

Begbroke Science Park

Zones B & C

Oxford University Development LTD

Reserved Matters Submission Design Statement

25 August 2021



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1.0 Introduction

1.0 Vision & Goals, Objectives

1.0 Introduction & Vision

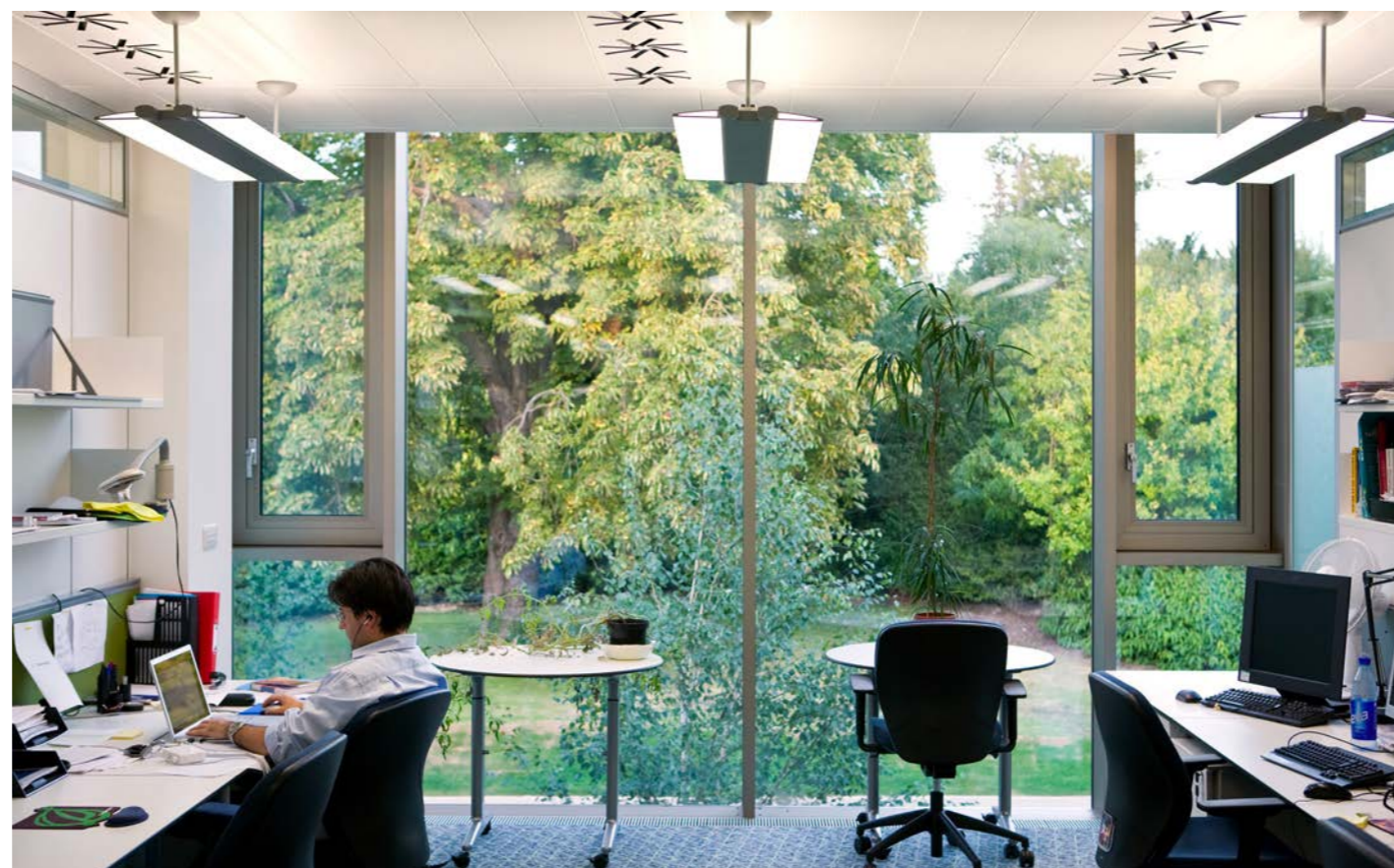
Oxford University Development Ltd (OUD - The University of Oxford in partnership with Legal & General) is progressing with the design and development of two new Research Facilities on the Begbroke Science Park Campus, to increase the capacity by 12 500sqm across two buildings for academic and commercial research spaces on the science park.

This Statement has been prepared to accompany the Reserved Matters Submission following the grant of outline planning permission with appearance, layout, scale and landscaping reserved and access fixed (ref. 18/00803/OUT) on 17 September 2018.

A Non-Material Amendment was granted on 8 June 2021 to allow an increase in the maximum height of the development from 12.6 metres to 13.2 metres (at its highest point when measured from ground level, excluding point features and plant).

The new research buildings are proposed to be developed within the existing campus boundary, allocated to Zones B & C, as identified on the Outline Planning Permission Framework Plan (ref. UN0001/015) .

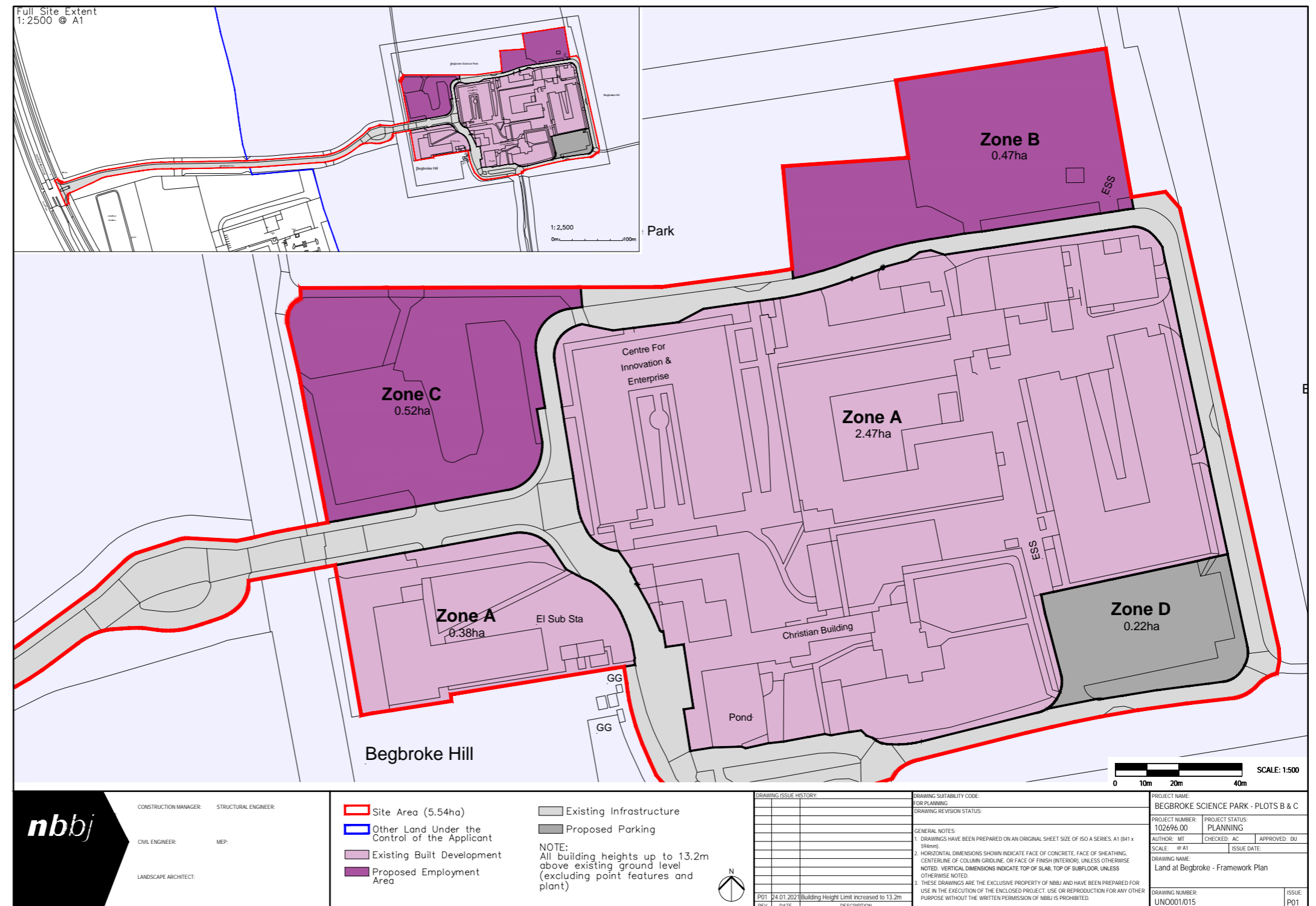
The vision for the project is to push the design and development standards of the campus forward, create new research facilities fit for the research needs of today and the future, and provide high quality spaces for tenants to work, collaborate and relax in.



1.0 Vision & Goals, Objectives

1.0 Introduction & Vision

Approved Framework Plan



2.0 Site Location & Overview

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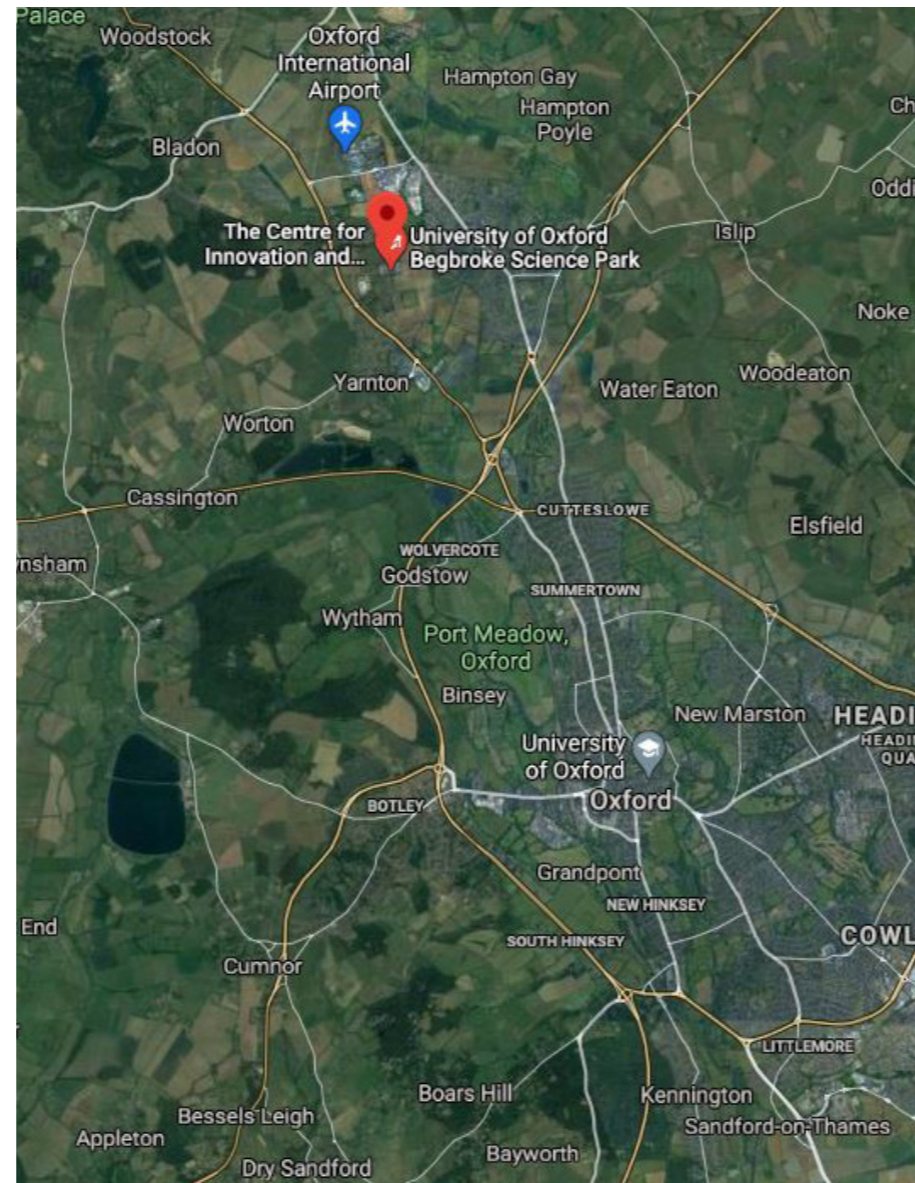
2.1 Wider Site Location & Context

Begbroke Science Park is located south of the town Begbroke, surrounded by agricultural land and nestled between Yarnton, Kidlington and Woodstock and North West of Oxford City Centre. The site is accessed via Begbroke Hill Access Road, east of A44 Woodstock Road.

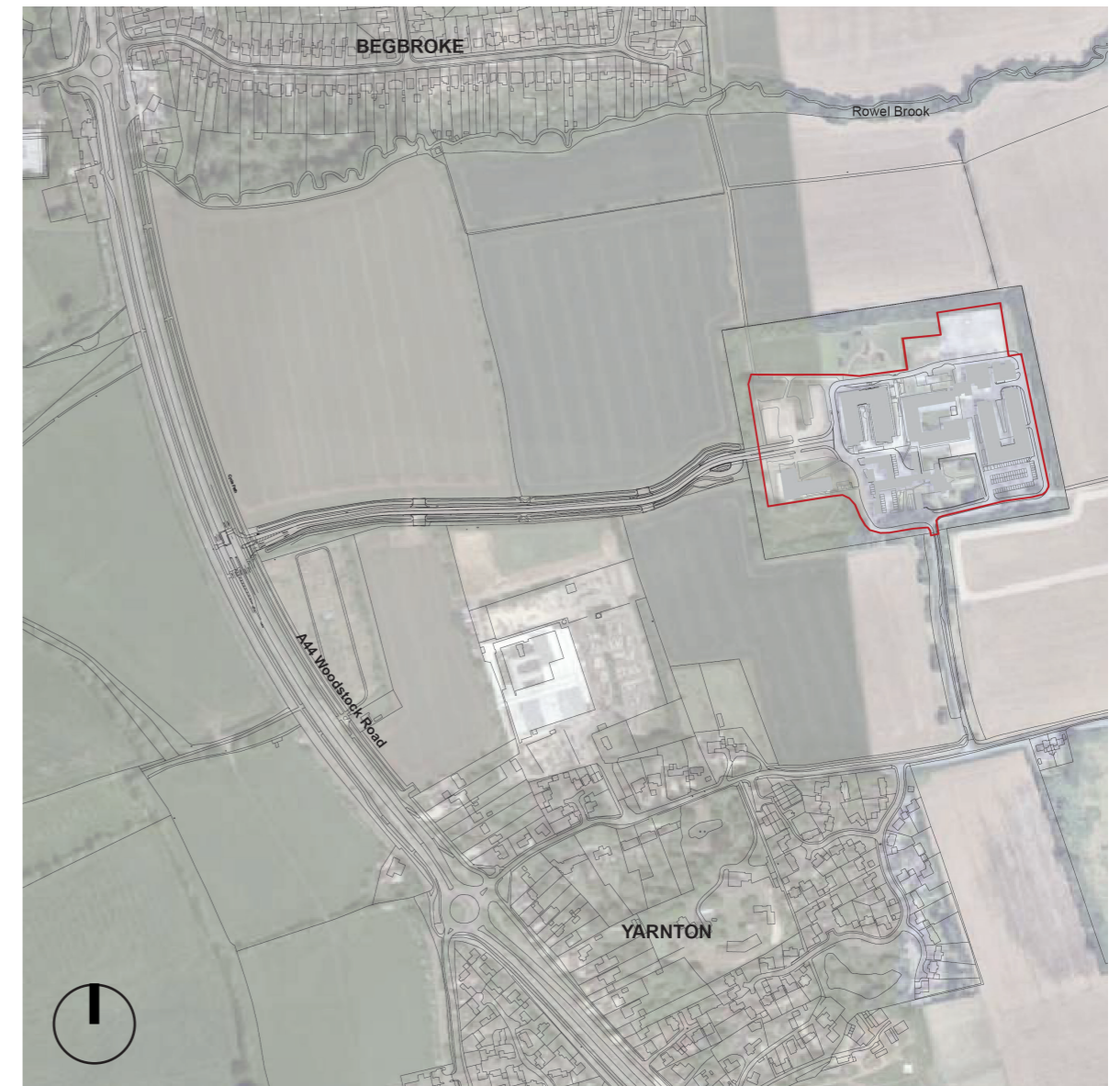
Begbroke Science Park comprises of a number of one and two storey buildings which accommodate laboratories, engineering facilities and administrative buildings including a Grade II listed three storey farmhouse.

The site of the Oxford University Begbroke Science Park was originally used for farming. Research began on the site in the 1960s, becoming the Headquarters of the Weed Research Organisation.

When the site was originally developed into a research development in the late 1980s, a reservoir was located in the north-east corner. As the Science Park developed, the reservoir was backfilled and numerous laboratories and offices were constructed in 2004, forming the campus as it is today.



Wider Context Plan



Wider Site Plan



Begbroke Farm



Begbroke Village



Aerial View of the Science Park

2.0 Site Location & Overview

2.2 Wider Site Access and Flow

Primary vehicular access to the west of the site is via Begbroke Hill Access Road, off the A44 Woodstock Road, which leads from Oxford and towards Worcester. This access route was developed in 2012 to reduce access via Sandy Lane.

A secondary access route is through Sandy road located to the South of the site. This road is currently only used for Emergency Egress, cyclists and pedestrians.

Public transport links are currently located via a bus stop located on the A44. There is a University Shuttle bus stop located at the centre of the site, connecting the Campus with Oxford. A future train station is planned to the South East of the wider context, providing quick connections to Oxford and Oxford Parkway Stations.

The National Cycle Route 5 provides the cycling connection from Oxford via the A44. A permissive pedestrian and cycle route is to be created and details of this will be provided under separate cover (discharge of condition 17 of the outline planning permission)

There is a public right of way, which leads up the path from Sandy Lane and to the East of the Begbroke Science Park landscaped boundary line.



Site Plan showing access into the site



View from Primary Access Route



View onto Secondary Access Route

2.0 Site Location & Overview

2.3 Site Location & Context

The current Begbroke Science Park houses a community of around 30 companies and 20 research groups from the fields of Mathematical, Physical & Life Sciences and Medical Sciences .

The current building stock on the campus tends to be a mixture of sprawling buildings which occupy large areas of the plots by creating lower but larger building masses on their relevant sites.

The newer laboratory building additions on the campus tend to occupy the majority of their plots with some public realm and limited-to-no adjacent parking opportunities.

There is lack of clear frontages to the existing masses and the newer additions struggle to create a cohesive sense of arrival into the campus.

This creates a great opportunity for the two new research building proposed for the campus to incorporate features such as active frontages and put science on show to create a more welcoming and transparent feel to the campus.



Existing Begbroke Science Park Site Plan



Christian Building



Centre for Innovation & Enterprise



Unit 5 & 6



Plasma



Hirsch Building (right)



Institute of Advanced Technology

2.0 Site Location & Overview

2.4 Zones B & C

Outline planning permission with all matters reserved except for access was granted on 17 September 2018 (ref. 18/00803/OUT) for up to 12,500m² of B1a / b / c and ancillary D1 floor space, retention of and improvements to the existing vehicular, public transport, pedestrian and cycle access including internal circulation routes; associated car parking including re-disposition of existing car parking; associated hard and soft landscape works; any necessary demolition (unknown at this stage); and associated drainage, infrastructure and ground re-modelling works.

The two vacant sites, Zones B & C were identified as development opportunities on the campus. The two new developments on the Science Park aim to embody the University's continued commitment to promoting Oxfordshire as a 'hub for knowledge-intensive activities.'

Both zones are embedded within the Begbroke Science Campus, with Zone C envisioned as being the 'Gateway Building' into the campus.

The new developments aim to further strengthen the vibrancy and collaboration between the researchers and entrepreneurs with leading facilities and technologies.

Hence, Zone C is intended to accommodate the new 7500 sq.m development for Commercial Science and Research use, whilst Zone B is to accommodate 5000 sq.m development for Academic Science and Research Use.



Proposed Development Plots



View of Plot C



View of Plot B

2.0 Site Location & Overview

2.5 Environmental Aspects

The existing campus is surrounded by agricultural fields to all sides and generally the landscape of the area is relatively flat.

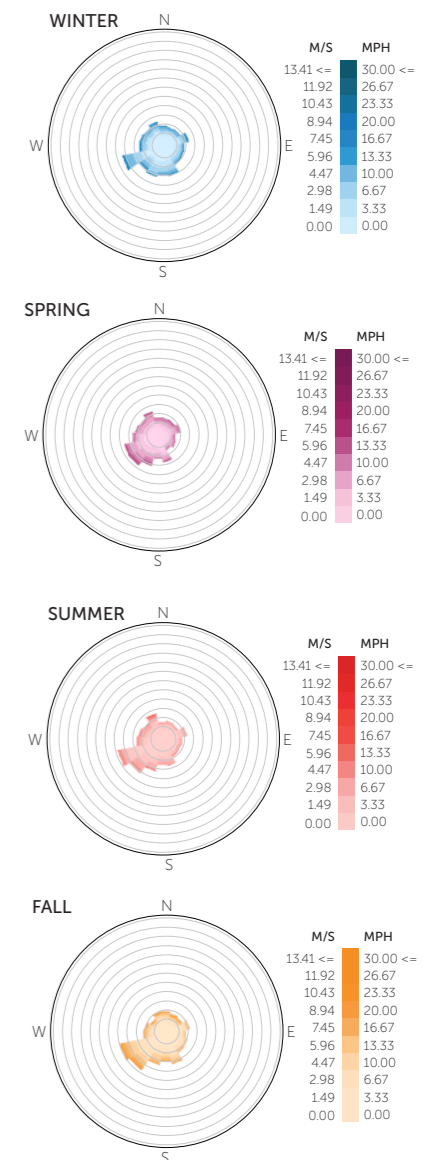
The campus itself is surrounded by existing vegetation which creates a natural boundary to the site and provides a level of shielding from the prevailing winds, creating more comfortable environmental conditions when walking around the site.

Both zones proposed for development are however significantly exposed to solar gain on East, South and West sides. This plays an important role when considering building orientation, massing and building envelope treatment.

The solar exposure however does provide a good opportunity to incorporate public realm to East/South and Western edges of the plots where tenants and visitors can benefit from direct sunlight to work and relax in.

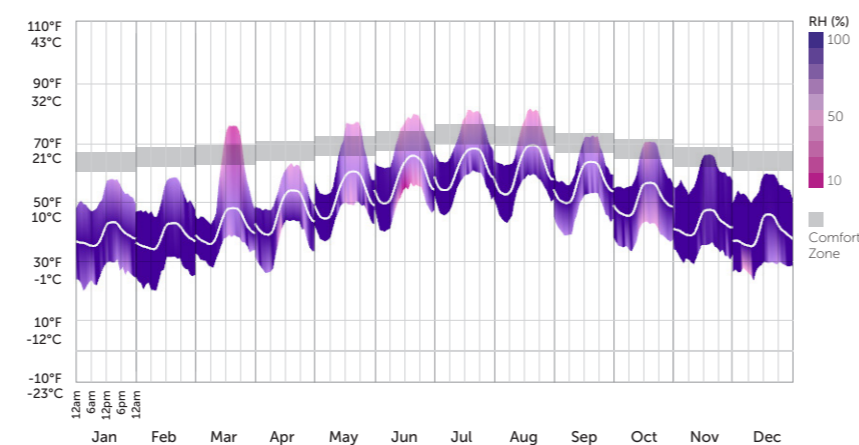


Seasonal Wind Conditions
- Wind speed by season and direction. Each ring represents 3% of the season or 66 hours.



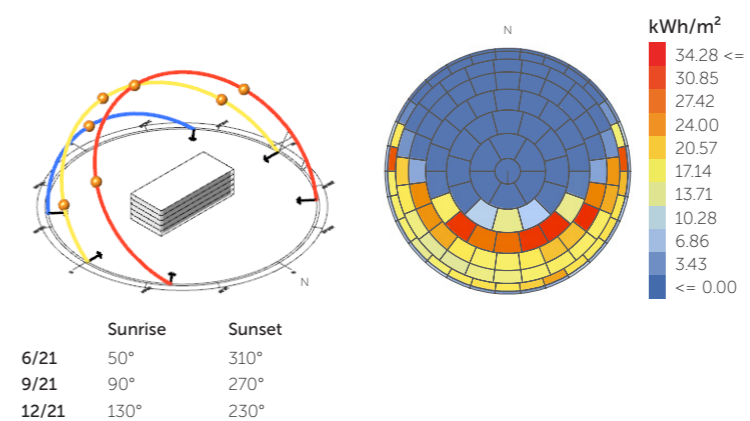
Daily Environmental Conditions

- High and low temperatures for an average single day



Solar Conditions

- Sun paths and azimuth with a radiation dome



2.0 Site Location & Overview

1.0 Existing Site Overview

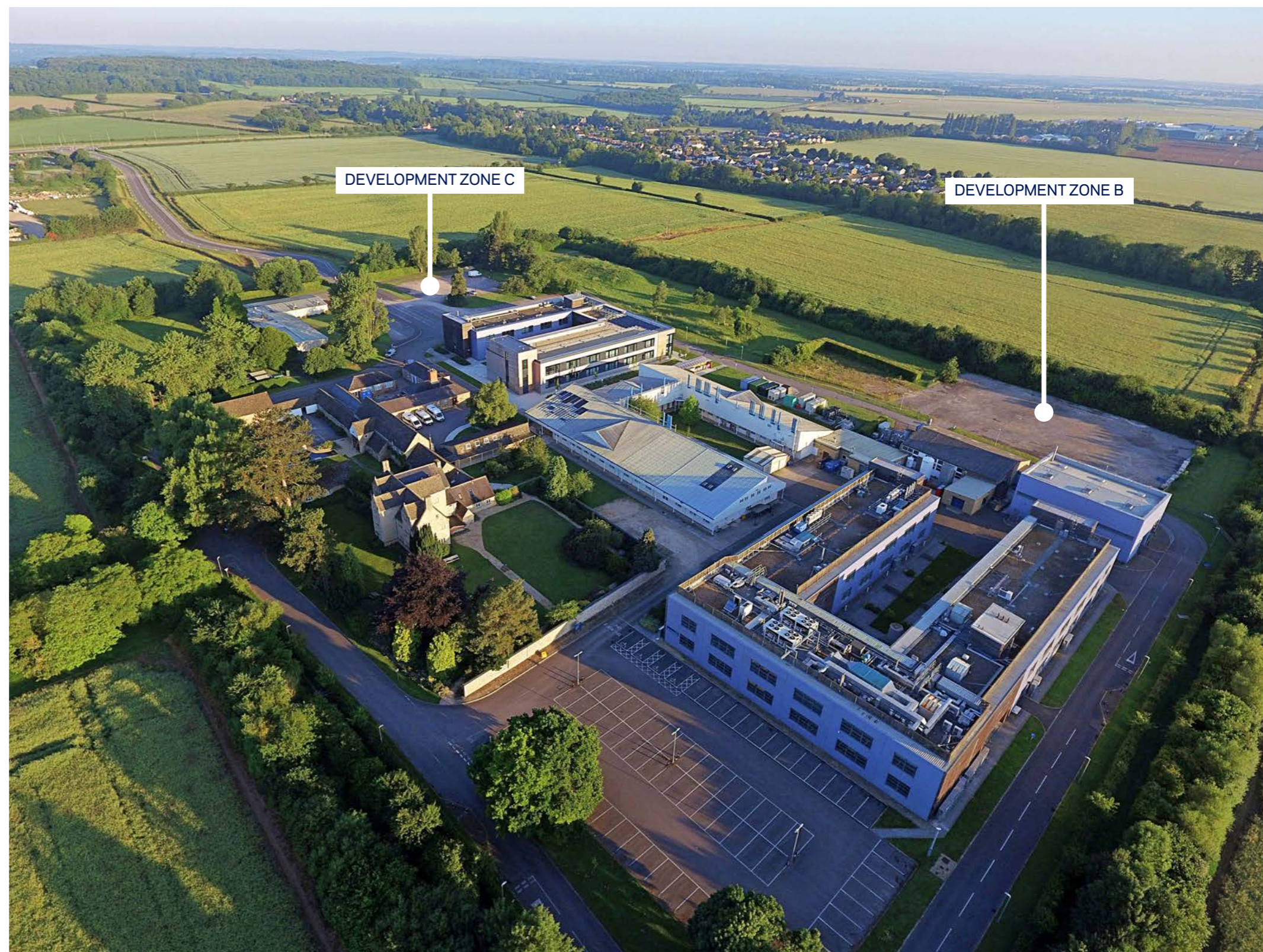
The two development plots on the existing campus are currently vacant and used as temporary unmarked car parking zones to support the campus wide parking demand.

The temporary car parks also serve as overspill space for events and conferences parking when required.

Zone C previously housed a small warehouse use low rise building which no longer occupies the site. As such there are parts of services infrastructure running below the site which will be utilised for the new development where appropriate.

Zone B was previously used as a reservoir for the adjacent farmers fields but has since been infilled.

The topography for both plots is mostly flat and free of any significant planting or trees.



3.0 Initial Site and Massing Development

3.0 Proposed Site & Building Developments

3.1 Opportunities and Constraints

Zone C - Gateway

Zone C is intended to become the 'Gateway Building' to the site, being the first building seen as you enter the site, via the Primary Vehicle Access route.

Overall development zone size is 5200sqm.

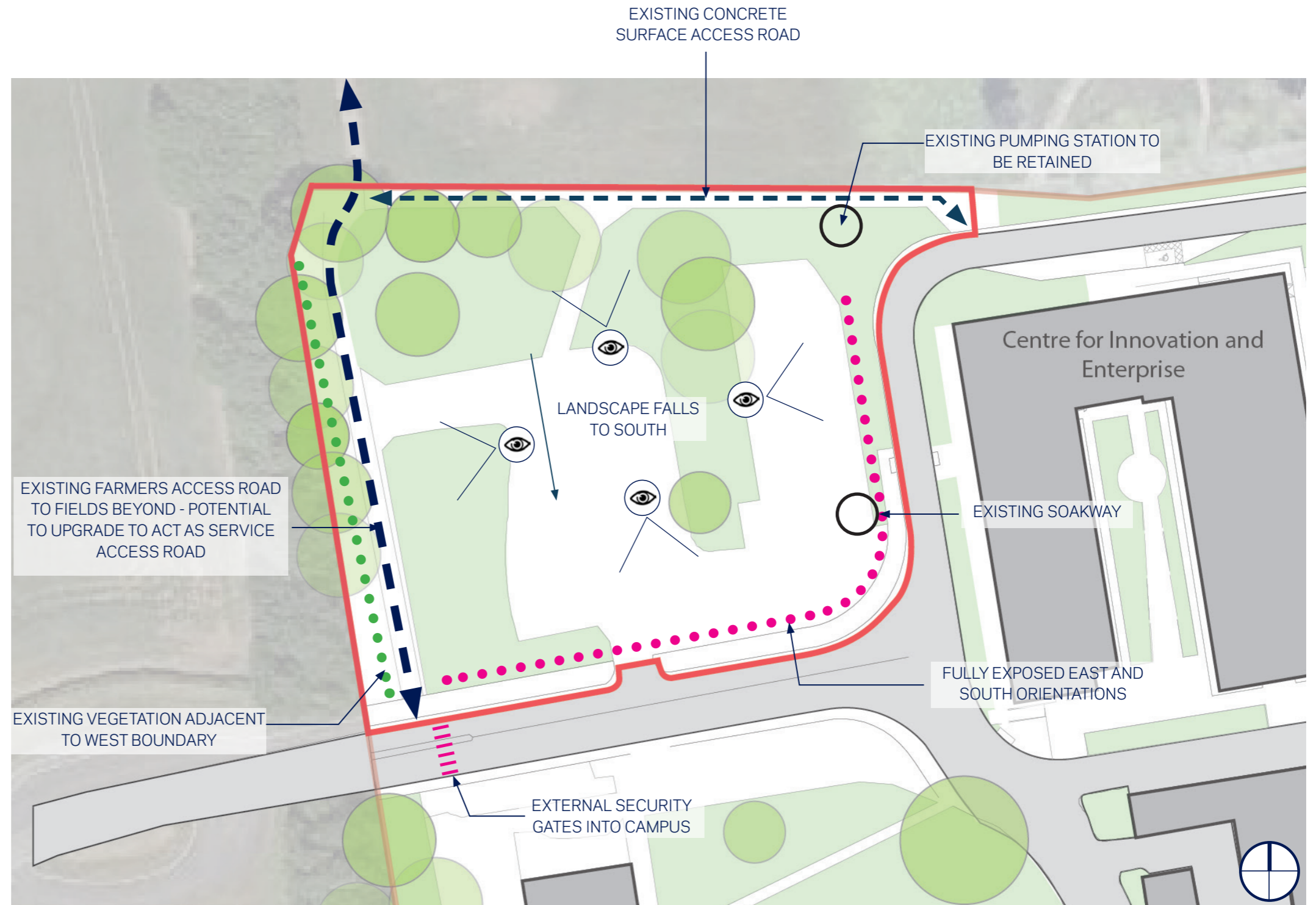
Zone C has a number of constraints and opportunities which have informed the building mass and location of the proposed development.

There is an existing pumping station which serves the rest of the campus towards the NE of the site, which restricts the area to be built on.

To the western boundary of the site, there is an existing farmers access road which albeit used infrequently, is required to be retained for future access.

Fully exposed South and East facades will require the design to consider solar shading to limit solar gain, but do provide the opportunity to open the building up to create a more welcoming and transparent feel to the campus.

Views from the site are varied - The East view is restricted by adjacent buildings and as such considered secondary. To South, West and North the views are mostly unobstructed and as such considered primary.



3.0 Proposed Site & Building Developments

3.2 Opportunities and Constraints

Zone B - Academic

Zone B is located on the North East corner of the site. The site was previously used as a reservoir, however was filled in 2004.

The overall development zone size is 4700sqm.

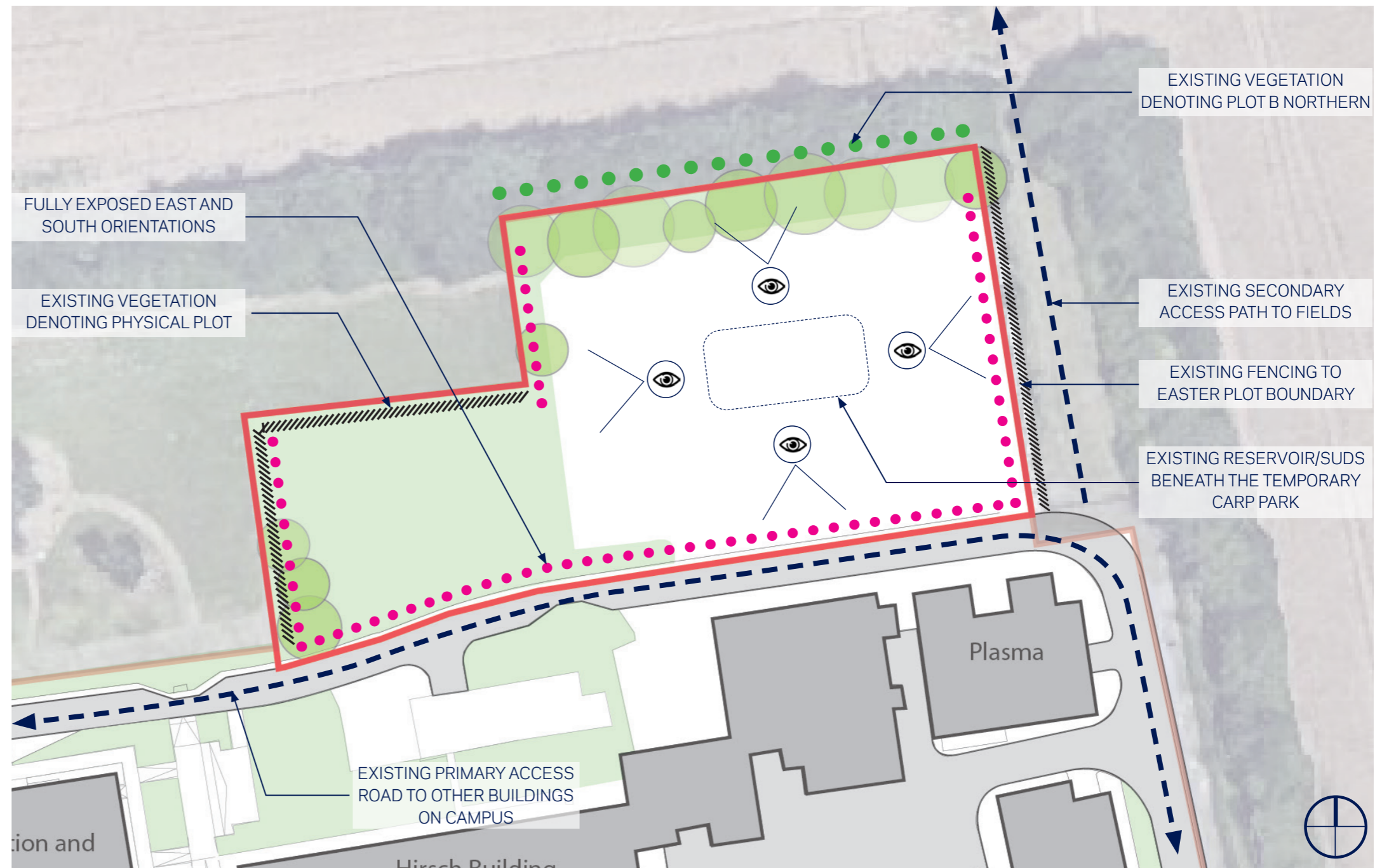
Zone B has a number of constraints and opportunities which have informed the building mass and location of the proposed development.

The northern edge of the development zone is defined by existing vegetation that creates a hard boundary. Similarly to the East, there is an existing fence line which creates a hard boundary. To western edge, there is currently a high hedge line, which creates a physical and visual boundary to the plot however is not considered high-value vegetation and can be removed to open up the site.

The development zone is highly exposed to solar gain on three sides - East, South and West - this will play a role in overall facade design and treatment, to ensure the building can limit solar gain internally.

The exposed southern side does provide an opportunity to create high quality landscaped public realm that benefits from direct sunlight.

Views from the site are generally good, with North, East and West providing primary views and South providing a slightly restricted/secondary view due to existing building fabric being in close proximity.



3.0 Proposed Site & Building Developments

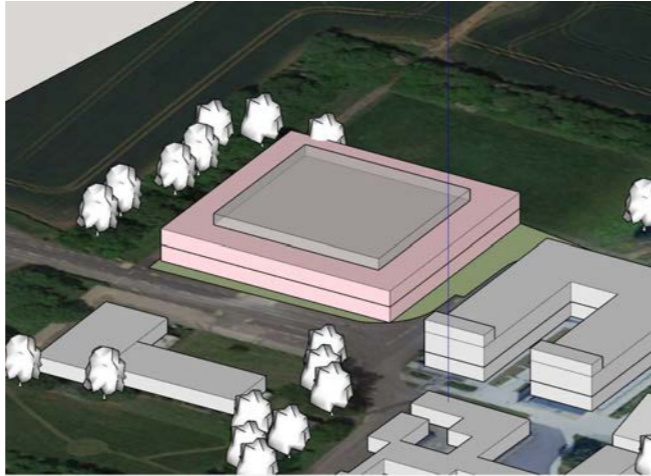
3.3 Massing Studies

Building B - Commercial Building

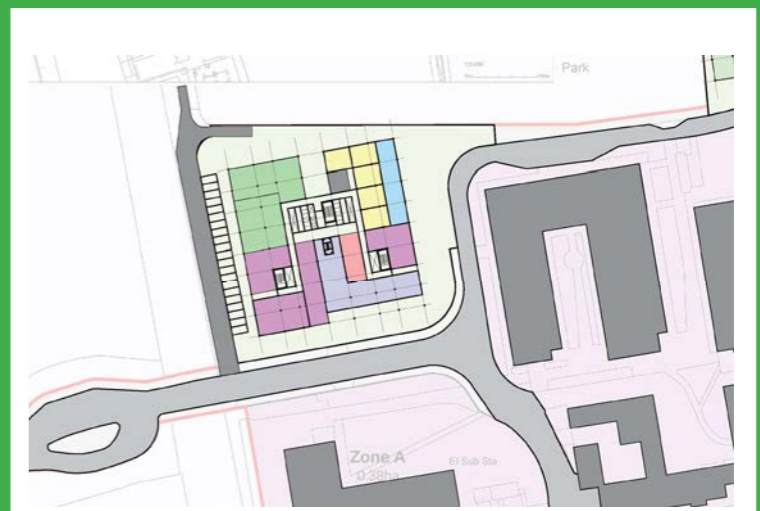
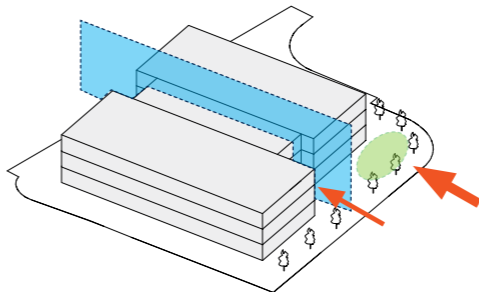
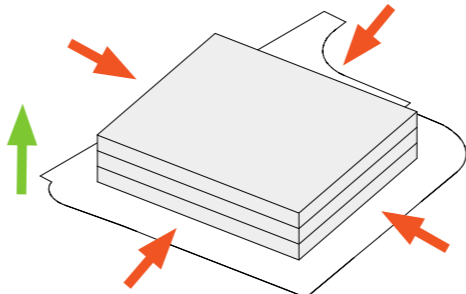
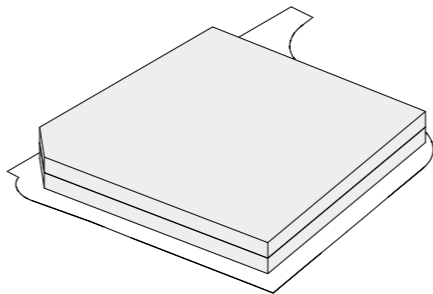
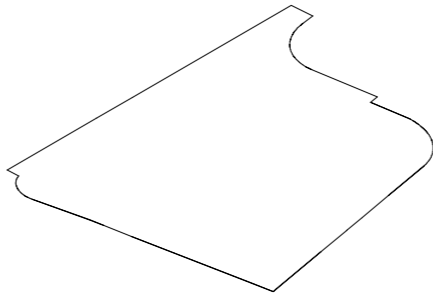
Being located on the Gateway Site, Building B is the first building that visitors and tenants will see when approaching the campus.

Building B aspires to create a new and welcoming 'arrival' into the Begbroke Science Park and therefore has a great importance and impact on the overall look & feel for the Campus.

As such, the building mass, form and orientation needs to take into consideration a number of different factors which have been studied, with pros and cons for each option identified.



- Approach 1
- Two Storey massing
 - Overly large mass occupying majority of site
 - Very deep plan, limited daylighting, unpleasant work spaces
 - Soakaway required to be relocated off site
 - Limited/no breathing space around the building
 - No opportunity for public realm
 - Limited/No space for logistics, deliveries, refuse, service yard
 - No opportunity for on-grade parking



- Approach 2
- Three Storey massing
 - Two blocks, central atrium, equal plan depths
 - 4.2m floor to floor
 - Overall building height 13 200mm above Ground
 - Compact massing,
 - Opens up corner/arrival of site for public realm
 - Increased daylighting to tenancies
 - Equal plan depths create better future flexibility
 - Retains area to the rear for service yard, and some on-grade parking
 - Opportunities around the building for public realm



3.0 Proposed Site & Building Developments

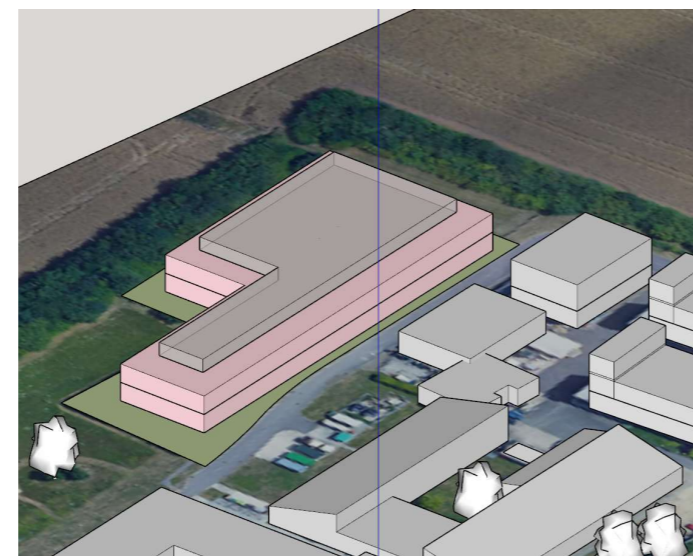
3.4 Massing Studies

Building A - Academic

Zone B boundary creates an L-shaped area which begins to inform the overall massing approach for the building.

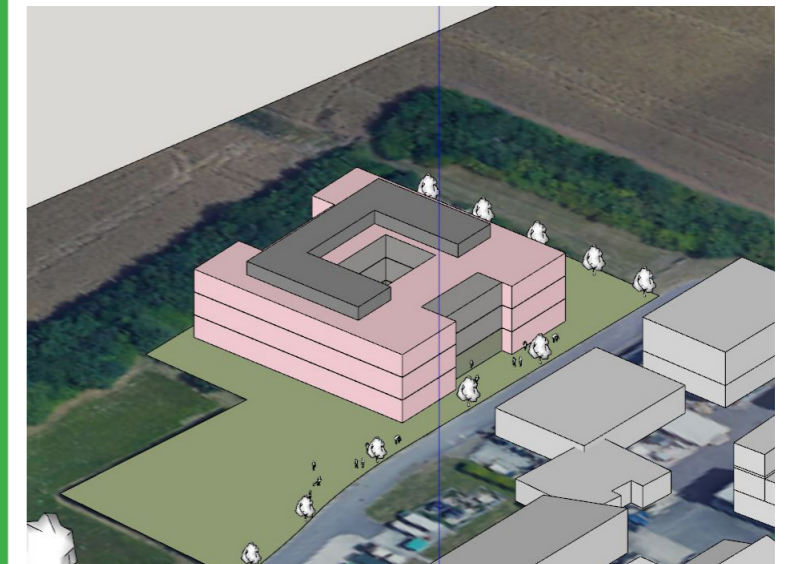
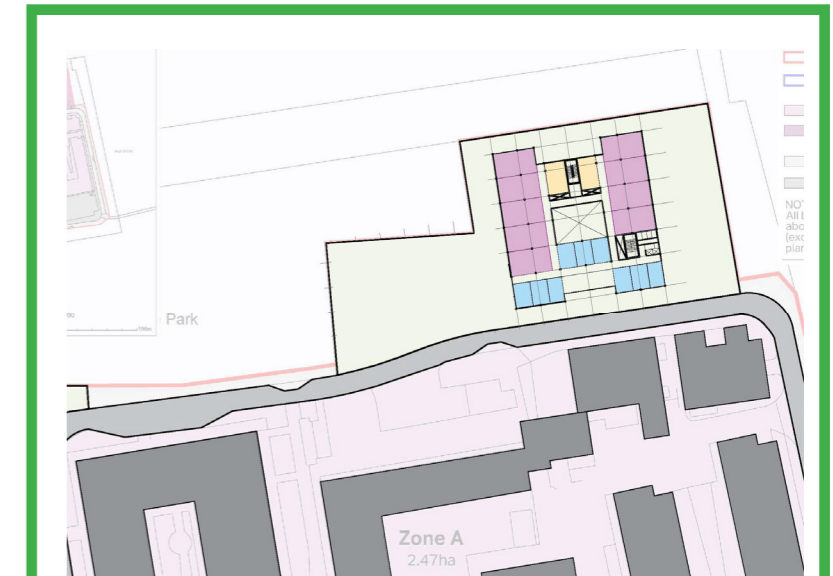
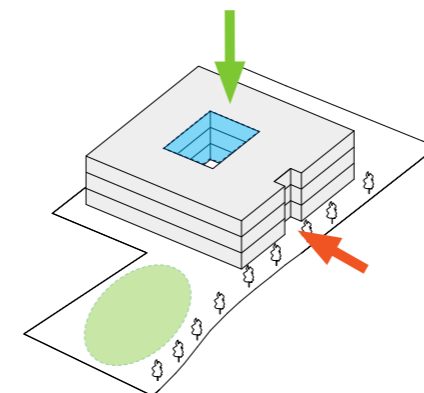
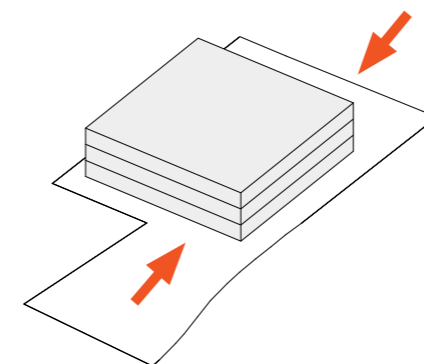
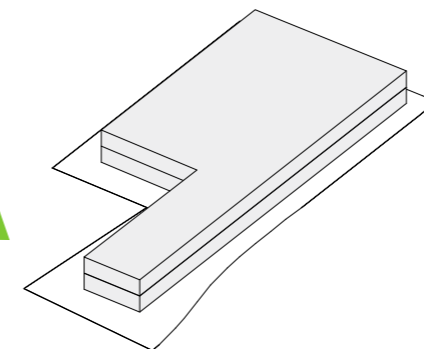
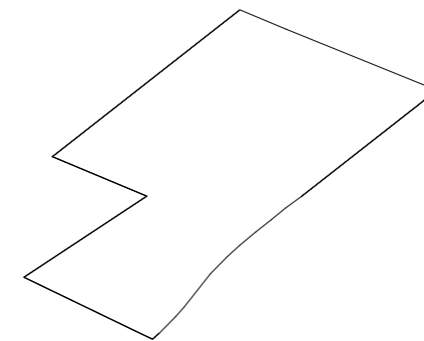
At the early design stages, a 2 storey massing scheme was explored however the result would have meant the majority of the plot being developed on leaving limited to no opportunities for servicing, parking and public realm/soft landscaping.

As such, the 2 storey option was deemed not appropriate for this plot.



Approach 1

- Two Storey massing
- Meeting planning height restriction
- Overly large mass occupying majority of site
- Majority deep plan, limited daylighting, unpleasant work spaces
- Soakaway required to be relocated off site
- Limited breathing space around the building
- No opportunity for public realm
- Limited/No space for logistics, deliveries, refuse, service yard
- Limited/No opportunity for on-grade parking



Approach 2

- One block with central courtyard
- 4.2m floor to floor height, 13 200mm overall building height to top of parapet
- Meets planning height restriction
- Compact massing,
- Increased daylighting to tenancies
- Equal plan depths create better future flexibility
- Retains area to the rear for service yard, on-grade parking to East
- Soakaway position retained
- Opportunities around the building for public realm

