

Flood Risk Assessment

Proposed Ground Floor Apartments

Sudden Mill

Manchester Road

Rochdale

OL11 4QR

On behalf of Home Grace Ltd

July 26

1.Introduction and Executive Summary

This Flood Risk Assessment (FRA) has been updated following the receipt of comments from the Environment Agency in their consultation response to Rochdale MBC where they required a FRA for all the land within the ownership of the applicant as opposed to just the development site.

This report includes reference to the new mapping and modelling (NaFRA2) used by the EA to identify flood hazards, how the flooding events will affect people and property, and given the scale and location of the development the requirement for flood compensatory storage relating to any proposed increase in flood volume.

This FRA is for the change of use of the ground floor of an existing commercial property at Sudden Mill, Manchester Road, Rochdale from commercial use into 3 No. apartments with ancillary accommodation.

This FRA has been prepared in accordance with the national guidance and requirements set out in the National Planning Policy Framework (NPPF) and National Planning Policy Guidance (NPPG).

This proposal would be defined as non-major development, given that the proposal is to form 3 additional apartments by the change of use of an existing building with no extensions.

This FRA has been prepared to identify and evaluate the various possible sources of flood risk to which the site might be subjected to, and to identify any mitigation or protection measures deemed necessary of feasible; and to ensure the development does not increase the probability of flooding within or near to the site.

This FRA includes an assessment of the existing and proposed surface water drainage of the site and concludes that due to the fact that the proposal requires no extensions / alterations to the building envelope there will be no adverse impact on the drainage infrastructure.

This FRA identifies and assesses the risks of all forms of flooding to and from the development and demonstrates how these flood risks will be managed so that the development remains safe throughout the lifetime, taking climate change into account.

It is recognised that developments which are designed without regard to flood risk may endanger lives, damage property, cause disruption to the wider community, damage the environment, be difficult to insure and require additional expense on remedial works. The development design should be such that future users will not have difficulty obtaining insurance or mortgage finance, or in selling all or part of the development, as a result of flood risk issues.

The Government has introduced a comprehensive data base to advise applicants for planning permission on the flood risks for individual sites in an attempt to remove undue delays in the planning process.

However, the LPA have insisted that a FRA is undertaken for all of the land owned by the applicant even though the proposed development is limited to just the ground floor of the building adjacent to Manchester Road which is generally some 3.5m “above” the level of the other areas of land owned by the applicant and none of the land out with that building will be utilised by the proposal.

The area where the development will take place is in Flood Zone 1 (see figure 2) however some of the other land owned by the applicant (importantly noting that none of this land will be utilised by the proposed development) does lie within Flood Zone 3 (see figure 1).

This FRA concludes that the proposed development would be expected to remain dry in all but the most extreme conditions. Providing the recommendations made in this FRA are implemented, flood risk from all sources would be minimised, the consequences of flooding would be acceptable, and the Proposed Development would be in accordance with the requirements of the NPPF.

This FRA demonstrates that the Proposed Development would be operated with minimal risk from flooding, would not increase flood risk elsewhere and is compliant with the requirements of the NPPF. The proposed development should not therefore be precluded on the grounds of flood risk.

2.Site Setting and Description

2.1 Site Location

The site is within a mixed commercial and residential area off Manchester Road, Rochdale.

The co-ordinates to the centre of the site are: Easting 338425 and Northing 411820

A site location plan is shown below with the site edged in red.

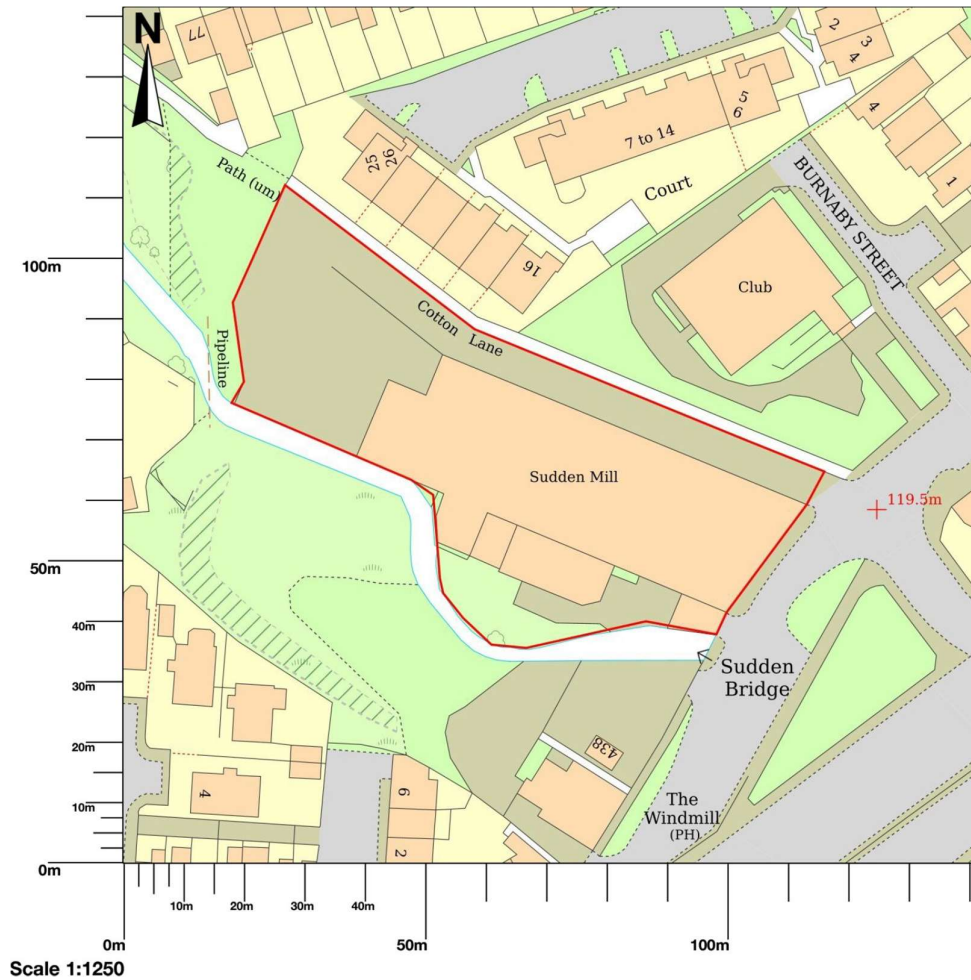
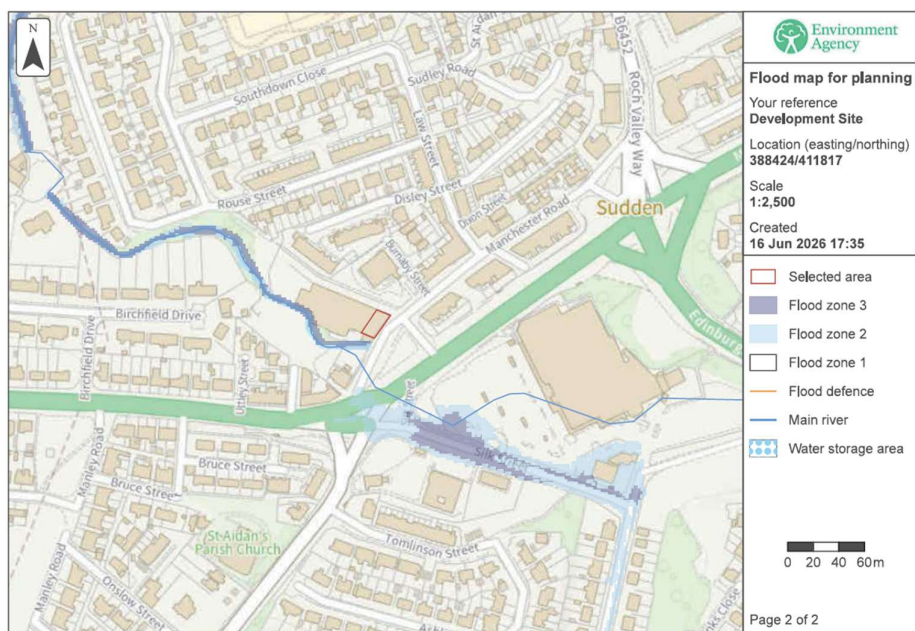


Figure 1 - Site Location Plan – showing AOD of Manchester Road adjacent to the application site at approx. 119.5m

Importantly the application to which this report relates is for the change of use of the ground floor (located at approx. 119.8m AOD) of the existing mill which is adjacent to the East / Manchester Road boundary of the site.



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Figure 2 - Government Flood Map for Planning – Showing the development site (ground floor section of existing mill adjacent to Manchester Road) which is designated Flood Zone 1



Flood map for planning

Your reference Location (easting/northing) Created
Unspecified **388425/411817** **17 June 2026 08:35**

Your selected location is in flood zone 1, an area with a low probability of flooding.

You will need to do a flood risk assessment if your site is any of the following:

- bigger than 1 hectare (ha)
- in an area with critical drainage problems as notified by the Environment Agency
- identified as being at increased flood risk in future by the local authority's strategic flood risk assessment
- at risk from other sources of flooding (such as surface water or reservoirs) and its development would increase the vulnerability of its use (such as constructing an office on an undeveloped site or converting a shop to a dwelling)

Notes

The flood map for planning shows river and sea flooding data only. It doesn't include other sources of flooding. It is for use in development planning and flood risk assessments.

This information relates to the selected location and is not specific to any property within it. The map is updated regularly and is correct at the time of printing.

Flood risk data is covered by the Open Government Licence which sets out the terms and conditions for using government data. <https://www.nationalarchives.gov.uk/doc/open-government-licence/version/3>

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Photograph 1 – South East elevation of two storey mill, the proposed apartments are to be located on the ground floor of this section of the building – elevation approximately 5.3m above the Sudden Brook

Sudden Brook forms the Southern boundary to the application site and generally runs at a level of approximately 114.5m AOD, or some 5.3m “below” the level of the proposed residential accommodation.



Photograph 2 – South East elevation of 2 storey mill with Sudden Brook running adjacent to the Southern boundary of the application site.



Photograph 3 – South West corner of application site with Sudden Brook running approximately 1.8m lower than the base of the masonry wall that encloses the yard serving the application site.

The ancillary accommodation for the application that is located on the ground floor (located at approx. 119.8m AOD) is some 3.5m above the lower ground floor / service yard level of the mill which is at approx. 116.3m AOD.

The Governments Flood Risk Maps and Data are based on the lowest part of the application site, ie the lower ground floor / service yard area located to the West of the site.

2.2 Existing Site

The site is already developed with a 2 storey former mill complex to the South East elevation and a relatively more recent single storey unit located at a lower level to the West .

The property has a large service yard which is accessed via Cotton Lane.



Photograph 4 – South West corner of application site showing service yard level, which corresponds with the lower ground floor level of the mill and is approximately 3.5m lower than the floor level of the proposed apartments and ancillary accommodation.

Existing floor plans and elevation drawings are included in the appendices.

2.3 Proposed Development

The proposed development comprises the conversion of the ground floor of the two storey section of the mill into 3 No. apartments with ancillary accommodation also on the ground floor.

There are no extensions / changes to the footprint of the building.

Proposed floor plans and elevation drawings are included in the appendices.

2.4 Topography

Ordnance Survey mapping indicates that the local topography gently falls towards the west and south-west towards the, with ground levels at the site adjacent to Manchester Road the region of 119.8m AOD.

Digital OS plan with AOD levels is included in Figure 1

2.5 Coast / Rivers / Canals and Artificial Water Bodies

The nearest waterbody to the development site is the Sudden Brook, which meanders in a general westerly direction, passing within approximately 1m to the south-west boundary of the site.

There are no other known canal or artificial water bodies in the vicinity of the development site.

2.6 Drains and Sewers

The exact location of any water main or drains within the development site are to be confirmed before works commence on site. However due to the urban nature of the development site it is assumed that public drains and water mains are located in the immediate vicinity.

The proposed development will not involve any new connections to the existing drainage system.

3.Sources of Flooding

In accordance with the NPPF, flood risk must be assessed for all sources of flooding and development of the site should be carried out in such a way as to mitigate any potential flood risk to both the site and third parties and their property. This section identifies all possible sources of flooding.

3.1 Fluvial Flooding

Fluvial flooding results from watercourses / rivers surcharging and flooding the surrounding areas.

3.2 Coastal Flooding

Coastal flooding results from high tides from the sea.

3.3 Pluvial Flooding

'Pluvial' flooding is that which results from rainfall generated overland flow before the run-off enters any watercourse, drain or sewer. It is more often linked to high intensity rainfall events (typically in excess of 30mm per hour).

However, it can also result from lower intensity rainfall or melting snow where the ground is saturated, frozen, developed or has low permeability. This results in overland flow and ponding in depressions in the topography. In urban areas 'pluvial' flows are likely to follow the routes of highways and other surface connectivity to low spots where flooding can occur. In some cases, it can deviate from this route into adjacent developments via dropped kerbs (either for access to driveways or disability access).

3.4 Groundwater Flooding

Groundwater flooding is caused by the emergence of water from sub-surface permeable strata. Fluctuations in the groundwater table can cause flooding should the table rise above the existing ground level. Groundwater flooding events tend to have long durations, lasting days or weeks.

3.5 Flooding from Drains and Sewers

Flooding from drains and sewers is caused when the capacity of the drains and sewers is exceeded and will result in flooding from the manholes.

3.6 Canals, Reservoirs and Other Artificial Sources

Flooding from canals, reservoirs and artificial sources is caused when the capacity of the sources is exceeded, or if there is, an infrastructure failure.

4.Sourced Data

Data from the Environment Agency; local Strategic Flood Risk Assessments; and information from other parties are to be studied to establish which sources of flooding are at the site.

4.1 Government Flood Maps for Planning

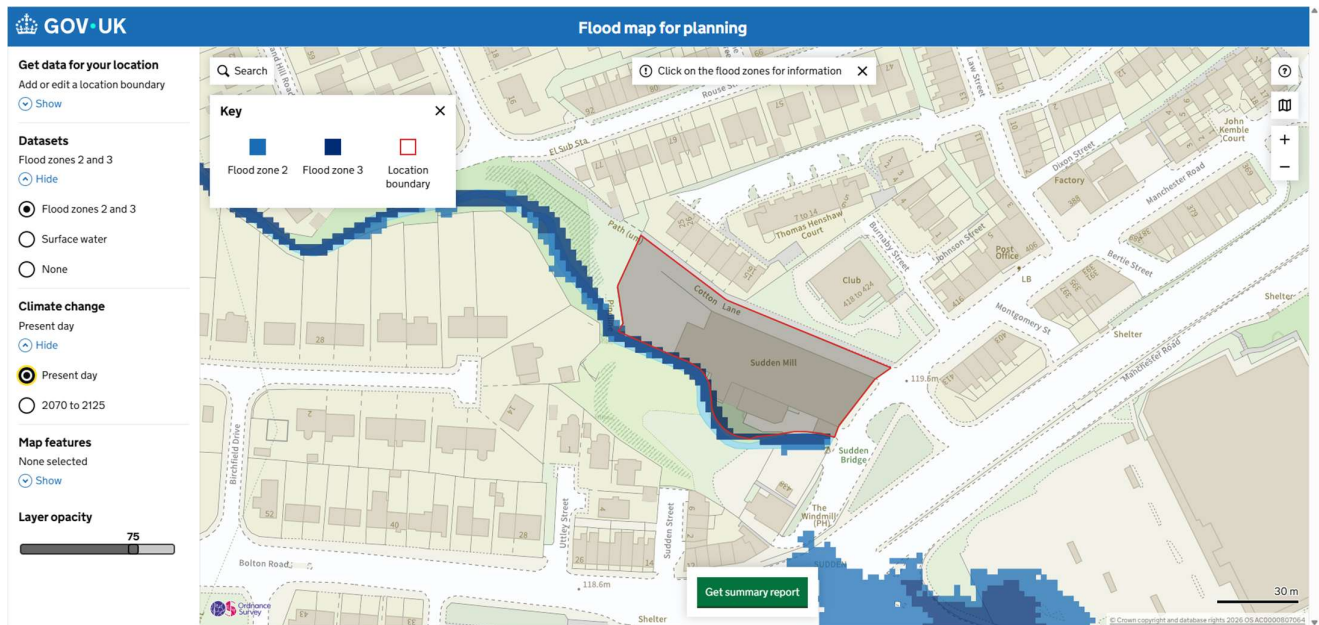


Figure 1 - Government Flood Risk Map – Showing that during flooding events the raised water levels of Sudden Brook are contained within the banks of same adjacent to the application site and do not present any risk to proposed occupants of the proposed apartments – the primary flood plain for Sudden Brook is shown on the image below. The occupants only access / egress point is directly from Manchester Road (ie Flood Zone 1)

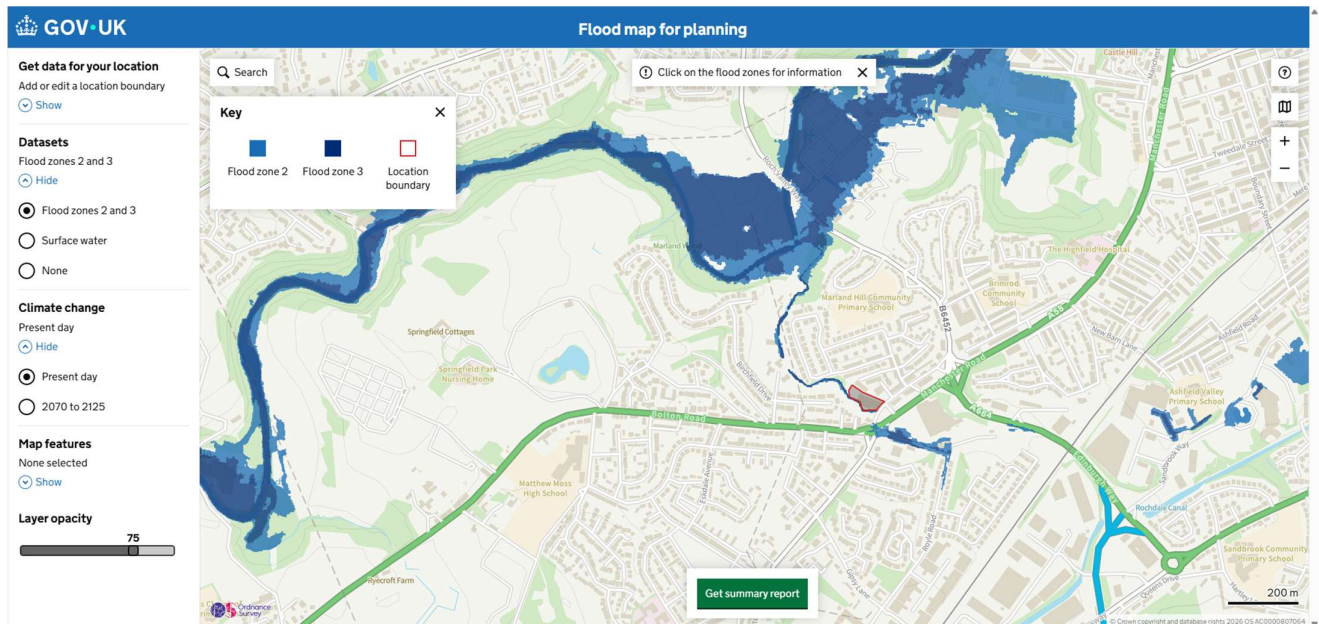


Figure 2 - Government Flood Risk Map – Showing the flood plain is an area half a kilometre to the North West of the application and not the application site itself.

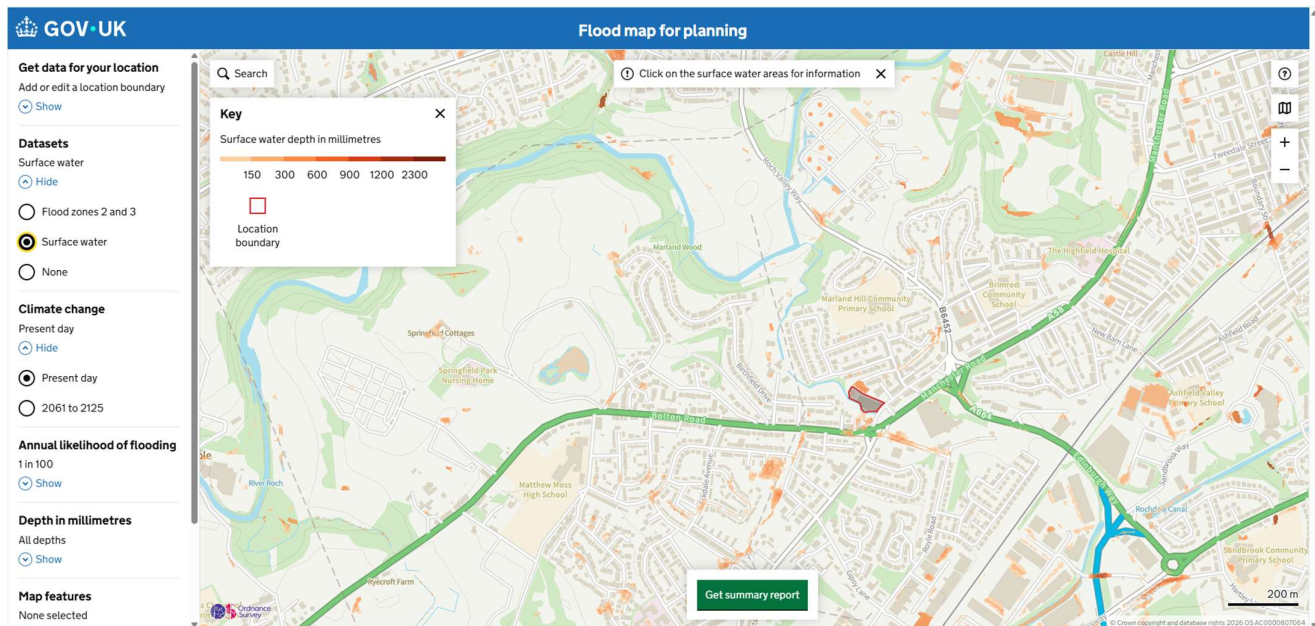


Figure 3 – Government Flood Risk Map Surface Water Risk

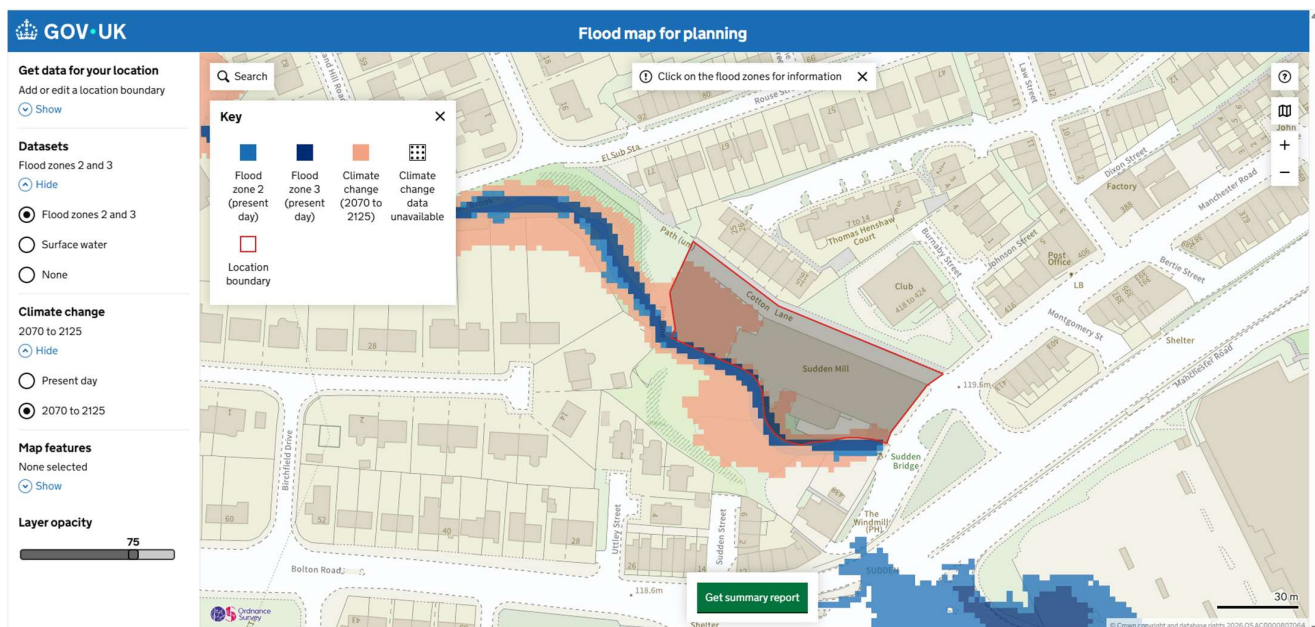


Figure 4 – Government Flood Risk Map Flood Zones 2 and 3 with Climate Change 2070 to 2125 – Showing that the Sudden Brook banks and part of the goods yard may be affected by flooding, however these areas are approximately 3.5m lower than the location of the proposed apartments which are located adjacent to the Manchester Road elevation and entirely within Flood Zone 1.

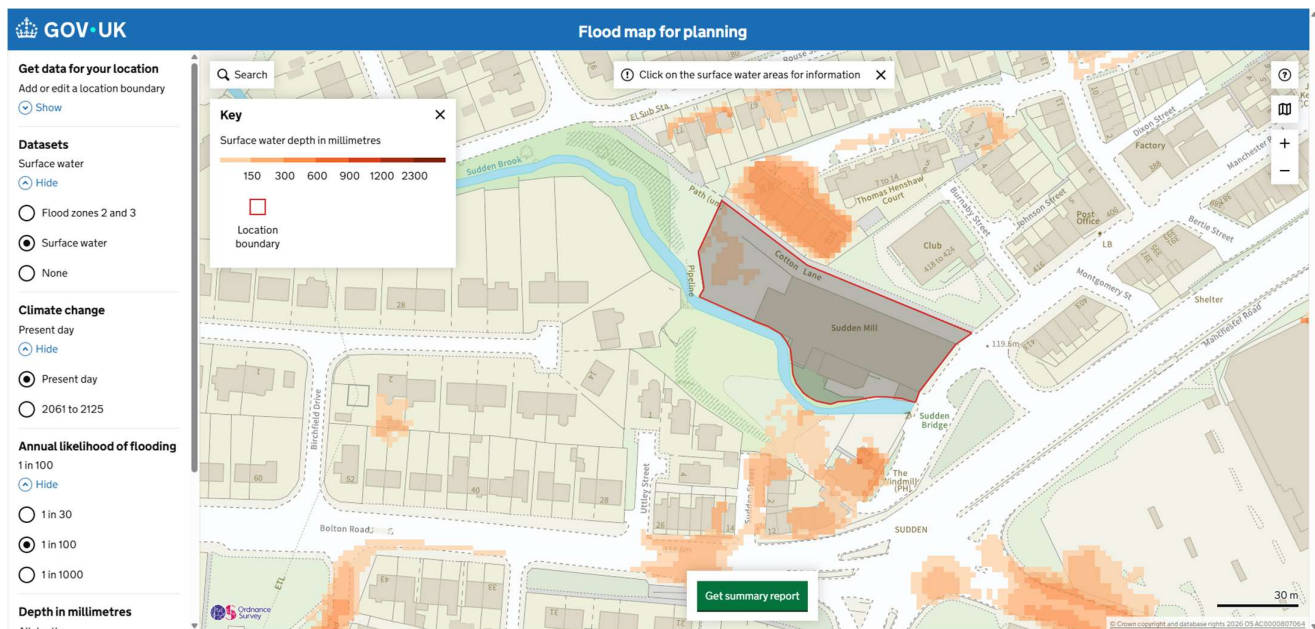


Figure 5 – Government Flood Risk Map Surface Water Risk – Showing negligible risk of surface water flooding in the goods yard which is 3.5m below the level of the proposed apartments.

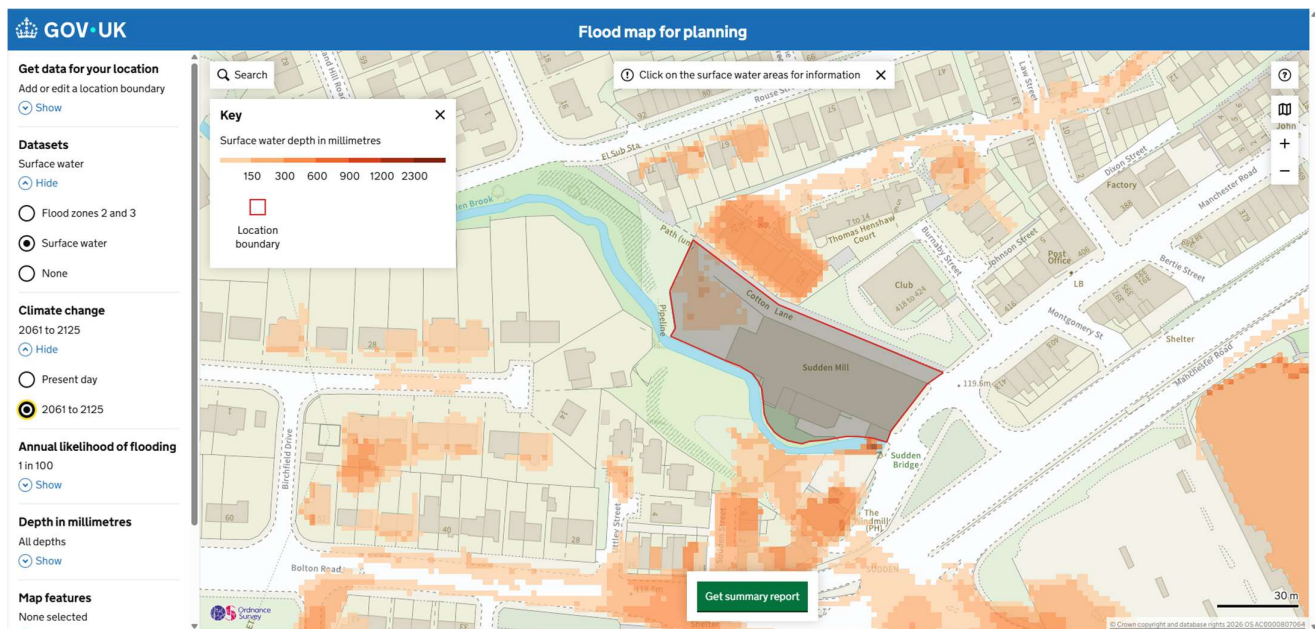


Figure 6 – Government Flood Risk Map Surface Water Risk with Climate Change 2070 to 2125– Showing negligible risk of surface water flooding in the goods yard which is 3.5m below the level of the proposed apartments.

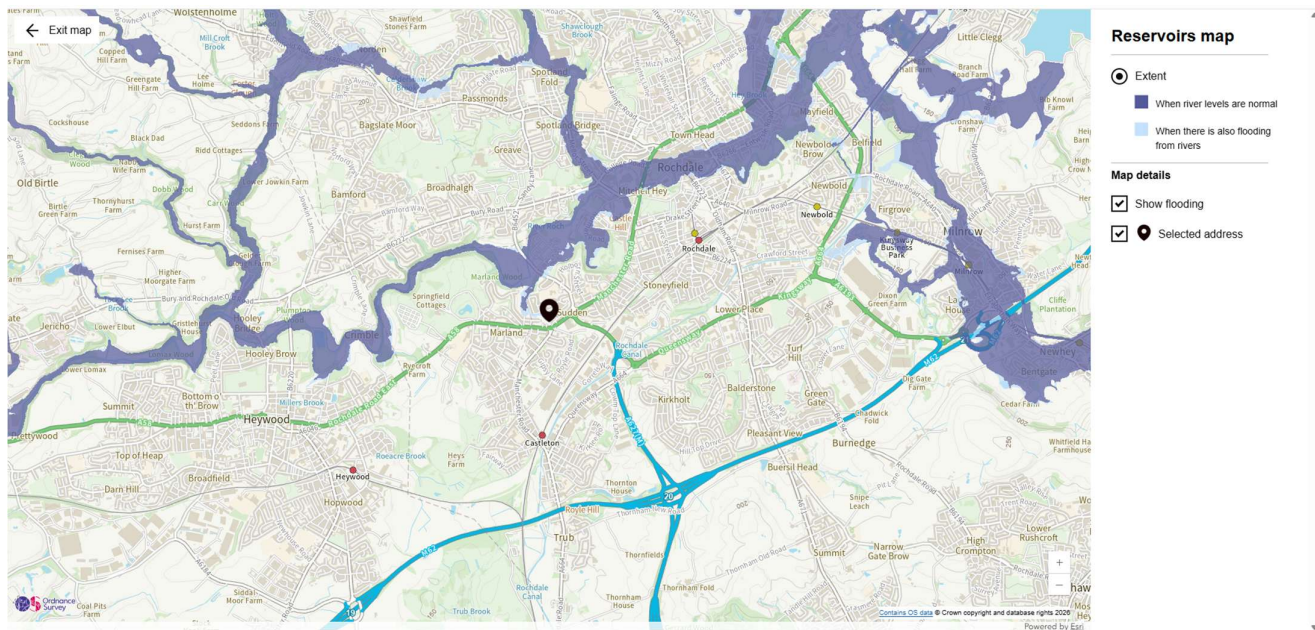


Figure 7 – Government Flood Risk Map From Reservoirs

5. Probability of Flooding

Now that the extents of the sources of flooding are known from the above data, an assessment is to be made of the probability of flooding from each of the sources.

5.1 Fluvial Flooding (Sea and River) – Probability : Very Low noting the exact location of the proposed development – ie the ground floor of the mill building adjacent to Manchester Road which is approximately 5.3m above the level of Sudden Brook.

The source of the fluvial flooding is from the Sudden Brook that passes approximately 4m to the south-west of the development site.

5.2 Pluvial Flooding – Probability : Very Low

The Government Flood Map indicate that the development site is at very low risk of pluvial flooding, defined as <0.1% annual probability (<1 in 1000 year).

5.3 Groundwater Flooding – Probability : Very Low

The Government Flood mapping indicates that the site is within an area not identified as being at risk of groundwater flooding.

There are no known reports of groundwater flooding within the region and no below ground (basement) development is proposed. Therefore, it is concluded that the probability of groundwater flooding to the development is low.

5.4 Flooding from Drains and Sewers – Probability : Very Low

The exact location of any water main or drains within the development site are to be confirmed. The SFRA does not identify the area as one with reported drainage or sewer problems. Therefore, based on this, the probability of flooding from drains and sewers is deemed to be low.

5.5 Flooding from Canals, Reservoirs and Other Artificial Sources – Probability : Very Low

The Government Planning Flood maps indicate that the development site is not within the predicted flood extent of local reservoirs.

In England, large reservoirs that are capable of holding 25,000m³ or more of water are regulated under the Reservoirs Act 1975, as amended by the Flood and Water Management Act, 2010. These reservoirs are registered with the Environment Agency and subject to inspection and supervision by reservoir engineers.

The SFRA does not identify local canals as a potential flood risk source to the region.

6.Flood Risk and Vulnerability

The NPPG Paragraphs 065 to 067 sets out the flood risk for a site by assessing the flood zones, flood risk vulnerability classification, and flood risk vulnerability and flood zone ‘compatibility’.

6.1 Flood Zones

Table 1 – Flood Zones	
Flood Zone	Definition
Zone 1 Low Probability	Land having a less than 1 in 1,000 annual probability of river or sea flooding. (Shown as ‘clear’ on the Flood Map – 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. (Land shown in light blue on the Flood Map)
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. (Land shown in dark blue on the Flood Map)
Zone 3b The Functional Flood Plane	This zone comprises land where water should flow or be stored in times of flood. 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)

The available map data has identified that the development site is within Flood Zone 1

6.2 Flood Risk Vulnerability Classification

NPPG Paragraph 066, Table 2 stated the flood risk vulnerability classifications as:

Table 2 – Flood Risk Vulnerability Classification
Essential Infrastructure Essential transport infrastructure (including mass evacuation routes) which should cross the area at risk; Essential utility infrastructure which has to be located in a flood risk area for operational reasons, including electricity generating power stations and grid and primary substations; and water treatment works that need to remain operational in times of flood; Wind turbines.
Highly Vulnerable Police and ambulance stations; fire stations and command centers; telecommunications installations required to be operational during flooding; Emergency dispersal points; Basement dwellings; Caravans, mobile homes and park homes intended for permanent residential use; Installations requiring hazardous substances consent.
More Vulnerable Hospitals; Residential institutions such as residential care homes, children’s homes, social services homes, prisons and hostels; Buildings used for dwelling houses, student halls of residence, drinking establishments, nightclubs and hotels; Non-residential uses for health services, nurseries and educational establishments;

Landfill* and sites used for waste management facilities for hazardous waste; Sites used for holiday or short-let caravans and camping, subject to a specific warning and evacuation plan.

Less Vulnerable

Police, ambulance and fire stations which are not required to be operational during flooding; Buildings used for shops; financial, professional and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the 'More Vulnerable' class; and assembly and leisure; Land and buildings used for agriculture and forestry; Waste treatment (except landfill* and hazardous waste facilities); Minerals working and processing (except for sand and gravel working); Water treatment works which do not need to remain operational during times of flood.

Water Compatible Development

Flood control infrastructure; Water transmission infrastructure and pumping stations; Sewage transmission infrastructure and pumping stations; Sand and gravel working; Docks, marinas and wharves; Navigation facilities.

The development site would be classed as "More Vulnerable" in flood risk terms as the development comprises the change of use from retail unit to a building used for dwellings.

6.3 Flood Risk Vulnerability and Flood Zone "Compatibility"

NPPG Paragraph 067 Table 3, gives guidance on flood risk vulnerability compared with flood zone, to determine the compatibility.

NPPF – Table 3 – Flood Risk Vulnerability and Flood Zone "Compatibility"					
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	X	Exception Test Required	✓	✓
Zone 3b	Exception Test Required	X	X	X	✓

In accordance with Table 3 of the NPPF "More Vulnerable" development within Zone 3a requires an "Exception Test", however it should also be noted that this report relates to a change of use of existing premises and as such the Site Specific Flood Mitigation Measures (SSFMM) will focus on Flood Resilient / Resistant Design proposals and Flood Warning / Evacuation Plans

7.Conclusion

The Governments Planning Flood Risk data contained in this report and the appendices clearly shows that the area where the development is proposed has a “Very Low” risk of being adversely affected by flooding events from any source (the development site, see figure 2, is distinct from the other adjacent areas owned by the applicant, none of which are relied upon by this proposal).

The proposed residential accommodation requires no extensions or alterations to the building fabric / drainage system and is entirely contained within the footprint of the existing building immediately adjacent to Manchester Road.

The occupants of the proposed apartments which will be accessed via the Manchester Road elevation only are at “Very Low” risk of being adversely affected by flooding events.

Appendices

