

Report
Arden Grange
Flood Risk Assessment

For LKQ Electriq
28 September 2026

Document Control

Project Title:	Arden Grange
Project Number:	18095A
Client:	LKQ Electriq
Principal Contact:	James Tullett (CBRE)
Document Title:	Flood Risk Assessment
Document Number:	18095A-R01
Prepared By:	Donal O'Donovan
Reviewed By:	Sophie McCabe

Revision History

01	17/09/2026	First Issue
02	28/09/2026	Updated following receipt of plans and team responses



Logika Group is a trading name of Air Quality Consultants Limited (Companies House Registration No: 02814570), Noise Consultants Limited (Companies House Registration No: 10853764) and Logika Consultants Limited (Companies House Registration No: 12381912) and Logika Europe SRL (Register of Legal Entities of Brussels No: 0757.960.869).

This document has been prepared based on the information provided by the client. Air Quality Consultants Ltd, Noise Consultants Ltd, Logika Consultants Ltd or Logika Europe SRL do not accept liability for any changes that may be required due to omissions in this information. Unless otherwise agreed, this document and all other Intellectual Property Rights remain the property of Air Quality Consultants Ltd, Noise Consultants Ltd, Logika Consultants Ltd or Logika Europe SRL. When issued in electronic format, Air Quality Consultants Ltd, Noise Consultants Ltd, Logika Consultants Ltd or Logika Europe SRL do not accept any responsibility for any unauthorised changes made by others.

Air Quality Consultants Ltd, Noise Consultants Ltd or Logika Consultants Ltd all operate a formal Quality Management System, which is certified to ISO 9001:2015, and a formal Environmental Management System, certified to ISO 14001:2015.

When printed by any of the four companies, this report will be on Evolve Office, 100% Recycled paper.

3rd Floor St Augustine's Court, 1 St. Augustine's Place, Bristol, BS1 4UD Tel: +44(0)117 974 1086

First Floor, 3 – 7 Herbal Hill, London, EC1R 5EJ Tel: +44(0)20 3873 4780

First Floor, Patten House, Moulders Lane, Warrington, WA1 2BA Tel: +44(0)1925 937 195

Nile House, Nile St, Brighton and Hove, Brighton, BN1 1HW Tel: +44(0)20 3873 4780

1 Aire St, Leeds, LS1 4PR Tel: +44(0)20 3873 4780

Avenue du Port, 86c Box 204, 1000 Bruxelles Tel: +44(0)20 3873 4780

Contents

1	Introduction	1
2	Planning Policy and Guidance	4
3	Potential Sources of Flooding	7
4	Surface Water Management	12
5	Conclusion	13
6	Appendices	14
A1	Proposed Layouts	

Figures

Figure 1-1: Site Location Plan	1
Figure 1-2: LiDAR Contours	2
Figure 3-1: Flood Map for Planning – Flood Zones	8
Figure 3-2: Flood Map for Planning – 1 in 100 year extent plus climate change	8
Figure 3-3: Flood Map for Planning Surface Water Spatial Planning 1 in 100 year plus climate change flood depths	9
Figure 3-4: Environment Agency's Flood Risk from Reservoirs	11

1 Introduction

1.1 Scope of Report

Logika Group were commissioned by LKQ Electriq (hereafter referred to as the 'Applicant') to undertake a Flood Risk Assessment (FRA) in relation to the proposed change of use at the Former FedEx Building, Arden Grange, Albourne, BN6 9BJ (hereafter referred to as 'the Site').

1.2 Site Description

The Site is approximately 0.447 hectares (ha) in size and is located within the administrative boundary of Mid Sussex District Council within West Sussex. The Site is bound by existing buildings to the west, fields to the north and east, and the Cutlers Brook to the south. A Site location plan is included as Figure 1-1 below.

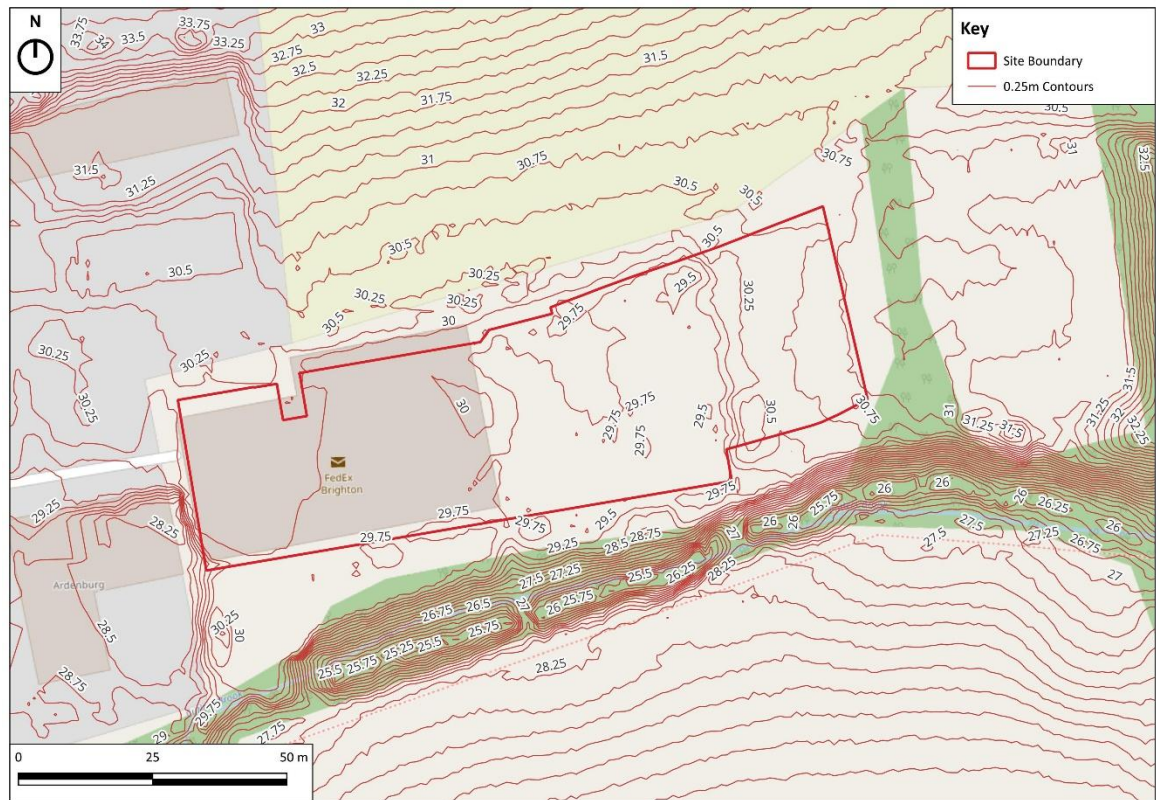
Figure 1-1: Site Location Plan



Contains Ordnance Survey data © Crown copyright and database right 2026

LiDAR data (Figure 1-2, overleaf) indicates that external levels surrounding the building range between approximately 29.75m and 30.25m AOD. Based on Site photographs the internal Finished Floor Level (FFL) appears to be slightly raised however the exact level is not known.

Figure 1-2: LiDAR Contours



1.3 Development Proposals

The Proposed Development comprises change of use from Use Class B8 to Use Class B2.

The Site would be used by LKQ Electriq as a specialist high-voltage battery and electrical component testing and repair facility.

The business is focused on the testing, repair and refurbishment of electric vehicle battery packs, high-voltage components, electrical motors, associated control units and related electrical systems. The operation is clean, workshop-based and technical in nature, with a strong focus on diagnostics, repair, sustainability and extending the life of expensive electrical assets rather than replacing them unnecessarily.

The proposed use would include:

- Inspection, testing and repair of high-voltage batteries and electrical component;
- Storage of batteries, components, tools, equipment and associated vehicles, including aviation-related applications where appropriate;
- Technical support and training for the wider repair sector;
- Research, development and future capability building around electrified transport systems; and
- Support, testing and research and development relating to electrified aviation, UAVs (unmanned aerial vehicles), drones and airport-based electrical systems where commercially and technically appropriate.

Although the current core business is primarily automotive, the skills, equipment and processes used support high-voltage and electrified systems across multiple transport sectors, including automotive, aviation-related applications, UAVs, drones, marine and emerging future transport technologies.

The premises would not be operated as a general vehicle repair garage, bodyshop or high-volume customer-facing workshop. The use would instead be a specialist technical repair, testing and support facility focused on high-voltage batteries and electrical components.

The Proposed Development indicative layout is included as Appendix A1.

2 Planning Policy and Guidance

2.1 National Planning Policy Framework

The National Planning Policy Framework (NPPF)¹, last revised in August 2026, sets out the government's policies for plan making and making decisions on development proposals in England. Chapter 18 of the NPPF focuses on managing flood risk and coastal change and includes a series of policies which aim to minimise risks to development arising from all sources of flooding and coastal change, taking into account the impacts of climate change.

The NPPF states that new development should be directed away from areas at highest risk of flooding (whether existing or future risk). Where development is necessary in flood risk areas, the development should:

- Within the site, locate the most vulnerable development in areas of lowest flood risk, unless there are overriding reasons to prefer a different location;
- Be made safe for its lifetime without increasing risk elsewhere;
- Safely manage residual risk and provide safe access and escape routes where appropriate, as part of an agreed emergency plan; and
- Be appropriately flood resistant and resilient.

Development proposals which could affect drainage on or around the site should incorporate Sustainable Drainage Systems (SuDS) proportionate to the nature and scale of the proposed development. SuDS should:

- Be designed in accordance with the National Standards for Sustainable Drainage Systems;
- Have maintenance arrangements in place to ensure an acceptable standard of operation for the lifetime of the development;
- In the case of proposals for major development, take account of advice from the Lead Local Flood Authority (LLFA); and
- Where possible, provide multifunctional benefits.

2.2 Planning Practice Guidance

The Planning Practice Guidance (PPG)² provides additional advice to LPAs, to ensure that the NPPF is applied correctly when assessing development in areas at risk of flooding. Assessments of flood risk should identify sources of current and future risk and describe how these will be accounted for in a mitigation strategy.

A sequential approach should be employed, which involves applying the 'Sequential Test' and, if needed, the 'Exception Test'. This is designed to ensure that areas at little or no risk of flooding are

¹ Ministry of Housing, Communities and Local Government. (2026). *National Planning Policy Framework*. Available at: https://assets.publishing.service.gov.uk/media/6a8334c03bd75b81e2329ac4/National_Planning_Policy_Framework.pdf

² Department for Levelling Up, Housing and Communities and the Ministry of Housing, Communities and Local Government. (2025). *Planning Practice and Guidance: Flood Risk and Coastal Change*. Available at: <https://www.gov.uk/guidance/flood-risk-and-coastal-change>

developed in preference to higher risk areas. For site-specific risk assessments, the characteristics of a possible flood event should be considered. The ability of users to safely access and exit a site during a 'design' flood event and to evacuate before an extreme flood event (the 1 in 1,000 year event with allowance for climate change) should also be assessed.

The 'design' flood event is considered to be the 1 in 100 year event, the pluvial 1 in 100 year event, or the tidal 1 in 200 year event, plus the appropriate allowance for climate change (see Section 2.2.3).

Development layouts should be designed to locate the most vulnerable aspects of a development within areas of lowest flood risk, unless there are overriding reasons present. In addition, measures to avoid flood risk vertically can be taken by locating the most vulnerable uses in areas of lower flood risk. Such measures should also account for any residual flood risks occurring due to flood risk management infrastructure.

Management measures, such as safe access and egress routes, should be provided to deal with any residual risk remaining after avoidance, control and mitigation measures have been utilised. The provision of adequate flood warning should also be considered.

2.2.1 Flood Vulnerability and Flood Zone Incompatibility

The PPG provides guidance on flood risk vulnerability and flood zone incompatibility. The following flood zones refer to the probability of river and sea flooding, without the presence of defences:

- **Zone 1: low probability**, less than 1 in 1,000 annual probability of river or sea flooding in any year;
- **Zone 2: medium probability**, between a 1 in 100 and 1 in 1,000 annual probability of river flooding or between 1 in 200 and 1 in 1,000 annual probability of sea flooding in any year;
- **Zone 3a: high probability**, 1 in 100 or greater annual probability of river flooding or a 1 in 200 or greater annual probability flooding from the sea in any year;
- **Zone 3b: functional floodplain**, where water flows or is stored in times of flood, identification should take account of local circumstances but will typically flood with an annual probability of 1 in 30 or greater in any year or is designed to flood in an extreme 1 in 1,000 annual probability flood.

Annex 3 of the NPPF splits flood risk vulnerability into five classifications. The compatibility of these development uses within each Flood Zone is set out in Table 2 of the PPG:

- **Essential Infrastructure**: essential transport and utility infrastructure, wind turbines, solar farms;
- **Highly Vulnerable**: emergency services (those required to be operational during flooding), installations requiring hazardous substances consent, basement dwellings;
- **More Vulnerable**: residential dwellings, hospitals, schools, hotels, drinking establishments;
- **Less Vulnerable**: retail, offices, storage and distribution, leisure, restaurants; and
- **Water-Compatible Development**: docks, marinas, wharves.

The Proposed Development is considered to be 'less vulnerable', comprising Class B2 general industry.

2.2.2 Sequential and Exception Tests

In line with NPPF Policies F5 and F6 the Sequential and Exception Test are not required for changes of use.

2.2.3 Climate Change Allowances

The NPPF and PPG explain when and how flood risk assessments should be completed, including demonstrating how flood risk will be managed now and over the development's lifetime, taking climate change into account.

The EA published their most recent climate change allowances³ in May 2022. This guidance outlines their predictions of the anticipated changes to peak river flow, peak rainfall intensity, sea level rise and offshore wind speed and extreme wave height, as a result of climate change.

Climate change allowances for peak river flow and rainfall intensity are determined in accordance with the local river management catchment. Allowances are provided to cover development lifespans for a series of different epochs. The lifetime of a non-residential development depends on the characteristics of that development, but a period of at least 75 years is considered to form a starting point for assessment. Given the nature of the development proposals, the Proposed Development is considered to have a proposed lifespan of at least 75 years.

Peak River Flow

As the proposed development is for a commercial use, the lifetime of the development is considered to be 75 years and therefore the central climate change allowance for the 2080s epoch (2070 – 2115) should be considered. In the Adur and Ouse Management Catchment, this equates to an allowance of +37% for the 1 in 100 year event.

Peak Rainfall Intensity

Development with a lifetime beyond 2100 should use the upper end allowance for the 2070s epoch (2061 – 2125) when considering changes to peak rainfall intensity as a result of climate change. In the Ardur and Ouse Management Catchment, this equates to an allowance of +40% for the 1 in 30 year event and +45% for the 1 in 100 year event.

2.3 Local Policies

2.3.1 Mid Sussex District Council Strategic Flood Risk Assessment

The Mid Sussex Level 1 Strategic Flood Risk Assessment⁴ (SFRA) provides the district wide evidence base on all sources of flood risk, mapping fluvial, surface water, groundwater, sewer and reservoir flood risk using EA datasets, climate change allowances and historic incident records.

The SFRA outlines the responsibilities of risk-management authorities, identifies areas of existing and future flood risk, and sets out the policy expectations for new development including the need to apply the Sequential and Exception Tests, ensure proposals are safe for their lifetime, incorporate sustainable drainage, manage residual risks, and avoid increasing flood risk elsewhere.

³ Environment Agency. (2022). *Flood Risk Assessments: Climate Change Allowances*. Available at: <https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances>

⁴ Mid Sussex District Council. (2024). *Level 1 Strategic Flood Risk Assessment*. Available at: [env11-strategic-flood-risk-assessment-level-1-2024.pdf](https://www.mid-sussex.gov.uk/media/10000/level-1-strategic-flood-risk-assessment-level-1-2024.pdf)

3 Potential Sources of Flooding

3.1 Tidal and Fluvial

Tidal flooding occurs when water levels in rivers, estuaries and coastal areas rise above adjacent land, generally as a result of wave action, high tides and storm surges. Fluvial flooding occurs when water levels in rivers, streams or lakes rise above their banks, overflowing and flooding the surrounding areas, generally as a result of high levels of rainfall.

The EA's Flood Map for Planning (Figure 3-2 below), shows that the majority of the Site, including the existing building is located in Flood Zone 1, indicating a low probability of tidal and fluvial flooding. However, there is an area of Flood Zone 2 and 3 to the south of the Site which slightly encroaches within the wider Site boundary. This area of potential flooding is associated with Cutlers Brook, an Ordinary Watercourse that is fluvially influenced. There are no tidally influenced waterbodies in the vicinity of the Site.

The EA have been consulted to obtain their local flood risk data, however a response has not been received at this time. In lieu of this information, review of the EA's online flood data (WMS layers) confirms that the existing building lies entirely outside the future 1 in 100 year plus climate change flood extent (Figure 3-2, overleaf).

Although an area of predicted flooding is shown to approach the southwest of the building, LiDAR analysis (Figure 1-2) indicates that this land is topographically lower, at approximately 28.5m AOD. As the Site occupies higher ground at between 29.75 and 30.25m AOD, with FFLs appearing to be slightly raised above external ground levels, this lower lying floodplain is not expected to influence the Site, and fluvial flooding is not anticipated to pose a risk to the existing building.

As shown in Figure 3-1 the Site access is not located in Flood Zone 3 and would therefore not be expected to flood in a present day 1 in 100 year event. However, as shown on Figure 3-2 it could be affected in the future 1 in 100 plus climate change fluvial flood event.

Fluvial Flood Mitigation

The Site itself is not expected to be at risk of fluvial flooding. However, the EA's data indicates that London Road, adjacent to the Site access, could be affected during the future 1 in 100 year fluvial event. In such circumstances, staff and users should not attempt to drive through floodwater and must wait for water levels to recede before accessing or leaving the Site.

To allow safe occupation of the Site, users will register for the EA's Flood Warning Service. Receiving advance alerts will allow staff to monitor conditions, implement early evacuation if required, and prevent users from travelling to the Site during periods of fluvial flooding.

The proposed change of use from Class B8 to Class B2 does not alter the overall flood vulnerability classification of the Site, which remains 'less vulnerable'. As such, the change of use is not considered to materially affect the level of risk to people.

Figure 3-1: Flood Map for Planning – Flood Zones

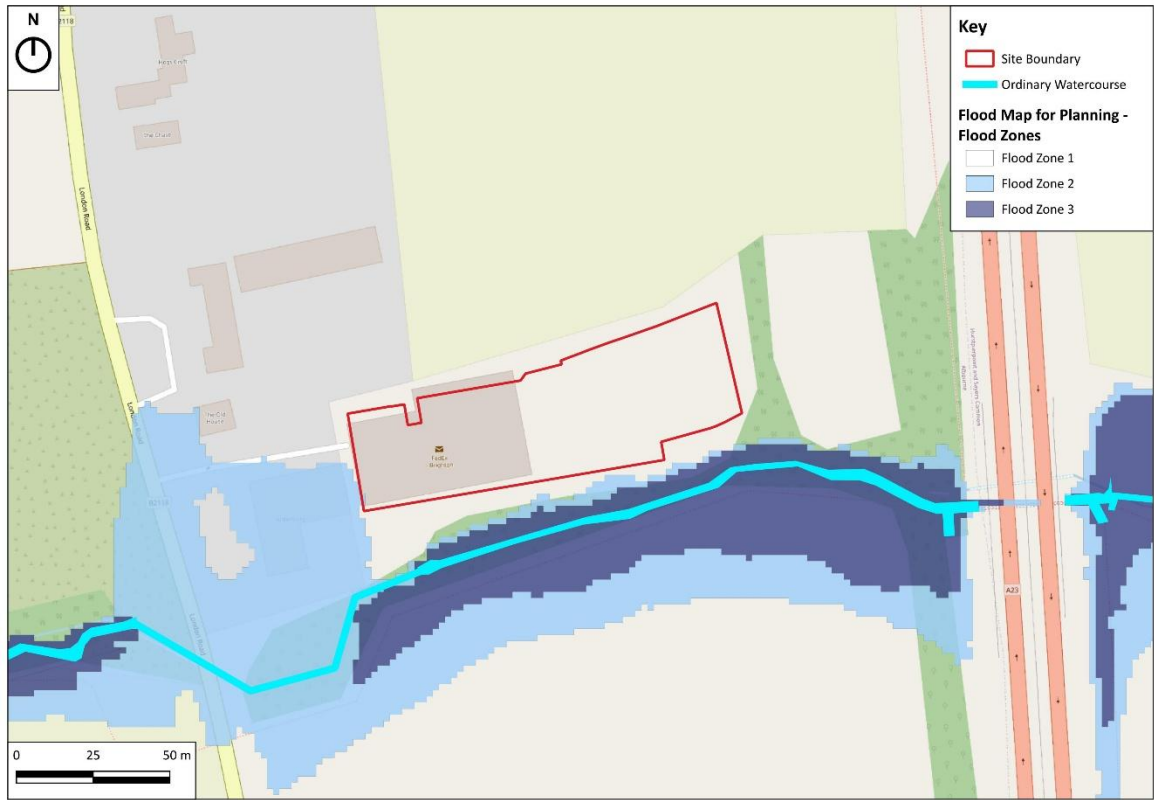
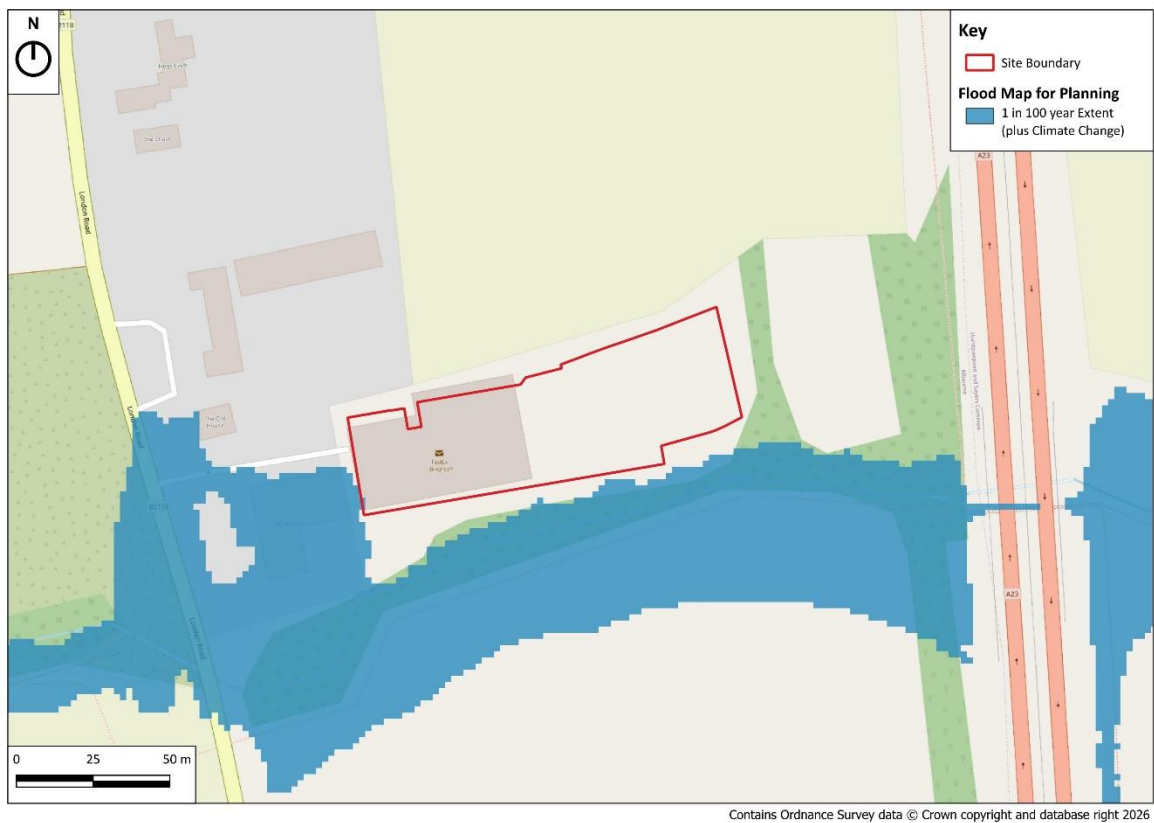


Figure 3-2: Flood Map for Planning – 1 in 100 year extent plus climate change



3.2 Pluvial

Pluvial flooding can occur during an extreme, high intensity rainfall event which overwhelms the infiltration capacity of underlying soils and/or the capacity of local natural or engineered drainage systems (including sewers). This flood water is then conveyed overland, following local topography.

3.2.1 Overland Flows

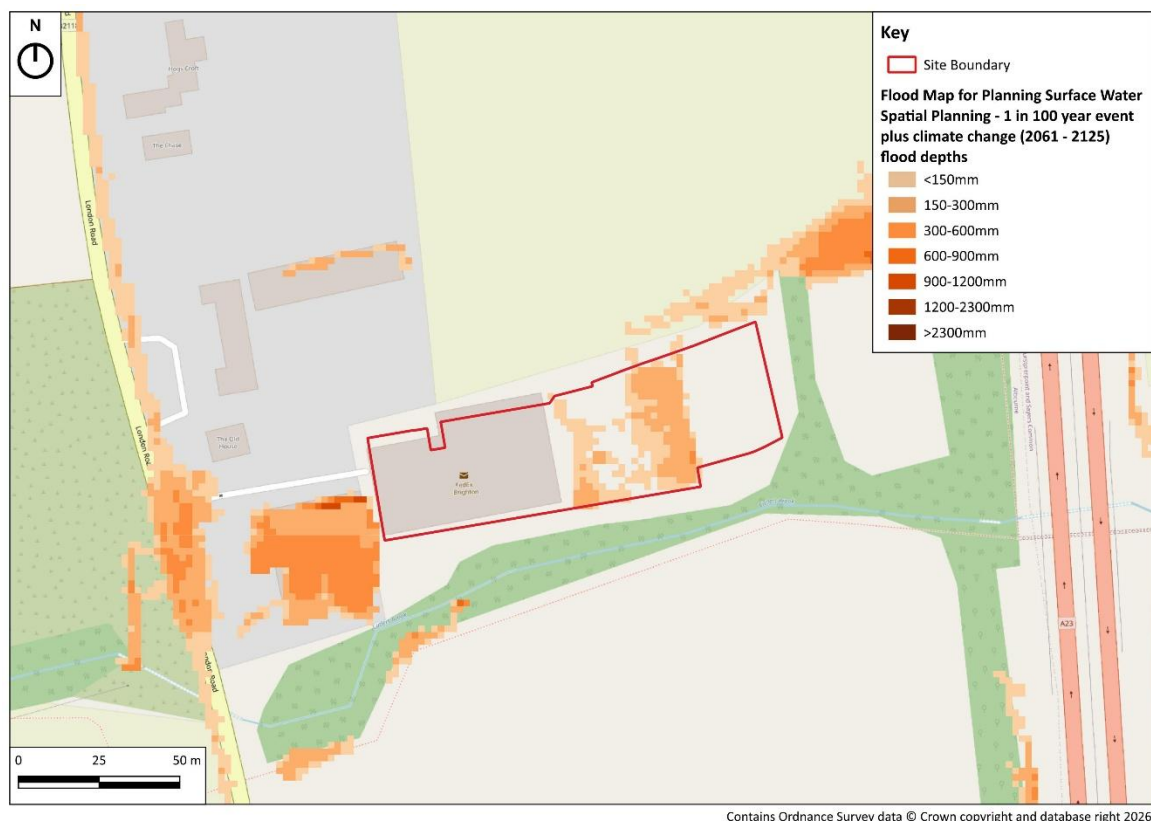
The Flood Map for Planning Surface Water Spatial Planning dataset includes flood extent and depth information for the 1 in 30 year, 1 in 100 year and 1 in 1,000 year present day and climate change (2070s epoch) events.

Figure 3-3 indicates that during the 1 in 100 year plus climate change event, surface water flooding is anticipated to pond in the external parking/yard area to the east of the building, with modelled depths of up to approximately 300mm. The building itself is shown to remain free from surface water flooding based on the EA's modelled extents.

A larger area of surface water flooding is indicated to the southwest of the Site, associated with lower lying land. Modelled flood depths in this location reach up to 1.2m, however, as this land is approximately 1.5m lower than the Site, it is not anticipated that ponding in this area would affect the Site itself.

An additional area of surface water flooding is shown within London Road (B2118) to the west of the Site, which could affect access. Flood depths along this section of the road are indicated to be up to approximately 300mm.

Figure 3-3: Flood Map for Planning Surface Water Spatial Planning 1 in 100 year plus climate change flood depths



Pluvial Flood Mitigation

The external yard and the Site access via London Road are at risk of surface water flooding to depths of up to approximately 300mm. No sensitive plant, equipment or machinery will be stored within the external yard. Where external storage is unavoidable, items would be raised at least 450mm above ground level to ensure they remain above the modelled flood depths with a nominal 150mm freeboard.

Whilst the existing building is shown to be at a low risk of surface water flooding, the internal FFL is not known. Site photographs suggest that the FFL is slightly raised above external ground levels which would help minimise the potential for external flooding to enter the building. As a further precaution, any sensitive internal plant, equipment or machinery would be raised above the internal FFL to provide added protection.

Should London Road flood adjacent to the Site access, staff and users of the Site should not attempt to drive through any floodwater and should instead wait for water levels to recede. Due to the nature of overland surface water flows, any ponding in this location is likely to be short in duration.

The proposed change of use from Class B8 to Class B2 does not alter the overall flood vulnerability classification of the Site, which remains 'less vulnerable'. As such, the change of use is not considered to materially affect the level of risk to people.

3.2.2 Sewers

The SFRA online mapping does not contain any records of sewer flooding at or in the vicinity of the Site. The overall risk of sewer flooding is therefore considered to be low.

3.3 Groundwater

Flooding from groundwater occurs when the water table rises and reaches ground level, particularly following prolonged rainfall. Groundwater flooding is usually much slower to occur than fluvial or surface water flooding and can last for days, weeks or even months. Groundwater flooding is more common in low-lying areas that are underlain by permeable geologies.

British Geological Survey (BGS) data⁵ indicates that the Site is underlain by Made Ground (artificial deposits), with superficial deposits of Head and Alluvium (clay, silt, sand and gravel). The bedrock geology is stated to be Lower Greensand Group (silty sandstone). Nearby borehole records did not encounter groundwater to depths of up to approximately 4m below ground level.

Hydrogeological information obtained from the online Magic Maps service⁶ indicates that the underlying superficial deposits are Secondary A or Secondary (undifferentiated) Aquifers and the bedrock geology is a Principal Aquifer.

Whilst groundwater may be present within the geological strata beneath the Site, the SFRA does not identify the Site as being within an area at risk of groundwater flooding, and online SFRA mapping contains no records of groundwater flooding at or in the vicinity of the Site. On this basis, and given that the proposals relate to a change of use with no below ground works proposed, the risk of groundwater flooding is considered to be low.

⁵ British Geological Survey. (2026). BGS Geology Viewer. Available at: <https://www.bgs.ac.uk/map-viewers/bgs-geology-viewer/>

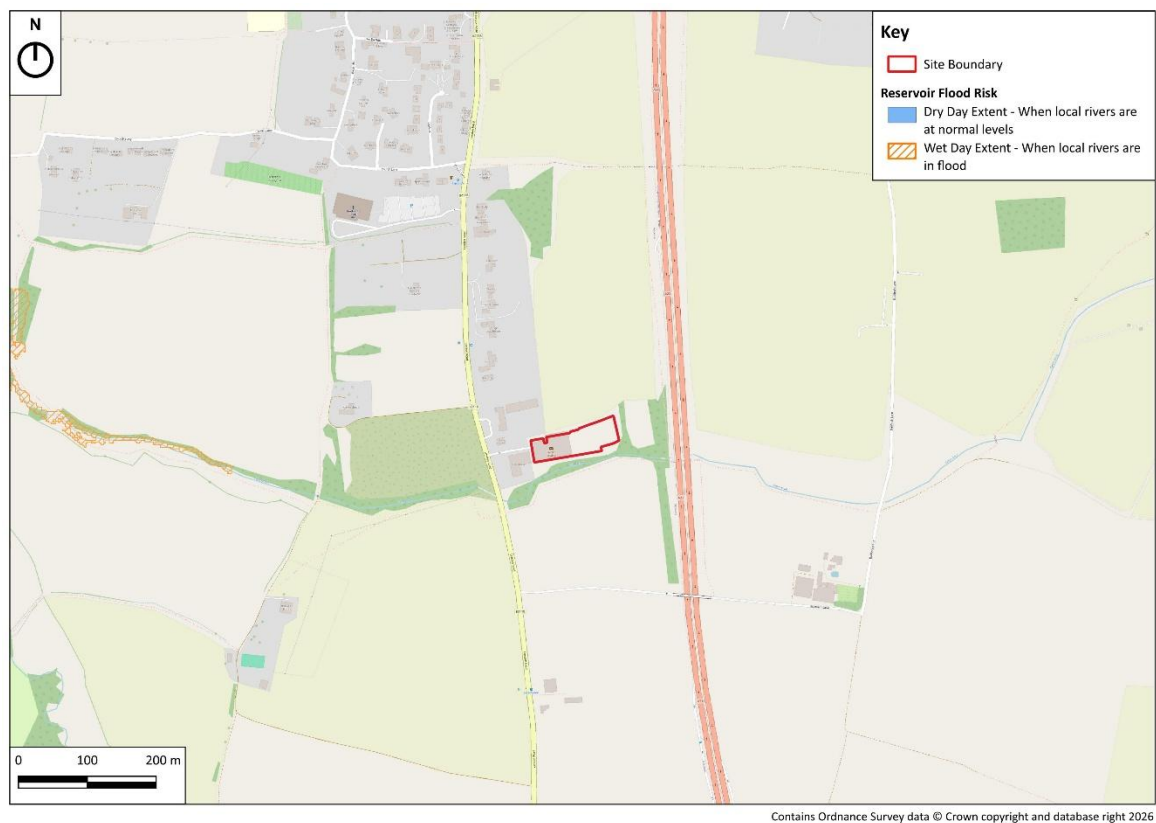
⁶ Department for Environment, Food and Rural Affairs. (2026). Multi-Agency Geographic Information for the Countryside (MAGIC) Web-Service. Available at: <https://magic.defra.gov.uk/home.htm>

3.4 Artificial Sources

The EA's Risk of Flooding from Reservoirs mapping (Figure 3-4) indicates that the Site is not located within an area at risk of flooding from reservoirs should a breach event coincide with normal river levels (the 'dry day' scenario). The Site is also not shown to be at risk should a breach event coincide with river flooding (the 'wet day' scenario).

There are no other artificial waterbodies at or in the near vicinity of the Site, and therefore risk of flooding from artificial sources is considered to be low.

Figure 3-4: Environment Agency's Flood Risk from Reservoirs



4 Surface Water Management

The proposals relate solely to a change of use from B8 to B2 and do not include any alterations to the existing building, external hardstanding, or drainage infrastructure. Site photos show that there are existing gulleys and external rainwater pipes on the building, indicating that the Site is served by an established network of rainwater pipes, with the landlord confirming that flows discharge via this network to the nearby watercourse. No changes are proposed to these connections.

As the built footprint, impermeable areas and drainage arrangements will remain unchanged, surface water runoff rates, volumes and discharge locations will be identical to the existing situation. No new areas of hardstanding are proposed, and no below ground works are proposed that could affect the current drainage regime.

On this basis, the existing surface water management arrangements will continue to operate as they do at present, and the development does not give rise to any additional surface water flood risk either on or off Site.

5 Conclusion

The existing building is located within Flood Zone 1 and is therefore at a low probability of tidal and fluvial flooding. Although areas of Flood Zone 2 and 3 extend into the wider Site boundary to the south, EA flood extents and LiDAR analysis demonstrate that these lower lying areas are unlikely to affect the building or its immediate surroundings.

The building itself has been assessed as having a low risk of surface water flooding. However, surface water ponding of up to approximately 300mm could potentially occur within the external yard and at the Site access to London Road (B2118). Appropriate mitigation measures have been identified, including avoiding the storage of sensitive plant or equipment within the yard unless raised above predicted flood depths, and advising Site users not to drive through floodwater should temporary ponding occur. Given the topography and nature of overland flows, any surface water ponding is expected to be short in duration. In addition, as a precaution, any sensitive internal plant, equipment or machinery would be positioned above the internal FFL to provide added protection.

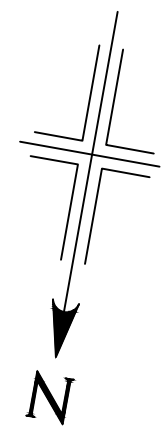
The risk of flooding from sewers, groundwater and artificial sources has been assessed to be low.

The proposals comprise a change of use from B8 to B2, with no alterations to the existing building, external hardstanding or drainage infrastructure. The Site's surface water drainage arrangements will remain unchanged. As impermeable areas, runoff volumes and discharge locations are identical to the existing situation, the development does not give rise to any additional surface water flood risk either on or off-Site.

The Proposed Development is in accordance with national, regional, and local policy and is therefore considered appropriate in terms of flood risk.

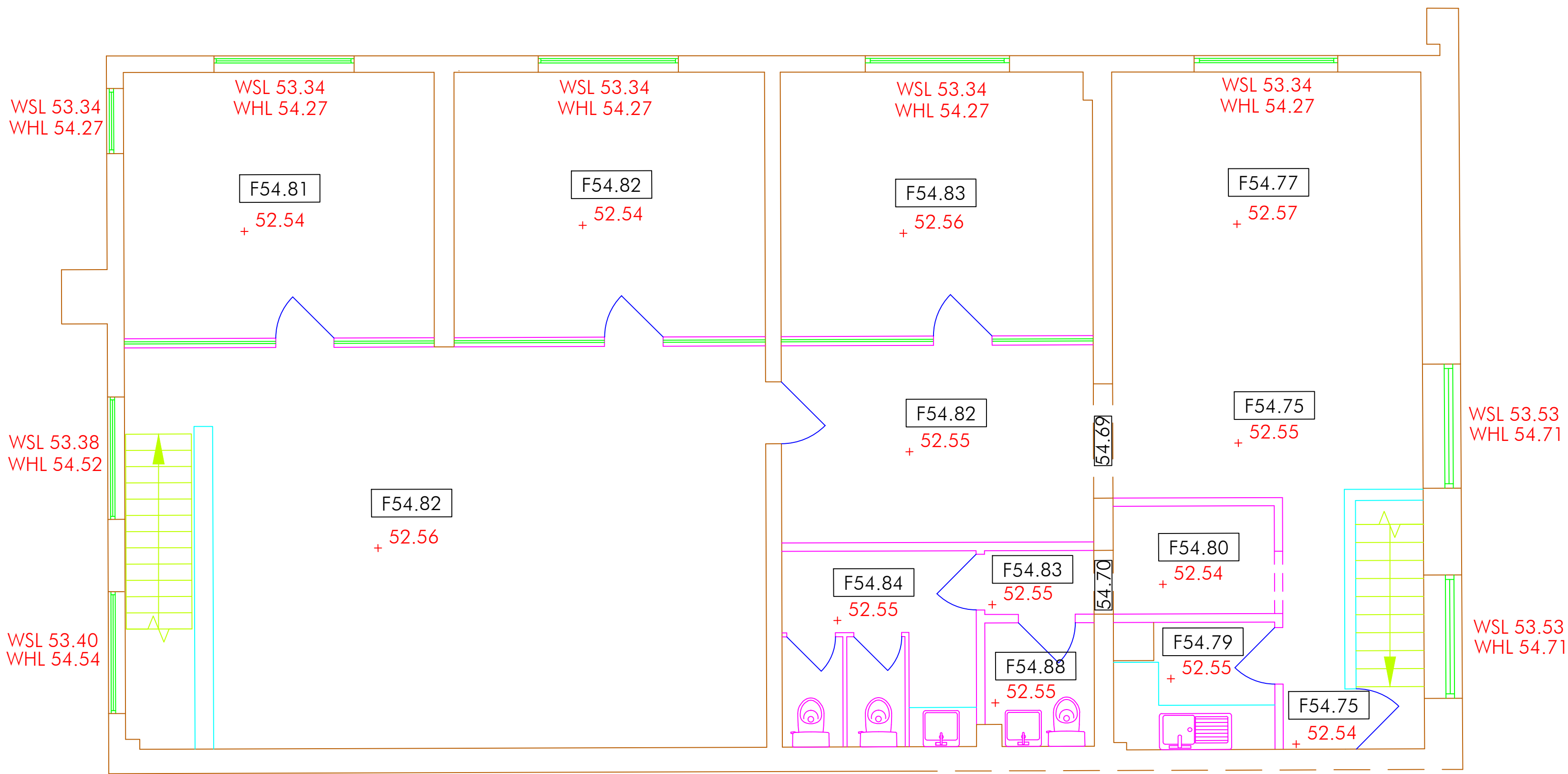
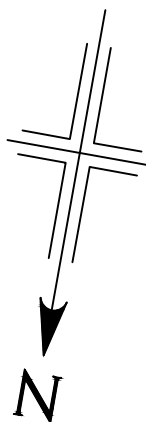
6 Appendices

A1 Proposed Layouts



All levels are in metres and are above Arbitrary Site Datum.

-
- A number line starting at 1 and ending at 10. Tick marks are placed at every integer. Above the line, the numbers 1, .5, 0, 1, 2, 3, 4, 5 are written. Below the line, the word 'metres' is written at the end.



General Note:
Care should be taken when drawings are printed
to avoid image distortion.

Copyright:
This document and all information contained herein
is the sole property of T&T PJM UK, reproduction
in any form is strictly forbidden unless permission in
writing is obtained.

All levels are in metres and are above Arbitrary Site
Datum.

+ XX.XX Height from Arbitrary Survey Datum Line

X.XX Ceiling Level

FX.XX False Ceiling Level

BSLX.XX Beam Soffit Level

WSLxx.xx Window Sill Level

WHLxx.xx Window Height Level

X.XX Height from Finished Floor to Slab Above

FX.XX Height from Finished Floor to False Ceiling Above

BS X.XX Height from Finished Floor to Beam Above

sxx.xx Height from Finished Floor to Window Sill

hxx.xx Height from Finished Floor to Window Head



London • Bristol • Warrington • Leeds • Brighton • Brussels