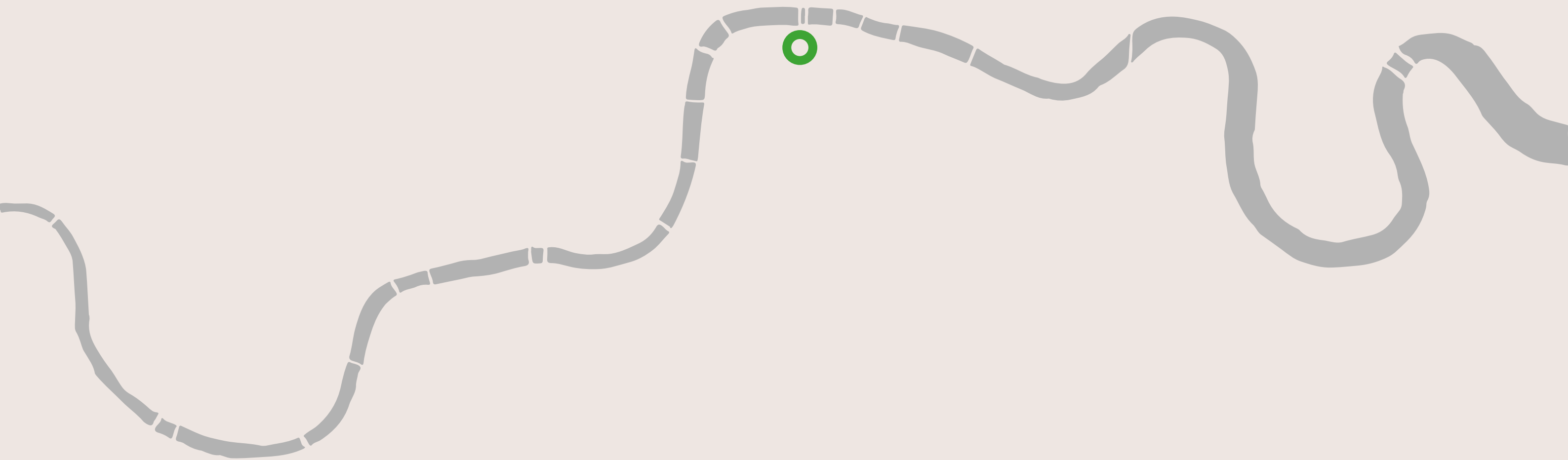




10.1 Townscape Analysis

10.1 Townscape Analysis
Cluster Evolution

The design of the Proposed Development has evolved to sit within and complement the emerging Blackfriars cluster, marking the entrance to Southwark and Blackfriars Bridge.

By studying the development of the Blackfriars Cluster over time, it is clear how an increasingly well-defined cluster is emerging with additional buildings helping to define the skyline over time. The design of the Proposed Development has been informed by analysis of the existing cluster, in order to arrive at design solutions that enhance the legibility of the cluster and support its relevance within the wider townscape of London.

The Blackfriars Cluster provides a well connected location for high rise density in central London; and this has been articulated by numerous schemes over the past decade. The Proposed Development supports the emergence of the Blackfriars cluster as a contemporary higher density, sustainable urban location for living and working, benefitting from excellent transport links.

2008



2018



Proposed



10.1 Townscape Analysis

Blue Bridge View, St James's Park

This 'Blue Bridge View' viewpoint from the footbridge across the lake in St James's Park is a designated Townscape View from LVMF Assessment Point 26A.1. One of many views which have been analysed related to the Proposed Development, the view is located in the Royal Parks Conservation Area, and St. James's Park is a grade I listed registered park and garden of special historic interest.

The bridge offers a view of the park's landscaping, originally modelled by architect John Nash, including the lake and surrounding trees and gardens. The park's natural landscape setting is framed by important historic civic buildings in this view, including Horse Guards, Whitehall Court, and the Foreign and Commonwealth Office. Behind these buildings, the more contemporary landmarks of the London Eye and Shell Centre are visible.

A number of additional buildings are visible in the distance from the Blue Bridge, but in summer the cover provided by nearby trees obscures many of these. The crown of the proposed 18 Blackfriars Road development is just visible above the tree tops.

- The massing, height, colour and design of the proposal has been developed in response to this viewpoint. Particular aspects of the scheme which respond to the guidance regarding this view include:
- Height of the Office Building and residential buildings.
 - Form and facade design of the top of the Office Building.
 - Heights of the 'shoulder' bustles.
 - Massing of the 'shoulder' bustles.
 - Design of the vertical slots.
 - Colour and material of the facade.

Refer to the Office Design chapter 6.1 for further information on the massing response to townscape views.

For further information, refer to the Townscape, Heritage and Visual Impact Assessment (THVIA).



Right:
Composite image showing the proposal from the centre of the Blue Bridge in summer.

The Blue Bridge View has been analysed during both summer and winter, and at different points along the bridge. During summer, the trees on Duck Island in the centre of the view obscure most of the Proposed Development whilst in winter, the trees heavily screen it.

The image on this page shows the proposal and consented schemes from the viewpoint towards the south of the Blue Bridge.

The top northern bustle has been designed to be lower than the cornice of the Foreign & Commonwealth Office Building. Refer to the Office Design chapter 6.1 for further information on the massing response to townscape views.

For further information, refer to the Townscape, Heritage and Visual Impact Assessment (THVIA).



Right:
Composite image showing the proposal from the south of the Blue Bridge in winter.

10.1 Townscape Analysis
Somerset House Main Entrance and North West Corner

Somerset House is grade I listed and lies within The Strand Conservation Area in the City of Westminster.

Somerset House was designed by Sir William Chambers and built between 1776-1801 to house government offices and several learned societies. It replaced a former house (of the same name) on this site.

The Proposed Development will not be visible from the majority of the courtyard. However, viewed from the far Northwest corner of the courtyard, a number of existing and proposed buildings rise slightly above the roof line, with only a small portion of the top of the Office Building visible. The images on these pages display the Main Entrance to the courtyard, and the Northwest corner.

An analysis of the area of the Northwest corner of the courtyard from which the Proposed Development will be visible is shown to the right, along with similar areas related to the South bank Tower and the consented scheme on the Site.

For further information, refer to the Townscape, Heritage and Visual Impact Assessment (THVIA).

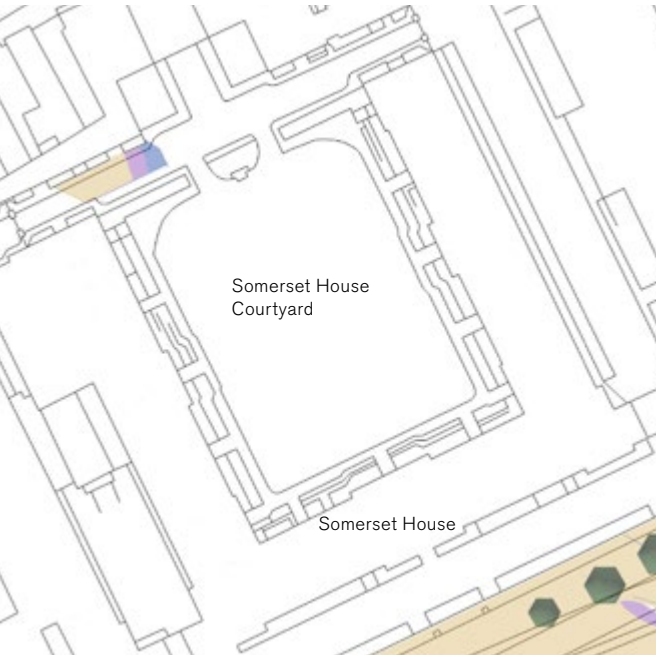


Right:
Composite image showing the view from the Main Entrance of the Somerset House courtyard. The proposal is not visible in this viewpoint.

An analysis of the area of the Northwest corner of the courtyard from which the Proposed Development will be visible is shown below, along with similar areas related to the Southbank Tower and the consented scheme on the Site.

The massing, height and design of the proposal has been shaped in response to viewpoints including this. In particular, the height of the top of building and top 'shoulder' bustles has been informed by an aim to limit the impact on this view.

For further information, refer to the Townscape, Heritage and Visual Impact Assessment (THVIA).



Legend: Plan diagram

■ Proposal

■ Consented Residential

■ South Bank Tower

Above:
Plan diagram showing the area in the Somerset House Courtyard from which the proposal, consented residential, and the South Bank Tower will be visible.

Right:
Composite image showing the proposal from the Northwest corner of the Somerset House Courtyard.



10.2 Facade Access and
Maintenance Strategy

10.2 Facade Access and Maintenance

Office Facade Access and Maintenance

The office tower facade access and maintenance strategy is to provide a safe and cost-effective means of servicing the facades, coordinated with the overall design and architecture of the building.

The strategy is split into two zones:

- Access from the top via Building Maintenance Unit (BMU)
- Access from sky garden terraces, via Mobile Elevating Work Platform (MEWP) and Monorail.

Access from the top

Access to the majority of the facades is obtained via two fixed position BMUs mounted at the roof level of the office tower. BMUs are a permanent access solution, which will be accessed via two fire enclosed ladders at roof level. The roof structure is required to be designed to an adequate level to support the BMUs whilst in operation.

The generous reach of the BMUs allow them to access all vertical facades of the Office Building which do not have oversailing volumes above. The BMU cradle drops through a zone which extends up to 1000mm - 1200mm from the facade exterior face.

Access from sky garden terraces

Facade access from the sky garden terraces covers two facade types: sky garden facades, which are recessed from the main facade line and as such inaccessible from the top of the building, and the NE low rise bustle facade, which is beneath an oversailing portion of the building.

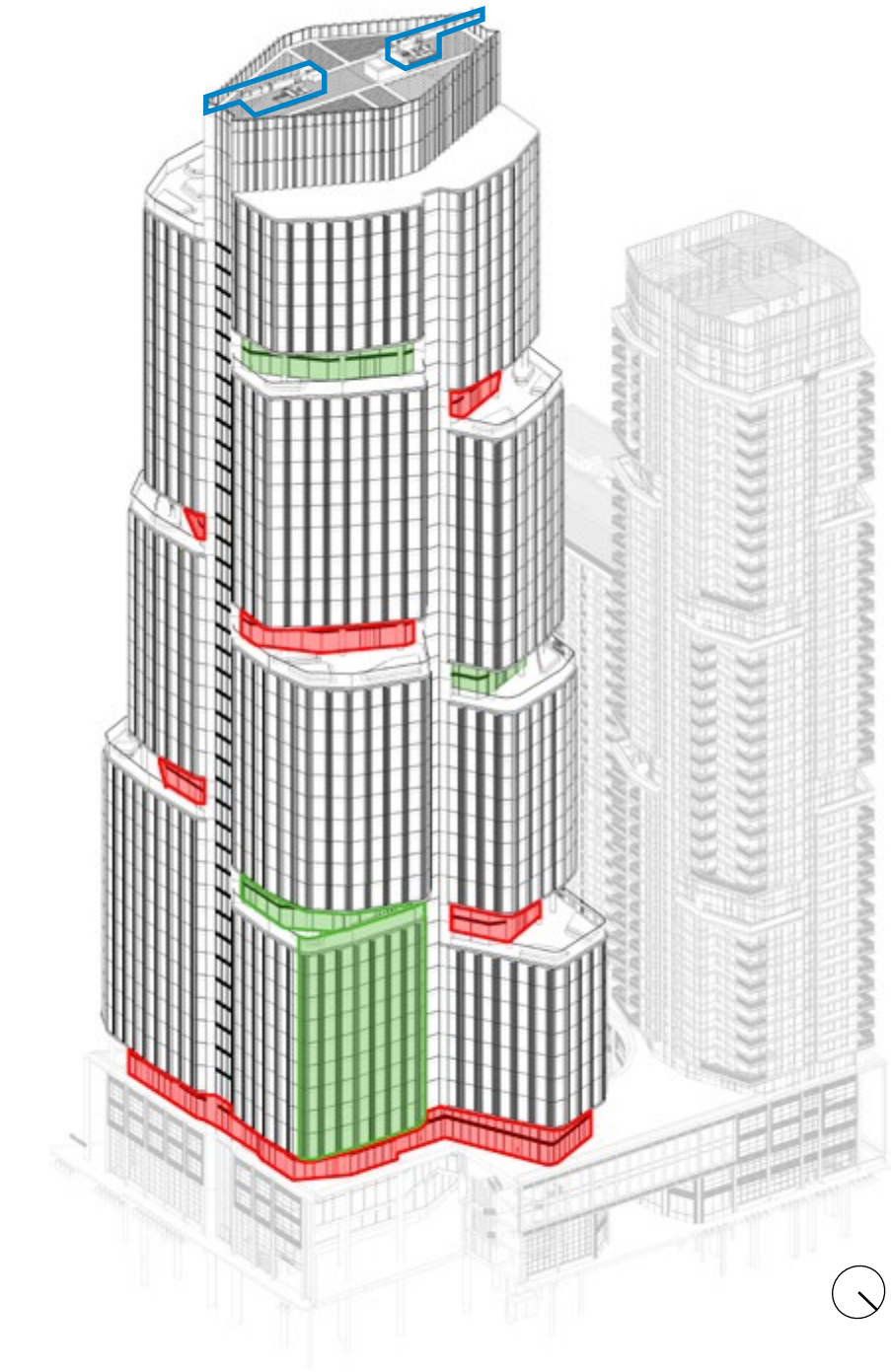
Depending on available space on the terraces, access to the sky garden facades is either by MEWP or Monorail. The NE low rise bustle facade access is by Monorail. To assist with the heavier operation of replacement of facade modules, anchoring points will be provided where required.

 **MEWP Access from sky garden terraces**

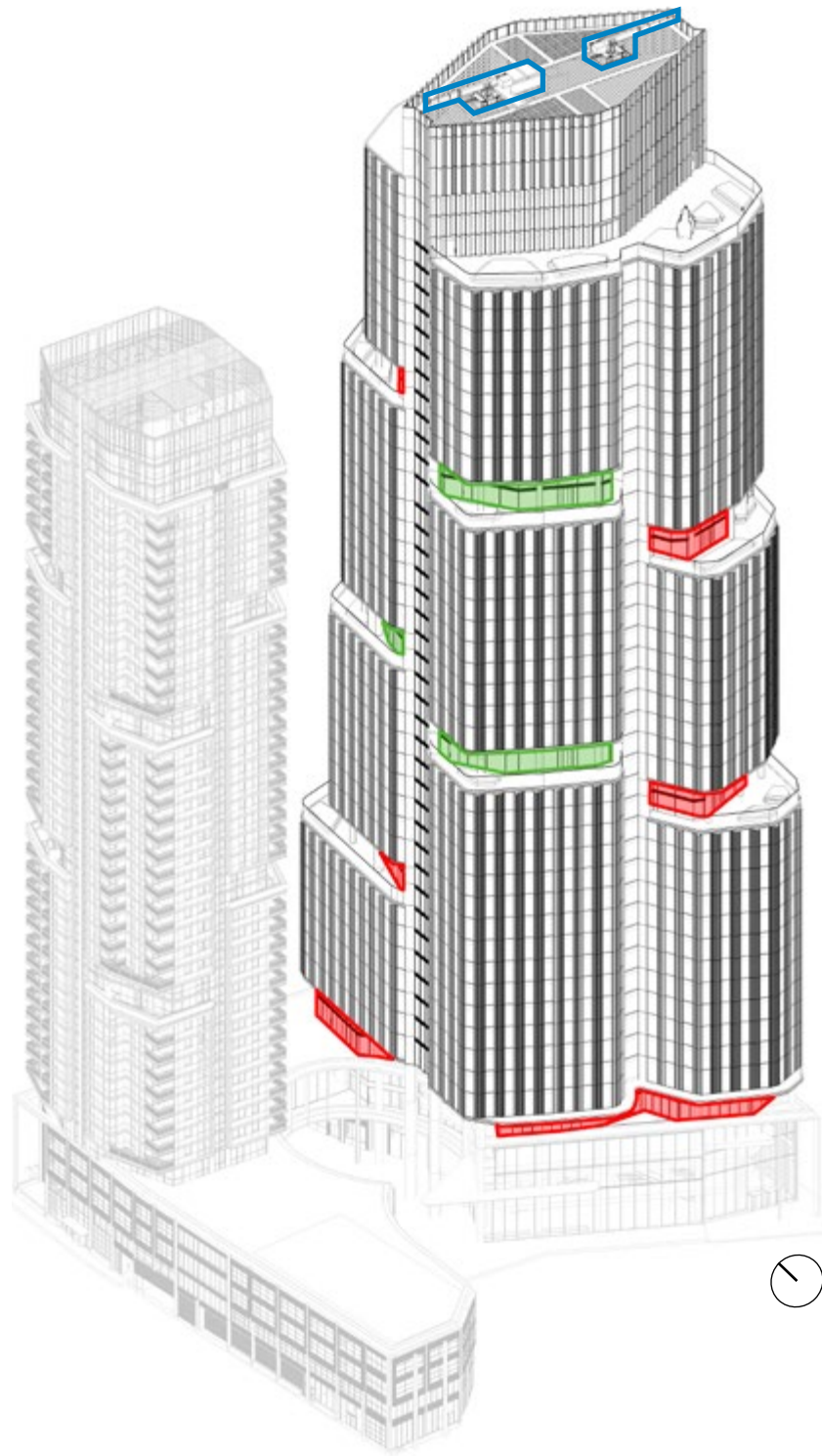
 **Monorail Access from sky garden terraces**

 **BMU Access from top**

 **BMU location at roof level**



Right:
Facade access strategy types: North East view (left) and South West view (right).



10.2 Facade Access and Maintenance

Office Facade Access and Maintenance

Cleaning cycles

A preliminary calculation of cleaning cycles has been undertaken to ascertain the approximate time taken to clean all office tower facades.

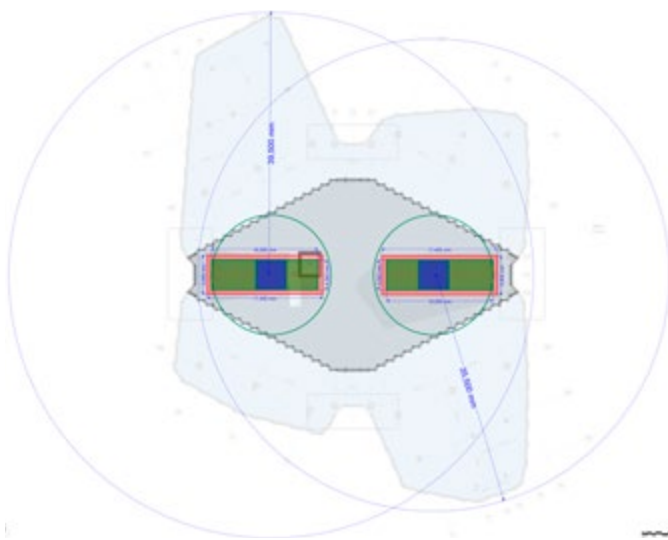
Based on two BMUs, cleaning areas of the facade accessible from the top of the building will take approximately 18-19 days. Estimating four cleaning cycles per year, the BMU cradle will be in operation for cleaning operations for approximately 72-76 days per year, or 20% of the year. Cleaning of facades accessible from the sky garden terraces is expected to take less time.

Facade replacement

The building envelope is characterized by a Closed Cavity Facade (CCF) system with an internal Double Glazed Unit (two layers of glass, DGU) and an external Single Glazed Unit (SGU) separated by an air cavity.

Replacement of the internal DGU has been considered and two strategies are possible: internal replacement (preferred) and external replacement. The chosen option will be developed in the next design stage.

BMU Access from Top



MEWP Access from sky garden terrace



Monorail Access from sky garden terrace

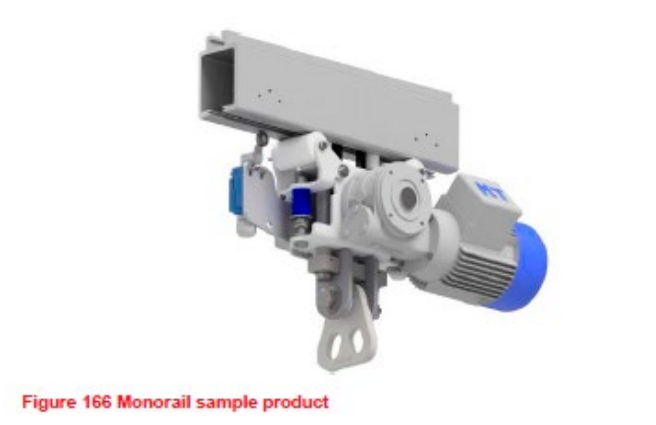
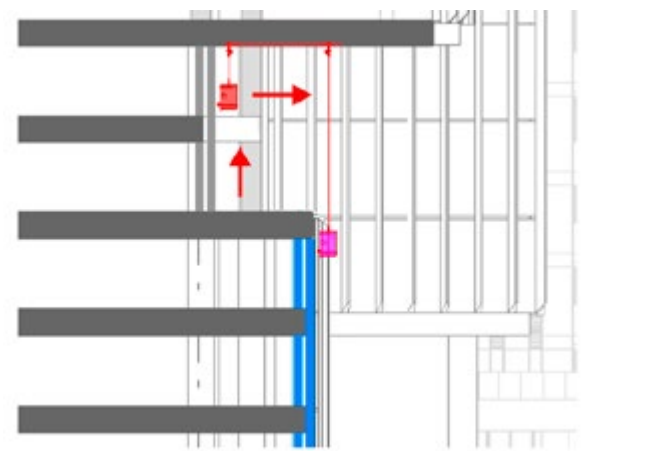


Figure 166 Monorail sample product



Right, clockwise from top left:
Fixed roof-mounted BMU; MEWP; Monorail access system; diagram of Monorail access to facade of NE low rise bustle from overhanging volume above; plan diagram of MEWP access zone for sky garden facade; plan diagram showing outreach of rooftop BMU. All images are indicative.

10.2 Facade Access and Maintenance

Residential Facade Access and Maintenance: Stamford Building

The access and maintenance strategy primarily relates to cleaning and facade maintenance. To ensure that this is safe and easy to carry out, a BMU (Building Maintenance Unit) is located at the top of the tower. The BMU has a telescopic structure to allow it to be stored within the building envelope so that it is not visible when not in use.

Due to the angled duplex level terraces there are some areas of the facade that are set back from the overall building outline and so a counterweighted BMU cradle is used. For cleaning purposes, the whole of the facade is accessible from the BMU but in some limited cases, facade maintenance may have to take place from a balcony or terrace. These two categories are:

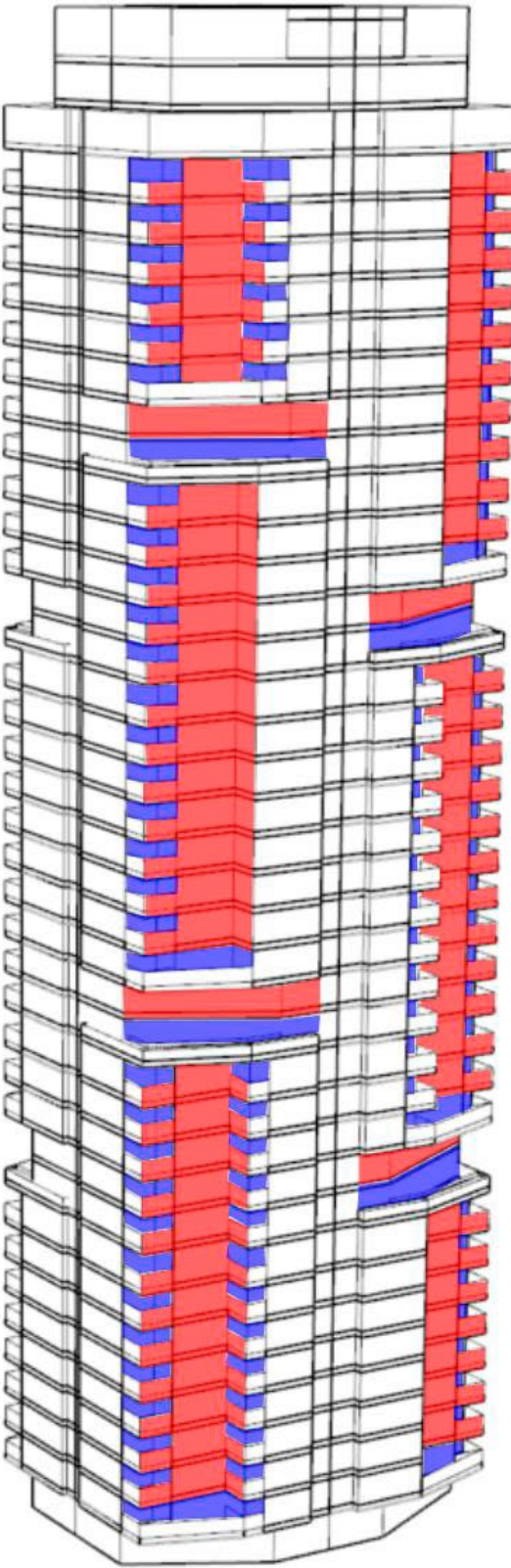
- Access from the top: Main façade of the building will be accessible from the top of the building by the BMU located on the rooftop (white, directly accessible, and red, accessible by extendible cradle)
- Access from the balconies: Balcony facades accessible directly from the balcony floor by users. Replacement parts supplied by BMU.

For further information and drawings refer to ARUP Access and Maintenance report.

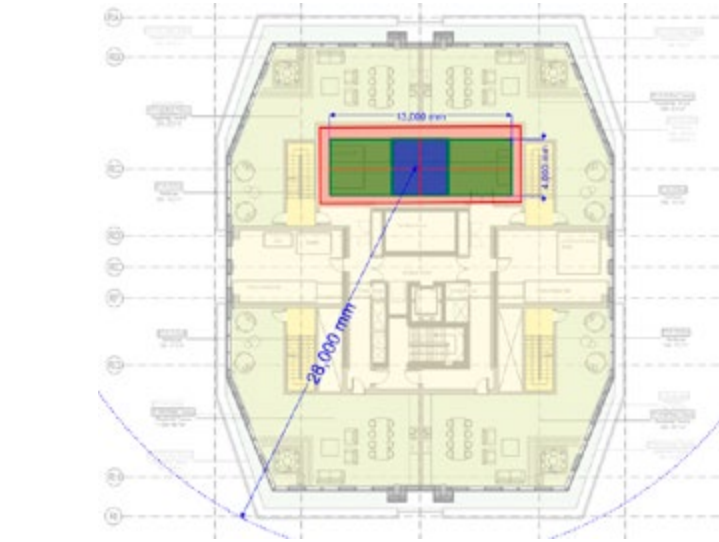
External planting on the tower is maintained from the BMU. Refer to the Landscape Chapter for further information regarding the integrated planting strategy.

- Directly accessible from BMU
- Access via counterweight cradle

Right: Facade Access Strategy Diagram



Top: Facade Access Strategy Plan
Middle: Indicative BMU
Bottom: Counterweighted Cradle for accessing set back facade areas



10.2 Facade Access and Maintenance

Residential Facade Access and Maintenance: Paris Building

In the Paris Building the BMU is parked centrally at a similar datum to the lift overrun. It provides access through two central rails allowing the BMU to access both ends of the building.

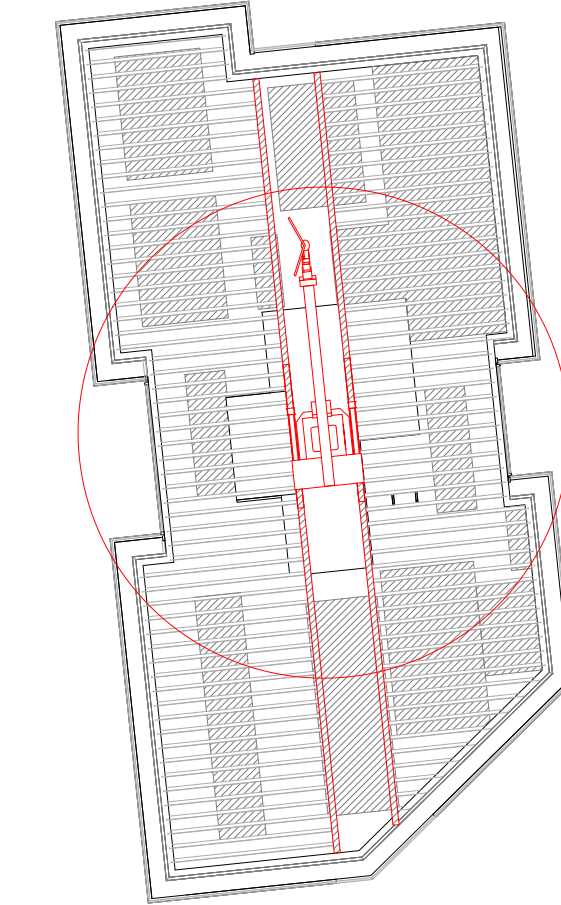
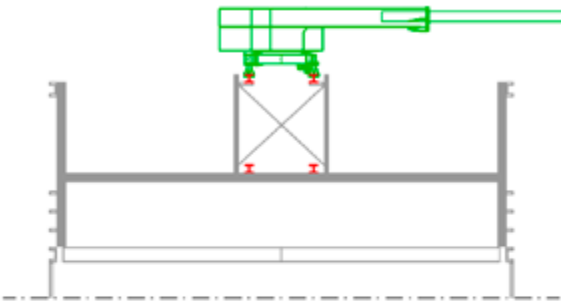
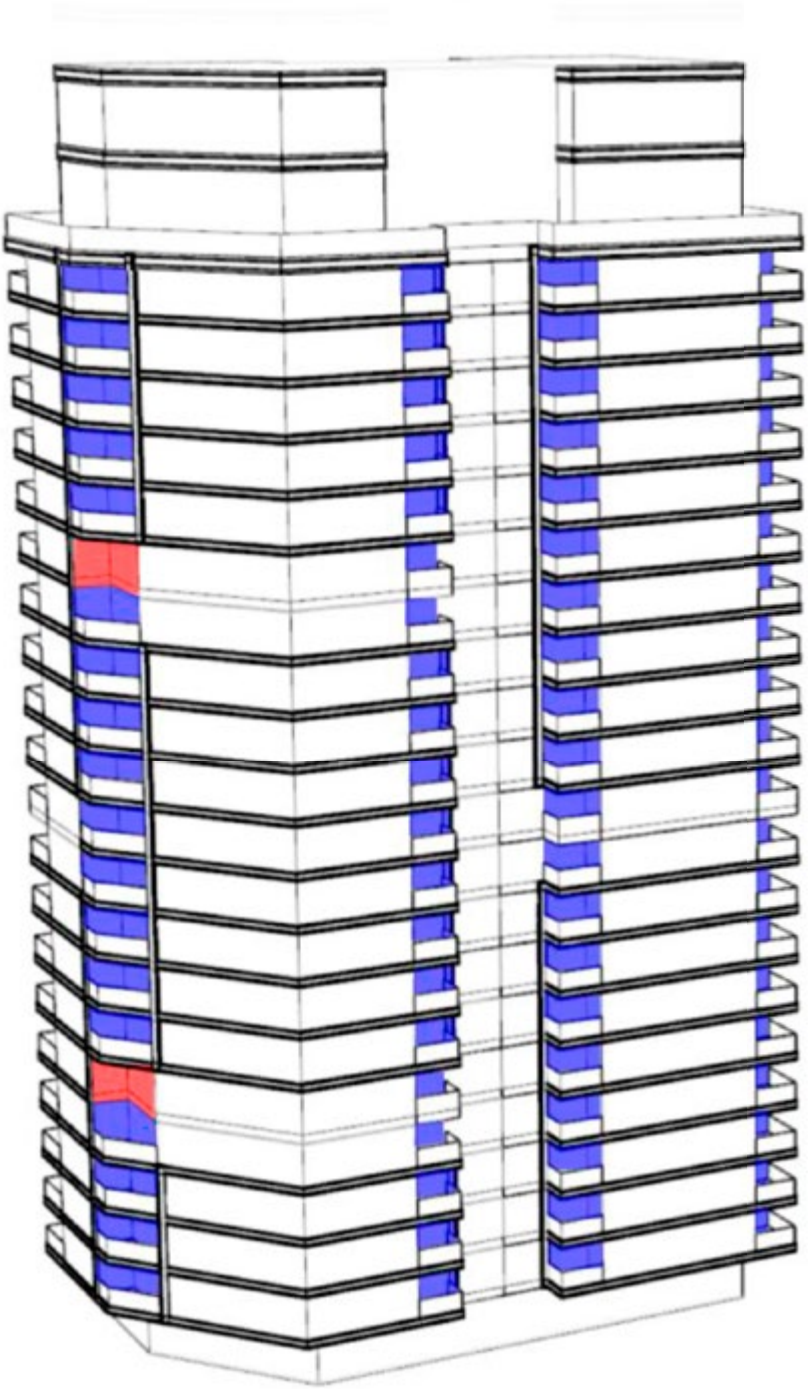
Certain areas of the facade, particularly the facade on the inside of balconies, is tricky to access from the BMU and as such the access and maintenance strategy is broadly split into two zones:

- Access from the top, Main façade of the building will be accessible from the top of the building by the fix equipment located on the rooftop (white, directly accessible).
- Access from the balconies, Balconies facades accessible directly from the balcony floor by users. Replacement from outside by fix equipment located on the rooftop and pull in operations (blue and red, accessible by extendible cleaning pole)

For further information and drawings refer to ARUP Access and Maintenance report.

- Accessible from BMU
- Accessible from balcony

Above: Facade Access Strategy Diagram



Top: Track BMU Indicative Section
Bottom: Facade Access Strategy Plan

10.3

Sustainability

10.3 Sustainability
Scheme overview

Lower Embodied Carbon
from current best practice



Embodied Carbon
Measuring and Monitoring
Throughout all design stages and construction



Target NABERS 5.5* Outcome
Energy Perfomance (Office)



CCF System (Offices)
Closed Cavity Facade for increased
solar shading and thermal performance



Dual Aspect Apartments
High Performance Facade (Triple glazed in Stamford Building)



Community Outreach
during construction
- Employment and Training
- Education engagement



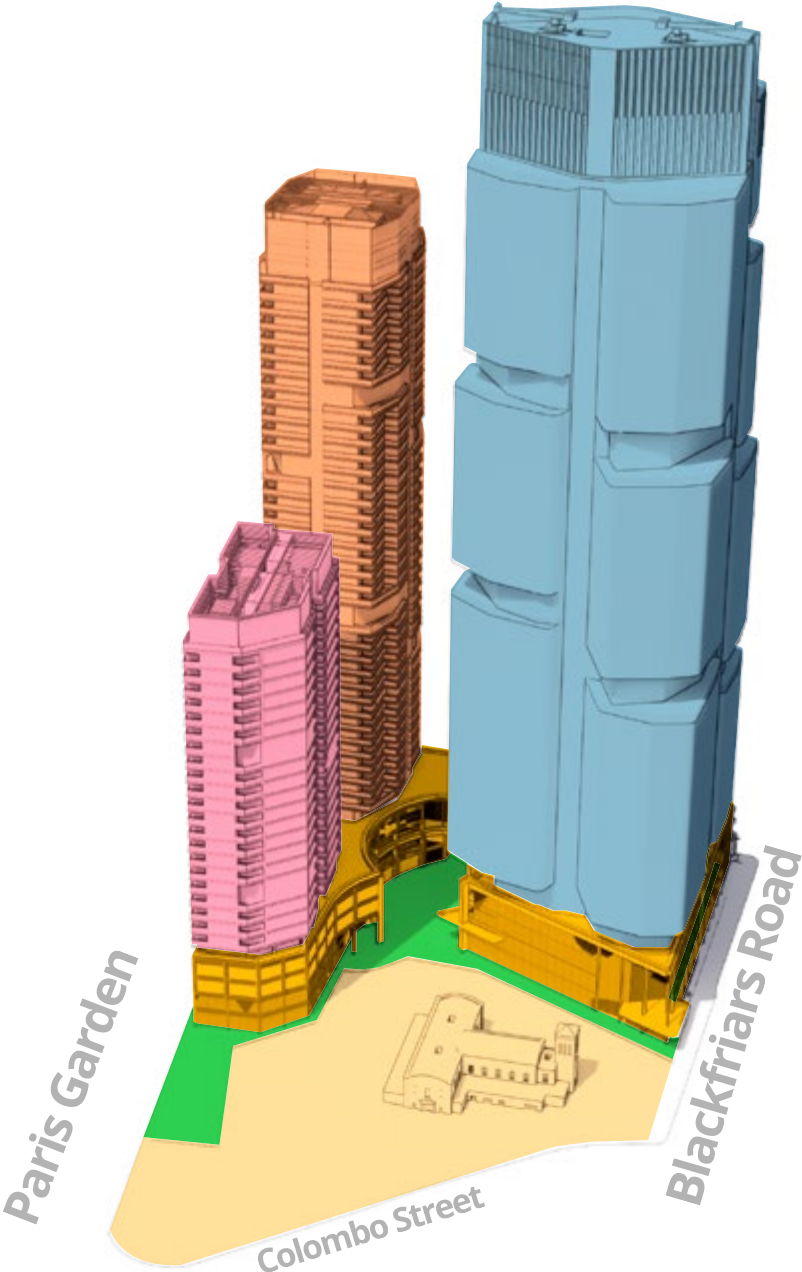
Social Value Strategy
Meets the local Community Needs
of existing building stock in the borough
- Community Facilities
- kids club
- play space



Ecological Enhancement
- Urban Green Factor (UGF) minimum 0.35
- Biodiversity Net Gain (BNG) minimum 10%



Over 3,500 bicycle spaces
for residents/employees/visitors



Refurbishment of the Existing Grade II listed Mad Hatter /1 Stamford St.

Recycled water
Wastewater treatment to reduce demand on local water infrastructure

All - Electric
Energy sharing between uses

Ground Source Energy
provides a year-around stable source of heat

Minimal Transfer Structure
SRC columns in the office - lower embodied carbon compared with the conventioanl steel option

Simple Construction
Flat slab for basement
Reduce Excavation depth and facilitate services distribution

Lean Floor Sandwich
Carbon Savings post tenttion flat slab in Residential Buildings

10.4

MEP Strategy

10.4 MEP Strategy

Key Conclusions

This page gives an overview of the key MEP (Mechanical, Electrical and Plumbing) strategies adopted in this proposal.

Mechanical Services

Key aspects of the Mechanical Services design include:

- Integrating a combined sitewide heat network that uses heat recovery, thermal storage and ground source heat pumps to provide a large proportion of the building heat demand from waste heat and ground energy.
- Development of an ultra-lean embodied carbon office servicing strategy with no high-level mechanical services and no tenant heating pipework.
- Agreement of basement and podium ventilation strategy with Building Control and Southwark EHO, avoiding the need to introduce high-level exhaust for retail units through commercial or residential towers.
- Coordination of residential façade performance to achieve technical requirements of acoustics, overheating, ventilation, daylight, sunlight and thermal loss, and presentation of proposed scheme to LB Southwark.
- The mechanical services are designed with lean riser distribution to maximise area efficiency, and to minimise basement servicing to avoid expensive and carbon heavy excavation.
- Designing out complexity using simple systems with common philosophy will simplify maintenance and therefore improve operation and longevity.
- The mechanical services are designed to allow flexibility between a range of ownership and operational models for internal tenants, as well as for whole buildings.

Electrical Services

Key aspects of the Electrical Services design, incorporating the all-electric strategy, include:

- 18 Blackfriars is an all-electric scheme for heating and cooling to provide a pathway towards a net-zero development.
- The demand for the site is met through a range of sources, that can be dynamically balanced to provide the most efficient source of heating or cooling.

- To reduce embodied and operational carbon, the team have prepared a proposal providing the justification for use of a secondary utility supply in lieu of on-site diesel generators for life safety and business continuity.
- A number of aspects of the electrical distribution infrastructure have been rationalised leading to simplified UKPN installation; reduced number of private substations; and supply and operation of BNO circuit transformers by UKPN rather than the landlord.

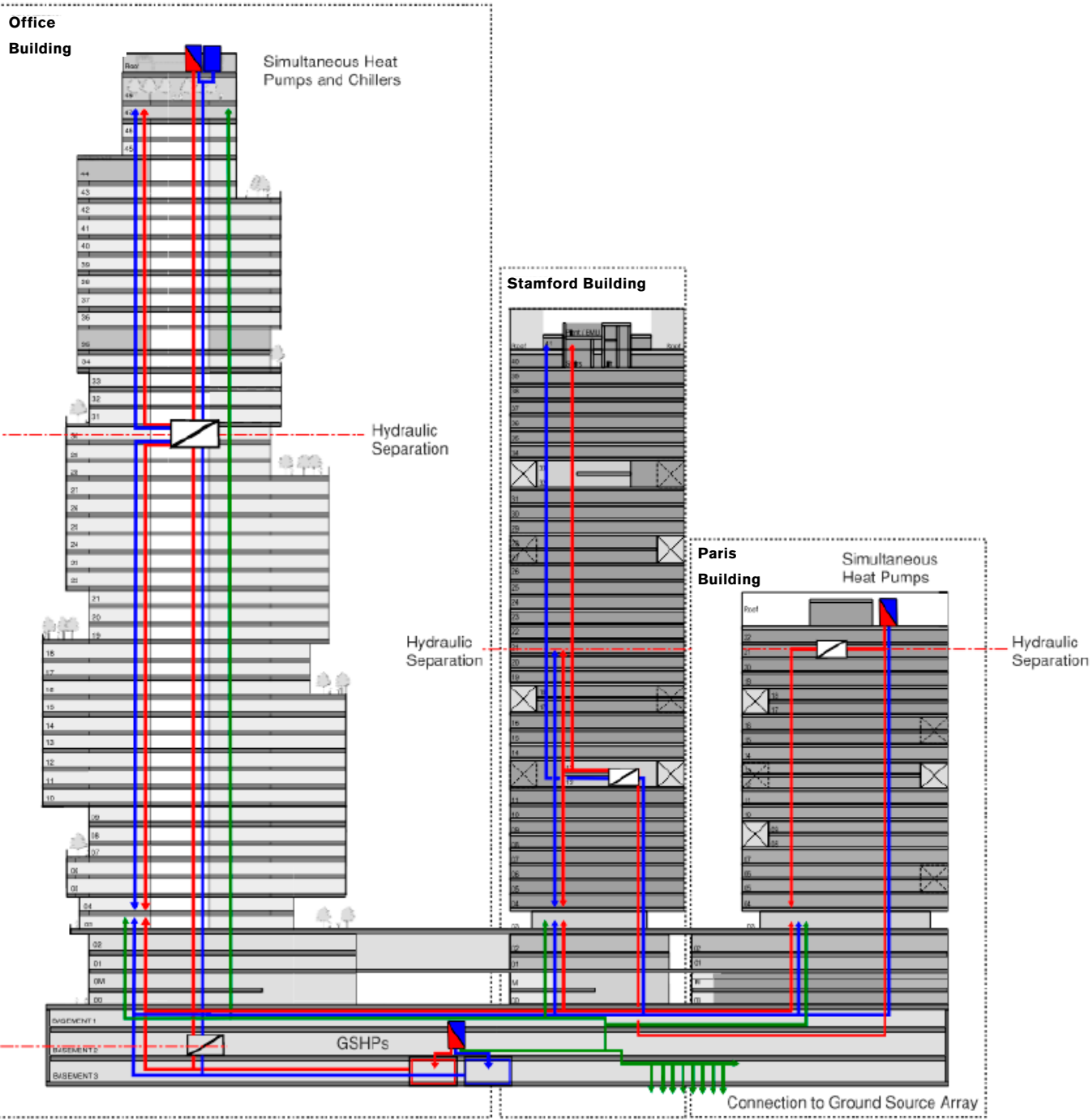
Plumbing and Public Health

Key aspects of Plumbing and Public Health design includes:

- Reduced clean water demand on the local Thames Water infrastructure by capturing waste water from all the baths and showers from both the residential apartments and changing room facilities in the basement area as well as rainwater from all the roofs and balconies/terraces.
- The treated greywater is anticipated to offset a large proportion of the WC flushing demand in the office tower.
- Potable water storage will be located within the basement.
- A combination of centralised hot water services and local water heaters will be used.
- Irrigation systems will provide water for planting across the scheme; largely to be fed by greywater reuse.

General: Resilience and adaptability

- Adequate and secure supplies are required to each building. Infrastructure will be set up to minimise / eliminate single points of failure and access, maintenance and replacement strategies will be robust to ensure continuous operation.



Heat network diagram

The site wide heat network proposals form part of the overall MEP Strategy

10.5 Residential Unit Mix

10.5 Residential Unit Mix

Summary

These pages summarise the unit mix proposed for the residential buildings: Stamford Building (Open Market) and Paris Building (Affordable).

The unit mix has been developed in consultation with stakeholders and aim to meet identified local needs. Units include Studios, 1 Bed Apartments, 2 Bed Apartments, 3 Bed Apartments, Duplex and Triplex Apartments, and two types of Accessible Apartments.

Stamford and Paris Summary

Tenure	Apt Total	HR				% Provision	Target		% Provision	Target
Open Market	273	858				59.5%	59.54%	60%		
Affordable (Social Rent)	104	380				26.4%	40.46%	40%	65.2%	62.5% (of 40%)
Affordable (Intermediate)	56	203				14.1%			34.8%	37.5% (of 40%)
TOTAL	433	1441				100%	100%	100%	100%	

Tenure	Apartment Type	No. Bedrooms	Person	Apt No.	Percentage	HR				
	Studio	0		19	4%	30				
	1 Bed Flat	1		136	31%	276				
	2 Bed Flat	2		174	40%	585				
	3 Bed Flat	3		94	22%	470				
	Duplex	3		6	1%	40				
	Triplex	4		4	1%	40				
TOTAL				433	100%	1441				

10.5 Residential Unit Mix

Summary

Stamford Building

Tenure	Apartment Type	No. Bedrooms	Type	Apt Total (per type)	People	Apt Total	Percentage	HR
Open Market	Studio	0	ST_Studio Type 01	8	38	19	7.0%	30
			ST_Studio Type 02	11				
			ST_1B2 Type 01	13				
Open Market	1 Bed Flat	1	ST_1B2 Type 02	11	172	96	35%	192
			ST_1B2 Type 03	16				
			ST_1B2 Type 04	12				
			ST_1B2 Type 05	16				
			ST_1B2 Type 06	2				
			ST_1B2 Type 07	14				
			ST_1B2 Type 08	2				
			ST_1B2 M4(3) Type 01	10				
Open Market	1 Bed Flat M4(3)	1	ST_2B3 Type 01	8	344	98	35.9%	306
Open Market	2 Bed Flat	2	ST_2B4 Type 01	11				
			ST_2B4 Type 02	27				
			ST_2B4 Type 03	27				
			ST_2B4 Type 04	13				
			ST_2B4 Type 05	1				
			ST_2B4 Type 06	1				
			ST_2B3 M4(3) Type 01	10				
Open Market	3 Bed Flat	3	ST_3B6 Type 01	10	264	50	18.3%	250
			ST_3B6 Type 02	0				
			ST_3B6 Type 03	14				
			ST_3B6 Type 04	14				
			ST_3B6 Type 05	6				
			ST_3B4 M4(3) Type 01	6				
Open Market	Duplex	3	ST_Duplex Type 01	2	36	6	2.2%	40
			ST_Duplex Type 02	2				
			ST_Duplex Type 03	2				
Open Market	Triplex	4	ST_Triplex Type 01	4	32	4	1.5%	40
OPEN MARKET TOTAL				273	960	273	100.0%	858

Paris Building

Tenure	Apartment Type	No. Bedrooms	Type	Quantity (per type)	People	Apt Total	Percentage	HR
Affordable (Social Rent)	1 Bed Flat Social Rent	1	PA_1B2 Type 01	26	52	29	27.9%	61
Affordable (Social Rent)	1 Bed Flat M4(3) Social Rent	1	PA_1B2 M4(3) Type 01	3	6			
Affordable (Social Rent)	2 Bed Flat Social Rent	2	PA_2B3 Type 01	10	143	43	41.3%	159
			PA_2B3 Type 02	3				
			PA_2B4 Type 01	13				
			PA_2B4 Type 02	13				
			PA_2B4 M4(3) Type 01	3				
Affordable (Social Rent)	2 Bed Flat M4(3) Social Rent	2	PA_2B4 M4(3) Type 02	1	16	32	30.8%	160
			PA_3B4 Type 01	10				
			PA_3B5 Type 01	10				
Affordable (Social Rent)	3 Bed Flat Social Rent	3	PA_3B5 Type 02	9	135	44	27.5%	220
			PA_3B5 Type 02	3				
Affordable (Social Rent)	3 Bed Flat M4(3) Social Rent	3	PA_3B4 M4(3) Type 01	3	12			
SOCIAL RENT TOTAL				104	364	104	100.0%	380

Tenure	Apartment Type	No. Bedrooms	Type	Quantity (per type)	People	Apt Total	Percentage	HR
Affordable (Intermediate)	1 Bed Flat Intermediate	1	PA_1B2 Type 01_INT	10	20	11	19.6%	23
Affordable (Intermediate)	1 Bed Flat M4(3) Intermediate	1	PA_1B2 M4(3) Type 01_INT	1	2			
Affordable (Intermediate)	2 Bed Flat Intermediate	2	PA_2B3 Type 01_INT	7	104	33	58.9%	120
			PA_2B3 Type 02_INT	1				
			PA_2B3 Type 03_INT	4				
			PA_2B4 Type 01_INT	7				
			PA_2B4 Type 02_INT	6				
			PA_2B4 Type 03_INT	4				
Affordable (Intermediate)	2 Bed Flat M4(3) Intermediate	2	PA_2B4 M4(3) Type 01_INT	1	16	12	21.4%	60
			PA_2B4 M4(3) Type 02_INT	3				
Affordable (Intermediate)	3 Bed Flat Intermediate	3	PA_3B4 Type 01_INT	5	50	44	27.5%	220
			PA_3B5 Type 01_INT	2				
			PA_3B5 Type 02_INT	4				
Affordable (Intermediate)	3 Bed Flat M4(3) Intermediate	3	PA_3B4 M4(3) Type 01_INT	1	4			
INTERMEDIATE TOTAL				56	196	56	100.0%	203

OVERALL PARIS SUMMARY

Tenure	Apartment Type	No. Bedrooms	Type	Quantity (per type)	People	Apt Total	Percentage	HR
Affordable	1 Bed Flat	1	PA_1B2 Type 01	36	72	40	25.0%	84
Affordable	1 Bed Flat M4(3)	1	PA_1B2 M4(3) Type 01	4	8			
Affordable	2 Bed Flat	2	PA_2B3 Type 01	17	247	76	47.5%	279
			PA_2B3 Type 02	4				
			PA_2B3 Type 03	4				
			PA_2B4 Type 01	20				
			PA_2B4 Type 02	19				
			PA_2B4 Type 03	4				
			PA_2B4 M4(3) Type 01	4				
Affordable	2 Bed Flat M4(3)	2	PA_2B4 M4(3) Type 02	4	32	44	27.5%	220
Affordable	3 Bed Flat	3	PA_3B4 Type 01	15	185			
			PA_3B5 Type 01	12				
			PA_3B5 Type 02	13				
Affordable	3 Bed Flat M4(3)	3	PA_3B4 M4(3) Type 01	4	16	160	100.0%	583
AFFORDABLE TOTAL				160	560			

