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WASTE & SERVICING STRATEGY ADDENDUM

Salboy Central Ltd

Viadux Phase 2 Minor Material Amendment

April 2022

VN201568

Waste & Servicing Strategy Addendum

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Report control

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Contents

1 INTRODUCTION 1

Development Proposals 2

2 HIGHWAY PROPOSALS 3

Overview 3

Ground Floor Layout 3

3 Travel Plan 6

4 SUMMARY AND CONCLUSION 8

Summary 8

Plans

Dwg 10053-B3-A-B5D9-G200-P-00-001 ..... Viadux Phase 2 Ground Floor Layout
Dwg 2840-PLA-XX-00-DR-L-0001 ..... Public Realm Proposals

Appendices

Appendix A ..... Planning Amendments
Appendix B ..... Public Realm Amendments
Appendix C ..... TRICS Service Vehicle Forecasts
Appendix D ..... Waste Pro-Forma

1 INTRODUCTION

1.1 Vectos have been commissioned by Salboy Central Ltd to produce an Addendum to the Viadux Waste & Servicing Strategy to support a Minor Material Amendment (MMA) application for Phase 2 of Viadux, Manchester, M2 5QA on the Former Bauer Millet Site. The scheme was approved by the LPA on 27 July 2017 (115871/FO/2017), amended by S106 application (126868/JO/2020) and the drop in application (127260/ FO/2020) with a Section 19 application to amend the LBC (127365/ LO/2020).

1.2 The scheme currently being built out is covered by planning permissions 126868/JO/2020 (main consent), 127260/FO/2020 (drop-in consent for new staircase arrangement) and Listed Building Consent 129168/JO/2021.

1.3 That application was supported by a Waste & Servicing Strategy Technical Note which provided an update to the original Waste & Servicing Strategy Report (application 115871/FO/2017). This Addendum to the original report updates the position in relation to waste management and servicing.

Development Description

1.4 The consented description of development was described as:

Erection of a 40 storey building to form 375 residential apartments |(Use Class C3a) and the erection of a 14 storey building to form offices (Use Class B1) (31,756 sqm) together with ground floor commercial space (Use Class A1, A3 or A4) (1,010sqm) with associated enclosed service yard, public realm including stair case and lift to connect with viaduct, car parking, landscaping and other associated works.

1.5 The location of the development site is shown by the red star in **Figure 1.1**.

Figure 1.1: Site Location

Development Proposals

1.6 The list of Planning Amendments is given in **Appendix A.** In summary, these relate changes to:

- Changes to the office core and goods lift.
- The main servicing of the office has been moved to Trafford Street from Level 01 and refuse store relocated.
- The lay by to Albion Street has been omitted and the full pavement width restored improving the pedestrian environment. (Lounge bar / coffee shop servicing remains from the loading area on Great Bridgewater Street.)
- The substations have also been relocated from Level 01 Man Central service yard to ground floor with direct access from the service road to Albion Street.
- The Retail units have changed and now include external seating underneath the tram bridge.
- The pavilion building upper office floors and core have been omitted to provide a triple height entrance foyer and sense of arrival.
- The office entrance has been moved further down Albion Street to remove internal level changes and increase the headroom available underneath the tram bridge.
- The reception desk has been relocated underneath the encapsulation with improved visibility of the lift lobby, entrance foyer and coffee shop.
- The office cycle store, changing facilities, plant have been reconfigured to enable the cycles to be positioned within the historic arches and plant under the Metrolink bridge.
- Access to the cycle store is gained from Albion Street with changes to the façade.
- The tram has been encapsulated with a precast concrete tunnel.
- Office Amenity Space Added including green rooms and terracing.
- Changes to the Structure, Floor Height and an additional floor.
    - The overall office NIA has been increased by 12,110sqft (1,125sqm) from the approved NIA = 251,391sqft (23,355sqm) to the proposed NIA = 263,501sqft (24,480sqm)
- Changes to the façade.
- Amendments to the Phase 1 residential cycle store into the same arch as the office cycle store. This allows improvement to the changing facilities.
- Changes to the Phase 1 service yard gates.

1.7 The implications of these changes on the highways and transport measures to support the site are described next.

2 WASTE & SERVICING PROPOSALS

Overview

2.1 The nature of the amended development results in a small increase in office floor area of 1125sqm (NIA). In theory this will make a small increase in Waste Generation and require some additional servicing. Below we forecast the expected change in activity as a result together with a commentary on the changing office environment which may affect deliveries and waste generation.

2.2 The main change to the scheme from a servicing point of view is the relocation of the service activity from the Albion Street lay-by to Trafford Street. This allows the removal of the loading bay on Albion Street, which in turn allows an improved public realm, entrance and external seating. In addition, there is now a larger cycle store accessible from Albion Street with some visitor cycle parking spaces located to the south of the entrance in between trees located there.

Ground Floor Layout

2.3 The proposed ground floor layout for the office Building B2 is shown in **Dwg 10053-B3-A-B5D9-G200-P-00-001**. It can be seen that there is a bin store on Trafford Street where the servicing activity will occur and a Service Corridor from Trafford Street to the Core of the office Building.

2.4 The nature of Trafford Street here is that it is a cul-de-sac under the viaduct. **Photo 1** below shows the view looking west including the Deansgate Locks service accesses. **Photo 2** shows the view looking East and **Photo 3** the nature of the existing secure Bin Store.

Photo 1 Trafford Street Looking West

Photo 2 Trafford Street Looking East

Photo 3 Secure Bin Store Under the Ramp

2.5 With development, there is no proposed changes to the highway layout of Trafford Street and that servicing here will be conducted in a same manner as servicing for Deansgate Locks.

Public Realm

2.6 The public realm changes on Albion Street are explained in the Planit-ie submission and an extract of the changes are given in **Appendix B**. The detail of the public realm proposals are shown in **Dwg 2840-PLA-XX-00-DR-L-0001.**

2.7 The omission of the loading bay allows an improved public realm and entrance to the building. The paving surface will be of a high quality.

Highway Layout

2.8 The highway layout has developed since the Approved scheme. This is currently being reviewed through the Section 278 detailed design process. The highway works covers Great Bridgewater Street and its junctions with Watson Street and Albion Street.

2.9 The proposed highway layout plans are presented as the following drawings:

- **SVA-VEC-0-P2-DR-CH-0100 - GA Sheet 1 P04**
- **SVA-VEC-0-P2-DR-CH-0100 - GA Sheet 2 P04**
- **SVA-VEC-0-P2-DR-CH-0100 - GA Sheet 3 P04**

2.10 The design of these plans is ongoing through the Section 278 detailed design process.

2.11 These junction improvements make the swept paths of HGVs (including 16.5m articulated HGVs) easier to turn left from Albion Street onto Great Bridgewater Street which is beneficial for the articulated HGVs leaving Manchester Central.

Service Vehicles

2.12 In terms of the number of vehicles using Trafford Street a TRICS analysis, given in **Appendix C** shows that for an office development of 30,118sqm GEA we expect 4.6 HGVs per day and at most 7 LGVs in the busiest hour.

2.13 Comparing against the previous floor area this is a rise of 0.3 HGV movements per day and around 2.4 LGVs per day which is not sufficient to give rise to any perceptible change in activity.

3 WASTE FORECAST

3.1 The Waste Strategy has been reviewed to consider the increase in office floor area which in turn would mean additional employees and consequently additional waste.

3.2 Viadux will provide 24,480 sqm NIA of office floorspace. In addition there will be three commercial units A1/A3/A4 at ground floor level totalling 1,010 sq.m GIA. These commercial units have not changed in floor area from the approved application and therefore the forecast for waste generated by these units is unchanged.

3.3 The assumptions used in forecasting the likely office waste volumes was based on the MCC Guidance GD04 and British Standard 5906:2005.

Forecast Office Waste Volumes

3.4 Under BS 5906:2005 the generation of waste is based on 50 litres per employee per week. This has been based on the assumption of 1 employee per 10 sqm NIA. As the office floor area is 24,480 sqm NIA, the assumed number of employees based on this is expected to be approximately 2,448.

50 Litres x 2,448 = 122,400 Litres of waste per week

3.5 This volumes of waste from the extra floor area equates to an extra 5650 litres per week or the equivalent on one additional Eurobin full of waste per working day.

3.6 This figure is considered robust with greater Working from Home and greater email communication reducing the volume of paper waste generated.

3.7 In terms of the number of bin lifts per week this equates to the following:

Office = 122,400 litres of waste divided by 1,100 litre bins = 112 bin lifts per week

Bin Storage

3.8 Given this amount of waste generated, it is proposed that that there is a daily collection on each working day. To calculate the recycling rates we have used rates based on WRAP and other surveys.

3.9 The recycling rates are given overleaf including the bin storage requirement. Overall 23 x 1100litre Eurobins are needed and 6 x 240litre bins for the organic waste.

3.10 The bin storage area is shown in **Figure 3.1** below using the existing secure storage area. Within the storage area there is space for other occasional waste (such as furniture) to be stored.

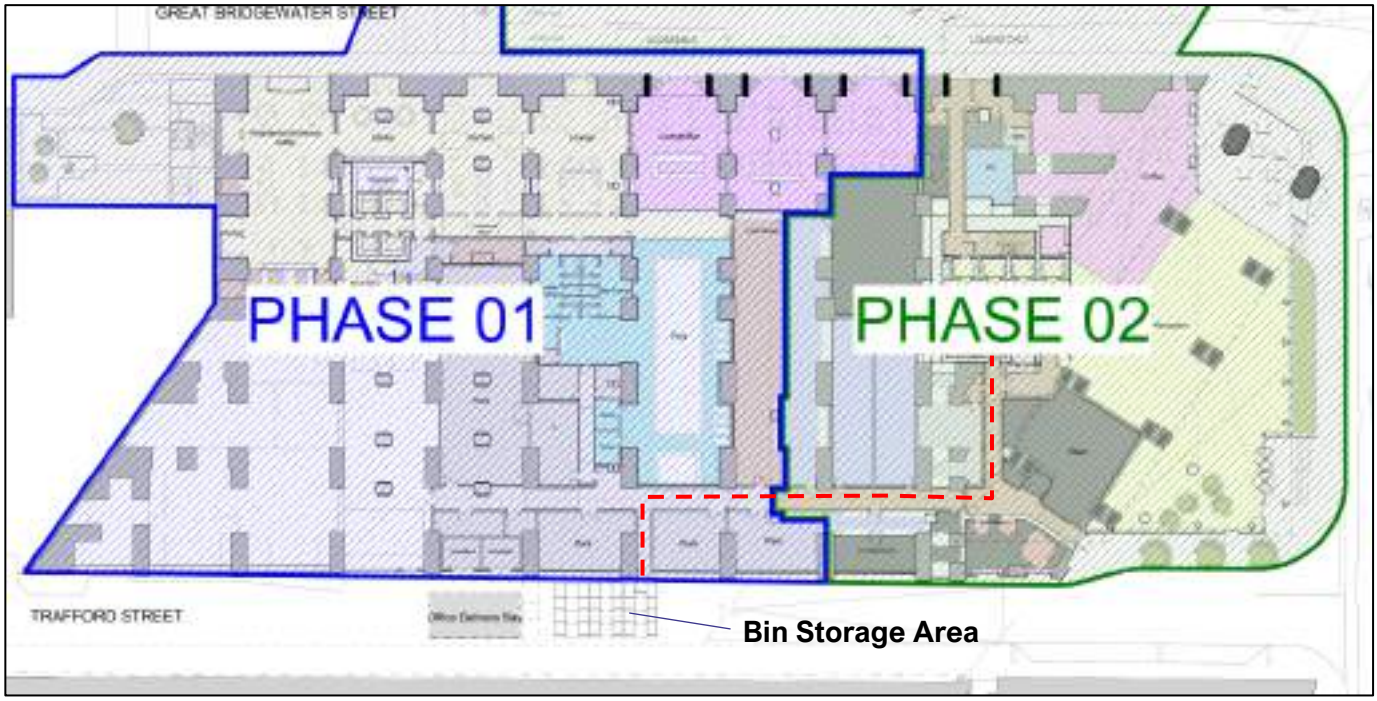

Figure 3.1 Bin Store Location on Trafford Street

3.11 The waste from the commercial units is assumed to stored within the demise of each occupier and brought out for collection daily. Those units are assumed to have a collection early in the morning from the loading bay located there.

3.12 MCC require that a Waste Pro-Forma be submitted and an updated Pro-Forma is given in **Appendix D.**

4 SUMMARY AND CONCLUSION

Summary

4.1 Vectos have prepared this Addendum to the Viadux Waste & Servicing Strategy to support a Minor Material Amendment (MMA) application for Phase 2 of Viadux, Manchester, M2 5QA on the Former Bauer Millet Site. The scheme was approved by the LPA on 27 July 2017 (115871/FO/2017), amended by S106 application (126868/JO/2020) and the drop in application (127260/ FO/2020) with a Section 19 application to amend the LBC (127365/ LO/2020).

4.2 The scheme currently being built out is covered by planning permissions 126868/JO/2020 (main consent), 127260/FO/2020 (drop-in consent for new staircase arrangement) and Listed Building Consent 129168/JO/2021.

4.3 That application was supported by a Waste & Servicing Strategy Technical Note which provided an update to the original report (application 115871/FO/2017). This Addendum clarifies the position in relation to waste & servicing matters.

4.4 The main change is an increase in the office floor area and a relocation of the office waste to Trafford Street which permits the removal of the lay-by on Albion Street. This change results in only a marginal change in service vehicle activity and a small increase in waste generation and bin storage which can be easily accommodated. The waste strategy for the other land uses that form part of the development are unchanged.

Drawings

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All dimensions to be checked on site by contractor.
Contractor to report any dimensional discrepancies, errors or omissions prior to commencing on site.

Rev	Date	Description
00	17-03-2017	Planning Issue
01	30-04-2020	Minor Material Amendment Application
02	29-05-2020	Minor Material Amendment Application
03	15-12-2020	Non-Material Amendment Application
04	19-02-2021	Non-Material Amendment Application
05	04-04-2022	Minor Material Amendment Application

North

Project Title
Former Bauer Millet Site

Drawing Title
Building 3 - Ground Floor Plan

Status
Planning

Scale
1:250 @ A3 1:125 @ A1

Date
March 2017

Job No
10053

Drawing No
10053-B3-A-B5D9-G200-P-00-001

Revision
05

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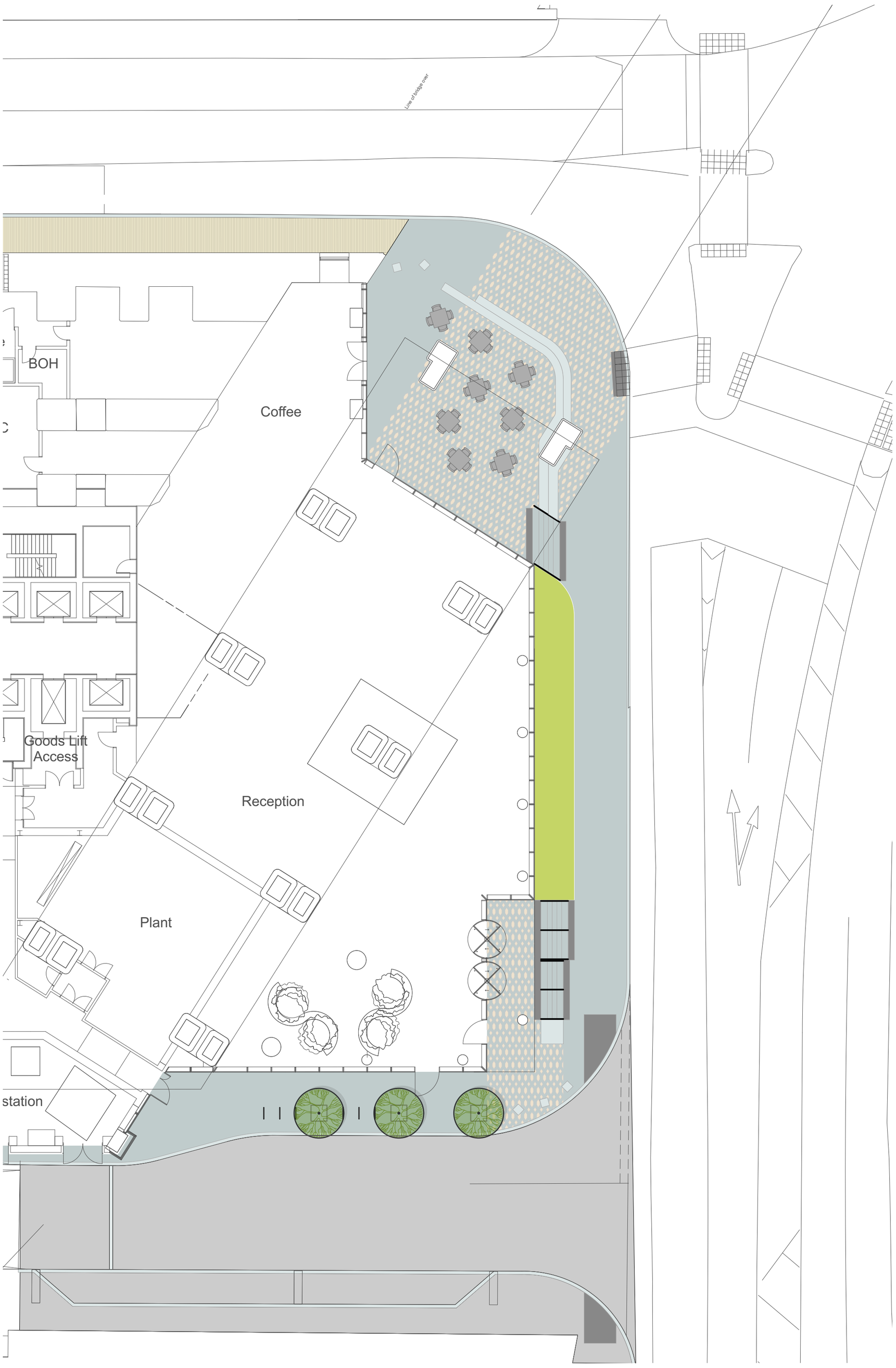

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NOTES:

1. Do not scale from this drawing.
2. Always work to noted dimensions.
3. All dimensions are in millimetres unless otherwise stated.
4. All setting out, levels and dimensions to be agreed on site.
5. The dimensions of all materials must be checked on site before being laid out.
6. This drawing must be read with the relevant specification clauses and detail drawings.
7. Order of construction and setting out to be agreed on site.

KEY

HARDWORKS

P1 - Granite Paving
To Albion Street footway
Product: Portuguese Granite
Size: 300mmH x 300/400mmL x 50mmD
Colour: Grey-green - TBC.
Finish: Flamed - TBC.
Jointing: 8mm (6-10mm) joints, stretcher bond.
Supplier: Marshalls or equal and approved.
Subject to developed design.

P2 - Granite Paving
To arrival spaces
Product: Portuguese Granite
Size: 300 x 500mm / 300 x 200mm x 50mmD.
Colour
P2.1 - Grey-green - TBC.
P2.2 - Rosa Forte (Pink) TBC.
Finish: Flamed - TBC.
Jointing: 8mm (6-10mm) joints, stretcher bond.
Supplier: Marshalls or equal and approved.
Subject to developed design.

P3 - Yorkstone Slab Paving
To footpath along Bridgewater Street
Material: Scoutmoor Yorkstone
Size and finish: To MCC highways specification.
Rigidly laid.
Supplier: Marshalls or similar and approved.

P4 - Coloured Tarmac Cycleway
Material: Coloured Asphalt
Product: Ultricolour
Colour: Light Buff - TBC.
Supplier: Tarmac or similar and approved.
Subject to developed design.

P5 - Tactile Blister Paving
Colour: Crystal Black.
Size: 400mm x 400mm x 80mmD
Finish: Flamed
Joint width: 8mm
Supplier: Marshalls or equal and approved.

P6 - Tactile Corduroy Paving
Colour: Crystal Black.
Size: 400mm x 400mm x 80mmD
Finish: Flamed
Joint width: 8mm
Supplier: Marshalls or equal and approved.

KERBS AND EDGINGS

K1 - Light-Grey Granite Kerb
Size: 200mmW
125mm upstand between footway and road
60mm upstand between cycleway and road
60mm upstand between footway and cycleway

E1 - Flush Steel Edge
Material: Hot-dip galvanised Steel.
Dimensions: 80mmH, 3mm thick.
Finish: Hot-dip galvanised. Milled top edge.
Supplier: Kinley or similar and approved.
Foundation to engineer/supplier's specification.

E2 - Corten Steel Upstand Edge
Material: Pre-weathered Corten Steel.
Dimensions: 180mmH (100mm upstand), 3mm thick.
Finish: Hot-dip galvanised. Milled top edge.
Supplier: Kinley or similar and approved.
Foundation to engineer/supplier's specification.

STEPS AND STRUCTURES

Steps
to main entrance and spill-out space

Seating Edges

SOFTWORKS

Single Stem Semi-mature Tree
Planting schedule to be developed.

Multi-stem tree
Planting schedule to be developed.

Herbaceous Planting Bed
Planting schedule to be developed.

FURNITURE

Granite Seating cubes
to southern entrance

Seating
To spill-out space

Cycle Stands
To main entrance and spill-out space

Revision	Date	Description	Drawn	Apprvd.
S1-P05	29/03/22	Planning	TF	KR
S1-P04	11/03/22	Planning	TF	KR
S1-P03	11/02/22	Stage 3	TF	KR
S1-P02	18/01/22	Stage 3	TF	KR
S1-P01	04/11/21	Stage 2	TF	KR

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Client Salboy

Project Viadux Phase 2

Drg Title Ground Level - General Arrangement

Created on	Created by	Approved by
04/11/21	JN	KR

Scale	Size	Workstage
1:200	A2	Stage 3

Drg No.	Suitability	Revision
2840-PLA-XX-00-DR-L-0001	S1	P05

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Appendix A – Planning Amendments

1.0 Planning Amendments

1.5 List of Amendments

1. Office Core

A - The office core has been rotated through 90 degrees and an additional passenger lift added to improve the performance / waiting times.

B - The goods lift has been updated to include a double sided opening car at ground floor with direct access to back of house for servicing. The rotation of the core reduces the impact and demolition of the listed viaduct.

2. Servicing and substations

C - The main servicing of the office has been moved from Level 01 (Man Central service yard) to Trafford Street.

D - The refuse storage at Level 01 has been relocated underneath the existing servicing ramp to Man Central service yard.

E - The lay by to Albion Street has been omitted and the full pavement width restored improving the pedestrian environment.
(Lounge bar / coffee shop servicing remains from the loading area on Great Bridgewater Street.)

F - The substations have also been relocated from Level 01 Man Central service yard to ground floor with direct access from the service road to Albion Street.

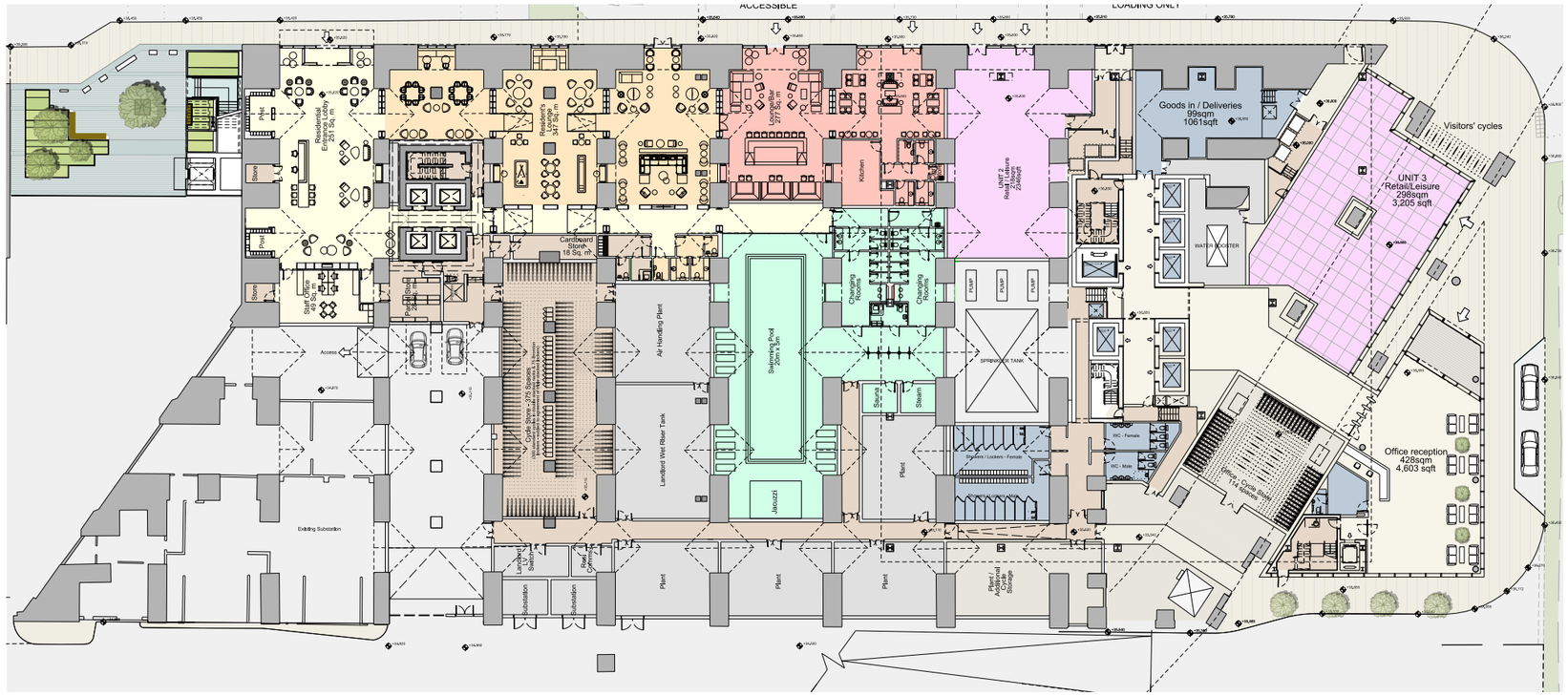
The above amendments will:

- Enable the historic viaduct arches to become front of house areas (coffee shop) which can now be seen as a heritage asset through the façade and from within the reception foyer.

- Remove the need for office use service vehicles to access Man Central service yard.

- Reduce the number of service vehicles on Albion Street and Great Bridgewater Street.

- Improve the circulation and manoeuvrability within Man Central service yard.



Phase 2 Ground Floor (Approved 2020)

Phase 2 Ground Floor (Proposed)

3. Retail use

A - Retail unit 2 has been combined with the adjacent Residential Lounge / Bar fronting Great Bridgewater Street. The entrance and escape door positions have been repositioned and coordinated with the interior design.

An illuminated canopy has been incorporated to provide emphasis to the main Lounge / Bar entrance.

B - This results in a change to the phasing at ground floor with the lounge bar being constructed as part of phase 1.

C - Retail unit 3 has become a coffee shop serving the office as part of the amenity provision and the public from Great Bridgewater Street.

D - An external seating area has been added underneath the tram bridge adjacent to the junction of Great Bridgewater Street and Albion Street.

E - The combined width of the coffee shop service corridor and office escape and firefighting access route to Great Bridgewater Street will result in the need to increase the size of opening through the listed Viaduct arch.

4. Office foyer & entrance

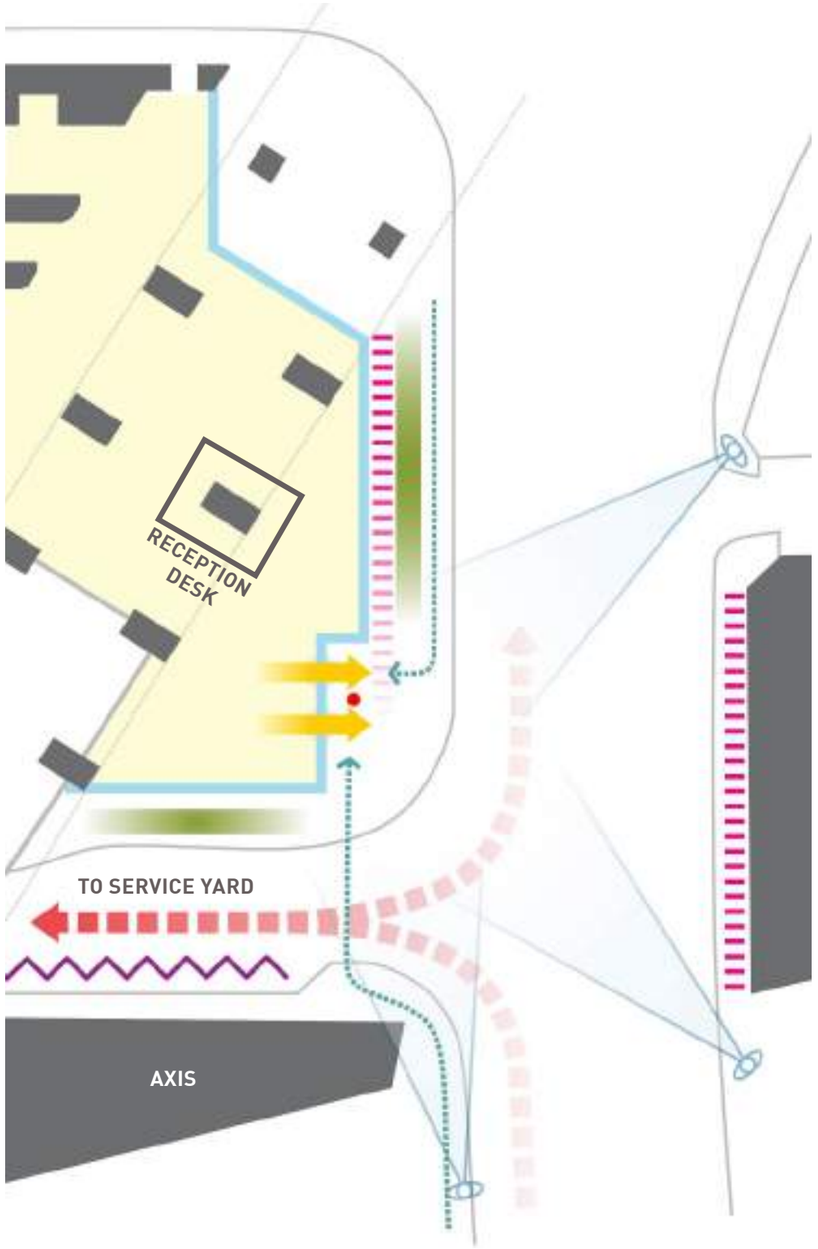
A - The pavilion building upper office floors and core (2 no. 250sqm floors) have been omitted to provide a triple height entrance foyer and sense of arrival commensurate with an office development of this scale.

B - The office entrance has been moved further down Albion Street to remove internal level changes and increase the headroom available underneath the tram bridge.

C - The reception desk has been relocated underneath the encapsulation with improved visibility of the lift lobby, entrance foyer and coffee shop.

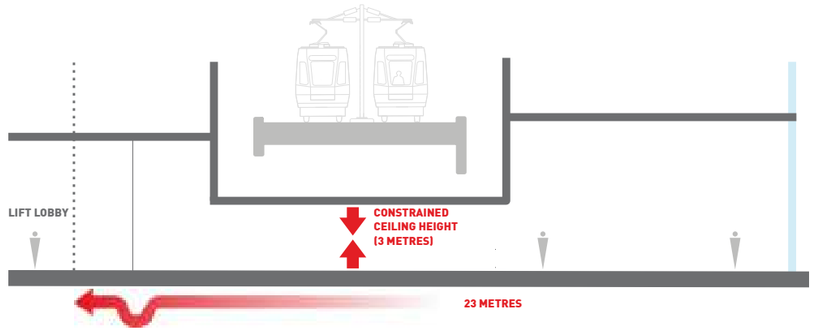
D - The office cycle store, changing facilities, plant have been reconfigured to enable the cycles to be positioned within the historic arches and plant under the metrolink bridge.

E - Access to the cycle store is gained from Albion Street and the facade has been developed as an extension of the glazed pavilion building facade which wraps under the tram encapsulation to form the entrance. The substation facade underneath the tram bridge has been designed as a series of louvred panels, which are continued as infills to the top portion of the viaduct arches for ventilating plant rooms. This continues the language from Trafford Street, behind the service ramp and with the louvres which interface from the Tram bridge to the Axis Building opposite.



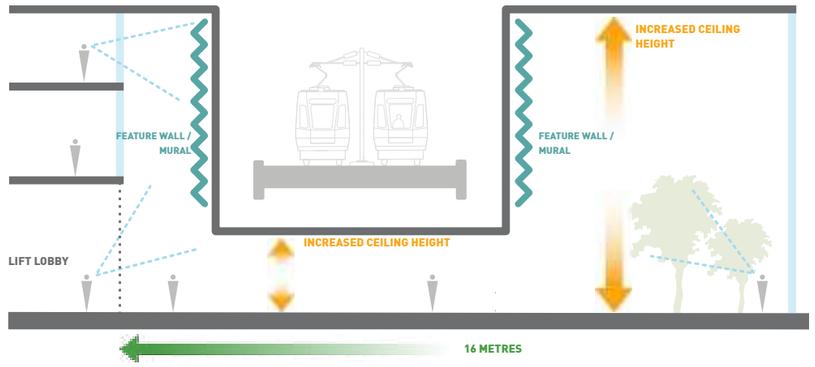
PROPOSED ENTRANCE

- Simplified geometry feels a more appropriate response
- Belongs to the orthogonal language of the pavilion
- Forms a strong corner
- Addresses Albion street and has clear visibility



2017 APPROVED DESIGN

- Lack of sense of arrival
- Constrained headroom under metrolink



PROPOSED DESIGN

- Creates a sense of arrival
- Incorporates tram encapsulation as artwork / mural
- Releases the space for amenity

KEY

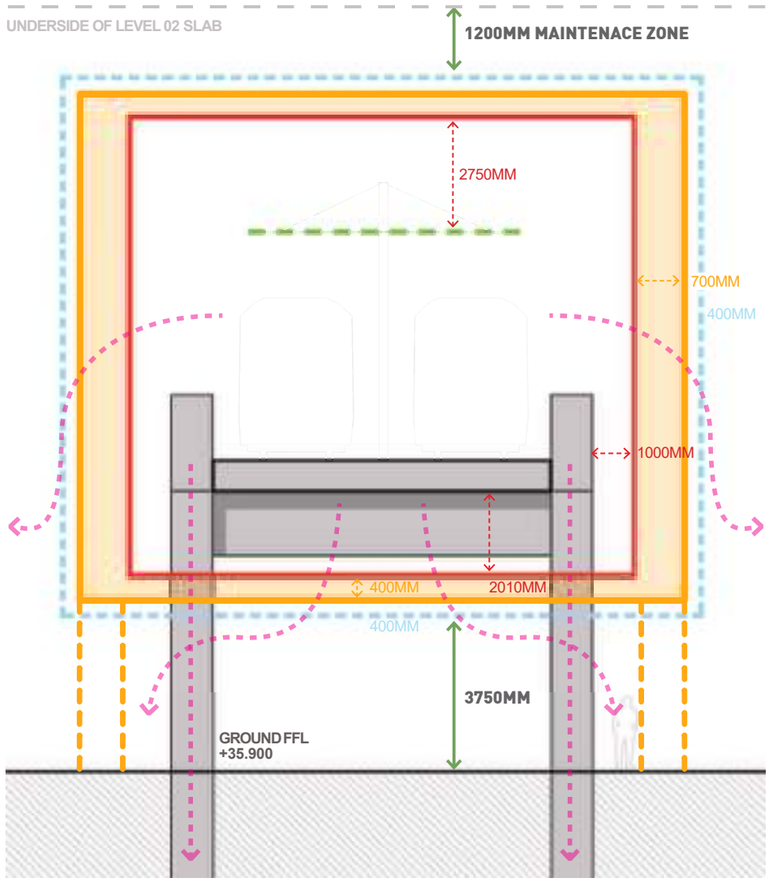
- ENTRANCE
- PEDESTRIAN ACCESS
- VEHICLE ACCESS TO SERVICE YARD & AXIS
- AXIS PARKING BAYS
- ACTIVE FRONTAGE
- VIEW OF ENTRANCE DOORS
- COLUMNS OBSTRUCTING ENTRANCE

5. Tram Encapsulation

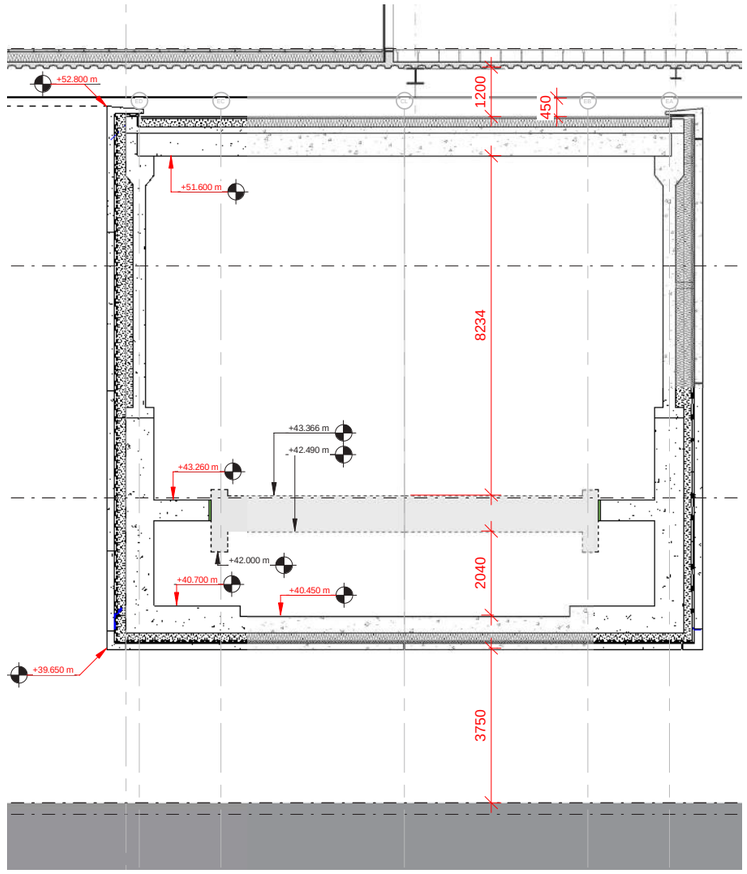
A - The tram has been encapsulated within a precast concrete tunnel which will be seen externally and from within the reception foyer. The sides of the encapsulation will feature a mural or relief providing visual interest.

B - The encapsulation deals with issues of fire, acoustics, derailment, bomb blast & creates a safe zone for construction. It will also provide an emergency safe landing zone for the BMU during the cleaning & maintenance of the building.

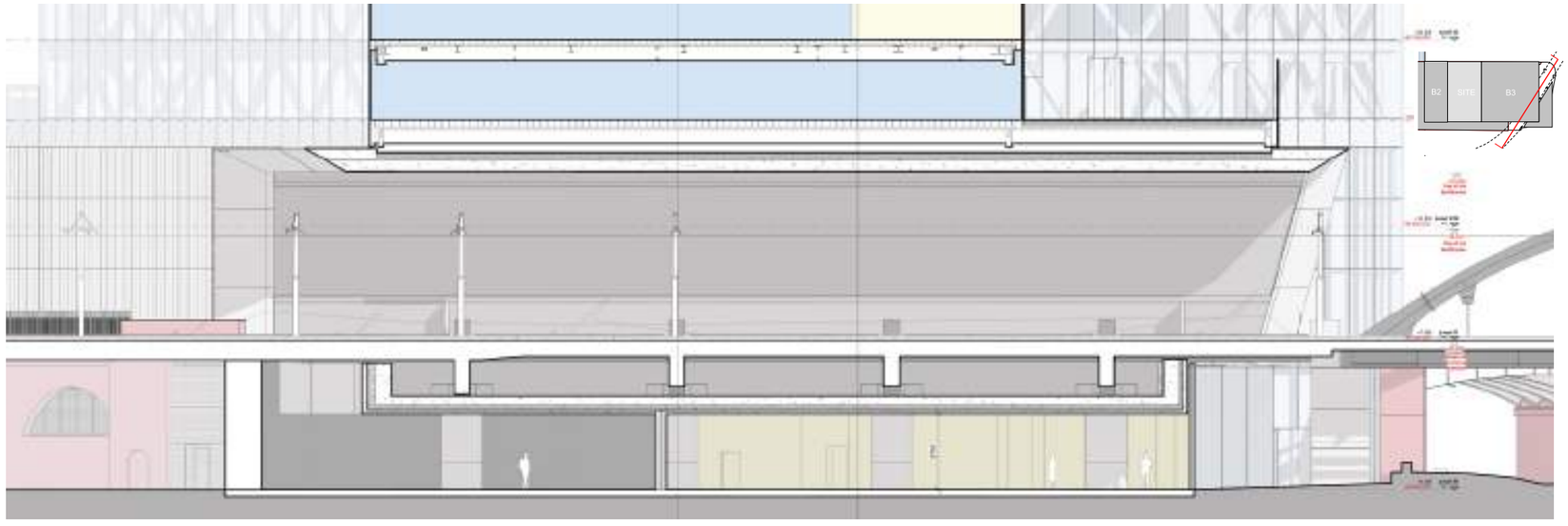
Along with full storey height perimeter glazing edge protection, the encapsulation will also assist with the planning condition which requires a scheme to be presented to protect the Metrolink infrastructure from objects being able to be thrown from the adjacent roof gardens.



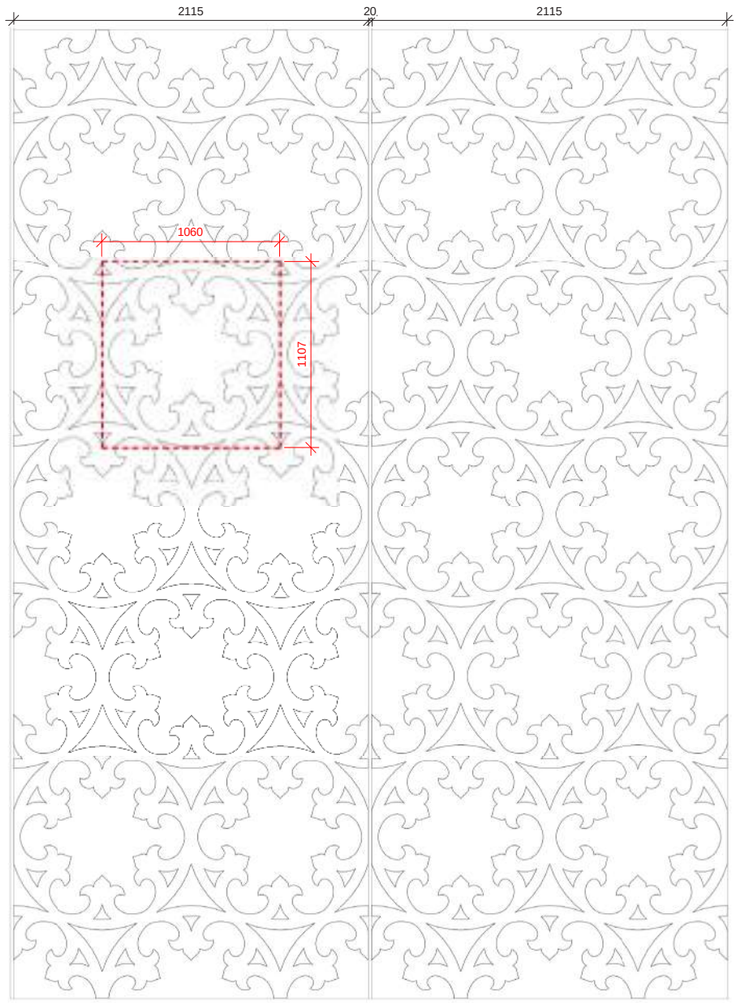
ENCAPSULATION - TfGM ZONES



ENCAPSULATION - DETAILED SECTION



PROPOSED SECTION EE



Encapsulation Panel Dimensions

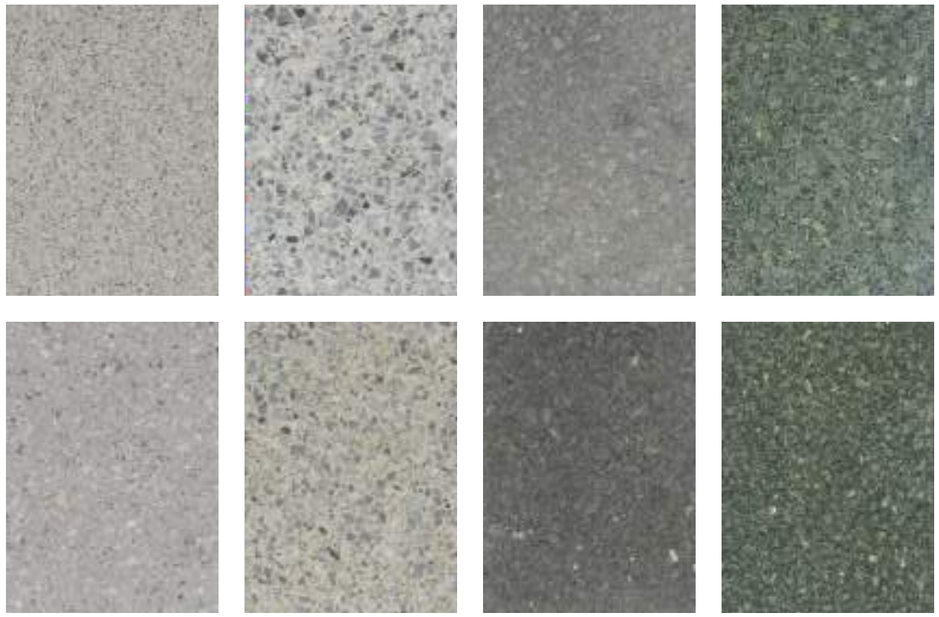
Conceptual Materiality

OPTION 01
Grey aggregate,
grey cement mix

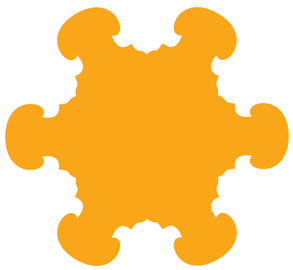
OPTION 02
Grey aggregate,
beige cement mix

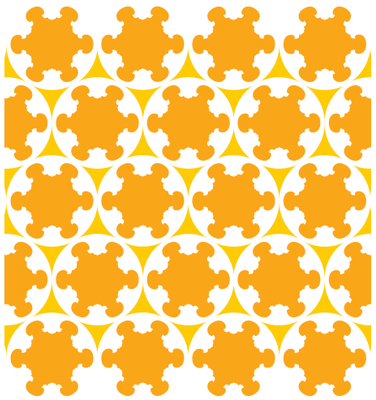
OPTION 03
Grey aggregate,
grey cement mix

OPTION 04
Green aggregate,
green cement mix



COLOUR / TEXTURE





PATTERN DERIVED FROM THE EXISTING STEEL LATTICE WORK OF MANCHESTER CENTRAL

PRECEDENTS

1.0 Planning Amendments

6. Office Amenity Space / Green rooms

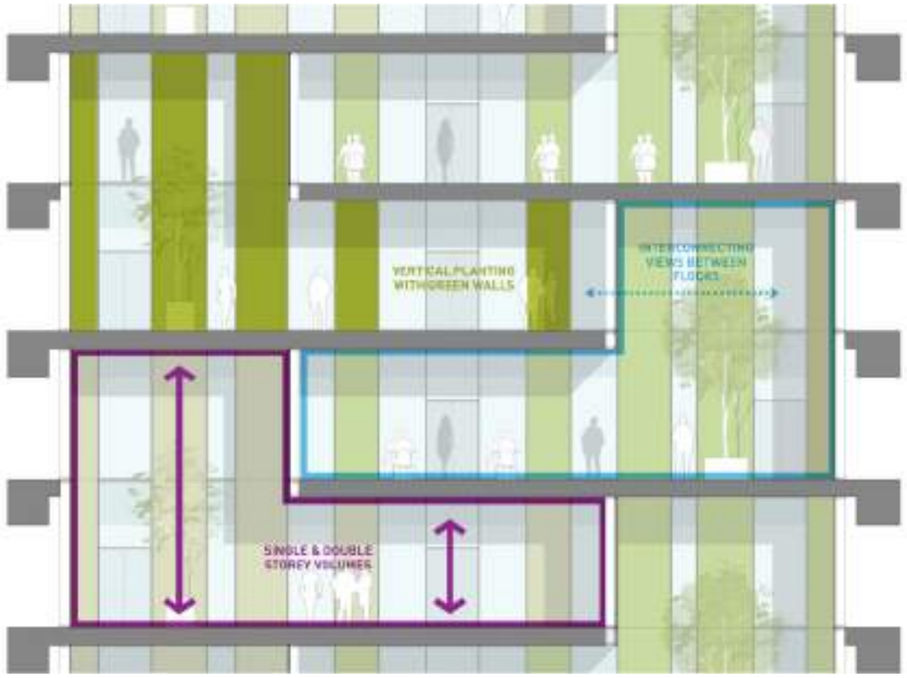
Office design has evolved considerably since the application was approved in 2017 and the provision of amenity space has become an important addition for users.

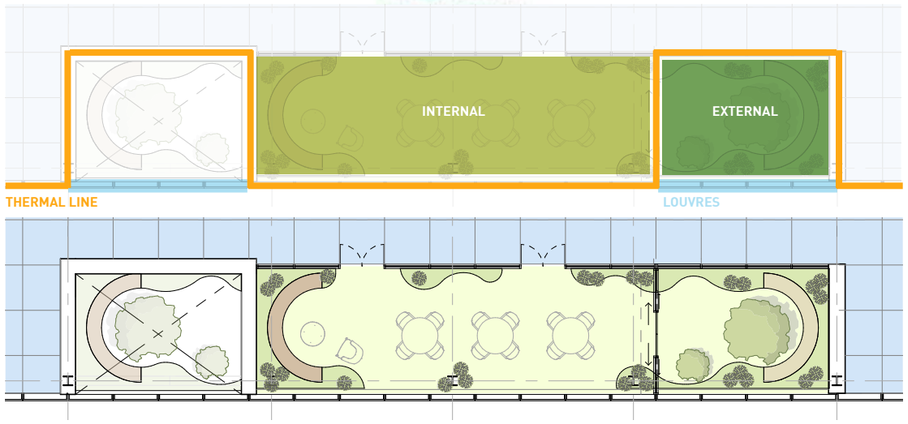
A - Office amenity space has therefore been added at level 02 in the form of external terraces to the east & west.

B - Amenity space for each office floorplate (level 03 upwards) has been added through the creation of landscaped green rooms which provide a focal point and visual interest to the floorplates.

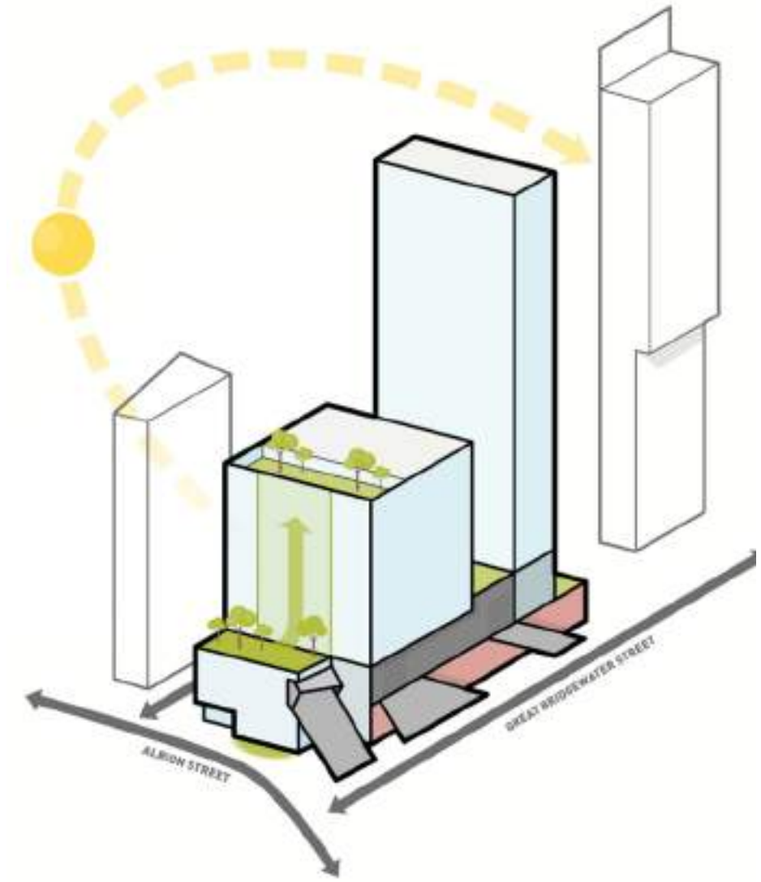
C - The green rooms consist of double and single height spaces to allow for different scales of planting and provide a connection to nature through Biophilic design principles. The double height spaces have been designed as naturally ventilated wintergardens with a glass louvred façade. The position on the South East façade assists with solar control and provides uninterrupted views to the surrounding streetscape.

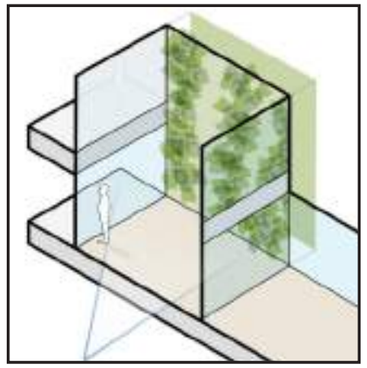
D - The upper roof terrace has been increased in size and repositioned to the full length of the South East facade, providing a 180 degree view across the city.



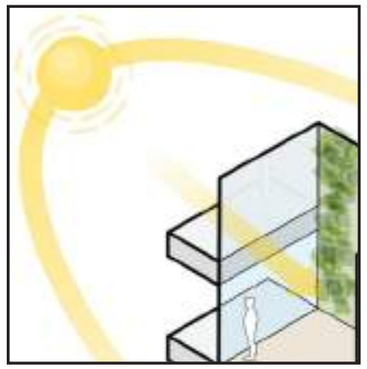


GREEN ROOM - CONCEPT DESIGN

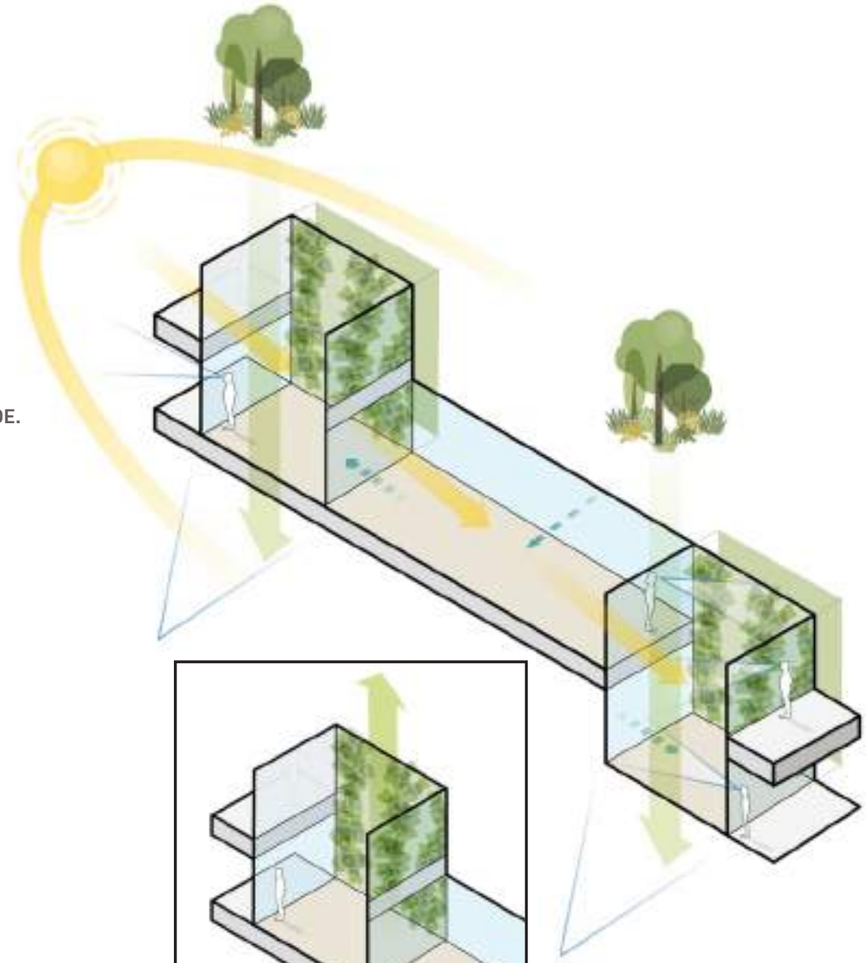


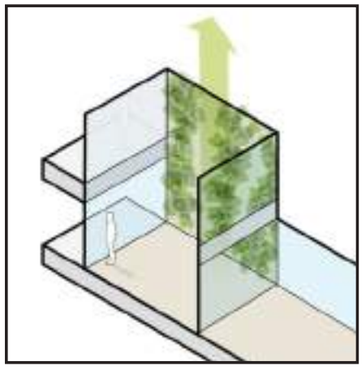


SOLID WALLS WITH VERTICAL PLANTING ARE HIGHLY VISIBLE THROUGH THE FACADE.
OPPORTUNITY FOR LOW MAINTENANCE GREEN / MOSS WALLS INTERNALLY TO OFFICE FLOORPLATES

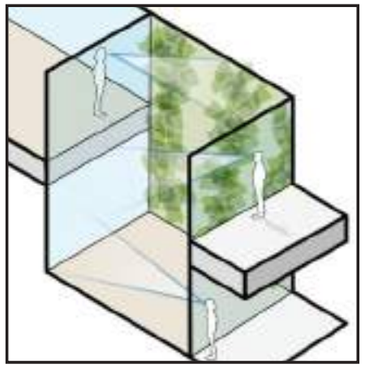


GLAZED FLANKING WALLS ALLOW MORE NATURAL LIGHT INTO GREEN ROOMS: IMPROVED GROWING CONDITIONS FOR PLANTS

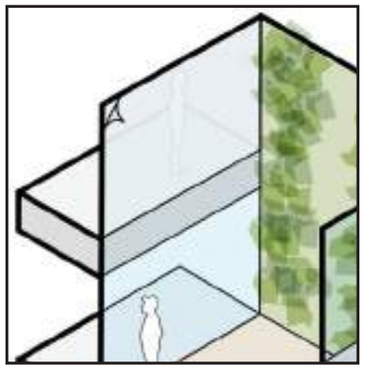




DOUBLE HEIGHT PLANTED WALLS WILL EMPHASISE THE VERTICALITY OF THE ROOMS SPATIALLY



VIEWS INTO THE GREEN ROOMS FROM THE OFFICE FLOORPLATE AND BETWEEN FLOORS, ENHANCED WELL-BEING



IF REQUIRED, PRIVACY FILM CAN BE APPLIED TO FLANKING ENDS OF GREEN ROOMS

GREEN ROOM - DESIGN DEVELOPMENT

1.0 Planning Amendments

7. Changes to structure

A - The two storey structural transfer truss at levels 02 & 03 has been developed to enable all internal columns to be positioned adjacent to the façade providing a column free floorplate.

B - The number of columns passing through the service yard at level 01 and listed viaduct have been reduced and repositioned to improve the circulation and manoeuvrability within Man Central service yard.

8. Change to floor to floor height & additional floor

A - The office floor to floor height has been revised following a review of the main structural beam depth and the client decision to have exposed soffits and services with no ceilings.

As a result the floor to floor height has been revised from 4100mm to 3950mm with a 2900mm floor to underside of structure. (BCO Guide to Specification - Best practice for offices – 2019 recommends a clear height of 2.8 to 3.2m for spaces over 18m in depth).

This provides a saving of 150mm per floor which equates to 1800mm over the 12 office floors.

Further co-ordination of the distance required between the top of the Tram Encapsulation and the underside of the office level 02 structural slab also resulted in the need to raise the upper floors by 350mm. This ensures an adequate maintenace zone of 1200mm is mantained to allow for the inspection of the steelwork to the underside of level 02.

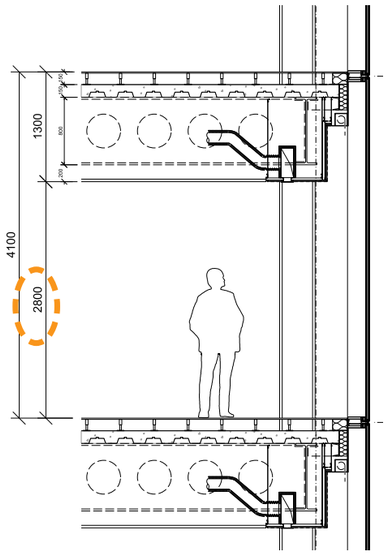
B - The overall reduction in height of 1450mm (1800mm - 350mm) resulted in the decision to add a further office floor (3950mm) which results in an overall increase in height of 2500mm.

The approved office building height is +108.300m AOD and the proposed office building height is +110.800m AOD.

The additional floor offsets the omission of the pavilion building office floors, together with the provision of amenity space and green rooms to the main office floors.

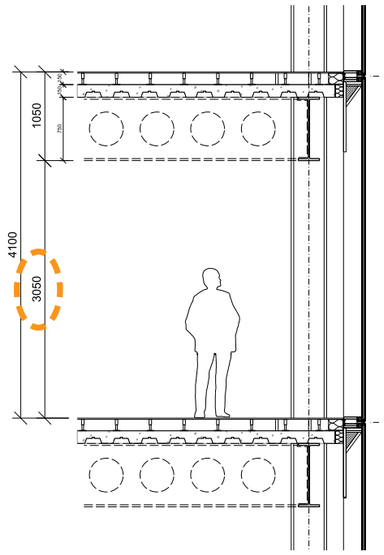
C - The overall office NIA has been increased by 12,110sqft (1,125sqm)
. Approved NIA = 251,391sqft (23,355sqm)
Proposed NIA = 263,501sqft (24,480sqm)

The office floor NIA increase and resultant occupancy change has been reviewed in terms of the provision of WC's, cycle spaces and facilities.



CONSENTED

Floor to floor height = 4100mm
Floor to ceiling = 2800mm



CONSENTED - EQUIVALENT BASED ON DEVELOPED PROPOSALS

Floor to floor height = 4100mm
Floor to underside of structure = 3050mm

BCO Guide to Specification - Best practice for offices - 2019
Clear heights:
The BCO recommends the following dimensions from finished floor to underside of the ceiling, exposed services or structure, whichever is the lowest.
- New-build typical floor: 2.6 to 2.8m
- New-build deep plan floor: 2.8 to 3.2m – for example, trading floors or spaces more than 18m in depth.

ADDITIONAL FLOOR OPTION

3.95m Floor to floor height

2.9m Floor to underside of structure

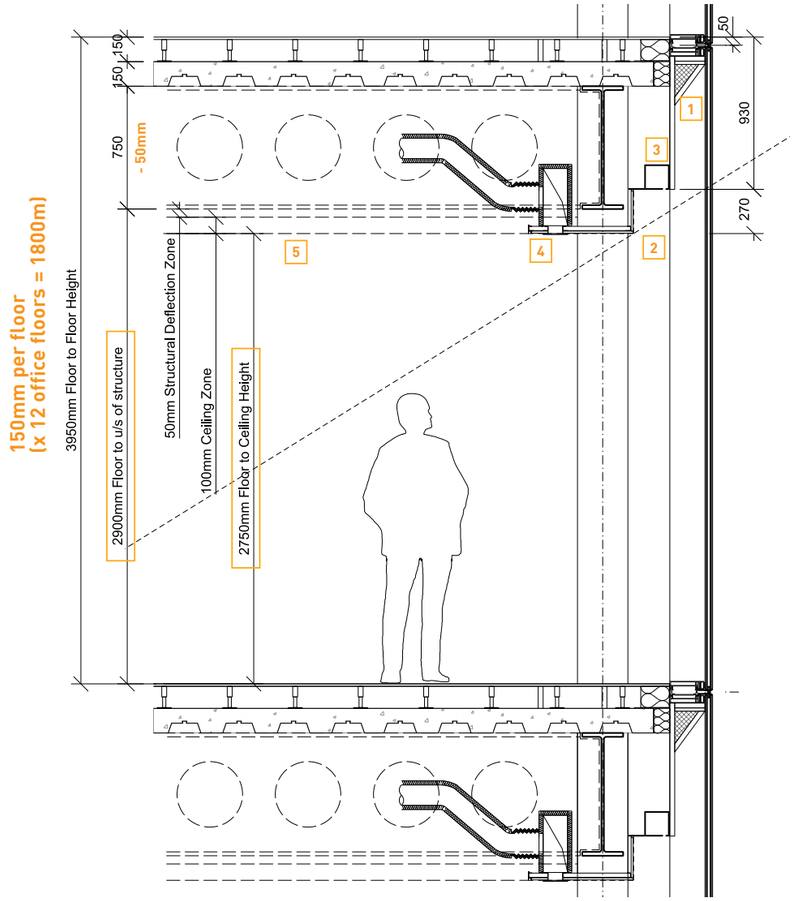
2.75m Floor to (future) ceiling height

Optimum

Level 02 FFL increased by 350mm

2.500m above consented height

NOTE:
150mm per floor (x 12 office floors = 1800m) - 350 = 1450mm
Additional floor +3950mm results in +2500mm increase in height



TYPICAL SECTION DETAIL

1 BULKHEAD / FASCIA

2 STEPPED EDGE DETAIL TO MAXIMISE LIGHT PENETRATION

3 RECESSED BLIND BOX DETAIL

4 PLASTERBOARD PERIMETER EDGE DETAIL INCORPORATING PERIMETER VENTS

5 EXPOSED SOFFIT / SERVICES ZONE (NO CEILING INSTALLATION IN BASE BUILD CONSTRUCTION)

9. Façade changes

A - Glass louvres have been introduced to the East Facade to naturally ventilate the green rooms / winter gardens.

B - The repositioned upper roof terrace is fronted by a full height clear balustrade as a continuation of the façade. This runs the full length of the East facade, reduces the area of opaque glazing and provides more visual interest to the top of the building.

The façade has been modelled and tested within its context to understand the solar radiation and inform the solar control coating and density of fritting to provide shading.

C - This has informed the percentage of ceramic fritting applied to the glass to control the level of shading and subsequent reduction in heat gain. Rather than remaining constant, the level of opacity has been amended to respond to orientation; the south elevation employs 66% fritted panels, the east & west 33% and the north remains clear. This reduces overheating, cooling costs and saves heating energy.

D - The fritting fenestration has been removed at Levels 02 & 03 to allow the transfer truss to be visually expressed and seen externally through the facade.

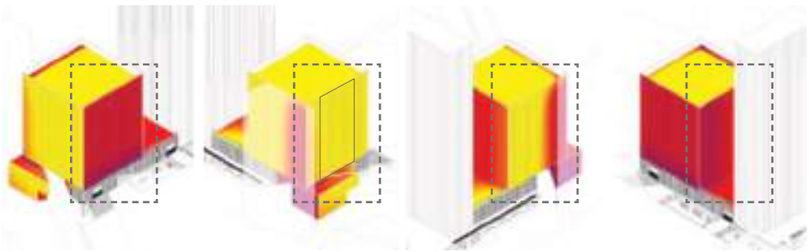
10 Amendments to Ph. 1 Building 2 (Residential) (Following Ph. 2 Building 3 (Office) Coordination)

A - The Phase 1 residential cycle store has also been repositioned into the same arch as the office cycle store which is located closer to the entrance from Albion Street. This enables the swimming pool changing facilities and plant to be exchanged, repositioning the changing facilities closer to the main residential core.

B - Following further design development the 3 gates into the service yard have been designed to slide behind the façade (internally rather than externally). This has enabled us to retain the residential facade fins which had been omitted to allow for the main service yard gate.

C - The residential terrace at Level 02 has been amended to include a defensible landscape strip for privacy and to prevent overlooking into the apartment from the terrace.

D - The brickwork pier and stone coping to Great Bridgewater Street bridge has been lowered in response to the removal of the bridge.



NORTH ELEVATION
- Low Solar Radiation
- Reduced Shading requirement

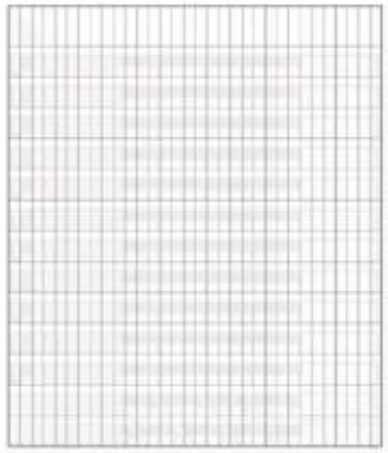
EAST ELEVATION
- High Solar Radiation
- Increased Shading requirement
- Wintergardens to provide buffer

SOUTH ELEVATION
- High Solar Radiation
- Increased Shading requirement
- Some shading from Axis

WEST ELEVATION
- Low Solar Radiation
- Low Shading requirement
- Shading from Phase 01

SOLAR RADIATION ANALYSIS

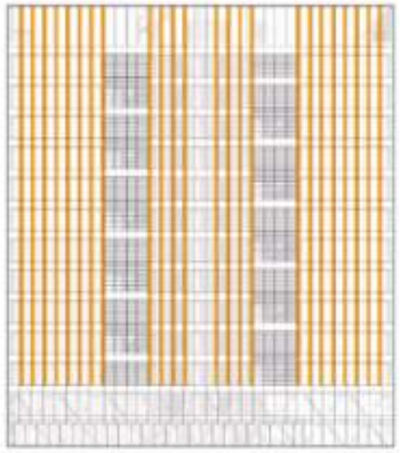
NORTH ELEVATION



- LOW SOLAR RADIATION
- REDUCED SHADING REQUIREMENT

0% Frit

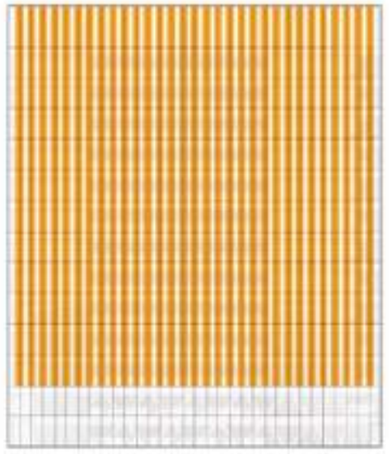
EAST ELEVATION



- HIGH SOLAR RADIATION
- INCREASED SHADING REQUIREMENT
- WINTERGARDENS TO PROVIDE BUFFER

33% Frit to clear glazed units

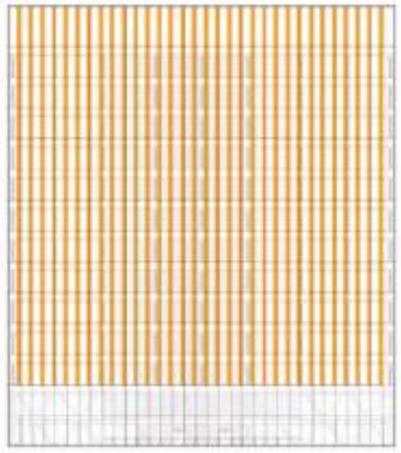
SOUTH ELEVATION



- HIGH SOLAR RADIATION
- INCREASED SHADING REQUIREMENT
- SOME SHADING FROM AXIS

66% Frit

WEST ELEVATION



- LOW SOLAR RADIATION
- LOW SHADING REQUIREMENT
- SHADING FROM PHASE 01

33% Frit to clear glazed units

NORTH ELEVATION

- LOW SOLAR RADIATION
- REDUCED SHADING REQUIREMENT

EAST ELEVATION

- HIGH SOLAR RADIATION
- INCREASED SHADING REQUIREMENT
- WINTERGARDENS TO PROVIDE BUFFER

SOUTH ELEVATION

- HIGH SOLAR RADIATION
- INCREASED SHADING REQUIREMENT
- SOME SHADING FROM AXIS

WEST ELEVATION

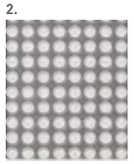
- LOW SOLAR RADIATION
- LOW SHADING REQUIREMENT
- SHADING FROM PHASE 01

PHASE 02 FRIT COLOUR

1. Dot matrix frit RAL 7047 to face 2 of glazing
2. Dot matrix frit RAL 7047 to face 2 of glazing with full frit RAL 7021 applied to face 4

1.

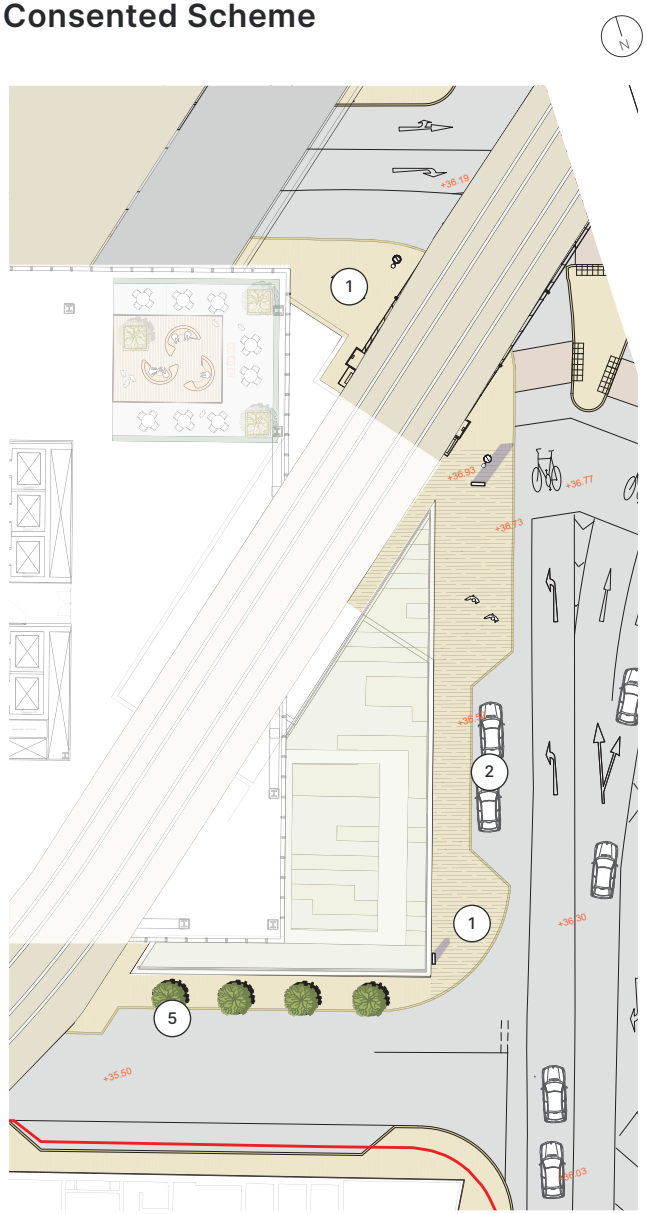
2.



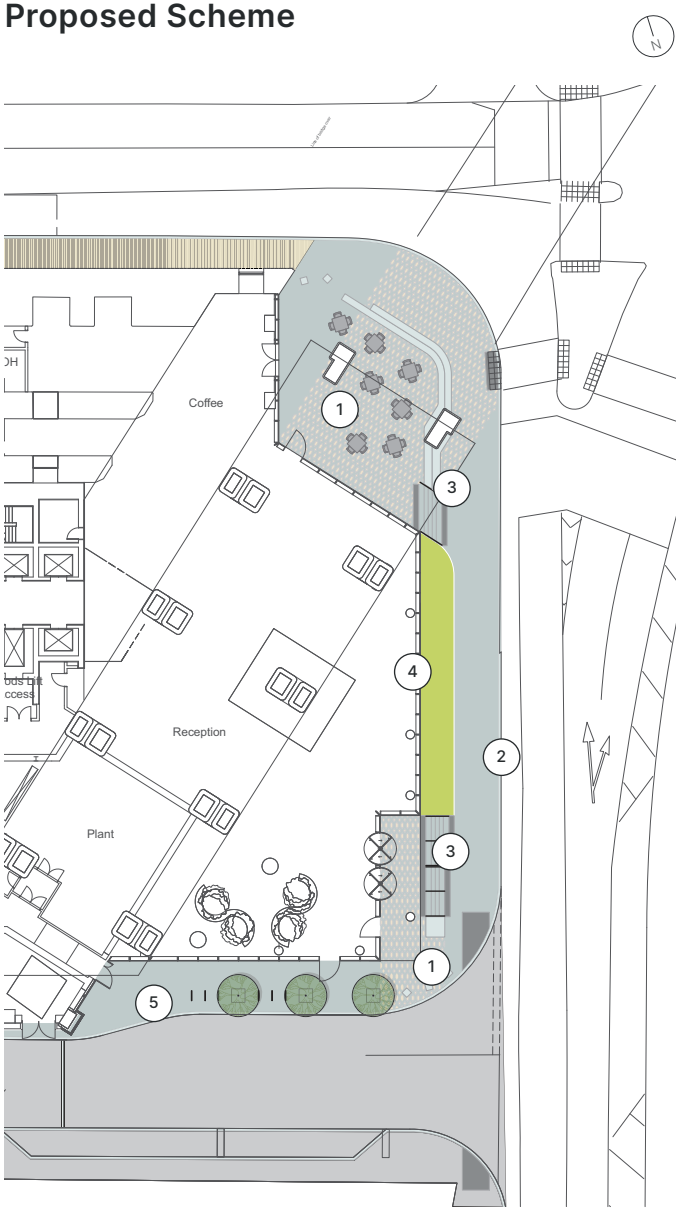
FACADE FRIT STRATEGY

Appendix B – Public Realm Amendments

Consented Scheme



Proposed Scheme



1. Paving materiality has been revised from yorkstone to granite with bespoke units.

   Reason: To create a stronger sense of arrival, and acknowledgement of the heritage of the existing architectural features and heritage.

2. Omission of loading bay to Albion Street.

   Reason: Servicing to be carried out from Trafford Street.

3. Introduction of steps and seating walls.

   Reason: To accommodate level change around the site.

4. Introduction of soft landscaping along eastern building elevation.

   Reason: To enhance amenity and biodiversity value in the public realm and to provide a visual connection with the green elements on the building above.

5. Omission of one tree to the south of the building.

   Reason: Due to the tree pit clashing with existing services in the footway.

Appendix C – TRICS Service Vehicle Forecasts

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
OGVS
Calculation factor: 100 sqm
Estimated TRIP rate value per 30118 SQM shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	31	5471	0.001	0.355	31	5471	0.001	0.178	31	5471	0.002	0.533
08:00 - 09:00	33	5158	0.005	1.416	33	5158	0.005	1.416	33	5158	0.010	2.832
09:00 - 10:00	33	5158	0.002	0.708	33	5158	0.002	0.531	33	5158	0.004	1.239
10:00 - 11:00	33	5158	0.003	0.885	33	5158	0.003	0.885	33	5158	0.006	1.770
11:00 - 12:00	33	5158	0.001	0.354	33	5158	0.002	0.708	33	5158	0.003	1.062
12:00 - 13:00	33	5158	0.001	0.354	33	5158	0.001	0.354	33	5158	0.002	0.708
13:00 - 14:00	33	5158	0.000	0.000	33	5158	0.000	0.000	33	5158	0.000	0.000
14:00 - 15:00	33	5158	0.001	0.177	33	5158	0.001	0.177	33	5158	0.002	0.354
15:00 - 16:00	33	5158	0.001	0.354	33	5158	0.001	0.354	33	5158	0.002	0.708
16:00 - 17:00	33	5158	0.000	0.000	33	5158	0.000	0.000	33	5158	0.000	0.000
17:00 - 18:00	33	5158	0.000	0.000	33	5158	0.000	0.000	33	5158	0.000	0.000
18:00 - 19:00	31	5471	0.000	0.000	31	5471	0.000	0.000	31	5471	0.000	0.000
19:00 - 20:00	1	2150	0.000	0.000	1	2150	0.000	0.000	1	2150	0.000	0.000
20:00 - 21:00	1	2150	0.000	0.000	1	2150	0.000	0.000	1	2150	0.000	0.000
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.015	4.603			0.016	4.603			0.031	9.206

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

TRIP RATE for Land Use 02 - EMPLOYMENT/A - OFFICE
LGVS
Calculation factor: 100 sqm
Estimated TRIP rate value per 30118 SQM shown in shaded columns
BOLD print indicates peak (busiest) period

	ARRIVALS				DEPARTURES				TOTALS			
Time Range	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate	No. Days	Ave. GFA	Trip Rate	Estimated Trip Rate
00:00 - 01:00												
01:00 - 02:00												
02:00 - 03:00												
03:00 - 04:00												
04:00 - 05:00												
05:00 - 06:00												
06:00 - 07:00												
07:00 - 08:00	31	5471	0.011	3.197	31	5471	0.006	1.954	31	5471	0.017	5.151
08:00 - 09:00	33	5158	0.020	6.016	33	5158	0.011	3.362	33	5158	0.031	9.378
09:00 - 10:00	33	5158	0.016	4.777	33	5158	0.017	5.131	33	5158	0.033	9.908
10:00 - 11:00	33	5158	0.020	6.016	33	5158	0.024	7.255	33	5158	0.044	13.271
11:00 - 12:00	33	5158	0.021	6.193	33	5158	0.020	6.016	33	5158	0.041	12.209
12:00 - 13:00	33	5158	0.019	5.839	33	5158	0.021	6.193	33	5158	0.040	12.032
13:00 - 14:00	33	5158	0.011	3.362	33	5158	0.012	3.539	33	5158	0.023	6.901
14:00 - 15:00	33	5158	0.018	5.308	33	5158	0.017	5.131	33	5158	0.035	10.439
15:00 - 16:00	33	5158	0.015	4.424	33	5158	0.019	5.662	33	5158	0.034	10.086
16:00 - 17:00	33	5158	0.015	4.601	33	5158	0.018	5.485	33	5158	0.033	10.086
17:00 - 18:00	33	5158	0.004	1.239	33	5158	0.005	1.592	33	5158	0.009	2.831
18:00 - 19:00	31	5471	0.001	0.355	31	5471	0.002	0.533	31	5471	0.003	0.888
19:00 - 20:00	1	2150	0.000	0.000	1	2150	0.000	0.000	1	2150	0.000	0.000
20:00 - 21:00	1	2150	0.000	0.000	1	2150	0.000	0.000	1	2150	0.000	0.000
21:00 - 22:00												
22:00 - 23:00												
23:00 - 24:00												
Total Rates:			0.171	51.327			0.172	51.853			0.343	103.180

This section displays the trip rate results based on the selected set of surveys and the selected count type (shown just above the table). It is split by three main columns, representing arrivals trips, departures trips, and total trips (arrivals plus departures). Within each of these main columns are three sub-columns. These display the number of survey days where count data is included (per time period), the average value of the selected trip rate calculation parameter (per time period), and the trip rate result (per time period). Total trip rates (the sum of the column) are also displayed at the foot of the table.

*To obtain a trip rate, the average (mean) trip rate parameter value (TRP) is first calculated for all selected survey days that have count data available for the stated time period. The average (mean) number of arrivals, departures or totals (whichever applies) is also calculated (COUNT) for all selected survey days that have count data available for the stated time period. Then, the average count is divided by the average trip rate parameter value, and multiplied by the stated calculation factor (shown just above the table and abbreviated here as FACT). So, the method is: COUNT/TRP*FACT. Trip rates are then rounded to 3 decimal places.*

Appendix D – Waste Pro-Forma GD04

Appendix E **Proforma for Planning Applications**

MANCHESTER
CITY COUNCIL

Planning Application - Waste Management Strategy

Planning Application Number:
Date Submitted:

Estimated volumes/ m^2 required by the development

Low Rise Domestic

Waste Types	Capacity Required (litres)	Number of bins required per household	Confirm what is to be provided
General refuse	140 / 240	Not applicable for this application.	Not applicable for this application.
Pulpable Recycling	140 / 240	Not applicable for this application.	Not applicable for this application.
Mixed Recycling	140 / 240	Not applicable for this application.	Not applicable for this application.
Garden Waste	140 / 240	Not applicable for this application.	Not applicable for this application.
Food Waste	-	Not applicable for this application.	Not applicable for this application.

High Rise Apartment Developments

	Yes/No - how much space has been provided?
$0.43m^2$ has been provided per apartment for the container space. Space to manoeuvre and access containers individually has also been provided so that each container can be accessed and removed for collection individually.	

Commercial Developments
Please state number of bins you propose, showing calculations where appropriate
For Calculations See Overleaf

Viadux Office Phase 2
The office floor area is 24,480 sqm NIA. We assume an occupancy of 1 employee per 10 sqm NIA = approximately 2,448 employees. Based on BS5906:2005 the rate of waste generation of 50 litres per employee per week.

50 Litres x 2,448 = 122,400 Litres of waste per week

Applying this volume to the main waste streams is given below. This table also allocates the waste to the bin storage requirement per week and per day.

	General Refuse	Organic	Paper/ Card	Plastic/ Metal	Glass	**Total**
	30%	5%	50%	13%	2%	**100%**
Litres Per Week	36720	6120	61200	15912	2448	**122400**
EuroBin lifts per **Week**	33		56	14	2	**106**
240litre bin lifts per **Week**		26				**26**
EuroBin lifts per **Day**	7		12	3	1	**23**
240litre bin lifts per **Day**		6				**6**

Has / will a contract be obtained with a licensed waste carrier?	Yes

Mixed Use Developments

Are the stores for residential and commercial separate from each other?	Yes

Internal Stores (Residential and Commercial)
Please provide details of internal stores / segregation of waste and recycling.

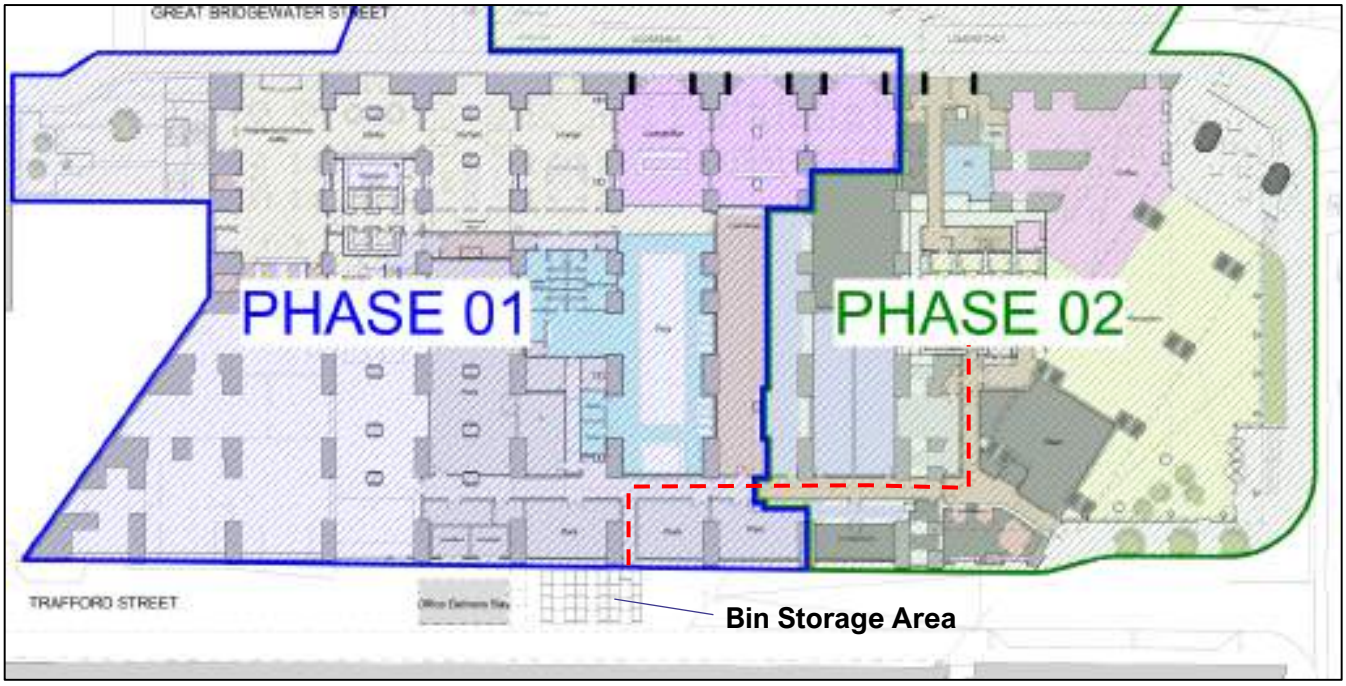
Commercial Waste
The internal layout is subject to the occupier requirements. It is expected that these will include kitchenettes. On each floor it is recommended that bins are placed centrally with 4 bins offering the segregated waste streams for recycling. (General, Paper/Card, Plastics/Metal, Glass). This improves recycling compared to having a general waste bin by each desk.

In addition we expect that the kitchenettes with have the above bins plus a food waste caddy.

In a central location there will also be a battery bin. Printer cartridges are expected to be recycling by posting back to the manufacturer by post/courier. Large items such as furniture and WEEE can be stored internally or in the Trafford Street bin store

Storage Areas for Waste Containers (Residential and Commercial)
Please provide details of container stores, attaching plans if appropriate.

The refuse store for the offices is an existing secure store located under the ramp to Manchester Central Service Yard. Here there are 24 Eurobins marked on the plan but there is additional space to store refuse as required.



Ensure all bins in the store are accessible The refuse store will not be accessible by the general public. It is expected that waste form the office areas will be brought to the bin store at the end of the day by cleaners. A service corridor links Trafford Street to the lifts in the office core as shown in dashed red. The bin storage area includes space for maneuvering and the doors are designed to be wider than the 1.3m minimum.	**N**
Ensure recycling facilities are as easy to access as general refuse	**Y**

Please confirm details of waste store ventilation and hygiene / cleaning proposals

Ventilation The bin stores is ventilated and open to the movement of air. **Hygiene** The refuse store will be finished in a material that is impervious and easily kept clean. Overall waste management would be undertaken by the on-site staff member/management company who would monitor the cleanliness on a regular basis and would ensure that all areas of the site are kept clean as required.

Please provide details of who will be responsible for placing the bins at the collection point and returning them to the store / property promptly e.g. resident/ management company.

The office cleaners will transfer waste to the bin store. The On Site Buildings Management would oversee the collection of waste and monitor how full the bins are. The refuse collection company operatives would take the bins from the bin store to the vehicle and will return the bins to the bin store immediately after collection has taken place. This would be under the direction of the on site Building Manager.

Please ensure that you have attached:

Detailed plans of waste stores	**Y** – please see site layout plans
Location plans showing stores	
Location plans showing the proposed collection point and the route the collection vehicle will take	**Y** – detailed within this Proforma

Please ensure that you have completed this form in accordance with our GD04 Waste Storage and Collection Guidance for New Developments.

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