

5 Description of the Development

5.1 Introduction

- 5.1.1 This chapter provides a description of the Development which forms the basis of the EIA and has been written by Quod, based on information provided by the project architects, Mosaic, and other members of the project team. This chapter is supported by the following appendices:
- Appendix 5.1: Parameter Plans;
 - Appendix 5.2: Development Specification; and
 - Appendix 5.3: Access Drawings.
- 5.1.2 A Design and Access Statement (DAS) accompanies the planning application. This provides a more detailed description of the Development with illustrations.
- 5.1.3 A description of the anticipated construction programme and a description of proposed key construction activities is provided within Chapter 6: Construction.

5.2 Overview

- 5.2.1 The description of the Development is defined as follows in the planning application:

'Outline application for residential-led mixed use development comprising up to 1,500 new dwellings (including residential accommodation and specialist accommodation for older people) (Use Class C3), a care home (Use Class C2), a 3FE primary school (including early years provision) (Use Class F1), a local centre, mobility hub, open space, amenity space, allotments, green infrastructure, sustainable drainage systems, vehicular and active travel routes, and supporting infrastructure and works. All matters reserved save for access from the B487.'

- 5.2.2 It is necessary to retain flexibility within the planning permission to allow the detailed design to respond to future market requirements where relevant. The Application is therefore submitted in outline with all matters reserved for future planning approval save for access from the B487. The following matters are therefore reserved for later approval:
- Access – apart from details for access from the B487, all other access points are indicative;
 - Appearance;
 - Landscaping;
 - Layout; and
 - Scale.
- 5.2.3 An outline planning permission results in the principle of a development being consented, with a scheme that is not wholly fixed but with some parts subject to specific development

controls set out within the ‘control documents’. Future reserved matters submissions will substantially conform with these control documents. The control documents for the outline component of the planning application include:

- **Parameter Plans (Appendix 5.1):** These define a spatial framework for the Development and comprise:
 - Land Use and Green Infrastructure Parameter Plan (Drawing No. 006 Rev G)
 - Access and Movement Parameter Plan (Drawing No. 007 Ref: G)
- **Development Specification (Appendix 5.2):** This document describes the Development and the proposed type and quantum of uses. It includes Key Design Principles that future reserved matters submissions will substantially conform with which include primary (i.e. embedded) mitigation measures incorporated as part of the EIA. Departures from the Key Design Principles shall be agreed with SADC as part of the reserved matters approval process. The Development Specification also sets out the mechanisms for how Proposed Development is likely to be delivered. The Parameter Plans should be read in conjunction with the Development Specification.

5.2.4 Detailed drawings for means of access to the Development are provided as part of the Application. A selection of access drawings are provided in Appendix 5.3 for the following new junctions on the B487:

- Western Junction – a bus and pedestrian junction onto the B487; and
- Eastern Junction – Sustainable Transport Corridor (STC) Junction onto the B487.

5.3 Proposed Land Uses

Overview

- 5.3.1 Planning permission is sought for the land uses and floorspace shown in Table 5.1 and for green infrastructure in Table 5.2. The areas in Table 5.1 are expressed as approximate figures in the Development Specification however have been assumed as maximums for the purposes of the EIA. The overall maximum net developable area of the Development is 45 ha, including 37ha of residential (Use Class C3).
- 5.3.2 The area of the SANG stated in Table 5.2 is defined as a minimum in the Development Specification. The area of sports provision in Table 5.2 includes changing facilities.

Table 5.1: Proposed Development Uses

Use	Floorspace Gross Internal Area (GIA)
Residential (including specialist accommodation for older people) (Use Class C3 and C2)	170,000 sqm (up to 1,500 homes)
Care Home (Use Class C2)	3,850 sqm (approx. 70 beds)
Primary School (Use Class F1)	3,500 sqm (3 Form Entry)
Flexible non-residential uses (Class E, Class F1, Use Class F2 and Sui Generis) (Local Centre)	1,500 sqm

Use	Floorspace Gross Internal Area (GIA)
Total	178,850 sqm

Table 5.2: Green Infrastructure / Open Space

Use	Approximate Area
Sports Provision	38,650 sqm (3.86 ha)
Community Park and SANG	288,000 sqm (28.80 ha)
Multi-functional Green Space (amenity green space, natural and semi-natural green space, parks and gardens, children's play area, allotments)	223,600 sqm (22.36 ha)
Total	550,250 (55.02 ha)

- 5.3.3 Table 5. excludes other elements for which planning permission is sought in principle including infrastructure elements, building plant, on-site utilities such as substations, energy infrastructure, waste storage, any built structures proposed for use as service yards, service corridors, loading bays and any external hard landscaping, footways and roads. Table 5.1 also excludes floorspace for the creation of surface car parking and open space, for which planning permission is sought in principle.

Residential Use

- 5.3.4 As stated in Table 5.1, up to 1,500 homes (Use Class C3) are proposed, which includes specialist accommodation for older people, in addition to the care home (Use Class C2).
- 5.3.5 The Development will seek to deliver a mix of homes across a range of tenures and sizes. At the time of submitting this Application, the exact mix of dwellings that might be needed is unknown. The unit mixes for all housing tenures are therefore expressed as ranges within Table 3.3 of the Development Specification document (also shown below in Table 5.3). The housing mix will be delivered through RMAs on a phase by phase / zone by zone basis.

Table 5.3: Housing Unit Mix Ranges

Tenure	Unit Type	% by Unit
Private	1-bed	0 – 5%
	2-bed	10 – 20%
	3-bed	40 – 50%
	4-bed	30 – 40%
Intermediate	1-bed	15 – 25%
	2-bed	45 – 55%
	3-bed	25 – 35%
	4-bed	0%
Affordable Rent / Social Rent	1-bed	15 – 25%
	2-bed	25 – 35%
	3-bed	40 – 50%
	4-bed	0 – 10%

- 5.3.6 It is expected that up to 40% of the residential units will be affordable homes, , which constitutes a substantial contribution to affordable housing need when taken in the context of SADC's critical need. The level of affordable housing provision will be secured through the Section 106.

Care Home

- 5.3.7 The Development will provide a care home (Use Class C2) for approximately 70 beds, aligning with the requirement set out in the Policy H1. The Care Home is intended to help meet a specific identified demand for this type of facility by HCC.
- 5.3.8 The location of the Care Home is not fixed by the Parameter Plans, although is proposed in close proximity to the local centre and primary school in the centre of the Site.

Non-residential Use

Primary School

- 5.3.9 The Development includes a site for a three-form (3FE) entry primary school, including Early Years provision. As shown on the Land Use and Green Infrastructure Parameter Plan (Figure 5.1), the primary school is located near the proposed STC, Little Revel End and adjacent to the local centre.
- 5.3.10 The design requirements for the primary school have been developed in consultation with HCC. Up to 3,500 sqm of floorspace would be provided for education use together with associated areas for playgrounds. The development zone for the primary school is identified as 3 ha.

Local Centre

- 5.3.11 A local centre, including education facilities and commercial development opportunities, is located along the STC and with pedestrian/cycle links through the Site to the Green Loop (Holtsmere End Lane) to maximise accessibility and encourage active travel. The exact floorspace and mix of uses of the local centre will be clarified through future reserved matters. The Development would provide up to 1,500 sqm for flexible non-residential uses (Use Class E - commercial, business, and service uses such as shops, offices, restaurants, cafes, and gyms, Use Class F1 - learning and non-residential institutions, Use Class F2 – local community uses and Sui Generis). Indicatively, the local centre could include a convenience store, other retail, community uses and a nursery.

5.4 Development Layout

- 5.4.1 The Land Use and Green Infrastructure Parameter Plan (Drawing No. 006 Rev F) is shown on Figure 5.1 and is provided in Appendix 5.1 (full size). The Land Use and Green Infrastructure Parameter Plan shows the maximum extent of the future built development. It defines development areas for residential use including care, primary school, and mixed-use area (to include the local centre and mobility hub). Built development uses can overlap at the edges of development zones as indicated by hatched areas on the Parameter Plan to provide flexibility for detailed design, for example one zone is shown as *'Mixed-use area or residential including care'*.

- 5.4.2 Built development is predominately located within the northern, southern, and western areas of the Site. The local centre and primary school are proposed within the mid-western area of the Site and a broad location shown for sports pitches within the south eastern area of the Site.
- 5.4.3 Areas of land in the east, south east and north east of the Site, and other routes through the Development are safeguarded from built development and would form part of the green infrastructure across the Site. The valley in the south western part of the Site also forms part of the green infrastructure, primarily due to surface water flow paths. These areas will have no major forms of built development and will comprise retained or enhanced green infrastructure and open/amenity space. Built development zones would be set back from boundary vegetation to allow for appropriate landscaped buffer zones.
- 5.4.4 The built development zones include for the provision of access, private gardens, SuDS, utilities, incidental open space, local play, and retained vegetation, trees and hedgerows (minimum of 10m corridors within development areas and 5m from development edges).
- 5.4.5 Whilst the majority of buildings will be within the areas of built development, ancillary buildings required to serve the areas of landscape and utilities strategy - such as wildlife huts, pavilions, substations – alongside public realm elements - such as lighting and play structures - will be permitted within areas of open space.
- 5.4.6 Easements for the fuel pipeline which crosses the Site diagonally from north-west to south-east has been incorporated into the Parameter Plan since diversion is not feasible. The pair of overhead HV services which currently cross the Site from the southern end, running roughly north and turning north-west, skirting the existing residential development of Woodhall Farm would be diverted underground within the Development. Further details on Utilities are provided in Section 5.12.
- 5.4.7 The Parameter Plan shows the route of the STC and access to the B487 Eastern Junction with further details provided in Section 5.7. Further details on green infrastructure and the SANG are provided in Section 5.8.

5.5 Building Heights and Levels

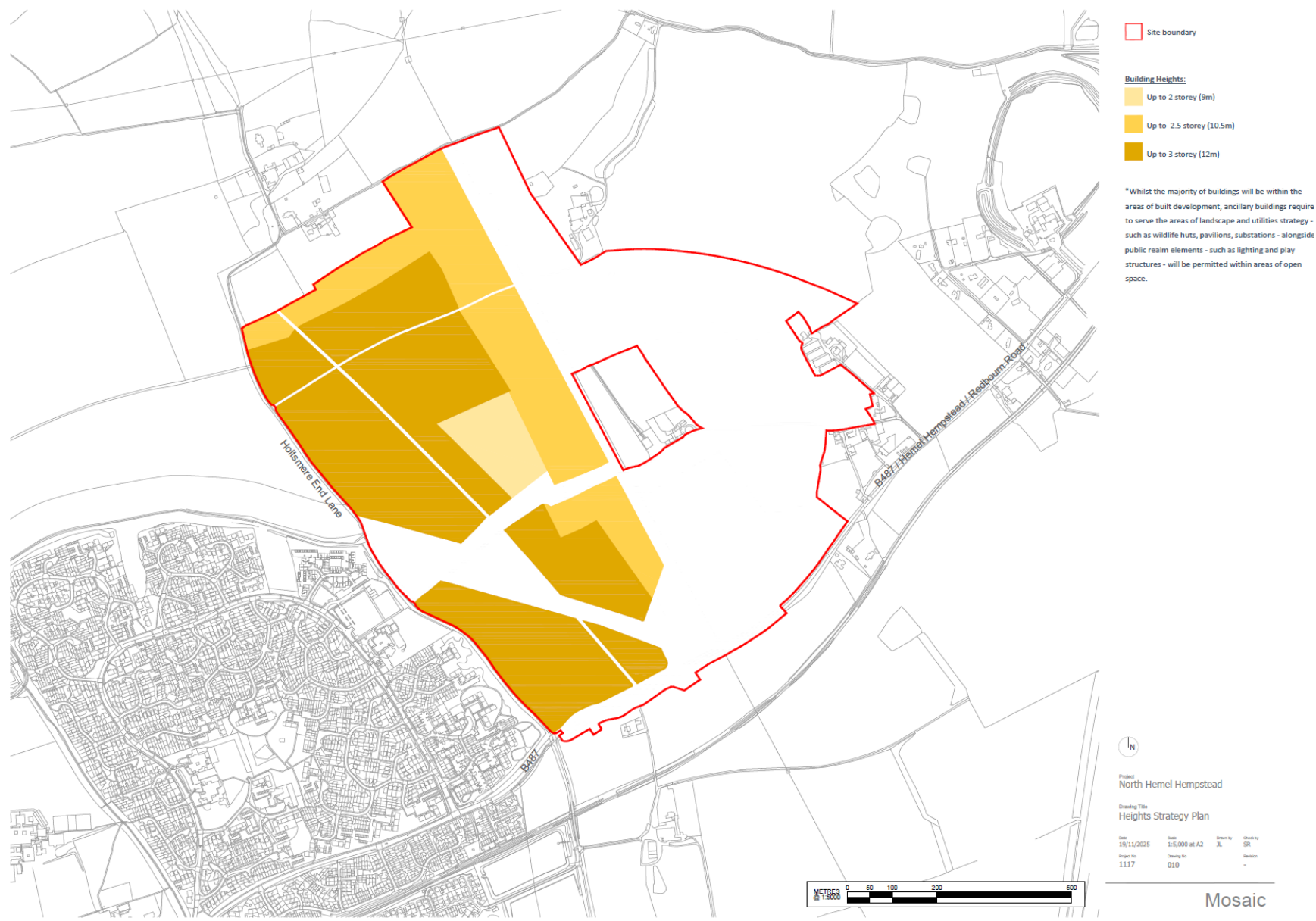
- 5.5.1 Existing ground levels fall from approximately 130m AOD along the northern ridgeline to around 105m AOD in the central valley, creating a broad, natural depression that extends east-west across the Site. This distinctive topography has influenced the design and location of open spaces, features and approach to proposed levels.
- 5.5.2 Details of the earthworks strategy would be subject to reserved matters. At this outline stage, an **indicative** earthworks strategy has been developed which responds to the topography, minimising cut and fill and avoiding large, engineered platforms.
- 5.5.3 A drawing showing the indicative earthworks strategy and cut and fill across the Site is provided in Chapter 6: Construction (Figure 6.2). This shows that most regrading would be within ± 1.5 m, with the steepest transitions located near the valley sides and managed sensitively within private gardens or rear plot boundaries rather than public open space. The largest areas of change would be associated with the creation of attenuation features and to deliver highway infrastructure in the south west part of the Site.

- 5.5.4 The earthworks strategy would ensure gentle gradients along main streets, ensuring that the STC and key walking and cycling routes remain fully inclusive.
- 5.5.5 Where steeper slopes occur, a hierarchy of design responses would be applied. Minor level changes would be accommodated through gentle garden grading or low retaining features up to approximately 0.5 metres, while more pronounced transitions of 0.6 to 1.8 metres would likely be addressed using retaining walls. Illustrative sections are provided within the DAS.
- 5.5.6 There will also be localised changes to facilitate the attenuation ponds, however, these will be designed to blend into the landscape. No discernible level changes are envisaged across the remaining Site area to the east, i.e. beyond the proposed built development extent.
- 5.5.7 Details of enabling works necessary to prepare the site for construction of development would be agreed by planning condition. Further information is provided in Chapter 6: Construction.
- 5.5.8 Maximum heights for buildings within the built development zones are controlled by the Development Specification with reference to Figure 5.2. This shows that building heights in each development zone will range as follows:
- Up to 2 storeys (equivalent to 9m) - concentrated in the central part of the Site where the primary school is located;
 - Up to 2.5 storeys (equivalent to 10.5m) - located along the northern and eastern edges, providing a balanced transition between the built development, existing buildings / countryside to the north, and the SANG / Community Park; and
 - Up to 3 storeys (equivalent to 12m) - focused around the B487 Hemel Hempstead Road, the STC, and the local centre, marking areas of good access to public transport and social infrastructure.

Figure 5.1: Land Use and Green Infrastructure Parameter Plan



Figure 5.2: Heights Strategy Plan



5.6 Character Areas and Appearance

- 5.6.1 The appearance of buildings within the Development would be subject to reserved matters. However, the Development Specification includes Key Design Principles based on a 'character area' approach to ensure the proposals are designed to respond to the immediate local context at their position within the Site. The Development comprises five-character areas as shown on Figure 5.3, i.e. Holtsmere Common, Local Centre, Valley, Southern Gateway, and Countryside Interface.
- 5.6.2 The Development Specification (Appendix 5.2) sets out objectives and key design principles for each character area at an appropriate level of detail for an outline application, which will guide future reserved matters planning applications.

Figure 5.3: Masterplan Character Areas



5.7 Access and Movement

Principal Access (B487 Junctions) – Detailed Component

- 5.7.1 The Application is seeking detailed permission for two principal access points along the B487 to the Development Site. Two new junctions will be provided as follows:
- Eastern Junction – new junction at the B487 Hemel Hempstead Road. This will be the main access for all modes of transport and will be a shared junction on the STC that connects the Site with Draft Site Allocation H2 (East Hemel Development) to the south. This STC junction has been developed in collaboration with TCE, the access points on the B487 forming the detailed element of this Application.
 - Western Junction – A second access to the Site off the B487 is provided west of the Eastern Junction for buses, pedestrians and cyclists only.
- 5.7.2 Figure 5.3 shows the layout of both the Eastern and Western Junctions, and a selection of detailed general arrangement plans for both junctions is provided in Appendix 5.3.
- 5.7.3 Both junctions are proposed to be signal controlled. The Eastern Junction includes controlled pedestrian and cycle crossing points on all arms. There is not anticipated to be high levels of crossing movements at the Western Junction, with the main desire line towards the town centre and HGC Green Loop to the west. However, the proposals include a controlled pedestrian crossing point on the eastern arm of the junction to facilitate occasional crossing movements. The two junctions are connected by pedestrian and cycle routes on both sides of Hemel Hempstead Road that run parallel with the carriageway.
- 5.7.4 The junctions have been designed in line with geometric standards in Design Manual for Roads and Bridges (DMRB) CD116 - Geometric design of at-grade priority and signal-controlled junctions and in discussion with HCC and the East Hemel developer.
- 5.7.5 These highway works will be undertaken under a Section 278 Agreement under the Highways Act following discussions with HCC (Highways Authority).

Figure 5.3: Eastern and Western Junction Layout

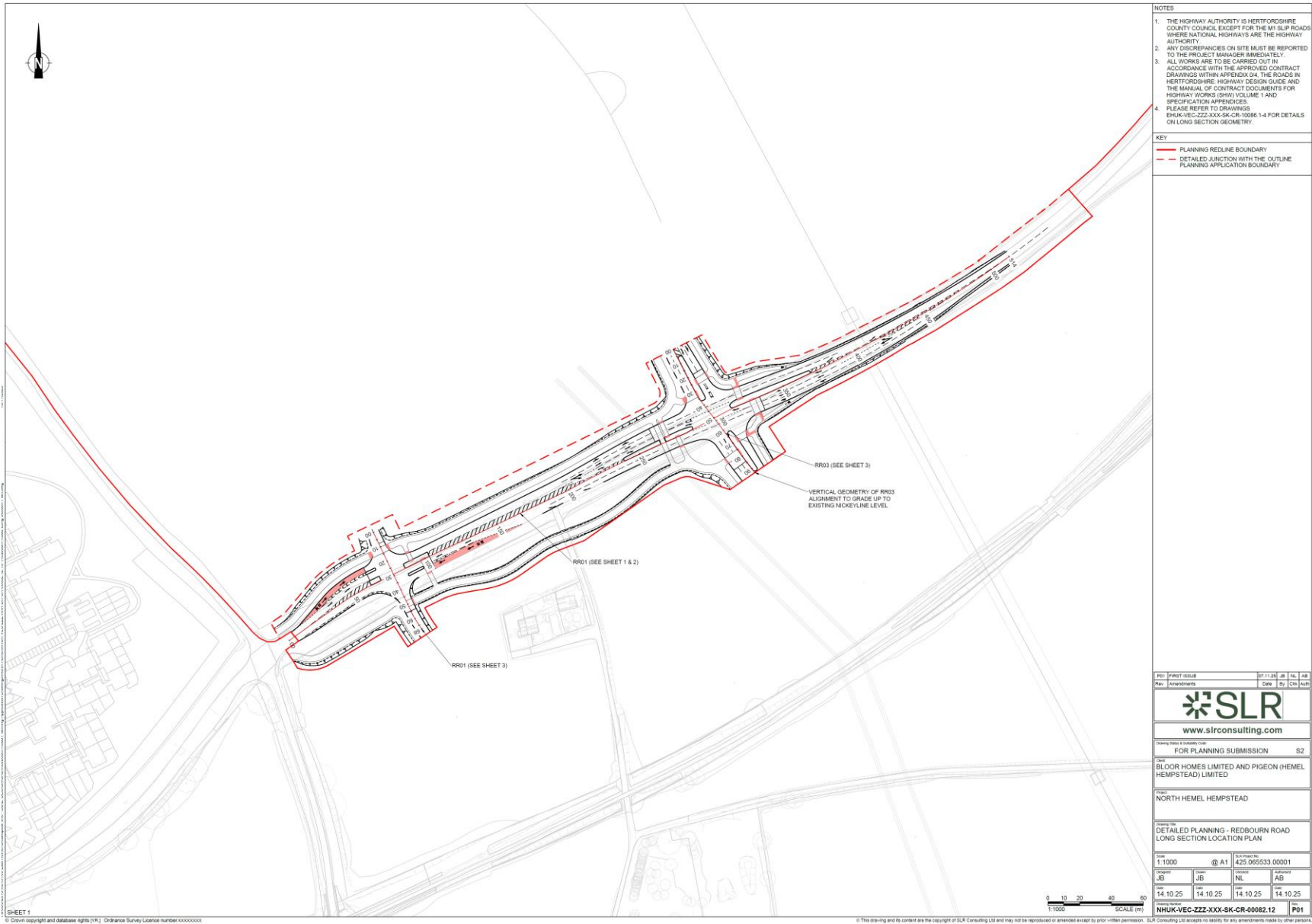
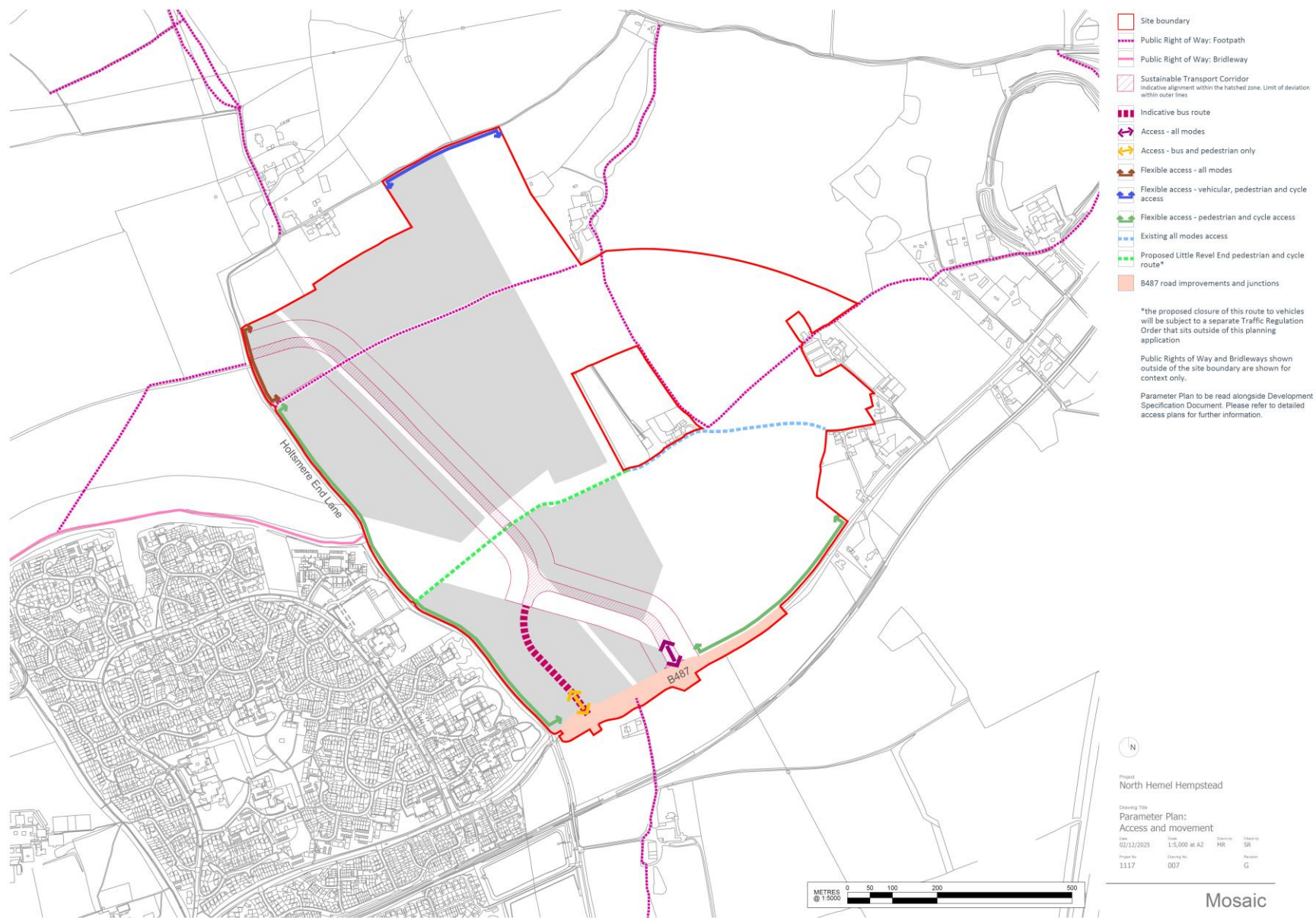


Figure 5.4: Access and Movement Parameter Plan



Other Access

- 5.7.6 Other access points, along with access roads and routes within and through the site are reserved for subsequent determination through RMAs (save for the access points from the B487). Accordingly, the parameter plan identifies access zones which delineate the areas within which detailed access arrangements and access points may be brought forward at the reserved matters stage.
- 5.7.7 In terms of the treatment of the existing roads within and adjacent to the Site, the following is proposed:
- **Little Revel End Lane** – this currently provides access to Little Revel End Farm and would be closed to vehicular traffic to the west of this existing property. This closure is proposed to enable the movement of pedestrians and cyclists through the Site to be prioritised and to provide an attractive green walking and cycling route that connect the built development to the SANG and beyond. This closure would be subject to a separate Traffic Regulation Order (TRO)¹;
 - **B487 Hemel Hempstead Road** – A speed reduction is proposed from 60 mph to 40 mph on part of this road to cover the extents of the proposed access junctions. The location of the change in speed limit is to be agreed with HCC. This speed reduction would be subject to contributions to HCC towards a TRO; and
 - **Holtsmere End Lane** - Use of Holtsmere End Lane as a 'Green Loop' is a key proposal within the broader HGC Spatial Vision and would be a new high-quality active travel route (pedestrians and cycles), intended to improve connectivity in the area. The HGC Green Loop would connect new development areas to existing parts of Hemel Hempstead and the wider landscape. The proposed HGC Green Loop along Holtsmere End Lane lies outside of the Application Site boundary but will be delivered by the Development through a S278 Highways Agreement. The road will be retained as public highway; however vehicular use will be restricted at the junction with the B487. The vehicle restriction would be subject to a TRO. Vehicular access along Holtsmere End Lane to the north of the Site will be enabled via a new, alternative route along the STC through the Site. This will be restricted for access only. The full details and phasing of the vehicular closure of Holtsmere End Lane is to be agreed with HCC.

Sustainable Transport Corridor

- 5.7.8 HGC's Spatial Vision includes delivery of a Sustainable Transport Corridor (STC) which extends between Leighton Buzzard Road to the west and Breakspear Way (and beyond) to the south. The Access and Movement Parameter Plan (Figure 5.4) shows the STC route with limits of deviation to allow flexibility on its final alignment which is not known at this stage. It shows the STC alignment crossing in a north-south direction, continuing south towards the SADC Draft Site Allocation H2 (East Hemel development) to the south via the Eastern Junction.

¹ A TRO a legal document that allows a local authority to restrict, prohibit, or regulate the use of public roads, is under The [Road Traffic Regulation Act 1984](#).

- 5.7.9 The STC will be designed to facilitate efficient bus movement and must be managed to ensure low traffic flow and speed conditions. The STC will include segregated pedestrian and cycle routes alongside the carriageway.
- 5.7.10 General traffic will be permitted to use the STC on entry to the Site from the B487 Hemel Hempstead Road. The STC will be open to general traffic for delivery within the Local Plan period, however it will be designed to safeguard provision for a potential bus gate in the future, with general traffic displaced onto the adjoining primary roads, which will also be designed to accommodate buses.
- 5.7.11 The STC will be delivered within the Site and connect all key facilities within the Development to the main residential internal road accesses as well as the Site access / egress points.

Public Transport

- 5.7.12 The Site is already well connected to local bus services, with the existing Centre bus 46 route between Hemel Hempstead and Luton routing along B487 Hemel Hempstead Road, which forms the southern boundary of the Site. Further enhancements to existing bus services will be supported by the Development, this will include improvements to services along the Redbourn Road corridor, to the town centre and onward to the station. The full package of bus improvements is to be agreed with HCC through a S106 Agreement.

Pedestrian, Cycling Routes and Green Loop

- 5.7.13 The existing PRoW network within the Site would not be altered by the Development. These routes intersect the Site boundary at Holtsmere End Lane, Little Revel End and Great Revel End Farm. The existing PRoW (Route 11) will therefore continue to link Holtsmere End Lane and Great Revel End Farm (Route 11). The PRoW that links Great Revel End Farm with Little Revel End and extends towards the settlement of Redbourn (Routes 9 and 10) will also be retained and integrated into the Development, enabling connectivity to the wider PRoW network.
- 5.7.14 Additional pedestrian and cycle facilities are proposed to enhance connectivity and promote sustainable transportation in and around the Development. This includes high-quality pedestrian and cycle routes across the Site. The STC will form the spine of this network, with a generous, segregated pedestrian / cycle route that will run parallel to the STC but segregated by wide verges, offering a safe, attractive, direct route for active travel.
- 5.7.15 New pedestrian routes will be delivered across the public open space, which have been designed to provide a direct connection to the wider proposed pedestrian and cycle network within the area, which will connect onto the National Cycle Network, Nickey Line.
- 5.7.16 Use of Holtsmere End Lane as a 'Green Loop' is a key proposal within the broader HGC Spatial Vision and would be a new high-quality active travel route (pedestrians and cycles), intended to improve connectivity in the area. The HGC Green Loop would connect new development areas to existing parts of Hemel Hempstead and the wider landscape.
- 5.7.17 The Green Loop will cross the B487 at the existing Holtsmere End Lane/ Cherry Tree Lane crossroads, west of the Western Junction. Both Holtsmere End Lane and Cherry Tree Lane

will become closed to vehicular traffic. The crossing will be a good quality, wide signal-controlled Pegasus crossing, enabling use by pedestrians, cyclists and equestrians.

Mobility Hub and Parking

- 5.7.18 An integrated Mobility Hub would be provided to support active and sustainable travel and make it easy and convenient to switch between active travel and public transport with facilities to encourage and facilitate modes of transport other than the private car.
- 5.7.19 The Mobility Hub is proposed in proximity to the local centre and primary school, presenting a popular, central transport interchange point within the Site. The full suite of facilities to be included at the Mobility Hub are to be agreed with HCC, however this is likely to include good quality bus stop infrastructure, secure cycle parking, space for micro-mobility, cargo bikes and storage, as well as charging for e-bikes and a car club.
- 5.7.20 Exact car parking numbers for the Development will be detailed in reserved matters, although a mix of parking ratios, forms and types will be provided depending on the character and typology of the area, including a combination of on and off-plot car parking. The level of car parking will seek to strike a suitable balance between encouraging the uptake of sustainable modes of travel, whilst not resulting in over-spill parking occurring.
- 5.7.21 Appropriate infrastructure for EV charging provision will be accommodated.

Off-site Highway Works

- 5.7.1 A series of off-site highway interventions have been identified within the Transport Assessment (Appendix 9.1). These highway interventions have been identified to address both the impacts of the Development and cumulative impacts. Details of the measures and the approach of delivery of off-site highway works is to be agreed with HCC. Further details are provided in Appendix 9.1.

5.8 Green Infrastructure, Public Open Space and SANG

- 5.8.1 The vision for the landscape design strategy is to increase the biodiversity and recreational value of the Site over the long-term.
- 5.8.2 As set out in Table 5.2, the Development would provide extensive Green Infrastructure including play facilities, lighting, drainage, open space, structural landscaping, habitat creation, existing PRoW, new recreational routes, grassland, retained vegetation, allotments, parks and gardens, access, pedestrian/cycle links, and all necessary infrastructure.
- 5.8.3 Approximately 55.02ha of green infrastructure (including sports provision, community park and SANG and multi-functional green space) would be provided within the Site. This represents over half (c 52%) of the total Site area of 105.60 ha.
- 5.8.4 The Land Use and Green Infrastructure Parameter Plan (Figure 5.1) introduces an area for sports provision and a network of multi-functional green spaces which contribute to the wider strategic aspirations for the Site and create new connections with the proposed local network of green spaces. A Community Park and SANG is also proposed in the east of the

Site, providing north / south access. Food growing opportunities will also be provided in the form of allotments. Further details of each of the components is provided below. In addition, development areas would include for the provision of other green spaces including private gardens, SuDS, incidental open space, local play, and retained vegetation, trees and hedgerows.

- 5.8.5 A GI Strategy document accompanies the application and provides general principles that will inform applications for the approval of reserved matters. Detailed design and implementation of the GI strategy will be agreed with the LPA for each development phase to ensure that the proposed mitigation and enhancement measures are delivered and managed effectively.

Existing Vegetation

- 5.8.6 The Site's existing features of mature perimeter vegetation, such as the mature tree belt along Holtsmere End Lane, and internal hedgerows with trees, provide an existing strong green framework for the new development and will be 'embedded' within the layout, forming the basis of a dedicated network of interconnected green corridors. The existing pond would also be retained. Little Revel End (Lane) and its associated hedgerows will be retained within a green corridor.
- 5.8.7 The Land Use and Green Infrastructure Parameter Plan (Figure 5.1) shows where existing vegetation is proposed to be retained.
- 5.8.8 Existing boundary and internal hedgerows would be reinforced with new nature planting to limit visibility of the Development from the surrounding area and help ensure it relates to its context and integrates with the local landscape.
- 5.8.9 The Development will result in the removal of limited trees and short sections of hedgerow to create the new access and road infrastructure. The Land Use and Green Infrastructure Parameter Plan (Figure 5.1) also show allowances made for breaks in existing vegetation. These allowances for breaks of approximately 10m in width to provide access, public rights of way and street connections. Within the STC corridor, wider breaks of approximately 25m have been allowed for.
- 5.8.10 Retention of the existing PRoW through the Site and the creation of an extensive network of new recreational routes. Connections to Little Revel End (Lane) and Holtsmere End Lane are also proposed, providing links with the B487 Hemel Hempstead Road, Hemel Hempstead and the surrounding countryside as well as the Nickey Line and wider HGC

SANG / Community Park

- 5.8.11 The Development would provide a SANG / Community Park in the eastern part of the Site as part of an appropriate mitigation strategy for Chilterns Beechwood Special Area of Conservation ('CBSAC'), as well as providing facilities for new and existing communities as a Community Park and a permanent green buffer to Redbourn. The SANG aims to provide alternative green space to accommodate additional levels of recreation and divert visitors away from the CBSAC to mitigate together, with other on-site and other management measures, recreational impacts to the CBSAC.

- 5.8.12 The proposed SANG is multi-functional and is designed to provide multiple benefits including biodiversity net gain and has been designed in line with Natural England guidance.
- 5.8.13 The total SANG area is 28.8 ha. A circular walk of at least 2.3km will be provided, meeting minimum requirements. The paths will include mown paths and will be unsurfaced and be safe, easily identifiable and kept clear of obstructions such as scrub cover. PRow Route 9 is proposed to be incorporated within the SANG, while Route 10 will cross the Site towards Redbourn. Parking would be provided at the start of the circular walk in the south, off the B487.
- 5.8.14 Visitors would be able to take dogs from the parking area to the Site safely off the lead and there would be plenty of space for dogs to exercise freely and safely.
- 5.8.15 A range of habitats are proposed including areas of meadow grassland, scrub planting, and areas managed as hay meadow for Skylark habitat. Layers of structural woodland and scrub planting are positioned across the SANG to help provide screening and to increase the rural character of this part of the Site, as well as respond to neighbouring visual amenity. New ponds are located within lower areas of the Site to increase potential for biodiversity gains whilst also responding to local landscape character. Higher ground in the north of the SANG would allow for views across the wider landscape to the south and provides a focal point.
- 5.8.16 Further details of the SANG are provided in Appendix 17.6: Outline LEMP and its Appendix A: Outline SANG Mitigation and Management Plan ('SMMP'). Figure 5.5 presents the **indicative** landscape proposals for the SANG.

Figure 5.5: Indicative Landscape Proposals for SANG / Community Park

Notes:

The Proposed Development at North Hemel is for 1500 homes. The SANG forms part of the proposed Community Park which lies within the eastern part of the site.

This plan sets out the general principles for the provision of SANG and follows Natural England guidance and principles (as shown in the table). The plan will be developed further through the detailed stage as part of applications for reserved matters approval. The application is accompanied by an Outline Landscape & Ecological Management Plan and Outline SANG Mitigation and Management Plan. These will be developed further through the planning process and final versions of these will be expected to be secured through planning conditions.

(The plan illustrates how an extensive circular route could be delivered across the entire SANG, well above the minimum 2.3km requirement at c4.6km. It also shows how separate 2.3km routes could be delivered to the north and south of Little Revel End Lane if the SANG follows a phased approach).

SANG Criteria	
Paths	
A minimum circular walk of 2.3-2.5 kilometres to be provided.	Expected
Paths easily used and well maintained but mostly unsurfaced.	Expected
Where parking is provided, circular path should start and finish at that location.	Expected
Paths should be safe, easily identifiable and kept clear of obstructions, such as scrub cover for example.	Expected
Information boards and/or signage at access points outlining the layout of the site and routes available to visitors.	Desirable
Parking	
Parking, including for cyclists, to be provided on sites larger than four hectares, unless the site is solely intended for residents within 500 metres only.	Expected
Parking areas are to be easily and safely accessible by car and to be clearly sign posted.	Expected
Visitor to be able to take dogs from the parking area to the site safely off the lead.	Desirable
Access	
Access points to be provided based on the intended visitors of the SANG.	Expected
Safe access route on foot from nearest car park and/or footpath.	Expected
Access should be unrestricted within the site, with plenty of space for dogs to exercise freely and safely off the lead.	Expected
Character of Space	
Needs to be semi-natural, or perceived as such where close to existing development.	Expected
If the site is larger than 12 hectares, a range of habitats should be present.	Expected
No unnatural intrusions (e.g. odour from sewage treatment works, noise from busy roads).	Expected
There should be little intrusion of built structures such as dwellings, buildings, fencing (not constructed using natural materials), etc.	Expected
Naturalistic space with areas of open countryside with dense and scattered trees and shrubs.	Desirable
Gentle undulating topography. Steep slopes are likely to deter visitors.	Desirable
Focal point such as a viewpoint or monument within the site and accessible via walking routes.	Desirable
Provision of open water, however large areas of open water cannot count towards SANG capacity.	Desirable



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- Key
- Suitable Alternative Natural Green Space (SANG) 28.8ha
 - Existing Vegetation
 - Existing Ponds
 - Existing Public Footpaths
 - Potential section of Public Footpath to be diverted. Alignment to be determined through the detailed design
 - Indicative Circular SANG Path - Total 4.6 km (Unsurfaced grass ride, albeit some low key surfacing may be needed in wet areas subject to detailed design)
 - Mown Paths
 - Potential Crossing Points over Little Revel End Lane
 - New Woodland
 - New Woodland Edge/ Scrub
 - New Amenity (Modified Grassland)
 - New Meadow Grassland (Other Neutral Grassland)
 - Dog Bins - Indicative Locations
 - Interpretation Panels - Indicative Locations
 - Proposed Car Park within Sports Area (30 Spaces for SANG visitors plus parking spaces for sports users)
 - Sports pitches
 - Drainage Features that are predominantly dry (Drainage strategy to be developed through the detailed design stage)

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client
Pigeon and Bloor Homes
project
North Hemel, Hemel Hempstead

title
Indicative Landscape Proposals for
Suitable Alternative Natural Green
Space (SANG)

FPCR | environment
& design

Sports Provision

- 5.8.17 Approximately 3.86 ha of playing pitch provision is proposed in a broad location south of Little Revel End as shown on the Land Use and Green Infrastructure Parameter Plan. The precise sports pitch arrangement will be determined at RMA stage. Within the identified area, it is anticipated that the following could be accommodated: one adult football pitch, two youth football pitches, three mini-soccer pitches and changing facilities.

Multi-Functional Green Infrastructure

- 5.8.18 Once established, the Green Infrastructure will be appropriately managed and maintained in perpetuity to ensure the original design intention and long-term amenity and ecological value is upheld. This is expected to be achieved through implementation of the LEMP which will be agreed with the SADC via a planning condition and likely carried out by a Management Company or Trust. The SMMP will specifically cover the SANG and will be agreed with SADC and Natural England.
- 5.8.19 Delivery of compensatory planting to provide mitigation for losses of vegetation to enable site access, streets connections and infrastructure. This includes new hedgerows and tree planting across the Site and beside the B487 Hemel Hempstead Road. New hedgerows, trees and green space along the B487 will provide compensation for the loss of hedgerow in this part of the Site.
- 5.8.20 Native woodland and tree belts are proposed along the northern, north-eastern and southern perimeters as well as north to south alongside Great Revel End Farm and Little Revel End (connecting the proposed tree belt at Holtsmere End Lane with that at Hemel Hempstead Road) as part of a 'multi-functional wooded landscape buffer' to reinforce existing planting, and strengthen the overall framework of the Site. New planting alongside existing vegetation will assimilate the Development into the landscape and will assist in 'softening' views of the built form.
- 5.8.21 A variety of urban and natural open spaces linked by 'active' wildlife and recreational corridors will create a diverse, green environment and an attractive setting for the built development. A series of new separate, yet connected, parks, including the Community Park / SANG, will each have a different focus – to encompass space for both formal and informal recreation, including sports pitches and equipped children's play as well as allotments and a community orchard.
- 5.8.22 At this stage, and to set out an overarching structure of what these documents are expected to contain an Outline LEMP, with an Outline SMMP appended, has been prepared and is included at Appendix 17.6.

Biodiversity Net Gain

- 5.8.23 The Development will deliver a minimum of 10% Biodiversity Net Gain (BNG) to meet policy requirements. Appendix 13.8: Biodiversity Net Gain Assessment Report provides an assessment of the Development based on the illustrative landscape proposals. With enhanced SANG in place, it is demonstrated that the Development could deliver a net gain of 15.68% habitat units and 16.51% hedgerow units.

5.9 Lighting

- 5.9.1 The design of private lighting within the Development will be sensitive to the surrounding area and detailed lighting designs will be developed to minimise light spill and glare as well as helping to alleviate the fear of crime. This will minimise impacts on local sensitive receptors, including future occupiers of the Development, surrounding residents and local road users. Key Design Principles regarding the approach to lighting are secured within the Development Specification, including the need to safeguard darker corridors for bats, emphasise primary circulation routes and highlight special features within the Site to ensure users feel safe. Detailed lighting strategies will be secured as part of the future reserved matters applications for each phase.

5.10 Flood Risk and Drainage

Flood Risk

- 5.10.1 The Site is not at risk of flooding from fluvial (river) sources. Hydraulic modelling has been undertaken to identify risks of surface water flooding which is present at the Site due to topography in 'valley' areas. The Development will incorporate surface water flood risk mitigation measures to reduce the risk of flooding to the proposed 'more vulnerable' development parcels and allow safe access via the proposed on-site road network.
- 5.10.2 Surface water mitigation measures will be developed further at detailed design stage but are expected to include:
- Proposed levels of residential development platforms;
 - Proposed access roads through the scheme and associated culverts where flow paths are crossed;
 - A lowered channel where the existing flow pathway runs through the Site; and
 - A lowered area of to the east of the STC to provide storage and conveyance during flood events.
- 5.10.3 It will be necessary for the reserved matters to demonstrate that surface water flood risk are appropriately mitigated, notably to facilitate the crossing of the surface water overland flow pathways.

Drainage

- 5.10.4 Detailed drainage strategies will be implemented for the Development in line with the principles set out in in the Flood Risk Assessment and Drainage Strategy (Appendix 12.2) which will ensure that surface water flows are managed sustainably without increase flood risk on or off-Site.
- 5.10.5 The general approach to surface water drainage ensures that the rate of runoff will not be increased off-site and will aim to improve upon current Site conditions where possible. The Drainage Strategy refers to adherence to the below drainage hierarchy with Priorities 1 and 2 to take precedence over others:

- Priority 1: Collected for non-potable use;
- Priority 2: Infiltrated to ground;
- Priority 3: Discharged to an above ground surface water body;
- Priority 4: Discharged to a surface water sewer, or another piped surface water drainage system; and
- Priority 5: Discharged to a combined sewer.

5.10.6 The Development will seek to meet 'Priority 2: Infiltrated to ground' where possible which will be met by a combination of:

- All parcels will seek to meet 'Priority 2: infiltrated to ground' where possible and as close to the parcel as possible. This will be met by a combination of:
- Local soakaways where space allows;
- Permeable paving (either System A – Total Infiltration or System B – Partial Infiltration) where space allows and end use / adoption permits;
- Local bio-retention / raingardens in greenspace and alongside roads;
- Swales, either locally or strategic conveyance swales. These will be designed to allow infiltration where possible; and
- Parcel specific infiltration basins.

5.10.7 Where infiltration potential is limited or not possible, the drainage will mirror 'Priority 3: discharged to an above ground surface water body' with discharge restricted locally to the 1 in 30-year event with 40% climate change. The restricted discharge is to then be conveyed to an infiltration feature in areas of greater infiltration potential acting as the 'above ground surface water body'.

5.10.8 The Drainage Strategy also includes principles of surface water quality treatment using SuDS to ensure ensuring water is suitably treated prior to discharge from the Site. Treatment is required as the Site lies within a Total Catchment (Zone 3) Source Protection Zone for local groundwater abstraction. Attenuating some of the flow and volume close to development parcel allows the SuDS treatment train to be employed locally. The conveyance network, generally swales, will be designed to allow further infiltration along these routes.

5.10.9 To allow for the new B487 Western and Eastern Junctions, additional surface water attenuation is proposed to help control and maintain the existing surface water flow paths that cross the south-east part of the Site. This is located separately to the development drainage and is also designed to increase potential infiltration and help reduce off-Site impacts from the existing flood flows.

5.11 Climate Change, Energy and Sustainability

5.11.1 An Outline Energy and Sustainability Statement accompanies the planning application which responds to SADC's energy requirements for new developments, as set out within the Draft Local Plan, in particular Policies SP2 – Responding to the Climate Emergency;

CE1 – Promoting Sustainable Design, Construction and Building Efficiency; and CE2 – Renewable and Low Carbon Energy.

5.11.2 Key energy objectives cited within the Sustainability and Energy Statement include:

- Reducing Energy Demand;
- Reducing Energy Use;
- Use of Renewable or Low Carbon Technologies; and
- Reducing Air Pollution.

5.11.3 Opportunities to employ low and zero-carbon energy technologies will be investigated, to reduce the scheme's operational carbon emissions, regardless of the preferred specifications for the Future Home Standard specification options. Key considerations will include passive and active design measures.

5.11.4 Passive design measures include orientation and massing; glazing ratios and solar control; natural ventilation; and thermal performance and air tightness. Active design measures include space heating and domestic hot water through electric systems; mechanical ventilation with heat recovery; low energy lighting; energy monitoring via smart meters; and employment of renewable technologies such as heat pumps, communal heating systems and rooftop-mounted photovoltaic panels.

5.11.5 Further details will be provided with reserved matters applications along with the detailed design.

5.12 Utilities

5.12.1 Connection points for utility infrastructure for the Development have been identified and consultation with the respective service providers undertaken. This ensures that the local networks have adequate provision to service the Development for foul drainage, potable water, gas, electricity, telecommunications and pipeline infrastructure.

Foul Drainage

5.12.2 The foul drainage for the Development will be managed by Thames Water, which is the sewerage undertaker for the area. Existing foul and surface water sewers are located to the south and south west of the Site, along the B487 Hemel Hempstead Road. Access to these sewers is proposed via the southern boundary of the Site. Thames Water has stated in its pre-planning enquiry response that it will need to carry out modelling to assess foul water and surface water once outline planning permission has been granted. This modelling will identify whether any reinforcement works are needed. The Applicant will approach Thames Water if the Proposed Development is granted planning permission.

Potable Water

5.12.3 Affinity Water is the potable water authority for area. Records indicate the presence of a 3-inch cast iron water main on Hemel Hempstead Road to the southwest and a 400mm ductile iron main on Shenley Road to the west. No diversions are anticipated to be required for these assets. A pre-development report produced by Affinity Water confirmed that the Site

can be supplied via the 400mm main on the B487 and that reinforcement works will not be required to provide adequate capacity.

Gas

- 5.12.4 Cadent Gas is the independent gas transporter for the area. Existing mains are located on the southwest side of the Site, but no diversions are anticipated. The Development is designed to use electricity for heating and hot water, meaning no gas connections will be required.

Electricity

- 5.12.5 The electricity network operator for the Site is UK Power Networks (UKPN). Existing infrastructure includes high-voltage underground mains running through the southwest and southeast sides of the Site, as well as HV and LV mains along Hemel Hempstead Road. An extra-high-voltage transmission line owned by National Grid Energy Transmission crosses the Site from north west to south east.
- 5.12.6 Some overhead, over 11kv and up to 33kV powerlines within the Site and along Hemel Hempstead Road will require permanent diversion or re-routing as appropriate to accommodate access works and end-use development. UKPN has been approached for a point of connection to provide a total capacity of 5,372 KVA. The proposed connection will be from the Hemel North primary substation, but reinforcement works will be necessary, and this capacity will become available in early 2029. In advance of 2029, a point of connection for the initial phases has been obtained from Sheley Road in close proximity of the Site.

Telecommunications

- 5.12.7 Telecommunications services in the area are provided by Openreach, Virgin Media, and Colt. Existing Openreach infrastructure includes overhead and underground mains around the Site and along the B487 Hemel Hempstead Road, while Virgin Media and Colt apparatus are located on the southern boundary. Diversions will be required for all three providers to accommodate the proposed Site entrances and associated highway. Works Openreach has confirmed that fibre is present in the surrounding network, and fibre-to-the-premises (FTTP) will be available.

Pipeline

- 5.12.8 The British Pipeline Agency (BPA) operates a high-pressure pipeline that crosses the Site from northwest to southeast. This pipeline represents a significant constraint and has been considered in the design. All works within 6m of the pipeline will require prior approval by BPA and it will be necessary for a BPA Technician to supervise all works within 6m of the pipeline. It is likely that a watching brief will be required during construction to ensure compliance with safety protocols.