”*

3.2 Parameter Plans

3.2.1 The parameter plans (**Appendix 1.2**) define areas for land use, storey heights, open green infrastructure, and access and movement. The parameter plans are as follows:

- Land Use;
- Storey Heights;
- Open Green Infrastructure; and
- Access and Movement.

3.3 Illustrative Masterplan

3.3.1 The illustrative masterplan (**Appendix 1.4**) acts as an informed interpretation of what the Proposed Development could look like within the proposed parameters. This includes how buildings might be laid out within the overall development envelope set out in the Parameter Plans, including how the access routes and green infrastructure would be delivered. It is important to note that the Illustrative Masterplan is a first draft of how the overall development might be realised and is therefore subject to change.

3.3.2 The illustrative masterplan has been used to provide the following indicative figures, which are an example of how the Site may be developed in line with the parameters. They could be subject to change through future Reserved Matters Applications (RMAs).

Residential

3.3.3 The Proposed Development is expected to provide up to 500 homes: 196 affordable units (40%) and 294 private units (60%). The indicative mix is shown in **Tables 3.1** and **3.2** below.

Table 3.1: Indicative Mix (Affordable)

House Type	Units
1 Bed Apartment	42
2 Bed Apartments	12
2 Bed Homes	62



House Type	Units
3 Bed Homes	74
4 Bed Homes	6
Total (Affordable)	196

Table 3.2: Indicative Mix (Private)

House Type	Units
1 Bed Apartment	24
1 Bed Homes	13
2 Bed Homes	14
3 Bed Homes	111
4 Bed Homes	128
5 Bed Homes	4
Total (Private)	294

3.3.4 Indicative floorspace figures are provided in **Table 3.3** below.

Table 3.3: Indicative Floorspace Figures

House Type	Sq.ft
1 Bed Apartments	540 – 675
2 Bed Apartments	675
1 Bed Homes	600
2 Bed Homes	765 – 1057
3 Bed Homes	914 – 997
4 Bed Homes	1056 – 1371
5 Bed Homes	1815

Non-Residential

3.3.5 Non-residential uses will include a primary school, elderly care, a local centre, sports pitches, allotments, orchards and growing, and public open space.

3.3.6 The local centre will comprise up to 1,200 sqm Gross Internal Area (GIA) and will provide a flexible range of uses including retail, café, healthcare, and community uses.

3.3.7 The indicative areas of these uses is shown in **Table 3.4** below.

Table 3.4: Non-Residential Uses

House Type	Ha
Primary School	2.00
Elderly Care	0.61
Local Centre	0.55
Sports Pitches	1.96
Allotments, orchards and growing	0.38



House Type	Ha
Public open space	14.13

3.3.8 Parking provision will be confirmed at RMA stage.

Proposed Building Heights

3.3.9 Building heights will be kept between 2-3 storeys across the Proposed Development.

Materials

3.3.10 The appearance of the Proposed Development will be confirmed at detailed design.

Landscaping

3.3.11 The Proposed Development will deliver over 14ha of public open space equating to approximately 100 m² of green space per person.

3.3.12 The landscape framework will:

- Create a connected green and blue network that embraces the Site's landscape and ecological assets.
- Ensure habitat enhancements are concentrated on the meadow parkland, as part of drainage features, within the green curtains, and along Site boundaries.
- Provide improved pedestrian and cycle connectivity.
- Deliver a high-quality landscape setting to support a sustainable community.
- Provide a variety of open spaces with the opportunity for play and sport close to people's homes.

Access and Movement

3.3.13 Vehicular access to the Site will be via Lower Luton Road.

3.3.14 The Site is accessible for pedestrians and cyclists. Enhancements will be made so that pedestrian and cycle access, both within the Site and to local facilities, have been identified.

Flood Attenuation and Drainage

3.3.15 The Site will contain surface water drainage. The sustainable drainage system incorporates ponds and basins, and will be discharged to a local watercourse.

Lighting Strategy

3.3.16 Lighting will be designed to achieve a good level of lighting across the Site, minimising dark areas and creating a safe environment whilst avoiding light pollution and light spill. Where required, dark corridors will be maintained within ecological areas.



3.4 Consideration of Alternatives

- 3.4.1 The Applicant considered alternatives for the Proposed Development. Full details are provided in **Chapter 3** of the ES, including consideration of the 'do nothing' alternative and alternative locations.
- 3.4.2 The 'do nothing' alternative refers to the option of leaving the Site in its current state. As the Site has been allocated in the emerging allocation within the SADC Local Plan, no development is not considered to be a reasonable alternative, as it does not accord with policy and would not aid in meeting the housing needs for the area. For the same reason, alternative sites have not been considered in relation to the Proposed Development.



4 Construction Methodology and Phasing

4.1 Introduction

4.1.1 Chapter 4 of the ES provides information on the construction methodology of the Proposed Development and phasing.

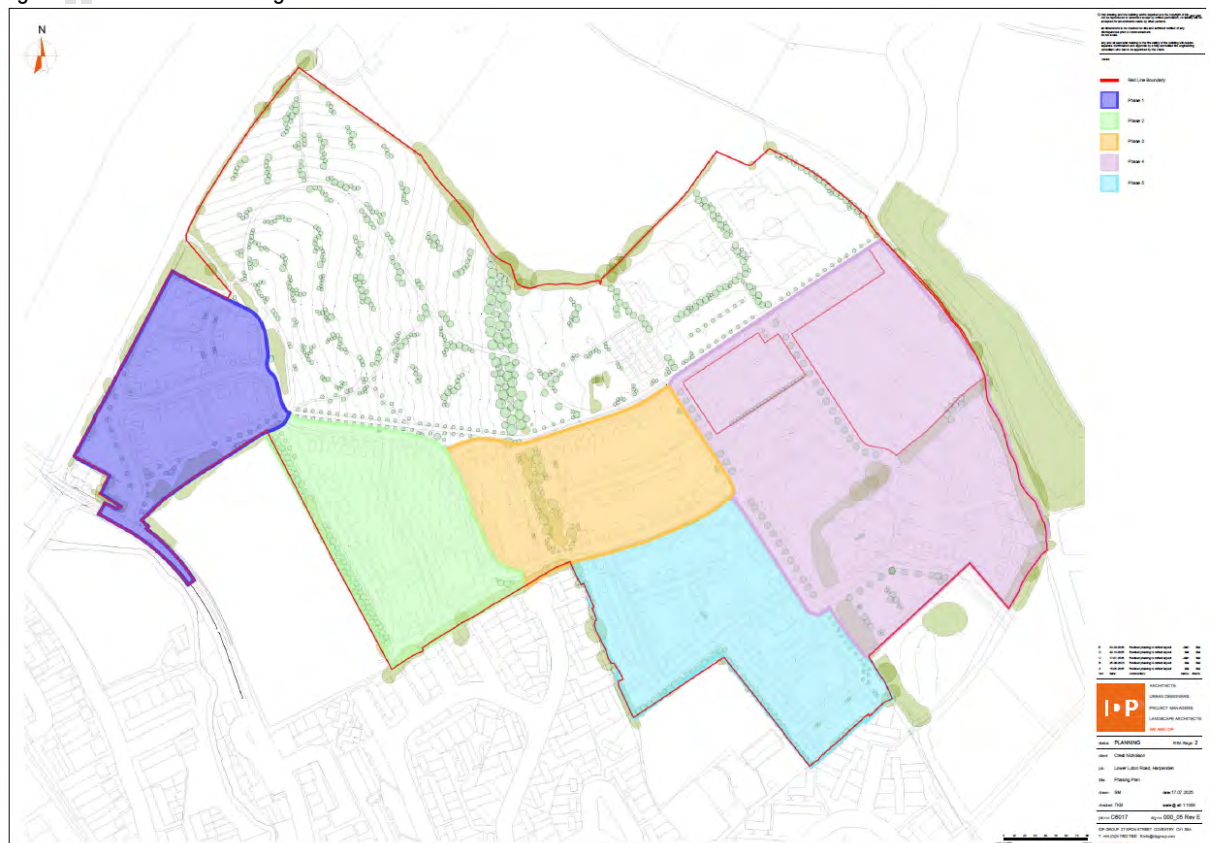
4.2 Anticipated Programme and Phasing

4.2.1 Initial infrastructure works are expected to commence in 2028, followed by commencement of residential build later that year, subject to gaining planning permission. The overall development is anticipated to take approximately 8 years to complete. Completion is anticipated to be in 2036.

4.2.2 It is anticipated that there would be a rate of approximately 60 dwellings per annum.

4.2.3 Figure 4.1 illustrates the expected construction phases. The exact details of phasing are yet to be confirmed and will be set out in future RMAs.

Figure 4.1: Illustrative Phasing Plan



4.3 Site Access and Traffic Management

4.3.1 Traffic management will be the responsibility of the appointed Principal Contractor and on-site Supervisor to ensure that all deliveries are instructed to follow the designated route to and from the Proposed Development.

- 4.3.2 It will be the responsibility of the Principal Contractor to have a traffic marshal at the development to assist, manage and control all deliveries and traffic on site and to bank larger Heavy Good Vehicle's (HGVs) on the Proposed Development.
- 4.3.3 Vehicular access during construction will be from Lower Luton Road.
- 4.3.4 A jet wash and tap will be located at the Site entrance and used to remove any mud from construction vehicles as required. A road sweeper may be used to clean Site roads and the surrounding offsite roads.
- 4.3.5 Deliveries to the Site will be during site working hours 8am to 5pm.
- 4.3.6 Staff will be encouraged to travel sustainability and car/van share to reduce vehicle trips.

4.4 Construction Waste

- 4.4.1 During demolition and construction, materials recovered from on-site works may be suitable for reuse on Site.
- 4.4.2 A Site Waste Management Plan (SWMP) will be prepared to help resource efficiency principles to be incorporated where consideration is given to designing out waste, reduce waste generated on-site as well as reuse, recycling and recovery of waste.

4.5 Environmental Management

- 4.5.1 A Construction Environmental Management Plan (CEMP) will be used to manage environmental effects resulting from construction works. The CEMP will be secured by planning condition. The CEMP will detail mitigation measures, working hours, prohibited operations, monitoring responsibilities, contact details, construction noise and dust management, reporting, public liaison, and HGV routeing.

4.6 Hours of Work

- 4.6.1 Working hours on the Site will be agreed with SADC through the CEMP, however, it is likely that the standard hours of work will be adhered to. These are:
- Monday to Friday, 8am to 6pm;
 - Saturday, 8am to 1pm; and
 - Sunday and Bank Holidays, no working on-Site.
- 4.6.2 All work outside of these hours will be subject to prior agreement of, and / or reasonable notice to SADC as appropriate.
- 4.6.3 It is assumed that there would be no HGV access to the Site before 7am or after 7pm, Monday to Friday, or before 7am or after 1pm on Saturdays.
- 4.6.4 Night-time working will be restricted to exceptional circumstances and work internally with buildings. By arrangement, there may be some out of hours construction deliveries made to the Site.



5 Environmental Impact Assessment Methodology

5.1 Introduction

- 5.1.1 **Chapter 5** of the ES describes the process that has been used to carry out the EIA. It includes a discussion on the relevant regulations, the EIA process, consultations and the assessment methods applied.
- 5.1.2 The ES has been prepared in accordance with the EIA Regulations and reference has also been made to currently available good practice guidance on EIA.

5.2 EIA Regulations

- 5.2.1 The EIA regulations set out the procedures for undertaking an EIA and the information, which is required in an ES, which has been followed in this assessment.

5.3 EIA Process

- 5.3.1 In general terms the main stages in the EIA process are as follows:
- **Screening** – determining whether a proposed project falls within the remit of the EIA Regulations;
 - **Scoping** –determining the extent of issues to be considered in the assessment and reported in the ES;
 - **Establishing baselines** – drawing together and reviewing existing available data and undertaking surveys to determine existing and future baseline conditions;
 - **Assessment and iteration** – assess likely significant effects of development, evaluate alternatives, provide feedback to design team on potential adverse impacts, modify development or impose parameters, incorporate mitigation, assess effects of mitigated developments; and
 - **Preparation of the ES.**

5.4 Screening and Scoping

- 5.4.1 EIA Screening was not completed as the Applicant voluntarily determined to undertake an EIA of the Proposed Development.
- 5.4.2 Scoping involves focusing the content of an ES on issues of significance. It is an important tool for identifying the likely significant effects of a proposed development and ensures that appropriate mitigation is considered where necessary. An EIA Scoping Report and request for a Scoping Opinion was submitted to SADC on 17 September 2024. A Scoping Opinion was received from SADC on 11 November 2024. As a result, the following subject areas have been assessed and reported in the ES:
- Population and Human Health;
 - Landscape Character and Visual Amenity;
 - Biodiversity;



- Transport and Access;
- Noise and Vibration;
- Air Quality;
- Climate Change; and
- Waste.

5.4.3 As a result, this ES has been prepared to fulfil the requirements of the Scoping Opinion and in compliance with the EIA Regulations which requires an ES to be based on the most recent scoping opinion issued.

5.5 Consultation Process

5.5.1 In addition to consultation to agree the scope of the EIA, consultation with relevant statutory and non-statutory bodies has been undertaken throughout the EIA and design process.

5.6 Cumulative Effects

5.6.1 An EIA must assess the potentially significant effects that may arise cumulatively (when the Development is combined with) other permitted development. The EIA Regulations state that “existing and/or approved” developments should be considered. The scheme identified in **Table 2.1** has been identified that could have the potential to lead to likely significant cumulative effects on the environment. The location of the scheme is shown on **Appendix B**.

Table 5.1: Existing or Approved Cumulative Schemes

Planning Reference	Address	Description of Development	Approx. Distance from the Site	Status
5/2023/0327	Land at Cooters End Lane and Ambrose Lane Harpenden Hertfordshire	Construction of up to 550 dwellings including circa. 130 Class C2 integrated retirement homes, 40% affordable housing, early years setting, public open space, allotments and publicly accessible recreation space.	1km	Validated: 01/03/2023

5.7 Significance Criteria

5.7.1 Two main criteria of determining the significance of an environmental effect are the size of the impact and the sensitivity of the receptor/resource. The approach to assessing significance has considered the EIA Regulations, guidelines and sector standards.

5.8 Monitoring

5.8.1 The EIA Regulations introduce a requirement that significant adverse environmental effects should be monitored where appropriate.



6 Planning Policy and Context

6.1 Introduction

6.1.1 Chapter 6 of the ES outlines planning policy relevant to the Proposed Development.

6.2 National Planning Policy Context

6.2.1 Relevant national planning policy includes:

- National Planning Policy Framework (NPPF) (2024). The NPPF underpins the Government's approach to planning.
- Planning Policy Guidance (PPG). The PPG builds on the NPPF and provides further detailed technical guidance.
- National Design Guide (2021), illustrates how well-designed places can be achieved in practice.

6.3 Local Planning Policy and Guidance

6.3.1 Relevant local planning policy and guidance includes:

- SADC's Adopted Development Plan, which comprises:
 - o Draft Local Plan 2041 – Reg 19. Publication (September 2024); and
 - o Draft Policies Map.



7 Population and Human Health

7.1 Overview

- 7.1.1 **Chapter 7 of the ES** considers the impact of the Proposed Development on the local community in the context of the Site, the area immediately surrounding the Site (the Local Study Area (LSA)) and the wider SADC area. In particular, the assessment considers the impact of the Proposed Development on the housing market, household expenditure, education (early years, primary and secondary), GP provision, employment, open / play space, transport and active travel, air quality, noise and vibration, and climate change.

7.2 Baseline

- 7.2.1 There are no homes, supporting employment uses or areas of public open space/recreation on the Site currently.
- 7.2.2 The age profile of the population living in the SADC area is younger compared to the regional and national averages.
- 7.2.3 Local primary schools are operating with unfilled places in both the existing and future baseline. However, whilst there is existing capacity in the secondary schools, additional secondary school places have been identified as being required in future years.
- 7.2.4 There are three GP facilities in the LSA, which are collectively operating with available capacity.
- 7.2.5 There are 21 areas of open / play space within 1km of the Site, including play space, nature reserves, parks, playing fields, outdoor sports facilities and allotments.
- 7.2.6 Employment rates in the SADC area are higher than the regional and national averages and unemployment rates are lower.
- 7.2.7 The health and environmental baseline for the LSA and wider St Albans District presents a generally positive picture. Active travel levels are above regional and national averages. Accident analysis indicates no significant highway safety issues in the surrounding road network.
- 7.2.8 Air quality is generally good, with only one AQMA in the district, located away from the Site. Noise monitoring shows the Site is characterised by a quiet acoustic environment, with ambient sound levels within acceptable thresholds for both day and night.
- 7.2.9 The health profile of the population performs well compared to regional and national comparators, including for life expectancy, self-rates health, physical health conditions and mental health and behavioural indicators.
- 7.2.10 Finally, the deprivation profile shows that the LSA is significantly less deprived than the national average, with low levels of income deprivation, child poverty, overcrowding, and preventable deaths.

7.3 Mitigation

Construction

- 7.3.1 Construction phase mitigation measures include:



- A CEMP will be implemented to minimise environmental impacts during the construction phase.
- Noise and air quality mitigation as identified in **Chapters 11 and 12**.

Operation

7.3.2 Operational phase mitigation measures include:

- Land safeguarded for the delivery of 2FE primary school incorporating early years provision.
- Local centre with flexibility in potential uses.
- Open space, incorporating play space.
- The Proposed Development will provide direct active travel links to the adjoining Batford residential area to the south east of the Site.
- The Proposed Development will provide additional pedestrian and cycle access points on to Lower Luton Road.
- Noise and air quality mitigation as identified in **Chapters 11 and 12**.
- A Travel Plan will be developed separately for both the residential and primary school elements of the Proposed Development. These plans will aim to promote sustainable travel choices among future residents, students, and school staff.

7.4 Construction Effects

- 7.4.1 It is anticipated that the Proposed Development will support an average of 129 direct jobs during the 8-year construction phase, representing 3.2% of construction employment in the SADC area currently. 46 of the direct jobs supported during the construction phase are anticipated to provide employment for residents of the SADC area, along with a further 19 indirect jobs in the supply chain. The construction phase will provide a temporary, **Major Beneficial** and **Significant** effect on employment in the SADC area over the construction period.
- 7.4.2 Due to the less than 10% increase in traffic on Lower Luton Road, the effect on transport and active travel is **Negligible** and **Not Significant**.
- 7.4.3 Air quality effects on human health are considered to be **Minor Adverse** and **Not Significant**. Noise and vibration effects are considered to be **Negligible-Minor Adverse** and **Not Significant**.

7.5 Operational Effects

- 7.5.1 The Proposed Development is anticipated to have a resident population of 1,308 people, including both the occupation of the up to 500 dwellings and approximately 60 people in the extra care facility. The increase in population will impact upon the availability of education, healthcare and open / play space, within the local area surrounding the Site.
- 7.5.2 It is assumed that all 1,308 residents will need to register with a local GP. While some practices within the LSA have available capacity, overall provision may be constrained when considering nearby facilities likely to serve the development. Therefore a **Minor Adverse** and **Not Significant** effect on existing GP provision is identified. Nonetheless, the Proposed



Development's neighbourhood centre has the potential to incorporate a new medical facility should the Integrated Care Board (ICB) deem a new facility is required locally.

- 7.5.3 The Proposed Development incorporates the delivery of a new 2FE¹ primary school incorporating co-located early years provision. A **Negligible** and **Not Significant** effect on early years provision is anticipated and a **Minor Beneficial** and **Not Significant** effect on primary education, as a result of the Proposed Development's 2FE primary school providing more school places than required by the Proposed Development. A **Minor Adverse** effect on secondary education has been identified because there is not sufficient capacity in future years to accommodate the demand for secondary school places created. Nonetheless, the adverse effect is **Not Significant**.
- 7.5.4 The up to 500 new homes will deliver 68% of wider strategic allocation for North East Harpenden and will provide homes across a range of tenures, types and sizes, along with providing a 60-bed extra care facility and children's home. The Proposed Development will therefore have a **Major Beneficial** and **Significant** effect on the housing market in the SADC area.
- 7.5.5 The new households created by the Proposed Development will provide a small increase in consumer spending relative to expenditure in the SADC area, as future residents will use shops and services to meet their day-to-day needs providing a **Negligible** and **Not Significant** effect to the SADC area.
- 7.5.6 The Proposed Development will provide 12.1 hectares of open space provision, plus sports pitch provision, which is considerably in excess of the policy requirement. As such, the Proposed Development will therefore provide a **Major Beneficial** and **Significant** effect (significant) on open / play space in the local area to the Site.
- 7.5.7 Employment will be supported by the Proposed Development's delivery of a neighbourhood centre and 2FE primary school. It is anticipated that a minimum of 63 FTE² jobs could be supported on-Site by such uses, with the total net additional employment effect to the SADC area estimated to be 23 jobs. As such, the Proposed Development will provide a **Negligible** and **Not Significant** effect on employment in the SADC area.
- 7.5.8 The Proposed Development includes a street design that encourages active travel and walking. Connected active travel paths will be created that invite and encourage interaction and promote health and wellbeing through the provision of shading, green walkways, and safe routes with the absence of car traffic. Street trees, and green walkways will reduce the temperature on hot days, improve air quality, and provide shelter in rain, creating connected healthy walk and cycle ways around the Site. It is considered that the Proposed Development will have a **Moderate Beneficial** and **Significant** effect on transport and active travel.
- 7.5.9 Modelled concentrations of NO₂, PM₁₀, and PM_{2.5} across the Proposed Development and at all identified human receptor locations are predicted to remain below relevant Air Quality Objectives (AQOs) in the operational year (2036). The Proposed Development is expected to have a negligible impact on air quality at all receptor locations, in accordance with EPUK-IAQM guidance. While no specific measures are required to protect human health, it is recommended that best practice measures recommended by IAQM may be considered at the reserved matters stage to further reduce operational emissions. Likewise, residual impacts of noise on human receptors are considered to be **minor adverse / negligible** and **not significant**.

¹ A 2 Form Entry school means that there are two classes in each year group.

² FTE stands for Full-Time Equivalent and is used to measure the working capacity of employees, regardless of whether they work full-time or part-time.



- 7.5.10 The magnitude of change for noise impacts during operation is considered to be negligible with no perceptible change expected at several receptor locations. This would result in an overall **Negligible** and **Not Significant** effect.

7.6 Cumulative Effects

- 7.6.1 Significant cumulative effects have been identified during construction for employment (**major beneficial**) and during operation for housing market (**major beneficial**) given the combined residential total of 920 new homes, and open / play space (**major beneficial**) with both developments delivering public open space.



8 Landscape Character and Visual Amenity

8.1 Overview

- 8.1.1 The Landscape Character and Visual Amenity assessment has included a review of planning policies from national to local level of relevance to landscape and visual matters; the content and recommendations of published landscape character assessment or studies; the existing key features and character of the Site and its context; and a representative range of views³ towards the Site and Proposed Development.
- 8.1.2 Landscape and visual effects have been assessed following three stages: during construction; immediately on completion (Year 0); and during operation after establishment of landscape mitigation (Year 15)⁴.

8.2 Baseline

- 8.2.1 The Site is located at a District level within LCA⁵ 33 Upper Lea Valley and LCA 34 Blackmore End Plateau, exhibiting some characteristic features associated with its host LCA including prominent valley slopes and elevated plateau topography, proximity and visual influence of the settlement edge of Harpenden and Batford and a strong wooded context provided by the linear network of woodlands, trees and hedgerows on field boundaries.
- 8.2.2 Views of the Site range from direct close range views from adjacent residential properties in Batford, public footpath Harpenden 034 running through the Site and from Porters Hill Park (public open space). Near to middle distance cross valley views of the from residential properties in Harpenden and Westfield Road Cemetery and elevated distant cross valley views of the Site from Cooters End Lane and Chiltern Way Long Distance Footpath.

8.3 Mitigation

Construction

- Site hoarding around the Site's perimeter will minimise the visual impact on these visual receptors directly adjacent and/or in close proximity of the Site, during the construction stages.
- Construction operations and lighting carried out in accordance with the Construction Environmental Management Plan (CEMP)
- Early planting of the landscape buffers running through the Site, particularly along the ridgeline of the Site, in the first available season after commencement of works.
- Existing tree and scrub / shrub vegetation currently serving as a screen to adjacent landscape and visual receptors, but to be removed as part of the Proposed Development, would be retained within the construction Site for as long as possible to minimise the impacts from the works.

³ Representative viewpoints are identified to assess the visual effects on sensitive receptors (e.g. residential properties, schools, farms and sports facilities)

⁴ The chapter assesses likely significant operational effects at Year 0 when planting is yet to be established and residual effects at Year 15.

⁵ Landscape character assessment (LCA) is the process of identifying and describing variation in character of the landscape. LCA documents identify and explain the unique combination of elements and features that make landscapes distinctive by mapping and describing character types and areas.



- Existing tree and scrub / shrub and woodland vegetation to be retained as part of the Proposed Development (as indicated on the Parameter Plans) would be protected.

Operation

8.3.1 The following mitigation measures are proposed:

- The tallest height built form is located in the least visually sensitive parts of the Site.
- The Landscape Strategy for the Proposed Development includes green corridors, running through the Proposed Development, known as 'Green Curtains'.
- New woodland planting and parkland tree planting are proposed within the meadow parkland.
- The Proposed Development parameters retain, where possible, existing vegetation on the Site boundaries and running internally through the Site, supplementing with additional landscape buffer planting.
- A new parkland area is proposed to form a new defined Green Belt edge to Harpenden and ensuring Proposed Development is set back behind a large area of green infrastructure.
- New and existing on-site vegetation and planting managed in accordance with the Landscape & Ecological Management Plan (LEMP).

8.4 Construction Effects

- 8.4.1 Effects on landscape character (in relation to LCA 33 and LCA 34) are considered to be **Minor Adverse** and **Not Significant** during construction.
- 8.4.2 Effects on the landscape character of the Site are considered temporary **Moderate Adverse (potential to be Significant)** during construction reducing to short term **Minor to Moderate Adverse** and **Not Significant** on completion.
- 8.4.3 Visual effects at the construction stage have been assessed to be temporary and short term **Moderate - Major Adverse** and **Significant** to residents that directly about the Site in Batford and on Lower Luton Road and walkers on public footpath Wheathampstead 060 and walkers on public footpath Harpenden 034. All other landscape and visual effects during construction would be **Not Significant**, with most effects being **Negligible** or **Minor**.

8.5 Operational Effects

- 8.5.1 Effects of the landscape character at operation and after establishment of the Landscape Framework and mitigation (Year 15) would reduce to long term **Negligible Adverse** and **Not Significant**, where effects on the landscape character of the Site improves to long term **Minor Beneficial** on establishment of the landscape mitigation and enhancements of the Landscape Framework will have matured.
- 8.5.2 Visual effects during operation, following establishment of landscape mitigation (Year 15) have been assessed to be long term **Minor - Moderate Adverse** to walkers that directly pass through the Site on public footpath Harpenden 034, that would interface with the proposed residential built form, with all other long term visual effects considered to be **Not Significant** with most being **Minor to Negligible**.



8.6 Cumulative Effects

- 8.6.1 The cumulative development lies 1.1km to the south west of the Site, with no potential for any visual receptor to experience views of the site in combination with the Proposed Development, due to the extent of intervening landform, vegetation and built form. The site also lies close to the settlement of Harpenden, so would have no cumulative landscape impacts in combination with the Proposed Development. Therefore, it is considered there would be no cumulative landscape or visual impacts with the development noted above.



9 Biodiversity

9.1 Overview

- 9.1.1 **Chapter 9 of the ES** assesses the likely significant effects arising from the Proposed Development with respect to biodiversity.

9.2 Baseline

- 9.2.1 Ecological surveys of the Site have been undertaken, including a desktop study, an extended Phase 1 Habitat survey and a range of Phase 2 faunal surveys.
- 9.2.2 A number of ecological designations were identified by the desktop study. The nearest statutory designation is Batford Springs Local Nature Reserve (LNR), located approximately 0.5km to the south of the Site, whilst the nearest non-statutory designation is Holcroft's Springs Local Wildlife Site (LWS), located approximately 0.005km from the Site boundary, separated from the Site by Common Lane, which forms the Site's north-eastern boundary.
- 9.2.3 The Site is itself largely dominated by horse-grazed fields with areas of modified grassland, woodland, tall ruderal vegetation, vegetated gardens, buildings and hardstanding present in the western corner of the Site, and woodland and tall forb vegetation present along the eastern boundary. Habitats forming important ecological features comprise woodland and native hedgerows, both of which comprise Priority Habitats. Surveys of faunal species have found that the Site supports a potential low status bat roost, moderate numbers of foraging and commuting bats and Badger, together with a range of birds, invertebrates and likely presence of other mammal species, namely Brown Hare and Hedgehog.

9.3 Mitigation

Construction

- 9.3.1 The following mitigation measures have been identified for the construction phase:
- Implementation of a Construction Environmental Management Plan (CEMP).
 - Demolition of building recorded to support bat roost to be undertaken under licence from Natural England and following implementation of an appropriate mitigation strategy.
 - Closure of Badger setts undertaken under licence from Natural England and following implementation of an appropriate mitigation strategy.
 - Clearance of bird habitat outside of bird nesting season or following an inspection by a suitably qualified ecologist.

Operation

- 9.3.2 The following mitigation measures have been identified for the operational phase:
- Retention of the habitats of elevated ecological value wherever possible, notably the areas of woodland and the hedgerows.
 - Provision of substantial areas of open space within the northern part of the Site, which will be subject to habitat enhancement and creation works.



- Built development to be designed to minimise potential adverse effects on habitats and ecological features.
- Implementation of a sensitive lighting scheme.
- Management of recreational activity.

9.4 Construction Effects

- 9.4.1 Following implementation of the mitigation measures set out above, all construction effects are considered to be **Not Significant**.

9.5 Operational Effects

- 9.5.1 Potentially Significant effects have been identified in relation to non-statutory designations, habitats and ecological features, bats (roosting and foraging/commuting) and Badger. These effects are largely as a result of habitat losses, together with disturbance and urbanisation effects associated with new development, notably lighting. However, following implementation of compensation as required by Statutory Biodiversity Net Gain, these residual effects are considered to be reduced to **Not Significant** effects.

9.6 Cumulative Effects

- 9.6.1 The effects associated with the Proposed Development in combination with the identified cumulative scheme have been considered. The cumulative effects during construction and operation are both considered to be negligible and **Not Significant**.



10 Transport and Access

10.1 Overview

- 10.1.1 The assessment characterises impact of the Proposed Development based on pedestrian severance, pedestrian delay, pedestrian amenity, fear and intimidation, driver delay and accidents and safety.

10.2 Baseline

- 10.2.1 The site is located within a sustainable location with existing pedestrian and cyclist routes within close proximity of the site, and bus stops located immediately adjacent to the site on Westfield Road and Lower Luton Road. Harpenden railway station is situated within suitable walking distance of the site and local facilities within the centre of Harpenden can be reached within a short walk which will encourage future pedestrians to travel sustainably for day-to-day journeys.

10.3 Mitigation

Construction

- 10.3.1 The following mitigation measures have been identified for the construction phase:

- Construction Traffic Management Plan.

Operation

- 10.3.2 The following mitigation measures have been identified for the operational phase:

- Pedestrian and cycle connections within the Proposed Development.
- Mix of on-site land uses.
- Bus stops within Site.
- Signalised crossing at site access junction on Lower Luton Road.
- Dwellings to be provided with on-plot cycle parking
- Signalised crossing at Site access junction on Lower Luton Road.
- Dwellings to be provided with on-plot cycle parking.
- 20mph zone within Batford.
- Off-site walking & cycling route improvements.
- Gateway features on approach to Harpenden.
- School Travel Plan.
- Residential Travel Plan.



10.4 Construction Effects

- 10.4.1 It is likely that construction traffic would be routed along Lower Luton Road either north towards the M1, or south towards the A1(M). The addition of 175 vehicles per day along Lower Luton Road would result in less than a 10% increase. Therefore, the effects during the demolition and construction phases of the Proposed Development are forecast to be **Negligible** and no further assessment of the impact of the construction phase has been completed.

10.5 Operational Effects

- 10.5.1 The impact of the Proposed Development exceeds 10% increase in traffic flows⁶ at just three locations (2 locations on Lower Luton Road and Westfield Road).
- 10.5.2 The impact of the Proposed Development will be suitably mitigated through the delivery of various mitigation measures including production of a Travel Plan (for residential and education land uses), delivery of off-site measures, and the design of the Proposed Development encouraging trips to be made by sustainable modes of transport. The effects of the Proposed Development once operational are considered to be **Not Significant**.

10.6 Cumulative Effects

- 10.6.1 The baseline scenario for the transport assessment includes committed development and therefore considers the cumulative effects of development inherently.
- 10.6.2 Notwithstanding this, the impacts of the wider allocation has been considered to allow a complete assessment. The construction impact of the wider allocation would be as per that identified for the Proposed Development. When considering the full allocation during operation the 10% increase threshold is exceeded at four locations (previously mentioned locations plus Station Road). The impact also remains below the 30% “moderate” impact on all links. No significant effects are anticipated.

⁶ In accordance with IEMA Guidelines, changes in traffic flows over 10% indicate a slight degree of impact, a moderate impact is for changes in traffic flow over 30%, and substantial is for changes over 60%.



11 Noise and Vibration

11.1 Overview

- 11.1.1 Chapter 11 of the ES considers the likely significant effects of the Proposed Development with respect to noise and vibration.

11.2 Baseline

- 11.2.1 An acoustic baseline survey was carried out in order to establish the existing noise environment at the Site. The Site was found to be relatively quiet. Although distant trains and aircraft could be heard, the sound levels from these were not dominant. For the majority of the Site, the most main noise sources were bird song and passing walkers.

11.3 Mitigation

Construction

- 11.3.1 The following mitigation measures have been identified for the construction phase:
- Best Practicable Means (BPM) as defined in the Control of Pollution Act 1974 will be adopted to minimise noise and vibration from construction works. This should be reflected in the CEMP. This may include selection of quiet plant, control of working hours, acoustic screening, public communications, and avoidance of sensitive periods or events.
 - There will be no noisy or vibratory works on Sundays or Bank Holidays. Noisy and vibratory works will be restricted to 7am-6pm Monday-Friday and 8am-1pm on Saturdays.
 - Construction traffic would be mitigated through the traffic management plans secured through the CEMP.
 - Where piling is required, low vibration piling such as continuous flight auger (CFA) piling should be used to minimise any potential adverse effects.
 - Vibration from rollers should be reduced or turned off when close to residential properties.
 - The primary source of noise impacting the surrounding area is from breaking activities. Where breaking is occurring it should be undertaken by hand tools or compact breaking equipment so that an enclosure can be installed around the work area.
 - The use of Site hoarding can provide up to 9 dB of sound reduction to ground floor receptors when close to the noise source.
 - Mitigation measures include use of mufflers and acoustic screening.

Operation

- Mitigation in the form of acoustically rated glazing and (where used) ventilator elements will be required.
- Certain specifications for garden fencing to control noise to external areas.



11.4 Construction Effects

Construction Noise

- 11.4.1 With the proposed mitigation the assessment shows the ABC threshold level during demolition of the Equestrian Facility is likely to be exceeded at the closest noise sensitive receptors by less than 5 dB, but will be below the ABC threshold for all other receptors. The demolition noise levels are likely to be above the baseline sound levels at some locations.
- 11.4.2 The construction noise would be considered to have a **Moderate** effect on the worst impacted receptors close to the works, and a **Minor-Negligible** effect on the remainder of the receptors.
- 11.4.3 Should a detailed demolition plan of the Equestrian Facility show that noise from activities can be mitigated below the ABC threshold, the residual effect would be **Minor** to all receptors.
- 11.4.4 It is important to note that the Moderate effect only affects a small number of dwellings. Given the size of the scheme and the temporary nature of the work, this is considered acceptable. This does, however, highlight the need for low noise demolition methods to be used in this location and that a detailed impact assessment is required once the demolition proposals have been developed.

Construction Vibration

- 11.4.5 With mitigation, as detailed above, the construction vibration would be considered to have a **Minor-Negligible** effect.

11.5 Operational Effects

Site Suitability

- 11.5.1 With the implementation of the proposed mitigation, the assessment shows all internal levels can meet the guidance available and hence the effect on to all receptors would be **Negligible**.
- 11.5.2 By implementing the proposed mitigation, the assessment shows that external noise levels would be below the upper limits of the WHO guidelines and BS 8233 and marginally above the lower limits. The assessment shows all internal levels can meet the guidance available and hence the effect on all receptors would be **Minor** or **Negligible**.

Operational Road Traffic

- 11.5.3 In the worst impacted area of the Site a 0.9 dB increase in noise levels may be present. When considered in the context of DMRB guidance there would be a Negligible Impact change to the worst impacted areas during the short term and long term, and to some assessment locations no change will be present. This is considered to be a **Negligible** effect.

Building Services Plant

- 11.5.4 At the time of writing, plant details are not known. Plant noise rating levels have, therefore, been proposed. The proposed noise rating levels are 42 dB L_{Ar,Tr} during the daytime and 35 dB L_{Ar,Tr} during the night-time hours. Adhering to these noise limits will result in a **Minor-Negligible** effect.

11.6 Cumulative Effects

- 11.6.1 Given the distance from the Site, the cumulative impact for this Proposed Development and the other committed development does not need to be assessed.



12 Air Quality

12.1 Overview

- 12.1.1 **Chapter 12 of the ES** assesses the likely significant environmental effects of the Proposed Development with respect to air quality. The chapter determines the Site's suitability for existing human receptors, future users, and ecological receptors, in relation to air quality comprising of NO_x, NO₂ and dust (PM₁₀ and PM_{2.5}⁷), during the construction and operational phases.

Baseline

- 12.1.2 Information on baseline air quality in the study area has been obtained by collating the results of monitoring carried out by SADC and their Local Air Quality Management (LAQM) reports to identify potential Air Quality Management Areas (AQMAs). There is one designated AQMA in the SADC area.
- 12.1.3 This AQMA is not located within close proximity of the Proposed Development. There are no other neighbouring AQMA's within close proximity of the Proposed Development.
- 12.1.4 Background concentrations for the study area have been defined using the national pollution maps published by DEFRA. Background concentrations do not exceed the relevant Air Quality Objectives (AQOs) and are predicted to decline further by the year of completion.

12.2 Mitigation

Construction

- 12.2.1 The following mitigation measures have been identified for the construction phase:
- Implementation of IAQM-recommended dust control measures, secured through the CEMP.
 - Monitoring of dust levels and visual inspections to ensure compliance.
 - Use of low-emission construction machinery and vehicles where feasible.

Operation

- 12.2.2 The following mitigation measures have been identified for the operational phase:
- Landscaping and green infrastructure (e.g., tree planting, green walls) have been incorporated to act as natural barriers to airborne pollutants and improve local air quality.
 - Site access and internal circulation routes have been designed to minimise vehicle idling and congestion, reducing emissions.
 - Provision of electric vehicle (EV) charging infrastructure to encourage the use of low-emission vehicles.

⁷ Particulate Matter (PM) is everything in the air that is not a gas and as such it is made up from a huge variety of chemical compounds and materials, some of which are toxic. PM₁₀ refers to particles smaller than 10 micrometres in diameter, while PM_{2.5} refers to finer particles smaller than 2.5 micrometres.



- Secure cycle storage and pedestrian-friendly pathways to promote active travel and reduce reliance on private vehicles.
- A Welcome Pack available to all residents online and as a booklet, containing information and incentives to encourage the use of sustainable transport modes.
- Car club provision within the Proposed Development or support given to local car club/Electric vehicle car clubs.
- Continued promotion of sustainable transport modes to maintain low emissions.

12.3 Construction Effects

- 12.3.1 The construction activities associated with the Proposed Development have the potential to create dust. Following implementation of the identified mitigation measures, the residual significance of potential air quality impacts from dust generated by demolition, earthworks, construction, and trackout activities is considered to be **Not Significant**.

12.4 Operational Effects

- 12.4.1 Operational phase modelling predicts that concentrations of NO₂, PM₁₀, and PM_{2.5} will remain below relevant air quality objectives (AQOs)⁸, with negligible impacts at all human receptor locations. Predicted annual mean NO₂, PM₁₀, and PM_{2.5} concentrations across the Site boundary and at all human receptor locations are below the relevant AQOs for the proposed operational year, 2036. Additionally, the development will have a negligible impact on all human receptor locations, in line with European Protection UK and the Institute of Air Quality Management guidance. All operational phase effects are considered to be **Not Significant**.

12.5 Cumulative Effects

- 12.5.1 All consented development will require robust dust management procedures and construction vehicle routing strategies to prevent significant effects, and it is considered that these will be adequate to prevent the risk of significant in-combination effects associated with construction dust and construction traffic. As such, no cumulative construction phase impacts are predicted, and the overall cumulative effect is considered **Not Significant**.
- 12.5.2 Traffic generated by the cumulative development has been incorporated into the air quality assessment in the 'with development' scenario. Based on this, the cumulative impact during the operational phase is considered to be **Not Significant**.

⁸ Air quality objectives limit and target values for the protection of human health.



13 Climate Change

13.1 Overview

13.1.1 Chapter 13 of the ES assesses the likely significant effects of the Proposed Development on the environment in respect of climate change.

13.1.2 The climate change ES chapter includes two assessments:

- Part 1: Greenhouse Gas (GHG) Emissions Assessment; and
- Part 2: Climate Change Risk Assessment.

Part 1: GHG Emissions Assessment

13.2 Baseline

13.2.1 Chapter 13 of the ES details the national and regional GHG emissions, and sets out the carbon budgets five-year caps on the total GHG emissions allowed to ensure the UK meets its emissions reduction targets).

13.2.2 St Albans accounts for approximately 2.37% of the total CO₂ emissions in the East of England, and 0.23% of the total UK emissions. The largest source of emissions within St Albans is Transport (59.72%), followed by Domestic (23.04%) and then Commercial (6.2%).

13.2.3 It is expected that existing farming practices within the Site may provide a source of GHG emissions due to equipment use, soil disturbance, fertilisers and pesticides. The vegetation on Site may provide a limited amount of carbon sequestration.

13.3 Mitigation

Construction

13.3.1 The following mitigation measures have been identified for the construction phase:

- The CEMP will include mitigation measures covering transport, materials, waste and air quality during construction.
- Choices will be made in order to reduce the consumption of primary resources and use materials with fewer negative impacts on the environment.
- Sustainability targets, including resource efficiency objectives, will be formally incorporated into all relevant procurement documentation and contractor requirements.
- The Site Waste Management Plan (SWMP) will set out a site-specific framework for waste minimisation, segregation, reuse, recycling, and lawful disposal.

Operation

13.3.2 The following mitigation measures have been identified for the operational phase:

- The Proposed Development includes an active travel network, which promotes walking and cycling through a safe and attractive route.



- Green infrastructure can provide a form of carbon sequestration on the Site.
- All dwellings must comply with Building Regulations Part L 2021 which came into effect in June 2022.
- In line with stage 1 of the energy hierarchy the design of the Proposed Development will assist in reducing energy demand.
- In order to meet the carbon reduction requirements of the Future Homes and Future Building Standards, it is proposed that all buildings will supply heat through air source heat pump (ASHP) systems. These technologies will reduce the GHG emissions associated with energy use.
- Each new dwelling will minimise water usage to at least 110 litres/person/day. The Proposed Development is expected to include measures such as using dual flush toilets and flow control devices to reduce water consumption.
- A comprehensive Operational Waste and Recycling Management Strategy (OWRMS) has been prepared.
- Electric vehicle (EV) charging infrastructure will be provided at the Development in line with the standards of Building Regulations Part S 2021.
- Travel Plans, which will aim to encourage future residents and students and staff of the primary school to travel using sustainable modes of transport.
- A Landscape and Ecological Management Plan (LEMP) will be prepared.
- Occupiers (residential and commercial) will be provided with guidance outlining acceptable waste practices, bin use, and collection frequency.

13.4 Construction Effects

- 13.4.1 Demolition and construction waste will be managed through a SWMP, with a preference of prevention, reuse, recycling and recovery before disposal to landfill. At future design stages, methods to reduce carbon emissions from construction processes and building material life cycles will be considered.
- 13.4.2 While it is considered that the Proposed Development meets the applicable adopted policy during construction, it would not help to reduce carbon emissions in line with the 2050 net zero targets. The emissions generated from construction are partly mitigated through the implementation of the CEMP and SWMP but only through 'business as usual' measures that are not fully in line with the UK net zero trajectory. With the identified mitigation in place, it is considered that the Proposed Development will have a **Major Adverse and Significant effect**.

13.5 Operational Effects

- 13.5.1 Commitment to incorporate renewable energy measures which would reduce carbon emissions beyond the requirements of Building Regulations Part L 2021, and implementing sustainable transport methods is considered to be in line with current and forthcoming policy requirements and measures necessary to achieve the UK's trajectory towards net zero. At detailed design stage it is anticipated that the Future Homes Standard will be adopted for phases that come forward after this date. This will improve energy performance standards and consider the UK net zero trajectory.
- 13.5.2 The Proposed Development is considered to be in line with local policy and measures necessary to achieve the UK's trajectory towards net zero. There will however still be residual



emissions following mitigation and it is therefore considered that the effect will remain **Minor Adverse** and **Not Significant**.

13.6 Cumulative Effects

- 13.6.1 In line with guidance, a separate cumulative assessment has not been undertaken for the GHG assessment.

Part 2: Climate Change Risk Assessment

13.7 Baseline

- 13.7.1 **Chapter 13 of the ES** details UK and regional observed climate.
- 13.7.2 Future climate simulations have been used to understand future climate changes. It is anticipated that the Proposed Development will experience the following climatic changes:
- An increase in average annual temperature;
 - An increase in maximum temperature, particularly in the summer;
 - More extreme rainfall events;
 - An increase in winter rainfall; and
 - A reduction in summer rainfall.
- 13.7.3 As a result of the projected climatic changes, there is an increased risk of:
- Long term changes to climate norms;
 - Heatwaves;
 - Low rainfall and drought; and
 - Heavy rainfall and flooding.

13.8 Mitigation

Construction

- 13.8.1 The following mitigation measures have been identified for the construction phase:
- Health and safety for workers will be managed in accordance with relevant legislation and best practice. It is expected that, with meeting legislation requirements, appropriate PPE and site safety measures will be implemented along with, for example, the provision of shelter and water for workers. These measures will be set out within a CEMP.

Operation

- 13.8.2 The following mitigation measures have been identified for the operational phase:
- The Proposed Development incorporates a Sustainable Drainage System (SuDS) to reduce flood risk on the Site.



- Planting will be provided as shown on parameter plans. Planting provides resilience in several ways, including reducing the urban heat island effect, sequestering carbon dioxide, providing shading for buildings and users of outdoor areas, and improving air quality.
- Part O (Overheating) of the Building Regulations came into effect in June 2022 which sets standards for overheating in new residential dwellings.
- Each new dwelling will minimise water usage to at least 110 litres/person/day.
- The design of foundations and drainage within the Site will take into consideration the ground conditions and will be designed in accordance with UK standards.
- A Landscape and Ecological Management Plan (LEMP) will be prepared.

13.9 Construction Effects

- 13.9.1 Climate hazards have the potential to disrupt or delay the construction programme and affect suitable working hours due to unsafe conditions for workers and potential damage to equipment or works. The risk of climate hazards, for example from heatwaves or periods of heavy precipitation may increase during the construction period however it is expected that these will be managed through standard construction and health and safety practices outlined in the CEMP and required by legislation, such as securing material/equipment and not undertaking works during periods of extreme rainfall. The effect of climate change on the Proposed Development during the construction phase is therefore likely to be **Moderate Adverse and Significant**.

13.10 Operational Effects

- 13.10.1 The impact of long-term changes to climate norms, heatwaves, low rainfall and drought, and heavy rainfall and flooding on sensitive receptors (future users of the site, infrastructure, and ecology) have been assessed.
- 13.10.2 Some future users of the Site will be more susceptible to climate change than others, depending on a range of factors such as age and existing poor health. Following the proposed mitigation measures, including provision of open space, alignment with Part O (Overheating) of the Building Regulations, water efficiency measures, and implementation of the drainage stagey, effects are considered to be **Minor Adverse and Not Significant**.
- 13.10.3 In regards to impacts on infrastructure, this will be managed at the next design stage where risk assessments will be undertaken to manage risks from future climate change in accordance with national standards and guidance. Effects are considered to be **Negligible and Not Significant**.
- 13.10.4 Impacts on ecology and planting would be managed through climate-resilient planting and management through the LEMP. The likely effect is therefore considered to be **Minor Adverse and Not Significant**.

13.11 Cumulative Effects

- 13.11.1 There are no cumulative or inter-project climate vulnerability and resilience effects between the Proposed Development and other committed developments in the surrounding area, as the identified potential impacts and mitigation measures are specific to the Proposed Development.



14 Materials and Waste

14.1 Overview

- 14.1.1 This chapter evaluates the likely significant environmental effects of the Proposed Development on materials and waste. The methodology is structured to assess potential effects during both construction and operational phases. This includes defining the study area to cover both on-Site activities and the surrounding waste management infrastructure, categorising material and waste sensitivity and impact magnitude, and applying a matrix to determine effect significance.

14.2 Baseline

- 14.2.1 Baseline conditions indicate that UK material production is sufficient to meet the projected needs of the Proposed Development, with key materials such as aggregates, timber, steel, and concrete assessed against national availability. Regional inert⁹ landfill void capacity¹⁰ in Hertfordshire is approximately 7.37 million m³, while non-hazardous capacity in neighbouring counties is over 45 million m³. The national capacity for hazardous waste disposal exceeds 10 million m³, although no hazardous waste is expected to be generated by the Proposed Development.

14.3 Mitigation

Construction

- 14.3.1 The following mitigation measures have been identified for the construction phase:
- Integration of sustainability targets and responsible sourcing principles into the design and procurement strategy.
 - Preparation of a Detailed SWMP, including protocols for segregation, reuse, lawful disposal, and monitoring.
 - Implementation of best-practice resource efficiency measures.
 - Site-wide segregation using colour-coded containers and clear signage.
 - Staff training (toolbox talks) and appointment of a Waste Champion or Environmental Manager.
 - Regular inspections.
 - Integration of construction-phase environmental controls through a CEMP.
 - Commitment to the use of legally and sustainably sourced timber.
 - Specification of materials with low embodied carbon, high durability, and potential for reuse or recycling.

⁹ Inert waste is material that does not decompose or react chemically, and does not pose a significant risk of pollution.

¹⁰ Inert landfill void capacity refers to the available space within a landfill designated for the disposal of inert waste



Operation

14.3.2 The following mitigation measures have been identified for the operational phase:

- Site layout designed to accommodate internal/external waste storage and collection infrastructure.
- Design of waste storage areas in residential and commercial units to support source segregation and efficient collection.
- Implementation of the OWRMS to ensure appropriate waste segregation and storage.
- Provision of guidance to occupiers (e.g. in welcome packs) on bin use and recycling practices.
- Formalisation of management responsibilities for waste within building management or facilities teams.
- Safe storage and lawful disposal of special waste streams.

14.4 Construction Effects

14.4.1 Following full implementation of all mitigation measures, the residual effects associated with material use and construction waste generation are assessed as **Not Significant**. This is due to the low proportion of total materials required (<1% of national availability), negligible impact (<0.1%) on regional inert landfill void capacity, and negligible impact (<0.1%) on national hazardous landfill void capacity is anticipated.

14.5 Operational Effects

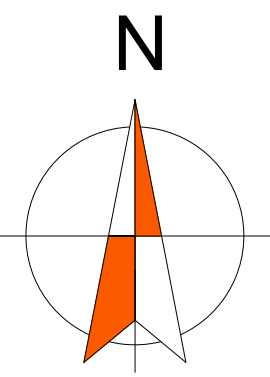
14.5.1 The residual operational effects are deemed **Not Significant**. Waste generation (1,074 tonnes/year) represents only 0.002% of regional non-hazardous landfill capacity. Embedded infrastructure and management protocols support compliance, effective segregation, and diversion, ensuring that the Proposed Development does not create undue pressure on local or regional waste systems.

14.6 Cumulative Effects

14.6.1 No significant cumulative effects have been identified during construction or operation in relation to materials and waste.



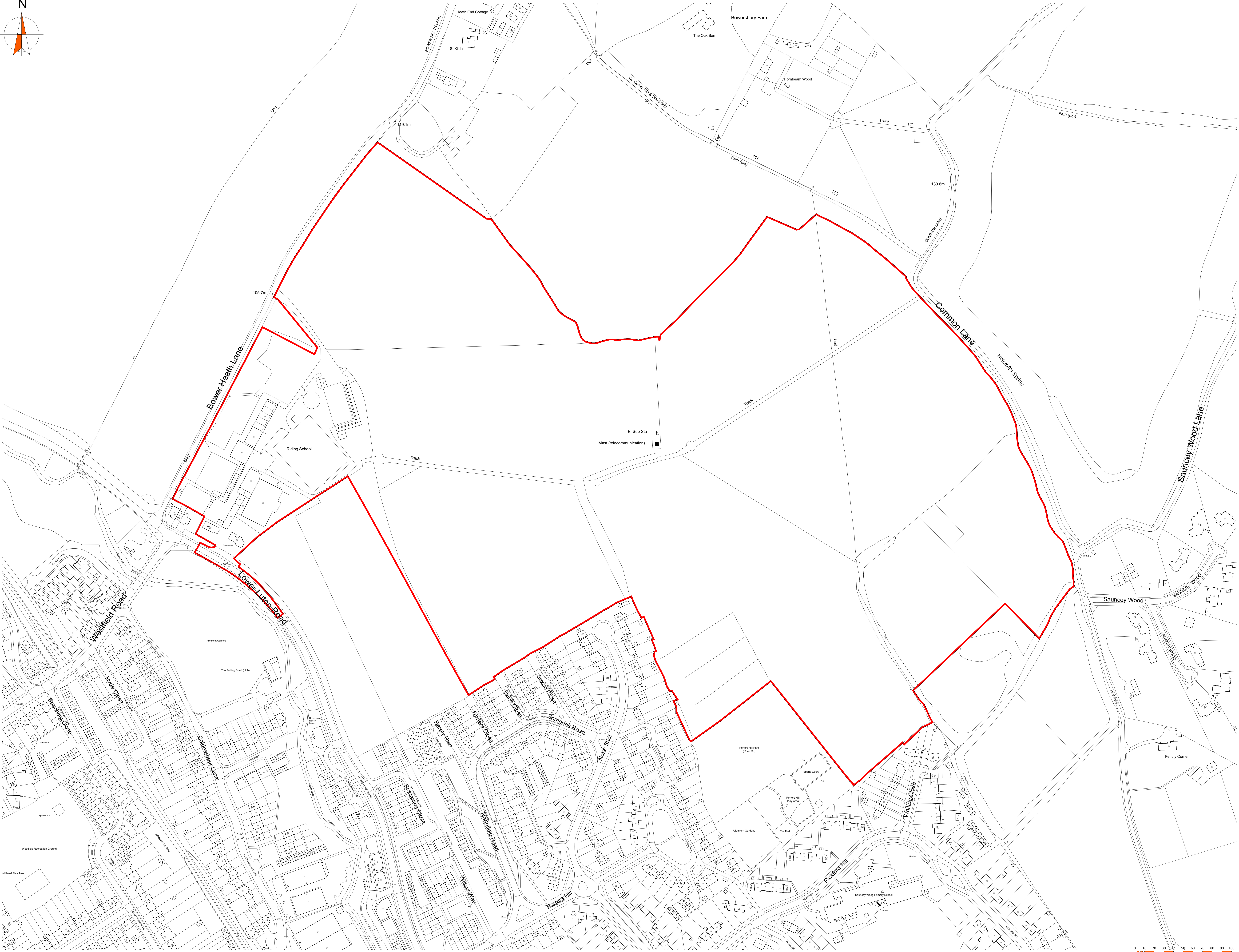
Appendix A Site Location Plan



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all dimensions to be checked on site and architect notified of any discrepancies prior to commencement.
do not scale.
any and all elements relating to the fire safety of the building will require separate confirmation and approval by a fully accredited fire engineering consultant who has to be appointed by the Client.

notes:

— Red Line Boundary



A	10.02.2026	Revised to include access	TNB	TNB
rev:	date:	commentary:	name:	check:



status: **PLANNING** RIBA Stage: 1

client: **Crest Nicholson**

job: **Lower Luton Road, Harpenden**

title: **Site Location Plan**

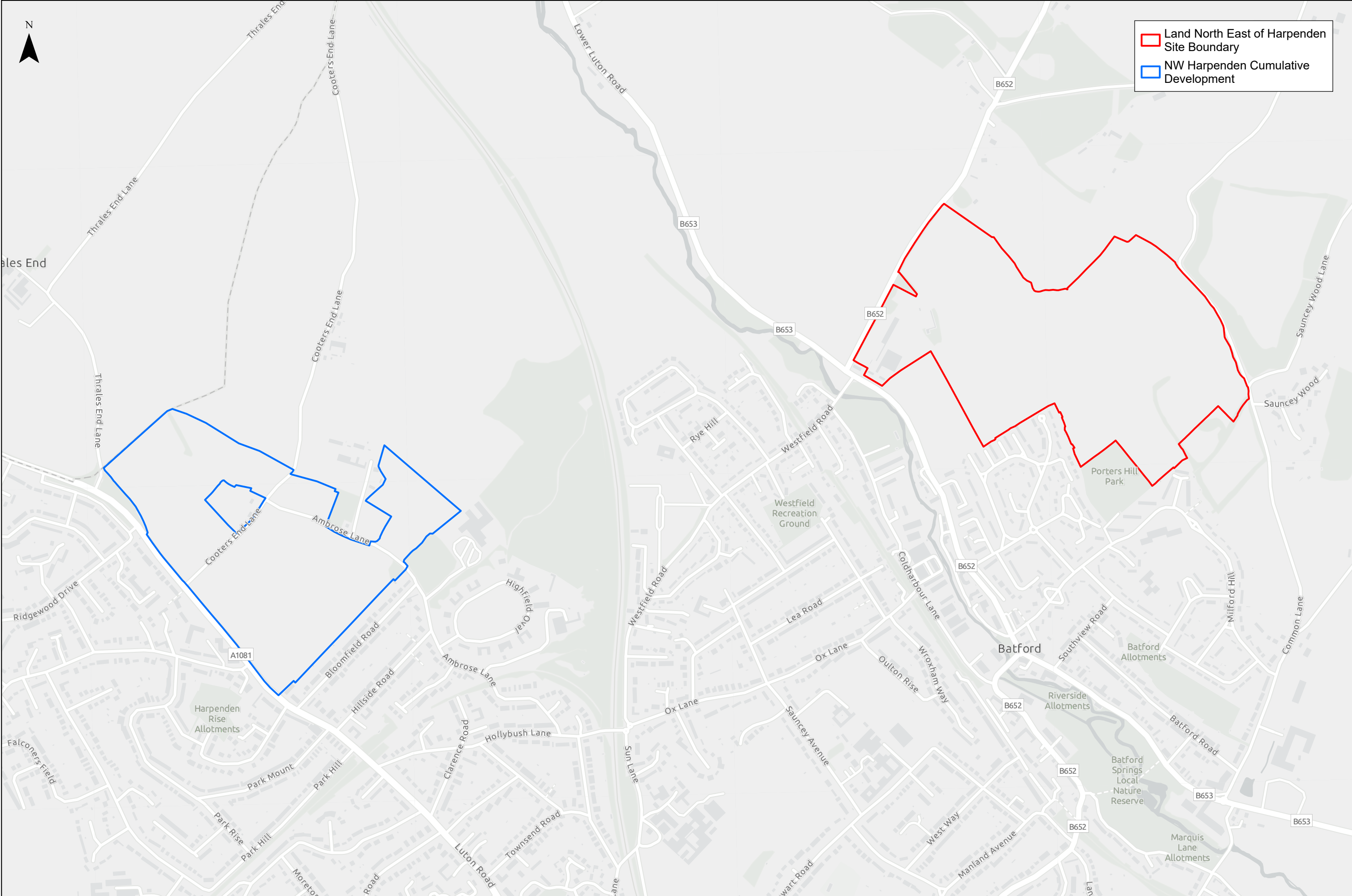
drawn: **SM** date: **11.07.2025**

checked: **TKB** scale @ a0: **1:1250**

job no: **C6017** drg no: **001_01 Rev A**

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Appendix B Cumulative Schemes Plan



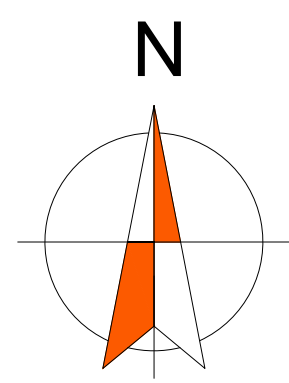
Land North East of Harpenden

Site Boundary

NW Harpenden Cumulative

Development

Appendix C Parameter Plans



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notes:

Red line boundary

Residential Development Area
(includes streets)

Public Open Space

Local Centre

Extra Care

School

Existing Trees and Vegetation

Allotments, Orchard and Growing

Sport Pitches

A 18.02.2026 Red line updated
rev: date: comment(s):
TKB TKB
name: check

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status: **PLANNING** RIBA Stage: **2**

client: **Crest Nicholson**

job: **Lower Luton Road, Harpenden**

title: **Land Use Parameter Plan**

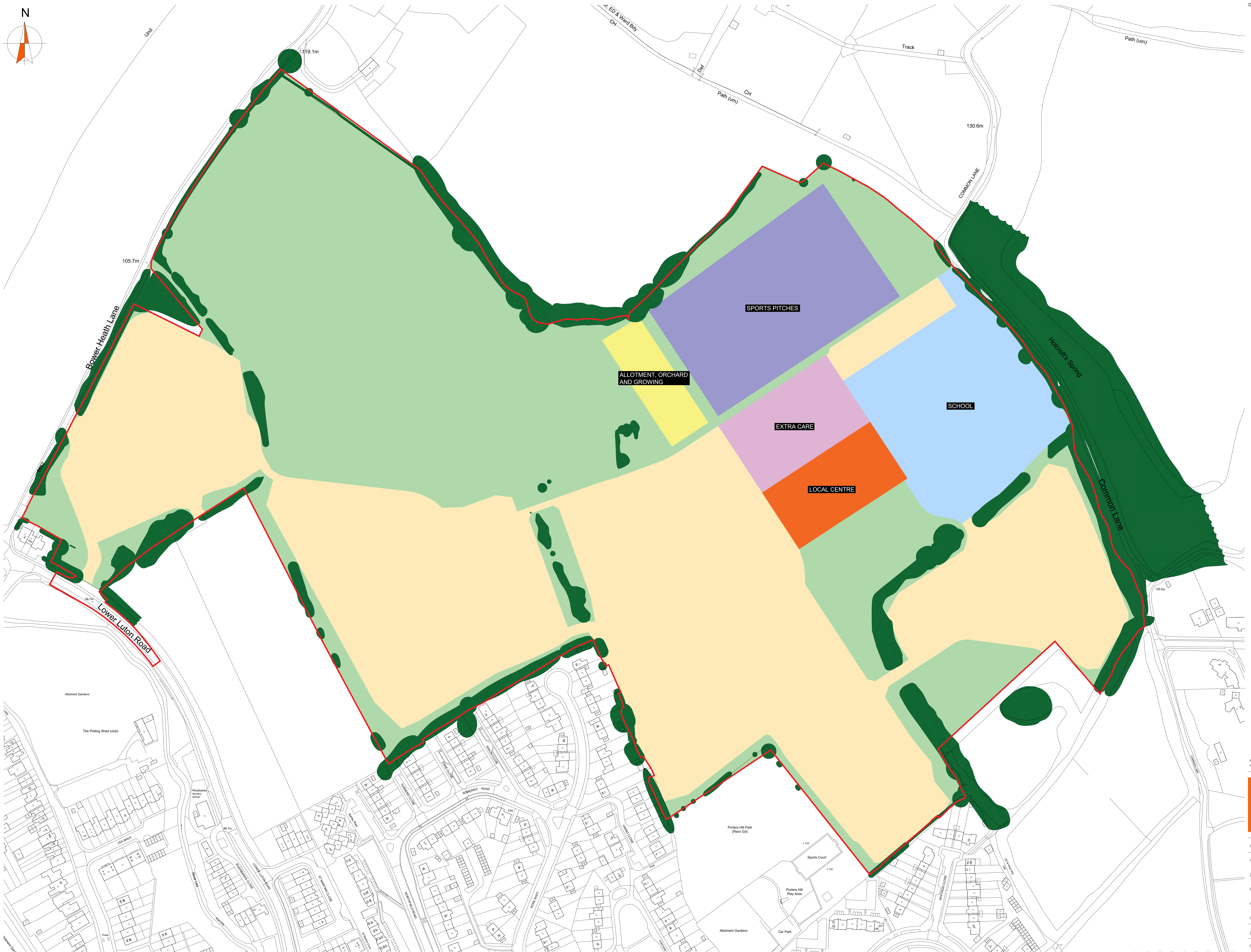
drawn: **SM** date: **13.11.2025**

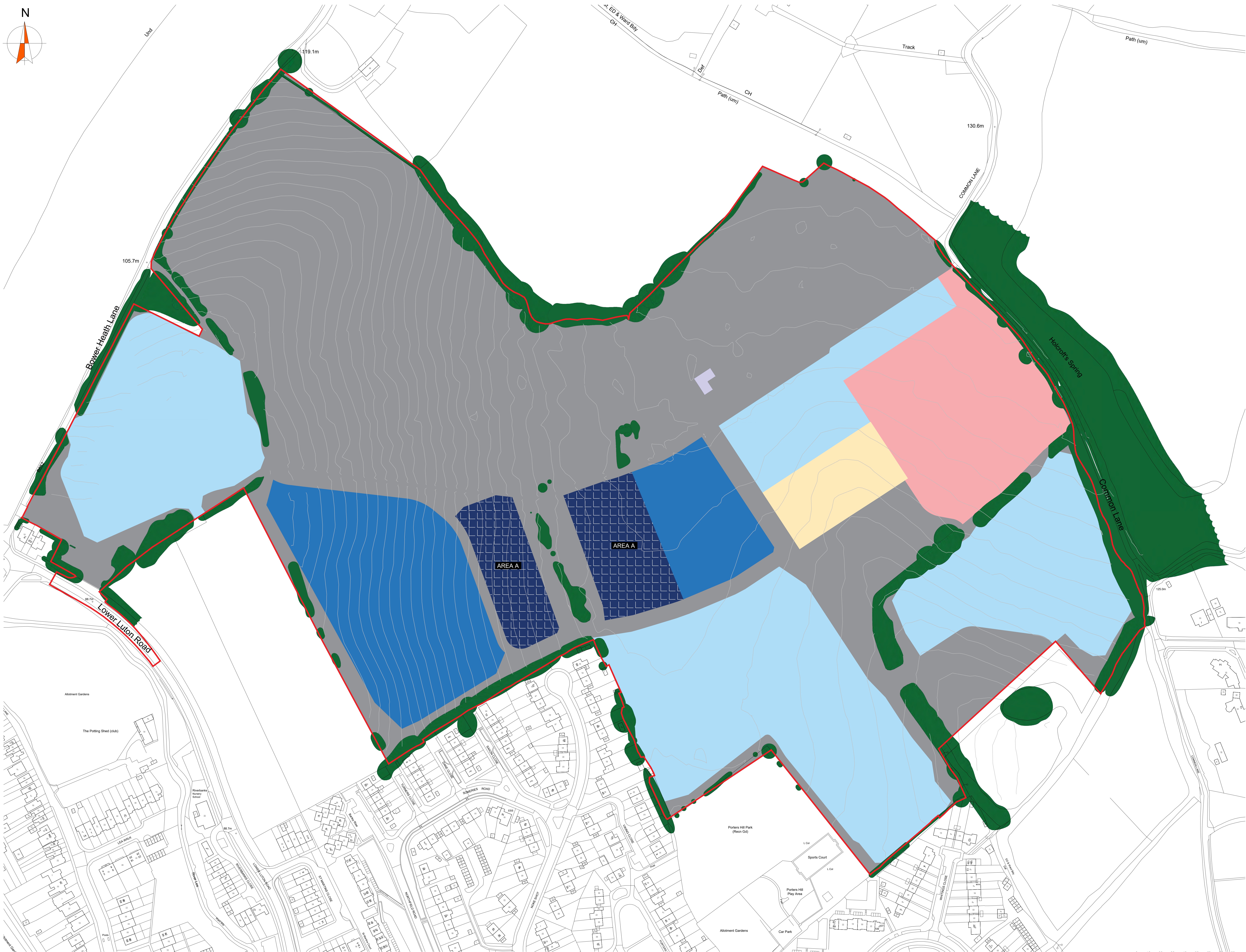
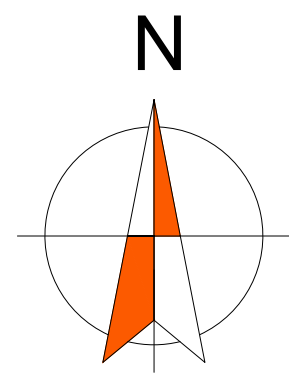
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job no: **C6017** drg no: **PP02 Rev A**

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0 10 20 30 40 50 60 70 80
metres
scale 1:1000





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all dimensions to be checked on site and architect notified of any discrepancies prior to commencement.

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any and all elements relating to the fire safety of the building will require separate confirmation and approval by a fully accredited fire engineering consultant who has to be appointed by the Client.

notes:

- Red line boundary
- Public Open Space
- Existing Trees and Vegetation
- Area A - Residential - Generally 2 storey with ridge heights not exceeding 8.5m with an allowable tolerance of + 2m to this area only
- Residential - Generally 2.5 storey with ridge heights not exceeding 9.6m
- Residential - Generally 3 storey with ridge heights not exceeding 11.2m
- School - Ridge heights up to 12m
- Local Centre - Ridge heights up to 12m
- Pavilion - Ridge heights up to 5m
- Existing Contours AOD

All ridge heights shall be measured from the existing ground level. Given the challenging existing topography, an allowable tolerance of +3m to ridge heights is permitted outside the marked 'Area A'.

Storey heights may be increased where this can be justified from a design and placemaking perspective, but must not exceed the allowable ridge heights.

This parameter plan ensures buildings do not exceed allowable ridge heights. It does not specify any limits for lowering existing ground levels, this should be agreed with the Local Authority during the detailed design stage.

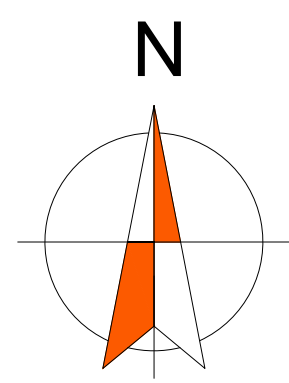
A	18.02.2026	Red line updated	TKB	TKB
rev:	date:	comment(s):	name:	check:

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status:	PLANNING	RIBA Stage: 2
client:	Crest Nicholson	
job:	Lower Luton Road, Harpenden	
title:	Storey Heights Parameter Plan	
drawn:	SM	date: 13.11.2025
checked:	TKB	scale @ a0: 1:1000
job no:	C6017	drg no: PP03 Rev A

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metres
scale 1:1000

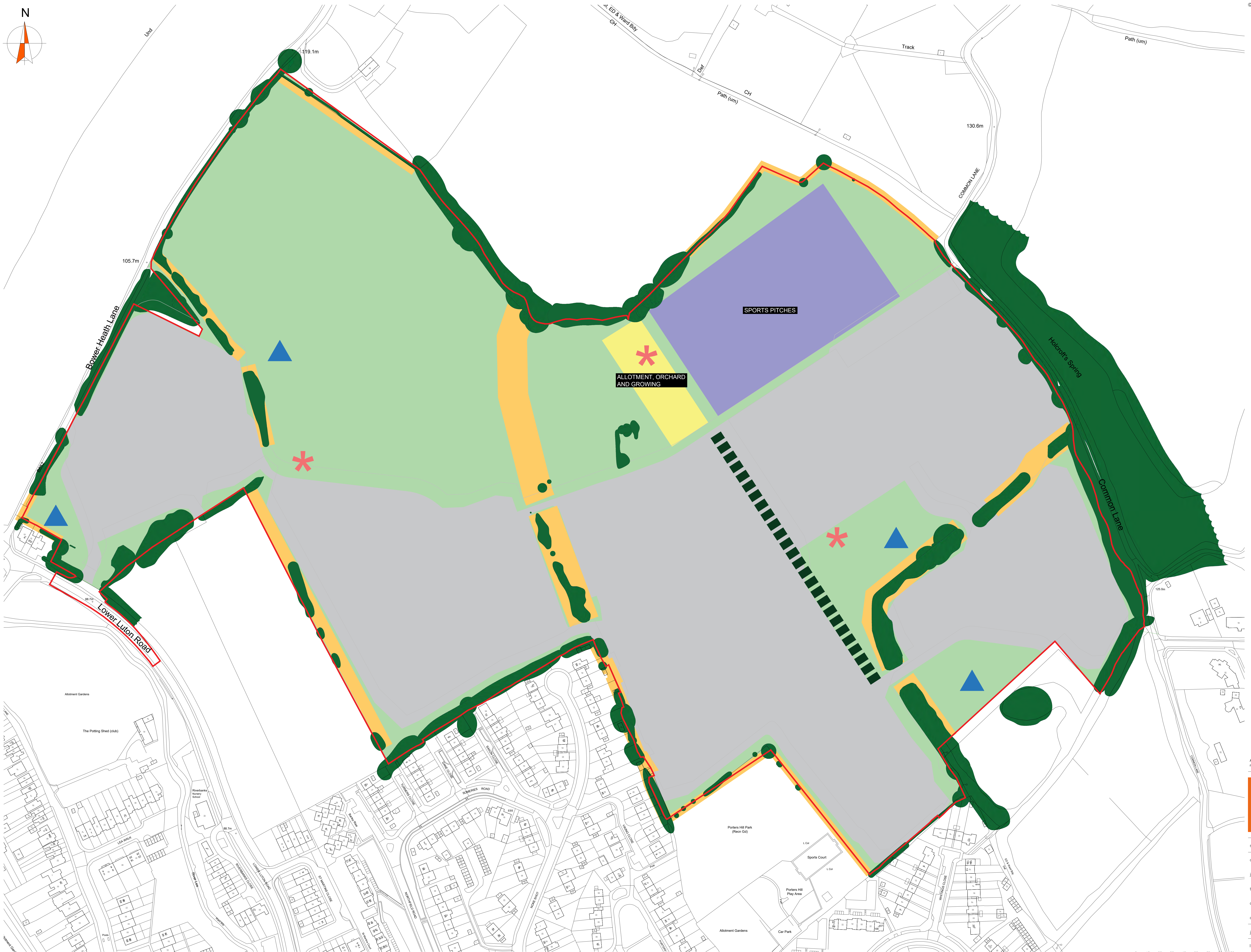


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all dimensions to be checked on site and architect notified of any discrepancies prior to commencement.
do not scale.

any and all elements relating to the fire safety of the building will require separate confirmation and approval by a fully accredited fire engineering consultant who has to be appointed by the Client.

notes:

- Red line boundary
- Public Open Space
- Existing Trees and Vegetation
- Development Area
- Proposed Landscape Buffer Planting
- Green Corridor
- Indicative Play Areas
- Indicative Attenuation Basins
- Allotments, Orchard and Growing
- Sports Pitches



A 18.02.2026 Red line updated TKB TKB
rev: date: comment(s) name: check

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status: **PLANNING** RIBA Stage: **2**

client: **Crest Nicholson**

job: **Lower Luton Road, Harpenden**

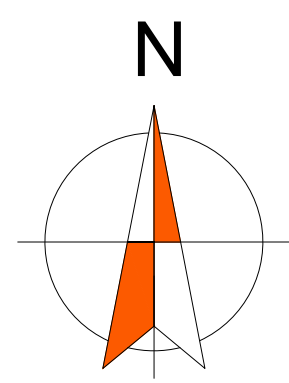
title: **Open Green Infrastructure Parameter Plan**

drawn: **SM** date: **13.11.2025**

checked: **TKB** scale @ a0: **1:1000**

job no: **C6017** drg no: **PP04 Rev A**

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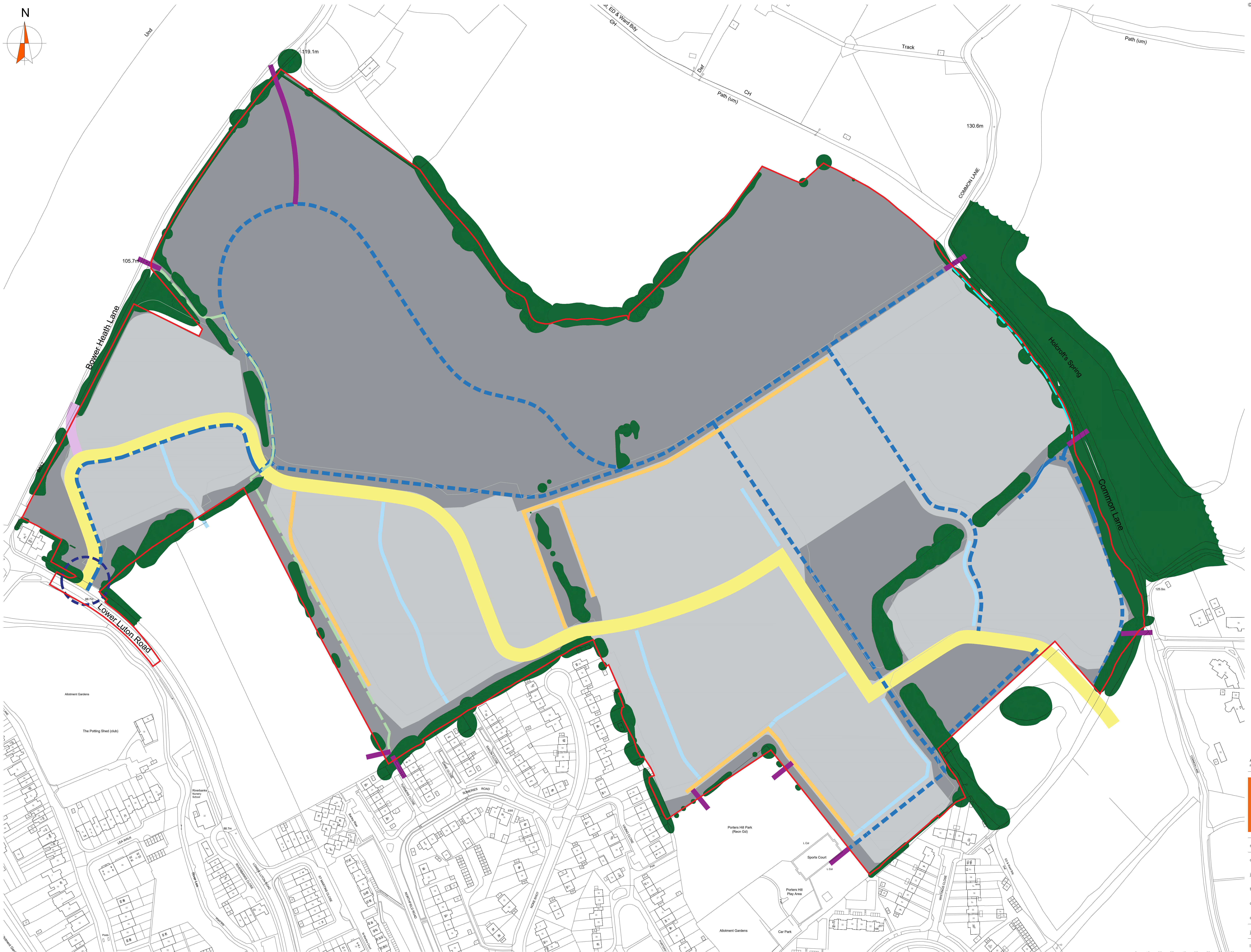


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all dimensions to be checked on site and architect notified of any discrepancies prior to commencement.
do not scale.

any and all elements relating to the fire safety of the building will require separate confirmation and approval by a fully accredited fire engineering consultant who has to be appointed by the Client.

notes:

- Red line boundary
- Public Open Space
- Existing Trees and Vegetation
- Development Area
- Primary Street
- Extension of Bower Heath Lane
- Indicative Secondary Streets
- Indicative Perimeter Streets
- Active Travel
- Bower Heath PRoW
- New Track
- Wider Pedestrian Access Points
- Primary Access



A 18.02.2026 Red line updated
rev: date: comment(s)
TKB TKB
name: check



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status: **PLANNING** RIBA Stage: **2**

client: **Crest Nicholson**

job: **Lower Luton Road, Harpenden**

title: **Access and Movement Parameter Plan**

drawn: **SM** date: **13.11.2025**

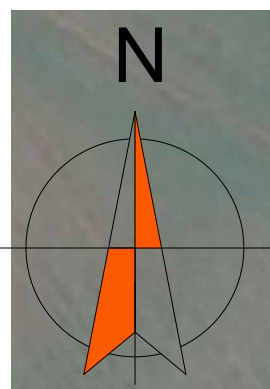
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job no: **C6017** drg no: **PP05 Rev A**

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0 10 20 30 40 50 60 70 80
scale 1:1000 metres

Appendix D Illustrative Masterplan



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do not scale.
any and all elements relating to the fire safety of the building will require separate confirmation and approval by a fully accredited fire engineering consultant who has to be appointed by the Client.

notes:

rev: date: comment(s): name: check:



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status: **PLANNING** RIBA Stage: **2**

client: **Crest Nicholson**

job: **Lower Luton Road, Harpenden**

title: **Illustrative Concept Masterplan**

drawn: **TKB** date: **24.04.2025**

checked: **TKB** scale @ a0: **1:1000**

job no: **C6017** drg no: **MA001** rev: **-**

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