14 Bankside Road, Didsbury, Manchester, M20 5GD.

FLOOD RISK ASSESSMENT

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1. Introduction:

The Flood Risk Assessment has been prepared in support of the planning application for a two storey side extension at 14 Bankside Road, Didsbury, Manchester M20 5GD.

The Flood Risk Assessment has been prepared in accordance with the Environment Agency's current guidelines.

2. Site Location:

The site is a semi-detached property that lies on the border of Manchester and Stockport, in East Didsbury, a popular residential suburb of Manchester.

Grid Reference: SJ 84760 89577

Eastings/Northings: 384760/389577

Elevation: The site is located at 32.705m above ordinance datum.

The primary and high schools are located within walking distances. It has excellent transport links as the A34, M60 and M56 only a few minutes away. The River Mersey meanders around the site on three sides and is closest to the site on South side, where it is approximately 350 metres from the site.

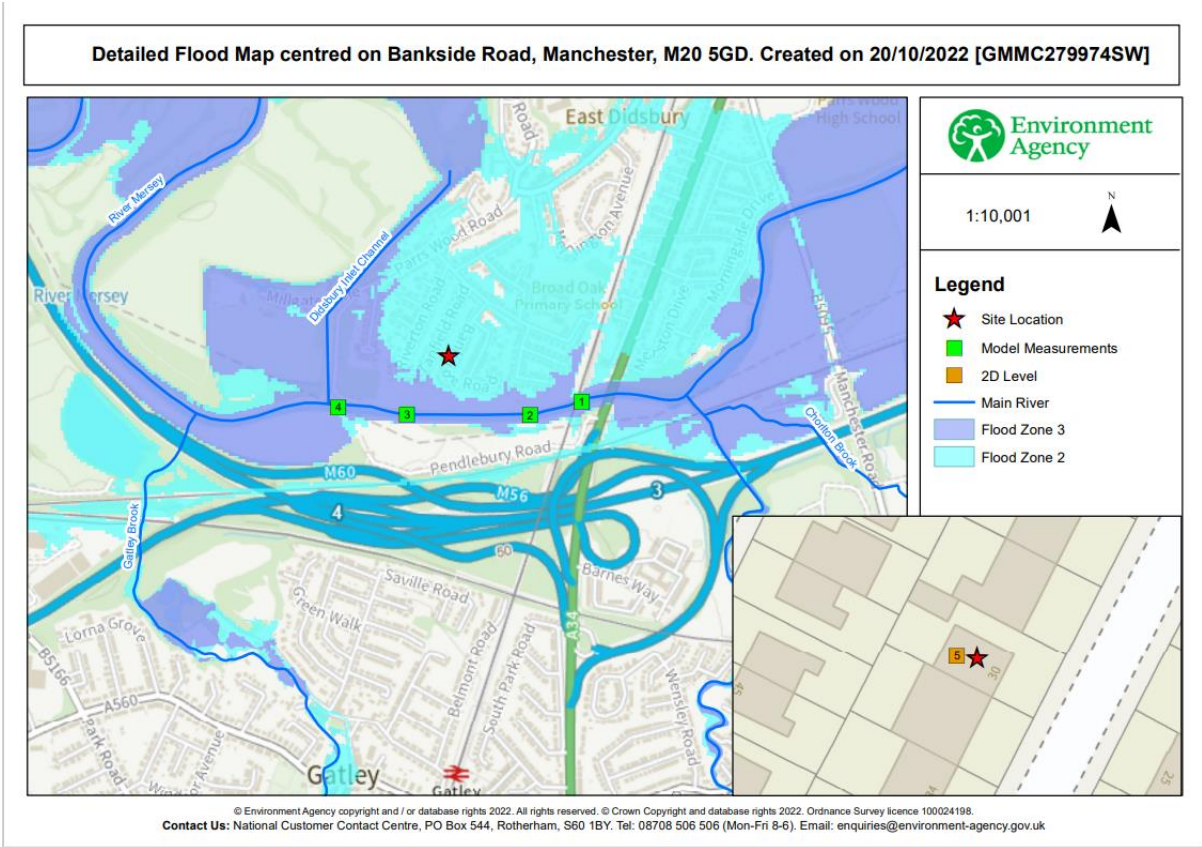
3. Development Proposals:

The development proposal is for a two storey side extension to a domestic property, providing additional living space. The proposed extension comprises of a floor area of 23.0Sq.m on each floor, a total of 46.0sq.m.

4. Flood Zone Allocation:

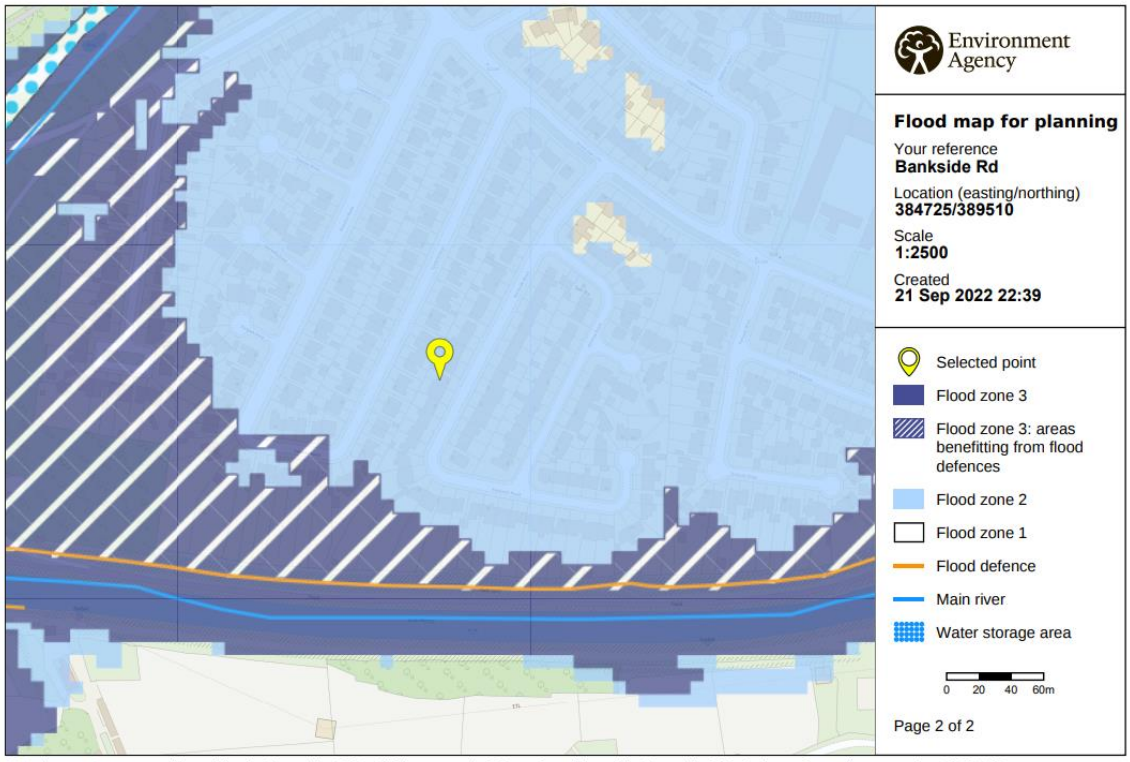
As per the information provided by the Environment Agency on 20 October 2022, the site lies within flood zone 2, see figure-1 below. However, in the inset, the location of the site is shown as 30 Bankside Rd. The property in question is No.14, which is further north.

Fig-1



As stated above, according to the information provided by the Environment Agency on 20 October 2022, the site lies within flood zone 2, an area with a medium probability of flooding. The figure-2 below shows the flood zones and flood defences within the proximity of the site.
The environment Agency undertook various flood defence schemes in the area from 2005 onwards, which has helped to mitigate the impact of flooding in the area.

Fig-2



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As per the information available on the Environment Agency's website, the site is at a risk of very low flooding from the surface water, see figure-3 below. However, as stated above the actual site is further North than the marker indicated by the Environment Agency's website. The actual position is shown by a red circle and as stated above, it is at very low risk of flooding from the surface water.

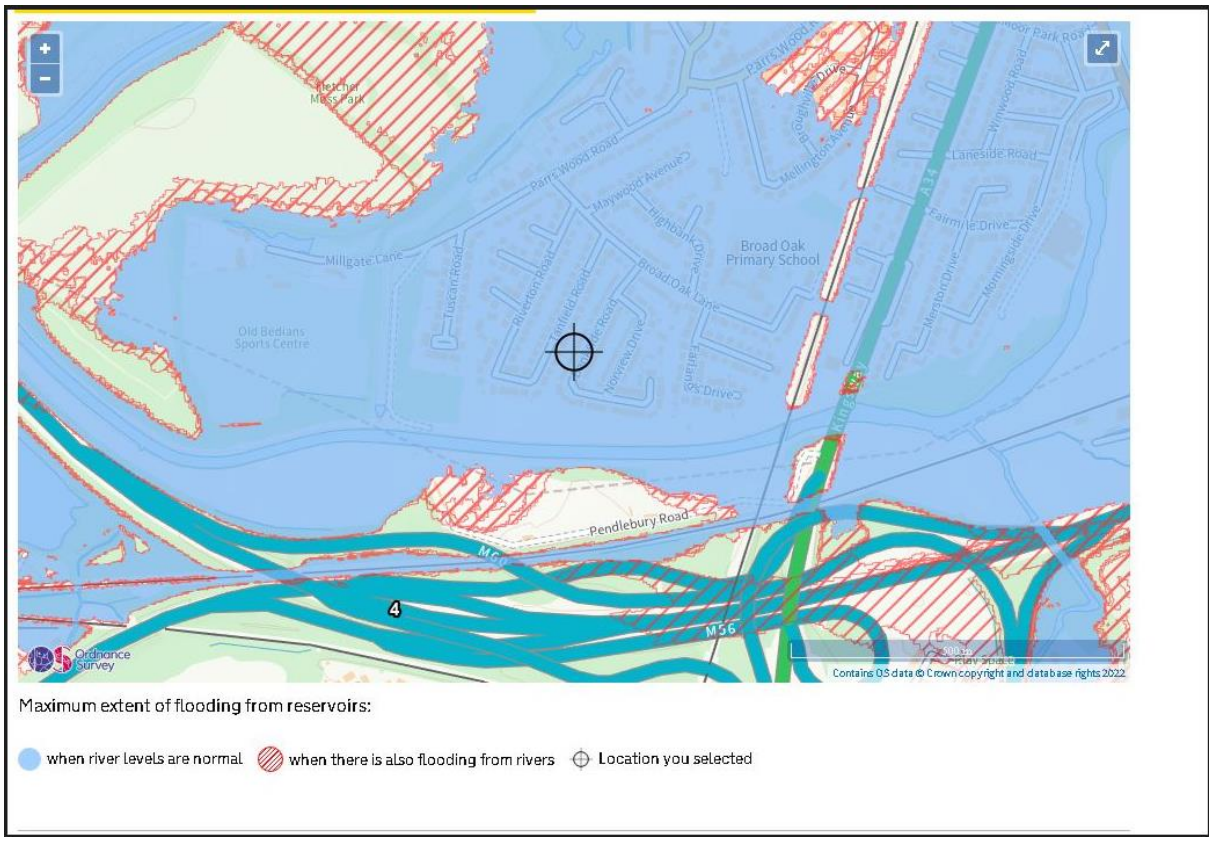
Fig-3

Extent of flooding from surface water

High Medium Low Very low Location you selected

As per the information available on the Environment Agency's website, the site may be impacted by flooding from reservoirs when the river levels are normal, see figure-4 below.

Fig-4



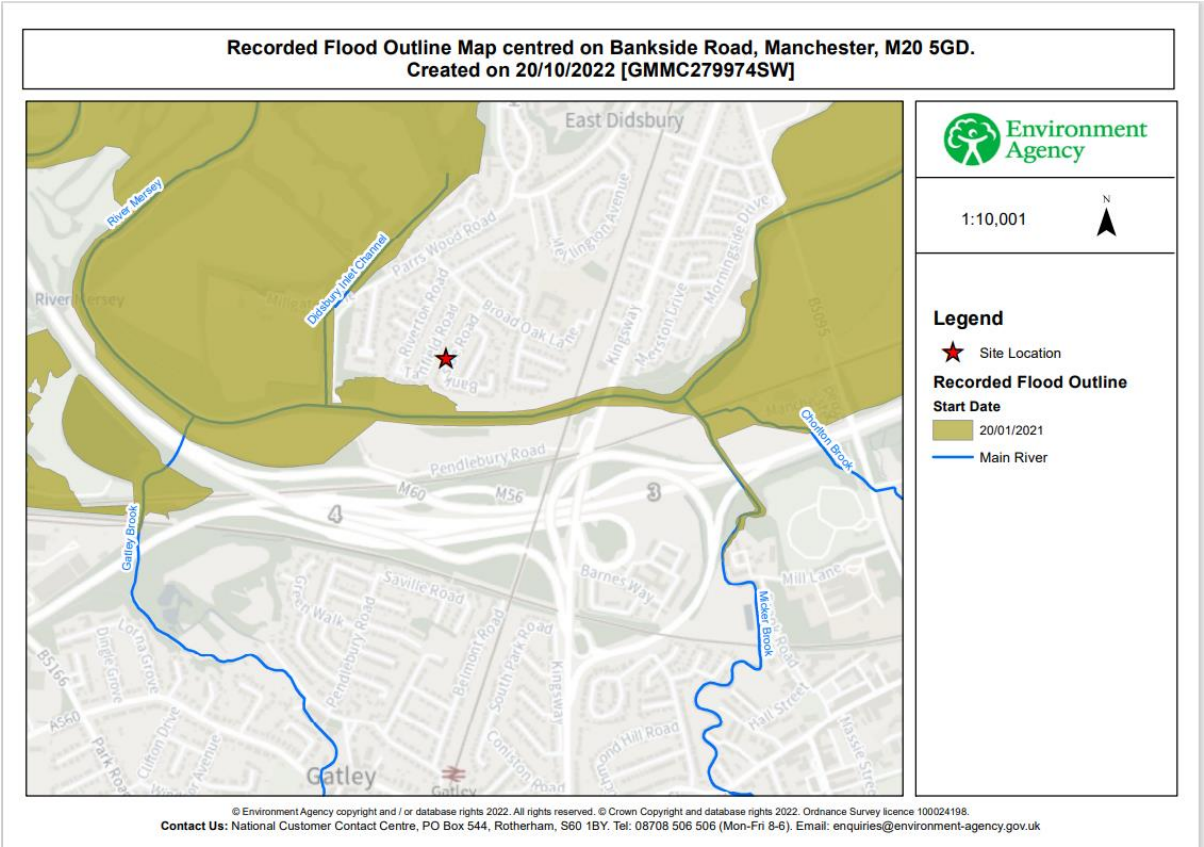
Maximum extent of flooding from reservoirs:

when river levels are normal when there is also flooding from rivers Location you selected

5. Flood Zone Maps and Flood Defence Data:

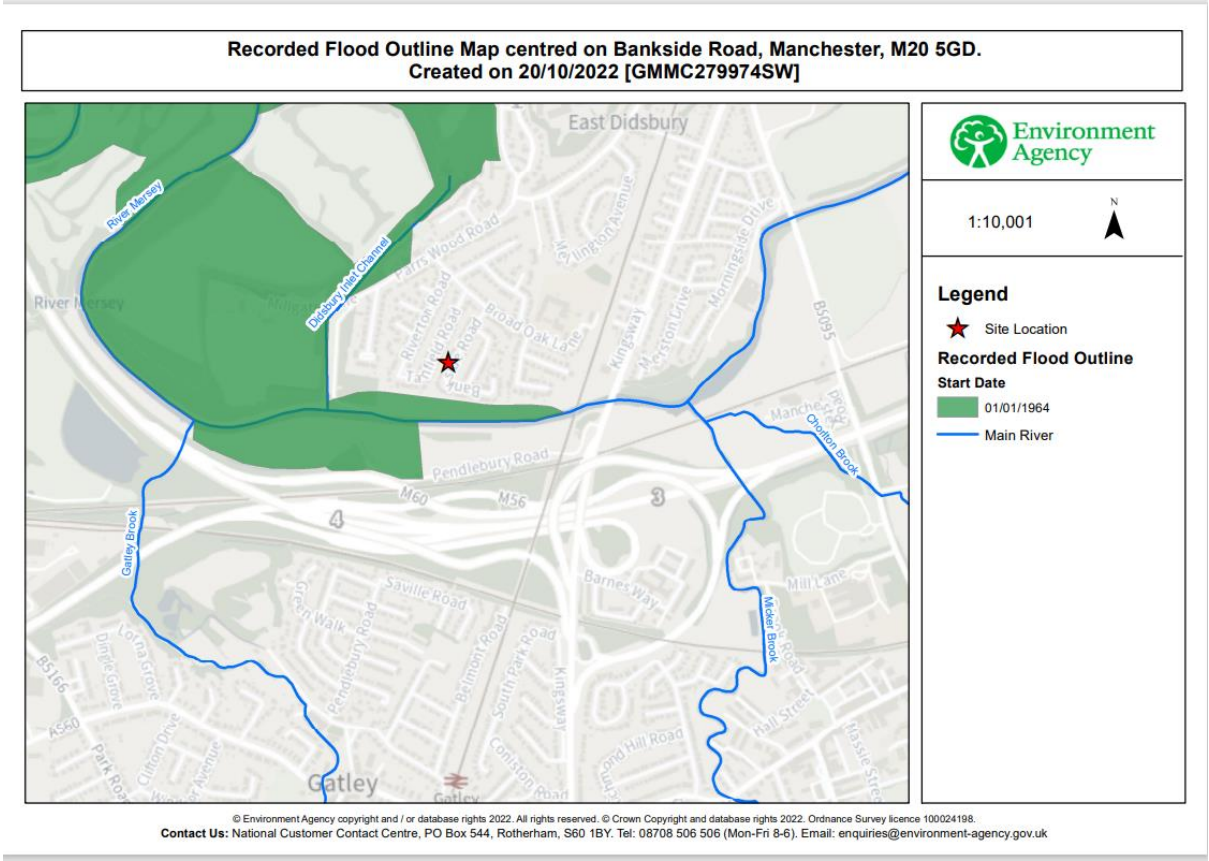
The Figure-5 below provided by the Environment Agency on 20 October 2022, indicates the recorded flood outline since January 2021. This shows that whilst the site is classed as within flood zone-2, the site actually is at very low risk of flooding.
The figures 5 & 6 below confirm that the site doesn't have any history of flooding.
It further confirms that as the area has benefitted from the flood defence measures, the site has not been impacted by the floods since January 2021.

Fig-5



The Fig-6 below provided by the Environment Agency on 20 October 2022, indicates the recorded flood outline since January 1964. This demonstrates that the site has not been impacted by the floods since January 1964.

Fig-6



Source of Flooding	Risk of Flooding:
Rivers	Low
Sea	Very Low
Groundwater	Not known
Surface Water	Very Low
Other sources	No other sources of flood risk known

6. Flood History of the Property:

The Figures 5 & 6 above shows the flood history of the property. The property itself has not suffered from flooding.
However, in January 2021, when due to exceptionally wet weather, there was a danger that River Mersey may breach the flood defences, the residents of Bankside Road and the surrounding area were asked to vacate their properties. Some residents of the area did vacate their properties whilst others didn't and remained in their houses. Forutnately, the River Mersey didn't breach the flood defences and the properties remained unaffected by the flooding. This is clearly demonstrated by Fig-5 above.

7. Conclusion:

The information provided by the Environment Agency clearly demonstrates that the site is at very low risk of flooding.
The threshold level of the property is 32.705m AOD.
The tables provided by the Environment Agency, attached as Appendix A, show that for node 5, which is the closest to the property in question, at 1 in 100 years return period with 35% increase in flow and at 1% Annual Exceedence Probability (undefended), the flood water level at the site would be 32.60m AOD. At this level the flood water will not impact the property.
Similarly, at 1 in 100 years return period with 35% increase in flow and at 1% Annual Exceedence Probability (defended), the flood water level at the site would be 32.63m AOD. Again at this level the flood water will not impact the property.
The property is likely to be impacted at 0.1% Annual Exceedence Probability (1 in 1000 years) both, in undefended and defended situation where the flood water levels would be 32.71m and 32.80m respectively.
The data from the Environment Agency which shows the Flood Zones, together with the history of flooding in the area, clearly demonstrates that there is very low probability of flooding. Therefore, it is considered that flood resilient measures are not necessary at this stage.

Appendix A:

					Undefended														Defended													
Map Reference	Model Node Reference	Easting	Northing	Data	50 % AEP (1 in 2 year)	20 % AEP (1 in 5 year)	10 % AEP (1 in 10 year)	5 % AEP (1 in 20 year)	4 % AEP (1 in 25 year)	2 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow	50 % AEP (1 in 2 year)	20 % AEP (1 in 5 year)	10 % AEP (1 in 10 year)	5 % AEP (1 in 20 year)	4 % AEP (1 in 25 year)	2 % AEP (1 in 50 year)	1.33 % AEP (1 in 75 year)	1 % AEP (1 in 100 year)	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.5 % AEP (1 in 200 year)	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow
1	ea013_0243_MERS04_4222u	385057	389395	Modelled Water Level (m asdh)	31.70	32.05	32.27	32.43	32.47	32.66	32.77	32.85	33.38	33.46	33.65	33.06	33.93	34.50	31.88	32.42	32.63	32.97	33.07	33.34	33.45	33.54	34.04	34.12	34.43	33.69	34.51	34.96
				Modelled Flow (cumecs)	184.18	232.93	270.02	300.28	309.40	348.20	371.84	389.64	504.58	521.49	602.82	436.68	618.73	753.99	183.88	242.98	271.52	310.09	321.94	361.45	382.71	397.20	478.45	499.11	568.00	421.62	586.99	708.62
2	ea013_0243_MERS04_4089	384924	389357	Modelled Water Level (m asdh)	31.54	31.84	31.99	32.10	32.13	32.25	32.32	32.37	32.87	32.73	33.02	32.50	33.08	33.52	31.75	32.25	32.42	32.73	32.82	33.06	33.17	33.24	33.65	33.69	33.89	33.38	33.94	34.21
				Modelled Flow (cumecs)	184.17	232.79	270.09	299.93	308.71	346.30	368.75	385.86	494.96	510.96	589.49	431.33	605.67	729.39	183.88	242.55	271.71	311.04	323.33	362.59	381.35	397.52	488.38	508.38	589.73	423.07	611.88	744.02
3	ea013_0243_MERS04_3784	384619	389363	Modelled Water Level (m asdh)	31.30	31.61	31.75	31.84	31.87	31.96	32.03	32.06	32.31	32.28	32.71	32.16	32.78	33.30	31.54	32.04	32.18	32.49	32.58	32.81	32.90	32.96	33.34	33.37	33.49	33.13	33.53	33.69
				Modelled Flow (cumecs)	179.49	217.98	249.39	274.86	282.73	315.90	334.46	349.86	443.71	456.89	525.88	389.98	540.08	644.09	183.80	243.42	271.50	309.74	322.76	362.47	382.56	397.46	488.72	508.09	589.21	422.90	611.61	738.06
4	ea013_0243_MERS04_3613	384454	389395	Modelled Water Level (m asdh)	31.19	31.54	31.71	31.81	31.84	31.95	32.01	32.05	32.33	32.39	32.70	32.16	32.76	33.28	31.40	31.90	32.02	32.33	32.42	32.64	32.73	32.79	33.19	33.23	33.40	32.98	33.43	33.61
				Modelled Flow (cumecs)	170.55	197.57	220.88	241.33	247.32	273.72	293.26	305.66	387.75	400.88	469.65	338.62	483.94	586.05	183.87	243.06	271.72	310.98	323.25	362.53	381.46	397.44	477.18	493.36	557.24	423.22	576.64	689.95

					Undefended					Defended			
Map Reference	Model Node Reference	Easting	Northing	Data	1 % AEP (1 in 100 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow	1 % AEP (1 in 100 year) + 35% increase in flow	1 % AEP (1 in 100 year) + 70% increase in flow	0.1 % AEP (1 in 1000 year)	0.1 % AEP (1 in 1000 year) + 30% increase in flow
5	2D Level	384723	389509	Modelled Water Level (m asdh)	32.54	32.60	32.78	32.87	33.30	32.63	32.80	32.83	33.19

Model data taken from Upper Mersey 2017

AEP - Annual Exceedence Probability

m asdh - metres above ordnance datum Newlyn

cumecs - cubic metres per second

Notes: *Climate Change Scenario -30%, 35% and 70% increases in flow calculated for the 2080's (2070 -2115). Please see https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances for more information regarding the new climate change guidance. The location of the site and the type (vulnerability) of development determine the climate change allowances to consider in any flood risk assessment.

Recorded Flood Outlines

Flood Event Code	Name	Start Date	End Date	Source of Flooding	Cause of Flooding
18122	Mers	01/01/1964	02/01/1964	Unknown	Other
87092	Didsbury	25/01/2021	25/01/2021	Main River	Unknown