

# 3. Development Vision

## 3.1. Masterplan Brief & Vision

# DEVELOPMENT VISION MASTERPLAN VISION

The Cambridge North Masterplan envisions the successful regeneration of an existing brownfield site in a highly sustainable location.

The scheme will be ambitious in its sustainability goals in response to the current climate crisis and aims to deliver a high quality mixed used scheme for Cambridge.

The development will be socially and economically inclusive in its approach, engaging a diverse mix of user-groups, visitors and residents to create a strong sense of community and ownership. The scheme will serve as an employment hub bringing additional jobs to the region.

The Masterplan aims to be generous in its open space provision, catering for a range of public amenities and facilities to enhance the existing open space network of Cambridge. This will complement the much needed quality housing being proposed in this area.

The vision of the Masterplan and the Masterplan itself have been heavily informed by the LVCI and has evolved following an intensive iterative process.



High Quality Mixed Used Scheme



Ambitious Sustainability Goals



Employment Hub

# DEVELOPMENT VISION MASTERPLAN VISION - GUIDING PRINCIPLES

## PEDESTRIAN & CYCLIST LED



The Masterplan is designed prioritising the needs of pedestrian and cyclists, with the aim to minimising overall car usage and reliance throughout the scheme.

## VIBRANT AND ACTIVATED PUBLIC REALM



By providing a range of different types of open spaces and by being strategic in its retail and amenity placement, the Masterplan seeks to create a community with a vibrant and activated public realm, creating a sense of place and community.

## ALLOWS FLEXIBILITY IN ANTICIPATION OF FUTURE NEEDS



As the Masterplan is the first of a broader regional regeneration project, it must be designed to meet the needs of its occupants whilst allowing for adequate flexibility in programme and space to anticipate the future needs of the area.

# DEVELOPMENT VISION MASTERPLAN VISION - GUIDING PRINCIPLES

## CREATING BUILDINGS SUITABLE FOR LAB USE



The scheme will bring about a number of commercial buildings specifically designed to cater for the growing biomedical science industries within Cambridge.

## AMBITIOUS SUSTAINABILITY TARGETS



The Masterplan strives to reach ambitious sustainability targets by integrating sustainable practices into its design and construction from day one, reducing overall energy usage within the scheme and the carbon footprint of the project. In addition, the scheme will also aim to contribute to local biodiversity through its open space and roofing strategies.

## PROVIDING HIGH QUALITY HOUSING FOR ALL



In its residential provision, the scheme aims to cater a range of different housing typologies to ensure that a mix of affordable and private homes are delivered for Cambridge, all built to world class standards.

# DEVELOPMENT VISION SECURE BY DESIGN - SITE WIDE

## ENHANCING LOCAL BIODIVERSITY



Through the introduction of open mosaic habitats as well as robust green roofing strategies, the Masterplan seeks to enhance local biodiversity by achieving biodiversity net gain across the application site.

## SECURE BY DESIGN



The Masterplan aims to be secure by design, creating a safe and secure environment by ensuring adequate activation and visibility across public realm spaces. A robust cycle parking strategy has also been developed to provide a reliable and secure cycling experience. Additionally, a lighting strategy has evolved enabling the overall scheme to be a safe and secure environment for all its users.

## BALANCED MIXED USE SCHEME



The Masterplan will generate a balanced mixed use scheme, building a thriving community by offering the right mix of offices, commercial, residential and open spaces.

## 3.2. Architectural Design Principles

# DEVELOPMENT VISION

## MATERIAL LANGUAGE OF CAMBRIDGE

HISTORIC CAMBRIDGE



CONTEMPORARY CAMBRIDGE



By adopting a palette of materials and shades that are present in both historic- and contemporary Cambridge, the Masterplan seeks to create a distinctively local identity that lends itself well to its context and aids place-making.



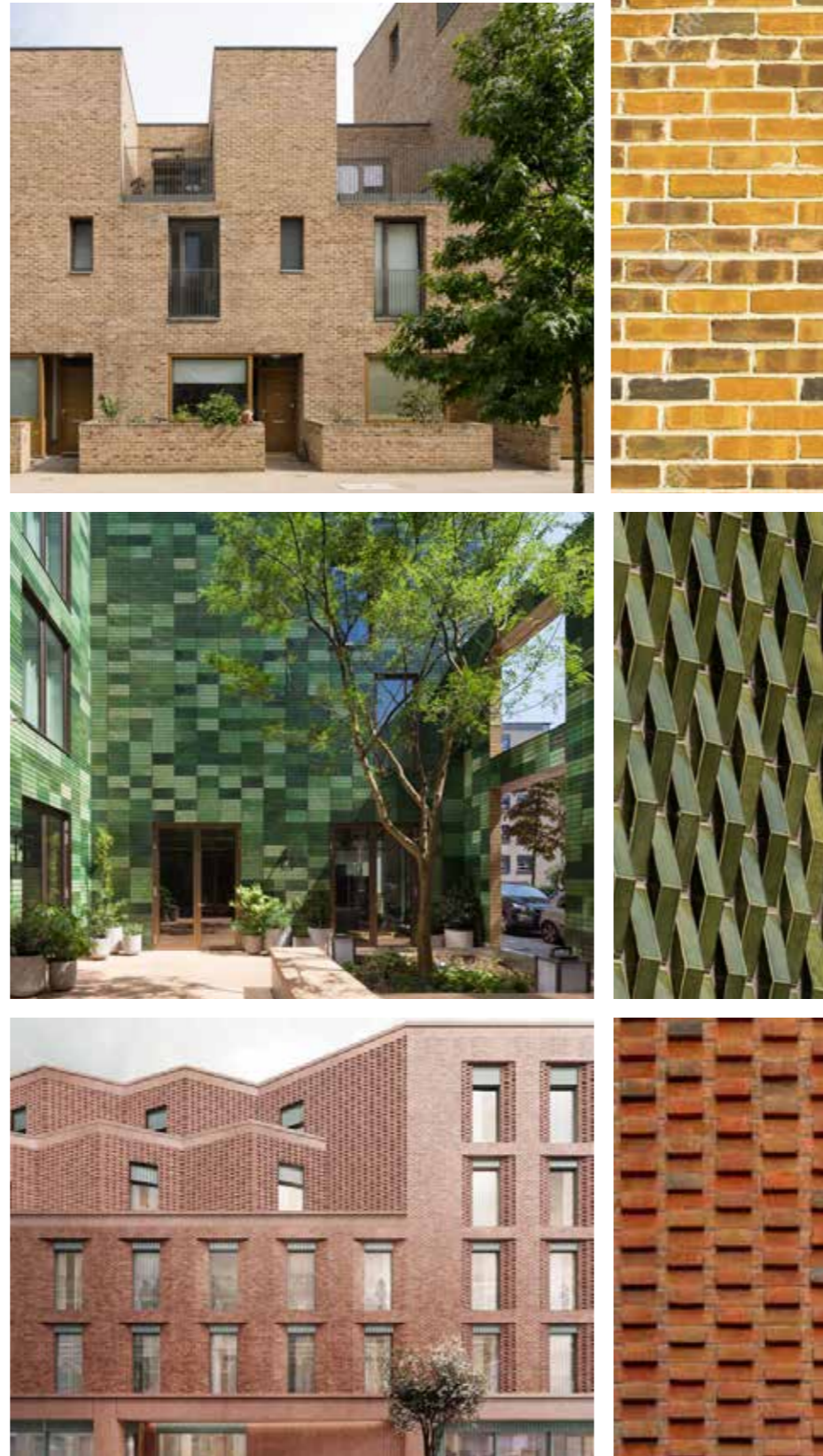
# DEVELOPMENT VISION DESIGN ASPIRATIONS & PRINCIPLES

## ASPIRATIONS

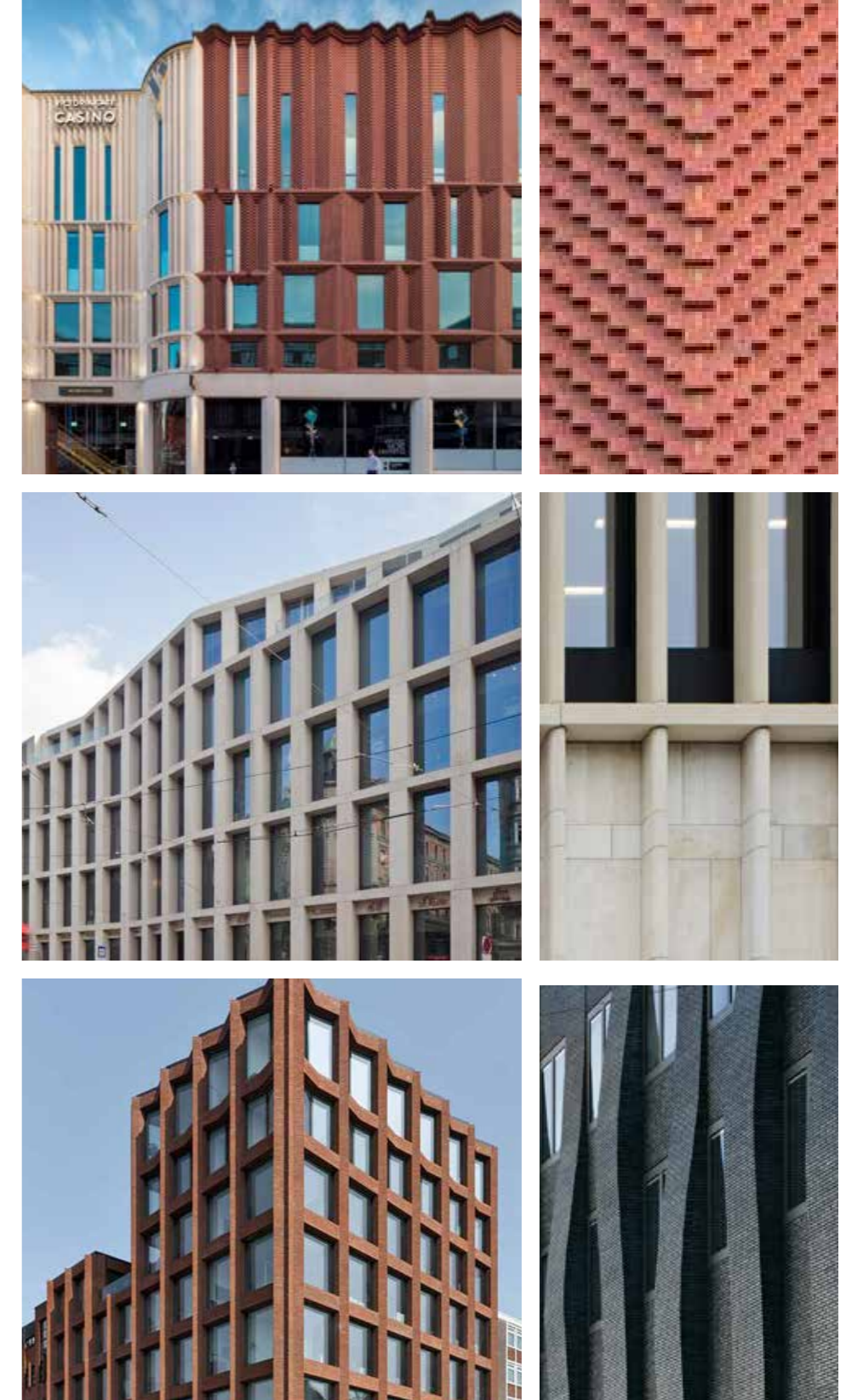
The Masterplan proposes the use of a carefully considered selection of materials which will expand on Cambridge's history as well as its future. In addition to material choices, order, texture and colours play an important aspect and require careful consideration.

A set of design guidelines has been adopted across the scheme for residential, commercial as well as public realm areas. The design guidelines consist of a set of tools and design principles which ensure all buildings within the site are articulated sufficiently to create depth, rhythm and movement. Visual identities of the commercial and residential buildings have been established through the allocation of material palettes, which ensure the development to remain distinctly 'Cambridge' whilst delivering an exciting new quarter to North East Cambridge.

## RESIDENTIAL FACADES



## COMMERCIAL FACADES



# DEVELOPMENT VISION PUBLIC REALM ASPIRATIONS

The Masterplan aspires to deliver a public realm strategy that caters to the diverse needs of its residents. It envisions each open space to have distinct character identities and functions forming a comprehensive and inclusive network of spaces for all its users.

Urban Square



SUDs Integration



Open Mosaic Habitat & Balancing Pond



Open Play Spaces



Water Features



Lawn Space

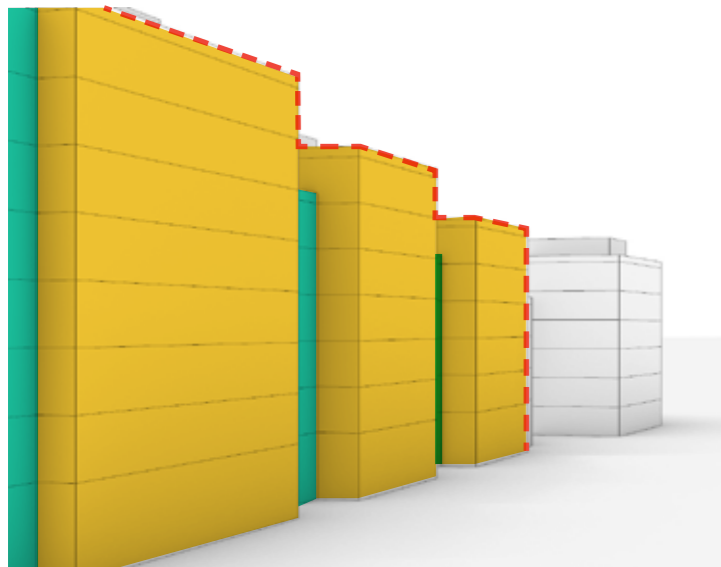


# Residential Design Principles

# DEVELOPMENT VISION

## MASSING AND ARTICULATION

**STEPPING IN MASSING  
BREAKING DOWN LONG  
FACADES**



Stepping shall be introduced to the building massing in order to break down long & flat facades. This will help give a more human scale to the development by creating the impression of multiple smaller buildings.

**STEPPING IN PLAN  
INTRODUCING MORE DOUBLE  
ASPECTS UNITS**



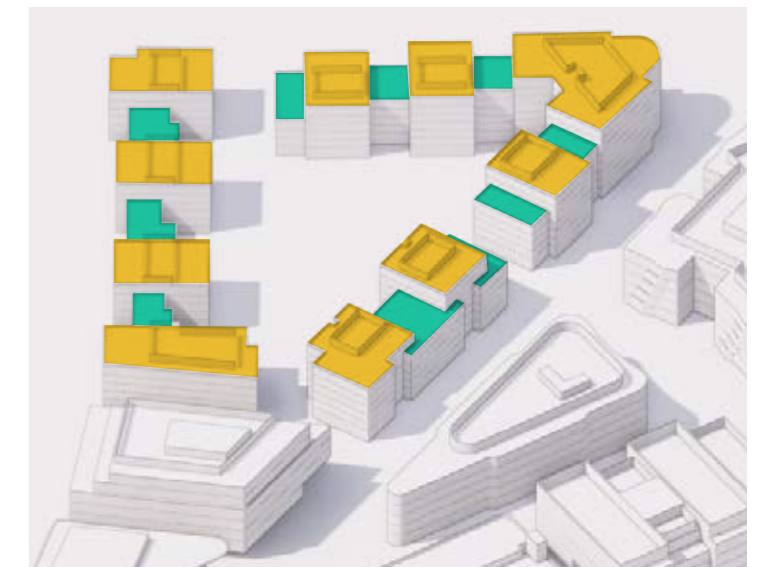
In order to create more double aspect units within the buildings, stepping of the facades shall be introduced. The depth and length of steps may vary between the different blocks depending on its use and location.

**DESIGNATED HIGH POINTS  
WITHIN THE MASTERPLAN**



The heights of the buildings shall be carefully coordinated aiming to create a dynamic composition with higher points at the southern Station end and in the north near Cowley Circus. These points have been carefully assessed from both long and short distance views.

**ARTICULATED HEIGHTS  
WITHIN A BUILDING BLOCK**



The individual residential building blocks are articulated through stepping, aiming to achieve a more dynamic overall appearance whilst accommodating for terraces, gardens and areas for planting. These have been assessed from street level as well as long distance views.

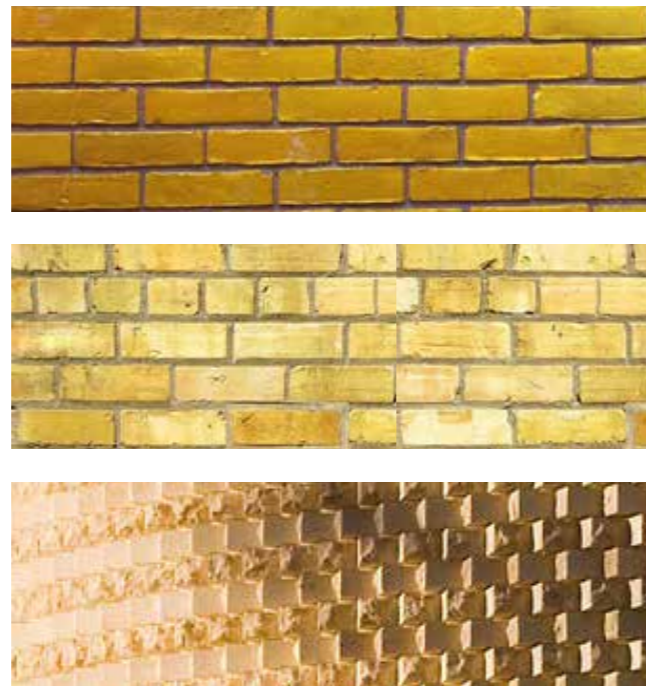
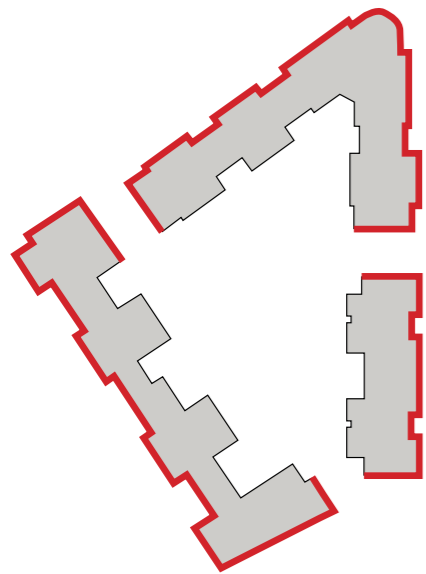
*Legend:*

- Lower points
- Higher points

# DEVELOPMENT VISION

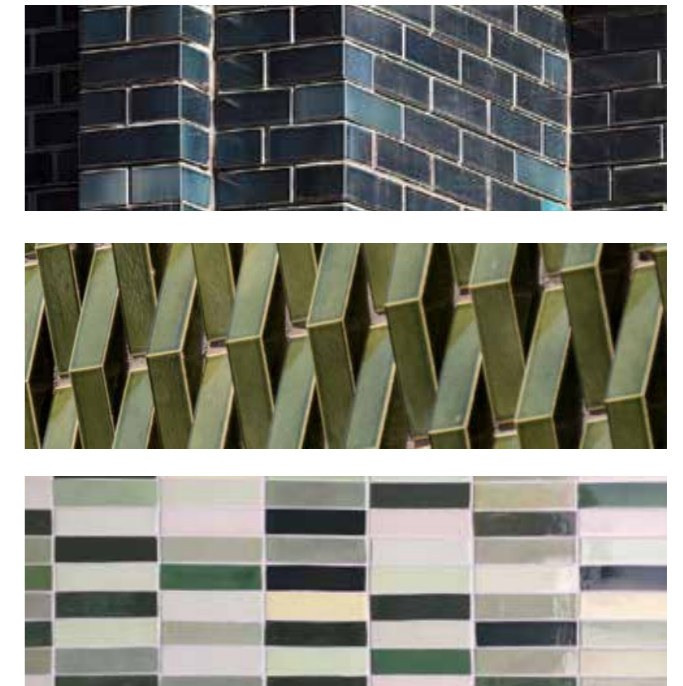
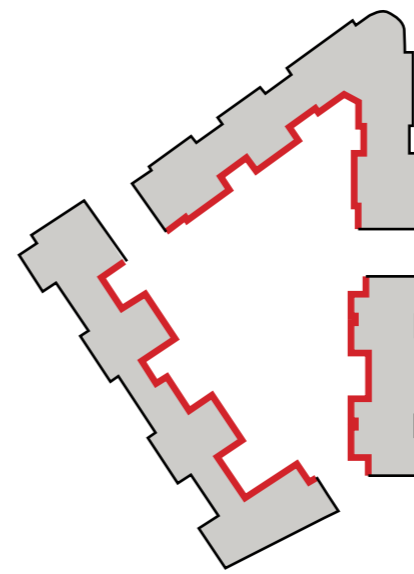
## STREET AND COURTYARD FACADES

### STREET FACADE



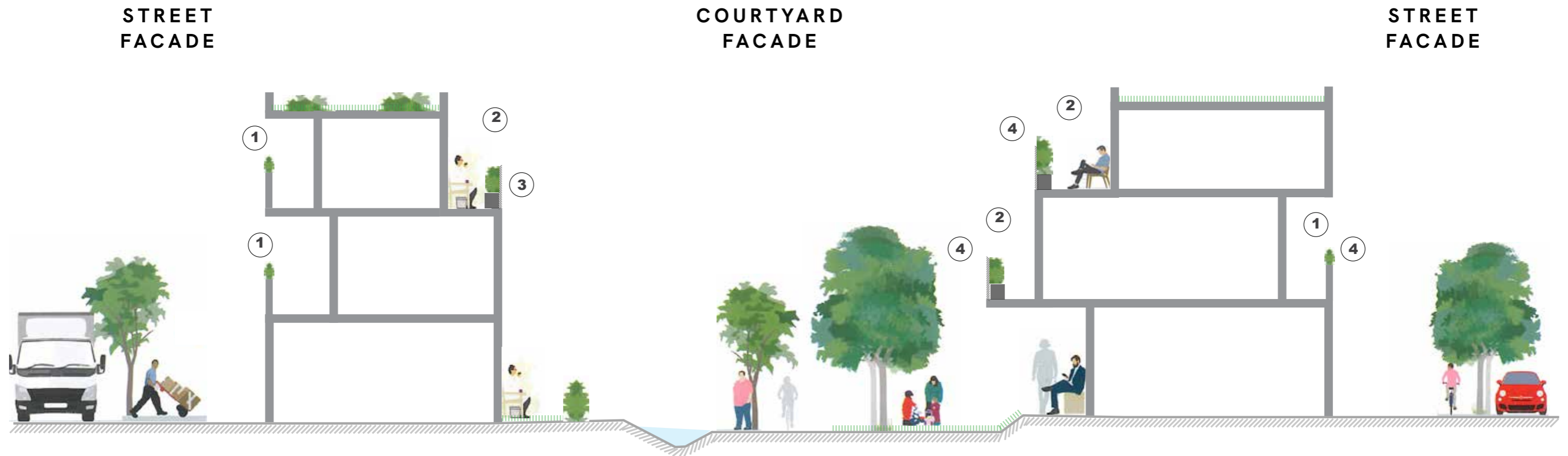
All of the outward facing facades of the residential blocks shall use bricks as the principal material.

### COURTYARD FACADE



Glazed tiles or bricks shall be used as the main facade material for the inward facing facades. This facade will be made of a contrasting color and finish.

# DEVELOPMENT VISION BALCONIES



① BALCONIES ON STREET FACADE ARE INTEGRATED AND RECESSED - MORE PRIVATE

② BALCONIES ON THE COURTYARD FACADE ARE EXPRESSED AND MORE OPEN TOWARDS THE COURTYARD LANDSCAPING - COMMUNAL

③ INTEGRATING PLANTERS TO EVERY BALCONY FOR RESIDENTS TO GROW THEIR OWN PLANTS

④ A VARIATION OF DIFFERENT BALCONIES THROUGH MATERIALITY, ARRANGEMENT AND POSITION TO AVOID REPETITIVENESS

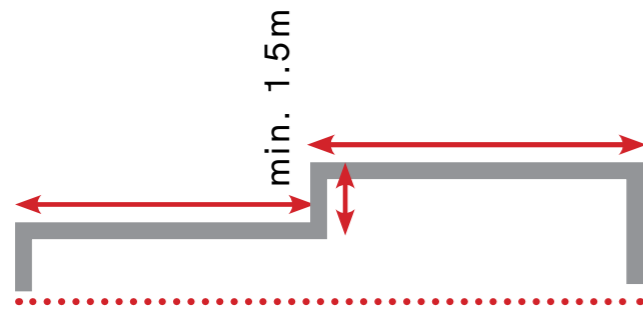
Note:  
Section for illustrative purposes only

# Commercial Design Principles

# DEVELOPMENT VISION

## ROOFSCAPE AND STEPPING PRINCIPLES

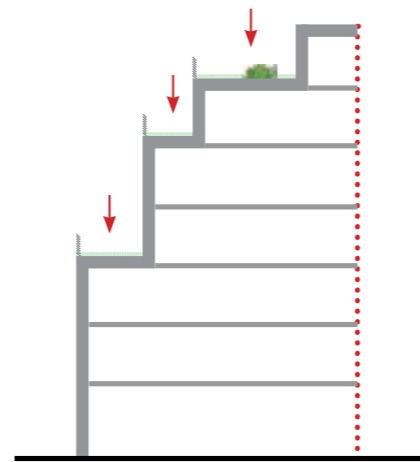
### PLAN STEPPING



Plan

Steps along extended, flat building faces will break down the massing and avoid long monotonous facades.

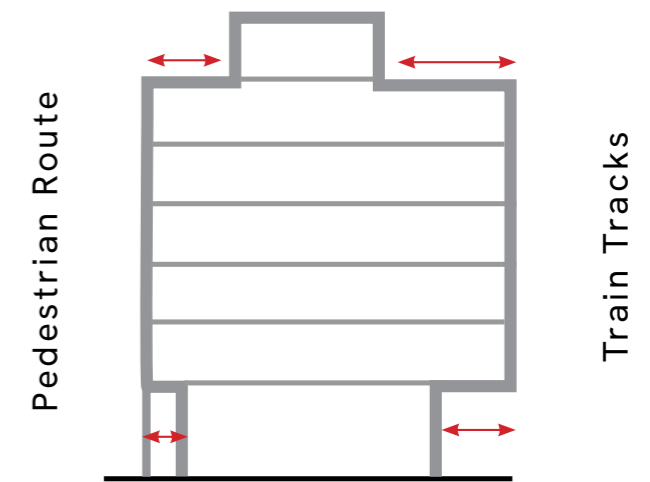
### TERRACES



Section

Stepping at roof level to initiate gardens and balconies for greenery along the roof line and the introduction of articulation introduces articulation to the massing.

### VARIABLE STEPPING



Section

Varying articulation across different edges minimises visual impact at street level and from long distances views.



# DEVELOPMENT VISION

## MATERIALITY, MASSING & ARTICULATION

### KINKED ELEVATIONS & RECESS CUT-OUTS



Buildings with potentially long, flat elevations are intrinsically boring and over bearing. Various approaches can be used to create interest and break down the uniformity. Kinked elevations foreshorten the appearance while deep recesses and cut-outs create moments that initiate entrances or break-out spaces.

### GRC NEUTRAL PALETTE



The architects are working with neutral colour palettes to sensibly integrate the new commercial buildings into their context and to correlate with historic and contemporary Cambridge precedents.

### COLOURED FRIT GLAZING



Specific architectural elements such as cut-outs and recesses will be accentuated through use of material such as coloured fritted glazing. This will further emphasise the articulation of the facade and create breaks in the building massing.

# DEVELOPMENT VISION FACADE ARTICULATION PRINCIPLES

## ARTICULATION THROUGH STEPPING



The introduction of stepping in plan is one possibility to articulate the facade and to break straight lines. This shall happen at coherent intervals and depths.

## ARTICULATION THROUGH KINKING



The kinking in plan is a possibility to articulate the facade and to break straight lines. The dimensions of the kinks shall be reasonable with regard to its context and the general massing.

## ARTICULATION THROUGH 3-DIMENSIONALITY

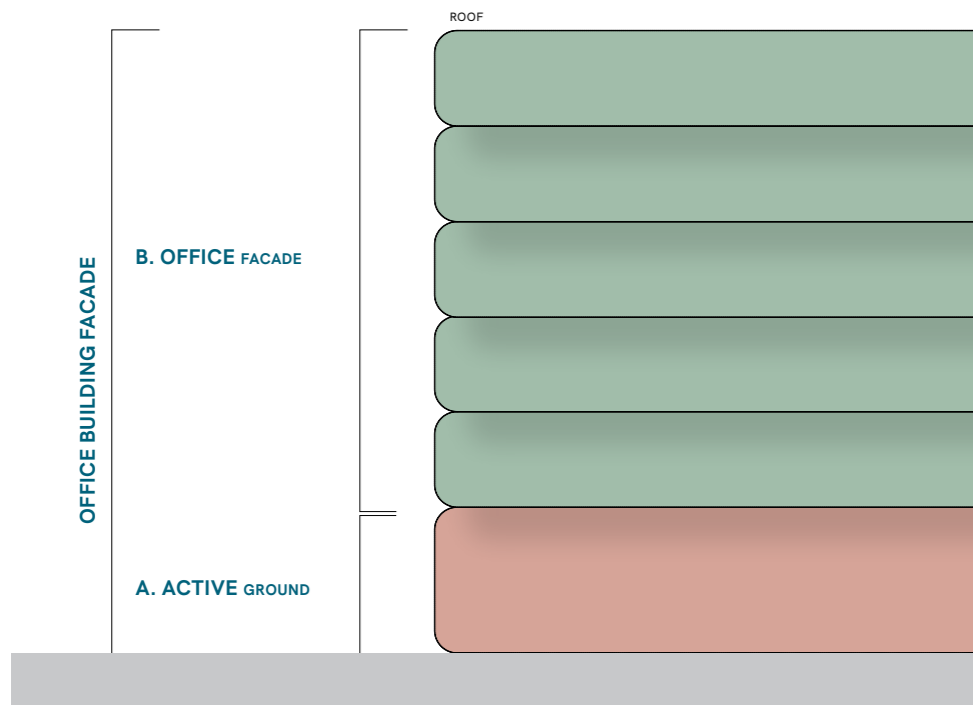


Using a material in a 3-dimensional way could be considered as a possibility for the articulation of the facade. The material can be used in a more sculptural way rather than flat.\*

\*Note: Example shown is illustrative only and can be interpreted in various ways

# DEVELOPMENT VISION ACTIVATING THE SPACE

## ACTIVATION AT GROUND LEVEL



All commercial buildings play an important role in the ground floor activation of the wider Masterplan and therefore need to be treated adequately. Ground floor activation also contributes to a more fluid work-life balance.

## TERRACE SPACES FOR OFFICES



Every office should aspire to have access to its own outdoor area. Furthermore, there shall be at least one shared semi-public outdoor area in each office building.

## CLASS E/F USES



Class E/F uses are to be allocated strategically on ground level to allow flexibility within the scheme to adapt to the needs of the community as the rest of the draft NEC AAP is developed

## 3.3. Sustainability

# DEVELOPMENT VISION SUSTAINABILITY

Our environmentally friendly proposals will tackle the key environmental challenges through low carbon design, renewable energy, sustainable transport and enhanced biodiversity.

The integration of Solar PV Panels on the roof of buildings will help generate renewable Low Carbon Energy for the site.

Residential and commercial buildings are designed to be energy efficient to reduce their energy consumption and improve thermal comfort.

A ventilation strategy for the commercial buildings to use best practice building services with high efficiency rates and heat recovery. Residential buildings to be designed with natural ventilation, with the potential of mechanical ventilation and heat recovery to assist with overheating.

The scheme is designed to achieve biodiversity net gain, bringing improving the richness to local biodiversity.

Furthermore, the integration of green and brown roofs on buildings is adding to the sustainability strategy of the scheme and enhancing biodiversity.



Construction methodologies exploring timber for lower embodied carbon



Green roof system to enhance biodiversity



High performance building facades with integrated vegetation



SuDS swale drainage and landscaping along the urban blocks



Renewable energy source incorporated into building



Cycling as principal means of transport

# DEVELOPMENT VISION

## SUSTAINABILITY DESIGN PRINCIPLES

### SUSTAINABLE URBAN DRAINAGE SYSTEMS (SUDS)



'Station Row' forms a key SUDs feature and ecological asset with its swale

Rain gardens and swales are repeated throughout the site, slowing and storing runoff.

A Long linear swale alongside the western margins of the site to be created.

Plant species are selected for tolerance to wet and dry conditions, and for ecological value.

### ENHANCING BIODIVERSITY



Biodiversity of existing Open Mosaic Habitat (OMH) is mimicked and expanded within pockets of the residential quarter, benefiting bees and invertebrates.

Upper roofs are delivered with biodiverse green/brown roofs using OMH substrate.

A central park forms an ecological park of retained and enhanced OMH.

A wide variety of tree species are used extensively to create shade, new habitats and distinctive character.

### SUSTAINABLE CONSTRUCTION



Consider the use of sustainable materials and methods of construction, such as timber or hybrid (steel and timber) systems for the structural frame for example.

Timber is a low carbon material and it is integral to aims of optimising energy performance and in creating high quality spaces.

### USE OF LOCALLY SOURCED MATERIALS

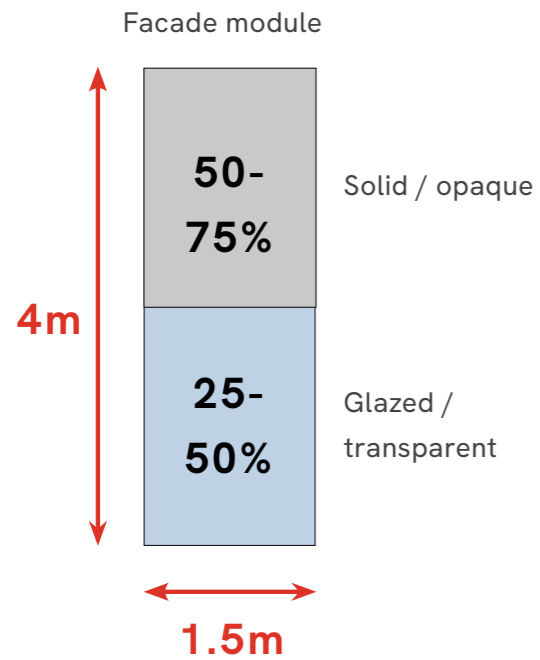


When selecting materials for our buildings we will aim to source locally where possible to reduce the overall carbon footprint.

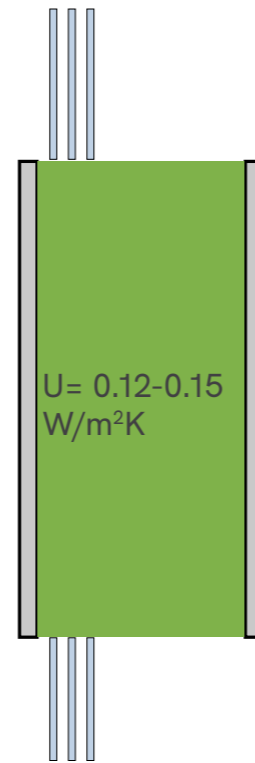
# DEVELOPMENT VISION

## SUSTAINABILITY DESIGN PRINCIPLES

### OPACITY WITHIN THE FACADE



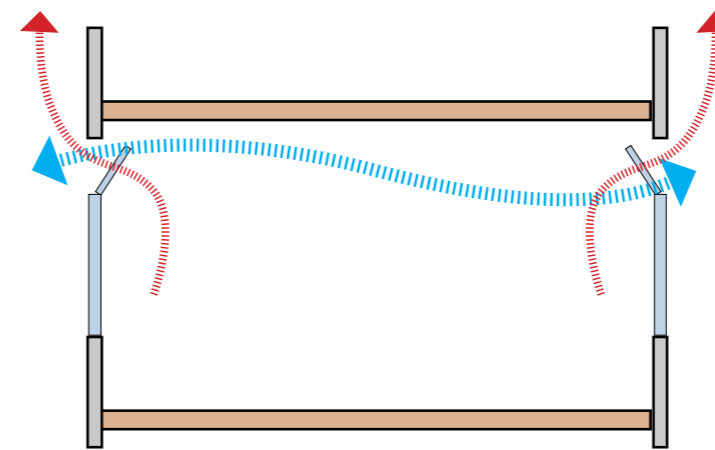
### ACHIEVING LOWEST POSSIBLE HEAT TRANSFER



All facades of the office buildings should have a maximum of 50% glazed area. This will help to reduce the environmental impact, heat transfer and over-heating.

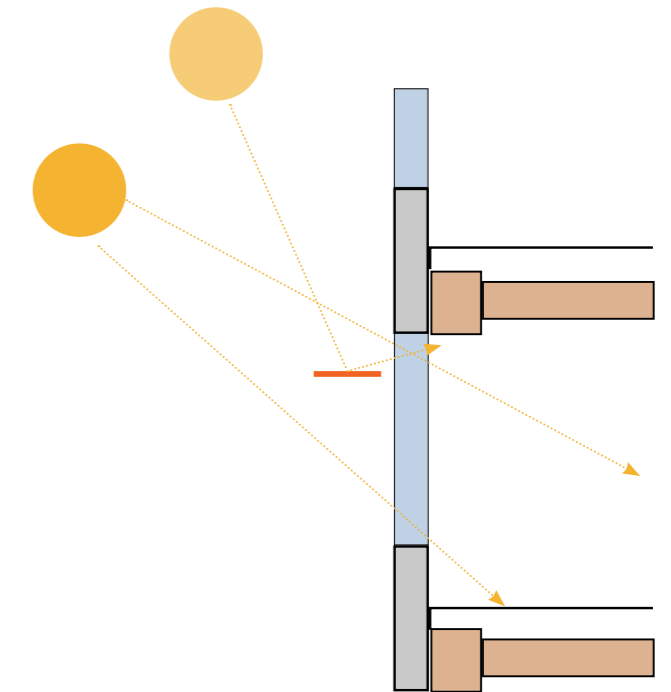
Office buildings should aim to achieve the lowest possible heat transfer through the build up in order to reduce the environmental impact and cost of operating the building.

### NATURAL VENTILATION



Office buildings should create naturally ventilated spaces in order to increase the comfort of the users as well as to reduce the environmental impact and operational costs.

### SOLAR GAIN CONTROL



Passive design elements should be used and appropriately located in all office buildings in order to avoid internal over-heating.

# DEVELOPMENT VISION

## SUSTAINABILITY & DESIGN ASPIRATION

### DESIGN ASPIRATIONS - SUMMARY

The diagram on the right side summarises the quintessential elements of the Development Brief that have driven the design evolution of the Cambridge North Masterplan development: to create future focused buildings within an architecturally exciting and sustainable Masterplan that contribute to the ambition of providing high quality workspace and housing for a range of occupiers to ensure the long term success of the Cambridge North neighbourhood.

The site opportunities and constraints of the previous chapter have been analysed and taken on-board as a list of restraints and aspirations to inform the design.

The building façades will find its inspiration in historical local context, both in terms of materiality and arrangement. The planting of mature trees together with the creation of extensive landscaped public realm will enrich the experience and the creation of swales throughout the Masterplan will provide a sustainable drainage solution.

Our commitments include the creation of low carbon buildings, no fossil fuels but all electric buildings future proofing the development for a transition to a low carbon electricity grid. We are utilising a rain water harvesting strategy to meet irrigation needs without relying on potable water as well as reducing water consumption through careful specification of water fittings throughout the residential and commercial buildings.

The Masterplan promotes green and active travel with around 2,500 secure bicycle parking spaces for residents, visitors and workers, encouraging active lifestyles by providing appropriate facilities.







### CONTEXTUAL DESIGN

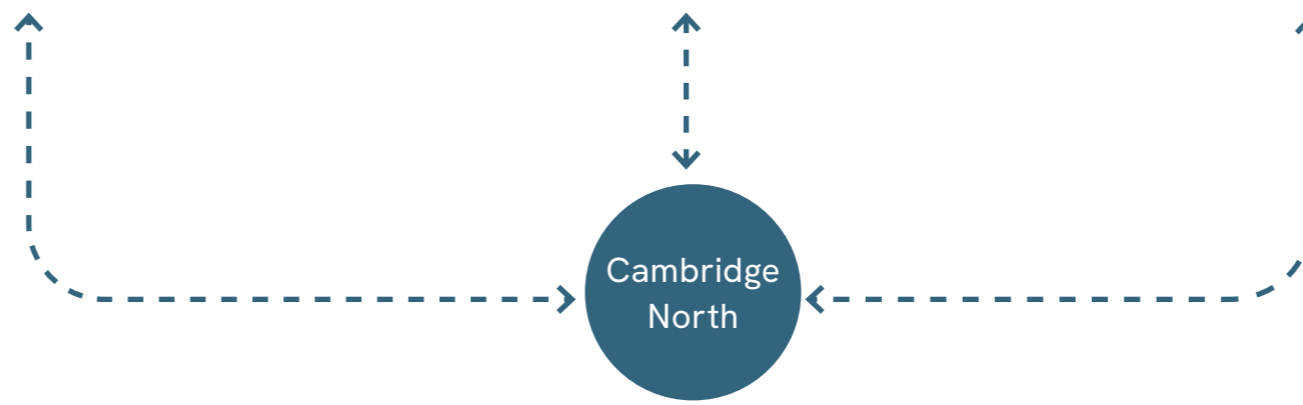
-  *Contextual form and massing that responds to the existing and emerging context*
-  *A project unique to Cambridge north*
-  *Inspired by local context and materials*
-  *An urban focal point for the local area*
-  *Integrated public realm with direct links to green spaces*
-  *Excellent transport links with Cambridge North Station*

### KEY FEATURES

-  *Space for people to live work, relax and meet*
-  *Design to maximise health and well-being*
-  *Office and work life after Covid-19*
-  *Active ground floors with retail and food offering*
-  *Leading cycle and end of trip facilities*
-  *Affordable workspace and affordable housing*

### SUSTAINABILITY ASPIRATIONS

-  *Positive impact on biodiversity and ecology*
-  *Reuse of building materials at end of life*
-  *Utilising sustainable construction methods*
-  *Maximising off-site manufacture to minimise material waste*
-  *Embodied carbon impact meeting envisaged targets*
-  *Green roof terraces and access to fresh air*



### A HOLISTIC DEVELOPMENT