6. Outline Planning

6.1.Triangle Site
(S8 & S9)

Triangle Site

Overview

TRIANGLE SITE
OVERVIEW

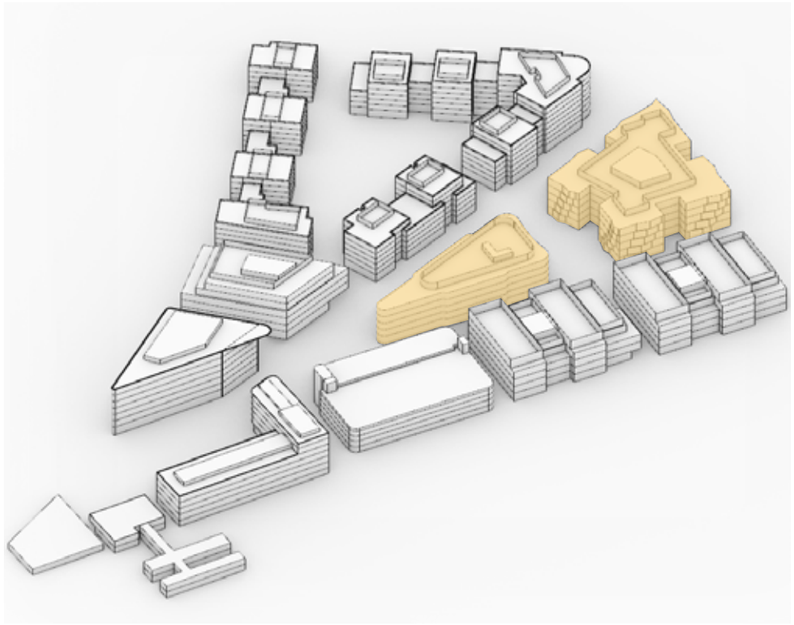
SITE CONTEXT

The triangle site is bound by the three main arterial streets within the development - the pedestrianised Station Row to the East, Milton Avenue to the West and Cowley Road to the North.

This marks the triangle site as a prominent location at the centre of the site - with a new proposed public realm on Chesterton Square linking the eastern lab buildings to the Residential Quarter to the west.

Chesterton Square is flanked by 'One Station Row' (S9), a lab and office building, to the North and the 'Two Milton Avenue' (S8) office building to the south. Both buildings have a distinctive massing and scale that fits suitably into the triangle site boundary.

The triangle site is part of the outline application as set out in section 01 of the Design and Access Statement.



Triangle site aerial view

The two buildings in the triangle site in context

TRIANGLE SITE
DESIGN EVOLUTION

MASSING EVOLUTION

The original design for the triangle site in April 2021 consisted of two separate buildings on the northern edge of the site with a street cutting north-south between the buildings. The southern edge of the site has always been conceived as a 'triangle' building due to the geometry of the site boundary.
Due to the requirements of minimum 18m distance between buildings, the two buildings typology is deemed inefficient in terms of its floor plate size. The north-south thoroughfare also dilutes the original design intent of Chesterton Square and Station Row.
To fully utilise the Northern plot, it is considered that a single building is a more viable approach that provides a different office building typology and scale that is not offered by the other proposed commercial buildings.

This single, larger footprint that is now S9 also means there is the flexibility to split the floorplate in up to four tenancies, or less. This is important to attract tenants of large multi-nationals that would require a large tenancy area as well as smaller tenants that would require a more modest floor area. This flexibility ensures the buildings' future-proofing.
From then on, building S9 underwent various design iterations to ascertain the optimum footprint and articulation. The final illustrated design intent in June 2022 shows a building with four clear 'petals' on each corner with a deep recess between them. These recesses are a direct translation of the building design principles as set out in section 3 (Development Vision) of this document.

Building S8 is a considerably smaller and slimmer building and its form has always been a triangular shape due to its location at the tip of the plot. The final illustrated design intent shows a scooped elevation facing Chesterton Square to frame the square and also to respond better to the opposite elevation of building S9.

April 2021

November 2021

January 2022

June 2022

TRIANGLE SITE
PARAMETER PLAN

MAXIMUM BUILDING ENVELOPE

- The parameter plans set out the maximum building envelopes for ground, typical and basement levels of the buildings being submitted for Outline Planning Application.
- The black hardline indicates the maximum envelope of the building. Any flexibility of the articulation of the massing is to be inward of this line, ie within the purple hatch
- The hardline has been established in order to preserve street widths and proportions of the public square and public realm, which are being submitted as part of the detailed design application.
- The text within the parameter plans describes the design principles for these blocks, as illustrated further on in this chapter which legalises the requirements for these blocks to be highly articulated massing both in plan and elevation.

BUILDING HEIGHTS

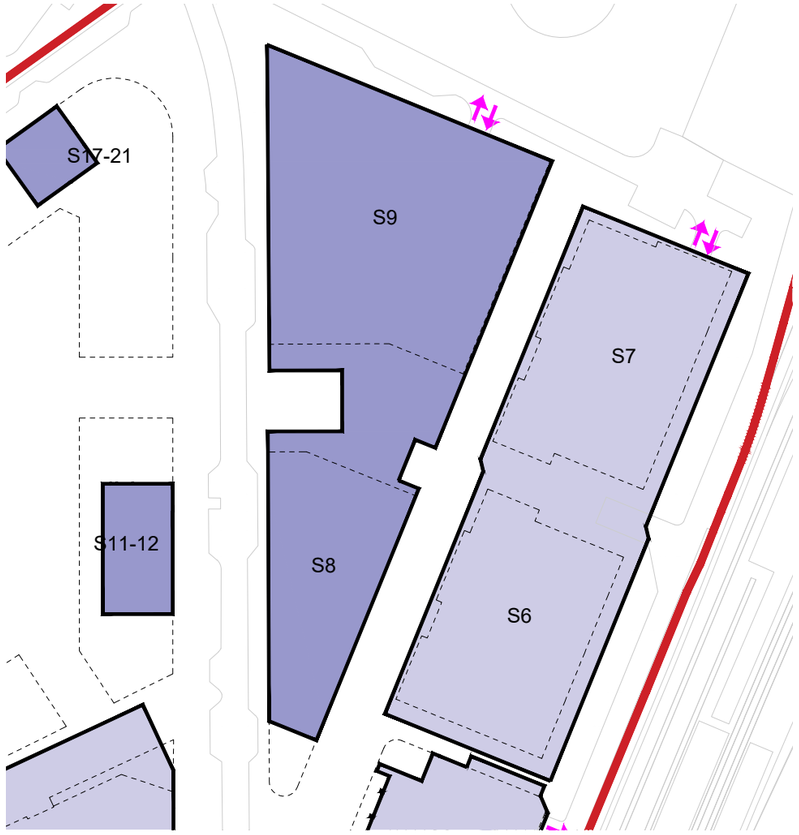
The parameter plans set out the maximum heights per outline building and a determined height for the detailed buildings.

- The triangle buildings mainly have a maximum height of 21-22m, with set back plant screens that reach a maximum height of between 24-26m.

Legend:

- Application site boundary
- Outline Application maximum building envelope
- 14-16m building height
- 16-18m building height
- 18-20m building height
- 20-22m building height
- 22-24m building height
- 24-26m building height
- 26-28m building height
- 28-30m building height

*All heights measured from FFL 0.00m (6.52 AOD)



Parameter plan Maximum Building Envelope - Basements

Parameter plan Maximum Building Envelope - Gnd & Typical Fl.

Parameter plan Building Heights plan

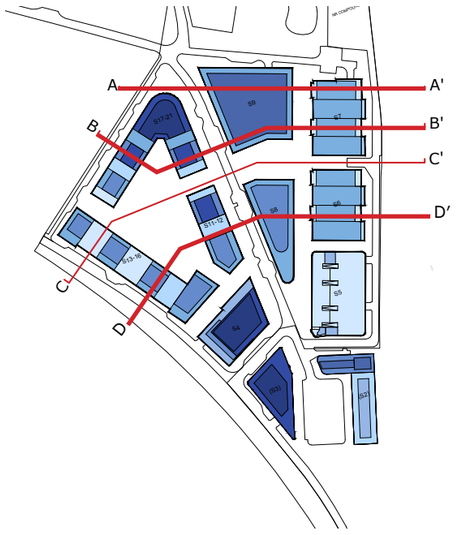
TRIANGLE SITE
PARAMETER SECTIONS

VERTICAL LIMITS

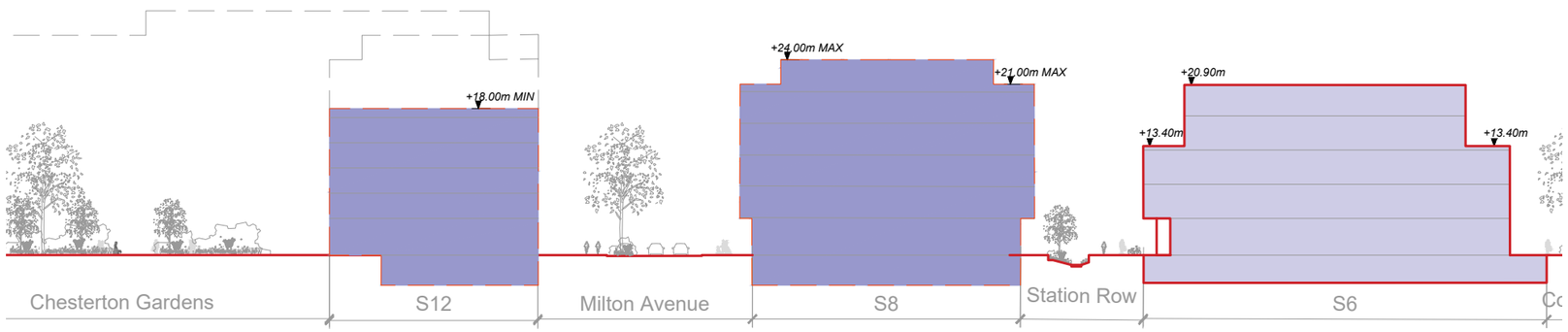
- The sections illustrate the maximum building envelopes as set out in the parameter plans.
- Maximum height parameters indicated in the sections align with the Parameter heights plan. These height parameters have been established in the concept development stage of the outline buildings after extensive assessment of the impact on long distance views and also allow for a degree of flexibility in the detailed development stages of these buildings.

Legend:

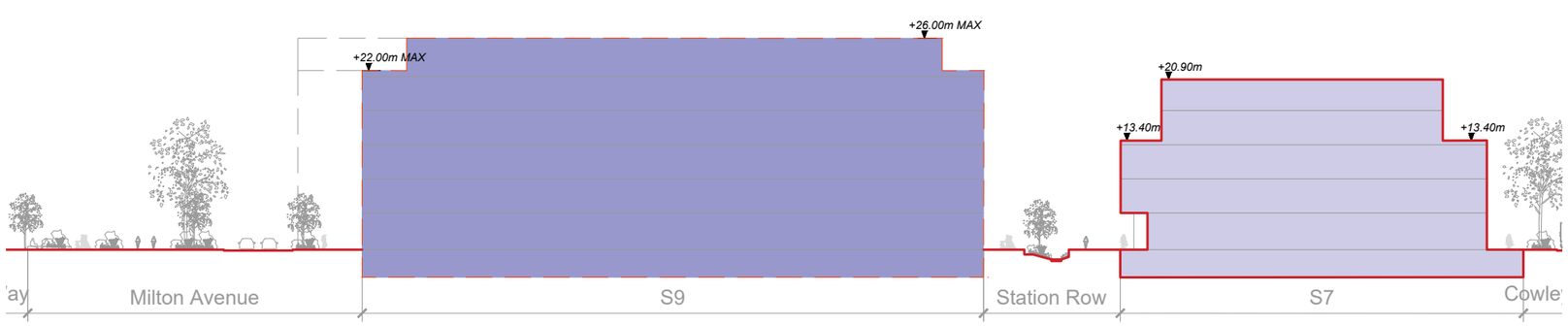
- Outline Application buildings
- Detailed Application buildings
- Maximum extents building line
- Indicative floor slabs



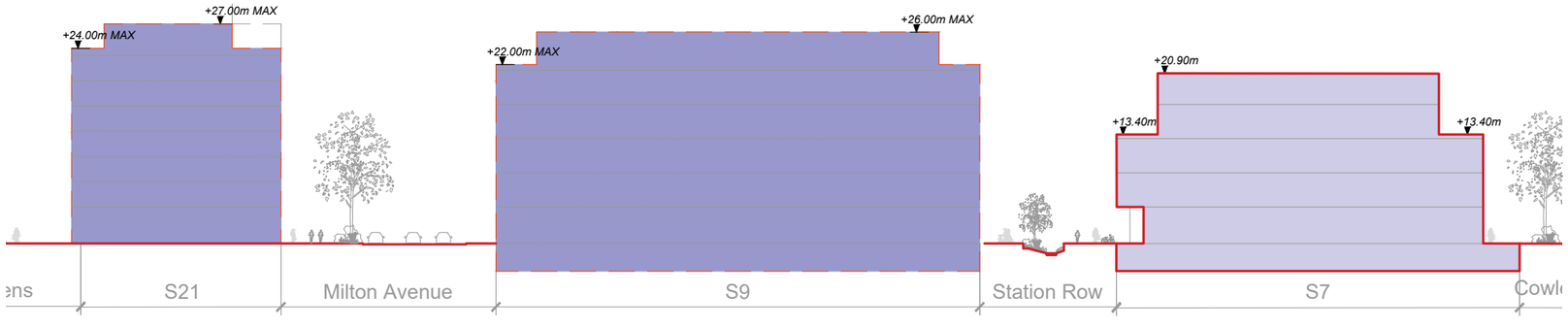
Parameter sections key plan



Section D - Building S8 east-west parameter section



Section A - Building S9 east-west parameter section (north side)



Section B - Building S9 east-west parameter section (south side)

TRIANGLE SITE
PARAMETER SECTIONS

Parameter sections key plan

Legend:

- Outline Application buildings
- Detailed Application buildings
- Maximum extents building line
- Indicative floor slabs

Section F - Building S8 & S9 north-south parameter section

ILLUSTRATIVE VIEW

View down Chesterton Square looking west

TRIANGLE SITE
ILLUSTRATIVE BUILDING DESIGN

Both One Chesterton Square (S9) and Two Milton Avenue (S8) are part of the outline planning application. However, an indicative design intent has been prepared for both buildings to assist to examine the overall Masterplan as a whole.

The illustrative building designs have enabled the design team to make informed decisions related to suitable building heights, massing and articulation as well as the public realm design forming part of the detailed planning application.

Physical model of the illustrative designs for S8 and S9

One Chesterton Square (S9)

ONE CHESTERTON SQUARE (S9)
DESIGN EVOLUTION

MASSING EVOLUTION

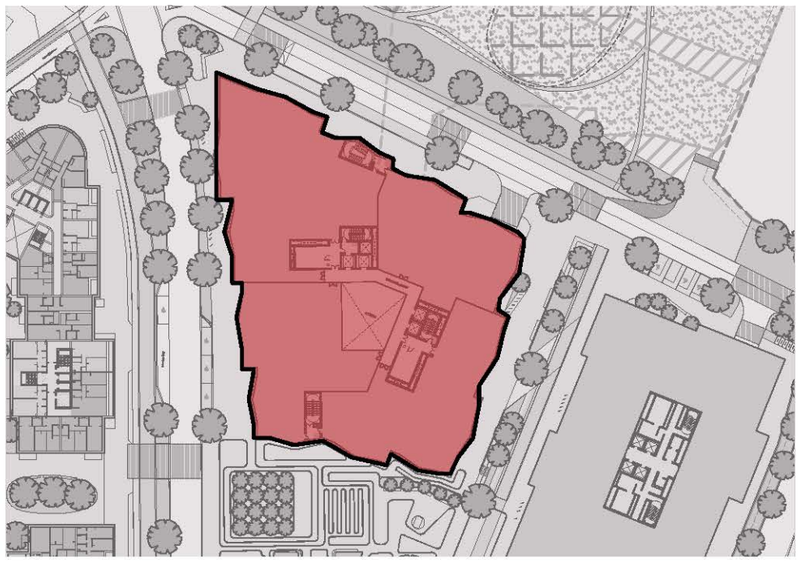
The original design proposed two separate buildings with a street cutting North-South between the buildings.
To fully utilise the plot, it is considered that a single building is a more viable approach whilst providing a different office building typology and scale that is not currently offered by the other proposed commercial buildings.

The larger footprint means it is possible to split the floorplate into four tenancies, or less. This is important to attract tenants of large multi-nationals that would require a large tenancy area as well as smaller tenants that would require a more modest floor space. This flexibility ensures the buildings' future-proofing.

The building heights has been reduced by one full storey.

Massing April 2021

Massing November 2021


Massing January 2022

Massing June 2022

ONE CHESTERTON SQUARE (S9)
BUILDING SCALE RATIONALE

A CENTRAL ROLE

The role and purpose of “One Chesterton Square” (S9) in the Masterplan is critical and crucial; and after various studies and iterations, it resulted in this proposed optimum massing and scale that fulfils the architectural quality whilst offering viability of the lab-office building, which holds Chesterton Square.

Providing an active frontage to all sides, in particular to Chesterton Square (south) and Station Row (east) with the lively elevated ground floor activation all around the building. The articulation of the massing is set in relation to height restrictions and to achieve the desired floor space for its viability, the building needs to grow horizontally and cannot be smaller.

The building also provides a buffer to the north, towards the wild habitat area and defines a boundary before entering the heart of the Cambridge North development.

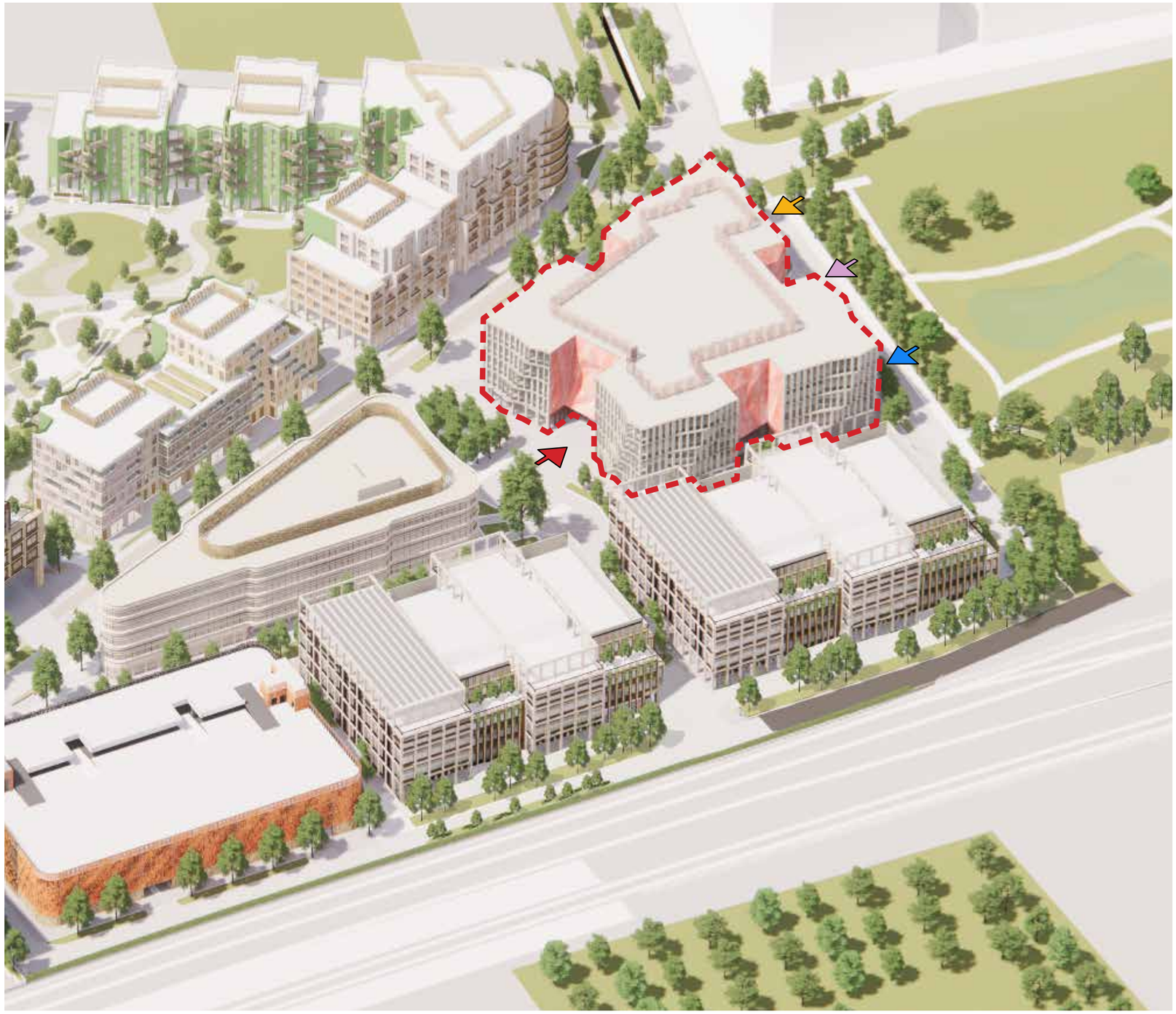


Diagram illustrating scale rationale

Legend:

- Main FOH entrance from Chesterton Square
- Cycle entrance
- BOH entrance
- Basement car park entrance

ONE CHESTERTON SQUARE (S9)
BUILDING SCALE COMPARISON

COMPARISON WITHIN CAMBRIDGE NORTH

One Chesterton Square is one of the six office - lab buildings in the proposed Cambridge North development. The typical floor plate Gross External Area (GEA) for One Chesterton Square is 3,670m2. In comparison with the other buildings, even though it is biggest in scale, One Chesterton Square plays an important role in defining the square and surrounding streetscape as set out on the previous page.

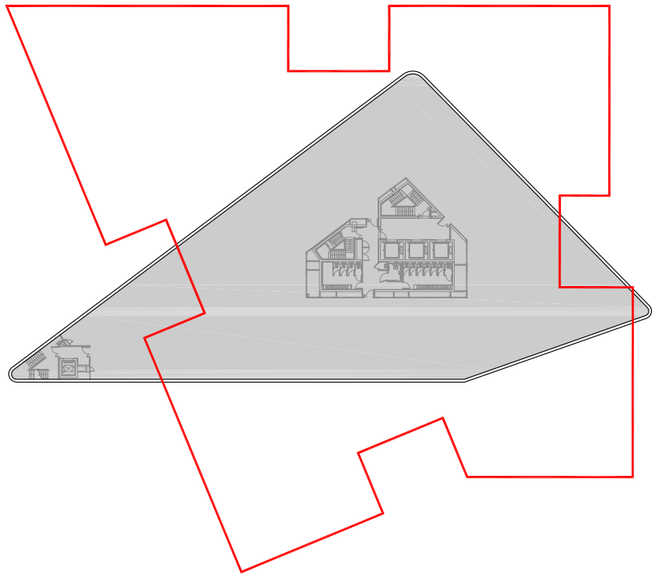
The typical floor plate for the buildings can be summarised below:

One Chesterton Square (S9)	3,670 m^2
One Cambridge Square (S3)	1,715 m^2
One Milton Avenue (S4)	2,230 m^2
1 Station Row (S6)	2,735 m^2
3 Station Row (S7)	2,915 m^2

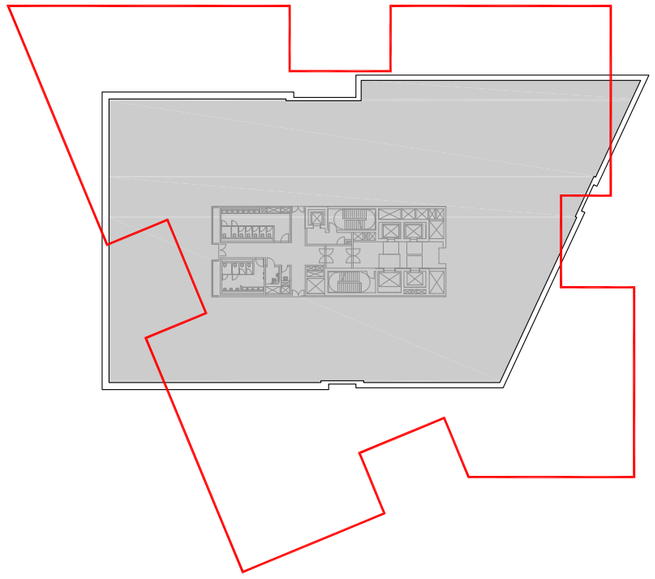
The bigger floor plate also provides diversity to the offering in the development and provides the opportunity to attract different tenants that seek bigger floor space for their lab/ office operations.

Legend:

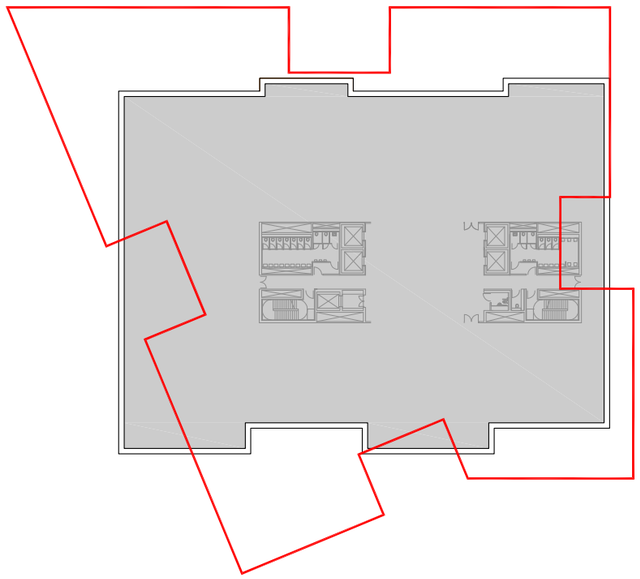
Proposed One Chesterton Square
Typical floor plate 3,670 m^2



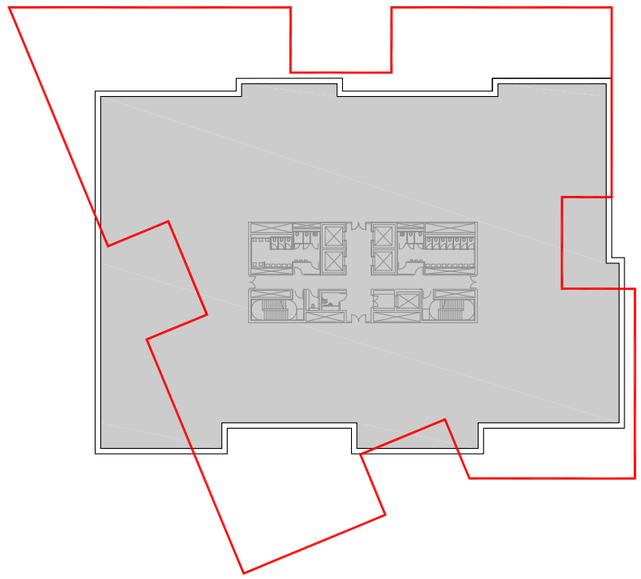
One Cambridge Square (S3) - Typical floor plate 1,715 m^2



Building S4 - Typical floor plate 2,230 m^2



Building S6 - Typical floor plate 2,735 m^2



Building S7 - Typical floor plate 2,915 m^2

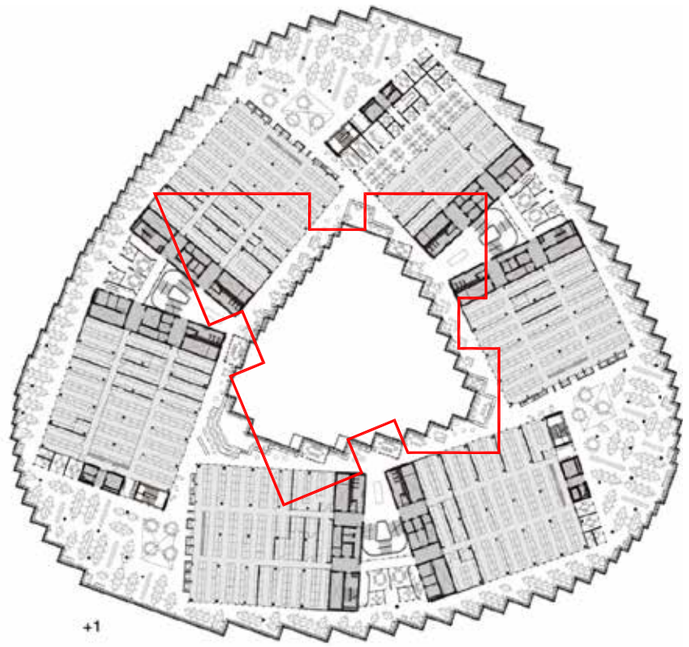
ONE CHESTERTON SQUARE (S9)
BUILDING SCALE COMPARISON

COMPARISON AROUND CAMBRIDGE

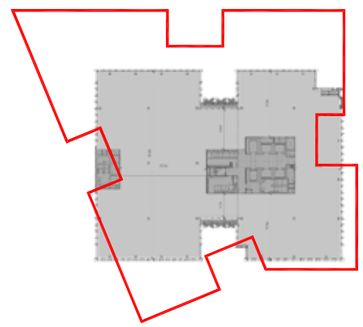
Cambridge is a city full of lab and office buildings of various sizes and scales. In comparison with some of these buildings in Cambridge, the proposed One Chesterton Square is relatively small as illustrated by the diagrams on the right.
The typical floor plate for the building can be summarised below:

One Chesterton Square	3,670 m^2
Astrazeneca Discovery Centre	14,560 m^2
50/60 Station Road CB1	2,265 m^2
Cambridge Assessment HQ	8,730 m^2
Cambridge Science Park	5,360 m^2

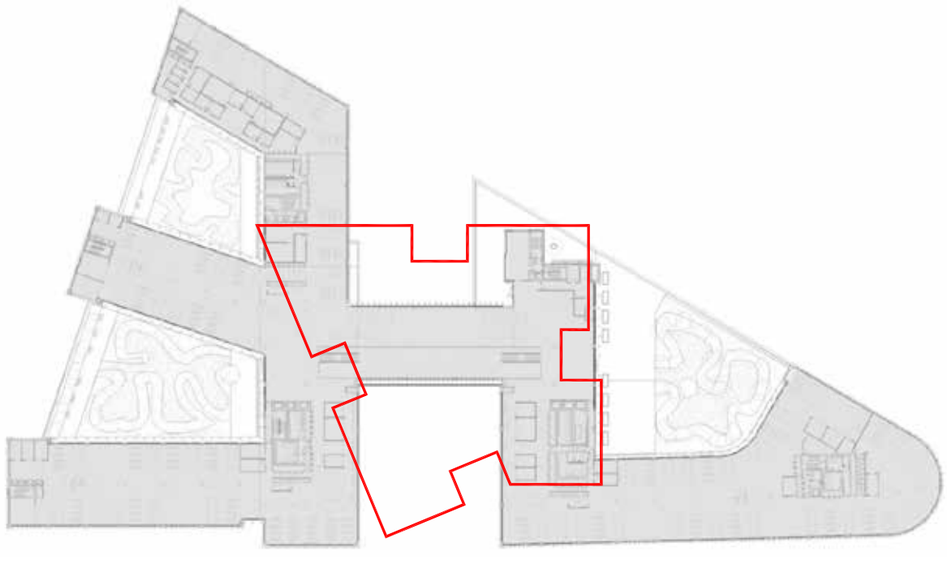
This demonstrates that there is sufficient demand for lab and office buildings with bigger floor plates in Cambridge and that One Chesterton Square will fill the demand in this part of the Cambridge North development.



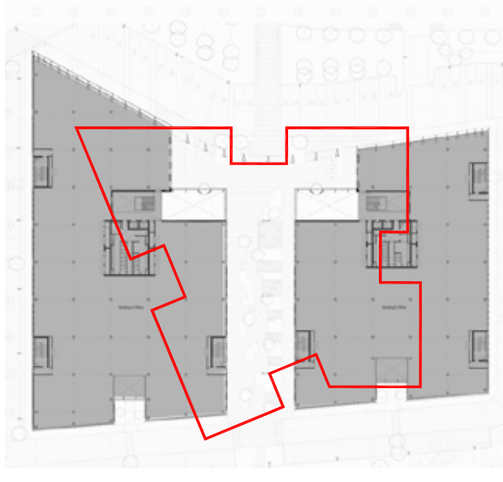
Astrazeneca Discovery Centre - Typical floor plate 14,560 m^2



50/60 Station Road, CB1 - Typical floor plate 2,265 m^2



Cambridge Assessment HQ - Typical floor plate 8,730 m^2



Cambridge Science Park - Typical floor plate 5,360 m^2

Legend:

Proposed One Chesterton Square
Typical floor plate 3,670 m^2

ONE CHESTERTON SQUARE (S9)
MASSING & ARTICULATION

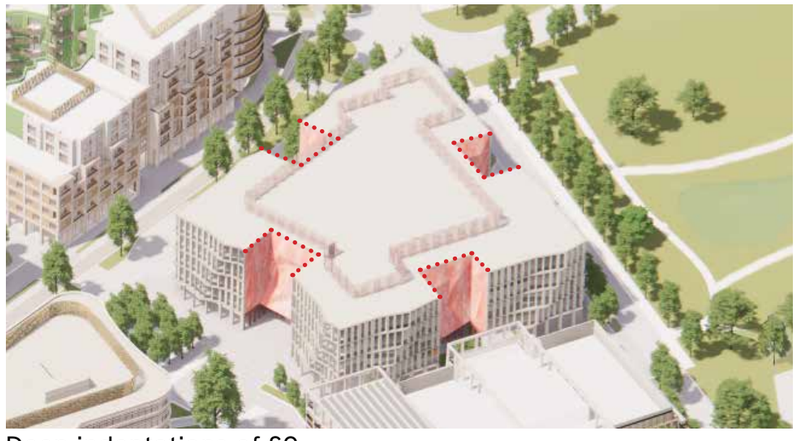
KINKED ELEVATION

Due to the long elevations of building S9, a design approach of kinking the elevation will help in mitigating this and enhance the articulation of the building massing. It is also intended that the kinked facade will create a visual interest across the street scape and provide a slightly angled view out from the internal floor space.

DEEP RECESS CUT-OUT

Building S9's illustrated floor plan design has a distinctive four 'petals' floor plate in each corner, separated by deep recessed cut-outs between each petal. We find that these deep recesses are set to become a feature for each elevation, creating a semi-courtyard space on the ground floor that provides opportunity for public realm design and integration of the commercial units at ground floor level.

The deep indentations allow for more daylight into the floor-space behind and it is intended that these indentations will be treated with a different materiality. The facade design shall be used for these recesses to further enhance their architectural qualities.



Deep indentations of S9

Kinked building elevation

Deep recess cutout

ONE CHESTERTON SQUARE (S9)
MATERIALITY

GRC NEUTRAL PALETTE

One of the materials proposed to be used in building S9 is GRC for its durability, high-quality and its versatility to achieve the required design intent. GRC (Glass Reinforced Concrete) is a lightweight and environmentally friendly material with the flexibility to form virtually any shape, size and finish.

The colour palette will be mainly neutral in the tone of white, grey or beige, in line with the traditional and contemporary Cambridge architectural language and materiality. GRC is a pre-cast facade material and this process is beneficial to the programme and quality can be better controlled off-site and assembled quickly on-site.

GRC facade precedents

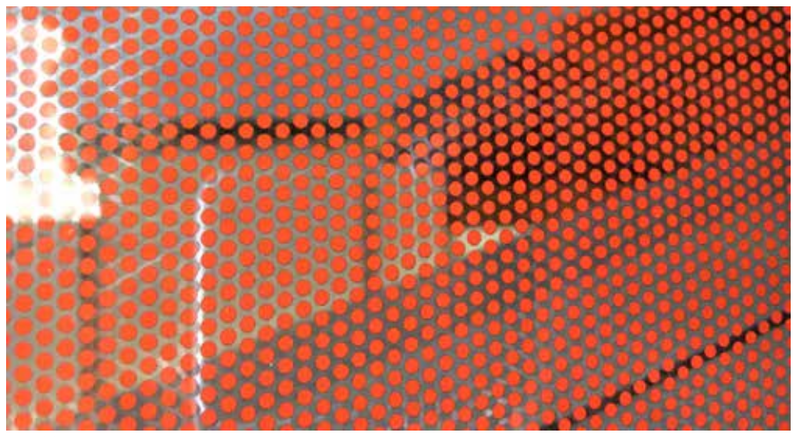
ONE CHESTERTON SQUARE (S9)
MATERIALITY

FRITTED GLAZING

There is an opportunity to introduce fritting within the glazed facade in particular the three-sided elevations around the deep recessed cut-outs.
Bespoke fritting pattern or coloured fritting can be used to create visual interest and special elements in the facade in comparison with typical glazed facades.
Fritted glazed panels can also help providing privacy and solar protection to some of the lab/office internal areas where necessary.

Red fritted glazing

Using bespoke fritting pattern to create interest on the facade



Fritted glazing close-up view

ONE CHESTERTON SQUARE (S9)
GROUND FLOOR

ILLUSTRATIVE GENERAL ARRANGEMENTS

The ground floor layout is intended to provide maximum activation and exposure to the streetscape. The main entrance is on the South elevation facing Chesterton Square. The entrance foyer is flanked by two large office tenants in each corner. This is a good exposure for the tenants to have ground floor presence as well as direct access from the entrance foyer. These areas would be suitable to be used as co-working spaces.

A further office tenant is provided to the North-Western corner with an F&B retail unit inbetween the two offices on the Western elevation. A large retail unit is proposed to occupy the North-East corner at the end of Station Row and provide an active frontage on this corner.

All Back Of House (BOH) servicing, the basement car park ramp and cycle parking access is through the dedicated entrance on the Northern elevation on Cowley Road. This effectively separates the BOH with the Front Of House (FOH) function.

Legend:

- Main FOH entrance
- Cycle entrance
- BOH entrance
- Basement car park entrance

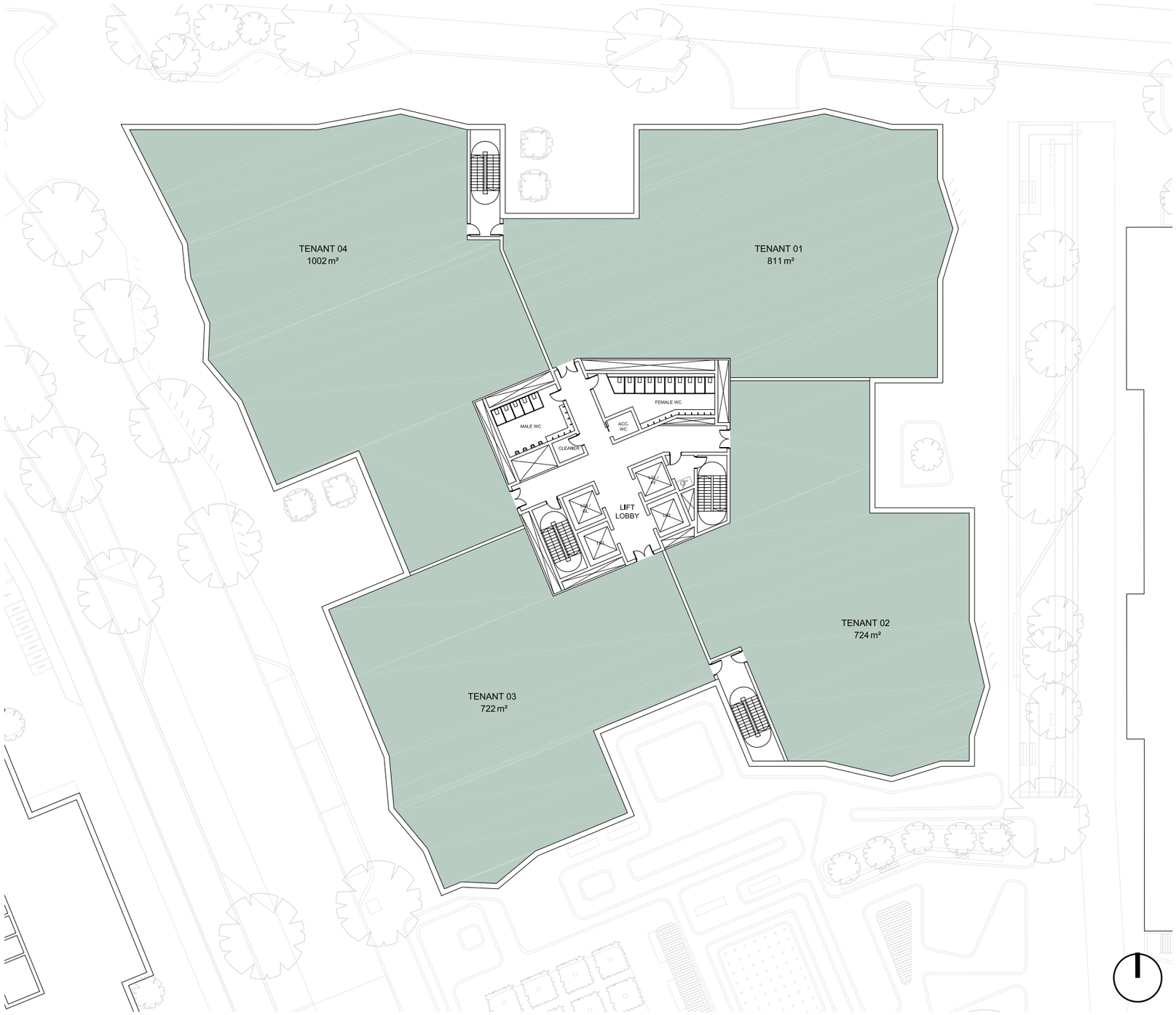
Illustrative Ground floor plan

ONE CHESTERTON SQUARE (S9)
TYPICAL FLOOR

ILLUSTRATIVE GENERAL ARRANGEMENTS

A typical floor in building S9 provides approx. 3,260 m² NIA of office/ lab space. This large floor plate can easily be divided into up to four separate tenancies, each with its dedicated access from the central lift lobby and two means of escapes.

All four tenancies will have a dual aspect facade as they occupy each of the corner petals. This allows for maximum daylight into the floor plate. The deep indentation could provide the opportunity to introduce small terraces or outdoor spaces with planting depending on the final massing articulation and facade design, which will be part of the detailed planning application of this building.



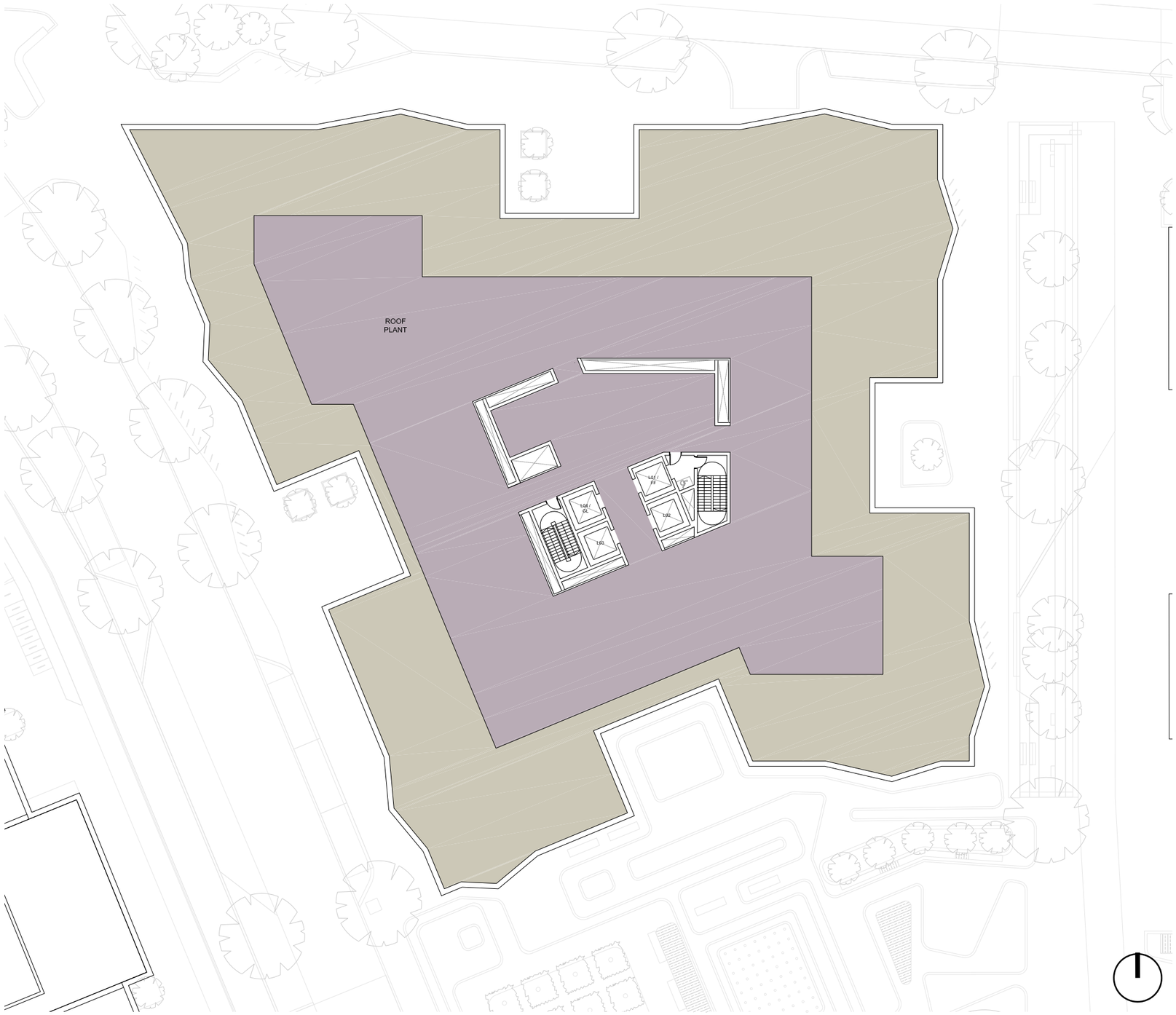
Illustrative Typical floor plan

ONE CHESTERTON SQUARE (S9)
ROOF

ILLUSTRATIVE GENERAL ARRANGEMENTS

The roof at level five consists of a plant area surrounded by a plant screen at 3.8m - 4.5m in height. Maximum setback between the building edge and plant screen is allowed on the Northeast and Southeast elevation in order to minimise impact in the Long Distance Views as demonstrated in later chapters as well as from street level.

It is envisaged that the plant screen will consist of a corrugated metal mesh with finishes that complement the facade.



Illustrative Roof plan

ONE CHESTERTON SQUARE (S9)
BASEMENT

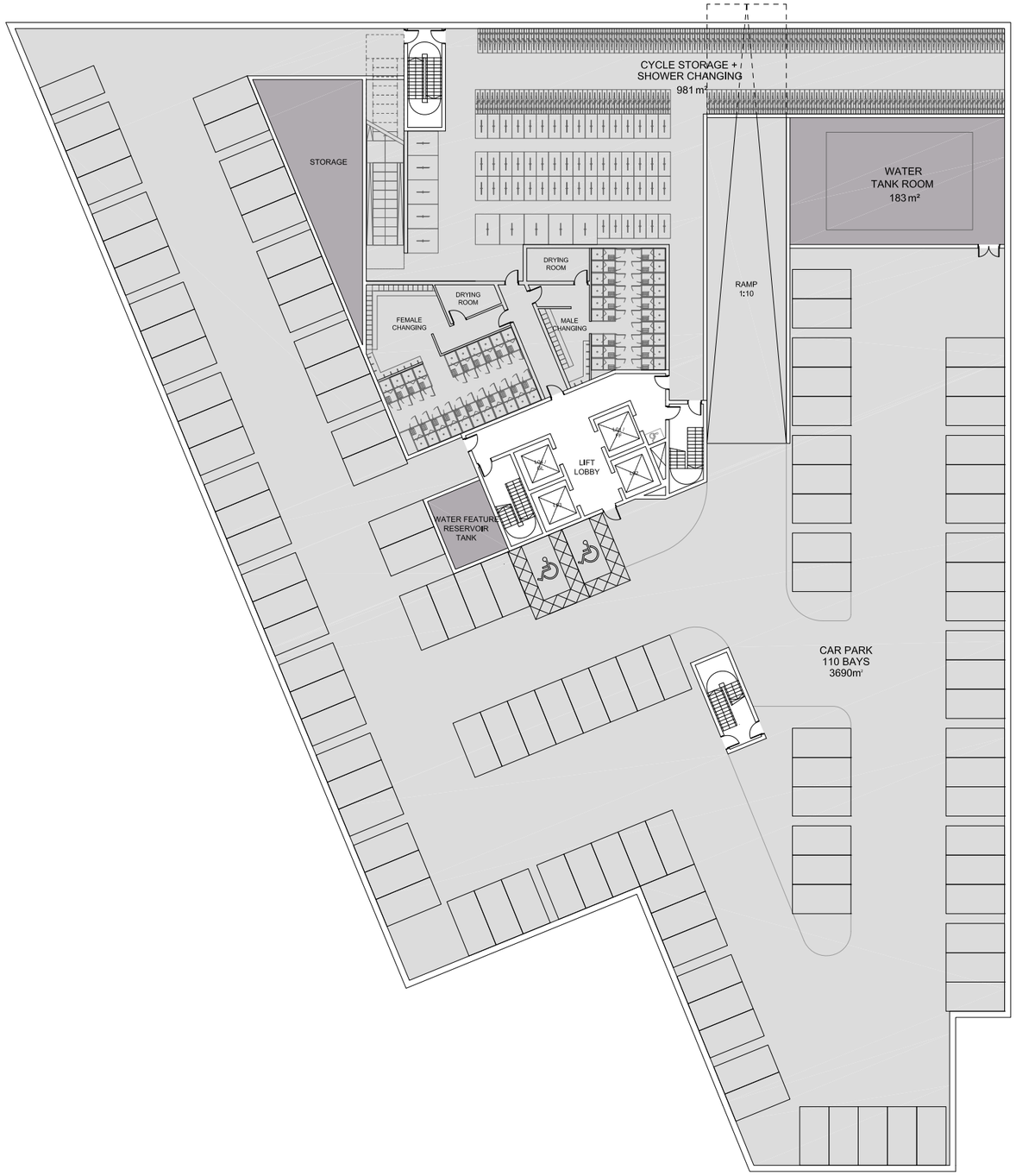
ILLUSTRATIVE GENERAL ARRANGEMENTS

The basement for building S9 extends under Chesterton Square towards S8 as part of the Phase 01 build for the triangle site. The car park ramp will serve from the Northern end, as will the cycle storage stair ramp.

A total of 110 car parking bays will be provided in this basement with two-way aisles. Three blue badge parking spaces will be provided at basement level with direct access to the S9 central core.

Cycle storage will consist of 20 cycle parking spaces with large Sheffield stands, 108 spaces with regular Sheffield stands and 418 spaces with double-stacked racks - providing a total of 546 cycle parking spaces in the basement.

The cycle parking facility also includes male and female shower facilities and changing rooms with their dedicated drying room, and a direct access to the main lift lobby.



Illustrative Phase 01 basement plan with partially built Chesterton Square

ILLUSTRATIVE VIEW

View down Milton Avenue looking south

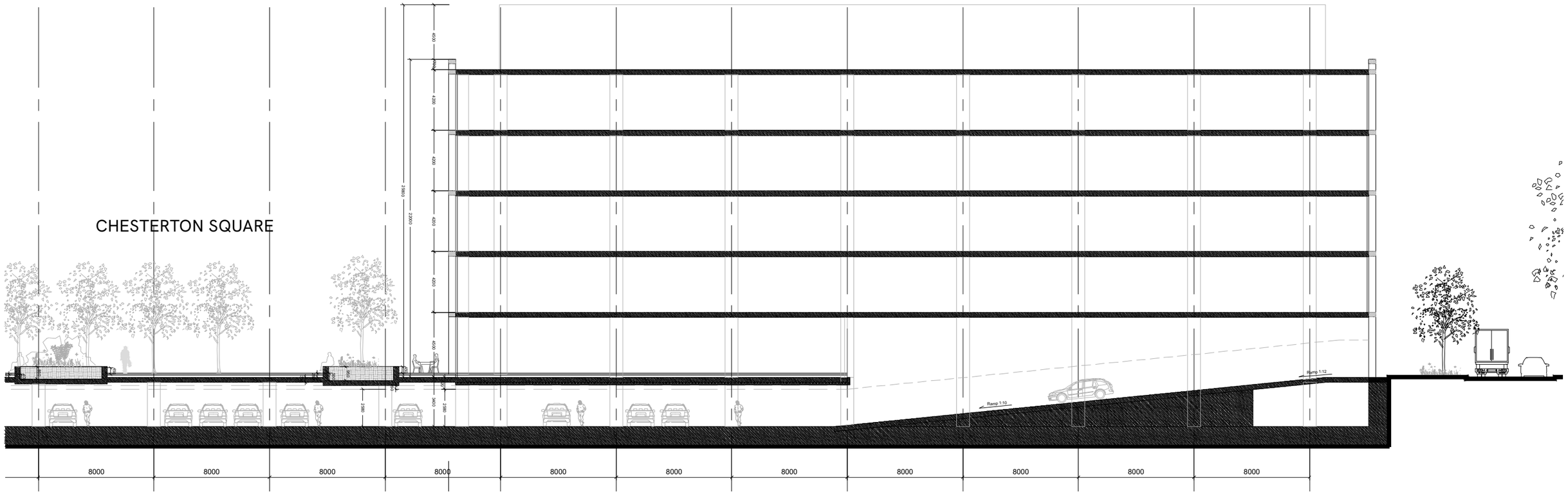
ONE CHESTERTON SQUARE (S9)
SECTION

ILLUSTRATIVE BUILDING SECTION

Due to its use as a lab and office building, the floor-to-floor height for S9 will be taller than a usual office building. On ground floor, the floor-to-floor height is 4.5m and 4.2m on the typical floors 01 - 04.

At roof level we shall have a minimum parapet along the edges. The roof plant height will range from 3.8m to 4.5m.

The basement car park floor-to-floor height will be 3.6m to accommodate servicing and extra depth for the landscape planting on Chesterton Square.



Illustrative section of building S9

ILLUSTRATIVE VIEW

View from the Wild Park looking south

Two Milton Avenue (S8)

TWO MILTON AVENUE (S8)
DESIGN EVOLUTION

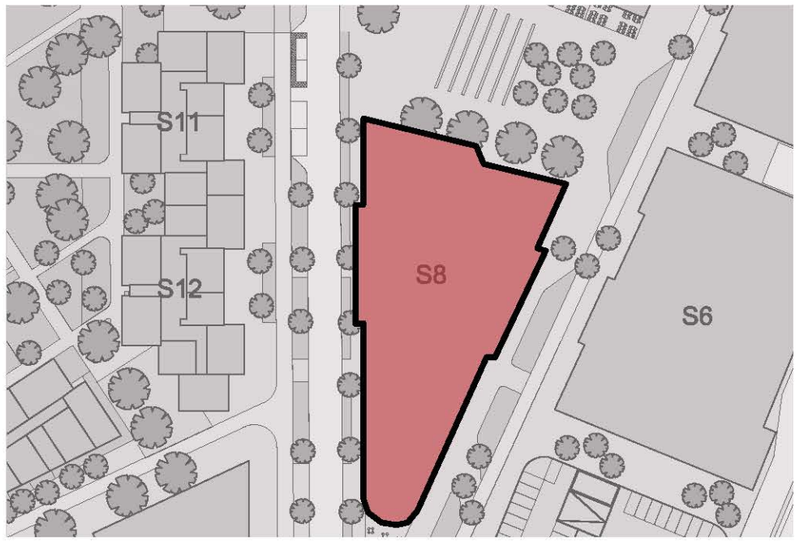
MASSING EVOLUTION

The massing of "Two Milton Avenue" (S8) more or less retains its triangular form and underwent a less drastic evolution compared to building S9 throughout the design process.

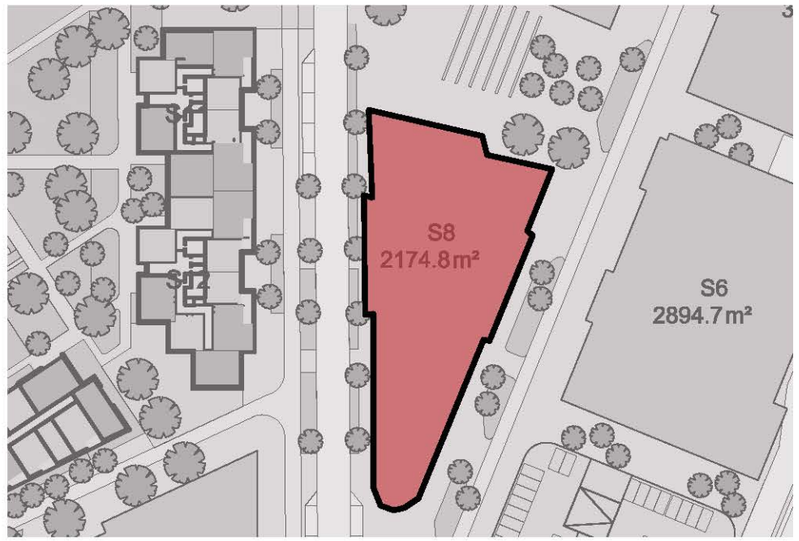
The building massing has reduced in height by one full storey.

Additionally, the Northern elevation which was initially a stepping facade is now proposed as a concave elevation that feels more balances when seen from the piazza looking north.

The Southern tip has also been adjusted for it to be less bulky and more slimline to enhance its prominence as one approaches the building. Both the eastern and western elevations are articulated to break the length of the elevation in line with the design principles set out in section 3 (Development Vision) of this document.



Massing April 2021



Massing November 2021


Massing January 2022

Massing June 2022

TWO MILTON AVENUE (S8)
BUILDING SCALE RATIONALE

DEFINING THE CORNER

Building S8 is the first building one will see coming from Cambridge North Rail station when travelling north and out of the Mobility Hub (S5).

Its distinctive triangular shape with rounded nose provides a landmark anchor at the junction of Station Row and Milton Avenue. It also defines this important corner with a well-designed public realm landscape that encourages activity and interaction. Please refer to the 'Landscape and Open Space' document by Robert Myers for further information on the "Piazza".

On the Northern end of building S8, a scooped elevation that concaves inwards toward the entrance foyer is framing Chesterton Square and complements the geometry of building S9 opposite. All building corners are rounded so the overall architectural language of this building is of a fluid geometry, further enhanced by the facade design.

Legend:

- Main FOH entrance on Chesterton Square
- Cycle entrance
- BOH entrance

Diagram illustrating scale rationale

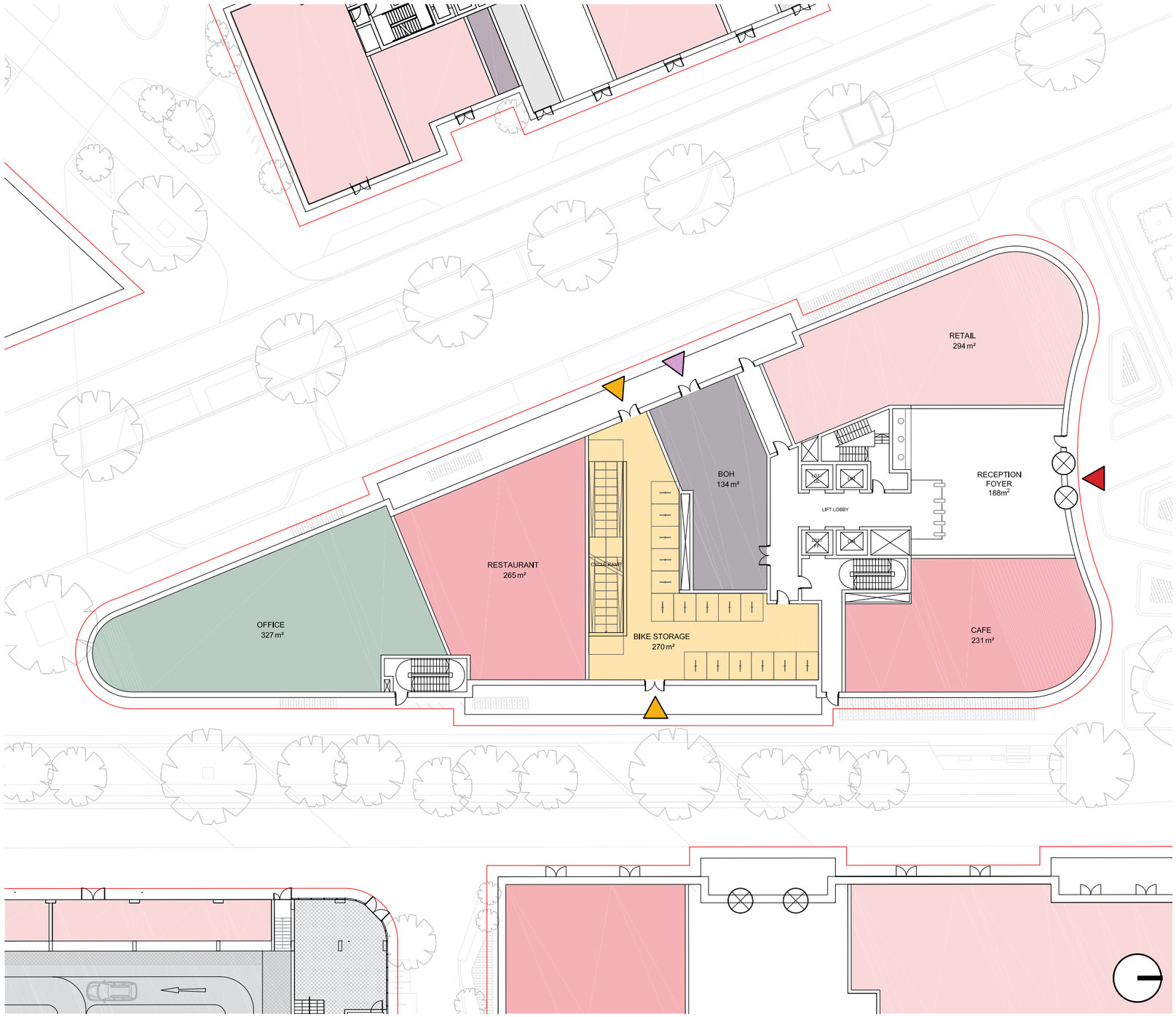
TWO MILTON AVENUE (S8)
GROUND FLOOR

ILLUSTRATIVE GENERAL ARRANGEMENTS

The main entrance of the building is located on the Northern end from Chesterton Square, with its entrance foyer flanked by retail and F&B units. This creates a lively entrance foyer that can have both of these units spill out into the foyer whilst providing active frontages towards the public realm.

The cycle storage is located in the centre of the building with direct access into the lift lobby. A cycle stair ramp leads to further cycle parking in the basement.

The Southern tip is envisaged to be an independent office tenant and its prominent ground floor presence will help activating the streetscape as well as creating a lively animation both internally and externally.



Legend:

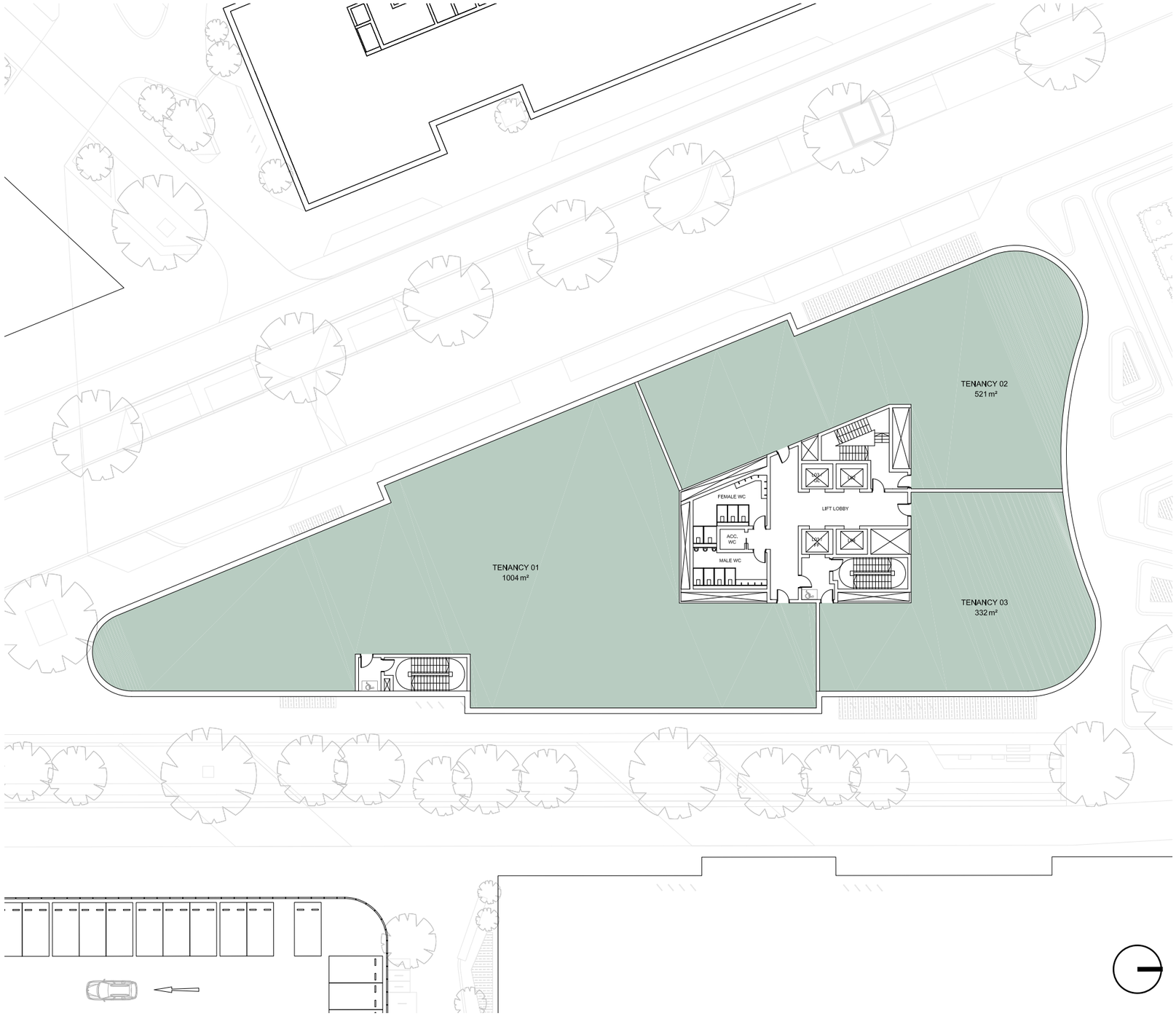
- Main FOH entrance
- Cycle entrance
- BOH entrance

Illustrative Ground floor plan

TWO MILTON AVENUE (S8)
TYPICAL FLOOR

ILLUSTRATIVE GENERAL ARRANGEMENTS

A typical floor in building S8 provides approximately 1,850m² NIA of office space. This floor plate can easily be sub-divided into up to three separate tenancies, each with its dedicated access from the central lift lobby and two means of escapes.



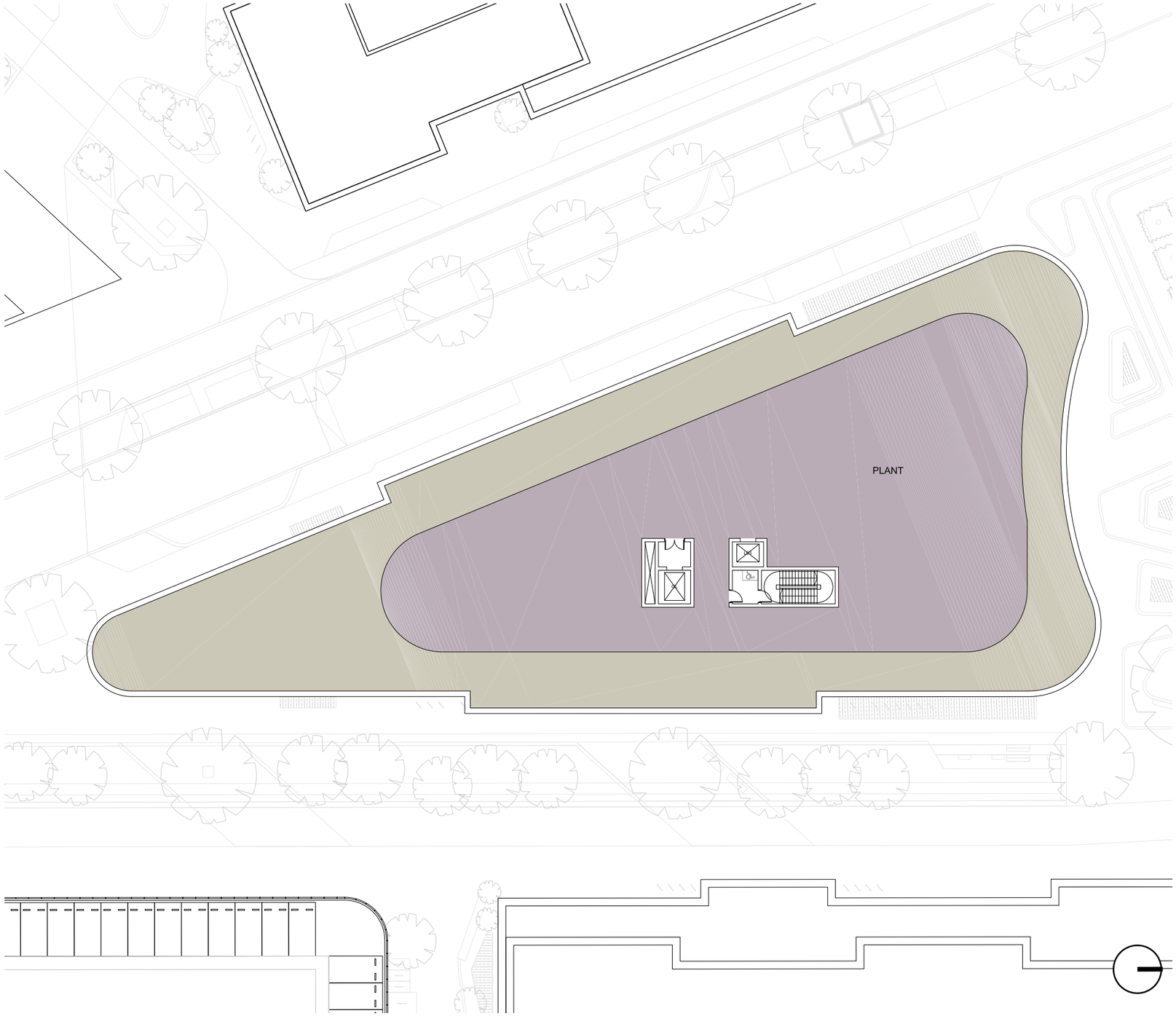
Illustrative Typical floor plan

TWO MILTON AVENUE (S8)
ROOF

ILLUSTRATIVE GENERAL ARRANGEMENTS

The roof at level five consists of a plant area surrounded by a plant screen at 3.8m - 4.5m in height. A minimum setback of 4m between the building edge and plant screen is required in order to minimise visual impact from street level.

It is envisaged that the plant screen will consist of a corrugated metal panel system with finishes that complement the facade.



Illustrative Roof plan

TWO MILTON AVENUE (S8)
BASEMENT

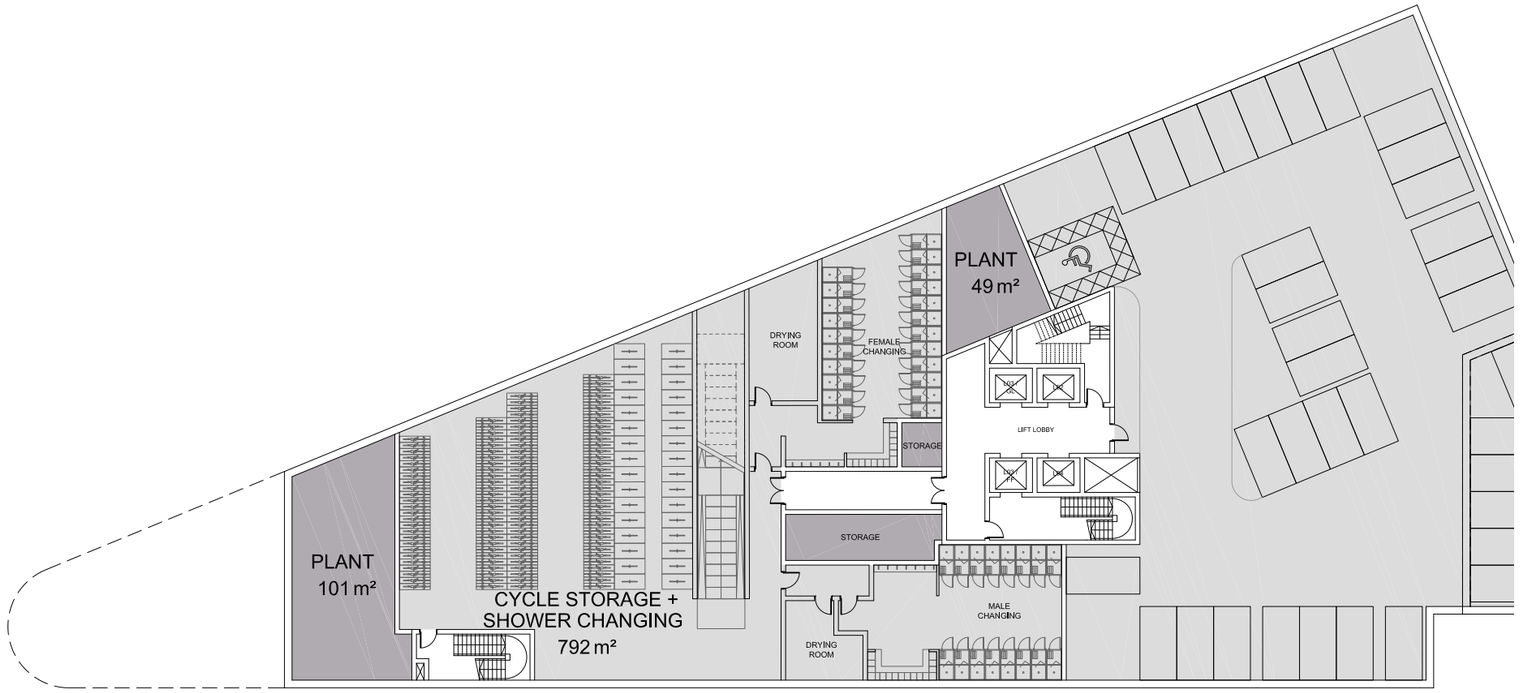
ILLUSTRATIVE GENERAL ARRANGEMENTS

The basement for building S8 is a continuation of the S9 basement as part of the Phase 02 and final build for the triangle site.

An additional 31 car parking bays will be provided in this section of the basement with two-way aisles. One blue badge parking space will be provided at Basement level with direct access to the S8 central core.

Cycle storage will consist of 64 spaces with regular Sheffield stands and 240 spaces with double-stacked racks - providing a total of 340 cycle parking spaces in the basement.

The cycle parking facility includes male and female showers as well as changing rooms with their dedicated drying room, and direct access to the lift lobby.



Illustrative Basement plan

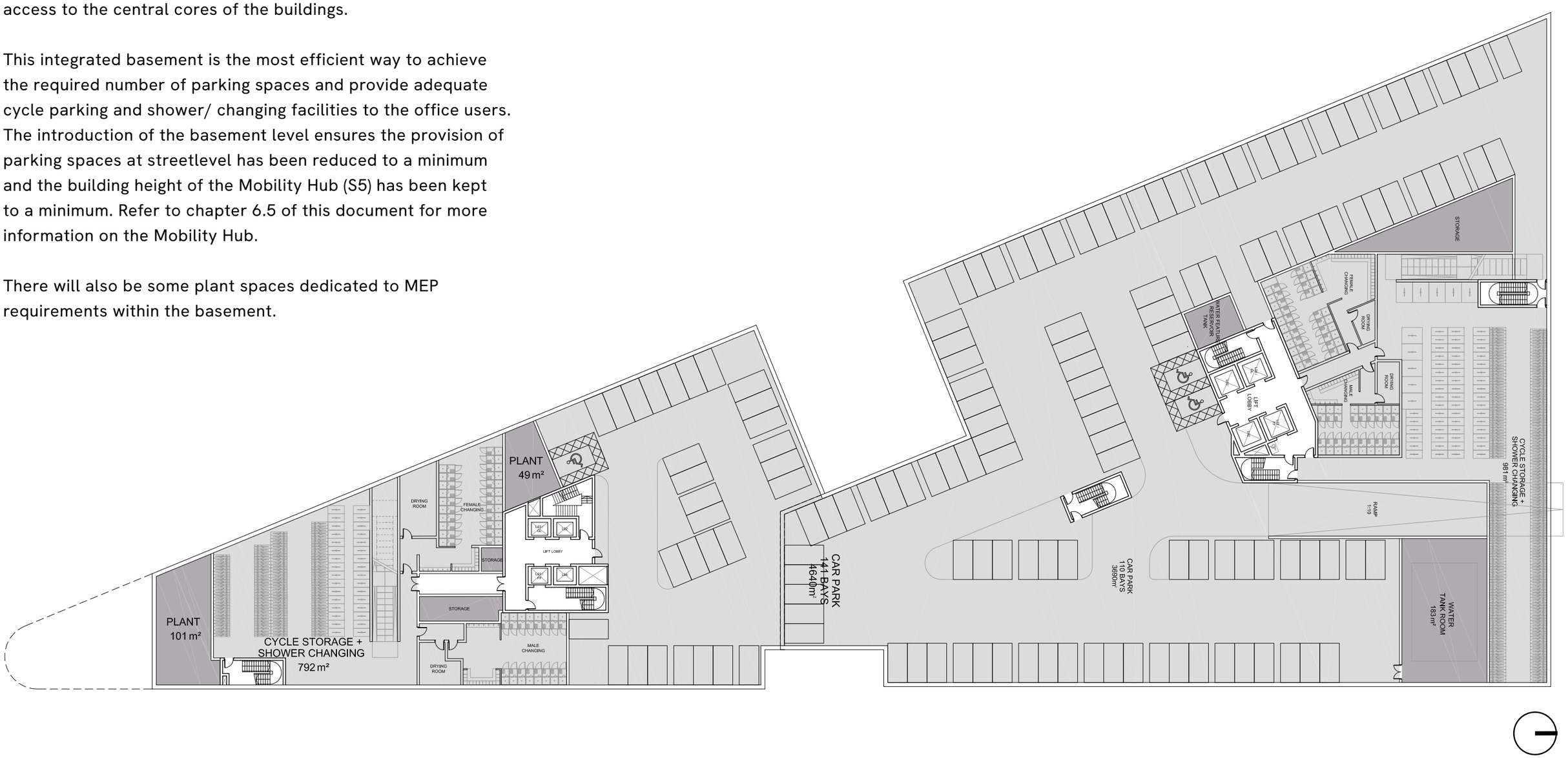
TWO MILTON AVENUE (S8)
OVERALL BASEMENT

ILLUSTRATIVE GENERAL ARRANGEMENTS

The combined basement for S8 & S9 provides up to 141 car parking spaces and 850 cycle spaces in total. Three blue badge parking spaces will be provided at basement level with direct access to the central cores of the buildings.

This integrated basement is the most efficient way to achieve the required number of parking spaces and provide adequate cycle parking and shower/ changing facilities to the office users. The introduction of the basement level ensures the provision of parking spaces at streetlevel has been reduced to a minimum and the building height of the Mobility Hub (S5) has been kept to a minimum. Refer to chapter 6.5 of this document for more information on the Mobility Hub.

There will also be some plant spaces dedicated to MEP requirements within the basement.



Illustrative combined S8 & S9 basement

ILLUSTRATIVE VIEW

View looking north towards Two Milton Avenue

TWO MILTON AVENUE (S8)
SECTION

ILLUSTRATIVE BUILDING SECTION

Due to its intended use as an office building, the floor-to-floor height for S8 will be the same as the other proposed buildings in the development (S4). At ground floor level, the floor-to-floor height will be 4.5m, where-as the typical floors 01 - 04 will measure 3.9m.

At roof level we will have a minimum parapet along the edges. The roof plant height will be 3.8m.

The basement car park floor-to-floor height will be 3.6m to accommodate servicing and extra depth for the landscape planting on Chesterton Square.

Illustrative section of Two Milton Avenue

TWO MILTON AVENUE (S8)
MATERIALITY & ARTICULATION

GRC NEUTRAL PALETTE

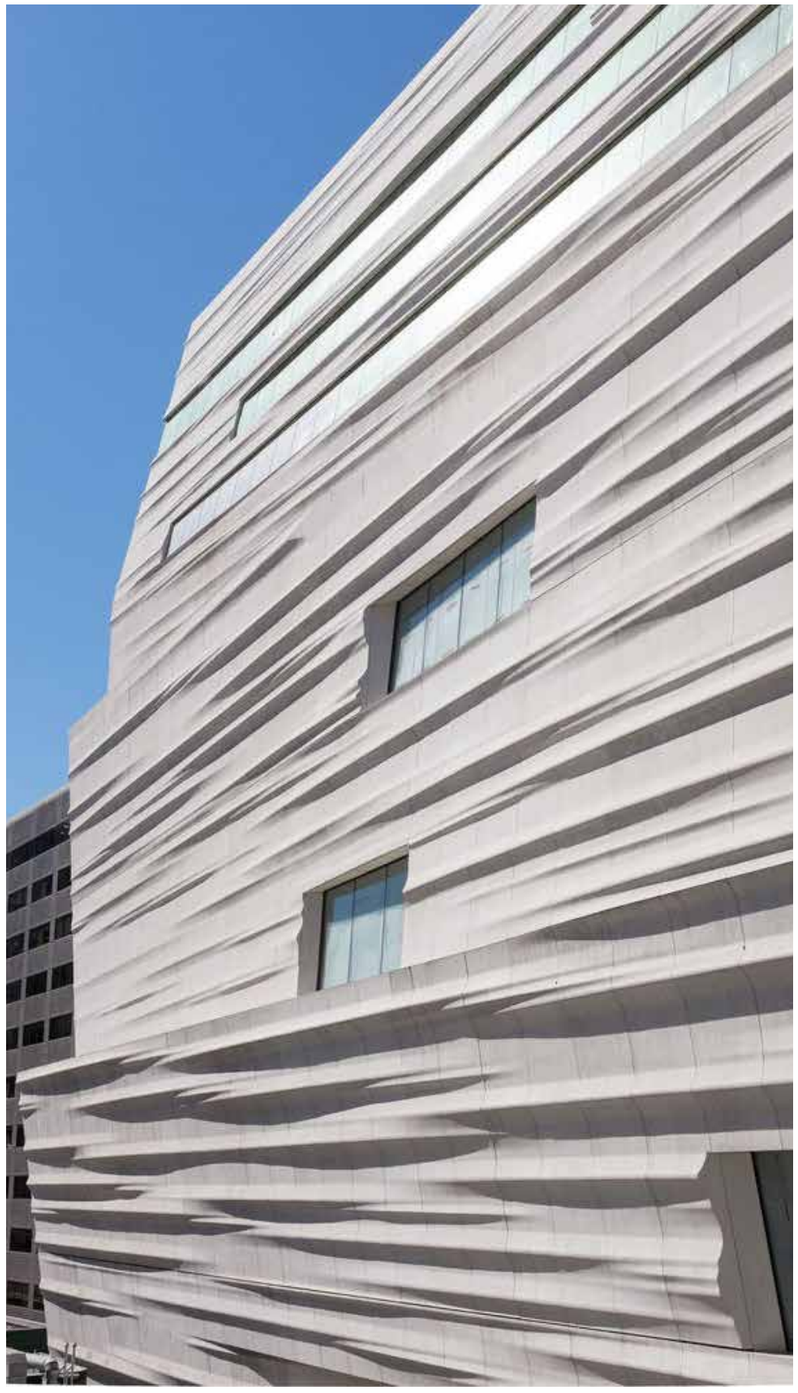
One of the materials proposed to be used in building S8 is GRC, similar to building S9 for its durability, quality and its versatility to achieve the required design intent.

The horizontal GRC fins run along the building facade, accentuating the curves and rounded nose of the building massing. The colour palette will be mainly neutral in the tone of white, grey or beige; in line with the traditional and contemporary Cambridge architectural language and materiality as set out in the design principles of this document.
GRC is a pre-cast facade material and this process is beneficial to the programme and quality can be better controlled off-site and assembled quickly on-site.

SCOOPED AND ROUNDED ARTICULATION

The rounded articulation of building S8 is important to make the building geometry less severe due to the triangular form. It also softens the building appearance which provides a welcomed contrast to the sharp geometry of building S9.

Horizontal running cladding, St. James' Market, London



GRC materiality for fluid geometry

ILLUSTRATIVE VIEW

View down Station Row looking north