4.0 The Beehive Redevelopment

4.6 Townscape

The scheme has been shaped throughout pre-application consultation with the public and planning officers to create buildings which work with local context and manage wider city skyline considerations.

To realise the vision for the site as a local centre with quality architecture and character spaces of differing scales, there is a requirement for the quantum of floorspace to underpin these aspirations of benefits. Therefore, the townscape design development has carefully considered the balance between enabling these benefits and ensuring the approach is responsive to the near and far context.

Some key principles to the 3D form of the proposals are outlined on the plan opposite and described below:

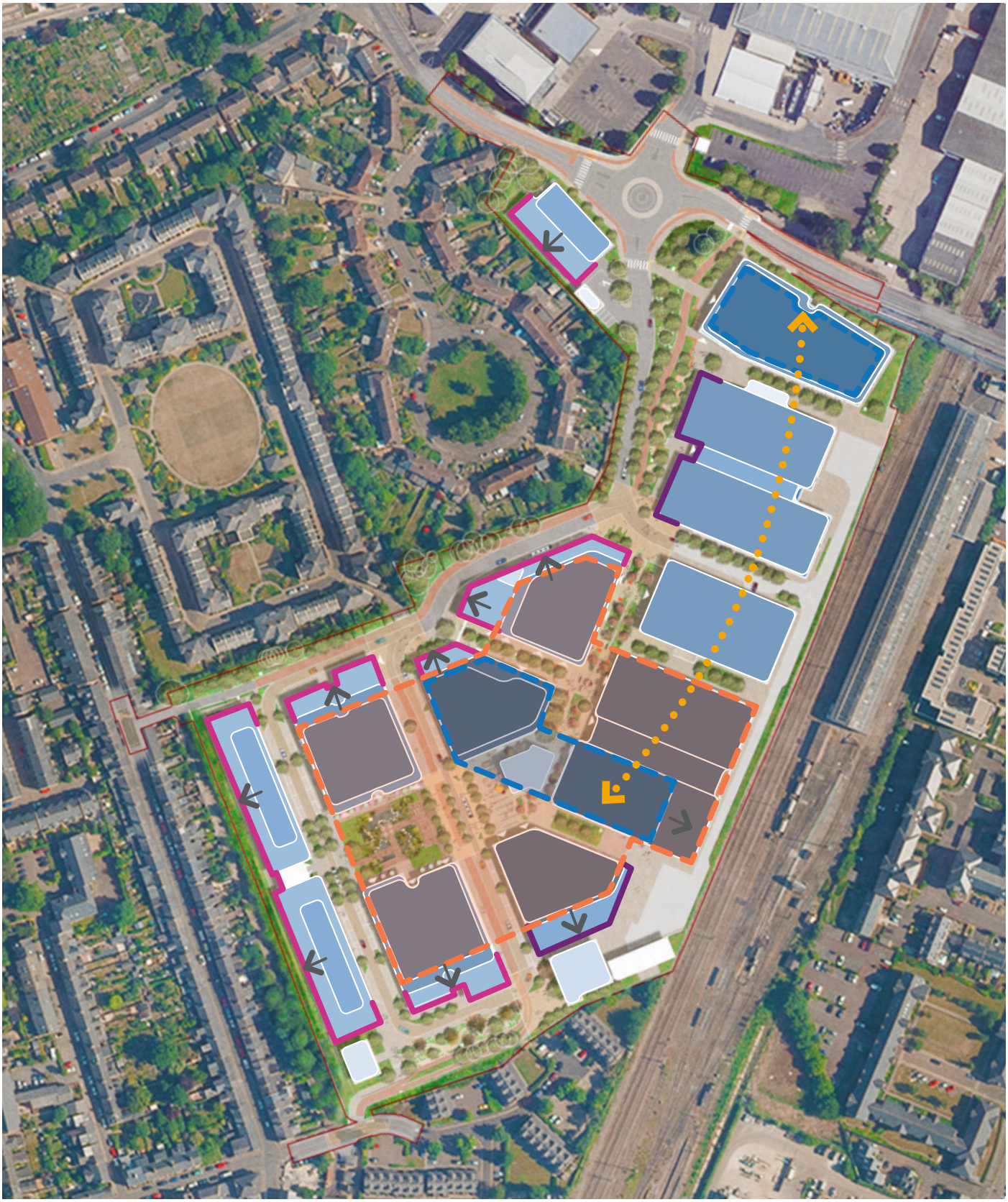
A Three Storey Residential Boundary
Where buildings are close to residential boundaries they conform to a maximum height of three storeys, creating appropriately scaled spaces especially where the boundary meets the Conservation Area Heritage Asset. This principle is not followed at Plots D or F where the edge height is allowed to increase to four storeys due to the more distant condition with the nearby residential buildings.

Centering of Mass
The proposals push the mass of taller buildings towards the centre of the site in order to limit townscape impact on immediate to intermediate distance local views. The following principles manage how this approach can be softened for a more appropriate skyline appearance.

A Varied Skyline
Creating a varied skyline brings benefits locally and at the city scale. This is achieved at a massing level by creating a 'scooped' skyline profile between Plots C to F which brings particular benefits to views from Coldham's Common and Castle Hill Mound.

Distinct Taller Areas
Creating a varied skyline and limiting the extent of the scheme which breaks the horizon in key views is achieved by allowing small footprints in two locations to create distinct areas of height whose appearance is then managed for the key views that they have most impact on. By creating two distinct taller areas, the impact on key Cambridge heritage assets along the skyline is minimised.

The appearance of the scheme that is created by these principles is illustrated on the following pages alongside the key principles that helped to shape the scheme's appearance in key view.



Three Storey Edge
Four Storey Edge
Reduction in Height (In direction of arrow)
Centered Mass
Distinct Taller Areas
Scooped Skyline

4.0 The Beehive Redevelopment

4.6 Townscape

4.6.1 Immediate Townscape

As illustrated on the previous page, there are clear principles that have been set up to manage the impact on local townscape and to create high quality spaces at site boundaries:

- Buildings near to residential boundaries should be no taller than three storeys at their leading edge
- Where separation between proposed buildings and residential neighbours is increased, the facing building element may increase to four storeys
- Taller buildings should either be located away from residential boundaries or
- Taller buildings should have significant massing set-backs such as the primary experience at ground floor is defined by the three storey element.

This strategy creates well scaled spaces at site boundaries and helps to soften the transition in scale between the proposal and the surrounding residential areas.

Whilst buildings with stepped massing are effective at managing spatial and visual impacts at a local level it is key that they are successfully architecturally resolved. Strategies to achieve this resolution are outlined in the Design Code and any reserved matters applications must follow them.

Hive Lane

Vera's Garden

Abbey Grove

3 Storey Edge

4 Storey Edge

Hive Lane

Vera's Garden

Abbey Grove

4.0 The Beehive Redevelopment

4.6 Townscape

4.6.1 Intermediate Townscape

The streets around the proposal are generally narrow and obstruct direct views of the proposals for quite some distance. There are some notable viewpoints where the proposals are more exposed and therefore there has been a focus on sculpting the scheme to manage the appearance in these views:

- Coldham's Common
- Mill Road Bridge
- Mill Road Cemetery
- St Matthews Gardens

Of these views, Coldham's Common and Mill Road Bridge are the views where the visual impact is more apparent and the following strategies have been used to manage this impact.

Coldham's Common
The approach to managing impact in this view centres around reducing the impact on the feeling of openness from viewpoints within the Common. Through ongoing consultation and design development a proposal for a 'scooped' skyline was formulated.

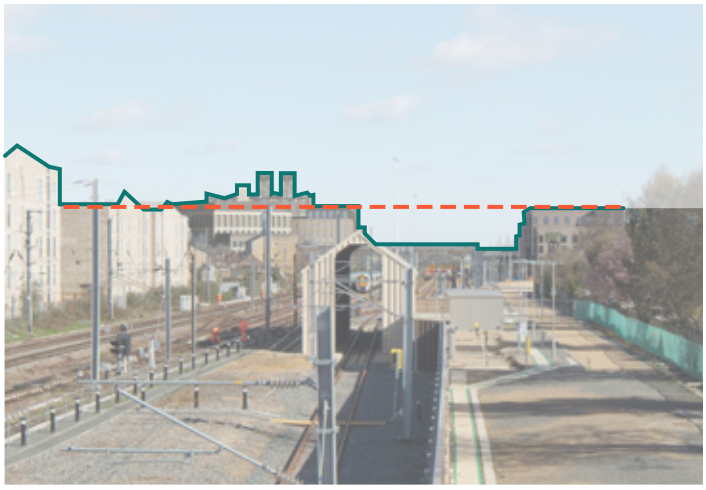
A balanced approach creates some areas of where the raising of the horizon line is very limited with taller buildings located where they add emphasis, for example at the Coldham's Lane entrance, or where the buildings are more distant. The profile of the skyline is loosely based on the gentle increase in height to the existing horizon line.

Coldham's Common

Mill Road Bridge

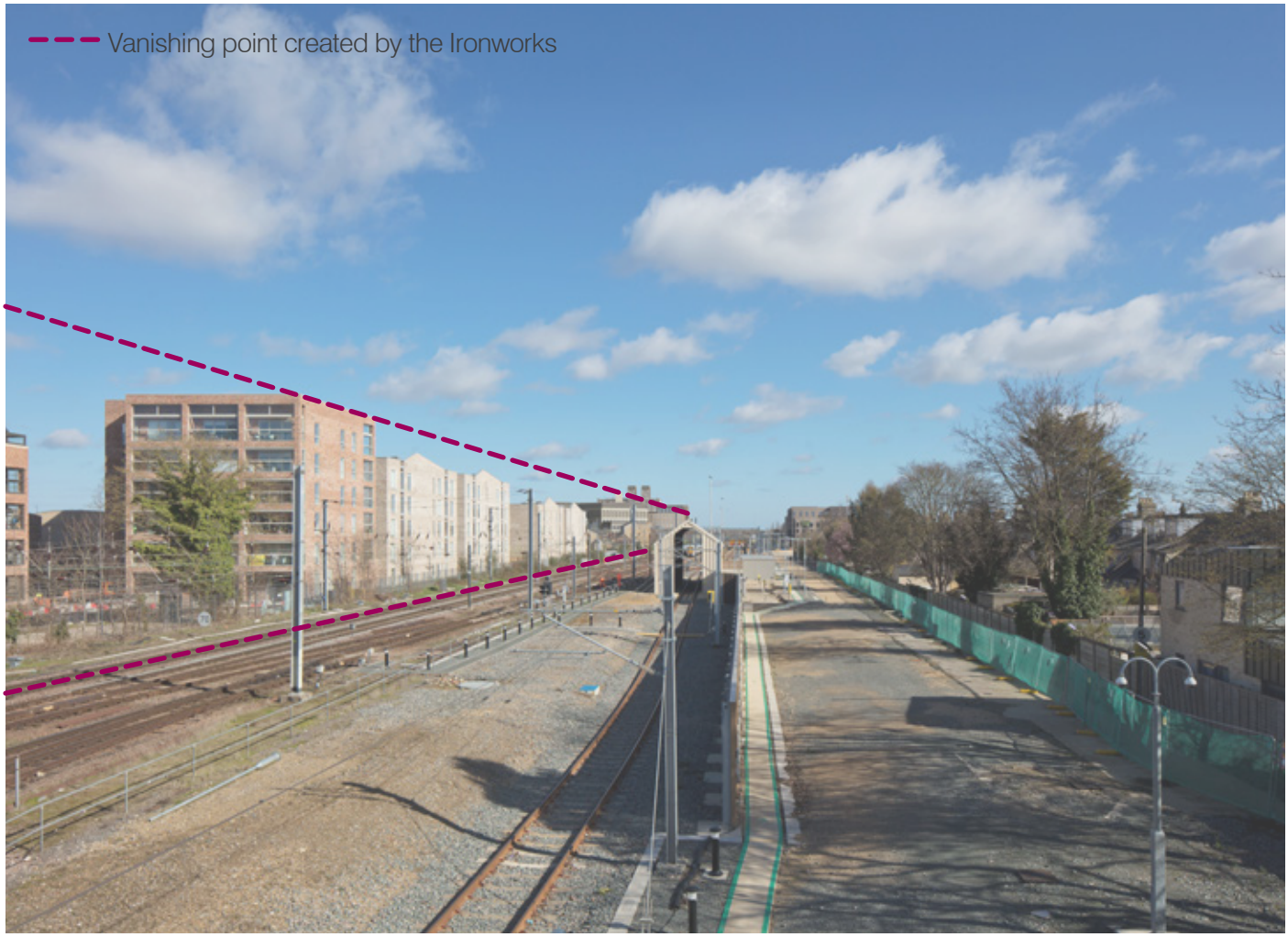
This viewpoint has seen recent developments at the Timberworks and Ironworks change its characteristics. The proposal aims to become a natural extension of this evolving skyline by staying close to the existing shoulder height created by the two new developments, with some 'incidental' tall points above this line.

Height has been pushed away from the railway in order to ensure that the proposal sits within or close to the vanishing point created by the new buildings of the Ironworks, creating a 'bookend' to this viewpoint.



Shoulder height created by new developments

Proposal becoming part of established skyline



Mill Road Bridge

4.0 The Beehive Redevelopment

4.6 Townscape

4.6.2 Distant Townscape

The natural topography of Cambridge, being a low city nestled between rolling hills to the east, west and south, means that developments involving taller buildings can be visible from long distances. This is the case for the current proposal with its tallest roof sitting some 40m above local ground levels. The inclusion of lab fume extract flues on some buildings further increases the potential visibility of the buildings and will be discussed later in this document.

Several strategies have been employed to ensure that where the scheme is visible in long distances, the way in which it works with the existing townscape creates an impact which is acceptable:

- Varied Skyline: The proposal has been sculpted so that the skyline profile that it creates is suitably varied. This approach aims to reduced the proposal as appearing as a single horizontally connected volume.

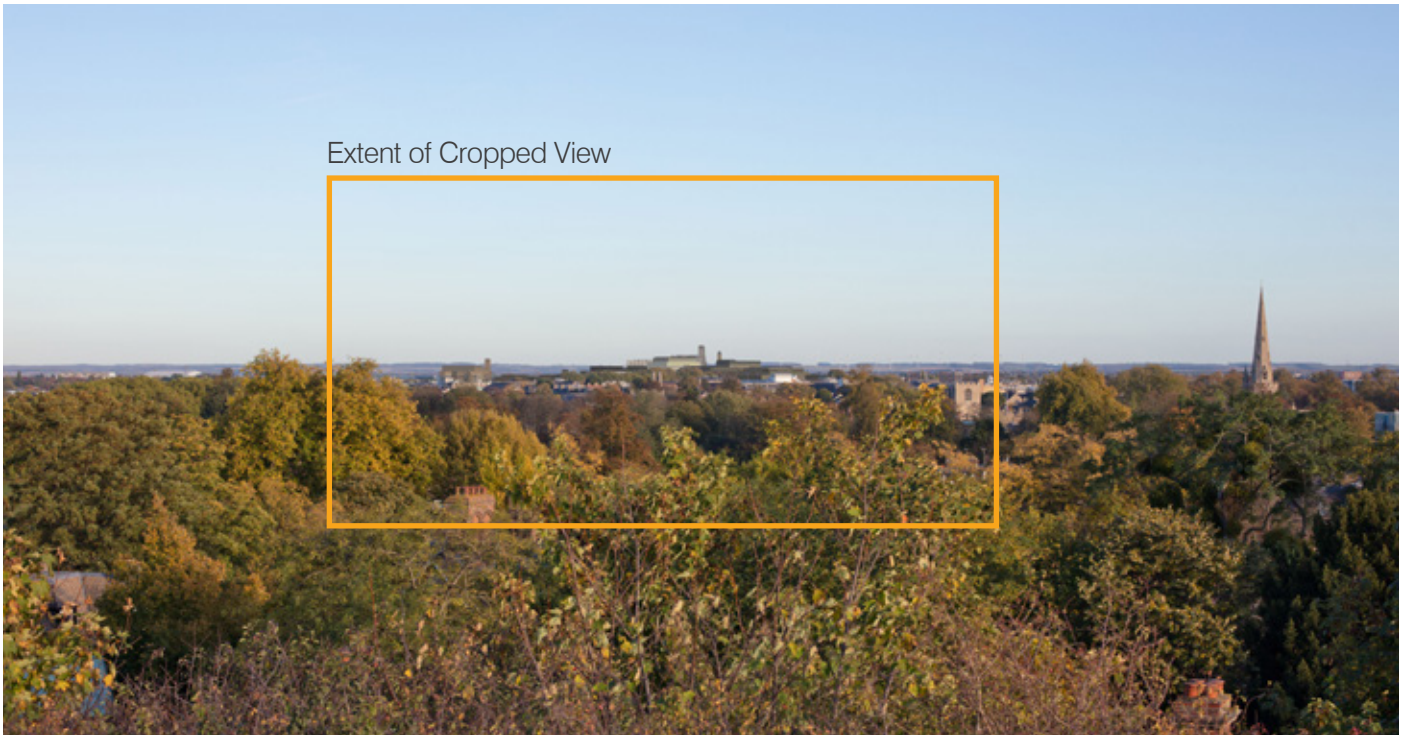
- Visibility Between and Over Buildings: Subtly different from the varied skyline principle, the principle of securing visibility between and over buildings is key for certain views, in particular Castle Hill Mound where the buildings have been sculpted to limit the locations where the proposal breaks the horizon line.

- Variety of Material: Materiality is a key consideration for how the proposals will sit within the skyline of the city. Principles for materiality are set out in the Design Codes and aim to secure suitable contrast between neighbouring buildings or building elements such that the mass of the scheme is broken down into smaller elements.

- Quality of Architecture: Architectural quality and articulation will be an imperative for all buildings but in particular those taller elements that are most visible from around the city.

Key viewpoints that have been tested are shown below and of these the following have been selected to illustrate the key principles:

- Castle Hill Mound (1)
- Redmeadow Hill (10)
- Wort's Causeway (13)



Castle Hill Mound

Castle Hill Mound - Detail Crop

4.0 The Beehive Redevelopment

4.6 Townscape

4.6.3 Distant Townscape

Redmeadow Hill

Redmeadow Hill - Detail Crop

Wort's Causeway

Wort's Causeway - Detail Crop

4.0 The Beehive Redevelopment

4.6 Townscape

4.6.3 Functional Laboratory Flues

Four buildings within the masterplan have been allocated a zone within their parameters for a fume cupboard extract flue to allow more intensive wet laboratory uses within them. These flues perform an important function in extracting and dispersing the filtered exhaust gases from the fume cupboards which will be a core requirement of any chemistry-based tenant within these four buildings.

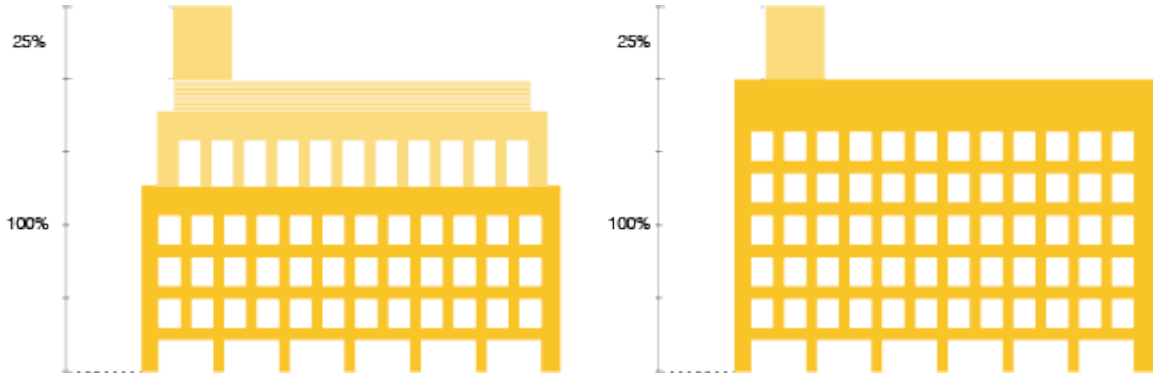
For the purposes of this application the maximum height allowed for the flues is an additional 25% taller than the highest part of the building it serves per BS 14175-6. This best-practice measure will be refined during reserved matters applications when wind modelling will specify the exact height that will be required which may be shorter, but not taller, than the height specified within the parameter plans.

These flues will potentially be visible from a number of viewpoints and so the design and positioning of them is critical. All flues will need to form an integral part of the architectural strategy of the building. Taller and larger flues will require exemplar architecture to be brought forward in reserved matters application in order to justify their position within the Cambridge skyline.

Broad principles for the positioning of flues have been explored throughout the design development process. The chosen solution for flue locations looks to promote the grouping of flues in key views while aiming to avoid visual aggregation into a single mass.

Single flue articulation.
Tower of Light, Tonkin Liu

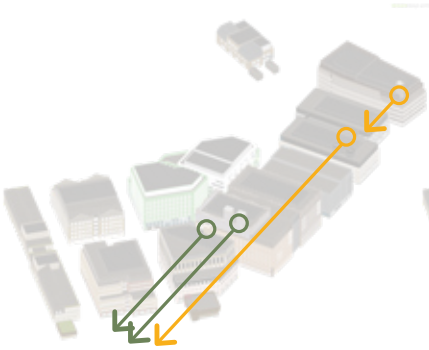
Flues within architectural composition
ABCAM, Cambridge, NBBJ



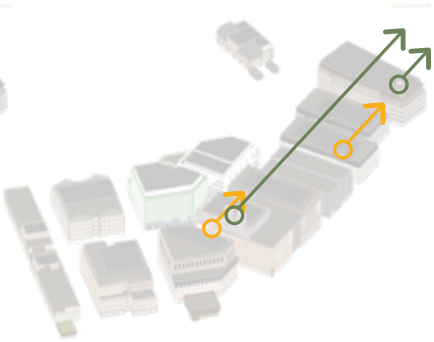
Expected height of the flues

Flues aligned into two clusters when viewed from Redmeadow Hill

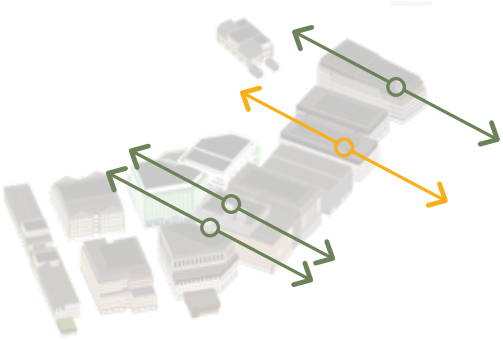
Flues evenly distributed, with the tallest flues grouped when viewed from Castle Hill Mound



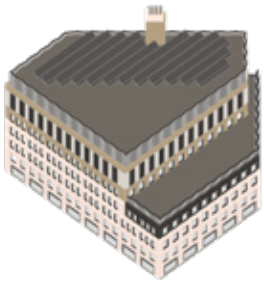
Flues grouped with northern flues obscured in views from south



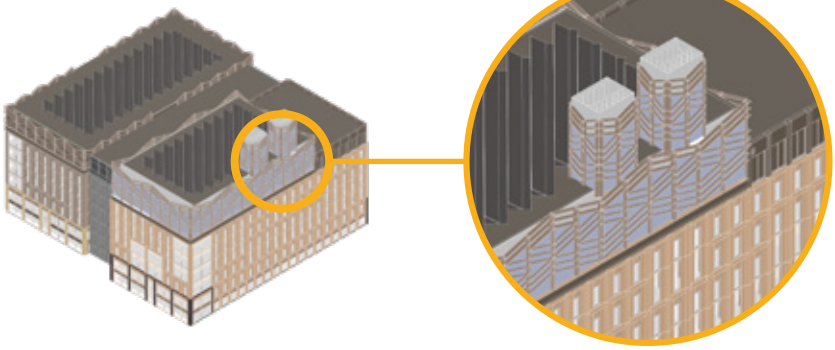
Pairs of flues obscure each other in views from the north



Paired flues at blocks F and G and individual flue at C break the horizon in two locations with flues of Block D sitting lower



Building G - Flue integrated with main facade materiality



Building F - Flue integrated with plant floor facade materiality

4.0 The Beehive Redevelopment

4.7 Heritage

Executive Summary

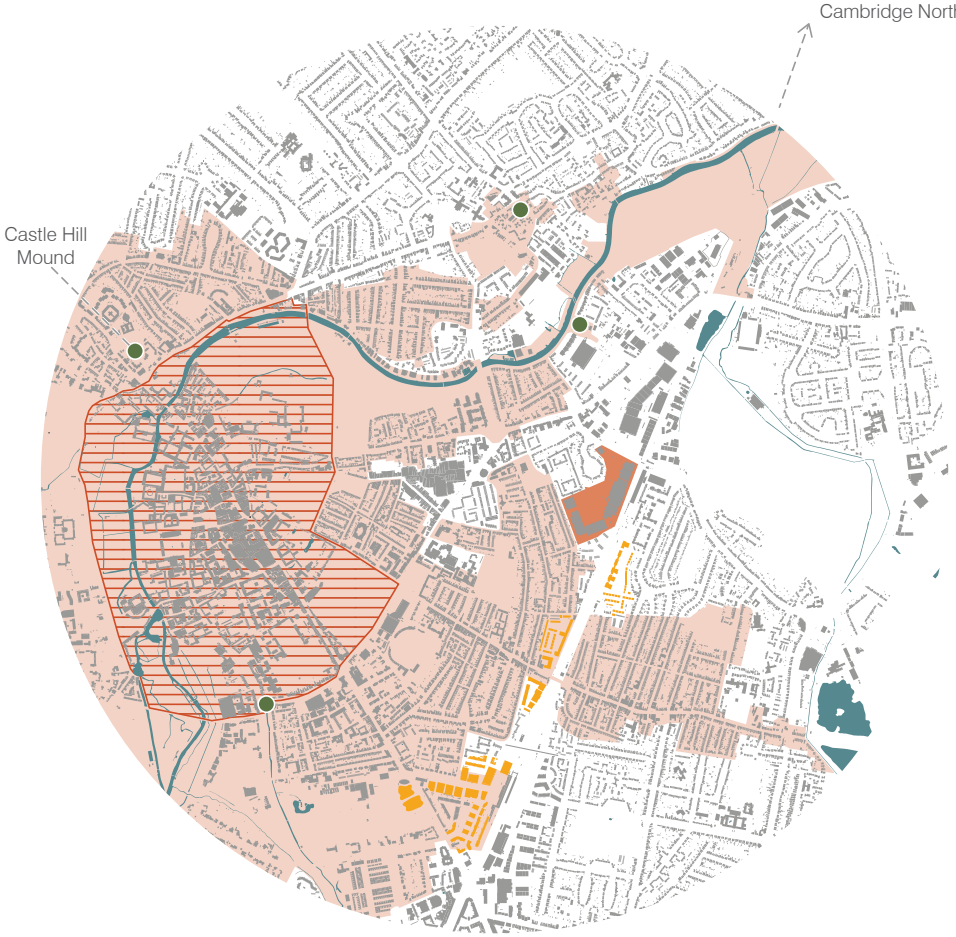
The proposal seeks to contribute to the identified existing local heritage character. The most significant immediate asset is the Mill Road Conservation Area as identified in the Heritage Statement that accompanies this application. Overall, the conservation area is a neatly-detailed, consistent and well-preserved example of a late-Victorian suburb and, as such, is considered to hold a good level of significance. A study of this area unveiled characteristics, historical, social and physical, that have informed design decisions of the illustrative masterplan of the Beehive Centre.

The Mill Road Conservation area is predominantly laid out on an almost grid like-street pattern, with strong and continuous north-south routes and a mix of long and short east-west connections.

The area is mostly residential use with buildings of public access or function frequently situated on the corners of streets. The main cluster of public activity is along Mill Road with a combination of shops, churches and public houses.

The area comprises of several architectural features that form part of the conservation areas sense of place. These include relationships to landscape, history, public realm and social interaction. The proposal seeks to intertwine these characteristics to embed a strong sense of place and connection to the existing heritage assets of Cambridge.

(Right) Upgrading the urban grain of the site to capture qualities of the conservation area. By improving routes through the site with a strong hierarchy of streets, which connect a series of publicly accessible and high quality open spaces. Internally, the ground floor takes inspiration from the local centre of Mill Road by providing usable ground floor activity.



Buildings within 2km of centre of proposal
Site
Conservation Area
Historic Core
Recent Development, Permission or Application
Scheduled Monument

Buildings within 1km of centre of proposal
Area within 15 minute walk from centre of proposal
Conservation Area
Listed Building
Listed Area
Scheduled Monument
Recent Development or Permission

4.0 The Beehive Redevelopment

4. 7 Heritage

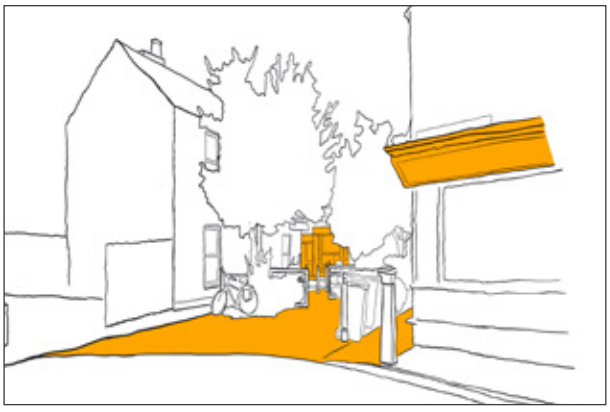
4.7.1 Mill Road Conservation Area Study

Social Characteristics

The Mill Road Conservation area uses the strong urban grain to influence movement through. This grid is lightly broken with pockets of informal public green space for activity or moments to pause.

The architectural details across the conservation area signify entrances, create threshold spaces and extend views.

The landscape-led proposal builds upon its existing social value as a place for the local community to shop with an active ground floor. Further to this, the conservation area has inspired design decisions that will embed a stronger urban grain and architectural character to influence movement and improve the sites social value for the local community.



Pockets of transitional green space for cycle parking and social seating. Opposite The Petersfield on the corner of Hopper Street, encouraging movement and signifying a destination.

Hive Lane junction, one example of a transitional green space between junctions, prioritising pedestrians, cyclists and social interaction as you enter the site from York Street.

Physical Characteristics

Prominent public features are a significant characteristic of the Conservation Area with pubs as the focal point of the end of a street, attracting attention to the corners visually. Whereas, sometimes green space is used as the focal corner feature.

Recent developments have contributed to this character, including the Ironworks at the junction of Ainsworth Street.

The Geldart pub signifies the landmark of the street corner and brings public activity to the residential street. On the adjacent corner is a small public open green space.

The proposal uses active frontage and illustrated architectural features, defined in the Codes, to draw attention to the ends of streets and encourage movement through the landscape.

Prominent solid elevations, such as the ends of Plot I & J reflect the qualities of solid gable ends across the Conservation Area.

The Creative Exchange is an example of how the prominent route through the site captures features of the Conservation Area using active frontage and transitional green space.

4.0 The Beehive Redevelopment

4.7 Heritage

4.7.2 Mill Road Conservation Area Study

Historical Characteristics

The Conservation Area has strong links to Cambridge's history of brickworks, especially the Newmarket Road Brickworks used to create bricks used across the area. The natural brick materiality frames the aesthetic character of the area.

The long facades of brick terrace houses are broken by pockets of green space.

The proposal has developed designated character areas that respond to the surrounding context. The Conservation Area buildings are coded to ensure the materiality of these plots reflect the extensive history of Cambridge brickworks.

The materiality palette and roofscape to facade composition is defined to express smaller volumes and break down the overall impact.

Terraces break down the brick materiality with green space.

Gwydir Street

Along many of the streets of the Conservation Area, the historical and local materials of Cambridge frame the journey through.

The Conservation Area buildings frame the main focal space to embed a sense of the material history of Cambridge and provide a transition between the Conservation Area and the other building character areas.

Urban Grain Characteristics

The street pattern of the Conservation Area has been continued into the street hierarchy principles of the illustrative masterplan. Particularly with Plots H, I, J and K that respond to the neighbouring residential buildings and manage the change in scale between the conservation area and the proposals.

Within these plots, there is a strong series of landscape areas in varied size as found throughout the Conservation Area from pockets of green space to large open space like St Matthew's Piece.

4.0 The Beehive Redevelopment

4.7 Heritage

4.7.3 Mill Road Conservation Area Study

Urban Grain Characteristics

The character areas unlock the site to contribute to the Conservation Area with open spaces that are usable and engaging for all. The landscape-led masterplan has carefully considered specific uses of each space and integration of high-quality features.

Resulting in fine grain and unique spaces, which together with the existing large open spaces, there will be a greater variety of open spaces for the local community.

Sleaford St Entrance - Vera's Garden

Upon entering the site from Sleaford St in the Conservation Area, Vera's Garden is a friendly welcome. Its small scale and fine grain features provide a sensitive 'stepping-stone' transition space into the site towards the focal open space, the Garden Square.

Following the local urban grain

Repeating forms and proportions

York St Entrance - Hive Lane

Hive Lane is a transitional route from York St in the Conservation Area into the heart of the site. Parallel to St Matthew's streets, it creates a green buffer between the residential housing and the gradually stepped up plots J & K.

The plot massing encompass the traditional 'gable ends' that are reflected across the conservation area. These face onto Hive Lane with an active ground floor to drive activity and promote interaction.

Views and Placemaking

View of 50/60 Station Road from Gwydir Street: demonstrates how the addition of new high-quality architectural designs can interact well with existing street scape.

View of Ironworks from York Street: demonstrates how the layering of new buildings can create a positive transition from the Conservation Area into a new development.

4.0 The Beehive Redevelopment

4.8 Character

The proposed outline development will be a landscape-led scheme of mixed use. The masterplan defines a series of character areas that form a key part of the placemaking strategy. These character areas are to be read in conjunction with architectural character zones which define the broad appropriate contextual response across the site. The interaction between these two zoning principles will define the experience within the site.

Character Areas

- Conservation Area Buildings
- Railway Corridor Buildings
- Landscape Buildings
- Coldhams Lane Building

Character Zones

1. Abbey Grove
2. Creative Exchange
3. Garden Square
4. Vera's Garden
5. Hive Lane

Coldhams Lane Building
This typology applies only to Plot A which must respond to its relationship with Coldham's Lane and the residential properties of Silverwood Close.

Conservation Area Buildings

Railway Corridor Buildings

Landscape Buildings

4.0 The Beehive Redevelopment

4.8 Character

4.8.1 Conservation Area Buildings

The National Design Guide states careful consideration needs to be given to placemaking, local distinctiveness and the character of new buildings. These buildings have the strongest relationship to the Mill Road Conservation Area and their architecture will be created with a strong response to the character of the Conservation Area in terms of materiality and articulation. This has been ensured through the Design Codes for the relevant buildings in regard to step-backs, materiality and definition of plant levels.

The architecture of these buildings will also reflect their direct relationship with the following landscape character zones:

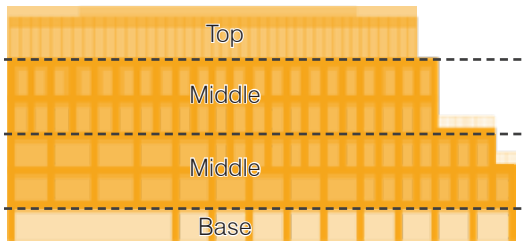
- Garden Square
- Hive Lane
- Vera's Garden

The Design Codes will ensure that the facades that face landscaped areas are active, include facade breaks and reflect domestic proportions to reduce the scale of the proposal towards the Conservation Area.

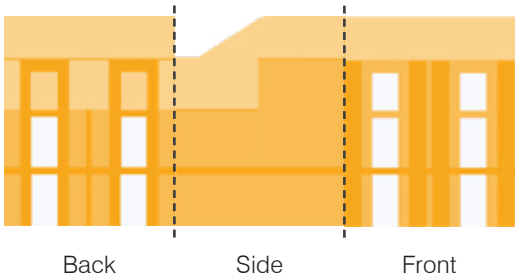
Key Strategies
Plot H/K: The key strategy is to break down the scale towards the Conservation area through facade breaks, terraces and contrasting lightweight and heavyweight architectural treatment vertically.

Plot G: The intermediate building will be a transition building between two character areas. In relation to the Conservation Area, the key strategy is a legible reduction in scale towards the boundary and reflect a varied roofscape.

Plot I/J: The strategy focused on the architectural treatment and scale of the roofscape of these plots to ensure domestic proportions and a sensitive response to scale.

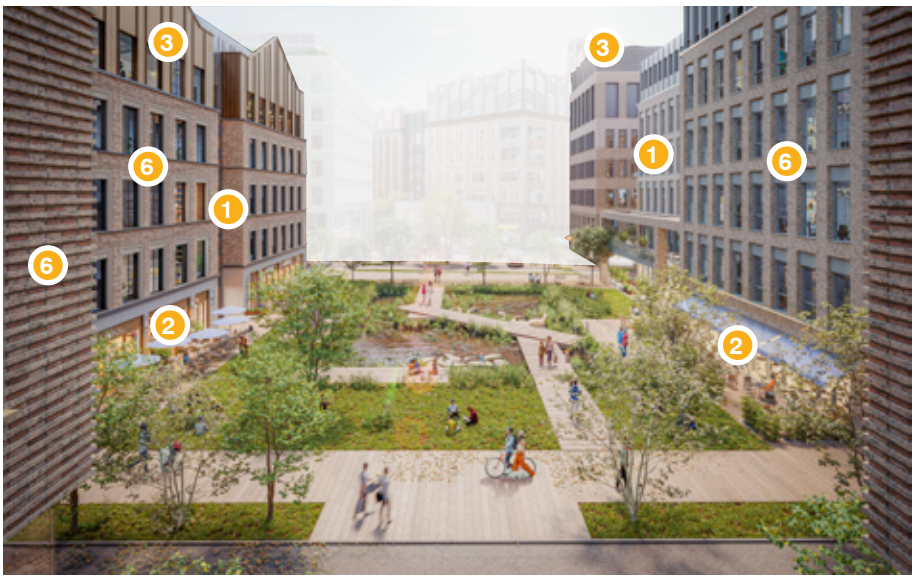


Plot H



Plot I & J

Plot G



Garden Square

Vera's Garden

Relationship to Landscape Strategies

1. Facade Breaks to break down the length of the facade
2. Active Frontages to reflect Conservation Area's public features

Massing & Materiality Strategies

3. Heavy/lightweight architectural treatment
4. Stepped terraces for reduced scale
5. Domestic scale proportions
6. Conservation Area Materiality

Materiality Palette

Predominantly buff/gault brick with complimentary reveal tones.
Judge Business School, Cambridge, Stanton Williams

Contextual materiality and natural tones.
Brentford Lock, London, Duggan Morris

Sympathetic contextual architecture
Eddington, Cambridge, Stanton Williams

4.0 The Beehive Redevelopment

4.8 Character

4.8.2 Railway Corridor Buildings

These buildings are the most visible in long distance views across the city, particularly those from the east. The buildings will be designed such that they are architecturally distinct from their neighbours and make a positive and respectful contribution to the skyline of the city.

In line with the National Design Guide, the materials throughout will be appropriate for construction, practical, durable and attractive. The character areas ensure the right materials are chosen to help the new development fit harmoniously with its surroundings. Especially for the railway corridor buildings which contribute to the skyline of the city.

The architecture of these buildings will also reflect their direct relationship with the following landscape character zones:

- Abbey Grove
- Creative Exchange

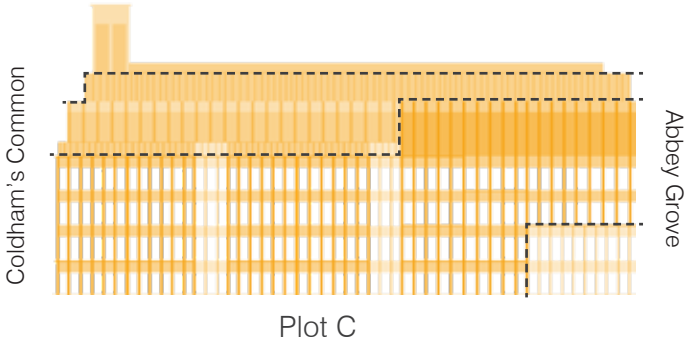
The direct relationship with these character zones means the architectural treatment at ground floor must be active and contribute to external and internal activity.

Key Strategies

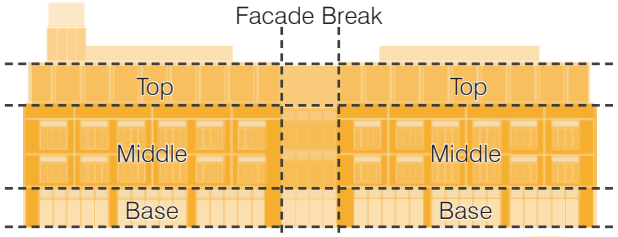
Plot C: The architecture of this building is crucial to the approach and feel of the scheme upon the key entrance and must be high-quality. The architecture will aim to subdivide the building into smaller volumes to break down the mass of the building and view from Coldhams Common.

Plot D: High-quality architecture and well-detailed design will ensure enrichment of local views especially the plant level and roofscape.

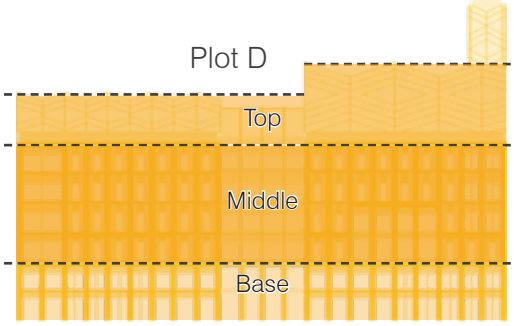
Plot F: This buildings presence in long-distance views will be carefully considered with the key strategy to break down the building into clearly distinguished volumes. The plant levels will be designed with strong consideration of its presence in the skyline.



Plot C



Plot D



Plot F

Creative Exchange

Abbey Grove

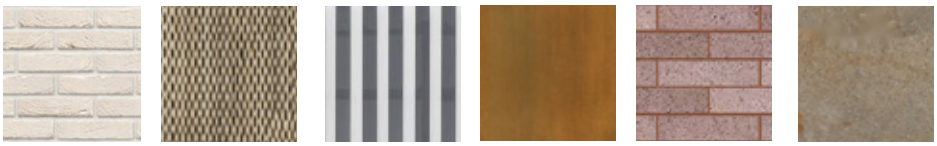
Relationship to Landscape Strategies

1. Facade Breaks to reduce the length of the facade
2. Active Frontages to promote internal and external activity

Massing & Materiality Strategies

3. Varied skyline considerations
4. Sub-divided massing
5. Architecturally distinct features

Materiality Palette



Elegant vertical features.
Maersk Tower, Copenhagen, CF Moller

Unique materiality.
R7 Kings Cross, London, Morris + Co

High quality articulation and materiality
Fitzroy Place, London, Sheppard Robson

4.0 The Beehive Redevelopment

4.8 Character

4.8.3 Landscape Buildings

These buildings play a major part in defining the urban character at the heart of the site. They may be designed as a pair of buildings with architecture that differs from the other typology zones and responds to their position within the landscape of the site.

The architecture of these buildings will also reflect their direct relationship with the following landscape character zones:

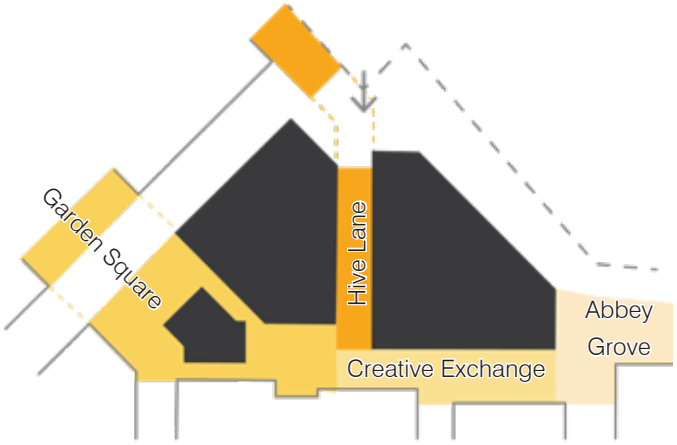
- Abbey Grove
- Hive Lane
- Creative Exchange
- Garden Square

The buildings have the strongest direct relationship with these character zones and as such the design of the lower levels must be carefully considered.

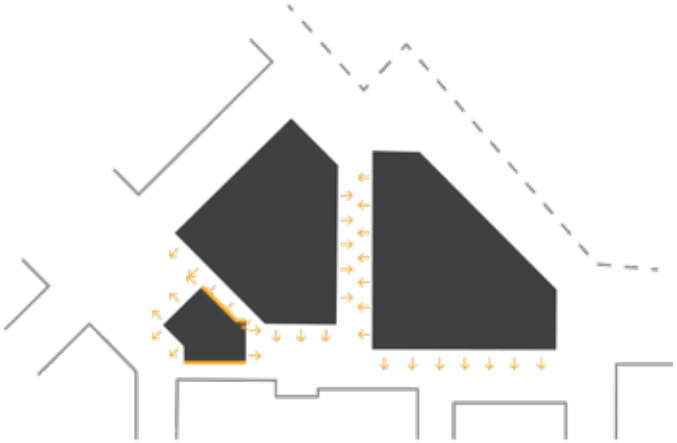
Key Strategies
Plot L: Centrally influencing plot with engaging lower levels towards Garden Square and Hive Lane.

Plot M: Architecture that contributes to the active ground floor plane and responds respectively in massing to the Silverwood Close area.

Plot N: Sitting within the landscape, this building focusing on architecture that is of the highest quality and maximises its connection with the public realm.



Plot L, M & N
Landscape Areas



Plot L, M & N
Design Code controlled active frontage

Garden Square (South)

Abbey Grove

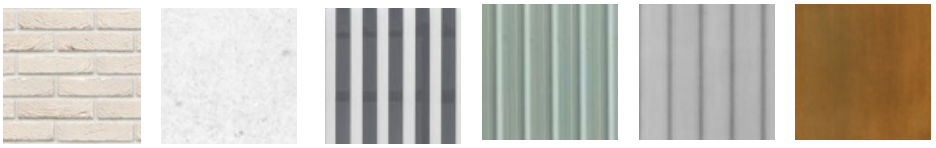
Relationship to Landscape Strategies

1. Active frontages that respond to the landscape
2. Clearly distinct lower levels

Massing & Materiality Strategies

3. High-quality plant materiality and articulation for long distance views
4. Terrace gardens that respond to the neighbouring smaller scale context

Materiality Palette



Integration in the landscape.
Calsberg, Copenhagen, C.F Moller

Living in the green.
Basel, Switzerland, Itten+Brechbühl

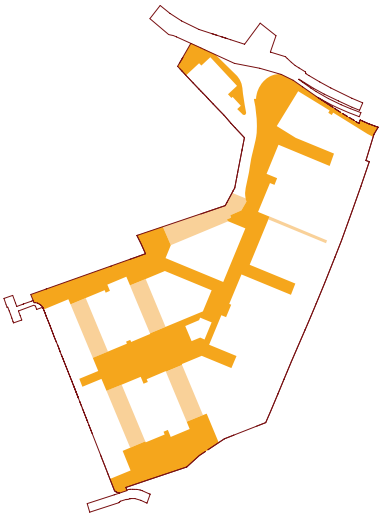
Architecture that differs from other typology zones.
Cambridge University, Jestico + Whiles

4.0 The Beehive Redevelopment

4.9 Open Space

The Beehive Redevelopment will create 2.7 hectares of public realm with 2.1 hectares of streets, squares and spaces with a use other than transport or access. This area of landscape is similar to that provided by Romsey Recreation Ground and will be a major boost to the amount of useful outdoor space in the area around the masterplan.

With an expected weekday peak site capacity of c.5460 people and an expected daily range of 4,220-5,460 people on site there is between 3.8-5.0m^2 of public realm and 4.9-6.4m^2 of landscape per person.



Abbey Grove

Creative Exchange

Gardens Square N

Gardens Square S

Hive Lane

Vera's Garden

Public Realm
2.16 ha
21,157 m²

Landscape
2.69 ha
26,877 m²

0.65 ha
6,554 m²

0.19 ha
1,924 m²

0.11 ha
1,181 m²

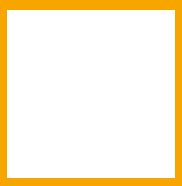
0.28 ha
2,850 m²

0.40 ha
4,000 m²

0.31 ha
3,131 m²

Proposed Spaces

Cambridge Spaces



2.81ha
28,100m2

0.98 ha
9,882 m²

0.22 ha
2,256 m²

0.11 ha
1,148 m²

0.44 ha
4,460 m²

0.57 ha
5,763 m²

0.16 ha
1,654 m²

Romsey Recreation Ground

Biomedical Campus
Cambridge

Kingdom St.
London

Mill Park
& Market Square
Cambridge

Eddington High Street
Cambridge

Marmalade Lane
Cambridge