

Flood Risk Assessment

**The Works' Alexandra Park
Housing Office, 130
Alexandra Road, Moss Side,
Manchester, M16 7WD**



Presented to: Manchester City Council

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Report Details

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Reference of Terms

Canal Failure

Canal failure can include a breach or overtopping of a canal system due to the effects of a high intensity rainfall event or structural failure that is not associated with a rainfall event. Such failure can be very dangerous as it can involve the rapid release of large volumes of water at high velocity, however, it is typically limited to reaches of canal that are raised above the surrounding ground level on one or both side and where watercourses or other structures pass beneath the canal. The size and nature of canals themselves can also have a hydraulic control on the mechanisms of flooding associated with a failure, resulting in a rapid peak in flow followed by a gradual reduction as the flow becomes restricted by the capacity of the canal itself to rapidly pass flow to the breach or failure point.

Fluvial Flooding

Fluvial flooding typically occurs when a river's capacity is exceeded, and the excess water overtops the river banks. It can also occur when the watercourse has a high level downstream, perhaps due to structures or blockage, thus limiting conveyance. This creates a back-up of water which can overtop the banks. Typical flooding issues occur when the natural floodplain has been urbanised and the river has been confined.

Groundwater Flooding

Groundwater flooding is caused by the emergence of water from beneath the ground at either point or diffuse locations when the natural level of the water table rises above ground level. This can result in deep and long-lasting flooding of low-lying or below-ground infrastructure such as underpasses and basements. Groundwater flooding can cause significant damage to property, especially in urban areas, and can pose further risks to the environment and ground stability.

Reservoirs Failure

Reservoir failure can be a particularly dangerous form of flooding as it results in the sudden release of large volumes of water that can travel at high velocity. This can result in deep and widespread flooding, potentially resulting in significant damage. The likelihood of reservoir flooding occurring is generally extremely low given that all large reservoirs are managed in accordance with the Reservoirs Act 1975. Under the Reservoirs Act 1975, a large raised reservoir is defined as one that holds over 25,000 cubic metres of water above the level of the surrounding land. The EA's online reservoir inundation map illustrates the maximum flood extents that could potentially occur in the event of a reservoir failure.

Sewer Flooding

Flooding from sewers primarily occurs when flow entering a system exceeds available capacity or if the network capacity has been reduced through blockage or collapse. In the case of surface water sewers that discharge to watercourses, the same effect can be caused as a result of high water levels in the receiving watercourse. As a result, water can begin to surcharge the sewer network, emerging at ground level through gullies and manholes and potentially causing flooding to highways and properties. If this occurs flooding can represent a significant hazard to human health due to the potential for contaminants in flood water.

Surface Water Runoff

Surface water runoff is defined as water flowing over the ground that has not yet entered a drainage channel or similar. It usually occurs as a result of an intense period of rainfall which exceeds the infiltration capacity of the ground. Typically, runoff occurs on sloping land or where the ground surface is relatively impermeable. The ground can be impermeable either naturally due to the soil type or geology, or due to development which places impervious material over the ground surface (e.g. paving and roads).

Tidal Flooding

Tidal flooding is caused by high tides coinciding with a low-pressure storm system which raises sea and tidal water levels, overwhelming coastal and river defences. This may be made worse by gale force winds blowing the raised body of water up tidal river basins some distance from the coast, due to floodwater being forced up the tidal reaches of rivers and estuaries. Such flooding may become more frequent in future years due to rising sea levels.

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1.0 Introduction

1.1 Appointment

- 1.1.1 Lucion Delta-Simons Limited ("Lucion") was instructed by Manchester City Council (the "Client") to carry out a Flood Risk Assessment (FRA) of The Works' Alexandra Park Housing Office, 130 Alexandra Road, Moss Side, Manchester, M16 7WD (the "Site") to support a planning application for an extension to the existing building and conversion of the building to provide homeless accommodation.

1.2 Project Understanding

- 1.2.1 On the Environment Agency (EA)'s Flood Map for Planning, the Site is shown to be located within Flood Zone 1 (Low Probability), Flood Zone 2 (Medium Probability) and Flood Zone 3 (High Probability).
- 1.2.2 The aim of this report is to assess the potential flood risk to the Site, the impact of the proposed development on flood risk elsewhere, and the proposed measures which could be incorporated to mitigate the identified risk. This report has been prepared in accordance with the guidance contained in the National Planning Policy Framework (NPPF) revised in 2024, and the National Planning Practice Guidance (NPPG) Flood Risk and Coastal Change.

1.3 Scope of Works

- 1.3.1 The scope of works has been as follows for this FRA:
- Assess flood risk to and from the proposed development from all sources using best available information including review of EA data and mapping, topography and historical records;
 - Assess relevant local authority plans or strategies;
 - Advise on flood mitigation measures and residual risks;
 - Assess evacuation routes;
 - Advise on availability of flood warnings;
 - Consider the requirement for a Sequential Test; and
 - Prepare FRA report.
- 1.3.2 This report takes into account the following national and local policies:
- National Planning Policy Framework (NPPF) (2024)¹;
 - Flood risk and coastal change: National Planning Practice Guidance (NPPG) (2022)²; and
 - The Manchester City Council Core Strategy Development Plan Document 2012 – 2027 (July 2012).

1.4 Sources of Information

- 1.4.1 The following sources of information have been reviewed and assessed for the purpose of this FRA:
- EA Flood Map for Planning³;
 - EA Long Term Flood Risk Map⁴;

1 https://assets.publishing.service.gov.uk/media/67aafe8f3b41f783cca46251/NPPF_December_2024.pdf

2 <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

3 <https://flood-map-for-planning.service.gov.uk/>

4 <https://www.gov.uk/check-long-term-flood-risk>

- British Geological Society (BGS) Interactive Map⁵;
- MAGIC Interactive Map⁶;
- Manchester City Council Proposed Drainage Layout (Ref. APH-MCC-ZZ-ZZ-DR-A-0020)
- Manchester City Council Preliminary Flood Risk Assessment (2011 PFRA);
- Manchester City Council Strategic Flood Risk Assessment (2011 SFRA);
- Manchester City Council Surface Water Management Plan (2012 SWMP); and
- Manchester City Council Local Flood Risk Management Strategy (2014 LFRMS).

1.5 Project Limitations

1.5.1 The Lucion limitations are contained within Appendix A.

⁵ <https://geologyviewer.bgs.ac.uk>

⁶ <http://www.magic.gov.uk/>

2.0 Site Description



Figure 1: Site Location Plan

Co-ordinates	Centred on approximately at E: 383315, N: 395491	Area (approx.)	0.16 Ha
Site Location	The Site is located on Alexandra Road to the south of Manchester City Centre. Deansgate train station is located approximately 2.0 km north of the Site.		
Existing Site Conditions	Online mapping (including Google Maps and Google Streetview imagery, accessed on the 12/06/2026) shows that the Site is currently occupied by an employment agency, comprising of one main building in the centre and north of the Site with an associated car park in the south. Peripheral areas of landscaping are present on Site. Access to the Site is provided from Alexandra Road to the east for both pedestrians and vehicles. Alternate pedestrian access is available from a pedestrian path to the north of the Site. The Site is bordered by residential properties to the south and east, a GP practise to the west, and commercial properties to the north.		
Topography	A topographic survey has been undertaken by NTB Survey in May 2026 (reference 10893) and is included in Appendix B. The survey shows that the Site rises from 30.54 metres Above Ordnance Datum (m AOD) in the southeast to 30.98 m AOD in the northwest. Threshold levels (THL) of the building on Site are shown to be at a minimum of 31.12 m AOD in the south of the building. THL increase to 31.16 m AOD in the west of the building at 31.18 m AOD at the main entrance along the eastern elevation. It is inferred that finished floor levels (FFL) are no lower than the THL. The topographic survey is included in Appendix B. Topographic levels to metres Above Ordnance Datum (m AOD) have also been derived from a 1 m resolution EA composite 'Light Detecting and Ranging' (LiDAR) Digital Terrain Model (DTM). A		

	review of LiDAR ground elevation data shows that the Site rises from approximately 30.5 m AOD in the southeast to 31 m in the northwest. A LiDAR extract is also included in Appendix B.
Hydrology	The nearest watercourse is the Platt Brook, which is located approximately 1.70 km south of the Site and flows west, entering a culvert at this point. It is a tributary to Chorlton Brook (also known as Red Lion Brook upstream of the Site). Approximately 1.90 km southwest of the Site Chorlton Brook is culverted and continues flowing west. Other watercourses in the area include the Corn Brook which is located approximately 1.85 km northwest of the Site. The Corn Brook is culverted throughout most of Manchester. Starting in Openshaw 4.70 km northeast of the Site and flowing in an easterly direction, it flows into the Manchester Ship Cannel approximately 1.90 km northwest of the Site. There is also the River Medlock which is located approximately 1.90 km northwest of the Site. The River Medlock flows west into the Bridgewater canal approximately 2.00 km north of the Site. The Bridgewater Canal is located approximately 1.78 km northwest of the Site, managed by The Bridgewater Canal Company Limited, which operates in conjunction with the Bridgewater Canal Trust. All of these watercourses are classified as Main Rivers and are under the jurisdiction of the EA.
Geology	Reference to the British Geological Survey (BGS) online mapping (1:50,000 scale) indicates that the Site is underlain by superficial Devensian Glaciofluvial sheet deposits generally comprising sand and gravel. The superficial deposits are identified as being underlain by bedrock deposits of Wilmslow Sandstone Formation generally comprising sandstone. The geological mapping is available at a scale of 1:50,000 and as such may not be accurate on a Site-specific basis. The closest publicly available historical BGS borehole record (BGS Ref: SJ89NW4216) on the same superficial stratum as the Site is located 470 m southwest of the Site (E: 383030, N: 395094). The borehole was dug in 2000 to a depth of 5.00 metres below ground level (m bgl). The borehole record indicates that the geology consisted of the following general sequence: • 0.00 – 0.90 m bgl – Made Ground – Concreate, cobblestone and black sandy clayey soil; • 0.90 – 1.60 m bgl – Firm grey clay/silt; • 1.60 – 2.30 m bgl – Grey/medium brown sand with occasional fine to coarse gravel; • 2.30 – 2.60 m bgl – Medium brown clay/silt with fine to coarse gravel; • 2.60 – 3.60 m bgl – Medium brown coarse sand and gravel; over • 3.60 – 5.00 m bgl – Stiff becoming very stiff, medium brown sandy clay with fine to coarse gravel.
Hydrogeology	According to the BGS's Aquifer Designation data, obtained from MAGIC Map's online mapping [accessed 15/06/2026], the superficial deposit is classified as a Secondary A Aquifer. Secondary A Aquifers are 'permeable layers capable of supporting water supplies at a local rather than strategic scale, and in some cases forming an important source of base flow to rivers. These are generally aquifers formerly classified as minor aquifers'. The underlying bedrock deposit is described as a Principal Aquifers. Principal Aquifers are 'layers of rock or drift deposits that have high intergranular and/or fracture permeability - meaning they usually provide a high level of water storage. They may support water supply and/or river base flow on a strategic scale'. The EA's 'Source Protection Zones' data, obtained from MAGIC Map's online mapping [accessed 15/06/2026], indicates that the Site is not located within a Groundwater Source Protection Zone.

	The Soilsmap mapping obtained from MAGIC Map's online mapping [accessed 15/06/2026] shows the Site to be located in an area of '<i>naturally wet very acid sandy and loamy soils</i>'. Groundwater was struck in the BGS borehole SJ89NW4216 at 1.60 m bgl and a standing water level was not recorded.
Proposed Site Conditions	The development proposal is for an extension to the existing building and the conversion of the building to provide accommodation for homeless people consisting of 19 bedrooms with shared facilities, staff rooms and plant rooms. The proposed development would retain the existing threshold levels of 31.12 m AOD. Proposed development plans are included in Appendix C.

3.0 Introduction

- 3.1.1 The aim of this section of the report is to discuss the main aspects of the local and national planning policies that are relevant to any proposed development on the Site and relevant guidance and legislation.

3.2 Assessment of Flood Risk

- 3.2.1 The flood risk from fluvial and tidal sources is outlined on the EA Flood Maps for Planning. This map defines three zones of different flood risk, the third of which is subdivided into two categories:

- Zone 1 “Low probability of flooding” – This zone comprises land assessed as having a less than 1 in 1,000 annual probability of river or sea flooding (<0.1%);
- Zone 2 “Medium probability of flooding” – This zone comprises land assessed as having between a 1 in 100 and 1 in 1,000 annual probability of river flooding (1% – 0.1%), or between a 1 in 200 and 1 in 1,000 annual probability of sea flooding (0.5% – 0.1%) in any year;
- Zone 3a “High probability of flooding” – This zone comprises land assessed as having a 1 in 100 or greater annual probability of river flooding (>1%), or a 1 in 200 or greater annual probability of flooding from the sea (>0.5%) in any year; and
- Zone 3b “Functional floodplain” – A sub-part of Zone 3, this zone comprises land where water has to flow or be stored in times of flood. This zone is not delineated on the Flood Map for Planning and is calculated through detailed hydraulic modelling.

3.3 National Planning Policy Framework

- 3.3.1 Flood risk in England is normally considered through the planning process in the NPPF (2024), produced by the Ministry of Housing, Communities and Local Government.

- 3.3.2 The principal aim of the NPPF assessment of flood risk is that:

“Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere”.

The NPPF requires an FRA to be produced where development Sites are:

- Greater than one hectare in size;
- All proposals for new development (including minor development and change of use) in Flood Zones 2 and 3;
- Or in an area within Flood Zone 1 which has critical drainage problems (as notified to the local planning authority by the EA);
- Identified in a Strategic Flood Risk Assessment as being at increased risk in the future; and
- Where proposed development or a change of use to a more vulnerable class may be subject to other sources of flooding.

- 3.3.3 The NPPF requires that developers consider not just the flood risk to the development but also the impact that the development might have on flood risk elsewhere. As well as Main Rivers and the sea, it is also necessary to consider flood risk from other sources, including surface water, groundwater, Ordinary Watercourses, artificial drainage systems, canals and reservoirs.

Vulnerability Classification

- 3.3.4 In accordance with Annex 3: Flood risk vulnerability classification in the NPPF, residential institutions are considered to be **'more vulnerable'**. Table 2 of the NPPG (reproduced below as Table 1), states that **'more vulnerable'** development is considered appropriate within Flood Zones 1 and 2. However the Exception Test must be satisfied for development within Flood Zone 3.

Table 1: Flood Risk Vulnerability Classification

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water-Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	✗	Exception Test required	✓	✓
Zone 3b	Exception Test required	✗	✗	✗	✓

✓ Exception test not required

✗ Development should not be permitted

- 3.3.5 The Sequential and Exceptions Tests are considered further in Section 5.

3.4 Local Policy

- 3.4.1 The Manchester City Council Core Strategy Development Plan Document 2012 – 2027 contains the following policies relating to flood risk and the following requirements for a Flood Risk Assessment.

Policy EN14 Flood Risk

- *In line with the risk-based sequential approach contained within PPS25, development should be directed away from sites at the greatest risk of flooding, and towards sites with little or no risk of flooding; this should take account of all sources of flooding identified in the Manchester-Salford-Trafford Strategic Flood Risk Assessment (SFRA).*
- *In addition to the requirements for site-specific Flood Risk Assessments (FRAs) set out in PPS25, an appropriate FRA will also be required for all development proposals, including changes of use, on sites greater than 0.5ha within Critical Drainage Areas (CDAs) and Canal Hazard Zones identified in the SFRA.*
- *All new development should minimise surface water run-off, including through Sustainable Drainage Systems (SUDS) and the appropriate use of Green Infrastructure. Developers should have regard to the surface water run-off rates in the SFRA User Guide. In CDAs, evidence to justify the surface water run-off approach/rates will be required.*
- *The City of Manchester contains many sections of rivers which are culverted or 'hidden'; where these are indicated in the SFRA beneath the proposed development site, further investigation will be required and the development proposal should take this into account; where feasible and appropriate development should seek to open up culverted/hidden rivers to reduce the associated flood risk and danger of collapse, taking advantage of opportunities to enhance biodiversity and Green Infrastructure.*

3.5 Climate Change

- 3.5.1 The EA 'Flood Risk Assessments: Climate Change Allowances' Guidance states that More Vulnerable developments should utilise the Central Allowance.
- 3.5.2 The EA's online Peak River Flow Map⁷ indicates that within the Irwell Management Catchment, the Central Allowance equates to 35% for the 2080s epoch.

⁷ <https://environment.data.gov.uk/hydrology/climate-change-allowances/river-flow>

4.0 Assessment of Flood Risk

4.1 Tidal Flood Risk

- 4.1.1 The Site is located approximately 52 km inland and is situated at a minimum of approximately 30.50 m AOD and is significantly above sea level. Therefore, there is no risk from tidal flooding.

4.2 Fluvial Flood Risk

- 4.2.1 The nearest watercourse is the Platt Brook which is located approximately 1.70 km south of the Site.
- 4.2.2 The Site is situated partially within Flood Zone 1 (less than 0.1% annual probability) in the northwest corner and along the western boundary, Flood Zone 2 (between 0.1% to 1% annual probability) across the building and within the northeast and Flood Zone 3 (greater than 1% annual probability) in the south for the present day. With the impacts of climate change for the years 2070 to 2125, small areas in the west and north of the Site are shown to be within the combined Flood Zone 2 and 3 extents, in addition to the areas of present day Zones 2 and 3, as shown in Figure 2.

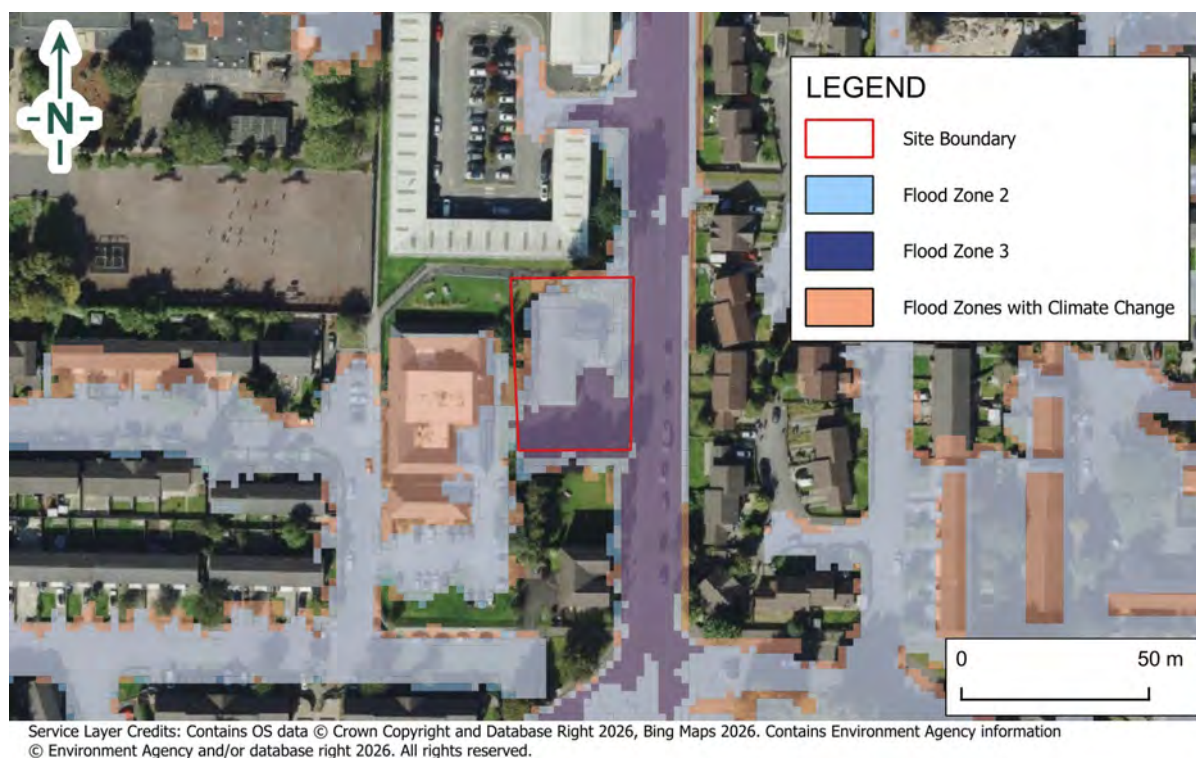


Figure 2: EA's Flood Map for Planning

- 4.2.3 The EA's Long Term Flood Risk Map shows the Site to be mostly at Low chance (between 0.1% - 1% annual probability), with a small area within the northwest corner of the Site to be outside an area of Very Low Chance (<0.1% annual probability). With the impacts of climate change for the years 2036-2069, the Site is shown to be wholly within an area of Low chance.
- 4.2.4 According to the EA's 'Spatial Flood Defences with Standardised Attributes' dataset there are embankment defences located along both of Platt Brook's banks to the south of the Site, which have a Standard of Protection (SoP) of up to 1 in 100 years (1% AEP) and a condition of 'Fair' (defects that could reduce performance of asset). The defences have an upstream crest level of 31.37 m AOD and downstream crest level of 30.25 m AOD.
- 4.2.5 Fluvial flooding could occur if the Platt Brook or Chorlton Brook overtopped their banks/defences during or following an extreme rainfall event.

- 4.2.6 The EA 'Historical Flood Map' (Appendix D) indicates that the Site and immediate surrounding area have not previously flooded.
- 4.2.7 The Site is located within the 'Lower River Irwell catchment including areas in Greater Manchester' Flood Alert Area. The Site is not shown to be located within a Flood Warning Area. It is recommended that Site management signs up to the free EA Floodline Service on 0345 988 1188 to receive real time updates on potential flood events.

EA Product Data

- 4.2.8 The EA have provided data from the Corn Brook 2017 and the Charlton Platt Gore 2024 models and is included in Appendix E. The model indicates the risk to the Site during various Annual Exceedance Probability (AEP) events during defended and undefended scenarios. The models are 1D-2D to simulate both in channel and out of channel flows.
- 4.2.9 The EA data provided a climate change scenario of 1% AEP plus 35% event which is representative of the required climate change (CC) allowance to be considered at the Site.

Corn Brook 2017 Model

Defended

- 4.2.10 No data was provided for a defended flood event from the Corn Brook.

Undefended

- 4.2.11 The model shows the Site lies outside of a flood extent up to and including the 1% AEP (1 in 100 year) plus 70% climate change event. The Site is only impacted within the 0.1% AEP (1 in 1000 year) event in both the present day and climate change scenarios. This exceeds the design standard of the 1% AEP plus 35% CC.
- 4.2.12 Access and egress during all scenarios is achievable via Alexandra Road and the pedestrian path to the north of the Site in all scenarios.
- 4.2.13 Therefore, the Site is at low risk of flooding from the Corn Brook for both the present day and with the impacts of climate change.

Chorlton Platt Gore 2024 Model

Defended

- 4.2.14 During the present day events the Site is not impacted by flooding up to and including the 0.1% AEP event.
- 4.2.15 With the impacts of climate change the Site remains outside of the flood extent up to and including the 0.1% AEP + 53% CC allowance event.

Undefended

- 4.2.16 The risk to the Site during both a present day and climate change event is the same as during a defended scenario, therefore the Site lies outside of all flood extents up to and including the present day 0.1% AEP event and the 0.1% AEP + 53% CC event.
- 4.2.17 Therefore, the Site is not considered to be at risk of flooding from the River Chorlton, Platt Brook and Gore Brook.

Third Party Reports

- 4.2.18 There is no relevant Site specific information found within the relevant third party reports.

Summary

- 4.2.19 On the basis of the Site is not at risk from Chorlton Brook, Platt Brook and Gore Brook, nor Corn Brook during the 1% plus 35% CC design event, the risk to the proposed development associated with fluvial flooding is considered to be **Low**. No mitigation is required and safe access and egress remains available.

4.3 Surface Water Flood Risk

- 4.3.1 The EA's Flood Map for Planning (Surface Water) indicates that the southeast corner of the car park is at risk in the 1 in 30 year (3.3% annual probability) event. The car park and building are at risk in the 1 in 100 year (1% AEP event) event. The northeastern corner of the Site is at risk in the 1 in 1000 year (0.1% AEP) event, as shown in Figure 3. The remaining parts of the Site are not at risk in the 0.1% AEP event.

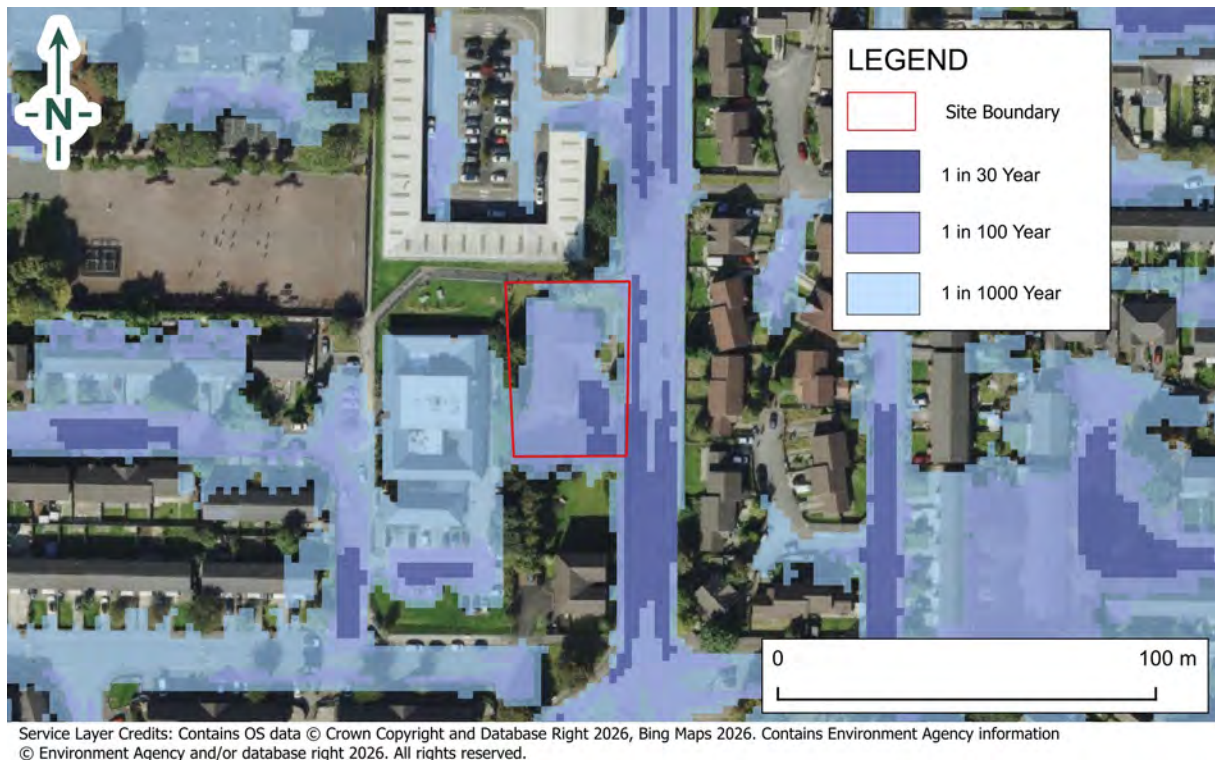


Figure 3: EA's Flood Map for Planning (Present Day)

- 4.3.2 During the 1 in 30 year event depths within the southeast of the car park are shown to be less than 150 mm. These depths are considered passable to both people and vehicles and would not impact the use of the Site. The rest of the Site is not at risk of surface water flooding.
- 4.3.3 During the 1 in 100 year event flood depths of less than 150 mm are indicated to occur to the east and west of the building. The topographic survey indicates a minimum ground level of 30.68 m AOD adjacent to the main building entrance along the eastern elevation and 30.70 m AOD along the western elevation at the rear building entrance. Therefore, depths of less than 150 mm would result in maximum flood levels of 30.83 m AOD and 30.85 m AOD respectively. Threshold levels at the building main entrance are indicated to be 31.18 m AOD and the western entrance to be 31.16 m AOD. Therefore, FFL are 350 mm and 310 mm respectively above the flood level and internal flooding would not occur as indicated on the mapping.
- 4.3.4 The proposed extension area in the south is shown to experience depths between 150 mm and 300 mm. The topographic survey indicates a minimum ground level of 30.56 m AOD in this area. Therefore, depths up to 300 mm would result of a maximum flood level of 30.86 m AOD. The existing threshold level of the entrance along the southern boundary of the building is 31.12 m AOD, the same threshold level is anticipated to be used for the proposed extension. Therefore, FFL are 260 mm above the flood level and internal flooding would not occur.
- 4.3.5 Depths of less than 150 mm are also shown to be located to the northeast of the building where the heat pump is proposed to be located. The topographic survey indicates levels at this location to be 30.67 m AOD.

- 4.3.6 The car park is indicated to be impacted at depths of between 150 mm and 300 mm. These depths are considered passable to both people and vehicles and therefore the car park can continue to be used. Depths surrounding the pedestrian access to the east is also shown to be impacted by depths of less than 150 mm, which won't impact Site access.
- 4.3.7 Access and egress to the Site is considered achievable along Alexandra Road and the pedestrian path during the 1 in 30 year and 1 in 100 year events.

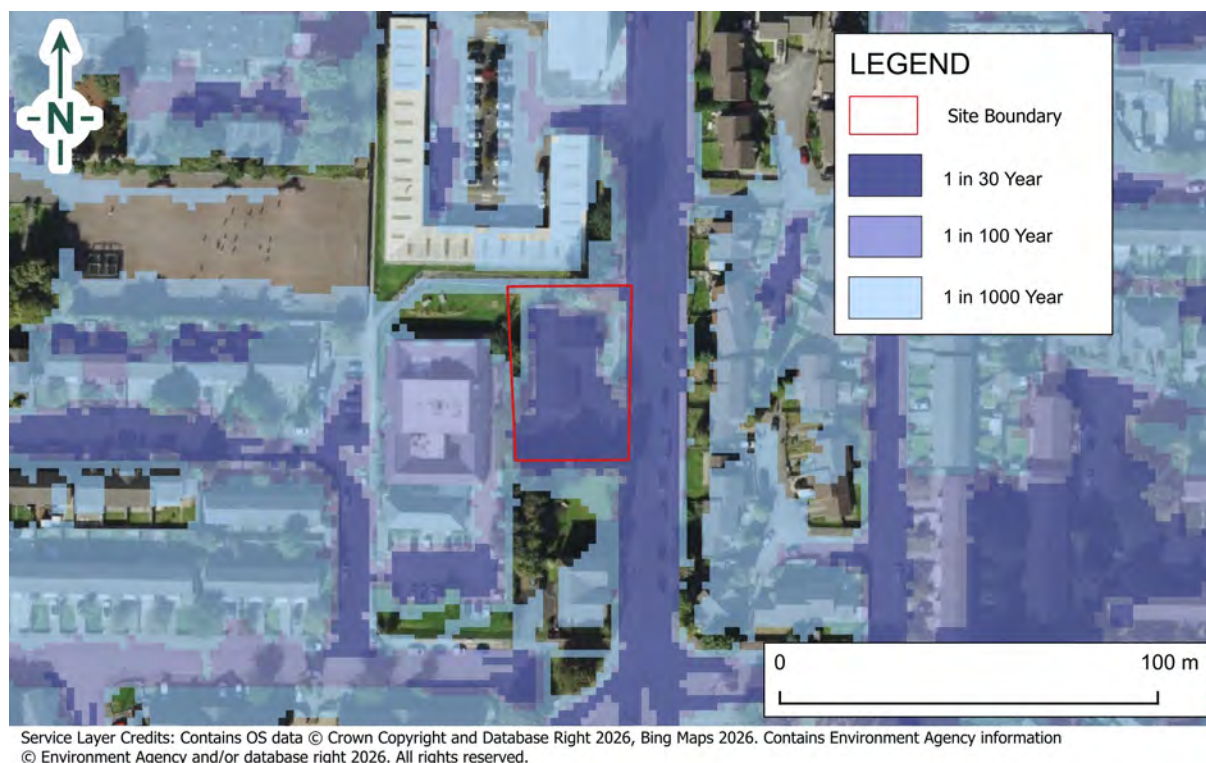


Figure 4: EA Flood Map for Planning (Surface Water) 2061-2125

- 4.3.8 The EA has also provided surface water data that includes an allowance for climate change. This dataset accounts for the future chance of flooding by incorporating the latest UK Climate Projections (UKCP18) from the Met Office, applying the 'Central' climate change allowance for the 2050s epoch (2061-2125) using the Representative Concentration Pathway (RCP) 8.5 scenario to assess the chance of flooding from surface water.
- 4.3.9 During the 1 in 30 year + CC event extents increase over the present day to show the building being affected by flooding of depths less than 150 mm. However, this would not occur as shown, given that the building THL is 260 mm – 350 mm above the flood levels, as evaluated in the present day 1000 year event, for which the flood depth categories are the same.
- 4.3.10 Depths to the northeast of the building where the heat pump is proposed to be located remain less than 150 mm.
- 4.3.11 The car park is indicated to be impacted at depths of between 150 mm and 300 mm. These depths are considered passable. Depths surrounding the pedestrian access to the east are less than 150 mm, which won't impact Site access.
- 4.3.12 During the 1 in 100 year + CC event, the greatest flood depths on-Site are 300 – 600 mm to the east of the building and also in the southeast of the Site. The lowest ground levels in these two areas are 30.51 m AOD and 30.45 m AOD respectively and therefore conservative flood levels – using the maximum 600 mm depth – would be 31.11 m AOD and 31.05 m AOD. However, as these are not adjacent to the existing building and proposed extension areas, the flood depths adjacent to the building of 150 – 300 mm can be used for establishing design levels.

- 4.3.13 The topographic survey indicates a minimum ground level of 30.68 m AOD adjacent along the eastern elevation and 30.70 m AOD along the western elevation. Therefore, depths up to 300 mm would result in maximum flood levels of 30.98 m AOD and 31.00 m AOD respectively. Threshold levels for the main building entrance along the eastern boundary are indicated to be 31.18 m AOD and the western entrance to be 31.16 m AOD. Therefore, FFL are currently 200 mm and 160 mm respectively above the design flood level.
- 4.3.14 The proposed extension area in the south would experience depths between 150 mm and 300 mm, resulting in a maximum flood level of 30.86 m AOD (as per paragraph 4.3.4). Therefore, FFL are currently 260 mm above.
- 4.3.15 However, finished floor levels for residential uses are typically required to be situated a minimum of 300 mm above the flood level. The FFL for the existing building would then need to be raised to 31.30 m AOD, with the extension constructed to a minimum FFL of 31.16 m AOD.
- 4.3.16 As only internal alterations are proposed to the existing building and given the proposed end use of temporary accommodation for homeless people, with the rooms not being sold or rented at a market rate and as the FFLs are at least 160 mm above the flood level, it is deemed disproportionate to raise existing floor levels. EA guidance⁸ states that where it is not possible to raise FFL 300 mm above the flood level flood resistance and resilience measures up to 600 mm above the flood level would be required. The measures would be required to a level of 31.58 m AOD for the eastern entrance and 31.60 m AOD for the western entrance.
- 4.3.17 Measures including flood proof doors or demountable barriers should be implemented at the existing entrances along the eastern and western sides of the building. Air bricks on the existing building – where present below 31.60 m AOD - should be replaced with flood resistant air bricks. These measures will help prevent the ingress of water to the existing building should wave action occur within floodwater and the flood level increase. It is also recommended that a non-return valve is installed on the drainage pipes within the Site boundary, to prevent backflow during a flood event.
- 4.3.18 As the proposed extension is a new construction the FFL will be required to be situated 300 mm above the flood level, at a minimum of 31.16 m AOD as above. A Flood Response Plan to detail roles and responsibilities, the use of flood resistance measures and emergency procedures in the event of a flood is also recommended.
- 4.3.19 Depths between 150 mm and 300 mm are shown to be located to the northeast of the building where the heat pump is proposed to reside. Therefore, it would be recommended that the heat pumps concrete based would be raised to a minimum of 300 mm above the flood level to reduce the risk from climate change. Based on ground level of 30.67 m AOD the minimum required level (accounting for 300 mm of flooding) would be 31.27 m AOD to avoid flooding affecting electrical equipment.
- 4.3.20 Isolated areas within the east of the car park to the north adjacent to the building and in the south-east corner increase to depths between 300 mm and 600 mm. These depths are not considered passable to people and vehicles and therefore the car park should not be accessed on foot or in vehicle during this event. Depths surrounding the pedestrian Site access to the east are also shown to be 150 and 300 mm.
- 4.3.21 Access and egress to the Site is considered achievable both northward and southward along Alexandra Road during the 1 in 30 year event. Access and egress is considered achievable northward only along Alexandra Road during the 1 in 100 year event. Pedestrian access to the west is available in the 1 in 30 and 1 in 100 year events.

Mitigation

- 4.3.22 To reduce the risk from surface water flooding in the northeast to the proposed heat pump it is recommended that the concrete base it is placed on is raised to a minimum of 31.27 m AOD to protect it during the present day and climate change % AEP (1 in 100 year) events.

⁸ <https://www.gov.uk/guidance/preparing-a-flood-risk-assessment-standing-advice>

- 4.3.23 The proposed building extension in the south should have a finished floor level 300 mm above the flood level which would require it to be situated at a minimum of 31.16 m AOD, to protect it from internal flooding during both the present day and climate change 1% AEP events.
- 4.3.24 On the existing building flood proof doors or demountable barriers need to be implemented to a minimum height of 600 mm above the flood level which results in a level of 31.58 m AOD for the eastern entrance and 31.60 m AOD for the western entrance. Flood resistant airbricks should be included up to these levels too.
- 4.3.25 The proposed extension is situated within an area at risk from surface water flooding. Therefore, the addition of the building footprint would reduce the surface water floodplain and could increase surface water flooding elsewhere. To reduce the impact on flood risk elsewhere it would be recommended that an attenuation tank with the equivalent volume of displaced surface water is installed as part of the drainage system on Site.
- 4.3.26 Based on the measurements included within the proposed development plan (Appendix C) it has been calculated that the proposed extension is approximately 142 m². The whole of the proposed extension area lies within the 1% AEP plus CC extent where depths are between 150 mm and 300 mm. Based on a maximum flood depth of 300 mm the additional building area could displace an equivalent 42.6 m³ of surface water during the design event. Therefore, an attenuation tank which can store the 42.6 m³ of displaced surface water during the 1% AEP plus CC event would be required to prevent flood risk increasing elsewhere.
- 4.3.27 A Flood Response Plan should be produced to educate Site occupants on the risk of external flooding, with actions for Site management to take in advance of, during and after a potential surface water flood event. This would also detail the safe access routes and operation of flood resistance measures.

Third Party Reports

- 4.3.28 There is no relevant Site specific information found within the relevant third party reports.

Summary

- 4.3.29 Based on the mitigation proposed, the implementation of flood resistance measures on the existing building and the construction of the extension floor level to a minimum of 31.16 m AOD, the building would be safe during the 1% AEP plus CC event. Access and egress remains available in the 1% AEP plus CC event and can be identified in a Flood Response Plan. The incorporation of an attenuation tank to store floodwater displaced by the extension would prevent flood risk increasing off-Site.
- 4.3.30 It can therefore be concluded that the proposed accommodation building is at **Low** risk of surface water flooding once mitigation measures are implemented.

4.4 Groundwater Flood Risk

- 4.4.1 The underlying geology consists of sand and gravel based on the BGS online mapping. The BGS borehole record SJ89NW4216 described the underlying geology as varying degrees of clay, sand and gravel. Groundwater was encountered at 1.60 m bgl in the aforementioned BGS borehole record.
- 4.4.2 Due to the distance between the Site and the closest BGS borehole record available to view (470 m southwest of the Site), the geology recorded in this log may not be representative of the conditions underlying the Site.
- 4.4.3 Whilst BGS mapping suggests that the underlying geology comprises gravel and sand, the nearby borehole indicates the presence of clay in the underlying strata which would help restrict the movement of groundwater.
- 4.4.4 The Site will be predominantly hardstanding, limiting the risk of groundwater emergence at the surface and there are no basement levels proposed as part of the development.

Third Party Reports

- 4.4.5 There is no relevant Site specific information found within the relevant third party reports.

Summary

- 4.4.6 It can therefore be concluded that the proposed development is at **Low** risk of groundwater flooding.

4.5 Artificial Sources Flood Risk**Reservoir Flooding**

- 4.5.1 The EA 'Flood Risk from Reservoirs' map shows that the Site is at risk from the following reservoirs during both a 'dry-day' (where river levels are normal) and a 'wet-day' scenario (where there is also flooding from rivers):

- Audenshaw No.3: Owner: United Utilities PLC, Located 7.75 km east of the Site;
- Audenshaw No.1: Owner: United Utilities PLC, Located 7.75 km east of the Site; and
- Audenshaw No.2: Owner: United Utilities PLC, Located 8.24 km east of the Site.

- 4.5.2 The EA state that reservoir flooding is extremely unlikely to happen. All large reservoirs must be inspected and supervised by reservoir panel engineers. As the enforcement authority for the Reservoirs Act 1975 in England, the EA ensure that reservoirs are inspected regularly, and essential safety work is carried out.

Summary

- 4.5.3 It can therefore be concluded that the proposed development is at **Low** risk of reservoir flooding.

Canal Flooding

- 4.5.4 The Bridgewater Canal is located approximately 1.78 km northwest of the Site at approximately 25.17 m AOD. The Site is situated a minimum of 30.54 m AOD and is elevated significantly above the canal. Canals water levels are managed reducing the risk of an overtopping event.

Third Party Reports

- 4.5.5 The 2014 LFRMS highlights that the Bridgewater Canal does not pose a direct flood risk as it is a controlled water body with regulated flows.

Summary

- 4.5.6 It can therefore be concluded that the proposed development is at **Low** risk of canal flooding.

Sewer Flooding

- 4.5.7 Sewer flood risk is typically hard to predict. In the unlikely event of sewer surcharging, water would likely flow in a south-westerly direction following local topography, rather than ponding on Site.

- 4.5.8 The condition and capacity of the existing drainage network is unknown.

- 4.5.9 The sewer company should be contacted prior to development to ensure the existing sewer network has sufficient capacity for the proposed development and can accommodate any additional flows.

- 4.5.10 It is also recommended that non-return valves are added to the sewer network to prevent the backflow of surface or foul water into the building.

Third Party Report

- 4.5.11 There is no relevant Site specific information found within the relevant third party reports.

Summary

- 4.5.12 It can therefore be concluded that the proposed development is at **Low** risk of sewer flooding.

4.6 Summary of Flood Risk

- 4.6.1 The proposed accommodation building is evaluated to be at Negligible to Low risk from all sources of flood risk.
- 4.6.2 The Site lies outside of a fluvial flood extent from the Corn Brook, Chorlton Brook, Platt Brook and Gore Brook for the 1% AEP + 35% CC event and is not at risk from these watercourses in the present day or with the impacts of CC.
- 4.6.3 Whilst external surface water flooding would occur during the 30 year and 100 year present day and climate change events, internal flooding would not occur. Mitigation measures have been proposed to ensure that the development remains safe over its lifetime, without increasing flood risk off-Site, these are reiterated in 4.7 below. Access and egress also remain achievable for both the present day and with the impacts of climate change.

4.7 Mitigation Measures

- 4.7.1 The following mitigation measures have been recommended:
- Sign up to the free EA Floodline Service on 0345 988 1188 to receive real time updates on potential flood events in the wider area of the Site;
 - Situate the heat pump on a base raised to a minimum of 31.27 m AOD to protect it during the 1% AEP climate change event;
 - Set the finished floor level of the proposed extension at a minimum of 31.16 m AOD to protect them from internal flooding;
 - Flood proof doors or demountable barriers need to be implemented to the eastern and western entrances of the existing building to a minimum level of 31.58 m AOD for the eastern entrance and 31.60 m AOD for the western entrance. All existing airbricks below those levels should be replaced with flood resistant airbricks;
 - Add non-return valves to the sewers leaving the Site to prevent backflow into the building
 - A Flood Response Plan should be produced to educate Site occupants on the risk of external flooding, with actions for Site management to take in advance of, during and after a potential surface water flood event. This would also detail the safe access routes and operation of flood resistance measures; and
 - Incorporate an attenuation tank for the equivalent volume of displaced floodwater (approximately 42.6 m³) to compensate for the loss of surface water floodplain storage from the additional building footprint.

4.8 Residual Risks

- 4.8.1 A residual risk is an exceedance event, such as a 1 in 1000 year (0.1% AEP) flood event that would overtop Corn Brook and potentially impact the Site. As the probability of a 1 in 1000 year flood event occurring is 0.1% in any given year, the probability is low and, therefore, no further mitigation beyond what is proposed is required.

4.9 Impact on Flood Risk Elsewhere

- 4.9.1 The building extension, new ramps and external infrastructure will be located outside of the 1% AEP plus CC fluvial flood extent. The development will therefore not remove flood storage space from the fluvial floodplain.
- 4.9.2 The proposed extension is situated within an area at risk from surface water flooding. Therefore, the addition of the building footprint would reduce the surface water floodplain and could increase surface water flooding elsewhere.
- 4.9.3 It has been recommended to include an attenuation tank to store the 42.6 m³ of displaced surface water during the 1% AEP + CC event to prevent flood risk increasing elsewhere.

5.0 Sequential and Exception Test

5.1 Sequential Test

- 5.1.1 A key part of the NPPF is that a proposed development must pass a "Sequential Test" to demonstrate that the overall development proposal is appropriate in terms of flood risk. It ensures that a sequential approach is followed to guide new development to areas with the lowest probability of flooding.
- 5.1.2 In accordance with paragraph 27 of the NPPG: Flood Risk and Coastal Change, the Sequential Test should be applied to Major and Non-Major development in areas at risk of flooding as stated within the NPPF.
- 5.1.3 Paragraph 27 states that a proportionate approach should be taken: 'Where a site-specific Flood Risk Assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development without increasing flood risk elsewhere, then the Sequential Test need not be applied'.
- 5.1.4 This has been fully assessed as part of Section 4.
- 5.1.5 Based on the model data for the Corn Brook, Chorlton Brook, Platt Brook and Gore Brook the Site is not at risk from fluvial flooding in the climate change design event. Fluvial mitigation measures are not required.
- 5.1.6 Threshold levels of the building are situated above the anticipated surface water flood level in the respective areas and the finished floor level of the proposed extension will be elevated, so that a 300 mm freeboard is achieved above the interpolated flood levels. At the existing entrances where FFLs cannot be raised flood resistance measures will be implemented to help prevent ingress of water. As such, there is a low risk for internal flooding to occur in the 1% AEP climate change event. Access and egress also remain achievable for both the present day and with the impacts of climate change. Therefore, the proposed development is deemed to be at low risk from surface water flooding.
- 5.1.7 Therefore, the Sequential Test is considered to be passed.

5.2 Exception Test

- 5.2.1 In accordance with Table 2 of the NPPG: Flood Risk and Coastal Change, residential developments are considered to be 'more vulnerable'. Table 3 of the NPPG: Flood Risk and Coastal Change, states that 'more vulnerable' development is considered appropriate within Flood Zones 1 and 2. However, the Exception Test must be satisfied for development within Flood Zone 3a.
- 5.2.2 The Exception Test determines whether the benefits of the proposed development will outweigh the potential flood risk. For the Exception Test to be passed it must be demonstrated that:
- A. the development would provide wider sustainability benefits to the community that outweigh flood risk, informed by a SFRA where one has been prepared; and
 - B. the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall through undertaking a Site-specific flood risk assessment.
- 5.2.3 With reference to point (a) above, the proposed development of accommodation for homeless people will contribute to the Council's Policy H10 within the Development Plan Document and creates housing for people with additional support needs. There is a nationwide critical lack of housing and accommodation for those who are homeless, which is leading to significant financial strain on local authorities. This development would seek to reduce the long term costs associated with temporarily housing people in hotels or similar.

5.2.4 With reference to point (b) above, this Flood Risk Assessment demonstrates that while partially within Flood Zone 3, EA modelled data shows that the Site remains outside of the 1% plus CC fluvial flood extents. Furthermore, the building will be safe from surface water flooding as thresholds are situated above the flood level and will be raised 300 mm above the interpolated flood levels, as per the requirements for residential uses. Additionally, safe and egress is considered achievable.

5.2.5 Mitigation measures have been recommended accounting for the 1% AEP plus CC design event, this includes:

- Situating the proposed heat pump on a concrete base that is raised to a minimum of 31.27 m AOD;
- The proposed building extension to have a minimum finished floor level of 31.16 m AOD;
- Flood proof doors or demountable barriers need to be implemented to the eastern and western entrances of the existing building to a level of 31.58 m AOD for the eastern entrance and 31.60 m AOD for the western entrance. Along with replacing all existing airbricks below that level with flood resistant airbricks;
- Inclusion of an attenuation tank to store floodwater otherwise displaced during the design event by the proposed extension. Therefore, there will be no increase in flood risk off-Site; and
- Producing a Flood Response Plan.

5.2.6 The Exception Test is therefore considered to be passed.

6.0 Conclusions and Recommendations

6.1 Conclusions

- 6.1.1 The proposed development is for an extension to the existing building and conversion of the building to homeless accommodation.
- 6.1.2 The risk of flooding from all sources has been assessed and the flood risk to the proposed building is considered to be low.
- 6.1.3 The EA 'Flood Map for Planning' map shows that the Site is partially located within Flood Zone 1, Flood Zone 2 and Flood Zone 3. The Site lies outside of a fluvial flood extent from the Corn Brook, Chorlton Brook, Platt Brook and Gore Brook for the 1% AEP + 35% CC event and is not at risk from these watercourses in the present day or with the impacts of CC. Safe access and egress to the Site is considered achievable during all fluvial AEP events modelled. Fluvial mitigation measures are not required.
- 6.1.4 Whilst external surface water flooding would occur during the 30 year and 100 year present day and climate change events, internal flooding would not occur. Mitigation measures have been proposed to ensure that the development remains safe over its lifetime, without increasing flood risk off-Site, these are reiterated in 6.2 below. Internal flooding would not occur in the 1% AEP plus climate change event.
- 6.1.5 An attenuation tank will be required to compensate an estimated 42.6 m³ for the loss of surface water floodplain from the proposed building extension in the south for the 1% AEP plus CC event.
- 6.1.6 Vehicular and pedestrian access to the Site is achievable in all directions in the present day and northward only in the climate change events up to and including the 1% AEP events. A Flood Management Plan should be produced to educate Site occupants on the risk of external flooding, with actions for Site management to take in advance of, during and after a potential surface water flood event. This would also detail the safe access routes.

6.2 Recommendations

Flood Risk

- Sign up to the free EA Floodline Service on 0345 988 1188 to receive real time updates on potential flood events in the wider area of the Site;
- Situate the proposed heat pump on a base raised to a minimum of 31.27 m AOD;
- Set finished floor levels of the proposed extension at a minimum of 31.16 m AOD;
- Flood proof doors or demountable barriers need to be implemented to the eastern and western entrances of the existing building to a minimum level of 31.58 m AOD for the eastern entrance and 31.60 m AOD for the western entrance. All existing airbricks below these levels should be replaced with flood resistant airbricks;
- Install an attenuation tank for the equivalent volume of displaced water (approximately 42.6 m³); and
- A Flood Response Plan should be produced to educate Site occupants on the risk of external flooding, with actions for Site management to take in advance of, during and after a potential surface water flood event. This would also detail the safe access routes and operation of flood resistance measures.

Appendix A – Limitations

Limitations

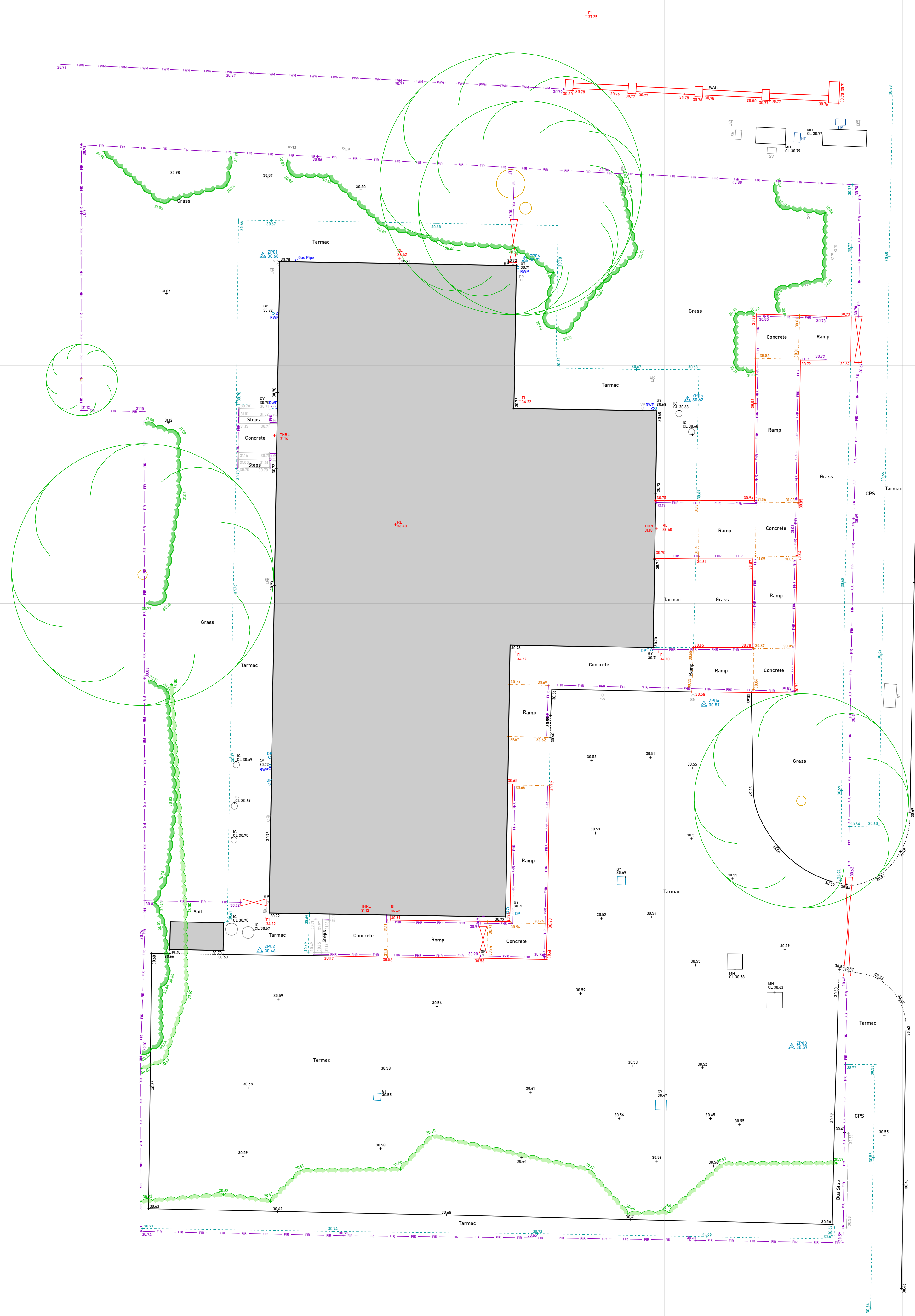
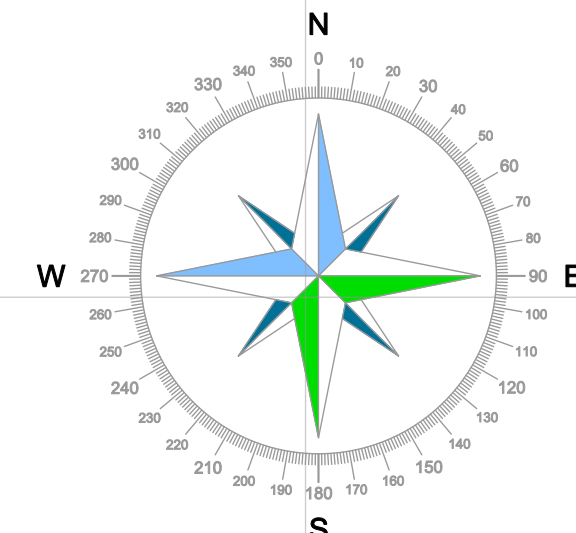
The recommendations contained in this Report represent Lucion professional opinions, based upon the information listed in the Report, exercising the duty of care required of an experienced Environmental Consultant. Lucion does not warrant or guarantee that the Site is free of hazardous or potentially hazardous materials or conditions.

Lucion obtained, reviewed and evaluated information in preparing this Report from the Client and others. Lucion conclusions, opinions and recommendations has been determined using this information. Lucion does not warrant the accuracy of the information provided to it and will not be responsible for any opinions which Lucion has expressed, or conclusions which it has reached in reliance upon information which is subsequently proven to be inaccurate.

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Appendix B – Topographic Data

SURVEY STATIONS			
Name	Easting	Northing	Height
ZP03	383325.353	395471.385	30.571
ZP02	383303.015	395475.434	30.663
ZP04	383321.667	395485.761	30.569
ZP05	383320.981	395498.566	30.620
ZP01	383303.140	395504.590	30.677
ZP06	383314.145	395504.446	30.707



Alexandra Road

[illegible]

Tel: 0161 4478890 | Email: info@ntbsurvey.com | www.ntbsurvey.com



Legend

- Site Boundary
- Contours
- ELEV in m AOD
 - 30.00 - 30.50
 - 30.50 - 31.00
 - 31.00 - 31.50
 - 31.50 - 32.00
 - 32.00 - 32.50
 - > 32.50



0 50 m

Figure		
LiDAR Plan		
Job		
The Works' Alexandra Park Housing Office, 130 Alexandra Road, Manchester, M16 7WD		
Client		
Manchester City Council		
Appendix:	Revision	Date
B	1	03 July 2026
Drawn by	Checked by	Scale
EB	RS	1:1,000
Job No.		
151370.730233		



Appendix C – Proposed Development Plans

- All contract docs, inc designers risk logs
- Schedule of Works and Proposed Drawings
- Site Location Plans
- Existing Drawings
- Asbestos Report
- Ecology Assessment
- Drainage Survey

All measurements and fixing details contained on this drawing are indicative only. This drawing should not be used for setting out.

All dimensions must be checked by measurement on site by the Contractor(s). Any discrepancies identified must be immediately notified to the Contract Administrator prior to the commencement of any manufacture, fabrication or site works.

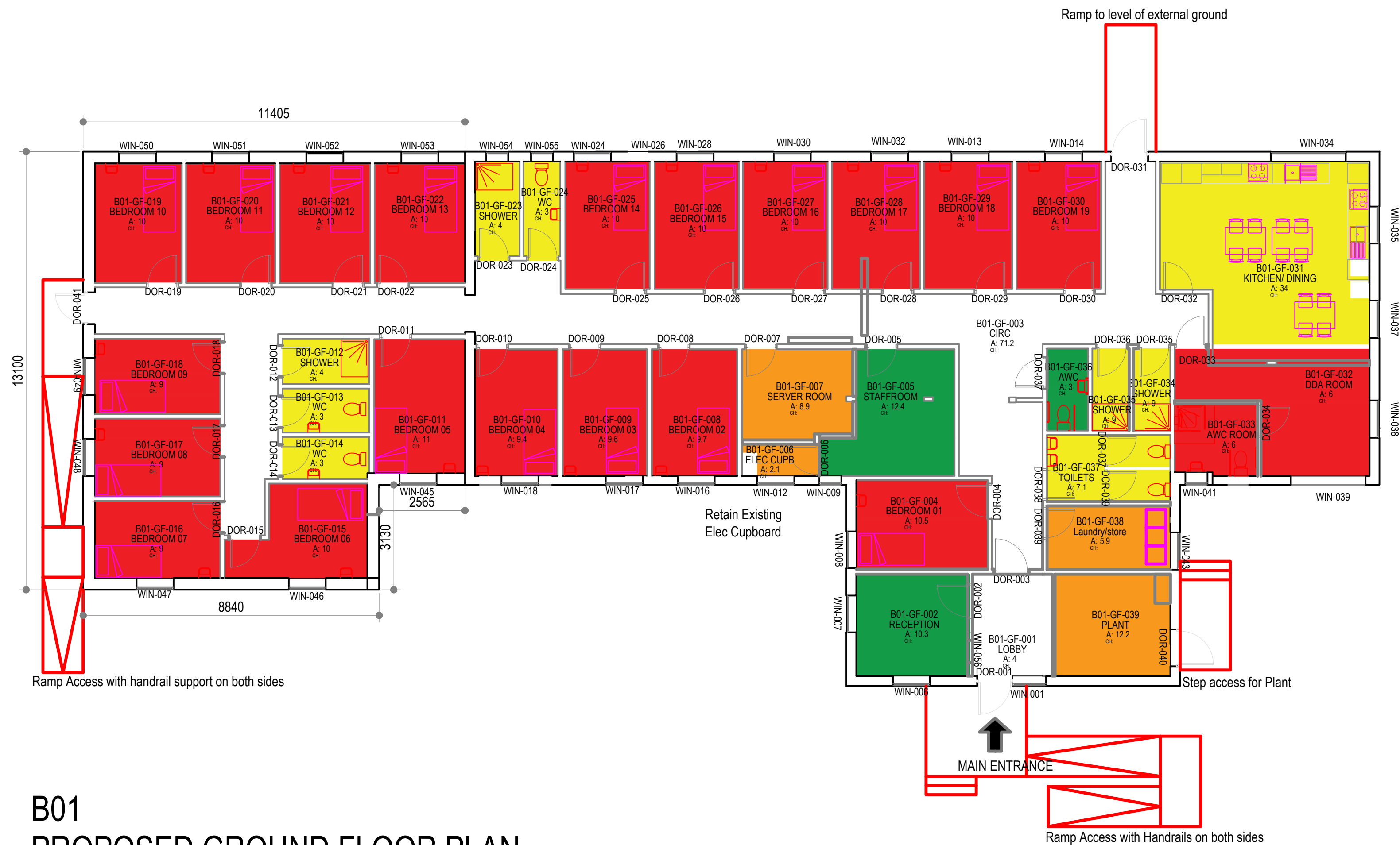
Do not scale from this drawing.

ANY ELECTRICAL WORKS BY MUST BE UNDERTAKEN BY A QUALIFIED ELECTRICAL PERSONS.

Should you require any further information please contact the Contract Administrator Robert Hutchinson on mobile number 07900 418562.

GA zoning key

- Private accommodation
- Shared accommodation
- Shared facilities
- Staff
- Plant and storage
- Circulation



B01
PROPOSED GROUND FLOOR PLAN

- NOTES
- All dimensions are in millimetres unless otherwise stated
 - This drawing is to be read with all other relevant documentation
 - Do not scale from this drawing, all measurement data should be taken directly from the model



Capital Programmes Division

DRAWING STATUS **Target Cost Issue**

PROPERTY TITLE
Alexandra Park Housing Office
130, Alexandra Road, Manchester
M16 7WD

UPRN 000077097539 DFE NO. -

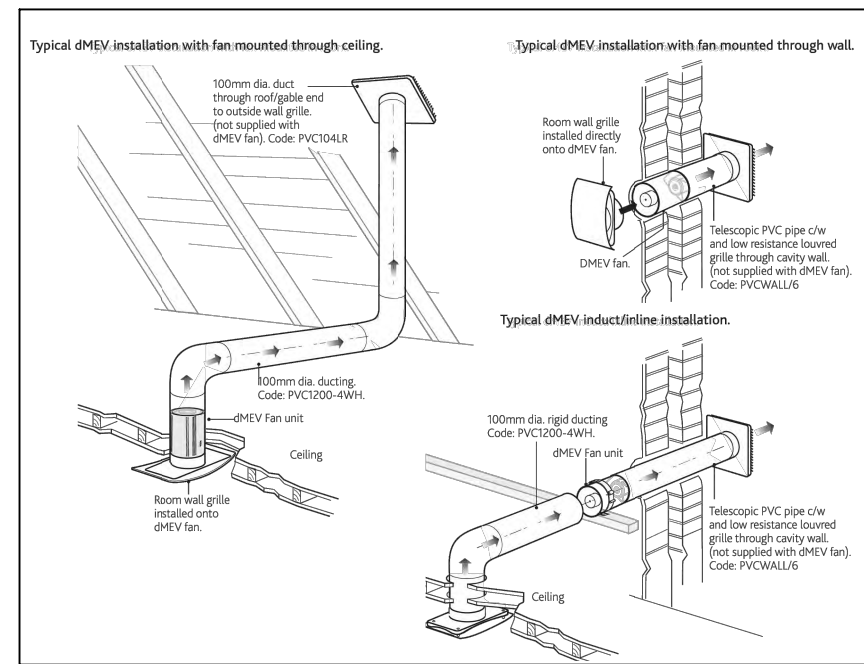
PROJECT TITLE
Alexandra Park Housing Office
Remodel into Homelessness Accommodation

DRAWING TITLE
PROPOSED LAYOUT PLAN

JOB NO. DXH46149 DATE 13/02/2026 REV

SCALE 1:100 @A1 AUTHOR T.SIDDIQUI CHECKED BY APPROVED BY

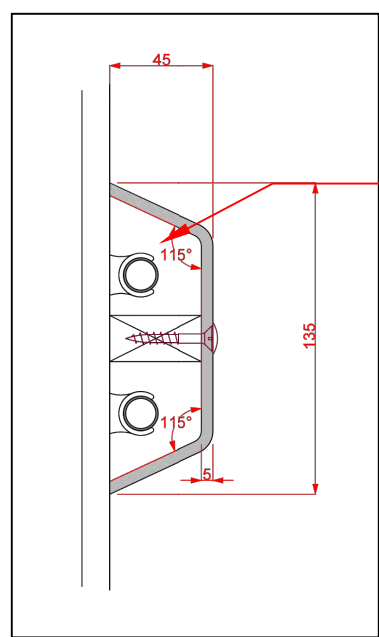
DRAWING NO. APH-MCC-ZZ-ZZ-DR-A-0005



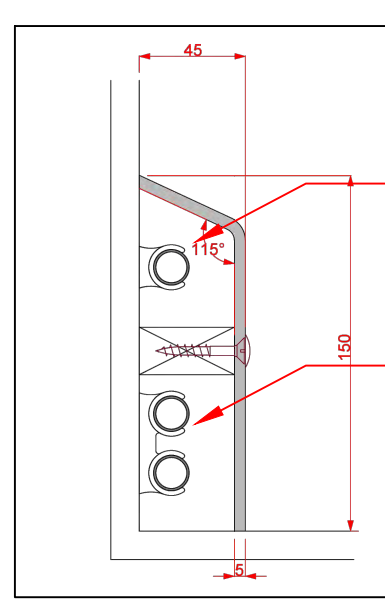
Typical Ceiling mounted extract Fan.
NuAire dMEF 2 speed motor, unit to be fitted with Humidistat and Booster facility. Preferred option above is to discharge via roof tile vent.
Duties:
Bedrooms 6 l/s low operation
Toilet/Shower rooms 15 l/s low operation
Kitchen 2 No. at 30 l/s low operation (each)

Equipment (Ref)	Room Location	Area (m ²)	Radiator and/or Panel Size L x H (W)	Unit Output (kW)	Unit Output (w)	Design Area Duty (kW)	Number of Units	Achieved Duty (kW)
System Load								
Heat Loss 4% Pipe work	Plus Equipment Losses @	5%		K1	980	49.979		66.276
				K2	1732	4.127	40	5.472
Equipment Loads								
Radiators or Beams:								
B01-GF-001	Lobby	4.0	500	600	980	480	0.480	1
B01-GF-002	Reception	10.3	700	600	1732	1212	1.236	1
B01-GF-003	Corridor	71.2	1000	600	1732	1732	8.544	5
B01-GF-004	Bedroom 01	10.5	700	600	1732	1212	1.260	1
B01-GF-005	Staff room	12.4	900	600	1732	1550	1.488	1
B01-GF-007	Server room	8.9	700	600	1732	1212	1.164	1
B01-GF-008	Bedroom 02	9.7	700	600	1732	1212	1.152	1
B01-GF-009	Bedroom 03	9.6	700	600	1732	1212	1.152	1
B01-GF-010	Bedroom 04	9.4	700	600	1732	1212	1.128	1
B01-GF-011	Bedroom 05	11.0	800	600	1732	1386	1.320	1
B01-GF-012	Shower room	4.0	500	600	980	480	0.480	1
B01-GF-013	Toilet	3.0	400	600	980	392	0.360	1
B01-GF-014	Toilet	3.0	400	600	980	392	0.360	1
B01-GF-015	Bedroom 06	10.0	700	600	1732	1212	1.200	1
B01-GF-016	Bedroom 07	9.0	600	600	1732	1039	1.080	1
B01-GF-017	Bedroom 08	9.0	600	600	1732	1039	1.080	1
B01-GF-018	Bedroom 09	9.0	600	600	1732	1039	1.080	1
B01-GF-019	Bedroom 10	10.0	700	600	1732	1212	1.200	1
B01-GF-020	Bedroom 11	10.0	700	600	1732	1212	1.200	1
B01-GF-021	Bedroom 12	10.0	700	600	1732	1212	1.200	1
B01-GF-022	Bedroom 13	10.0	700	600	1732	1212	1.200	1
B01-GF-023	Shower room	4.0	500	600	980	480	0.480	1
B01-GF-024	Toilet	3.0	400	600	980	392	0.360	1
B01-GF-025	Bedroom 14	10.0	700	600	1732	1212	1.200	1
B01-GF-026	Bedroom 15	10.0	700	600	1732	1212	1.200	1
B01-GF-027	Bedroom 16	10.0	700	600	1732	1212	1.200	1
B01-GF-028	Bedroom 17	10.0	700	600	1732	1212	1.200	1
B01-GF-029	Bedroom 18	10.0	700	600	1732	1212	1.200	1
B01-GF-030	Bedroom 19	10.0	700	600	1732	1212	1.200	1
B01-GF-031	Kitchen Dining	34.0	1200	600	1732	2078	4.060	2
B01-GF-032	DDA room	6.0	800	600	980	784	0.720	1
B01-GF-033	AWC room	6.0	800	600	980	784	0.720	1
B01-GF-034	Shower room	9.0	700	600	1732	1212	1.080	1
B01-GF-035	Shower room	9.0	500	600	1732	866	0.866	1
B01-GF-036	AWC	3.0	400	600	980	392	0.360	1
B01-GF-037	Toilet	7.1	500	600	1732	866	0.852	1
B01-GF-038	Laundry/Storage	5.8	700	600	980	866	0.708	0.000
B01-GF-039	Plantroom							0.000

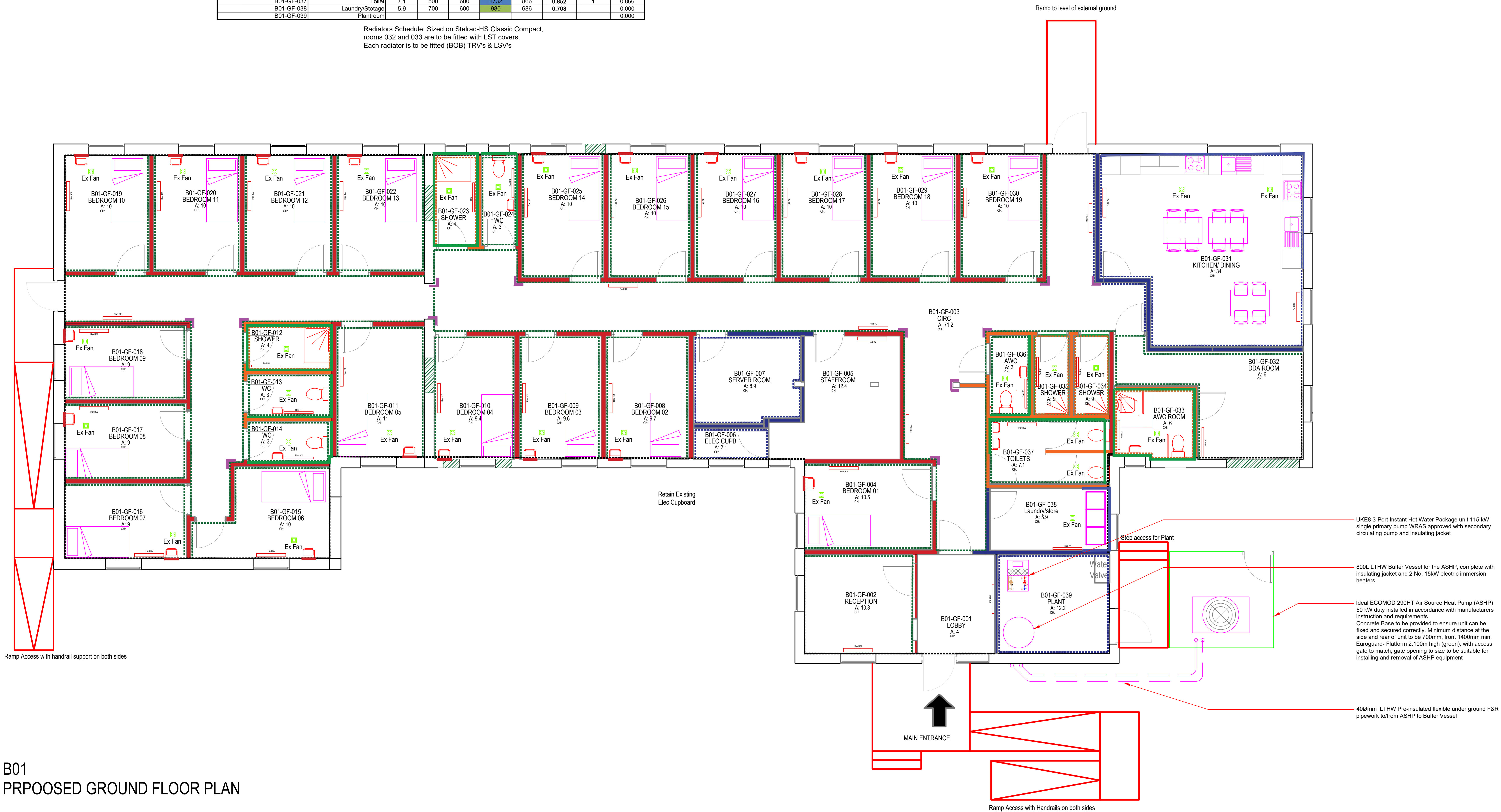
Radiators Schedule: Sized on Stelrad-HS Classic Compact, rooms 032 and 033 are to be fitted with LST covers. Each radiator is to be fitted (BOB) TRV's & LSV's



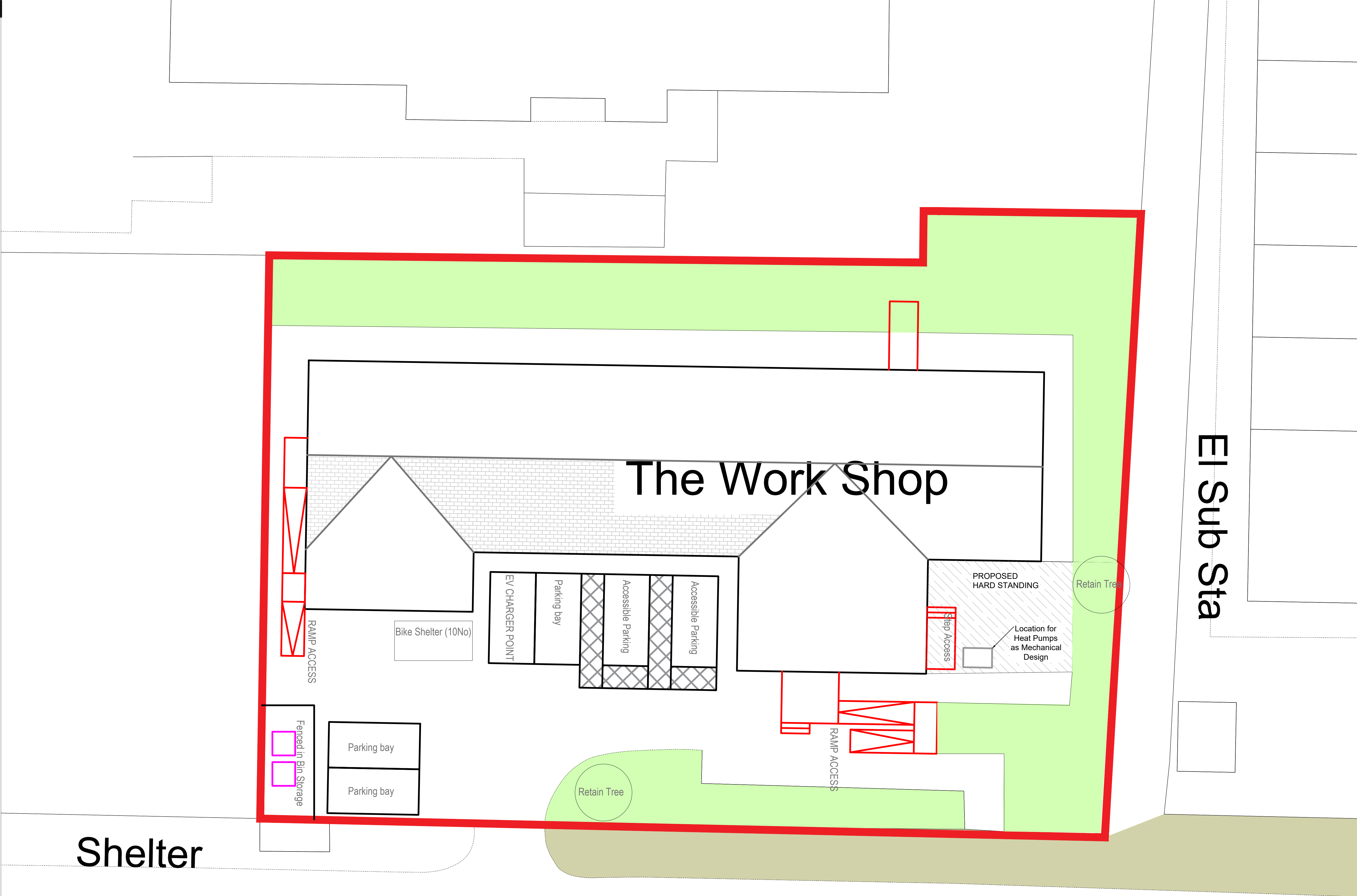
Typical drop pipework LTHW Heating to room separated from Domestic Water droppers.



Typical drop Domestic Water pipework to room separated from LTHW Heating droppers.



B01
PRPOUSED GROUND FLOOR PLAN



Information

Project Name: **DXH46149 Alexandra Park Housing Office - Remodeling of former Housing Office into Homelessness Accommodation**

Site Address: **130, Alexandra Road, Manchester, M16 7WD**

This drawing is to be read in conjunction with the following documents:-

- All contract docs, inc designers risk logs
- Schedule of Works and Proposed Drawings
- Site Location Plans
- Existing Drawings
- Asbestos Report
- Ecology Assessment
- Drainage Survey

All measurements and fixing details contained on this drawing are indicative only. This drawing should not be used for setting out.

All dimensions must be checked by measurement on site by the Contractor(s). Any discrepancies identified must be immediately notified to the Contract Administrator prior to the commencement of any manufacture, fabrication or site works.

Do not scale from this drawing.

ANY ELECTRICAL WORKS BY MUST BE UNDERTAKEN BY A QUALIFIED ELECTRICAL PERSONS.

Should you require any further information please contact the Contract Administrator Robert Hutchinson on mobile number 07900 418562.

- NOTES
1. All dimensions are in millimetres unless otherwise stated
 2. This drawing is to be read with all other relevant documentation
 3. Do not scale from this drawing, all measurement data should be taken directly from the model



MANCHESTER CITY COUNCIL
Capital Programmes Division

Manchester City Council
PO Box 532, Town Hall
Manchester
M60 2LA

DRAWING STATUS **Target Cost Issue**

PROPERTY TITLE Alexandra Park Housing Office 130, Alexandra Road, Manchester M16 7WD			
UPRN 000077097539	DFE NO. -		
PROJECT TITLE Alexandra Park Housing Office Remodel into Homelessness Accommodation			
DRAWING TITLE PROPOSED SITE PLAN			
JOB NO. DXH46149	DATE 20/03/2026	REV	
SCALE 1:100	AUTHOR RH	CHECKED BY TH	APPROVED BY
DRAWING NO. APH-MCC-ZZ-ZZ-DR-A-0002			

Appendix D – Historical Flood Map



Legend

-  Site Boundary
-  Historical Flood Outlines



0 100 200 m

Figure		
Historical Flood Map		
Job		
The Works' Alexandra Park Housing Office, 130 Alexandra Road, Manchester, M16 7WD		
Client		
Manchester City Council		
Appendix:	Revision	Date
D	1	02 July 2026
Drawn by	Checked by	Scale
EB	RS	1:4,000
Job No.		
151370.730233		



Appendix E – Environment Agency Product Data

Flood risk assessment data



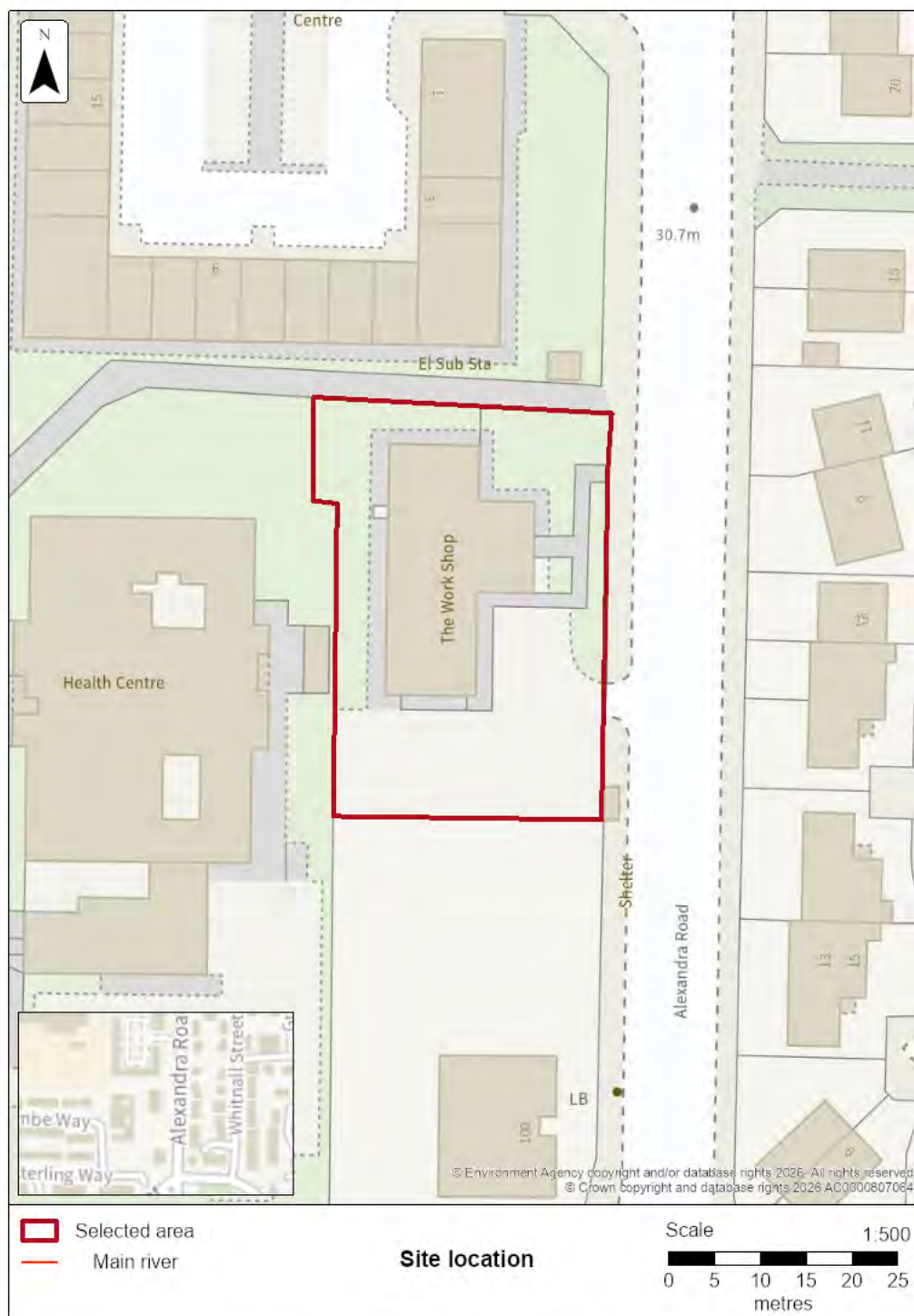
Location of site: 383312 / 395486 (shown as easting and northing coordinates)

Document created on: 26 May 2026

This information was previously known as a product 4.

Customer reference number: 6T1RG7EA6P8B

Map showing the location that flood risk assessment data has been requested for.



How to use this information

You can use this information as part of a flood risk assessment for a planning application. To do this, you should include it in the appendix of your flood risk assessment.

We recommend that you work with a flood risk consultant to get your flood risk assessment.

Included in this document

In this document you'll find:

- how to find information about surface water and other sources of flooding
- information on the models used
- definitions for the terminology used throughout
- flood map for planning (rivers and the sea)
- modelled data
- modelled climate change data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

Information that's unavailable

This document **does not** contain:

- past floods
- flood defence locations and attributes

We do not have past flooding data for this location.

Please note that:

- flooding may have occurred that we do not have records for
- flooding can come from a range of different sources
- we can only supply flood risk data relating to flooding from rivers or the sea

You can contact your Lead Local Flood Authority or Internal Drainage Board to see if they have other relevant local flood information. Please note that some areas do not have an Internal Drainage Board.

We aren't able to display flood defence locations and attributes as there are no formal flood defences in the area of interest.

Surface water and other sources of flooding

When using the surface water map on the [check your long term flood risk service](#) the following considerations apply:

- surface water extents are suitable for use in planning
- surface water climate change scenarios may help to inform risk assessments, but the available data fall short of what is required to assess planned development
- surface water depth information should not be used for planning purposes

To find out about other factors that might affect the flood risk of this location, you should also check:

- [reservoir flood risk](#)
- groundwater flood risk - you could use the [British Geological Survey groundwater flooding data](#), [groundwater: current status and flood risk](#) and the guide on [mining and groundwater constraints for development](#) - further information may be available from the lead local flood authority (LLFA)
- your local planning authority's SFRA, which includes future flood risk

Your Lead Local Flood Authority is Manchester District (B).

For information about sewer flooding, contact the relevant water company for the area.

About the models used

Model name: Chorlton Platt Gore 2024

Scenario(s): Defended fluvial, defences removed fluvial, defended climate change fluvial, defences removed climate change fluvial

Date: 15 April 2024

Model name: Corn Brook 2017

Scenario(s): No defences exist fluvial, no defences exist climate change fluvial

Date: 31 December 2017

These models contain the most relevant data for your area of interest.

Terminology used

Annual exceedance probability (AEP)

This refers to the probability of a flood event occurring in any year. The probability is expressed as a percentage. For example, a large flood which is calculated to have a 1% chance of occurring in any one year, is described as 1% AEP.

Metres above ordnance datum (mAOD)

All flood levels are given in metres above ordnance datum which is defined as the mean sea level at Newlyn, Cornwall.

Flood map for planning (rivers and the sea)

Your selected location is in flood zone 3.

Flood zone 3 shows the area at risk of flooding for an undefended flood event with a:

- 0.5% or greater probability of occurring in any year for flooding from the sea
- 1% or greater probability of occurring in any year for fluvial (river) flooding

Flood zone 2 shows the area at risk of flooding for an undefended flood event with:

- between a 0.1% and 0.5% probability of occurring in any year for flooding from the sea
- between a 0.1% and 1% probability of occurring in any year for fluvial (river) flooding

It's important to remember that the flood zones on this map:

- refer to the land at risk of flooding and do not refer to individual properties
- refer to the probability of river and sea flooding, ignoring the presence of defences
- do not take into account potential impacts of climate change



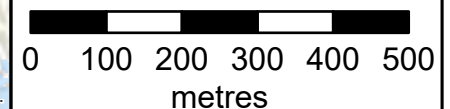
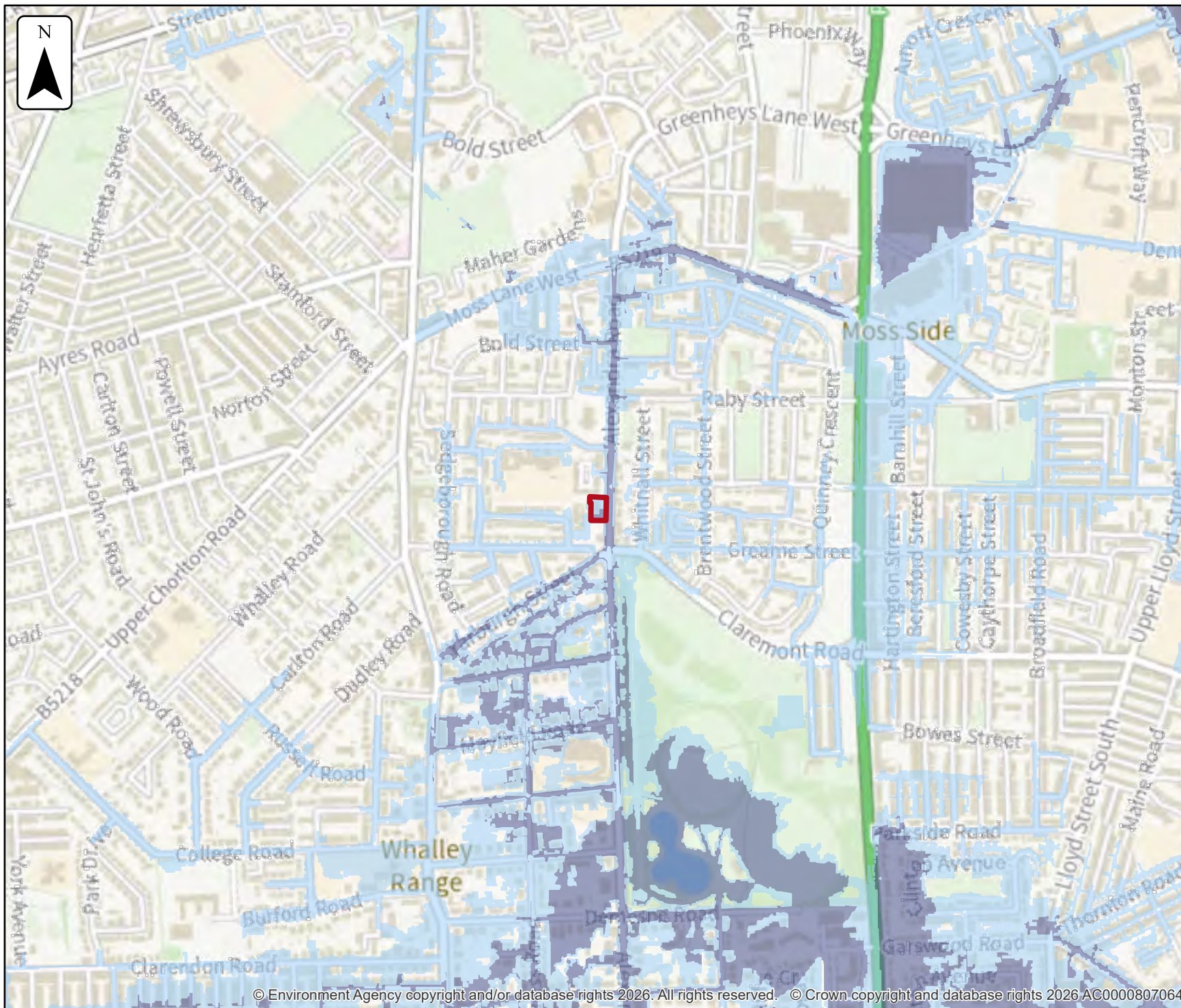
Flood map for planning

Location (easting/northing)
383312/395486

Scale
1:10,000

Created
26 May 2026

-  Selected area
-  Flood Zone 3
-  Flood Zone 2



Modelled data

This section provides details of different scenarios we have modelled and includes the following (where available):

- outline maps showing the area at risk from flooding in different modelled scenarios
- modelled node point map(s) showing the points used to get the data to model the scenarios and table(s) providing details of the flood risk for different return periods
- map(s) showing the approximate water levels for the return period with the largest flood extent for a scenario and table(s) of sample points providing details of the flood risk for different return periods

Climate change

The climate change data included in the models may not include the latest [flood risk assessment climate change allowances](#). Where the new allowances are not available you will need to consider this data and factor in the new allowances to demonstrate the development will be safe from flooding.

The Environment Agency will incorporate the new allowances into future modelling studies. For now, it's your responsibility to demonstrate that new developments will be safe in flood risk terms for their lifetime.

Modelled scenarios

The following scenarios are included:

- Defended modelled fluvial: risk of flooding from rivers where there are flood defences
- Defences removed modelled fluvial: risk of flooding from rivers where flood defences have been removed
- No defences exist modelled fluvial: risk of flooding from rivers where there are no flood defences
- Defended climate change modelled fluvial: risk of flooding from rivers where there are flood defences, including estimated impact of climate change
- Defences removed climate change modelled fluvial: risk of flooding from rivers where flood defences have been removed, including estimated impact of climate change
- No defences exist climate change modelled fluvial: risk of flooding from rivers where there are no flood defences, including estimated impact of climate change

No data available

We do not have any height or depth data at this location for the following models:

Model name: Chorlton Platt Gore 2024

Scenario(s): Defences removed climate change modelled fluvial, Defences removed modelled fluvial, Defended climate change modelled fluvial, Defended modelled fluvial



Defended modelled fluvial extent

Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
**Chorlton Platt Gore
2024**

 Selected area

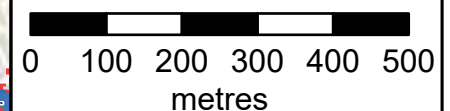
 Main river

Modelled flood extent

 0.5% AEP

 0.1% AEP

Flood extents may not be
visible where they overlap
other return periods





Defences removed modelled fluvial extent

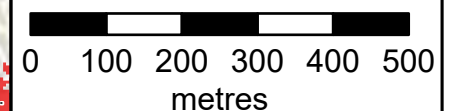
Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
**Chorlton Platt Gore
2024**

-  Selected area
-  Main river
- Modelled flood extent
-  0.1% AEP

Flood extents may not be
visible where they overlap
other return periods





Defended climate change modelled fluvial extent

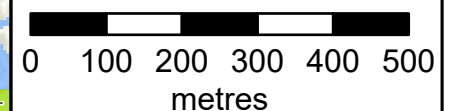
Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
**Chorlton Platt Gore
2024**

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+41%)
 -  1% AEP (+53%)
 -  1% AEP (+85%)
 -  0.1% AEP (+53%)

Flood extents may not be
visible where they overlap
other return periods





Defences removed climate change modelled fluvial extent

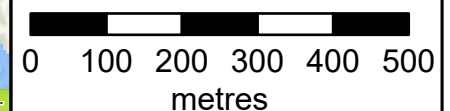
Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
**Chorlton Platt Gore
2024**

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+41%)
 -  1% AEP (+53%)
 -  1% AEP (+85%)
 -  0.1% AEP (+53%)

Flood extents may not be
visible where they overlap
other return periods





No defences exist modelled fluvial extent

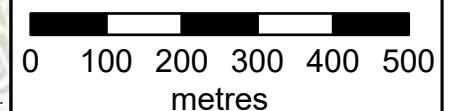
Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
Corn Brook 2017

-  Selected area
-  Main river
- Modelled flood extent
 -  1.33% AEP
 -  1% AEP
 -  0.5% AEP
 -  0.1% AEP

Flood extents may not be
visible where they overlap
other return periods





No defences exist climate change modelled fluvial extent

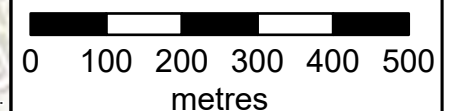
Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
Corn Brook 2017

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+30%)
 -  1% AEP (+35%)
 -  1% AEP (+70%)
 -  0.1% AEP (+30%)

Flood extents may not be
visible where they overlap
other return periods





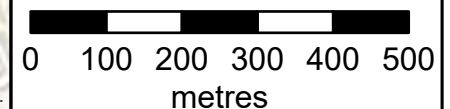
No defences exist modelled fluvial node locations

Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
Corn Brook 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

No defences exist

Label	Modelled location ID	Easting	Northing	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level
1	952451	382950	396136	30.07	30.16	30.47	31.73
2	952452	383467	395993	32.43	32.58	32.84	33.28
3	952465	384116	396112	33.26	33.47	33.83	34.34

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

No defences exist

Label	Modelled location ID	Easting	Northing	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow
1	952451	382950	396136	1.46	1.72	2.47	5.10
2	952452	383467	395993	1.32	1.57	2.24	4.60
3	952465	384116	396112	1.03	1.21	1.70	3.47

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



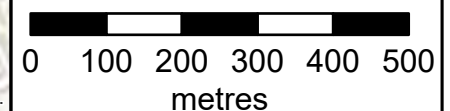
No defences exist climate change modelled fluvial node locations

Location (easting/northing)
383312/395486

Scale Created
1:10,000 26 May 2026

Model name
Corn Brook 2017

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Level	Level	Level	Level
1	952451	382950	396136	30.34	30.39	30.82	31.99
2	952452	383467	395993	32.78	32.81	32.99	33.39
3	952465	384116	396112	33.75	33.79	34.02	34.46

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.

No defences exist climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+30%)	1% AEP (+35%)	1% AEP (+70%)	0.1% AEP (+30%)
				Flow	Flow	Flow	Flow
1	952451	382950	396136	2.24	2.33	2.93	6.63
2	952452	383467	395993	2.03	2.11	2.66	5.98
3	952465	384116	396112	1.57	1.63	2.05	4.51

Data in this table comes from the Corn Brook 2017 model.

Level values are shown in mAOD, and flow values are shown in cubic metres per second.

Any blank cells show where a particular scenario has not been modelled for this location.



No defences exist modelled fluvial extent and height

Location (easting/northing)
383312/395486

Scale Created
1:500 26 May 2026

Model name
Corn Brook 2017

 Selected area

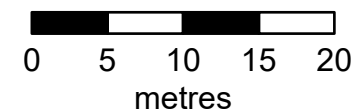
 Main river

Modelled 2D grid

Water level in mAOD

-  30 - 30.25
-  30.25 - 30.5
-  30.5 - 30.75
-  30.75 - 31.0
-  31.0 - 31.25
-  31.25 - 31.5
-  31.5 - 31.75
-  31.75 - 32.0
-  32.0 - 32.25

This map shows the
0.1% AEP height data



Sample point data

No defences exist

Label	Easting	Northing	0.1% AEP	0.1% AEP
			Height	Depth
1	383291	395459	30.73	0.13
2	383302	395459	NoData	NoData
3	383313	395459	NoData	NoData
4	383324	395459	NoData	NoData
5	383335	395459	30.82	0.33
6	383291	395470	30.76	0.17
7	383302	395470	30.82	0.25
8	383313	395470	30.82	0.24
9	383324	395470	30.83	0.27
10	383335	395470	30.83	0.30
11	383291	395481	NoData	NoData
12	383302	395481	30.81	0.11

Label	Easting	Northing	0.1% AEP	0.1% AEP
			Height	Depth
13	383313	395481	30.84	0.16
14	383324	395481	30.83	0.13
15	383335	395481	30.83	0.26
16	383291	395492	NoData	NoData
17	383302	395492	NoData	NoData
18	383313	395492	30.84	0.16
19	383324	395492	NoData	NoData
20	383335	395492	30.86	0.26
21	383291	395503	NoData	NoData
22	383302	395503	NoData	NoData
23	383313	395503	30.84	0.18
24	383324	395503	NoData	NoData

Label	Easting	Northing	0.1% AEP	0.1% AEP
			Height	Depth
25	383335	395503	30.88	0.27
26	383291	395514	NoData	NoData
27	383302	395514	NoData	NoData
28	383313	395514	NoData	NoData
29	383324	395514	NoData	NoData
30	383335	395514	30.91	0.25
Max value in selected area:			30.90	0.32

Data in this table comes from the Corn Brook 2017 model. Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.



**No defences exist
climate change
modelled fluvial
extent and height**

Location (easting/northing)
383312/395486

Scale Created
1:500 26 May 2026

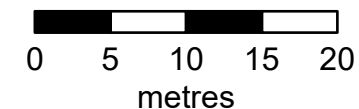
Model name
Corn Brook 2017

-  Selected area
-  Main river

Modelled 2D grid
Water level in mAOD

-  30 - 30.25
-  30.25 - 30.5
-  30.5 - 30.75
-  30.75 - 31.0
-  31.0 - 31.25
-  31.25 - 31.5
-  31.5 - 31.75
-  31.75 - 32.0
-  32.0 - 32.25

This map shows the
0.1% AEP +30% height data



Sample point data

No defences exist climate change

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
1	383291	395459	30.76	0.16
2	383302	395459	NoData	NoData
3	383313	395459	NoData	NoData
4	383324	395459	NoData	NoData
5	383335	395459	30.84	0.33
6	383291	395470	30.79	0.20
7	383302	395470	30.84	0.27
8	383313	395470	30.85	0.27
9	383324	395470	30.86	0.32
10	383335	395470	30.85	0.37
11	383291	395481	30.82	0.14
12	383302	395481	30.84	0.14

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
13	383313	395481	30.88	0.19
14	383324	395481	30.85	0.30
15	383335	395481	30.86	0.29
16	383291	395492	30.82	0.21
17	383302	395492	30.84	0.11
18	383313	395492	30.88	0.19
19	383324	395492	NoData	NoData
20	383335	395492	30.89	0.28
21	383291	395503	NoData	NoData
22	383302	395503	NoData	NoData
23	383313	395503	30.88	0.21
24	383324	395503	30.92	0.15

Label	Easting	Northing	0.1% AEP (+30%)	0.1% AEP (+30%)
			Height	Depth
25	383335	395503	30.91	0.31
26	383291	395514	NoData	NoData
27	383302	395514	NoData	NoData
28	383313	395514	NoData	NoData
29	383324	395514	30.93	0.12
30	383335	395514	30.94	0.28
Max value in selected area:			30.93	0.34

Data in this table comes from the Corn Brook 2017 model. Height values are shown in mAOD, and depth values are shown in metres.

Any blank cells show where a particular scenario has not been modelled for this location.

Cells which contain text 'NoData' for a scenario show that return period has been modelled but there is no flood risk for that return period for that location.

'Max value in selected area' is the deepest depth or highest height at any location within your drawn boundary.

Strategic flood risk assessments

We recommend that you check the relevant local authority's strategic flood risk assessment (SFRA) as part of your work to prepare a site specific flood risk assessment.

This should give you information about:

- the potential impacts of climate change in this catchment
- areas defined as functional floodplain
- flooding from other sources, such as surface water, ground water and reservoirs

Your Lead Local Flood Authority is Manchester District (B).

About this data

This data has been generated by strategic scale flood models and is not intended for use at the individual property scale. If you're intending to use this data as part of a flood risk assessment, please include an appropriate modelling tolerance as part of your assessment. The Environment Agency regularly updates its modelling. We recommend that you check the data provided is the most recent, before submitting your flood risk assessment.

Flood risk activity permits

Under the Environmental Permitting (England and Wales) Regulations 2016 some developments may require an environmental permit for flood risk activities from the Environment Agency. This includes any permanent or temporary works that are in, over, under, or nearby a designated main river or flood defence structure.

[Find out more about flood risk activity permits](#)

Help and advice

Contact the Greater Manchester Merseyside and Cheshire Environment Agency team at inforequests.gmmc@environment-agency.gov.uk for:

- [more information about getting a product 5, 6, 7 or 8](#)
- general help and advice about the site you're requesting data for