mayer brown

BUILDING HPH1,
HYDE PARK,
MILLINGTON ROAD,
HAYES

FLOOD RISK TECHNICAL NOTE TO SUPPORT PRIOR APPROVAL APPLICATION (SEEKING TO CONVERT BUILDING TO RESIDENTIAL USE)

SEPTEMBER 2024

the journey is the reward

BUILDING HPH1,
HYDE PARK,
MILLINGTON ROAD,
HAYES

FLOOD RISK TECHNICAL NOTE TO SUPPORT PRIOR APPROVAL APPLICATION (SEEKING TO CONVERT BUILDING TO RESIDENTIAL USE)

SEPTEMBER 2024

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Prepared by:	**JRH**
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Issue Date:	**September 2024**
Status:	**2nd Issue**

Mayer Brown Limited, Lion House, Oriental Road, Woking, Surrey GU22 8AR
Telephone 01483 750508 Fax 01483 750437 wokingoffice@mayerbrown.co.uk www.mayerbrown.co.uk

Building HPH1, Hyde Park, Millington Road, Hayes
Flood Risk Technical Note

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1 Introduction

1.1 Mayer Brown Limited have been commissioned by Montagu Evans on behalf of Columbia Threadneedle Investments (the Client) to produce a Flood Risk Technical Note to support a Prior Approval application (under Class MA of the 'General Permitted Development Order', seeking change of use (predominantly on upper floors within the building) from office to residential use at Building HPH1, Hyde Park, Millington Road, Hayes, UB3 4AZ.

1.2 This Technical Note has been informed by information provided by the Client, a desktop study of available sources of information including but not limited to the EA's Flood Map for Planning, Risk of Surface Water Flood Maps, and the West London Strategic Flood Risk Assessment (SFRA).

1.3 This Flood Risk Technical Note has been compiled in accordance with "National Planning Policy Framework (NPPF)" published by Levelling Up, Housing and Communities in December 2023, "Technical Guidance to the National Planning Policy Framework" and 'CIRIA C624: Development and Flood Risk Guidance'.

2 Existing Site

2.1 The application site is located in the South of Hayes and to the North of the M4. The immediate surrounding area is predominantly industrial properties with residential zones surrounding the site to the East, South and West with a section of rail network to the North connecting Hayes and Harlington to West Drayton. Please refer to Figure 2.1 below for the Site Location.

2.2 The site falls under the administrative boundary of the London Borough of Hillingdon. The postcode is UB3 4AZ and the approximate co-ordinates to the centre of the site are E509234, N179245.

2.3 The approx. 0.51ha site currently consists of an existing 4-storey commercial office building (use class E). Vehicular and pedestrian access is via Millington Road (A437).

Figure 2.1: Site Location

Topography

2.4 The site is almost entirely hardstanding with the building occupying the majority of the site and a small area of soft landscaping along the site boundary.

Geology

2.5 The British Geological Survey online records show that the site is underlain by London Clay Formation bedrock – Clay, Silt and Sand with Langley Silt Member superficial deposits overlaying the bedrock – Clay and Silt. Soilscapes online describe the soil drainage characteristics as “freely draining”.

Hydrology

2.6 The closest water course to the site is the Grand Union Canal located approximately 600m to the north.

Hydrogeology

2.7 According to the Department for Food and Rural Affairs Magic Map, the site is not located within a Source Protection Zone.

Existing Drainage

2.8 As the site is brownfield, it is expected that the site discharges both surface water and foul effluent to the surrounding Thames Water sewer network.

3 Proposed Development

3.1 The proposed development is for a change of use from commercial (Class E) to residential (Class C) at levels 01-03 (above ground) to deliver 75 residential units, with all proposed changes being internal with the building footprint remaining the same. Please see Figure 3.1 below for proposed levels 01 - 03 floor plan and Appendix C for all proposed plans.

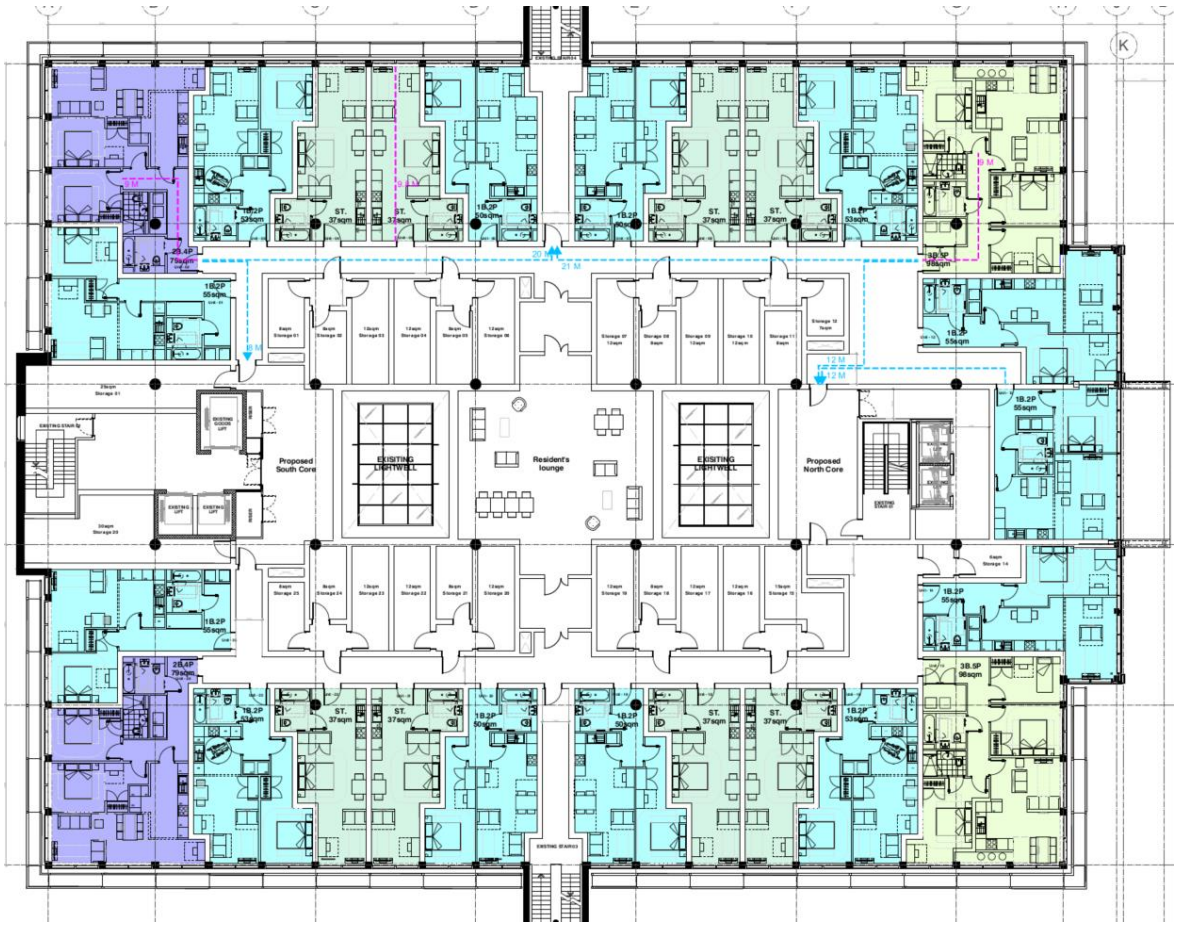


Figure 3.1: Proposed ground floor plans

3.2 In terms of hard landscaping, the areas will remain as existing.

4 London Borough of Hillingdon Council SFRA & Local Planning Policy

4.1 A level 1 SFRA for the West London area covering The London Borough of Hillingdon was undertaken by Metis Consultants in April 2018. The aim of this Level 1 SFRA is "*to provide the evidence base for ensuring development is steered away from areas identified most at risk from various flood sources, reducing the risk of flooding to its residents and buildings."*

4.2 As indicated by the EA's indicative flood map (Appendix A), the site is located in a low-risk Flood Zone 1 area. The EA risk of Surface Water Flood map (Appendix B) shows an area of high-risk of surface water flooding extent along the Southern perimeter red-line boundary; however, the building and the majority of the site is at a very low risk of surface water flooding.

Vulnerability Classification

4.3 The Technical Guidance to the NPPF provides vulnerability classifications to specific types of development. The classifications are as follows; Essential Infrastructure, Highly Vulnerable, More Vulnerable, Less Vulnerable and Water Compatible Development.

4.4 The vulnerability of the development will increase from 'Less Vulnerable' to 'More Vulnerable'.

Sequential and Exception Tests

4.5 NPPF states in paragraph 174 that: *"Applications for some minor development and change of use should not be subject to the Sequential and Exception tests but should still need to meet the requirements for site-specific flood risk assessments".*

4.6 As the proposed development is for a change of use, it is not required to be subject to the sequential test. This document forms a site-specific flood risk note, outlining any flood risk and mitigation measures where required.

4.7 The NPPF guidance also states that more vulnerable development is appropriate in low-risk flood zones and does not need to pass the exception test (see Figure 4.1 below).

Flood risk vulnerability classification (see table 2)		Essential infrastructure	Water compatible	Highly vulnerable	More vulnerable	Less vulnerable
Flood zone (see table 1)	Zone 1	✓	✓	✓	✓	✓
	Zone 2	✓	✓	Exception Test required	✓	✓
	Zone 3a	Exception Test required	✓	×	Exception Test required	✓
	Zone 3b functional floodplain	Exception Test required	✓	×	×	×

Key: ✓ Development is appropriate.
× Development should not be permitted.

Figure 4.1: NPPF Flood Risk Vulnerability Classification

5 Flood Risk Overview

5.1 In theory, there are six principal types/sources of flooding that could affect the proposed development. These are described below with proposed mitigation measures outlined where necessary.

- **Fluvial** – The site is located in a low-risk Flood Zone 1 area (Appendix A). This means that it has an annual probability of <0.1% of experiencing flooding from fluvial sources. There are no mitigation measures required and it will not be addressed further in this report.
- **Tidal** – The site is geographically remote from tidal influences so there are no mitigation measures required and it will not be addressed further in this report.
- **Groundwater** – The West London SFRA displays a map showing areas that are susceptible to groundwater flooding across the borough (refer to Appendix D). The site is located within an area that has between 50% - 75% susceptibility for groundwater flooding to occur. As the development is for change of use, there are no basement or sleeping accommodation proposals on the ground floor and the finished floor levels are set no lower than existing.
- **Surface Water Runoff** – The EA's Surface Water Flood Map indicates that the majority of the site is at a very low risk of flooding from surface water (Appendix B). However, an area of high-risk of surface water flooding along the southern site boundary is shown. There are no proposed buildings in this area and as this is a change of use application, no flood water will be displaced meaning natural flow paths will be maintained.
- **Infrastructure Failure** – The SFRA presents mapping showing the number of properties flooded internally and externally by sewer flooding (Appendix E). For the area within which the site lies, there have been 0 internal and 0 external recorded incidents of sewer flooding. Therefore, the site is considered to be at a low risk from sewer flooding, meaning that no mitigation measures are required, and it will not be addressed further in this report.
- **Reservoir Flooding** – The EA's flood map indicates that there is a low risk of reservoir flooding to the site.

Flood Mechanism	Source	Flood Risk to the Development	Mitigation Required?
Fluvial	N/A	Low	No
Tidal	N/A	Low	No
Groundwater	Underlying geology and groundwater levels.	Low	No basement construction with finished floor levels to remain as existing.
Surface Water / Overland Flow	Runoff from surrounding elevated land.	Low	Natural flow paths to be maintained. No buildings proposed in high-risk areas meaning no flood waters are displaced.
Infrastructure Failure	Surface water systems, water mains and reservoirs	Low	No
Reservoir Flooding	Local Reservoirs	Low	No

Table 5.1: Flood Risk Summary

6 Surface Water Drainage

Existing Surface Water Drainage

6.1 As the proposals are for a change of use and the hardstanding areas and building footprint will remain as existing, the surface water drainage arrangement will also remain as existing.

7 Conclusion

7.1 The EA Indicative flood map (Appendix A) shows that the site is located in a low-risk Flood Zone 1 area.

7.2 The EA Risk of Surface Water Flood map (Appendix B) shows an area of high-risk of surface water flooding along the Southern boundary; however, the building and the majority of the site is at a very low risk of surface water flooding.

7.3 The development is also at a low risk from flooding from the following sources, Groundwater, Surface Water/Overland Flow, Infrastructure Failure, and reservoirs (see Table 7.1).

Flood Mechanism	Source	Flood Risk to the Development	Mitigation Required?
Fluvial	N/A	Low	No
Tidal	N/A	Low	No
Groundwater	Underlying geology and groundwater levels.	Low	No basement construction with finished floor levels to remain as existing.
Surface Water / Overland Flow	Runoff from surrounding elevated land.	Low	Natural flow paths to be maintained. No buildings proposed in high-risk areas meaning no flood waters are displaced.
Infrastructure Failure	Surface water systems, water mains and reservoirs	Low	No
Reservoir Flooding	Local Reservoirs	Low	No

Table 7.1: Flood Risk Summary

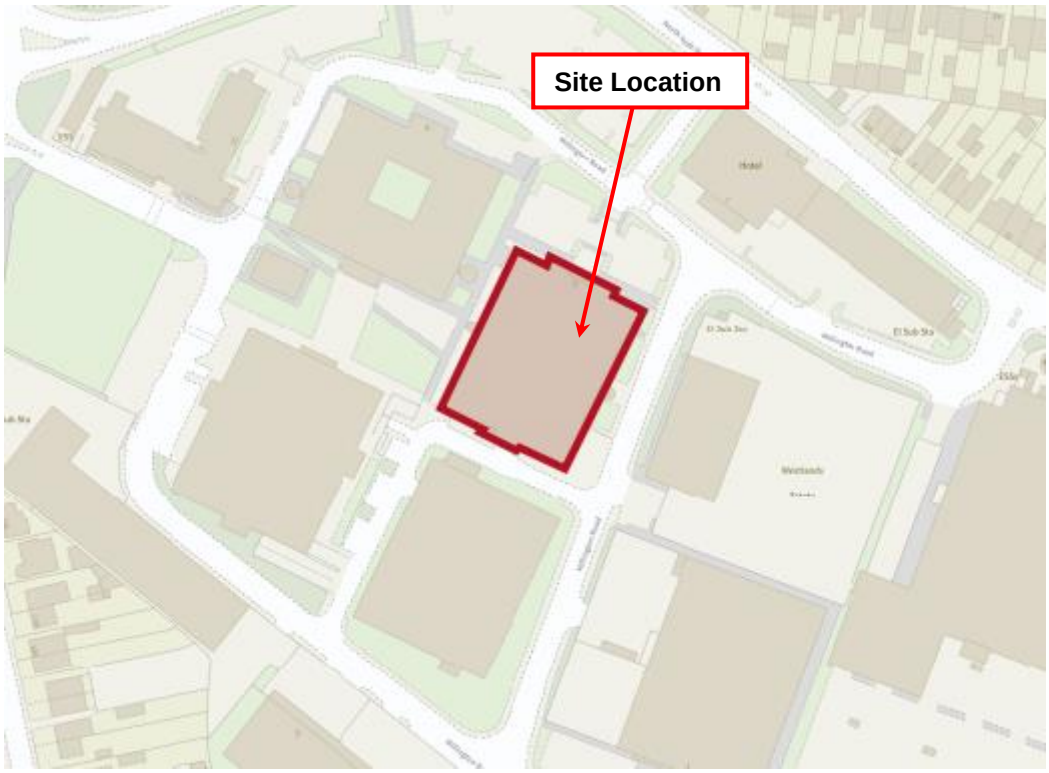
7.4 According to the NPPF, applications for “change of use” should not be subject to the Sequential and Exception tests.

7.5 It is proposed for the existing surface water drainage strategy system to be utilised.

7.6 The conclusion of this flood risk technical note is that the proposed development at Building HPH1, Hyde Park, Millington Road, Hayes, UB3 4AZ can be implemented safely and will not increase the flood risk to itself or downstream/surrounding properties.

APPENDIX A: EA’s Indicative Flood Map

ENVIRONMENT AGENCY FLOOD MAP
(May 2024)
Hyde Park, Millington Road, Hayes



Hillingdon Council, Postcode: UB3 4AZ Co-ords: E509234, N179245

1. Floodplain

A floodplain is the area that would naturally be affected by flooding if a river rises above its banks, or high tides and stormy seas cause flooding in coastal areas.

There are two different kinds of area shown on the Flood Map. They can be described as follows:

- **Flood Zone 3** shows the area that could be affected by flooding, either from rivers or the sea, if there were no flood defences. This area could be flooded:
  - from the sea by a flood that has a 0.5% (1 in 200) or greater chance of happening each year;
  - or from a river by a flood that has a 1% (1 in 100) or greater chance of happening each year.

- **Flood Zone 2** shows the additional extent of an extreme flood from rivers or the sea. These outlying areas are likely to be affected by a major flood, with up to a 0.1% (1 in 1000) chance of occurring each year.

These two colours show the extent of the natural floodplain if there were no flood defences or certain other manmade structures and channel improvements.

- Where there is no blue shading, this shows the area where flooding from rivers and the sea is very unlikely. There is less than a 0.1% (1 in 1000) chance of flooding occurring each year.

2. Flood Defences

- The purple line shows all flood defences built in the last five years to protect against river floods with a 1% (1 in 100) chance of happening each year, or floods from the sea with a 0.5% (1 in 200) chance of happening each year, together with some, but not all, older defences and defences which protect against smaller floods. Flood defences that are not yet shown, and the areas that benefit from them, will be gradually added.

- Hatched areas benefit from the flood defences shown, in the event of a river flood with a 1% (1 in 100) chance of happening each year, or a flood from the sea with a 0.5% (1 in 200) chance of happening each year. If the defences were not there, these areas would be flooded.

3. Main Rivers

The blue line shows the main rivers, these are usually larger streams and rivers.

APPENDIX B: EA Risk of Surface Water Flood map

ENVIRONMENT AGENCY SURFACE WATER FLOOD MAP
(May 2024)
Hyde Park, Millington Road, Hayes

Hillingdon Council, Postcode: UB3 4AZ Co-ords: E509234, N179245

Risk of Flooding from Surface Water

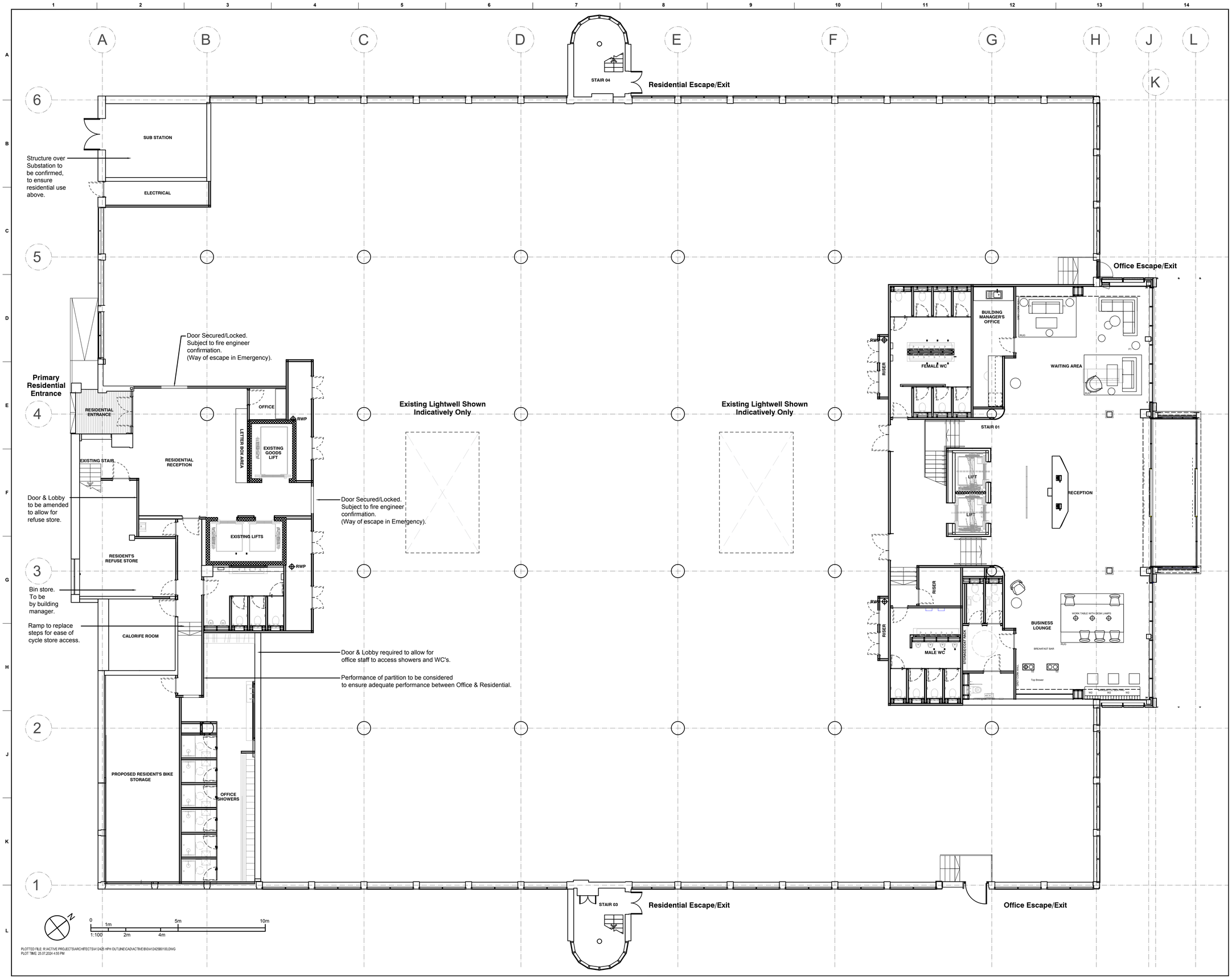
Surface water flooding happens when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead.

The shading on the map shows the risk of flooding from surface water in this particular area.

There are four different kinds of area shown on the Flood Map. They can be described as follows:

- High Risk Area – Each year this area has a greater than 1in30 (3.3%) chance of flooding from surface water:
- Medium Risk Area – Each year this area has between a 1in100 and a 1in30 (1%-3.3%) chance of experiencing flooding from Surface Water:
- Low Risk Area – Each year this area has a between a 1in1000 and 1in100 (0.1%-1%) chance of experiencing flooding from Surface Water.
- Very Low Risk Area – Each year this area has a less than 1in1000 (0.1%) chance of experiencing flooding from Surface Water.

APPENDIX C: Proposed Layout



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Additional notes:

- This drawing is based on digital information provided by Montagu Evans.
- This drawing is not deemed to be considered or used for construction purposes, and must be reviewed by a Fire Engineer, a MEP Consultant, a Structural Engineers, and Building Control.
- Lifts and staircases are shown as per existing.
- Lightwell spaces are shown as per existing.
- Fire Engineer to confirm all escape distances and no of stairs required to evacuate the residential floors.

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P1	##.##.##	FIRST PRELIMINARY ISSUE	MD	NH

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LEVEL 00
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0 1m 2m 4m 5m 10m
1:100

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Studio Unit
1 Bed Unit
2 Bed Unit
3 Bed Unit
x25 Total Units

Travel Distances
Travel Distances (Internal Apartments)

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GENERAL ARRANGEMENT PLAN

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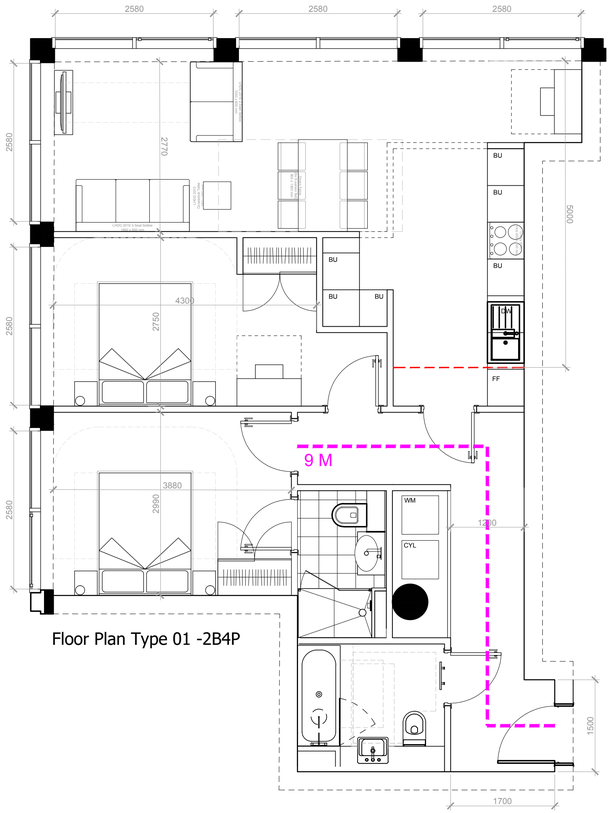

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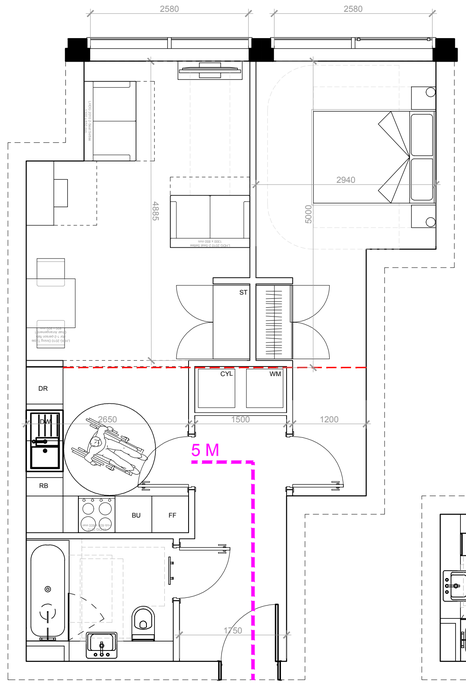

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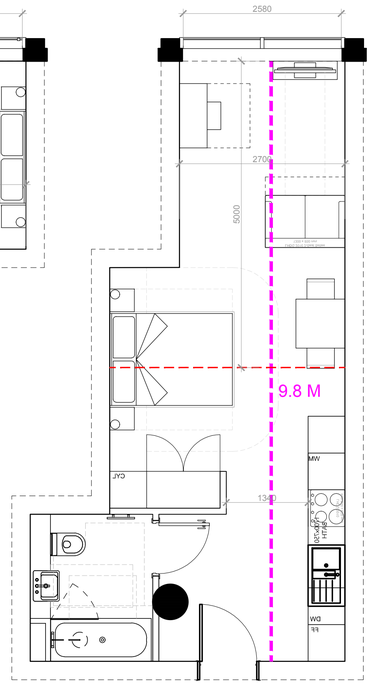
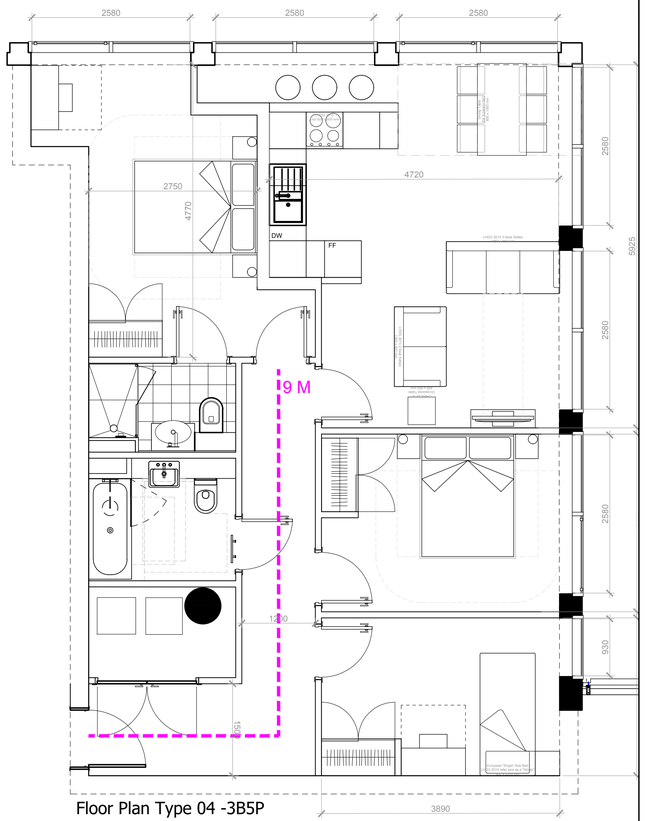
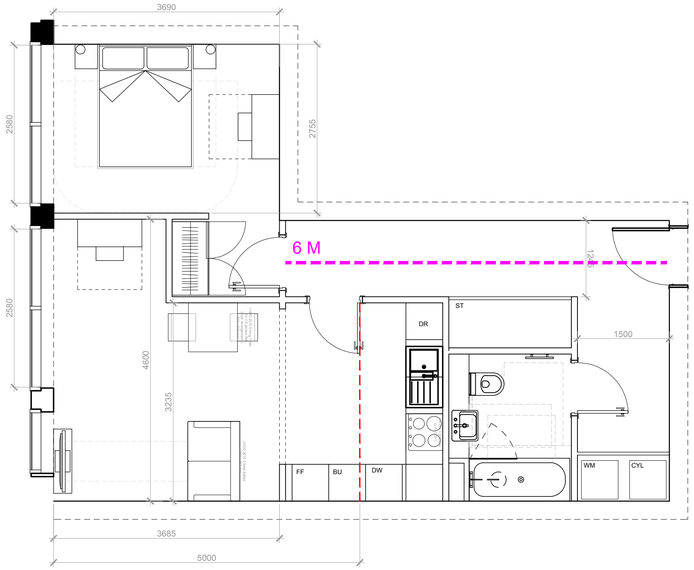


Floor Plan Type 03 -Studio



Floor Plan Type 04 -3B5P



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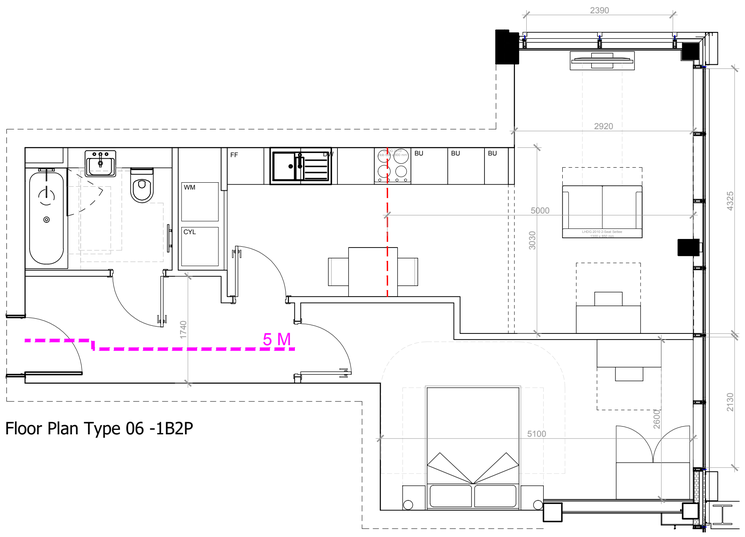
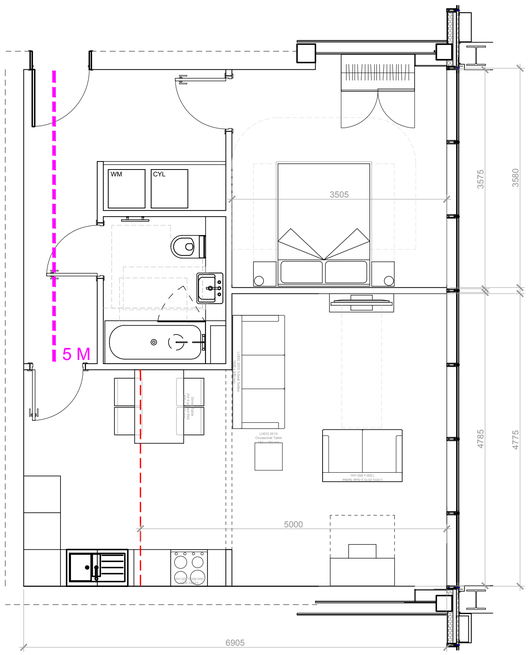


Floor Plan Type 06 -1B2P



Floor Plan Type 07 -1B2P

Travel Distances (Internal Apartments)

5m offset from facade

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1:50 1m 2m 3m

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TYPICAL UNIT TYPES
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PPC aluminium pressing, fitted to existing brise soleil framings

Existing glazing and PPC metal panelling.

PPC aluminium pressing, fitted to existing brise soleil framings

Existing metal louvres sprayed.

Louvred door, to match C8, and metal ladder over existing upstand

Escape Walkway level: +47.295

Key clamp steps and landing to provide clear and safe escape route.

PPC aluminium pressing, fitted to existing brise soleil framings

Escape lighting and signage to stepped walkway. As per M&E requirements.

Existing metal louvres sprayed.

+ 47.940

Key clamp steps and landing over existing structural upstand beams to provide clear and safe escape route.

Existing upstands

Existing paving slabs moved to create clear escape route of 1m width

Core holes through slab TBC M&E consultant

+ 47.500 (approx)

Key clamp steps and landing to provide clear and safe escape route.

ROOF PLANT AS PER M&E REQUIREMENTS

Composite decking on raised pedestals

Existing door and steps retained

Extent of works to existing plantroom in accordance with M&E requirements

FFL +47.900

PPC aluminium rainscreen cladding panels

Load bearing insulation and waterproof roof covering

+ 47.110

+ 47.210

Clear way for cleaning and maintenance

Clear way for cleaning and maintenance

Existing glazing and PPC metal panelling.

STAIR 02

Plantroom

+ 47.600

+ 47.600

+ 47.880

+ 47.110

+ 47.210

+ 47.625

CURVED GLAZED ROOFLIGHT

STORAGE

STAIR 01

Lift

Roof Terrace (285sqm)

DIS WC

AA (GA)20

Existing louvred screening

+ 47.210

47.615

Clear way for cleaning and maintenance

Clear way for cleaning and maintenance

ROOF PLANT AS PER M&E REQUIREMENTS

FFL +47.900

Existing metal louvres sprayed.

+ 47.940

+ 47.605

Core holes through slab TBC M&E consultant

+ 47.650

PPC aluminium pressing, fitted to existing brise soleil framings

Existing ladder steps over roof upstands retained and moved to create maintenace walkway

Existing upstands

Metal plant screen louvres, to match existing, set back to allow for new roof terrace.

Escape Walkway level: +47.295

PPC aluminum pressing, fitted to existing brise soleil framings

Existing glazing and PPC metal panelling.

Existing paving slabs moved to create level escape route

PPC aluminium pressing, fitted to existing brise soleil framings

Existing metal louvres sprayed.

Louvred door, to match C8, and metal ladder over existing upstand

BB (GA)21

PPC aluminium pressing, fitted to existing brise soleil framings

CC (GA)22

DD (GA)23

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Drawing Title

ROOF LEVEL
EXISTING
GENERAL ARRANGEMENT PLAN

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A12425	F 0104	P1

APPENDIX D: SFRA Groundwater Flood map

West London SFRA

09/09/2024, 14:10:07

Borough Boundary

Study Area Boundary

EA 2017 - Susceptiblity to Groundwater Flooding

>= 25% <50%

>= 50% <75%

1:5,000

0 0.04 0.09 0.17 mi

0 0.05 0.1 0.2 km

London Boroughs of Brent, Barnet, Harrow, Hillingdon, Hounslow and Ealing

APPENDIX E: SFRA Sewer Flood map

West London SFRA

09/09/2024, 14:06:33

Borough Boundary

Study Area Boundary

Thames Water 2017 - Sewer Flooding Records (No. of Instances)

0

1:5,000

0 0.04 0.09 0.17 mi

0 0.05 0.1 0.2 km

London Boroughs of Brent, Barnet, Harrow, Hillingdon, Hounslow and Ealing