

Strategic Flood Risk Assessment Level 2 Report

Prepared for

**Royal Borough of
Greenwich**

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Contents

1	Introduction and Policy	1
1.1	Background	1
1.2	National Policy	2
1.3	Regional Policy	4
1.4	Local Policy	4
1.5	Flood Zones	4
1.6	Vulnerability Classification	5
1.7	Flood Risk Vulnerability and Flood Zone Compatibility	6
2	Site Assessments	7
2.1	Purpose	7
2.2	Locations Assessed	7
3	Methodology	10
3.1	Site Selection	10
3.2	Analysis	10
3.3	Assessment Template	11
3.4	Data Sources	11
4	General Requirements	14
5	Appendices	16



Figures and Tables

Table 1: Acronyms and abbreviations	iv
Table 2: Flood risk vulnerability classifications (as outlined in Annex 3 of the NPPF)	5
Table 3: Flood risk vulnerability and Flood Zone ‘incompatibility’	6
Table 4: Summary of site allocations	7
Table 5: Surface water flood risk hazard categories	11
Table 6: Site Assessment proforma details	11
Table 7: Datasets used in the Site Assessments.....	12
Table 8: General mitigation requirements for the site allocations	14

Acronyms and Abbreviations

Table 1: Acronyms and abbreviations

Abbreviation	Definition
AEP	Annual Exceedance Probability
BGS	British Geological Survey
CFMP	Catchment Flood Management Plan
DEFRA	Department for Environment, Food & Rural Affairs
EA	Environment Agency
FRA	Flood Risk Assessment
FRMP	Flood Risk Management Plan
HR	Hazard Rating
LPA	Local Planning Authority
NaFRA2	National Flood Risk Assessment 2
NPPF	National Planning Policy Framework
PPG	Planning Practice Guidance
RMA	Risk Management Authority
RoFSW	Risk of Flooding from Surface Water
SFRA	Strategic Flood Risk Assessment
Greenwich	Royal Borough of Greenwich
TRBD	Thames River Basin District
TWUL	Thames Water Utilities Limited
WMS	Web Map Service



1 Introduction and Policy

Local Planning Authorities (LPAs) are required under the National Planning Policy Framework (NPPF) to develop a Strategic Flood Risk Assessment (SFRA). This assessment must evaluate both current and future risks from all sources, taking into account the effects of climate change, as well as how changes in land use and new development may influence flood risk.

The Royal Borough of Greenwich (Greenwich) has commissioned Metis Consultants Limited (Metis) to prepare a Level 2 SFRA to support the development of its upcoming Local Plan. Further details on the Local Plan are available [here](#). The Level 1 SFRA undertook a borough-wide screening of 56 potential development sites ([Appendix A](#)) to identify sites with significant flood risk that would require further analysis. The Level 2 SFRA builds on this, providing a detailed site-specific assessment of flood risk for 43 selected sites ([Table 4](#)), considering flood risk from fluvial, tidal, surface water, sewer, groundwater, and artificial sources.

The purpose of the Level 2 SFRA is to provide the necessary evidence for applying the Sequential Test, helping to identify the sites with the lowest flood risk and determining whether development can be made safe without increasing risk elsewhere. It also informs developers of appropriate mitigation requirements, and, where necessary, supports the application of the Exception Test.

The key outputs of this assessment include detailed site-specific evaluations for the sites identified for further review ([Appendix B](#)). Each site assessment considers the relevant sources of flood risk, key planning considerations, and the mitigation measures that may be required.

1.1 Background

A Level 1 SFRA for Greenwich was produced by Metis in February 2026 and updated in June 2026. The Level 1 SFRA was prepared in accordance with the [NPPF](#) and Flood Risk and Coastal Change Planning Practice Guidance ([PPG](#)). It provides a strategic overview of all forms of flood risk throughout the study area. The Level 1 SFRA forms a key part of the evidence base to inform the Local Plan, ensuring that future development is directed away from areas identified as most at risk of flooding from a range of sources.

The [PPG](#) states that a Level 2 SFRA is required if:

- You cannot allocate all land for development outside of flood risk areas.
- You can allocate land for development outside flood risk areas but believe you may get high numbers of applications in flood risk areas on sites not identified in the Local Plan.

The Screening Assessment identified 43 sites which required further assessment due to fluvial / tidal flood risk or surface water flood risk. Of these, 13 sites were assessed due to a combination of fluvial / tidal and surface water flood risk. A further 28 sites required assessment because of fluvial / tidal flood risk only, while two sites were assessed solely due to surface water flood risk.



This Level 2 SFRA has been prepared in accordance with relevant national, regional and local planning policy. While the Level 1 SFRA also was written in alignment with these policy requirements, several additional policy considerations apply specifically to the Level 2 Site Assessments. These policies ensure that flood risk is fully integrated into planning decisions relating to the location, design, and delivery of future development. Their purpose is to help ensure development is directed away from areas of higher flood risk, safeguarding both people and property within Greenwich.

1.2 National Policy

National policy guiding the requirements of SFRAs is detailed in the [NPPF](#) and accompanying [PPG](#). These documents contain information on when SFRAs (Levels 1 and 2) are required and the level of detail they should contain. The [NPPF](#) and [PPG](#) also introduce the Sequential and Exception Tests. The Sequential Test compares a proposed development site with other available locations to ensure development is directed towards areas with the lowest flood risk. Where the Sequential Test cannot place development in a lower-risk area, the Exception Test is required. This applies to the following types of developments:

- Highly Vulnerable and in Flood Zone 2
- Essential Infrastructure in Flood Zone 3a or 3b
- More Vulnerable in Flood Zone 3a

This Level 2 SFRA Report is structured to provide the basis for the application of this Test. Section 6.2 of the Level 1 SFRA provides further guidance on the application of the Sequential and Exception Tests.

The [NPPF](#) was most recently revised in February 2025, and key changes were made in the 2021 revision, which are relevant to this Level 2 SFRA. These changes include:

- Ensuring that plans consider all sources of flood risk.
- Encouraging the use of improvements in green infrastructure and Natural Flood Management (NFM) within developments to reduce the causes and impacts of flooding.
- Incorporating appropriate flood resistant and resilient measures within developments to ensure they can quickly return to use after flood events without the need for significant refurbishment.
- Including the Flood Risk Vulnerability Classification within [Annex 3](#).

The [PPG](#) was most recently updated in September 2025. Prior to this, the most recent amendment was in August 2022, which brought it in line with the latest updates in the 2021 [NPPF](#) revision. The 2025 update brought clarity to the Sequential Test, including:

- The sequential approach must now explicitly consider all sources of flood risk, including:
 - Surface water
 - Fluvial
 - Tidal
 - Groundwater



- Sewer and drainage systems
 - Reservoirs and canals
- A site-specific FRA can now remove the need for a sequential test if it proves:
 - Safety from surface water flood risk for the lifetime of the development.
 - No increase in flood risk elsewhere.

The Exception Test section was also updated:

- The Exceptions Test still consists of two parts, both of which should be satisfied.
 - Sustainability benefit: The development must provide wider sustainability benefits to the community that outweigh the flood risk.
 - Safety and Risk Management: A site-specific FRA should demonstrate the development will be safe for its lifetime, it will not increase flood risk elsewhere, it will ideally reduce flood risk overall.
- The Exception Test must now consider all sources of flooding not just fluvial or tidal.

Additional updates introduced in the 2025 version of the PPG include:

- Climate change emphasis: the FRA must now explicitly account for future climate change impacts, including increased rainfall activity, sea level rise, groundwater level changes.
- LLFAs and the EA are now expected to scrutinise FRAs more vigorously and ensure exception test criteria are met more consistently across all applications.

The key updates to the 2022 PPG include:

- The explicit inclusion of a climate change allowance within 'design flood' and the consideration of surface water flood risk.
- The Functional Floodplain starting point is now the 3.3% annual exceedance probability (AEP) event (previously 5% AEP).
- The non-residential development lifetime starting point is set at 75 years.
- The encouragement of an integrated approach to flood risk management. This involves a catchment-based approach, improved connectivity with other strategies, and the inclusion of measures which deliver multiple benefits.

The original Non-Statutory Technical Standards for SuDS design, maintenance and operation were issued by the [Department for Environment, Food & Rural Affairs \(DEFRA\)](#) in 2015 for use alongside the [NPPF](#) and [PPG](#). The [updated National Standards for Sustainable Drainage Systems](#), published in July 2025, cover seven areas: runoff destinations, everyday rainfall (interception), extreme rainfall and flooding, water quality, amenity, biodiversity, and drainage design for construction, operation, maintenance, decommissioning and structural integrity. They apply to surface water drainage systems for new infrastructure and developments on both greenfield and brownfield sites. While not intended for retrofit SuDS, which face different objectives and constraints, they may provide a useful starting point.

The maps included within the report and site assessments are current at the time of the latest update to this SFRA (June 2026), and follow the EA's release of the [National Flood Risk Assessment 2 \(NaFRA2\)](#) in 2025, which updated national flood risk data including



Flood Zone data, Risk of Flooding from Rivers and Sea data and Risk of Flooding from Surface Water data.

1.3 Regional Policy

The [London Plan](#) (2021) provides an integrated economic, environmental, transport and social framework for London's Development. Policy SI 12 of the London Plan states that Local Authorities should use their SFRA to identify areas where particular and cumulative flood risk issues exist and develop actions and policy approaches aimed at reducing these risks. These actions must be informed by the most recent [Thames River Basin District \(TRBD\) Flood Risk Management Plan \(FRMP\)](#), which was published in December 2022.

The [TRBD FRMP](#) sets out how Risk Management Authorities (RMAs) will manage flood risk across the region during 2021-2027 cycle. Key measures within this Plan include improving understanding of available flood risk information. This includes national and local flood risk maps, including those used within this SFRA.

This Level 2 SFRA supports that objective by improving understanding of flood risk within Greenwich, enabling the borough to identify areas of heightened or cumulative flood risks and to develop targeted planning policies and actions to reduce these risks.

1.4 Local Policy

Greenwich's current [Local Plan](#) sets out the borough's long-term spatial vision and planning policies, guiding development to support sustainable growth and resilient communities. The plan focuses on delivering new homes, supporting economic development, strengthening local centres, and improving connections across the borough, while continuing to protect and enhance the green and blue spaces throughout the boroughs network of parks and waterways. It also embeds environmental sustainability as a core principle, recognising the borough's vulnerability to climate-related risks such as flooding and placing emphasis on climate adaptation, green infrastructure, and resilient design.

Greenwich is preparing an updated [Local Plan](#) that will shape development across the borough over the next 15 years from 2025 to 2040. This updated plan will respond to emerging priorities, including housing need, protecting green spaces and responding to climate change. Further information on the draft Local Plan is available at the [Royal Borough of Greenwich](#) website.

This Level 2 SFRA provides detailed, site-specific flood risk evidence to support the Local Plan. It will help ensure that proposed development sites align with flood risk policies, and it will guide developers in incorporating appropriate mitigation measures so that future growth in Greenwich is planned and delivered safely and sustainably.

1.5 Flood Zones

The Environment Agency (EA) have defined Flood Zones to show the probability of fluvial and / or tidal flooding. These Flood Zones provide indicative flood risk information and are used as part of the planning process as a tool in the Sequential and Exception Tests. The fluvial / tidal Flood Zones are defined within the [PPG 'Flood Risk and Coastal Change' \(Table 1\)](#). Greenwich has areas that are fluvially and tidally influenced. All Flood Zones included in this assessment are defined as follows:



- **Fluvial Flood Zone 1** (Low Probability): Land having a less than 0.1% annual probability of river flooding.
- **Fluvial Flood Zone 2** (Medium Probability): Land having between a 1% and 0.1% annual probability of river flooding.
- **Fluvial Flood Zone 3a** (High Probability): Land having a 1% or greater annual probability of river flooding.
- **Fluvial Flood Zone 3b** (Functional Floodplain): Land that is deemed to be at the greatest risk of flooding from rivers, and where water must flow or be stored during times of flood. For Greenwich, this definition includes land that has an annual probability of flooding from rivers of 1 in 30 years or greater ($\geq 3.3\%$ AEP), Water Storage Areas, and any land riverward of the Thames Tidal Flood Defences.

1.6 Vulnerability Classification

The flood risk vulnerability classification that is required for the Sequential Test is outlined in [Annex 3 of the NPPF](#). It is summarised in [Table 2](#).

Table 2: Flood risk vulnerability classifications (as outlined in Annex 3 of the NPPF)

Essential Infrastructure
• Essential transport infrastructure which has to cross the area at risk. • Essential utility infrastructure which has to be located in a flood risk area for operational reasons e.g., infrastructure for electricity supply (including generation, storage and distribution systems). • Wind turbines / solar farms.
Highly Vulnerable
• Police and ambulance stations; fire stations and command centres; telecommunications installations required to be operational during flooding. • Emergency dispersal points. • Basement dwellings. • Caravans, mobile homes and park homes intended for permanent residential use. • Installations requiring hazardous substances consent.
More Vulnerable
• Hospitals. • Residential institutions such as care homes, children's homes, social services homes, prisons and hostels. • Buildings used for dwelling houses, student residence, drinking establishments, nightclubs and hotels. • Non-residential uses for health services, nurseries and educational establishments. • Landfill and sites used for waste management facilities for hazardous waste. • Holiday or short-let caravans and camping sites (subject to a specific warning/evacuation plan).
Less Vulnerable
• Police, ambulance and fire stations which are not required to be operational during flooding. • Buildings used for shops; financial, professional, and other services; restaurants, cafes and hot food takeaways; offices; general industry, storage and distribution; non-residential institutions not included in the More Vulnerable class; and assembly and leisure. • Land and buildings used for agriculture and forestry. • Waste treatment (except landfill and hazardous waste facilities). • Minerals working and processing (except for sand and gravel working). • Water treatment works which do not need to remain operational during times of flood. • Sewage treatment works (with adequate pollution control measures to manage sewage during flooding). • Car parks.
Water Compatible
• Flood control infrastructure. • Water transmission infrastructure and pumping stations.

- Sewage transmission infrastructure and pumping stations.
- Sand and gravel working.
- Docks, marinas and wharves.
- Navigation facilities.
- Ministry of Defence installations.
- Ship building, repairing and dismantling, dockside fish processing and refrigeration and compatible activities requiring a waterside location.
- Water-based recreation (excluding sleeping accommodation).
- Lifeguard and coastguard stations.
- Amenity open space, nature conservation and biodiversity, outdoor sports and recreation and essential facilities such as changing rooms.
- Essential ancillary sleeping or residential accommodation for staff required by uses in this category, subject to a specific warning and evacuation plan.

1.7 Flood Risk Vulnerability and Flood Zone Compatibility

The [PPG Flood risk vulnerability and Flood Zone ‘incompatibility’ table](#) provides guidance on the types of development that may be considered as suitable within each Flood Zone. It sets out the circumstances where the Exception Test will need to be applied following the Sequential Test. This is shown in [Table 3](#).

Table 3: Flood risk vulnerability and Flood Zone ‘incompatibility’

Flood Zone	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 †	✗	Exception Test Required	✓	✓
Zone 3b	Exception Test Required *	✗	✗	✗	✓*

Key	
✓	Development is appropriate
✗	Development should not be permitted
†	In Flood Zone 3a Essential Infrastructure should be designed and constructed to remain operation and safe in times of flood
*	In Flood Zone 3b Essential Infrastructure that has passed the Exception Test, and Water Compatible uses, should be designed and constructed to: • Remain operational and safe for users in time of flood • Result in no net loss of floodplain storage. • Not impede water flows and not increase flood risk elsewhere.

2 Site Assessments

2.1 Purpose

The Site Assessments completed as a part of this Level 2 SFRA have two main purposes:

- To help Greenwich apply the Sequential Test so that development is directed to areas that are at lowest risk of flooding.
- To provide the information needed to apply the Exception Test, checking whether a development can be built in a higher flood risk area.

The Site Assessments also provide recommendations and considerations for Greenwich and prospective developers, to be used in conjunction with the guidance provided in Section 6 of the Level 1 SFRA and [Section 4](#) of this document. For further information on the Level 2 SFRA methodology, refer to [Section 3](#) of this document.

2.2 Locations Assessed

In total, 43 sites have been identified as requiring a Site Assessment within the Level 2 SFRA. These sites are located across the borough, with sites concentrated in the northern part of the borough along the River Thames, including areas around Greenwich Peninsula, Charlton Riverside, Woolwich and Thamesmead. A smaller number of sites are located within central and southwestern parts of the borough. The location of the sites requiring a Site Assessment is shown on the Council's interactive [SFRA web mapping](#).

Table 4: Summary of site allocations

Site ID	Site Name	Proposed Use	Area (ha)
P1-GBW3	Greenwich DLR Station	Residential-led mixed-use Replacement access to Greenwich Station.	0.2
P1-GBW7	141 Woolwich Road	Residential-led scheme (residential or student accommodation) and commercial use.	0.22
P6-PS1	11-15 Plumstead High Street	Residential led mixed-use development, incorporating a place of worship.	0.24
P5-TA3	Former Princess Alice Public House	Residential with ground floor commercial use.	0.27
P1-GBW4	Greenwich Quay	Residential and commercial uses.	0.29
P1-GBW5	Former Arches Leisure Centre	Mixed use development incorporating commercial uses with residential uses.	0.45
P1-GBW6	Hoskins Street Island Site	Residential led, mixed-use scheme with commercial use and/or light industrial workspace use.	0.51
P1-GBW1	Lewisham College	Residential-led mixed-use B.	0.778
P4-W3	Waterfront Leisure Centre	Residential led mixed-use.	0.82
P1-GBW2	Brookmarsh Industrial Estate and Phoenix Wharf	Mixed use scheme including light industrial and residential uses alongside public access to Deptford Creek.	0.89
P2-GP5	GMV Plot 500s	Residential led mixed-use.	1
P4-W8	Woolwich OSD East	Residential-led mix-use.	1.18
P2-GP1	Enderby Place	Residential and industrial / commercial use.	1.24



P5-TA6	Land to the West of Church Manor Way	Gypsy and Traveller Site.	1.3
P4-W13	Love Lane and Former Post Office Site (Phase 6)	Residential led mixed use development incorporating commercial and community uses.	1.31
P5-TA1	Pettman Crescent North	Residential led mixed use development with commercial units.	1.38
P5-TA5	Gallions Reach Health Centre	Residential or health and residential use.	1.4
P4-W12	Woolwich New Leisure Centre	Residential led, mixed use with commercial and leisure uses.	1.57
P4-W2	Woolwich Ferry and Ambulance Station	Mixed use development, incorporating the Woolwich Ferry operational facilities and associated car parking and plant yard. Additional non-residential space for commercial uses and potentially the reprovion of the Ambulance station.	1.62
P2-GP4	SGN Greenwich	Residential led, mixed-use development, incorporating commercial and community uses at ground floor.	1.9
P4-W11	Woolwich Arsenal OSD Sites A and B	Mixed use development with upgraded railway and DLR station, town centre commercial units at ground floor, and enhanced public realm.	1.92
P3-C6	Charlton Riverside - Eastmoor Street and Westmoor Street	Mixed use development incorporating commercial and light industrial uses with residential uses.	2.224
P3-C7	17-37 & 18-36 Bowater Road, 1-3 Faraday Way	Mixed use development incorporating commercial and light industrial uses with residential uses.	2.25
P4-W9	Spray Street Quarter	Residential led mixed use.	2.3
P5-TA7	Cross Quarter and Lyndean Industrial Estate	Residential led mixed-use development to include the reprovion of industrial premises.	3.01
P2-GP2	Morden Wharf	Residential-led mixed use.	3.24
P3-C1	Charlton Riverside - Peninsular Park Road	Mixed-use development including residential, commercial and industrial.	3.38
P3-C2	Charlton Riverside - ASDA and Ramac Way	Mixed uses including residential, commercial / retail and small-scale industrial workshop / studio uses.	4.47
P8-KM1	Kidbrooke Village Phase 5 (Buildings A and B)	Residential, community use and open space.	4.6
P3-C4	Charlton Riverside - Herringham Road and Riverside	Mixed-use development comprising residential, commercial, and light industrial uses.	5.135
P5-TA2	Broadwater Dock	Residential uses, ancillary community uses and publicly accessible open space.	5.17
P2-GP6	Millennium Retail Park	Residential led mixed-use.	5.33
P8-KM1	Kidbrooke Village Phase 6	Residential (C3 and extra care C3), open space, community facilities and retail use.	5.8



P4-W1	Woolwich Dockyard and Former Dry Docks	Residential use with commercial use.	10.24
P3-C3	Charlton Riverside - Greenwich Shopping Park, Maritime Industrial Estate and Makro	Residential led, with light industrial (including affordable workspace) and commercial uses.	11.7
P3-C5	Charlton Riverside - Central	Mixed-use development comprising residential, new local centre, industrial, commercial and education use.	16.98
P2-GP3	Greenwich Peninsula Central	Residential-led mixed use.	45.6
P5-TA4	Thamesmead Waterfront	Mixed-use development including residential, town centre uses, commercial, community and transport use, green and blue infrastructure.	97
P1-GBW8	Greenwich Pumping Station	Residential-led mix-use.	0.31
P4-W18	Gunnery Terrace	Residential-led mix-use.	0.94
P4-W19	IO Centre	Residential-led mix-use.	1.91
P7-E1	Merlewood House and Eltham Police Station	Residential, commercial and community uses.	0.87
P8-KM3	ALDI and B&M Kidbrooke Park Road	Mixed residential and retail uses.	1.2



3 Methodology

3.1 Site Selection

A Screening Assessment was conducted for a total of 56 sites to establish whether a detailed Site Assessment was required ([Appendix A](#)). This was completed using the latest data available at the time. The following criteria was used to determine whether a Site Assessment was required:

“A Site Assessment is recommended where the extent of Flood Zone 2, Flood Zone 3a, Flood Zone 3b (fluvial) and / or the Main River 1% AEP + 17% climate change scenario for the River Ravensbourne / the Main River 1% AEP + 20% climate change scenario for the Marsh Dykes) is greater than 0.0049% of the site area, and the Risk of Flooding from Surface Water (RoFSW) medium risk extent exceeds 25% of the site area.”

All Surface Water Flooding Risk Categories included in this assessment are defined as follows:

- **High Risk:** A probability of 3.3% or greater (equivalent to 1 in 30 years) of flooding in any given year.
- **Medium Risk:** A probability of less than 3.3% but at least 1% (between 1 in 30 and 1 in 100 years) in any given year.
- **Low Risk:** A probability of less than 1% but at least 0.1% (between 1 in 100 and 1 in 1,000 years) in any given year.

For the RoFSW, the combined ‘Medium’ and ‘High’ risk extents were used. A threshold of 25% was chosen as a minimum site area percentage to assess the sites at risk of surface water flooding. This was to represent both a precautionary and proportionate threshold which allows sufficient space within the site to design the layout to avoid the need to locate the most vulnerable aspects of the development within the RoFSW high and medium risk extents. There are 13 sites that are not identified as needing a site assessment as they are not affected by fluvial / tidal flooding and the ROFSW ‘High’ and ‘Medium’ risk extent is below 25% of the site area. However, the risk of flooding at these sites should still be considered. These can be identified in the Screening Assessment ([Appendix A](#)).

Based on the assessment criteria, the Screening Assessment identified 13 sites that required a Site Assessment due to a combination of fluvial / tidal and surface water flood risk. A further 28 sites required assessment because of fluvial / tidal flood risk only, while two sites were assessed solely due to surface water flood risk.

3.2 Analysis

The Site Assessments were carried out using datasets provided by the EA, Thames Water Utilities Limited (TWUL), British Geological Survey (BGS) and Greenwich, as well as data obtained from the Level 1 SFRA. Predicted flooding from surface water, sewer, fluvial, groundwater and artificial sources were analysed using the predicted proportion of each flood risk type within each site. The assessments for fluvial and surface water flood risks are based on the Flood Zones defined in the Level 1 SFRA, the fluvial extents from the relevant river models, and the RoFSW mapping. The Flood Zone definitions are outlined in [Section](#)



1.6. The Flood Hazard Rating (HR) used in the Site Assessments can be interpreted as shown in Table 5.

Table 5: Surface water flood risk hazard categories

Hazard	Rating	Definition
Low	$0.5 \geq HR < 0.75$	Caution – Flood Zone with shallow flowing water or deep standing water
Moderate	$0.75 \geq HR \leq 1.25$	Dangerous for some (i.e. children) – Danger: Flood Zone with deep or fast flowing water
Significant	$1.25 > HR \leq 2.0$	Dangerous for most people – Danger: Flood Zone with deep fast flowing water
Extreme	$HR > 2.0$	Dangerous for all – Extreme danger: Flood Zone with deep fast flowing water

3.3 Assessment Template

Site Assessments were conducted on a specifically designed proforma. The sections included are summarised in Table 6.

Table 6: Site Assessment proforma details

Section	Contents
Current and proposed use	Development use of each site assessed
Current and proposed vulnerability classification	Identified the sites vulnerability classification as outlined in Table 2 . For sites which may support a variety of different uses, the vulnerability classification is identified based on the most vulnerable use.
Risk summary	Percentage of the site area under each risk level for different types of flooding
Flood defences	Identifies if the site benefits from any fluvial flood defences
Flood Warning Areas	Identifies if the EA flood warning service is available at the site
Risk assessment	Data on risk from each flooding source, including flood depth, speed, hazard, duration, etc.
Flood mechanisms	For each flood source, how flood water behaves within the site
Site access / egress routes	Where flood-safe entry and exit routes should be located, or whether a Flood Risk Emergency Plan is required
Mitigation requirements	For each flood source, a list of mitigation measures to alleviate the flood risk for potential developments at the site. To be used in conjunction with the guidance provided in Tables 6.1 and 6.2 of the Level 1 SFRA.
Safety of development	Analysis of how secure the development is against future flooding, including climate change considerations. This section also identifies if the site can be developed based on Exception Test criteria, and any other restrictions to the site.

3.4 Data Sources

Different datasets were used to inform this assessment, a description of these datasets, their purpose and their source are outlined in [Table](#). The data layers can be seen for each site within the online [SFRA mapping](#).

Table 7: Datasets used in the Site Assessments

Category	File name	Description	Data source	Purpose
Base map	Basemap	Polygons of streets, buildings, and other features in the area.	Ordnance Survey (OS) Master Map	Map creation.
	Greenwich borough boundary	Polygon demarcating the borough boundary.	OS Open Data	Defining study area; geographical boundary for other data needed.
	Statutory Main River Map	Line files showing the watercourses in the borough.	EA Web Map Service (WMS)	Determining locations of watercourses.
	Site Allocations	Polygons giving outlines of 53 proposed development sites in the borough.	Greenwich 2026	Conducting screening and site level assessments.
Digital Terrain Model	LiDAR	Raster containing ground elevation data.	EA 2026	Determining low elevation areas susceptible to surface water flooding.
Flood Warning Areas	Flood Warning Areas	Polygon showing the areas where the EA Warning Service is available.	EA WMS	Determining if site users can sign up to the EA flood warning service.
Flood Defences	Spatial Flood Defences	Polygons showing the type and location of flood defences.	EA WMS	Determining if site is benefiting from existing flood defences
Groundwater	Potential for Groundwater Flooding	Provides strategic scale map of areas with potential for groundwater flooding.	BGS	Analysing the potential for groundwater flood risk.
Flood Map for Planning	Flood Zone 2	Polygons showing land with annual probability of river flooding between 1% and 0.1%.	EA 2026	Prioritising sites for assessment.
	Flood Zone 3	Polygons showing land having a 1% or greater annual probability of river flooding.	EA 2026	
Flood Zone 3b	Flood Zone 3b	Polygons showing land that has an annual probability of flooding from rivers of 3.3% or more, Water Storage Areas, and any land riverward of the Thames Tidal Flood Defences.	Level 1 SFRA	Prioritising sites for assessment.



Category	File name	Description	Data source	Purpose
Risk of Flooding from Surface Water (RoFSW)	RoFSW Extent	Polygons showing flood extent, depth, velocity and hazard values for rainfall scenarios with a low, medium and high chance of occurring in any given year.	EA 2026	Prioritising sites for assessment; Analysing current and future surface water flood risk; Creating surface water flood risk mitigation plan.
	RoFSW Depth			
	RoFSW Hazard			
	RoFSW Velocity			
Risk of Flooding from Reservoirs	Reservoir Flood Extent Dry Day	Map showing the largest area that might be flooded if a reservoir were to fail and release the water it holds on a dry day i.e. when rivers are not at capacity.	EA 2026	Analysing current flood risk from reservoir breach.
	Reservoir Flood Extent Wet Day	Map showing the largest area that might be flooded if a reservoir were to fail and release the water it holds on a wet day i.e. when rivers are at capacity.		
Sewer flood records	Greenwich Sewer Flooding Records 04/03/2026	Database of historic sewer flooding incidents by four-digit postcode.	TWUL 2026	Sewer flood risk assessment.
Rivers	River Ravensbourne	Data from EA-generated model of the River Ravensbourne.	EA 2025	Fluvial flood risk assessment (current and future); Determining climate Change allowance extents; Creating fluvial flood risk mitigation plan; Applying Exception Test.
	Marsh Dykes	Data from EA-generated model of the Marsh Dykes.	EA 2015	
Tidal	Thames Tidal Breach Upriver	Data from EA-generated model of Thames Tidal Breach scenarios	EA 2017	Analysing potential flood risk from a Tidal breach.
	Thames Tidal Breach Downriver		EA 2018	



4 General Requirements

[Table 8](#) outlines the general requirements that all the sites within this Level 2 SFRA must follow to align with the requirements of the [NPPE](#). They have been referenced in the individual Site Assessments ([Appendix B](#)) to make it clear where they are appropriate to be applied to the site. Further information on the mitigation requirements can be found in Tables 6.1 and 6.2 of the Level 1 SFRA. These set out the requirements for all developments (Flood Zones 1, 2, 3a, and 3b) and individual sites (from groundwater, sewer and artificial sources) as per the [NPPE](#).

A climate change allowance of 17% has been used to set out the recommendations for sites affected by the River Ravensbourne. For the Marsh Dykes the climate change allowance is 20% as this is the only climate change scenario currently available for this model. The river allowances recommended by the EA are intended for master planning purposes only. Developers submitting planning applications should refer to the [Flood Risk Assessments \(FRAs\): climate change allowances](#) guidance.

Table 8: General mitigation requirements for the site allocations

No.	Mitigation Requirement	Applicable Area
4.1	There should be no net loss of floodplain storage within new developments. Only Essential Infrastructure (subject to the Exception Test) and Water Compatible infrastructure are permitted.	Flood Zone 3b
4.2	Flood storage compensation needs to be provided if permissible development decreases the volume of a fluvial floodplain. The compensatory storage provided must equal or exceed the storage lost to ensure there will be no net loss of flood storage.	Flood Zone 3b and Flood Zone 3a, and the fluvial flood risk extent for the 1 in 100 year (1% AEP) plus climate change allowance (which covers parts of Flood Zone 2)
4.3	Flood Warning and Emergency Plans need to feature measures to manage residual and actual flood risk before, during, and after a flood, reducing the potential human impact of any flood event and making developments as resilient to flooding as possible. Key considerations can be found in the PPG . Cohesive emergency planning at site-specific and strategic level is essential to minimise the potential impact of an increased flood risk resulting from climate change and urban development. Where a site does not benefit from areas of safe access and egress, a Flood Risk Emergency Plan should be provided in line with Adept guidance. SBC's Emergency Planning webpages and the Borough Risk Register (2025) detail the emergency situations that EEBC are prepared to deal with, what they do in an emergency and their statutory duties in for emergencies.	All
4.4	Residual risk should be mitigated through flood resilient / resistant designs and emergency planning to make sure the proper measures are in place to offer protection.	Entire area at risk



4.5	Development sites within 16m of a tidal river, and 8m of a non-tidal main river, flood defence structure or culvert may require a Flood Risk Activity Permit.	8m buffer area around non-tidal main rivers and 16m buffer area around tidal rivers
4.6	Development sites may require an approved ordinary watercourse consent.	6m buffer area around an ordinary watercourse
4.7	All basement rooms must have internal access and egress to a higher floor above the design flood level which can be utilised as part of emergency evacuation procedures.	Flood Zone 3a, Flood Zone 2
4.8	As part of any assessment for basement dwellings, evidence needs to be submitted to confirm the local water table level.	Flood Zone 3a, Flood Zone 2, Flood Zone 1
4.9	Finished ground floor levels must be set at 600mm above the 1 in 100-year (1% AEP) event (with a suitable climate change allowance) for any new 'Essential Infrastructure', 'Highly Vulnerable', 'More Vulnerable' and 'Less Vulnerable' development, and for any change of use developments that increase the vulnerability classification.	All
5.0	A SuDS strategy is required for all major developments along with Minor developments and change of use developments that impact a site's existing drainage regime. All developments should follow the SuDS standards as detailed in the London Plan and the National Standards for SuDS .	All



5 Appendices

Appendix A – Screening Assessment

Appendix B – Site Assessments

