

ADVISORY

Wilson Bowden Developments Ltd
Plot Q, Kingsway Business Park
Rochdale
Flood Risk Assessment

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Flood Risk Assessment

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EXECUTIVE SUMMARY

This report demonstrates that the proposed development is at an acceptable level of flood risk, subject to the recommended flood mitigation strategies being implemented.

The site is located within Flood Zone 1 (low probability of flooding from rivers and sea). The Stanney Brook is located to the south and west of the site. Modelled peak flood levels associated with this watercourse have been reviewed; the site and the proposed development are considered to be sufficiently elevated above these. The proposed development layout has also been arranged sequentially to avoid the Stanney Brook and its floodplain. As such, the site and the proposed development are considered to be at low risk of flooding from main rivers.

Limited areas of surface water flooding are currently identified across the site within localised topographical depressions. However, these isolated areas are associated with ponding of surface water runoff from within the site itself, which will be addressed by the development's surface water drainage strategy. Therefore, these do not pose a flood risk to the development.

The proposed development will introduce new impermeable surfaces to the site that will increase the rate and volume of surface water runoff generated. To manage the additional runoff, the development proposals include surface water drainage infrastructure within the site, as well as within the wider Kingsway Business Park, that will intercept, store, and slowly release storm water falling on the built development to the local watercourse. The surface water discharge rate will be restricted to the equivalent greenfield runoff rate to mimic the baseline conditions and prevent adverse downstream impacts. More details on the proposed surface water drainage strategy are provided within the accompanying Sustainable Drainage Statement (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS). The Northwest SuDS pro-forma is also included in the Sustainable Drainage Statement.

A review of flood data published by the Environment Agency and provided within the local Strategic Flood Risk Assessment has identified that potential flooding from canals or the sea does not pose a risk to the site or the proposed development. The site and the proposed development are considered to be at low risk of flooding from surface water, groundwater and reservoirs and large waterbodies.

This report sets out recommended measures that will increase the development's resilience to flood risk, and which will help manage any residual risks.

The site is considered to be at a low risk of flooding from all flood risk sources, both now and in the future. Therefore, two credits from the Building Research Establishment Environmental Assessment Method (BREEAM) criteria 'Pol 03 Flood and Surface Water Management' can be awarded under the 'Flood Resilience' criterion.

In compliance with the requirements of the NPPF, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider area subject to the suitable management of surface water runoff discharging from the site.

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GLOSSARY & NOTATION

Abbreviation / Notation	Definition
AEP	Annual Exceedance Probability. The probability (%) of a flood event occurring in any year
BGS	British Geological Survey
Catchment	The land area that drains (normally naturally) to a given point on a river, drainage system or body of water
CC	Climate Change
DTM	Digital Terrain Model
EA	Environment Agency
Floodplain	Any area of land over which water flows or is stored during a flood event
FFL	Finished Floor Level
FRA	Flood Risk Assessment
Freeboard	The height of finished floor levels, top of a bank, floodwall or other flood defence structure, above the design water level. Freeboard can be seen as a safety margin that makes allowance for uncertainty associated with the potentially damaging effects of flood rise or wave action
Hydraulic Model	A mathematical numerical (generally computer based) model of a water/sewer/storm system which is used to analyse the system's hydraulic behaviour
LiDAR	Light Detection and Ranging aerial survey data
LLFA	Lead Local Flood Authority
LPA	Local Planning Authority
Main River	A statutory type of watercourse in England and Wales, usually larger watercourses and rivers. The EA can carry out maintenance, improvement or construction work on main rivers to manage flood risk as part of its duties and powers
m AOD	metres Above Ordnance Datum
m bgl	metres below ground level
NPPF	National Planning Policy Framework
Ordinary Watercourse	A river, stream, ditch, drain, dyke, culvert/pipe (other than a public sewer) and passage through which water flows and which does not form part of a main river
OS	Ordnance Survey

Abbreviation / Notation	Definition
PFRA	Preliminary Flood Risk Assessment. An assessment of floods that have taken place in the past and floods that could take place in the future. It generally considers flooding from surface water runoff, groundwater and ordinary watercourses, and is prepared by the LLFAs
PPG	Planning Practice Guidance. Specifically, the Flood Risk and Coastal Change category
Return period	A statistical term defining the probability of occurrence of a flood event. A 1 in 30-year flood is one likely to be equalled or exceeded on average only once in a 30-year period: a flood with a 3.33% AEP
RoFRS	Risk of Flooding from Rivers and Sea. A strategic level dataset published by the EA, illustrating the potential probability of flooding from the rivers and sea, including an allowance for climate change
RoFSW	Risk of Flooding from Surface Water. A strategic level dataset published by the EA, illustrating the potential probability of flooding from surface water runoff, including an allowance for climate change
SFRA	Strategic Flood Risk Assessment. A study carried out by one or more local planning authorities to assess the risk of flooding from all sources, now and in the future within a defined area
SDS	Sustainable Drainage Statement
Section 19 Flood Investigation Reports	Under their duties under the Flood and Water Management Act 2010, LLFAs have a duty to publish reports of investigations of flood incidents. A section 19 flood investigation report is a public statement of the circumstances of a historical flood event and what parties have a role in managing the risks. The investigation does not always give an in-depth analysis of the flood risk or mechanisms, but it can provide a valuable record of past events
SuDS	Sustainable Drainage Systems. Surface water management techniques that are intended to reduce the risk of flooding and pollution from urban runoff
SWMP	Surface Water Management Plan. These are non-statutory plans which preceded the introduction of the Flood and Water Management Act 2010. They can provide an important evidence base of local flood risk issues which can include critical drainage areas, surface water drains, groundwater, and small watercourses
UOW	Unnamed Ordinary Watercourse. An ordinary watercourse that has no name published on OS maps or within the SFRA

1. INTRODUCTION

- 1.1 This Flood Risk Assessment (FRA) has been prepared on behalf of Wilson Bowden Developments Ltd to support a full planning application at Plot Q within Kingsway Business Park, Rochdale.
- 1.2 The level of detail included is commensurate and subject to the nature of the proposals at the full planning stage of the design process.
- 1.3 This FRA has been prepared with regards to a warehouse distribution/production unit with first floor office and core facilities. The proposed development forms part of the outline planning permission obtained in August 2014 (planning application reference: 14/000542/OUT).

Sources of Data

- 1.4 The following sources of data have been reviewed in the preparation of this FRA:
- i. Topographical Survey undertaken by BWB Consulting in October 2024 (reference: 244497-BWB-00-ZZ-M2-G-0001_Existing Site 2D Model; included as **Appendix 1**)
 - ii. Ordnance Survey (OS) Maps
 - iii. Environment Agency (EA) Flood Risk Assessments: Climate Change Allowances¹
 - iv. EA Flood Map for Planning²
 - v. EA Risk of Flooding from Surface Water (RoFSW)³
 - vi. EA Consultation and Rochdale and Rochdale and Littleborough 2013 Model Information
 - vii. EA Light Detection and Ranging (LiDAR) Data (Composite 1m DTM 2022)
 - viii. Hydraulic modelling of the Stanney Brook undertaken by BWB Consulting in February 2021 (reference: KBP-BWB-ZZ-XX-RP-YE-0002_FRA)
 - ix. Greater Manchester Level 1 and Level 2 Strategic Flood Risk Assessments
 - x. Rochdale Metropolitan Borough Council Preliminary Flood Risk Assessment and Addendum
 - xi. Rochdale Borough's Strategy for Flood Risk Management 2014- 2024
 - xii. Greater Manchester Strategic Flood Risk Management Framework
 - xiii. Greater Manchester Surface Water Management Plan Stage 1
 - xiv. Rochdale Adopted Core Strategy and Draft Local Plan
 - xv. The Places for Everyone Joint Development Plan
 - xvi. Local Press Flood Reports / Anecdotal Evidence
 - xvii. United Utilities Sewer Records
 - xviii. British Geological Survey Drift and Geology Maps

¹ Environment Agency, Flood risk assessments: climate change allowances: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>. Last Accessed May 2026.

² Flood Map for Planning. Environment Agency; available at: <https://flood-map-for-planning.service.gov.uk/>. Last Accessed: May 2026.

³ Risk of Flooding from Surface Water. Environment Agency. Last Accessed May 2026.

xix. Ground Investigations undertaken by BWB Consulting in November 2025

The Existing Site

- 1.5 The site is located within Kingsway Business Park, approximately 2.2km southeast of Rochdale town centre. The site is bound by Michael Faraday Avenue to the north and east, whilst to the south and west lies undeveloped land. The location of the site is illustrated in **Figure 1.1**.
- 1.6 The site comprises greenfield undeveloped land, as illustrated in **Figure 1.2**. Site access and egress is achieved via Michael Faraday Avenue to the north.
- 1.7 The Stanney Brook is located to the south and west of the site, as illustrated in **Figure 1.3**. This is an EA Main River. Within the wider Kingsway Business Park, there is existing surface water drainage infrastructure and ordinary watercourses. The Rochdale Canal is located approximately 400m west of the site.
- 1.8 A topographic survey of the existing site has been undertaken and is included as **Appendix 1**. The site falls in a north-westerly direction, with levels ranging from approximately 151m Above Ordnance Datum (m AOD) in the south to approximately 142m AOD in the north-west. The wider local topography is shown in **Figure 1.4**.

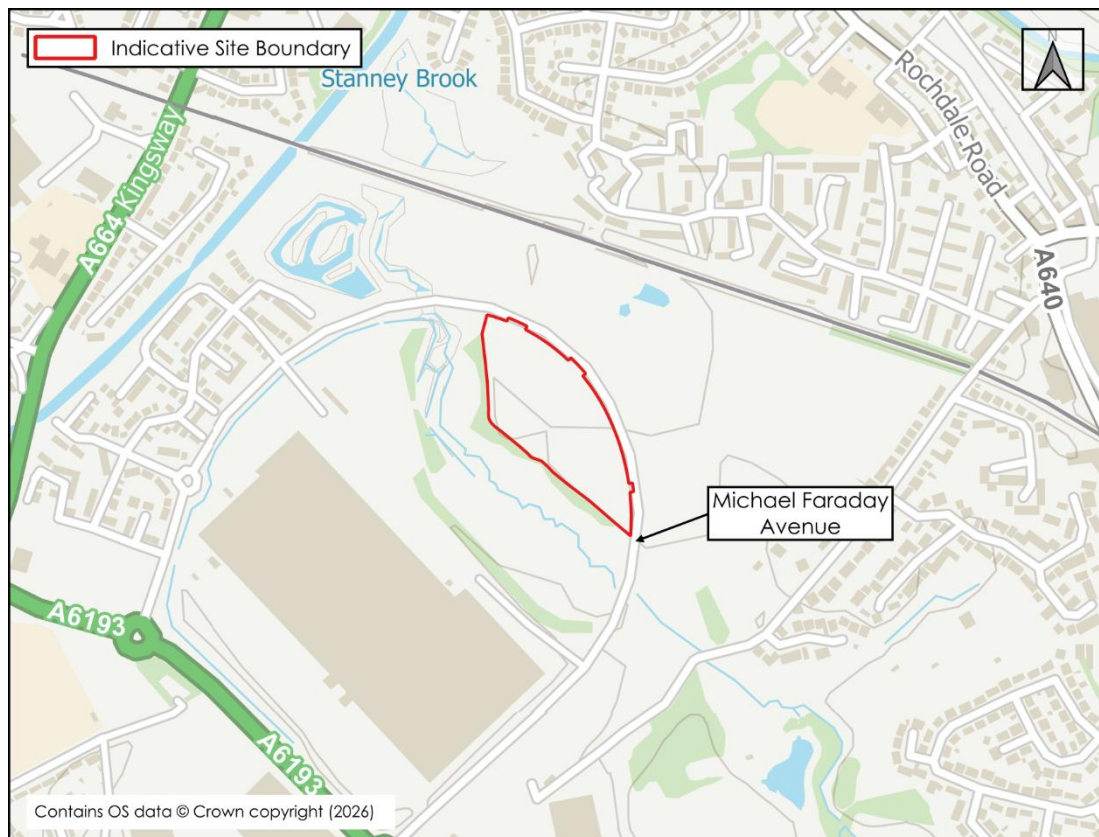


Figure 1.1: Site Location



Figure 1.2: Existing Land Use



Figure 1.3: Local Watercourse Network

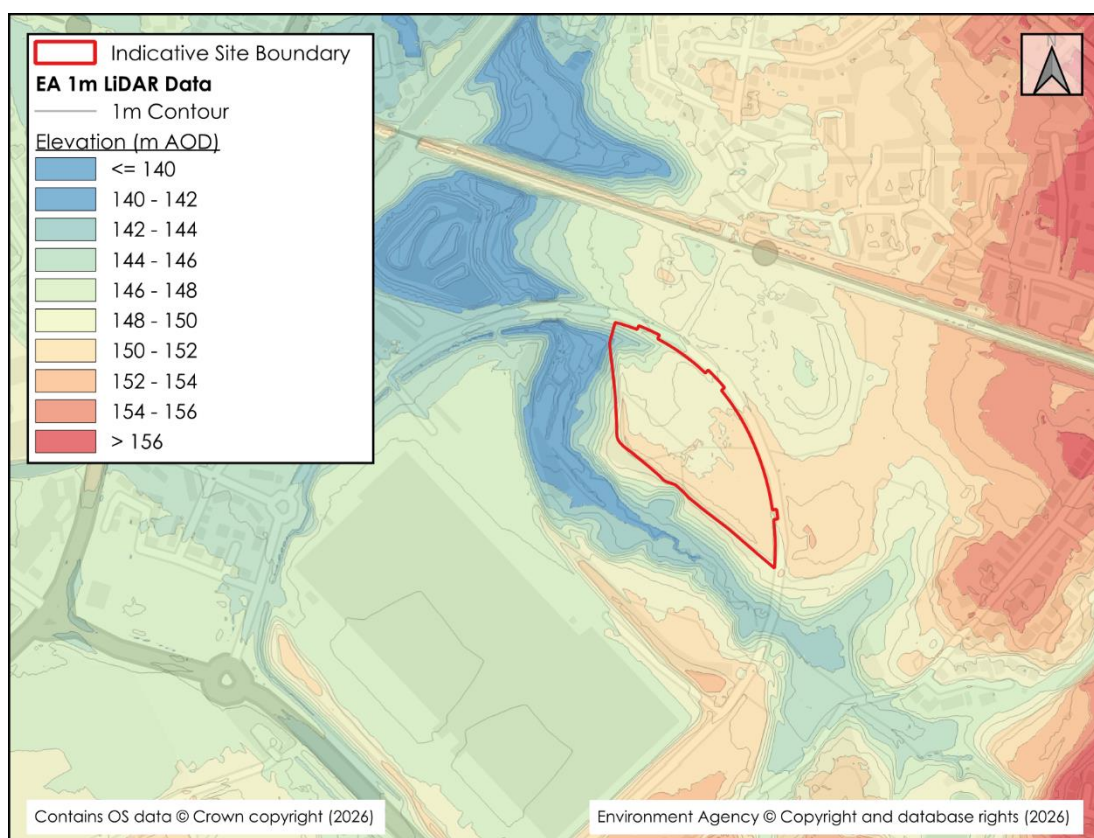


Figure 1.4: Generalised Topography (from EA LiDAR DTM)

The Proposed Development

- 1.9 The proposed development comprises a warehouse distribution/production unit with first floor office and core facilities. Access will continue to be made from Michael Faraday Avenue.

Site Summary

Table 1.1: Site Summary

Site Name	Plot Q, Kingsway Business Park
Location	Rochdale
Easting & Northing	391860, 412500
Development Type	Industrial
Flood Zone Classification	Flood Zone 1
NPPF Vulnerability	Less Vulnerable
Anticipated Development Lifetime*	75+ years
Lead Local Flood Authority	Rochdale Borough Council
Sewer Operator	United Utilities

** In accordance with PPG Flood Risk and Coastal Change Paragraph 006.*

2. FLOOD RISK PLANNING POLICY & GUIDANCE

National Planning Policy Framework

- 2.1 The National Planning Policy Framework⁴ (NPPF) sets out the Government's national policies on different aspects of land use planning in England in relation to flood risk.
- 2.2 The NPPF states that inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk. Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere. When considering flood risk, the NPPF requires development to account for future climate change.
- 2.3 The NPPF identifies that development should only be allowed in areas at risk of flooding where it can be demonstrated that:
- 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;
 - 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;
 - it incorporates Sustainable Drainage Systems (SuDS), unless there is clear evidence that this would be inappropriate;
 - any residual risk can be safely managed; and
 - safe access and escape routes are included where appropriate, as part of an agreed emergency plan.

Planning Practice Guidance – Flood Risk and Coastal Change

- 2.4 The NPPF is accompanied by the Planning Practice Guidance (PPG) category entitled "Flood Risk and Coastal Change"⁵. This sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible and stresses the importance of preventing increases in flood risk off site to the wider catchment area.
- 2.5 Flood risk is identified as a combination of the probability and the potential consequences of flooding:

Flood Risk = Probability x Consequences

- 2.6 The probability is the chance of a flood occurring expressed as a return period or Annual Exceedance Probability (AEP), and the consequences are the potential impacts of the flood (for example, damage to buildings or risk to people's safety).

⁴ Revised National Planning Policy Framework, Ministry of Housing, Communities & Local Government, amended 2025

⁵ Planning Practice Guidance: <https://www.gov.uk/guidance/flood-risk-and-coastal-change>, amended 2025

- 2.7 The PPG identifies the potential sources of flood risk as rivers and the sea, direct rainfall on the ground surface resulting in surface water runoff, rising groundwater, overwhelmed sewers and drainage systems, reservoirs, canals and lakes, and other artificial sources.
- 2.8 The PPG requires development to be designed to include flood risk management and resilience against the “design flood” for its lifetime. The PPG also states that all potential sources of flooding should be considered when preparing an FRA.
- 2.9 The PPG defines the “design flood” that new development should consider in its design, which is an event of a given probability generally defined as:
- river flooding likely to occur with a 1% AEP (a 1 in 100 chance each year); or
 - tidal flooding likely to occur with a 0.5% AEP (1 in 200 chance each year); or
 - surface water flooding likely to occur with a 1% AEP (a 1 in 100 chance each year),
- plus, an appropriate allowance for climate change.
- 2.10 The NPPF and the PPG include a series of tables that define Flood Zones (Table 1 of the PPG), the flood risk vulnerability classification of development land uses (Annex 3 of the NPPF) and ‘compatibility’ of development within the defined Flood Zones (Table 2 of the PPG).
- 2.11 This FRA is written in accordance with the NPPF and the associated PPG.

Flood Zone Classification

- 2.12 With particular reference to planning and development, and specifically the risk of flooding from rivers and the sea ignoring the presence of flood defences, the Flood Map for Planning identifies Flood Zones in accordance with Table 1 of the PPG. Further details on the Flood Zone classifications are outlined in **Table 2.1**.

Table 2.1: Flood Zone Classifications

Flood Zone	Description
Flood Zone 1 (Low Probability)	Land having less than a 1 in 1000 annual probability of river or sea flooding (<0.1% Annual Exceedance Probability). All land outside of Flood Zone 2 and 3.
Flood Zone 2 (Medium Probability)	Land having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1% AEP); or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1% AEP).
Flood Zone 3a (High Probability)	Land having a 1 in 100 or greater annual probability of river flooding (>1% AEP); or land having a 1 in 200 or greater annual probability of flooding from the sea (>0.5% AEP). This is represented by “Flood Zone 3” on the Flood Map for Planning.
Flood Zone 3b (The Functional Floodplain)	Flood Zone 3b (The Functional Floodplain) is defined as land where water must flow or be stored in times of flood. This is not identified or separately distinguished from Zone 3a on the Flood Map for Planning.

- 2.13 Local Planning Authorities (LPAs) use the Flood Zones to determine if they must consult the EA on planning applications. They are also used to determine the appropriate climate change allowance to consider and whether development is subject to the exception test.
- 2.14 The Flood Map for Planning does not identify functional floodplain. LPAs are responsible for producing maps showing the extent of functional floodplain (Flood Zone 3b) as part of a Strategic Flood Risk Assessment (SFRA).
- 2.15 The site is shown to be located entirely within Flood Zone 1, as shown in **Figure 2.1**.

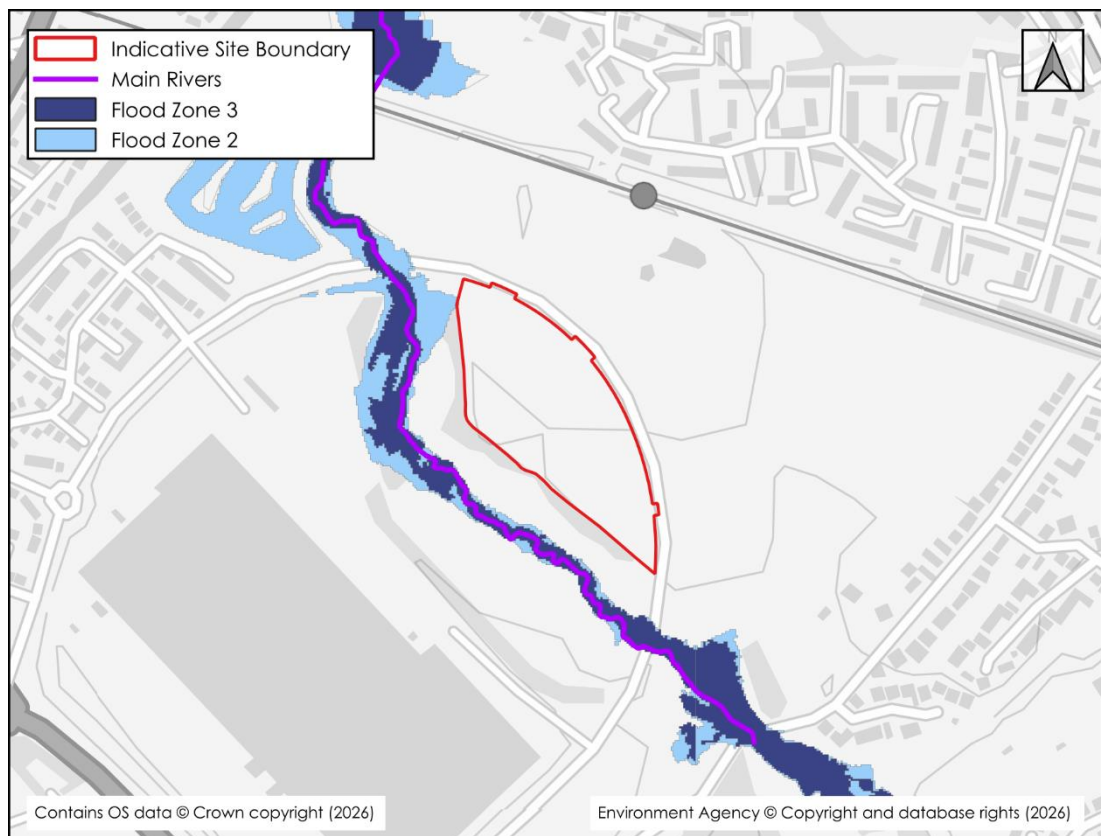


Figure 2.1: Flood Map for Planning

Flood Risk Assessments: Climate Change Allowances

- 2.16 Predicted future changes in sea levels, peak river flows, and rainfall intensities caused by climate change are provided by the EA online. A range of projections are applied to regionalised 'River Basin Districts', which are further subdivided into Management Catchments, to provide a series of climate change allowances. The appropriate climate change allowances are determined by a number of factors that include the source of flooding, the current level of risk, the vulnerability of the proposed development, and the lifespan of the development.
- 2.17 The site falls within the Irwell Management Catchment.

Peak River Flow

2.18 The relevant peak river flow climate change allowances are identified in **Table 2.2**.

Table 2.2: Peak River Flow Allowance for the Irwell Management Catchment

Allowance Category	Total potential change anticipated for the '2020s' (2015 to 2039)	Total potential change anticipated for the '2050s' (2040 to 2069)	Total potential change anticipated for the '2080s' (2070 to 2125)
Upper End	24%	43%	75%
Higher Central	15%	26%	46%
Central	12%	19%	35%

2.19 **Table 2.3** provides a matrix summarising the EA's guidance on determining the appropriate climate change allowance(s) for river flow.

Table 2.3: Application of Appropriate Peak River Flow Climate Change Allowances

Flood Zone	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
1	Use the central allowance where a location may fall within Flood Zone 2 or 3 in the future.				
2	Use the higher central allowance	Use the central allowance			
3a	Use the higher central allowance	Development should not be permitted	Use the central allowance		
3b	Use the higher central allowance	Development should not be permitted			Use the central allowance
If development is considered appropriate by the LPA when not in accordance with Flood Zone vulnerability categories, then it would be appropriate to use the higher central allowance.					

2.20 The site is located entirely within Flood Zone 1; the proposed development is classified as less vulnerable and has an anticipated lifespan of over 75 years. This requires the Central allowance for the '2080s' epoch to be considered. Therefore, to ensure the development is designed adequately for its lifetime, an uplift of 35% to river flows will be considered in this assessment.

Local Plan

- 2.21 The Rochdale Core Strategy⁶ was adopted in October 2016 and has been reviewed during the preparation of this report for policies relevant to flood risk. Policy G8 – Managing Water Resources and Flood Risk sets out the requirement for new development to not result to increased flooding locally or downstream and to be '*well protected from flood risk*'. The wider Kingsway Business Park is identified as an Employment Zone under Policy PR9 – Employment Zones and Existing Employment Sites.
- 2.22 Rochdale Borough Council is currently preparing a new Local Plan, the Rochdale Borough Draft Local Plan Regulation 18 Consultation document⁷, which has been reviewed. Similarly to the existing adopted plan, Policy S4 – Managing Water Resources and Flood Risk requires that development is not detrimental to flood risk.
- 2.23 In addition, the Places For Everyone Joint Development Plan⁸ was adopted in March 2024 and sets out policies for the period 2022 to 2039 across the Greater Manchester area. Policy JP-S4: Flood Risk and the Water Environment sets out the need for development to be located and designed '*to minimise the impacts of current and future flood risk*' as well as expectations for the use of sustainable drainage systems.

Strategic Flood Risk Assessment

- 2.24 The Level 1 SFRA for Greater Manchester - Update⁹ has been reviewed in the production of this FRA. The SFRA provides strategic flood risk information in the form of fluvial, surface water and groundwater flood risk mapping, as well as records of historical flooding. It also includes flood risk policy and guidance for the area.
- 2.25 The Greater Manchester Level 2 Hybrid SFRA¹⁰ was produced to support the Greater Manchester Spatial Framework. Upon review, the site is not referenced within the Level 2 Hybrid SFRA and no applicable information in relation to flood risk at the site was identified.

⁶ Rochdale Adopted Core Strategy (Rochdale Borough Council, October 2016)

⁷ Rochdale Borough Draft Local Plan Regulation 18 Consultation (Rochdale Borough Council, November 2025)

⁸ Places For Everyone Joint Development Plan Document for Bolton, Bury, Manchester, Oldham, Rochdale, Salford, Tameside, Trafford and Wigan (Greater Manchester Combined Authority, December 2024)

⁹ Level 1 Strategic Flood Risk Assessment for Greater Manchester Update (JBA Consulting, March 2019)

¹⁰ Greater Manchester Level 2 Hybrid Strategic Flood Risk Assessment (JBA Consulting, October 2020)

3. HISTORICAL FLOODING INCIDENTS

- 3.1 A review of the data sources identified in **Section 1** was undertaken to identify any records of historical flooding incidents within the vicinity of the site; these are summarised within **Table 3.1**.

Table 3.1: Summary of Reported Historical Flooding Incidents

Data Source	Commentary
EA Recorded Flood Outlines	The EA have not published any recorded flood outlines within the vicinity of the site, with the nearest recorded flood outlines approximately 700m away.
SFRA	Mapping in the Level 1 SFRA update, depicting flood incidents recorded by LLFAs within the Greater Manchester region, indicates historical flood events to the north-east of the site in Milnrow. However, no details on these flood events were provided. No historical canal overtopping or breach events, associated with the Rochdale Canal, were mapped in the vicinity of the site. There are indicated to be between one and five historical incidents of sewer flooding that have occurred within residential areas near the site; however, no events were shown to have affected the site.
PFRA	The Rochdale Metropolitan Borough Council Preliminary Flood Risk Assessment¹¹ (PFRA) depicts historical flooding to the east of the site within Milnrow; however, no details on these events were provided. The PFRA Addendum¹² does not provide any further information on previous flood events.
SWMP	Mapping of surface water flooding hotspots was produced as part of the Greater Manchester Surface Water Management Plan ¹³ (SWMP) and is available as part of the detailed mapping appended to the Level 1 SFRA Update. This is partially based on historical flood data and indicates the site to be partially within a 'Surface Water Hotspot'.
LFRMS	The Rochdale Local Flood Risk Management Strategy¹⁴ (LFRMS) was reviewed; however, no historical flood events which affected the site were identified. The Greater Manchester Strategic Flood Risk Management Framework¹⁵ was reviewed; however, no relevant information on historical flooding at or in the vicinity of the site was identified.
Section 19 Flood Investigation Reports	A Section 19 Flood Investigation report ¹⁶ on the Boxing Day 2015 floods in Greater Manchester was reviewed; however, no relevant information on historical flooding at or in the vicinity of the site was identified.

¹¹ Rochdale Metropolitan Borough Council Preliminary Flood Risk Assessment (JBA Consulting, May 2011)

¹² Rochdale Metropolitan Borough Council Preliminary Flood Risk Assessment Addendum (Rochdale Metropolitan Borough Council, December 2017)

¹³ Greater Manchester Surface Water Management Plan Stage 1 (JBA Consulting, January 2012)

¹⁴ Rochdale Borough's Strategy for Flood Risk Management 2014- 2024 (Rochdale Metropolitan Borough Council, March 2014)

¹⁵ Greater Manchester Strategic Flood Risk Management Framework (JBA Consulting, January 2019)

¹⁶ Flood Investigation Report Greater Manchester 26 December 2015 (Greater Manchester Combined Authority, September 2016)

Data Source	Commentary
Internet Search of Local Press Reports	No local press reports of historical flood incidents in or near the site were identified.

- 3.2 It should be noted that a lack of recorded flooding incidents does not necessarily mean the site and local area have never experienced flooding. Flooding incidents may not have been reported or observed.

4. FLOOD RISK FROM RIVERS (FLUVIAL)

- 4.1 Flooding from watercourses occurs when flows exceed the capacity of the channel or conduits, or where a restrictive hydraulic structure is encountered, which leads to water overtopping the banks into the floodplain.
- 4.2 As illustrated within **Figure 2.1**, the site is located within Flood Zone 1, which is defined as land at a low probability of flooding from rivers. The nearest Flood Zone extents are located immediately west of the site, associated with the Stanney Brook.
- 4.3 As part of the updates made to the Flood Map for Planning in 2025, the EA have produced Flood Zones with consideration to climate change. This dataset shows how the combined extent of Flood Zones 2 and 3 could increase with climate change, ignoring the benefits of any existing flood defences. The Flood Zones plus climate change dataset uses the 'Central' allowance for the '2080s' epoch for flooding from rivers and the 'Upper End' allowance for flooding from the sea, accounting for cumulative sea level rise to 2125. This dataset is considered to be the most precautionary data on rivers and sea currently published by the EA.
- 4.4 The Flood Zones plus climate change data is shown in **Figure 4.1**. The site is shown to be mostly removed from the mapped floodplain when including an allowance for climate change. It is noted that the combined Flood Zones nominally encroach within the west of the site. However, this is not considered significant in context of the scale and nature of the proposed development, and in an area where no built development is proposed.

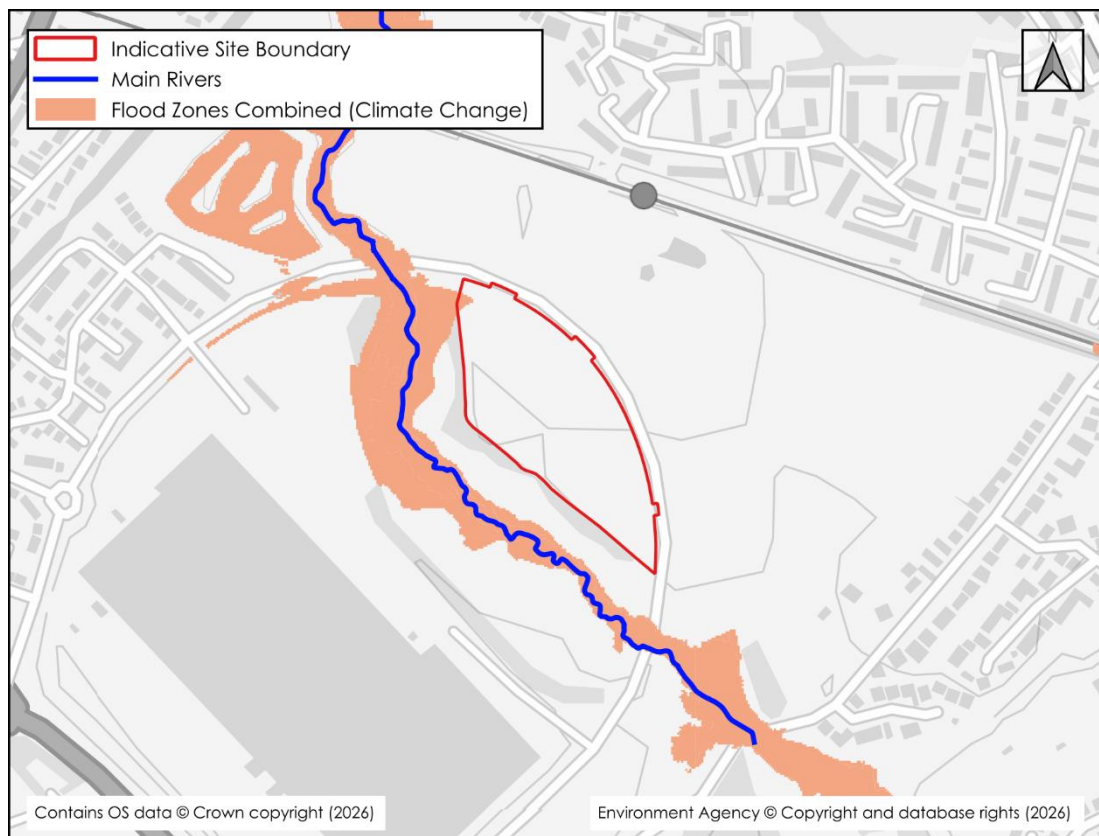


Figure 4.1: EA Flood Zones (Combined) Plus Climate Change

- 4.5 The EA have provided model results from the Rochdale and Littleborough 2013 model, which are included as **Appendix 2**. These results, which include the 1 in 100-year +35% climate change allowance design event, depict modelled flood extents to remain within the valley of the Stanney Brook in the vicinity of the site.
- 4.6 Modelled flood levels in the vicinity of the site, during the 1 in 100-year +35% climate change allowance design event under the defences removed scenario, range between approximately 140.6m AOD and 143.6m AOD. The proposed levels within the site are considered to be sufficiently elevated above the nearest modelled flood levels; these are shown on the External Levels Design appended to the accompanying Sustainable Drainage Statement (SDS; reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).
- 4.7 To support Phase 3b of the Kingsway Loop Road, BWB previously updated the EA Rochdale and Littleborough 2013 model in February 2021 to include both crossings of the Stanney Brook (reference: KBP-BWB-ZZ-XX-RP-YE-0002_FRA). This was based on available as-built data for the crossing downstream of the site and the proposed design for the crossing upstream of the site. Whilst there are acknowledged to have been updates to methodologies and datasets since this modelling was undertaken, this modelling is still considered relevant to consider due to the inclusion of site-specific details and structures. The BWB updated modelled flood extents, as well as the culverts included in the updated model, are shown in **Figure 4.2** with peak flood levels detailed within **Table 4.1**.

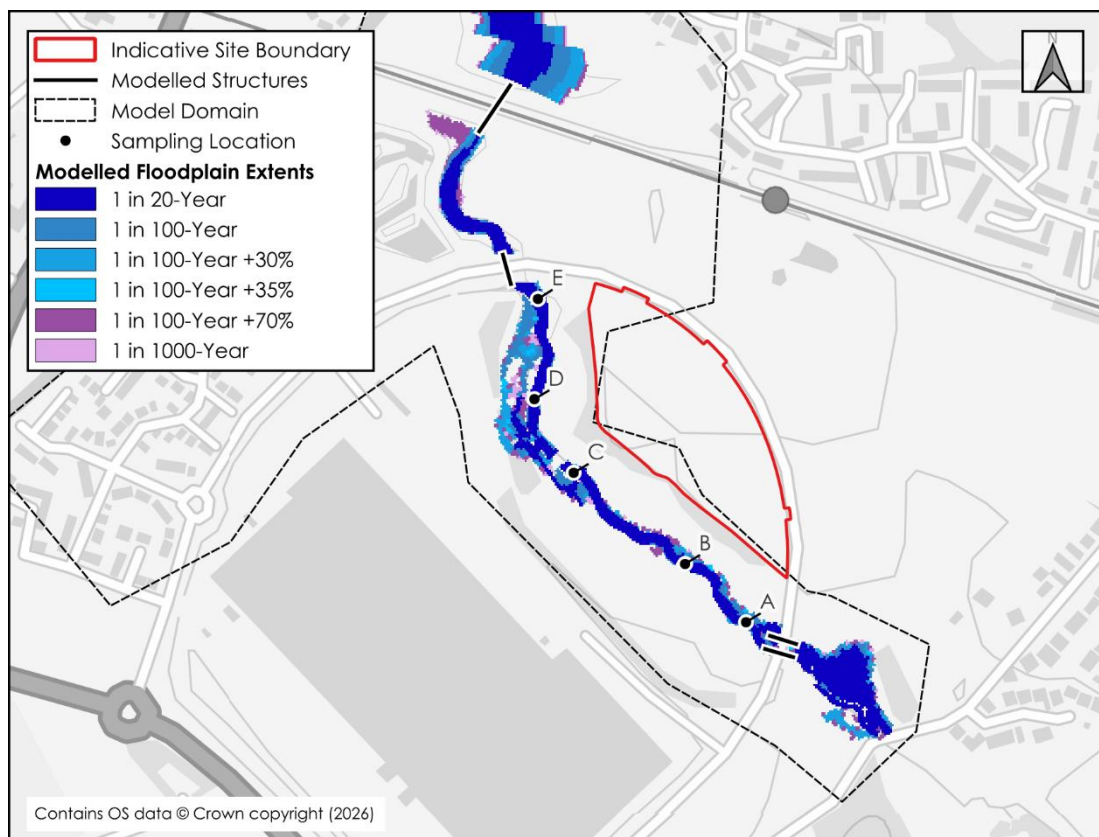


Figure 4.2: Stanney Brook Modelled Floodplain Extents (BWB, 2021)

Table 4.1: Modelled Peak Flood Levels (m AOD)

Sampling Location	1 in 20-year	1 in 100-year	1 in 100-year +35%	1 in 1000-year
A	143.07	143.20	143.28	143.37
B	142.27	142.41	142.50	142.57
C	141.30	141.36	141.41	141.44
D	140.27	140.35	140.38	140.43
E	139.47	139.58	139.69	139.80

- 4.8 The model results confirm that the Stanney Brook floodplain is relatively confined by the local topography in proximity to the site. The modelled flood extents in the vicinity of the site are reduced compared to the EA Flood Map for Planning; this is considered to be due to the inclusion of the culverts providing conveyance under Michael Faraday Avenue.
- 4.9 The development layout has been arranged sequentially to avoid the Stanney Brook and its floodplain. Levels associated with the proposed unit and associated service yards range from approximately 146.6m AOD to 150.2m AOD. As such, the proposed development is considered to be sufficiently raised above modelled peak flood levels (from both the EA and BWB modelling studies) in the vicinity of the site.
- 4.10 The proposed earthworks will tie into existing levels at approximately 143m AOD at the lowest point, in the west of the site. The proposed earthworks are located outside of the modelled floodplain extents; the lowest area is raised approximately 3m above the nearest modelled peak flood level. In addition, no built development is proposed here.
- 4.11 Given the stand-off of the proposed development from the Stanney Brook, floodplain conveyance is considered unlikely to be affected by the proposals. Therefore, it is not anticipated that the development proposals will have a detrimental impact upon the capacity of the floodplain. Accordingly, the proposed development will not increase flood risk elsewhere and any displacement of flood water can be considered negligible.

Flood Risk

- 4.12 It can be concluded that the proposed development is at a low risk of flooding from rivers.

Residual Flood Risk & Management

- 4.13 Whilst the EA Flood Map for Planning indicates that access via Michael Faraday Avenue may be affected by fluvial flooding from the Stanney Brook, this dataset is not believed to include representation of the culverts which convey the watercourse under this highway. The updated modelling undertaken by BWB, which included these structures, showed that this access route is removed from the modelled flood extents and so safe access is considered possible.
- 4.14 However, it may be beneficial for future site users to be encouraged to sign up to receive EA flood alerts and warnings so that they are aware of potential incidents in the wider area that may affect their travel arrangements.
- 4.15 In line with riparian responsibilities, it is recommended that any hydraulic structures within the ownership of the site are regularly inspected and maintained where necessary to ensure these remain in good operational condition and capable of conveying flows. This should be done in accordance with the latest LLFA and EA riparian guidance and best practice.

5. FLOOD RISK FROM SURFACE WATER & MINOR WATERCOURSES

- 5.1 Surface water flooding can occur during prolonged or intense storm events when the infiltration potential of soils, and/or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.
- 5.2 RoFSW mapping has been collated and published by the EA; this shows the potential probability of flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground but lies on or flows over the ground instead. This data can also identify the potential floodplain associated within small watercourses/ditches omitted from the Flood Map for Planning. An extract from the mapping is included as **Figure 5.1**. The dataset includes climate change up to 2069, which is the most precautionary projection currently published by the EA but does not extend for the entire development lifetime.

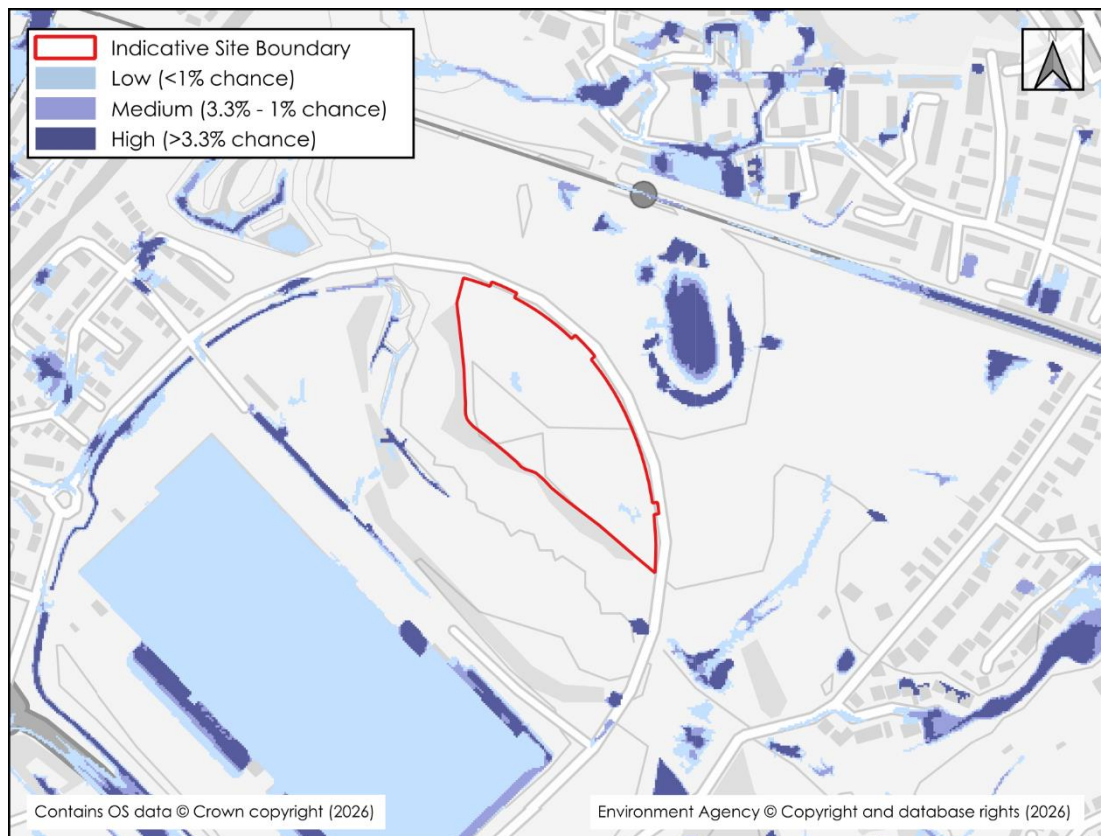


Figure 5.1: EA Risk of Flooding from Surface Water (Yearly Chance of Flooding Between 2040 and 2060)

- 5.3 The EA RoFSW data indicates that the majority of the site is at very low probability of surface water flooding.
- 5.4 There is shown to be potential for surface water flooding to occur within isolated areas in the south-east and west of the site. These areas are shown to be at low probability of surface water flooding, with EA RoFSW depth mapping suggesting a very low probability of depths reaching or exceeding 0.2m.

- 5.5 These isolated areas are considered to be associated with local topographical low points, within which runoff from within the site may pond, and so do not represent an overland flow pathway from upstream sources or a significant source of flood risk. It is considered that these limited areas of flood risk will be resolved through the implementation of a formalised surface water drainage strategy, which will intercept storm water falling on the development and direct it to the designated SuDS basin within the wider site.
- 5.6 The ordinary watercourses within the wider Kingsway Business Park are indicated to be at low to high probability of surface water flooding. In the event of exceedance, it is considered that flows would be intercepted by the Stanney Brook and its valley and conveyed away from the site.
- 5.7 The proposed development will introduce new impermeable surfaces to the site that will increase the rate and volume of surface water runoff generated. To manage this within the site, surface water drainage infrastructure is included as part of the proposed development, and within the wider Kingsway Business Park, that will intercept, store, and slowly release storm water falling on the built development. This will not only manage the surface water flood risk to the development, but it will also prevent the development from adversely affecting downstream flood risk. The surface water drainage strategy is discussed in detail with the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).
- 5.8 The proposed external ground levels are graded such that the finished floor level of the proposed unit will be raised above immediate surrounding ground levels to help mitigate the risk of flooding from localised surface water runoff within the development. The proposed levels are shown on the External Levels Design plan appended to the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).
- 5.9 The proposed unit will not be sited within a topographical low point or potential overland flow pathway. Ground levels are proposed to be profiled to encourage runoff and overland flows away from the built development and towards the nearest drainage point, as shown on the External Levels Design plan appended to the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).

Flood Risk

- 5.10 Due to the proposed surface water management and the proposed mitigation measures, the proposed development will be at a low risk of flooding from surface water and will not transfer flood risk from this source elsewhere.

Residual Flood Risk & Management

- 5.11 The proposed development should be designed with exceedance in mind, and the road network and landscaped areas will convey overland flows above the capacity of the drainage networks away from the proposed building and towards drainage infrastructure.

- 5.12 The EA RoFSW data identifies areas at low to high probability of surface water flooding within Michael Faraday Avenue. There is indicated to be a low probability of depths exceeding 0.3m along this route. These probable depths are such that access is considered to remain passable to the general public and emergency services.
- 5.13 In addition, like many roads, Michael Faraday Avenue is understood to use kerb and gully drainage, i.e. the use of combined surface and sub-surface drainage measures to manage storm water runoff. The road is designed to direct surface water runoff down the kerb line and towards the sub-surface drainage features (the gullies). Therefore, surface water on the carriageway will be present during storm events, by design. Any flooding on the road would be expected to be of a short duration and contained by the kerb/verge and directed away from the development. It is therefore not considered to be a significant constraint to access/egress from the development.
- 5.14 However, it is recommended that site users are encouraged to sign up to Met Office severe weather warnings so that they have advance warning of potential incidents in the area that may affect their travel arrangements.

6. FLOOD RISK FROM SEWERS & DRAINAGE SYSTEMS

- 6.1 Sewers and flooding from drainage systems can occur when the capacity of the infrastructure is exceeded by excessive flows, because of a reduction in capacity due to collapse or blockage, or if the downstream system becomes surcharged. This can lead to the sewers flooding onto the surrounding ground via manholes and gullies, which can generate overland flows.
- 6.2 There are existing surface water and foul water sewers within Michael Faraday Avenue; these have been adopted by United Utilities. Should the sewer system be exceeded, any resultant flood water would be conveyed away from the site within this road, in line with the local topography. In addition, Michael Faraday Avenue will be served by highway drainage infrastructure that will also manage this risk.
- 6.3 The development will include a new surface water drainage system which will be designed to manage the design storm (the 1 in 100-year storm event including an allowance for climate change); therefore, it provides an appropriate level of flood risk management. The Northwest SuDS pro-forma has been completed and is enclosed within the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).
- 6.4 It is proposed to drain foul water from the development separately to surface water. It is noted that the proposed development is part of a wider scheme with outline planning permission; the foul drainage infrastructure for the wider development was installed with consideration to this site and other plots being developed. As such, the surrounding network should have capacity for this site coming forwards for development.

Flood Risk

- 6.5 It can be concluded that the development is at a low risk of flooding from sewers and drainage systems.

Residual Flood Risk

- 6.6 The residual surface water flood risks and the recommended measures to help manage these risks, as described in **Section 5**, are also applicable to help address the residual flood risk from sewers and drainage systems. This includes the recommended measures to manage storm events that may exceed the development's own drainage system.
- 6.7 Additionally, it is recommended that an operation and maintenance plan is established to ensure that the development's drainage systems are inspected and maintained for their lifetime. An indicative operation and maintenance plan, suitable for the planning application, is included within the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).

7. FLOOD RISK FROM GROUNDWATER

- 7.1 Groundwater flooding occurs when the water table rises above ground elevations, or it rises to depths containing basement level development. It is most likely to happen in low lying areas underlain by permeable geology. This is most common on regional scale chalk aquifers, but there may also be a risk on sandstone and limestone aquifers or on thick deposits of sands and gravels underlain by less permeable strata such as that in a river valley. The presence of springs and/or winterbourne streams near to a site are a good indicator that groundwater flooding may be an issue in the area.
- 7.2 BGS mapping shows the site to be underlain by Pennine Lower Coal Measures Formation (Mudstone, Siltstone and Sandstone). This bedrock geology is designated by the EA as a Secondary A Aquifer; these aquifers comprise permeable layers that can support local water supplies and may form an important source of base flow to rivers.
- 7.3 Superficial deposits of Till (Devensian, Diamicton) are mapped across the east and north-west of the site, whilst Glaciofluvial Sheet Deposits (Devensian, Sand and Gravel) are mapped in the west of the site. The Glaciofluvial Sheet Deposits are designated by the EA as a Secondary A Aquifer, whilst the Till Deposits are designated as a Secondary (Undifferentiated) Aquifer.
- 7.4 Areas Susceptible to Groundwater Flooding mapping, presented in the Rochdale PFRA, indicates the site to be located within a cell where between 50% and 75% of the area is considered susceptible to groundwater flooding. It should be noted that this mapping is based on strategic scale mapping that uses a 1km² square grid. It identifies areas susceptible to flooding from groundwater at a broad scale on the basis of geological and hydrogeological conditions and as such, the classification could potentially be based on another area within the cell.
- 7.5 The BGS holds historical records of borehole samples across the UK which include measurements of groundwater levels. These are measurements taken at one point in space and time and are not a substitute for a long-term record of groundwater levels. However, they provide an indication of possible groundwater levels in metres below ground level (m bgl) that could be experienced.
- 7.6 Two BGS borehole records, located approximately 400m north-west of the site with same mapped geology, have been reviewed (reference: SD91SW156 and SD91SW259). Groundwater was struck at depths of 4.5m bgl and 1.7m bgl.
- 7.7 Intrusive ground investigations were undertaken by BWB Consulting in November 2025. Groundwater was encountered at depths of 11.7m bgl and 12.7m bgl within two boreholes; no groundwater was encountered within a third borehole to a depth of 15.45m bgl.
- 7.8 Any groundwater emergence would be expected to occur within the low lying Stanney Brook and its valley. The built development has been arranged to avoid these low lying areas.

- 7.9 No specific flood management or mitigation measures are required in relation to this source of flood risk.

Flood Risk

- 7.10 Based on the available data, it is concluded that the risk of flooding from groundwater to the development is low.

Residual Flood Risk & Management

- 7.11 It is recommended that groundwater levels are monitored during the construction phase and that the potential to encounter shallow groundwater levels should be considered during any excavations, as well as within the design of the earthworks, foundations and below ground infrastructure.
- 7.12 Should shallow groundwater be encountered, a groundwater specialist should be consulted, and appropriate dewatering techniques should be employed as necessary.

8. RESERVOIRS & LARGE WATERBODIES

- 8.1 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.
- 8.2 To help identify this risk, reservoir failure flood risk mapping has been prepared and published by the EA; this shows the largest area that might be flooded if a reservoir were to fail and release the water it holds. The map displays a worst case scenario and is only intended as a guide. **Figure 8.1** shows an extract of the mapping in the vicinity of the site.
- 8.3 There are two flooding scenarios shown on the reservoir flood maps: a 'dry-day' and a 'wet-day'. The 'dry-day' scenario predicts the flooding that would occur if the dam or reservoir failed when rivers are at normal levels. The 'wet-day' scenario predicts how much worse the flooding might be if a river is already experiencing an extreme flood.



Figure 8.1: EA Reservoir Failure Flood Mapping

- 8.4 The north-west of the site is depicted to be within an area at risk of inundation in the event of reservoir failure, during both 'wet-day' and 'dry-day' scenarios. The access to the site, via Michael Faraday Avenue, is also shown to be within an area at risk of inundation.

- 8.5 The four reservoirs which may affect the site in the event of failure are operated and maintained by United Utilities, who have ultimate responsibility for the safety of their reservoir assets. Their responsibilities include regular safety inspections, any necessary design or repairs undertaken where required and an annual statement produced on the operation and maintenance regime.
- 8.6 Based on the safety legislation in place and the maintenance and repair responsibilities of the responsible authority, the actual probability of a significant failure is considered to be low.

Flood Risk

- 8.7 It can be concluded that the risk of flooding from reservoirs and large waterbodies to the development is low.

Residual Flood Risk & Management

- 8.8 There are no flood mitigation measures required to address residual risk from this flood source.

9. OTHER SOURCES OF FLOOD RISK

9.1 The site has been reviewed against data relating to other sources of flood risk, including the sea and canals, as summarised below:

- The site is not in the vicinity of the sea or under coastal/tidal influence.
- The Rochdale Canal is located approximately 325m north-west of the site, at a similar elevation to the site. In the event of overtopping or breach from the canal, it is considered that the intervening low-lying valley associated with the Stanney Brook would intercept and direct flows away from the site.

9.2 The data available in the SFRA and published by the EA identify no flood risk to the site from these sources. Therefore, these have not been considered in any further detail.

10. REVIEW AGAINST BREEAM CRITERIA

- 10.1 The proposed development is to be designed with consideration to Building Research Establishment Environmental Assessment Method (BREEAM) standards. Within 'Pol 03 Flood and surface water management'¹⁷ of the BREEAM criteria, there is the potential for two credits to be awarded under 'Flood resilience'. The site has been reviewed against the targeted credits in 'Pol 03 Flood resilience' criterion, as summarised in **Table 10.1**.
- 10.2 The remaining Pol03 'Surface Water Management' credits have been reviewed as part of the accompanying SDS (reference: 244498-BWB-ZZ-XX-T-C-0001_SDS).
- 10.3 Under the guidance, sites which are at medium or high flood risk (pre-development) can only achieve one credit, subject to mitigation measures being implemented as part of the development to increase its resilience and resistance to flooding.
- 10.4 Based on the available data, and without consideration to the proposed development or any associated mitigation, the site is considered to be at low risk of flooding from all sources.

Table 10.1: Summary of Targeted 'Pol 03 Flood Resilience' Credits Criterion

Credits	Can Credits be Awarded?	Notes
In order to award two credits: 1. Flood risk must be determined by a compliant site-specific Flood Risk Assessment and cannot be based solely on EA Flood Maps. 2. The credits for flood risk are awarded based on the pre-developed site.	Yes, if it can be demonstrated that the development is at a low risk from all sources.	The pre-development flood risk has been reviewed. The site is considered to be at a low risk of flooding from all sources. As such, two credits can be awarded.

- 10.5 The site is considered to be at a low risk of flooding from all flood risk sources, both in the present day and in the future. Two credits can, therefore, be awarded under the 'Flood Resilience' criterion.
- 10.6 The FRA and assessment against the BREEAM criteria have been produced and checked by individuals working within a team specialising in flood risk and drainage.

¹⁷ BREEAM Knowledge Base. Available at: <https://kb.breeam.com/knowledgebase/flood-resilience/> Last accessed: December 2025.

11. SUMMARY AND RECOMMENDATIONS

- 11.1 This report demonstrates that the proposed development is at an acceptable level of flood risk. In compliance with the requirements of the NPPF and the PPG, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider area subject to suitable management of surface water runoff discharging from the site. A summary of the FRA is presented within **Table 11.1**.
- 11.2 With regards to BREEAM, there is the potential for two credits to be awarded under the 'Flood resilience' criterion. The site is considered to be at a low risk of flooding from all sources, both in the present day and in the future. As such, two credits can, therefore, be awarded under this criterion.

Table 11.1: Flood Risk Assessment Summary

Flood Source	Flood Risk to Development	Embedded Mitigation Measures	Additional Mitigation for the Management of Residual Flood Risk
Rivers	Low	The development has been arranged to avoid the Stanney Brook floodplain. The built development is to be located significantly above modelled peak flood levels.	It may be beneficial for occupants to sign up to receive EA flood alerts and warnings so that they are aware of potential incidents in the wider area that may affect their travel arrangements.
Surface Water & Minor Watercourse	Low	The development will address any localised surface water ponding originating from within the site through implementation of a sustainable surface water drainage strategy. The development will include surface water drainage infrastructure that will drain into an existing system that has been designed with an allowance for this plot to come forward. The wider network will provide attenuated storage to storm water runoff, preventing an increase in the runoff rate transmitted to the downstream watercourse. The proposed external ground levels are graded such that the finished floor level of the proposed unit will be raised above immediate surrounding ground levels.	It is recommended that occupants are encouraged to sign up to Met Office severe weather warnings so that they have advance warning of potential incidents in the area that may affect access/egress to the development. The proposed development should be designed with exceedance in mind, and the road network and landscaped areas will convey exceedance / overland flows away from the proposed building and towards drainage infrastructure.

Flood Source	Flood Risk to Development	Embedded Mitigation Measures	Additional Mitigation for the Management of Residual Flood Risk
		Ground levels are to be profiled to encourage runoff and overland flows away from the built development and towards the nearest drainage point. The proposed unit will not be sited in a topographical low point or potential overland flow pathway.	
Sewers & Drainage Infrastructure	Low	The flood risk management measures to address the surface water flood risk are also applicable to address the flood risk from sewers and drainage systems. It is proposed to drain foul water from the development separately to surface water. The foul drainage infrastructure for the wider development was installed with consideration to this site and other plots being developed. As such, the surrounding network should have capacity for this site coming forwards for development.	The recommended measures to help manage the residual risks from surface water are also applicable. Additionally, it is recommended that an operation and maintenance plan is established to ensure that the development's drainage systems are inspected and maintained for their lifetime. An indicative operation and maintenance plan, suitable for the planning application, is included within the accompanying SDS.
Groundwater	Low	The development has been arranged to avoid the low-lying areas where groundwater emergence would be expected to occur.-	Groundwater levels are to be monitored during the construction phase and appropriate dewatering implemented where necessary.
Other Sources of Flood Risk	The site and the proposed development are considered to be at low or no risk from the sea, canals and reservoirs and large waterbodies. There are no relevant mitigation associated with these flood sources.		

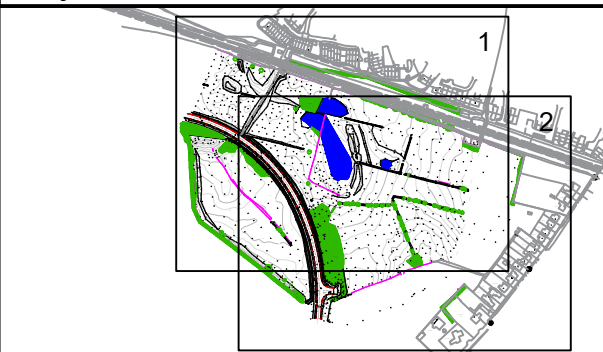
APPENDICES

Appendix 1: Topographical Survey



- Notes**
1. Do not scale this drawing. All dimensions must be checked/verified on site. If in doubt ask.
 2. This drawing is to be read in conjunction with all relevant architects, engineers and specialists drawings and specifications.
 3. All dimensions in metres unless noted otherwise. All levels in metres unless noted otherwise.
 4. Any discrepancies noted on site are to be reported to the engineer immediately.
 5. No scale factor has been applied to this survey, therefore the OS coordinates are to be treated as arbitrary. Please refer to survey station information below for on site control establishment.
 6. All coordinates and height data relate to OSGB36(15). Control stations are coordinated by means of GPS receiving real time corrections via OS smart net.
 7. All manhole data is collected from ground level therefore discrepancies may occur. More accurate data is only achievable via confined space entry.
 8. OS license number: 100022432

Key Plan



Legend

- OS Buildings**
- Surveyed Buildings
 - Building
 - Wall
 - Kerb Channel Line
 - Top of Kerb
 - Edge of Surface
 - Top of Bank
 - Bottom of Bank
 - Canopy / Overhang
 - Line Marking
 - Centre Line
 - Watercourse
 - Centre Line
 - Barrier
 - Fence
 - Gate
 - Overhead Powerline
 - Overhead Utilities
- Contour Lines**
- Flow direction and pipe diameter
 - Station and Name
 - Monitoring Borehole
 - Tree / Bush / Shrub
 - Area of Vegetation / Extent of Tree Canopy
 - Hedge
 - Body of Water
 - Body of Water from OS
 - Spot Level
 - Assumed Surface
 - Water Drainage Line
 - Surface Water Drainage Line
- AP** Anchor Point **FBW** Fence Barbed Wire **LB** Litter Bin
BO Back Gully **FCB** Fence Closed Board **LP** Lamp Post
BO Bollard **FCL** Fence Chain Link **MP** Manhole
BS Bus Stop **FEL** Fence Electric **MV** Service Marker
BT British Telecom **FMP** Fence Metal Panel **PS** Fuel Box
C Crest **FMR** Fence Metal Railing **PT** Post
CL Cover Level **FOS** Fence Open Board **RE** Roadside Eye
CMP Cable Marker **FPW** Fence Post & Wire **SP** Sign Post
Post **FSP** Fence Steel Palisade **ST** Stop Tap
CCTV Security Camera **FVM** Fence Wire Mesh **SV** Stop Valve
Cable TV **PFL** Finished Floor Level **TCB** Telephone
DP Drainage **FP** Flagpole **THL** Threshold Level
OK Drop Kerb **GV** Gas Valve **TL** Traffic Light
DP Down Pipe **Gy** Gully **TS** Traffic Signal
ELC Electric **HL** Height **UTS** Unable to Survey
EP Electricity Post **IC** Inspection Chamber **WL** Water Level
ER Earth Road **IFL** Internal Floor Level **WM** Water Meter
FL Fire Hydrant **IL** Invert Level **WO** Wash Out
FL Floodlight (as a reduced level)

Station Coordinates			
Station Name	Eastings (m)	Northings (m)	Height (m)
KLR3	391959.350	412466.631	150.886
KLR4	391914.916	412557.217	149.889
KLR5	391879.085	412596.623	148.854

P1	29.10.24	First Issue	PQ	88
Rev	Date	Details of Issue / Revision	Dwn	Rev

Issues & Revisions

- BWB** BOWDEN & BOWDEN
- Birmingham | 0121 233 3322
■ Leeds | 0113 233 8000
■ London | 020 7407 3879
■ Manchester | 0161 233 4280
■ Nottingham | 0115 924 1100
www.bwbconsulting.com

Client

**Wilson Bowden
Developments Ltd**

Project Title

Plot P2 + Q

Drawing Title

**Existing Site Plan
Sheet 1 of 2**

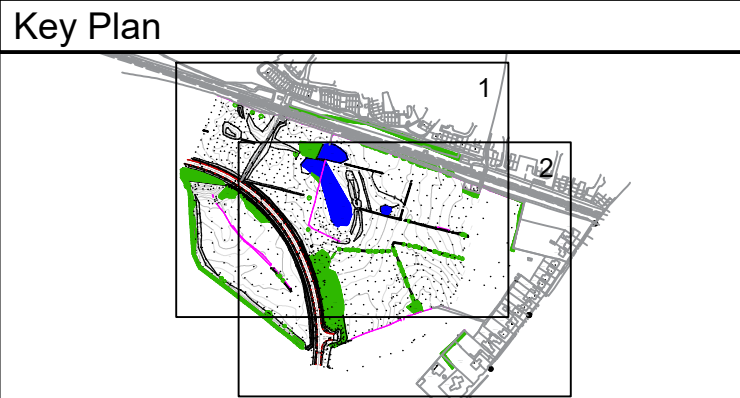
Drawn:	P. Quetch	Reviewed:	S. Shreeves
BWB Ref:	244497	Date:	29.10.24
Drawing Status:	Scale: A0	1:500	

Information

Project - Originator - Zone - Level - Type - Role - Number	Status	Rev
244497-BWB-00-01-DR-G-0001	S2	P1



- Notes**
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- Legend**
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 - Body of Water from OS
 - Spot Level
 - Assumed Surface
 - Water Drainage Line
 - Surface Water Drainage Line
- AP Anchor Point
BG Back Gully
BO Bollard
BS Bus Stop
BT British Telecom
C Crest
CL Over Level
CMP Cable Marker
P Post
CCTV/Security Camera
DC Drainage
CTV Cable TV
OK Drop Kerb
DP Down Pipe
Elec Electric
EP Electricity Post
ER Earth Rod
FH Fire Hydrant
FL Floodlight
- FBW Fence Barbed Wire
FCB Fence Closed Board
FCL Fence Chain Link
FEL Fence Electric
FMP Fence Metal Panel
FMR Fence Metal Railing
FOP Fence Open Panel
FPP Fence Post & Wire
FVM Fence Wire Mesh
FPL Finished Floor Level
FP Flagpole
Gas Gas
OV Gas Valve
Gy Gully
H Height
IC Inspection Chamber
IPL Internal Floor Level
IL Invert Level
L Litter Bin
LP Lamp Post
MH Manhole
MV Service Marker
PB Fuel Box
PT Post
RE Roofing Eye
SF Sign Post
SV Stop Valve
TCB Telephone
THL Threshold Level
TL Traffic Light
TP Telegraph Post
TS Traffic Signal
UTS Unable to Survey
W Water Level
WM Water Meter
WO Wash Out

Station Coordinates			
Station Name	Eastings (m)	Northings (m)	Height (m)
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Client
Wilson Bowden Developments Ltd

Project Title
Plot P2 + Q

Drawing Title
Existing Site Plan Sheet 2 of 2

Drawn:	P Quetch	Reviewed:	S Shreeves
BWB Ref:	244497	Date:	29.10.24
Scale:	AO	Scale:	1:500
Drawing Status			
Information			
Project - Originator - Zone - Level - Type - Role - Number			
244497-BWB-00-02-DR-G-0001	S2	P1	

Appendix 2: Environment Agency Correspondence

Flood risk assessment data



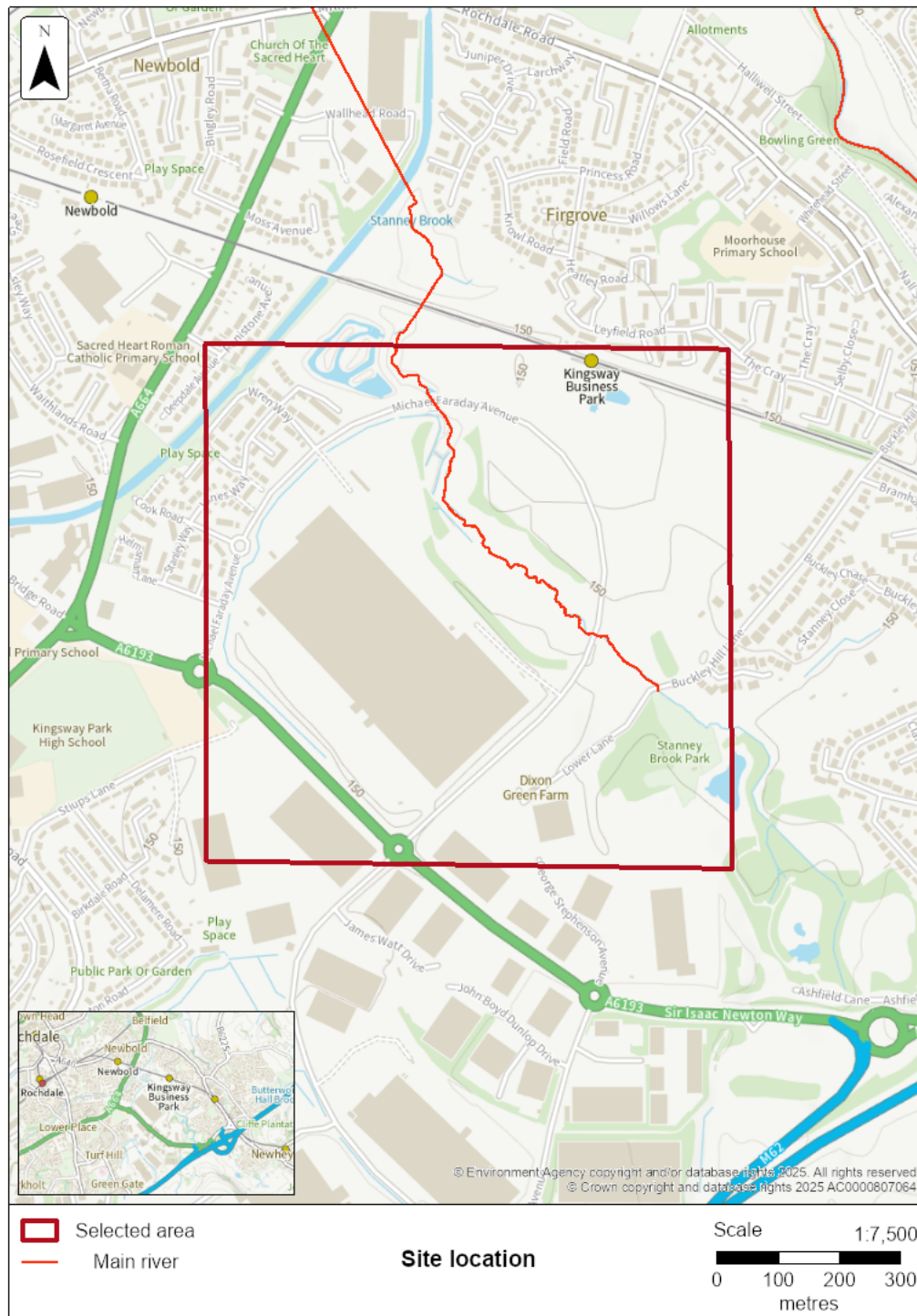
Location of site: 391747 / 412322 (shown as easting and northing coordinates)

Document created on: 14 November 2025

This information was previously known as a product 4.

Customer reference number: 6MTC3493ARPX

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)
- past floods
- flood defences and attributes
- information to help you assess if there is a reduced flood risk from rivers and the sea because of defences
- modelled data
- information about strategic flood risk assessments
- information about this data
- information about flood risk activity permits
- help and advice

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 Rochdale District.

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

About the models used

Model name: Rochdale and Littleborough 2013

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

Date: 1 June 2013

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



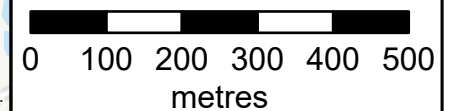
Flood map for planning

Location (easting/northing)
391747/412322

Scale
1:10,000

Created
14 Nov 2025

-  Selected area
-  Main river
-  Flood defence
-  Flood Zone 3
-  Flood Zone 2



Past floods

Past flood events included in this document

The recorded flood outlines included in this document are for areas of land local to your site location that have been flooded by any of these sources:

- ephemeral water
- main rivers
- ordinary watercourses
- the sea
- unknown

Data limitations

The outlines do not include flooding from:

- drainage where rainfall has led to surface water ponding or overland runoff
- artificial, water-bearing sewer, water supply and wastewater treatment pipelines

Changes to flood defences

The defences (also known as assets) that were in place may also have changed. For example, assets may have been built more recently than the last recorded flood outline.

What the recorded flood outlines dataset is

The recorded flood outlines are a geographical information system (GIS) data layer that show our verified records of areas that have flooded in the past from:

- rivers
- the sea
- groundwater
- surface water

[Download the complete recorded flood outlines dataset](#), which includes data quality flags for outlines recorded after April 2020. This indicates the confidence we have in an outline.

Get flood information from other organisations

Contact Rochdale District Lead Local Flood Authority (LLFA) and your drainage board to get information about past flooding caused by surface water or drainage systems.



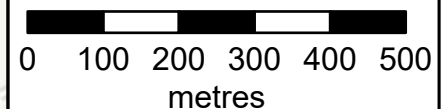
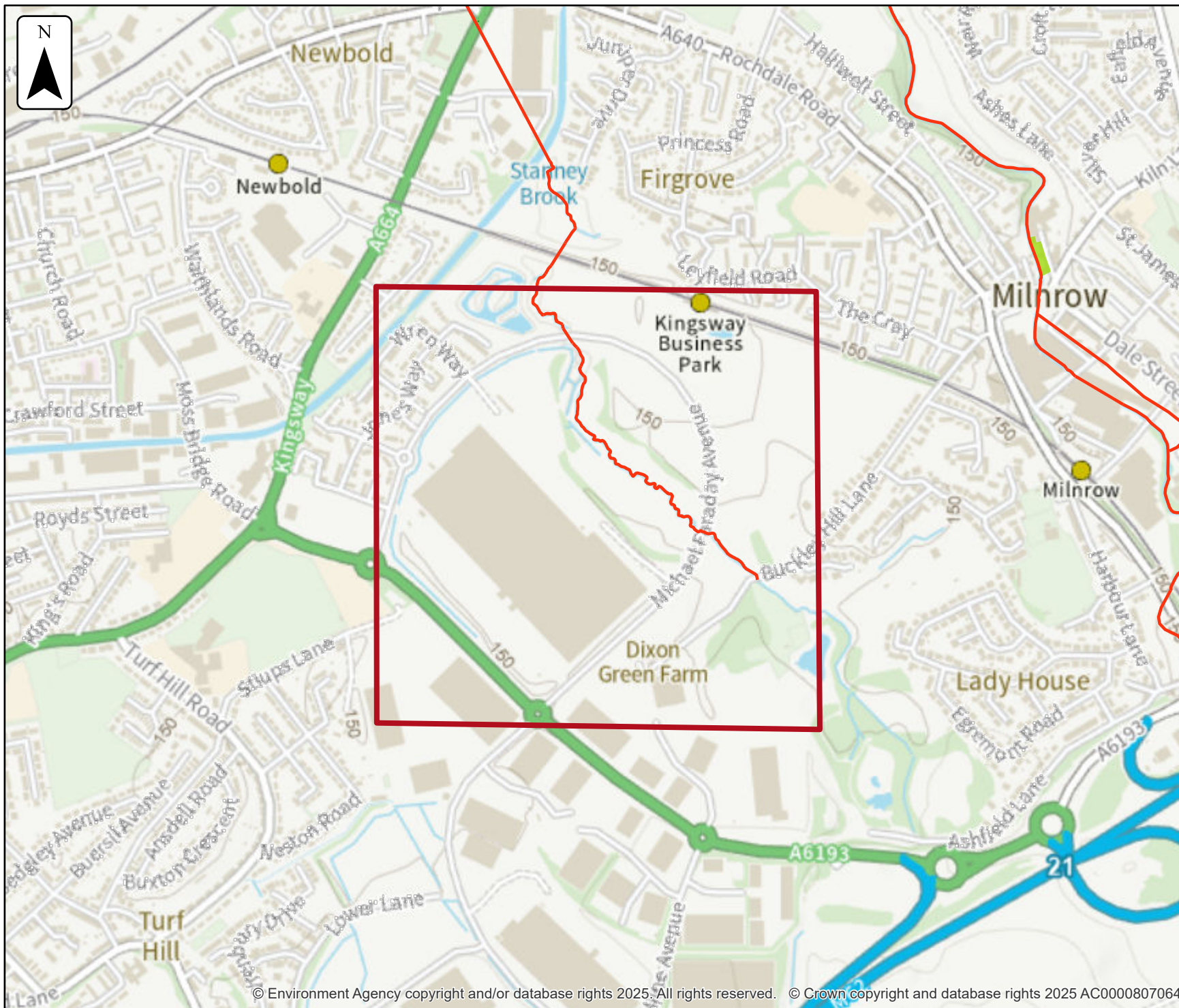
Past floods

Location (easting/northing)
391747/412322

Scale
1:10,000

Created
14 Nov 2025

-  Selected area
-  Main river
- Date of flood event
 -  December, 2015
 -  December, 1991



Data on past flood events

Start date	End date	Source of flood	Cause of flood	Affects location
26 December 2015	26 December 2015	main river	channel capacity exceeded (no raised defences)	No
21 December 1991	22 December 1991	unknown	unknown	No

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
- 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



Defences removed climate change modelled fluvial extent

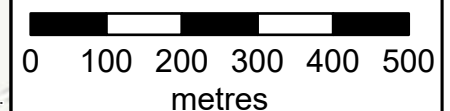
Location (easting/northing)
391747/412322

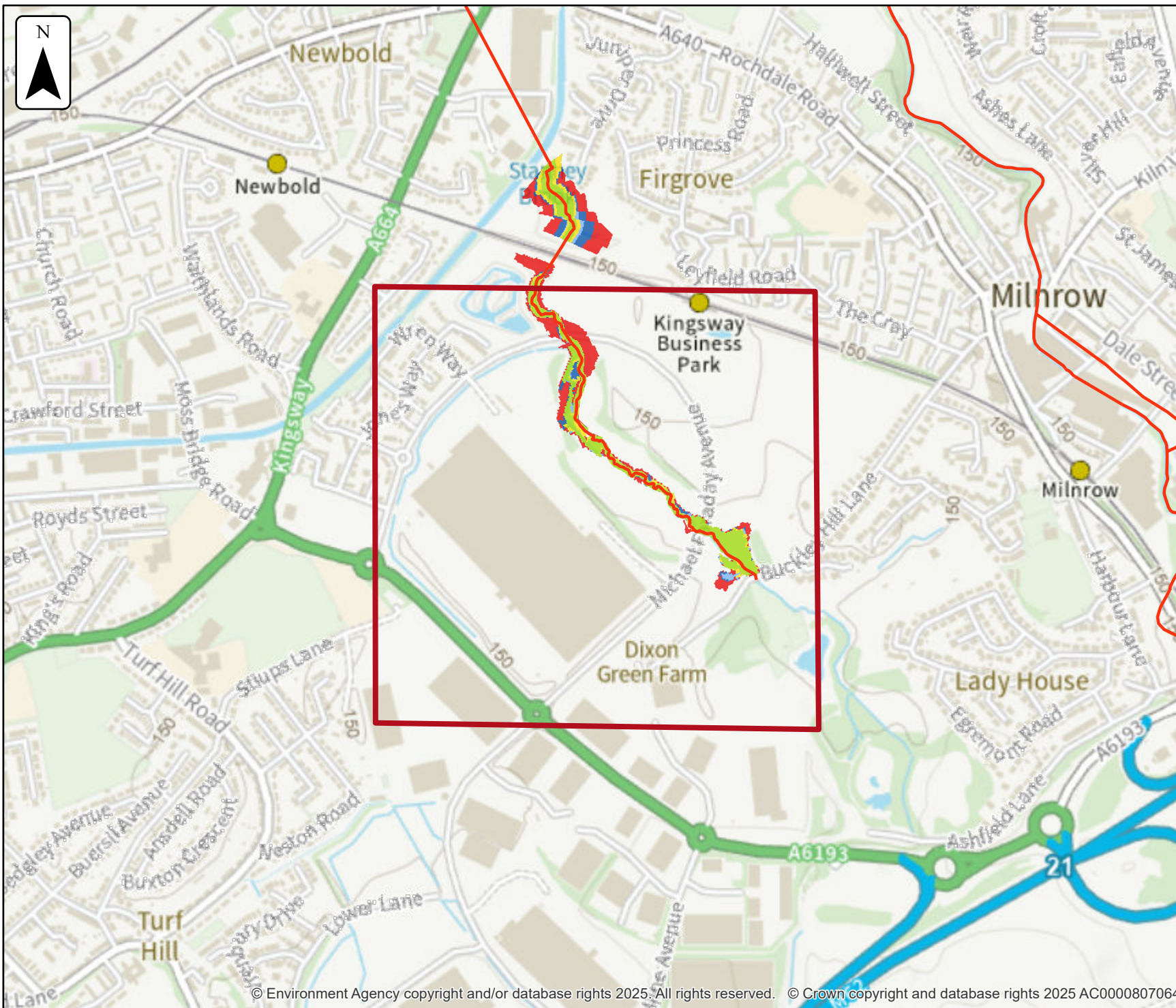
Scale Created
1:10,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+20%)
 -  1% AEP (+35%)
 -  1% AEP (+70%)

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





Defences removed modelled fluvial extent

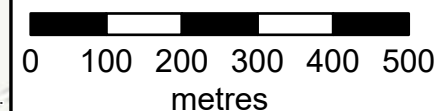
Location (easting/northing)
391747/412322

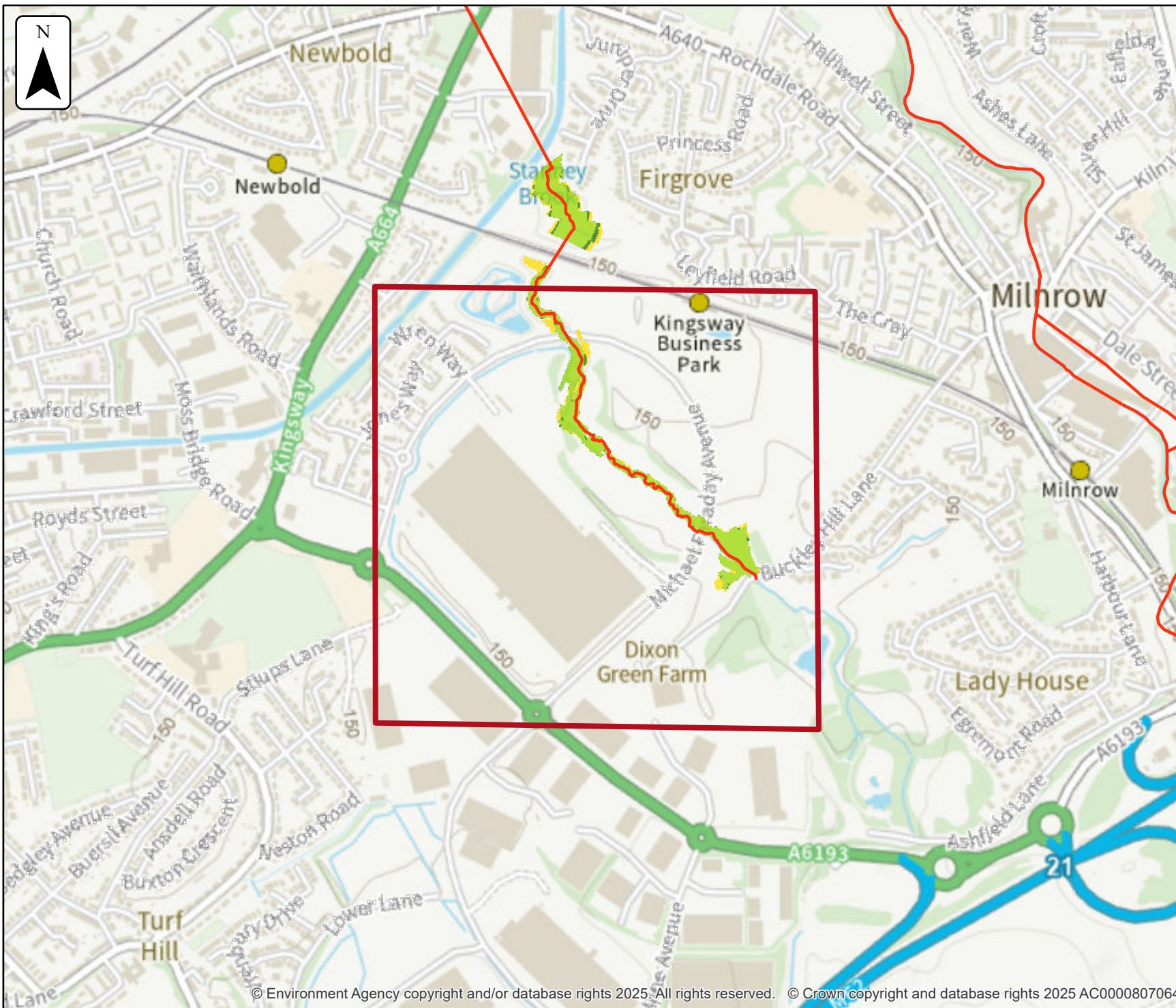
Scale Created
1:10,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Main river
- Modelled flood extent
-  5% AEP
-  1.33% AEP
-  1% AEP
-  0.5% AEP
-  0.1% AEP

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





Defended climate change modelled fluvial extent

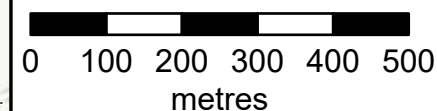
Location (easting/northing)
391747/412322

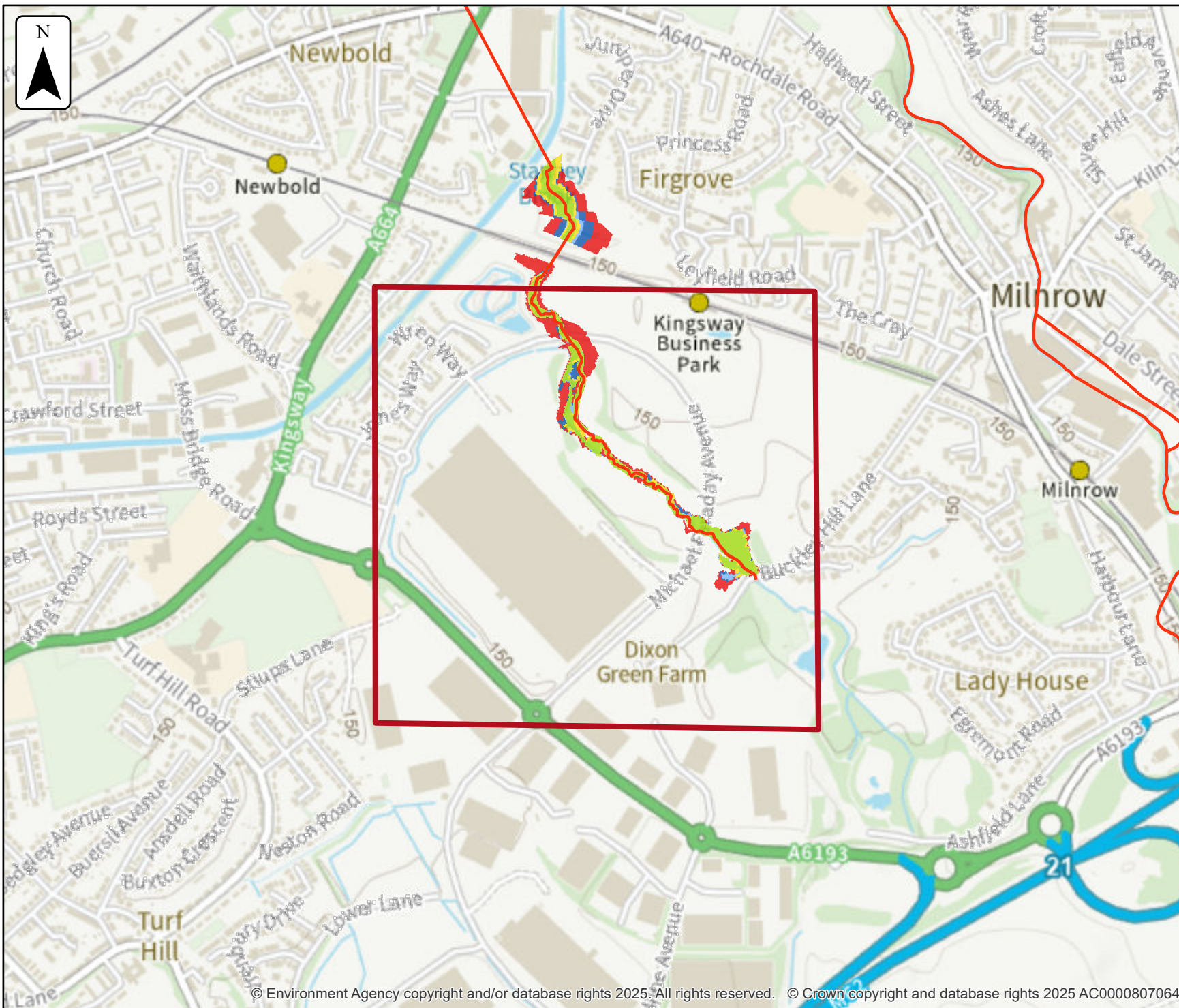
Scale Created
1:10,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Main river
- Modelled flood extent
 -  1% AEP (+20%)
 -  1% AEP (+35%)
 -  1% AEP (+70%)

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





Defended modelled fluvial extent

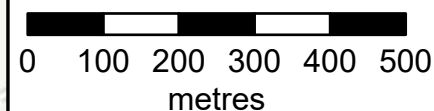
Location (easting/northing)
391747/412322

Scale Created
1:10,000 14 Nov 2025

Model name
Rochdale and Littleborough 2013

-  Selected area
-  Main river
- Modelled flood extent
 -  5% AEP
 -  1.33% AEP
 -  1% AEP
 -  0.5% AEP
 -  0.1% AEP

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





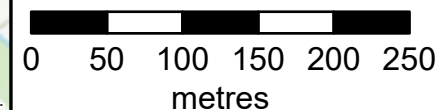
Defences removed climate change modelled fluvial node locations

Location (easting/northing)
391747/412322

Scale Created
1:5,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)
				Level	Level	Level	Flow	Flow	Flow
1	1674546	391708	412495	140.58	140.58	140.62	2.89	2.91	3.37
2	1674702	391755	412454	141.36	141.36	141.37	4.0	3.98	5.01
3	1673846	391783	412408	141.78	141.78	141.85	4.24	4.07	5.12
4	1673990	391843	412379	142.19	142.18	142.26	4.21	4.06	5.05
5	1674471	391873	412360	142.53	142.51	142.58	3.93	3.81	4.63
6	1674321	391890	412331	142.80	142.79	142.84	4.12	3.98	4.88
7	1673953	391904	412318	143.01	143.0	143.05	4.23	4.07	5.14
8	1674412	391918	412305	143.20	143.19	143.26	4.17	4.03	4.92
9	1673822	391936	412280	143.53	143.51	143.57	2.61	2.54	2.77
10	1674699	391956	412274	143.63	143.62	143.64	3.24	3.19	3.84

Data in this table comes from the Rochdale and Littleborough 2013 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.



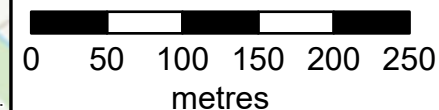
Defences removed modelled fluvial node locations

Location (easting/northing)
391747/412322

Scale Created
1:5,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	3.33% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	1674546	391708	412495	140.45	140.47	140.52	140.54	140.57	140.69
2	1674702	391755	412454	141.30	141.30	141.33	141.34	141.36	141.49
3	1673846	391783	412408	141.62	141.63	141.70	141.72	141.77	141.99
4	1673990	391843	412379	142.0	142.01	142.09	142.12	142.18	142.44
5	1674471	391873	412360	142.31	142.33	142.41	142.44	142.51	142.72
6	1674321	391890	412331	142.65	142.66	142.74	142.76	142.79	142.97
7	1673953	391904	412318	142.83	142.85	142.93	142.95	142.99	143.15
8	1674412	391918	412305	142.98	143.0	143.10	143.13	143.19	143.44
9	1673822	391936	412280	143.36	143.37	143.44	143.46	143.51	143.72
10	1674699	391956	412274	143.56	143.56	143.61	143.61	143.62	143.73

Data in this table comes from the Rochdale and Littleborough 2013 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.

Defences removed

Label	Modelled location ID	Easting	Northing	5% AEP	3.33% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	1674546	391708	412495	1.94	2.04	2.35	2.45	2.80	4.90
2	1674702	391755	412454	2.06	2.19	2.94	3.22	3.85	7.39
3	1673846	391783	412408	2.04	2.18	2.99	3.31	4.03	7.93
4	1673990	391843	412379	2.04	2.18	3.0	3.31	4.02	7.45
5	1674471	391873	412360	2.04	2.18	2.97	3.26	3.78	6.71
6	1674321	391890	412331	2.04	2.18	3.0	3.29	3.94	7.05
7	1673953	391904	412318	2.04	2.18	3.0	3.31	4.02	7.82
8	1674412	391918	412305	2.04	2.18	3.0	3.31	3.99	6.87
9	1673822	391936	412280	1.87	1.92	2.24	2.33	2.53	3.41
10	1674699	391956	412274	1.90	1.97	2.46	2.66	3.15	5.35

Data in this table comes from the Rochdale and Littleborough 2013 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.



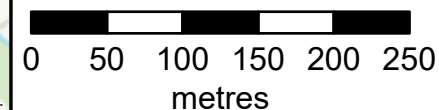
Defended climate change modelled fluvial node locations

Location (easting/northing)
391747/412322

Scale Created
1:5,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended climate change

Label	Modelled location ID	Easting	Northing	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+20%)	1% AEP (+35%)	1% AEP (+70%)
				Level	Level	Level	Flow	Flow	Flow
1	1674546	391708	412495	140.58	140.58	140.62	2.89	2.90	3.36
2	1674702	391755	412454	141.36	141.36	141.37	3.99	3.97	4.99
3	1673846	391783	412408	141.78	141.78	141.85	4.23	4.06	5.10
4	1673990	391843	412379	142.19	142.18	142.26	4.21	4.05	5.03
5	1674471	391873	412360	142.53	142.51	142.58	3.93	3.81	4.61
6	1674321	391890	412331	142.80	142.79	142.84	4.11	3.96	4.87
7	1673953	391904	412318	143.01	143.0	143.05	4.23	4.06	5.12
8	1674412	391918	412305	143.20	143.19	143.26	4.17	4.01	4.91
9	1673822	391936	412280	143.53	143.51	143.57	2.61	2.54	2.77
10	1674699	391956	412274	143.63	143.62	143.64	3.24	3.18	3.83

Data in this table comes from the Rochdale and Littleborough 2013 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.



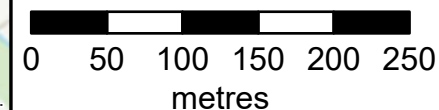
Defended modelled fluvial node locations

Location (easting/northing)
391747/412322

Scale Created
1:5,000 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

-  Selected area
-  Modelled location
-  Main river



Modelled node locations data

Defended

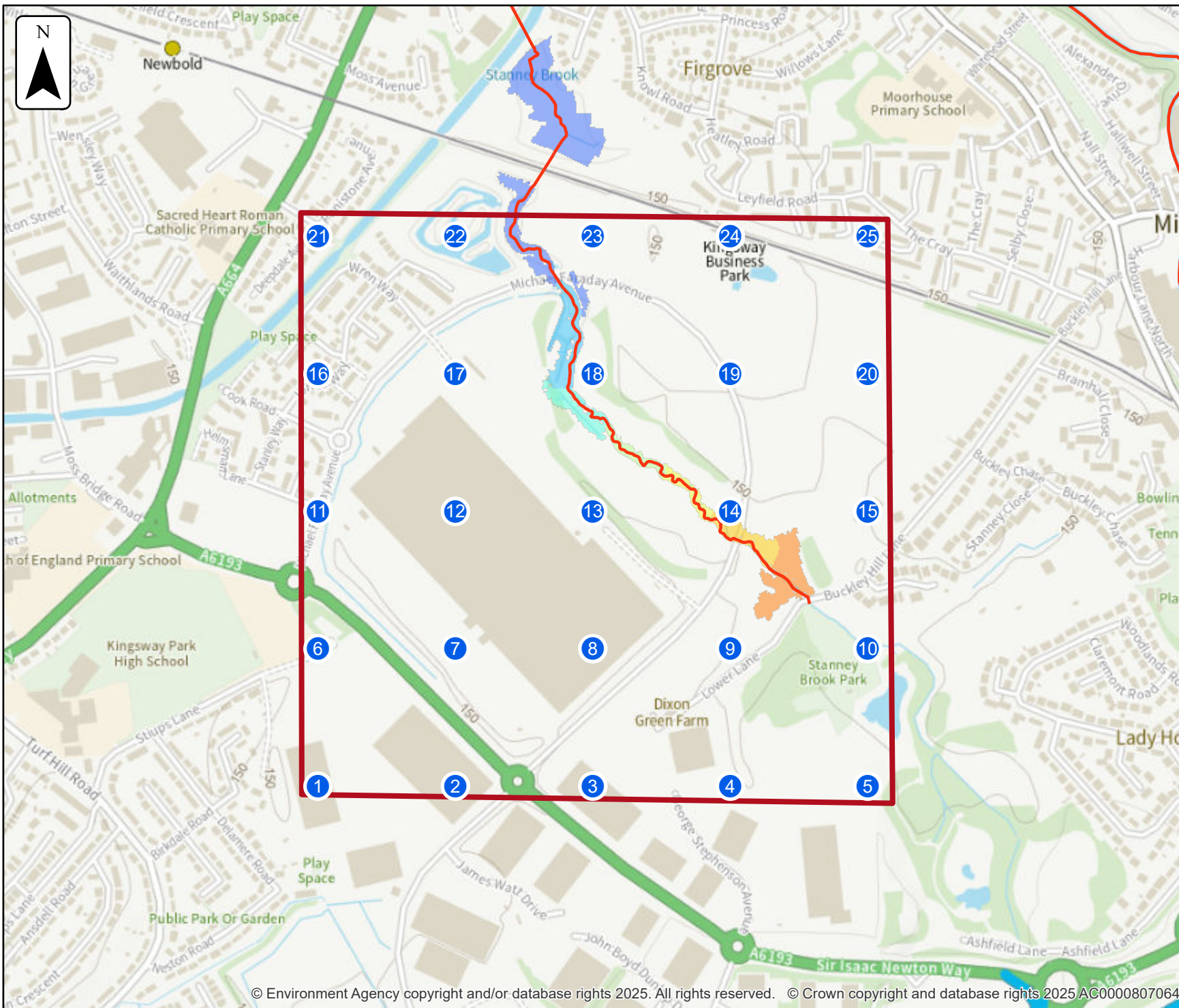
Label	Modelled location ID	Easting	Northing	5% AEP	3.33% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Level	Level	Level	Level	Level	Level
1	1674546	391708	412495	140.45	140.47	140.52	140.54	140.57	140.69
2	1674702	391755	412454	141.30	141.30	141.33	141.34	141.36	141.43
3	1673846	391783	412408	141.62	141.63	141.70	141.72	141.77	142.0
4	1673990	391843	412379	142.0	142.01	142.09	142.12	142.18	142.41
5	1674471	391873	412360	142.31	142.33	142.41	142.44	142.51	142.73
6	1674321	391890	412331	142.64	142.66	142.74	142.76	142.79	142.95
7	1673953	391904	412318	142.83	142.85	142.93	142.95	142.99	143.15
8	1674412	391918	412305	142.98	143.0	143.10	143.13	143.19	143.43
9	1673822	391936	412280	143.36	143.37	143.44	143.46	143.51	143.72
10	1674699	391956	412274	143.56	143.56	143.61	143.61	143.62	143.74

Data in this table comes from the Rochdale and Littleborough 2013 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.

Defended

Label	Modelled location ID	Easting	Northing	5% AEP	3.33% AEP	1.33% AEP	1% AEP	0.5% AEP	0.1% AEP
				Flow	Flow	Flow	Flow	Flow	Flow
1	1674546	391708	412495	1.94	2.04	2.35	2.45	2.80	4.77
2	1674702	391755	412454	2.06	2.19	2.93	3.22	3.85	7.56
3	1673846	391783	412408	2.04	2.18	2.99	3.31	4.02	8.05
4	1673990	391843	412379	2.04	2.18	3.0	3.31	4.01	7.31
5	1674471	391873	412360	2.05	2.18	2.97	3.26	3.79	6.78
6	1674321	391890	412331	2.04	2.18	3.0	3.29	3.94	6.98
7	1673953	391904	412318	2.04	2.18	3.0	3.31	4.02	7.74
8	1674412	391918	412305	2.04	2.18	3.0	3.31	3.99	6.92
9	1673822	391936	412280	1.87	1.92	2.24	2.33	2.53	3.49
10	1674699	391956	412274	1.90	1.97	2.46	2.66	3.15	5.32

Data in this table comes from the Rochdale and Littleborough 2013 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.



Defended climate change modelled fluvial extent and height

Location (easting/northing)
391747/412322

Scale Created
1:7,500 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

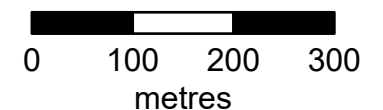
-  Selected area
-  Main river

Modelled 2D grid

Water level in mAOD

-  138 - 138.875
-  138.875 - 139.75
-  139.75 - 140.625
-  140.625 - 141.5
-  141.5 - 142.375
-  142.375 - 143.25
-  143.25 - 144.125
-  144.125 - 145.0
-  145.0 - 145.875

This map shows the
1% AEP +70% height data



Sample point data

Defended climate change

Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
1	391343	411917	NoData	NoData	NoData	NoData
2	391543	411917	NoData	NoData	NoData	NoData
3	391743	411917	NoData	NoData	NoData	NoData
4	391943	411917	NoData	NoData	NoData	NoData
5	392143	411917	NoData	NoData	NoData	NoData
6	391343	412117	NoData	NoData	NoData	NoData
7	391543	412117	NoData	NoData	NoData	NoData
8	391743	412117	NoData	NoData	NoData	NoData
9	391943	412117	NoData	NoData	NoData	NoData
10	392143	412117	NoData	NoData	NoData	NoData
11	391343	412317	NoData	NoData	NoData	NoData
12	391543	412317	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
13	391743	412317	NoData	NoData	NoData	NoData
14	391943	412317	NoData	NoData	NoData	NoData
15	392143	412317	NoData	NoData	NoData	NoData
16	391343	412517	NoData	NoData	NoData	NoData
17	391543	412517	NoData	NoData	NoData	NoData
18	391743	412517	NoData	NoData	NoData	NoData
19	391943	412517	NoData	NoData	NoData	NoData
20	392143	412517	NoData	NoData	NoData	NoData
21	391343	412717	NoData	NoData	NoData	NoData
22	391543	412717	NoData	NoData	NoData	NoData
23	391743	412717	NoData	NoData	NoData	NoData
24	391943	412717	NoData	NoData	NoData	NoData

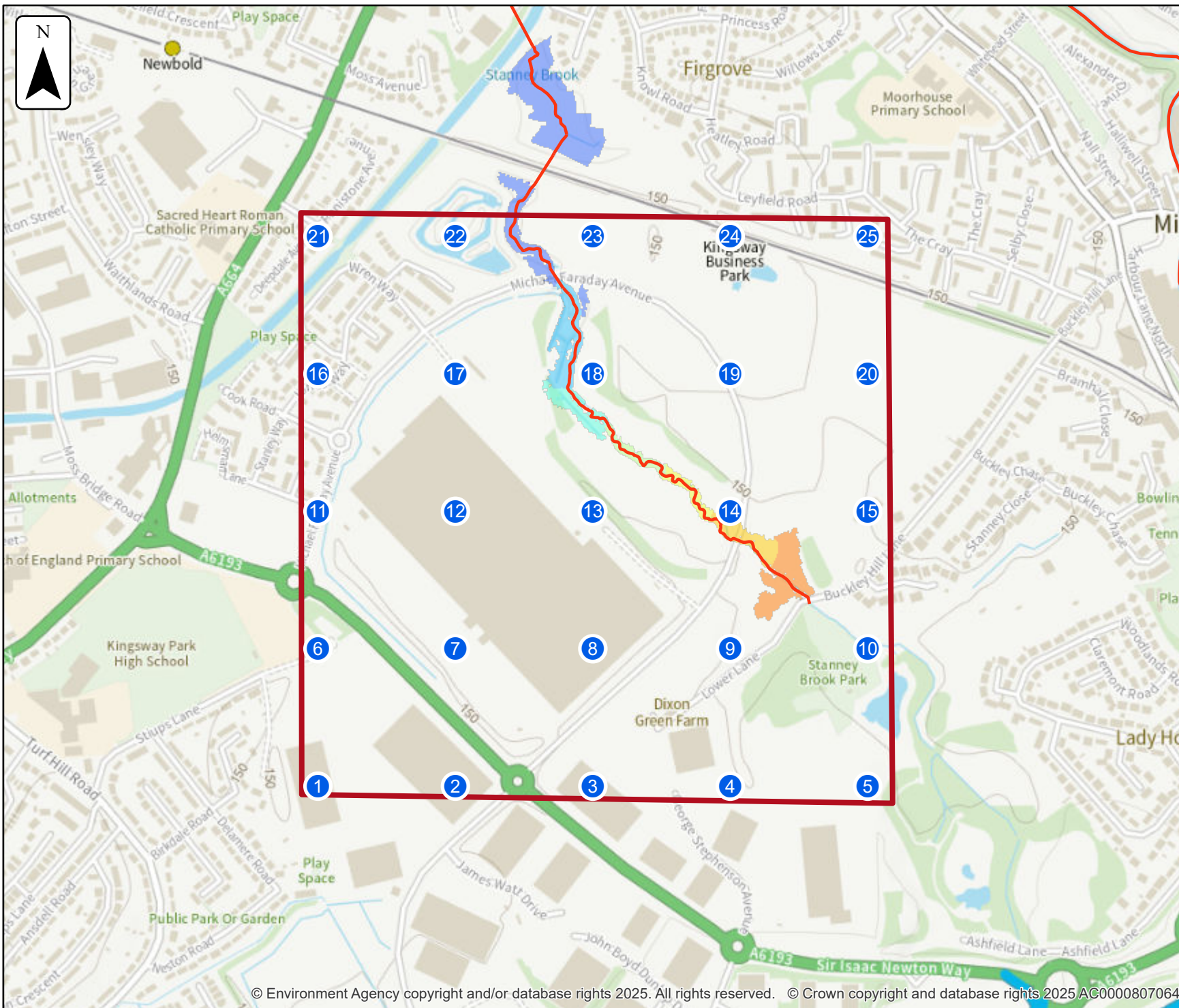
Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
25	392143	412717	NoData	NoData	NoData	NoData
Max value in selected area:			144.60	144.62	2.28	2.37

Data in this table comes from the Rochdale and Littleborough 2013 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.



Defences removed climate change modelled fluvial extent and height

Location (easting/northing)
391747/412322

Scale Created
1:7,500 14 Nov 2025

Model name
**Rochdale and
Littleborough 2013**

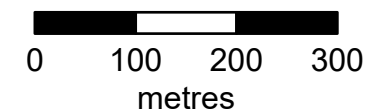
-  Selected area
-  Main river

Modelled 2D grid

Water level in mAOD

-  138 - 138.875
-  138.875 - 139.75
-  139.75 - 140.625
-  140.625 - 141.5
-  141.5 - 142.375
-  142.375 - 143.25
-  143.25 - 144.125
-  144.125 - 145.0
-  145.0 - 145.875

This map shows the
1% AEP +70% height data



Sample point data

Defences removed climate change

Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
1	391343	411917	NoData	NoData	NoData	NoData
2	391543	411917	NoData	NoData	NoData	NoData
3	391743	411917	NoData	NoData	NoData	NoData
4	391943	411917	NoData	NoData	NoData	NoData
5	392143	411917	NoData	NoData	NoData	NoData
6	391343	412117	NoData	NoData	NoData	NoData
7	391543	412117	NoData	NoData	NoData	NoData
8	391743	412117	NoData	NoData	NoData	NoData
9	391943	412117	NoData	NoData	NoData	NoData
10	392143	412117	NoData	NoData	NoData	NoData
11	391343	412317	NoData	NoData	NoData	NoData
12	391543	412317	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
13	391743	412317	NoData	NoData	NoData	NoData
14	391943	412317	NoData	NoData	NoData	NoData
15	392143	412317	NoData	NoData	NoData	NoData
16	391343	412517	NoData	NoData	NoData	NoData
17	391543	412517	NoData	NoData	NoData	NoData
18	391743	412517	NoData	NoData	NoData	NoData
19	391943	412517	NoData	NoData	NoData	NoData
20	392143	412517	NoData	NoData	NoData	NoData
21	391343	412717	NoData	NoData	NoData	NoData
22	391543	412717	NoData	NoData	NoData	NoData
23	391743	412717	NoData	NoData	NoData	NoData
24	391943	412717	NoData	NoData	NoData	NoData

Label	Easting	Northing	1% AEP (+35%)	1% AEP (+70%)	1% AEP (+35%)	1% AEP (+70%)
			Height	Height	Depth	Depth
25	392143	412717	NoData	NoData	NoData	NoData
Max value in selected area:			144.60	144.62	2.28	2.38

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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 Rochdale District.

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

