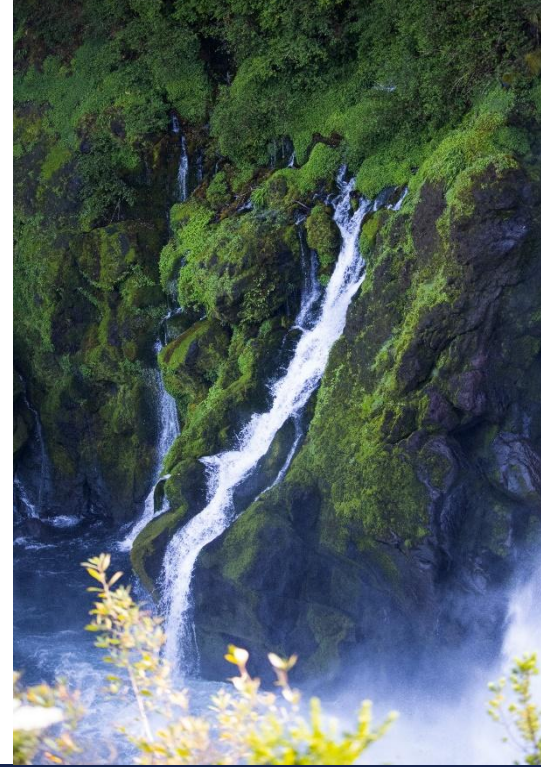




Flood Risk Assessment AEG9768_OL10_Rochdale_01

Site Address: Site Adjacent to 33 Stanley Street

Heywood

Rochdale

OL10 1BH

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



Document Issue Record

Project: Flood Risk Assessment

Prepared for: D&A SUTOR BROS BUILDERS LIMITED

Reference: AEG9768_OL10_Rochdale_01

Site Location: Site Adjacent to 33 Stanley Street, Heywood, Rochdale, OL10 1BH

Issue	Date	Author	Check	Auth.	Comments
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Summary

Development Description	Existing	Proposed
Development Type	A residential dwelling	The proposed development is for the construction of a dwelling in the garden of an existing dwelling. This will be a separate dwelling.
EA Vulnerability Classification	More Vulnerable	More Vulnerable
Ground Floor Level	Based on EA LiDAR data site elevations range between approximately 118.61 AOD (Above Ordnance Datum) and 118.93m AOD.	No change
Level of Sleeping Accommodation	N/A	First Floor
Surface Water Drainage	N/A ¹	Small scale SuDS such as rainwater planters and water butts could be utilised to provide non-portable use and biodiversity benefits.
Site Size	Approximately 60m ²	No change
Risk to Development	Summary	Comment
EA Flood Zone	Flood Zone 1	
Flood Source	Pluvial	The site is located within a CDA however flood depths are not considered to exceed 0.3m at the proposed development footprint.
SFRA Available	Level 1 Strategic Flood Risk Assessment for Greater Manchester - Update (Greater Manchester Combined Authority, 2019)	
Management Measures	Summary	Comment
Ground floor level above extreme flood levels	Yes	The site is located within a CDA however flood depths are not

		considered to exceed 0.3m at the proposed development footprint.
Safe Access/Egress Route	Yes	The site and surrounding area are located within Flood Zone 1 and safe access/egress should be possible north or south on Hornby Street during a pluvial flood event.
Flood Resilient Design	Recommended to take a precautionary approach	It is recommended that the proposed development incorporates flood resilient and resistance measures in accordance with <i>Improving the Flood Performance of New Buildings – Flood Resilient and Resistant Construction</i> .
Site Drainage Plan	N/A ¹	Small scale SuDS such as rainwater planters and water butts could be utilised to provide non-portable use and biodiversity benefits.
Flood Warning and Evacuation Plan	N/A ¹	Recommended that occupier monitor Met Office Weather Warnings for extreme weather events.
Offsite Impacts	Summary	Comment
Displacement of floodwater	Negligible	The site is considered to be at low risk from all sources. Furthermore, small scale SuDS such as rainwater planters and water butts could be utilised to provide a betterment.
Increase in surface run-off generation	Negligible	Small scale SuDS such as rainwater planters and water butts could be utilised to provide non-portable use and biodiversity benefits.
Impact on hydraulic performance of channels	No	The nearest watercourse is approximately 470m from the site

¹ not required for this assessment ² data not available.

1. Introduction

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

Site Overview

- 1.3. The site of the proposed development is Site Adjacent to 33 Stanley Street, Heywood, Rochdale, OL10 1BH (Figure 1).



Figure 1: Site Location (Base map and data from Google Hybrid ©)

- 1.4. It is understood that the proposed development is for the construction of a dwelling in the garden of an existing dwelling. The development proposals are presented in Appendix A.

- 1.5. In the absence of a topographical survey, Environment Agency Light Detection and Ranging (LiDAR) data Digital Terrain Model has been used to review the topography of the site. The EA LiDAR data shows the ground elevation of the site varies between approximately 118.61m AOD (Above Ordnance Datum) and 118.93m AOD (Figure 2).

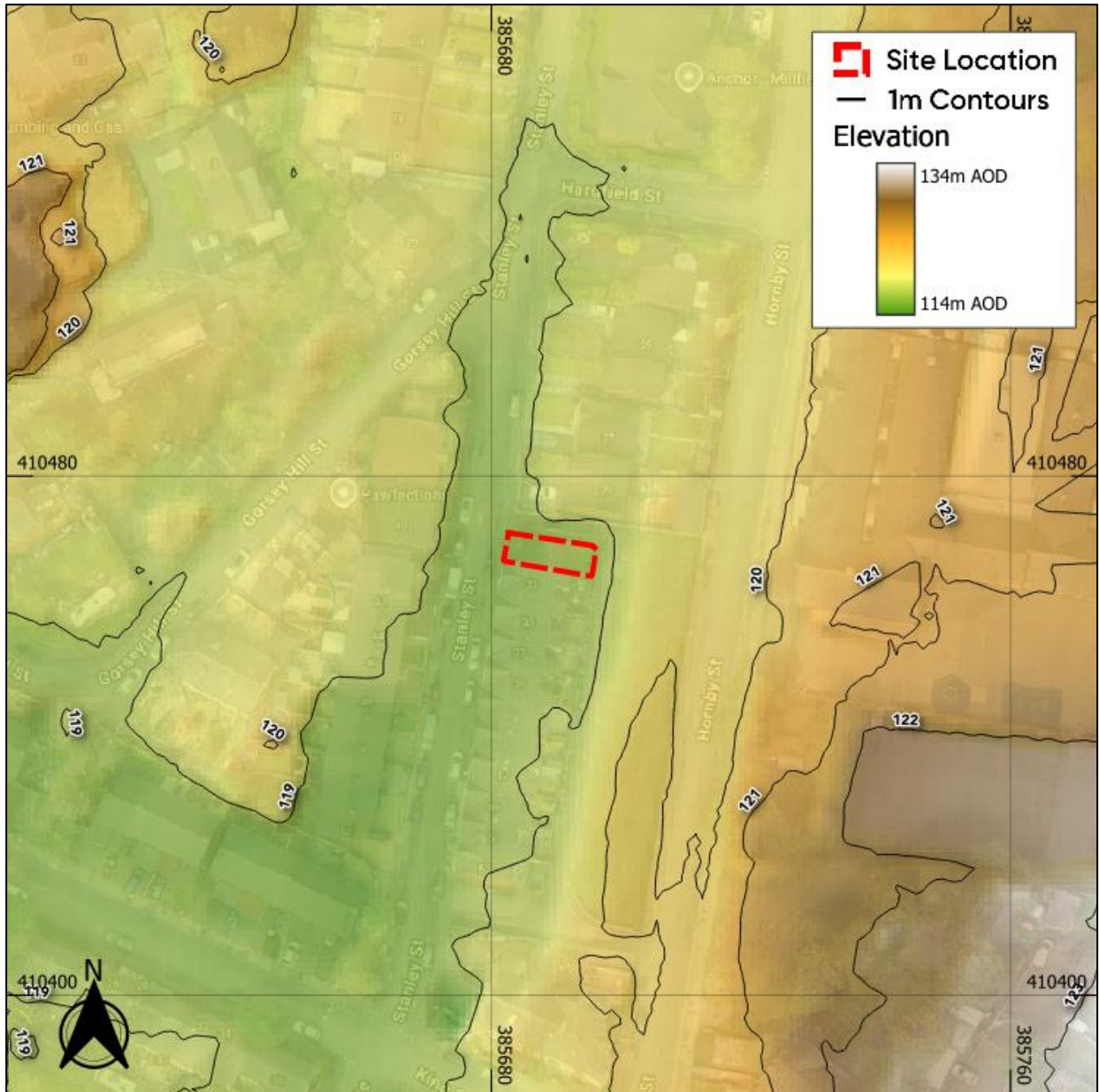


Figure 2: Site Topography (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

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

Planning Policy and Guidance

1.7. UK government planning guidance states¹ that an FRA is required for developments which are:

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

1.8. The site is located within a Critical Drainage Area (CDA) and as such an FRA is required as per the NPPF

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

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

¹ <https://www.gov.uk/guidance/flood-risk-assessment-for-planning-applications#when-you-need-an-assessment>

2. Planning Policy

- 2.1. Inappropriate development in a flood risk area could pose significant risk in terms of personal safety and damage to property for the occupiers of the development or for people elsewhere. The approach taken in the assessment of flood risk at the planning stage is set out in national, regional, and local planning policy and associated guidance. This section summarises the key policies and guidance relevant to the proposed development.

National Planning Policy Framework (NPPF)

- 2.2. The National Planning Policy Framework² (NPPF) (MHCLG, 2024) which includes UK Government policy on development and flood risk states:

170. Inappropriate development in areas at risk of flooding should be avoided by directing development away from areas at highest risk (whether existing or future). Where development is necessary in such areas, the development should be made safe for its lifetime without increasing flood risk elsewhere.

176. Applications for some minor development and changes of use should also not be subject to the sequential test, nor the exception test [set out below], but should still meet the requirements for site-specific flood risk assessments set out in footnote 63.

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

- a) within the site, the most vulnerable development is located in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;*

² <https://www.gov.uk/government/publications/national-planning-policy-framework-2>, last updated Dec 2024

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

2.3. Footnote 63 of the NPPF states:

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

2.4. Flood Zones in England are defined as follows:

Table 1: Flood Zone Definitions

Flood Zone	Definition
Zone 1 Low Probability	Land having less than 1 in 1,000 annual probability of river or sea flooding (all land outside Zones 2 and 3).
Zone 2 Medium Probability	Land having between a 1 in 100 and 1 in 1,000 annual probability of river flooding; or land having between a 1 in 200 and 1 in 1,000 annual probability of sea flooding.
Zone 3a High Probability	Land having a 1 in 100 or greater annual probability of river flooding; or Land having a 1 in 200 or greater annual probability of sea flooding.
Zone 3b The Functional Floodplain	This zone comprises land where water from rivers or the sea has to flow or be stored in times of flood. The identification of functional floodplain should take account of local circumstances and not be defined solely on rigid probability parameters. Functional floodplain will normally comprise: land having a 3.3% or greater annual probability of flooding, with any existing flood risk management infrastructure operating effectively; or land that is designed to flood (such as a flood attenuation scheme), even if it would only flood in more extreme events (such as 0.1% annual probability of flooding). Local planning authorities should identify in their Strategic Flood Risk Assessments areas of functional floodplain and its boundaries accordingly, in agreement with the Environment Agency. (Not separately distinguished from Zone 3a on the Flood Map)

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

Local Plan

- 2.7. The Local Plan prepared by the Local Planning Authority, Rochdale Borough Council, sets out the policies for development in the local area.
- 2.8. Policy JP-S4 Flood Risk and the Water Environment: Flood Risk outlines the requirements for new development within the area. It states:

An integrated catchment-based approach will be taken to protect the quantity and quality of water bodies with reference to the North West River Basin Management Plan and managing flood risk, by:

- 1. Returning rivers to a more natural state, where practicable;*
- 2. Working with natural processes and adopting a natural flood management approach to slow the speed of water drainage and intercept water pollutants;*
- 3. Locating and designing development so as to minimise the impacts of current and future flood risk, including retrofitting or relocating existing developments, infrastructure and places to increase resilience to flooding; -*
- 4. Expecting developments to manage surface water run-off through sustainable drainage systems and as close to source as possible. Development should achieve greenfield run-off rates unless it is demonstrated to be impracticable. District local plans should consider setting more detailed surface water drainage policies to reflect local circumstances, including alternative surface water discharge rates, such as in areas with critical drainage issues.*

Sequential and Exception Tests

- 2.9. The Sequential and Exception Tests are applied in specific cases defined by UK Government policy. Their purpose is to drive development to areas of low flood risk and to support developments which improve flood risk for developments in areas at risk of flooding.

Sequential Test

- 2.10. Paragraph 027 of the NPPG states:

Where a site-specific flood risk assessment demonstrates clearly that the proposed layout, design, and mitigation measures would ensure that occupiers and users would remain safe from current and future surface water flood risk for the lifetime of the development (therefore addressing the risks identified e.g. by Environment Agency flood risk mapping), without increasing flood risk elsewhere, then the sequential test need not be applied.

- 2.11. Where a site specific FRA demonstrates that occupiers will remain safe from surface water flood risk, the Sequential Test need not apply. Therefore, in this instance, the ST is not applicable.

Exception Test

- 2.12. The Exception Test is applied to sites based on the Flood Zone and the nature of the development. As the proposed development consists of a residential dwelling it would be classed as 'More Vulnerable' in line with government development use classes.
- 2.13. The Flood Risk Vulnerability Classification table³ provided below in Table 2 shows which vulnerabilities are appropriate in each Flood Zone.
- 2.14. The proposed development sits within Flood Zone 1 and the proposed development is for a 'More Vulnerable'. Table 2 shows Flood Zone 1 is an appropriate location for 'More Vulnerable' uses without the need for an Exception Test.

³ <https://www.gov.uk/guidance/flood-risk-and-coastal-change#table2>

Table 2: Flood risk vulnerability and flood zone 'incompatibility'

Flood Zones	Flood Risk Vulnerability Classification				
	Essential Infrastructure	Highly Vulnerable	More Vulnerable	Less Vulnerable	Water Compatible
Zone 1	✓	✓	✓	✓	✓
Zone 2	✓	Exception Test required	✓	✓	✓
Zone 3a	Exception Test required	x	Exception Test required	✓	✓
Zone 3b	Exception Test required	x	x	x	✓

Summary

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

3. Document Review

Documents and Online Mapping

- 3.1. Local Governments and Lead Local Flood Authorities provide documents which contain data and policies on flood risk and new development in their areas. These documents are introduced and briefly summarised below. For the purposes of this FRA, these documents have been reviewed for relevant information and any relevant data is discussed within the appropriate sub heading of this report.
- 3.2. The following sources of information have been reviewed for this assessment:
- Flood Map for Planning on the Environment Agency website <https://flood-map-for-planning.service.gov.uk/>
 - Long Term Flood Risk Information on the Environment Agency website <https://www.gov.uk/check-long-term-flood-risk>
 - National Planning Policy Framework (NPPF) (Ministry of Housing, Communities and Local Government, 2024)
 - Planning Practice Guidance - Flood Risk and Coastal Change (Ministry of Housing, Communities and Local Government, 2022)
 - Geoindex Onshore (British Geological Survey, 2024)
 - Places for Everyone Joint Development Plan 2022 to 2039 (Greater Manchester Combined Authority, 2024)⁴
 - Level 1 Strategic Flood Risk Assessment for Greater Manchester - Update (Greater Manchester Combined Authority, 2019)⁵

⁴ <https://www.greatermanchester-ca.gov.uk/media/2drduk0t/places-for-everyone-joint-development-plan-dec24.pdf>

⁵ <https://www.greatermanchester-ca.gov.uk/GMCAFiles/PFE/Supporting%20documents/04%20sustainable%20and%20resilient%20places/04.02.01%20GM%20Strategic%20Flood%20Risk%20Assessment%20Level%201%20Report.pdf>

- Rochdale Borough's Strategy for Flood Risk Management 2014- 2024 (Rochdale Borough Council, 2014)⁶

Preliminary Flood Risk Assessment (PFRA)

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

Strategic Flood Risk Assessment (SFRA)

- 3.5. The SFRA, published in 2019, provides the evidence base for the Local Planning Authority Rochdale Borough Council Local Plan and guidance for consideration when determining planning applications. The SFRA seeks to place new development into areas of lower flood risk taking into account current flood risk, future flood risk, and the effect a proposed development would have on the risk of flooding.
- 3.6. The SFRA mapping provided by Rochdale Borough Council has been used throughout production of this report as a source of information, particularly pertaining to historical flood incidents.

Local Flood Risk Management Strategy (LFRMS)

- 3.7. The Local Flood Risk Management Strategy sets out roles and responsibilities for flood risk management, assesses the risk of flooding in the area, where funding can be found to manage flood risk, and the policies, objectives, and actions of the Lead Local Flood Authority.
- 3.8. The Rochdale Borough Council LFRMS is used within this report to identify any flood management infrastructure and historical incidences of flooding.

⁶ <https://www.rochdale.gov.uk/downloads/file/808/flood-risk-management-strategy>

4. Sources of Flood Risk

Fluvial/Tidal

- 4.1. Flooding from watercourses arises when flows exceed the capacity of the channel, or where a restrictive structure is encountered, resulting in water overtopping the banks into the floodplain.
- 4.2. Tidal flooding occurs when a high tide and high winds combine to elevate sea levels. An area behind coastal flood defences can still flood if waves overtop the defences or break through them. Tidal flooding can also occur a long way from the coast by raising river levels. Water may overtop the river bank or river defences when tide levels are high.

Main Rivers and Ordinary Watercourses

- 4.3. The nearest EA Main River is the Miller Brook, that is located approximately 470m northeast of the site. This section of the Miller Brook is culverted.
- 4.4. There are no other recorded watercourses within 500m of the site based on OS mapping.

EA Flood Map for Planning

- 4.5. The site is located within Flood Zone 1 (Figure 3). Flood Zone 1 denotes a risk of flooding from fluvial and tidal sources less than 1 in 1,000 (0.1%) annual probability.



Figure 3: EA Flood Map for Planning (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

Historical Fluvial/Tidal Flooding

- 4.6. There is no record of historical fluvial/tidal flooding on-site based on the EA's recorded flood outline dataset (Figure 4).



Figure 4: EA Historic Flood Mapping (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

Fluvial and Tidal Flood Risk Summary

- 4.7. Based on the data reviewed above, the risk of fluvial and tidal flooding to the site is considered to be low.

Canals

- 4.8. The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders, and boreholes and manages water levels by transferring it within the canal system.
- 4.9. The site is not located within the 1km of any canals as per the UK CRT Network mapping⁷.

⁷ <https://canalrivertrust.org.uk/canals-and-rivers>

4.10. The risk of flooding to this site from canals is considered to be low.

Pluvial

4.11. Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

4.12. Based on comments from the council stated that the site is within a Critical Drainage Area (CDA). The SFRA defines a CDA as:

'CDAs are designated by local authorities to highlight areas at significant surface water risk wherein any new development is required to meet tighter controls on surface water and runoff.'

Risk of Flooding from Surface Water Mapping

4.13. The National Flood Risk Assessment (NaFRA2) has updated the Risk of Flooding from Surface Water (RoFSW) products which show the chance of flooding from surface water to areas of land.

4.14. The RoFSW products are an assessment of where surface water flooding may 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. It includes information about flooding extents and depths including the potential impact of climate change on flood risk, based on the latest UK Climate Projections (UKCP18).

4.15. Risk is displayed as one of three likelihood categories:

- High - greater than or equal to 1 in 30 (3.3%) chance of flooding in any year.
- Medium – Less than 1 in 30 (3.3%) but greater than or equal to 1 in 100 (1%) chance of flooding in any given year.
- Low – Less than 1 in 100 (1%) but greater than or equal to 1 in 1000 (0.1%) chance of flooding in any given year.

4.16. The RoFSW depth mapping shows the annual chance of flooding (based on the three risk categories listed above) beyond a specific depth, for depths at the following intervals from 20cm to 120cm:

- 0.2m, 0.3m, 0.6m, 0.9m, 1.2m

- 4.17. As well as present day risk of flooding from surface water, climate change scenarios have been produced to indicate the predicted impacts of climate change on future flood risk. The climate change allowances are based on the latest UK Climate Projections (UKCP18) from the Met Office, using the Representative Concentration Pathway (RCP) 8.5. A near-term epoch (2040 – 2060 “2050s” epoch) and central allowances are being used initially, to support short and medium-term decisions informed by the highest flood likelihood projections.

Climate Change

- 4.18. To show the worst case scenario the climate change scenarios have been assessed. The EA ‘Flood Risk from Surface Water - Climate Change’ map indicates that half of the site and proposed development is within the low risk of surface water flooding extent (Figure 5). The remaining half is within the high risk of surface water flooding extent.



Figure 5: EA Surface Water Flood Risk Mapping Climate Change Extent (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

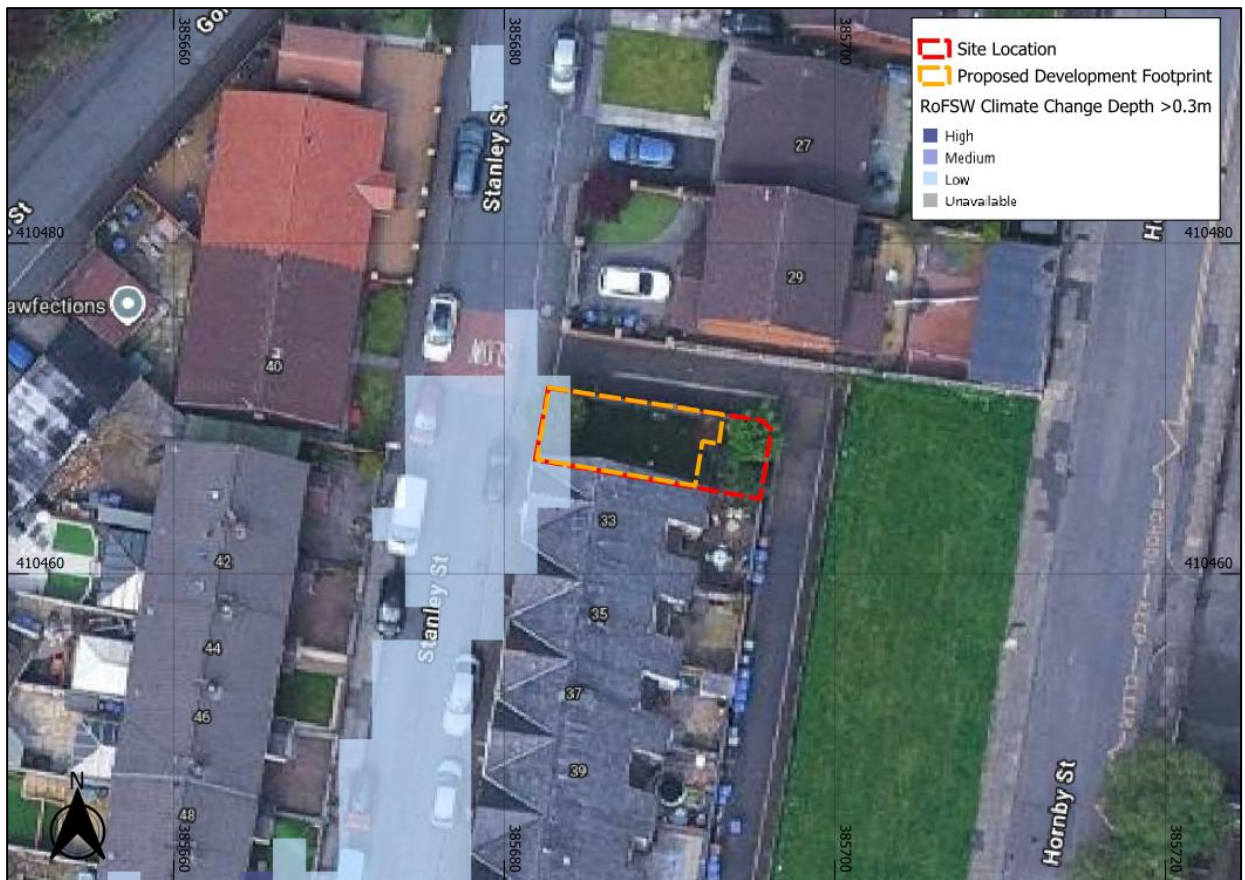
- 4.19. Analysis of the climate change RoFSW flood depth map shows that the majority of the site is within the low likelihood of surface water flood depth exceeding 0.2m extent (Figure 6). The

western boundary of the proposed development footprint is at medium risk and the eastern half of the site and proposed development boundary is outside of all the low, medium and high risk of flood depth exceeding 0.2m extent.



Figure 6: EA Surface Water Flood Risk Mapping Climate Change Depth >0.2m (Base map and data from Google Hybrid© Contains public sector information licensed under the Open Government Licence v3.0)

- 4.20. Analysis of the RoFSW flood depth map shows that the majority of the site and proposed development footprint is outside of the low, medium and high risk of surface water depths exceeding 0.3m extents (Figure 7). The west of the site is partially within the low risk of surface water flooding extent however this only covers a small area. Therefore, it is considered that flood depths should not exceed 0.3m at the site.



4.21. Analysis of the RoFSW flood depth map shows that the whole of the site is outside of the low, medium and high risk of surface water depths exceeding 0.6m extents (Figure 8).



Figure 8: EA Surface Water Flood Risk Mapping Climate Change Depth >0.3m (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

Pluvial Flood Risk Summary

- 4.22. Based on the EA RoFSW mapping, flood depths are expected to remain below 0.3m at the proposed development footprint, even when considering climate change.
- 4.23. As such, the risk to the site from surface water flooding is considered low however, mitigation measures will be recommended to take a conservative approach.

Reservoirs

- 4.24. Large waterbodies or reservoirs that have walls built above the surrounding ground level pose a risk of flooding. Walls could fail due to old age, accident, or because excess flood water has been added to the reservoir. Although a breach is unlikely the consequences would be significant, leading to rapid inundation of the downstream floodplain.

- 4.25. According to the EA's Flood Risk from Reservoirs mapping the site is outside flood extents in the event of reservoir flooding (Figure 9).

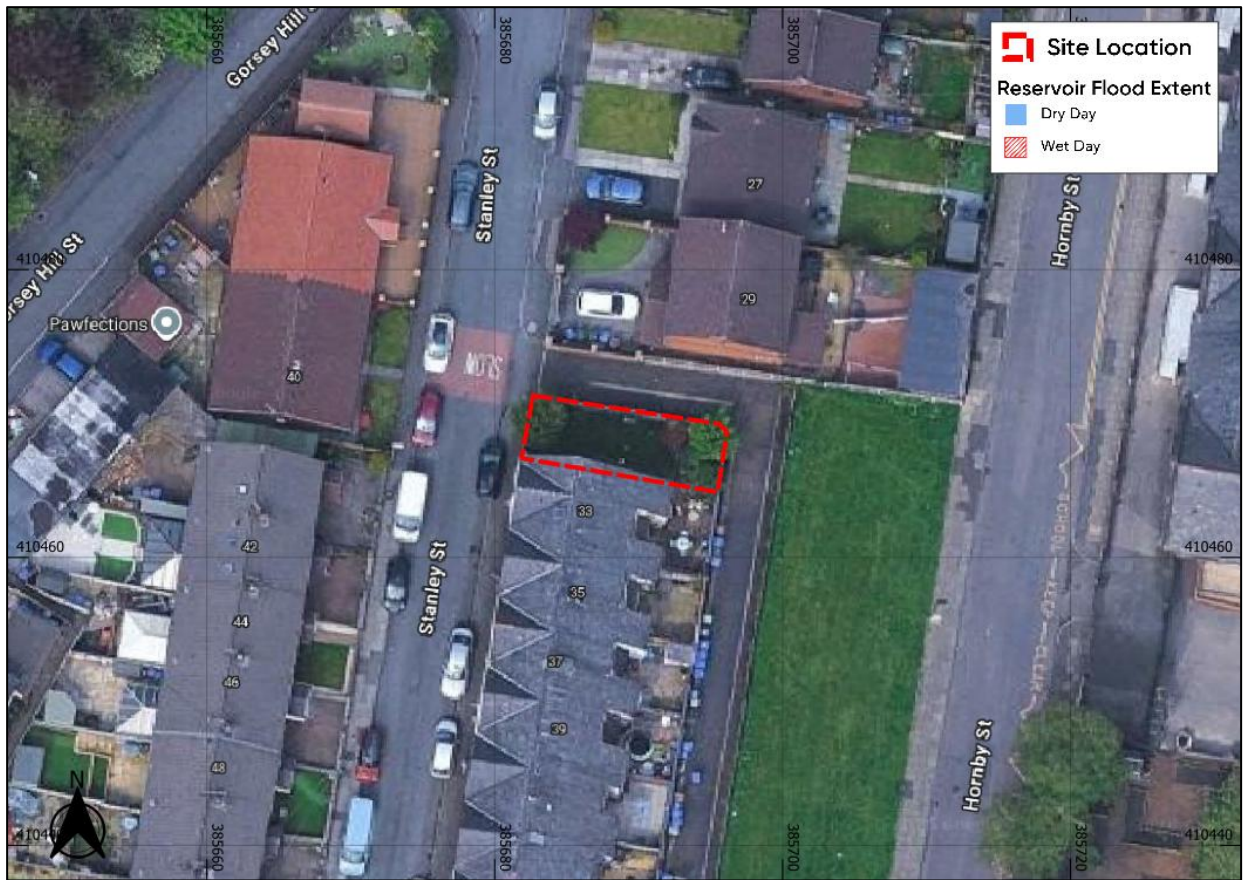


Figure 9: EA Reservoir Flood Risk Mapping (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

- 4.26. As such, the risk from reservoir flooding is considered low.

Groundwater

- 4.27. Groundwater flooding occurs in areas where underlying geology is permeable and water can rise within the strata sufficiently to breach the surface.
- 4.28. The British Geological Survey's (BGS) mapping shows superficial deposits of Glaciofluvial deposits, Devensian comprised of sand and gravel underlying the site. The bedrock underlying the site is mapped as Pennine Lower Coal Measures Formation comprised of mudstone, siltstone and sandstone.
- 4.29. The SFRA states:

Detailed groundwater information has not been made available for this SFRA. Groundwater information will be very localised and may differ significantly across GM

- 4.30. The nearest Historical BGS borehole (SD81SE313) was located approximately 10m south of the site and was bored to a depth of 10m below ground level (bgl). Groundwater was encountered at 4.00m below ground level (bgl).
- 4.31. The proposed development does not include any proposed subterranean elements and as such the risk from groundwater flooding is considered low.

Sewers

- 4.32. Foul or surface water sewers can be a cause of flooding if the drainage network becomes overwhelmed, either by blockage or due to local development beyond the designed capabilities of the drainage system.
- 4.33. The SFRA provides mapping of historical sewer flood incident records kept by the local authority. No incidents have been recorded in the vicinity of the site and is not located within a Surface Water Flood Risk 'Hotspot' (Figure 10).

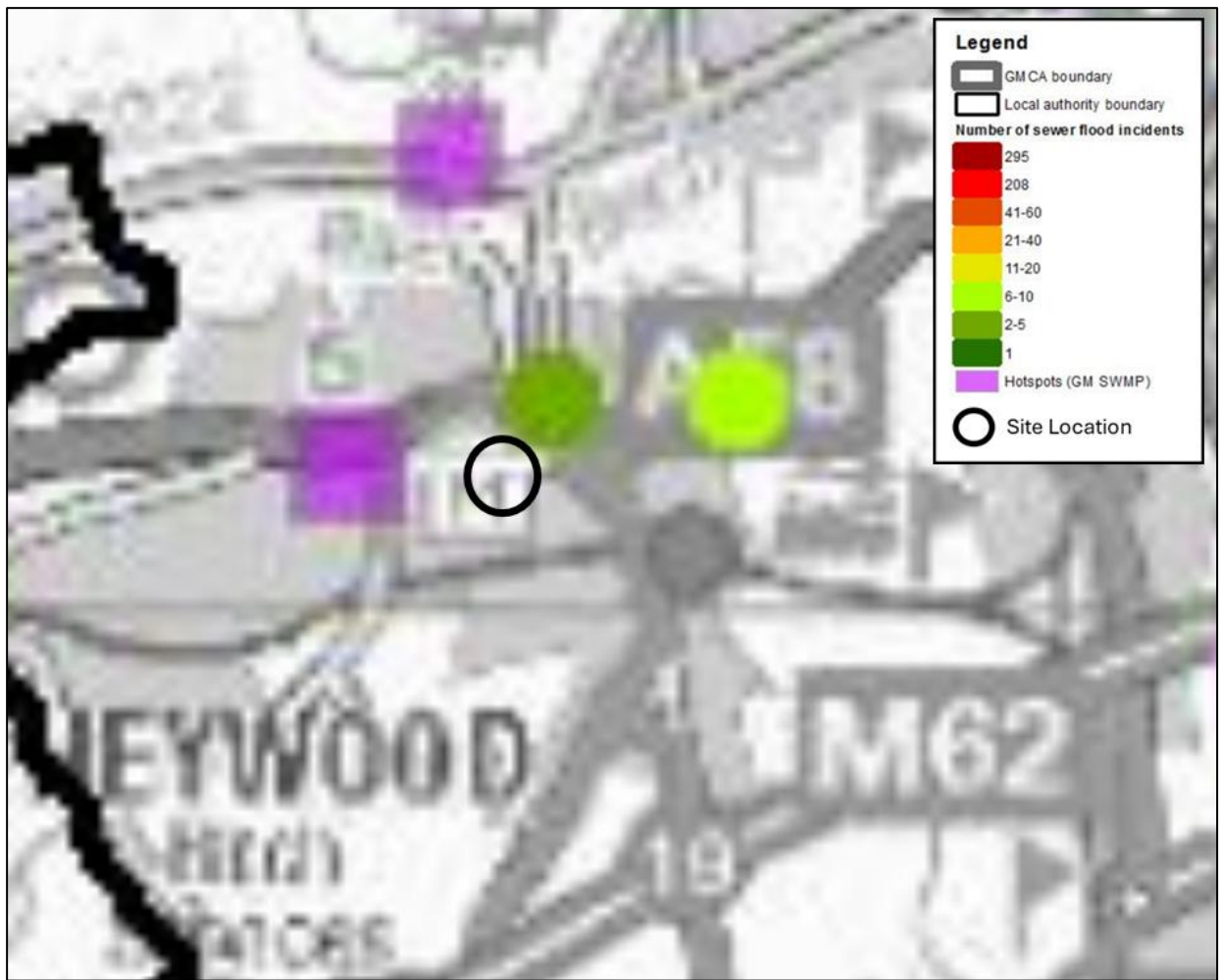


Figure 10: Sewer flooding incidents based on postcode (Greater Manchester Combined Authority SFRA, 2019)

4.34. The development is therefore considered to be at low risk of flooding from sewers.

5. Flood Risk Mitigation

Pluvial

- 5.1. Based on the EA RoFSW mapping, flood depths are expected to remain below 0.3m at the proposed development footprint, even when considering climate change.
- 5.2. As such, the risk to the site from surface water flooding is considered low however, to ensure users remain safe from flooding for the lifetime of the development, the following measures are proposed.
- 5.3. It is recommended that the finished floor levels (FFLs) are raised 300mm above external ground levels. Furthermore, the proposed development should be fitted with flood resistance and resilience measures in accordance with *Improving the Flood Performance of New Buildings – Flood Resilient Construction*⁸. Such measures could include, but are not limited to:

- *Water resistant internal render and floor screed.*
- *Raising sockets and electrics above 300mm above ground levels.*
- *Damp proof membranes should be included within the design of the extension to minimise the passage of water through ground floors. Damp proof membranes to be incorporated into the ground floor to at least 300mm above threshold level.*
- *Non-return valves should be installed on all new drainage.*
- *All new plumbing insulation to be of closed cell design.*
- *A SMART Airbrick® (or similar) is to be installed to ensure water ingress does not occur into the buildings.*
- *Windows and patio doors are vulnerable to flood water and similar measures to those used for doors should be taken. Particular care should be taken to ensure adequate sealing of any PVC window/door sills to the fabric of the house. Of concern would be excessive water pressure on the glazing of patio doors. Double*

⁸ https://assets.publishing.service.gov.uk/media/602d673ee90e0709e8d085d8/Improving_the_Flood_Resilience_of_Buildings_Through_Improved_Materials_Methods_and_Details_Technical_Report.pdf

glazing conforming to the relevant standards would, in principle, adequately resist the pressures generated by flood waters.

- 5.4. Furthermore, given the site is located within a CDA, small scale SuDS such as rainwater planters could be incorporated in external areas to provide a betterment to the existing situation.

Fluvial, Canals, Reservoirs, Groundwater and Sewers

- 5.5. Flood risk from these sources is considered to be low, therefore further mitigation is not required.

Increase to Flood Risk Elsewhere

- 5.6. It is understood that the proposed development is for the construction of a dwelling in the garden of an existing dwelling.
- 5.7. The site is considered to be at low risk from all sources and as such is considered to have a negligible increase in flood risk elsewhere.

Access/Egress and Flood Warnings

Fluvial/Tidal

- 5.8. The site and surrounding area are located within Flood Zone 1 and as such, dry access/egress is considered achievable.

Pluvial

- 5.9. As can be seen in Figure 11, flood hazard rating through the garden gate and onto the shared access road and then north or south on Hornby Street is not at risk of exceeding 0.75 hazard rating based on RoFSW mapping, even when considering climate change.
- 5.10. As per the FD2320 flood hazard classification table⁹ flood hazard rating less than 0.75 are considered to be 'Very low hazard'. As such, safe access/egress is considered to be available.

⁹ https://assets.publishing.service.gov.uk/media/602d04a98fa8f5037d371a08/FLOOD_HAZARD_RATING_AND_THRESHOLDS_explanatory_note.pdf



Figure 11: EA Surface Water Flood Risk Mapping Climate Change Depth >0.3m (Base map and data from Google Hybrid © Contains public sector information licensed under the Open Government Licence v3.0)

- 5.11. It is recommended that the residents should monitor Met Office Weather Warnings to be prepared for extreme weather events. Met Office is the national meteorological service for the UK; they issue weather warnings up to 5 days in advance, through the National Severe Weather Warning Service, when severe weather has the potential to bring impacts to the UK. It is also possible to stay up to date with weather warnings through the Met Office app (available on both android and apple), social media e.g. X (formerly Twitter), Facebook or email alerts.
- 5.12. During periods of bad weather, residents should monitor local weather reports and sign up for the Met Office UK weather warnings. Procedures should be formalised (if not done so already) in the event of a severe weather warning or flooding.

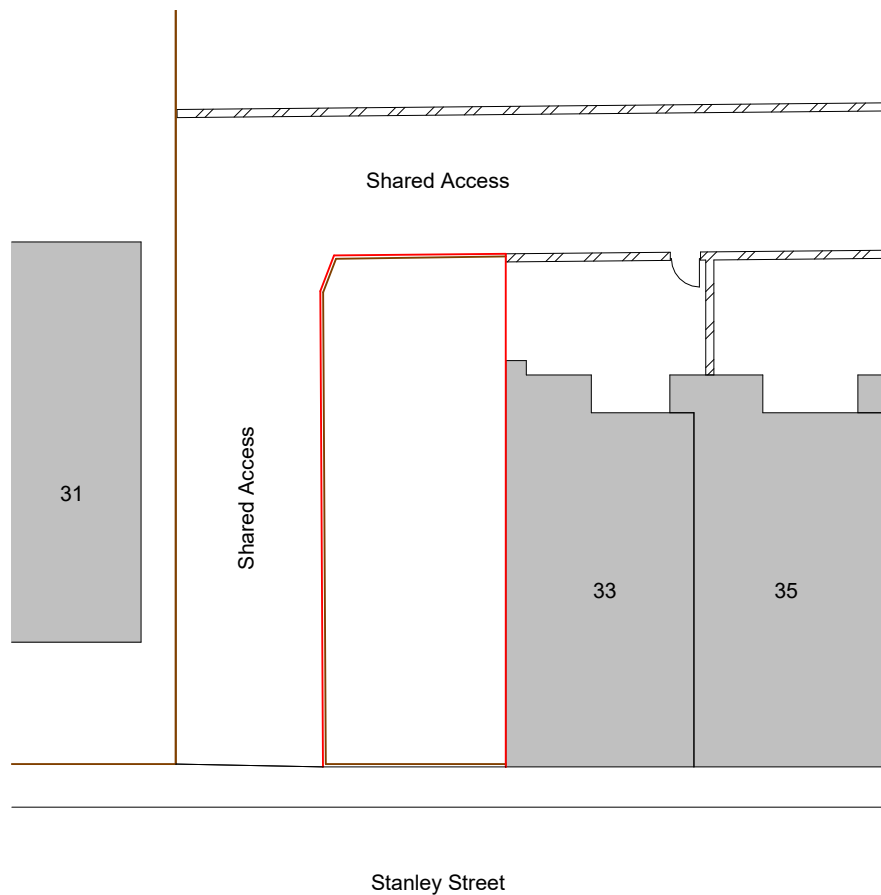
6. Conclusions

- 6.1. This FRA has been undertaken with reference to the requirements of NPPF and Planning Practice Guidance with respect to the development at Site Adjacent to 33 Stanley Street, Heywood, Rochdale, OL10 1BH. It has been written to support a planning application and prepared with due consideration to the nature of the proposed development to provide the appropriate level of detail.
- 6.2. An assessment of the risk of flooding from all sources has been undertaken and is summarised in the table below:

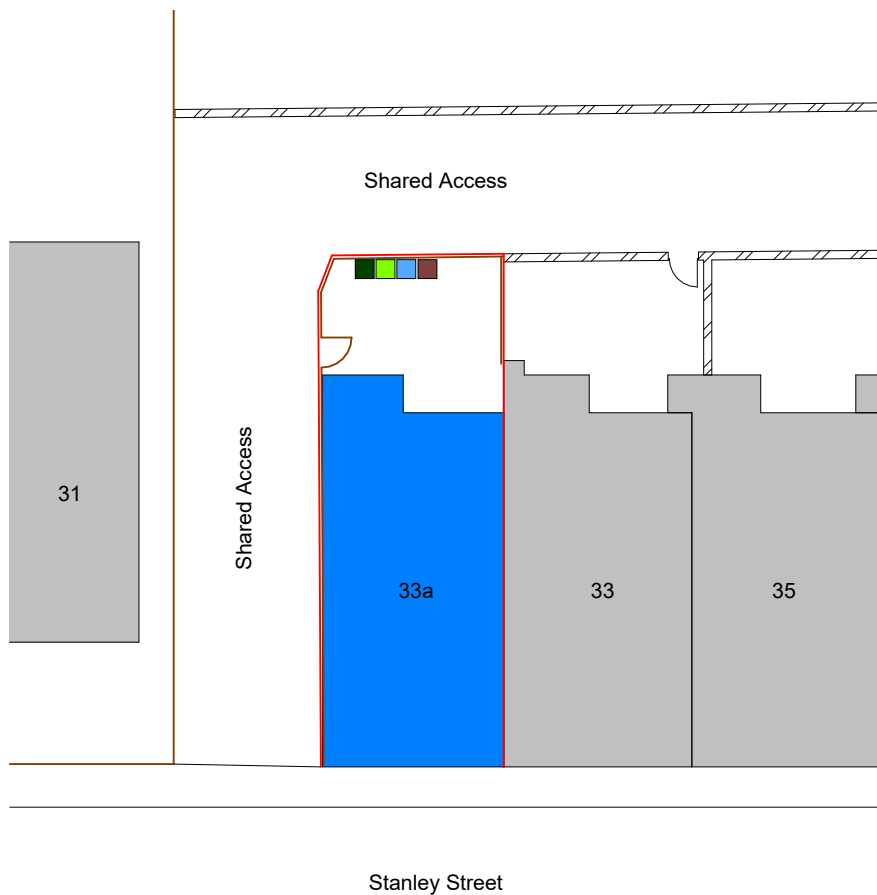
Source of Flooding	Flood Risk Summary
Pluvial	Based on the EA RoFSW mapping, flood depths are expected to remain below 0.3m at the proposed development footprint, even when considering climate change. As such, the risk to the site from surface water flooding is considered low however, mitigation measures will be recommended to take a conservative approach. Therefore, the proposed development should be fitted with flood resistance and resilience measures in accordance with <i>Improving the Flood Performance of New Buildings – Flood Resilient Construction</i>.
Fluvial, Canals, Reservoirs, Groundwater and Sewers	The site is considered to be at low risk from these sources.

- 6.3. The FRA supports the planning application and demonstrates that there is an acceptable level of flood risk to the site. The development does not increase flood risk off site or to the wider area.
- 6.4. This Flood Risk Assessment should be submitted as part of the planning application to satisfy the requirements under NPPF.

Appendix A - Development Proposals

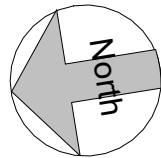


1 Site - Existing
1 : 200

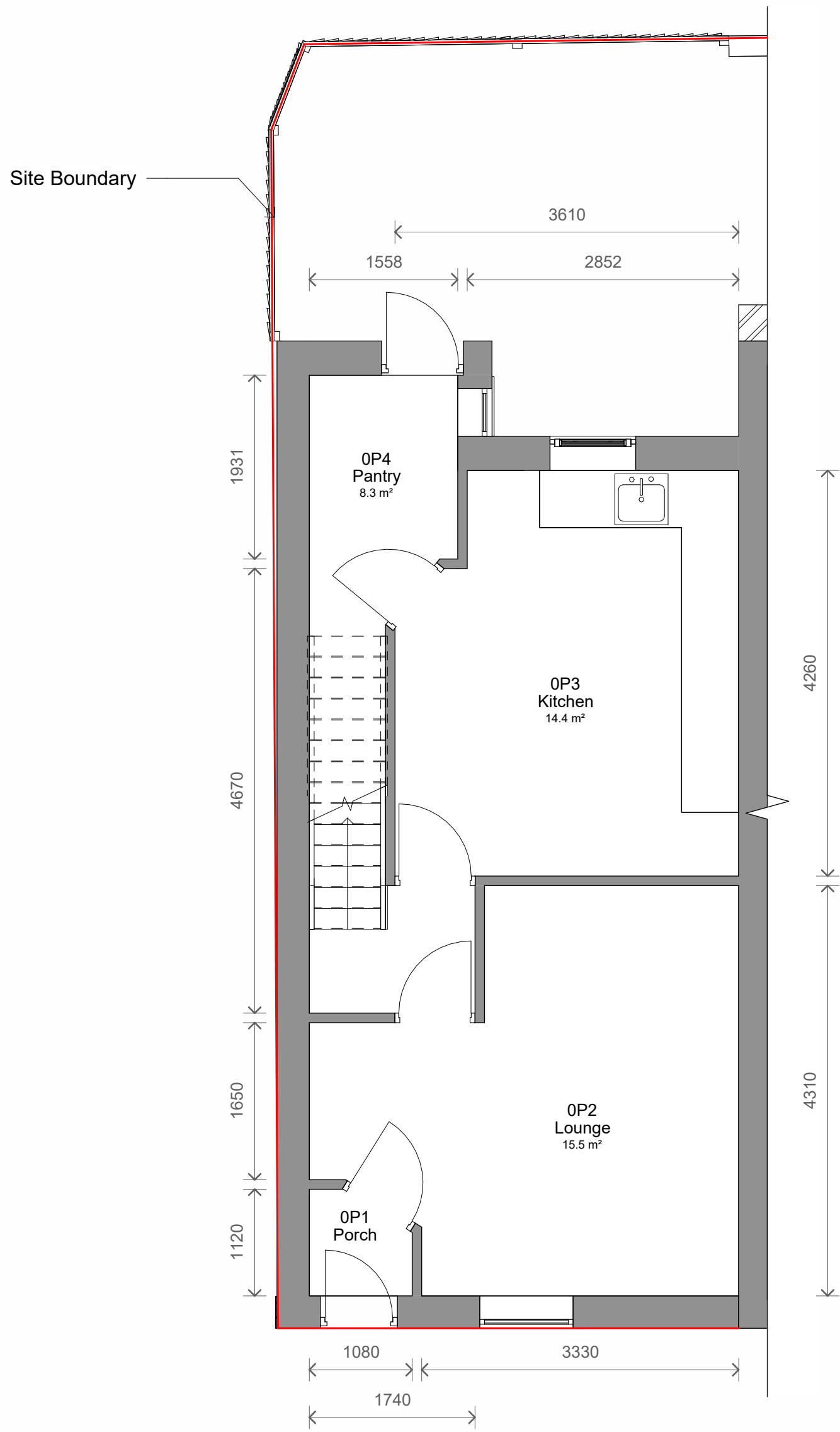


2 Site - Proposed
1 : 200

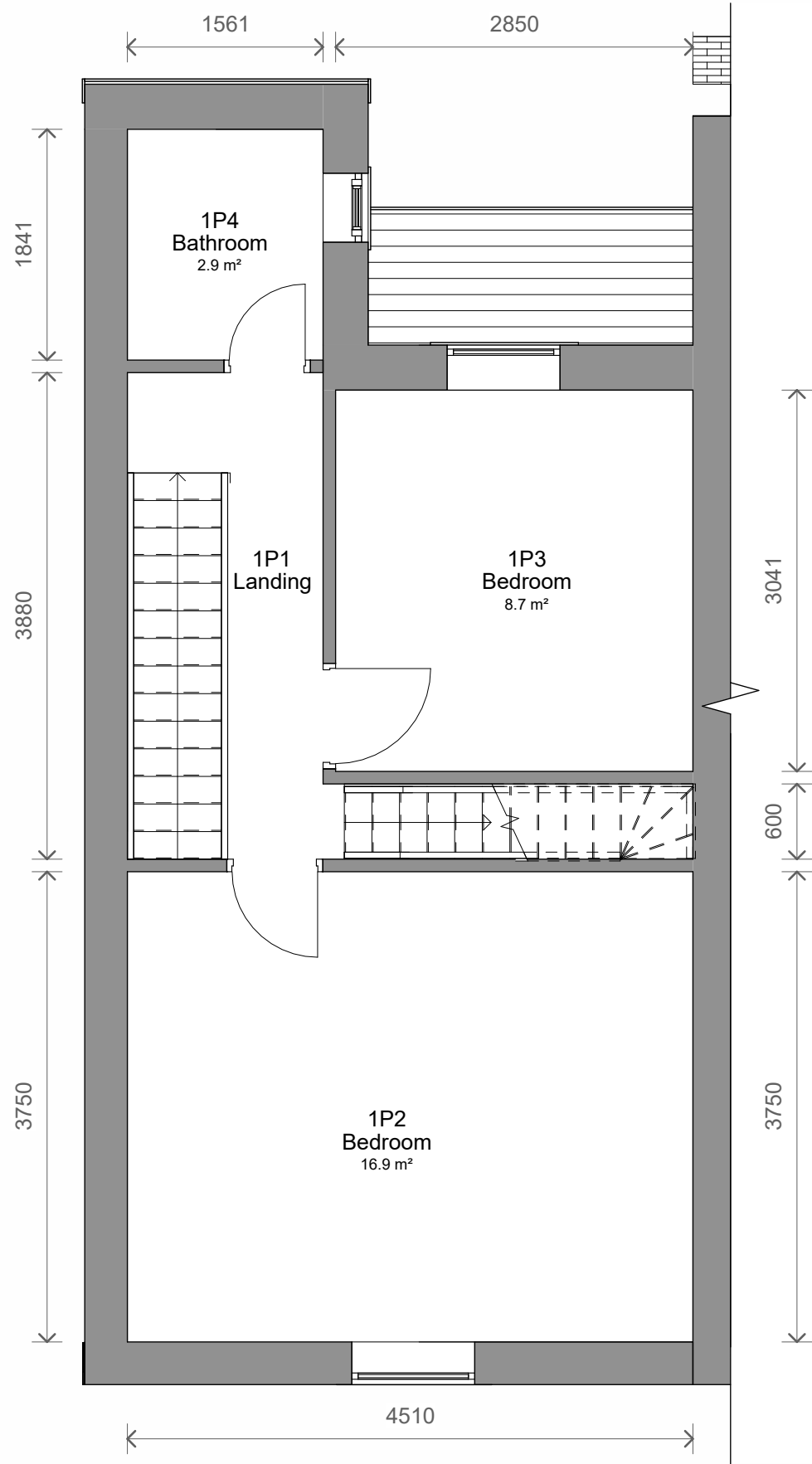
- Site Key
- Grass
 - Paving Stones
 - Timber Fencing
 - Brickwork
 - Proposed Building
 - Waste Storage



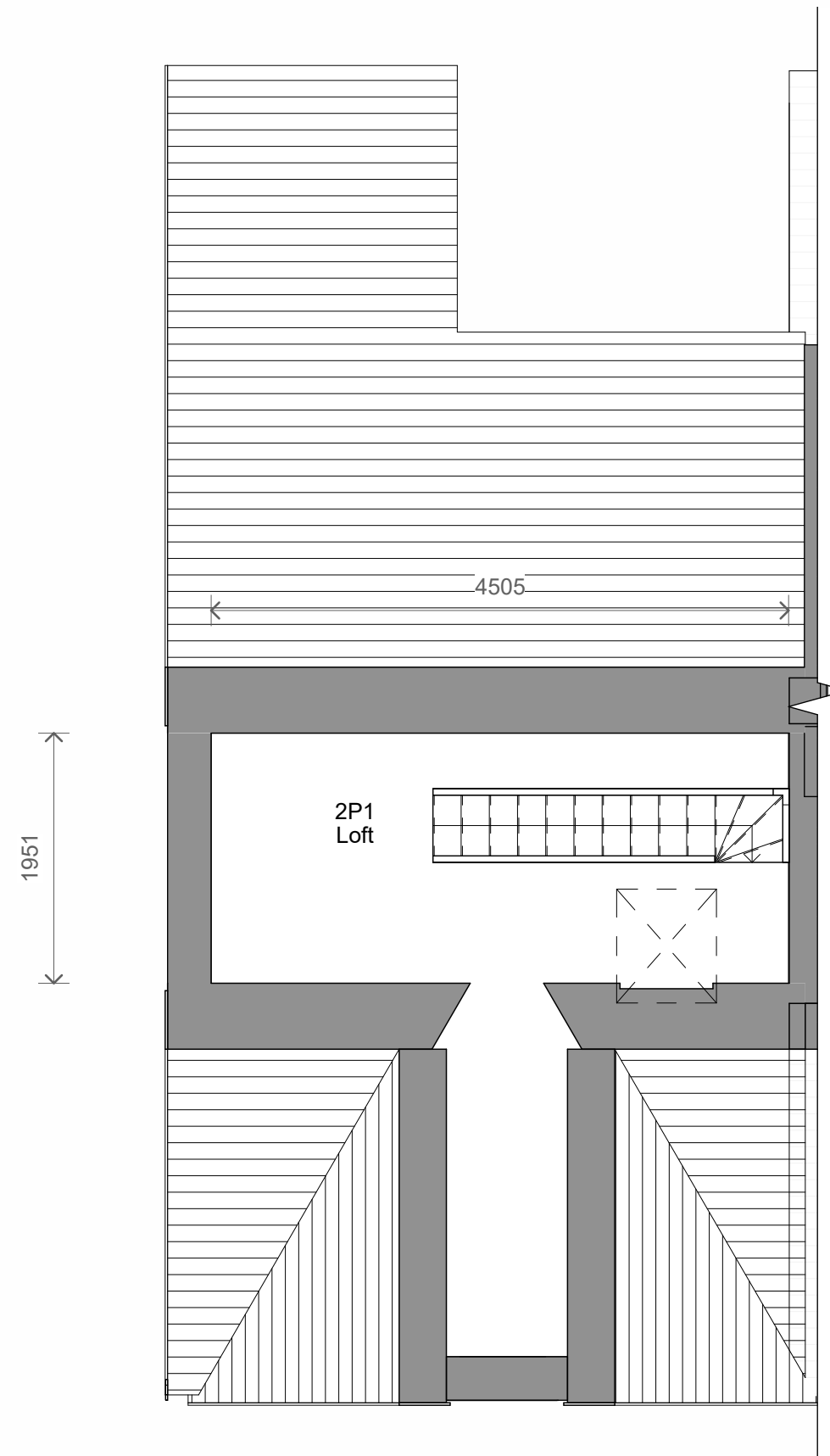
PROJECT	Land Adjacent to 33 Stanley St	PROJECT NUMBER		DRAWING NUMBER		REV		GOLD SKETCH S T U D I O S www.goldsketch.co.ukinfo@goldsketch.co.uk0161 792 9595 NOTES © COPYRIGHT : ALL RIGHTS RESERVED. THIS DRAWING MUST NOT BE REPRODUCED WITHOUT PRIOR WRITTEN CONSENT. DRAWING TO BE USED FOR THE STATUS INDICATED ONLY. ALL DIMENSIONS AND SETTING OUT SHALL BE CHECKED AND CONFIRMED ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE DESIGNER PRIOR TO THE COMMENCEMENT OF ANY WORK. ALL WORK AND MATERIALS TO BE IN ACCORDANCE WITH CURRENT STATUTORY LEGISLATION, RELEVANT CODES OF PRACTICE AND BRITISH STANDARDS. ALL DIMENSIONS ON THIS DRAWING ARE IN MILLIMETRES (UNLESS OTHERWISE STATED).			
TITLE	Site - Existing & Proposed	GSS25066		502		1					
STATUS	DESIGN	DRAWN BY	CHECKED BY	DATE	SCALE (@ A1)						
		CB	SG	29/10/2025	As indicated		1 No.	Planning Description	21/11/2025 Date	CB Initial	



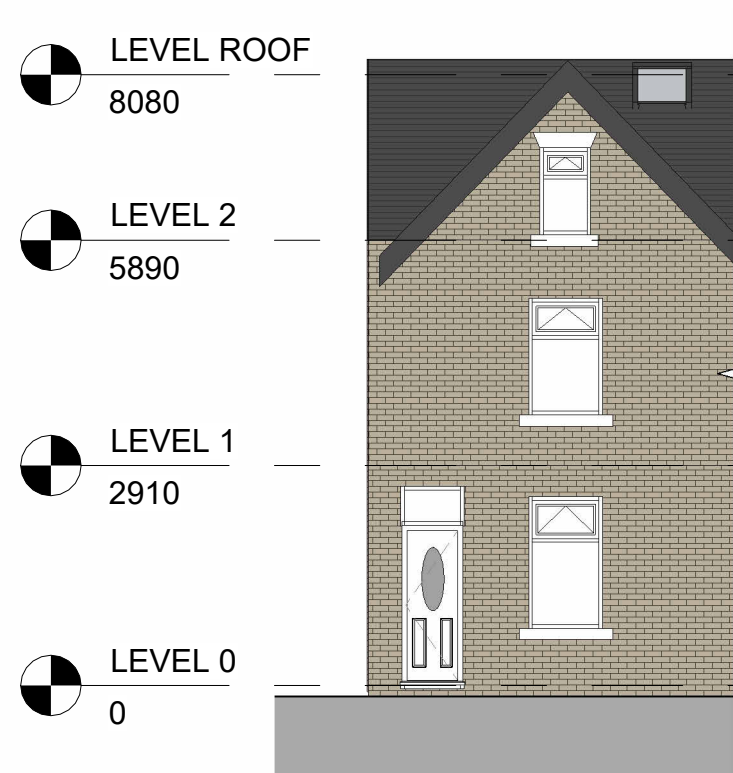
1 Level 0 - Proposed
1 : 50



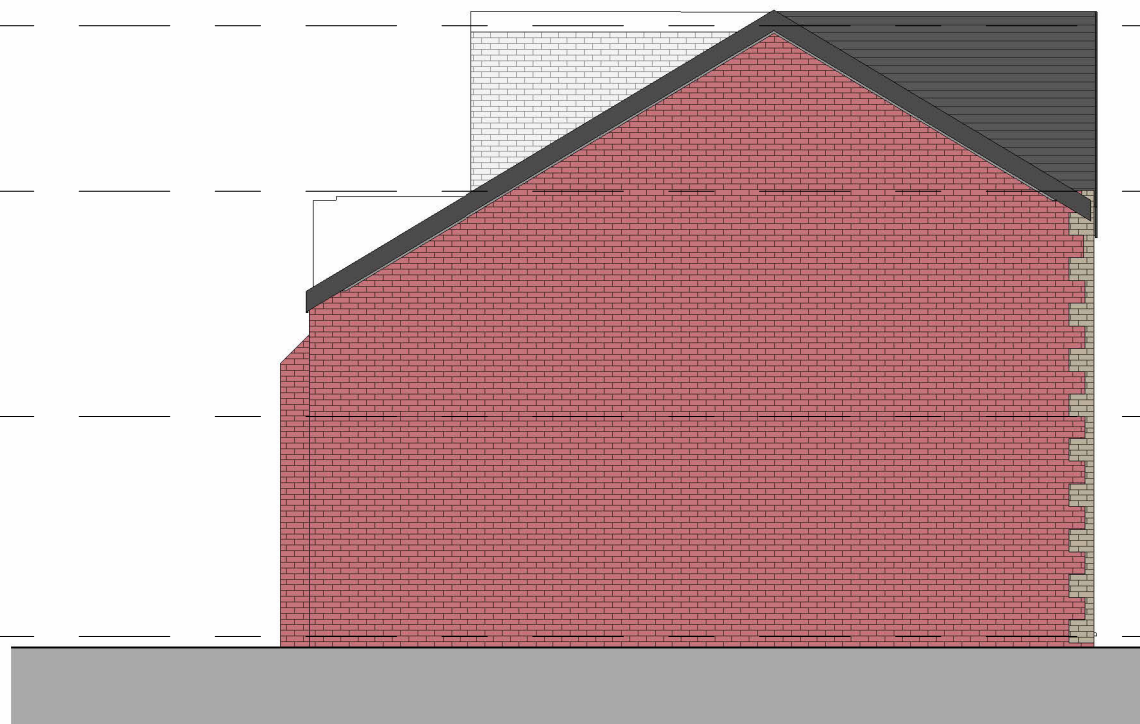
2 Level 1 - Proposed
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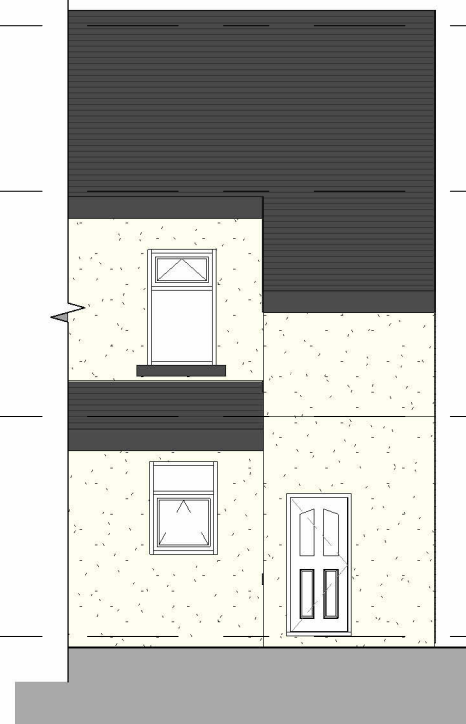
3 Level 2 - Proposed
1 : 50



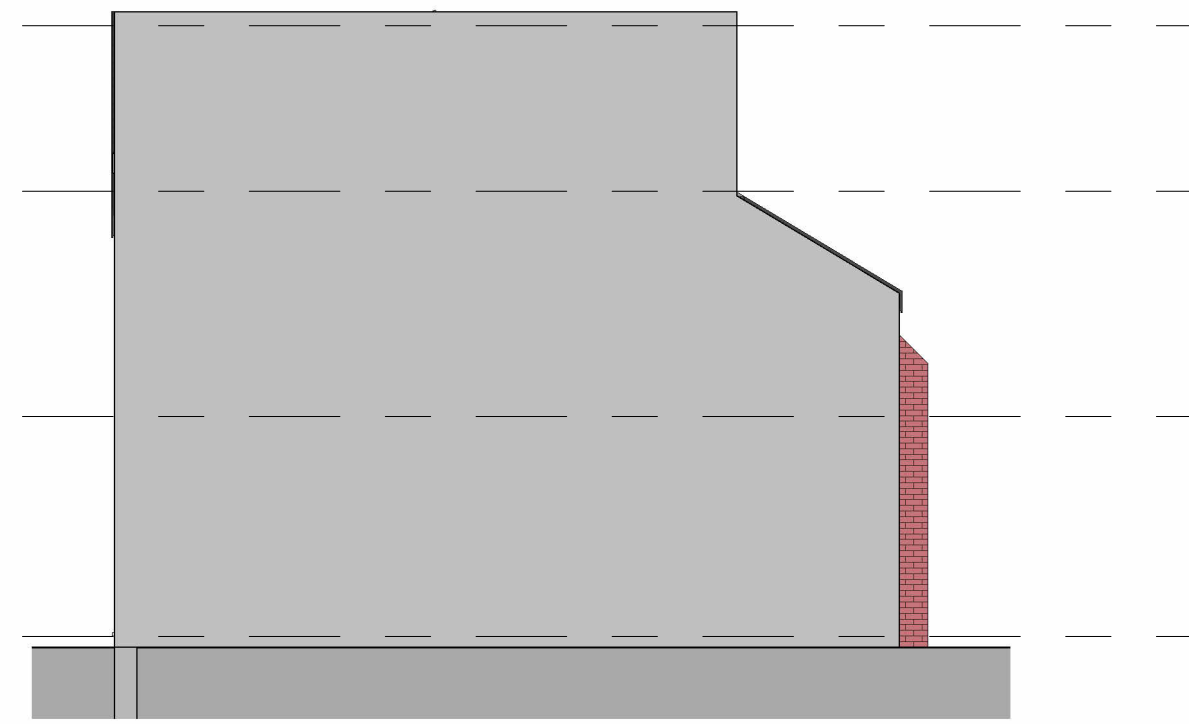
4 Front - Proposed
1 : 100



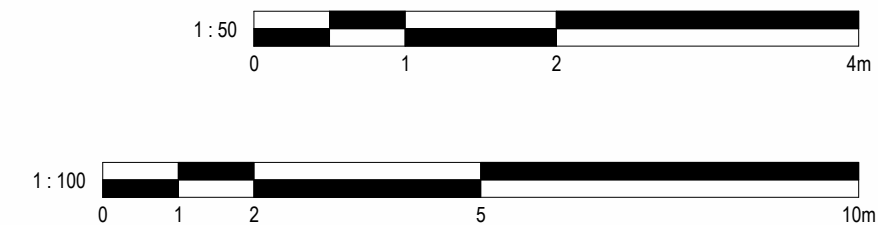
5 Left Side - Proposed
1 : 100



6 Rear - Proposed
1 : 100



7 Right Side - Proposed
1 : 100



1 Planning 21/11/2025 CB
No. Description Date Initial

PROJECT
Land Adjacent to 33 Stanley St

TITLE
Proposed Plans and Elevations

STATUS
DESIGN

DRAWN BY: MA DATE: 25/04/2025 SCALE (@ A1): As indicated

PROJECT NUMBER: GSS25066 DRAWING NUMBER: 003 REV: 1

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