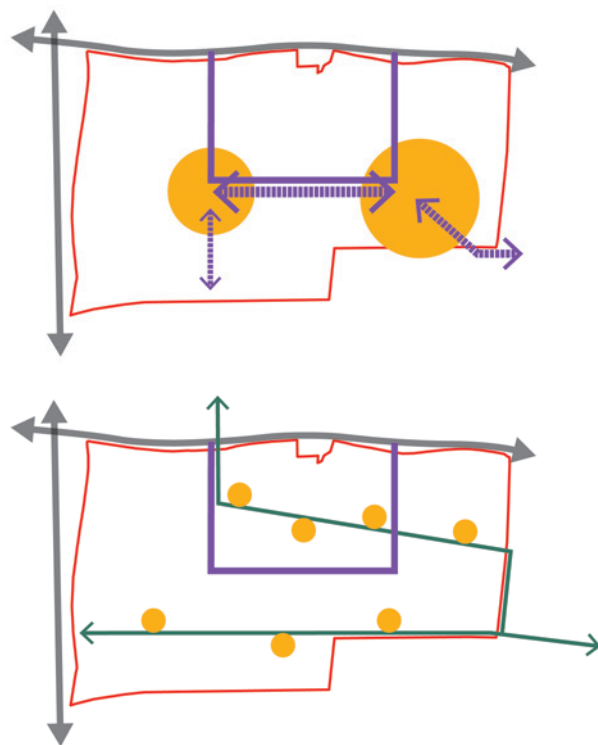


Innovation and Collaboration: Shared facilities

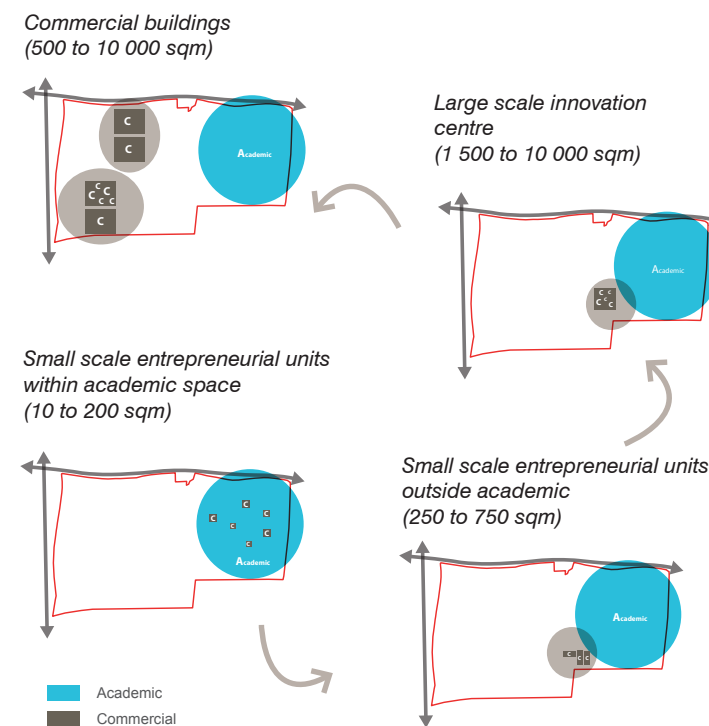


140. Site transformation: Reinforce the Forums by locating larger social facilities here. Additional smaller facilities located to provide activity within other spaces.

Part of the efforts to promote Innovation and Collaboration are the mixing and blending of the various land uses and the provision of new open spaces with associated new social facilities.

On one level, the reinforcement of the two Forums will include the location of larger social facilities and an increase in footfall through densification and the establishment of new pedestrian and cycle links. A secondary layer of social spaces will support the remaining open space network ensuring that open spaces are animated by activity.

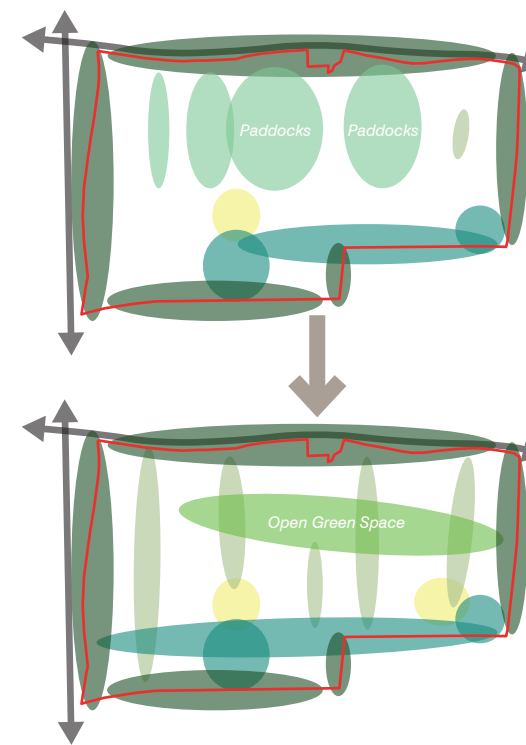
Innovation and Collaboration: Ecosystem of workspaces



141. Site transformation: Creating an Eco-system of Workspaces

Innovation and Collaboration is also to be supported by a range of commercial research spaces, varying from small start ups to established businesses. Such a mix will support entrepreneurial activities and commercialisation of knowledge: providing space for companies collaborating on research projects, flexible space and business and legal advice for start ups and larger space for businesses.

A new public open space network - an Academic Public Realm



142. Site transformation: From private, grazing paddocks to a new public open space network - an Academic Public Realm

The overall open space concept is a cohesive series of elements that form a landscape strategy that responds to place, character and the evolving masterplan.

The strategy is to transform the landscape character of the site through enhancing existing spaces and streets, forming clear north-south pedestrian Green Links and establishing new major spaces within the site. These are woven together to form a continuous network of spaces that connects the site to its surroundings while firmly knitting the site together.

A new major space can be established within the centre of the site providing a view corridor and new setting for the Schlumberger Research Building. The Southern Ecological Corridor is extended to the west, and forms a substantial element in the overall network of landscape and connections to the city, and promotes diversity and species rich habitats. The existing woodland edges will be retained and reinforced to enhance the character of the site and ameliorate visual impact of new development on the surrounding countryside.

Key opportunities for transformation

4.2.30 West Cambridge has an established spatial structure and a large number of buildings, mostly developed based on the existing consented masterplan.

4.2.31 The requirement to develop a new design framework for the site has emerged in response to the need to improve site conditions for existing and future occupiers as well as in response to the opportunities brought by the changed circumstances in both the wider context and on the site itself.

4.2.32 On the site, the need for a new Cavendish Laboratory building and release of its current site, together with the University's decision to explore relocation of the Veterinary School have created an opportunity to develop a comprehensive site plan, after both of these sites have been excluded from the previous masterplan and its revisions.

4.2.33 This comprehensive strategy will create an opportunity for the University to secure much needed space for further academic growth and make the most of the potential of the 66ha site. With better public transport links, more efficient site layout and appropriate density, the overall amount of development can be significantly increased. The intensified use and population on the site can in turn support public transport and much needed social facilities on the site.

4.2.34 As one of the University's key development sites free from the spatial constraints of the historic core, West Cambridge can provide plots of size and flexibility, suitable for high quality research buildings. It can now provide the amount of development required for large academic occupiers and a critical mass of floor space to establish a commercial research address of national importance.

Unlocking the potential for east-west integration



143. Relocation of Veterinary School
Currently, the Veterinary School buildings and its large, fenced off paddocks, form an impermeable centre to the site, limiting the connections and views across the site. The relocation of the Veterinary School creates an opportunity to redevelop the core of the site and establish a new major open space which can visually unify the site and add another east-west connection.

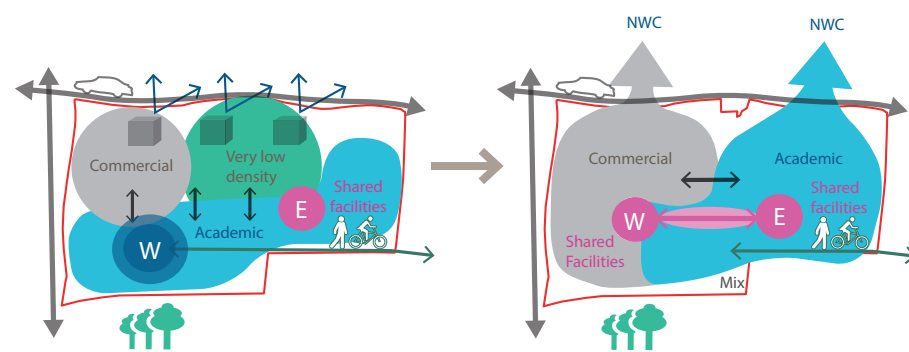
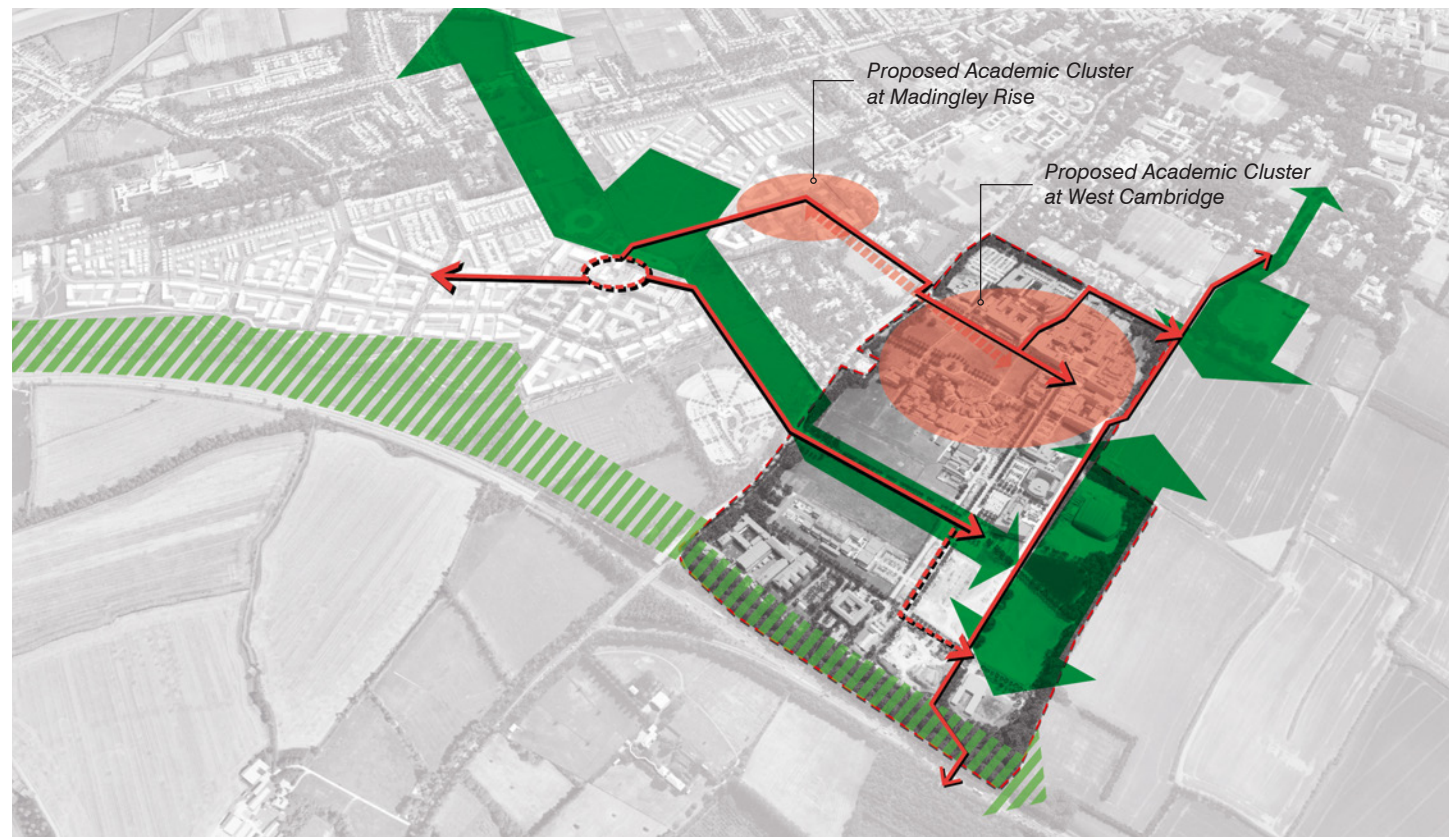


144. Large Serviced Plots to the west of the site
The existing masterplan earmarked this area for a large academic occupier. However, the considered Departments had concerns about its remoteness and isolation and sought other options. Currently, these large plots are empty but serviced and ready to be developed. There is an opportunity to immediately locate commercial research space here and, together with Schlumberger, BAS and Aveva, grow a western cluster of industry partner research with West Forum and lakeside address.



145. Redevelopment of the Cavendish site to the east
The relocation of existing Cavendish Laboratory will free the south eastern corner of the site, closest to the city centre, and enable the creation of new arrival spaces adjacent to the Coton Footpath. The large plots thus formed will be well suited to accommodate significant provision of shared facilities to draw users and generate activity around East Forum.

Urban integration and clusters of uses



146. Site transformation: From east-west distribution to north-south interaction

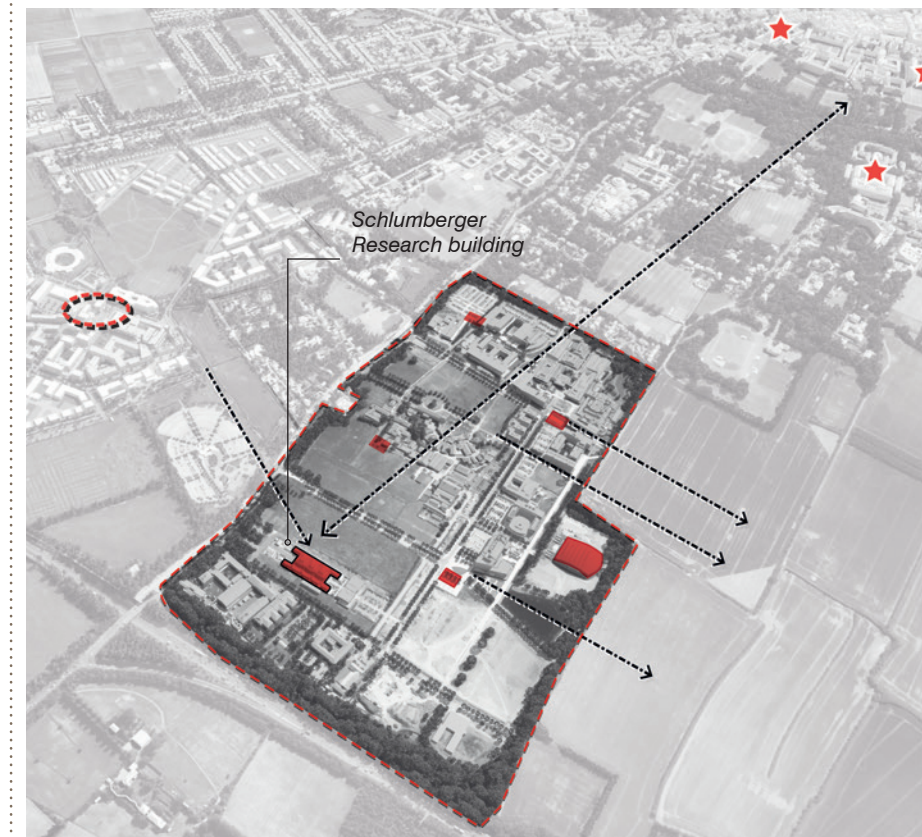
West Cambridge together with the North West Cambridge Development can be considered as a whole new urban district for Cambridge, complementing each other in uses and types of spaces. A new distribution of uses will seek to ensure that the two sites will complement and sustain each other. By focusing academic uses to the east around East Forum, while allowing sites to the west to form a new commercial focus around West Forum.

Strong north-south links can be formed to ensure

connections between West Forum and the Local Centre in North West Cambridge Development and providing links between university work places and university housing.

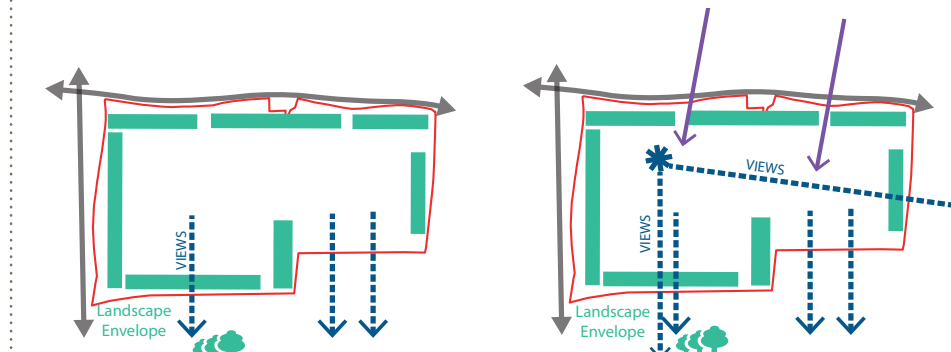
North-south spaces within the North West Cambridge Development can be visually drawn through the site to provide a new seamless development structure covering both sites.

Skyline: Key views and accents



KEY

- Accents in West Cambridge
- City landmarks
- North West Cambridge centre

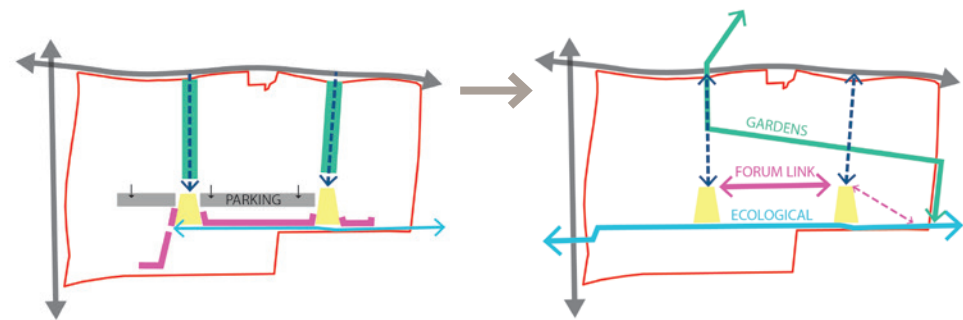
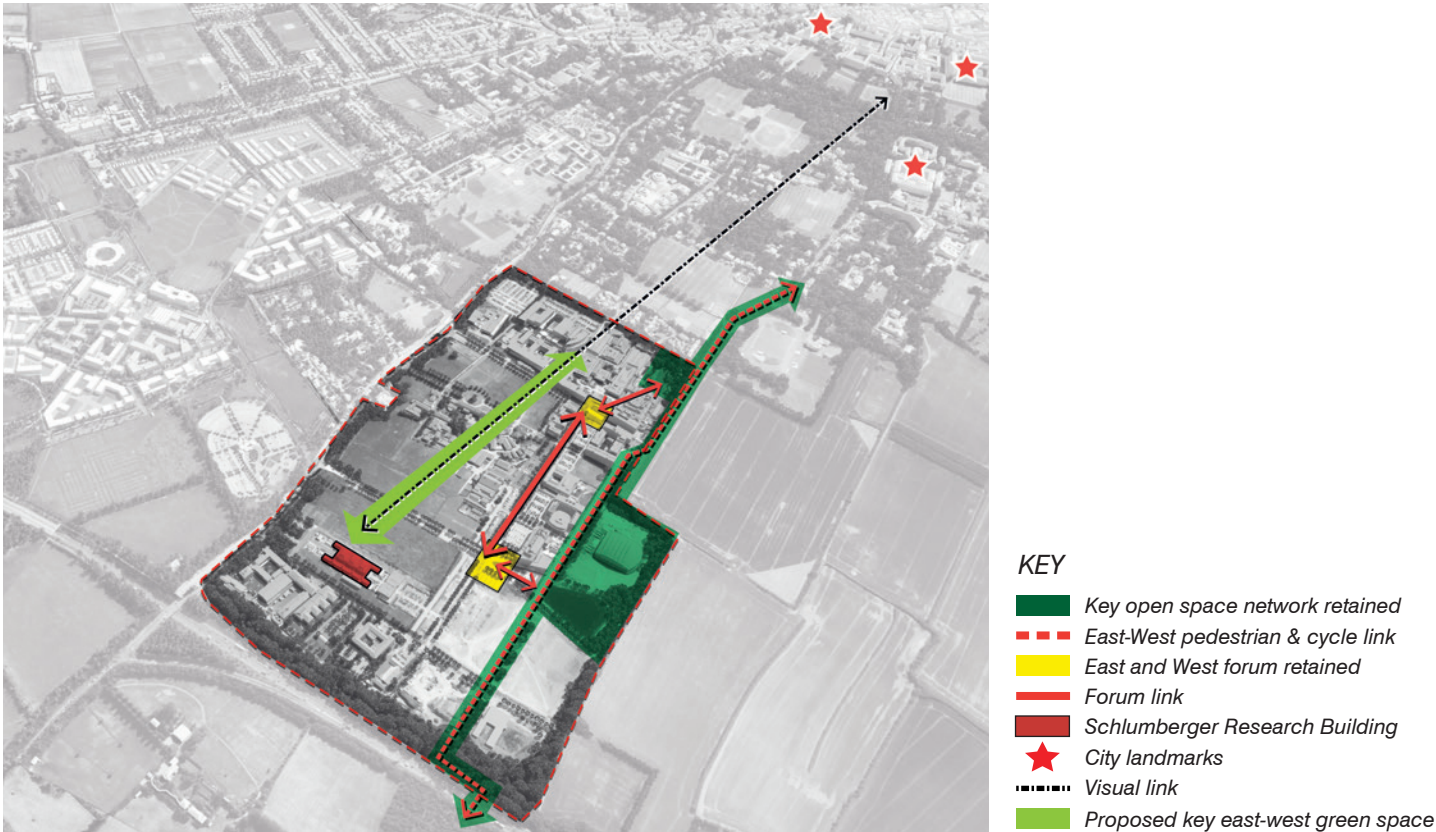


147. Site Transformation: From relative isolation to urban and spatial integration

As part of the strategy to integrate West Cambridge with the City, the proposals include concepts that emphasise and celebrate key views to the City centre skyline: Kings College Chapel and the University Library. Views from within the site to the open countryside to the south are equally retained and emphasised to ensure that the site recognises its setting at the edge of the City.

The Listed Schlumberger Research Building is the key landmark for the site, and will form the visual termination for a new key view axis and is joined by new building accents to create the new West Cambridge skyline. This approach seeks to create visible identity but also to aid legibility to the open space network.

Building on the existing consented masterplan



148. Site transformation: From reliance on Southern Colonnade to integration across the site

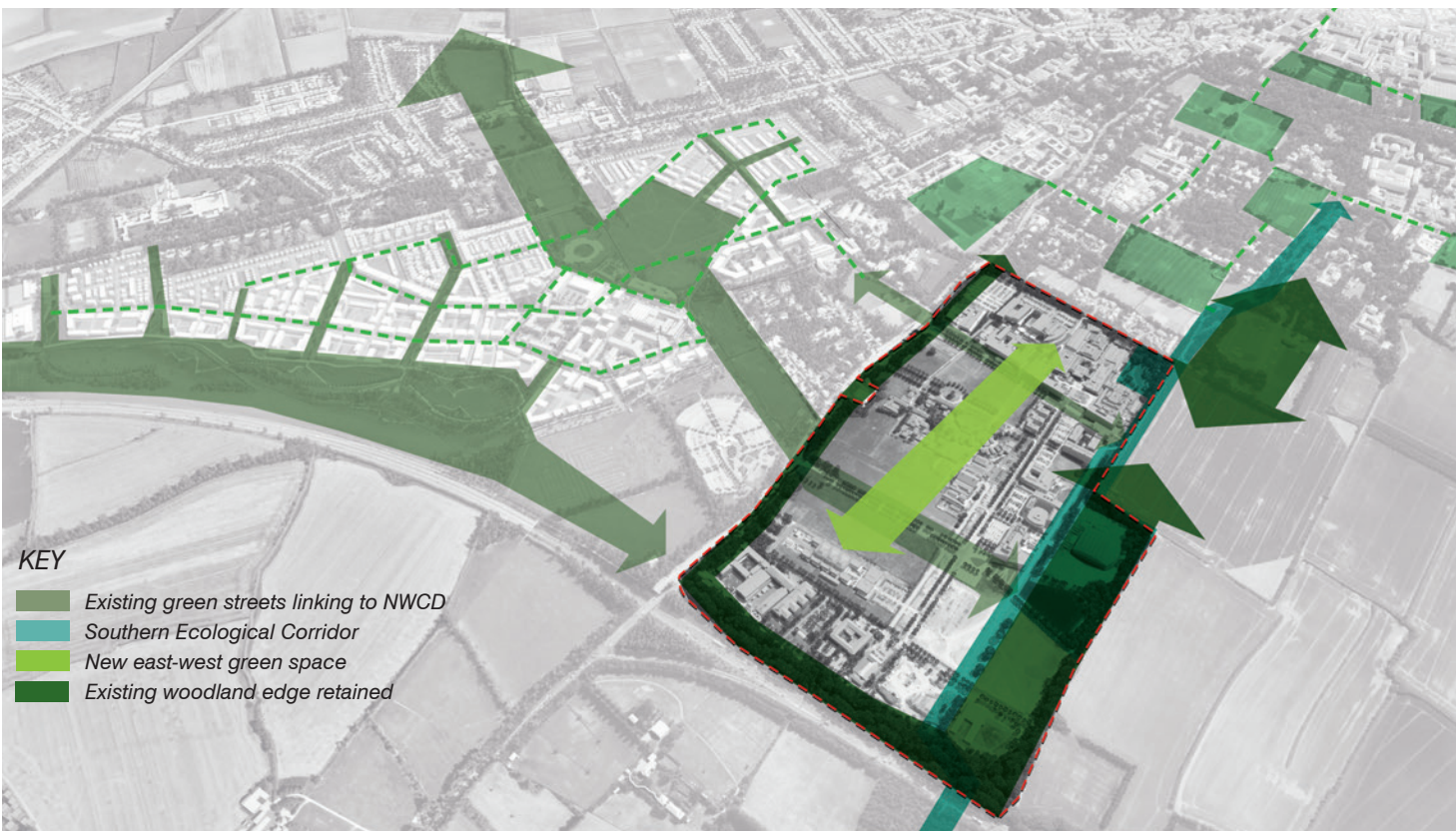
4.2.35 The new masterplan aims to build on the existing elements of the site, strengthening their role while gradually complementing them with new elements.

4.2.36 In the existing plan, the East and West Forums are the key focal points, connected by the Coton Footpath/ Southern Ecological Corridor. As a result, although it is one of primary access routes through the site, Charles Babbage Road is lined with at grade car parks with building frontages set back from the road.

4.2.37 The new proposal retains the two Forums as the focal points, but transforms them by creating better definition, plus a moderation of their scale and exposure. Charles Babbage Road will become a new 'Forum Link', providing an additional east-west connection through the site.

4.2.38 In later stages, the central part of the site will be connected by a new major open space, focused on the Listed Schlumberger Research building, adding a new element to urban structure. The site will ultimately have three east-west landscapes, within a strong connective network of public space.

Landscape opportunities



149. Site transformation: From reliance on southern link to integration across and through the site

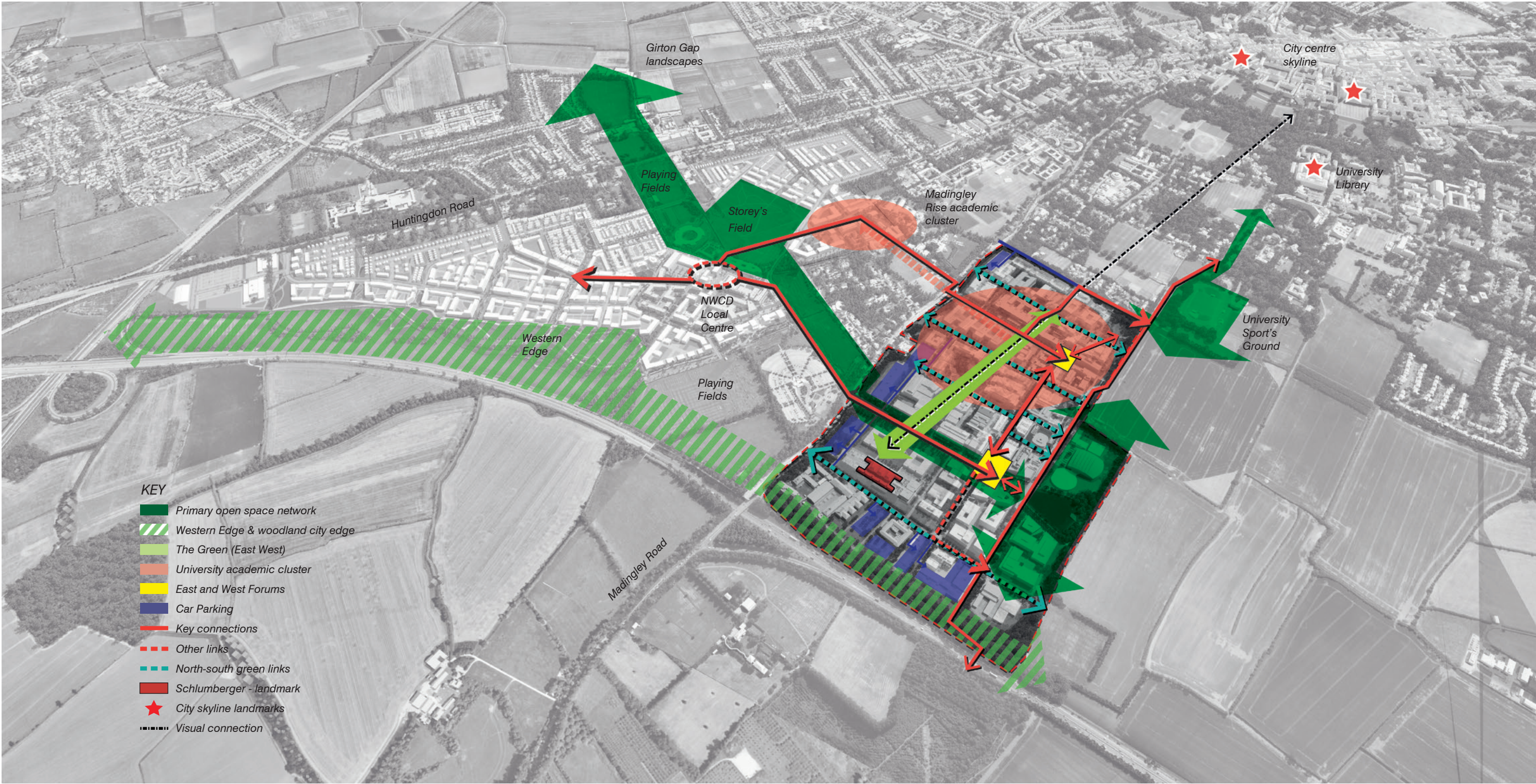
4.2.39 The overall landscape concept is a 'Weave' - a series of north-south and east-west landscapes and connecting elements, which strongly connect the site from east to west and north to south. Each key landscape element will have its own character and identity related to use, location within the site and existing landscape features.

4.2.40 Connections from the east, from Cambridge city centre, should reflect the essence of the existing network of routes and open spaces ensuring that West Cambridge is relevant to the evolving story of the city.

4.2.41 The rural landscape of Cambridgeshire is particularly close to the west of the city, and is defined by large arable field parcels with an open aspect. Remnants of this agricultural landscape can be seen throughout the city, found in boundaries, markers such as trees, hedges and ditches that define the network of open spaces and routes that have shaped the urban grain.

4.2.42 To the north, the North West Cambridge Development provides pedestrian and cycle links into the West Cambridge site. The design and form of these networks needs to provide continuity between the sites, through scale, materials and way finding approaches.

Development structure and concepts



150. Site transformation: Development structure and concepts

4.3. Evolution of the proposals

Five key stages of work

4.3.1 The proposals have developed and evolved as a best practice response to the need to transform the existing site and respond to the requirements of existing and potential future occupiers.

- The initial work commenced in 2012 with an **Issues and Options Study**, a thorough analysis of the site and its deliverable potential. This study identified key issues and outlined broad strategies for transformation, based on site analysis and comparison with relevant precedents.
- In the next stage of work, the **Development Strategy (2013)**, the issues of development potential and optimal density were further tested with respect to the capacity of the surrounding network and University's Estate Strategy.
- The aim of the **Illustrative Masterplan (2014-15)** was to respond to occupier requirements by providing a flexible framework for a gradual transformation of the site, ensuring unhindered delivery of the University's Priority projects and a flexible framework for full build out. The masterplan dealt with uncertainty of long term plans and delivery by establishing a preferred urban structure based on optimal density and a growing network of open spaces.
- The **Illustrative Masterplan 2016**, maintains the key principles of the previous masterplan, but key variations were made in response to consultation and further consideration in terms of scale and layout. In addition, the masterplan now incorporates an 'inset masterplan' for the eastern part of the site, a representation of the requirements and aspirations of a key site occupier.
- The **Illustrative Masterplan 2017**, maintains the key principles of the 2016 masterplan but modifications were made in terms of development heights and protection of woodland buffers and existing trees within the site, size and configuration of open spaces, streets and Green Links.

4.3.2 The evolution of proposals can be traced through the development of key considerations, related to:

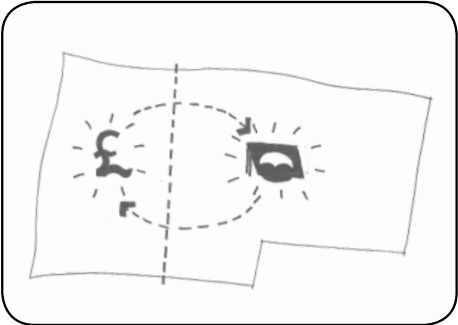
- over-arching strategies for transformation;
- options for distribution of key occupiers;
- key elements of open space structure, including transformation of the existing open spaces and addition of new landscape and public realm elements;
- optimal development density to achieve critical mass.

Issues and Options Study (2012)

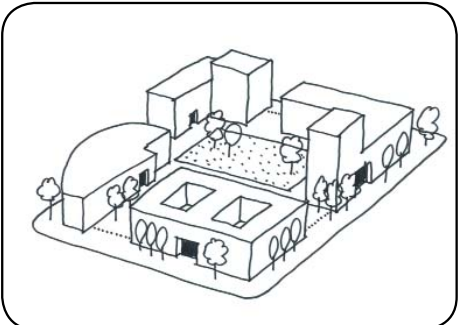
4.3.3 The **Issues and Options Study, 2012**, included a thorough analysis of the site, set a framework for future reviews and provided an analysis into the deliverable potential of the site.

4.3.4 Design strategy recommendations addressed the key site issues and has so formed the basis for further work on the transformation of the site. The Issues and Options Study:

- established clearer zones of development which distinguished between flexible, long term academic use areas and commercial research areas, where land and buildings may be returned to the University on a shorter term cycle;
- defined identifiable, smaller scaled 'precincts' within the site, in order to create clusters of academic or commercial uses, each with a distinct character and identity: existing academic core areas should be enhanced to enable the future interaction with other academic and commercial research clusters at the North West Cambridge Development and beyond;
- envisaged the transformation of Charles Babbage Road into an active pedestrian friendly central street, in order to reinforce the academic core area, while accommodating a mix of uses, public frontage and access to public transport;
- provided support for high quality social activity nodes, within easy walking distance of each cluster/precinct;
- encouraged a finer urban grain to development, to improve the pedestrian experience, including forming some pedestrian only precincts with connected shared landscaped spaces;
- reinforced the need for public transport and cycle corridors: to improve access and car parking while reducing vehicle movement within each cluster/precinct;
- envisaged that the site required useable, public open space and landscape, to be well-maintained by the University;
- created an intensified urban character, through the definition of accent buildings, gateways and visual landmarks and by encouraging variety in height, legible public frontage to buildings and entrances;
- defined and reinforced strategic view corridors;
- defined the need to respond to microclimate.



1. Establish clearer zones of development.



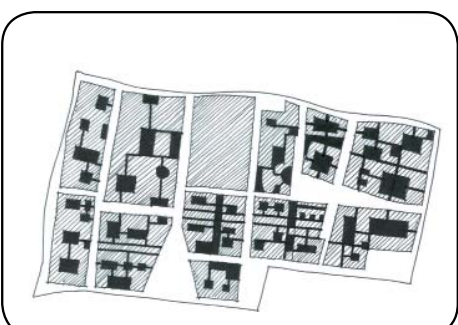
2. Define identifiable, smaller scaled sites and precincts.



3. Create an active pedestrian friendly central street.



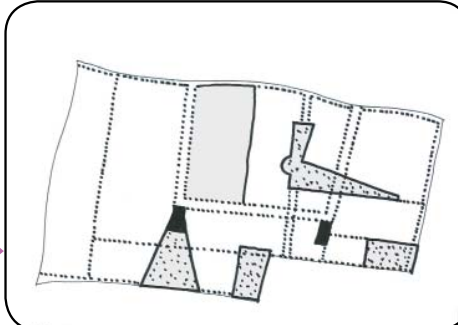
4. Provide and support high quality social activity nodes.



5. Encourage a finer urban grain to development.



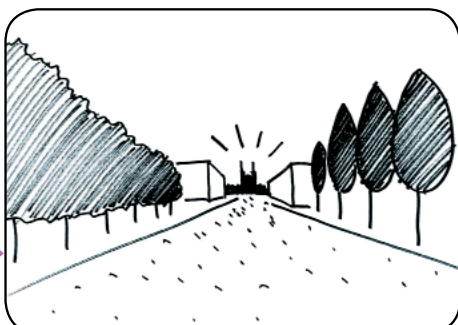
6. Reinforce public transport and cycle corridors.



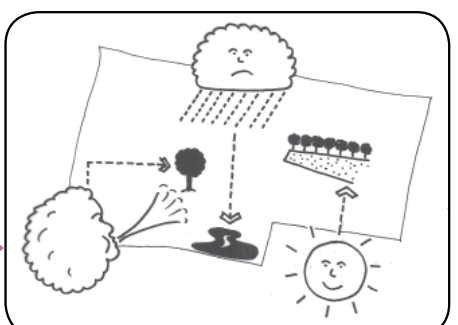
7. Provide access to usable open space.



8 Create an intensified urban character.



9. Reinforce strategic viewing corridors.

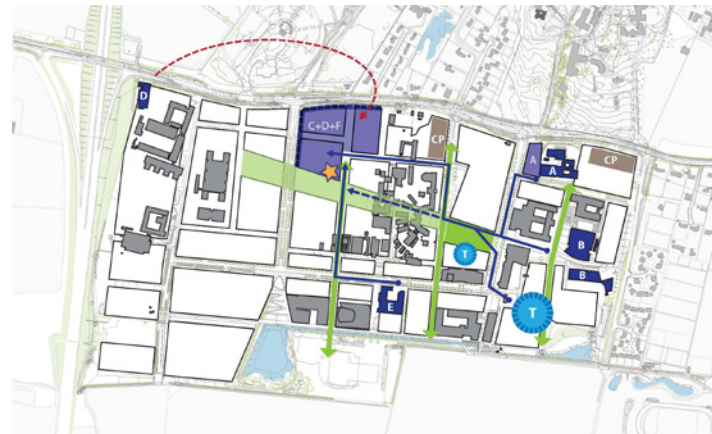


10. Respond to microclimate

Development Strategy (2013)

4.3.5 The masterplan, throughout its design development, has been significantly informed by the needs of the major current and potential future occupiers and the expected timelines of the associated University capital projects. The team sought to respond to the various requirements but remain consistent with the main design strategies.

4.3.6 This document set out a strategy for the whole site, without the Vet School (a key existing occupier). This key decision by the University enabled the strategy for a comprehensive development of the site for the first time. The considerations of other existing and future occupiers are set out on this page.



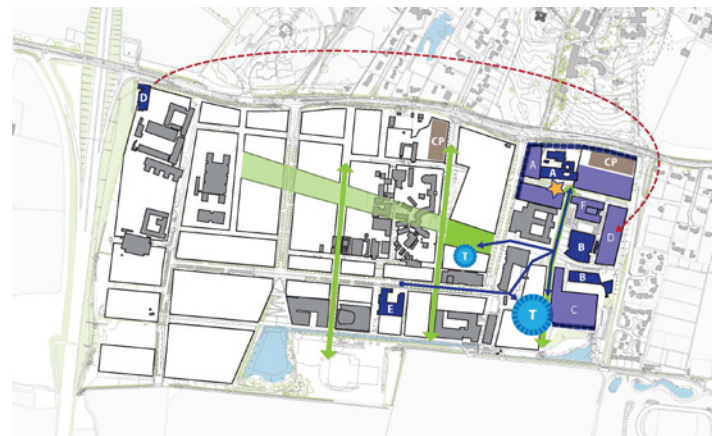
152. Key site occupiers: a new Cavendish III Laboratories

Cavendish III Laboratories

The Cavendish Laboratory currently occupies a complex of inadequate buildings at the south east corner of the site. A new facility for this world class research institution is a high priority capital plan project for the University.

The eastern paddocks provides an available and suitable site for Cavendish III, and the immediate impetus for change at West Cambridge.

While the original masterplan retained the East Paddocks for use by the Veterinary School and instead proposed development on west paddocks, this location is more beneficial for the transformation of the site and integration with the wider context. Cavendish III at this location represents a major catalyst for integrating West Cambridge to the academic uses north of Madingley Road (particularly to Astrophysics), and is sited at the heart of the proposed new eastern academic research cluster. Cavendish III on the East Paddocks will signal a major shift in direction for the site.



153. Key site occupiers: options for consolidating the Engineering Department at West Cambridge

Department of Engineering

Two potential sites were considered for the additional accommodation for the Department of Engineering, which would enable the Department to gradually move to and consolidate on the West Cambridge site.

The Department already occupies five buildings on the site and their location has played a significant role in deciding the future site - on the eastern side of the West Cambridge site.



154. Site Transformation: From reliance on southern link

Commercial Research Occupiers

Development of the large scale serviced plots fronting the Western lake for new commercial research occupiers could be combined with the next phase of the Schlumberger Research Building, so enhancing their long term position on the site and their contribution to the University achieving a major new commercial research address.



155. Site Transformation: From reliance on southern link

Veterinary School

This study was the first to consider West Cambridge without the Vet School. The Vet School at present occupies the key central area of the site.

The lowest density and largest site occupier by footprint, in the short term, the Vet School will be able to consolidate its operation in a secure, reduced precinct to allow for the development of Cavendish III on the eastern paddocks. Over the long term, it remains to be established whether this will be the best option for the ongoing teaching, research and clinical activities of the Vet School in Cambridge.

This enables a substantial land parcel to become available, offering a very significant long term development opportunity, as well as an opportunity to provide a substantial new public open space within the site.

Consultation and feedback

Engagement and Consultation

4.3.7 Significant engagement and consultation during the period 2014-2016 has included:

- Four meetings with the West Cambridge Community Group;
- Four meetings with the West and North West Consultative Cycling Group;
- A public exhibition through the North West Community Forum held on three separate dates;
- Nine pre-application meetings with Cambridge City Council. These meetings covered a variety of aspects of the proposals including planning, urban design, transport, open space and sustainability. Discussions also involved County Council officers;
- Technical meetings with Cambridgeshire County Council Highways officers;
- A Cambridgeshire Quality Panel Review;
- Two briefings to the Cambridge City Council Planning Committee;
- Meeting with Cambridge Past, Present and Future.

West Cambridge Community Group

4.3.8 The University formed a Community Group for the development at West Cambridge. This group is comprised of representative local stakeholders, who meet on a regular basis to contribute their views and ideas on behalf of the communities they represent. The meetings have provided a useful forum for the exchange of information, views and ideas about the proposals.

4.3.9 Community Group meetings were held in December 2014, February and May 2015, and March 2016 with focussed discussions on different aspects of the scheme including transport and accessibility, sustainability, design and social/community infrastructure. Key points raised by members included:

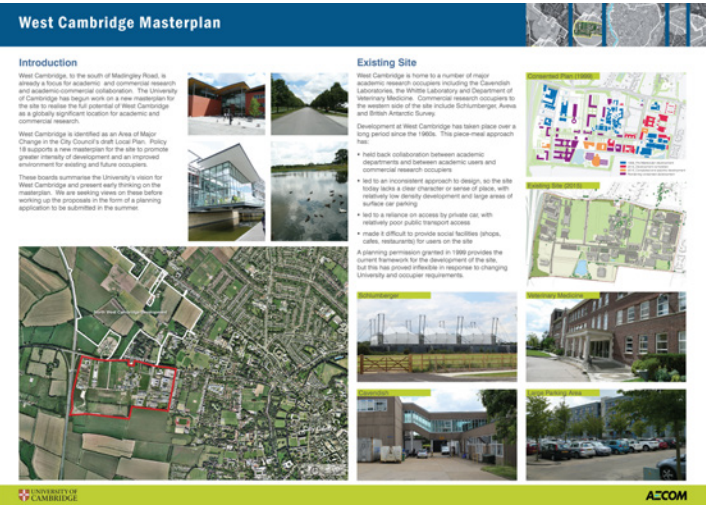
- the need to improve cycle routes between the area and the city centre;
- the need to form improved north-south links to offset east-west movements;
- the need to improve and ensure better separation between pedestrian and cycle routes;
- the need to minimise further vehicle congestion along Madingley Road through improvements to public and sustainable transport modes;
- the need to reduce noise impacts from the M11 in the area;
- the need to improve and supplement the Uni 4 bus service;
- the need to increase housing provision on the site;
- the need to establish activity on the site during the evening;
- the need to ensure quality in design of new buildings, giving due regard to appropriate heights and sensitive location of taller buildings;
- the need to improve pedestrian permeability and conditions to create better micro-climates on site;
- the need to improve public open space provision on the site;
- the need to create a public face to the local area;

- the need to conserve the heritage and environmental aspects of the site;
- the need to manage car parking arrangements;
- the need to ensure sufficient infrastructure capacity to support development;
- the need to respond to future City Deal proposals.

West and North West Consultative Cycling Group

4.3.10 A consultative cycling group was established by the University as part of the West Cambridge and NWCD Developments. This group is comprised of interested cycling stakeholders and local representatives who contribute to developing and improving the cycling experience around the North West and West Cambridge sites, as well as considering the connectivity for all users around, through and between the two sites.

4.3.11 Through this group, the University has shared and explored thoughts and opinions from the local community on cycling and connectivity and how the cycling experience can be enhanced through the Proposed Development at West Cambridge. Regular meetings have been held with the Cycling Group through the development of the proposals and feedback has been taken into consideration.



156. Community Forum Consultation Boards

North West Community Forum

4.3.12 The North West Community Forum is organised by Cambridge City Council and South Cambridgeshire District Council to provide an opportunity for individuals to find out more about planning and development in the North West and West of Cambridge. Emerging proposals for West Cambridge were presented at the Community Forum in March 2015. A further presentation was given in October 2015 in order to provide an update to members.

Pre-Application Meetings with Cambridge City Council

4.3.13 The University has worked in close collaboration with Cambridge City Council on the evolution of the Proposed Development at West Cambridge.

4.3.14 Nine pre-application meetings were held with Cambridge City Council throughout the design development period. The first meeting was introductory in nature and provided an opportunity for the University to present the vision and aspirations for the Proposed Development, and to establish the principle of revisiting the existing consented masterplan to enable delivery of an uplift in academic and commercial floorspace. Subsequent meetings covered a number of different aspects of the scheme proposals such as:

- Proposed land uses and distribution;
- Design and layout, including building heights and plot development;
- Social/amenity facilities;
- Green infrastructure and open space;
- Phasing of development and public realm;
- Access, movement and transport;
- Sustainability.

4.3.15 Guidance and comments from Cambridge City Council have been taken on board and have informed the evolution of the Proposed Development.

Councillor Briefing Sessions

4.3.16 Briefing sessions have been held with Cambridge City Council and Cambridgeshire County Council members in November 2014, September 2015 and March 2016. These discussion-based engagement sessions were facilitated by City Council Officers and members of the project team.

4.3.17 Discussions were based around the following key themes:

- Strategy and Development;
- Transport and Connectivity;
- Housing;
- Open Space;
- Amenities;
- Phasing and Communications.



157. Quality Panel Review: Presentation Front Cover

Cambridgeshire Quality Panel Review

4.3.18 Emerging design proposals for West Cambridge were presented to the Cambridgeshire Quality Panel in April 2015. The Panel were supportive of the proposal and encouraged by the University's approach to sustainability and landscape, and considered the anticipated improvements in the public transport provision and enhanced cycling and walking routes back into the city as essential for the development of the site. The Panel made the following recommendations:

- give due consideration to the integration of academic and commercial properties and how they will relate to each other on the site;
- ensure that the open spaces will work for the benefit of the site, the occupiers and users and for the city;
- endeavour to reduce the amount of car parking provided;
- provide high quality landscape and planting;
- consider the appropriate mix of land uses;
- draw on precedents and examples of joint academic/commercial partner campuses or developments.

4.3.19 A second Cambridgeshire Quality Review Panel was held in March 2016. The Panel remained supportive of the proposals and appreciated the level of constraints the masterplan has to consider over the whole site. The Panel made the following recommendations:

- provide a plan showing proposed private and public spaces;
- provide a phasing strategy and impacts on the overall design;
- ensure the landscape and public realm strategy interacts with shared amenities and the phasing of the development;
- what makes this a special place? This has to be a location that attracts the brightest and the best;
- if this site is designed to complement the North West Cambridge development, sufficient priority should be given to connections between the two sites.

4.3.20 The Panel noted that a comprehensive planning application is being prepared which will answer some of these questions, and would like to review and comment on the underlying strategy and parameter plans.

Post-Application Meetings

4.3.21 Cambridge City and Cambridgeshire County Councils

4.3.22 Since the submission of the application in June 2016 the University has held a number of workshops with Cambridge City Council and Cambridgeshire County Council to address comments raised by officers. The workshops covered a number of topics including:

- Transport, Parking and Servicing
- Trees and Development Parcels
- Sustainability
- Landscape and Visual Impact Assessment and Parameter Plan 05: Building Heights
- The Vision for West Cambridge
- Drainage
- Parameter Plans
- Public Realm
- Design Guidelines
- Air Quality and Noise
- Public Art Delivery

4.3.23 Post consultation with the City and County Councils was an iterative process and saw the University submit a number of draft documents to the Councils to inform and address comments raised during the workshops. Guidance and comments from Cambridge City and Cambridgeshire County Councils have therefore been taken onboard and informed the revised proposed development.

Response to consultation - evolution of the masterplan



158. Illustrative Masterplan - Version 1 for consultation, February 2015

West Cambridge Illustrative Masterplan - Version 1 for Consultation (February 2015)

4.3.24 The above plan shows the initial version of the masterplan, which was developed from internal and external consultation through the 2014-2015 period.

4.3.25 This version of the masterplan has been used in consultation throughout the rest of 2015 and into 2016.

4.3.26 The following pages set out the key issues raised and the responses made in relation to the masterplan and Development Proposals.

4.3.27 The consultation raised various key issues to be addressed:

- **Open space:** the development was perceived to be dense and possibly over-developed. There was a concern about a lack of a single large open space where people could gather in larger numbers and about open spaces overall not substantial enough to support the amount of development and working population;
- **Building heights:** heights as proposed by the accompanying draft Parameter Plans raised fears of possible unbalanced development and there was concern over daylighting and shading of new and existing open spaces;



159. Illustrative Masterplan - Version 1 - Key issues raised through consultation

- **Energy Centre:** this facility, in the 2015 masterplan was located to the northern edge of the development, adjacent to Madingley Road. Both this and a location in the western part of the site were allowed for in the Parameter Plans. The northern location was felt to be too close to existing residential uses and may have had detrimental visual impacts on Madingley Road and adjacent Conservation Areas;
- **Social amenities:** there was uncertainty as to whether the social amenities strategy was robust, would produce a good amount of activity throughout the site and would be delivered in time to serve other (academic and commercial research) developments;

- **Residential development:** there was concern about the lack of additional residential uses within the site, the impacts on existing residential of additional non-residential uses and the creation of activity into the evening and through the weekend on existing residential amenity;
- **Cycle/Walking/Buses/Transport:** throughout the consultation, site occupiers and neighbouring residents were concerned about additional car traffic. At the same time, many site users have advocated for additional car parking spaces;
- **Views from south:** these views were considered to be highly sensitive and that development, in form and height, must respond to and reduce any impacts of the development on the open countryside and Green Belt. In particular, there was a request to avoid long continuous frontages along the southern edge and ensure generous landscaped breaks were secured.



160. Illustrative Masterplan - Version 1 - Initial Response to Consultation (October 2015)

Version 1: Initial response (October 2015) - Character: Open space and heights

4.3.28 In response to this initial round of consultation the proposed open space structure was reconsidered. The result was The Central Green: a centrally located, enlarged section of the east-west green space, incorporating a group of existing mature trees in the Vet School compound. This space was included to ensure that there is one larger space which can serve the whole of the West Cambridge community.

4.3.29 Further definition was given to this open space by establishing minimum width dimensions and maximum frontage heights to ensure an open, more informal aspect which relates well to the types of spaces found within Cambridge city centre.



161. Illustrative Masterplan - Version 1 - key integration areas

Version 1: Key integration areas - Character & Community

4.3.30 Further consultation with the design teams of the departments of Engineering and Physics, enabled more detailed requirements of future occupiers to be integrated within the Illustrative Masterplan. Around this time, the University had also completed a study which provided the brief and timing for the first shared facility.

The Illustrative Masterplan 2016 - a comprehensive response



162. Illustrative Masterplan - Version 2 - a comprehensive response (March 2016)

West Cambridge Illustrative Masterplan - a comprehensive response (March 2016)

4.3.31 The above masterplan and extracts following on these pages, represent a comprehensive review of the previous 2015 masterplan through internal and external consultation.

4.3.32 The following images highlight the key changes.



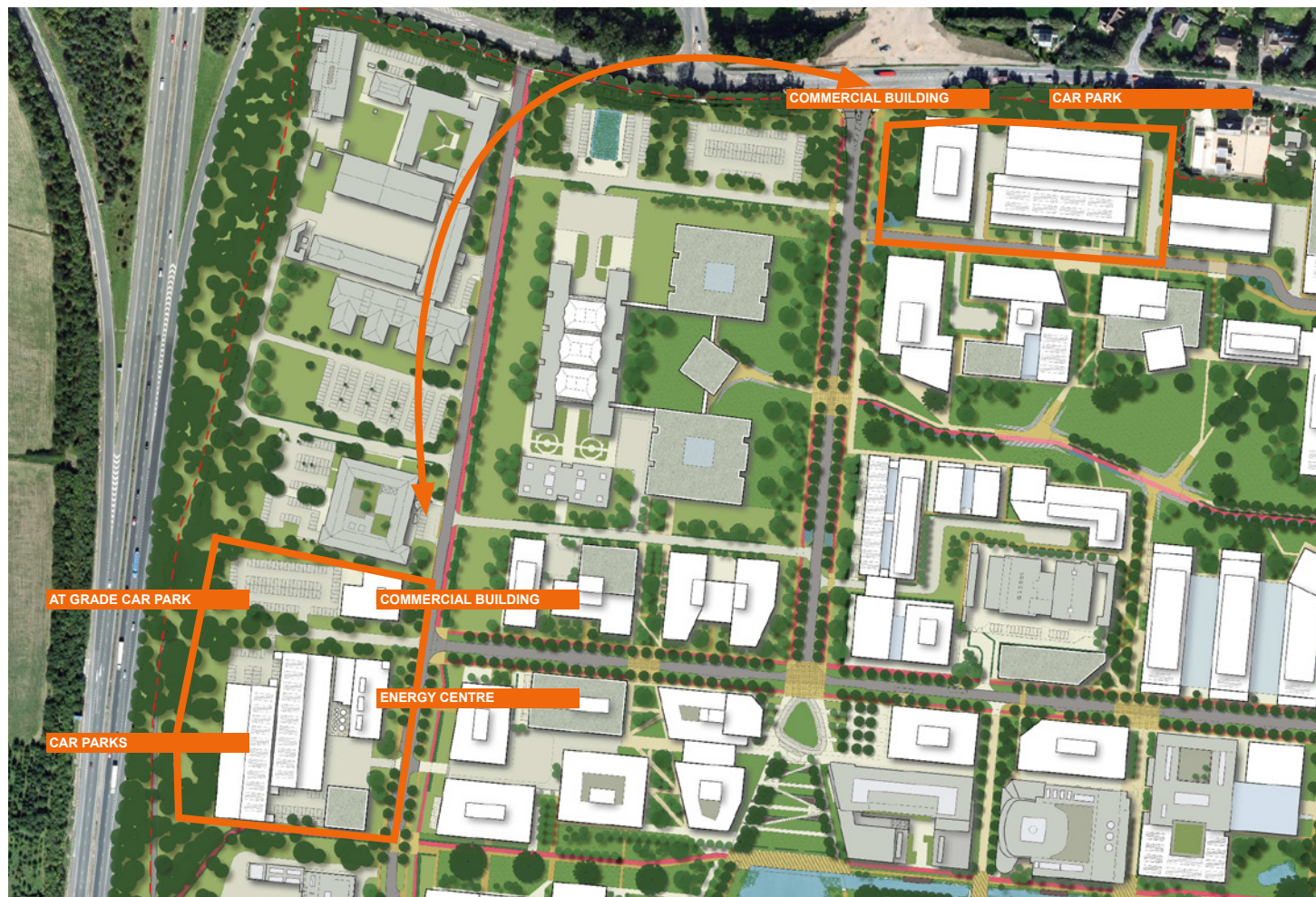
163. Community Forum Consultation Boards

Version 2 - Integration with Department of Engineering & Cavendish III

4.3.33 The needs and requirements of the Department of Engineering, as represented through their ‘inset masterplan’ by Grimshaw Architects, were integrated into the 2016 Illustrative Masterplan. Collaborative work with the Department’s design team ensured that key principles of the masterplan were maintained. Key elements were considered:

- Extent and definition of the **East Pond open space**, ensuring that a good sized space was formed allowing for the increase in area of the pond for drainage purposes as well as adequate space for activity and spill out from buildings;

- **Heights** - ensuring that the proposed heights sit well within the Heights Parameter Plan and that location of accent buildings is in accordance with both site and inset masterplan principles;
- **Shared facilities building** - exploring location, form and extent while ensuring a strong relationship and pedestrian links to the East Forum spaces to the south of the ‘inset masterplan’;
- **New car park location** - ensuring that the car park can be accommodated within the height parameters; and
- **Green link** to east of IfM Building - ensuring that the new frontage is set back to provide a more generous width for the north-south Green Link and also additional landscape along the southern frontage - large enough for forest size tree planting.



164. Community Forum Consultation Boards

Version 2 - New location for Energy Centre and related changes

4.3.34 The original location for the Energy Centre, on the northern edge of the site was considered to be too close to existing residential and too sensitive in terms of visual impact on Madingley Road and the conservation areas to the north.

4.3.35 The Energy Centre was re-located to the western edge of the site and co-located with car parking structures and storage facilities. The Energy Centre was located to provide a feature that terminates views from along Charles Babbage Road.

4.3.36 On the former Energy Centre site at Madingley Road there is now potential for a commercial building that could help form a gateway event at the junction of High Cross and Madingley Road.



165. Community Forum Consultation Boards

Version 2 - Activity Focus - The Green, a new open space at full capacity

4.3.37 A more extensive space has been formed in the centre of the east-west greenspace and at the centre of the site. This space provides for relaxation, reflection and informal activities, within a predominantly green open space. The careful location of this space allows for a group of large mature category 'A' trees to be retained and incorporated within the new space.

4.3.38 The updated illustrative masterplan also shows moderation of cycle and pedestrian lanes to allow for greater dominance of soft over hard surfaces. Inspired by other Cambridge spaces such as Queen's Road and Christ's Pieces, the plan shows how the key paths could be lined by trees and building frontages partially hidden behind generous trees and undergrowth.

4.3.39 Together with enlargement of the central open space, the north-south links were also been widened.

The Illustrative Masterplan 2017 - consolidation and definition of masterplan principles



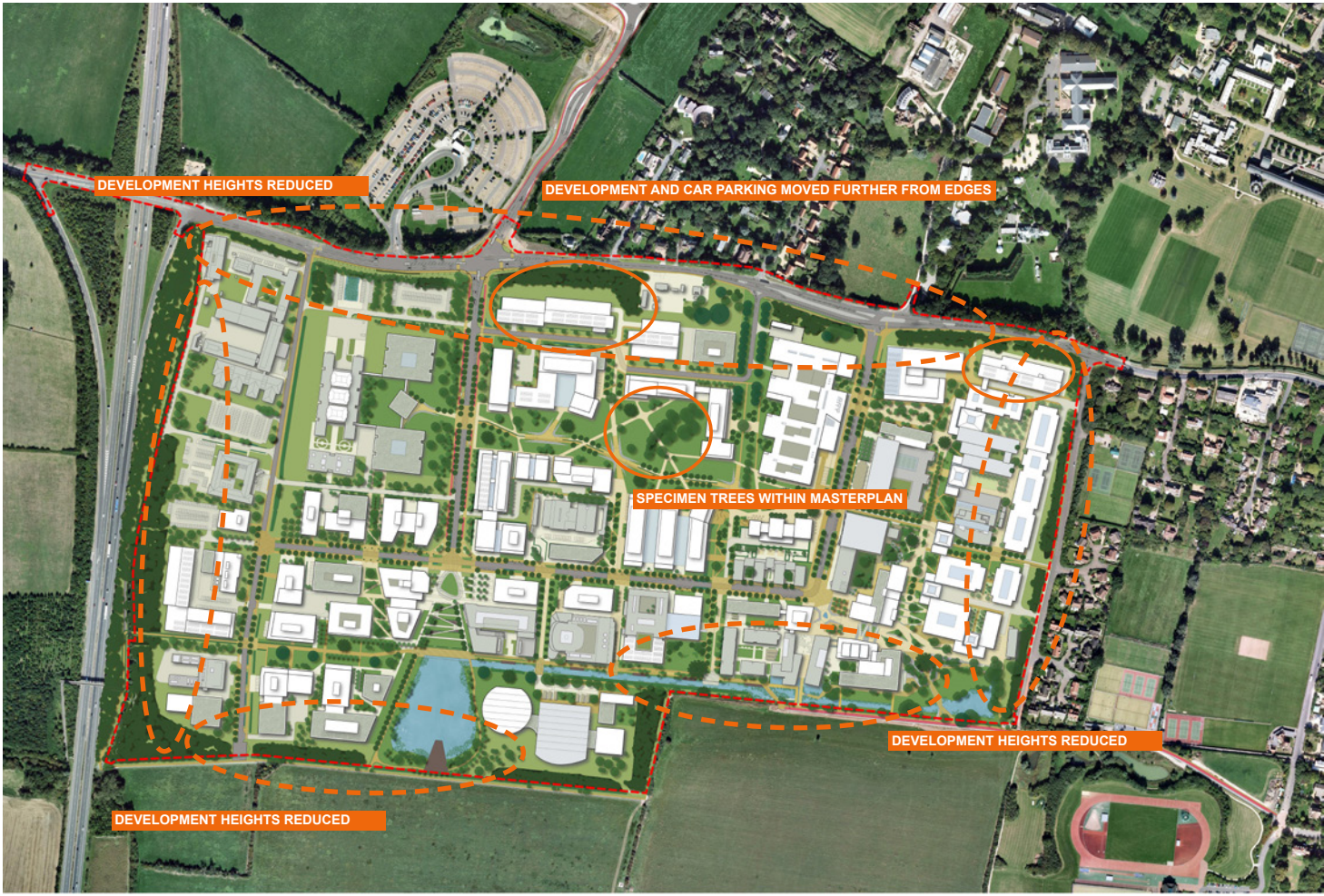
166. Illustrative Masterplan - Version 3 - (May 2017)

4.3.40 The Outline Application material based on the Version 2 Illustrative Masterplan was submitted in June 2016.

4.3.41 Comments were received from Cambridge City Council in relation to maximum heights and visual impact (at site edges and at landmark elements); protection and enhancement of woodland buffers at the site edges and specimen trees within the site; definition of The Green open space (alignment, view corridors, minimum dimensions and sunlight/daylight); definition of Green Links; and the character and transformation of the existing streets.

4.3.42 Representations were also submitted by the local community in relation to the Design Guidelines, vehicle and servicing access, road safety, construction traffic, car parking, cycling, transport, the Green Corridor, noise, flood risk and drainage, construction Environment Management Plan.

4.3.43 The comments have been considered and incorporated into version 3 of the illustrative masterplan, which is set out in paragraph 4.3.44- 4.3.59.



167. Protecting and enhancing site edges: Woodland buffers, Height limitations

Version 3: Protecting and enhancing the site edges

4.3.44 Further work on the quality and location of trees, resulted in an updated tree survey, which has now been incorporated into the Arboricultural Impact Assessment and Woodland Management Plan submitted as part of the Application.

4.3.45 Woodland buffers at the site edges were each examined and provided with a 'buffer zone' or development setback to ensure that any immature trees can grow to their full potential and more mature woodland is not adversely affected by development being located too closely.

4.3.46 By establishing these buffer zones, development, especially along the northern boundary of the site has been located further to the south, sensitively positioned away from Madingley Road and the existing residential and Conservation Areas.

4.3.47 Development heights as described within the Parameter Plans and the Design Guidelines have been further interrogated and have been reduced at all the site edges and especially to the south, to protect these sensitive views. Heights at edges have been carefully considered so that development is not only further set back from the edges but are also now set below the heights of the present woodland buffers. Please refer to Section 05 of this document for the Heights Parameter Plan.

4.3.48 Smaller pocket landscape spaces have been defined in the Design Guidelines to allow for tree planting to grow to maturity and add to the landscape setting of the site. In addition these serve to break up the southern frontage of development. These pocket spaces are generally located along the southern boundary of the site.



168. Strengthening the landscape structure of the site (the Green, the Green Links and the existing streets)

Version 3: Consolidation of the Landscape structure of the masterplan

4.3.49 In addition to renewed focus on the site edges, existing landscape within the site has been re-examined.

4.3.50 The existing street trees and hedgerows have been provided with buffers and setbacks to ensure they are retained within the new masterplan and allowed to grow to their full potential. This has resulted in development frontages being set back in a number of locations.

4.3.51 In addition category 'A' and 'B' specimen trees within the site were provided with individual setback zones to ensure their protection and retention within the masterplan.

4.3.52 The Green Links within the development have been provided with minimum widths, that incorporate tree protection buffer zones for existing trees along these corridors.

4.3.53 The Green open space has now been robustly defined within the Parameter Plans and the Design Guidelines. Maximum development frontage heights, with setbacks above have been developed to ensure that the space receives light and sun. The view corridor to the Schlumberger Research Building (Grade II* Listed) is now established in Parameter Plans.

4.3.54 In addition, the minimum dimensions are prescribed, including minimum widths between frontages and minimum areas for each of the individual Gardens within The Green.

4.3.55 The design for all existing streets has been reviewed and amended to ensure their transformation in character, the retention of existing street trees and the good incorporation of speed reducing measures and cycle movement.



169. Integration of the University's Priority Projects - Cavendish III Laboratory, Engineering Department, Shared Facilities Hub.

Version 3: Key integration areas - Character & Community

4.3.56 Further consultation with the design teams of the Departments of Engineering and Physics has enabled their emerging masterplans and building proposals to be integrated within the updated Illustrative Masterplan.

4.3.57 In addition, design teams have now been appointed by the University to design the first Shared Facilities Hub located to the south of the Green, the new Cavendish III Laboratory as well as JJ Thomson Garden.

4.3.58 These key Priority Projects for the University have now been integrated and the illustrative masterplan Version 3 reflects these three emerging proposals for West Cambridge.

4.3.59 In addition, the first building for the Department of Engineering, the UKCRIC Building, has now received Planning Permission and is incorporated into the 2017 illustrative masterplan through an update to the Department of Engineering's inset masterplan in the east of the site.

Four emerging projects



170. The Civil Engineering Building for the Department of Engineering (UKCRIC) - Grimshaw Architects

UKCRIC Building for the Dept. of Engineering

4.3.60 This key University Priority Project received planning permission in February 2017. This building has been designed by Grimshaw Architects who are also the Department’s masterplanners for the inset masterplan for the Department of Engineering.

4.3.61 Located at the eastern edge of the site, this building will be first in a range of similar new laboratory and workshop buildings for the Department. The new building will displace existing surface car parking and so will begin the process of intensifying the site and increasing its population.

4.3.62 The building is compliant with Height Parameters and Design Guidelines. Located adjacent to the eastern site edge, this building will sit well behind the existing woodland buffer and will have little visual impact on Clerk Maxwell Road and other areas to the east.



4.3.63 The brief for the building has led to an innovative approach to the use of materials. The building design includes thermochromic glass louvres that change transparency according to the amount of direct sun or heat they are exposed to, so maximising the building’s environmental performance and sustainability.



171. Cavendish III Laboratories - Jestico + Whiles Architects

Cavendish III Laboratory

4.3.64 The Department of Physics has appointed Jestico + Whiles as the architect for their new laboratory building, Cavendish III, to be located to the west side of JJ Thomson Avenue.

4.3.65 This large floorplate building is a major development for the University and for West Cambridge, transforming the nature and character of JJ Thomson Avenue with new enclosure and definition.

4.3.66 The main entrance to the building will be located on the south-east corner of the building overlooking both these spaces and engaging with the East Forum Upper Square further to the south.

4.3.67 A substantial transparent element of the building is proposed. Containing major academic social spaces such as lecture theatres, social and break out spaces, a library and seminar and study spaces, this element will be located on the frontage to JJ Thomson Avenue providing visual activity and a high degree of overlooking to JJ Thomson Avenue.

4.3.68 In addition, it is proposed that the internal working spaces and laboratories within the building will be apparent from The Green open space, enabling the ‘showcasing of science’ within the public realm of the West Cambridge site.



172. Shared Facilities Building - Jestico + Whiles Architects

Shared Facilities Building

4.3.69 Jestico + Whiles Architects have also been commissioned by the University to develop designs for the first of the major Shared Facilities Buildings

4.3.70 This building will be located to the south of The Green, facing the new Cavendish III Laboratory, and will accommodate a large canteen and smaller cafe at ground floor, with social spaces, working and study spaces located on upper floors - all overlooking The Green.

4.3.71 This building is the first manifestation of the University's strategy to invigorate the West Cambridge site and provide opportunity for new academic interactions and collaborations.

4.3.72 The building is conceived to be an extension of The Green open space, with transparent frontages at ground and upper floors, landscaped courtyards on the various levels as well as activity from the catering facilities spilling out into The Green and onto JJ Thomson Avenue.



173. JJ Thomson Garden - the first phase of The Green open space - Aecom

JJ Thomson Garden

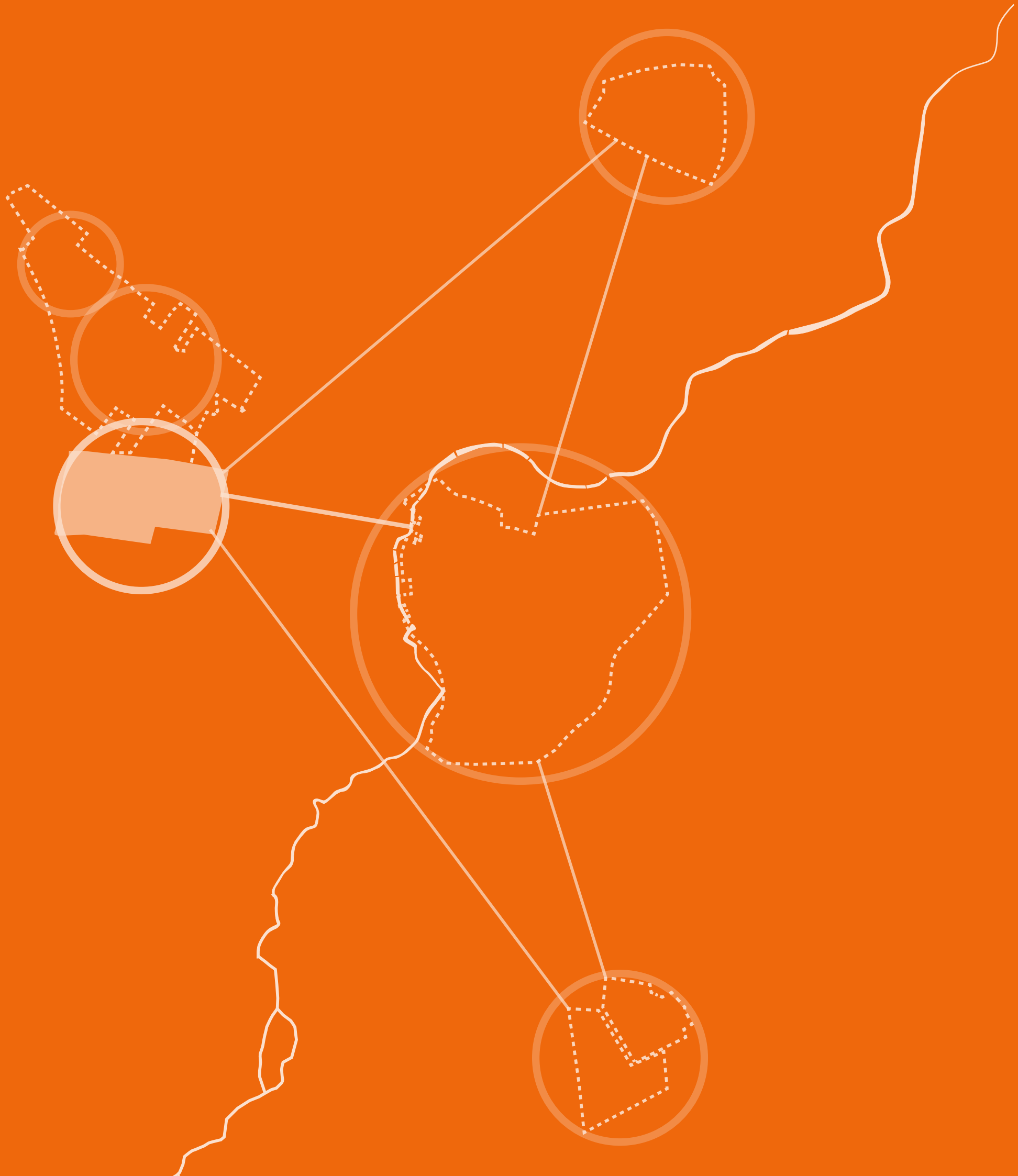
4.3.73 The first phase of The Green open space is under design development by Aecom Landscape. This space is bounded by JJ Thomson Avenue in the east, the existing Vet School in the west (for an interim period), and in the future this space will be formed by the new Cavendish III Laboratory in the north and the new Shared Facilities Hub in the south.

4.3.74 This space, called JJ Thomson Garden, will come forward alongside the two proposed University developments to the north and south, ensuring that a complete and integrated character area is formed immediately.

4.3.75 The space has been designed in conjunction with the surrounding proposed developments and considers the integration of the existing Vet School into the wider academic cluster in the interim condition.

4.3.76 Within the space a new shared pedestrian and cycle strategic route will be established, which will eventually connect JJ Thomson Avenue and High Cross.

4.3.77 This new green space will form a new pedestrian activity focus for the east of the site as well as providing additional amenity for new and existing occupiers.



PROPOSED DEVELOPMENT

A5

A1 University need	A2 University vision	A3 Development context <small>International, Strategic and Local</small>	A4 Masterplan development process	A5 Proposed development
				<div>Description of Development</div> <div>Demolitions</div> <div>Parameter Plans</div> <div>Key issues:</div> <div>Application Zones</div> <div>Development Building Zones</div> <div>Land use</div> <div>Access and Movement</div> <div>Landscape and Public Realm</div> <div>Maximum Building Heights</div>

5. PROPOSED DEVELOPMENT

5.1. Parameter Plans

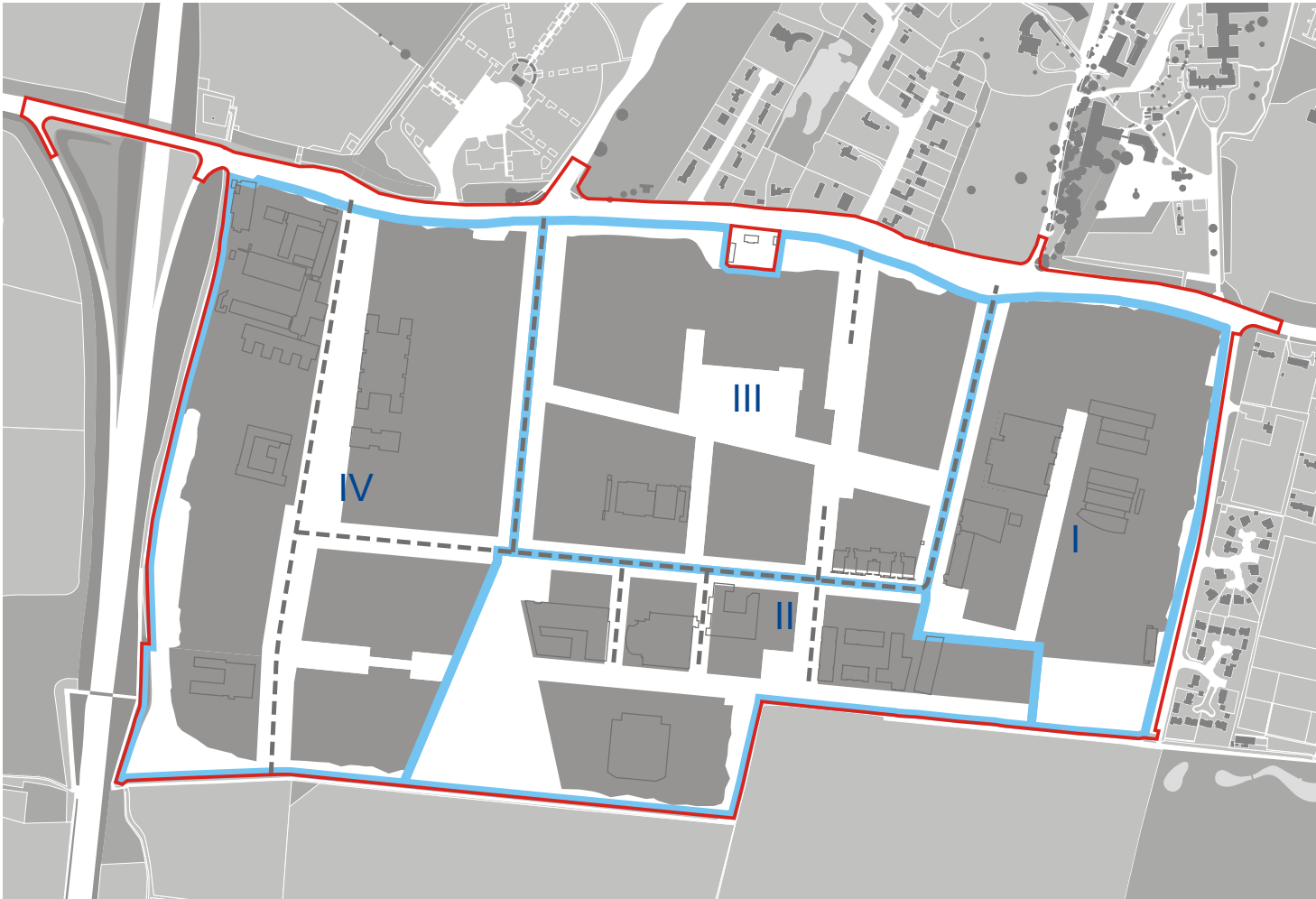
Amount of development

5.1.1 The Outline Planning Application seeks permission for up to 383,300 m2 (GEA) of additional floorspace. The breakdown of this floorspace by the class is shown in the table. The distribution of floorspace across the site will be governed by the Building Development Zones parameter plan.

Land Use	Academic research	Nursery	Commercial research / research institutes*	Shop, cafe, restaurant, public house	Assembly & leisure (sports)	Ancillary infrastructure (data centre, energy centre)	Total proposed floorspace
Use Class	D1	D1	B1b / sui generis	A1-A5	D2	Sui generis	
Building Zone I	Up to 77,000	Up to 1,500	Up to 21,900	Up to 1,000	0	0	Up to 77,000
Building Zone II	Up to 38,600	Up to 1,500	Up to 38,600	Up to 500	Up to 4,100	0	Up to 44,500
Building Zone III	Up to 178,400	Up to 1,500	Up to 51,700	Up to 1,500	0	Up to 2,000	Up to 182,100
Building Zone IV	Up to 104,000	Up to 1,500	Up to 104,000	Up to 1,500	0	Up to 4,500	Up to 110,500
Total Proposed floorspace	Up to 370,000	Up to 2,500	Up to 170,000	Up to 4,000	Up to 4,100	Up to 5,700	Up to 383,300

174. Schedule of Land Use and Amount of Development

All figures quoted are Gross Floor Area, m2
*Research Institutes are taken to mean sui generis uses affiliated with the University, Research Companies or other research organisations



175. Parameter Plan 1: Development Zones

KEY

Contextual Information:

Existing street

Existing building to be retained

For Approval:

Application site boundary

Development zones

Building zones

Land use

5.1.2 The disposition of land uses within the development is set out in Parameter Plan 2.

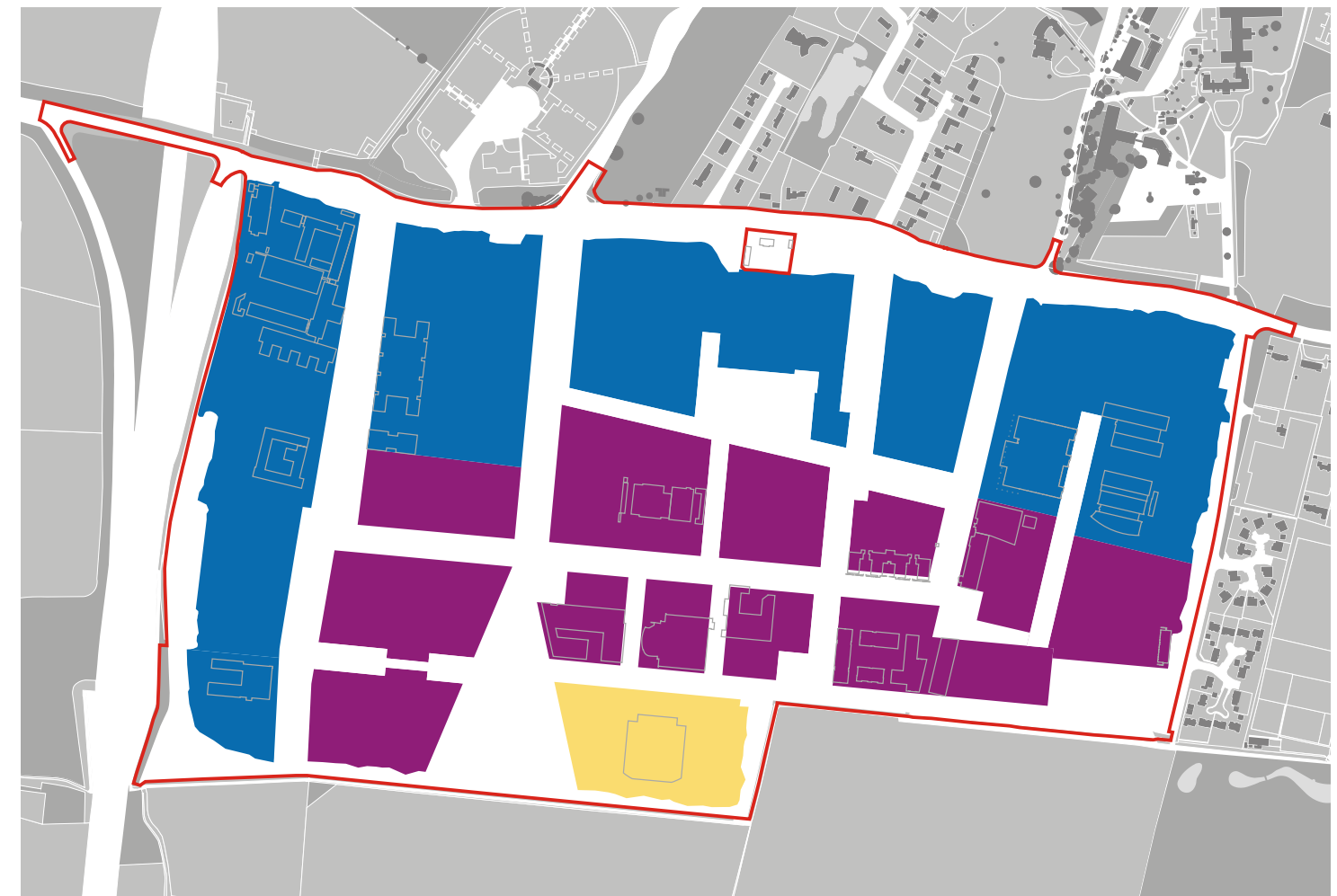
5.1.3 The parameter allows for flexibility and blending of academic research and commercial research/research institutes uses across the site.

5.1.4 The majority of social amenities will be associated with academic or commercial research development and covered under those categories (Classes D1 and B1b). The main hubs for social amenities will be at East and West Forum but smaller scale social spaces are to be provided in locations related to key open spaces as shown in the land use strategy diagram.

5.1.5 In addition to these social amenities there will also be a provision for cafés, restaurants and pubs which will be categorised as A1 to A5 uses and not directly associated with academic or commercial development. The location for these uses is envisaged predominantly in West and East Forum areas and also possible in the areas between them: along Charles Babbage Road and Southern Ecological Corridor.



176. Land use strategy - one possible distribution



177. Parameter Plan 2: Land Uses

KEY

For Approval:	
—	Application site boundary
■	Academic & Commercial Mix: D1, B1b, sui generis
■	Mixed Use Zone: A1-A5, B1b, D1
■	Community Uses: D1, D2

Access and movement

5.1.6 The access and movement parameters are set out in Parameter Plan 3, and reflect the movement principles diagrams on the right. The movement principles start from the existing conditions, which they seek to respond to and improve.

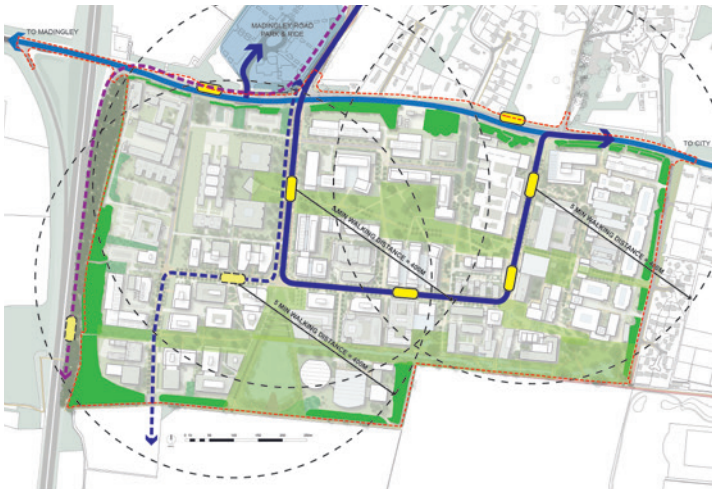
5.1.7 The primary vehicular movement network is associated with the existing primary streets: High Cross, JJ Thomson Avenue, Charles Babbage Road and Western Access/Ada Lovelace Road. These streets can also incorporate bus routes (not including Western Access/Ada Lovelace Road).

5.1.8 The primary cycle network is provided through key east-west open spaces in which vehicular movement is restricted. In addition, separate cycle routes are provided along JJ Thomson Avenue and High Cross. Secondary cycle routes are envisaged for localised distribution and are accommodated in north-south links, alongside pedestrian routes and, in places, along service access.

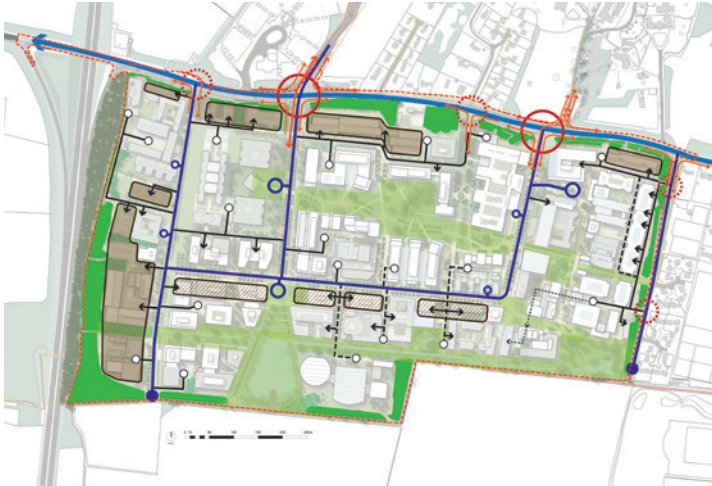
5.1.9 New or improved site accesses for vehicles and/or pedestrians and cyclists are proposed within the limits of deviation shown on Parameter Plan 3.



178. Design Principles: Pedestrian and Cycle network



179. Design Principles: Public Transport



180. Design Principles: Vehicular Movement



181. Parameter Plan 3: Access and Movement

KEY

Contextual Information:

Primary street

Secondary street

Primary pedestrian/cycle route

Secondary pedestrian/cycle route

For Approval:

Application site boundary

Intervention zone for street

Flexible zone for street

Secondary Vehicular access/egress points

Secondary Vehicular egress only

Secondary pedestrian and cycle only access/egress points

Flexible zone for pedestrian and cycle routes

A

B

Zones of access points

O

P

General access points for pedestrians and cyclists

Landscape and public realm

5.1.10 The Landscape and Public Realm proposals are set out in Parameter Plan 4. The existing spaces are to be incorporated and new spaces added, with a goal to create a clear hierarchy and a variety of usable and accessible open spaces; as well as overall greener setting for the site.

5.1.11 A new open space will be created across the central part of the site. The parameters allow a level of flexibility for the layout of this space, but its minimum overall area must be 2.9ha and the open space must:

- Include the mandatory location shaded in orange which provides a minimum 20m wide view corridor from Schlumberger to King's College Chapel;
- Be located entirely within the identified Flexible Zone; and
- Have a minimum width of 40m along its entire length between JJ Thomson Avenue and High Cross and have a minimum width of 100m along a minimum 100m continuous length.

5.1.12 Other important elements of the proposals include reinforcement of the existing Southern Ecological Corridor and establishment of north-south Green Links along exiting corridors.

5.1.13 Please see accompanying Design Guidelines and Parameter Statement for guidance on Southern Ecological Corridor and Green Links.



182. Design Principles: Open space network



183. Design Principles: Ecology and bio-diversity



184. Design Principles: Open space - activities



185. Parameter Plan 4: Landscape and Public Realm

KEY

Contextual Information:

- Existing street/ Pedestrian link
- Existing retained open land
- Retention & Reinforcement of existing woodland edge
- Water Bodies
- Canal / swale

For Approval:

Primary landscape and public realm:

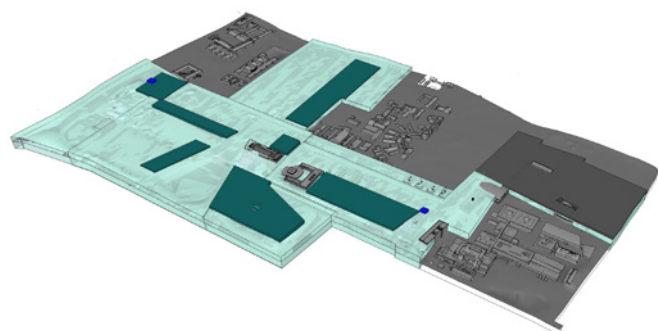
- East Forum (Mandatory location)
- West Forum (Mandatory location)
- The Green (Mandatory location)

The Green minimum area - indicative location

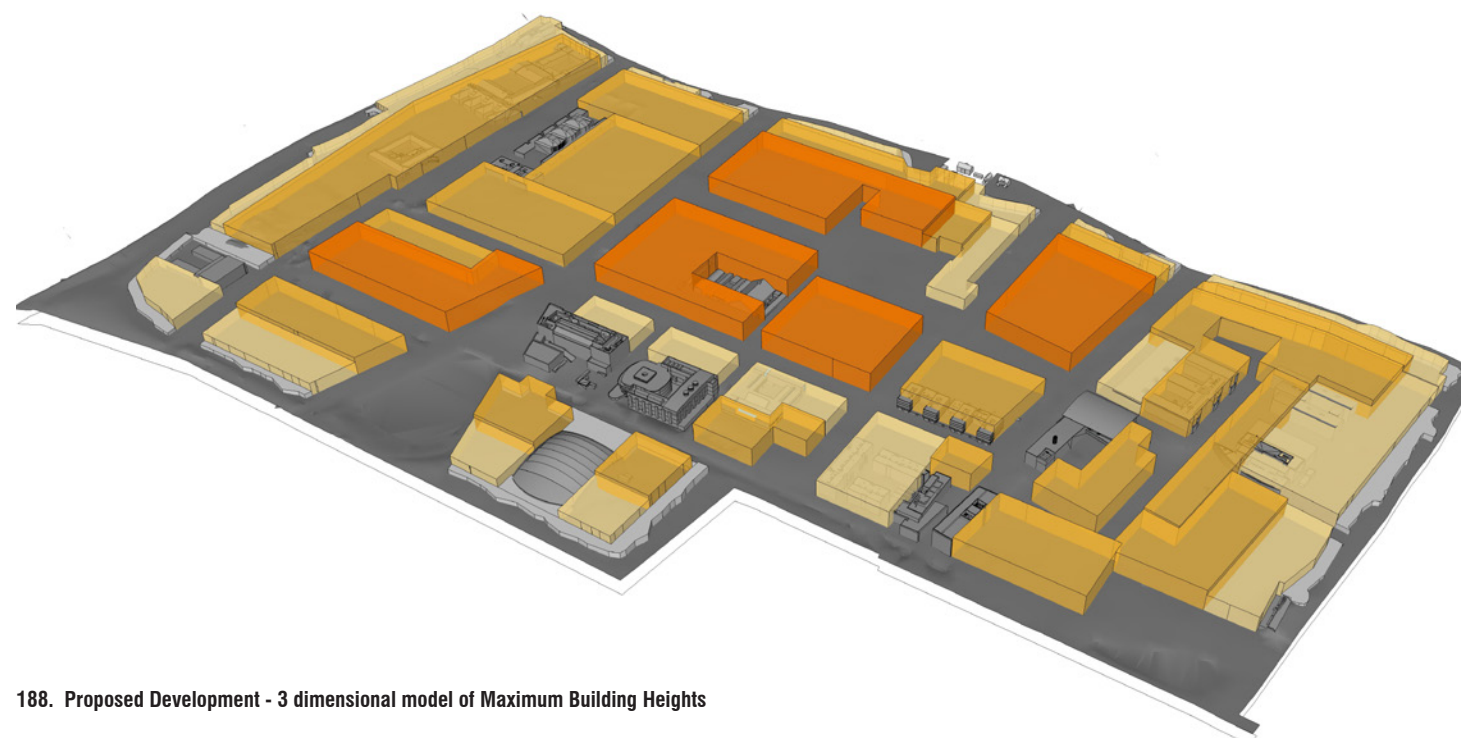
- Secondary landscape and public realm (Mandatory location)
- Additional Secondary landscape and public realm (Indicative boundary)
- Street landscape areas (Mandatory location)
- Flexible zone for landscape and public realm
- Woodland buffer zones

5.1.14 Parameter Plan 5 defines the maximum heights of buildings as measured to the maximum height of any rooftop plant (excluding any lightning conductors, weather vanes, chimneys/exhaust flues, telecommunications equipment and aerials).

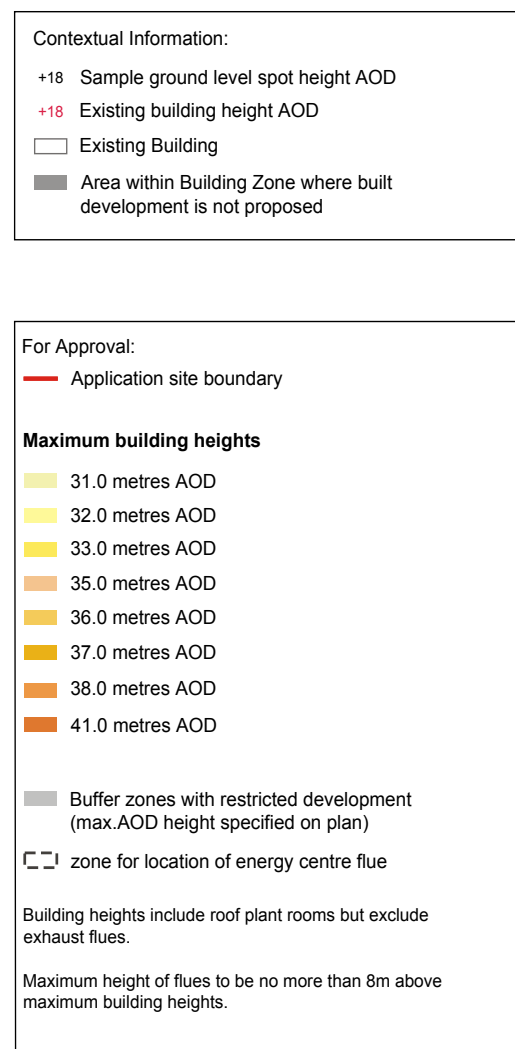
5.1.16 Heights are generally lower towards the site edges and higher within the centre of the site. Heights are kept lower adjacent to the Schlumberger Research building to ensure that the roof structure remains visually dominant in the western part of the site.



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188. Proposed Development - 3 dimensional model of Maximum Building Heights



189. Parameter Plan 5: Maximum Building Heights



190. View of Development from the South

Height parameters - views assessment

5.1.17 Maximum Building Heights have been thoroughly tested through the Landscape and Visual Impact Assessment process reported in the environmental Statement submitted in support of the planning application.

5.1.18 Each pair of views (key views 01, 07 and 06 from the LVIA) shows the existing view followed by the maximum height parameters for the proposed development derived from Parameter Plan 05.

5.1.19 The following images show the proposed heights parameters in comparison to existing.

5.1.20 Proposed development parameters relate well to the existing development on the site and sit below the tree belt as viewed from the south west (view 01, Figures 191 and 192). View 07 (Figures 193 and 194), shows that the parameter heights have a good relationship to the woodland buffers along this site edge. This woodland is immature and will over time increase in scale as setbacks and buffer spaces have been provided to ensure this woodland edge can reach maturity.

5.1.21 View 06 (Figures 195 and 196) shows the view from the east. The Parameters show an almost unbroken maximum development height, however in reality this will be broken by the east-west cycle route and the existing buildings that are lower in height. The parameters heights are required in this location to provide flexibility for the proposed development.

5.1.22 It should be noted that the visualisations generated from the maximum heights parameters generate an impossible worst case, as the amount of development for which permission is sought is not sufficient to completely fill the parameter envelopes as illustrated here.



191. Existing view - key view 01



192. Maximum Proposed Building Heights - key view 01



193. Existing view - key view 07



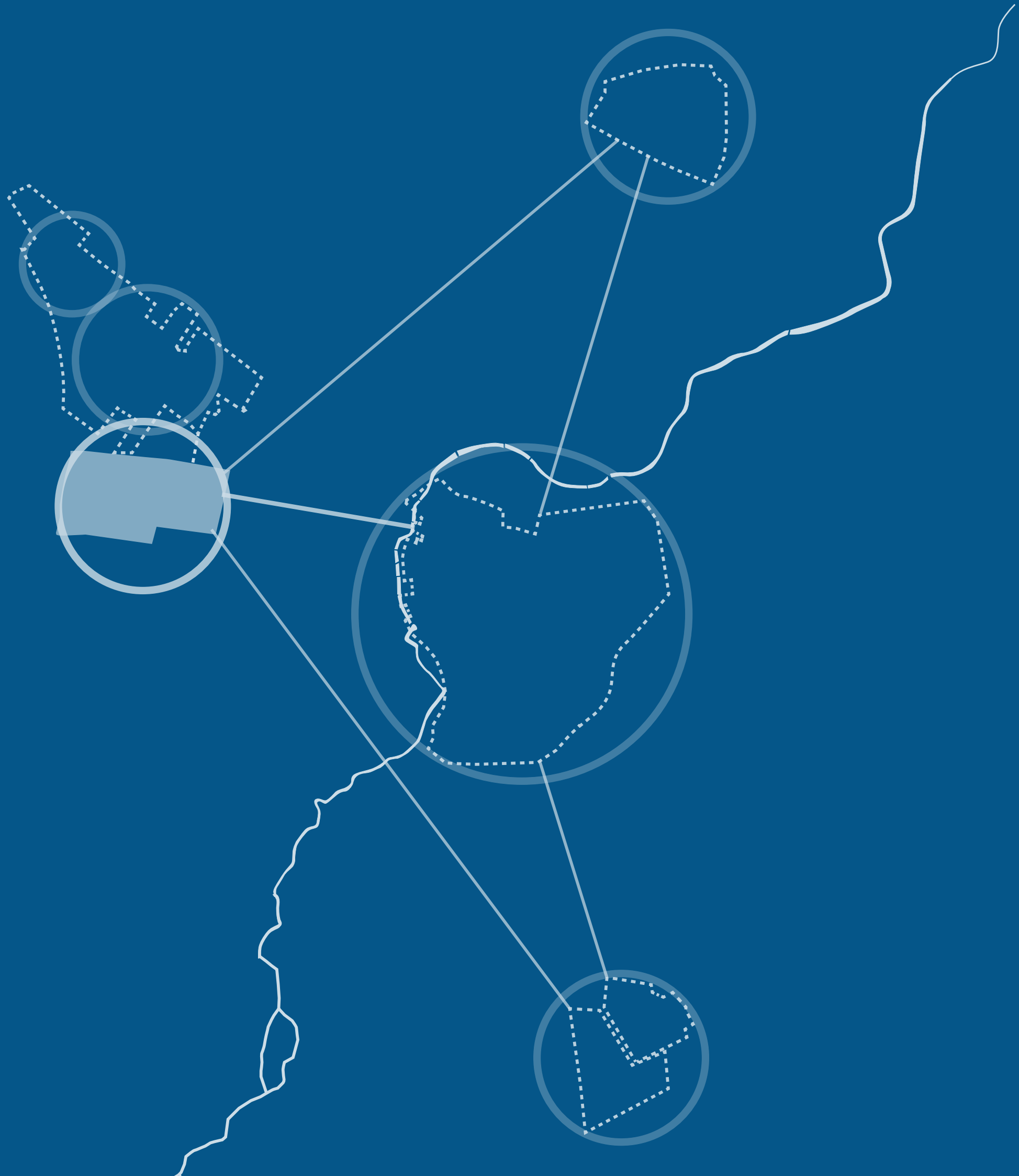
195. Existing view - key view 06



194. Maximum Proposed Building Heights - key view 07



196. Maximum Proposed Building Heights - key view 06



**ILLUSTRATIVE
MATERIAL**

VOLUME B

