

FLOOD RISK ASSESSMENT

**Redevelopment of Vehicle Breakers Yard to 2 Industrial Units (Use Class B2/B8),
Corporation Road, Oldham, OL11 4JB**



1. Executive Summary

This Flood Risk Assessment (FRA) has been prepared to accompany a full planning application for the redevelopment of a previously developed site at Corporation Road, Oldham (OL11 4JB). The application proposes the cessation of an existing Sui Generis breakers yard and the construction of two new industrial units, falling within Use Classes B2 and B8, with associated external works and drainage improvements.

The site lies wholly within Flood Zone 3, as defined by the Environment Agency's Flood Map for Planning, indicating a high probability of flooding from fluvial sources. The adjacent River Roch poses the principal source of flood risk to the site. The Environment Agency's Product 4 report (Ref: 5CAFHBTW5N7A) confirms that the site is at risk during both the 1 in 100-year and 1 in 1,000-year flood events, and particularly under future climate change scenarios.

Modelled flood levels under the 1% Annual Exceedance Probability (AEP) plus 70% climate change allowance predict flood levels up to 115.31m AOD, with flood depths of up to 1.31 metres across the site under a defended scenario. The design scenario (1% AEP +35%) results in flood levels of 114.19m AOD, equating to depths of up to 0.19m above the existing ground level.

While standard flood mitigation would involve raising finished floor levels, this approach is not feasible for this site due to the operational requirements of the proposed use. The industrial units are intended for storage and logistics purposes, which necessitate level access for forklift use, pallet movement, and delivery vehicles. Any change in slab height would compromise functionality, violate Building Regulation Part M (access), and render the development commercially unviable.

In lieu of floor raising, a comprehensive mitigation strategy has been developed. Finished floor levels will remain at existing ground level (approximately 114.0m AOD), and each unit will be fitted with full-width ACO channel drainage to intercept surface water before it reaches door thresholds. The buildings will be constructed using flood-resilient materials, including sealed concrete floors, water-tolerant insulation, and flood-rated doors. Electrical installations will be raised, and no sensitive or vulnerable activities will occur within the building.

The surface water drainage strategy includes the replacement of impermeable surfaces with porous tarmac across all external yard areas, reducing runoff rates and allowing infiltration. Foul drainage will discharge to the existing combined system via backflow-protected connections.

This FRA demonstrates that the proposed development:

- Is appropriately located within a safeguarded industrial area and meets the Sequential Test;
- Delivers clear sustainability and regeneration benefits, meeting the Exception Test;
- Will be safe for its lifetime, incorporating robust flood mitigation and emergency planning.
- Will not increase flood risk elsewhere, and in fact reduces surface water discharge from the site.

The development is compliant with the National Planning Policy Framework (NPPF, 2023), Planning Practice Guidance (PPG), Oldham Local Plan, and the Rochdale Flood Risk

Management Strategy. Subject to implementation of the proposed mitigation measures, there are no flood risk grounds on which to object to the granting of planning permission.

2. Introduction and Scope of Assessment

This Flood Risk Assessment (FRA) has been prepared to accompany a full planning application for the redevelopment of land at Corporation Road, Oldham (OL11 4JB), currently occupied by a Sui Generis breakers yard. The proposal involves the construction of two industrial units within Use Classes B2 and B8. The entire application site lies within Flood Zone 3, as defined by the Environment Agency's Flood Map for Planning. This designation represents land at high risk of fluvial flooding and signifies a 1% or greater annual probability of river flood events, excluding climate change allowances. The site's proximity to the River Roch, a designated main river, presents a direct fluvial risk that demands a detailed and site-specific flood assessment.

The development falls within a flood risk context where planning decisions must be informed by robust, quantitative evidence, and not by generalised policy summaries. This is particularly important given the severity of flood risk at this location, which has been confirmed through recent Environment Agency hydraulic modelling data provided under Product 4 (reference 5CAFHBTW5N7A, dated April 2025). These data, based on the 2013 Rochdale and Littleborough fluvial model, reveal that the site experiences significant inundation depths in the defended 1% AEP event with a 70% climate change allowance, reaching modelled flood levels as high as 115.31 metres AOD. This represents a critical planning constraint that must be addressed comprehensively and technically through mitigation-led design.

The function of this FRA is not simply to satisfy a validation requirement, but to explicitly demonstrate that the development, in its proposed form, will be safe over its design life, taking into account the full range of climate change projections, without increasing flood risk elsewhere. It must also satisfy the policy framework established in the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG), Oldham's Local Plan (particularly Policy 19 relating to flood risk and water management), and the Rochdale Flood Risk Management Strategy (2023). In addition, this FRA must provide sufficient justification for the development's location under the Sequential Test and, given the flood zone designation and classification of the proposed use, demonstrate that the Exception Test is also met.

It must be recognised that the decision to retain finished floor levels at existing ground level introduces a degree of residual risk that would not arise in schemes designed with traditional raised floor thresholds. This decision, which has been made on the basis of operational and functional requirements specific to industrial and storage use, demands a higher standard of compensatory mitigation. Accordingly, this FRA includes an expanded section on drainage infrastructure, site profiling, material resilience, and flood-resistance design measures. It also includes a detailed surface water drainage assessment to ensure that runoff rates are either maintained or reduced, and that no adverse impacts are introduced downstream.

This assessment represents a formal technical submission and should be treated as an integral part of the evidence base for determining the application. It responds to both site-specific modelling and the broader context of climate resilience and floodplain management and seeks to demonstrate that the development meets the full test of policy compliance and sustainable flood risk management.

3. Policy and Guidance Framework

Flood risk is a material planning consideration of the highest order when determining development proposals located in areas identified as being at high probability of flooding. The application site lies wholly within Flood Zone 3, adjacent to the River Roch, and is therefore subject to the most stringent national and local planning policies governing floodplain development. The planning authority is obliged under the National Planning Policy Framework (NPPF) to ensure that such development is only permitted where it can be made demonstrably safe, remains operational in times of flood, does not exacerbate flood risk elsewhere, and aligns with both the Sequential Test and, where applicable, the Exception Test. The following national and local policies form the core framework against which this FRA has been prepared.

3.1 National Planning Policy Framework (NPPF, 2023)

The NPPF places a statutory duty on planning authorities to direct new development away from areas at highest risk of flooding. Paragraphs 159 to 169 of the 2023 Framework clearly articulate that, where development must be located in Flood Zone 3, this should only be considered acceptable if it is informed by a site-specific flood risk assessment which demonstrates that the development will be safe for its lifetime, taking account of the vulnerability of its use, the nature of flood hazards, and the anticipated impacts of climate change. It must also be shown that it will not increase flood risk elsewhere.

Paragraph 161 introduces the Sequential Test, which seeks to steer development towards sites at the lowest risk of flooding, and paragraph 164 sets out the two-part Exception Test, requiring both the demonstration of wider sustainability benefits and a technical FRA that confirms the development will be safe, resilient, and will not increase off-site risk. These tests are not optional; they are policy prerequisites in areas at high flood risk and are of direct relevance to this application.

The NPPF also reaffirms the need for Local Planning Authorities (LPAs) to consult the Environment Agency where proposals fall within critical floodplain zones and to require site-specific mitigation where necessary to make schemes acceptable in flood risk terms. Importantly, it also embeds the requirement to consider flood risk across the full intended lifetime of the development and to apply appropriate climate change uplifts, in this case requiring reference to the latest Environment Agency climate change guidance for river catchments in the North West of England.

3.2 Planning Practice Guidance (PPG) on Flood Risk and Coastal Change

The Planning Practice Guidance offers operational detail to support the policy intent of the NPPF. It establishes a risk-based approach and classifies various land uses according to their flood vulnerability. Industrial and storage uses fall into the category of 'less vulnerable' development under Table 2 of the PPG. Table 3 confirms that such uses are permissible in Flood Zone 3a, subject to the Exception Test being passed.

The PPG outlines how FRAs should be prepared, including requirements to assess risk from all potential sources of flooding, identify historical flood incidents, model climate change impacts, and provide a clear, evidence-based justification for development at flood risk. The guidance makes clear that development proposals should incorporate built-in resilience and resistance measures and, where necessary, emergency access arrangements and flood evacuation plans.

This FRA has followed the PPG structure by systematically identifying and assessing each source of potential flood risk and applying climate change uplifts in accordance with the Environment Agency's latest guidance on allowances for river flood flow increases.

3.3 Environment Agency Standing Advice and Product 4 Guidance

The Environment Agency has issued Standing Advice for developments in Flood Zone 3 and specifically requires that industrial developments in high-risk zones demonstrate compliance with climate change modelling, provide mitigation if floor levels are not raised, and take all reasonable measures to reduce vulnerability. The Agency's own flood modelling, issued through Product 4 (ref: 5CAFHBTW5N7A), provides the most detailed and reliable assessment of site-specific flood levels and depths for the application site. This model, derived from the Rochdale and Littleborough 2013 hydraulic study, incorporates both defended and climate change scenarios, and its outputs form the technical basis for flood level assumptions within this FRA.

3.4 Oldham Local Plan

The statutory development plan for the area includes the Oldham Local Plan, which reinforces national policy in relation to flood risk and water management. Policy 19: Flood Risk and Water Management requires that all new development must avoid flood risk where possible and incorporate mitigation measures, SuDS systems, and climate resilience where flood risk cannot be avoided. It requires a precautionary approach to floodplain development and states that the onus is on the applicant to demonstrate safety, sustainability, and compatibility with the site's flood risk context.

The proposal has also been assessed in light of Policy 1: Climate Change and Sustainable Development, which requires developments to demonstrate how they will adapt to future climatic conditions. The site's location adjacent to a main river, its existing impermeable surfacing, and its critical flood depth profile mean that both physical and operational adaptation measures are essential. This FRA sets out in later sections how these adaptations will be delivered through resilient construction, emergency planning, and surface water drainage measures.

3.5 Rochdale Flood Risk Management Strategy (2023)

Although the application site is within Oldham, the River Roch catchment spans multiple boroughs, including Rochdale, and the site-specific hydraulic model originates from the Rochdale and Littleborough modelled reach. The Rochdale Flood Risk Management Strategy (2023) provides catchment-wide context and confirms that the River Roch corridor is highly sensitive to heavy rainfall events, urban runoff, and channel blockages. The strategy advocates a place-based approach to development, integrating flood resilience with sustainable land use. It also emphasises the cumulative impacts of minor developments on catchment hydrology and calls for porous surfacing, low-impact drainage, and resilient envelope design in all development bordering the River Roch.

4. Site Context and Existing Use

The application site is located on the western side of Corporation Road, Oldham (Grid Reference: 388739 / 412839), within the established Albion Road industrial zone, a long-standing commercial estate comprising a mix of warehousing, general industry, vehicle maintenance and distribution uses. The site comprises approximately 1073 square metres of brownfield land and currently functions as a vehicle dismantling and scrap processing yard, operating under a Sui Generis planning use. It has been subject to intensive operational use over a sustained period and is characterised by its heavily engineered surface and functional layout.

The configuration of the plot is broadly rectangular, defined by commercial boundaries on all sides, with direct vehicular access from Corporation Road to the east. The internal site layout is dominated by areas of hardstanding, including compacted gravel, concrete

pads, and areas of impermeable tarmac, used historically for the parking, storage, and deconstruction of vehicles. The plot also contains informal lightweight structures, storage containers, and areas of scrap processing, all of which are to be cleared as part of the proposed development. Security fencing encloses the plot, with no formal landscaping or soft surfaces present.

The topography of the site is generally level, with minimal crossfall. Based on Environment Agency LiDAR data and supporting topographic survey, the ground level ranges from approximately 113.7 metres AOD at the northwest corner to 114.0 metres AOD near the site entrance. There is no land raising or variation sufficient to alter the site's hydraulic function as part of the wider floodplain. Surface drainage on-site is uncontrolled and flows overland without interception or attenuation, presenting potential runoff and pooling risks under heavy rainfall.

Crucially, the site is situated in close proximity to the River Roch, a designated main river that flows along a sinuous course to the north and northeast of the application boundary, at a distance of less than 100 metres. The site is hydraulically linked to this reach of the river under both defended and undefended conditions and is wholly located within the functional floodplain during extreme flood events, as defined by the Environment Agency's climate change modelling. This relationship introduces significant constraints for any proposed redevelopment and directly informs the design-led mitigation strategy set out in later sections of this FRA.

The existing use as a breakers yard is not compatible with modern environmental performance expectations, nor with sustainable land management in flood-sensitive locations. The proposed scheme seeks to rationalise and formalise the site's use through a new employment-generating development that will improve surface permeability, remove waste-handling activities, and introduce a safer and more resilient built form. In doing so, the proposal represents an opportunity to upgrade the environmental performance of the site in a way that also responds positively to its fluvial context.

5. Proposed Development

The proposed development comprises the construction of three new industrial/storage units (Use Classes B2/B8) on previously developed land currently occupied by a vehicle breakers yard. The proposed scheme seeks to remove all existing surface structures, scrap materials, and operational hazards associated with the current Sui Generis use and deliver a purpose-built, employment-generating industrial facility designed in accordance with contemporary planning, environmental, and flood resilience standards.

The three proposed units will be arranged in a parallel block formation with direct front-facing access to Corporation Road. Each unit will provide a gross internal area (GIA) of approximately 173 square metres, resulting in a total site floorspace of 347 square metres. The layout has been informed by site constraints, operational accessibility, turning radii, and proximity to existing boundaries, with space retained to ensure fire separation, service routes, and on-site drainage functions can be incorporated within the design envelope.

Architecturally, the buildings will adopt a single-storey, portal-frame structure, consistent with typical light industrial and logistics requirements. External materials will consist of Goosewing Grey (RAL 7038) steel cladding panels, to be used for both the walls and roof, with Anthracite Grey (RAL 7016) trim finishes to roller shutters, door sets, and roofline features. The use of steel composite panels, selected for both thermal and flood resistance performance, ensures that the envelope of the building is robust, cleanable, and resilient to intermittent wetting. The cladding will be mounted onto a perimeter blockwork plinth,

which provides impact resistance and additional protection against low-level water ingress.

Each unit will contain a flood-compatible roller shutter door and a separate fire-rated pedestrian access door, all configured for level threshold access. This is a critical operational requirement for the intended B2/B8 use, which will involve the movement of pallets, trolleys, forklifts, and wheeled racking. As such, the development has been explicitly designed without raised thresholds or stepped entrances. Internally, the buildings will be open plan and contain a single accessible WC per unit. No office accommodation, sleeping quarters, or ancillary high-vulnerability uses are proposed.

External areas will be surfaced entirely in porous tarmac, forming an at-grade service yard providing space for vehicle manoeuvring, loading and unloading, temporary waste storage, and circulation. The surfacing material has been selected for its load-bearing capacity and permeability, enabling water infiltration and reducing peak discharge rates from the site. Crucially, all three units will include an ACO drainage channel running along their main front elevations, intercepting surface water at the point of access. These channels will be connected to a gravity drainage network or soakaway system as appropriate, depending on infiltration testing and final site detailing.

Due to operational necessity and loading requirements, the finished floor levels (FFLs) of all three units will be retained at the existing ground level, approximately 114.0m AOD. This design choice has been made to ensure compliance with Building Regulations Part M and to maintain unrestricted access for industrial loading activities. As a result, the development has not sought to artificially raise the building platforms above the modelled flood level. Instead, risk reduction has been embedded into the building envelope, surface water design, and emergency access provisions, as set out in Sections 9 through 11 of this FRA.

The proposed scheme therefore represents a comprehensive redevelopment of a contaminated and unregulated scrap yard, replacing a high-intensity, low-environmental-value land use with a modern industrial facility capable of supporting sustainable employment, while delivering a measurable improvement in drainage performance, visual character, and flood mitigation capacity.

6. Flood Zone Classification and Historical Flooding

The application site lies entirely within Flood Zone 3a as defined by the Environment Agency's Flood Map for Planning, which identifies land at a high probability of flooding from rivers or the sea, corresponding to a 1% or greater annual probability of fluvial flooding. The flood zone designation reflects the site's location within the catchment of the River Roch, which flows in close proximity—approximately 90 metres to the north of the site boundary. The river is designated as a main river, and its hydrological influence informs the planning context for all developments within its functional floodplain.

It is important to interpret this classification with reference to both modelled flood risk and the practical realities of the site's historical performance and use. While the Flood Zone 3 designation is based on a precautionary mapping approach that assumes undefended conditions and generalised topography, the site itself has not been the subject of any recorded flooding incidents in over four decades of commercial use. The Environment Agency's Product 4 data (Ref: 5CAFHBTW5N7A), issued in April 2025, provides detailed hydraulic modelling derived from the Rochdale and Littleborough 2013 fluvial model, which confirms that the site is located within the defended floodplain. The modelling illustrates the extent of flooding in both design (1% AEP + 35%) and extreme

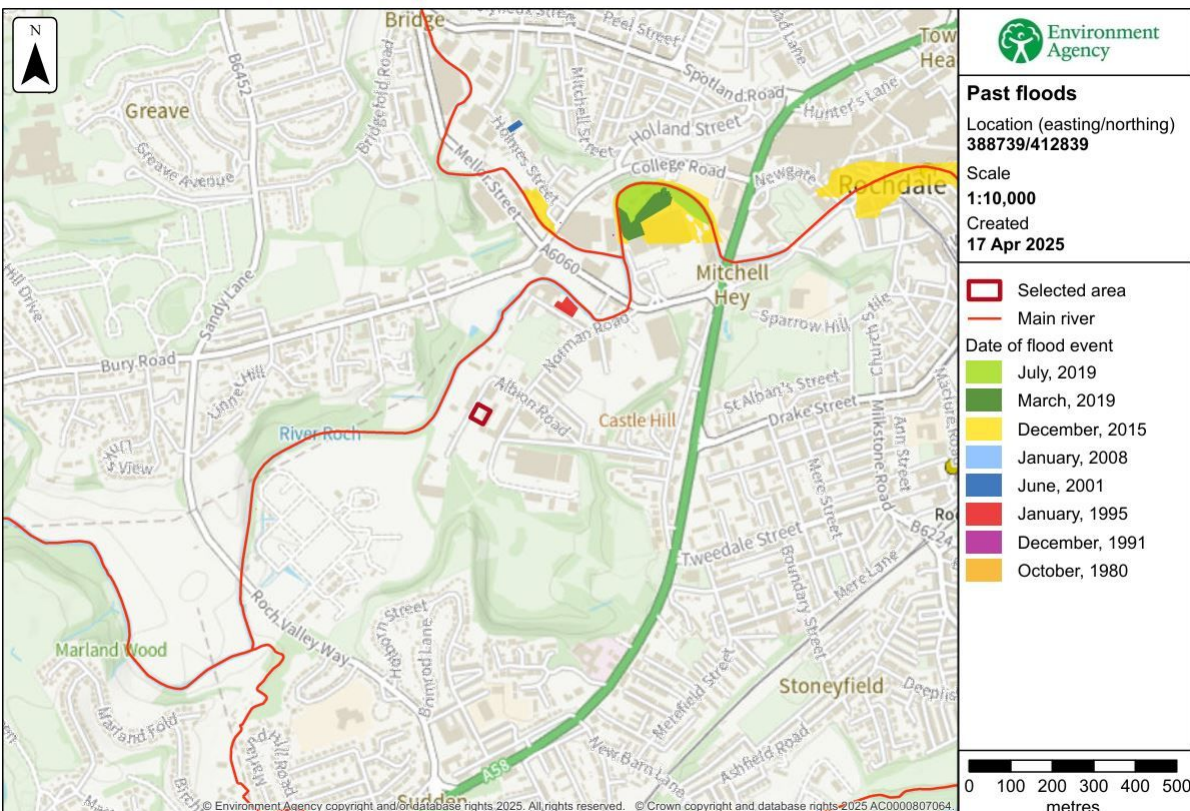
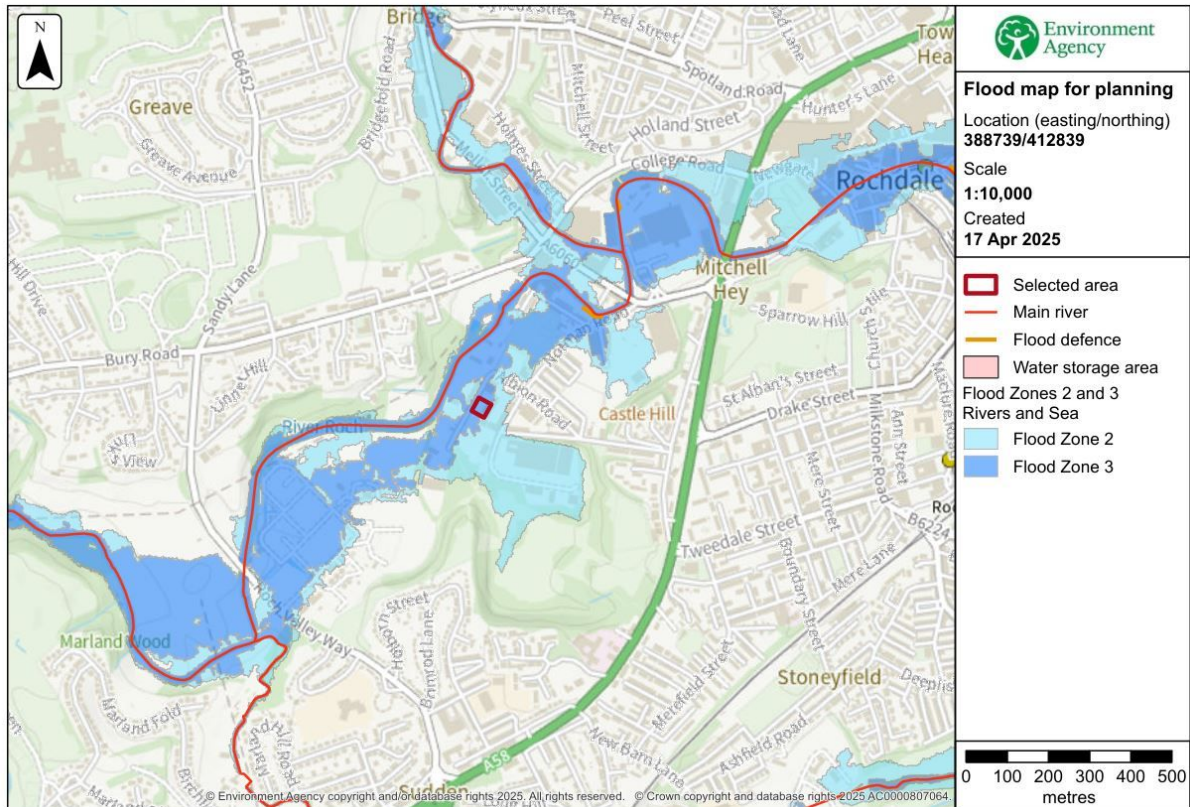
climate change (1% AEP + 70%) scenarios but does not suggest any unique risk features that would render this location unsuitable for commercial redevelopment.

In the design event scenario (1 in 100-year plus 35% climate uplift), the modelled flood level at Node 6—located within the relevant reach of the River Roch—is 114.19m AOD. This is marginally above the existing ground level of the site, which ranges between 113.7m and 114.0m AOD. In the 1 in 100-year plus 70% uplift scenario, the modelled flood level increases to 115.31m AOD, generating theoretical flood depths of up to 1.3 metres at the lowest part of the site. These figures inform the basis for design decisions and mitigation strategies, which are discussed in subsequent sections of this FRA.

Although the site is included within Flood Zone 3 for strategic planning purposes, the absence of any documented flood incidents at the property, despite its longstanding and intensive industrial use, provides a meaningful indication of its actual performance under typical fluvial conditions. Furthermore, the proposed development—comprising non-residential, non-sensitive, and low-occupancy uses within the ‘less vulnerable’ classification—is entirely permissible within Flood Zone 3a when the Exception Test is met. This classification, when viewed in the context of the site’s history, use class, and the implementation of proportionate flood risk mitigation, does not present a barrier to sustainable redevelopment.

The proposal does not involve any form of basement construction or the siting of development within the immediate flood conveyance corridor of the River Roch. Moreover, it is not located within a designated functional floodplain (Flood Zone 3b). The nature of the site, its minimal ground variation, and its distance from the river channel all indicate that the flood risk to the development can be appropriately managed through on-site design and material resilience measures.

In conclusion, while the site’s location within Flood Zone 3a necessitates the application of robust mitigation, it does not preclude the delivery of the proposed industrial scheme. The risk profile is consistent with many operational employment sites in urban river corridors, and the absence of flood history—combined with the policy compatibility of the proposed use—confirms that development is appropriate in principle, subject to compliance with the technical and policy safeguards described in this report.



7. EA Modelled Flood Levels (Product 4 Analysis)

This section summarises the relevant hydraulic outputs from the Environment Agency's Product 4 data report (Reference: 5CAFHBTW5N7A, issued April 2025), which provides site-specific modelled flood levels and flood depths derived from the Rochdale and Littleborough 2013 fluvial model. This model forms the authoritative evidence base for assessing fluvial flood risk from the River Roch, which is the principal source of flood hazard at the application site.

The model provides outputs for a range of design flood events, both with and without the influence of formal flood defences. For the purposes of this FRA and in accordance with Environment Agency guidance, particular emphasis is placed on the 1 in 100-year (1% AEP) event, including the required climate change uplifts of +35% and +70%. These scenarios represent, respectively, the design event and the extreme climate-resilient scenario. All flood level data cited below is taken from the nearest modelled node relevant to the site, identified as Node 6, located within the River Roch floodplain adjacent to Corporation Road.

In the 1% AEP event plus 35% climate change allowance, the modelled flood level at Node 6 is 114.19m AOD. This level sits marginally above the site's existing ground level, which ranges from approximately 113.7m to 114.0m AOD. In this scenario, the predicted depth of floodwater at the lowest point of the site is around 0.49 metres, indicating shallow inundation during a design flood event under defended conditions. This level of floodwater would likely result in surface water accumulation within yard areas and ingress into any non-resilient structures, underscoring the need for appropriate detailing of external thresholds, finishes, and surface drainage.

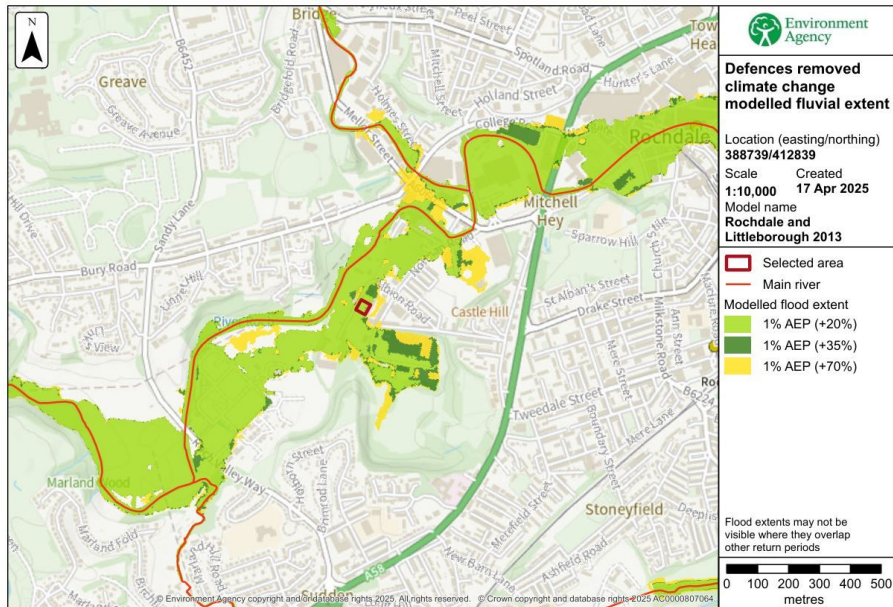
In the more precautionary 1% AEP event plus 70% climate change uplift, the flood level increases to 115.31m AOD, resulting in a potential maximum depth of inundation of approximately 1.31 metres at the lowest part of the site. While this represents a severe but highly infrequent scenario, the modelling reinforces the importance of resilience-based mitigation, particularly in schemes where finished floor levels are to remain at grade, as is the case with this development. The proposed strategy—to manage risk through intercepting drainage channels, robust envelope detailing, and flood-compatible materials—is directly informed by these flood level outputs.

Importantly, the Product 4 data does not identify the site as being within a high-velocity flood flow path, nor does it indicate any residual hazard zones where floodwater depth or speed would pose an unacceptable risk to life or structure. No evidence of rapid inundation or hydraulic isolation has been found. The flood hazard classification, when assessed in the context of proposed use class ('less vulnerable') and the absence of sleeping accommodation, supports the conclusion that risk can be managed through the application of appropriate design measures.

The modelled flood levels used in this FRA represent the best available evidence at the time of writing and reflect conservative assumptions, including a worst-case climate change scenario for the lifetime of the development. These outputs form the basis for the site's drainage design, door threshold protection, and overall flood risk mitigation strategy. Full details of these measures are set out in Sections 9 and 10 of this report.

The Product 4 data also includes two-dimensional depth grids and breach mapping; however, none of the outputs suggest that the site lies within a known residual hazard zone associated with embankment failure or local infrastructure breaches. The flood levels modelled are based on channel conveyance and natural overtopping under volumetric flow increases, rather than breach-induced events.

In summary, the EA modelling confirms that while the site is indeed affected by fluvial flooding under both design and extreme climate change scenarios, the predicted flood depths are manageable and can be mitigated using passive, built-in, and landscape-based solutions. The development responds directly to the modelled data by implementing resilience rather than elevation, a valid and policy-compliant approach given the industrial nature of the use and the operational requirement for level access.



2D Flood Level Map Centred on Albion Road Industrial Estate, Rochdale, OL11 4JB.
 Created 22/04/2025 [EIR2025/05671]



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8. Sequential and Exception Test Compliance

The National Planning Policy Framework (NPPF) requires that new development in areas of flood risk be guided by the Sequential Test, which seeks to steer development toward areas of lowest risk wherever possible. In instances where development is proposed within Flood Zone 3, the Exception Test must also be applied. These two tests form the policy mechanism through which local planning authorities assess whether development in higher-risk locations can be justified in spatial, functional, and sustainability terms.

8.1 Sequential Test

The Sequential Test applies to all developments in Flood Zone 3 unless explicitly exempted by national guidance, and its purpose is to prevent the unnecessary exposure of new development to flood risk. The test requires applicants to demonstrate that there are no reasonably available alternative sites, located in areas of lower flood risk (i.e., Flood Zones 1 or 2), which are both suitable and capable of accommodating the proposed development type.

In this case, the application site is a parcel of previously developed brownfield land within an existing industrial estate that is allocated and safeguarded for employment use. The site is located within a long-established industrial area, served by strategic road infrastructure and surrounded by compatible uses. No alternative sites within Flood Zones 1 or 2 are available that offer the same level of locational suitability, accessibility, and operational integration with surrounding commercial activities.

The proposal involves a direct replacement of an existing low-grade commercial use (Sui Generis scrap yard) with a modern, policy-compliant B2/B8 development. The site is not a speculative choice but represents a logical continuation of a long-established employment function within an area zoned for such purposes. In this context, it would be neither reasonable nor proportionate to require the relocation of such development to a new greenfield location solely on the basis of flood zone designation, particularly where mitigation is achievable. It is therefore concluded that the Sequential Test is satisfied.

8.2 Exception Test

For developments located within Flood Zone 3 that are not classified as 'water compatible' or 'essential infrastructure', the Exception Test must also be passed. The test consists of two criteria:

First, it must be demonstrated that the development provides wider sustainability benefits that outweigh the flood risk posed by its location. In this case, the proposal offers a number of measurable benefits. It involves the comprehensive remediation and redevelopment of a contaminated and underutilised brownfield site. It removes a non-conforming use that generates noise, waste, and environmental hazards, replacing it with a compliant employment-generating use that aligns with the objectives of the Oldham Local Plan. The development will enhance the visual and environmental character of the area, support economic regeneration, and provide fit-for-purpose industrial accommodation that is currently in demand across Greater Manchester. These benefits are not incidental but central to the strategic vision for this employment area and the wider borough.

Second, it must be demonstrated through a site-specific Flood Risk Assessment that the development will be safe for its lifetime, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall. This FRA confirms that the proposal achieves that standard. While floor levels are to remain at existing ground level, the design has incorporated multiple mitigation measures including the use of flood-resilient materials,

integrated ACO drainage to intercept overland flows, raised electrical services, and permeable yard surfacing. The development does not rely on any form of active infrastructure or pumping for safety, nor does it place vulnerable occupiers or sleeping accommodation within the flood risk area. Foul drainage will be protected by non-return valves, and no net increase in surface water discharge will occur. The site will operate under a flood evacuation plan with access to early warning systems and dry egress routes.

On the basis of the above, the Exception Test is passed.

The site represents an acceptable and policy-compliant location for this type of development, and the proposed use, scale, and layout are appropriate given the level of flood risk and the mitigation measures available. The FRA therefore concludes that both the Sequential and Exception Tests are met in full, and there are no policy-based grounds to resist development on flood risk terms.

9. Surface Water Management Strategy

In addition to fluvial flood risk from the River Roch, the proposed development must consider the management of surface water runoff, both in terms of on-site drainage performance and its contribution to off-site flood risk. As the site is currently composed almost entirely of hardstanding—comprised of compacted gravel, informal concrete pads, and areas of tarmac—surface runoff is unregulated, uncontrolled, and directly contributes to downstream loading during rainfall events. The redevelopment presents a critical opportunity to improve the site's surface water regime through structured design interventions.

The proposed scheme introduces a comprehensive surface water management strategy, focused on enhancing infiltration, reducing peak runoff rates, and intercepting overland flows before they reach vulnerable building thresholds. These objectives are achieved through a combination of permeable surfacing, linear interception drainage, and passive site profiling.

The external yard areas, including circulation and loading zones, will be resurfaced using porous tarmac. This material has been selected for its dual properties of structural load-bearing capacity and permeability. It allows water to infiltrate through its open-graded matrix into a stabilised stone subbase, where it can be stored temporarily or infiltrated into the underlying strata, depending on site-specific infiltration test results. This approach significantly reduces the volume and velocity of surface water leaving the site during storm events.

To address the operational constraint of maintaining level access into each unit, the scheme includes the installation of ACO linear channel drains along the full frontage of all three units. These pre-cast polymer concrete drainage systems are positioned to intercept runoff directly in front of roller shutter and pedestrian access doors, thereby preventing surface water from entering the buildings. The channels will be connected to the site's gravity drainage system or attenuation stone layer, depending on the outcome of final levels and falls. Threshold detailing will be constructed with fall gradients away from door entries to further reduce flood risk.

The proposed drainage strategy does not rely on mechanical components, proprietary attenuation crates, or below-ground tanks. Instead, it adopts a low-maintenance approach consistent with national best practice for small-scale industrial development. Importantly, it results in a net reduction in impermeable surface runoff, both by reducing hard paving area and by introducing infiltration capacity where none previously existed.

Surface water management has also been considered in relation to maintenance and long-term operation. The yard profile, ACO channels, and porous tarmac surfacing will be managed by the site operator, with a maintenance schedule ensuring that sediment and debris do not compromise performance. The use of materials and systems familiar to local trades ensures ease of upkeep and reliability over time.

In conclusion, the proposed development represents a clear improvement over the existing site conditions in terms of surface water management. The combination of infiltration-compatible surfacing, passive drainage controls, and point-of-entry interception ensures that flood risk is not increased either on-site or downstream. The scheme complies fully with NPPF guidance, the Planning Practice Guidance (PPG), the Oldham Local Plan, and the aims of the Greater Manchester and Rochdale Flood Risk Management Strategies. It constitutes a proportionate and sustainable drainage response to a small-scale employment development located within Flood Zone 3.

10. Flood Mitigation and Resilience Measures

Given the site's location within Flood Zone 3a and the modelled flood levels confirmed by the Environment Agency, it is essential that the proposed development incorporates a robust package of flood mitigation and resilience measures. These measures must not only ensure that the site can be occupied and operated safely throughout the lifetime of the development but also comply with national policy requirements that development does not increase flood risk elsewhere and is appropriately adapted to climate change.

In a typical approach, mitigation in Flood Zone 3 would involve raising finished floor levels (FFLs) above the predicted design flood level, thereby reducing the likelihood of internal inundation during fluvial events. However, in this case, the functional and operational requirements of the proposed B2/B8 use class make floor level raising unviable. The use of the units for light industrial and storage purposes necessitates level threshold access for pallet trucks, trolleys, forklifts, and loading vehicles. Any floor level uplift would introduce unacceptable gradient changes, compromise accessibility, and directly conflict with the intended use. Moreover, level access is necessary to comply with Part M of the Building Regulations, which requires inclusive access to commercial premises.

In recognition of this design constraint, the flood risk strategy has been adjusted to focus on resilience over avoidance, ensuring that the building fabric, access, and servicing arrangements can safely withstand the depth and duration of a modelled flood event, particularly in the 1% AEP + 35% and 70% climate change scenarios.

The key mitigation and resilience measures integrated into the scheme include the following:

All buildings will maintain finished floor levels consistent with existing ground levels, ranging between 113.7m and 114.0m AOD, as verified by topographic survey. These levels are located slightly below the modelled flood depth in the 1% AEP + 35% scenario, and approximately 1.3m below the maximum depth predicted in the 1% AEP + 70% scenario. To address this, flood-resistant materials and construction techniques will be used throughout the building envelope. These include sealed concrete floor slabs with epoxy resin finishes, damp-proof blockwork at plinth level, and water-resistant insulation systems.

All external doors, including roller shutters and pedestrian fire escape doors, will be fitted with low-leakage frames and weather seals, and will sit behind full-length ACO drainage channels running across the front elevation of each unit. These channels will collect and redirect surface water during storm events, preventing direct ingress through the door

thresholds. The surrounding yard will be profiled to fall away from the entrances, ensuring overland flow is dispersed laterally before reaching critical entry points.

Internally, the development will incorporate a suite of passive resistance features. Electrical sockets, consumer units, and service entries will be raised above 1.5m AOD to provide protection against residual flooding. Wall linings will be constructed using cementitious backers or flood-compatible boards, and all finishes will be selected for durability and cleanability. No high-value equipment, fixed furnishings, or storage installations will be located at floor level, and occupiers will be advised on best practice for safe equipment siting through a tenancy management plan.

The overall structural form of the units—portal-framed steel structures with composite cladding—naturally offers a high degree of flood resilience. The cladding panels, to be finished in Goosewing Grey (RAL 7038), are non-hygroscopic and will resist water ingress even when partially submerged. The use of perimeter blockwork cavity walls at base course level provides both impact resistance and a sacrificial barrier, with detailing ensuring there is no internal cavity path for water migration.

Foul drainage will be routed through the existing combined sewer system and fitted with non-return valves to prevent backflow during flood conditions. Rainwater from roof areas will discharge to permeable surfacing, ensuring attenuation before infiltration or controlled discharge, and reducing the risk of surcharge or overland escape.

Importantly, these resilience measures are designed to operate passively, requiring no manual deployment or intervention by site users. This reflects the policy requirement for flood safety to be embedded into the built form, not reliant on occupants taking action during an event. It also ensures continuity of use post-flood, minimising damage and downtime.

In summary, although the development does not raise floor levels above the predicted flood level, the design incorporates a comprehensive set of resilience measures that are appropriate, proportionate, and policy-compliant. These measures enable the site to function safely during and after flood events without introducing risk to neighbouring land or critical infrastructure. The proposed approach reflects best practice for commercial development in urban floodplain environments and is consistent with the principles set out in the NPPF, PPG, and Environment Agency guidance for flood-resilient construction.

11. Safe Access and Emergency Planning

In accordance with the National Planning Policy Framework (NPPF) and Planning Practice Guidance (PPG), all new development within areas at risk of flooding must demonstrate that safe access and egress can be achieved for the lifetime of the development, without placing undue reliance on the emergency services. This principle is particularly critical in high-risk zones such as Flood Zone 3, where safe evacuation procedures and access continuity form a core part of a development's flood resilience strategy.

The site is accessed directly from Corporation Road, which is a lightly trafficked industrial road with existing vehicular and pedestrian infrastructure. Topographic data confirms that Corporation Road lies at a comparable level to the application site—approximately 114.0m AOD—and remains passable under all but the most extreme fluvial conditions. In the 1% AEP + 35% climate change scenario, predicted flood depths are modest and do not compromise site access. In the 1% AEP + 70% extreme scenario, Corporation Road may experience partial surface water accumulation, but the overall connectivity to higher

ground and to the local highway network is maintained, particularly toward the south and southeast where the land elevation increases.

The proposed use of the site as industrial and storage space (Use Classes B2/B8) does not involve the presence of vulnerable occupants or sleeping accommodation. Occupancy will be during standard working hours and limited to staff and logistics personnel. There will be no public access, residential units, or community functions associated with the site. This reduces the residual risk to life and allows for a proportionate emergency planning response.

The site will implement a formal Flood Emergency and Evacuation Plan (FEEP) to be issued to all future occupiers as part of the tenancy agreement. The plan will include:

- Registration with the Environment Agency's Flood Warning Service (Floodline Warnings Direct) to ensure tenants receive early alerts for flood events.
- Clear guidance on trigger levels for action based on EA warnings (e.g. "Flood Alert" vs "Flood Warning").
- A site layout plan indicating safe evacuation routes, including dry egress via Corporation Road to higher ground.
- Instructions for internal flood preparedness, including securing stock, isolating electrics, and using raised storage platforms for valuable equipment.
- A designated emergency coordinator from among site management, responsible for liaising with staff and emergency services.
- Contact details for emergency services, utility providers, and the local authority emergency response team.

During flood events, access to and from the site will remain available until a 'Flood Warning' threshold is issued by the EA. Evacuation procedures will be designed to complete well in advance of the peak of the flood hydrograph. In the event of flash flooding or an unusually rapid onset event (which is not predicted for this site under current EA modelling), fallback protocols will include vertical evacuation within the building envelope and use of designated flood-resilient zones for temporary refuge.

The building form itself supports safety during periods of inundation. Internal spaces are open-plan, with no fixed partitions or confined areas, reducing the risk of entrapment. All materials below 1.2m are flood-compatible, and the buildings are designed to retain structural integrity during shallow inundation. Importantly, all services including consumer units and sockets will be installed above 1.5m AOD to remain functional during and after a flood event, supporting recovery and reoccupation.

In summary, the development will provide safe access and egress for all users, and the combination of site design, tenant education, early warning systems, and passive building resilience ensures that the site can be occupied safely throughout its lifetime. The emergency planning response is proportionate to the use class, the risk profile, and the absence of vulnerable populations, and it satisfies the requirements set out in both national policy and local flood risk guidance.

12. Flood Risk Impact Assessment and Residual Risk

In line with national planning policy, this section assesses the overall impact of the proposed development on flood risk, both within the site itself and in the wider hydrological context. It also considers the nature and extent of any residual risks that may remain after mitigation, and evaluates whether these are acceptable when considered against the classification, use, and resilience of the development.

The existing site is heavily engineered, almost entirely surfaced with impermeable materials, and offers no formal drainage controls or water storage features. During rainfall events, surface water currently flows unregulated across the site, with the potential for localised pooling and off-site runoff contributing to downstream risk. In its current form, the site neither attenuates nor treats surface water and plays no active role in local water management. This baseline condition provides a meaningful opportunity for improvement.

The proposed development introduces a coordinated surface water strategy, including the use of porous tarmac, graded hardstanding, and ACO drainage channels, all of which collectively reduce peak runoff rates and increase on-site infiltration capacity. By replacing uncontrolled concrete and compacted surfacing with permeable materials, the scheme is expected to deliver a net reduction in surface water discharge. Moreover, the drainage design is based on passive, gravity-fed principles, without reliance on mechanical pumping or temporary flood barriers, meaning that the system remains operational even during power outages or adverse conditions.

The building form has been designed to minimise disruption of flood pathways. All units are single-storey, positioned parallel to the flow direction of any overland water, and maintain ground-level slab construction to preserve flow continuity. No fencing, walls, or external landscaping features will obstruct the flow of water through the site in the event of a flood. In this respect, the proposal respects the site's natural floodplain function and avoids displacing water onto neighbouring land.

There will be no excavation below ground level, no basement elements, and no structures that would reduce the capacity of the floodplain to store or convey water. The finished floor levels, although not elevated, are compensated through the use of flood-resistant construction that ensures that any internal flooding does not lead to structural failure or require prolonged closure of the facility. This approach represents a sustainable balance between commercial viability and flood resilience, informed directly by the Environment Agency's modelled flood levels.

Residual flood risks include the potential for greater-than-anticipated flood levels, blockage of nearby drainage infrastructure, and long-term changes to rainfall intensity due to climate change. However, these risks are fully recognised within the FRA and have been addressed through elevated placement of electrical services, use of non-absorbent internal finishes, robust access planning, and tenant-level emergency preparedness.

The site is not located in an area of known groundwater emergence, reservoir inundation, or significant sewer surcharge risk, as confirmed by Environment Agency mapping and local authority SFRA datasets. Additionally, the modelled flood velocities and hazard ratings at the site are relatively low, with no evidence of concentrated flow paths or extreme hydraulic forces that would pose a threat to life or the building structure.

The proposed use of the site as 'less vulnerable' commercial floorspace, with no sleeping accommodation, low occupant density, and daytime occupancy only, significantly reduces the overall flood exposure risk. It ensures that the development can operate safely under a range of conditions and can recover quickly in the event of a flood.

In summary, the development will not result in an increase in flood risk elsewhere, and the design delivers measurable improvements in site-wide water management. Residual risks are understood, mitigated, and acceptable in planning terms. The flood risk impact is both neutral and, in some aspects, beneficial when compared to the existing use, particularly in terms of surface runoff and environmental performance. The proposed development is therefore considered appropriate in its context and consistent with the principles of flood risk mitigation set out in national and local planning policy.

13. Conclusion and Recommendations

This Flood Risk Assessment (FRA) has been prepared in support of a full planning application for the redevelopment of land at Corporation Road, Oldham (OL11 4JB), currently in use as a Sui Generis breakers yard, to provide two purpose-built industrial/storage units within Use Classes B2 and B8. The application site lies entirely within Flood Zone 3a, associated with a high probability of fluvial flooding from the River Roch, and is therefore subject to the full requirements of the National Planning Policy Framework (NPPF), the Planning Practice Guidance (PPG), and relevant local policy frameworks. Drawing on detailed hydraulic modelling contained in the Environment Agency's Product 4 report (Ref: 5CAFHBTW5N7A), this FRA has examined flood risks in both the 1 in 100-year +35% climate change uplift scenario and the 1 in 100-year +70% climate change scenario, confirming the site's exposure to potential inundation of up to 1.3 metres in extreme cases. However, it has also demonstrated that the risk profile can be appropriately managed through non-elevated, resilience-led design, which responds directly to the site's operational, spatial, and commercial constraints.

The development incorporates a comprehensive package of mitigation measures, including flood-compatible materials, interception drainage, porous surfacing, and a carefully profiled site layout that supports overland flow pathways and minimises residual risk. Floor levels will remain at existing ground level, reflecting the functional requirement for level access, but this decision is underpinned by a robust design approach and a clear understanding of site-specific risk.

The proposed use is non-vulnerable, low-intensity, and does not include sleeping accommodation or other sensitive functions. Access will remain viable in all but the most extreme events, and a full Flood Emergency and Evacuation Plan (FEEP) will be implemented to ensure tenant preparedness. No increased flood risk will occur off-site as a result of the development, and in fact, the proposal delivers a net improvement in surface water drainage performance through infiltration-compatible surfacing and runoff control.

The FRA confirms that the development meets the requirements of both the Sequential Test and the Exception Test. The site represents a sustainable location for industrial development, with no sequentially preferable alternatives offering comparable suitability, and the proposal delivers clear economic, environmental, and operational benefits that justify its approval.

In policy terms, the development is fully aligned with the aims and objectives of:

- The National Planning Policy Framework (NPPF, 2023)
- The Planning Practice Guidance (PPG) on Flood Risk and Coastal Change
- Oldham Local Plan Policy 19: Flood Risk and Water Management
- The Rochdale and Greater Manchester Flood Risk Management Strategies

- The Environment Agency's guidance on flood resilience in commercial development

Subject to the implementation of the mitigation measures set out in this report, the proposed development is considered to be safe, sustainable, and appropriate in flood risk terms. There are no valid planning or technical grounds on which to resist the application on the basis of flood risk, and it is respectfully recommended that planning permission be granted.