11-13 NEW WAKEFIELD STREET

Manchester, M1 5NJ

FLOOD RISK ASSESSMENT

Project No	23-428-60
Revision No	00
Issue date	14/12/23

Transport Planning | Flood Risk & Hydrology | Infrastructure & Drainage

Control Sheet

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1 EXECUTIVE SUMMARY

1.1.1 Planning permission is being sought for a change of use from second and third floor offices to residential units.

1.1.2 The site is located in Flood Zone 3 and as such this document considers the flood risk to the site from all sources.

1.1.3 The site is at risk of flooding from rivers but deemed at low risk from all other sources.

1.1.4 The only ground floor proposals are bike and bin stores. The units themselves will be elevated above potential flood levels so will be at negligible risk of suffering flood damage.

1.1.5 As a result, the only mitigation proposed is to develop a robust but proportionate Flood Emergency Plan.

1.1.6 The nature of the units is that they would provide a place of safe refuge during flood conditions, with evacuation very unlikely be required.

1.1.7 Site occupiers and the management company representatives will sign up to the Environment Agency Floodline. If a flood is predicted, occupiers should ensure their place of safe refuge is ready and stocked and they should expect to use it if the need arises.

1.1.8 The change of use nature of the development would have negligible impact on local drainage.

1.1.9 This Flood Risk Assessment shows that the development will be safe for its lifetime and therefore meets the requirements of the NPPF and PPG.

2 INTRODUCTION

2.1 Background

2.1.1 Calibro has been appointed by *Timber SPV Ltd* to undertake a Flood Risk Assessment (FRA) for a change of use from second and third floor offices to residential accommodation.

2.1.2 The National Planning Policy Framework (NPPF) requires that the planning system takes full account of flood risk. This requires that:

- A 'site specific' FRA will be undertaken for any site that has a flood risk potential;
- Flood risk potential is minimised by applying a 'sequential approach' to locating 'vulnerable' land uses;
- Sustainable drainage systems are used for surface water management where practicable;
- Where identified, flood risk is managed through the use of flood resilient and resistant techniques;
- Residual risk is identified and safely managed;
- Safe access and egress to and from the development can be achieved.

2.1.3 NPPF states that a site-specific FRA will be required for proposals:

a) that are greater than 1 hectare in area within Flood Zone 1;

b) that are located in Flood Zones 2 and 3;

c) in an area within Flood Zone 1 which has critical drainage problems;

d) in an area within Flood Zone 1 identified in a Strategic Flood Risk Assessment as being at flood risk now or in the future;

e) in an area in Flood Zone 1 that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.

2.1.4 Despite the proposals being located on the second and third floors of an existing building, the site falls within Flood Zones 2 and 3 and as such an FRA is required.

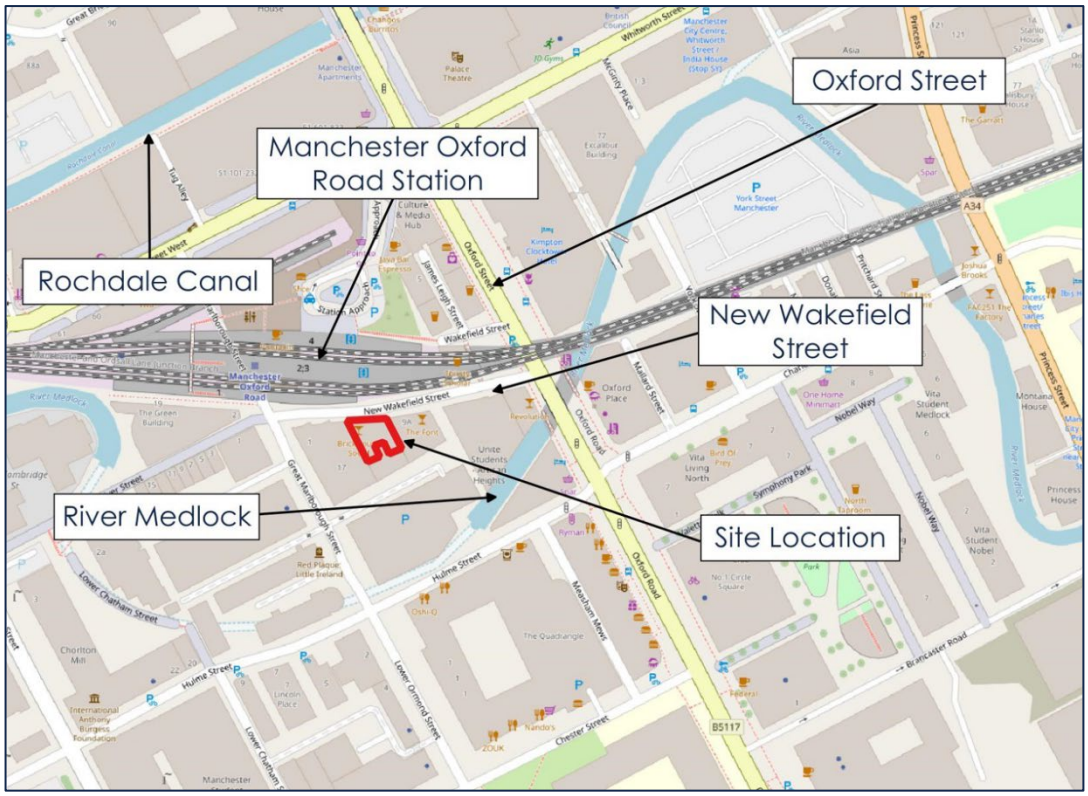
2.1.5 This assessment considers the risks of all types of flooding to the site for the lifetime of the development and ensures that flooding is made no worse off site.

3 EXISTING SITE AND HYDROLOGY CHARACTERISTICS

3.1 Site Description

3.1.1 The site is an existing building located on New Wakefield Street in central Manchester, immediately south of Oxford Road railway station. The approximate coordinates at the centre of the site are 384090, 397480. Figure 3-1 shows the site location.

Figure 3-1 Site Location



3.2 Hydrology

3.2.1 The site is located approximately 50m north of the River Medlock and 150m south of the Rochdale Canal.

3.2.2 Given the heavily urbanised nature of the site and surrounding areas, it is presumed to be served by a significant positive drainage system.

3.3 Geology and Soils

3.3.1 Geological data held by the British Geological Survey (BGS) show that entire site is underlain by *'Chester Formation'* sandstone with no mapped superficial deposits at the site.

3.3.2 The BGS Hydrogeology aquifer classification (625k) records the geology under the site and immediate surrounding areas being underlain by a *'Highly productive aquifer'*.

3.3.3 The Soilscapes web mapping identifies the soils beneath the site as *'Slowly permeable seasonally wet acid loamy and clayey soils'* with impeded drainage.

4 PROPOSED DEVELOPMENT

4.1 Site Proposals

4.1.1 The proposals are for the change of use from offices to residential accommodation.

4.1.2 The units to be amended are all located on the second and third floors of the existing building. The only works proposed at a lower level than this are ground floor bin and bike storage.

4.1.3 Access will remain from ground level and New Wakefield Street.

4.1.4 Site proposals are shown in Appendix A.

4.2 Development Vulnerability

4.2.1 Table 2 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) defines which types of development are acceptable in each flood zone and is reproduced in Table 4-1.

Table 4-1 Flood Risk Vulnerability

Flood Zone	Flood Risk Vulnerability				
	Essential Infrastructure	**Highly Vulnerable**	**More Vulnerable**	**Less Vulnerable**	**Water Compatible**
1	✓	✓	✓	✓	✓
2	✓	Exception Test Required	✓	✓	✓
3a	Exception Test Required	×	Exception Test Required	✓	✓
3b	Exception Test Required	×	×	×	✓

4.2.2 The site is for a change of use. Consequently, neither the Sequential nor Exception Tests need be applied. Furthermore, the elevated nature of the proposals well above the likely flood level means that they are effectively sequentially located within the development.

5 FLOOD RISK

5.1 National Planning Policy Framework (NPPF)

5.1.1 In accordance with the NPPF, this FRA considers the following sources of flooding:

1. Tidal Flooding – from the sea;
2. Fluvial Flooding – from rivers and streams;
3. Surface Water Flooding – from intense rainfall events;
4. Groundwater flooding – from elevated groundwater levels or springs;
5. Flooding from sewers – from existing sewer systems; and
6. Artificial sources – from reservoirs, canals etc.

5.2 Flood Zones

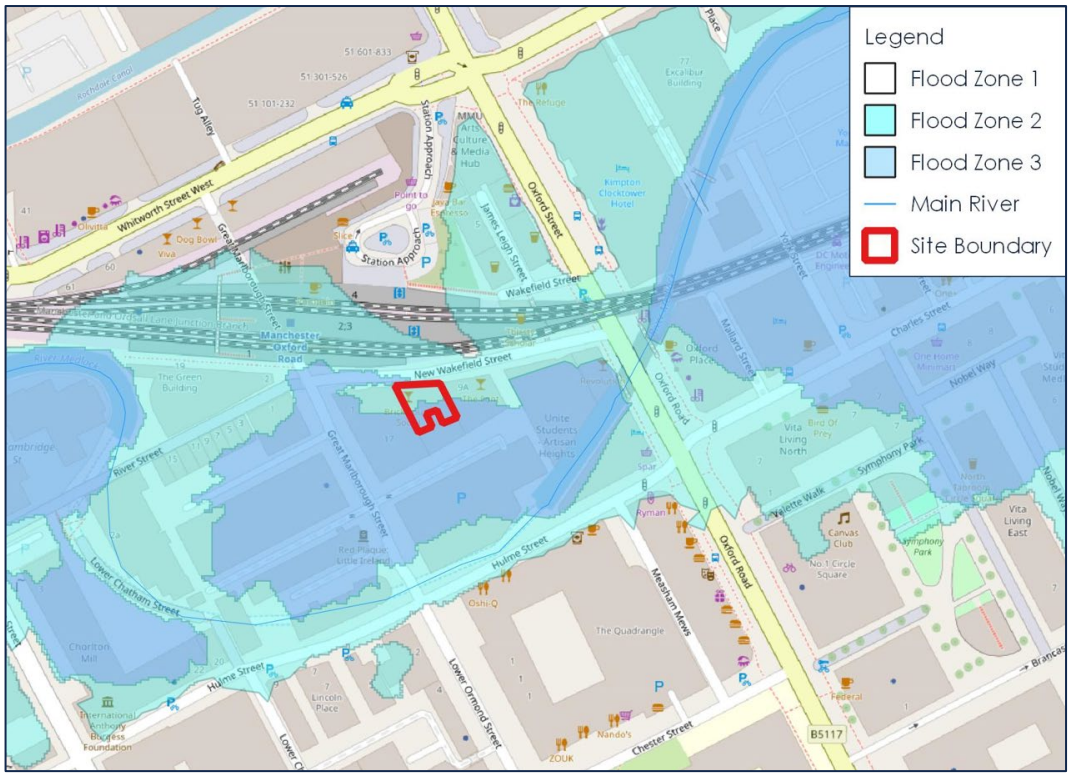
5.2.1 The Flood Zones are based on the assessed probability of the site flooding from rivers and the sea, ignoring the presence of flood defences. The flood zone classifications from the Planning Practice Guidance are presented in Table 5-1 below.

Table 5-1 Flood Zone Classification

Flood Zone	Risk	Fluvial Flooding Chance	Tidal Flooding Chance
1	Low	> 1 in 1,000 year	
2	Medium	Between 1 in 100 and 1 in 1,000 year	Between 1 in 200 and 1 in 1,000 year
3	High	Up to 1 in 100 year	Up to 1 in 200 year
3b	Functional Floodplain	Land where water has to flow or be stored in times of flood. This is defined in the relevant SFRA.	

5.2.2 The Flood Map for Planning defines the site as falling entirely within Flood Zones 2 and 3, as shown in Figure 5-1, meaning it would potentially be at high risk of flooding. However, the elevated nature of the proposed units themselves would place them outside of the flood zones and a low risk of flooding.

Figure 5-1 Flood Map for Planning



5.3 Recorded Flooding

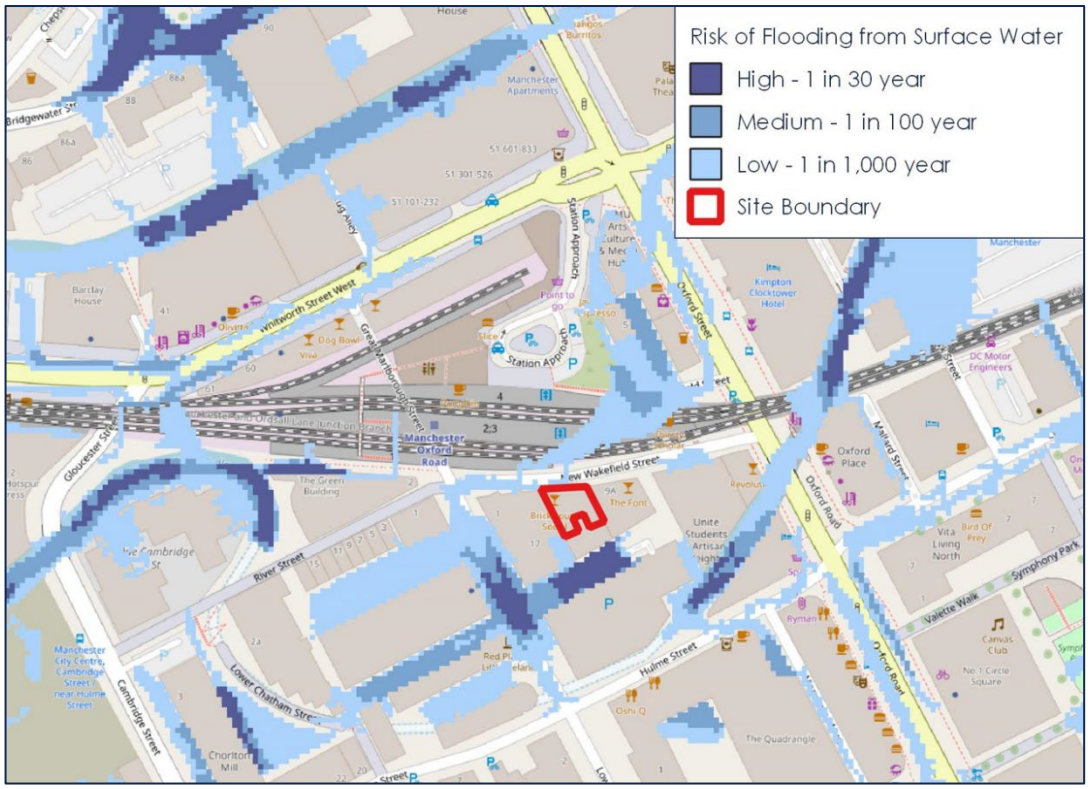
5.3.1 The EA 'Recorded Flood Outlines' dataset records no historic flood events at the site.

5.3.2 The Manchester City, Salford City and Trafford Councils Strategic Flood Risk Assessment (SFRA) indicates that the River Medlock has flooded in the past although there is no clear indication these events impacted the site.

5.4 Surface Water Flooding

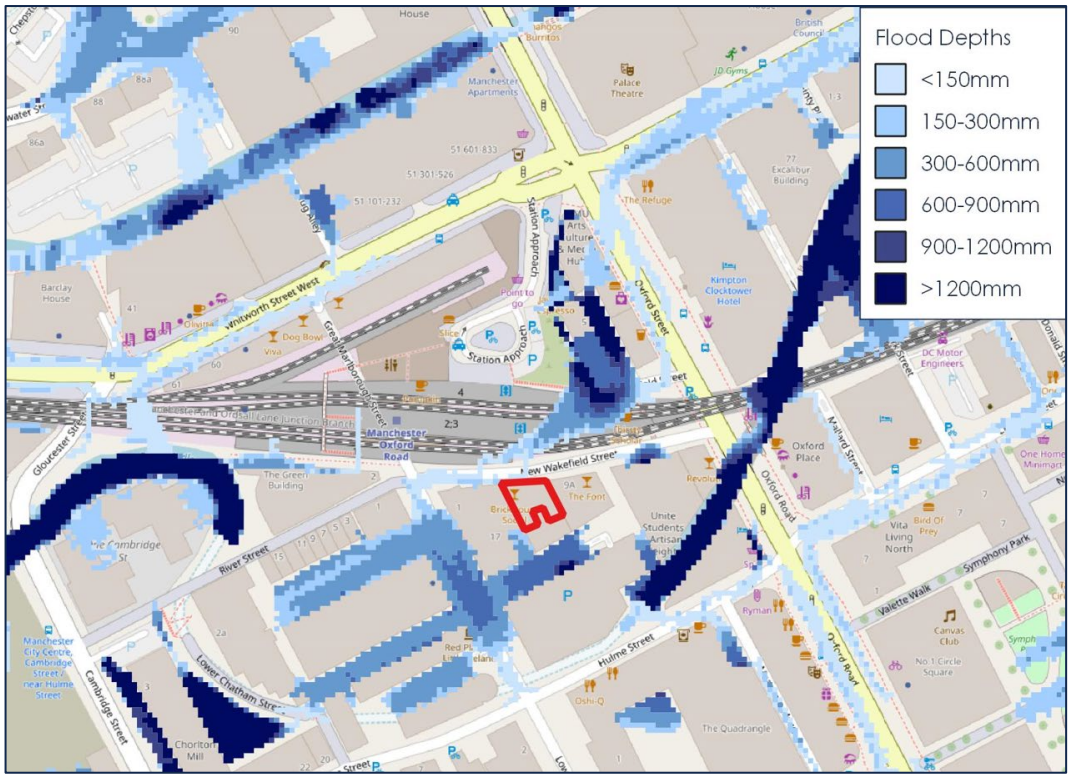
5.4.1 The Risk of Flooding from Surface Water (RoFSW) dataset indicates areas where surface water is likely to flow and accumulate. The dataset predicts that the site is at Very Low risk of surface water flooding (Figure 5-2).

Figure 5-2 RoFSW Extents



5.4.2 As shown in Figure 5-2, the road network outside the site does have some areas of predicted surface water risk. However, inspection of the RoFSW depths mapping shows the predicted depths during the 1 in 1,000 year event would be shallow, less than 150mm.

Figure 5-3 RoFSW Extents



5.5 Groundwater Flooding

5.5.1 The SFRA explains that groundwater flooding is not a significant risk across Manchester. The slowly permeable soils beneath the site would prevent the vertical movement of groundwater. In addition, there have been no recorded instances of groundwater flooding at the site.

5.5.2 As a result, the risk to the site from groundwater sources is considered to be **Low.**

5.6 Flooding from Sewers

5.6.1 The area around the site is predominantly urban and therefore presumed to be served by a public sewer network, maintained and operated by United Utilities. In the unlikely event of sewer flooding, it would be extremely unlikely to be significant enough to flood the units themselves. Consequently, the risk of sewer flooding is therefore considered to be **Low**.

5.7 Flooding from Artificial Sources

5.7.1 The Environment Agency 'Reservoir Flood Extents – Wet Day' identifies the site as being within an area of potential inundation in the event of a reservoir breach.

5.7.2 All reservoirs which are represented in the reservoir flooding dataset fall under the requirements set out in the Reservoirs Act 1975. This act makes it a legal requirement

to appoint a Supervising Engineer to produce an annual report and for the operator to address any issues raised therein. Since the introduction of the Reservoir Act, there have been no catastrophic failures of reservoirs. Consequently, it is considered that the probability of failure is very low and that the risk of flooding from reservoirs is very low.

5.7.3 The SFRA identifies the Rochdale Canal as a Broad Canal and as such they *'Do not pose a direct flood risk as they are controlled water bodies'*. The SFRA does identify a potential residual risk from the canals during an exceedance or breach event. The SFRA does explain the canals are well maintained and only used by pleasure craft, which reduces the risk of a breach. Furthermore, given the proximity to the canal and the presence of the railway embankment between the two, it is unlikely such residual risk would cause significant inundation at the site.

5.7.4 The risk of flooding from artificial sources is concluded to be **Very Low**.

5.8 Impact on Drainage

5.8.1 The proposals are for a change of use of an existing building. There will be no alteration to the impermeable footprint and consequently the impact on local drainage would be **Negligible.**

6 MITIGATION – FLOOD EMERGENCY PLAN

6.1.1 Given the elevation of the proposed units, they would remain well above predicted flood levels. Therefore, the only mitigation proposed by this assessment is to develop a sound Flood Emergency Plan (FEP) for the occupiers.

6.1.2 The units would be self-contained with their own toilets, water supply and would be warm and dry. Therefore, by their nature, the units would provide a place of safe refuge during flood conditions. As a result, the FEP, outlined below, has been compiled accordingly.

6.1.3 By adopting a 'stay-put' policy, the building occupiers would also minimise the burden placed on the emergency services during a flood event, a key aspect of relevant guidance.

6.1.4 A summary FEP is provided in Appendix B. Further details for preparing a flood plan can be found at https://www.gov.uk/prepare-for-flooding/future-flooding.

6.2 Flood Warnings and Floodline Register

6.2.1 The Environment Agency operate a flood forecasting and warning service in areas at risk of flooding. It operates 24 hours a day, 365 days a year and relies on direct measurements of river and tide levels, flood forecasting models and weather information from the Met Office.

6.2.2 Floodline Warnings is a free service provided by the Environment Agency that provides flood warnings direct by phone, email or text message.

6.2.3 The site is currently located within the Environment Agency Lower River Irwell Flood Alert area and River Medlock at Manchester City Centre Flood Warning Area, as shown in Figure 6-1 and Figure 6-2 respectively. Therefore, it is recommended the building management company and occupiers contact the Environment Agency on 0345 988 1188 and sign up to the flood warning service.

6.2.4 If flooding is forecast, alerts are provided direct to the user. The three levels of warning are summarised below:

- Flood Alert: Flooding is possible. Be prepared.
- Flood Warning: Flooding is expected. Immediate action required.
- Severe Flood Warning: Severe flooding. Danger to life.

Figure 6-1 Flood Alert Areas

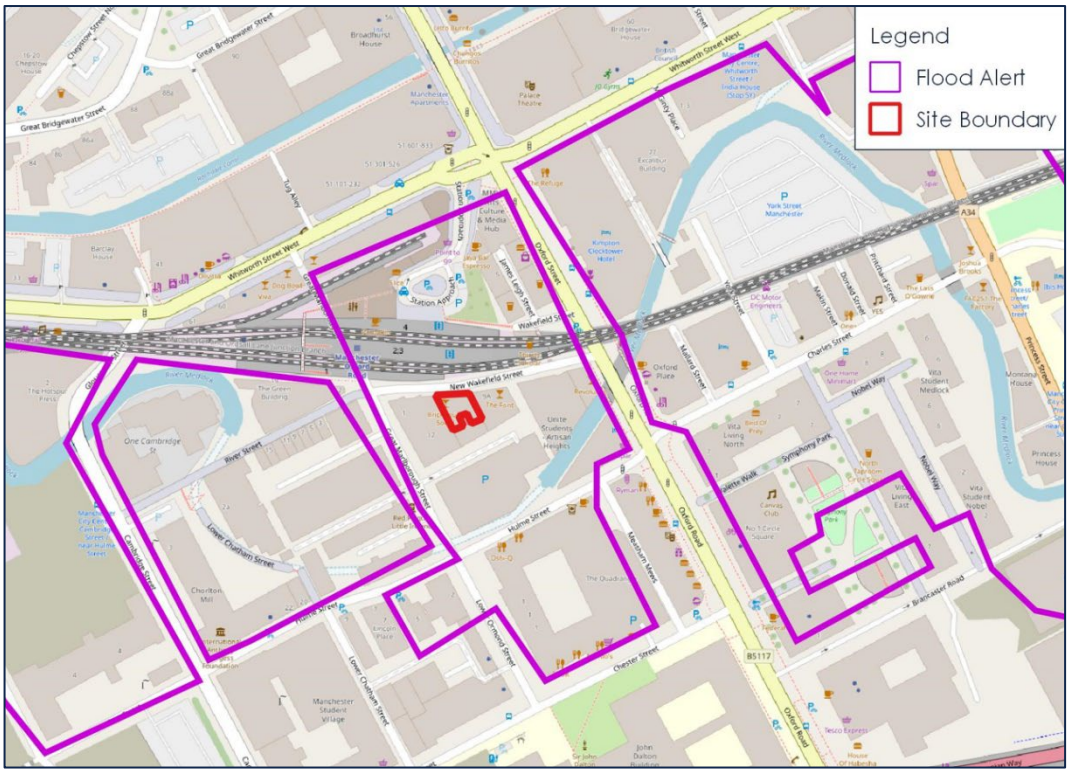
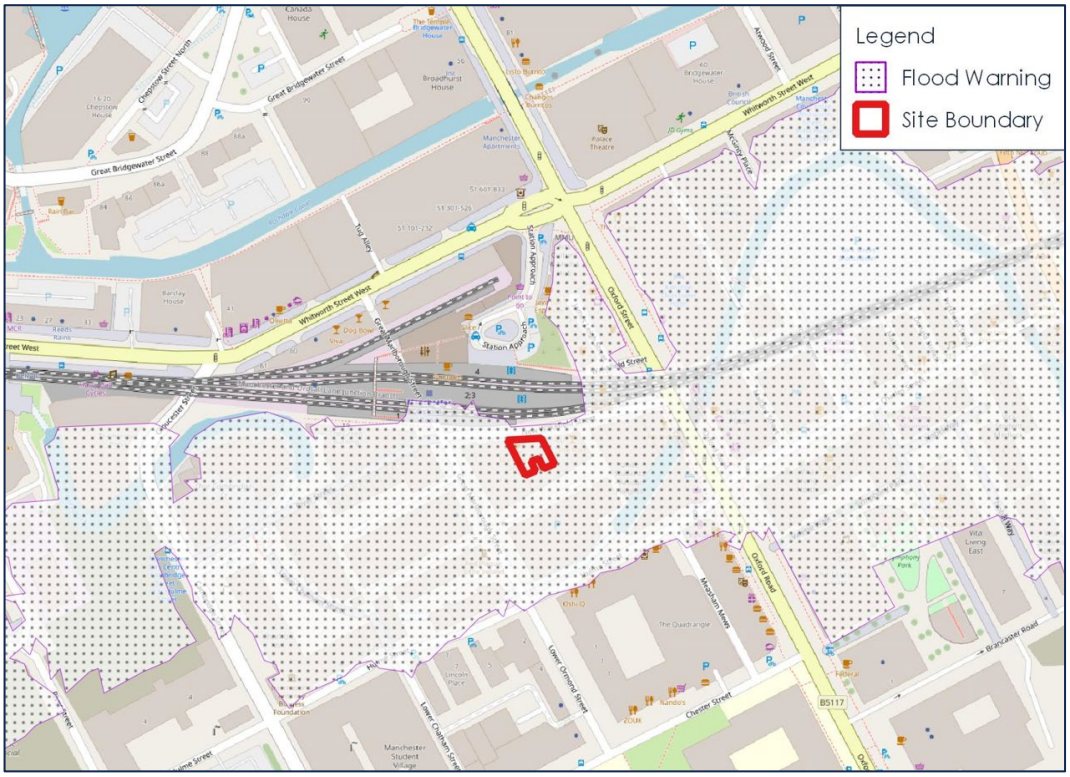


Figure 6-2 Flood Warning Areas



6.3 Estimated Flood Warning

6.3.1 Environment Agency flood warnings are typically issued at least six hours ahead of a likely event. However, given the severe weather circumstances required to generate a severe flood event, there would likely be additional warning of impending flooding problems through local news and social media channels days in advance of the event. It is recommended that building occupiers 'follow' Manchester City Council (MCC), the Met Office and Environment Agency social media accounts to stay alert to any weather or flood warnings.

6.4 Command and Control

6.4.1 The occupiers of each unit would be responsible for their own actions in the event of a flood warning, following the recommendations of this FEP. As stated above, the primary actions would be to utilise their place of safe refuge.

6.4.2 It is presumed the building occupiers could be transient but the building would be managed and maintained by a management company. This organisation would provide an overseeing role during a flood warning by assigning a FEP Manager with Deputies in case of manager absence.

6.4.3 The occupiers and FEP Manager or Deputies will receive and disseminate flood warnings and information, as required. Such information would be received from various sources, including social media feeds, the Environment Agency Floodline register or Met Office alerts.

6.4.4 The following actions are likely to be followed:

- On receipt of an Environment Agency Flood Alert: Occupiers to be prepared for a potential flood event, understand the likely cause, times and durations (if known) and remain up-to-date with weather forecasts, and look out for further messages.
- On receipt of an Environment Agency Flood Warning: As per a Flood Alert but also occupiers to ensure their place of safe refuge is ready to utilise.
- On receipt of an Environment Agency Severe Flood Warning: Occupiers to expect to utilise their place of safe refuge and remain up-to-date with weather forecasts, and look out for further messages.

6.4.5 In addition to Environment Agency Flood Warnings, the above actions could also be triggered by appropriate messages or instructions from the Emergency Services or Manchester City Council.

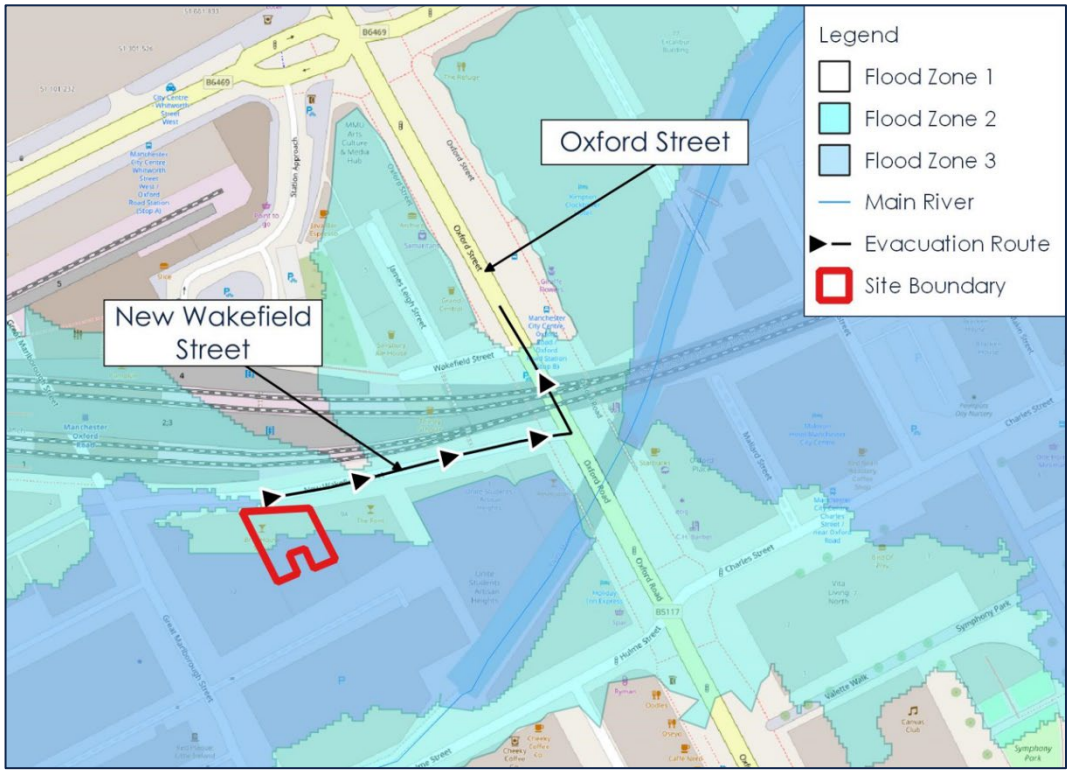
6.5 Safe Evacuation Procedures and Routes

6.5.1 Given the safe refuge available, it is extremely unlikely that evacuation would be required.

6.5.2 If evacuation were required, this should be undertaken in advance of the flood event where possible. The route to high ground in Flood Zone 1 is less than 70m. Occupiers would travel east along New Wakefield Street then north on Oxford Street, with Flood Zone 1 starting just north of the railway line.

6.5.3 The routes, shown in Figure 3-2, are adopted highways with dedicated footways adequate for all mobility needs. The FEP Manager may wish to nominate a dedicated evacuation muster point.

Figure 3-3 Evacuation Routes



6.5.4 The FEP Manager and Deputies will be responsible for ensuring evacuation procedures are followed. They would be trained to ensure those with mobility impairments are able to evacuate if elevators are faulty.

6.5.5 If flooding has occurred to land surrounding the site and the Manager/Deputy concludes that evacuation is not safe the office would act as a safe place of refuge until flooding had subsided.

6.6 Reoccupation and Wider Building Issues

6.6.1 In the extremely unlikely event that evacuation is required, issues such as reoccupation following a flood, such as post-flood safety inspections, would be co-ordinated with the other building occupiers.

6.6.2 The FEP Manager and Deputies would lead on the recovery plan and coordinate with wider building users, colleagues and MCC as appropriate before confirming when it would be safe to reoccupy the building.

6.7 Training and Exercising

6.7.1 This FEP would form part of the wider Health and Safety register for the building management, which would document the FEP Manager and Deputies and when they were trained or refreshed on its contents, and when the FEP has been disseminated to occupiers, particularly following a change in residency.

6.8 Document Control

6.8.1 This FEP will be revised at least every three years or following a flood event to reflect learning from the event.

6.8.2 When revised, the FEP should review the latest available information such as the SFRA. In particular, the latest available flood maps should be used to ensure the FEP keeps pace with climate change. It is possible that the actions and recommendations of the FEP change over time.

6.8.3 A FEP summary is included in Appendix B, which provides the key information from the FEP. The FEP summary should be made available to all site users and available for each occupier. It should be updated at least every three years, following activation of the FEP or following a drill, where required improvements have been identified. If more detailed or fundamental updates are required, then this report should also be updated.

7 SUMMARY

7.1.1 Planning permission is being sought for a change of use from second and third floor offices to residential units.

7.1.2 The site is located in Flood Zones 2 and 3 and is therefore at potential risk of flooding from the nearby River Medlock but deemed at low risk from all other sources.

7.1.3 The only ground floor proposals are bike and bin stores. The units themselves will be elevated above potential flood levels so will be at negligible risk of suffering flood damage.

7.1.4 As a result, the only mitigation proposed is to develop a robust but proportionate Flood Emergency Plan.

7.1.5 The nature of the units is that they would provide a place of safe refuge during flood conditions, with evacuation very unlikely to be required.

7.1.6 Site occupiers and the management company representatives will sign up to the Environment Agency Floodline. If a flood is predicted, occupiers should ensure their place of safe refuge is ready and stocked and they should expect to use it if the need arises.

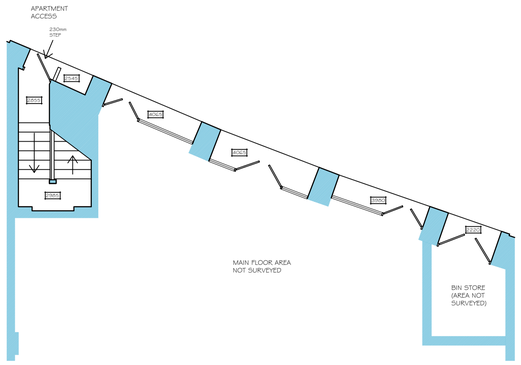
7.1.7 The change of use nature of the development would have negligible impact on local drainage.

7.1.8 This Flood Risk Assessment shows that the development will be safe for its lifetime and therefore meets the requirements of the NPPF and PPG.

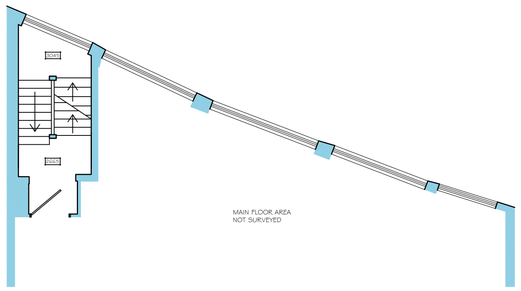
APPENDICES

APPENDIX A

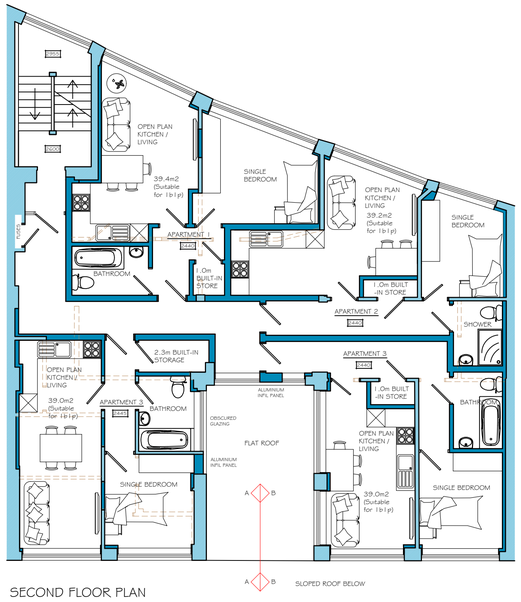
Site Proposals



GROUND FLOOR PART PLAN



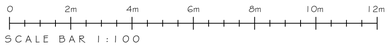
FIRST FLOOR PART PLAN



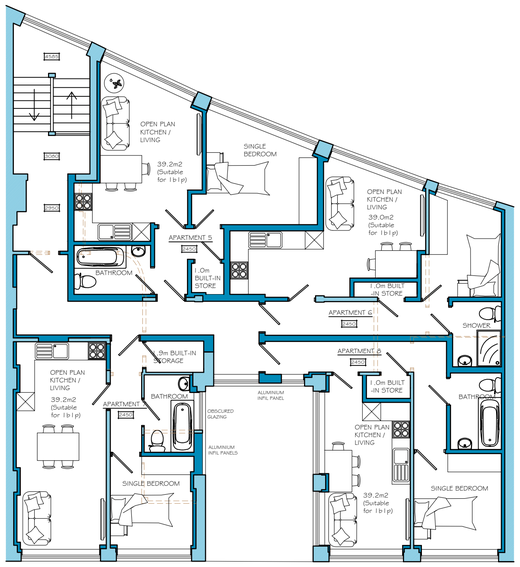
SECOND FLOOR PLAN

Number of bedrooms(b)	Number of bed spaces (persons)	1 storey dwellings	2 storey dwellings	3 storey dwellings	Built-in storage
1b	1p	39 (37) *			1.0
	2p	50	58		1.5
2b	3p	61	70		2.0
	4p	70	79		
3b	4p	74	84	90	2.5
	5p	86	93	99	
	6p	95	102	108	

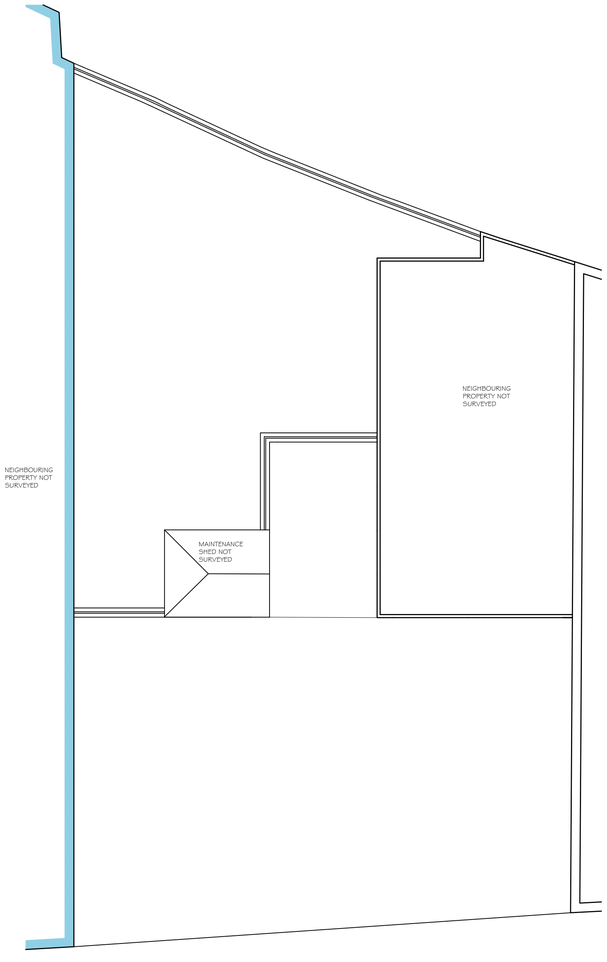
NATIONAL SPACE STANDARDS FOR HOUSING



SCALE BAR 1:100



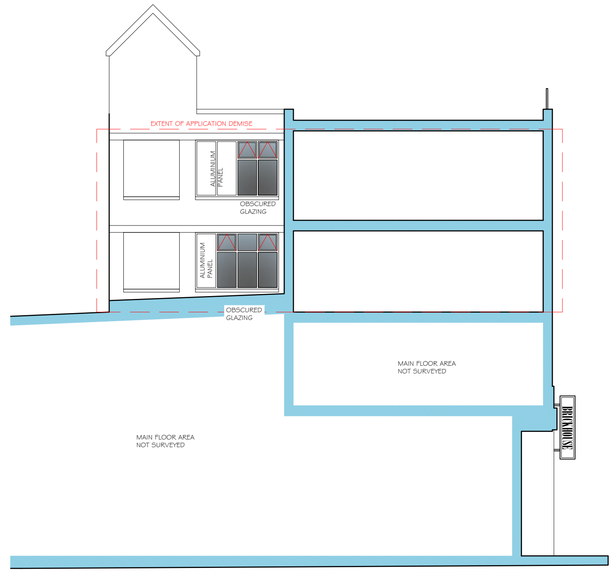
THIRD FLOOR PLAN



ROOF PLAN



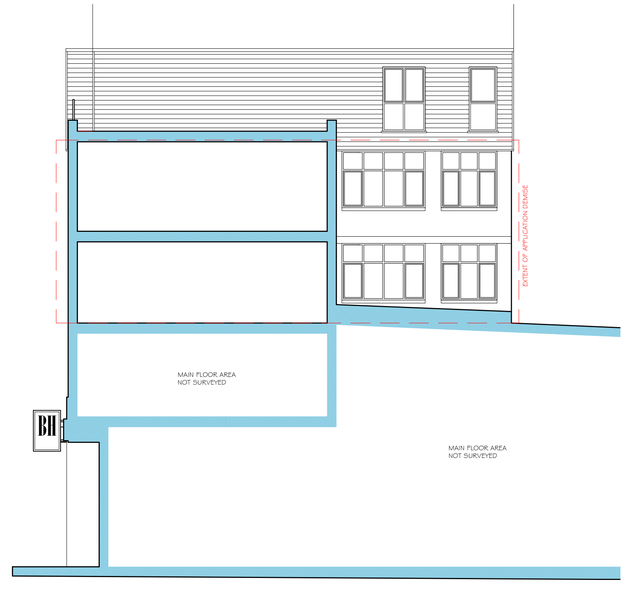
FRONT ELEVATION



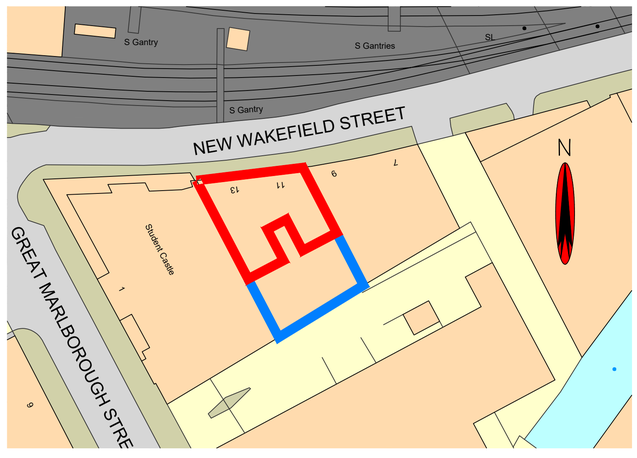
SECTION A - A



REAR ELEVATION



SECTION B - B



SITE BLOCK PLAN - 1:500

bi Design Architecture
HEAD OFFICE
79 HIGH STREET, REPTON, DERBYSHIRE, DE65 6GF
T: 01283 704882
WEST MIDLANDS OFFICE
42A HIGH STREET, SUTTON COLDFIELD, B72 1UJ
T: 0121 354 5205
ENQUIRIES@BIDESIGN-ARCHITECTURE.CO.UK
WWW.BIDESIGN-ARCHITECTURE.CO.UK

PLEASE NOTE: USE FIGURED DIMENSIONS ONLY. CONTRACTOR TO CHECK ALL LEVELS AND DIMENSIONS ON SITE PRIOR TO WORKS COMMENCING AND REPORT ANY DISCREPANCIES TO BI DESIGN ARCHITECTURE

Project:	Conversion of offices to residential apartments
Address:	11 - 13 New Wakefield Street, Manchester, M1 5NP
Client:	Timber SPV Ltd
Drawing:	Proposed Floor Plans and Elevations
Job Ref:	180D Date: 09/11/23
Drawn By:	MAC Check By: LPG
Scale:	1:100, 1:500 Drawing No: 03
Paper Size:	A1

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Appendix B

FEP Summary

FLOOD EMERGENCY PLAN SUMMARY

Title	**11-13 NEW WAKEFIELD STREET - Flood Emergency Plan Summary**
Calibro Job No. and Name	23-428-60 11-13 New Wakefield Street, Manchester
Version no.	
Completed by	
Date	

1 FLOOD EMERGENCY PLAN SUMMARY

1.1.1 This document provides a summary of the Flood Emergency Plan (FEP) for the site at 11-13 New Wakefield Street. It provides the key information from the main FEP document (reference '23-428-60-030 – 11-13 New Wakefield Street, Manchester FRA').

1.1.2 This document should be updated at least every three years, following activation of the FEP or following a drill, where required improvements have been highlighted.

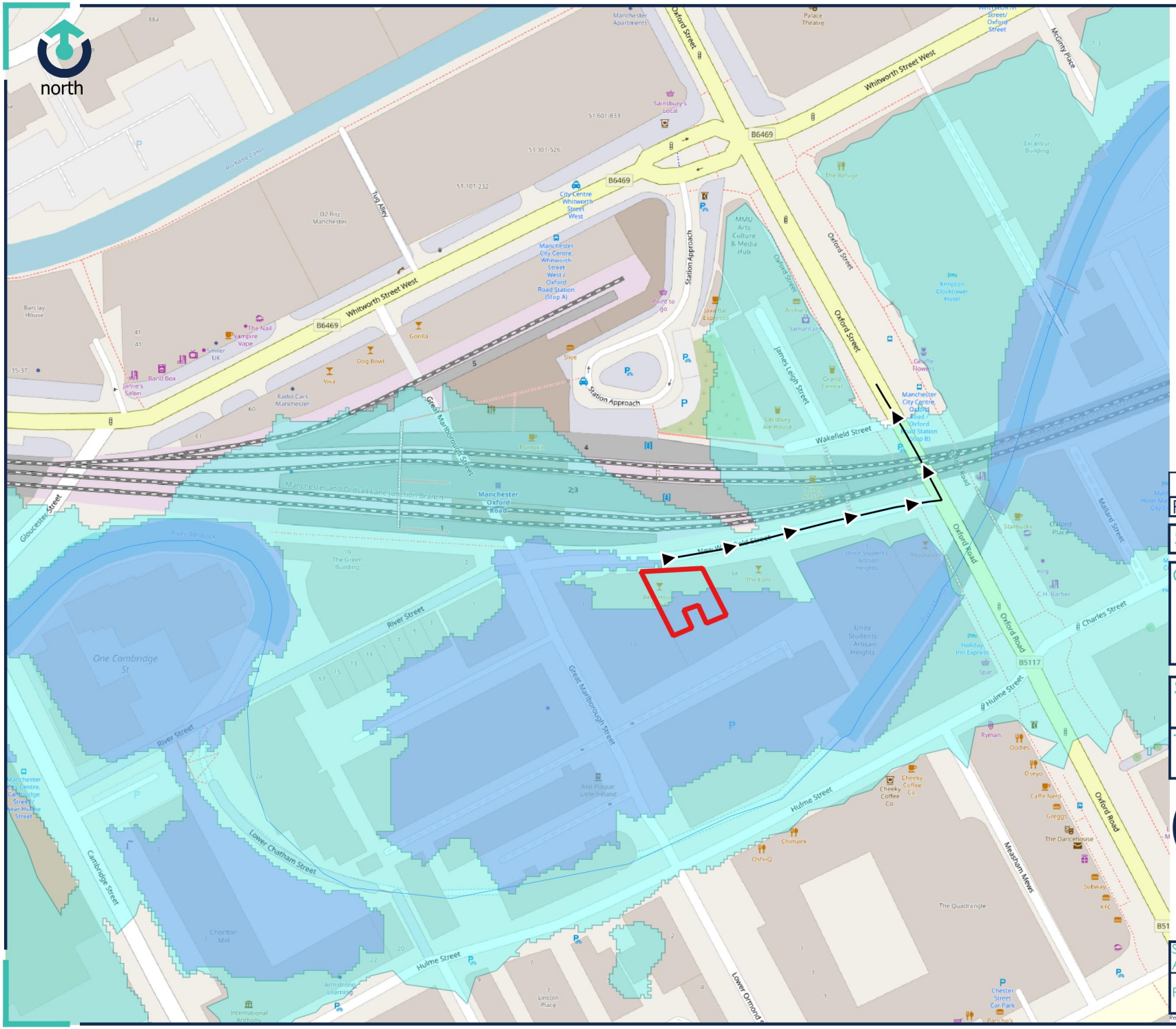
Table 1-1 FEP Summary

Key Contact	Name	Phone Number
FEP Manager		
FEP Deputy (1)		
FEP Deputy (2, if required)		
Environment Agency	Floodline (24hrs a day)	0345 988 1188
Manchester City Council	Civil Emergency (24hrs a day)	01612237222
Others (FEP Manager etc.)		

FLOOD EMERGENCY PLAN SUMMARY

Key Site Info	
Flood Zone Location	Flood Zone 2 and 3 – see plan in Appendix A Available via https://flood-map-for-planning.service.gov.uk/
Response Procedure – EA Flood Alert	Occupiers to be prepared for a potential flood event, understand the likely cause, times and durations (if known) and remain up-to-date with weather forecasts, and look out for further messages.
Response Procedure – EA Flood Warning	As per a Flood Alert but also occupiers to ensure their place of safe refuge is ready to utilise.
Response Procedure – EA Severe Flood Warning	Occupiers to expect to utilise their place of safe refuge and remain up-to-date with weather forecasts, and look out for further messages.
Evacuation Route	East along New Wakefield Street then north along Oxford Street - see plan in Appendix A
Evacuation Muster Point (if known)	
Other info./notes	

APPENDIX A – FLOOD ZONE AND EVACUATION ROUTE PLAN



REV:	DESCRIPTION:	BY:	DATE:
	FIRST ISSUE	CF	14.12.23

STATUS: FOR INFORMATION

CLIENT:
TIMBER SPV LTD

SITE:
11-13 NEW WAKEFIELD ST

TITLE:
FLOOD
EVACUATION ROUTE

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SCALE AT A4:	DATE:	DRAWN:	CHECKED:
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