



MARSHMOOR, WELHAM GREEN

SUPPLEMENTARY PLANNING DOCUMENT | 2025

DRAFT

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I.0 INTRODUCTION

I.1 EXECUTIVE SUMMARY

This SPD sets out the ambitions for the Marshmoor SPD area and the associated development site to deliver Hatfield Innovation Campus. This SPD has been produced through close collaboration between Welwyn Hatfield Borough Council and a key landowner in the SPD Area, Gascoyne Estates.

This report is a Supplementary Planning Document supporting Welwyn Hatfield Borough Council's Local Plan 2016-2036 to guide and provide further detail for development on the SDS7 Policy Area.

CONTEXT AND ANALYSIS

This report sets out the baseline and contextual analysis of the policy, spatial and environmental context of the SPD area, outlining its key opportunities and constraints that inform the vision and spatial framework.

The key opportunity for the site lies in its strategic location within the London-Cambridge Innovation Corridor. There is an anticipated demand for employment space supporting innovation and research industries more widely around Welham Green and Hatfield. The SPD area provides a distinct opportunity to address some of these demands.

The site has considerable constraints, including: a railway line running along the west; limited connectivity for pedestrians and cyclists; areas of medium to high flood risk; multiple veteran trees; existing sewers and watercourses; woodlands and hedgerows of high ecological value; Public Right of Way routes; electricity pylons and buffer zones on either side; and sensitivity to existing residential uses and areas of heritage value. These collectively constrain wholesale development across the SPD area and require a more sensitive and nuanced approach to development.

The development site has therefore been divided into three development zones. These zones reflect the impact of constraints.

VISION

The vision for the Marshmoor Policy Area is supported by five Vision Statements. These statements set out the long term ambition for any proposed developments and interventions.

Hatfield Innovation Campus will be well-placed in this context to contribute to the wider innovation ecosystem as it is situated in the London-Cambridge 'science corridor' with many Research and Development uses and campuses in proximity.

The SPD sets out five overarching vision objectives that all development proposals should respond to by supporting their delivery in the short, medium and long term. The vision for the SPD area outlines ambitions for:

1. A new, nationally recognised 'innovation and technology' campus.
2. A rich, biodiverse and climate-responsive landscape at the heart of new development.
3. A well-connected neighbourhood supporting active and sustainable travel.
4. A well-integrates and sensitive neighbour.
5. An exemplar of high-quality design and sustainability.

DEVELOPMENT OBJECTIVES

The Vision Statements are supported by Development Objectives, which set out 'What' are essentially commitments and deliverables for the development. These Objectives collectively help to achieve the long-term vision and should be used as key criteria against which applications will be appraised.

For example, under the second vision statement relating to a rich, biodiverse and climate responsive landscape at the heart of new development, the development objectives require that proposals should demonstrate how they:

- *Implement a landscape-led approach that responds to the existing environmental sensitivities to create a positive working environment and place to live.*
- *Provide a variety of landscape and environmental conditions, creating space for amenity, events, experimentation and respite to support talent attraction and retention, collaboration and knowledge exchange.*
- *Ensure management and restoration of habitats to enhance biodiversity, supporting the landowner's ambition for the integration of wildlife into operations, working at scale to deliver abundant natural landscapes.*
- *Enhance existing ecology and mitigate for site conditions such as air and noise pollution and flood risk through careful site planning and integrated water management.*

Similar objectives are provided for each vision statement.

DESIGN PRINCIPLES

The Design Principles support both the Vision Statements and Development Objectives, setting out 'how' these objectives should be achieved with actions and prompts for design decisions. These sometimes relate directly to development objectives, at other times they are more directly linked to the vision. These are intended to inform the design development process and should be addressed through pre-application processes and engagement with the local authority and key stakeholders as a clear brief and output for the associated developments is realised.

For example, Principle 2B supports both the vision statement no.2, and the development objectives that sit below it through requiring proposals to:

- *Create a large, central and distinct green open space at the heart of the new campus that connects different development parcels together.*

SPATIAL FRAMEWORK

The Spatial Framework illustrates the key spatial parameters linking to the Design Principles - this is the first step in the process of translating the design principles to a spatial proposal. This framework provides a baseline which proposals can adapt and add detail to as design decisions are tested and agreed.

The Spatial Framework sets out parameters for consideration and for demonstration through design proposals, such as sensitive edges, vehicular access to the site, indicative locations for a central, unifying landscape, potential areas for SuDs and other landscape interventions - all of which reflect the contextual analysis, but will require more detailed surveys to inform design decisions supporting planning applications.

ILLUSTRATIVE MASTERPLAN

The illustrative masterplan provides a high-level example of how development could be realised in the SPD area to deliver on the vision and objectives by applying the principles on site. It outlines certain assumptions that the layout and block sizes respond to. It demonstrates one of several ways that development could come forward on the site.

I.2 PURPOSE AND STATUS OF THIS DOCUMENT

This report is a Supplementary Planning Document supporting Welwyn Hatfield Borough Council's Local Plan 2016-2036 to guide and provide further detail for development on the SDS7 Policy Area.

Supplementary planning documents (SPDs) build upon and provide more detailed advice or guidance on policies in an adopted local plan. As they do not form part of the development plan, they cannot introduce new planning policies into the development plan. They are however a material consideration in decision-making. They should not add unnecessarily to the financial burdens on development.

Source:
Ministry of Housing, Communities and Local Government, Ministry of Housing, Communities & Local Government (2018 to 2021) and Department for Levelling Up, Housing and Communities

Published: 13 September 2018
Last updated: 4 October 2021

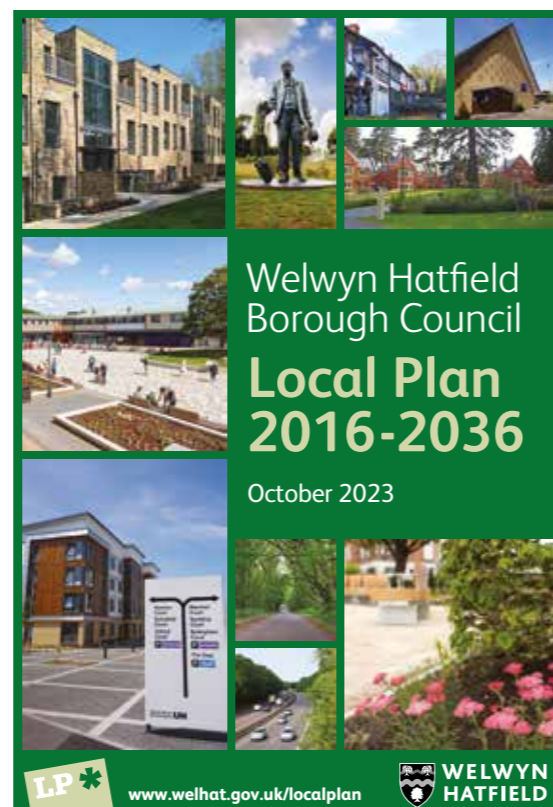


Fig I.1

Cover page for the Welwyn Hatfield Borough Council Local Plan 2016-2036

I.3 PLANNING POLICY CONTEXT

Welwyn Hatfield Local Plan 2016-2036: Policy SP23

In the adopted Welwyn Hatfield Local Plan (2023) Policy SP23 provides in-depth guidance for one of the borough's strategic sites (SDS7 and other land within the wider Marshmoor Policy Area). The SDS7 site is allocated for a mixed-use development containing 40,500sq.m of employment floorspace (Class E(g) and 100 dwellings (Class C3) which will provide affordable accommodation for those employed at the SDS7 site. The accommodation will be primarily for employment use and will form part of an incentive for business owners to attract skilled workers.

Development proposals within the SDS7 site and Marshmoor Policy Area will be required to comply with Policy SP23.

The delivery of SDS7 will need to address the specific issues set out in SP23 alongside other material considerations, outlined in this SPD, in order to bring forward successful development on SDS7 and to ensure development in the wider area is acceptable.

SP23 provides a basic framework for this Marshmoor Policy Area SPD, which will also guide development in the wider area.



Fig I.2

Extract of Figure I5 from the Welwyn Hatfield Borough Council Local Plan 2016-2036, outlining SDS7 (WeG4B) Marshmoor Policy Area

Policy SP23 requires that the final quantum and phasing of development within SDS7 will be set out within the Supplementary Planning Document.

I.3 PLANNING POLICY CONTEXT

Access and Movement

There are limited usable footways, cycle lanes or Public Rights of Way (PRoW) in the land east of the railway line, and currently the connectivity between Marshmoor and Welham Green (west of the railway line) is poor due to the lack of suitable routes and appropriate crossings for pedestrians, cyclists and wheelchair-users. Therefore, key to the success of any development proposals within the Marshmoor Policy Area, and in particular SDS7, will be the creation of routes through the Marshmoor Policy Area for those wishing to travel without the use of a motor vehicle throughout the site and into Welham Green.

Policy SP23 requires:

1. Primary vehicular access into SDS7 should be taken from the Dixons Hill Road/A1000 roundabout;
2. A new secondary vehicular access, or the intensification of an existing access, onto the A1000 to serve SDS7 will only be supported if there is a demonstrable need to facilitate development of SDS7 and any access proposals comply with the Council's movement and highways policies;
3. Proportionate provision or contribution toward improvements, in line with the Welwyn Hatfield Infrastructure Delivery Plan, must be made for:
 - Accessibility and movement throughout the Marshmoor Policy Area;
 - Connectivity for pedestrians and cyclists between the Marshmoor Policy Area and Welham Green Railway Station and village centre, as well as other origins and destinations in the wider area that have a demonstrable relationship with the proposal, such as other town and neighbourhood centres, local primary schools and educational establishments; and
 - Rail and bus transport accessibility of the Marshmoor Policy Area and to support wider sustainable travel initiatives, including improved bus stop facilities and support for bus services that serve the Marshmoor Policy Area.

Heritage, Landscape, Ecology and Design

Hatfield House Historic Park and Garden is Grade I listed and lies immediately to the east of the SDS7 and Marshmoor Policy Area. Development of SDS7 and other development in the Marshmoor area will be expected to improve this part of the setting of the heritage asset and at least mitigate any adverse impacts upon its significance.

The protection/enhancement of Wildlife Sites (Millwards Park and the Marshmoor Lane Grassland Strip) will also need to be considered in development proposals for the SDS7 site.

Policy SP23 requires:

1. A Heritage Impact Assessment may be required for development proposals, depending on their location, scale and relationship to Hatfield House and Hatfield House Historic Park and Garden. Impact Assessments should inform the siting, layout, scale and overall design of development so that substantial harm to heritage assets is avoided, any less than substantial harm is minimised, and opportunities to improve the setting of those heritage assets are implemented;
2. Proposals will be required to adopt a high quality landscape-led approach to design, with significant planting of tree and shrub species that maintain and enhance a verdant setting across the Marshmoor Policy Area and enhance biodiversity;
3. Proposals will be expected to retain a substantial set back of buildings from the A1000 in order to help mitigate heritage impacts and noise and air pollution;
4. Proposals on land within close proximity to the A1000 will be required to incorporate high quality and extensive tree planting within those areas closest to the A1000 in order to help mitigate heritage impacts, improve the setting of Hatfield House Park and Garden, create and improve the general appearance of a countryside setting, and maintain the perceived separation between the Marshmoor Area and Hatfield when travelling along the A1000;

I.3 PLANNING POLICY CONTEXT

5. The design of the main vehicular access into SDS7, boundary treatments along the northern side of Dixons Hill Road, and the scale of built development and its relationship with the Dixons Hill Road frontage should create a verdant and spacious gateway and route into and out of Welham Green that also reflects the open countryside context to the south and east of Dixons Hill Road;
6. Building heights should be restricted to minimise heritage impacts, and in general should be lower in the eastern and far northern areas of the site;
7. Boundaries to existing residential development are appropriately designed and landscaped to protect the amenity of those residents, particularly where the proposed development adjacent to them will be for employment uses;
8. The siting and design of development, including the use of landscaping and buffers, should support the mitigation of air and noise pollution arising from the railway and A1000 in order to minimise the need for mechanical ventilation within buildings; and
9. Proposals should provide appropriate protection, and where possible enhancement, of identified wildlife sites and critical environmental assets that would be affected, notably Millwards Park and the Marshmoor Lane Grassland Strip Wildlife Sites and Water End SSSI.

Flood Risk and Drainage

At present, the northern and southern parts of the Marshmoor Policy Area and SDS7 in particular are prone to surface and fluvial flood risk with the considerable potential to affect the siting and design of development. Flood risk will be expected to be key consideration in the layout and design of proposals, and where possible any flood risk mitigation measures should seek to improve flood risk within and beyond the policy area if possible.

Policy SP23 requires:

1. A more detailed understanding of flood risk associated with SDS7 will need to be established via a Flood Risk Assessment, informed by detailed hydraulic models where necessary, that takes account of all sources of flood risk, in particular fluvial flood risk from ordinary watercourses and surface water flood risk. Any Flood Risk Assessment should be informed by the Council's latest Strategic Flood Risk Assessment Level 1 report and Level 2 assessment of the Marshmoor Area. The recommendations and guidance set out in the Level 2 assessment for the Marshmoor Area should be considered and addressed in full;
2. The use of Sustainable Drainage Systems should be prioritised to manage surface water runoff and flood risk;
3. A sequential approach to layout within SDS7 should be adopted so that built development is confined to Flood Zone 1 and avoids areas identified as being at high risk of surface water flooding, taking account of the vulnerability of the proposed uses and mitigation afforded by the Sustainable Drainage System;
4. Flood risk management solutions, including Sustainable Drainage Systems, within the site should seek to reduce flood risk to third party land and the wider area wherever possible; and
5. Necessary new utilities infrastructure, in particular upgrades to the local sewerage network, are provided.

1.3 PLANNING POLICY CONTEXT

Local Transport Plan 4 (LTP4)

The LTP4 was adopted in May 2018 and sets out the future transport vision for Hertfordshire. This framework covers the period up to 2031 and provides a balanced approach to guide all forms of transport, which seeks to encourage a switch from private vehicles to sustainable modes of transport. Due to the high levels of car-ownership, poor east-west connection, high levels of cross-boundary commuting and complicated movement patterns, it is evident that there is a need for better travel solutions. It has been noted that transport is key to facilitating economic growth and delivering sustainable housing developments, and the objectives and principles within this document aim to tackle the future increase in travel demand. Therefore, new developments will be required to take into consideration the LTP4 policies, in order to prioritise sustainable transport modes. LTP4 also sets out a user hierarchy for new developments which focuses on the needs of sustainable modes of private vehicles.

Local Cycling and Walking Infrastructure Plan (LCWIP)

In October 2023, the LCWIP was adopted which showcased the shared central government's ambition to make cycling and walking the desired choice for both short and parts of longer journeys. This document highlights the benefits that are associated with active travel and identifies the aspirations for the Welwyn Hatfield Borough such as the creation of routes and prioritising infrastructure improvements, which influence the connectivity across the borough and nearby areas.

1.4 SITE BOUNDARY AND SPD AREA BOUNDARY

Two area boundaries have been used throughout this report, to illustrate where studies and analysis have been carried out and where proposed interventions are applicable.

-- SPD Area Boundary

The SPD Area Boundary reflects the boundary set out in the Local Plan for the Marshmoor Policy Area.

— Site Boundary

The Site Boundary refers to the areas where development is being considered. These have been further categorised as Development Zones in Section 4.0 Spatial Framework.

The area identified for the 'Site Boundary' varies slightly to that allocated and shown on the Welwyn Hatfield Local Plan Policies Map (2023). Technical work undertaken as part of the preparation of this SPD has identified the most appropriate area for access from the A1000. The land identified for this still falls within the Marshmoor Policy area covered by Policy SP23 and it should be noted that this area will only be used for accessing the site and will not see built development.

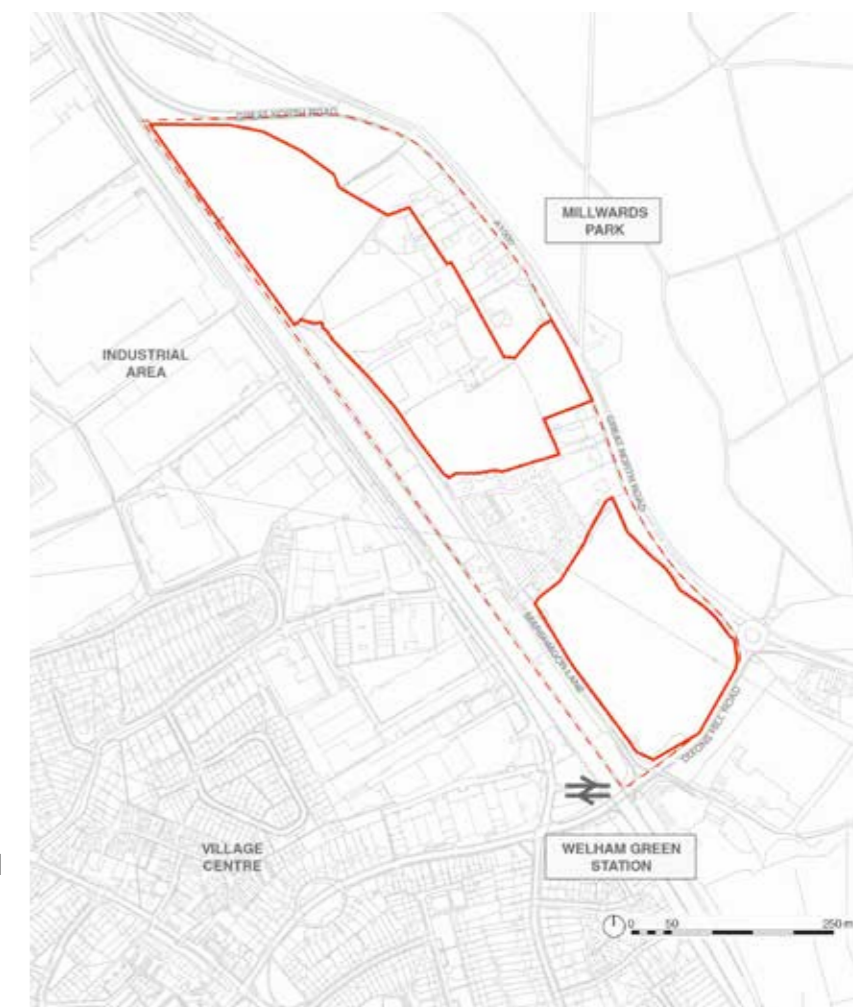


Fig 1.3
Site Boundary and SPD Area Boundary Map

2.0 APPRECIATING THE CONTEXT

2.1 STRATEGIC LOCATION

Hertfordshire is already an established location for science and innovation, with a wide range of companies having a presence in the area.

Hatfield Innovation Campus will be well-placed in this context to contribute to the wider innovation ecosystem as it is situated in the London-Cambridge 'science corridor' with many Research and Development uses and campuses in proximity.

Biopharma

- 1 Eisai EMEA Knowledge Centre, Hatfield
- 2 Roche Pharma R&D Hub, Welham
- 3 National Institute for Biological Standards & Control, Potters Bar
- 4 Ascend Gene and Cell Therapies (GMP), Potters Bar
- 5 Cell and Gene Therapy Catapult, Stevenage
- 6 Stevenage Bioscience Catalyst, Stevenage
- 7 GSK R&D, Stevenage
- 8 GSK respiratory manufacturing plant Ware, Medigen,

Hoddesdon

- 9 Pharmaron, Hoddesdon
- 10 IQVIA Biotech, Stevenage
- 11 Thermo Fisher Scientific, Stevenage
- 12 Autolus, Stevenage

Agri-tech

- 1 Rothamsted Research, Harpenden
- 2 Rothamsted Agri-tech Business Centre, Harpenden
- 3 PheroSyn, Harpenden
- 4 Gowan Crop Protection, Harpenden
- 5 Agricultural & Environmental Research Unit, Hatfield

Clean tech

Hertfordshire's low carbon environmental industries account for 12.4% of the UK's GDP, with 2,000 businesses employing 40,000 people. The top twelve Clean Tech sub-sectors in Hertfordshire in terms of revenues are: Alternative Fuels, Wind, Building Technologies, Alternative Fuel Vehicles, Geothermal, Photovoltaic, Energy from Waste, Biomass, Recovery & Recycling, Water & Waste Water, Waste Management and Carbon Finance.

Clean tech

- 1 BRE Group, Watford
- 2 Symphony Environmental, Borehamwood
- 3 Drakes Renewables, Harpenden
- 4 Cactus Energy, Berkhamsted
- 5 Herts Renewable Energy Solutions, Hatfield
- 6 VPI Power, Hoddesdon

Tech

- 1 Computacenter, Hatfield
- 2 SynApps Solutions, Hatfield
- 3 EE, Hatfield
- 4 Denso, Hatfield
- 5 Mitsubishi Electric, Hatfield
- 6 BAE Systems, Hatfield
- 7 Imagination Technologies, Kings Langley
- 8 Nordic Semiconductor, Hatfield Park
- 9 DigiHaul, Hatfield Park

Universities and research organisations

- 1 University of Hertfordshire, Hatfield
- 2 Royal Veterinary College, Brookmans Park
- 3 UCL Clare Hall, Potters Bar

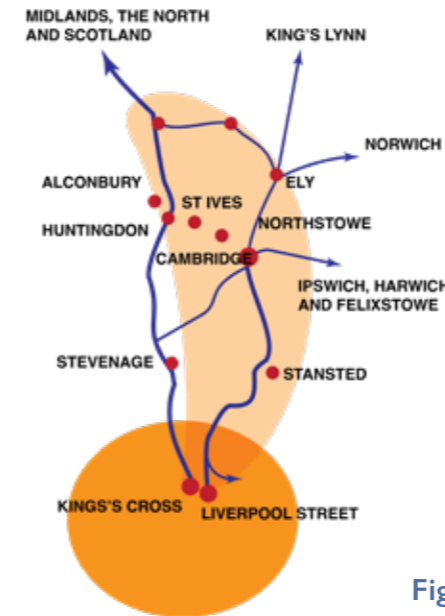


Fig 2.1 London-Cambridge Innovation Corridor



Fig 2.2 Innovation and Technology clusters around Hatfield (Source: The Gascoyne Estate, Hatfield Innovation Campus brochure)

2.2 STRATEGIC CONNECTIVITY

With direct links south to London Kings Cross and north to Cambridge, the town occupies a strategic position midway between these two centres of innovation and commerce.

Welham Green Railway Station is adjacent to the southwest corner of Hatfield Innovation Campus. Trains run to both London Kings Cross and Moorgate providing access to the city in under 1 hour.

Hatfield Station is located 1.7 miles (a less than 10 minutes cycle) to the north of the Campus. Additionally, four of London's five international airports are within a one hour drive. This strategic context of connectivity and surrounding innovation uses make it a prime location for a new research and development campus.

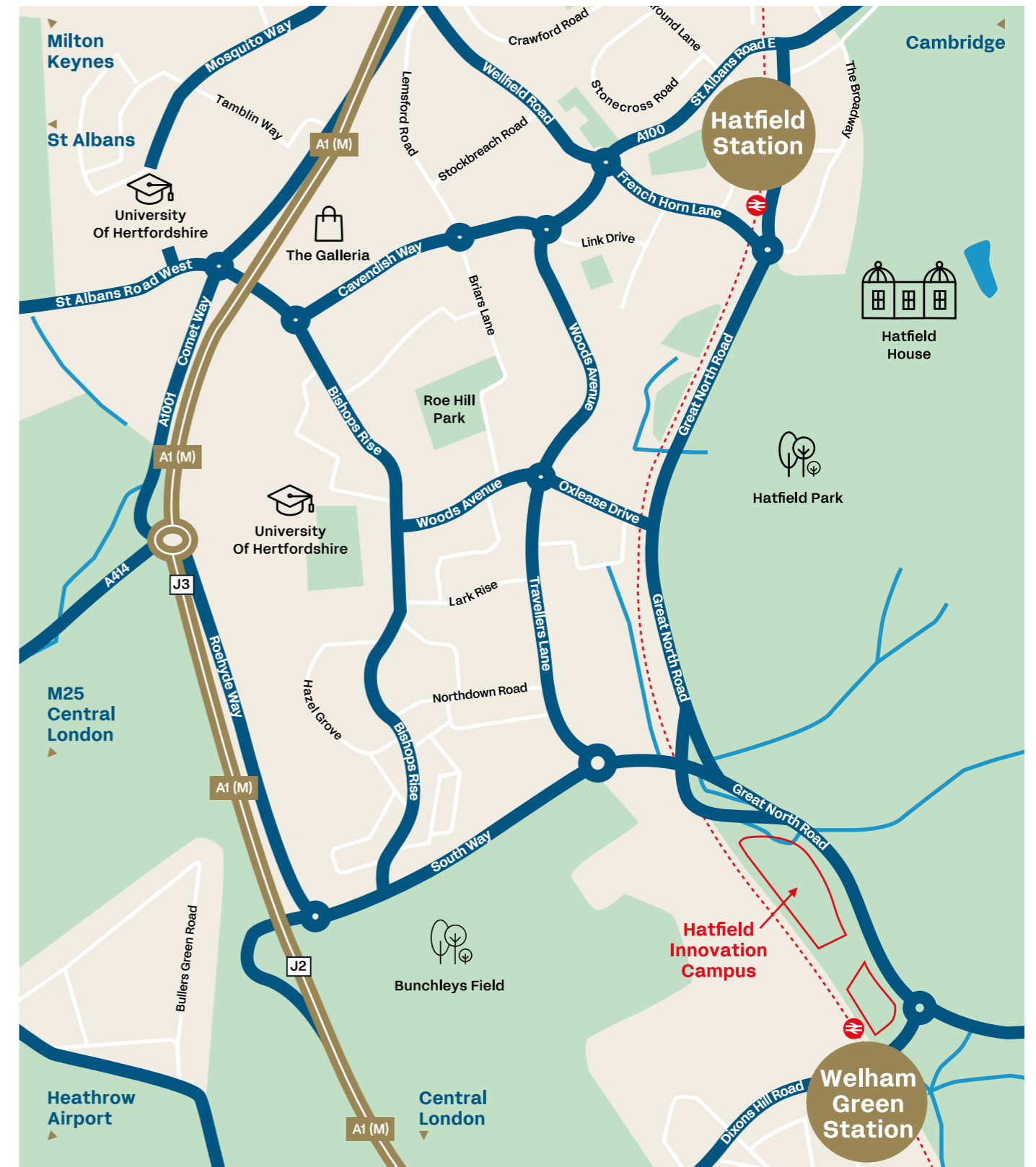


Fig 2.3 Strategic Connectivity (Source: The Gascoyne Estate, Hatfield Innovation Campus brochure)

2.3 SITE LOCATION

The site is situated east of Welham Green and is predominantly grassland. The site itself is bound by a railway line to the west, the Great Northern Road (A1000) to the north and east, and Dixons Hill Road to the south. The site is therefore wholly enclosed by transport infrastructure.

To the west of the railway line is an industrial estate with residential beyond. The Great Northern Road separates the site from the Grade I registered Hatfield Park that is located to the north-east of the site.

The site is split into two (north and south) parcels by a section of land that is being used for park homes. The two sides of the site are connected via Marshmoor lane.



Fig 2.4

Map showing Marshmoor red line and photo locations



Fig 2.5

1. Southern parcel of Marshmoor site, looking North East



Fig 2.6

2. Marshmoor train station, looking towards the site



Fig 2.7

3. Great Northern Road looking south with site on the right (A1000)



Fig 2.8

4. Dixons Hill Road, looking North East with site on the left



Fig 2.9

5. Travellers Lane Industrial Estate



Fig 2.10

6. Millwards Park



Fig 2.11

7. Marshmoor Lane, looking North



Fig 2.12

8. Park homes

2.4 LAND USES AND BUILDING HEIGHTS

The site is located at the edge of Welham Green Village that consists mainly of two and three story residential homes. On the western side of the site there is an industrial site, with most buildings being between two to three commercial storeys, most buildings being more substantial, the tallest and largest buildings in this area are at least 14-16m in height.

Immediately surrounding the site to the north east, and in between the two parcels of the site, there are predominantly residential uses. These include single storey park homes separating the parcels, and predominantly two storey homes along the A1000 boundary. There are also a couple of commercial premises along the A1000 of one to two storeys in height. There is a site for educational use to the North West of the site. However, this site is currently closed and unused. The industrial uses separate the site from the school.

Other land uses surrounding the site are predominantly Hatfield and Millwards Park to the north and east, as well as the countryside edge to the south-east.



Fig 2.13
Industrial Estate



Fig 2.14
Welham Green residential area



Fig 2.15
Park Homes

Key

- Site Boundary
- Parkland
- Residential Area
- Industrial Area
- Educational Site

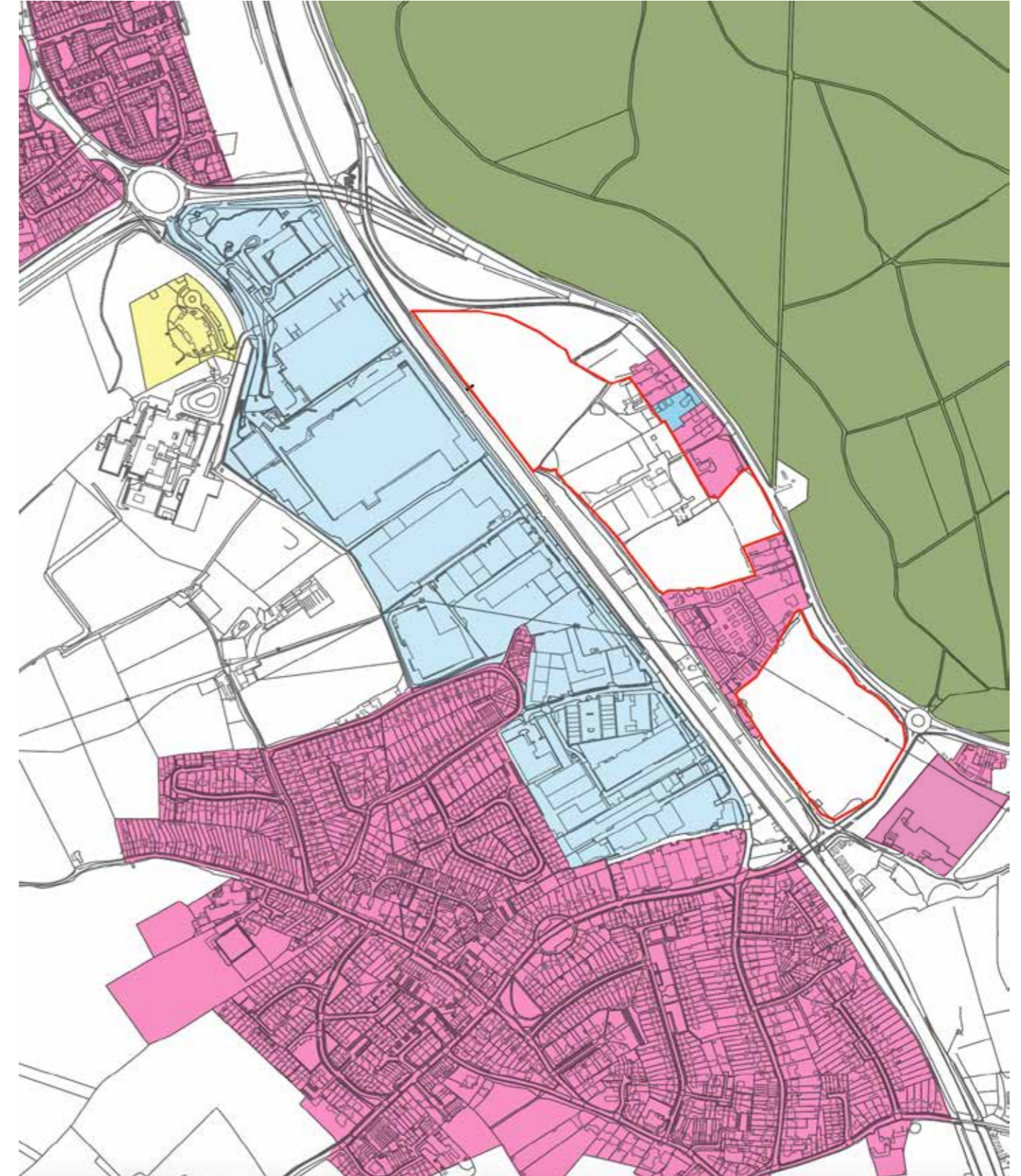


Fig 2.16
Land uses around the site

2.5 BUILT HERITAGE, LAND OWNERSHIP, LEGAL CONSIDERATIONS

Heritage

The site is bound by infrastructure and does not include any built heritage assets. The site neighbours the Grade I registered Hatfield Park (A Registered Park and Garden (RPG)) on the north-eastern side, which has been identified as the only heritage asset that has the potential to be affected by the proposals. Millwards Park, the part of the RPG which lies adjacent to the site was incorporated within Hatfield Park in the 19th century, when the Great North Road was re-routed to the south. Although Hatfield House (Grade I listed building) and the Bishop's Palace (Grade I listed building) lie within the RPG they are some distance from the site and separated by woodlands, as such they are not considered to have the potential to be impacted by proposals on the site.

In the centre of the site (outside the site boundary) there is a 19th century farmhouse that is a non-designated heritage asset comprising the site of Marshmoor Farm (HER Ref: I8581). This has potential to be impacted by development on the site, however the farmhouse is in an advanced state of ruin and is surrounded by an unremarkable group of 19th century agricultural buildings.

On the southern edge of Millwards Park is the mid-19th century South Lodge to Hatfield Park. This is adjacent to the site on the northern side of the A1000 and was constructed when the road was re-routed to include Millwards Park within Hatfield Park. This has the potential to be affected by the proposals on the Site.

Contrary to its name, the site is not located on a marsh.

Land ownership

Most of the site is owned by Gascoyne Cecil Estates, with the remaining land owned by GT Towing and other land interests. The immediate surrounding land owners are largely private residential and the Park Homes site.

Legal considerations

There is a Public Right of Way (PRoW) running through the southern part of the site from Dixon's Hill roundabout.



Fig 2.17 Millwards Park



Fig 2.18 Site of Marshmoor Farm (HER I8581)



Fig 2.19 Mid 19th century south lodge in Hatfield park, opposite the site

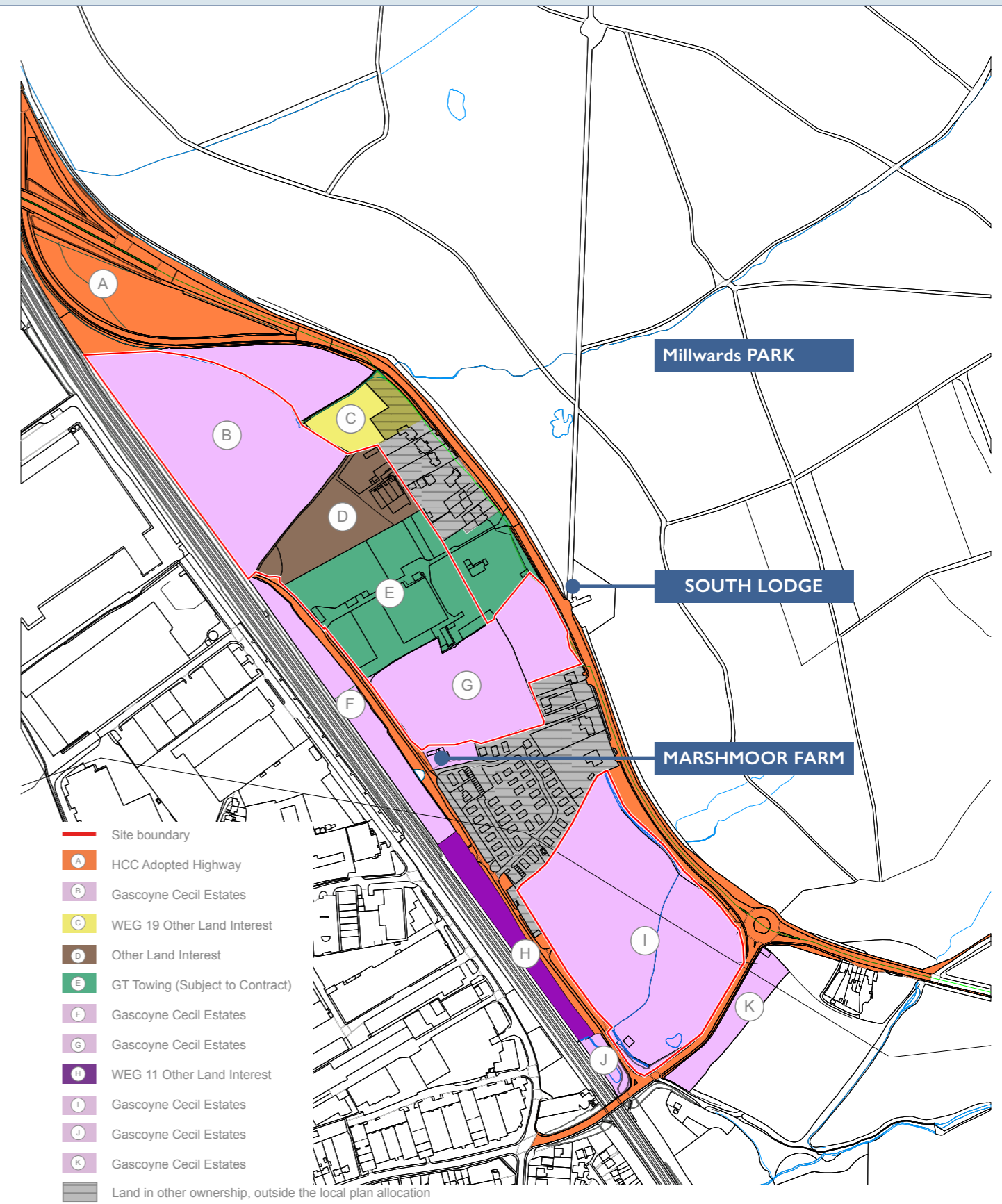


Fig 2.20 Land ownership plan with overlay of key heritage assets

2.6 ECOLOGY AND LANDSCAPE

The Marshmoor site is separated into various areas consisting of an arable field, a semi-improved grassland field, horse grazed paddocks, a woodland parcel and vehicle storage yard. The habitats across these parcels vary greatly and include a number of wet and dry ditches, mature oak trees and ruderal edges. There are also number of mature/veteran trees across the site. The strip of grassland along the edge of the railway, was identified as a Local Wildlife Site (LWS) and designated for diversity and acid grassland indicators. Marshmoor Lane Grassland Strip North LWS is mentioned specifically within Policy SP23 as well as Millwards Park LWS which forms the extensive area of woodland on the opposite side of Great North Road to the east. This area should be a focus of retention and enhancement.

The site can be broken down into 4 key areas to better understand the ecology. Field 1 and 2 consist of poor-quality grassland. Field 3 to the north was mown to the east of the ditch and left to a long sward to the west of the ditch. The field seemed to be damp with lots of areas of sedges and rushes. The field was lined with hedgerows along the north and the roadside. Field 4 is the designated as the local wildlife site (LWS). The site designation describes the field as a “narrow field of diverse old neutral to somewhat acidic grassland”. During the survey, the field was not noted as being especially diverse and no acidic indicators were found.

Surveys were conducted in 2017 and 2018 for protected species on site and it was concluded that low numbers of red list breeding bird’s species were present, as well as non-breeding lapwings and common species of bats.

The site has evergreen hedgerows that act as a barrier between the site and the park homes plot. There are also key views from the park home site across the site. There are also views from Dixon Hill Roundabout and Marshmoor Lane that could be considered key views. There are two watercourses in the site. One on the north-eastern edge of the northern section, and another that cuts across the southern section.



Fig 2.21

Priority habitat ditch



Fig 2.22

Local Wildlife Site



Fig 2.23

Priority habitat ditch



Key

- Approximate red line boundary
- Ecological constraint zone

- 1 - Local Wildlife Site
- 2 - Priority habitat woodland
- 3 - Priority habitat hedgerow
- 4 - Priority habitat ditch - EPS species likely present
- 5 - Mature/veteran trees
- 6 - Mature tree line
- 7 - Pond
- 8 - Ditch

Drawing Title: Initial Ecological Constraints Map
 Site: Land at Marshmoor Lane
 Client: Tibbalds
 Author(s): A.Bailey C.Jennings
 Drawing Date: 01.12.2023
 Basemap: Google Satellite
 (imagery date: 10.04.2020)

ECOLOGY
 PARTNERSHIP

Thorncroft Manor, Thorncroft Drive, Leatherhead, KT22 8JB
 t: 01372 364 133 w: ecologypartnership.com



Fig 2.24

Observational Landscape Appraisal

1. Southern Parcel

- a.** Existing green buffer to eastern's edge of southern parcel provides buffer to main road and transition to the ancient woodlands of Millwards Park.
- b.** The character of Millwards Park extends across Great North Road, into the tree-lined boundary to the eastern edge of the southern parcel. A buffer of 10+ metres should be provided from the canopy line of the oaks to allow for future growth and continued protection. Buffer requirements to be co-ordinated with the Arboricultural and Ecological constraints.
- c.** Existing mature trees associated with ditch lines. These should be retained and provided with a 10+m buffer. Buffer requirements to be co-ordinated with the Arboricultural and Ecological constraints.
- d.** Mature trees provide green edge to either side of Marshmoor Lane. These should be retained.
- e.** Existing Public Right of Way. This should be retained where possible.
- f.** Existing pylon and buffer required clear area with no development running through the southern parcel
- g.** There are opportunities for strengthening the boundary adjacent to the railway line, strengthening the ecological corridor.

2. Central Parcel

- a.** Dense woodland with mature Oak and Hornbeam trees at the interface with Great North Road. This provides one of the few opportunities for creating vehicular access to the site, but it will need to be designed carefully and sensitively to minimise impact. A 10+m buffer should be introduced between the western edge of the woodland and any proposed development.
- b.** Clearance in woodlands can provide opportunity for continuing access along Marshmoor Lane - however, this is still relatively constrained and may not be sufficiently wide to cater to vehicles. It may be able to accommodate walking and cycling routes.

- c.** Existing paddocks are visually well contained by mature trees.
- d.** Veteran trees will need to be protected and provided with a sufficient buffer from adjacent development.
- e.** Hedgerows along fields of high ecological value provide a natural separation between potential plots. These should be protected from development, with access through designed carefully and sensitively.
- f.** Potential to continue tree lines to provide green buffer to the eastern and southern edge, towards existing residential areas.

3. Northern Parcel

- a.** Existing green buffer to the northern edge of northern parcel, facing Great North Road, provides a useful separation from the road. This should be retained while exploring opportunities for creative views across to new development.
- b.** Existing ditch line within centre of the field divides land parcels with vegetation of limited value. Opportunities to widen the ditches to form ponds or other SuDs interventions could be explored.
- c.** Individual mature and veteran trees to be retained. A buffer of 10+m should be provided from the canopy line of the trees. Buffer requirements to be co-ordinated with the Arboricultural and Ecological constraints.
- d.** The character of Millwards Park extends across Great North Road,.

These observations are further detailed with desktop research in the following pages.

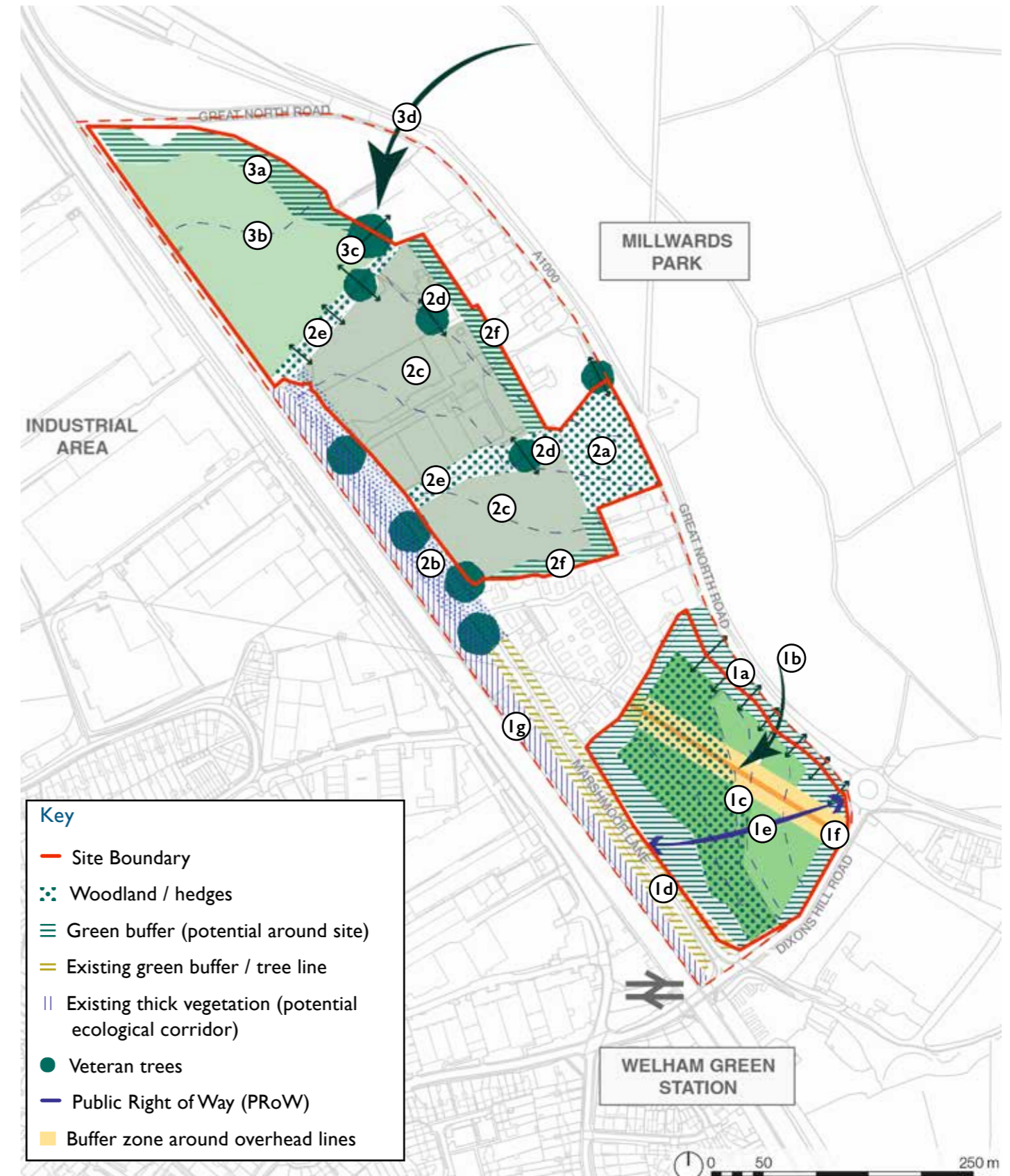


Fig 2.25

Landscape Opportunities and Constraints diagram

2.7 TREES AND LANDSCAPE

Most of the trees and hedgerows are located around the boundary of the site. The northern boundary is delineated by a continuous boundary hedge of mostly blackthorn, with occasional hawthorn and self-set goat willow tree. The central field area features vegetation along the boundaries only. A dense off-site woodland to the east is delineated by a row of multi stem Hornbeam trees which form a valuable landscape feature and boundary line of vegetation. Trees and hedgerows create a visual barrier between the park homes and the site on both the northern and southern side. This southern field is bisected by a watercourse with dense brambles aligning its length. This also intersects with the Public Right of Way (PRoW). The eastern boundary comprises of many mature Oak trees, several of which have died in the central and northern sections of the group. This boundary forms a defensible boundary and a prominent landscape feature. The southern boundary comprises of a managed native hedge of mostly blackthorn, with a scrubby area of vegetation in the south-eastern corner with a shallow depression.

There are over 50 trees across the site, with the key trees being predominately mature Oak trees with other species such as Cypress, Willow, Ash and Hornbeam also present. Nine of the trees on site have been identified as Veteran trees. These trees and their buffers should be retained and respected. Except for a few, most of the veteran trees can be found around the site boundary. The majority of the trees found on the site are typical of their age and species.



Fig 2.26

Veteran trees located on X of Marshmoor site



Fig 2.27

T50 Veteran tree on the Marshmoor site

Key

- Site Boundary
- Veteran Tree and buffer
- Category B tree
- Category C tree
- Woodland
- Priority Habitat (hedgerows and ditch line)

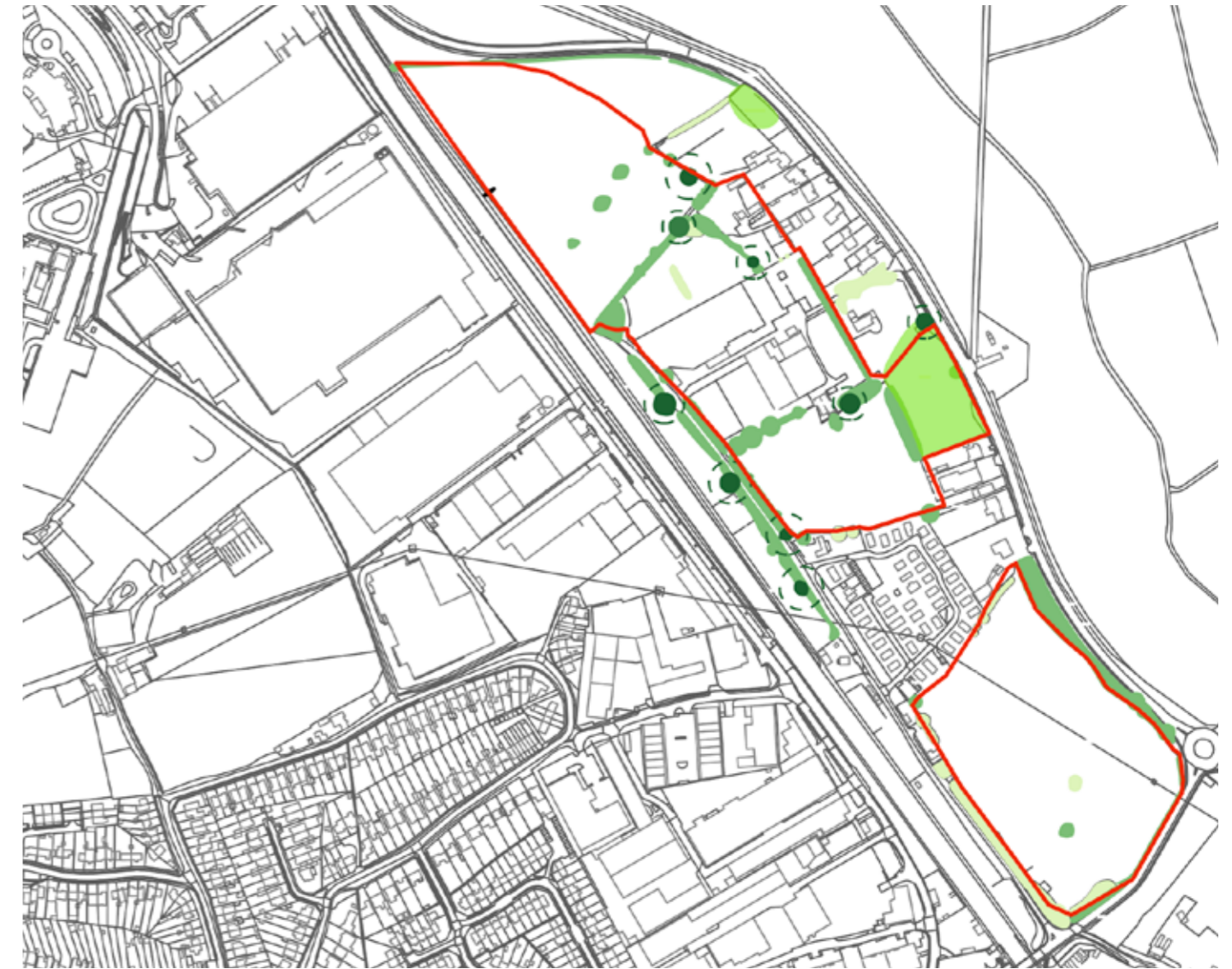


Fig 2.28

Map showing location of trees and woodland on and around the site

2.8 TRANSPORT, CONNECTIVITY AND INFRASTRUCTURE

Walking

The local walking infrastructure network is limited, with no footway provision on the northern side of the Dixons Hill Road carriageway and a limited width footway on the western side of the A1000 carriageway. Within Welham Green village centre, there is a network of local walking routes and footways which connect with the existing services, facilities, residential area and railway station. A Public Right of Way (PROW) - Footpath 26 - routes through the southern section of the site, providing a connection between the Dixons Hill Road roundabout and Marshmoor Lane.

Cycling

There is no dedicated cycle infrastructure on the surrounding network. The site is within a reasonable cycle of a number of key destinations, including Welham Green and Hatfield which provide opportunities for future users of the site to travel by bicycle to a range of local services, facilities and public transport services.

As the site is located on the edge of Welham Green village, it is within a walkable distance (15 minutes) to the village's local facilities which include a café, pharmacy, and corner shop.

Rail

Welham Green railway station provides access to services towards connecting the site to Hatfield, and Welwyn Garden City (to the north) and London (via Finsbury Park) (to the south). Although the station is very close to the site, it can currently only be accessed via Travellers Lane (via a small station car park for step free access – northbound services only) or from the southern side of the bridge on Dixons Hill Road overbridge (via steps only). There is no step free access for southbound services. Dixon Hill Road acts as a barrier between the site and the station, impacting on accessibility.

Hatfield railway station is located a circa 1.7 miles from the centre of the Development to the north, equivalent to a less than 10 minute cycle. The station is also located on the Moorgate to Welwyn Garden City line as well as the London Kings Cross to Cambridge line, providing access to additional services and destinations.



Fig 2.29
PROW locations



Fig 2.30
Access to PROW on the site from Dixon Hill Road

Bus

There are 5 bus routes in walking distance of the site, the most frequent of which come serve the local bus stops twice per hour. Existing bus stops are provided within Welham Green village and also on the A1000, which currently consist of flag poles only. These bus routes connect the site to Hatfield, Welwyn Garden City, Waltham Cross, Luton, St Albans, and Cockfosters. Although there are a reasonable amount of sustainable travel options, due to their infrequency, the site is not serviced very well by them.

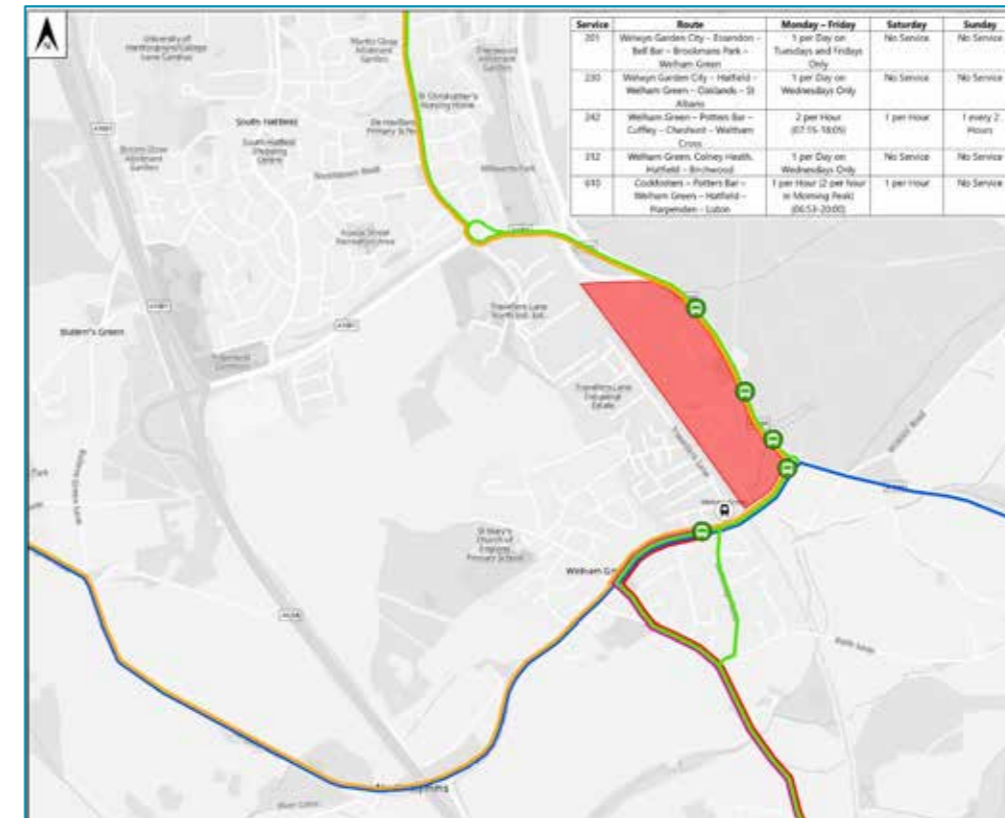


Fig 2.31
Bus routes adjacent to the site

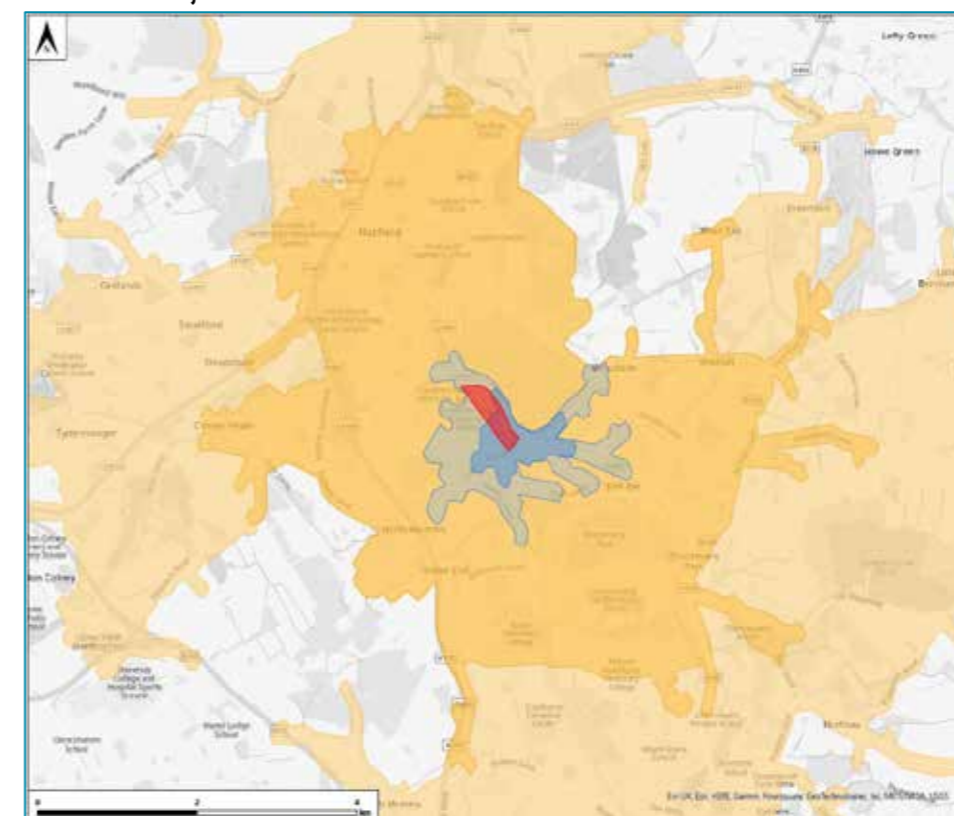


Fig 2.32
Walking and Cycling opportunities around the site

Cars

The site is accessible by car via Marshmoor Lane. Marshmoor Lane routes along the western boundary of the Development and immediately to the east of the railway tracks. It provides access to a handful of properties, as well as the Marshmoor Mobile Home park. At its northern end, circa 410m from Dixons Hill Road, the carriageway is overgrown and unpassable. The carriageway is narrow (ranging from circa 2.8m to 3.9m), with limited passing places. The road is adopted highway.

Marshmoor Lane is a narrow lane that serves the northern part of the site as well as the park homes. It is constrained by the site to the east, and trees/hedgerows to the west.

Dixons Hill Road, to the south of the site, forms the main route from the site to Welham Green. It is a two way, single carriageway with limited footway provision on the southern side of the carriageway. At the railway tracks an overbridge is provided across the railway, with high kerbs on the southern side of the carriageway and some guard railing. There is no formal pedestrian crossing facilities along Dixons Hill Road between Marshmoor Lane and Welham Green station.

The A1000 routes along the site's eastern boundary and is a key distributor road in the local area, providing access towards Hatfield in the north and Potters Bar to the south. The road provides direct residential frontages along its length, with the majority of the route subject to a 40mph speed limit. At the Great North Road/ South Way junction, the national speed limit is enforceable.

Options for vehicle access to the site have been appraised, looking at:

Southern parcel:

1. Off Marshmoor Lane (likely only to support residential access)
2. From Dixon's Hill Rd
3. Off the Dixon's Hill roundabout (outlined in Local Plan)
4. Off the A1000

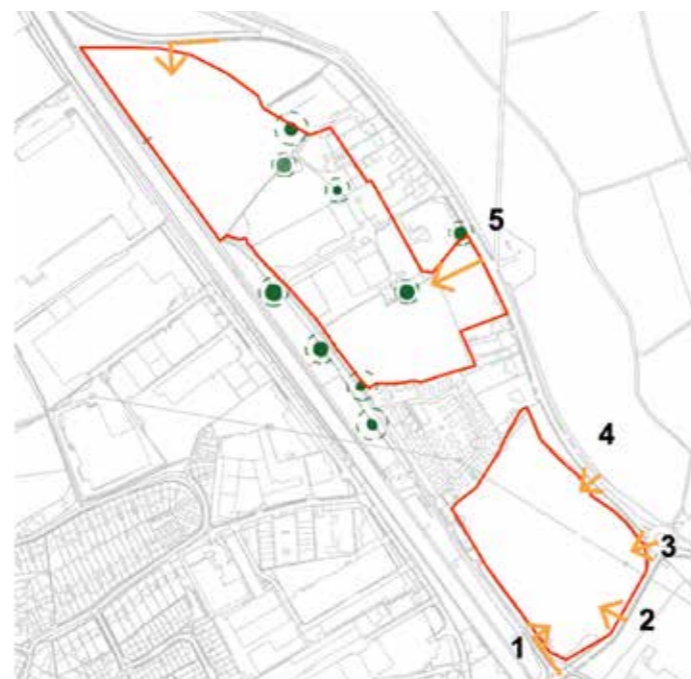


Fig 2.33

Testing vehicular access points to site

Northern parcel:

5. Off the A1000
6. New strategic link off A1000 slip road

An appraisal of each of these access options is provided in the Appendix. The Local Plan policy recommends access coming off the A1000 roundabout. However, the options appraisal highlights alternative access points that better respond to site constraints and access requirements.

Accessibility

National Travel Survey data identifies the vast majority (80%) of trips of up to one mile (1.6km) are undertaken on foot, with approximately 31% of journeys between 1 and 2 miles (3.2km) also on foot. With regards to cycling, a distance of 3 miles (5km) represents a reasonable everyday cycle distance, with 5 miles (8km) being a likely everyday upper distance. These distances are supported by government cycling guidance including 'Gear Change'.

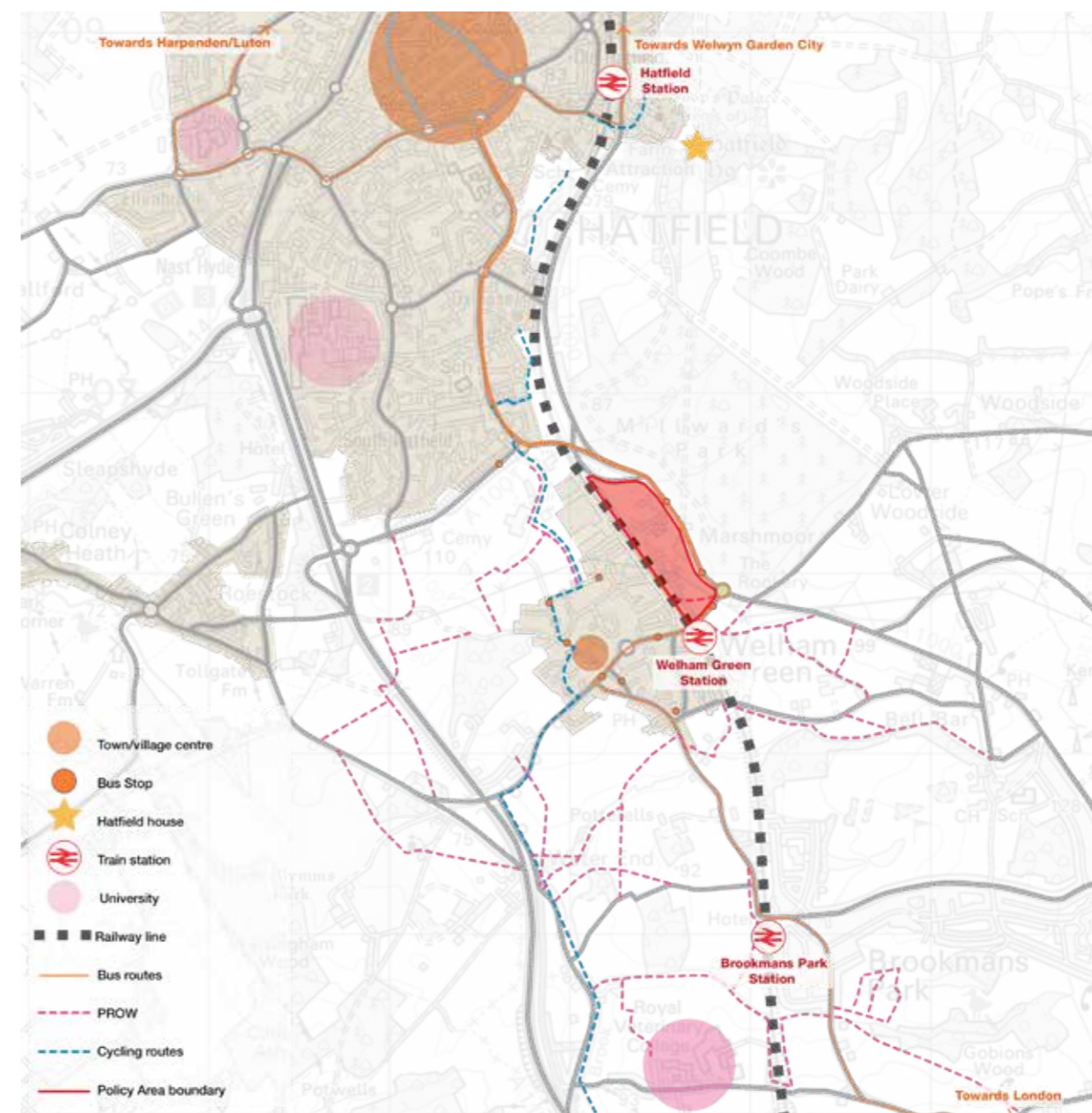


Fig 2.34

Wider context map showing the site, Welham Green village, Hatfield and the surrounding area

The key journey purposes and reasons for travelling are for leisure, shopping, commuting/ business, and education.

Welham Green and Hatfield both provide access to a range of everyday services and facilities that future users of the site will have access to, including the key journey purposes. The site will also benefit from

linked housing on-site, there reducing the need for future users to travel off-site and the reliance on the private car. The local walking and cycling isochrones (illustrated on the previous page) demonstrate the range of services available within these catchments. However, this appraisal is quantitative and does not account for the quality of these routes.

Flood Risk

The site is fairly flat; however, it does slope down towards the western edge of the site. The main concern area for flooding is located on the western edge of the southern site, where there is a high risk of flooding.

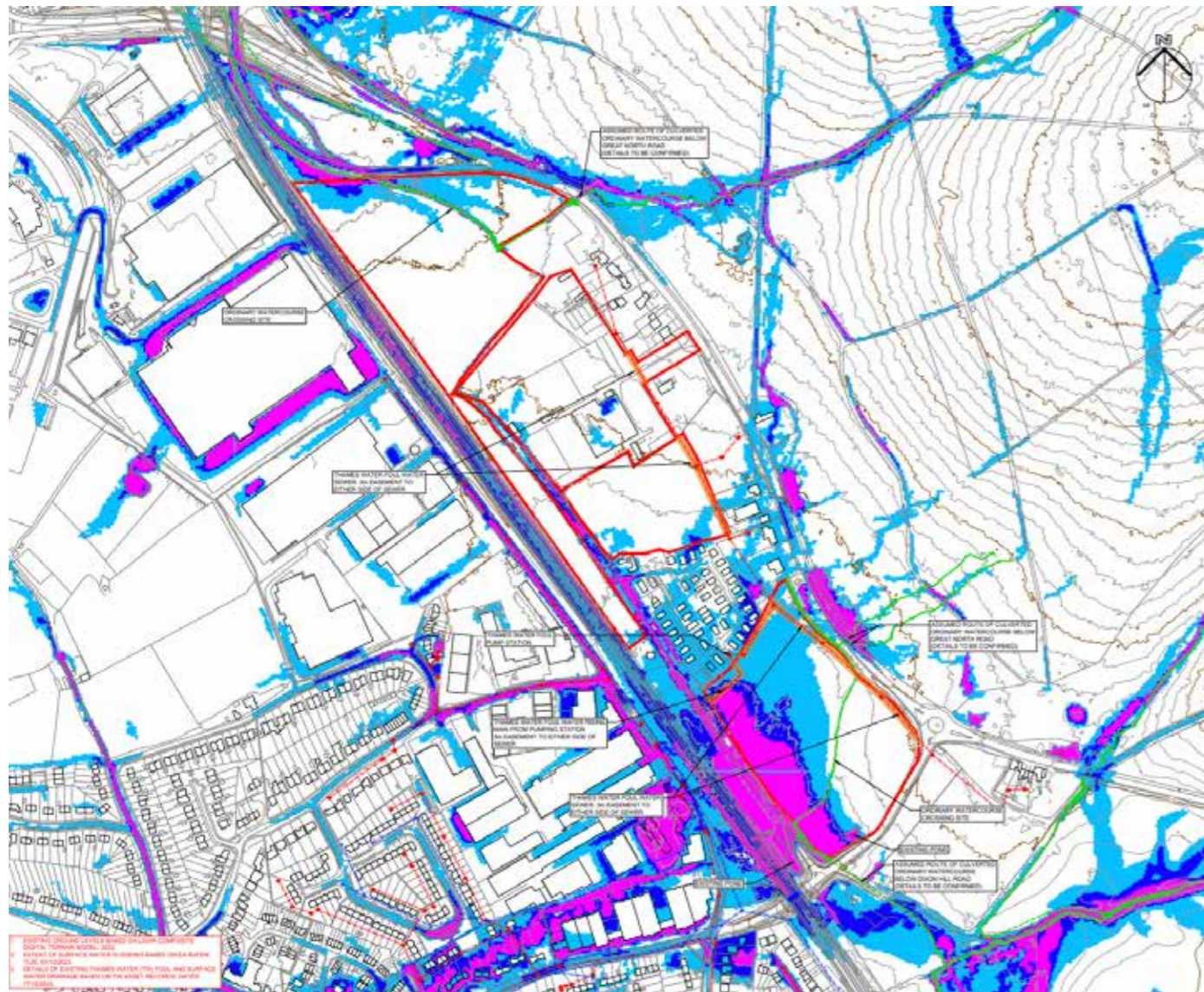


Fig 2.35
Map showing potential flood risk zones

Low risk
High risk

Air quality

Air quality on the site is primarily influenced by vehicle emissions along the adjacent A1000 Great North Road and the East Coast Mainline railway. There are also various industrial/commercial uses which may contribute to the prevailing odour character in the vicinity of the site. Overall the site is deemed suitable for the development in terms of air quality and odour that there are no air quality constraints at present.

Acoustics

A noise impact survey was carried out on the site in November 2023. The noise levels at the site were dictated by road traffic noise emissions from the adjacent road and rail networks. The acoustic assessment concludes that in summary the site is suitable for residential uses as part of an employment-led development in terms of noise level, however potential effects would need to be assessed in detail as part of any future planning application for the site and mitigation considered as the design progresses.

Internal noise levels across the site are anticipated to be controllable to suitable levels using commercially available glazing and ventilation products. Acoustic modelling shows the areas of the site in which garden noise levels may be in excess of the relevant guidelines. In these areas garden noise levels should be reduced as far as possible but are not considered in themselves reasons to preclude any residential development.

Building Regulations Part O has also been considered. It is considered that any future residential buildings will need to be designed so that windows can remain closed at night (or no more than partially opened) without the rooms overheating. This can be assessed further in due course as the development design progresses and the thermal performances of the buildings established.

The acoustic assessment advises that non-residential uses (which are usually less noise sensitive) are situated closest to the surrounding noise sources to reduce the need for mitigation for the residential uses.

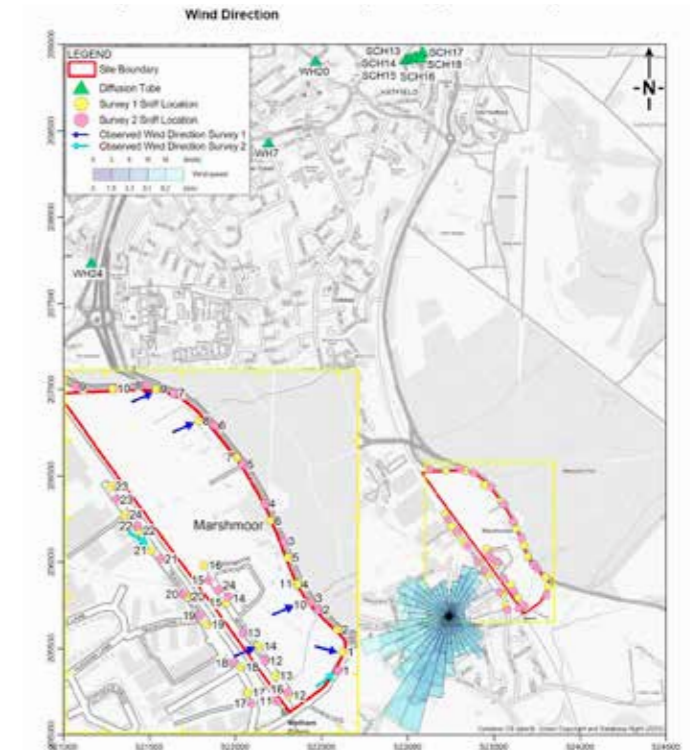


Fig 2.36
Air quality onsite

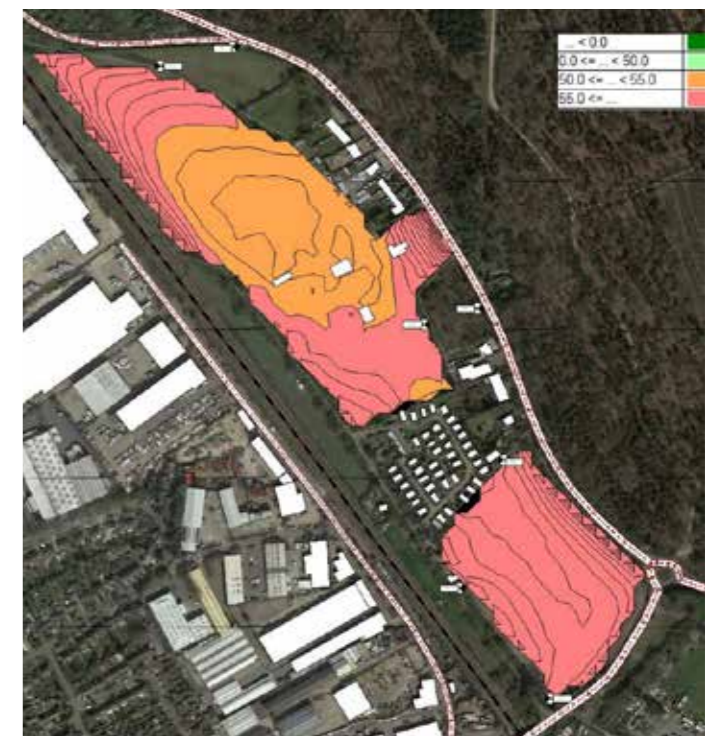


Fig 2.37
Acoustic modelling onsite

2.11 UTILITIES

There are gas, water and broadband lines in and around the site. The primary constraint in regard to utilities is the overhead pylon line in the southern part of the site. Two of the pylons sit within the site boundary. Record information is aged and does not state the voltage of these services, but their configuration suggests they are >33kV.

A corridor of 15m (7.5m from the centre line of the pylons) has been used as an assumed buffer zone in which no buildings would be acceptable.



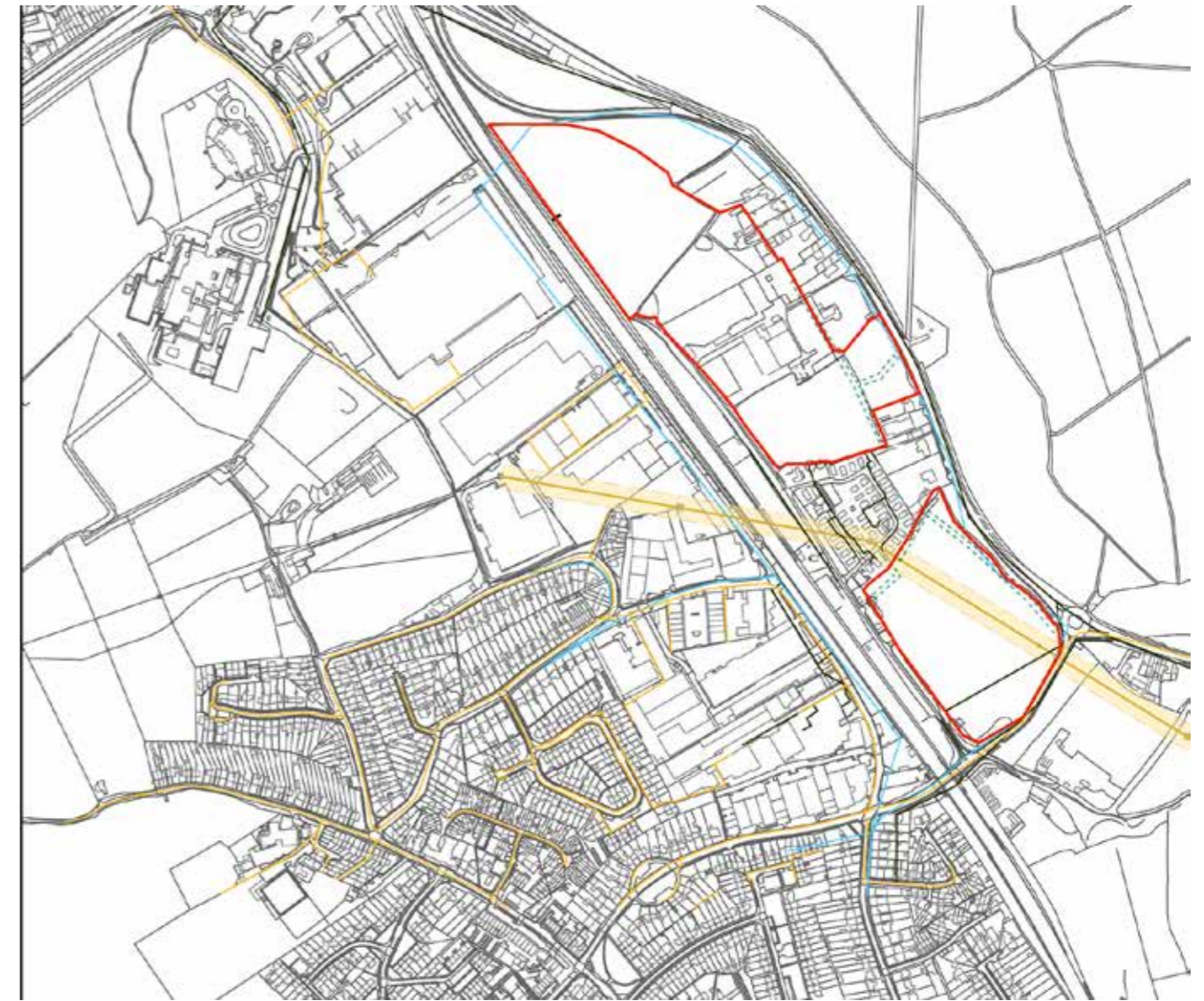
Fig 2.38

Overhead pylon lines on the site



Fig 2.39

Location of pylon lines across the site



- Pylon line with 30m corridor
- 3m easement either side of TW sewer
- Water
- Broadband
- Gas

Fig 2.40

Combined utilities plan

2.12 COMBINED CONSTRAINTS PLAN

The approach taken to the key constraints is to separate them into categories describing them as hard, medium, and soft, indicating how flexible they can be.

We have used the following assumptions around the different categories of constraints and the approach to mitigation that will be necessary. Further technical studies will in many cases be required to determine the costs and therefore feasibility of mitigation.

- Hard constraints are key considerations for masterplanning, and considered immovable
- Medium constraints are significant with considerable potential impact, but are considered possible to mitigate / relocate for the purpose of achieving development here
- Soft constraints are identified constraints that are considered less challenging to overcome, but are still potential considerations in the masterplanning.

- SPD Area Boundary
 - PRow (on definitive map, may differ on the ground)
 - Ordinary Watercourse
 - High risk of surface water flooding
 - Medium risk of surface water flooding
 - Low risk of surface water flooding
 - Pylon line with 30m corridor
 - 1m contour
 - Veteran tree and buffer
 - Category B Tree
 - Category C Tree
 - Woodland
 - Land in other ownership, outside Local Plan allocation
 - Local Wildlife Site
- Utilities**
- 3m easement either side of TW sewer
 - Water
 - Broadband
 - Gas

Hard constraints	Medium Constraints	Soft constraints
Electricity Pylons	PRow	
Medium to high risk flooding areas (no residential accommodation within any risk areas)	All other Flood risk areas	
Veteran trees	Mature trees (cat B) and woodland blocks	Trees/ hedgerows lower than Category B, other vegetation e.g. brambles
Land-ownership in relation to Marshmoor Lane	Existing sewers	Other utilities such as comms and lower voltage electricity
	Ordinary watercourse	Minimise need for mechanical ventilation

Table 1
Evaluating of constraints

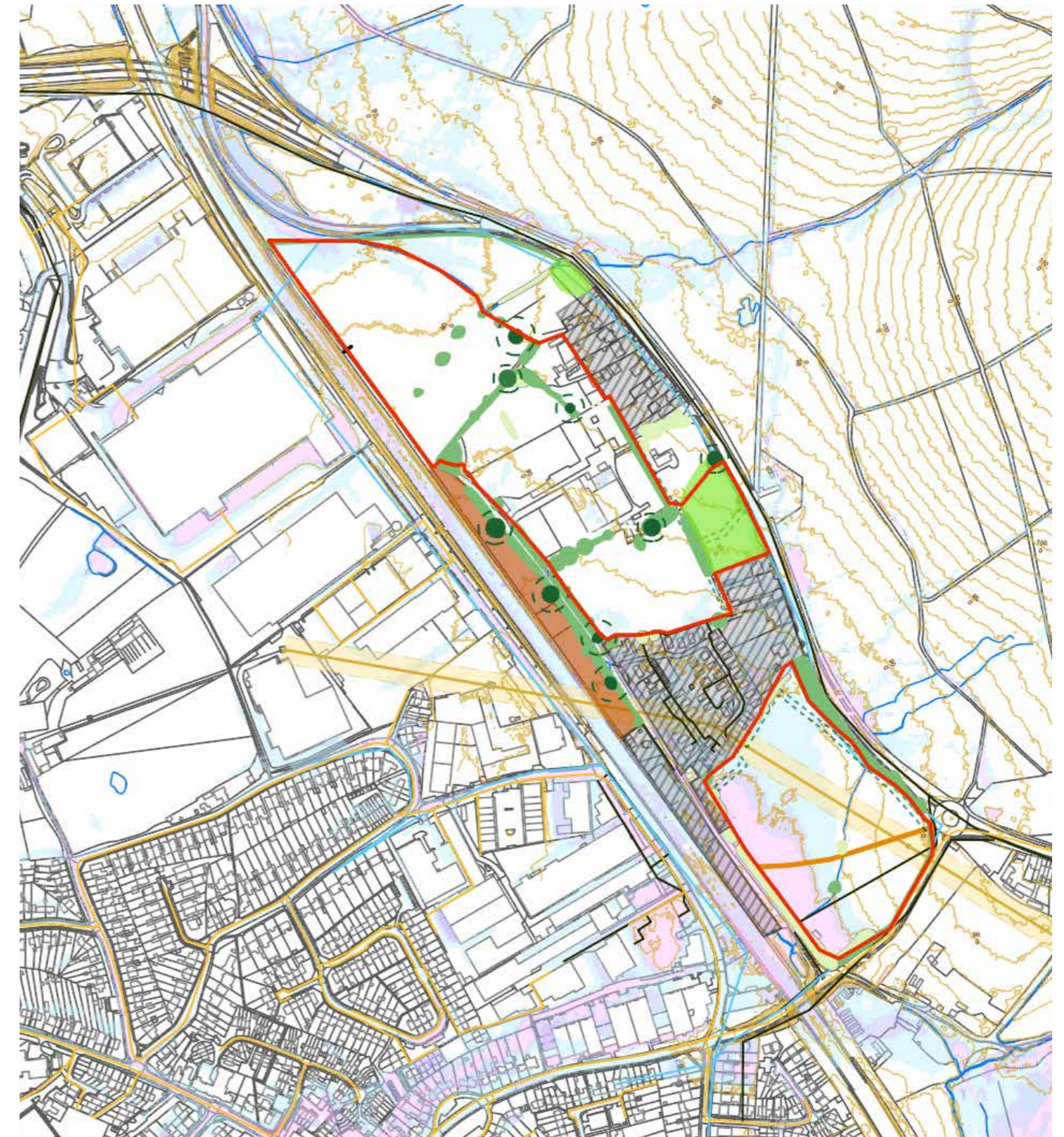


Fig 2.41
Combined constraints plan

3.0 SUMMARY OF ENGAGEMENT

3.1 ENGAGEMENT TO DATE

Engagement Process

Engagement with key local stakeholders has been carried out to inform the development of this SPD. The two key stakeholder groups engaged leading up to the statutory consultation are:

- Marshmoor Liaison Group
- Hertfordshire Design Review Panel

Marshmoor Liaison Group Meeting 1

- The project design team met with the Marshmoor Liaison Group on 26 February 2024.
- The Marshmoor Liaison Group consists local councillors and officers from the council.
- The following topics were covered in discussion and detailed notes are provided in Appendix B.
 - › Format and purpose of SPD, in the context of the Local Plan
 - › Land ownership
 - › Project aspiration and targets
 - › Land use and potential occupiers
 - › Housing provision
 - › Development scenarios
 - › Roads, connectivity and parking
 - › Landscape and architecture
- Notes and actions of this meeting were incorporated as amendments to the draft report

Hertfordshire Design Review

- The project design team presented work in progress from the SPD design testing and emerging thinking to the Hertfordshire Design Review Service on 4 June 2024.
- The Hertfordshire Design Review Service provides an independent and impartial process for evaluating the design quality and sustainability of development proposals in Hertfordshire.
- The following topics were covered in discussion and detailed notes are provided in Appendix B.
 - › Green infrastructure and the existing environmental context
 - › Density and infrastructure provision
 - › Housing typologies, mix and distribution
 - › Local character and context
 - › Visual impact and building heights
 - › Connectivity and movement
 - › Access strategy
 - › Arrival experience and car parking
 - › Marshmoor Lane pedestrian and cycle route
 - › Sustainability and Drainage

Marshmoor Liaison Group Meeting 2

- The project design team met with the Marshmoor Liaison Group for the second time on 24 June 2024.
- A working draft of the SPD document was reviewed and commented on. The comments are specific to sections of the report and are detailed in Appendix B.
- Notes and feedback from this session has been incorporated into the SPD document.

Marshmoor Liaison Group Meeting 3

- The project design team met with the Marshmoor Liaison Group for the third time on 16 Dec 2024.
- A summary presentation of the SPD, highlighting the vision, objectives and principles were presented.
- Notes and feedback from this session has been incorporated into this SPD document.

The following have also been consulted as part of the development of this SPD.

- Hertfordshire County Council as highways authority
- Hertfordshire County Council walking and cycling team

Impact of Engagement

The liaison group and DRP have shaped the SPD through its production responding to a range of issues related to the site conditions, design, landscape and access. Further updates on how this has informed the proposals will be included following statutory consultation.

Further Consultation

Wider engagement will be undertaken as part of the adoption process for the SPD and is anticipated in the late Autumn/Winter 2024

4.0 VISION

4.1 USING THE VISION, DEVELOPMENT OBJECTIVES AND DESIGN PRINCIPLES

This SPD sets out the ambitions for the SPD area and associated development sites through:

VISION

The vision for the Marshmoor Policy Area is supported by five Vision Statements. These statements set out the long term ambition for any proposed developments and interventions.

DEVELOPMENT OBJECTIVES

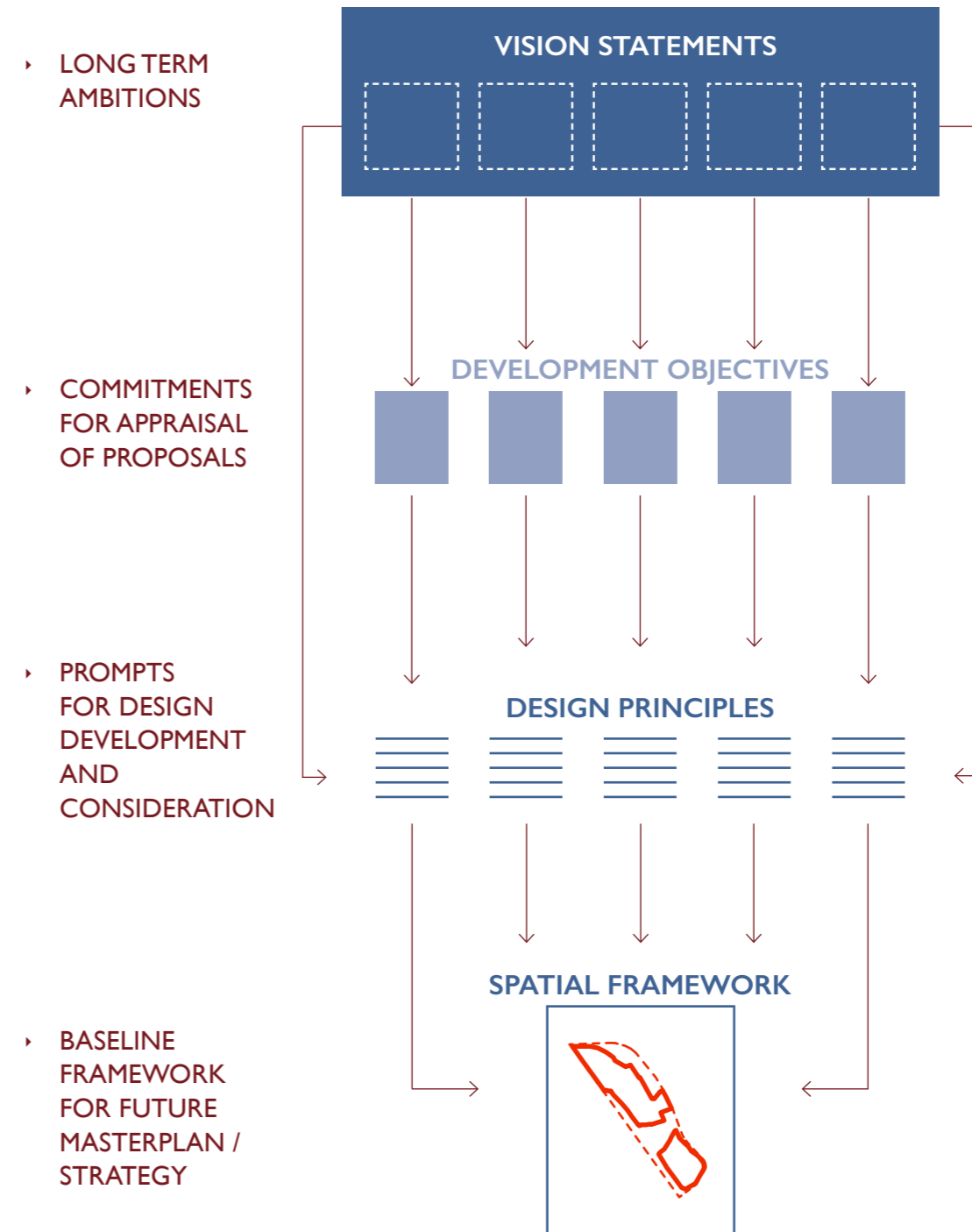
The Vision Statements are supported by Development Objectives, which set out 'What' are essentially commitments and deliverables for the development. These Objectives collectively help to achieve the long-term vision and should be used as key criteria against which applications will be appraised.

DESIGN PRINCIPLES

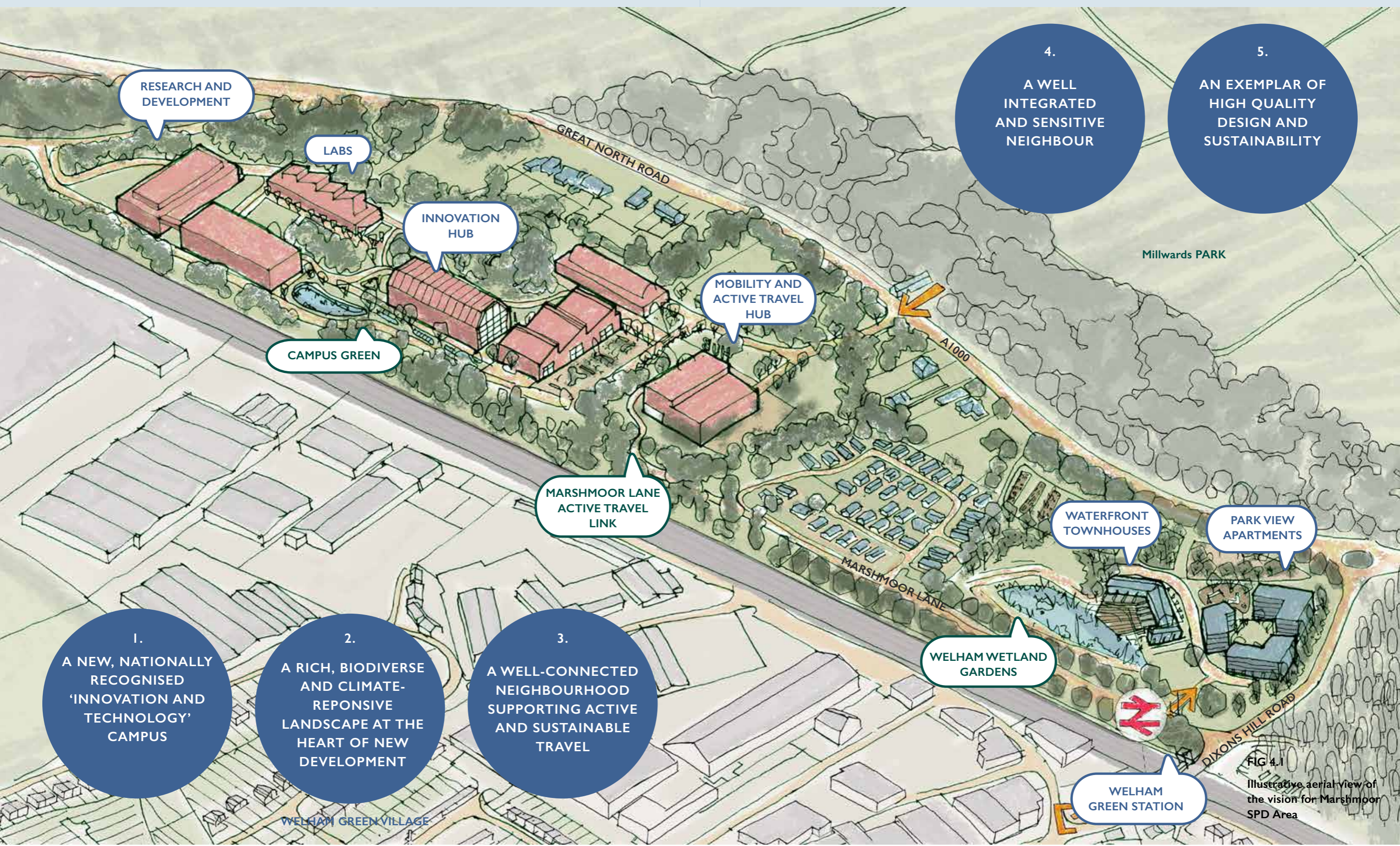
The Design Principles support both the Vision Statements and Development Objectives, setting out 'how' these objectives should be achieved with actions and prompts for design decisions. These sometime relate directly to development objectives, at other times they are more directly linked to the vision. These are intended to inform the design development process and should be addressed through pre-application processes and engagement with the local authority and key stakeholders as a clear brief and output for the associated developments is realised.

SPATIAL FRAMEWORK

The Spatial Framework illustrates the key spatial parameters linking to the Design Principles - this is the first step in the process of translating the design principles to a spatial proposal. This framework provides a baseline which proposals can adapt and add detail to as design decisions are tested and agreed..



4.2 VISION FOR HATFIELD INNOVATION PARK AT MARSHMOOR



RESEARCH AND DEVELOPMENT

LABS

INNOVATION HUB

CAMPUS GREEN

MOBILITY AND ACTIVE TRAVEL HUB

MARSHMOOR LANE ACTIVE TRAVEL LINK

WATERFRONT TOWNHOUSES

PARK VIEW APARTMENTS

WELHAM WETLAND GARDENS

WELHAM GREEN STATION

4. A WELL INTEGRATED AND SENSITIVE NEIGHBOUR

5. AN EXEMPLAR OF HIGH QUALITY DESIGN AND SUSTAINABILITY

1. A NEW, NATIONALLY RECOGNISED 'INNOVATION AND TECHNOLOGY' CAMPUS

2. A RICH, BIODIVERSE AND CLIMATE-REPOSIVE LANDSCAPE AT THE HEART OF NEW DEVELOPMENT

3. A WELL-CONNECTED NEIGHBOURHOOD SUPPORTING ACTIVE AND SUSTAINABLE TRAVEL

FIG 4.1 Illustrative aerial view of the vision for Marshmoor SPD Area

4.3 FIVE POINT VISION AND DEVELOPMENT OBJECTIVES

1. A NEW, NATIONALLY RECOGNISED 'INNOVATION AND TECHNOLOGY' CAMPUS

The development of Marshmoor Policy Area will:

- Contribute to the economic success and innovation focus of the wider sub-region, capitalising on its strategic location.
- Introduce new employment uses in emerging innovation and technology sectors of up to 40,500 sqm of new employment floorspace, supporting a range of occupiers to scale up their businesses.
- Provide high-quality housing through up to 100 new homes to attract skilled employees, supporting a lively live-work environment.
- Demonstrate long-term stewardship and careful management of the sensitive site.

2. A RICH, BIODIVERSE AND CLIMATE-RESPONSIVE LANDSCAPE AT THE HEART OF NEW DEVELOPMENT

The development of Marshmoor Policy Area will:

- Implement a landscape-led approach that responds to the existing environmental sensitivities to create a positive working environment and place to live.
- Provide a variety of landscape and environmental conditions, creating space for amenity, events, experimentation and respite to support talent attraction and retention, collaboration and knowledge exchange.
- Ensure management and restoration of habitats to enhance biodiversity, supporting the landowner's ambition for the integration of wildlife into operations, working at scale to deliver abundant natural landscapes.
- Enhance existing ecology and mitigate for site conditions such as air and noise pollution and flood risk through careful site planning and integrated water management.



FIG 4.2



FIG 4.3

3. A WELL-CONNECTED NEIGHBOURHOOD SUPPORTING ACTIVE AND SUSTAINABLE TRAVEL

The development of Marshmoor Policy Area will:

- Be well-connected to its surroundings, overcoming physical barriers to better integrate the site with Welham Green and Hatfield.
- Prioritise infrastructure supporting active and sustainable travel, enabling wider active travel connectivity to the town and transport connections.
- Reduce car-dependency through improved access and connections with strategic public transport, as well as minimising and consolidating car use within the site.
- Provide access off the existing road network, minimising impact on existing green assets.



FIG 4.4

4. A WELL-INTEGRATED AND SENSITIVE NEIGHBOUR

The development of Marshmoor Policy Area will:

- Positively contribute to its context and will be sensitive to its neighbours and Welham Green village across all hours of the day, as well as enhancing the heritage context of Hatfield Park.
- Be mindful of its interface with existing buildings and developments, ensuring heights and massing do not overwhelm sensitive edges and ensure the provision of sufficient setbacks and buffers along key interfaces.



FIG 4.5

5. AN EXEMPLAR OF HIGH-QUALITY DESIGN AND SUSTAINABILITY

The development of Marshmoor Policy Area will:

- Demonstrate a holistic design approach, delivering resilient, future-proofed and environmentally sustainable design and site planning.
- Push for achieving high and forward-thinking sustainability standards, driving down carbon emissions across all stages, including the design, construction and operation of buildings with a clear strategy for integrating circular economy principles.



FIG 4.6

4.4 ILLUSTRATIVE VIEWS



FIG 4.7
Arrival into the 'campus' from the A1000, weaving through woodlands and dense planting.



FIG 4.8
Looking towards the central landscaped area forming the 'campus green'. providing a space for social interaction, rest and respite.

4.4 ILLUSTRATIVE VIEWS



FIG 4.9

Looking across Marshmoor Lane to the southern edge of the site, where a new watery landscape will manage flood risk.

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5.0 SPATIAL FRAMEWORK

5.1 DEVELOPMENT CONSTRAINTS

Section 2.0 details the complexity of the constraints across the site, for which all proposed developments will require to demonstrate a careful and considered response. The diagram opposite summarises these constraints through 'development zones', which categorises the zones across the site where constraints are relatively limited to where constraints may highly restrict development. This includes consideration for veteran trees, sensitive edges along existing residential uses and areas of high flood risk. These constraints give shape to four indicative development plots, three in the northern site and one in the southern site.

This provides a useful overlay for identifying areas of higher development potential and areas where the complexities may be to challenging. The term 'developable area' refers to where built development could be located, with consideration for constraints such as trees, planting and areas of low flood risk. 'Non-Developable' areas refer to where it is recommended for built development to not be located, while acknowledging that these zones will need intervention to provide access between plots.

Key

- SPD Area Boundary
- Developable Area with limited constraints
- ▨ Developable Area with several constraints requiring further investigation, testing and mitigation. Please refer to Section 2.0 for detailed constraints
- ⋮ Non-Developable Area around hedgerows, trees, and clearance zones - where through access and infrastructure may need to be provided. Requires further investigation, testing and mitigation. Please refer to Section 2.0 for detailed constraints
- Buffer zone around veteran trees and root protection zone
- ⊗ Development Zones (indicative)

Development Zone considerations

D1: The northernmost zone holds a prominent position and is highly visible from the Great North Road. The north-eastern part of the site is an area of low flood risk and with the potential to connect to Great North Road. The southern edge is bordered by hedgerows, with veteran trees to the south east and the train line along the western edge.

D2: The second zone from the north is connected to the north and south by other development zones, requiring these sites to be developed in order to provide access. It has the railway line along the western edge, hedgerows to the northern and southern edges which will need to be carefully addressed to provide access, and the backs of residential uses along its eastern edge. It has several veteran trees dispersed across the area.

D3: The southernmost site of the northern parcel has the potential to provide vehicle access to the parcel, carefully manoeuvring through woodlands and around the veteran tree to its north-eastern corner. Similar to the other zones, it has hedgerows running along the north, additional veteran trees to the western edge along the railway line. This also provides the opportunity to provide east-west connections to Marshmoor Lane.

D4: The southern parcel consists of one highly constrained development zone, with a prominent frontage to Dixons Hill Road and marking a gateway to the Welham Green village from the south east. Overhead lines and the PRoW bisect the site, with the northern and western part further constrained by areas at risk of flooding (varying across low-high risk).



Fig 5.1 Development Zones

5.2 SPATIAL FRAMEWORK

This diagram sets out an overarching spatial framework for the site, illustrating some of the key spatial design principles for which future applications and detailed proposals should provide clear design responses. The following pages provide further detail on these principles and their application across the site.

These principles illustrate a key outcome that the development should achieve in order to deliver on Development Objectives and the Vision for the site. This spatial framework is applicable for all potential land use mix and distribution options.

Key

-- SPD Area Boundary

Responding to Constraints

- ☐ Developable Area with several constraints requiring further investigation, testing and mitigation. Please refer to Section 2.0 for detailed constraints (Principle 2A)
- ☐ Non-Developable Area around hedgerows and trees, where through access and infrastructure may need to be provided. Requires further investigation, testing and mitigation. Please refer to Section 2.0 for detailed constraints (Principle 2A)
- Buffer zone around veteran trees and root protection zone (Principle 2A)
- |||| Sensitive Edges towards existing residential uses (Principles 4A and 4B)
- Overhead electricity line and clearance zone
- Public Right of Way (PROW)

Application of Principles to SPD Area

- ≡ Interconnected central landscape, free of road and vehicle infrastructure (Principles 2B and 3D)
- /// Amphibious landscape features for mitigating flood risk and surface water management (Principle 2E)
- ☐ Primary gateway from south-east signified by buildings of high architectural quality and strong primary frontage towards Dixons Hill Road (Principle 4F)
- ☐ Secondary gateway to campus from A1000 through dense woodland (Principle 4F) and key E-W connection to Marshmoor Lane
- Active frontages overlooking green open space and at key corners as a minimum along active travel routes (Principles 4C)
- Pedestrian and cycle routes to weave through the site across development plots, sensitively interfacing with existing hedges and trees (Principles 2A and 3C)
- ➔ Primary vehicle access to northern parcel from A1000, sensitive to woodland and existing trees. Primary vehicle access to southern parcel from Marshmoor Lane (Preferred approach - Principle 3F)
- > Potential for secondary vehicle access connecting to Great North Road (Principle 3F)
- ... Consolidated servicing to edge of site to mitigate interface with existing buildings, providing secured yards and maintain car-free central landscape (Principles 2B, 3D, 3E and 4A)
- |||| Dense trees and planting along A1000 and Dixons Hill Road to create green buffer (Principle 4D)

Application of Principles outside SPD Area

- Strong north-south pedestrian and cycle route along existing Marshmoor Lane, providing connections to Hatfield Station (Principle 3A). Improved east-west connection to Welham Green village and station.
- ☐ Improved site interface with Welham Green Station supported by public realm and access improvements, including active travel connections (Principle 3B), as well as improved links to Welham Green village.

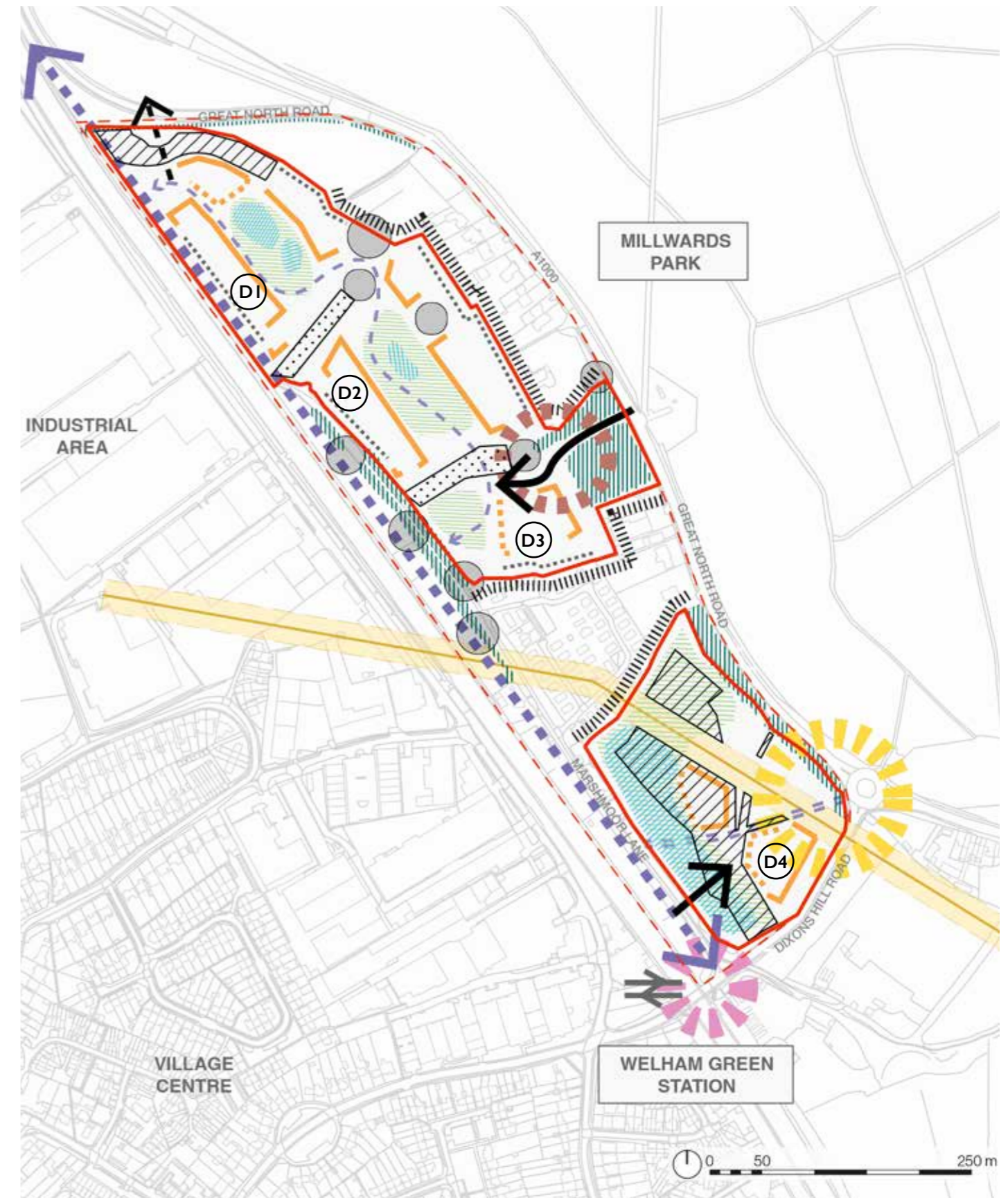


Fig 5.2 Spatial Framework Diagram

5.3 ILLUSTRATIVE MASTERPLAN

OVERVIEW

This indicative masterplan has been used to illustrate an approach for developing the site and for conveying how development objectives and design principles could be translated to the site. It illustrates one, but not the only approach, for delivering development across the site. It has also been tested for capacity and floorspace to ensure that the minimum policy requirements can be met.

Assumptions:

- 4m heights have been assumed per storey for employment uses.
- 2.7m heights have been assumed per storey for the mobility hub. Vehicle movements and capacity needed for development unknown at this stage - dimensions for mobility hub based on existing case studies.
- 3m heights have been assumed per storey for residential use

Please refer to Principle 4B for assumed heights for illustrative masterplan,

- Employment Floorspace: E(g)ii Research and Development of products and processes and ancillary uses
- Mobility hub (Multi-storey car parking, active travel hub and ancillary uses)
- Residential uses (including apartment blocks and maisonettes)
- Vehicle access routes
- Pedestrian and cycle routes
- SuDs (development plot scale water management)



Fig 5.3 Illustrative masterplan

I. A NEW, NATIONALLY RECOGNISED 'INNOVATION AND TECHNOLOGY' CAMPUS

The development of Marshmoor Policy Area will:

- Contribute to the economic success and innovation focus of the wider sub-region, capitalising on its strategic location.
- Introduce new employment uses in emerging innovation and technology sectors over up to 40,500 sqm of new employment floorspace, supporting a range of occupiers to scale up their businesses.
- Provide high-quality housing through up to 100 new homes to attract skilled employees, supporting a lively live-work environment.
- Demonstrate long-term stewardship and careful management of the sensitive site.

PRINCIPLE IA

Deliver the type of employment floorspace and linked residential accommodation that is suitable for a nationally recognised 'Innovation and Technology' Campus.

Marshmoor Policy Area has been allocated for 40,500sqm of Class E(g) employment floorspace and 100 no dwellings (Class C3) providing affordable accommodation for those employed on the site.

While local policy allows for any of the below uses to be delivered on the site, there are a number of factors that influence their likely success and potential for delivering the allocated floorspace to meet the vision and development objectives for the site.

- E(g)(i) Offices to carry out any operational or administrative functions
- E(g)(ii) Research and development of products or processes
- E(g)(iii) Industrial processes

Recommended Use Class for delivering employment floorspace: E(g) (ii) Research and development of products or processes

Research and development uses are considered the most appropriate for this site, given a range of influences including the landowner's aspirations for the site, its strategic location within the London Cambridge Innovation Corridor and the potential to deliver up to the full allocation of employment space of 40500sqm through related typologies.

Development proposals should clearly demonstrate how these uses will be accommodated and how they relate to demand and relationship with the wider context of the innovation corridor.

Traffic generation for this type of employment use could be significantly lower than for office uses, and comparable research and development sites are indicative of a car parking demand that could be

accommodated on site with a mixture of multi-storey and surface car parking. The exact demand for parking and vehicle infrastructure will depend on the brief for employment uses introduced on site - to be clearly set out as part of application.

Rationale for discounting other use classes for delivering employment floorspace

The remaining use classes of E(g)(i) Offices and E(g)(iii) Industrial processes have been largely discounted through the process of developing this SPD. This is largely attributed to whether these uses can:

- Support a 'Innovation and Technology' campus.
- Create a hub for attracting highly-skilled employees to live and work in Hatfield and Welham Green.
- Minimise the impact of parking and limited car use and impact on existing network.

E(g) (i) Offices

The main challenge with delivering a significant quantum of office space is sufficient space for car parking that is appropriately and sensitively designed. Office uses up to 40500sqm would likely generate high requirement of car parking spaces and significant additional traffic volume to the site and surrounding area. Early site testing indicates that more than 500-600 parking spaces on site would limit the potential for green space and other uses, and it would likely limit the quantum of employment space deliverable.

E(g) (iii) Industrial processes

The potential for introducing industrial process uses are the impact on the neighbouring residential uses along the north-eastern boundary of the northern parcel, and in between the north and southern parcels of the site. Uses such as large data centres or large industrial uses, similar to those to the west of the railway line, will not be acceptable.

This makes it a less likely land use but may be appropriate as a form of technology and innovation led development perhaps as a mix of employment uses in accordance with the site allocation policy

Any proposed programme of uses should be considerate of parking and servicing requirements, ensuring that Vision Statements 2 and 3, introducing a biodiverse landscape at the heart of the development and supporting active travel and sustainable transport, are not compromised.

Residential Accommodation

The introduction of residential accommodation on the site will enhance the attractiveness of the employment campus to future employees. Many of the larger operators of the type who may be interested in developing this site would be looking for this approach for land use mix.

The 100 units would house a relatively small proportion of the total employees on site, which would be expected in the many hundreds depending on the type of operator and use. However, a range of types and size of home should be provided that are accessible to a wide range of employees.

Residential accommodation should be delivered at an appropriate time for when the employment land is in use. While the exact phasing of residential uses in relation to employment floorspace will vary depending on the type of occupier, the proposed 100 homes should be delivered before or in line with 50% of the overall commercial floorspace across the SPD area.

PRINCIPLE 1B

Distribute land uses across the development plots to make best use of developable land with consideration for site constraints, enabling good access and supporting well planned uses and adjacencies.

Due to the nature of the site being split over two parcels, linked by Marshmoor Lane, careful consideration of the distribution of uses across these parcels is necessary. The southern parcel is considerably more constrained than the northern parcel, however it provides a strong presence on Dixons Hill Road and a key gateway to the village.

Capacity testing has indicated that the development will most likely need to be spread across all of the development zones in order to accommodate the employment floorspace together to support a campus function. However this should not dissuade a future applicant from providing all of the development on the northern parcel if other objectives can be met.

A comparison of the different options in Table 2 highlights the pros and cons of each illustrated approach. Option 1 is the preferred approach at this stage, based on the available site information and building in the flexibility to accommodate employment floorspace to suit a range of potential occupiers. However, applicants are encouraged to explore different options and clearly set out the pros and cons of each, informing the preferred selection.

Key

- Site Boundary
- Employment
- Residential
- Parks and Landscape
- Consolidated Parking



Fig 5.4
Land Use Distribution Option 1



Fig 5.5
Land Use Distribution Option 2



Fig 5.6
Land Use Distribution Option 3

	Option 1	Option 2	Option 3
Pros	<ul style="list-style-type: none"> • Allows for large floorplate uses to be clustered together for campus feeling • Allows for built gateway to south • Consolidated parking on periphery 	<ul style="list-style-type: none"> • Allows for a diverse mix of uses and activity throughout the day • Enables shared infrastructure, including amenity and social infrastructure 	<ul style="list-style-type: none"> • Allows for a diverse mix of uses and activity throughout the day
Cons	<ul style="list-style-type: none"> • Could lead to inactive areas around employment uses in the evening and night time 	<ul style="list-style-type: none"> • Parking to the south not useful for campus - adverse impact on use for station • Landscape not in area of campus activity 	<ul style="list-style-type: none"> • Southern parcel too constrained for large floorplate uses • Breaks up the 'campus'

Table 2

Land Use Distribution - Options Comparison table

PRINCIPLE IC

Deliver a mix of ancillary uses that activate the site for workers, residents and visitors.

The development should provide a mix of ancillary uses supporting the ‘technology and innovation’ campus, giving employees and residents a reason to spend time on and use the area beyond the working day. Where possible, these uses should be clustered together to activate open and public spaces. A careful appraisal of nearby uses in Welham Green village should be carried out to demonstrate that any new land use offer is complementary, rather than competing with these uses.

Food and Beverage

The development should provide food and beverage uses for employees on site. These uses should be focussed around areas of employment floorspace and should provide an opportunity for employees to gather and socialise. They should not compete with Welham Green local centre and should provide a complementary offer for employees.

These uses should activate the ground floor, overlooking pedestrian and cycle routes and spilling out into parks and open spaces.

Shared Amenity

The development may also provide additional shared amenity within the campus such as gyms, co-working space, workshops and flexible social spaces. These should also activate the ground and first floor.

Active Travel Hub

The development should support active and sustainable travel for employees and people using the campus through providing good quality infrastructure, including uses such as cycle hubs and repair spaces. These can also provide a useful resource for the wider community and help to activate active travel routes both within and passing through the development.



Fig 5.7 Spillover activity from ancillary uses can activate landscaped spaces



Fig 5.8 Active travel hub can support active and sustainable travel for users



Fig 5.9 Activate rooftop spaces for shared amenity and infrastructure to support the campus

2. A RICH, BIODIVERSE AND CLIMATE-RESPONSIVE LANDSCAPE AT THE HEART OF NEW DEVELOPMENT

The development of Marshmoor Policy Area will:

- Implement a landscape-led approach that responds to the existing environmental sensitivities to create a positive working environment and place to live.
- Provide a variety of landscape and environmental conditions, creating space for amenity, events, experimentation and respite to support talent attraction and retention, collaboration and knowledge exchange.
- Ensure management and restoration of habitats to enhance biodiversity, supporting the landowner’s ambition for the integration of wildlife into operations, working at scale to deliver abundant natural landscapes.
- Enhance existing ecology and mitigate for site conditions such as air and noise pollution and flood risk through careful site planning and integrated water management.

Definition:

Landscape-led masterplanning is an approach where the landscape proposals inform the shape of development, including the strategic layout, design of buildings, phasing and land use options. The landscape is the central driver for design and placemaking within the new development. A landscape-led masterplan should be respond sensitively and proactively to existing landscape, topography and environmental conditions - using these as assets and key features to characterise the new development.

PRINCIPLE 2A

Respond sensitively to existing environmental constraints and use these as an opportunity to shape the strategic masterplan.

The existing landscape across the site is fundamental to the site’s character. This character should be celebrated and enhanced through the delivery of new development that protects and adds to the site’s natural assets,

The development proposals for the site should be informed and accompanied by an integrated landscape masterplan that serves to integrate the development into the site and the local context.

Retain and respond to existing assets

Landscape features on the site should be retained as far as possible (or rerouted where appropriate). This includes:

- Areas of existing woodland
- Areas of existing structure planting
- Perimeter tree and shrub planting along the A1000 and lining the eastern side of the railway line
- Veteran trees
- Existing Trees and habitat planting associated with Marshmoor Lane
- Areas of adjoining grassland, particularly within the highest flood risk area in the southern land parcel
- Hedgerows and hedgerow trees within both land parcels, where possible and acknowledging that connections through these areas will likely be required but should minimise tree and hedgerow loss

The introduction of new planting is strongly encouraged and should be sympathetic to the existing landscape context.

No Net Loss of Trees

Trees, hedgerows and areas of significant planting are key characteristics and natural assets for the SPD Area, and these should be retained where possible. The protection of these assets has informed the Development Zones and development proposals should demonstrate how designs are responding to these sensitively.

Where trees or planting may be impacted, such as for providing access between development plots, trees of similar species and maturity should be reprovided in order to meet biodiversity net gain requirements and to enhance landscape character of the site.

The proposals should seek to retain the core of the existing landscape attributes of the site – belts of trees and hedgerows and veteran/feature trees – to bring continuity and add to the sense of place. The proposals should include significant new tree and shrub planting that will reflect and relate to the existing on-site and adjoining vegetation.



Fig 5.10

Veteran tree (Oak) on middle-right side



Fig 5.11

Hedgerows along road South West of site



Fig 5.12

Category B trees in open field

PRINCIPLE 2B

Create a large, central and distinct green open space at the heart of the new campus that connects different development parcels together.

Developments must demonstrate a landscape-led approach for the employment campus, at the heart of which a large, landscaped open space should provide a 'campus green'. Due to the many hedgerows and natural barriers across the northern parcel, this open space should be provided as a network of open spaces across the different development parcel, connected together by walking and cycling routes. These open spaces should provide a cohesive approach to supporting local biodiversity and ecosystems, but they can vary in programme and character - encouraging employees to explore and use different parts of the landscape.

The landscape should provide a central unifying element connecting different buildings of the campus, encouraging adjacent buildings to open out onto the landscape and provide a range of amenity uses to support activation outside of working hours.

For the southern parcel and in order to respond to site constraints open space and flood mitigation as a wetland area will be located in the west and northern edges of the site. These areas can create a high quality wetland landscape setting for the new development and also provide important flood attenuation

These landscapes should also play an important role in creating a sense of arrival into the campus, through maintaining views across and supporting orientation around the campus. There is opportunity for the development to have a presence on Great North Road and Marshmoor Lane through landscape interventions that respond to the existing environmental condition.



Fig 5.13

The Wellcome Sanger Institute provides a useful case study for a science and innovation campus informed by design and landscape

Image Credit: Wellcome Sanger Institute

The character of the central landscape can be wild and natural, as the existing landscape, or it could be more curated and ornamental as demonstrated at the Wellcome Sanger Institute in the images on this page. Proposals are encouraged to push for an innovative central landscape that integrates with the character and identity of its surroundings and the new built uses, ensuring that biodiversity and resilience are prioritised.



Fig 5.14

A central unifying landscape ties together the campus at Wellcome Sanger Institute.

Image Credit: Phil Mynott / Wellcome Sanger Institute

PRINCIPLE 2C

Deliver measurable improvements in local biodiversity and wildlife, addressing the different blue and green environments across the site.

Proposals should make the best use of existing habitats and site features to extend its potential to increase biodiversity net gain.

Any proposed landscape strategy must reflect the local context of the site and be developed with the intention of maximising opportunities for ecological enhancement.

This should include the introduction and enhancement of wetland areas, grassland and woodland habitats, and should retain ponds, ditches, hedgerows, tree lines, mature trees and woodland wherever possible. These areas should be adequately buffered from development and construction processes to protect their biodiversity.

Through the provision of interconnected ecologically important habitats and features across site, the strategy should provide green corridors which are appropriately managed for the benefit of wildlife and biodiversity.

Mitigation, compensation and enhancement for protected species on site should be designed into the scheme, aiming to provide areas of optimal habitat for legally protected species that maybe present. Mitigation requirements will be designed following best practice guidance and where required meeting Natural England licence obligations.

Requirements for Biodiversity Net Gain (BNG) will need to be designed into the landscape strategy, with an aim of achieving a minimum net gain of 10%. However, achieving a higher BNG is strongly encouraged and supported. BNG calculations and methodology should follow the mitigation hierarchy.



Fig 5.15

New wetland landscapes providing new opportunities for enhancing biodiversity

In the first instance landscape design should aim to deliver the required net gain on site retaining and protecting the most ecologically important features where possible. Mitigation for loss of habitat and onsite enhancement of retained habitat will then be designed into the landscape scheme and as a last resort any remaining biodiversity credits, required bought from reputable offsite providers to ensure BNG commitments are met or if possible exceeded. All habitats covered under BNG commitments must be appropriately managed for a minimum of 30 years post completion of the development.

PRINCIPLE 2D

Use planting and landscape elements to inform the experience of moving around the campus, strengthening character areas across the two sites and of each distinct landscape.

A key benefit of a landscape-led approach will be the use of landscape features to create strong landscape led high quality character areas that are distinct for the different parts of the site, informing the experience of employees and residents using the campus everyday.

New planting should be located strategically to contribute to the framing of attractive and desirable views and the filtering of unattractive views, in particular those of the industrial units to the west of the site.

New structural/framework planting should relate to, and enhance, the site's existing landscape attributes. The framework planting shall seek to physically and visually reduce the divisive linearity of the railway and A1000 corridors by expressing east-west landscape connectivity and linkages.

Landscape interventions should consider:

- Framework planting in naturalistic and biodiversity rich areas
- Wildflower margins and indigenous mix planting
- Enhanced hedgerows – incorporating clumps and drifts of informally grouped tree planting
- Areas of wetland public open space incorporating SuDS/ponds, footpath routes and seating areas
- Central connection routes – with more formalised tree and shrub planting
- Central meeting places/courtyards – with attractive feature tree and shrub planting and associated structures/buildings



Fig 5.16

Wildflower margins and indigenous mixed planting

PRINCIPLE 2E

Implement landscape features and nature-based solutions for the management of surface water and flood risk through Sustainable Urban Drainage Systems (SuDS)

Development layout should minimise potential flood risk to buildings, as reflected in the summarised constraints plan. This makes a considerable area in the southern parcel unsuitable for built development or requiring a mitigation strategy in order to accommodate buildings.

Sustainable drainage systems (SuDS) must be used to manage surface water runoff and minimise flood risk, particularly in the southern parcel. This approach also provides an opportunity for management of surface water through nature-based solutions in the northern parcel, particularly when linked with water systems of new developments.

SuDS strategies should be carefully considered and calculated to provide sufficient capacity to effectively manage surface water runoff and flood risk, including in relation to new developments and their impact. SuDS strategies need to be appropriately coordinated with the landscape strategy and designed and profiled in a sympathetic manner that relates well to, and is compatible with, the landscape proposals and ecological enhancement requirements. The creation of unnaturally profiled water retention pits should be avoided.

The southwestern boundary area of the southern parcel provides a particular opportunity to create an attractive localised wetland landscape that will contribute to biodiversity enhancement and could be readily accessible.

Policy SADM 14 Flood Risk and Surface Water Management in the Local Plan should be referenced.

The central landscape in the northern parcel provides an opportunity to create a different typology of SuDS intervention, less likely to remain flooded but with greater potential for a more amphibious wet/dry landscape.

Development should be designed to minimise water consumption – residential units should be designed to use no more than 110 litres/person/day and incorporate water reuse and recycling and rainwater harvesting.



Fig 5.17

Housing fronting on to SuDs landscape



Fig 5.20

Bioswales



Fig 5.18

SuDs interventions creating wetlands

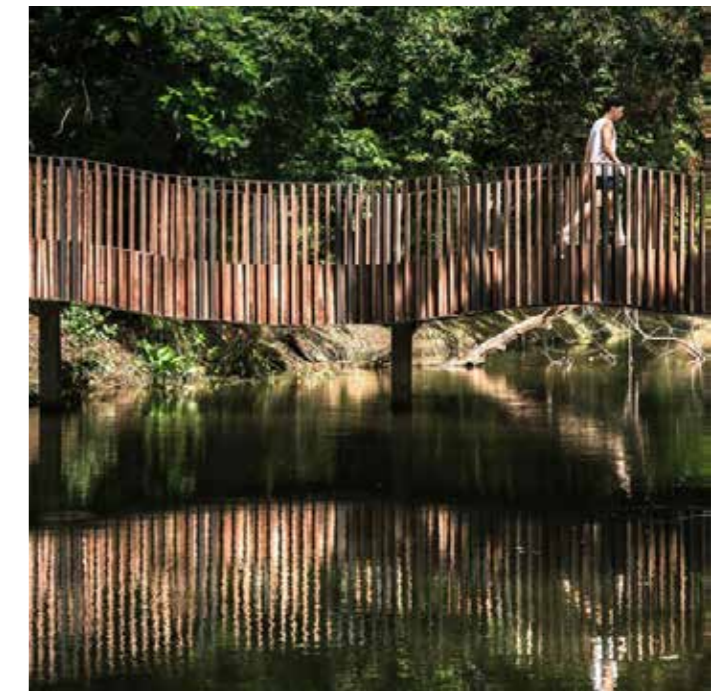


Fig 5.21

Routes and connections over water



Fig 5.19

SUDS / pond with viewing platform

3. A WELL-CONNECTED NEIGHBOURHOOD SUPPORTING ACTIVE AND SUSTAINABLE TRAVEL

The development of Marshmoor Policy Area will:

- Be well-connected to its surroundings, overcoming physical barriers to better integrate the site with Welham Green and Hatfield.
- Prioritise infrastructure supporting active and sustainable travel, enabling wider active travel connectivity to the town and transport connections.
- Reduce car-dependency through improved access and connections with strategic public transport, as well as minimising and consolidating car use within the site.
- Provide access off the existing road network, minimising impact on existing green assets.

PRINCIPLE 3A

Improve strategic north-south and east-west active travel connections and experience between the proposed campus; Welham Green village; and Hatfield.

Proposals must promote and support strategic active travel connectivity between the site, village centre and key public transport destinations. These will support and complement WHBC's adopted Local Cycling and Walking Infrastructure Plan (LCWIP) aspirations and seek to promote active travel trips over the private vehicle.

This includes the provision of a dedicated north-south pedestrian and cycle route, running through the SPD area connecting Dixons Hill Road to the south to Great North Road to the north - providing safe and signposted onward connections to Hatfield Station and town centre. This would require strategic interventions including:

- Provision of pedestrian priority crossings, including dropped kerbs and tactile paving on the main roads surround the sites.
- Provision of raised table crossings at key junctions as traffic calming measures.
- Provision of off-carriageway route for pedestrians and cyclists running north-south through the SPD area - this could be alongside the railway line to provide a more rural, natural route and/or it could meander through the site providing a more active and overlooked route.
- Provision of improved pedestrian and cycle connections running east-west from the SPD area to Welham Green Station and further into the village.
- Co-ordinated strategy for lighting and signage connecting up strategic walking and cycling routes.

These strategic improvements should be initiated and delivered as part of the first phase, linked to the delivery of the first 10% of development floorspace. The early implementation of these improvements will help facilitate a modal shift and prioritise sustainable transport from the inception of the site's use.



Fig 5.23

Shared active travel route through nature along Marshmoor Lane

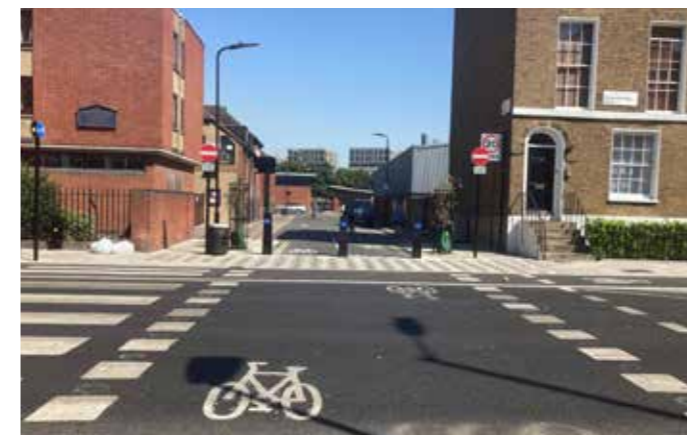


Fig 5.24 Pedestrian and cycle priority crossing at key junctions connecting the site to its surroundings



Fig 5.25 Well signposted cycling routes connecting Welham Green village centre and Hatfield Station through the site

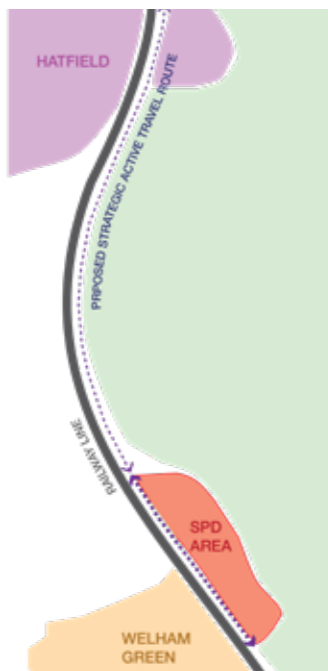


Fig 5.22

Strategic active travel connection from SPD Area to Hatfield

PRINCIPLE 3B

Improve walking and cycling connectivity to existing public transport infrastructure in Welham Green and Hatfield.

The development should support improvements to the local public transport services and infrastructure in the local area through the following:

- Improvements to local bus services including local routes 230 and 610 which the A1000 in the vicinity of the site, as well as local bus services 312 within Welham Green
- Explore opportunities for improvements to the existing bus stops on the A1000 to include:
 - New bus shelters, and seating
 - Timetable information, including potential for real time information updates
 - Bus boarders or high kerbs for accessible boarding
- The internal network at the campus should be designed to accommodate future Demand Responsive Transport (DRT) services that operate in the area (such as the Herts Lynx), providing frequent services connecting to Hatfield Station and key residential areas when employees might locate,

Welham Green Station

Currently, access to Welham Green railway station is via stepped access (direct from Dixons Hill Road) to each platform or via the car park (and station forecourt) off Travellers Lane. The current access, via Travellers Lane, does not provide any formal pedestrian infrastructure or crossing facilities across either Travellers Lane or Dixons Hill Road to access to and from the station.

Development should contribute towards improving accessibility to Welham Green station through the following:

- New pedestrian crossing facilities on Dixons Hill Road (in the vicinity of the potential new access arrangements);
- New pedestrian crossing facilities on Dixons Hill Road (west of Holloways Lane);
- New crossing facilities on Holloways Lane;
- Provision of new footway and/or shared cycleway on Travellers Lane, connecting between Dixons Hill Road and the existing station car park access.

Any provision will need to ensure access to the industrial estate is retained and not compromised;

- Improvements to the existing cycle parking at the station (including potential new spaces and/or improved storage facilities); and
- Safeguarding the land immediately east of the railway tracks, and west of Marshmoor Lane, for any future potential station improvement works.

As these interventions are located outside the site boundary, but within the SPD area boundary, developments are not expected to deliver these interventions independently. However, a partnership or contribution approach should be agreed with the local authority to enable these changes.

Hatfield Station

In addition to improving the accessibility to Welham Green station, the site has the potential to contribute towards improved pedestrian and cyclist access between Welham Green and Hatfield railway station, via the A1000. It is anticipated that this could include:

- Upgrading the existing footway on the A1000 to a 3.0m shared footway/cycleway; and
- Improved crossing facilities at key junctions (including Oxlease Drive and the Great North Road/ B197/ The Broadway).



Fig 5.26 Public lift at Hackney Wick, London

A lift can provide accessible and direct connections to the station from the SPD area

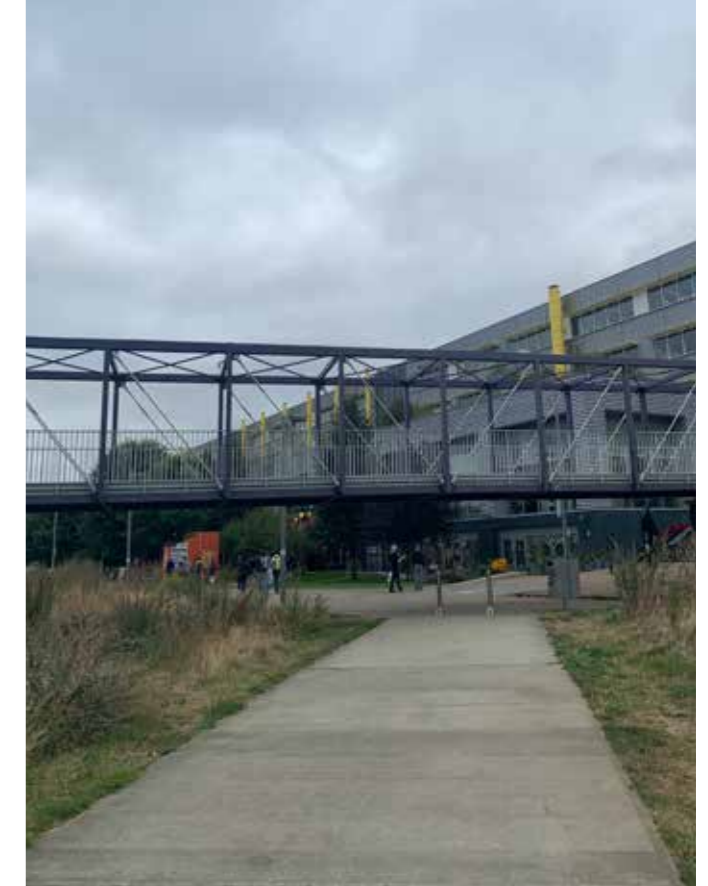


Fig 5.27 Pedestrian Footbridge at Hackney Wick, London

A potential footbridge can provide direct access between the two platforms, integrating with a lift for street level access

As a minimum, the design and layout of proposed development should enable the future delivery of this routes. These improvements should be initiated and delivered as part of the first phase of development, linked to the delivery of the first 10% of development floorspace. The early implementation of these improvements will help facilitate a modal shift and prioritise sustainable transport from the inception of the site's use.

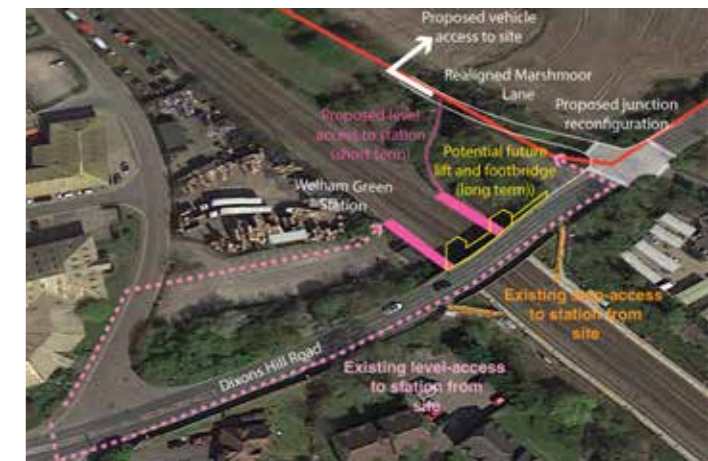


Fig 5.28 Potential for creating direct connections and step free access to Welham Green station from the site, and providing access between platforms

PRINCIPLE 3C

Ensure that pedestrians and cyclists are prioritised across all movement infrastructure within the site, maintaining car free zones in and around the central landscaped areas and connecting with strategic active travel infrastructure.

Proposals should be designed with a network of streets which promote and ensure that walking and cycling are the preferred, and prioritised, method of travel through the site. This should include 'hard' infrastructure measures, such as the provision of safe and accessible walking and cycling routes connecting the different development parcels, as well as 'softer' promotion by making these routes more attractive through planting, lighting and active frontages providing passive surveillance. Users should have a choice of routes, including fast and direct connections to more meandering, leisurely routes.

Development proposals should demonstrate:

- Central landscaped areas and routes connecting Development Zones as car-free pedestrian and cycle routes.
- Pedestrian and cycle priority where routes are on carriageways shared with vehicles.
- Mitigate and remove potential conflict between pedestrians, cycling and vehicles - including service vehicles with consideration for turning and reversing.
- Provision of footways and cycleways of sufficient width for different types of users through the site connecting the various parcels and new buildings;
- Provision of pedestrian and cyclist priority crossings across the side roads within the site;
- Provision of pedestrian and cyclist connections to the existing highway network and to strategic cycle infrastructure;

- Design of low speed streets which prioritise pedestrian and cycle movement on vehicular roads;
- Secure and covered cycle parking provided for all future users, including residents, employees and visitors;
- Provision of electric bicycle charging infrastructure;
- Safeguarding within the site for future sustainable travel initiatives which could include e-bikes, e-scooters, cargo bikes and cycle hire schemes (for example Beryl Bikes);
- Potential provision of Active Travel Hubs, providing cycle repair, cycle hire, storage and ancillary uses such as cafes, launderettes and other everyday amenity can plug into a wide variety of buildings as well as standalone pavilions activating routes and open spaces. These can be part of a larger mobility hub that consolidates parking.

In addition to providing segregated infrastructure for walking and cycling, road infrastructure should also prioritise pedestrian and cycle use, as well as support more sustainable travel by car.

- Provision of electric vehicle charging infrastructure across all parking spaces;
- Provision and promotion of car club spaces (for both the residential and employment future users);
- Design of the internal network to accommodate future DRT bus service through the site;
- A Travel Plan which will bring all of the above together, alongside soft measures to support;



Fig 5.29

Safe and attractive routes for pedestrians, separate from vehicular movement



Fig 5.30

Incorporating infrastructure for cycle parking and movement as part of good street design



Fig 5.31

Provide cycle parking in and around key public and open spaces

PRINCIPLE 3D

Deliver a consolidated and efficient internal road network that minimises areas of grey infrastructure (roads, parking, servicing and other asphalt surfaces) and maximises areas of landscape, public realm and amenity

Internal roads should be designed to minimise grey infrastructure and help to create an attractive public realm in the campus by minimising the road infrastructure's impact. Road networks should be designed with consideration for pedestrians and cyclists as a primary concern - maintaining low speeds and excluding and cut-throughs to avoid rat-running. Proposals should maximise the green and permeable surfaces for flood risk mitigation and surface water management across the campus.

Due to the related employment uses for 'innovation and technology' campuses requiring larger vehicles for servicing and maintenance, road layouts should be carefully considered to minimise the need for reversing and turning to avoid conflict with pedestrians, cyclists and other vehicles. Clear segregated routes for pedestrians and cyclists should be provided where routes are to be shared with larger vehicles.

These routes should be buffered with trees and planting.

Roads should be located to maintain a vehicle-free internal green route for pedestrians and cyclists only, creating an attractive and people-friendly, landscaped environment.



Fig 5.32

Tree-lined paths and maximising soft landscape

PRINCIPLE 3E

Deliver a strategy for consolidated servicing that makes best use of spaces that are less attractive for public amenity and landscape.

Service access and yards for built development should be located away from the central landscaped space, ensuring that they are less visible from amenity and well-used spaces. Servicing strategies should also consider the need for securing these spaces and requirements for different types of vehicles.

These servicing spaces can provide a useful interface for mitigating against sensitive edges where buildings will need to be set back from edges against residential buildings.

Servicing routes should be kept separate from pedestrian and cycle routes, demonstrating that conflict between the two is mitigated and safely managed.

The day-to-day operations of the campus should be managed by a consolidated strategy for servicing, ensuring that large articulated vehicles are not accessing all parts of the campus.

Similarly, deliveries and local distribution should make use of active travel infrastructure where possible, e.g. cycle deliveries.

PRINCIPLE 3F

Locate vehicular access to limit impact on strategic road network and on existing environmental constraints on the edges of the site

The Local Plan requires the primary vehicular access to the site should be provided from Dixons Hill Roundabout and a secondary access, onto the A1000, will only be supported if there is a demonstrable need.

However, due to the site constraints along Marshmoor Lane, a vehicular link between the key parcels of the site, along this route to the west of the site, is unviable and therefore separate access options to the northern and southern parcels will be required. An access appraisal for the site has been undertaken for both parcels options which sets out the following options for vehicular access:

Options for vehicle access are:

Southern parcel:

1. Off Marshmoor Lane (likely only to support residential access)
2. From Dixon's Hill Rd
3. Off the Dixon's Hill roundabout (outlined in Local Plan)
4. Off the A1000

Northern parcel:

5. Off the A1000
6. New strategic link off A1000 slip road

An appraisal of each of these access options, from various disciplines, is provided in the Appendix.

Preferred Access Options

The preferred approach to accessing the different zones of the site is as follows:

- For the southern parcel for access to be provided via a realigned southern end of Marshmoor Lane and then into the development site with the remainder of Marshmoor Lane used for active travel and access only for existing users;
- For the northern parcel from Great North Road (location 5) through the block of existing woodland as a carefully planned route that minimises the loss of trees;
- Secondary or later phase access for the northern parcel as left in/left out in Location 6.

Other locations may be possible subject to further testing and agreement with the highways authority once more specific land uses, trip generation and parking numbers are known.

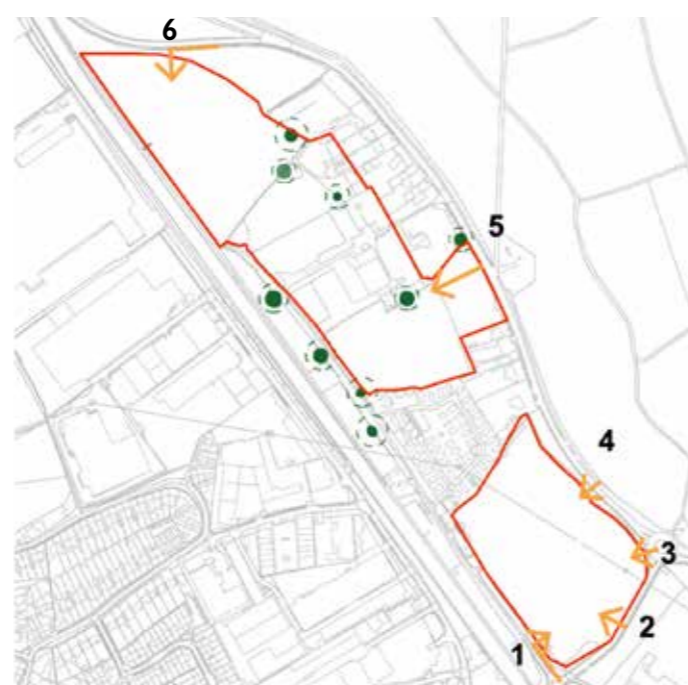


Fig 5.33

Vehicular access points

PRINCIPLE 3G

Optimise parking to minimise land take and impact on the landscape, ensuring flexible arrangements and future adaptability responding to potential reductions in parking demand

All car parking should be carefully sited in the landscape, reflecting the green and natural landscape. It should be located close to site access points from the existing main roads, minimising car travel through the site.

A considerable number of car parking spaces are likely to be required and the use of multi-storey car park(s) may be an efficient way of delivering these spaces while minimising land take. Multi-storey car parks can be designed and delivered to be lightweight and more easily deconstructed at the end of their lifespan.

Car parking structures generally have a lower floor to floor height than employment or residential uses and this means, for example, that a floor to floor depth of around 2.7m could generate four storeys of car parking at around 11m in overall height and may represent an efficient way of delivering car parking on the site. Lower storey heights will help with the setting of the buildings in relation to the heritage context and wider views. This approach should be carefully considered in line with future adaptability of the structure if repurposed for future office or research use, or informed a clear strategy for deconstruction and reuse. This aligns with Local Plan policy SPI0 that buildings are designed for their lifecycle and to be recyclable at the end of their use.

Secure short-term cycle parking should be provided across the campus, but long term parking can be provided in combination with a consolidated parking approach. These should be located in highly accessible and visible location, along strategic active travel routes.

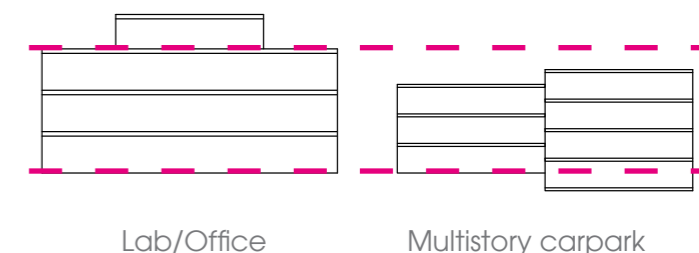


Fig 5.34

Heights comparison between Lab and Multi-storey car park



Fig 5.35

Multi-storey car park - Ejler Bille Parking House

Image Credit: JAJA Architects



Fig 5.36

Mobility Hub with play amenity of roof - Parking House + Konditaget Lüders

Image Credit: Rasmus Hjortshøj for JAJA Architects

4. A WELL-INTEGRATED AND SENSITIVE NEIGHBOUR

The development of Marshmoor Policy Area will:

- Positively contribute to its context and will be sensitive to its neighbours and Welham Green village across all hours of the day, as well as enhancing the heritage context of Hatfield Park.
- Be mindful of its interface with existing buildings and developments, ensuring heights and massing do not overwhelm sensitive edges and ensure the provision of sufficient setbacks and buffers along key interfaces.

PRINCIPLE 4A

Provide a clear setback from adjacent residential uses, carefully planning the use and programme of these spaces to minimise disruption and visibility for existing uses.

There must be a minimum set back of 15m for buildings from surrounding residential properties. Uses that would be acceptable within this 15m buffer area would include private gardens, public landscaped areas (if well overlooked by new development), service yards and parking. The exact use and approach will be dependent on how land uses are distributed across the Development Zones.

The landscape strategy for the site should carefully consider and demonstrate the design of edge conditions with neighbouring properties through landscape and choice of land uses, particularly in relation to the residential properties located between the two land parcels. These should be illustrated in plan and section to demonstrate the interface in detail.

The use of new and existing planting to reinforce the site’s boundaries will aid the spatial and visual separation between contrasting land uses and the local context and will support Vision Statement 2.

PRINCIPLE 4B

Distribute buildings heights to respond to constraints and the context, with consideration for visual impact on the surroundings including the railway line and industrial uses to the west, and the sensitive Millwards Park to the east,

Proposals must consider building heights carefully in relation to visual impact from surrounding spaces, key views and amenity of neighbouring uses.

Taller building heights - up to 18-20m including plant – should be concentrated on western edge in proximity to existing industrial uses, which are less sensitive. This can help to create a strong frontage along the railway line.

Building heights should step down in proximity to sensitive and open edges:

- in proximity to surrounding residential uses
- along the A100 where open views and / or proximity to Millwards Park create a sensitive edge and development should complement the existing character

There is an opportunity to deliver a more ‘urban; scale at the south-eastern gateway to Welham Green village along Dixon’s Hill Road. The heights here can sit between the taller elements along the railway line and the lower-rise blocks towards Millwards Park.

The visual impact of the proposed development on key receptors, such as Hatfield House, will need to be carefully assessed and considered as part of the development proposals. This may further impact on the scale of development once the detail of proposed impact is known



Land use and urban design
 ■ Development zone with building heights up to two residential storeys (10m ground floor to ridge height)
 ■ Development zone with medium building heights (up to 13m)
 ■ Development zone with potential for taller building heights (max. height 18-20m including plant)

Fig 5.37

Land use and heights diagram

PRINCIPLE 4C

Create a positive frontage towards the western edge facing the railway line, providing overlooking and activation for the strategic active travel route

The site layout should address the railway edge to create a positive frontage for passing rail passengers, providing a distinct landmark along the train journey.

Building orientation and massing should create active edges and overlooking to ensure a positive relationship with this part of the site that will be regularly viewed by many people and that is an opportunity to foster a positive image for the campus.

In the northern parcel, ground and first floor uses should overlook and activate pedestrian and cycle routes, including a north-south active travel route if it is routed along the railway line.

In the southern parcel, frontages towards the railway line will be buffered by existing trees and planting and potential wetland landscapes introduced as part of flood risk mitigation measures. The roofscape and visibility of buildings from the railways line should be well considered.



Fig 5.38

Activate ground floor frontages by creating visual connections between internal and external spaces

PRINCIPLE 4D

Provide a green buffer along the eastern edge of the site, enhancing existing trees and planting to mark the transition towards the more rural character of Millwards Park

The existing, well-enclosed character of the A1000 should be retained and strengthened through appropriate landscape treatment along the northwest site boundaries that reflects the woodland of Millwards Park.

Both land parcels should be sensitively designed to minimise any detrimental impacts upon the existing trees and woodland. Proposals should, simultaneously, create an attractive, appropriate and inviting route into the land parcels.

The eastern edge of the northern parcel should be set back behind existing and enhanced planting on the A1000 to enhance this landscape setting. The north-eastern edge is quite open in character, meaning that this edge of the development will be highly visible from the road. The elevated view from the A1000 should be considered in the building layout and design. A green buffer should be provided towards the edge of the ownership boundary. However, this should be mindful of creating carefully considered views to the new development in the SPD area.

The eastern edge of the southern land parcel should minimise the loss of existing hedgerow and trees in order to retain the existing character of the A1000. The density of planting can be eased at the junction with the roundabout and along Dixons Hill Road to ensure that new developments provide a strong presence and gateway to Welham Green village.

Vehicle access into the southern land parcel off an enlarged roundabout is not favoured due to the consequential loss of existing vegetation, hedgerows and trees and the unattractive pylon and overhead cables. Landscape proposals should enhance this setting.



Fig 5.39

Homes set back from A1000



Fig 5.40

A1000 interface with Millwards Park



Fig 5.41

Woodland (left) separating site from A1000

PRINCIPLE 4E

Ensure that development is appropriate for and reflective of its heritage and semi-rural context

Development proposals will need to include a Heritage Impact Assessment to demonstrate that they will not impact negatively on surrounding heritage areas and structures. Proposals should reflect the character and features, while ensuring that development is a contemporary not to local vernacular, adapting it to better reflect the uses and densities proposed.

Building heights must be considered in relation to Hatfield House and Millwards Park, and any potential impact on Hatfield House must be assessed as per Principle 4B.



Fig 5.42

Gatehouse as part of Millwards Park on the west site of the A1000.



Fig 5.43

Millwards Park as seen from the A1000

PRINCIPLE 4F

Create a new gateway to Welham Green village from the south-eastern edge of the site

Welham Green village is a key neighbour to the site and development proposals should carefully consider the relationship with the village to create a more positive entrance to the village from Dixon's Hill Road.

Development on this edge should mark a transition from rural eastern edge of the A1000, arriving at the 'innovation and technology campus' before continuing the journey to Welham Green or Hatfield.

The development should clearly address this corner and views of the development from this position should be provided and interrogated as part of the design development process. This includes careful consideration of the roofscape and elevations towards the roundabout and Dixons Hill Road.

Improvements to the station area and entrance will be key to this relationship as well as the design and layout of the built form in the southern parcel, which should contribute positively to the character of the village.

The implementation of this principle is encouraged to be delivered in the early phases of development.

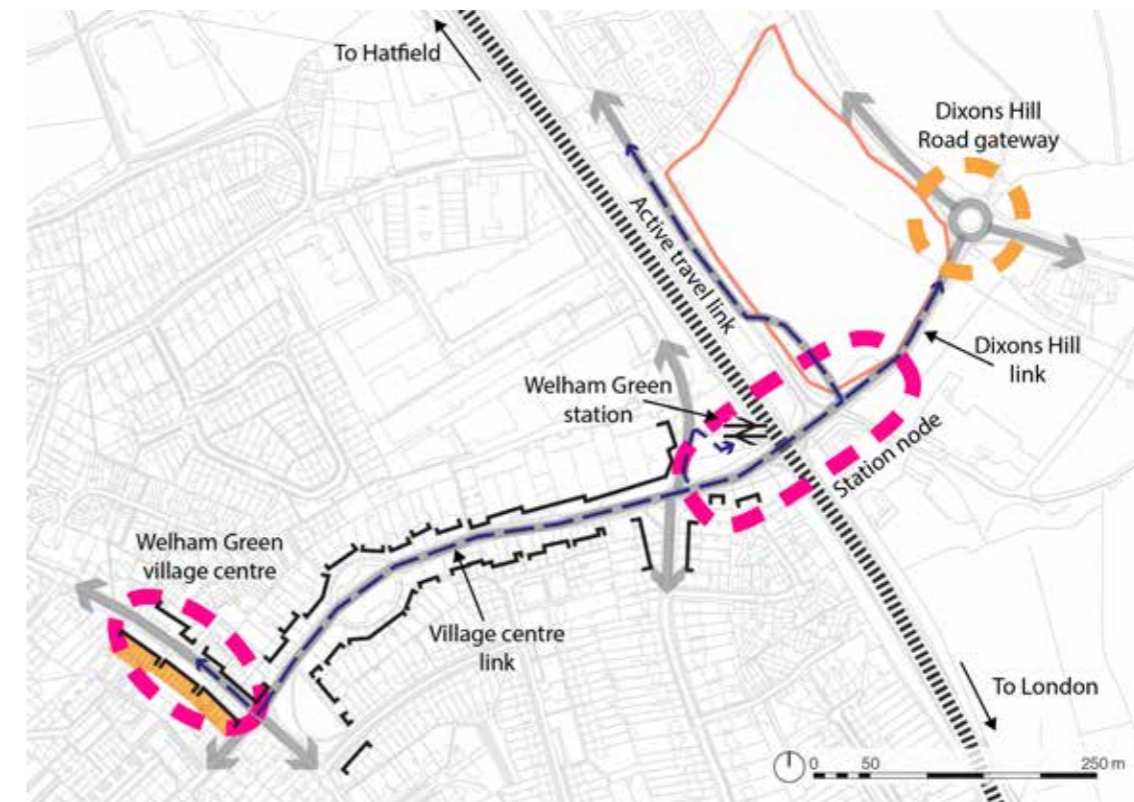


Fig 5.44

Village approach strategy showing the key arrival point the east along Dixons Hill Road, through the station area with improved access arrangements around the over bridge and on to the village centre.

5. AN EXEMPLAR OF HIGH-QUALITY DESIGN AND SUSTAINABILITY

The development of Marshmoor Policy Area will:

- Demonstrate a holistic design approach, delivering resilient, future-proofed and environmentally sustainable design and site planning.
- Push for achieving high and forward-thinking sustainability standards, driving down carbon emissions across all stages, including the design, construction and operation of buildings with a clear strategy for integrating circular economy principles.

PRINCIPLE 5A

Sustainability should be embedded throughout the design, construction and operations process for all architectural, infrastructure and landscape proposals

Policy SPI0 in the Welwyn Hatfield Local Plan sets out a framework for development in the borough to achieve sustainable design and construction. Planning applications should demonstrate their sustainability solutions through a Sustainable Design Statement.

Proposals should demonstrate, for example, that:

- They prioritise reuse and recycling of materials in construction
- Low carbon materials and construction techniques will be used (including full-life cycle carbon assessments)
- They are designed for adaptability and flexibility for future use.
- The design and layout of buildings will minimise embodied and operational carbon, including accommodating the potential for solar panels and heat pumps.
- They will be resilient to future climate change, e.g. overheating and flooding

Policy SADM 13 sets out sustainability requirements, including that all non-residential development with a floorspace of 1,000sqm or more will be required to meeting BREEAM 'Excellent' rating or higher.

Newly constructed dwellings will be required to achieve an estimated water consumption of no more than 110 litres/person/day, with water reuse and recycling and rainwater harvesting incorporated wherever feasible to reduce demand on mains water supply. This provides distinct opportunities for creating closed water systems through flood risk and surface water management infrastructure (Policy SADM 14) and grey water use in new developments.



Fig 5.45



Fig 5.46

Sustainable building materials should be utilised



Fig 5.47 Accordia, Cambridge



Fig 5.48 Great Kneighton, Cambridge

Residential developments should be of high quality, creating attractive streets and neighbourhoods

PRINCIPLE 5B

Incorporate positive measures to mitigate for noise and air pollution from surrounding transport and infrastructure

- Site planning and layouts of buildings should aim to reduce the impact of noise pollution through orientation of buildings and amenity space
- Green buffers should be utilised to mitigate for both air and noise pollutions where possible
- Building design should carefully consider window and ventilation strategies that respond to the context of busy roads and railway infrastructure

The site is surrounded on all sides by transport infrastructure that is a source of noise and / or air pollution. While analysis has suggested that the levels of noise pollution onsite do not preclude development, it will need to be considered in building layout and design.

Building layouts should be designed to reduce the impact of noise pollution through orientation of buildings and amenity space. Noise levels in gardens or private amenity space are likely to exceed upper guideline limits, and therefore should be reduced where possible. Buildings and/or fencing should be used to provide screening for more sensitive buildings more distant from the road and rail. The size, shape and layout of the buildings will need to be considered as the design develops in order to maximise the screening effect. This is typically done with either designing long buildings close together or staggering the buildings to effectively make a hit-and-miss layout, or a combination of both.

Internal noise levels across the site are anticipated to be controllable to suitable levels using commercially available glazing and ventilation products, and consideration of noise and air pollution should be designed from the outset to avoid overheating.



Fig 5.49

Line of trees providing acoustic and visual buffer

PRINCIPLE 5C

Design for future adaptability through reuse of buildings and recycling of building material

Consideration must be given to the suitability and longevity of the buildings accommodating employment floorspace in particular, as it is anticipated to require highly specialised spaces and infrastructure. A clear strategy should be in place demonstrating how the buildings can accommodate alternative uses and layouts and should be designed to be adapted without demolition wherever possible.

This includes careful planning of:

- Floor to ceiling heights, for appropriate servicing of buildings for a range of technology and innovation uses;
- Building floorplates, to insure their adaptability for future occupiers;
- Adequate space and height for plant features designed into buildings;
- Carefully planned servicing of the buildings with access roads

Buildings should try to incorporate reused and sustainable materials. A circular economy strategy should also demonstrate how building components could be repurposed.



Fig 5.50



Fig 5.51 Sainsbury Laboratory

Image Credit: Stanton Williams

6.0 IMPLEMENTATION AND DELIVERY

6.1 PHASING

While the exact phasing and delivery of development across the site and the different development zones is dependent on a range of variables - certain constraints require development to be phased to enable infrastructure and access to unlock further development potential.

It is anticipated that the first phases of development will likely be Development Zone 3 as this is key to opening up the site and gaining access for construction. It may require Development Zone 2 to be delivered in parallel or in close sequence as this zone can accommodate a greater development quantum.

Residential accommodation should be brought forward before or in line with the delivery of the first 50% of development floorspace.

This early phase should come forward alongside active travel and access improvements to the station and the delivery of improvements to the entrance to Marshmoor Lane

Later phases of development will move north, and into the southern parcel. - Each phase should set out clear linked proposals for open space, transport and other mitigations broadly as related to each phase.

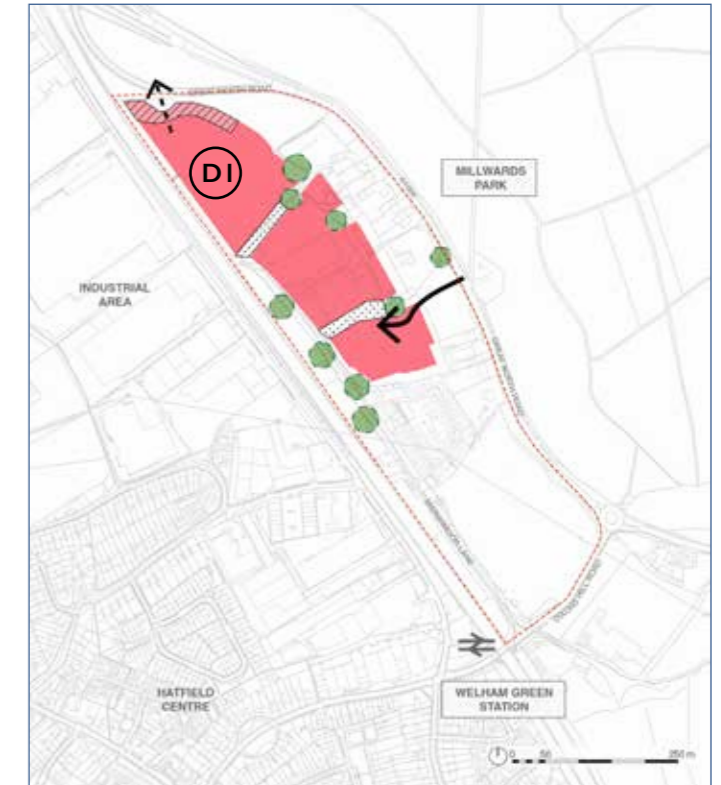
Detailed proposals for development phases and linked on and off site infrastructure must be set out with any future planning application.

Planning applications will be expected on a comprehensive basis to avoid piecemeal development and a failure to plan for the needs of the site in a considered and timely manner.

Indicative Phase 1



Indicative Phase 2



Indicative Phase 3



Fig 6.1-6.3

Phasing diagrams

APPENDICES

- A ADOPTED PLAN - EXTRACT
- B CONSULTATION NOTES AND FEEDBACK
- C LIST OF FIGURES
- D ACCESS OPTIONS

A ADOPTED PLAN - EXTRACTS

Marshmoor Policy Area

- 20.7** Policy SP 23 guides development at one of the borough's strategic sites, which is key to the delivery of the growth strategy of the Plan.

Policy SP 23

Marshmoor Policy Area - SDS7 and wider area

A Supplementary Planning Document for the Marshmoor Policy Area, informed by the Strategy Diagram in Figure 15 below, will be prepared to guide development of SDS7 and other land within the wider Marshmoor Policy Area, which are both defined on the Policies Map. The final quantum and phasing of development within SDS7 will be set out within the Supplementary Planning Document.

Site SDS7 is allocated for a mixed use development comprising 40,500sqm of Class E(g) employment floorspace and 100 no dwellings (Class C3) providing affordable accommodation for those employed on the site. It is intended that this site will primarily be for employment and that the accommodation will form part of the offer of the site to business users, helping them to attract skilled employees and thereby assisting in bringing jobs to this site at an early date. To ensure that this link is retained, the accommodation requirement will be secured through a planning condition or a legal agreement. Once completed, all new Class E(g) development on SDS7 will be afforded the same policy protection as that provided by Policy SADM10.

Development proposals within site SDS7 and the Marshmoor Policy Area will be expected to be consistent with the Supplementary Planning Document, and as a minimum will also be required to comply with the provisions and guidelines set out below:

Access and movement

- i. The primary vehicular access into SDS7 should be taken from the Dixons Hill Road/A1000 roundabout;
- ii. A new secondary vehicular access, or the intensification of an existing access, onto the A1000 to serve SDS7 will only be supported if there is a demonstrable need to facilitate development of SDS7 and any access proposals comply with the Council's movement and highways policies;
- iii. Proportionate provision or contribution toward improvements, in line with the Welwyn Hatfield Infrastructure Delivery Plan, must be made for:
 - a. Accessibility and movement throughout the Marshmoor Policy Area;
 - b. Connectivity for pedestrians and cyclists between the Marshmoor Policy Area and Welham Green Railway Station and village centre, as well as other origins and destinations in the wider area that have a demonstrable relationship with

Welham Green

- the proposal, such as other town and neighbourhood centres, local primary schools and educational establishments; and
- c. Rail and bus transport accessibility of the Marshmoor Policy Area and to support wider sustainable travel initiatives, including improved bus stop facilities and support for bus services that serve the Marshmoor Policy Area.

Heritage, Landscape, Ecology and Design

- iv. A Heritage Impact Assessment may be required for development proposals, depending on their location, scale and relationship to Hatfield House and Hatfield House Historic Park and Garden. Impact Assessments should inform the siting, layout, scale and overall design of development so that substantial harm to heritage assets is avoided, any less than substantial harm is minimised, and opportunities to improve the setting of those heritage assets are implemented;
- v. Proposals will be required to adopt a high quality landscape-led approach to design, with significant planting of tree and shrub species that maintain and enhance a verdant setting across the Marshmoor Policy Area and enhance biodiversity;
- vi. Proposals will be expected to retain a substantial set back of buildings from the A1000 in order to help mitigate heritage impacts and noise and air pollution;
- vii. Proposals on land within close proximity to the A1000 will be required to incorporate high quality and extensive tree planting within those areas closest to the A1000 in order to help mitigate heritage impacts, improve the setting of Hatfield House Park and Garden, create and improve the general appearance of a countryside setting, and maintain the perceived separation between the Marshmoor Area and Hatfield when travelling along the A1000;
- viii. The design of the main vehicular access into SDS7, boundary treatments along the northern side of Dixons Hill Road, and the scale of built development and its relationship with the Dixons Hill Road frontage should create a verdant and spacious gateway and route into and out of Welham Green that also reflects the open countryside context to the south and east of Dixons Hill Road;
- ix. Building heights should be restricted to minimise heritage impacts, and in general should be lower in the eastern and far northern areas of the site;
- x. Boundaries to existing residential development are appropriately designed and landscaped to protect the amenity of those residents, particularly where the proposed development adjacent to them will be for employment uses;
- xi. The siting and design of development, including the use of landscaping and buffers, should support the mitigation of air and noise pollution arising from the railway and A1000 in order to minimise the need for mechanical ventilation within buildings; and
- xii. Proposals should provide appropriate protection, and where possible enhancement, of identified wildlife sites and critical environmental assets that would be affected, notably Millwards Park and the Marshmoor Lane Grassland Strip Wildlife Sites and Water End SSSI.

Flood Risk and Drainage

- xiii. A more detailed understanding of flood risk associated with SDS7 will need to be established via a Flood Risk Assessment, informed by detailed hydraulic models where necessary, that takes account of all sources of flood risk, in particular fluvial flood risk from ordinary watercourses and surface water flood risk. Any Flood Risk Assessment should be informed by the Council's latest Strategic Flood Risk Assessment Level 1 report and Level 2 assessment of the Marshmoor Area. The

Welham Green

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recommendations and guidance set out in the Level 2 assessment for the Marshmoor Area should be considered and addressed in full;

- xiv. The use of Sustainable Drainage Systems should be prioritised to manage surface water runoff and flood risk;
- xv. A sequential approach to layout within SDS7 should be adopted so that built development is confined to Flood Zone 1 and avoids areas identified as being at high risk of surface water flooding, taking account of the vulnerability of the proposed uses and mitigation afforded by the Sustainable Drainage System;
- xvi. Flood risk management solutions, including Sustainable Drainage Systems, within the site should seek to reduce flood risk to third party land and the wider area wherever possible; and
- xvii. Necessary new utilities infrastructure, in particular upgrades to the local sewerage network, are provided.

Justification

20.8 This policy will be taken into account in the determination of planning applications. It supports the spatial vision and borough-wide objectives 1, 2, 3, 4, 5, 7, 8 and 11.

20.9 SDS7 will deliver a mixed use development comprising 4.1 hectares of employment uses (Class E(g)) together with a limited amount of residential development. The Council's preference is for E(g)(ii) employment development related to life sciences and research. Proposals for other uses within Class E(g), in particular E(g)(iii), would need to give particular regard to protecting the amenity of existing residential occupiers within the Marshmoor Policy Area, in terms of the the design of development and operational impacts such as air quality, noise and traffic generation. The Council would in particular welcome residential development that would support and be occupied by those employed on the site within the life sciences and research industry.

Figure 15
SDS7 (WeG4B)
Marshmoor Policy Area



Welham Green

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20.10 The Marshmoor Policy Area primarily covers SDS7 but also takes in a wider area beyond the allocation which has also been released from the Green Belt. A key characteristic of this wider area is large residential and commercial plots which run along the Great North Road. These plots, once removed from the Green Belt, have a greater potential for change than previously possible which may result in them becoming more intensively developed over time. This raises the possibility of incremental change to the wider setting of the Hatfield House Historic and Park and Garden and wildlife site. As such, a policy approach to this wider area has been adopted in order to ensure development of these plots other land in the policy area will improve the setting of the Hatfield House Historic Park and Garden and avoid or mitigate wider landscape and ecological impacts, principally through the siting and design of built development and the quality of landscaping proposals.

20.11 Therefore, the delivery of SDS7 will need to address the specific issues set out in SP 23 alongside other material considerations in order to bring forward successful development on SDS7 and to ensure development in the wider area is acceptable. These are primarily:

- **Access and connectivity:** The land east of the railway line does not have a network public rights of way or usable footpaths or cycle paths which development of the site could make use of. Therefore, key to the success of any development proposals within the Marshmoor Policy Area, and in particular SDS7, will be the creation of routes through the Marshmoor Policy Area for those wishing to travel without the use of a motor vehicle throughout the site and into Welham Green. At present, connectivity for pedestrians, cyclists and wheelchair users between Marshmoor and Welham Green west of the railway line is poor due to the lack of appropriate crossing points and suitable routes.
- **Heritage and landscape:** This Grade I registered park and garden lies immediately to the east of SDS7 and the Marshmoor area. Development of SDS7 and other development in the Marshmoor area will be expected to improve this part of the setting of the heritage asset and at least mitigate any adverse impacts upon its significance .
- **Flood risk:** At present, the northern and southern parts of the Marshmoor Policy Area and SDS7 in particular are prone to surface and fluvial flood risk with the considerable potential to affect the siting and design of development. Flood risk will be expected to be key consideration in the layout and design of proposals, and where possible any flood risk mitigation measures should seek to improve flood risk within and beyond the policy area if possible.

20.12 SP 23 also provide a basic framework for the Marshmoor Policy Area SPD which will also guide development in the wider area.

Implementation

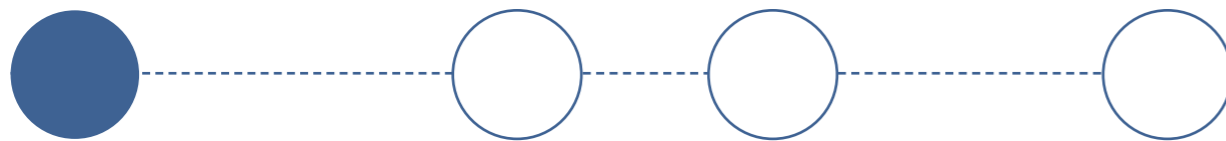
20.13 Site SDS7 will be delivered in accordance with Policy SP 23 which sets out a more detailed policy framework for this strategic site. In accordance with Policy SP 23, development at SDS7 will be further guided by a Supplementary Planning Document, which will be prepared for the Marshmoor Policy Area. It is anticipated that site SDS7 could be delivered within the first 10 years of the plan period.

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B STATEMENT OF CONSULTATION

BI MARSHMOOR LIAISON GROUP MEETING I

26 February 2024



Attendees

- Councillor Adrienne Nix, Welwyn Hatfield Borough Council
- Councillor Jane Quinton, Welwyn Hatfield Borough Council
- Councillor Stephen Boulton, Welwyn Hatfield Borough Council, Hertfordshire County Council and North Mymms Parish Council
- Councillor Rose Grewal, Welwyn Hatfield Borough Council
- Teresa Travell, Chair of North Mymms Parish Council
- Matt Wilson Planning Policy and Implementation Manager, Welwyn Hatfield BC - CHAIR
- Matt Pyecroft Principal Planning Officer, Welwyn Hatfield BC
- Conor Matthews Planning Policy officer, Welwyn Hatfield BC
- Chris Carter Assistant Director Planning, Welwyn Hatfield BC
- Rachael Walsh, Gascoyne Estates (principal landowner)
- Hilary Satchwell Tibbalds (planning and urban design lead)

Key Discussion Points

Local Plan and SPD

- SPD will be based on the Local Plan policy and may outline any reasons for change and the need for doing so and show any alternatives
- Gascoyne's team are leading on the production of the SPD working with Welwyn Hatfield officers

Ownership

- Most of the site is owned by Gascoyne Estates (GE) with two smaller landownerships both of whom have agreed that GE can act on their behalf. This approach has been agreed with Welwyn Hatfield Officers.

Project Aspiration and Targets

- Gascoyne Estate's aspiration for a science and technology focussed campus on the site with linked housing for those working on site
- Allocation is for 40,500 sqm of employment floorspace (class E(g)) and 100 linked homes
- Important strategic location in the London Oxford Cambridge Triangle and part of the Hertfordshire Innovations Quarter.
- Campus to be open and outward looking, with landscape accessible to the public.

Land Use and Occupiers

- Use Class E(g) is for employment uses which can be carried out in a residential area without detriment to its amenity and includes:
 - E(g)(i) Offices to carry out any operational or administrative functions
 - E(g)(ii) Research and development of products or processes
 - E(g)(iii) Industrial processes
- GE are talking to a range of potential developers, occupiers and operators to gauge interest and requirements. This includes local organisations like the Royal Veterinary College.

- There are some uses that are not likely to be acceptable e.g. large data centre or the type of employment uses to the west of the railway line
- Residential is included as many of the larger operators of the type who may be interested would be looking for this
- Need to locate appropriate uses around the park homes and along the homes fronting onto the A1000 New North Road, with consideration for distance from surrounding and adjacent buildings and railway line.
- 5 different land use distribution scenarios explored, SPD to remain flexible.

Housing

- Discussions around the housing included:
 - Whether this would be key worker housing?
 - What kind of affordable housing?
 - Planning mechanisms to be considered
 - Flexibility needed over time if needs should change
 - To consider what if no one wants the housing
 - Policy requires that there is a link secured by condition or legal agreement.
- Housing to be near the station and the village rather than off to the north.
- Proximity of housing to the existing park homes to 'blend' the use of land together
- More likely to be more apartments rather than houses.

Development Scenarios

- GE's intention is to find one developer or occupier that takes all the site and who will then bring it forward in phases
- GE looking at a range of scenarios, including
 - Scenario 1 – specialist developer
 - Scenario 2 - Investor manager with shared infrastructure and investment backed
 - Scenario 3 – Long lease to single occupier

Roads, Connectivity and Parking

- Numbers of employees on the site might vary from 1000 to 4000 depending on the specific use, with office uses likely to generate much higher occupancy than research.
- Speed along the A1000 adjacent to the site may need to be considered.
- Marshmoor Lane as an exit is poor
- Range of access options to be considered and that the southern and northern site areas may need to be independently accessed for vehicles with a sustainable and active travel spine along Marshmoor Lane (with local access preserved for existing users).
- Important to make the most of existing link to station and to support existing village uses e.g. shop and café, rather than to compete with them

Landscape and Architecture

- Buildings need to be long lasting and durable and still to look good in 10-15+ years time and longer.
- Preference expressed for housing in nice local materials, not timber cladding or concrete.

B STATEMENT OF CONSULTATION

B2 HERTFORDSHIRE DESIGN REVIEW PANEL

4 June 2024



Attendees

Design Review Panel

- Chair: Tim Riley, RCKa
- Paul Dodd, Outdesign Studio
- Kevin Burrell, Kevin Burrell Consulting
- Annabel Keegan, PJA

Project Design Team

- Hilary Satchwell, Director, Tibbalds Planning and Urban Design
- Augusta Grey, Senior Urban Designer, Tibbalds Planning and Urban Design
- Sanjay Ghodke, Senior Associate, Stanton Williams Architects
- Melanie Dobson, Associate i-Transport LLP
- Rachel Walsh, Gascoyne Estates

Local Planning Authority

- Matt Pyecroft, Welwyn Hatfield Borough Council
- Conor Matthews, Welwyn Hatfield Borough Council
- Annemarie De Boom, Welwyn Hatfield Borough Council

Hertfordshire Design Review Service

- Jennifer Owen, Design Review Service Coordinator

Panel Observations and Recommendations

Summary and Conclusion

The Panel appreciate that this is a particularly challenging site and that translating the objectives of the Plan Allocation relies on some flexibility. The Panel agree that a separate vehicular access to the site from the A1000 is essential.

The Design Team have made a good start with some thoughtful analysis and agree with the campus approach, however, due to the multiple landscape constraints and opportunities, the influence of the landscape design response needs greater prominence. Linked to this is the opportunity to lean into the characteristics of the site to establish a unique character – To assist, the Panel believe that taller buildings may be appropriate to reduce footprint and better integrate with the landscape.

The SPD needs to describe how car dependency can be reduced in terms of access to and movement within the site. To this end, greater consideration is required for how alternative connections with the wider community can be improved. Much of this is outside the remit of the SPD but the potential to allow for future improvements to strategic pedestrian and cycle connections should be addressed.

Most importantly, the isolated nature of the site relative to Hatfield and Welham Green presents a significant challenge in terms of community cohesion. Addressing cycle and pedestrian connectivity will improve matters, however, a greater emphasis on placemaking to encourage sustained activity. This can be achieved with greater integration of employment and residential uses, and with complementary social infrastructure, the wider community could contribute to the life of the site.

The Panel appreciate that the purpose of the review is for the Hatfield Innovation Park, Marshmoor SPD. Whilst there is some sense in providing an SPD that is broad in definition, the work to date has demonstrated that a more definitive approach is required. This will allow the team to address the multiple constraints of the site with a more integrated approach that can be more responsive to the landscape character. Furthermore this will provide the Development Management Team with a better framework to judge future planning applications against.

We trust that our comments are helpful and look forward to seeing the developed SPD.

Green Infrastructure

- The Panel support the principle of a landscape led approach in this rural settlement edge location, however this was not evident within the emerging proposals. In addition the Panel noted that the project design team did not include a landscape architect, and strongly recommends that landscape expertise is required from the outset to help enrich and influence the approach at this strategic stage.
- It is strongly advised that green infrastructure should provide the framework that underpins and shapes the development, and runs as a golden thread throughout the SPD, pulling together landscape, topography, drainage, ecology, climate change resilience and adaptation, demonstrating a truly sustainable approach. Green Infrastructure assets should be celebrated, and the SPD should provide details and aspirations for how the employment campus knits with its landscape setting.
- It is advised that principles should set a high bar for environmental standards, which exceed national and local policy requirements, and ensure the delivery of high quality and sustainable buildings and places.

Density and Infrastructure provision

- The Panel agreed that this a complex site, with extensive physical constraints, and as such the infrastructure costs required to facilitate the development are likely to be extremely high. With this in mind, there is concern for the low-density approach to the campus development and, it is queried whether such a low-density approach will indeed deliver the infrastructure required. It is encouraged to explore more sustainable options with a greater density of development, subject to Landscape and Visual Impact Assessment and other relevant survey and analysis. This site is the only Green Belt allocation for employment in the new Local Plan and is an opportunity that should be maximised to provide much needed high-quality employment. The quantum of employment space could be more ambitious.

Housing Typologies, Mix and Distribution

- The southern site parcel is severely affected by a range of constraints such as the existing caravan park edge, flooding, the pylons, and issues surrounding accessibility. It is therefore queried if there is sufficient space and conditions to realistically provide high quality housing in this location and whether it may be better suited to the delivery of biodiversity net gain, attenuation, and flood mitigation. Electricity pylons and their associated exclusion zone passing through a small residential neighbourhood will isolate the homes to the east and be harmful to community cohesion. Alternatively, it may be possible to deal with the majority of surface water drainage further up the slope to the east to release more land for housing development along the western boundary.
- The housing typology requires resolution as this will impact upon the character and quality of place. There is concern that a single typology of one bed flats will be dormitory to the village and create a quiet and dead space in the evenings

and weekends, whereas a more mixed typology, spread across the northern and southern site parcels, may encourage activity and vibrancy outside working hours. Whilst the benefits of providing housing for employees from further afield may be an attractive option for businesses, there should be an equal emphasis on provision of local jobs and training.

Local Character and Context

- The Panel were concerned that the response to local character is a key policy requirement, however it was not adequately addressed in the design team's presentation and needs to inform the approach to the site more strongly. The panel don't believe that the proposals need to mimic a particular character and instead character can be led by use, integration with the landscape and a response to this unique place.
- Integrating the new community with the existing local communities is a challenge, and it is suggested that creating more flexibility in the housing offer (not just for campus workers) and encouraging more cross over between the new development and wider settlement, could help overcome this.
- It is advised that the approach to the southern site parcel should be informed by what is happening within its immediate context. This includes future plans for intensification around the train station, and future expansion plans for the traveller's site, which all require deeper investigation and clarification.
- It is suggested that there is an opportunity to deal with the existing residences along the A1000, by creating a back to back arrangement, that could include residential, and would provide a more positive and comfortable relationship by creating a secure perimeter block arrangement with existing properties. It is important not to create a planning buffer zone along here, and to ensure that conditions are flexible enough to react positively to potential future changes on the adjoining land.

Visual Impact and Building Heights

- The Panel felt that the emerging proposals may be too sensitive in terms of the treatment of edges and building heights. It is encouraged to think about restricting heights in terms of the most sensitive views from the wider area (such as those from Hatfield House), and to not place such great weight on views from lower sensitivity receptors such as passing motorists. Increasing heights may result in reduced footprints and free up space for more generous green infrastructure. The conversation needs to be about visual impact – not height.

Connectivity and Movement

- Despite being geographically close to local settlements, the Panel agreed that the site feels isolated from Welham Green and the wider area. There is concern that the development will be highly car dependant and that clearer more ambitious targets for reducing car use need to be set.
- It is essential that the scheme is knitted into its surroundings via high quality, direct and legible active travel routes. This needs to be considered as part of the wider context, and alongside the LCWIP to ensure that the development does not become dependent on car-based trips. There needs to be clear principle to link Marshmoor Drive to NCN 12.
- It was mentioned that there is potential to deliver a wider link as part of a linear park corridor also in applicants' ownership. This should be included in the vision.
- Links to the train station are currently tortuous and require significant improvement. The Design Team indicated that conversations with Network Rail are ongoing. Clear options to demonstrate how access to the station can be improved to benefit both the new and existing communities should be included in the vision.

Access Strategy

- There is concern that the access strategy remains unresolved. It is encouraged to focus on the issues and bottom out the approach now, as they are key to unlocking the site and ensuring it can be delivered.

Arrival Experience and Car Parking

- Multiple potential points of vehicular access are described. It is suggested that these should be limited to create fewer and ideally one high quality moment of arrival.
- The location of the multi-storey car park in a highly exposed location at the development gateway to the north detracts from the quality of the arrival experience. Views of the site from the north would benefit from a building and use that reflects the high quality and exceptional campus..
- A multi-storey car park solution is sensible and locating it near a vehicular entrance will reduce car movement and encourage pedestrian activity within the campus. The challenge for the design team is to do so in a way that does not harm the character of the site and the initial arrival experience.
- The Panel support the provision of a multi-storey car park, which will reduce the amount of land given over to parking and increase the area of landscape. It is understood that the earlier phases of development may require some surface car parking provision, it is advised that the SPD should provide principles that ensure that these areas are rewilded once the multi storey is in operation. The Design Team are encouraged to look at options for creation of a mobility hub within the multi-storey car park to improve access by sustainable modes.

Marshmoor Lane Pedestrian and Cycle Route

- The Panel fully supported the proposal to provide an active travel route for pedestrians and cyclists along Marshmoor Lane. They advised that it should be treated as a primary route, providing important direct links with the wider settlements to the north and south, and of a high quality, legible, and safe for pedestrians and cyclists to use day and night. How the proposed housing addresses and accesses the route will also require careful consideration.
- There was concern for the conflict between vehicular traffic using Marshmoor Lane, and pedestrians and cyclists (as experienced on the site visit), due to the constrained width of the carriageway. With this in mind, issues around land ownership, and opportunities for enhancement, are critical to the success of this route and require thorough exploration. The Design Team indicated that there may be potential to re-route traffic from the caravan park via the new development. This should be investigated further and included in the Design Vision if practicable.
- It was recommended to consider a 'quiet lane' designation.

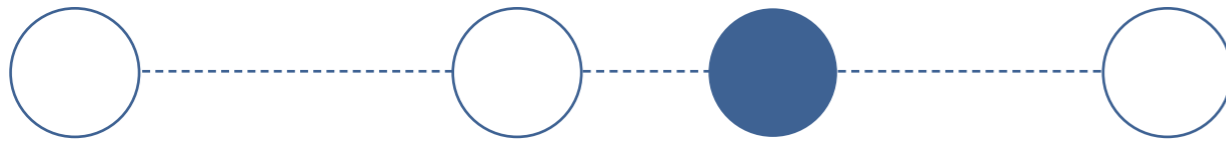
Sustainability and Drainage

- Schedule 3 of the Flood and Water Management Act is likely to be enacted in 2024 and will mandate SuDS on all development. A landscaped approach can integrate SuDs and swales into the vision for the site and help define a unique character.
- The supplementary planning document (SPD) must ensure that SuDS are embedded within the development from the outset, it is likely that it will be required to mitigate greater volumes of surface water than currently anticipated. Opportunities to capture water at the source, and further up the management train, should be utilised.

B STATEMENT OF CONSULTATION

B3 MARSHMOOR LIAISON GROUP MEETING 2

24 June 2024



Attendees

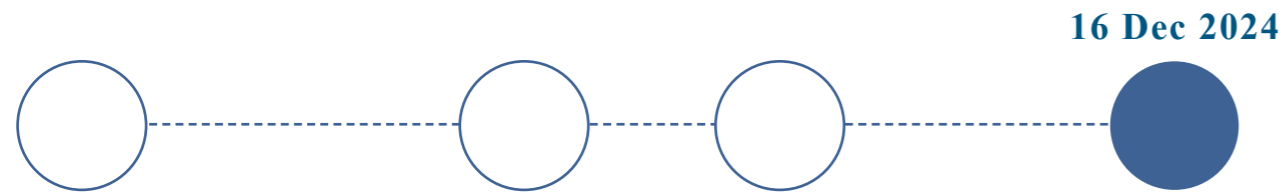
- Teresa Travell, Chair of North Mymms Parish Council
- Councillor Stephen Boulton, Welwyn Hatfield Borough Council, Hertfordshire County Council and North Mymms Parish Council
- Councillor Adrienne Nix, Welwyn Hatfield Borough Council
- Councillor Rose Grewal, Welwyn Hatfield Borough Council
- Conor Matthews Planning Policy officer, Welwyn Hatfield BC
- Chris Carter Assistant Director Planning, Welwyn Hatfield BC
- Matt Pyecroft Principal Planning Officer, Welwyn Hatfield BC
- Matt Wilson Planning Policy and Implementation Manager, Welwyn Hatfield BC - CHAIR
- Councillor Jane Quinton, Welwyn Hatfield Borough Council
- Rachael Walsh, Gascoyne Estates (principal landowner)
- Melanie Dobson, iTransport
- Hilary Satchwell Tibbalds (planning and urban design lead)

Key Discussion Points

- Reviews of constraints analysis
- Potential reference - Wellcome Genome Campus
- Importance of the transition to the village in regards to scale and aesthetic of development
- The importance of the heritage setting should be emphasised
- Development should be visible and reflect the 'innovation' of the campus
- Operators / occupiers will want to control the visibility of internal activity
- Flexibility needs to be built into the design for future operators
- Phasing in the SPD should highlight preference or likely approach - but maintain flexibility
- Need to provide an anchor use or occupier
- The vision needs to capture the sustainability of buildings, natural environment and people
- Campus should provide small buses / shuttle service - to support car free development.
- Demand Responsive Travel (DRT) can be site specific or app based (such as Wellcome Genome Campus)
- Emphasise how the development can and should add value to the existing community
 - Open space provision and access
 - Pedestrian and cycle connections
- Consider light and dark spaces - which are accessible at night time
- Need to consider the risk of ASB or fly-tipping, particularly along the ditch in Marshmoor Lane
- Explore opportunities to introduce multi-storey car parking at the rear, so people are encouraged to walk around the campus
- Need to get people out of their cars at the earliest stages of the project
- No building within 15m of rear gardens of existing residential uses
- Below ground parking is great and could be useful
- SPD can not be too fixed or prescriptive as end uses and users are still unknown
- There is a Sustainability SPD being prepared in parallel - how will this inform the Marshmoor Area SPD and vice versa?
- There is some concern about impacting or blocking access to the village - this should be carefully considered and worded in SPD
- Concern about development impact on Dixons Hill Road
- Consideration of traffic speed reduction and impact on the village
- Consider sensor-operated traffic light system
- Residents of Welham Green are very interested in the transport aspects

B STATEMENT OF CONSULTATION

B4 MARSHMOOR LIAISON GROUP MEETING 3



Attendees

- Teresa Travell - North Mymms Parish Council
- Councillor Stephen Boulton - Hertfordshire County Council
- Councillor Adrienne Nix - Welwyn Hatfield Borough Council
- Councillor Rose Grewal - Welwyn Hatfield Borough Council
- Conor Matthews - Planning Policy Officer, Welwyn Hatfield BC
- Chris Carter - Assistant Director Planning, Welwyn Hatfield BC
- Matt Pycroft - Principal Planning Officer, Welwyn Hatfield BC
- Matt Wilson - Planning Policy and Implementation Manager, Welwyn Hatfield BC
- Councillor Jane Quinton - Welwyn Hatfield Borough Council
- Rachael Elvin - Principal landowner, Gascoyne Estates
- Hilary Satchwell - Tibbalds Planning and Urban Design

Summary of Discussion Points

MW and HS updated on progress with the draft SPD since the last meeting in June. In terms of programme the plan is now for the SPD to go to CPPP in January and out to consultation in February/ March. It was confirmed that the document would principally be called Marshmoor SPD to relate to the Local Plan policy and would also reference the Hatfield Innovation Park name that is being promoted by GE.

It was discussed that in person consultation would be organised by GE after half term in February and that a good location in Welham Green for a weekday/ evening drop in event would be identified nearer the time. It was agreed that the consultation needs to present things simply and from the beginning as it is some time since the local community have had involvement in this site. It will need to break down the technical issues such as flooding and drainage, access and noise in was that is easily understandable by many. It is expected that there will be strong interest in the site from local residents in particular in terms of what the site will look like, impact on local residents and how it can benefit the village. An FAQ for the consultation stage was also agreed to be useful.

RE updated on the progress that Gascoyne Estates had been making in looking for a development partner or developer for the Hatfield Innovation Park site. They confirmed a good level of interest and have now appointed an agent. Confirmation of the likely type of developers and occupiers was requested but it was explained that this can't yet be confirmed but that they will be expected to relate to the local market and area.

RE also explained the intention that GE remain an interested party in the development to retain some control over time.

HS took the group through updates to the structure, vision and principles for the Marshmoor SPD and how this had responded to previous comments raised and additional technical work.

Key issues raised and discussed included the following:

- How would parking and vehicular be managed given that this is already a problem for the existing industrial estate? It was noted that the industrial estate was not planned or managed as one estate and that uses had changed over time and that the intention for the Marshmoor site was that it is much more coordinated.
- It was raised that Welham Green residents would be concerned about vehicular access in general and the impact on queuing along Dixons Hill Road in particular, including during the construction stages. It was agreed that the document needs to explain more clearly the changes proposed along Dixons Hill Road/ Marshmoor Lane junction and how these provide a wider benefit for pedestrians wanting to cross this road safely, and those seeking level access to the station on both sides. A further diagram and text to explain this would be beneficial so it could be more widely understood as the indicative road layouts that are proposed to be in the appendix are not simple to understand for non-technical people. In particular it needs to be explained in the SPD that the employment traffic accessing the main and northern part of the site will not be via Marshmoor Lane and it is only existing user plus the likely residential in the south that would be accessing this route in this way.
- Potential for solar panels on rooftops was discussed and it was agreed that whilst the proposals will be expected to conform with the Council's sustainability policy it isn't appropriate for the SPD to prescribe that solar panels are necessarily the answer when it may be that technologies such as air source or ground source heat pumps better meets the site's needs. It was agreed that the SPD could suggest the use of solar panels as an appropriate solution. The site should be built to high standards and should not need retrofitting in a few years time.
- Discussion around the relationship between the site and Welham Green and Hatfield. Agreed that the site needs to relate to the village as it will change a key gateway into the village from the east but that it will also have a role for wider Hatfield. For example the benefits that the development makes to the wider area should be clearly set out e.g. that the site delivers the first third of a possible new cycle route from Welham Green to Hatfield and brings high quality jobs to the area.
- It is important that the new development remains well managed and does not look scruffy over time. There was a discussion about landscape and building quality being important as well as biodiversity and ecology.
- A question was raised about noise from the new building on existing and adjacent homes. It was confirmed that this would need to be tested and considered through a future planning application but is not expected to be significant at this stage. A concern was raised about things like servicing and refuse collections from the existing industrial estate on the other side of the railway line and the disturbance this causes to nearby households.

As mentioned above the coordinated planning and management of this site will make this easier to control and this issue will be considered in a servicing plan submitted with a future comprehensive planning application. For now in the SPD this needs to be considered as part of “being a good neighbour”.

- In terms of phasing it was asked whether some of the phasing could be concurrent and it was agreed that it could be as long as all other tests were met. Phasing is also set out indicatively in the draft SPD and will be considered in more detail later as part of a comprehensive planning application. RVV confirmed that it was unlikely that an application for the site would come forward until the back end of 2026.
- The status and protection for the residential part of the site was discussed and it was confirmed that this can't be sold separately as the policy clearly links its use to the employment site. It is expected that this is more likely to be for employees e.g. researchers for limited time period rather than long term family accommodation but this will depend on the different occupier's needs.
- There was a good level of support in the discussion on progress with the document and it was agreed that it had come along way. A clear movement forward from the policy in the Local Plan.

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C LIST OF FIGURES

Fig number	Caption
1.1	Cover page for the Welwyn Hatfield Borough Council Local Plan 2016-2036
1.2	Extract of Figure 15 from the Welwyn Hatfield Borough Council Local Plan 2016-2036, outlining SDS7 (WeG4B) Marshmoor Policy Area
1.3	Site Boundary and SPD Area Boundary Map

2.1	London-Cambridge Innovation Corridor
2.2	Innovation and Technology clusters around Hatfield (Source: The Gascoyne Estate, Hatfield Innovation Campus brochure)
2.3	Strategic Connectivity (Source: The Gascoyne Estate, Hatfield Innovation Campus brochure)
2.4	Map showing Marshmoor red line and photo locations
2.5	Southern parcel of Marshmoor site, looking North East
2.6	Marshmoor train station, looking towards the site
2.7	Great Northern Road looking south with site on the right (A1000)
2.8	Dixon Hill Road, looking North East with site on the left
2.9	Travellers Lane Industrial Estate
2.10	Millwards Park
2.11	Marshmoor Lane, looking North
2.12	Park homes
2.13	Industrial Estate
2.14	Welham Green residential area
2.15	Park Homes
2.16	Land uses around the site
2.17	Millwards Park
2.18	Site of Marshmoor Farm (HER 18581)
2.19	Mid 19th century south lodge in Hatfield park, opposite the site
2.20	Land ownership plan with overlay of key heritage assess
2.21	Priority habitat ditch
2.22	Local Wildlife Site
2.24	Priority habitat ditch
2.25	Landscape opportunities and Constraints
2.26	Veteran trees located on X of Marshmoor site
2.27	T50 Veteran tree on the Marshmoor site
2.28	Map showing location of trees and woodland on and around the site
2.29	PROW locations
2.30	Access to PROW on the site from Dixon Hill Road
2.31	Bus routes adjacent to the site
2.32	Walking and Cycling opportunities around the site
2.33	Testing vehicular access points to site

2.34	Wider context map showing the site, Welham Green village, Hatfield and the surround area
2.35	Map showing potential flood risk zones
2.36	Air quality onsite
2.37	Acoustic modelling onsite
2.38	Overhead pylon lines on the site
2.39	Location of pylon lines across the site
2.40	Combined utilities plan
2.41	Combined constraints plan

4.1	Illustrative aerial view of the vision for Marshmoor SPD Area
4.2	Vignette of campus building
4.3	Vignette of walking through woodlands
4.4	Vignette of walking and cycling
4.5	Vignette of proposed housing
4.6	Vignette of campus building
4.7	Arrival into the 'campus' from the A1000, weaving through woodlands and dense planting.
4.8	Looking towards the central landscaped area forming the 'campus green'. providing a space for social interaction, rest and respite.
4.9	Looking across Marshmoor Lane to the southern edge of the site, where a new watery landscape will manage flood risk..

5.1	Development Zones
5.2	Spatial Framework Diagram
5.3	Illustrative masterplan
5.4	Land Use Distribution Option 1
5.5	Land Use Distribution Option 2
5.6	Land Use Distribution Option 3
5.7	Spillover activity from ancillary uses can activate landscaped spaces
5.8	Active travel hub can support active and sustainable travel for users
5.9	Activate rooftop spaces for shared amenity and infrastructure to support the campus
5.10	Veteran tree (Oak) on middle-right side
5.11	Hedgerows along road South West of site
5.12	Category B trees in open field
5.13	The Wellcome Sanger Institute provides a useful case study for a science and innovation campus informed by design and landscape. <i>Image Credit: Wellcome Sanger Institute</i>
5.14	A central unifying landscape ties together the campus at Wellcome Sanger Institute. <i>Image Credit: Phil Mynott / Wellcome Sanger Institute</i>
5.15	New wetland landscapes providing new opportunities for enhancing biodiversity
5.16	Wildflower margins and indigenous mixed planting
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5.18	SuDs interventions creating wetlands
5.19	SUDS / pond with viewing platform
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5.24	Pedestrian and cycle priority crossing at key junctions connecting the site to its surroundings
5.25	Well signposted cycling routes connecting Welham Green village centre and Hatfield Station through the site
5.26	Public lift at Hackney Wick, London. A lift can provide accessible and direct connections to the station from the SPD area
5.27	Pedestrian Footbridge at Hackney Wick, London. A potential footbridge can provide direct access between the two platforms, integrating with a lift for street level access
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5.33	Vehicular access points
5.34	Heights comparison between Lab and Multi-storey car park
5.35	Multi-storey car park - Ejler Bille Parking House <i>Image Credit: JAJA Architects</i>
5.36	Mobility Hub with play amenity of roof - Parking House + Konditaget Lüders <i>Image Credit: Rasmus Hjortshøj for JAJA Architects</i>
5.37	Land use and heights diagram
5.38	Activate ground floor frontages by creating visual connections between internal and external spaces
5.39	Homes set back from A1000
5.40	Character along A1000 and Millwards Park
5.41	Woodland (left) separating site from A1000
5.42	Gatehouse as part of Millwards Park on the west site of the A1000.
5.43	Millwards Park as seen from the A1000
5.44	Village approach strategy showing the key arrival point the east along Dixons Hill Road, through the station area with improved access arrangements around the over bridge and on to the village centre.
5.45	Sustainable building materials should be utilised
5.46	Sustainable building materials should be utilised
5.47	Accordia, Cambridge
5.48	Great Kneighton, Cambridge. Residential developments should be of high quality, creating attractive streets and neighbourhoods
5.49	Line of trees providing acoustic and visual buffer
5.50	Precedent image - Sainsbury Laboratory. Photos <i>Image Credit: Stanton Williams</i>
5.51	Precedent image - Sainsbury Laboratory. Photos <i>Image Credit: Stanton Williams</i>
6.1-6.3	Phasing diagrams

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D ACCESS OPTIONS

A number of possible junction arrangements have been tested at high level for vehicular and active travel access to the site as part of the development of this SPD.

These plans are set out on the following pages and whilst they should not be relied upon as an agreed solution they have been informally discussed with the County Council as highways authority.

Indicative access and movement ideas are included for the following locations:

- A potential new cycle link north to Hatfield Rail station (Figure A)
- A potential improved access at the southern end of Marshmoor Lane that also includes improved arrangements for pedestrians and cyclists and access to Welham Green Rail Station [preferred](Figure B)
- A potential upgrade to the roundabout at the junction of the Great North Road and Dixons Hill Road but that is not thought to be of an appropriate scale for the development (Figure C)
- A possible new access to the southern development area from the Great North Road [not preferred] (Figure D)
- A possible new access to the southern development area from Dixons Hill Road [not preferred] (Figure E)
- An access to the northern parcel from the Great North Road [preferred] (Figure F)
- A possible left in left out arrangement from the slip road to the north into the northern parcel (Figure G)

Fig A

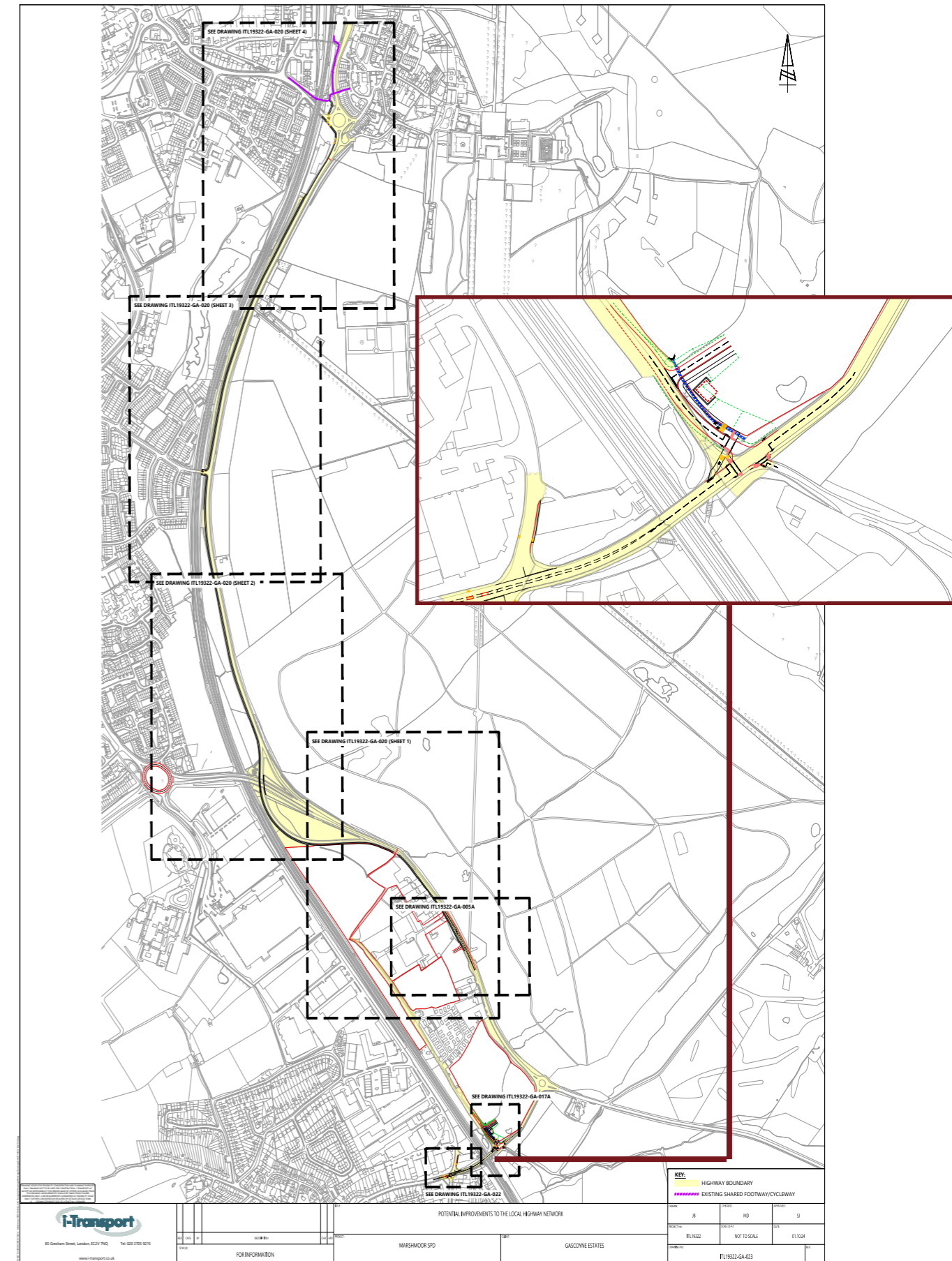


Fig B

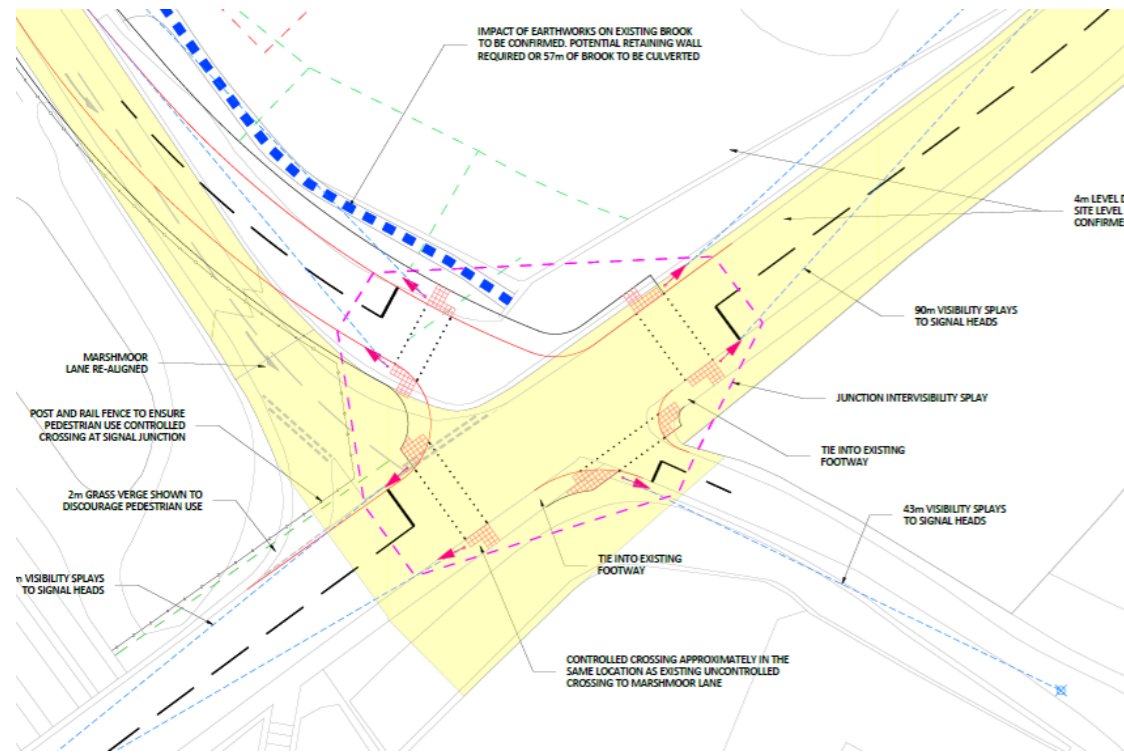
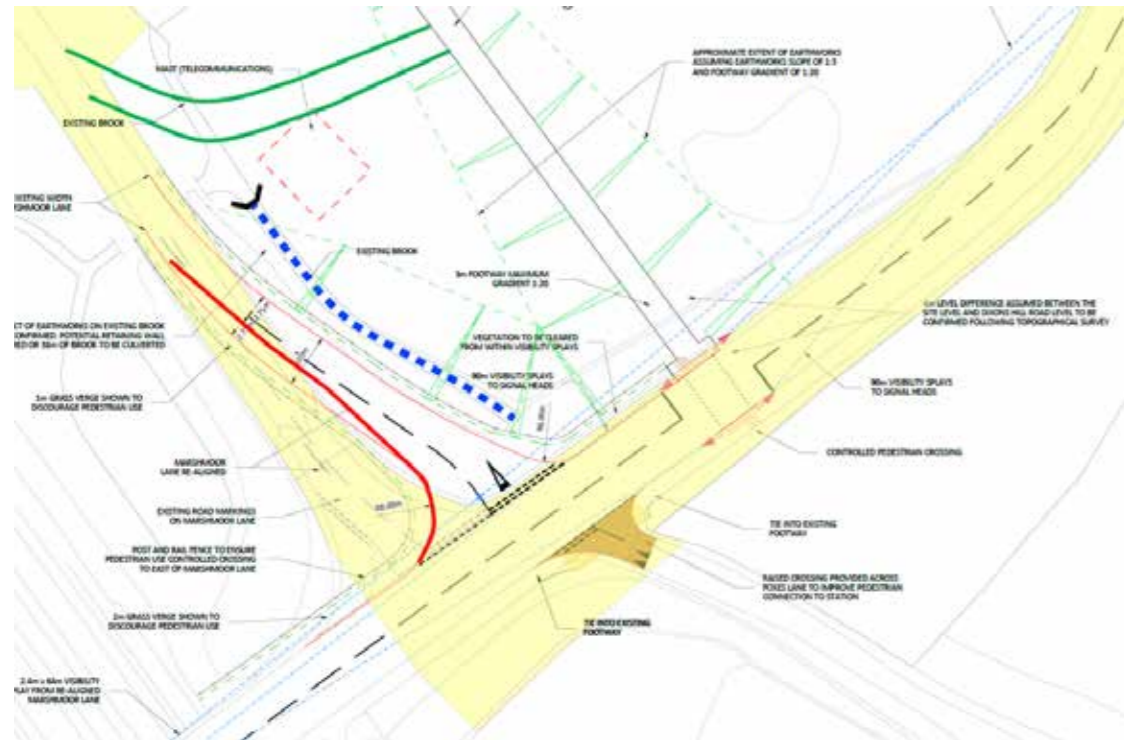


Fig C



Fig E

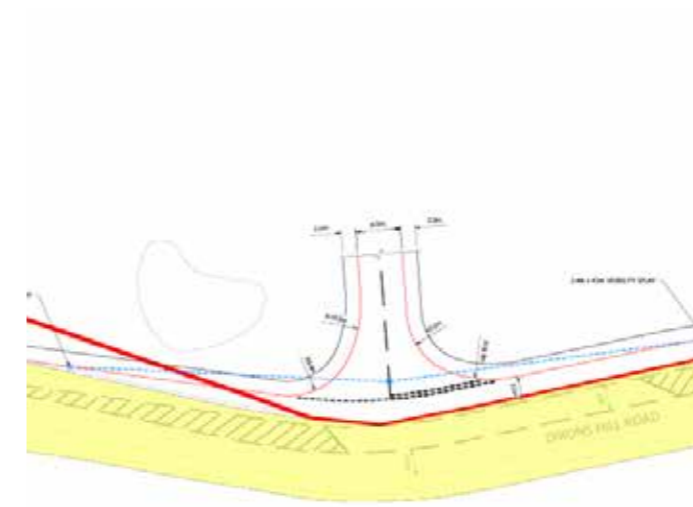


Fig D

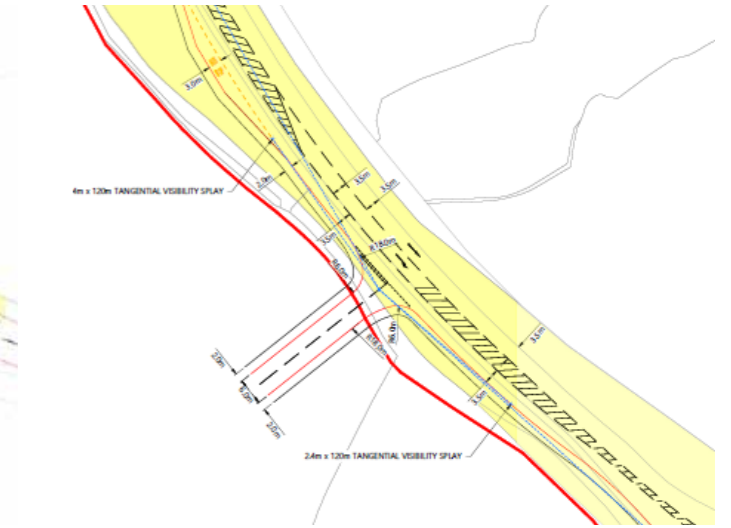


Fig F

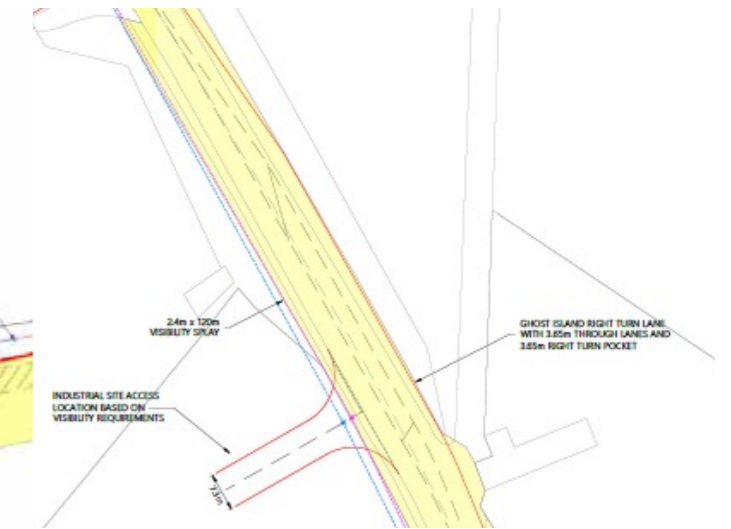
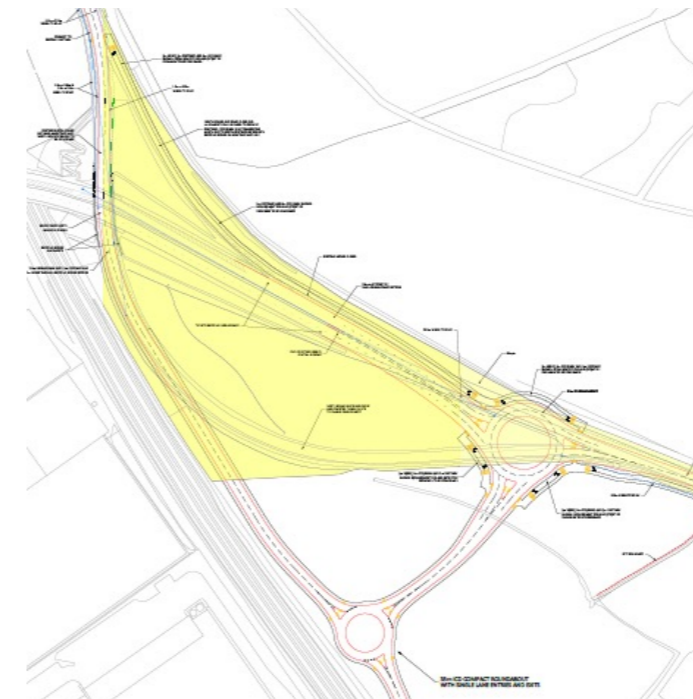


Fig G





GASCOYNE
ESTATES