Final Report

Submitted to
London Borough of Wandsworth

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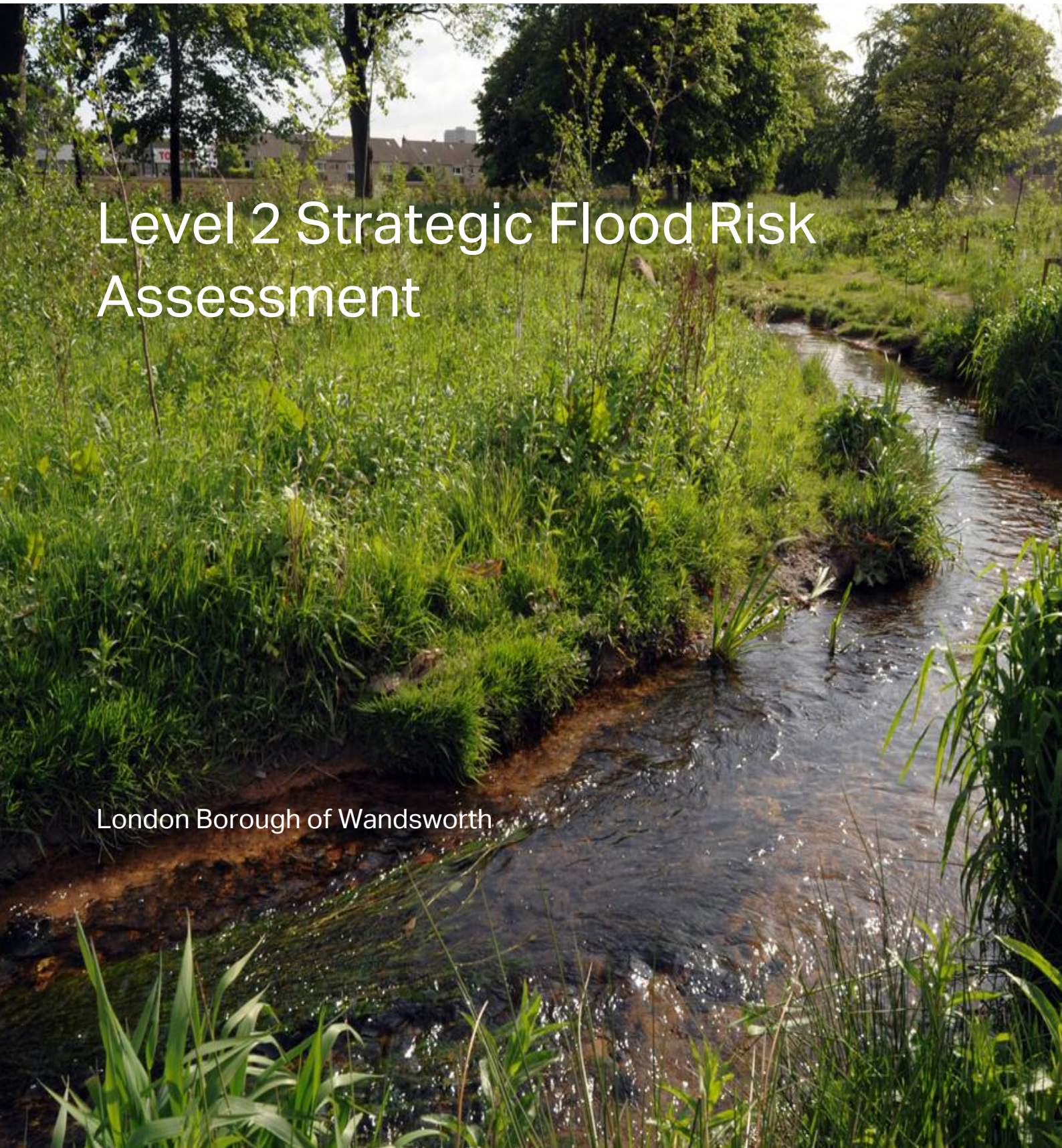

Level 2 Strategic Flood Risk Assessment

London Borough of Wandsworth

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1 Introduction

1.1 Terms of Reference

AECOM has been commissioned by Croydon Council, on behalf of London Borough of Croydon, London Borough of Merton, London Borough of Sutton and London Borough of Wandsworth Council to review and update their joint Level 1 and Level 2 Strategic Flood Risk Assessment (SFRA) for the administrative area covered by the four boroughs. This document is a Level 2 report for the London Borough of Wandsworth.

1.2 Project Background

The National Planning Policy Framework[1] (NPPF) and associated Planning Practice Guidance for Flood Risk and Coastal Change (PPG)[2] emphasise the active role Local Planning Authorities (LPAs) should take to ensure that flood risk is understood and managed effectively and sustainably throughout all stages of the planning process. The NPPF outlines that Local Plans should be supported by a Strategic Flood Risk Assessment (SFRA) and LPAs should use the findings to inform strategic land use planning. The overall approach of the NPPF to flood risk is broadly summarised Paragraph 103:

When determining planning applications, LPAs should ensure flood risk is not increased elsewhere and only consider development appropriate in areas at risk of flooding where, informed by a site-specific FRA following the Sequential Test, and if required the Exception Test, it can be demonstrated that:

- ***within the site, the most vulnerable development is located in areas of lowest flood risk unless there are overriding reasons to prefer a different location, and***
- ***development is appropriately flood resilient and resistant, including safe access and escape routes where required, and that any residual risk can be safely managed, including by emergency planning; and it gives priority to the use of sustainable drainage systems."***

1.2.1 Level 1 SFRA Deliverables

One combined revised Level 1 SFRA report has been prepared for the four Boroughs. The purpose of the Level 1 SFRA was to collate and analyse the most up to date readily available flood risk information for all sources of flooding, and provide an overview of flood risk issues across the study area. The borough wide mapping deliverables for the London Borough of Wandsworth are presented in the **Level 1 SFRA Appendix A Figures 5.1 – 5.9**.

The Level 1 SFRA provides guidance on:

- The application of the Sequential Test by each LPA when allocating future development sites to inform their Local Plans, as well as by developers promoting development on windfall sites.
- Managing and mitigating flood risk, the application of sustainable drainage systems (SuDS), and the preparation of site specific Flood Risk Assessments (FRAs).
- Potential flood risk management objectives and policy considerations which may be developed and adopted by the London Boroughs as formal policies within their developing Local Plans.

1.3 Level 2 SFRA

Using the strategic flood risk information presented within the Level 1 SFRA, Wandsworth Council undertook the Sequential Test to document the process whereby future development is steered towards areas of lowest flood risk. Where it was not possible to accommodate potential development sites outside those areas identified to be at risk of flooding, the Exception Test may be required, as set out in Table1-1. This Level 2 SFRA Report provides information to

[1] Department for Communities and Local Government. 2012. *National Planning Policy Framework*. Available at: https://www.gov.uk/government/publications/national-planning-policy-framework--2

[2] Department for Communities and Local Government. 2014. *Planning Practice Guidance: Flood Risk and Coastal Change.* Available at: http://planningguidance.planningportal.gov.uk/blog/guidance/flood-risk-and-coastal-change/

support the application of the Exception Test for future development sites. All sites assessed in this Level 2 SFRA have been allocated in the Council's Local Plan - Site Specific Allocations Document[3] (adopted March 2016).

Table 1-1 Flood Risk Vulnerability and Flood Zone 'Compatibility' (PPG, 2014)

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

✓ - Development is appropriate × - Development should not be permitted

1.3.1 Exception Test

The purpose of the Exception Test is to ensure that where it may be necessary to locate development in areas at risk of flooding, new development is only permitted in Flood Zone 2 and Flood Zone 3 where the flood risk is clearly outweighed by other sustainability factors and where the development will be safe during its lifetime, considering climate change.

The NPPF states that for the Exception Test to be passed:

- *Part 1 - "It must be demonstrated that the development provides wider sustainability benefits to the community that outweigh flood risk, informed by the SFRA where one has been prepared; and*
- *Part 2 - A site-specific Flood Risk Assessment must demonstrate that the development will be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, will reduce flood risk overall."*

Both elements of the test will have to be passed for development to be allocated or permitted.

In order to determine Part 1 of the Exception Test, applicants should assess their scheme against the objectives set out in the LPA's Sustainability Appraisal (Level 1 SFRA Appendix B Table B-2).

In order to demonstrate satisfaction of Part 2 of the Exception Test, relevant measures, related to those presented within Section 9 of the Level 1 SFRA, should be applied and demonstrated within a site-specific flood risk assessment (FRA), as detailed in Section 11 of the Level 1 SFRA.

1.3.2 Level 2 SFRA Deliverables

The Level 2 SFRA reports have been produced for each Borough individually. This Report comprises the Level 2 SFRA for the London Borough of Wandsworth. The scope of the Level 2 SFRA is to consider the detailed nature of the flood characteristics within a flood zone including, where appropriate:

- flood probability;
- flood depth;
- flood velocity;
- rate of onset of flooding; and
- duration of flood.

The Level 2 SFRA provides a detailed assessment of the flood risk for specific development sites which have been identified by Wandsworth Council as requiring the application of the Exception Test. The Site Assessment Pro Forma is presented in Appendix C.

It should be noted that some of the sites within this Level 2 report are for commercial use (Less Vulnerable) and in accordance with the NPPF (Table 1-1) the Exception Test is not typically required. However, given the risk of flooding from other sources to the sites and surrounding areas, Wandsworth Council have considered it appropriate to encourage the principles of the Exception Test to be applied, and therefore recommendations have been provided to

[3] London Borough of Wandsworth (adopted March 2016) Wandsworth Local Plan Site Specific Allocations Document. Available at: http://www.wandsworth.gov.uk/downloads/file/11502/local_plan_-_site_specific_allocations_document_ssad_adopted_march_2016

indicate how development may be safe for its lifetime taking account of the vulnerability of its users, without increasing flood risk elsewhere, and, where possible, may reduce flood risk overall.

1.4 Updated climate change allowances

Since the publication of the Level 1 SFRA for the London Boroughs of Croydon, Merton, Sutton and Wandsworth, the Environment Agency has released the updated guidance 'Flood Risk Assessment Climate Change Allowances'[4] (19th February 2016), which has been used to update the Environment Agency Adapting to Climate Change: Advice for flood and coastal erosion risk management authorities (April 2016[5]). The new guidance determines the climate change allowances that should be considered for net sea level rises, peak river flow and peak rainfall intensity across England and Wales and are significantly different to its predecessor.

At the time of publishing this Level 2 SFRA, the updated climate change allowances have not been incorporated into the fluvial flood models covering the boroughs or the Environment Agency's Flood Map for Surface Water. Therefore the flood risk mapping used for the Level 2 site assessments is based on existing flood models which are available at the time of publishing and that these extents are based on +20% climate change allowance (Level 1 SFRA Section 3.2.5). The mitigation recommendations i.e. flood levels, are the same for both previous and new allowances. However, it is important to note that any future site specific FRAs would be required to consider the updated climate change allowances.

When the fluvial flood models are updated to incorporate the latest climate change allowances, the Level 1 and Level 2 SFRA will require updating.

The updated climate change allowances relevant to the London Borough of Wandsworth Level 2 SFRA have been summarised in the following sections.

The lifetime of the development should be considered when determining which future climate change allowance time period should be used. The lifetime of a proposed development should be judged based on the characteristics of the development. In the case of residential developments, a minimum lifetime of 100 years should be taken when selecting climate change allowance percentages. For other types of development, the applicant should assess how long they anticipate the development to be in place for, and justify the lifetime of the development. Otherwise, a 75 year lifetime should be used. Therefore, in most cases, it is suggested that applicants used the '2060 to 2115' allowances.

1.4.1 Fluvial flood risk allowance

Table 1-2 shows peak river flow allowances for the Thames river basin district. The Environment Agency Flood Zone and NPPF flood risk vulnerability classification of the development should be used to determine which Allowance Category is most appropriate to be applied to the assessment (as shown in Table 1-3).

All site-specific FRAs should demonstrate that finished floor levels are at a minimum of 300mm above the 1% AEP (1 in 100 year) + 35% flood event. A sensitivity test should also be undertaken using a 70% increase (upper end allowance category) to ensure that the finished floor levels are a minimum of 50mm above this flood water level.

Table 1-2 Peak river flow allowances for the Thames river basin district (use 1961 to 1990 baseline)

Allowance Category	2010 to 2039	2040 to 2059	2060 to 2115
Upper end	25%	35%	70%
Higher central	15%	25%	35%
Central	10%	15%	25%

[4] Environment Agency (2016) Flood risk assessments: climate change allowances. Available at https://www.gov.uk/guidance/flood-risk-assessments-climate-change-allowances. Accessed 23rd February 2016.
[5] Environment Agency (April 2016) Adapting to Climate Change: Advice for Flood and Coastal Erosion Risk Management Authorities

Table 1-3 Flood Zone and development vulnerability classification used to identify peak river flow allowance category

	Flood Zone 2	Flood Zone 3a	Flood Zone 3b
Essential Infrastructure	Higher Central and Upper End allowances	Upper End allowance	Upper End allowance
Highly Vulnerable	Higher Central and Upper End allowances	Development should not be permitted	Development should not be permitted
More Vulnerable	Central and Higher Central allowances	Higher Central and Upper End allowances	Development should not be permitted
Less Vulnerable	Central allowance	Central and Higher Central allowances	Development should not be permitted
Water Compatible	Use none of the allowances	Central allowance	Central allowance

The Environment Agency requires evidence that an FRA has considered if it is appropriate to apply the high ++ allowances for the site. The high++ allowances apply to developments that are very sensitive to flood risk and with lifetimes beyond a century. The high++ allowances for river flow in the Thames river basin district are provided in Table 1-4.

Table 1-4 H++ allowances for river flow

River Basin District	Total potential change anticipated for 2020s	Total potential change anticipated for the 2050s	Total potential change anticipated for 2080s
Thames	25%	40%	80%

1.4.2 Pluvial flood risk allowance

Table 1-5 shows anticipated changes in extreme peak rainfall intensity in small and urban catchments. The anticipated increase in rainfall intensity may cause greater volumes and rates of rainfall to enter the sewer network during storm events.

Wandsworth Council requires all site-specific FRAs and Drainage Strategies to assess the Central allowance for mitigation and design and the Upper end allowance for sensitivity testing. The lifetime of the development should be considered when determining which future climate change allowance time period should be used.

Table 1-5 Peak rainfall intensity allowance in small and urban catchments (use 1961 to 1990 baseline)

Allowance Category	2010 to 2039	2040 to 2059	2060 to 2115
Upper end	10%	20%	40%
Central	5%	10%	20%

The Environment Agency requires evidence that an FRA has considered if it is appropriate to apply the high ++ allowances for the site. The high++ allowances apply to developments that are very sensitive to flood risk and with lifetimes beyond a century. The high++ allowances are provided in the Environment Agency guidance 'Adapting to climate change – advice for flood and coastal erosion risk management authorities'[6].

1.4.3 Tidal flood risk allowance

With respect to the tidal flood risk, the updated sea level climate change allowances refer to 'open' coast and estuaries, and will have an effect on the water levels experienced downstream of the Thames Barrier. However, London Borough of Wandsworth is located upstream of the Thames Barrier, and it is considered that the presence of the Barrier reduces the effects of the predicted increase in sea levels. Therefore, the current Thames Estuary 2100 Plan (TE2100) and the Thames Breach modelling should continue to be used in the guidance for planning applications and steering development in London borough of Wandsworth's tidally affected areas.

[6] Environment Agency (2011, updated March 2016), Adapting to climate change – advice for flood and coastal erosion risk management authorities

2 Site Assessment Approach

2.1 Site Assessment Pro Forma

A site pro forma has been prepared for each site with the following sections:

1) Proposed Development
2) Summary of Level 1 Flood Risk
3) Level 2 Assessment
4) Recommendations and Policies

The information used to complete each of these sections is described below.

2.1.1 Section 1 – Proposed Development

Section 1 provides details of the site as provided by the Council, including site ID, address, size, current use and proposed use. The vulnerability classification of the site has been defined according to the NPPF, (refer also to Section 8 Table 8-2 in the Level 1 SFRA).

2.1.2 Section 2 – Summary of Level 1 Flood Risk

Section 2 summarises the flood risk on the site using the strategic flood risk assessment from Level 1 SFRA. For the assessment of flood risk from rivers, the proportion of the site within each flood zone has been identified, along with the flood zone map showing the site. (It is noted that whilst hazard mapping from the Thames tidal breach modelling was provided in the Level 1 SFRA deliverables, this information has been referred to within Section 3 of the site pro forma, where consideration of residual flood risk is made in more detail in relation to the potential to satisfy the requirements of the Exception Test).

The risk of flooding from surface water (using the Environment Agency updated Flood Map for Surface Water (uFMfSW) data) and groundwater sources (using the BGS Susceptibility to Groundwater Flooding data) has been provided, identifying the maximum risk within the site, based on the categories set out in Section 8 Table 8-1 of the Level 1 SFRA.

The number of historic records of flooding from each source, within a 100m radius of the potential development site, has been identified using the historic records provided by Wandsworth Council and Thames Water Utilities Limited (TWUL).

Further details on each of the datasets, their uses and limitations can be found in the following sections within the Level 1 SFRA:

Flood Risk Source	Dataset	Level 1 SFRA reference
Flooding from Rivers and Sea	Detailed River Network Historic Records of River and Tidal Flooding NPPF Flood Zones Functional Floodplain Flood Zone 3b Climate Change Flood defences Flood Warning Areas Emergency Rest Centres	Section 3.2.1 Section 3.2.2 Section 3.2.3 Section 3.2.4 Section 3.2.5 Section 3.2.6 Section 3.2.8 Section 3.2.9
Flooding from Surface Water	Historic Records of Surface Water Flooding Updated Flood Map for Surface Water Drainage Catchments Critical Drainage Areas (CDAs)	Section 3.3.1 Section 3.3.2 Section 3.3.4 Section 3.3.5
Flooding from Groundwater	Historic Records Susceptibility to Groundwater Flooding	Section 3.4.1 Section 3.4.3 Appendix A Figure 5.4
Flooding from Sewers	Historic Records (DG5)	Section 3.5.1
Flooding from Reservoirs and Other Artificial Sources	Risk of Flooding from Reservoirs	Section 3.6.1

2.1.3 Section 3 – Level 2 Assessment

Section 3 provides an increased level of information regarding the fluvial flood risk associated with the River Wandle and tributaries. None of the sites identified for the Level 2 assessment are at risk of flooding from the Beverley Brook, therefore no further reference is made to this main river. For those sites at residual risk of tidal flooding, as a result of a breach in the Thames Tidal Defences, additional flood depth and hazard mapping is also provided.

2.1.3.1 River Wandle Flood Depth and Velocity Mapping

During a flood event, the water depth and velocity can vary considerably across the flooded area. It is therefore important to identify which areas are more likely to be hazardous to people and to try to locate high vulnerability developments in areas with a lower hazard. This is important for emergency planning to identify dry route access and egress during a flood event.

The defended scenario for the 1% annual exceedance probability (AEP) event, including an allowance for climate change, has been used to map Maximum Flood Depth and Maximum Velocity in proximity to each development site on each Pro Forma.

The maximum flood depth mapping has been provided at borough scale for London Borough of Wandsworth in **Appendix A Figure A.1**.

At this time, information on the rate of onset of flooding and duration of flood are not available for the Environment Agency's updated hydraulic model for the River Wandle.

2.1.3.2 River Wandle Hazard Rating

One of the outputs of the Environment Agency's updated hydraulic model for the River Wandle is flood hazard mapping, which categorises the danger to people for different combinations of flood water depth and velocity. The derivation of these categories is based on the methodology set out by Defra in Flood Risk Assessment Guidance for New Development FD2320/TR2[7] using the following equation:

*Flood Hazard Rating = ((v+0.5)*D) + DF*

Where v = velocity (m/s), D = depth (m), DF = debris factor

Table 2-1 Hazard categories based on FD2320, Defra & Environment Agency 2005

Flood Hazard		Description
Low	HR < 0.75	**Caution** – Flood zone with shallow flowing water or deep standing water
Moderate	0.75 ≥ HR ≤ 1.25	**Dangerous for some** (i.e. children) – Danger: flood zone with deep or fast flowing water
Significant	1.25 > HR ≤ 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

The defended scenario for the 1% annual exceedance probability (AEP) event, including an allowance for climate change, has been used to map Hazard Rating in proximity to each development site on each Pro Forma.

The hazard mapping has been provided at borough scale for London Borough of Wandsworth in **Appendix A Figure A.2.**

2.1.3.3 Thames Tidal Breach Modelling

In March 2015, the Thames Tidal Breach Modelling Study[8] was completed for the Environment Agency. The purpose of this Study was to simulate a series of breach scenarios along the Thames frontage, to quantify the residual risk of tidal flooding. In total, 113 breach locations were modelled as part of this study. The results from 12 of these breach locations are of relevance to London Borough of Wandsworth.

The London Borough of Wandsworth is located upstream of the Thames Barrier. In this location, return periods cannot be applied to water levels in the same manner as they can downstream of the Barrier, as water levels are a function of the maximum tide level allowed through the Barrier, as defined by the barrier closure rule / matrix. As a result, a Maximum Likely Water Level (MLWL) is applied. The following scenarios have been simulated upstream of the Barrier:

- Maximum Likely Water Level under present day (2014) climate change conditions.

[7] Defra and Environment Agency (2005) FD2320/TR2 Flood Risk Assessment Guidance for New Development
[8] CH2MHill, March 2015, Thames Tidal Breach Modelling Study.

- Maximum Likely Water Level under climate change conditions for the year 2065.
- Maximum Likely Water Level under climate change conditions for the year 2100.

Table 2-2 Thames Tidal Breach Modelling Parameters, Wandsworth (Automated Breach Factsheet, CH2MHill 2015)

Breach Name	Breach Location	Defence Type	Breach Width (m)	Invert Level (m AOD)	Duration (hours)	Breach Coordinates	
Barn05	Beverley Brook, Barnes	Wall	20	3.69	35	523426	176346
Barn07	Putney High Street	Wall	20	6.12	35	524068	175685
Clp01	Bell Lane Creek	Wall	20	4.88	35	525506	175275
Clp02	Wandsworth Park	Wall	20	4.23	35	524429	175493
Berm16	New Covent Garden	Wall	20	4.18	35	529971	177851
Berm17	Prescott Wharf, Nine Elms	Wall	20	3.25	35	529590	177658
Berm18	Grosvenor Bridge, Battersea Power Station	Wall	20	4.8	35	528861	177687
Berm19	Albert Bridge	Wall	20	4.37	35	527546	177435
Berm20	Ransome's Dock, Battersea	Wall	20	3.96	35	527330	177361
Berm22	York Road, Battersea	Wall	20	4.66	35	526505	175983
Berm23	Wandsworth Bridge	Wall	20	3.87	35	526105	175521
Berm24	Vicarage Crescent, Battersea	Wall	20	4.54	35	526684	176493

The results from the modelling for each of these breach locations have been combined onto one map. The maximum depth and hazard mapping for the 2100 climate change scenario are presented in **Appendix A Figure A.3 and Figure A.4.**

2.1.3.4 Riverside Topographic Analysis

During the preparation of the previous SFRA for London Borough of Wandsworth (AECOM (previously Scott Wilson), 2008), 6 breach locations were modelled along the Thames tidal frontage. In order to provide further information on the residual risk, should a breach occur at a location between the 6 modelled breach locations, an assessment of the riverside topography was also undertaken. This information was provided to supplement the breach modelling and provide an indication of residual risk for the entire Borough.

LiDAR data was analysed and compared with peak flood levels to estimate the flow of water through a theoretical breach at any point along the river frontage. The results were then used to classify the riverside into categories of increasing residual risk from RC-1 (topography above 1 in 1000 year tidal flood level) to RC-4 (topography more than 1m below the 1000 year level) as set out in Table 2-3. Full details on the riverside topographic analysis are provided in Appendix D.

Table 2-3 Riverside Analysis Categories (Wandsworth SFRA 2008, Scott Wilson)

Riverside Category	Assumed Breach Level (m AOD)	Potential Peak Depth of Flow through breach (1 in 1000 year event) (m)
RC-1	>5.3	0
RC-2	4.8 – 5.3	0.5 -0
RC-3	4.3 – 4.8	1.0 – 0.5
RC-4	<4.3	>1.0

Since the completion of the Environment Agency Thames Tidal Breach Modelling Study in 2015, there are now a total of 12 breach locations that have been modelled along the Wandsworth frontage, providing much improved coverage.

However, the Riverside Analysis still provides a really useful comparative assessment of those parts of the Borough which would be at lesser or greater risk from a breach in the flood defences due to the presence of higher or lower ground levels respectively behind the defences. Therefore, in agreement with London Borough of Wandsworth and the Environment Agency, the Riverside Analysis has been retained within the SFRA Update.

It is noted that since the completion of the Riverside Analysis as part of the 2008 SFRA, the way that water levels are calculated in the tidal River Thames has changed. As described in Section 2.1.3.3, levels are now provided as Mean Likely Water Levels (MLWL) associated with the closure of the Thames Barrier for particular time horizons, rather than annual probability events.

The 1 in 1000 year water level for the present day (2008) that was used for the Riverside Analysis in 2008 varied along the Thames frontage from between 5.27 - 5.37m. The MLWL for the present day (2014) along the Thames frontage varies between 4.86 at breach location Berm16 and 4.94 at breach location Barn 05. The assessment completed in 2008 is therefore considered to provide a conservative assessment for the present day conditions in Wandsworth.

The Riverside Analysis categories are presented in **Appendix A Figures A.5 and A.6.**

2.1.4 Section 4 – Recommendations and Policies

Section 4 identifies the recommendations and policies required for potential development on the site to pass Part 2 of the Exception Test. It follows the guidance set out in Section 9 of the Level 1 SFRA. Table 2-4 shows the typical fields within Section 4 of the site assessment pro forma and how these relate to the guidance of Section 9 of the Level 1 SFRA.

Table 2-4 Site Pro Forma Section 4 Fields

Recommendation and Policies		Level 1 SFRA reference
Development Layout and Sequential Approach		Section 9.2
Finished Floor Levels		Section 9.3
Flood Resistance		Section 9.4
Flood Resilience		Section 9.5
Safe Access/Egress		Section 9.7
Floodplain Compensation Storage		Section 9.9
Flow Routing		Section 9.12
Flood Warning and Evacuation Plan		Section 9.14
Surface Water Management	Current risk of flooding:	Section 5
	Indicative runoff rates:	Section 10 and Appendix B
	SuDS Suitability:	Section 10.3 and 10.9
	Drainage Strategy and Approvals:	Section 10.6
	Indicative Unit Costs:	Section 10.4

2.1.4.1 Surface Water Runoff Calculations

Indicative surface water runoff calculations have been undertaken to estimate the existing peak runoff rates from each of the development sites.

The SuDS Manual and the Non-Statutory Technical Standards for SuDS (Defra, 2015) recommend that the rate of runoff does not increase following development for the 1 in 1 year and 1 in 100 year events. The existing peak runoff rates for each development site for the 1 in 1 year and 1 in 100 year have been included in each Site Pro Forma.

Target peak runoff rates have also been provided based on national and regional planning policy requirements and best practice guidance for achieving greenfield runoff rates, and the London Plan (2015) policies. The estimates for greenfield rate have been included in the Site Pro Forma.

Full details regarding the methodology and assumptions made for calculating existing and target peak runoff rates are included in Appendix B.

2.1.5 Section 5 – Exception Test Considerations

Section 5 summaries the key outcomes from the site assessment and highlights any recommendations, policies and mitigation measures required for the site to pass the Exception Test.

2.2 Impact of additional development on flood risk

Within the London Borough of Wandsworth, the following sites are partially located within Flood Zone 3a or 3b associated with the fluvial River Wandle. Without any flood mitigation measures applied to their design, such as compensation storage, these developments have the potential to increase the fluvial flood risk in other areas due to the removal of floodplain.

- 96 Cappagh waste recycling facility, The Willows, Riverside Way, SW17

- 97 Gypsy and Traveller site, Trewint Street, SW18

There are 49 potential development sites identified to be at high risk of surface water flooding in the London Borough of Wandsworth. Without surface water attenuation and Sustainable Drainage Systems (SuDS) incorporated into the design, these development sites could increase surface water flooding in other areas within their drainage catchment through changes in surface water flow routing and runoff rates. Therefore mitigation measures and SuDS are required for all planning applications.

Appendix A. Depth and Hazard Mapping

Appendix B. Indicative Surface Water Runoff Calculations

Appendix C. Site Assessment Pro Forma

Appendix D. Riverside Topographic Analysis (2008)

As provided as part of the London Boroughs of Wandsworth, Merton, Sutton and Croydon Level 1 SFRA in 2008.

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