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Flood risk, water and environment

Flood Risk Assessment  
AEG0724\_M16\_Manchester\_01

Abdul Koser

Site Address: 264 Wilbraham Rd  
Manchester  
M16 8QL

UK Experts in Flood Modelling, Flood Risk  
Assessments, and Surface Water Drainage Strategies

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# Document Issue Record

**Project:** Flood Risk Assessment

**Prepared for:** Abdul Koser

**Reference:** AEG0724\_M16\_Manchester\_01

**Site Location:** 264 Wilbraham Rd, Manchester, M16 8QL

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# Summary

| Development Description                              | Existing                                                | Proposed                                                                                                                                                                                                  |
|------------------------------------------------------|---------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Development Type</b>                              | A Residential Dwelling                                  | A single storey extension to the current residential dwelling to provide greater habitable space.                                                                                                         |
| <b>EA Vulnerability Classification</b>               | More Vulnerable                                         | More Vulnerable                                                                                                                                                                                           |
| <b>Ground Levels</b>                                 | Elevation on site ranges from 30.27m AOD to 30.81m AOD. | No change. FFLs of proposed extension should be set no lower than existing FFLs in line with EA Standing Advice for Minor Developments.                                                                   |
| <b>Level of Sleeping Accommodation</b>               | First floor                                             | No change (First floor)                                                                                                                                                                                   |
| <b>Surface Water Drainage</b>                        | N/A <sup>1</sup>                                        | Runoff from extension could be discharged via existing system given that proposal is Minor Development. Betterment could be provided through small-scale SuDS such as rainwater planters and water butts. |
| <b>Site Size</b>                                     | 515m <sup>2</sup>                                       | No change                                                                                                                                                                                                 |
| <b>Risk to Development</b>                           | <b>Summary</b>                                          | <b>Comment</b>                                                                                                                                                                                            |
| <b>EA Flood Zone</b>                                 | Flood Zone 2                                            |                                                                                                                                                                                                           |
| <b>Flood Source</b>                                  | Fluvial and Pluvial                                     | Site is located in Flood Zone 2 and within the extents of the 0.1% AEP pluvial flood event.                                                                                                               |
| <b>SFRA Available</b>                                | Manchester SFRA (2010/2011)                             |                                                                                                                                                                                                           |
| <b>Management Measures</b>                           | <b>Summary</b>                                          | <b>Comment</b>                                                                                                                                                                                            |
| <b>Ground floor level above extreme flood levels</b> | N/A <sup>2</sup>                                        | Finished Floor Levels (FFLs) of extension should be set no lower than the existing FFLs in line with EA Standing Advice for Minor Developments                                                            |
| <b>Safe Access/Egress Route</b>                      | N/A <sup>2</sup>                                        | Access/ egress arrangements would not differ from existing as proposal is Minor Development.                                                                                                              |
| <b>Flood Resilient Design</b>                        | Yes                                                     | Extension should be constructed in flood resilient manner in accordance with CLG Report Improving the Flood Performance of New Buildings - Flood Resilient Construction <sup>1</sup> (2007).              |
| <b>Site Drainage Plan</b>                            | N/A <sup>1</sup>                                        | Runoff from extension could be discharged via existing system given that proposal is Minor Development. Betterment could be provided through small-scale SuDS such as rainwater planters and water butts. |
| <b>Flood Warning &amp; Evacuation Plan</b>           | N/A <sup>1</sup>                                        | Access/ egress arrangements would not differ from existing as proposal is Minor Development. Sign up to the EA Flood Warning and Alert service available in this location (Chorlton and Platt             |

1

[https://assets.publishing.service.gov.uk/media/602d673ee90e0709e8d085d8/Improving\\_the\\_Flood\\_Resilience\\_of\\_Buildings\\_Through\\_Improved\\_Materials\\_Methods\\_and\\_Details\\_Technical\\_Report.pdf](https://assets.publishing.service.gov.uk/media/602d673ee90e0709e8d085d8/Improving_the_Flood_Resilience_of_Buildings_Through_Improved_Materials_Methods_and_Details_Technical_Report.pdf)

|                                             |                  | Brooks at Whalley Range and Chorlton-cum-Hardy).                                                                                                                                                          |
|---------------------------------------------|------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Offsite Impacts                             | Summary          | Comment                                                                                                                                                                                                   |
| Displacement of floodwater                  | Negligible       | Proposal is Minor Development which may not result in significant impact of floodplain storage in isolation in accordance with paragraph 051 of the Flood Risk and Coastal Change PPG                     |
| Increase in surface run-off generation      | N/A <sup>1</sup> | Runoff from extension could be discharged via existing system given that proposal is Minor Development. Betterment could be provided through small-scale SuDS such as rainwater planters and water butts. |
| Impact on hydraulic performance of channels | No               | Site is not within the vicinity of any EA Main Rivers or ordinary watercourses.                                                                                                                           |

<sup>1</sup> not required for this assessment

<sup>2</sup> data not available.

# 1. Introduction

- 1.1. Aegaea were commissioned by Abdul Koser to undertake a Flood Risk Assessment (FRA) to support a planning application for the proposed development. This FRA has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance.
- 1.2. This FRA is intended to support a full planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

## Site Overview

- 1.3. The site of the proposed development is 264 Wilbraham Rd, Manchester, M16 8QL (Figure 1).



Figure 1: Site Location

- 1.4. The site is currently a residential dwelling with the proposed development being for the construction of a 1 storey extension to provide a family room and a toilet.
- 1.5. In the absence of a topographical survey, Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model (1m resolution) has been utilised to review the topography of the site (Figure 2). Elevation on site ranges from 30.27m AOD to 30.81m AOD.

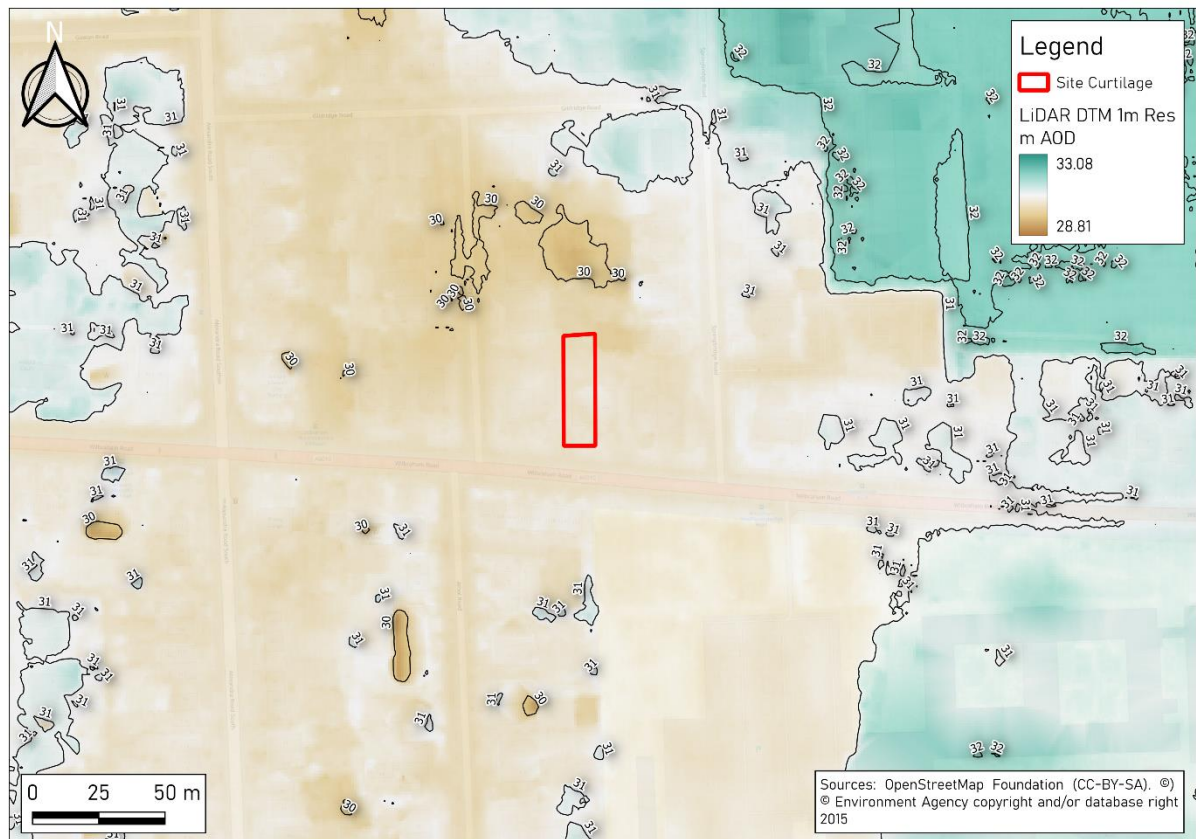


Figure 2: Site Topography

- 1.6. Manchester City Council is the Local Planning Authority (LPA) for the site, and also the designated Lead Local Flood Authority (LLFA). The site sits within the Environment Agency's Greater Manchester Merseyside and Cheshire region.

## Planning Policy and Guidance

1.7. UK government planning guidance states<sup>2</sup> that an FRA is required for sites which are:

- *In Flood Zone 2 or 3 including minor development (in terms of flood risk) and change of use*
- *More than 1 hectare in Flood Zone 1*
- *Less than 1 ha in Flood Zone 1, including a change of use in development type to a more vulnerable class (for example from commercial to residential), where they could be affected by sources of flooding other than river and the sea (for example surface water drains or reservoirs)*
- *In an area within Flood Zone 1 which has critical drainage problems as notified by the Environment Agency*

1.8. The site is located within Flood Zone 2 and therefore an FRA is required in accordance with the NPPF.

1.9. The objective of this FRA is to demonstrate that the proposals are acceptable in terms of flood risk. This report summarises the findings of the study and specifically addresses the following issues in the context of the current legislative regime:

- Fluvial flood risk
- Surface water flood risk
- Risk of flooding from other sources

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<sup>2</sup> <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment>

## 2. Planning Policy

### National Planning Policy Framework

- 2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.
- 2.2. The National Planning Policy Framework<sup>3</sup> (NPPF) (DLUHC, 2021) which includes UK Government policy on development and flood risk states:

*“159. 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.*

*167. When determining any planning applications, local planning authorities should ensure that flood risk is not increased elsewhere. Where appropriate, applications should be supported by a site-specific flood-risk assessment. Development should only be allowed in areas at risk of flooding where, in the light of this assessment (and the sequential and exception tests, as applicable) it can be demonstrated that:*

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*
- b) the development is appropriately flood resistant and resilient such that, in the event of a flood, it could be quickly brought back into use without significant refurbishment;*
- c) it incorporates sustainable drainage systems, unless there is clear evidence that this would be inappropriate;*
- d) any residual risk can be safely managed; and*
- e) safe access and escape routes are included where appropriate, as part of an agreed emergency plan.*

*168. Applications for some minor development and changes of use should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 55. “*

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<sup>3</sup> <https://www.gov.uk/guidance/national-planning-policy-framework>, last updated July 2021

2.3. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

*Minor development means:*

- *minor non-residential extensions (industrial/commercial/leisure etc): extensions with a floorspace not in excess of 250 square metres.*
- *alterations: development that does not increase the size of buildings, e.g. alterations to external appearance.*
- *householder development: for example, sheds, garages, games rooms etc within the curtilage of the existing dwelling, **in addition to physical extensions to the existing dwelling itself**. This definition excludes any proposed development that would create a separate dwelling within the curtilage of the existing dwelling (eg subdivision of houses into flats) or any other development with a purpose not incidental to the enjoyment of the dwelling.*

2.4. As such, the proposal would be considered a Minor Development under the PPG.

2.5. Footnote 55 of the NPPF states:

*“A site-specific flood risk assessment should be provided for all development in Flood Zones 2 and 3. In Flood Zone 1, an assessment should accompany all proposals involving: sites of 1 hectare or more; land which has been identified by the Environment Agency as having critical drainage problems; land identified in a strategic flood risk assessment as being at increased flood risk in future; or land that may be subject to other sources of flooding, where its development would introduce a more vulnerable use.”*

2.6. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

| Flood Zone                        | Definition                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Zone 1 Low Probability            | Land having less than 1 in 1,000 annual probability of river or sea flooding (all land outside Zones 2 and 3).                                                                                                                                                                                                                                                                                                                                                       |
| Zone 2 Medium Probability         | Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.                                                                                                                                                                                                                                                                                             |
| Zone 3a High Probability          | Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.                                                                                                                                                                                                                                                                                                                     |
| Zone 3b The Functional Floodplain | <p>This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise:</p> <p>land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or</p> |

land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding).

Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

- 2.7. An FRA should be appropriate to the scale, nature, and location of the development. It should identify and assess the risk from all sources of flooding to and from the development and demonstrate how any flood risks will be managed over the lifetime of the development.
- 2.8. An assessment of hydrological impacts should be undertaken, including to surface water runoff and impacts to drainage networks in order to demonstrate how flood risk to others will be managed following development and taking climate change into account.

## Local Plan

- 2.9. The Local Plan prepared by the Local Planning Authority, Manchester City Council, sets out the policies for development in the local area. This is titled the 'Core Strategy Development Plan Document'<sup>5</sup> (2012).
- 2.10. Policy EN 14 relates to flood risk. It states:

- *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*

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<sup>5</sup> Manchester Local Plan, [https://www.manchester.gov.uk/info/200074/planning/6573/core\\_strategy\\_2012-2027](https://www.manchester.gov.uk/info/200074/planning/6573/core_strategy_2012-2027), 2012

*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.*

## Sequential and Exception Tests

- 2.11. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.
- 2.12. Under the NPPF all new planning applications should undergo a Sequential Test unless a minor development or a change of use application in accordance with paragraph 168 and footnotes 55 and 56. This test should be implemented by local planning authorities with a view to location particularly vulnerable new developments outside of the flood plain.
- 2.13. Paragraph 168 of the NPPF states:

*168. Applications for some minor development and changes of use should not be subject to the sequential or exception tests but should still meet the requirements for site-specific flood risk assessments set out in footnote 55.*

- 2.14. As such, a site-specific Sequential Test and Exception Test for the proposed developments is not considered necessary in line with the NPPF given that the proposal is for a Minor Development.

## Summary

- 2.15. This flood risk assessment has been prepared with due consideration to the above local and national policy.

## 3. Consultation and Review

### Sources of Information

#### Documents

- 3.1. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.
- 3.2. The following sources of information have been reviewed for this assessment:
- The Interactive Flood Risk Mapping available on the Environment Agency (EA) website<sup>6</sup>.
  - The National Planning Policy Framework (NPPF) technical guide (Communities and Local Government, 2019).
  - British Geological Survey – Geoindex Onshore (British Geological Survey, 2022).
  - Manchester Local Plan <sup>7</sup> (2012).
  - Manchester Preliminary Flood Risk Assessment<sup>8</sup> (PFRA), (2011).
  - Manchester Strategic Flood Risk Assessment Level 1<sup>9</sup> (SFRA) (2010).
  - Manchester Strategic Flood Risk Assessment Level 2<sup>10</sup> (SFRA) (2011).
  - Greater Manchester Strategic Flood Risk Assessment Level 1<sup>11</sup> (2019)
  - Greater Manchester Surface Water Management Plan<sup>12</sup> (SWMP) (2012).

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6 Environment Agency, Flood Map for Planning, <https://flood-map-for-planning.service.gov.uk/>, 2017

7 Manchester Local Plan, [https://www.manchester.gov.uk/info/200074/planning/6573/core\\_strategy\\_2012-2027](https://www.manchester.gov.uk/info/200074/planning/6573/core_strategy_2012-2027), 2012

8 Manchester Borough Council, Preliminary Flood Risk Assessment, [https://www.manchester.gov.uk/egov\\_downloads/MCC\\_PFRA.pdf](https://www.manchester.gov.uk/egov_downloads/MCC_PFRA.pdf), 2011

9 Manchester City, Salford City and Trafford Councils, Level 1 Strategic Flood Risk Assessment, [https://www.manchester.gov.uk/info/500207/planning\\_and\\_regeneration/4700/strategic\\_flood\\_risk\\_assessment](https://www.manchester.gov.uk/info/500207/planning_and_regeneration/4700/strategic_flood_risk_assessment), 2010

10 Manchester City, Salford City and Trafford Councils, Level 2 Strategic Flood Risk Assessment, [https://www.manchester.gov.uk/info/500207/planning\\_and\\_regeneration/4700/strategic\\_flood\\_risk\\_assessment](https://www.manchester.gov.uk/info/500207/planning_and_regeneration/4700/strategic_flood_risk_assessment), 2011

11 <https://www.greatermanchester-ca.gov.uk/what-we-do/planning-and-housing/places-for-everyone/supporting-documents/?folder=%5C04%20Sustainable%20and%20Resilient%20Places#fList>

12 Greater Manchester Surface Water Management Plan, <http://www.bury.gov.uk/CHttpHandler.ashx?id=11439>, 2012

## Preliminary Flood Risk Assessment (PFRA)

- 3.3. The PFRA, adopted in 2011, is a high-level appraisal of flood risk across Lead Local Flood Authority Manchester. The flood risk from all sources, including fluvial, surface water, groundwater and surcharged sewers is evaluated. It is the basis upon which the Local Flood Risk Management Strategy (described below) is produced.
- 3.4. The PFRA summarises historical flood incidents in Manchester. The site is not recorded as having been affected by any historical flood event.

## Strategic Flood Risk Assessment (SFRA)

- 3.5. The Level 1s SFRA, published in 2010 and 2019, utilises existing data to make an assessment of flood risk from all sources now and in the future. It looks at the risk of flooding from rivers, canals, reservoirs, groundwater, and surface water and sewers.
- 3.6. The Level 2 SFRA, published in 2011, provides the evidence base for the Local Planning Authority Manchester Local Plan and guidance for consideration when determining planning applications. The SFRA seeks to place new development into areas of lower flood risk, taking into account current flood risk, future flood risk and the effect a proposed development would have on the risk of flooding.

## Greater Manchester Surface Water Management Plan (SWMP)

- 3.7. The Surface Water Management Plan (SWMP) is a study of surface water flood risk, recognising the cause and effect of flood hazard between districts and communities in Greater Manchester.
- 3.8. The SWMP has been reviewed in preparation of this report and referenced where appropriate.

## 4. Sources of Flood Risk

### Fluvial Flood Risk

- 4.1. Flooding from watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.

#### Main Rivers

- 4.2. The site is located 280m to the north of an EA Main River, the Platt Brook.

#### Ordinary Watercourses

- 4.3. There are no other watercourses in the vicinity of the site.

#### EA Flood Map for Planning

- 4.4. The site is located wholly within Flood Zone 2 (Figure 3). Flood Zone 2 denotes a risk of flooding from fluvial sources between a 1 in 100 (1%) and 1 in 1,000 (0.1%).

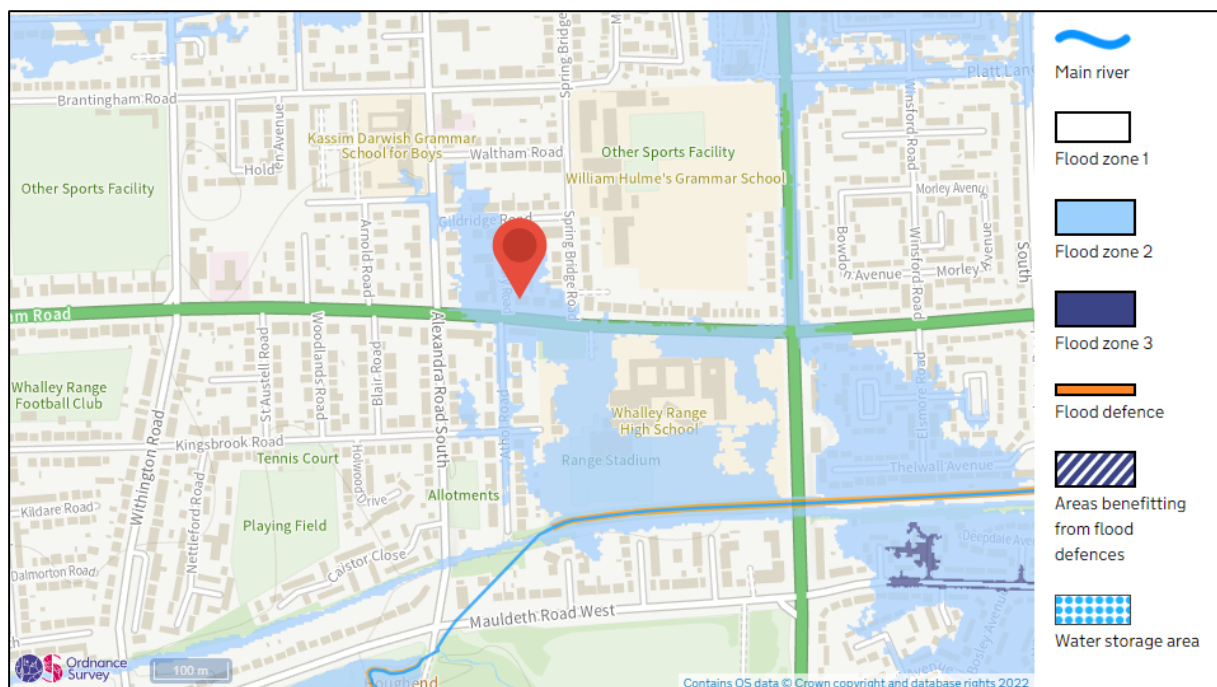


Figure 3: EA Flood Map for Planning

#### Historical Flooding

- 4.5. The site is not located within the vicinity of any past historical flooding events with the nearest occurring 2.3km to the south of the site.

## Tidal Flooding

- 4.6. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the riverbank or river defences when tide levels are high.
- 4.7. The site is a significant distance from any tidal source and above the anticipated extreme tidal levels, even when considering the impacts of climate change. The risk of flooding from tidal sources is low.

## Canals

- 4.8. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.
- 4.9. Water in a canal is typically maintained at predetermined levels by control weirs. When rainfall or other water enters the canal, the water level rises and flows out over the weir. If the level continues rising it will reach the level of the storm weirs. The control weirs and storm weirs are normally designed to take the water that legally enters the canal under normal conditions. However, it is possible for unexpected water to enter the canal or for the weirs to become obstructed. In such instances the increased water levels could result in water overtopping the towpath and flowing onto the surrounding land.
- 4.10. Flooding can also occur where a canal is impounded above surrounding ground levels and the retaining structure fails.
- 4.11. The site is not located near any canals and as such the risk can be considered very low.

## Pluvial Flood Risk

- 4.12. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.
- 4.13. Examination of EA's Flood Risk from Surface Water mapping for the 3.3% (high risk), 1% (medium risk) and 0.1% (low risk) AEP flood events show the site is impacted within the 0.1% AEP event only.
- 4.14. The rear of the garden is impacted within this event with flood depths of less than 300mm. The property itself remains unaffected within this event.
- 4.15. A review of the mapping within the SFRA indicates that the site is not located within a Critical Drainage Area (CDA).
- 4.16. As such the risk of flooding from pluvial sources has been considered low.

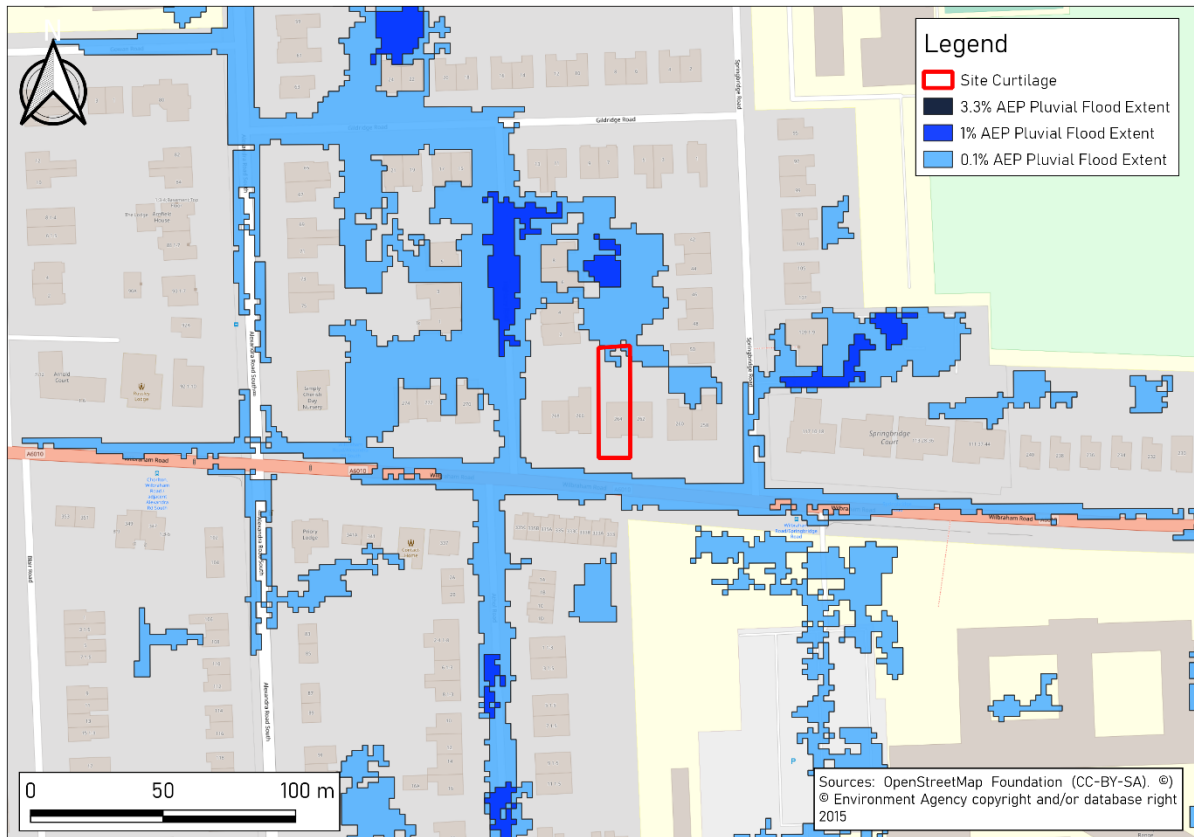


Figure 4: EA Surface Water Flood Risk Mapping

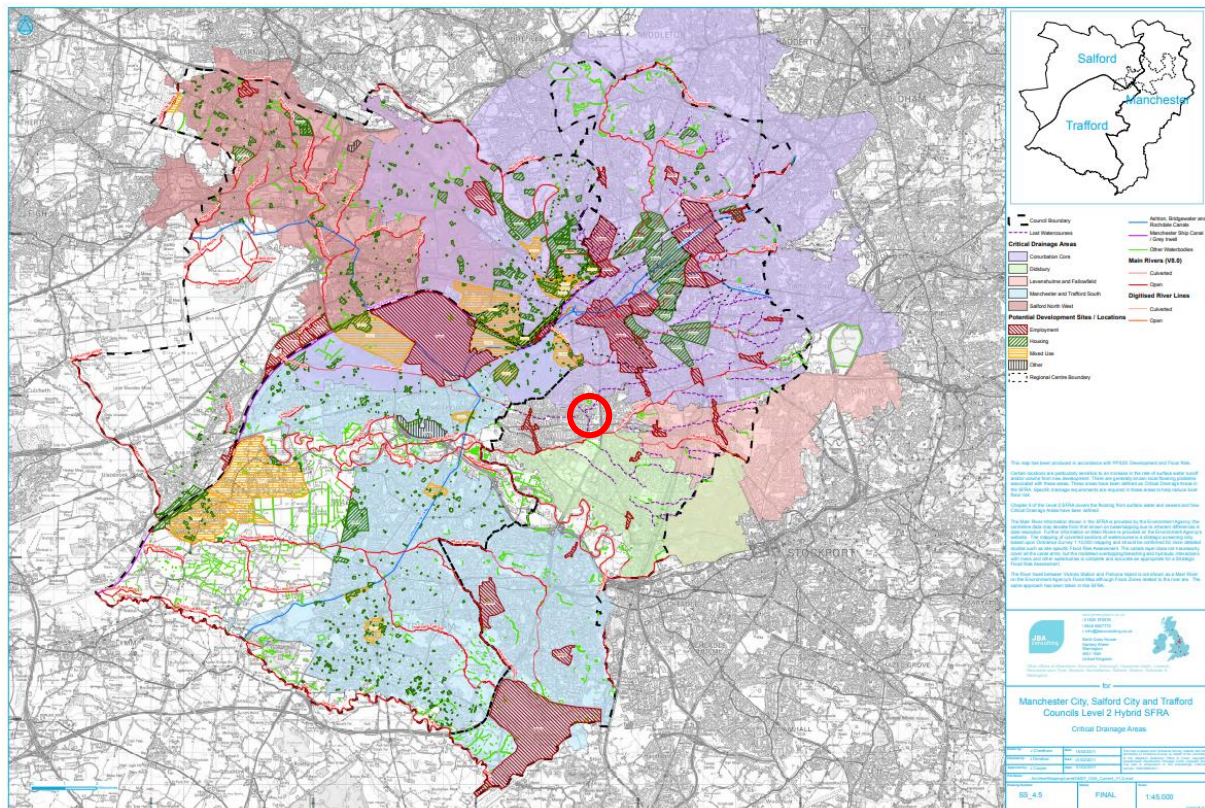


Figure 5: Manchester SFRA Critical Drainage Areas with Site Location in Red Circle

## Reservoirs

- 4.17. Flooding can occur from large waterbodies or reservoirs if they are impounded above the surrounding ground levels or are used to retain water in times of flood. Although unlikely, reservoirs and large waterbodies could overtop or breach leading to rapid inundation of the downstream floodplain.
- 4.18. According to the EA's Flood Risk from Reservoirs mapping the site is at risk of flooding in the event of a breach at multiple reservoirs (Figure 5). The worst reservoir failure model is a 'dry day' scenario meaning that it could be caused by reservoir walls failing due to old age, accident, or because excess flood water has been added to the reservoir.
- 4.19. As reservoirs are highly managed the maximum flood extent provided in the EA Risk of Flooding from Reservoir mapping is considered a 'worst case' scenario. Therefore, given these criteria the site is deemed at a low risk of flooding from this source. Although to be precautionary flood resilient design and building practices could be implemented to further reduce risk.

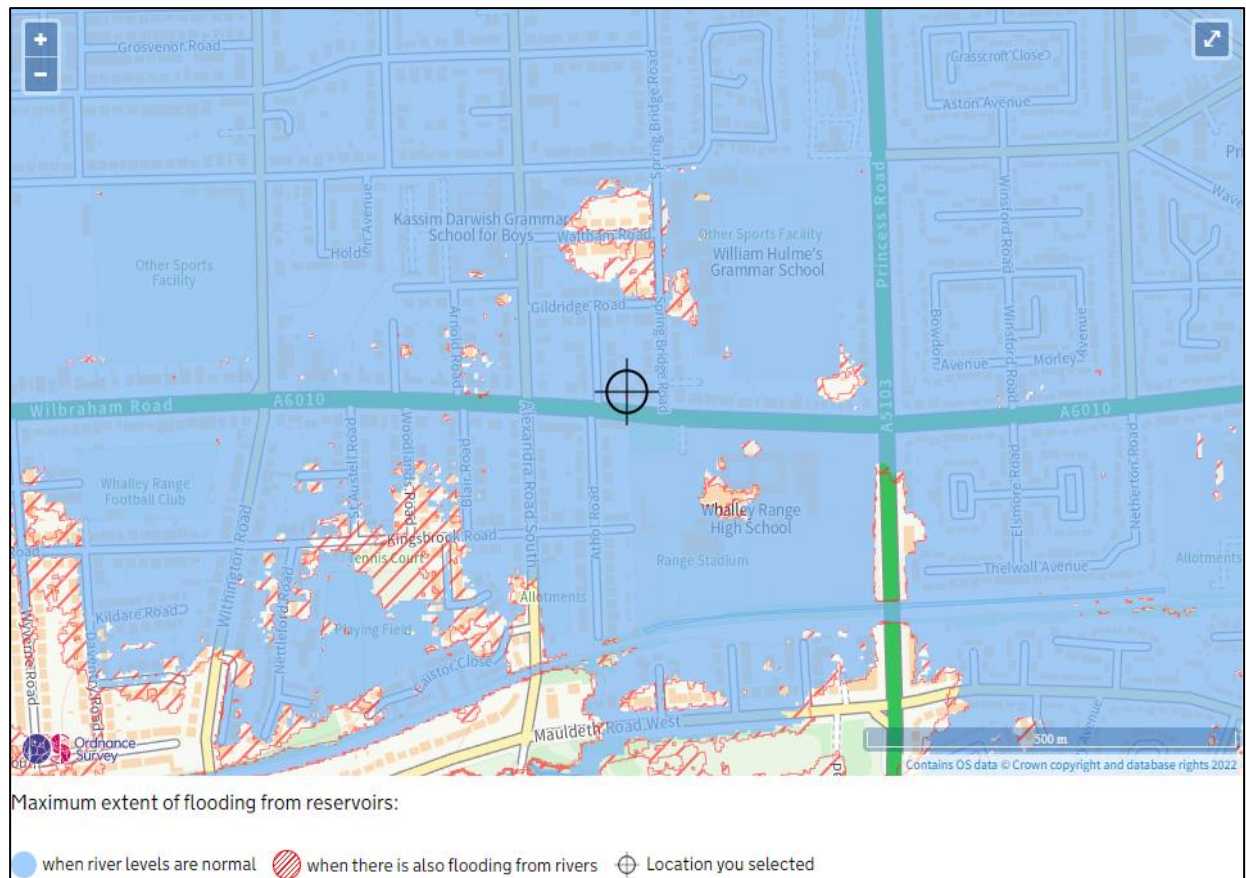


Figure 6: EA Reservoir Flood Risk Mapping

## Groundwater

- 4.20. Groundwater flooding occurs in areas where underlying geology is permeable, and water can rise within the strata sufficiently to breach the surface.
- 4.21. The British Geological Survey's (BGS) mapping shows Till, Devensian - Diamicton superficial deposits underlying the site with bedrock of Wilmslow Sandstone Formation - Sandstone.
- 4.22. Historical BGS borehole SJ89SW387 within 300m of the site suggest no groundwater was found up to 1.86m below ground level (depth of borehole).
- 4.23. The SFRA states that there are no known historic groundwater flood events within the region. It does state that areas of Trafford appear to suffer from a high water table and there are some issues with waterlogged ground within Salford.
- 4.24. The site is located within an area that is defined as being at risk of groundwater flooding within the SFRA.
- 4.25. Despite this, due to the nearby boreholes not experiencing groundwater within 1.86m, the risk from groundwater flooding has been considered low.

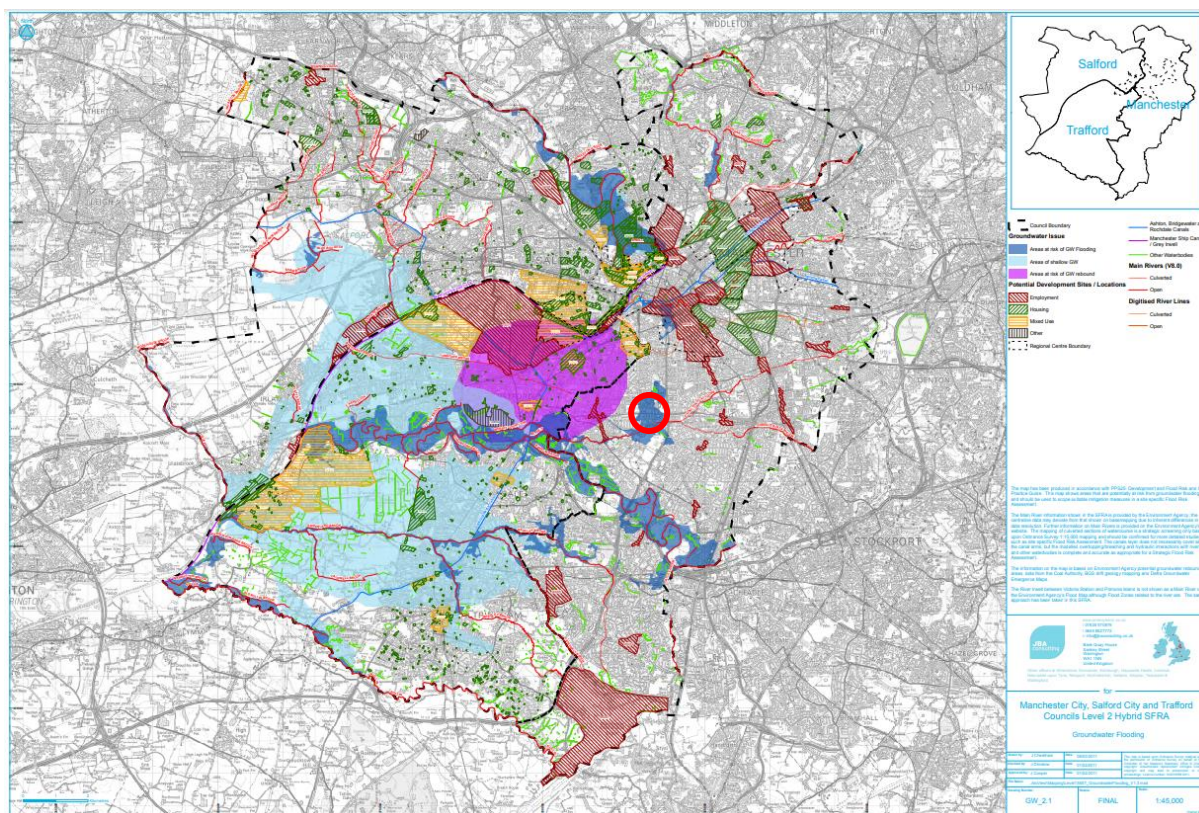
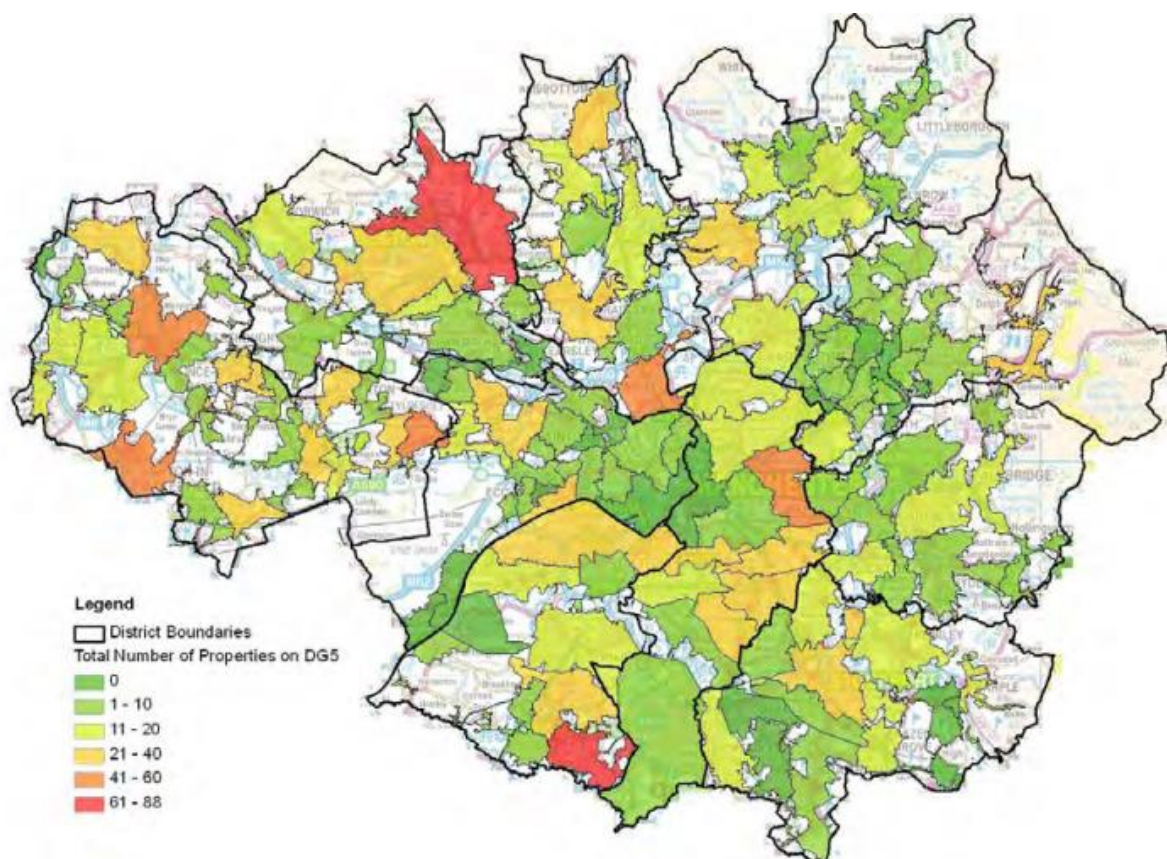


Figure 7: Manchester SFRA Groundwater Flood Risk Mapping with Site Location in Red Circle

## Sewer Flooding

- 4.26. Surface water sewers can be a cause of flooding where the drainage network has become overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.
- 4.27. Detailed DG5 records for Manchester were not available at the time of writing of the SFRA and as such there was no available records of past sewer flooding incidents. The SWMP includes mapping of the DG5 register however due to the scale the site location cannot be accurately determined.
- 4.28. The SFRA does state that other SFRA's and authorities have identified sewer flooding concerns within the large urban areas of the borough. In Manchester, sewer and drainage problems have been identified during rainfall events, with issues in Northenden, Didsbury, Fallowfield and in the city centre.
- 4.29. The development is therefore considered to be at low risk of flooding from sewers.



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Figure 8: DG5 Register with Site Location in Red Circle

## 5. Flood Risk Mitigation

### Fluvial

- 5.1. The site is considered to be at medium risk of fluvial flooding due to its location in Flood Zone 2. Mitigation measures are recommended to reduce the risk and to be implemented where possible.
- 5.2. The proposal is a Minor Development and can adhere to the EA Standing Advice for Minor Developments. The Finished Floor Levels (FFLs) of the proposed extension will be set no lower than those of the existing dwelling.
- 5.3. Furthermore, the extension should be constructed in a flood resilient manner in accordance with the CLG Report Improving the Flood Performance of New Buildings - Flood Resilient Construction (2007), including measures such as the below:
  - Solid floors with waterproof screed.
  - Raised wiring and power outlets at ground level.
  - Units to be raised on legs above plinth.
  - Waterproof plasterboard used at ground floor.
  - Air brick covers to be installed.
  - Non-return valves should be installed on all new drainage.
  - All new plumbing insulation to be of closed cell design.
  - Damp Proof Membranes (d.p.m.) should be included in any design to minimise the passage of water through ground floors.
  - Patio doors may be susceptible to ingress of flood water. Any PVC window/door sills should be adequately sealed. Double glazing should be used to provide resistance against external flood water pressure. Of concern would be excessive water pressure on the glazing of patio doors.

### Tidal, Canals, Pluvial, Reservoirs, Groundwater and Sewers

- 5.4. Flood risk from tidal, canals, pluvial, reservoirs, groundwater and sewer sources to the proposed development are considered low as all and as such no further specific mitigation is required.

### Increase to Flood Risk Elsewhere

- 5.5. The proposed development is for the construction of an extension to the existing dwelling on site. As such, the proposal constitutes a Minor Development under the NPPF.
- 5.6. Paragraph 051 of the Flood Risk and Coastal Change Planning Practice Guidance (PPG) states:

*Minor developments are unlikely to raise significant flood risk issues unless:*

- they would have an adverse effect on a watercourse, floodplain or its flood defences;
- they would impede access to flood defence and management facilities, or;
- where the cumulative impact of such developments would have a significant effect on local flood storage capacity or flood flows.

*Even minor developments can affect flood risk within or beyond the property, particularly in areas susceptible to flooding. Applications for minor development involving extensions or additions should still meet the requirements to provide a site-specific flood risk assessment (as per footnote 55 of the National Planning Policy Framework). A pragmatic approach should be taken to the scope and level of detail of the assessment – a shorter, simpler assessment is likely to be sufficient in most such cases. As a minimum, the assessment needs to show that the development will be safe for its users for the intended lifetime of the development, without increasing flood risk elsewhere, and be sufficiently flood resistant and resilient to the level and nature of the flood risk.*

- 5.7. Runoff from the extension could be discharged via existing system given that proposal is Minor Development. Betterment could be provided through small-scale SuDS such as rainwater planters and water butts.
- 5.8. As such, the proposed development in isolation should have a negligible impact on flood risk elsewhere.

## EA Flood Warning Service

- 5.9. As a further precaution and risk reduction, the owner of the site should sign up the EA flood warning service (The Chorlton and Platt Brooks at Whalley Range and Chorlton-cum-Hardy). This service allows site owners to register an address, which is at risk of flooding, along with contact details so that in the event of a flood being forecast, the site owner will be sent an alert directly to their chosen method of contact.
- 5.10. Flood warnings/alerts can be enforced at any time of the day or night. Signing up for this service provides site owners some notice before a flood event. The amount of time afforded before a flood occurs depends on the site-specific location (e.g. proximity to the source of flooding, topography of the surrounding area) and the flood mechanism (e.g. bank over topping versus a breach event).
- 5.11. Flood alerts and warnings provide site managers with time to take necessary action, e.g. communication of the risk of flooding to occupants/employees etc, evacuation of occupants offsite or to a safe level, removal of valuable items out of reach of flooding and the mounting of site specific flood defences.

## 6. Conclusions

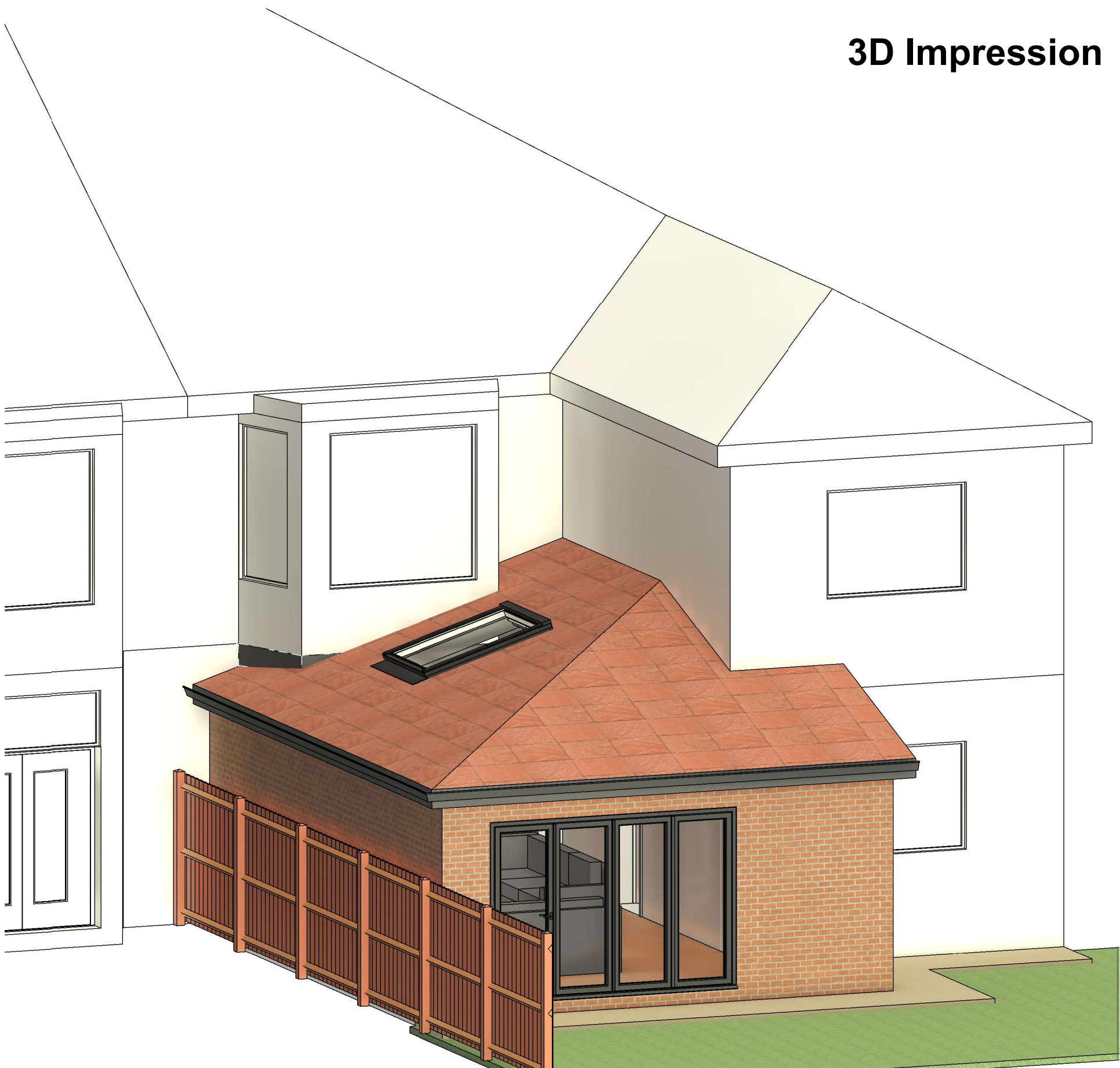
- 6.1. This FRA has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at 264 Wilbraham Rd, Manchester, M16 8QL. It has been written to support a planning application and has been prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail.
- 6.2. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site if the mitigation strategies recommended are implemented in the scheme. The development does not increase flood risk off site or to the wider area.

| Source of Flooding                                     | Flood Risk Summary                                                                                                                                                                                                               |
|--------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Fluvial                                                | The site is located within Flood Zone 2. Mitigation is recommended to reduce the risk of fluvial flooding with the extension recommended to be built within a flood resilience manner and FFLs to be set no lower than existing. |
| Pluvial                                                | The site is shown to be at low risk from pluvial sources with the rear of the site impacted by flood depths of less than 300mm.                                                                                                  |
| Canals<br>Tidal<br>Reservoirs<br>Groundwater<br>Sewers | The site is considered to be at low risk from other sources.                                                                                                                                                                     |

- 6.3. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

# Appendix A - Development Proposals

3D Impression

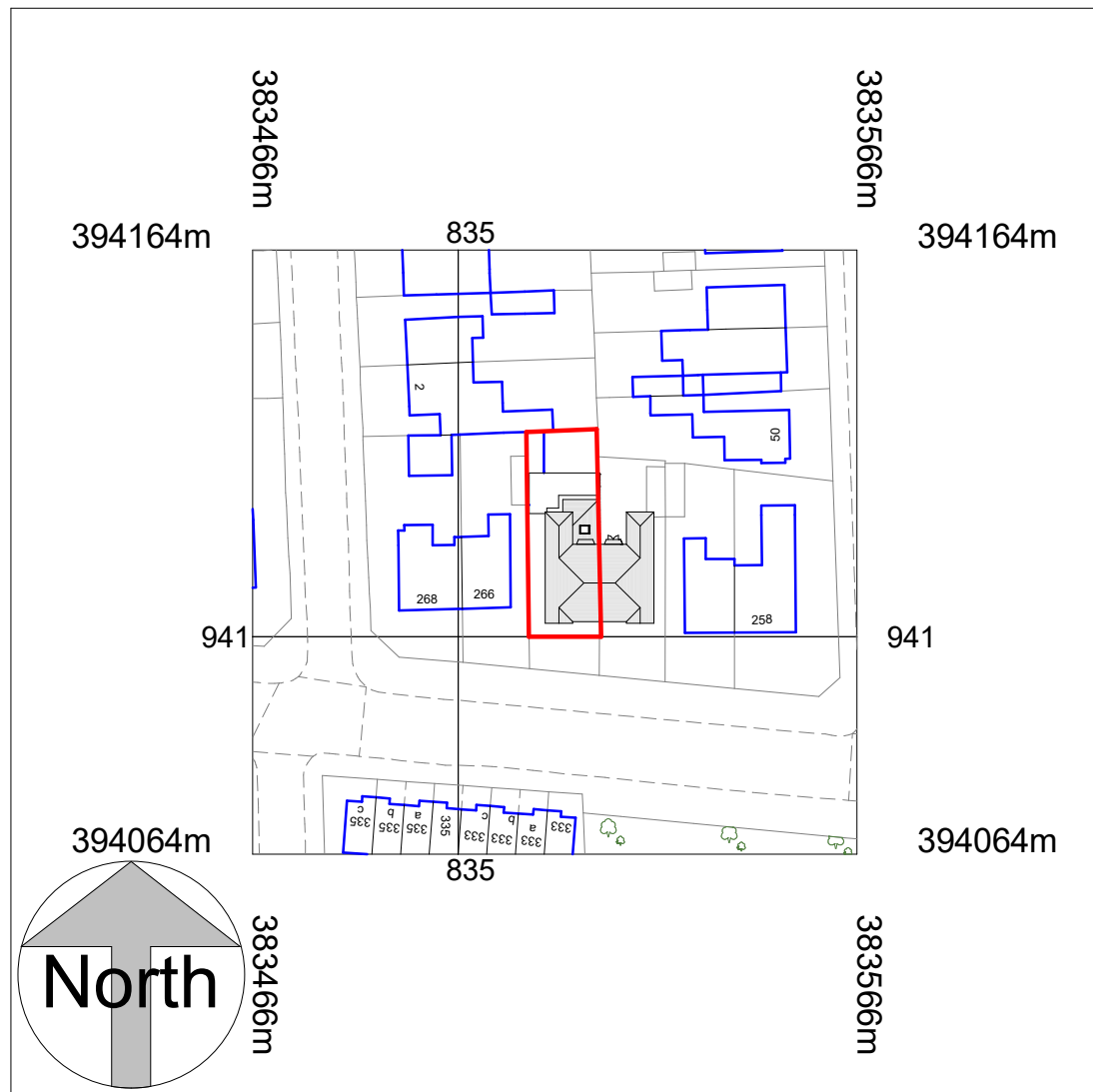


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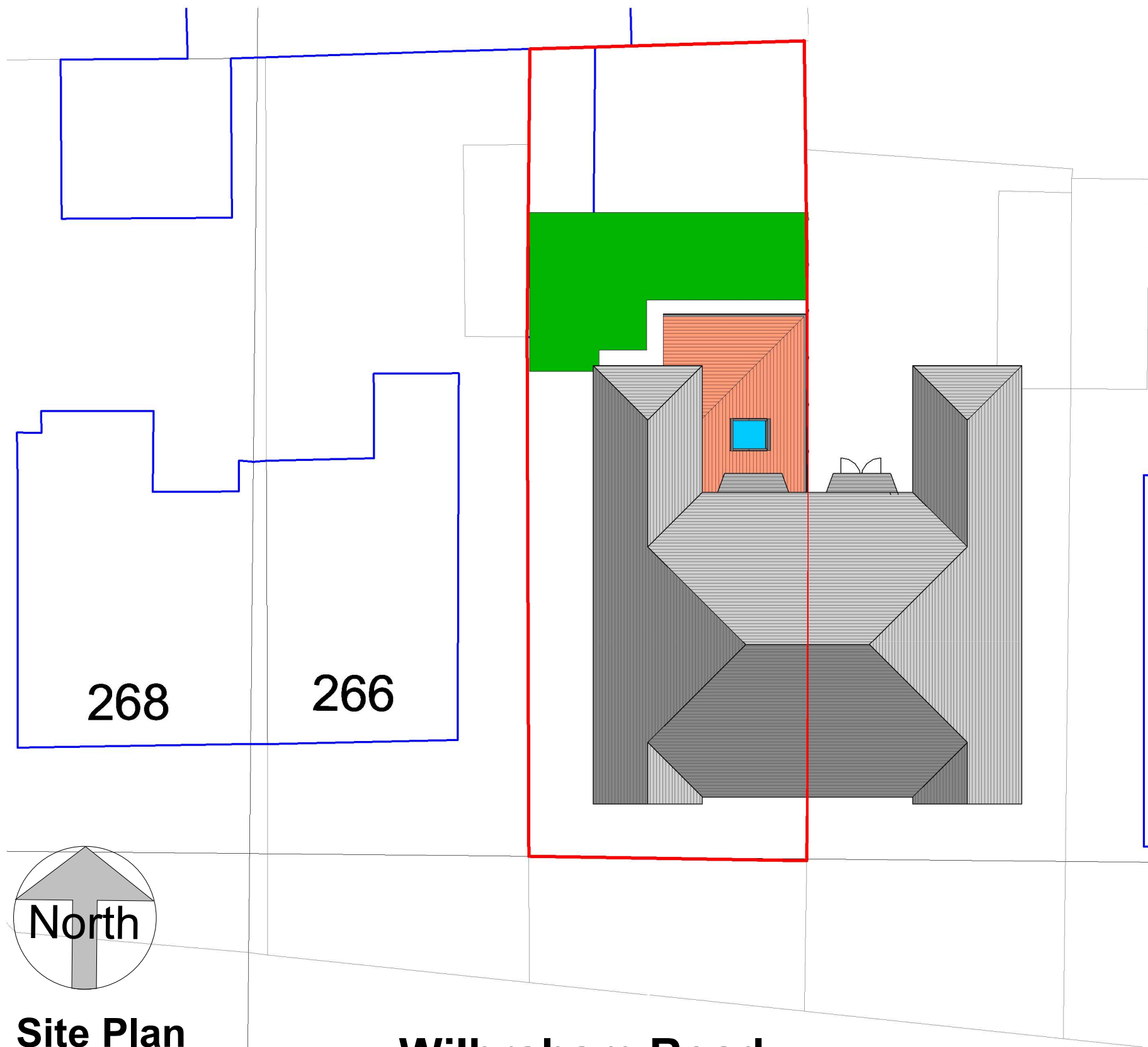
**ARCHITEK**  
BUILDING DESIGN CONSULTANCY

**0161 511 8479**  
vikas@architek.uk  
916 Stockport Road, Levenshulme, Manchester, M19 3AB

| No. | Description | Date | PROJECT                      |                  | ADDRESS                                                | CLIENT        |                |              |
|-----|-------------|------|------------------------------|------------------|--------------------------------------------------------|---------------|----------------|--------------|
|     |             |      | Single storey rear extension |                  | 264 Wilbraham Road, Whalley Range, Manchester, M16 8QL | Date          | Project number | Scale (@ A3) |
|     |             |      | Manchester City Council      | PURPOSE OF ISSUE | SHEET                                                  | 14.12.2021    | 1128           |              |
|     |             |      |                              | draft            |                                                        | Drawn by VA   | DRAWING NUMBER |              |
|     |             |      |                              |                  | 3D Impression                                          | Checked by VA | A108           | REV          |



**Location Plan**  
1 : 1250



**Site Plan**  
1 : 200

**Wilbraham Road**

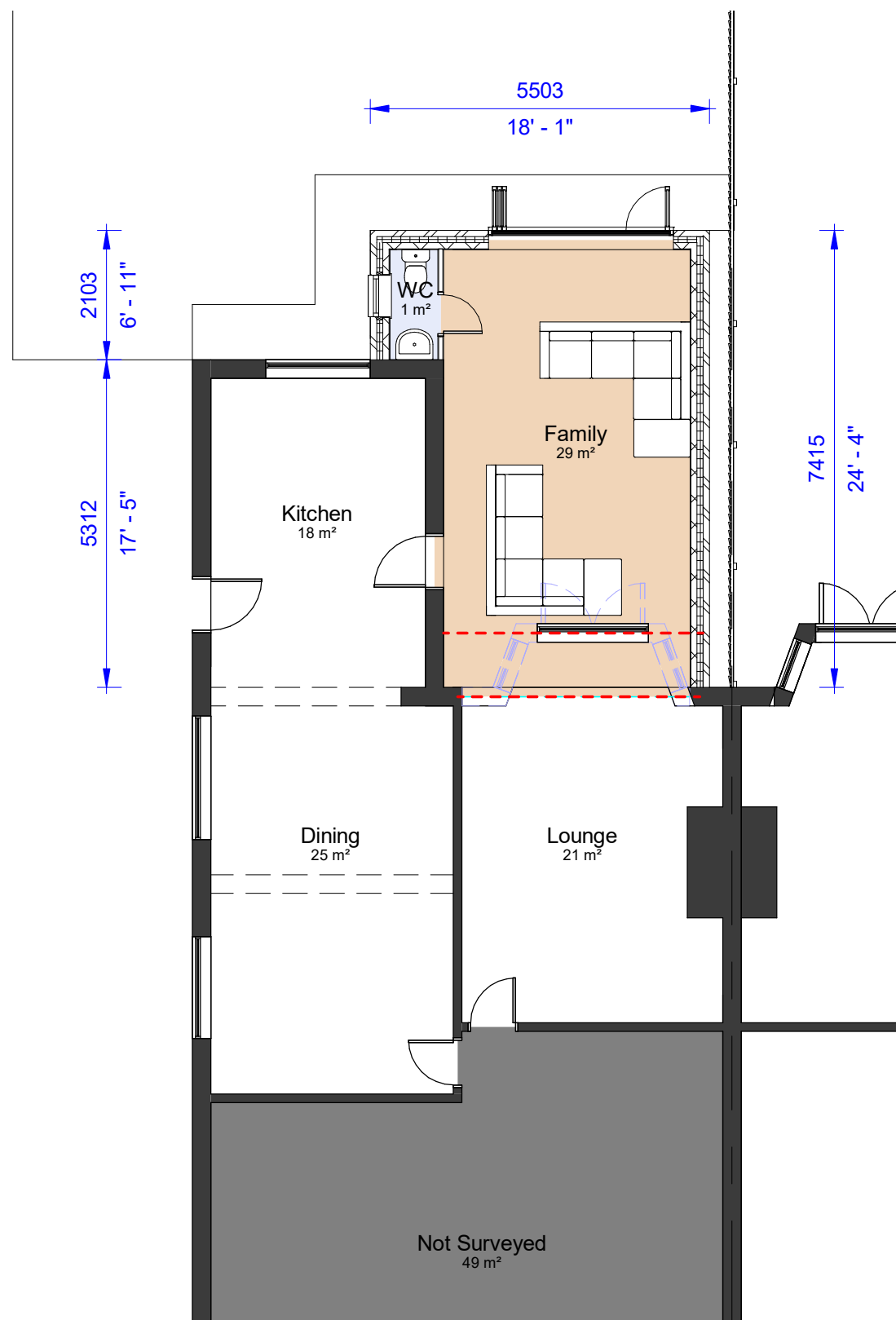
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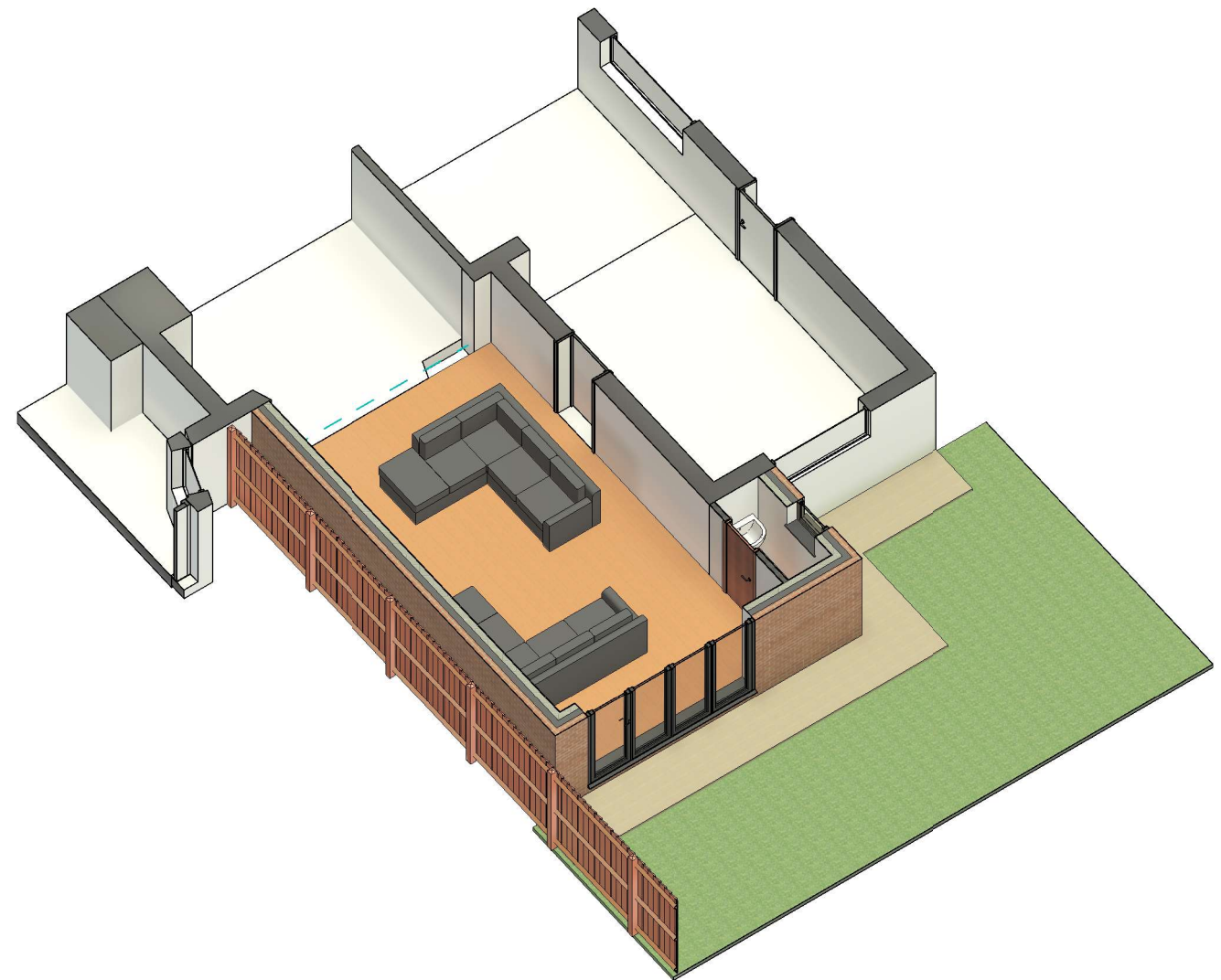
**0161 511 8479**  
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|------------------------------|---------------------------|--------------------------------------------------------|------------------------|--------------------|------------------------|------------------------------|-----|
| PROJECT                      |                           | ADDRESS                                                |                        | CLIENT             |                        |                              |     |
| Single storey rear extension |                           | 264 Wilbraham Road, Whalley Range, Manchester, M16 8QL |                        | Abdul Koser        |                        |                              |     |
| Manchester City Council      | PURPOSE OF ISSUE<br>draft | SHEET                                                  | Location and Site Plan | Date<br>14.12.2021 | Project number<br>1128 | Scale (@ A3)<br>As indicated |     |
|                              |                           |                                                        |                        | Drawn by<br>VA     | DRAWING NUMBER         |                              | REV |
|                              |                           |                                                        |                        | Checked by<br>VA   | A101                   |                              |     |



**00-P-Ground Floor**  
1 : 100



**3D GF Section**

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|------------------------------|--------------------------------------------------------|
| PROJECT                      | ADDRESS                                                |
| Single storey rear extension | 264 Wilbraham Road, Whalley Range, Manchester, M16 8QL |
| Manchester City Council      | PURPOSE OF ISSUE                                       |
|                              | draft                                                  |

|                      |             |
|----------------------|-------------|
| SHEET                | CLIENT      |
| Proposed Floor Plans | Abdul Koser |
|                      | Date        |
|                      | 14.12.2021  |
|                      | Drawn by    |
|                      | VA          |
|                      | Checked by  |
|                      | VA          |

|                |              |     |
|----------------|--------------|-----|
| Project number | Scale (@ A3) | REV |
| 1128           | 1 : 100      |     |
| DRAWING NUMBER |              |     |
| A104           |              |     |