

New Southwark Plan

Level 2 Strategic Flood Risk Assessment (updated July 2020)

This report forms part of the Strategic Flood Risk Assessment (SFRA) for New Southwark Plan, alongside The Level 1 Strategic Flood Risk Assessment (EIP15 A, B and C).

The principle objective of the Level 2 SFRA is to facilitate application of the Sequential and Exception tests for the 82 site allocations within the plan. Using the strategic flood risk information presented with the Level 1 SFRA, this report sets out the site allocations in relation to potential sources of flood risk, the flood zone compatibility which informs whether the sequential test is passed or an exception test is required for the site, as well as recommendations for site-specific mitigation measures in light of the flood risks identified. It follows guidance set out in the National Planning Policy Framework (NPPF) and the Planning Practice Guidance on flood risk.

This report informs the sustainability appraisal for site allocations within Integrated Impact Assessment (IIA) regarding Objective 14 “To reduce vulnerability to flooding” which are set out in the main report and Appendix 5 of the document. These documents altogether determine whether the site allocation can pass the exception test as defined in the NPPF, demonstrating that any necessary flood risk management infrastructure critical to the delivery of the Plan has a reasonable prospect of delivery. As such, the Plan ensures development will remain safe from flood risks in compliance with NPPF and the accompanying Planning Practice Guidance.

The report is comprised of Analysis 1 to 22, each covering a number of site allocations for the purpose of assessment as presented in Table 1. Based on Analysis 1 to 21 prepared by CONWAY AECOM in 2018, the July 2020 update includes Analysis 22 completed by Southwark Council for additional site allocations and the renumbering of sites within Analysis 1 to 21 to reflect changes made in the Plan as it develops.

It should be noted that whilst this report and the integrated impact assessment together set out whether a site can pass the exceptions test in principle, in real terms the exception test can only be passed at the planning application stage where a suitable site specific flood risk assessment demonstrates that the development will be safe and not increase flood risk elsewhere.

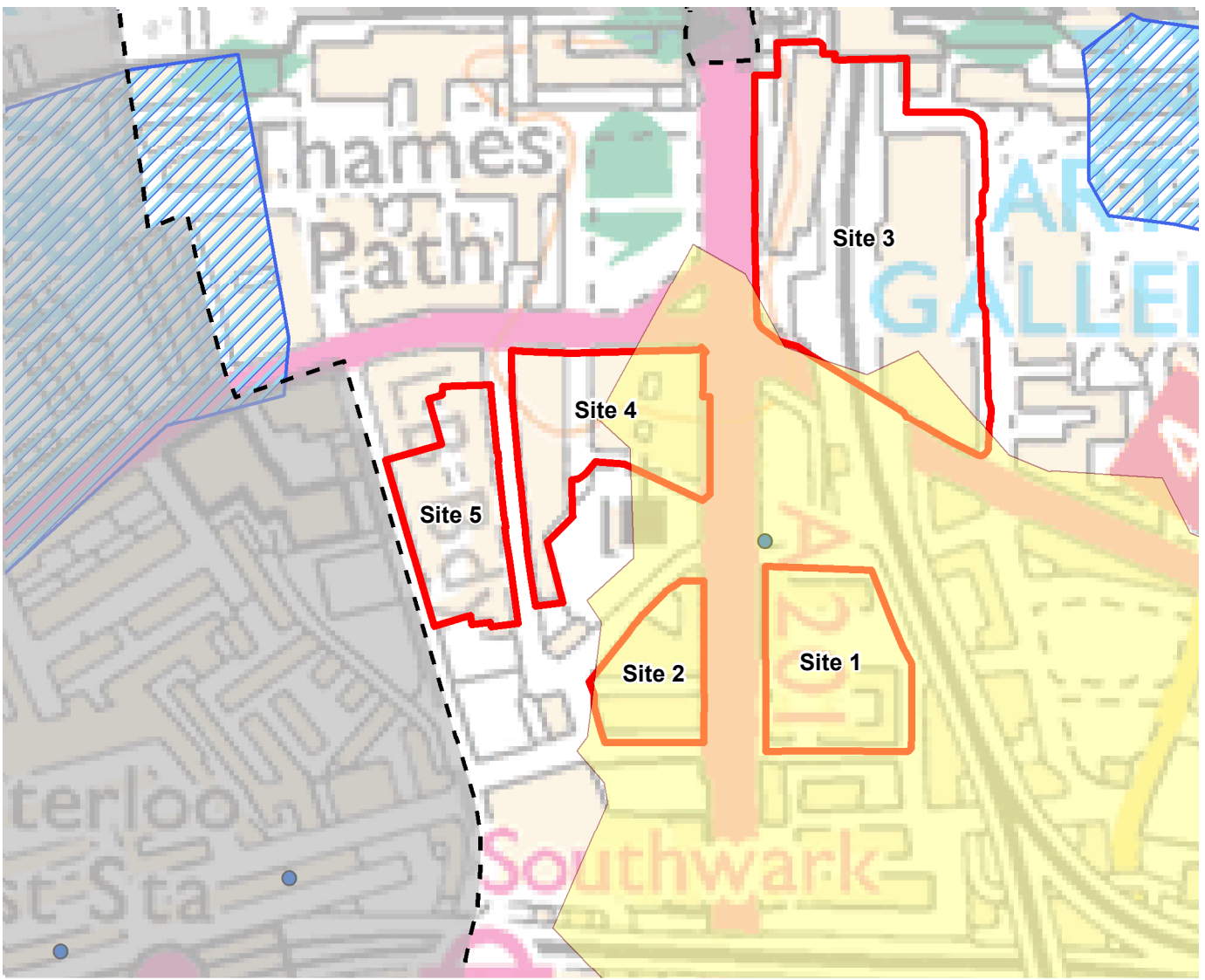
The following table presents the location in the report for the assessment of each site allocation:

Table 1

Site allocation	Location
Bankside and The Borough	
NSP01 Site Bordering Great Suffolk Street and Ewer Street	Analysis 3
NSP02 62-67 Park Street	Analysis 3
NSP03 185 Park Street	Analysis 3
NSP04 London Fire and Emergency Planning Authority	Analysis 2
NSP05 1 Southwark Bridge Road and Red Lion Court	Analysis 3
NSP06 Landmark court	Analysis 3
NSP07 Land between Great Suffolk Street and Glasshill Street	Analysis 22
NSP08 Swan Street Cluster	Analysis 4
NSP09 19, 21 and 23 Harper Road, 325 Borough High Street, 1-5 and 7-11 Newington Causeway, SE1	Analysis 4
Bermondsey	
NSP10 Biscuit Factory and Campus	Analysis 22
NSP11 Tower Workshops	Analysis 22
NSP12 Chambers Wharf	Analysis 22
Blackfriars	
NSP13 Conoco House, Quadrant House, Edward Edwards House and Suthring House	Analysis 1
NSP14 Friars House, 157-168 Blackfriars Road	Analysis 2
NSP15 Land enclosed by Colombo Street, Meymott Street and Blackfriars Road	Analysis 1
NSP16 Ludgate House and Sampson House, 64 Hopton Street	Analysis 1
NSP17 Southwark Station and 1 Joan Street	Analysis 2
NSP18 McLaren House, St George's Circus	Analysis 2
NSP19 Land between Paris Gardens, Colombo Street, Blackfriars Road and Stamford Street	Analysis 1
NSP20 1-5 Paris Garden and 16-19 Hatfields	Analysis 1
Camberwell	
NSP21 Camberwell Station	Analysis 6
NSP22 Burgess Business Park	Analysis 5
NSP23 Butterfly Walk and Morrisons Car Park	Analysis 6
NSP24 Valmar Trading Estate	Analysis 6
NSP25 Camberwell Bus Garage	Analysis 6
NSP26 Walworth Bus Garage, Camberwell	Analysis 6
NSP27 Land Between Camberwell Station Road and Warner Road	Analysis 6
NSP28 Iceland, 120-132 Camberwell Road	Analysis 5
NSP29 49 Lomond Grove	Analysis 5
NSP30 83 Lomond Grove	Analysis 5
NSP31 123 Grove Park	Analysis 7
NSP32 Camberwell Green Magistrates Court	Analysis 6

NSP33 Denmark Hill Campus East	Analysis 7
Crystal Palace and Gipsy Hill	
NSP34 Guys and St Thomas Trust Rehabilitation Centre, Crystal Palace	Analysis 9
Dulwich	
NSP35 The Grove Tavern, 520 Lordship Lane	Analysis 8
East Dulwich	
NSP36 Kwik Fit and Gibbs and Dandy, Grove Vale	Analysis 10
NSP37 Dulwich Hamlet Champion Hill Stadium, Dog Kennel Hill	Analysis 10
NSP38 Railway Rise, East Dulwich	Analysis 10
NSP39 Dulwich Community Hospital, East Dulwich Grove	Analysis 10
NSP40 Goose Green Trading Estate	Analysis 22
Elephant and Castle	
NSP41 Newington Triangle	Analysis 11
NSP42 Bakerloo Line Sidings and 7 St George's Circus	Analysis 11
NSP43 63-85 Newington Causeway	Analysis 11
NSP44 Salvation Army Headquarters, Newington Causeway	Analysis 12
NSP45 Elephant and Castle Shopping Centre and London College of Communication	Analysis 12
NSP46 London Southbank University Quarter	Analysis 11
NSP47 1-5 Westminster Bridge Road	Analysis 11
Herne Hill and North Dulwich	
NSP48 Bath Trading Estate	Analysis 13
London Bridge	
NSP49 London Bridge Health Cluster	Analysis 4
NSP50 Land between Melior Street, St Thomas Street, Weston Street and Fenning Street	Analysis 4
NSP51 Land between St Thomas Street, Fenning Street, Melior Place, and Snowsfields	Analysis 22
NSP52 Colechurch House, London Bridge Walk	Analysis 3
Old Kent Road	
NSP53 Bricklayers Arms	Analysis 14
NSP54 Crimscott Street and Pages Walk	Analysis 14
NSP55 Mandela Way	Analysis 14
NSP56 107 Dunton Road (Tesco store and car park) and Southernwood Retail Park	Analysis 15
NSP57 Salisbury estate car park	Analysis 14
NSP58 96-120 Old Kent Road (Lidl store)	Analysis 14
NSP59 Former petrol filling station, 233-247 Old Kent Road	Analysis 14
NSP60 Kinglake Street Garages	Analysis 15
NSP61 4/12 Albany Road	Analysis 15
NSP62 Former Southern Railway Stables	Analysis 15
NSP63 Land bounded by Glengall Road, Latona Road and Old Kent Road	Analysis 15

NSP64 Marlborough Grove and St James's Road	Analysis 15
NSP65 Sandgate Street and Verney Road	Analysis 17
NSP66 Devon Street and Sylvan Grove	Analysis 17
NSP67 Hatcham Road and Penarth Street and Ilderton Road	Analysis 16
NSP68 760 and 812 Old Kent Road (Toyrus store) and 840 Old Kent Road (Aldi store)	Analysis 17
NSP69 684-698 Old Kent Road (Kwikfit garage)	Analysis 17
NSP70 636 Old Kent Road	Analysis 15
Peckham	
NSP71 Aylesham Centre and Peckham Bus Station	Analysis 19
NSP72 Blackpool Road Business Park	Analysis 18
NSP73 Land between the railway arches (East of Rye Lane including railway arches)	Analysis 18
NSP74 Copeland Industrial Park and 1-27 Bournemouth Road	Analysis 18
Rotherhithe	
NSP75 Rotherhithe Gasometer	Analysis 20
NSP76 St Olav's Business Park, Lower Road	Analysis 20
NSP77 Decathlon Site and Mulberry Business Park	Analysis 22
NSP78 Harmsworth Quays, Surrey Quays Leisure Park, Surrey Quays Shopping Centre and Robert's Close	Analysis 22
NSP79 Croft Street Depot	Analysis 22
Walworth	
NSP80 Morrison's, Walworth Road	Analysis 21
NSP81 330-344 Walworth Road	Analysis 21
NSP82 Chatelaine House, Walworth Road	Analysis 21



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

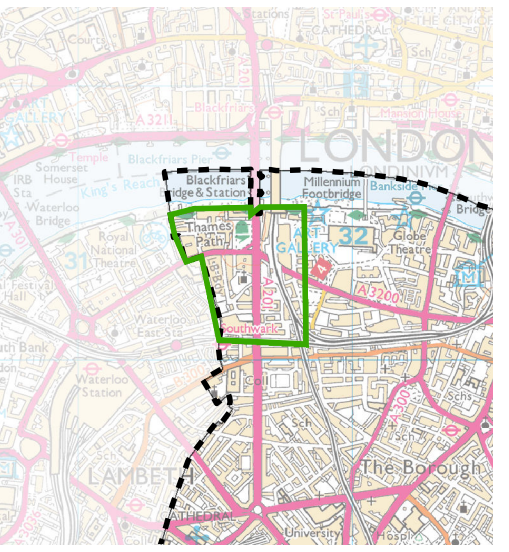
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 1 (updated July 2020) **SCALE:** 1:3,000 0 100 200 Meters

SITE REF	Site 1 - NSP13	Site 2 - NSP 15	Site 3 - NSP16	Site 4 - NSP19	Site 5 - NSP20
SITE NAME	Conoco House, Quadrant House, Edward Edwards House and Suthring House	Land enclosed by Colombo Street, Meymott Street and Blackfriars Rd	Ludgate House, Sampson House and 64 Hopton St	Land between Paris Gardens and Colombo Street, Blackfriars Rd and Stamford St	1-5 Paris Garden and 16-19 Hatfields
SITE AREA (m²)	6,654	3,749	19,657	7,776	5,567
PROPOSED USE	Mixed use (employment, town centre and residential use)	Mixed use (employment, town centre, community and residential uses)	Mixed use (residential, employment, town centre, community and leisure uses and open space)	Mixed use (employment, town centre and residential)	Mixed use (employment, residential & town centre uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for Most	Danger for Most	Danger for Most	Danger for Most	Danger for Most
SURFACE WATER FLOOD RISK	Low risk of flooding	High risk of flooding	High risk of flooding	Medium risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	1 recorded incident	1 recorded incident	1 recorded incident	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More vulnerable	More Vulnerable	More vulnerable	More vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

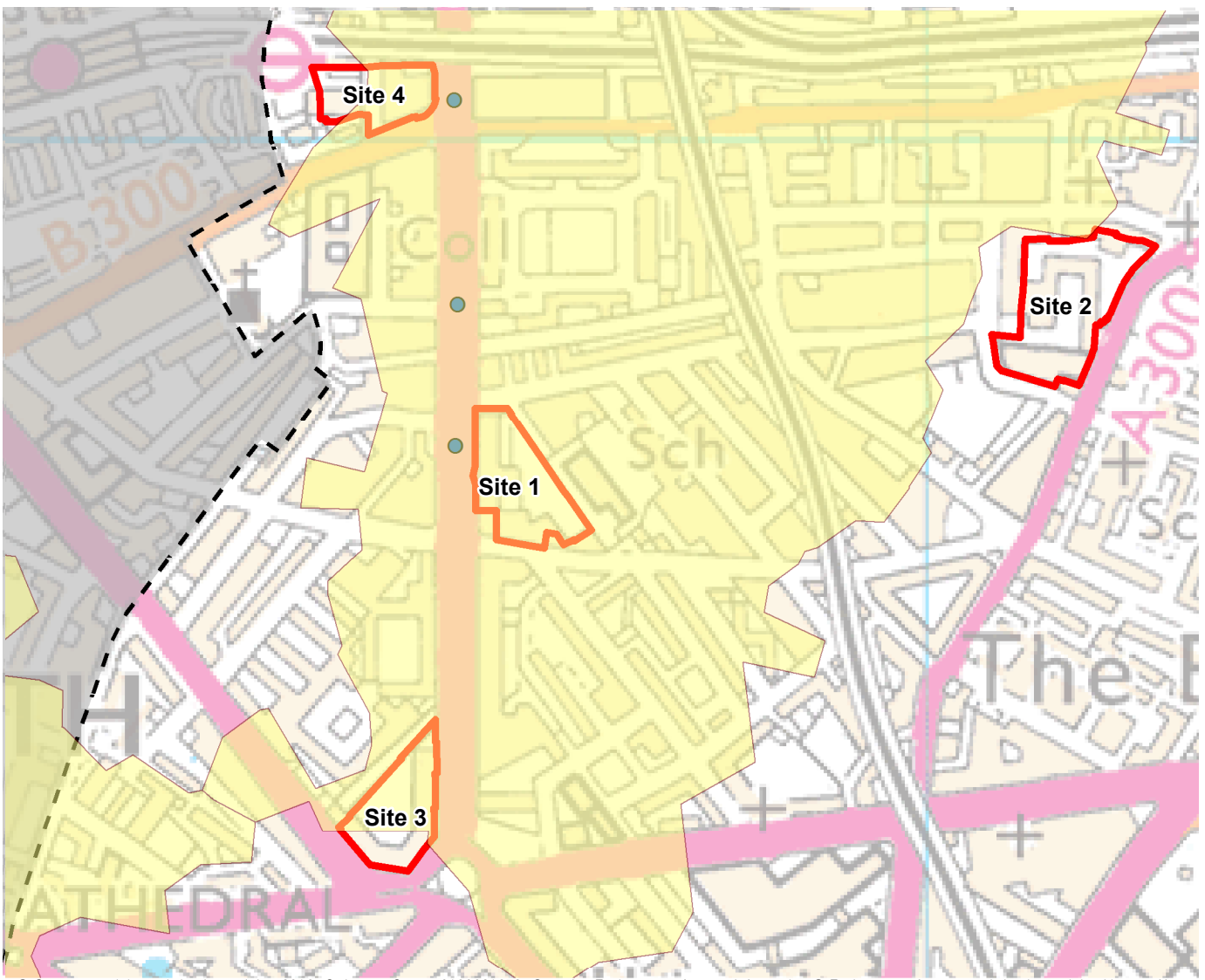
RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that areas of the site are potentially suitable for bespoke infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- For development sites located adjacent to the River Thames a 16 m buffer strip must be maintained along the river corridor. Demonstration will be required that the associated flood defences will be safe over the lifetime of the development, including any required maintenance and improvements. Consideration should be given to the recommendations of the TE2100 plan and advice sought from the EA at an early stage.

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ORIGINATED	SB	26/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020

STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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SITE REF	Site 1 - NSP14	Site 2 - NSP04	Site 3 - NSP18	Site 4 - NSP17
SITE NAME	Friars House, 157-168, Blackfriars Rd	London Fire and Emergency Planning Authority	McLaren House, St George's Circus	Southwark Station and 1 Joan Street
SITE AREA (m ²)	5,205	8,800	4,377	3,417
PROPOSED USE	Mixed use (employment, town centre and residential uses)	Mixed use (residential, education and community uses)	Mixed use (residential or sui generis, and town centre uses)	Mixed use (employment, town centre, cultural and residential uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for Most	Danger for Most	Danger for Some	Danger for Most
SURFACE WATER FLOOD RISK	Medium risk of flooding	Low risk of flooding	Low risk of flooding	Medium risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	1 recorded incident of sewer flooding	No recorded incidents of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	No recorded incidents	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More vulnerable	More vulnerable	More vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

Borough Boundary
 - Dashed black line

Allocated Sites
 - Red outline

Main River
 - Blue line

Ordinary Watercourses
 - Light blue line

Risk of flooding from Rivers

- Flood Zone 3B (Blue hatched)
- Flood Zone 3 (Light blue)
- Flood Zone 2 (Light green)
- Areas benefitting from flood defences (Blue hatched)

Risk of Flooding from Surface Water

- High risk of flooding (3.3% AEP) (Dark blue)
- Medium Risk of flooding (1% AEP) (Blue)
- Low risk of flooding (0.1% AEP) (Light blue)
- Critical Drainage Area (Red hatched)

Risk of Flooding from Groundwater

- Limited potential for groundwater flooding to occur (Yellow)
- Potential for groundwater flooding of property situated below ground level (Orange)
- Potential for groundwater flooding to occur at surface (Red)

Suitability for Infiltration SuDS

- Highly compatible for infiltration SuDS (Light blue)
- Opportunities for bespoke infiltration SuDS (Pink)
- Probably compatible for infiltration SuDS (Purple)
- Very significant constraints are indicated (Green)

Flood Risk from Reservoirs

- Reservoir flood extents (Blue hatched)

Max Hazard : Breach Mapping

- Less than 0.75 (Low Hazard) (Light green)
- Between 0.75 and 1.25 (Danger for Some) (Yellow)
- Between 1.25 and 2.00 (Danger for Most) (Orange)
- Greater than 2.00 (Danger for All) (Red)

Records of Flooding

- Localised Flood Incident (Blue dot)
- Historic Flood Outline (Blue hatched)

Recorded Sewer Flooding Incidents Per Postcode Area

- 1 - 2 (Light yellow)
- 3 - 6 (Yellow)
- 7 - 11 (Orange)
- 12 - 37 (Red)

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA (Blue button)

RISK OF FLOODING FROM SURFACE WATER (Dark blue button)

RISK OF FLOODING FROM GROUNDWATER (Green button)

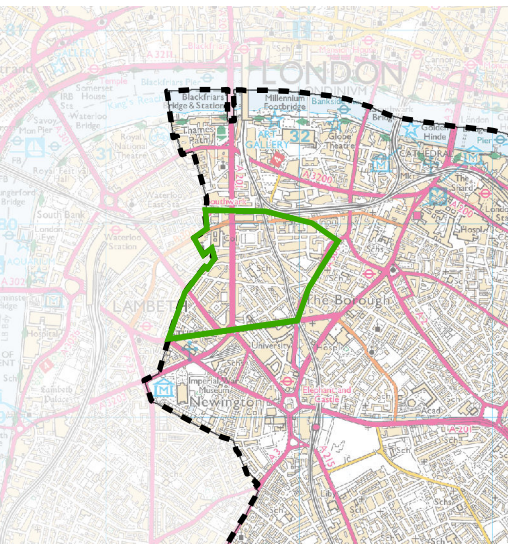
RECORDS OF FLOODING (Grey button)

MAXIMUM HAZARD : BREACH MAPPING (Orange button)

RISK OF FLOODING FROM RESERVOIRS (Purple button)

SuDS SUITABILITY (Light green button)

BASEMAP (Grey button)



RECOMMENDATIONS

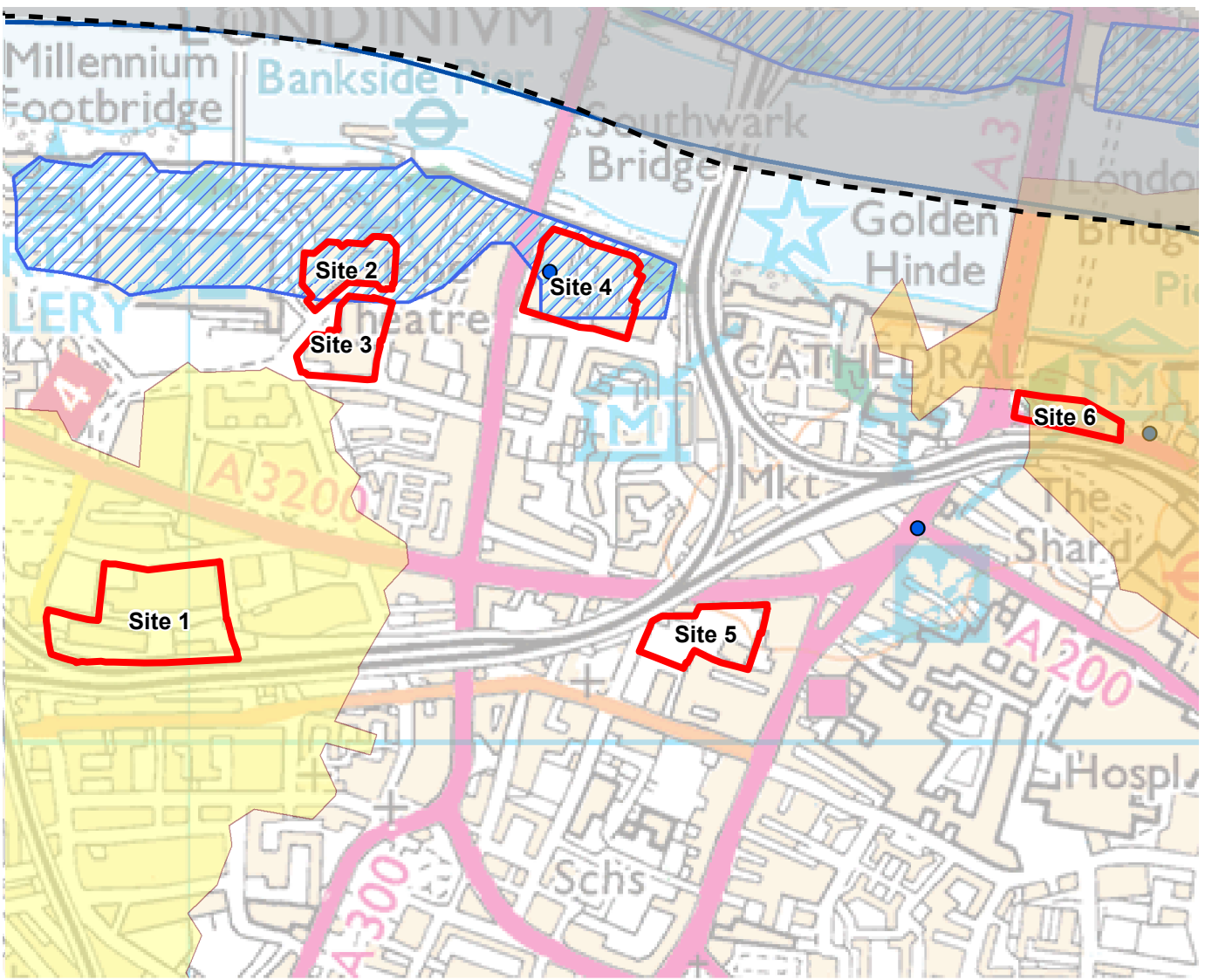
- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
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- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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Legend

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- Allocated Sites
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 - Flood Zone 3
 - Flood Zone 2
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RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

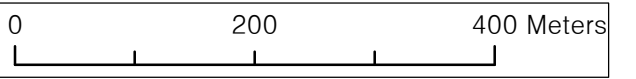
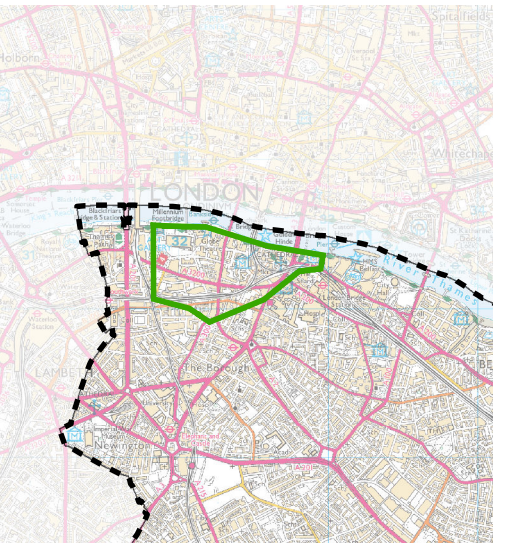
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



SITE REF	Site 1 - NSP01	Site 2 - NSP02	Site 3 - NSP03	Site 4 - NSP05	Site 5 - NSP06	Site 6 - NSP52
SITE NAME	Site Bordering Great Suffolk St and Ewer St	62-67 Park St	185 Park St	1 Southwark Bridge Rd and Red Lion Court	Landmark Court	Colechurch House, London Bridge Walk
SITE AREA (m²)	13,160	3,964	4,598	7,912	5,258	2,590
PROPOSED USE	Mixed use (employment, town centre, residential uses and open space)	Mixed use (employment, town centre and residential uses)	Mixed use (employment, town centre and residential uses)	Mixed use (employment, town centre and residential uses and open space)	Mixed use (employment, town centre and residential uses)	Mixed use (employment & town centre uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for Some	Danger for All	Danger for All	Danger for All	Danger for Most	Low Hazard
SURFACE WATER FLOOD RISK	High risk of flooding	Low risk of flooding	High risk of flooding	High risk of flooding	Low risk of flooding	Low risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur	Potential for groundwater flooding to occur at surface	Limited potential for groundwater flooding to occur
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No	No	Yes
SEWER FLOODING INCIDENTS IN POSTCODE	1 recorded incident of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	3 recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	1 recorded incident	1 recorded incident	No recorded incidents	No recorded incidents	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More vulnerable	More vulnerable	More vulnerable	More vulnerable	More Vulnerable	Less Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required	Development is permitted

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

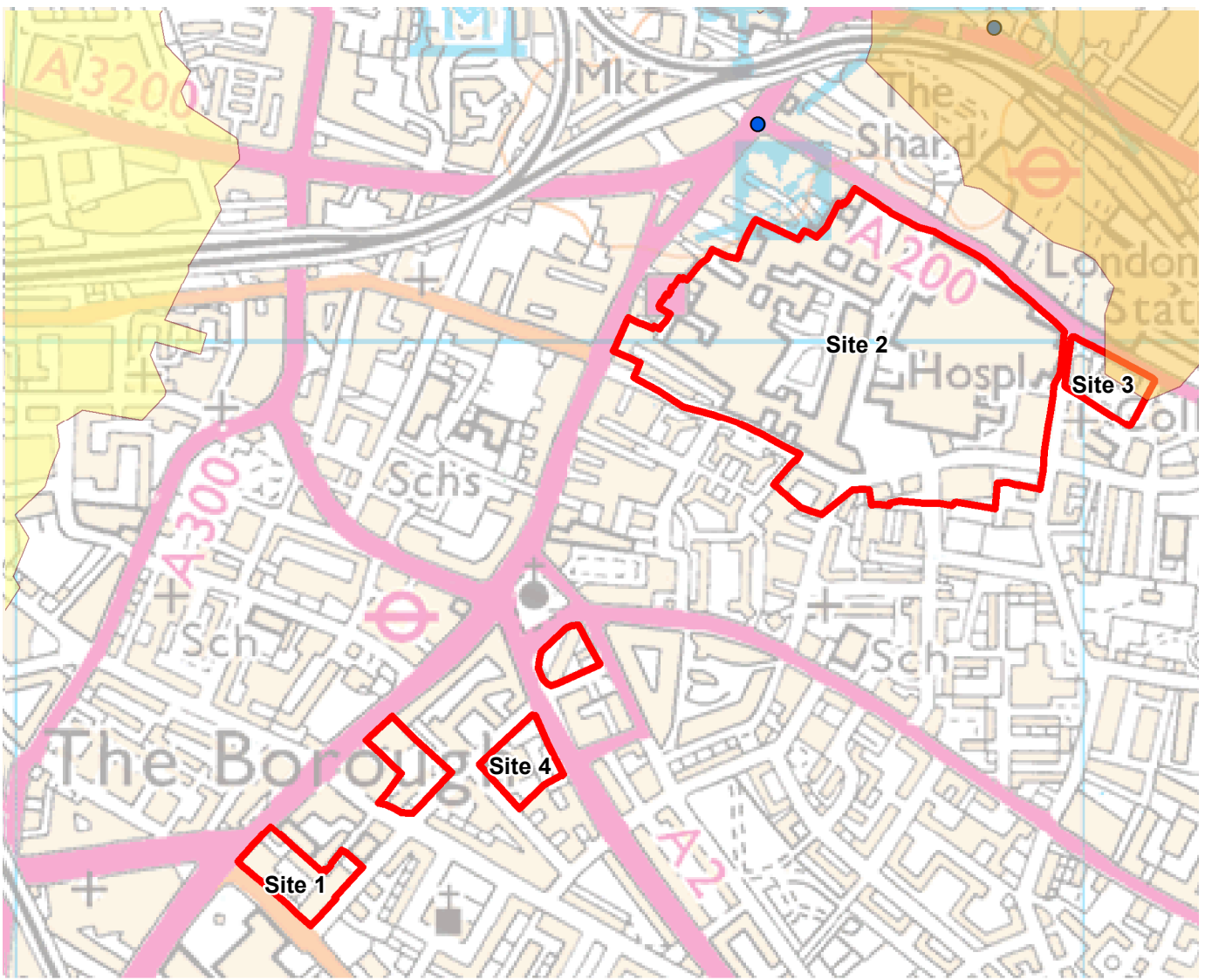
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- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. Some sites are located within or near to a Critical Drainage Area and therefore robust surface water management will be critical. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that the majority of development sites are potentially suitable for bespoke infiltration SuDS; which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.
- For development sites located adjacent to the River Thames a 16 m buffer strip must be maintained along the river corridor. Demonstration will be required that the associated flood defences will be safe over the lifetime of the development, including any required maintenance and improvements. Consideration should be given to the recommendations of the TE2100 plan and advice sought from the EA at an early stage.

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ORIGINATED	SB	26/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

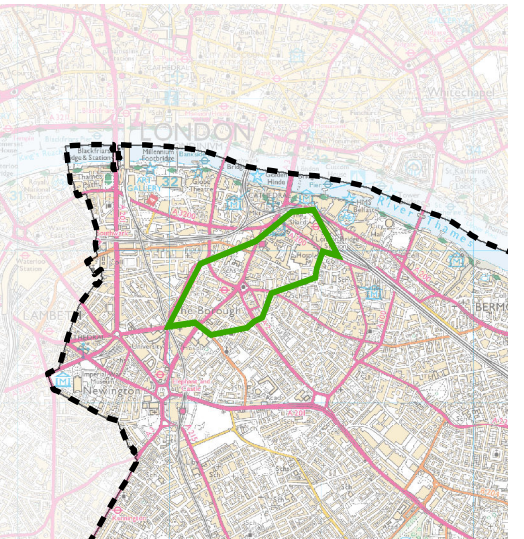
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



SITE REF	Site 1 - NSP09	Site 2 - NSP49	Site 3 - NSP50	Site 4 - NSP08
SITE NAME	19, 21 and 23 Harper Road, 325 Borough High Street, 1-5 and 7-11 Newington Causeway	London Bridge Health Cluster	Land between Melior St, St Thomas St, Weston St and Fenning St	Swan St Cluster
SITE AREA (m²)	4,730	80,284	3,827	8,873
PROPOSED USE	Mixed use (employment, town centre and residential uses)	Mixed use (health centre, research/education, town centre uses and student housing)	Mixed use (employment, town centre and residential uses)	Mixed use (employment, town centre, education, health and residential uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Low risk of flooding	High risk of flooding	Low risk of flooding	Low risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Unlikely to occur	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	Yes	Yes	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	No recorded incidents	No recorded incidents
FLOOD ZONE VULNERABILITY ¹	More Vulnerable	More Vulnerable	More vulnerable	More Vulnerable
FLOOD RISK COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required

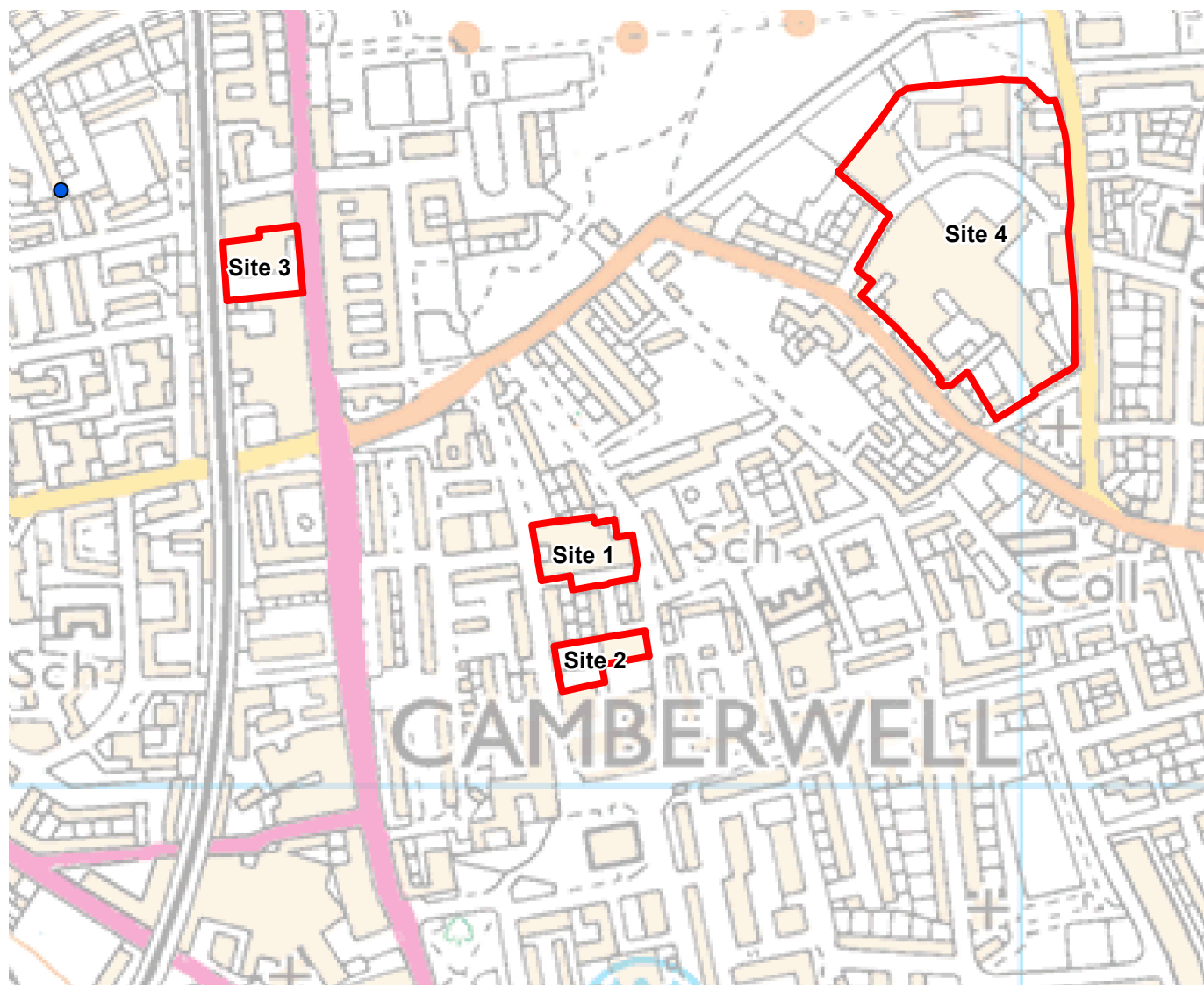
1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. Much of the area is located within or near to a Critical Drainage Area and therefore robust surface water management will be critical. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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ORIGINATED	SB	26/02/2018	 STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018	
VERIFIED	GP	14/03/2018	
UPDATED		13/07/2020	



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SITE REF	Site 1 - NSP29	Site 2 - NSP30	Site 3 - NSP28	Site 4 - NSP22
SITE NAME	49, Lomond Grove	83 Lomond Grove	Iceland, 118-176 Camberwell Rd	Burgess Business Park
SITE AREA (m ²)	3,762	2,110	3,125	37,302
PROPOSED USE	mixed use (employment and residential uses)	Employment	Mixed use (town centre & residential)	Mixed use (employment & residential)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Medium risk of flooding	Medium risk of flooding	Very low risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes	No	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	No recorded incidents	1 recorded incident	1 recorded incident
FLOOD RISK VULNERABILITY ¹	Less Vulnerable	Less Vulnerable	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted	Development is permitted	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

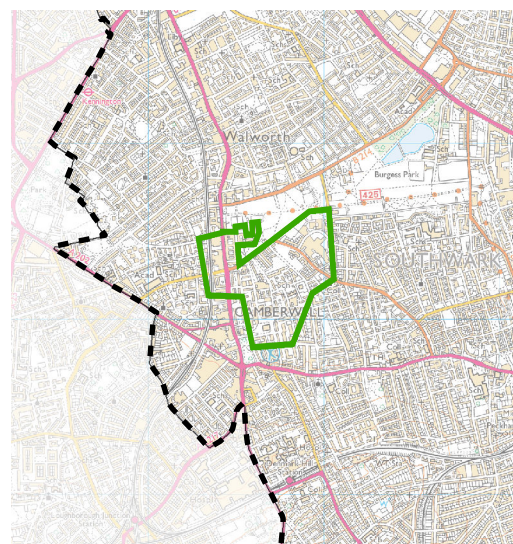
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

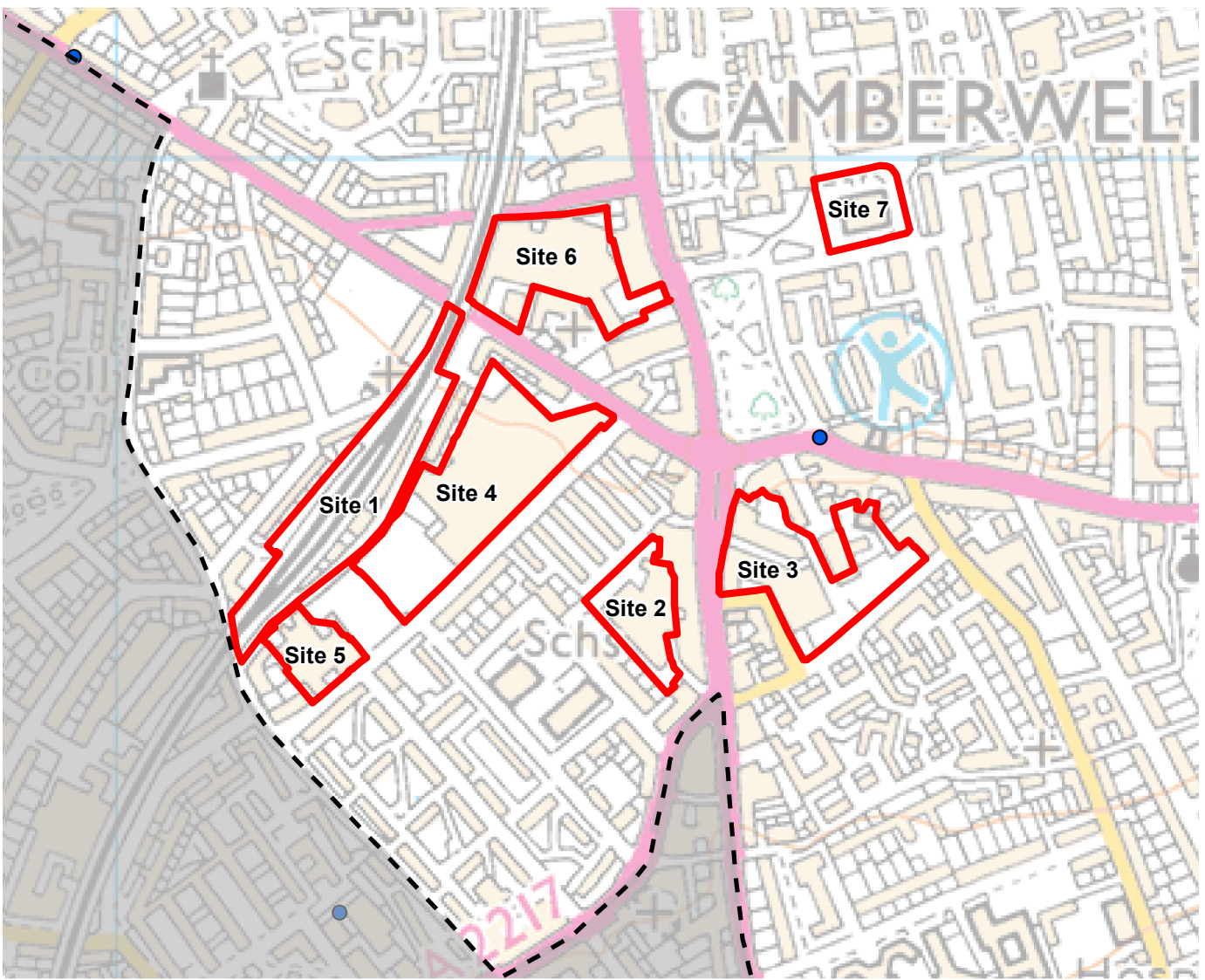
- A site specific FRA will be required. All more vulnerable development should be located away from areas of Flood Zone 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Sewer capacity within Southwark is known to be constrained under higher return period events. Much of the area is located within or near to a Critical Drainage Area and therefore robust surface water management will be critical. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

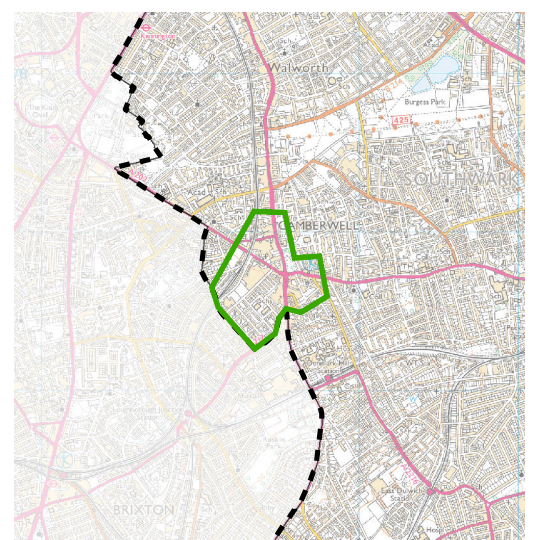
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



SITE REF	Site 1 - NSP21	Site 2 - NSP24	Site 3 - NSP23	Site 4 - NSP25	Site 5 - NSP27	Site 6 - NSP26	Site 7 - NSP32
SITE NAME	Camberwell Station	Valmar Trading Estate	Butterfly Walk and Morrison's Car Park	Camberwell Bus Garage	Land Between Camberwell Station Rd and Warner Rd	Abellio Bus Garage, Camberwell	Camberwell Green Magistrates' Court
SITE AREA (m²)	16,451	6,040	13,880	19,506	4,148	11,365	4,829
PROPOSED USE	Mixed use (rail station & employment)	Mixed use (rail station & employment)	Mixed use (employment, town centre uses & open space)	Mixed use (employment, town centre uses & open space)	Employment	Mixed use (bus garage, employment, town centre uses & open space)	Community Space
FLOOD ZONE CLASSIFICATION	Flood Zone 2 - Defended	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 2 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Very low risk of flooding	Very low risk of flooding	Low risk of flooding	Low risk of flooding	Very low risk of flooding	High risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Unlikely to occur	Potential for groundwater flooding to occur at surface
WITHIN CRITICAL DRAINAGE AREA	surface						
FLOOD RISK SEWER FLOODING	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
INCIDENTS WITHIN POSTCODE AREA	7 recorded incidents of sewer flooding	2 recorded incidents of sewer flooding	2 recorded incidents of sewer flooding	7 recorded incidents of sewer flooding	7 recorded incidents of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M FLOOD RISK VULNERABILITY ¹	Less Vulnerable	Less Vulnerable	Less Vulnerable	Less Vulnerable	Less Vulnerable	Less Vulnerable	Less Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted	Development is permitted	Development is permitted	Development is permitted	Development is permitted	Development is permitted	Development is permitted

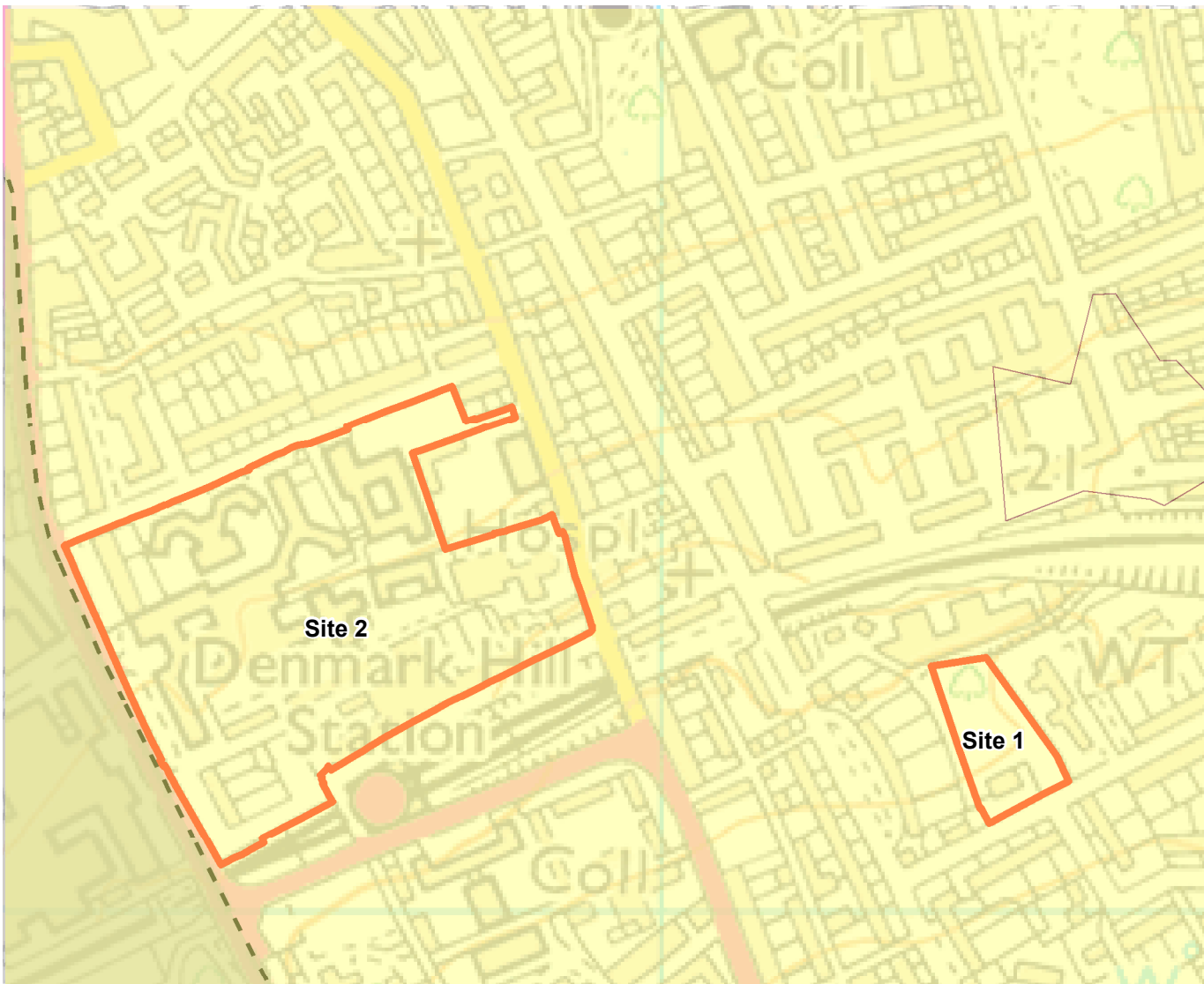
¹ Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA is required for all developments in Flood Zone 2/3, and developments greater than 1ha in Flood Zone 1.
- All more vulnerable development should be located away from areas of Flood Zones 2 and 3 where possible. All uses are acceptable in Flood Zone 1.
- Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Sewer capacity within Southwark is known to be constrained under higher return period events. The majority of the area is located within a Critical Drainage Area and therefore robust surface water management will be critical. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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ORIGINATED	SB	28/02/2018	 	STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018		
VERIFIED	GP	14/03/2018		



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SITE REF	Site 1 - NSP31	Site 2 - NSP33
SITE NAME	123 Grove Park	Denmark Hill Campus East
SITE AREA (m ²)	5,816	62,860
PROPOSED USE	Residential	Mixed use (health, research and education)
FLOOD ZONE CLASSIFICATION	Flood Zone 1	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Very low risk of flooding	Very low risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	2 recorded incidents of sewer flooding	2 recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted	Development is permitted

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

Borough Boundary
Allocated Sites
Main River
Ordinary Watercourses

Risk of flooding from Rivers
Flood Zone 3B
Flood Zone 3
Flood Zone 2
Areas benefitting from flood defences

Risk of Flooding from Surface Water
High risk of flooding (3.3% AEP)
Medium Risk of flooding (1% AEP)
Low risk of flooding (0.1% AEP)
Critical Drainage Area

Risk of Flooding from Groundwater
Limited potential for groundwater flooding to occur
Potential for groundwater flooding of property situated below ground level
Potential for groundwater flooding to occur at surface

Suitability for Infiltration SuDS
Highly compatible for infiltration SuDS
Opportunities for bespoke infiltration SuDS
Probably compatible for infiltration SuDS
Very significant constraints are indicated

Flood Risk from Reservoirs
Reservoir flood extents

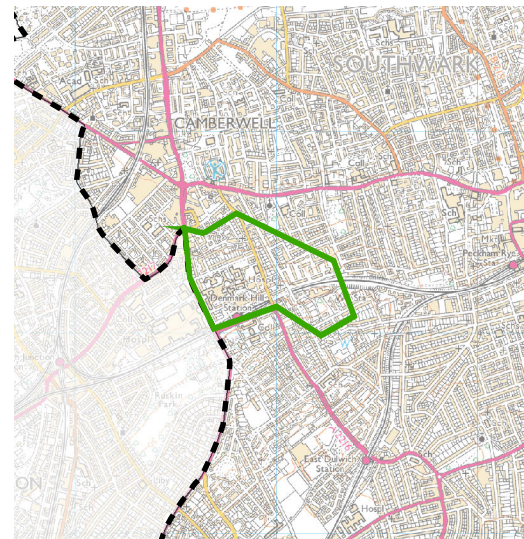
Max Hazard : Breach Mapping
Less than 0.75 (Low Hazard)
Between 0.75 and 1.25 (Danger for Some)
Between 1.25 and 2.00 (Danger for Most)
Greater than 2.00 (Danger for All)

Records of Flooding
Localised Flood Incident
Historic Flood Outline

Recorded Sewer Flooding Incidents Per Postcode Area
1 - 2
3 - 6
7 - 11
12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA
MAXIMUM HAZARD : BREACH MAPPING
RISK OF FLOODING FROM SURFACE WATER
RISK OF FLOODING FROM RESERVOIRS
RISK OF FLOODING FROM GROUNDWATER
SuDS SUITABILITY
RECORDS OF FLOODING
BASEMAP



RECOMMENDATIONS

- A site specific FRA is required for large developments greater than 1ha in Flood Zone 1.
- All uses are acceptable in Flood Zone 1.
- Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Sewer capacity within Southwark is known to be constrained under higher return period events. The majority of the area is located within a Critical Drainage Area and therefore robust surface water management will be critical. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required

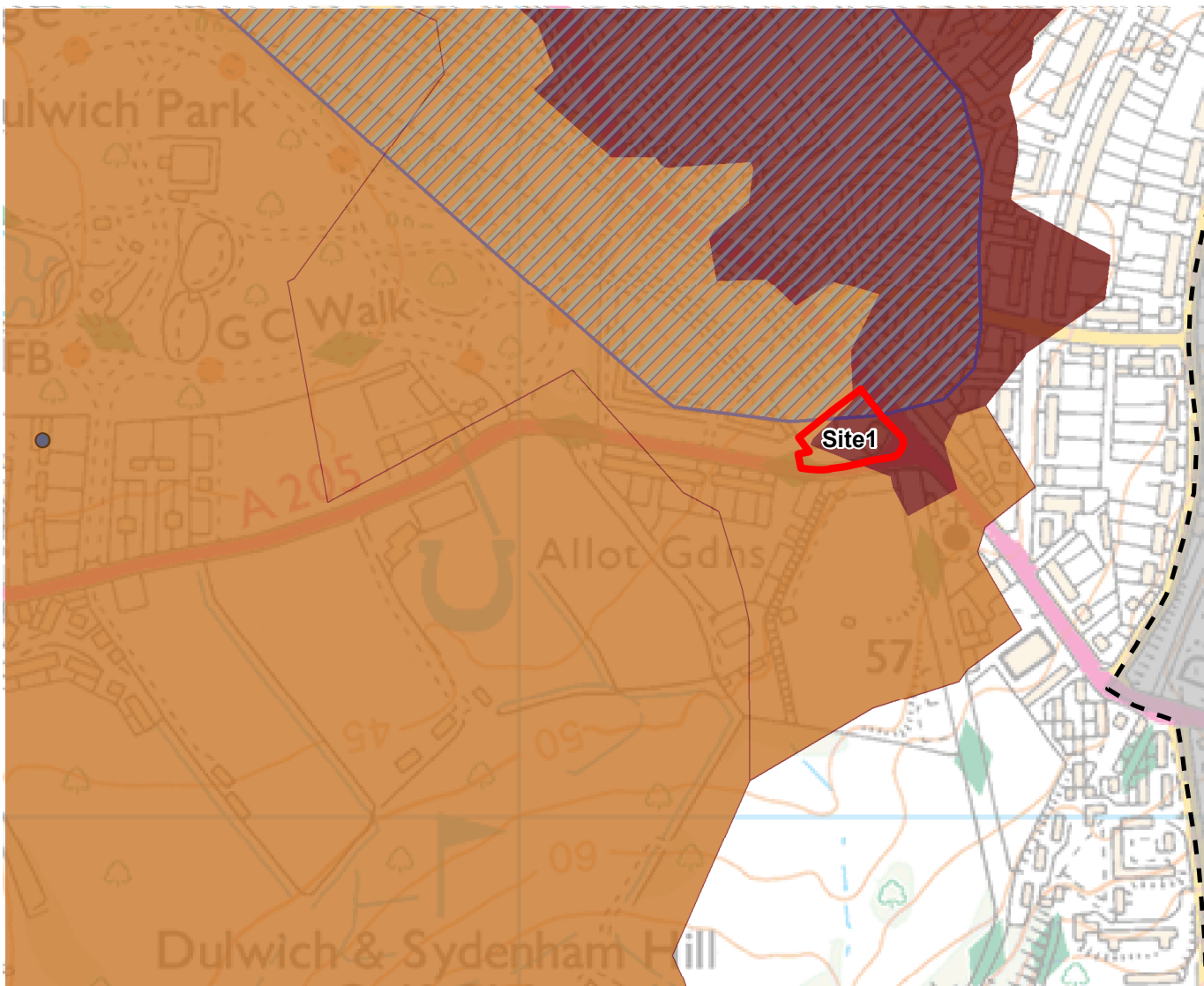
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ORIGINATED	SB	28/02/2018
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STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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SITE REF	Site 1 - NSP35
SITE NAME	The Grove Tavern, 520 Lordship Lane
SITE AREA (m ²)	4,981
PROPOSED USE	Employment
FLOOD ZONE CLASSIFICATION	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard
SURFACE WATER FLOOD RISK	Low risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur
RESERVOIR FLOOD RISK	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	9 recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents
FLOOD RISK VULNERABILITY ¹	Less Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface

- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

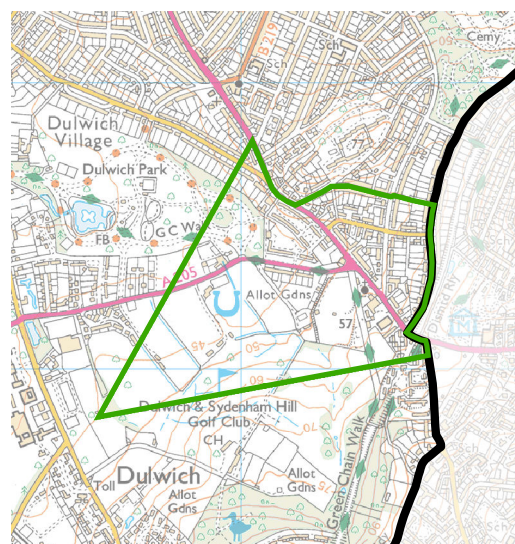
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

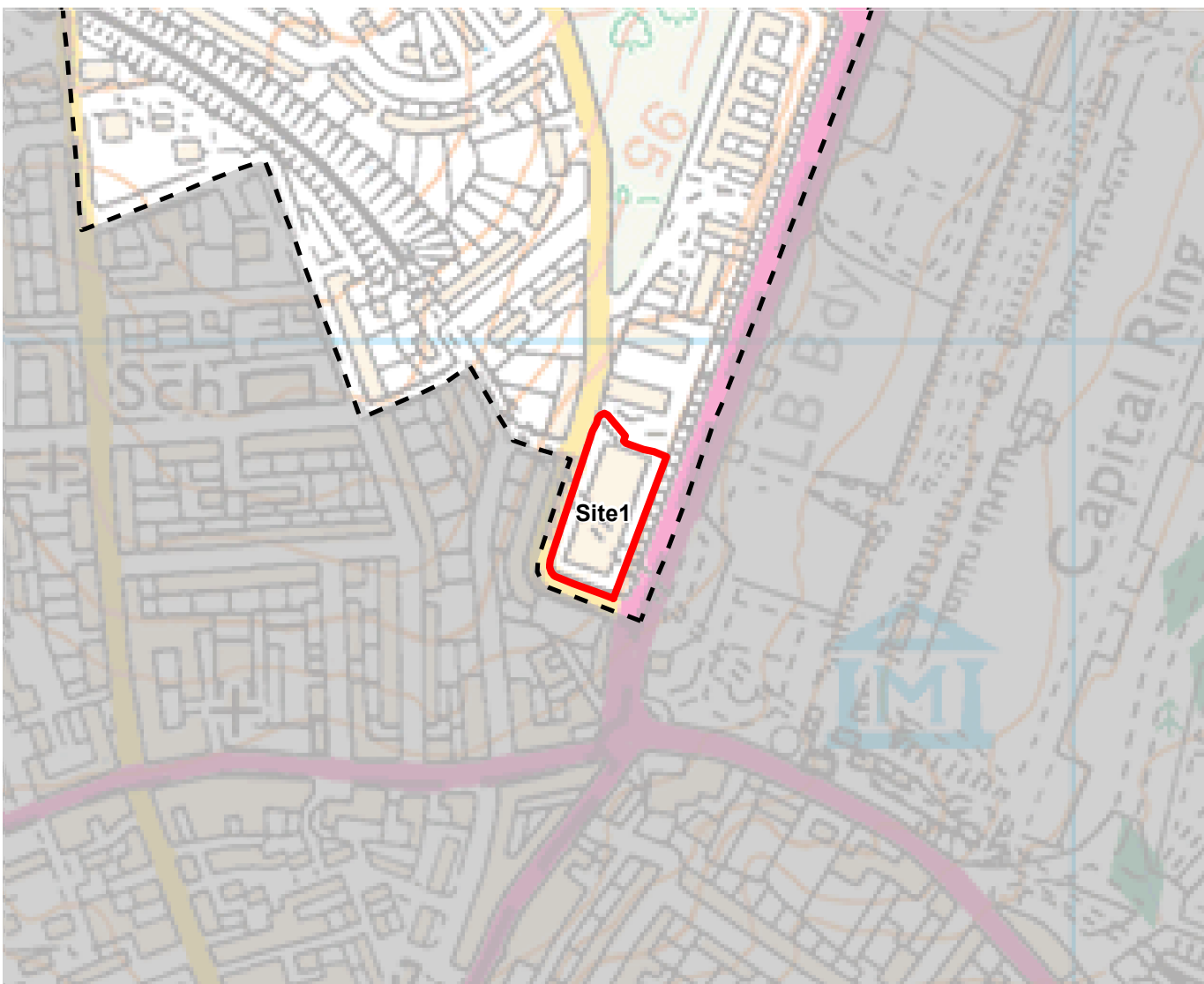
- A site specific FRA is required for all developments greater than 1ha in Flood Zone 1.
- All uses are acceptable in Flood Zone 1.
- The sites are located within a Critical Drainage Area and therefore robust surface water management will be critical.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that areas of the site are potentially suitable for infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.

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ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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SITE REF	Site 1 - NSP34
SITE NAME	Guys and St Thomas Trust Rehabilitation Centre, Crystal Palace
SITE AREA (m ²)	5,043
PROPOSED USE	Health centre
FLOOD ZONE CLASSIFICATION	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard
SURFACE WATER FLOOD RISK	Very low risk of flooding
GROUNDWATER FLOOD RISK	Limited potential for groundwater flooding to occur
RESERVOIR FLOOD RISK	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses

Risk of flooding from Rivers

- Flood Zone 3B
- Flood Zone 3
- Flood Zone 2
- Areas benefitting from flood defences

Risk of Flooding from Surface Water

- High risk of flooding (3.3% AEP)
- Medium Risk of flooding (1% AEP)
- Low risk of flooding (0.1% AEP)
- Critical Drainage Area

Risk of Flooding from Groundwater

- Limited potential for groundwater flooding to occur
- Potential for groundwater flooding of property situated below ground level
- Potential for groundwater flooding to occur at surface

Suitability for Infiltration SuDS

- Highly compatible for infiltration SuDS
- Opportunities for bespoke infiltration SuDS
- Probably compatible for infiltration SuDS
- Very significant constraints are indicated

Flood Risk from Reservoirs

- Reservoir flood extents

Max Hazard : Breach Mapping

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.00 (Danger for Most)
- Greater than 2.00 (Danger for All)

Records of Flooding

- Localised Flood Incident
- Historic Flood Outline

Recorded Sewer Flooding Incidents Per Postcode Area

- 1 - 2
- 3 - 6
- 7 - 11
- 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

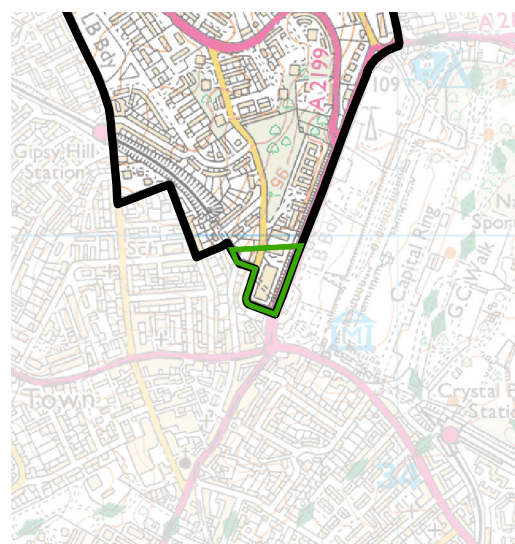
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

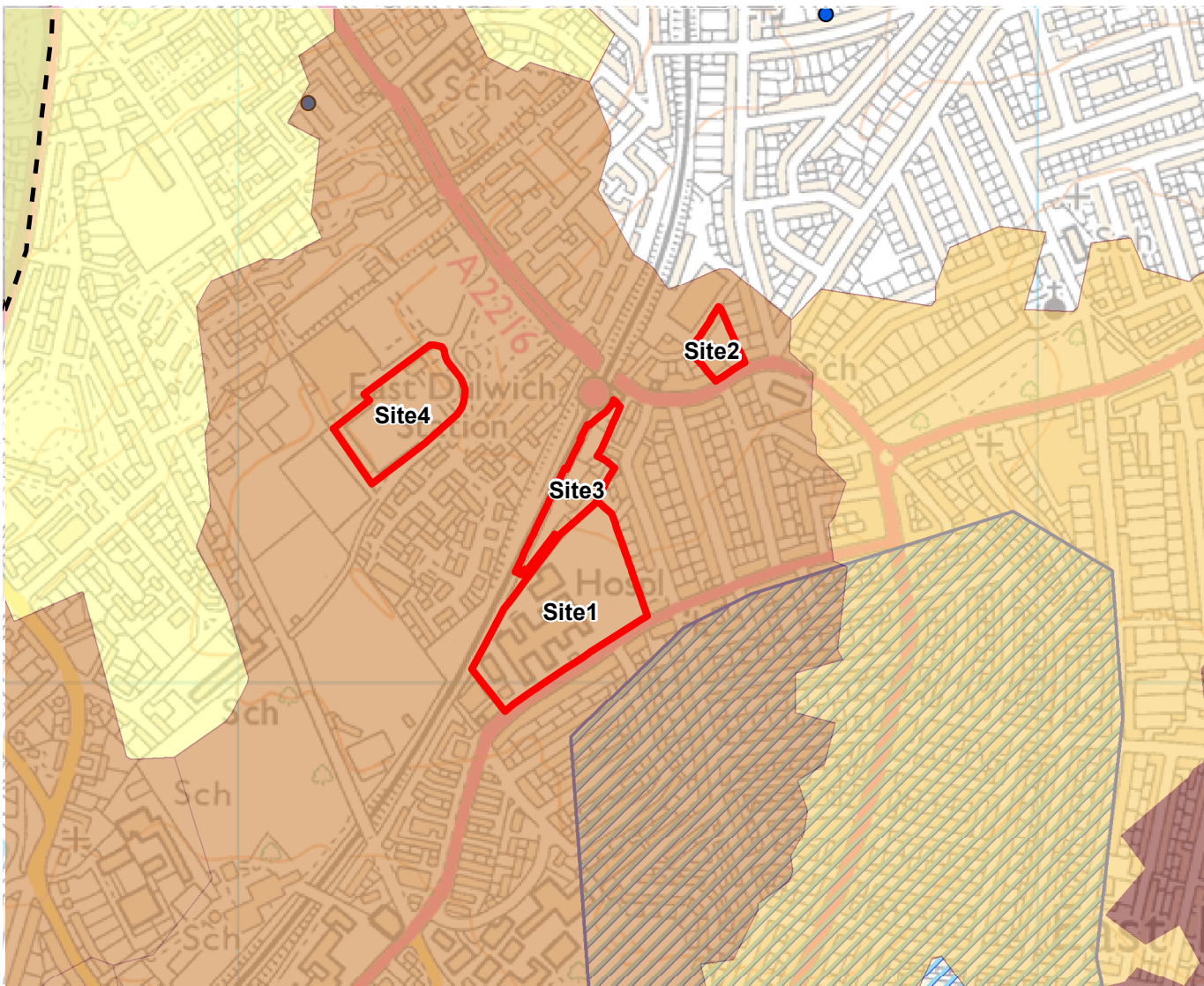
- A site specific FRA is required for all developments greater than 1ha in Flood Zone 1. All uses are acceptable in Flood Zone 1.
- The sites are located within a Critical Drainage Area and therefore robust surface water management will be critical.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that areas of the site are potentially suitable for infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.
- Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective, and will not have any adverse impacts on local hydrogeology.

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ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

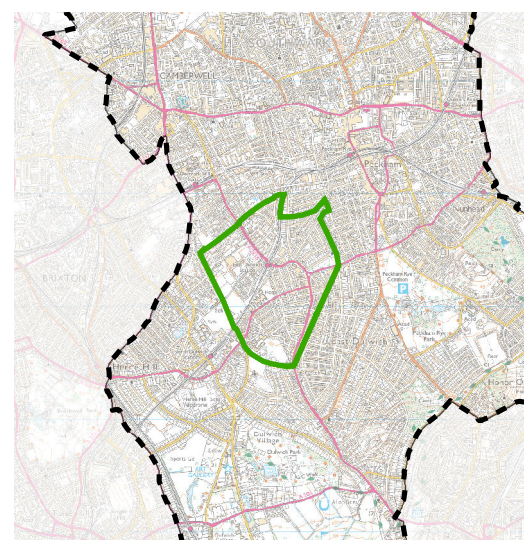
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 10 (updated July 2020)		SCALE: 1:8,000		0 200 400 Meters	
SITE REF	Site 1 - NSP39	Site 2 - NSP36	Site 3 - NSP38	Site 4 - NSP37	
SITE NAME	East Dulwich Community Hospital, East Dulwich Grove	Kwik Fit and Gibbs & Dandy, Grove Vale	Railway Rise, East Dulwich	Dulwich Hamlet Champion Hill Stadium	
SITE AREA (m ²)	27,907	3,277	7,874	14,686	
PROPOSED USE	Mixed use (community and educational)	mixed use (employment, town centre, community and residential)	Mixed use (employment, residential)	Mixed use (open space, residential)	
FLOOD ZONE CLASSIFICATION	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1	
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard	
SURFACE WATER FLOOD RISK	High risk of flooding	Low risk of flooding	Low risk of flooding	Low risk of flooding	
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Unlikely to occur	Potential for groundwater flooding to occur at surface	Unlikely to occur	
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes	Yes	Yes	
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	9 recorded incidents of sewer flooding	9 recorded incidents of sewer flooding	9 recorded incidents of sewer flooding	9 recorded incidents of sewer flooding	
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	No recorded incidents	No recorded incidents	
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	
FLOOD ZONE COMPATIBILITY	Development is permitted	Development is permitted	Development is permitted	Development is permitted	

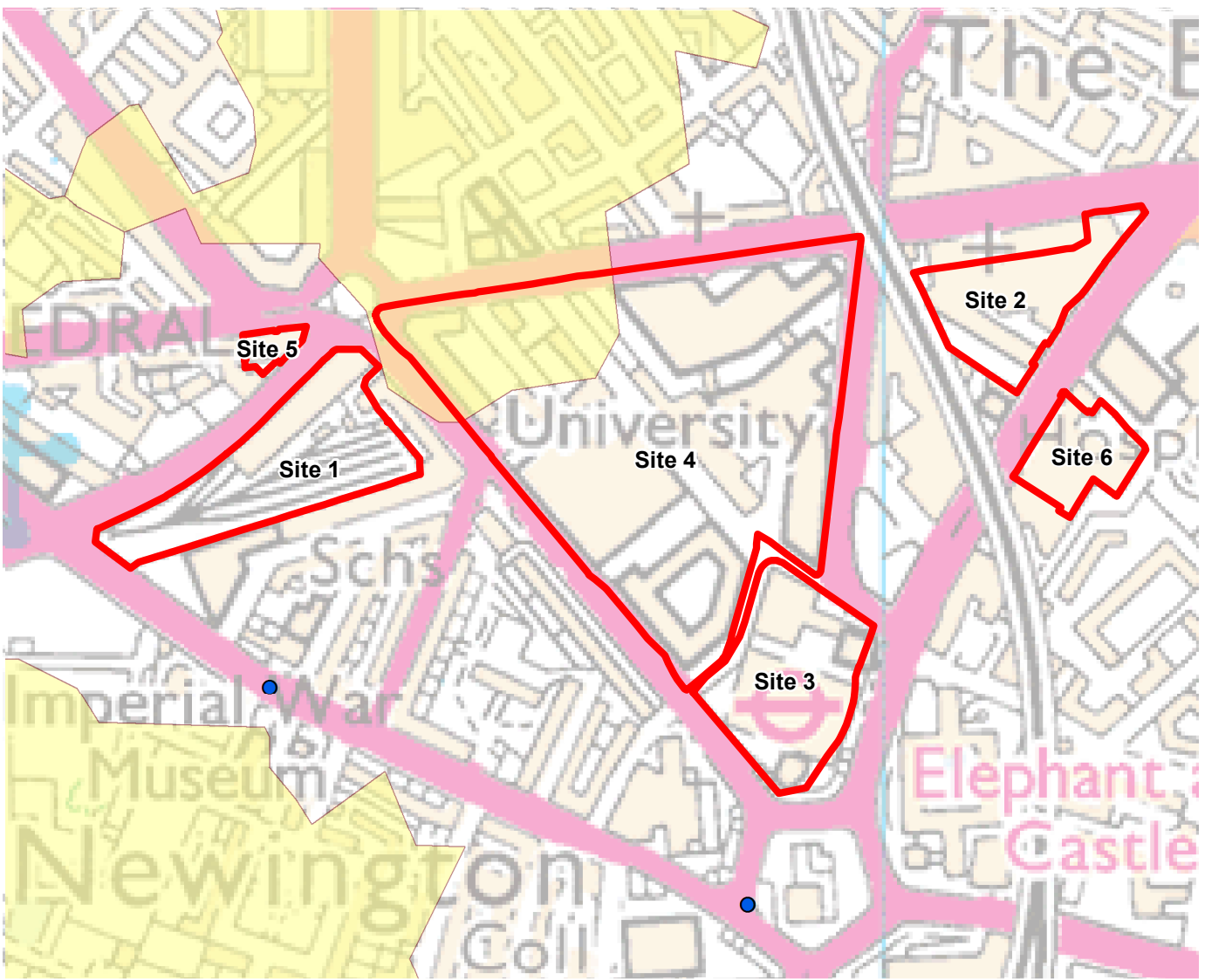
¹ Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA is required for development sites greater than 1ha in Flood Zone 1.
- All uses are acceptable in Flood Zone 1.
- The sites are located within a Critical Drainage Area and therefore robust surface water management will be critical.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.
- Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.

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ORIGINATED	SB	28/02/2018			STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018			
VERIFIED	GP	14/03/2018			



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

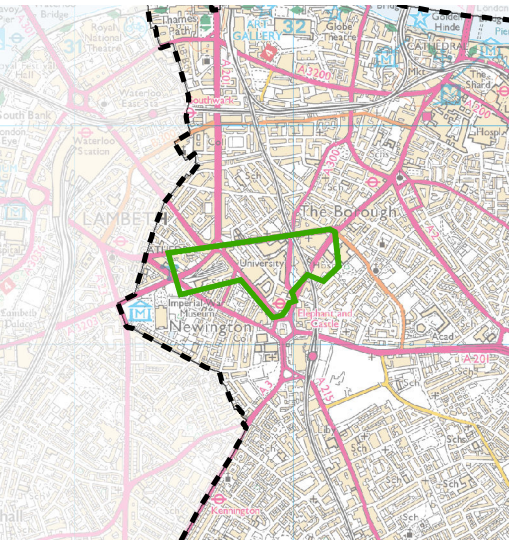
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 11 (updated July 2020) **SCALE:** 1:4,000 0 100 200 Meters

SITE REF	Site 1 - NSP42	Site 2 - NSP41	Site 3 (deleted)	Site 4 - NSP46	Site 5 - NSP47	Site 6 - NSP43
SITE NAME	Bakerloo Line Sidings and 7 St George's Circus	Newington Triangle	Skipton House, Keyworth Hostel and Perry Library	London Southbank University Quarter	1-5 Westminster Bridge Rd	63 - 85 Newington Causeway
SITE AREA (m²)	11,704	7,297	10,191	51,823	775	3,796
PROPOSED USE	Mixed use (employment, residential, town centre and community uses)	Mixed use (open space, employment, residential, town centre and community uses)	Mixed use (employment, town centre uses & open space)	Research/education	Mixed use (employment, town centre uses & residential)	Mixed use (employment, residential, town centre and community uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for Some	Danger for Some	Danger for Some	Danger for Most	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Medium risk of flooding	Low risk of flooding	High risk of flooding	High risk of flooding	Very low risk of flooding	Low risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	1 recorded incident	1 recorded incident	No recorded incidents	1 recorded incident
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	Less Vulnerable	Less Vulnerable	More Vulnerable	More Vulnerable

FLOOD ZONE COMPATIBILITY Exception test required Exception test required Development is permitted Development is permitted Exception test required Exception test required

¹ Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

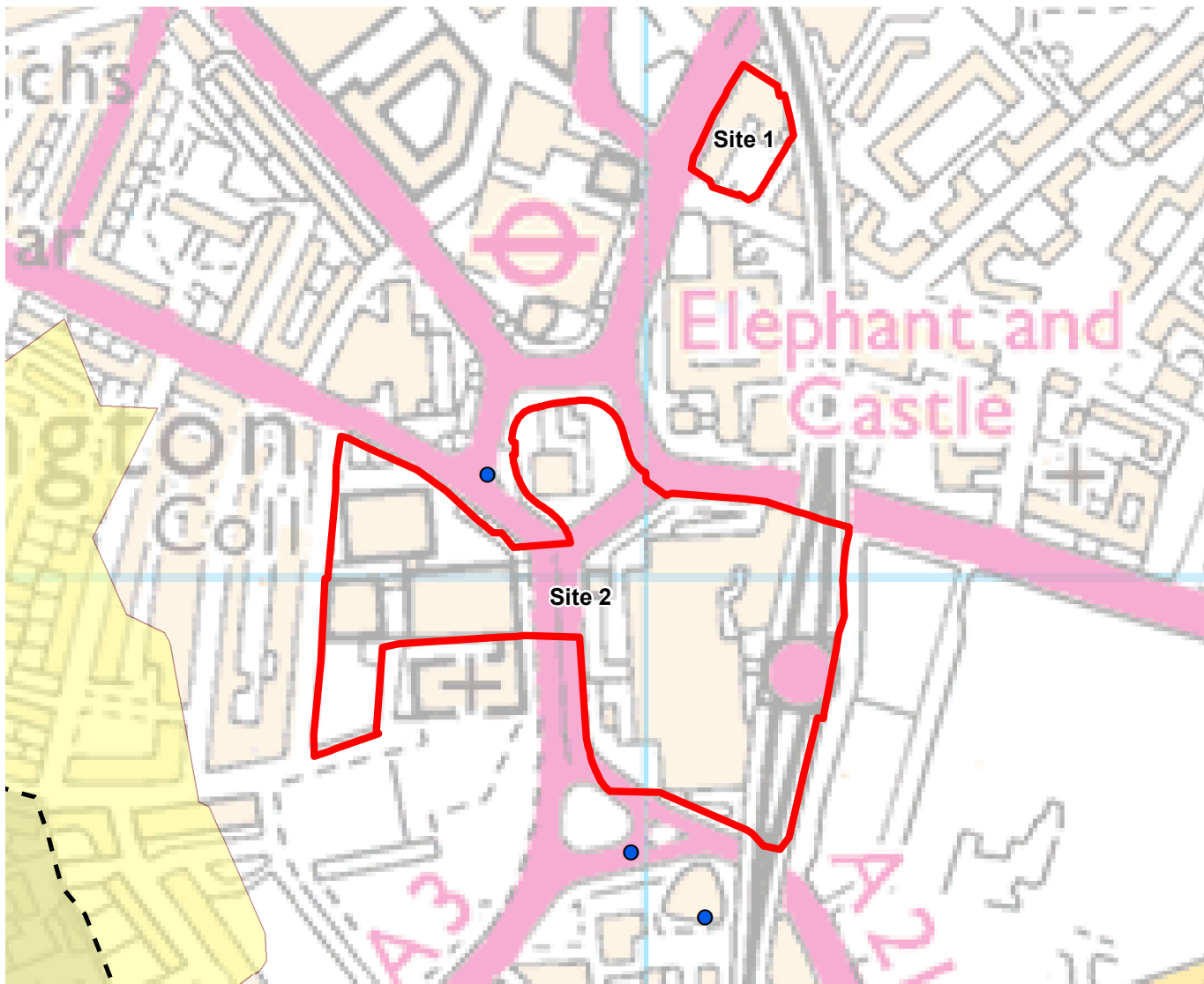
RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences. Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data indicates that infiltration SuDS are unlikely to be suitable for use across the majority of the site, so lined attenuation systems may be required. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for all events up to the 1 in 100 year storm event, incorporating the latest allowances for climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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ORIGINATED	SB	28/02/2018
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VERIFIED	GP	14/03/2018
UPDATED		13/07/2020

STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Analysis 12
(updated July 2020)

SCALE:
1:4,000



SITE REF	Site 1 - NSP44	Site 2 - NPSP45
SITE NAME	Salvation Army Headquarters, Newington Causeway	Elephant & Castle Shopping Centre and London College of Communication
SITE AREA (m ²)	2,615	40,530
PROPOSED USE	Mixed use (employment, residential, town centre and community uses)	Mixed use (employment, residential, town centre, education, open space, tube station and community uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for Most	Danger for All
SURFACE WATER FLOOD RISK	Medium risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	Unknown	Unknown
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	2 recorded incidents
FLOOD ZONE VULNERABILITY ¹	More Vulnerable	More Vulnerable
FLOOD RISK COMPATIBILITY	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses

Risk of flooding from Rivers

- Flood Zone 3B
- Flood Zone 3
- Flood Zone 2
- Areas benefitting from flood defences

Risk of Flooding from Surface Water

- High risk of flooding (3.3% AEP)
- Medium Risk of flooding (1% AEP)
- Low risk of flooding (0.1% AEP)
- Critical Drainage Area

Risk of Flooding from Groundwater

- Limited potential for groundwater flooding to occur
- Potential for groundwater flooding of property situated below ground level
- Potential for groundwater flooding to occur at surface

Suitability for Infiltration SuDS

- Highly compatible for infiltration SuDS
- Opportunities for bespoke infiltration SuDS
- Probably compatible for infiltration SuDS
- Very significant constraints are indicated

Flood Risk from Reservoirs

- Reservoir flood extents

Max Hazard : Breach Mapping

- Less than 0.75 (Low Hazard)
- Between 0.75 and 1.25 (Danger for Some)
- Between 1.25 and 2.00 (Danger for Most)
- Greater than 2.00 (Danger for All)

Records of Flooding

- Localised Flood Incident
- Historic Flood Outline

Recorded Sewer Flooding Incidents Per Postcode Area

- 1 - 2
- 3 - 6
- 7 - 11
- 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

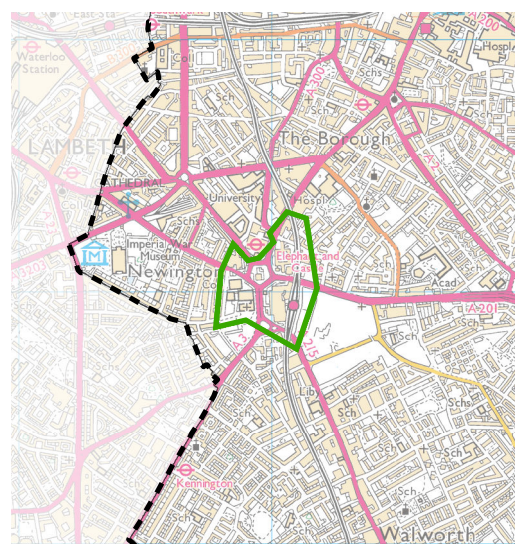
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data indicates that infiltration SuDS are unlikely to be suitable for use across the majority of the site, so lined attenuation systems may be required. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for all events up to the 1 in 100 year storm event, incorporating the latest allowances for climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

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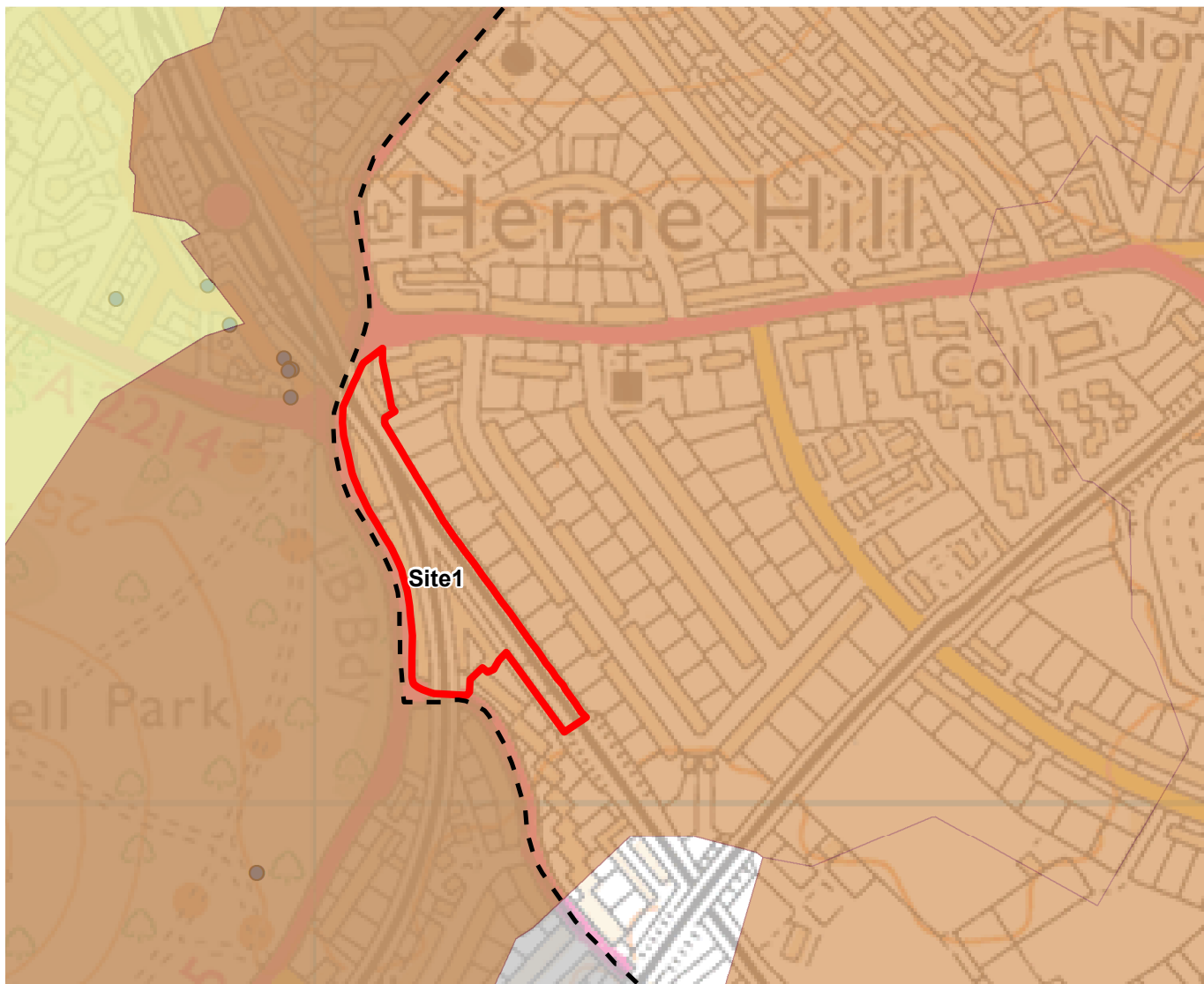
ORIGINATED	SB	28/02/2018
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STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2

UPDATED

13/07/2020



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Analysis 13
(updated July 2020)

SCALE:
1:5,000



SITE REF	Site 1 - NSP48
SITE NAME	Bath Trading Estate
SITE AREA (m ²)	15,540
PROPOSED USE	Mixed use (residential, employment, town centre uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard
SURFACE WATER FLOOD RISK	Medium risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	Residual risk of flooding
WITHIN CRITICAL DRAINAGE AREA	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	11 recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted

¹. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface

- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

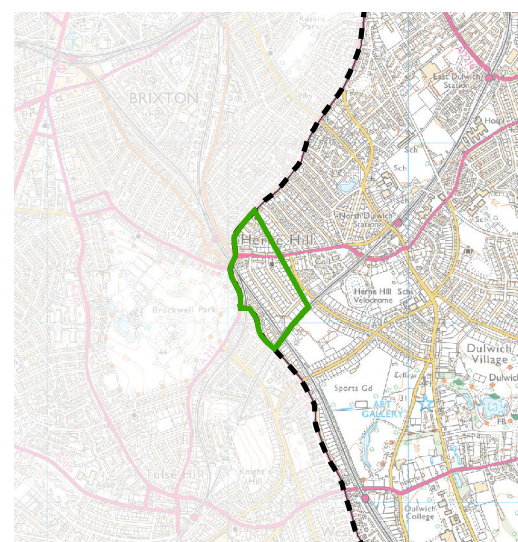
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

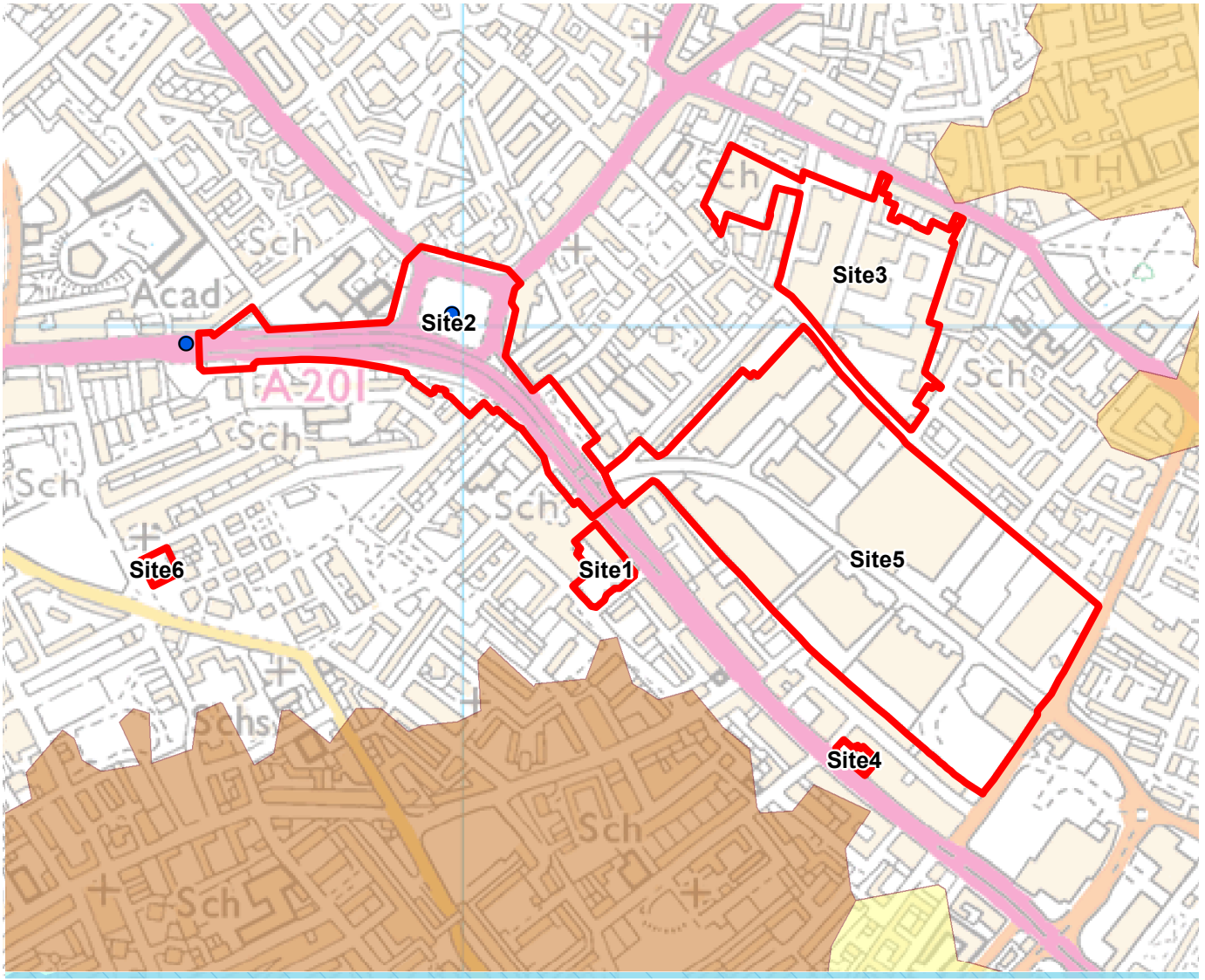
- A site specific FRA will be required.
- All uses are acceptable within Flood Zone 1.
- The area is located within a Critical Drainage Area and therefore robust surface water management will be critical for the development.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data indicates that infiltration SuDS are unlikely to be suitable for use across the majority of the site, so lined attenuation systems may be required. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for all events up to the 1 in 100 year storm event, incorporating the latest allowances for climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.
- Any development proposals incorporating new or extended basement area must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

This document should be viewed in PDF format. Information may be lost when printed.

ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents by Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

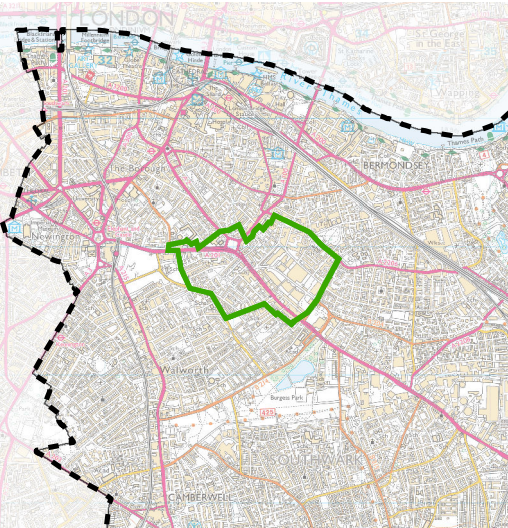
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

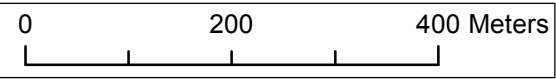
SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 14 (updated July 2020) **SCALE:** 1:7,000



SITE REF	Site 1 - NSP58/ OKR6	Site 2 - NSP53/ OKR1	Site 3 - NSP54/ OKR2	Site 4 - NSP59/ OKR7	Site 5 - NSP55/ OKR3	Site 6 - NSP57/ OKR5
SITE NAME	96-120 Old Kent Road (Lidl store)	Bricklayers Arms	Crimscott Street and Pages Walk	Former petrol filling station, 233-247 Old Kent Road	Mandela Way	Salisbury estate car park
SITE AREA (m²)	3,454	38,179	37,782	871	120,791	1,040
PROPOSED USE	Mixed use (residential, town centre, employment and community uses)	Mixed use (residential, town centre, employment and community uses)	Mixed use (residential, employment, community and town centre uses)	Mixed use (residential & town centre uses)	Mixed use (residential, employment, community and town centre uses)	Mixed use (residential, community)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Danger for Some	Low Hazard	Low Hazard	Danger for Most	Low Hazard
SURFACE WATER FLOOD RISK	Medium risk of flooding	High risk of flooding	High risk of flooding	Low risk of flooding	High risk of flooding	Very low risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding of property situated below ground level	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	No recorded incidents	No recorded incidents	3 recorded incidents	3 recorded incidents	No recorded incidents
FLOOD RISK VULNERABILITY ¹	More vulnerable	More vulnerable	More vulnerable	More vulnerable	More vulnerable	More vulnerable

FLOOD ZONE COMPATIBILITY Exception test required

¹. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data indicates that infiltration SuDS are unlikely to be suitable for use across the majority of the site, so lined attenuation systems may be required. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for all events up to the 1 in 100 year storm event, incorporating the latest allowances for climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

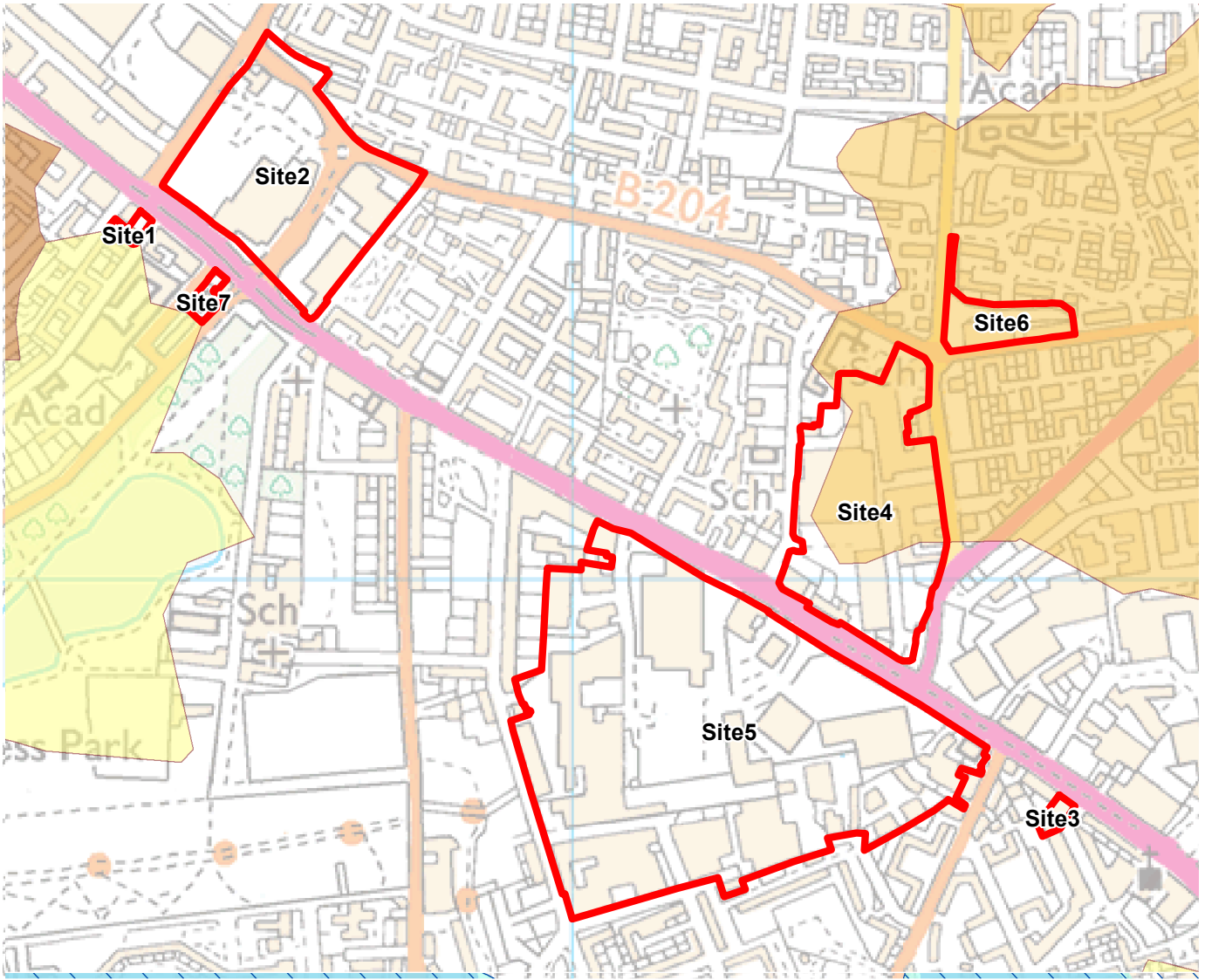
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ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018

Shaping London's Highways

STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2

UPDATED 13/07/2020



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewers by Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

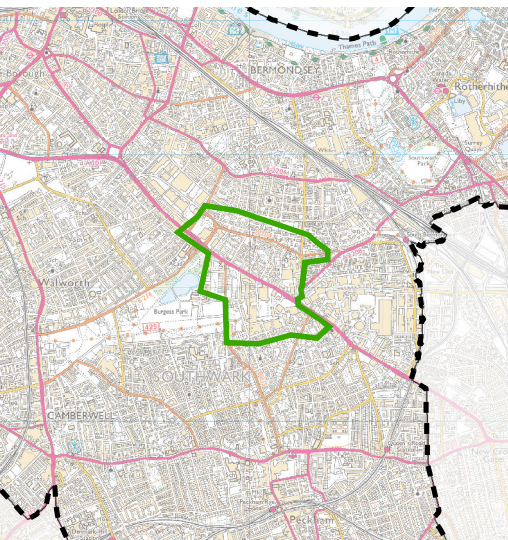
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 15 (updated July 2020)		SCALE: 1:7,000		0 200 400 Meters			
SITE REF	Site 1 - NSP60/ OKR8	Site 2 - NSP56/ OKR41	Site 3 - NSP70 /OKR14	Site 4 - NSP64 OKR11	Site 5 - NSP63/ OKR10	Site 6 - NSP62/ OKR12	Site 7 - NSP61/ OKR9
SITE NAME	Kinglake Street Garages	107 Dunton Road (Tesco store and car park) and Southernwood Retail Park	636 Old Kent Road	Marlborough Grove and St James's Road	Land bounded by Glengall Road, Latona Road and Old Kent Road	Former Southern Railway Stables	4/12 Albany Road
SITE AREA (m ²)	755	40,724	881	39,764	124,912	6,268	1,116
PROPOSED USE	Mixed use (town centre, residential and community)	Mixed use (residential, employment, community, open space, new visitor accommodation and town centre)	Mixed use (residential, town centre, employment and community)	Mixed use (residential, town centre, employment, open space, community)	Mixed use (residential, community, employment, town centre uses, community and open space)	Mixed use (residential, employment and community)	Mixed use (residential, employment, community and town centre uses)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Danger for Most	Low Hazard	Danger for Most	Low Hazard	Danger for Most	Low Hazard
SURFACE WATER FLOOD RISK	Very low risk of flooding	High risk of flooding	Very low risk of flooding	High risk of flooding	High risk of flooding	Low risk of flooding	Very low risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Unlikely to occur	Potential for groundwater flooding of property situated below ground level	Limited potential for groundwater flooding to occur	Potential for groundwater flooding of property situated below ground level	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	Residual risk of flooding	No residual flood risk	Residual risk of flooding	Residual risk of flooding	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	Yes	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POST CODE AREA	1 recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	No recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	3 recorded incidents	1 recorded incident	1 recorded Incident	1 recorded incident	2 recorded incidents	No recorded incidents	No recorded incidents
FLOOD RISK VULNERABILITY	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required

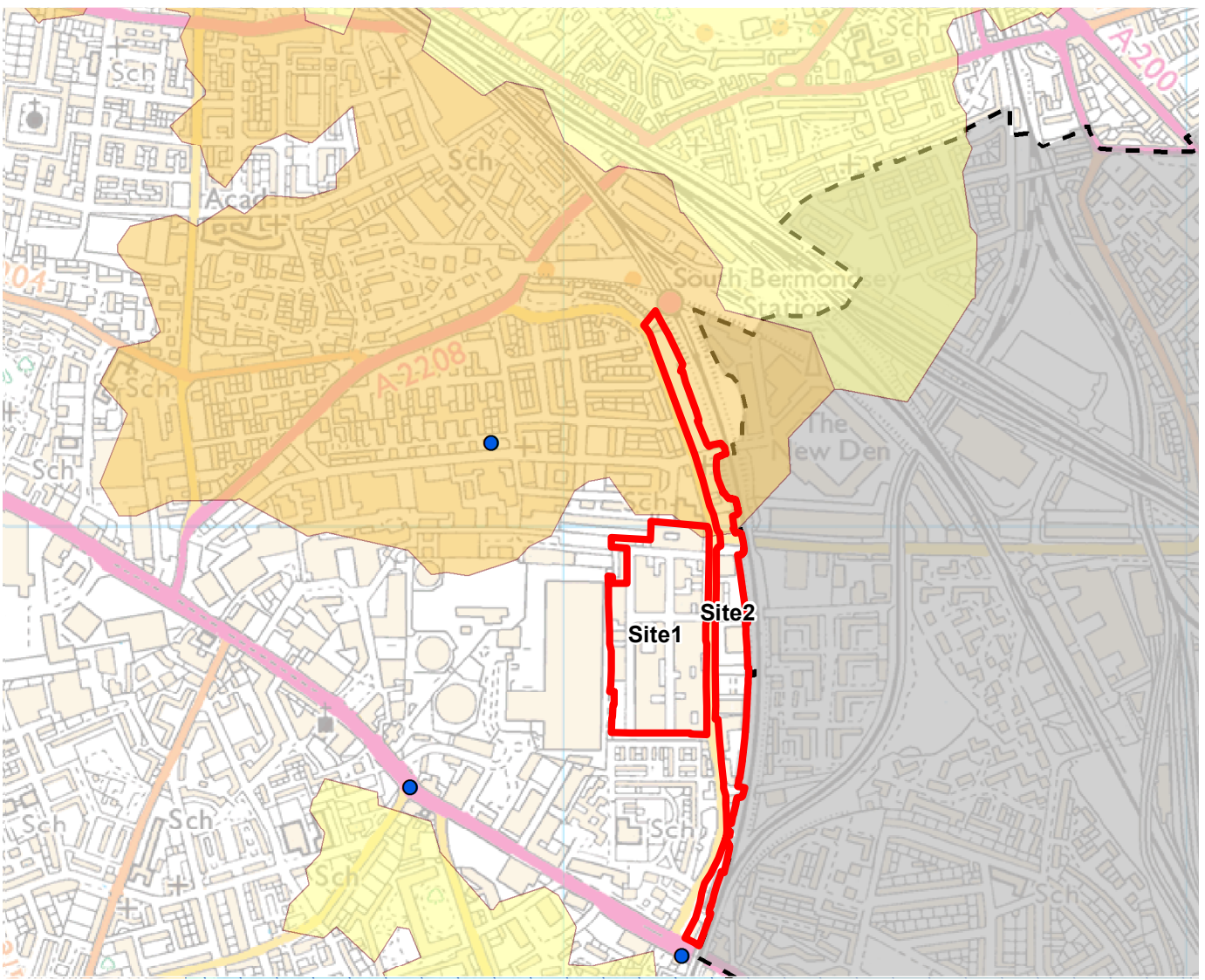
1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective, and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

This document should be viewed in PDF format. Information may be lost when printed.

ORIGINATED	SB	28/02/2018	 	STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018		
VERIFIED	GP	14/03/2018		
UPDATED		13/07/2020		



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

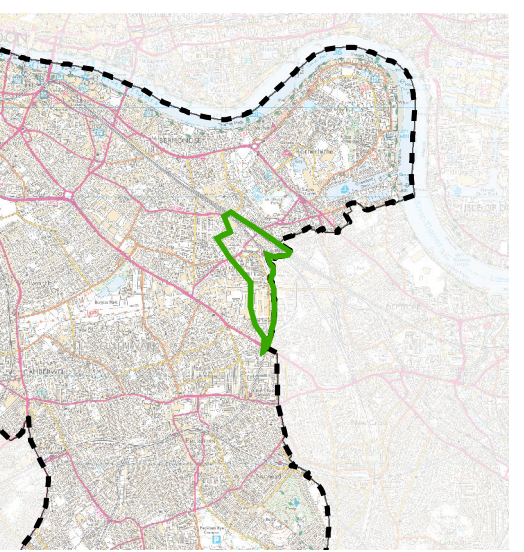
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

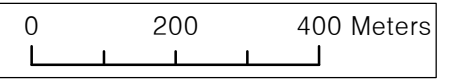
RECORDS OF FLOODING

BASEMAP



Analysis 16
(updated July 2020)

SCALE:
1:10,000



SITE REF	Site 1	Site 2
SITE NAME	NSP67/ OKR16 - Hatcham Road and Penarth Street and Ilderton Road	
SITE AREA (m ²)	49,421	32,778
PROPOSED USE	Mixed use (residential, employment & community uses)	Residential
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Danger for Most
SURFACE WATER FLOOD RISK	High risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding of property situated below ground level	Potential for groundwater flooding of property situated below ground level
RESERVOIR FLOOD RISK	Residual risk of flooding	Residual risk of flooding
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	1 recorded incident
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required

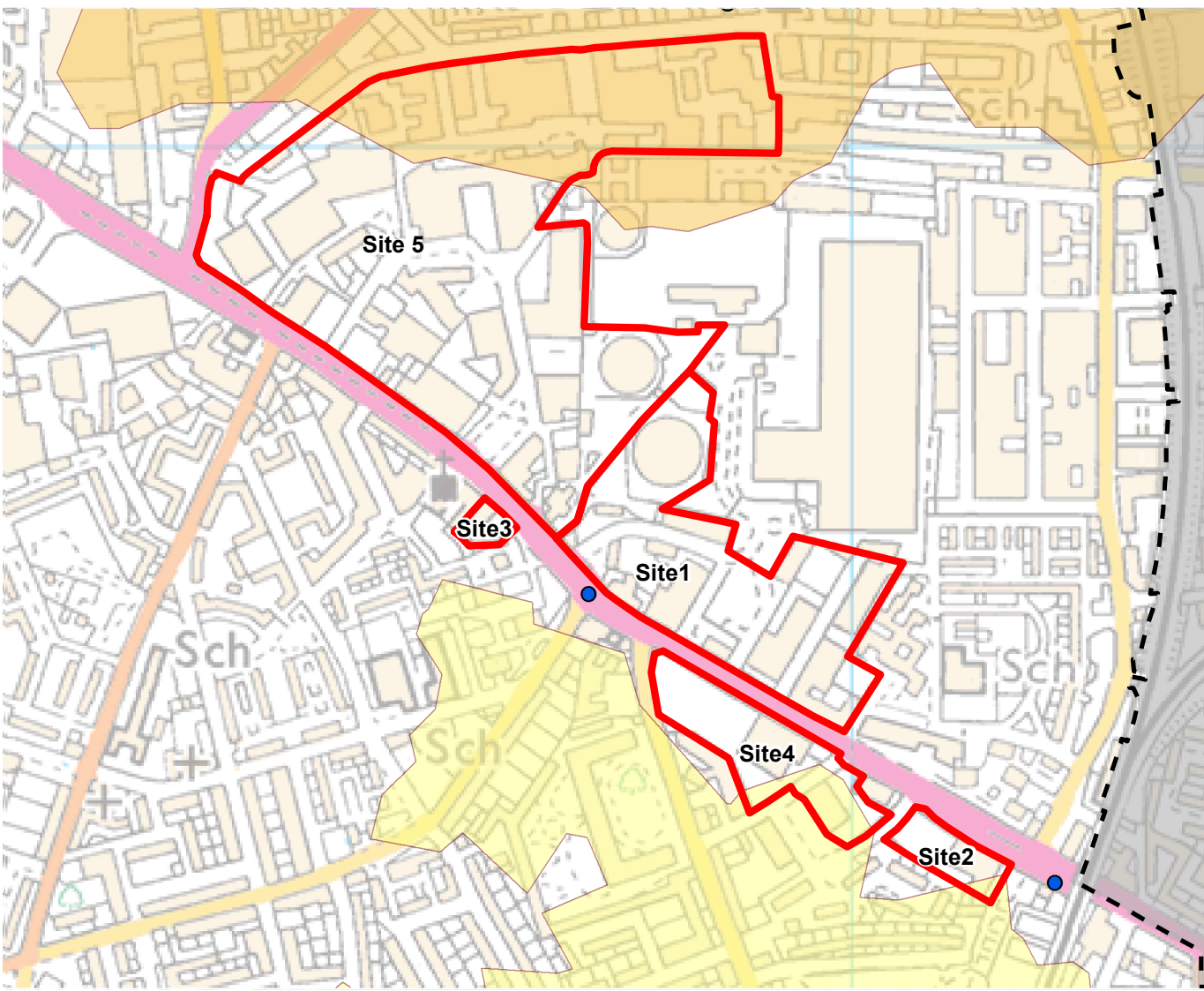
¹Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014)

RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. The majority of the area is located within a Critical Drainage Area and therefore robust surface water management will be critical for the development. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

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ORIGINATED	SB	28/02/2018			STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018			
VERIFIED	GP	14/03/2018			
UPDATED		13/07/2020			



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

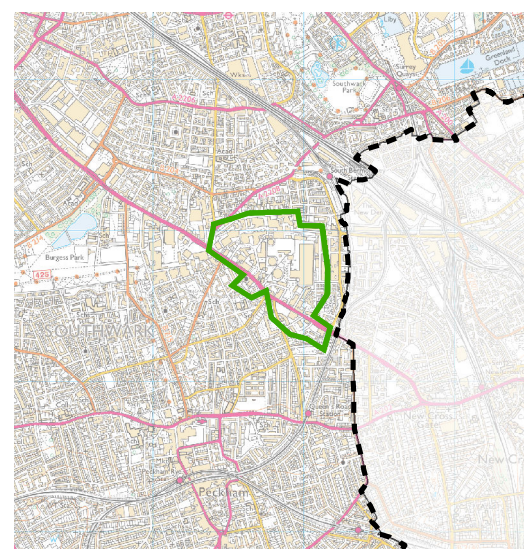
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



Analysis 17 (updated July 2020)		SCALE: 1:6,000		0 200 400 Meters	
SITE REF	Site 1 - NSP66/ OKR18	Site 2 - NSP68/OKR17	Site 3 - NSP69/ OKR15	Site 4 - NSP68/ OKR17	Site 5 - NSP65/OKR13
SITE NAME	Devon Street and Sylvan Grove	760 and 812 Old Kent Road (Toyrus store) and 840 Old Kent Road (Aldi store)	684-698 Old Kent Road (Kwikfit garage)	760 and 812 Old Kent Road (Toyrus store) and 840 Old Kent Road (Aldi store)	Sandgate Street and Verney Road
SITE AREA (m ²)	43,409	14,500	1,526	14,500	129,084
PROPOSED USE	Mixed use (employment & residential)	Mixed use (residential, town centre uses & community)	Mixed use (residential & town centre uses)	Mixed use (residential, town centre uses & community)	Mixed use (residential, employment, town centre, community uses & open space)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Danger for Most
SURFACE WATER FLOOD RISK	High risk of flooding	Low risk of flooding	Very low risk of flooding	High risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur	Potential for groundwater flooding of property situated below ground level
RESERVOIR FLOOD RISK	Residual risk of flooding	Residual risk of flooding	No residual flood risk	Residual risk of flooding	Residual risk of flooding
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes	Yes	Yes	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	1 recorded incident	No recorded incidents	1 recorded incident
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

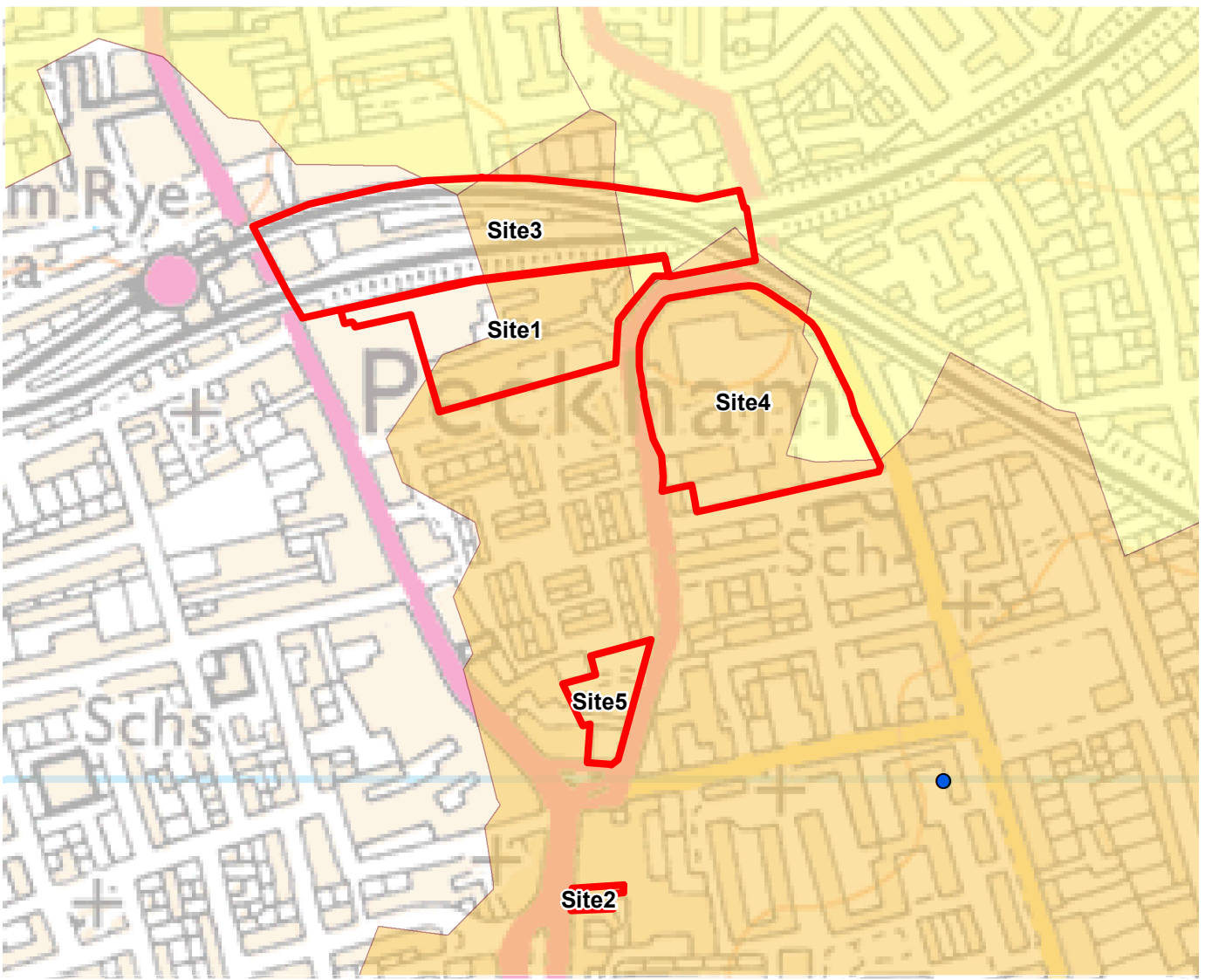
- A site specific FRA will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higherground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. The majority of the area is located within a Critical Drainage Area and therefore robust surface water management will be critical for the development. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that the majority of the sites are potentially suitable for bespoke infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

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ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

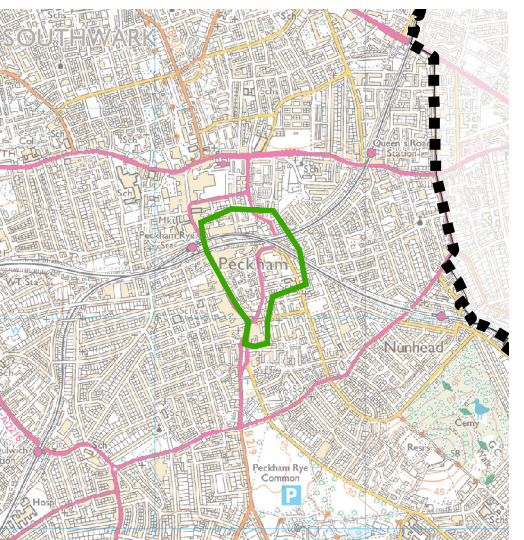
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

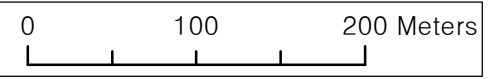
RECORDS OF FLOODING

BASEMAP



Analysis 18
(updated July 2020)

SCALE:
1:4,000



SITE REF	Site 1 - NSP74	Site 2 - PNAAP23	Site 3 - NSP73	Site 4 - NSP72	Site 5 - PNAAP7
SITE NAME	Copeland Industrial Park and 1-27 Bournemouth Road	269-273 Rye Lane	Land between railway arches (east of Rye Lane including railway arches)	Blackpool Road Business Park	Copeland Rd Car Park
SITE AREA (m²)	17,638	467	20,206	11,469	2,637
PROPOSED USE	Mixed use (employment, residential, town centre and community uses)	Commercial	Mixed use (employment, town centre uses)	Mixed use (employment residential, and open space)	Commercial
FLOOD ZONE CLASSIFICATION	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Medium risk of flooding	Medium risk of flooding	High risk of flooding	High risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur
RESERVOIR FLOOD RISK	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes	Yes	Yes	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	3 recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	3 recorded incidents of sewer flooding	3 recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded Incident	1 recorded Incident	No recorded incidents	No recorded incidents	1 recorded incident
FLOOD RISK VULNERABILITY ¹	More Vulnerable	Less Vulnerable	More Vulnerable	More Vulnerable	Less Vulnerable

FLOOD ZONE COMPATIBILITY Development is permitted Development is permitted Development is permitted Development is permitted Development is permitted

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

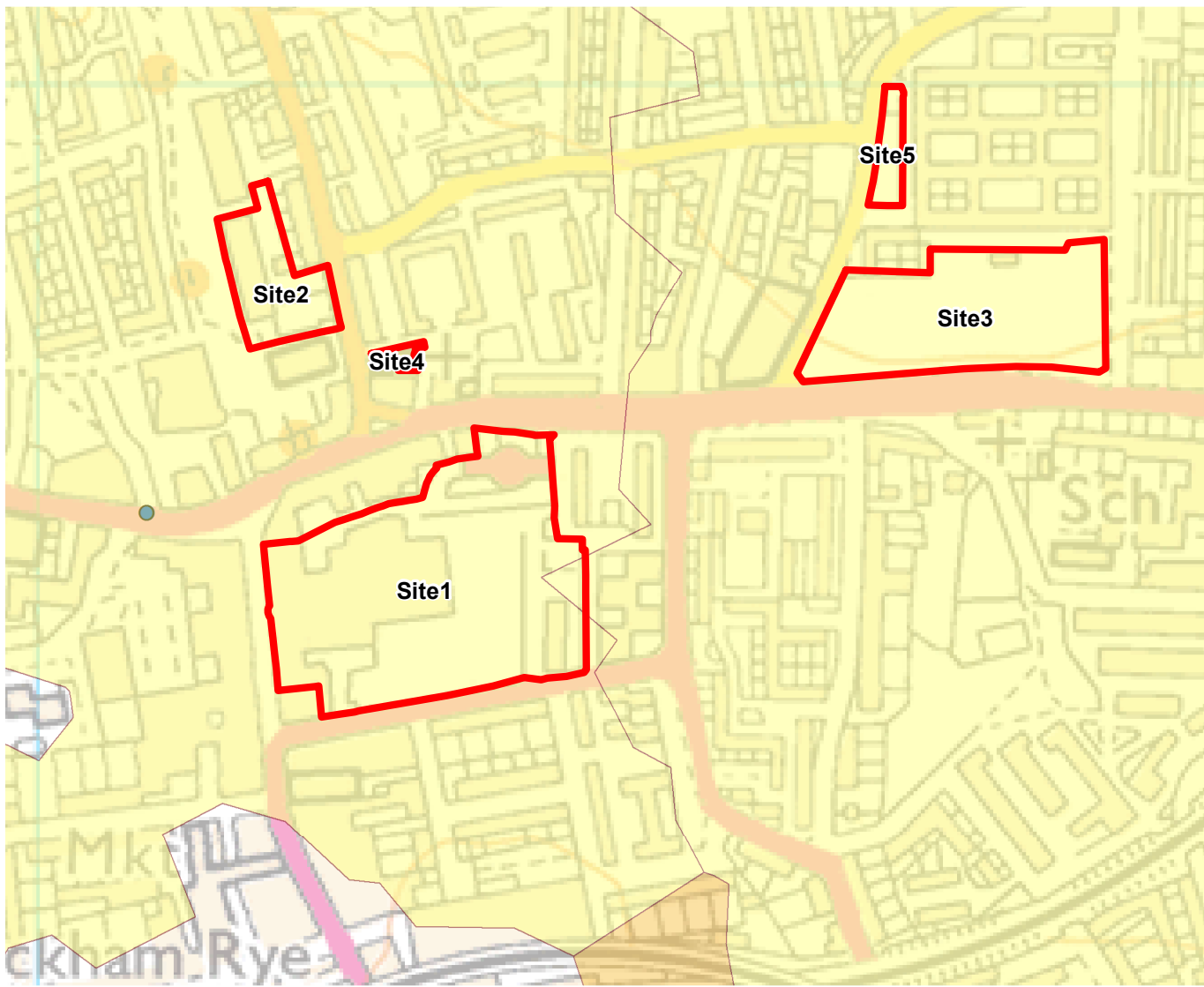
- A site specific FRA is required for all developments greater than 1ha in Flood Zone 1. All uses are acceptable in Flood Zone 1.
- Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that the sites are potentially suitable for bespoke infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

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ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
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STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

1 - 2	7 - 11
3 - 6	12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

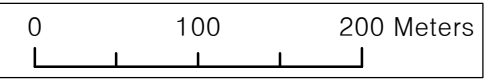
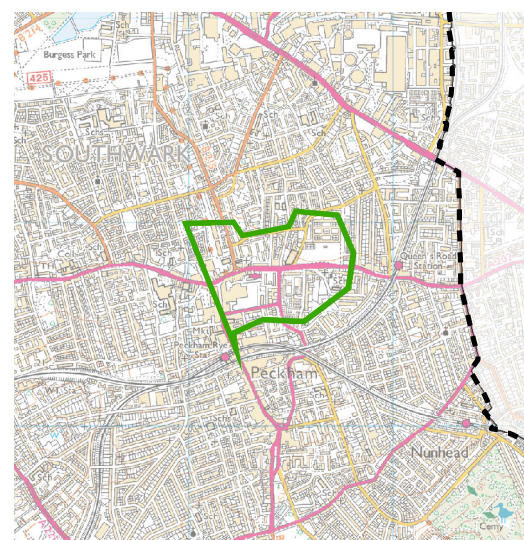
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



SITE REF	Site 1 - NSP71	Site 2 - PNAAP10	Site 3 - PNAAP5	Site 4 - PNAAP25	Site 5 - PNAAP26
SITE NAME	Aylesham Centre and Peckham Bus Station	Eagle Wharf	Site of the former Wooddene Estate	Former Peckham Library	Former Acorn/Peckham neighbourhood office, 95A Meeting House Lane
SITE AREA (m²)	30,559	5,182	15,716	371	1,437
PROPOSED USE	Mixed use (residential, town centre and community uses, & open space)	Mixed use (residential, retail)	Mixed use (residential, retail)	Mixed use (residential, community, employment, town centre uses & open space)	Residential
FLOOD ZONE CLASSIFICATION	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1	Flood Zone 1
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	High risk of flooding	Low risk of flooding	High risk of flooding	High risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur	Unlikely to occur
RESERVOIR FLOOD RISK	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding	Residual risk of flooding
WITHIN CRITICAL DRAINAGE AREA	Yes	Yes	Yes	Yes	Yes
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	2 recorded incidents of sewer flooding	2 recorded incidents of sewer flooding	1 recorded incident of sewer flooding	2 recorded incidents of sewer flooding	1 recorded incident of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	No recorded incidents	2 recorded incidents	No recorded incidents	2 recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Development is permitted	Development is permitted	Development is permitted	Development is permitted	Development is permitted

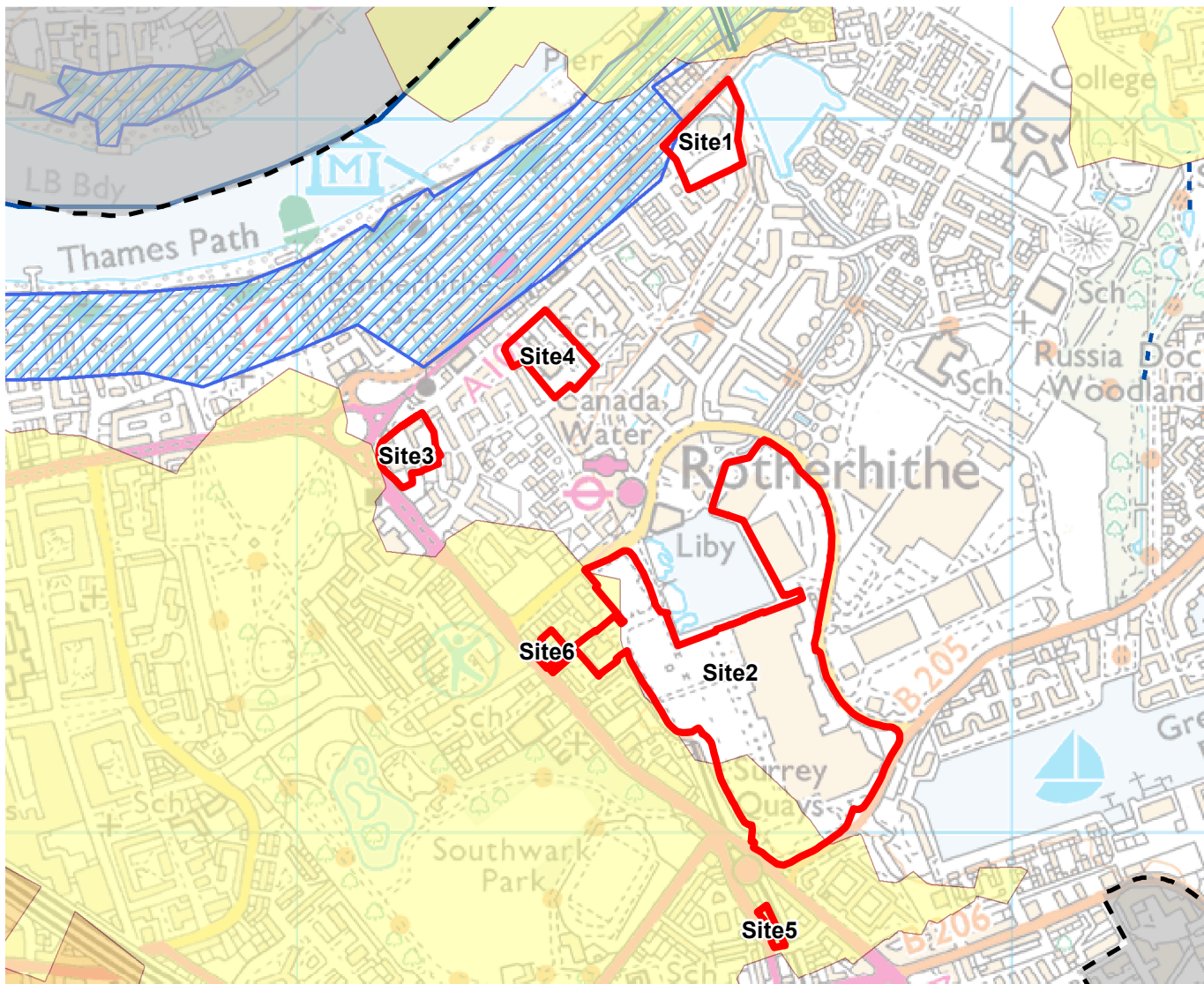
1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

RECOMMENDATIONS

- A site specific FRA is required for all developments greater than 1ha in Flood Zone 1. All uses are acceptable in Flood Zone 1.
- Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Sewer capacity within Southwark is known to be constrained under higher return period events. The area is located within a Critical Drainage Area and therefore robust surface water management will be critical for the development. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that the sites are potentially suitable for bespoke infiltration SuDS, which should be prioritised where possible. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Consideration should be given to emergency planning to manage the risk of flooding from reservoir breach.

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ORIGINATED	SB	28/02/2018			STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2	
CHECKED	MD	05/03/2018				
VERIFIED	GP	14/03/2018				
UPDATED		13/07/2020				



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Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**
 - 1 - 2
 - 3 - 6
 - 7 - 11
 - 12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

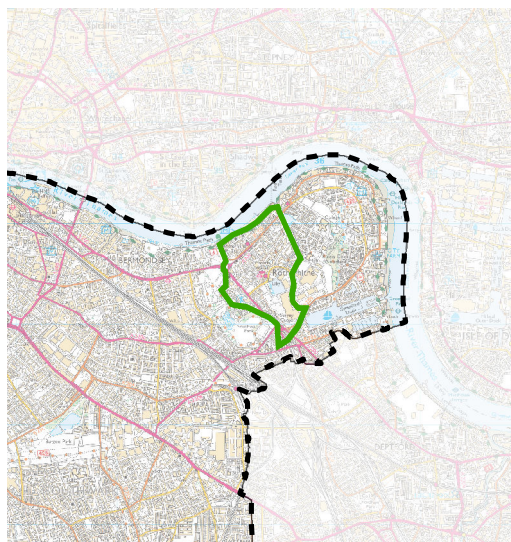
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

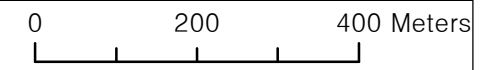
RECORDS OF FLOODING

BASEMAP



Analysis 20
(updated July 2020)

SCALE:
1:9,000



SITE REF	Site 1 - NSP75	Site 2 (superseded)	Site 3 - NSP76	Site 4 - CWAAP4	Site 5 - CWAAP9	Site 6 (part of NSP78)
SITE NAME	Rotherhithe Gasometer	Decathlon Site, Surrey Quays Shopping centre and overflow car park	St Olav's Business park	Albion Primary School	23 Rotherhithe Old Rd	Rotherhithe Police Station
SITE AREA (m²)	9,628	107,364	5,402	7,953	797	1,409
PROPOSED USE	Mixed use (residential & open space)	Mixed use (town centre & residential)	Mixed use (residential and employment)	Education	Residential	Police station
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Danger for All	Low Hazard	Danger for Most	Danger for All	Danger for All	Danger for All
SURFACE WATER FLOOD RISK	Medium risk of flooding	High risk of flooding	High risk of flooding	Medium risk of flooding	Low risk of flooding	Low risk of flooding
GROUNDWATER FLOOD RISK	Unlikely to occur	Potential for groundwater flooding to occur at surface	Unlikely to occur	Unlikely to occur	Potential for groundwater flooding of property situated below ground level	Unlikely to occur
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding	1 recorded incident of sewer flooding	1 recorded incident of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	No recorded incidents	4 recorded incidents	No recorded incidents	No recorded incidents	No recorded incidents	4 recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	More Vulnerable	Highly Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required	Exception test required	Exception test required	Development is not permitted ²

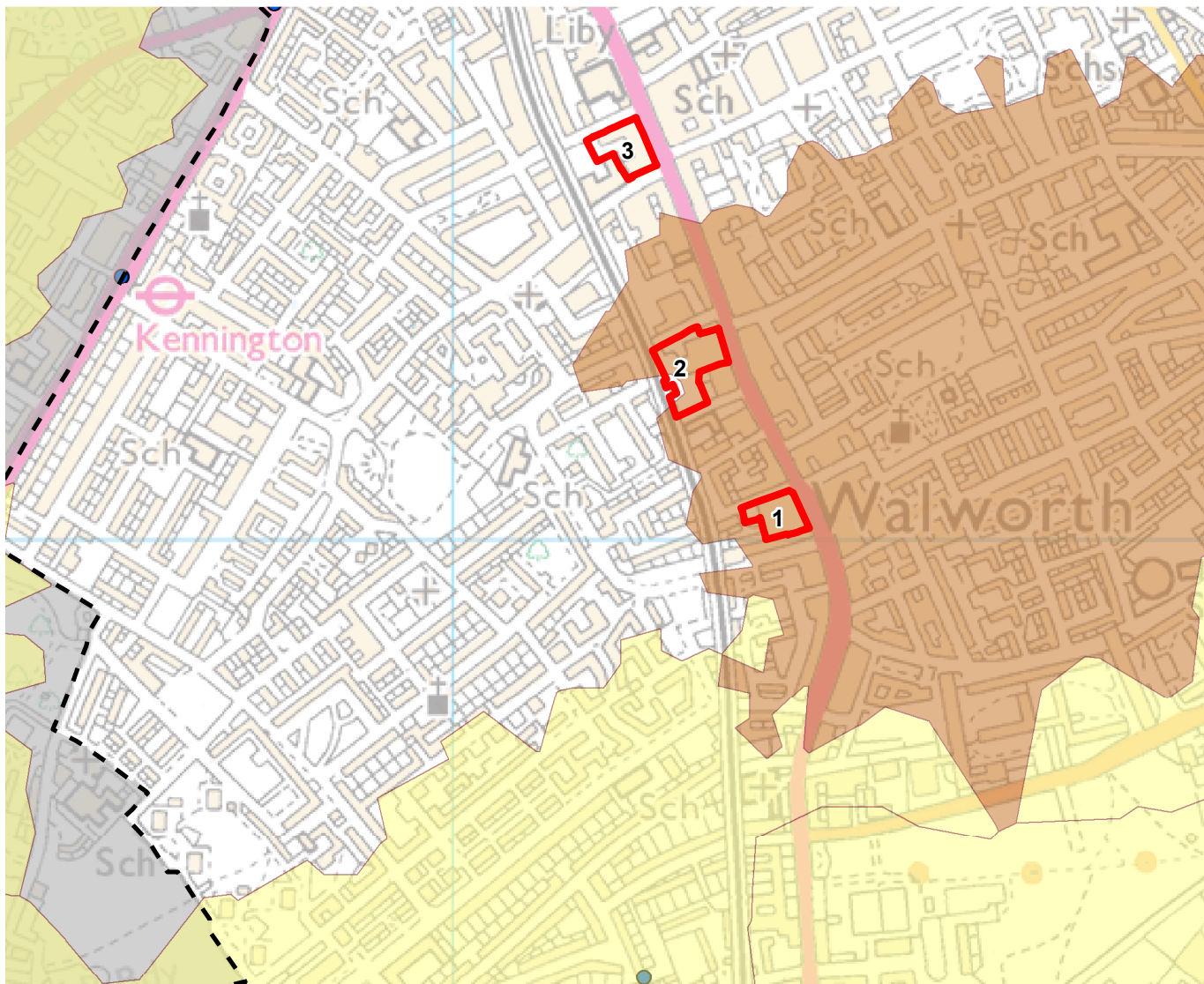
¹ Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).
² It should be noted that there may be certain specific circumstances under which development in this location could be permitted. However, this would require site specific assessment, based on further detail of development proposals.

RECOMMENDATIONS

- A site specific FRA will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data suggests that some of the sites are potentially suitable for bespoke infiltration SuDS; whilst for others significant constraints are present. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.
- For development sites located adjacent to the River Thames a 16 m buffer strip must be maintained along the river corridor. Demonstration will be required that the associated flood defences will be safe over the lifetime of the development, including any required maintenance and improvements. Consideration should be given to the recommendations of the TE2100 plan and advice sought from the EA at an early stage.

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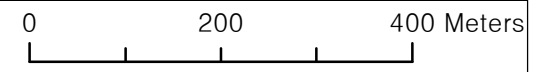
ORIGINATED	SB	28/02/2018			STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2
CHECKED	MD	05/03/2018			
VERIFIED	GP	14/03/2018			
VERIFIED		13/07/2020			



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Analysis 21
(updated July 2020)

SCALE:
1:8,000



SITE REF	Site 1 - NSP81	Site 2 - NSP80	Site 3 - NSP82
SITE NAME	330-344 Walworth Rd	Morrisons, Walworth Rd	Chatelaine House, Walworth Rd
SITE AREA (m ²)	2,700	5,130	3,174
PROPOSED USE	Mixed use (community, town centre & residential)	Mixed use (residential, town centre, employment and community)	Mixed use (residential, town centre, employment, open space and community)
FLOOD ZONE CLASSIFICATION	Flood Zone 3 - Defended	Flood Zone 3 - Defended	Flood Zone 3 - Defended
BREACH HAZARD CATEGORY	Low Hazard	Low Hazard	Low Hazard
SURFACE WATER FLOOD RISK	Very low risk of flooding	Very low risk of flooding	High risk of flooding
GROUNDWATER FLOOD RISK	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface
RESERVOIR FLOOD RISK	No residual flood risk	No residual flood risk	No residual flood risk
WITHIN CRITICAL DRAINAGE AREA	No	No	No
SEWER FLOODING INCIDENTS WITHIN POSTCODE AREA	8 recorded incidents of sewer flooding	8 recorded incidents of sewer flooding	No recorded incidents of sewer flooding
LOCAL FLOODING INCIDENTS WITHIN 250M	1 recorded incident	2 recorded incidents	2 recorded incidents
FLOOD RISK VULNERABILITY ¹	More Vulnerable	More Vulnerable	More Vulnerable
FLOOD ZONE COMPATIBILITY	Exception test required	Exception test required	Exception test required

1. Vulnerability assessment as per Table 2 of the Planning Practice Guidance (Department for Communities and Local Government, March 2014).

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefitting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface

- Suitability for Infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Total Properties Flooded by Overloaded Sewers by Postcode Area**

	1 - 2		7 - 11
	3 - 6		12 - 37

USE THE BUTTONS BELOW TO DISPLAY / HIDE DIFFERENT SOURCES OF FLOOD RISK TO THE ALLOCATED SITE.

RISK OF FLOODING FROM RIVERS AND SEA

MAXIMUM HAZARD : BREACH MAPPING

RISK OF FLOODING FROM SURFACE WATER

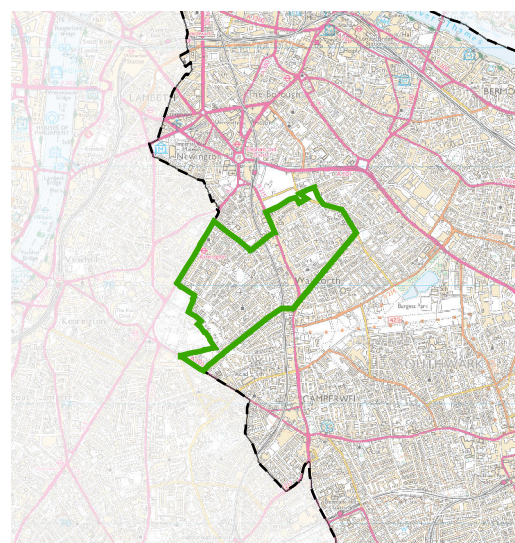
RISK OF FLOODING FROM RESERVOIRS

RISK OF FLOODING FROM GROUNDWATER

SuDS SUITABILITY

RECORDS OF FLOODING

BASEMAP



RECOMMENDATIONS

- A site specific FRA will be required. More vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding, with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the 2100 maximum water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective, and will not have any adverse impacts on local hydrogeology.
- Residential Finished Floor Levels should be situated 300 mm above the 2100 year maximum water level anticipated through a breach of the River Thames defences.
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Sewer capacity within Southwark is known to be constrained under higher return period events. SuDS should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Geological data indicates that infiltration SuDS are unlikely to be suitable for use across the majority of the site, so lined attenuation systems may be required. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for all events up to the 1 in 100 year storm event, incorporating the latest allowances for climate change. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing implemented where required.

This document should be viewed in PDF format. Information may be lost when printed.

ORIGINATED	SB	28/02/2018
CHECKED	MD	05/03/2018
VERIFIED	GP	14/03/2018
UPDATED		13/07/2020



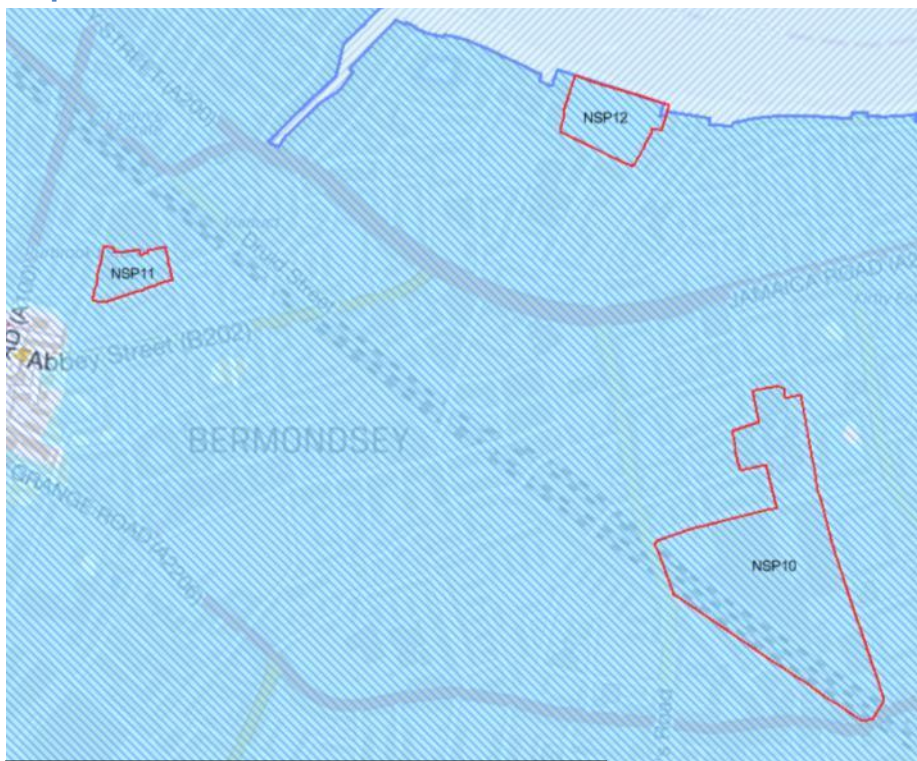
STRATEGIC FLOOD RISK ASSESSMENT: LEVEL 2

Analysis 22

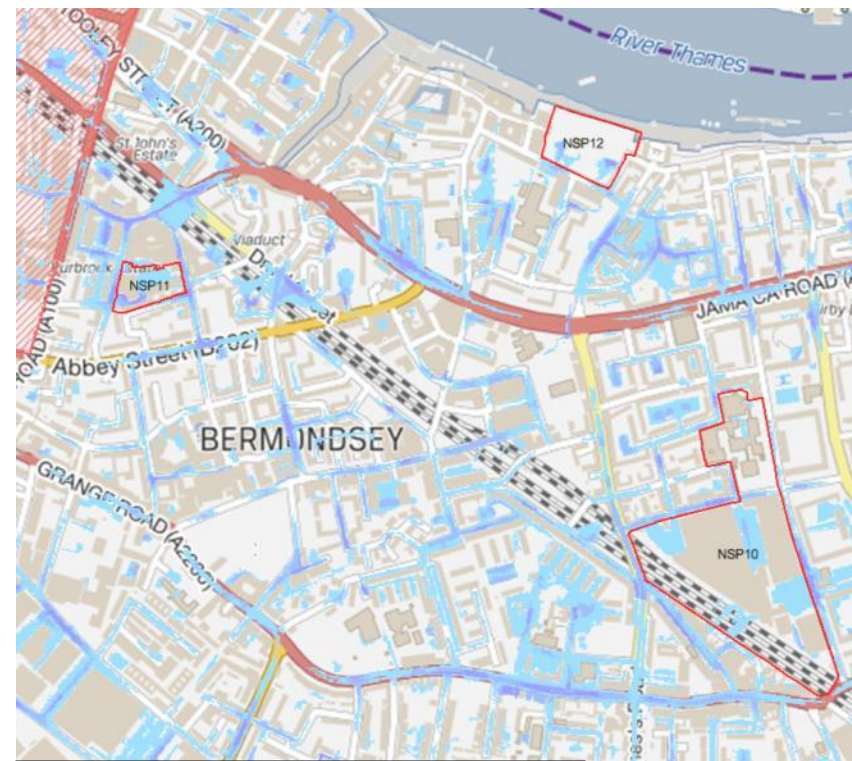
Site area – Bermondsey (NSP10 – 12)

Site ref	NSP10	NSP11	NSP12
Site name	Biscuit Factory and Campus	Tower Workshops	Chambers Wharf
Site area (sqm)	78,900	7,344	14,010
Proposed use	Mixed use (residential, employment, town centre use, education)	Mixed use (residential, employment, town centre use)	Mixed use (residential, employment, town centre use)
Flood zone classification	Flood Zone 3a - Defended	Flood Zone 3a - Defended	Flood Zone 3a - Defended
Breach Hazard Category	Danger for most	Danger for most	Danger for all
Surface water flood risk	Medium risk of flooding	High risk of flooding	High risk of flooding
Groundwater flood risk	Potential for groundwater flooding to occur at surface	Unlikely to occur	Unlikely to occur
Reservoir flood risk	No residual flood risk	No residual flood risk	No residual flood risk
Within a Critical Drainage Area	No	No	No
Sewer flooding incidents within postcode area	One recorded incident of sewer flooding	No recorded incidents of sewer flooding	No recorded incidents of sewer flooding
Local flooding incidents within 250m	One recorded incident	One recorded incident	No recorded incidents
Infiltration SuDS suitability	Very significant constraints are indicated	Opportunities for bespoke infiltration SuDS	Opportunities for bespoke infiltration SuDS
Flood risk vulnerability	More vulnerable	More vulnerable	More vulnerable
Flood zone compatibility	Exception test required	Exception test required	Exception test required

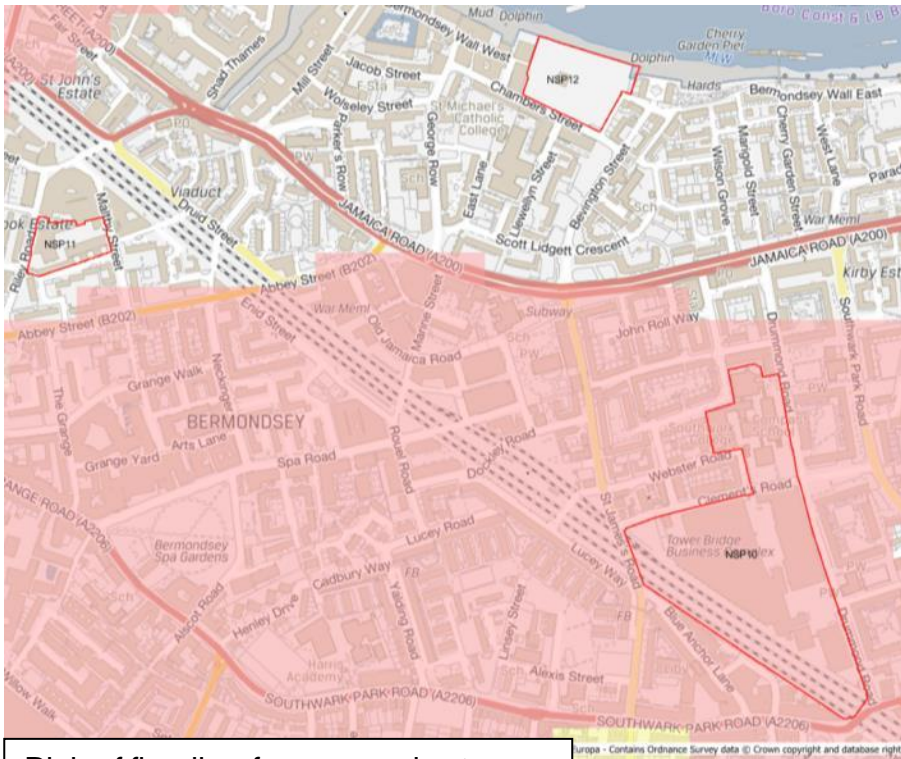
Maps of different sources of flood risk to the allocated sites:



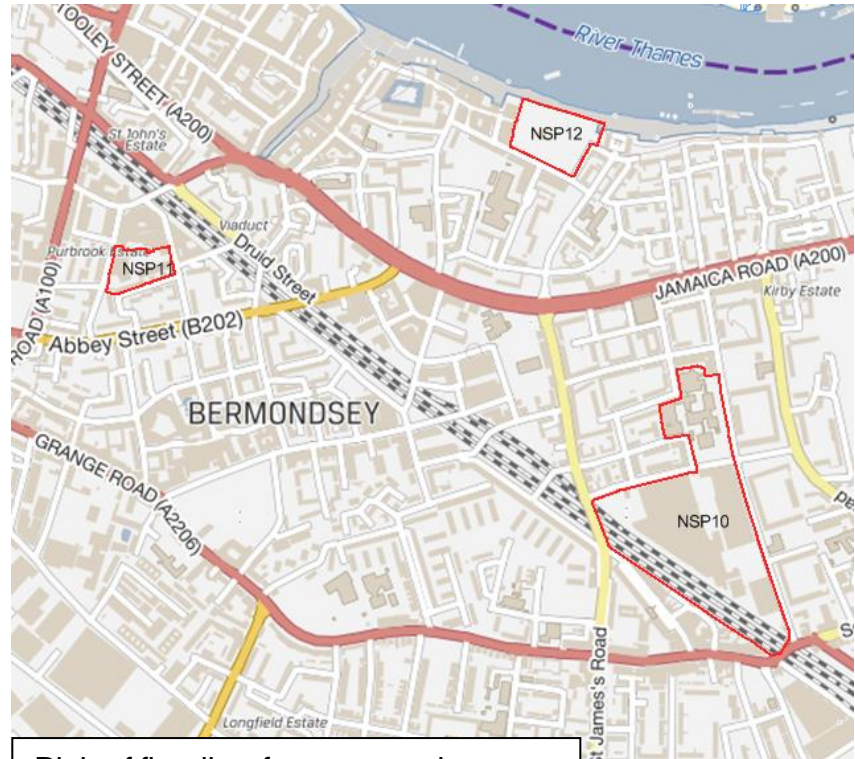
Risk of flooding from rivers and the sea



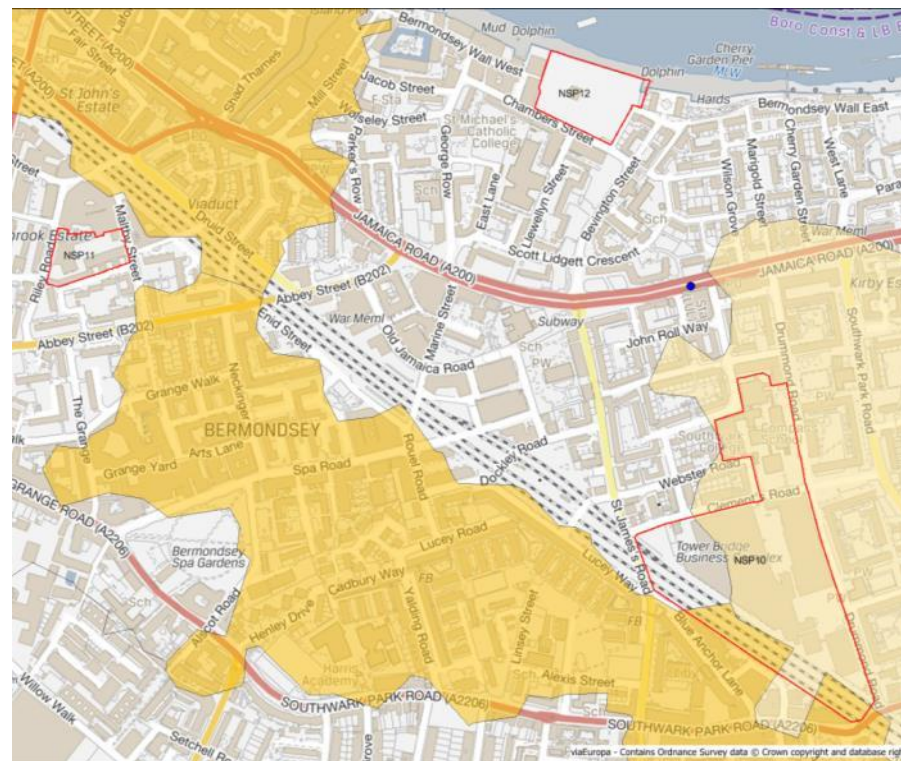
Risk of flooding from surface water



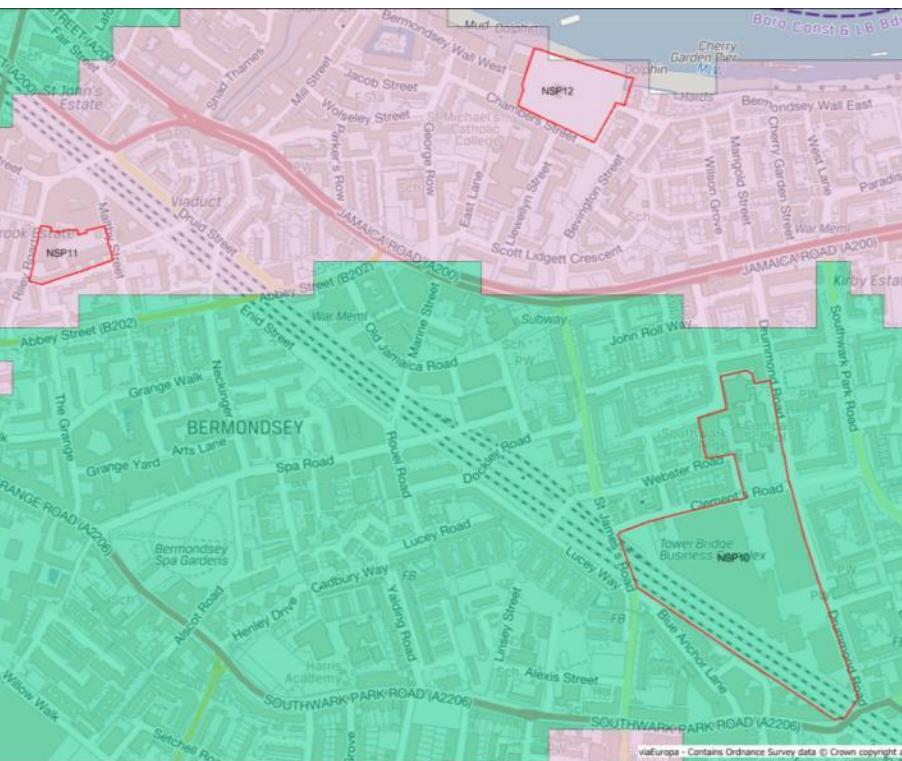
Risk of flooding from groundwater



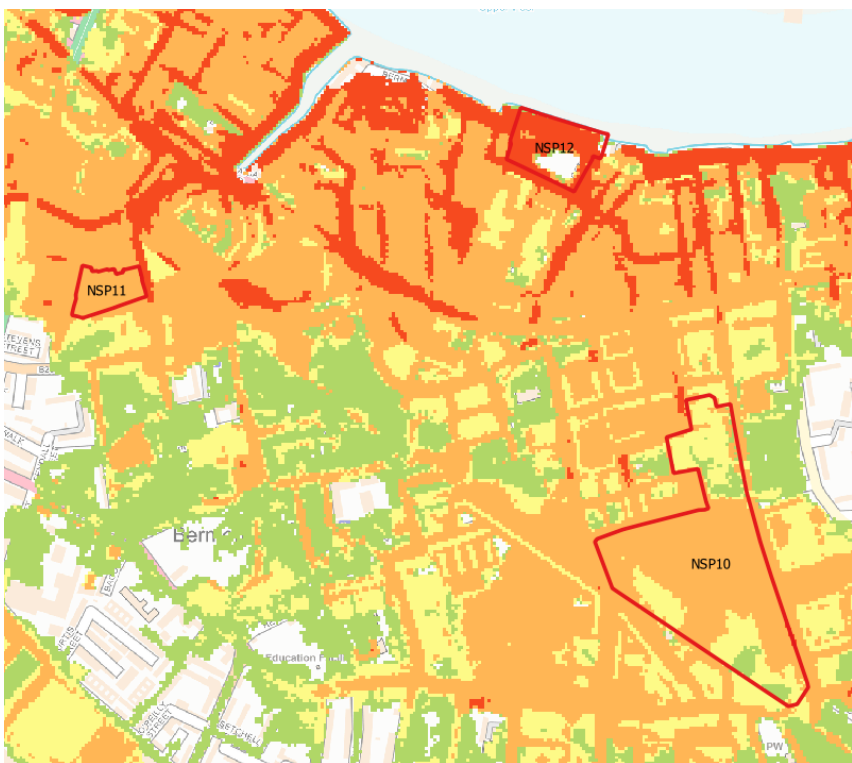
Risk of flooding from reservoirs



Records of flooding



Infiltration SuDS suitability



Max hazard – breach mapping

Legend

- Borough Boundary
- Allocated Sites
- Main River
- Ordinary Watercourses
- Risk of flooding from Rivers**
 - Flood Zone 3B
 - Flood Zone 3
 - Flood Zone 2
 - Areas benefiting from flood defences
- Risk of Flooding from Surface Water**
 - High risk of flooding (3.3% AEP)
 - Medium Risk of flooding (1% AEP)
 - Low risk of flooding (0.1% AEP)
 - Critical Drainage Area
- Risk of Flooding from Groundwater**
 - Limited potential for groundwater flooding to occur
 - Potential for groundwater flooding of property situated below ground level
 - Potential for groundwater flooding to occur at surface
- Suitability for infiltration SuDS**
 - Highly compatible for infiltration SuDS
 - Opportunities for bespoke infiltration SuDS
 - Probably compatible for infiltration SuDS
 - Very significant constraints are indicated
- Flood Risk from Reservoirs**
 - Reservoir flood extents
- Max Hazard : Breach Mapping**
 - Less than 0.75 (Low Hazard)
 - Between 0.75 and 1.25 (Danger for Some)
 - Between 1.25 and 2.00 (Danger for Most)
 - Greater than 2.00 (Danger for All)
- Records of Flooding**
 - Localised Flood Incident
 - Historic Flood Outline
- Recorded Sewer Flooding Incidents Per Postcode Area**

	1 - 2		7 - 11
	3 - 6		12 - 37

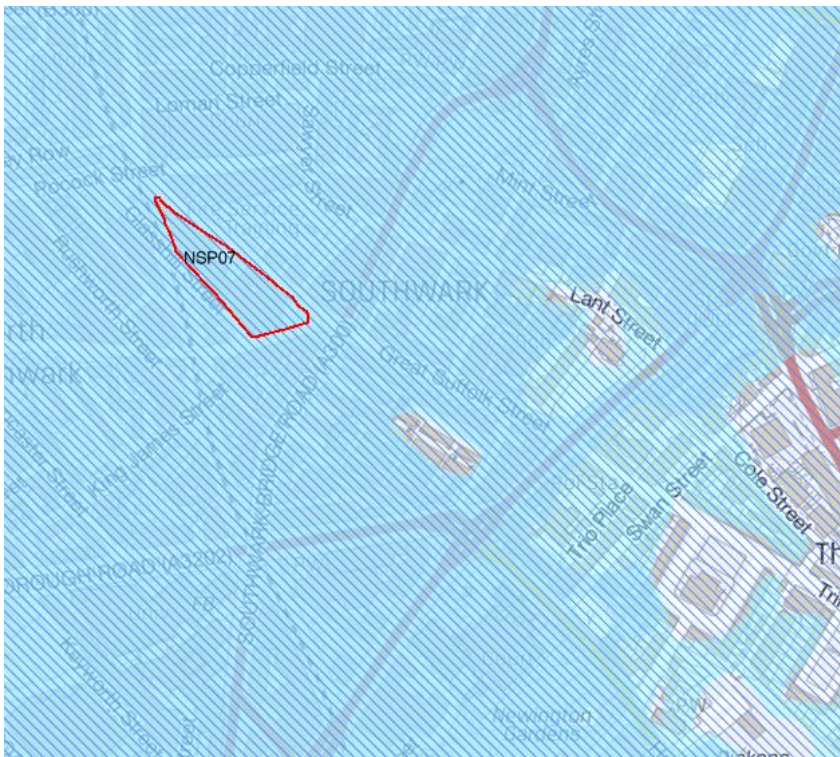
Recommendations:

- A site specific Flood Risk Assessment will be required. More vulnerable development should be sequentially allocated to areas of the sites at relatively lower risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the modelled 2100 maximum likely water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Finished Floor Levels should be raised a minimum of 300 mm above the modelled 2100 year maximum likely water level anticipated through a breach of the River Thames defences. Further guidance can be found in Southwark's Strategic Flood Risk Assessment (e.g. 5.2.6 and 5.2.7) available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames flood defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Due to constraints on sewer capacity in Southwark, Sustainable Drainage Systems (SuDS) should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates, in line with Southwark's SFRA and Policy 5.31 of the London Plan. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Southwark has prepared a Developers Guide for Surface Water Management (SFRA, Appendix H), outlining our requirements for surface water drainage strategies, available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Geological data suggests that whilst for some areas significant constraints are present, areas identified to be potentially suitable for bespoke infiltration SuDS should be prioritised where possible. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- For development sites located adjacent to the River Thames, a 16 m buffer strip must be maintained along the river corridor. Demonstration will be required that the associated flood defences will be safe over the lifetime of the development, including any required maintenance and improvements. Consideration should be given to the recommendations of the TE2100 plan and advice sought from the EA at an early stage.

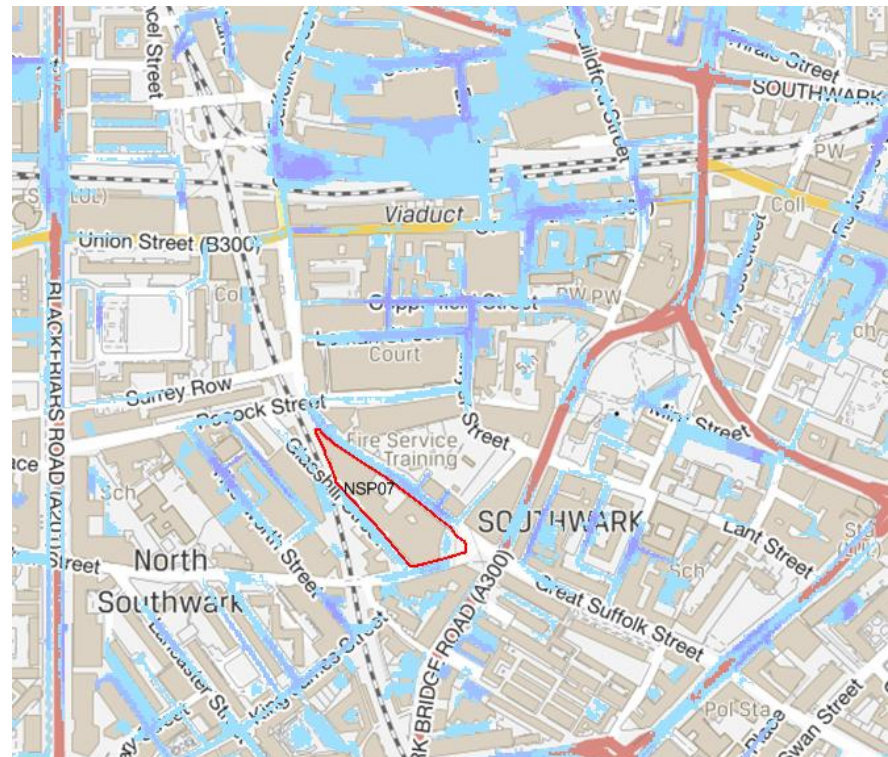
Site area – Bankside and The Borough (NSP07)

Site ref	NSP07
Site name	Land between Great Suffolk Street and Glasshill Street
Site area (sqm)	6,004
Proposed use	Mixed uses (residential, employment, retail, town centre uses)
Flood zone classification	Flood zone 3 - Defended
Breach Hazard Category	Danger for most
Surface water flood risk	Low risk of flooding
Groundwater flood risk	Potential for groundwater flooding to occur at surface
Reservoir flood risk	No residual flood risk
Within a Critical Drainage Area	No
Sewer flooding incidents within postcode area	One recorded incident of sewer flooding
Local flooding incidents within 250m	Two recorded incidents
SuDS infiltration suitability	Very significant constraints are indicated
Flood risk vulnerability	More vulnerable
Flood zone compatibility	Exception test required

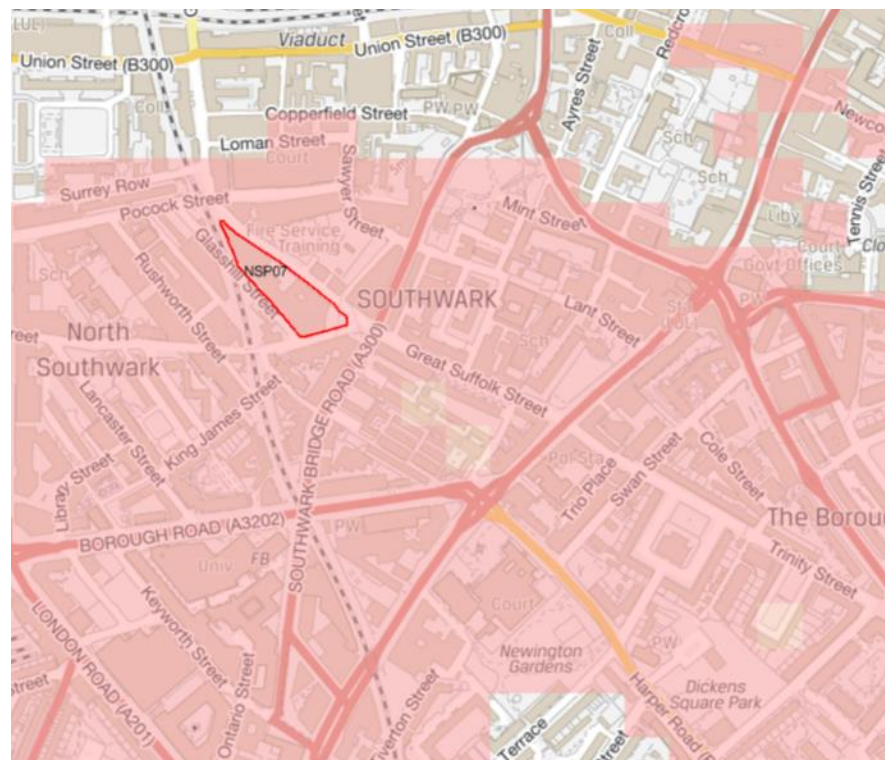
Maps of different sources of flood risk to the allocated sites:



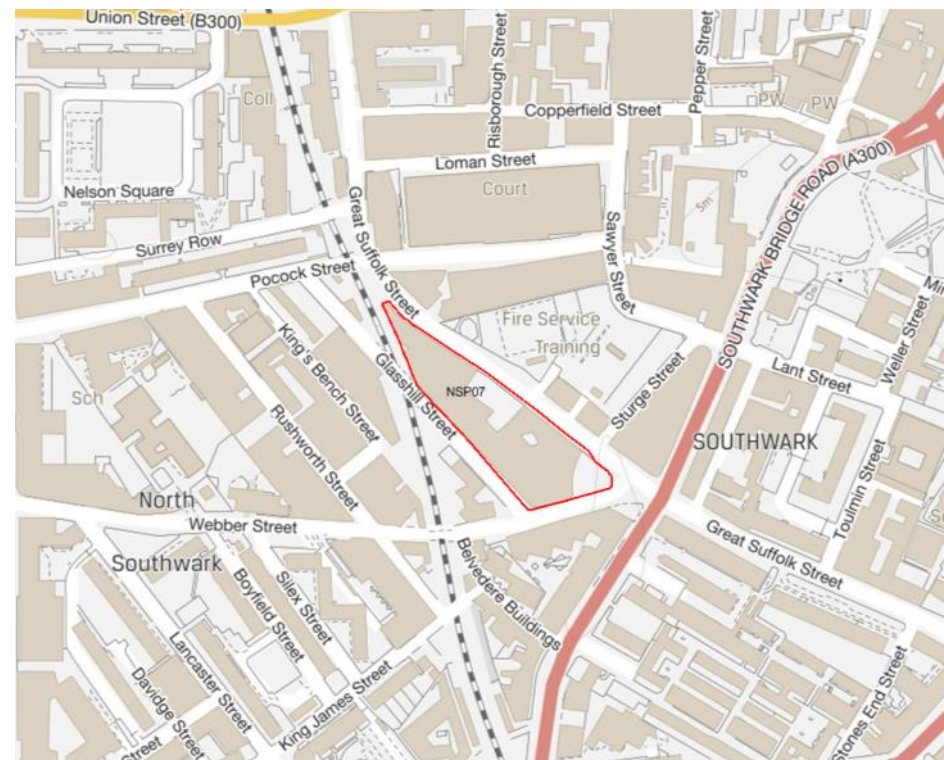
Risk of flooding from rivers and the sea



Risk of flooding from surface water



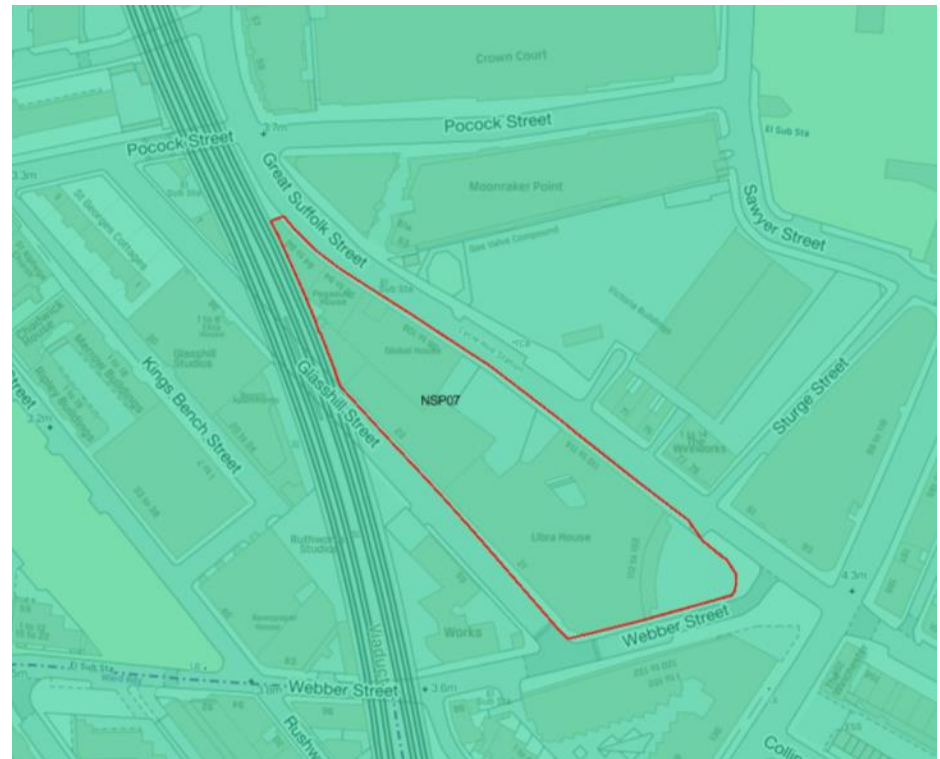
Risk of flooding from groundwater



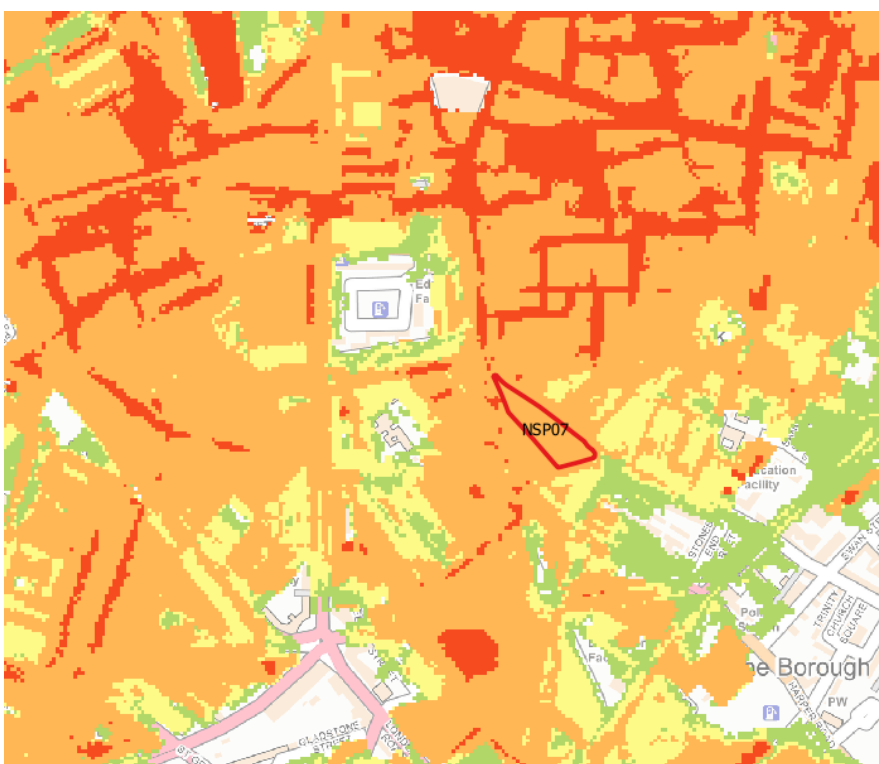
Risk of flooding from reservoirs



Records of flooding



Infiltration SuDS suitability



Max hazard – breach mapping



Recommendations:

- A site specific Flood Risk Assessment will be required. More vulnerable development should be sequentially allocated to areas of the sites at relatively lower risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within this area. Basement thresholds must be raised above the modelled 2100 maximum likely water level, anticipated through breach of the River Thames defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Finished Floor Levels should be raised a minimum of 300 mm above the modelled 2100 year maximum likely water level anticipated through a breach of the River Thames defences. Further guidance can be found in Southwark's Strategic Flood Risk Assessment (e.g. 5.2.6 and 5.2.7), available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames flood defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should any flooding events occur.
- Due to constraints on sewer capacity in Southwark, Sustainable Drainage Systems (SuDS) should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates, in line with Southwark's SFRA and Policy 5.31 of the London Plan. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Southwark has prepared a Developers Guide for Surface Water Management (SFRA, Appendix H), outlining our requirements for surface water drainage strategies, available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Geological data suggests that significant constraints may be present for the implementation of infiltration SuDS. Where infiltration is proposed, this should be supported by site-specific permeability testing.

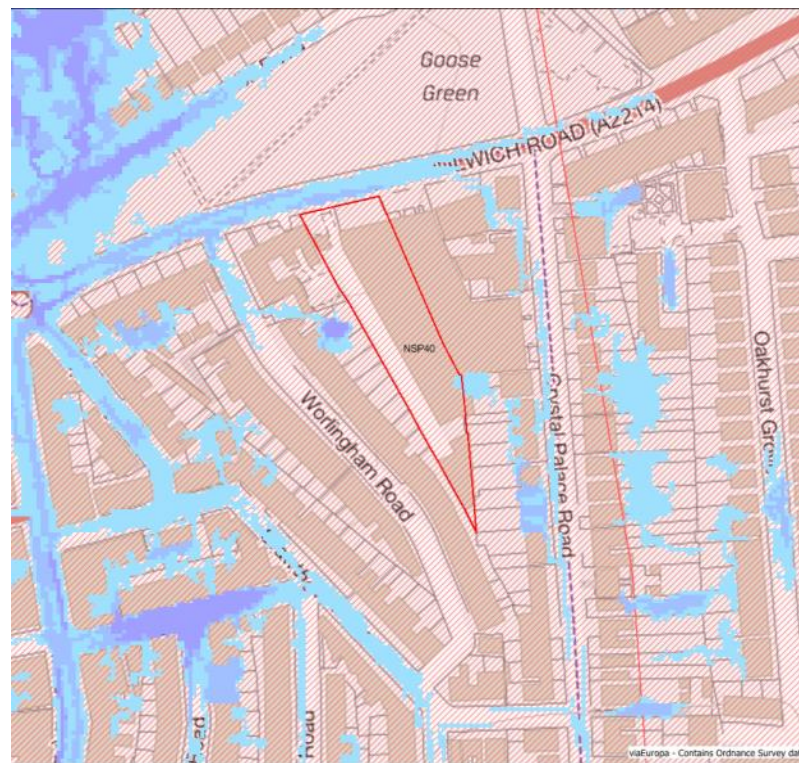
Site area – East Dulwich (NSP40)

Site ref	NSP40
Site name	Goose Green Trading Estate
Site area (sqm)	4,976
Proposed use	Mixed uses (residential, employment)
Flood zone classification	Flood zone 1
Breach Hazard Category	Low hazard
Surface water flood risk	Low risk of flooding
Groundwater flood risk	Potential for groundwater flooding to occur at surface
Reservoir flood risk	No residual flood risk
Within a Critical Drainage Area	Yes
Sewer flooding incidents within postcode area	9 recorded incidents of sewer flooding
Local flooding incidents within 250m	No recorded incidents
Infiltration SuDS suitability	Opportunities for bespoke infiltration SuDS
Flood risk vulnerability	More vulnerable
Flood zone compatibility	Development may be permitted

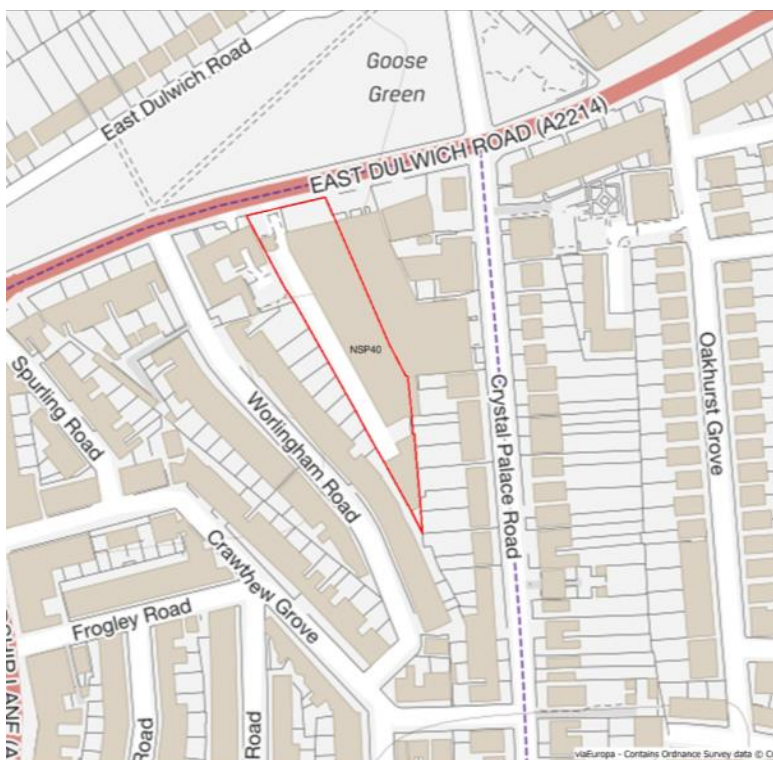
Maps of different sources of flood risk to the allocated sites:



Risk of flooding from rivers and the sea



Risk of flooding from surface water



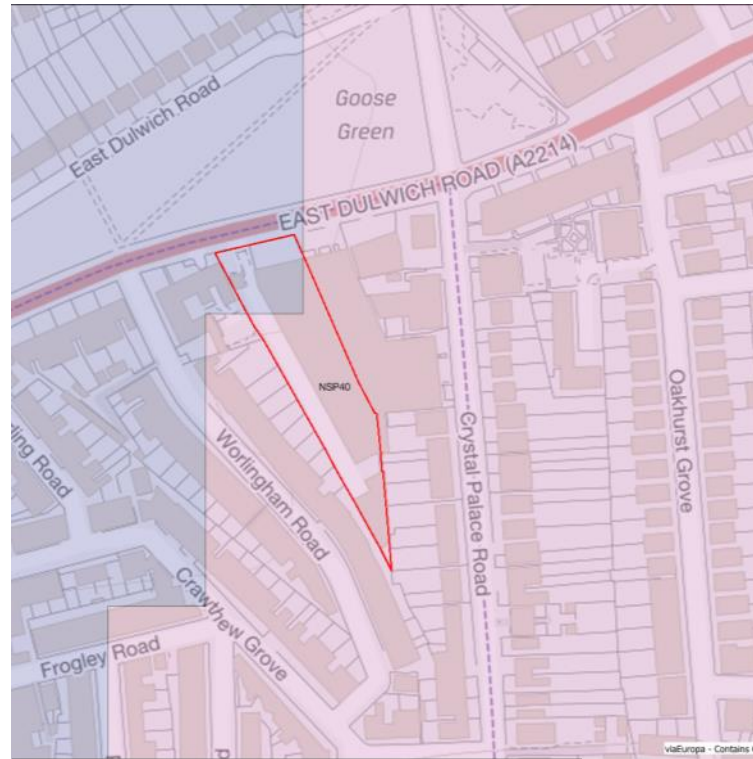
Risk of flooding from groundwater



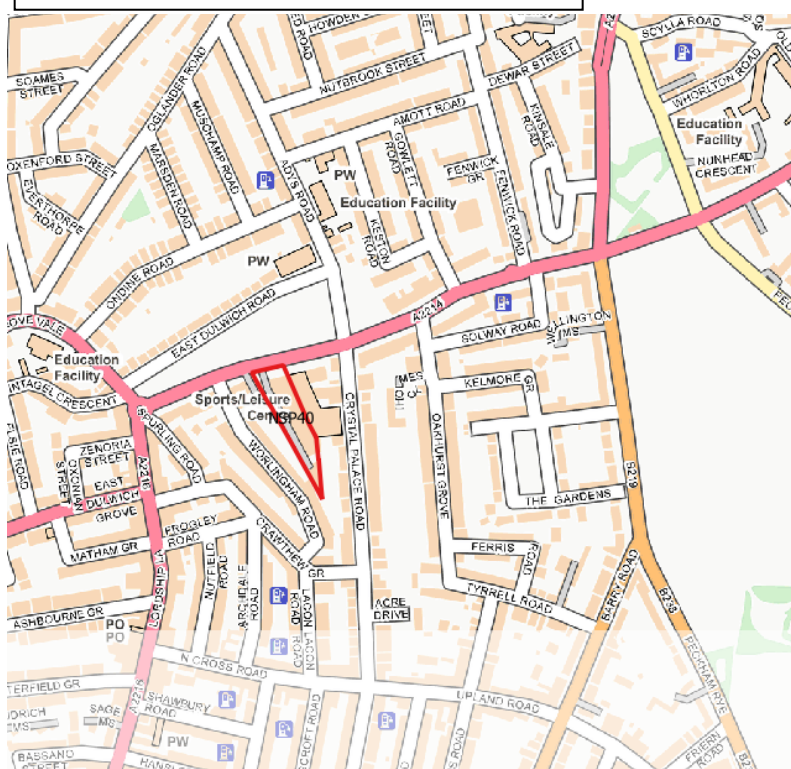
Risk of flooding from reservoirs



Records of flooding

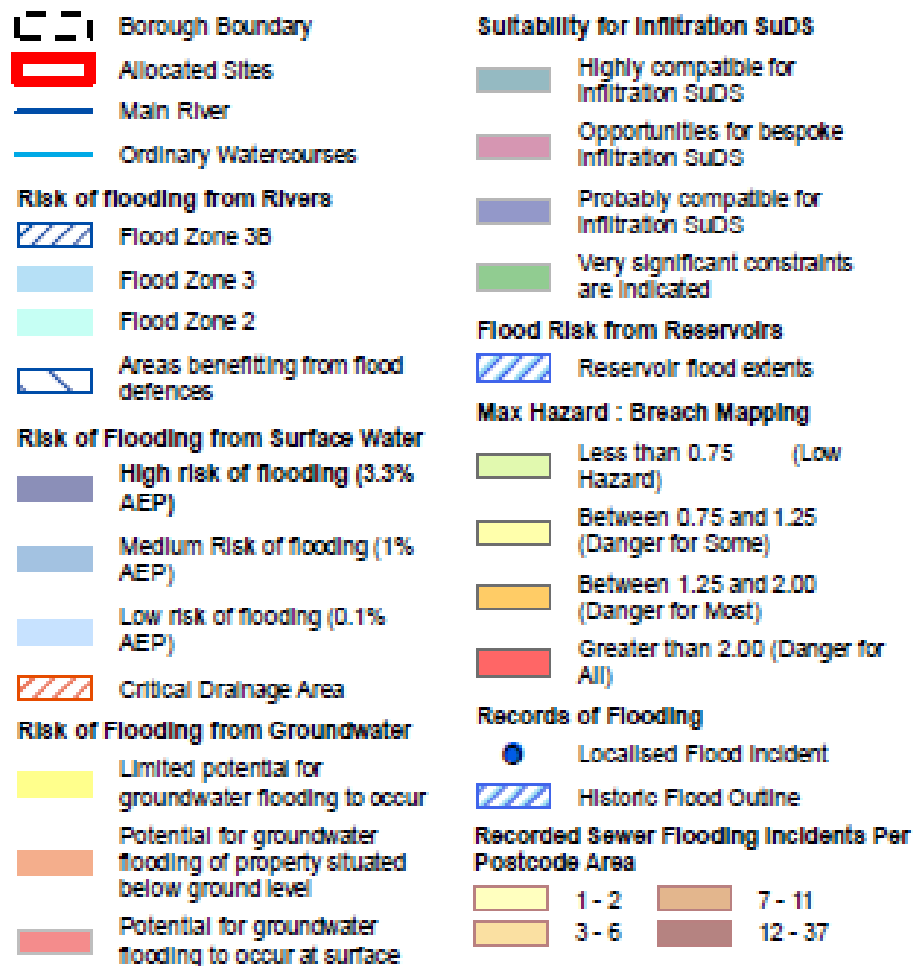


Infiltration SuDS suitability



Max hazard – breach mapping

Legend



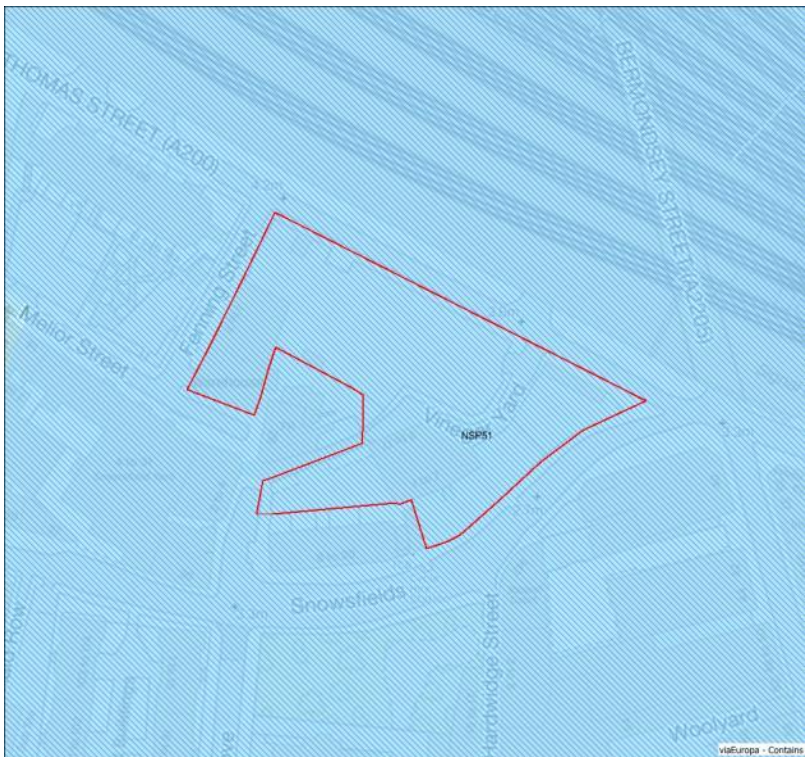
Recommendations:

- A site specific Flood Risk Assessment (FRA) is required for major development in Flood Zone 1, as well as development falling within a Critical Drainage Area.
- All uses are acceptable in Flood Zone 1.
- The site is located within a Critical Drainage Area and therefore special consideration should be given to managing surface water at the site.
- Due to constraints on sewer capacity in Southwark, Sustainable Drainage Systems (SuDS) should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates, in line with Southwark's Strategic Flood Risk Assessment and Policy 5.31 of the London Plan. SuDS selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Southwark has prepared a Developers Guide for Surface Water Management (SFRA, Appendix H), outlining our requirements for surface water drainage strategies, available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Geological data suggests that parts of the site may be potentially suitable for infiltration SuDS, whilst significant constraints may be present elsewhere. Any proposals for infiltration SuDS should be supported by site specific permeability testing. Ground conditions should be confirmed through site investigation.
- Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.

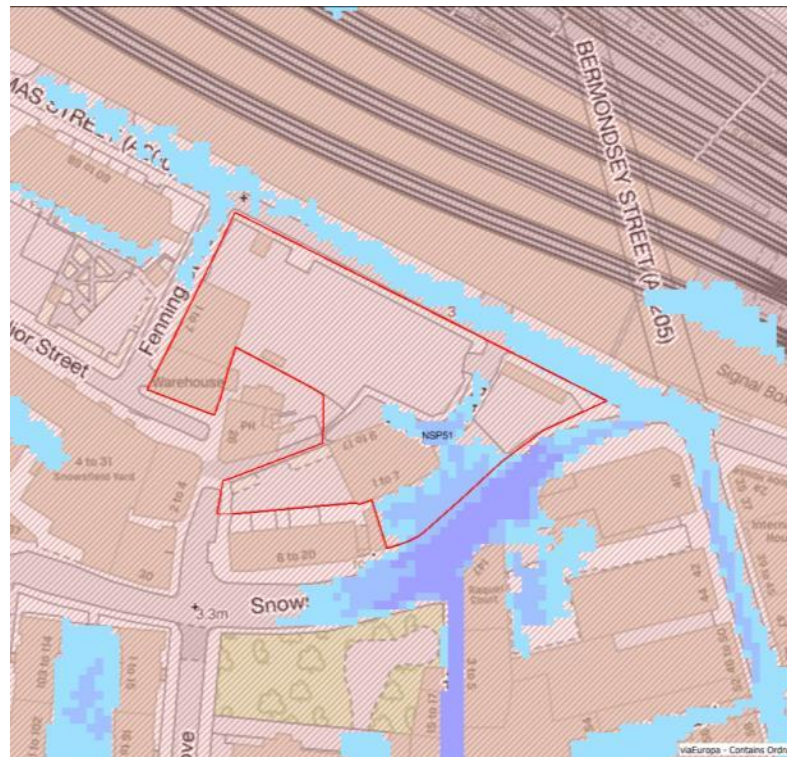
Site area – London Bridge (NSP51)

Site ref	NSP51
Site name	Land between St Thomas Street, Fenning Street, Melior Place, and Snowsfields
Site area (sqm)	4,033
Proposed use	Mixed uses (residential, employment, town centre uses)
Flood zone classification	Flood zone 3 - defended
Breach Hazard Category	Danger for most
Surface water flood risk	Medium risk of flooding
Groundwater flood risk	Unlikely to occur
Reservoir flood risk	No residual flood risk
Within a Critical Drainage Area	Yes
Sewer flooding incidents within postcode area	Three recorded incidents of sewer flooding
Local flooding incidents within 250m	No recorded incidents
Infiltration SuDS suitability	Opportunities for bespoke infiltration SuDS
Flood risk vulnerability	More vulnerable
Flood zone compatibility	Exception test required

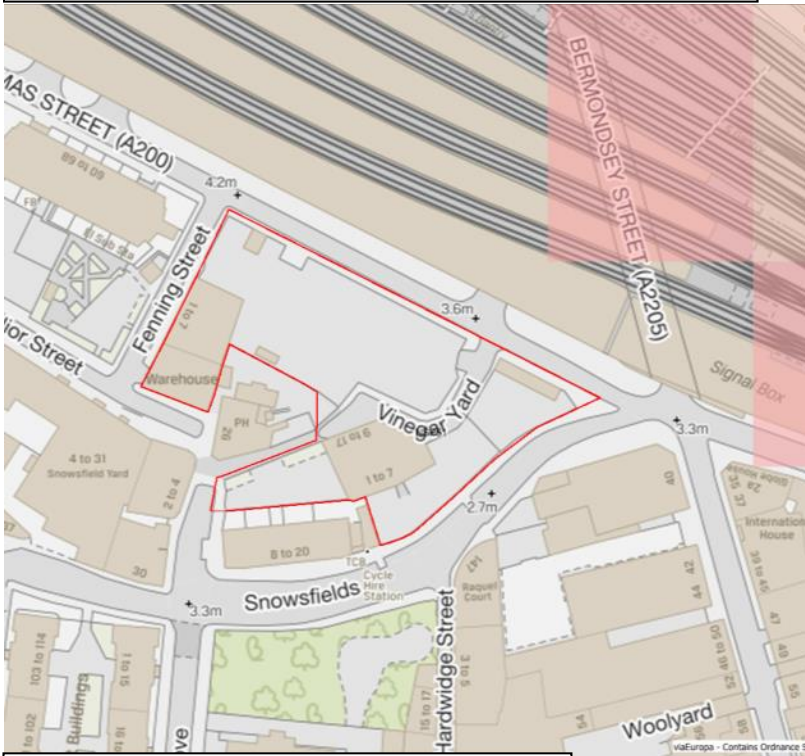
Maps of different sources of flood risk to the allocated sites:



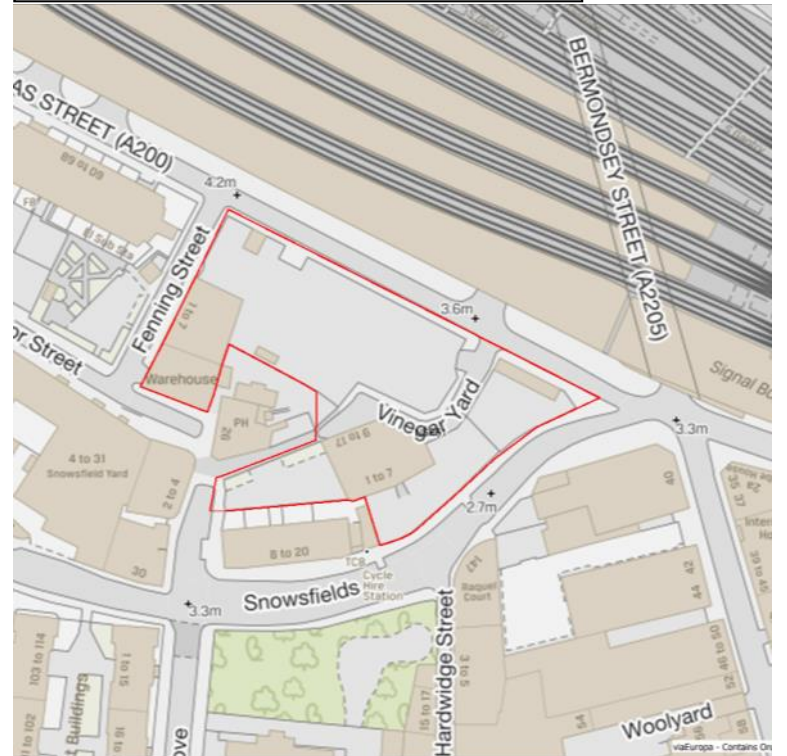
Risk of flooding from rivers and the sea



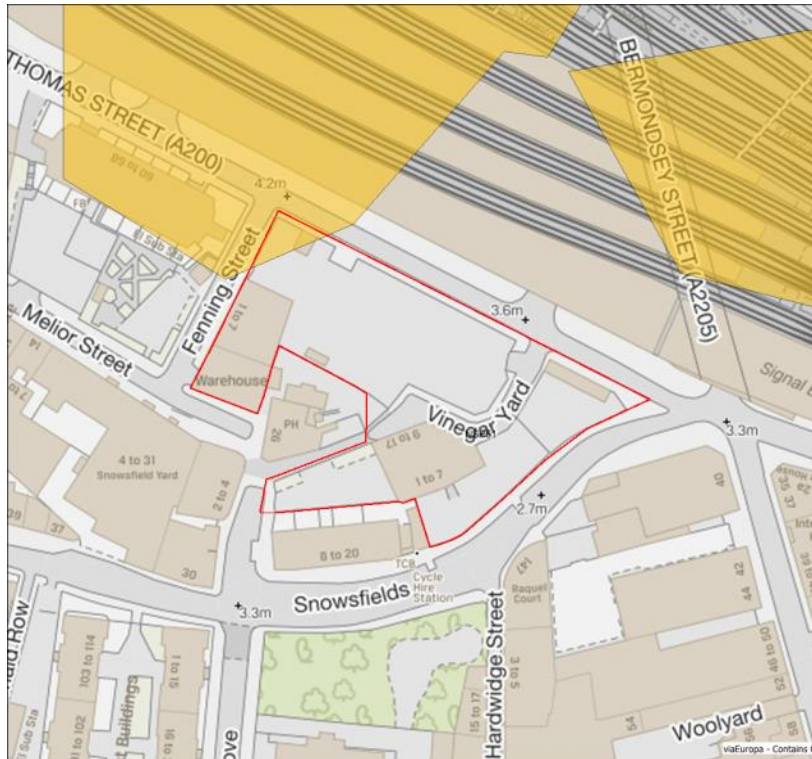
Risk of flooding from surface water



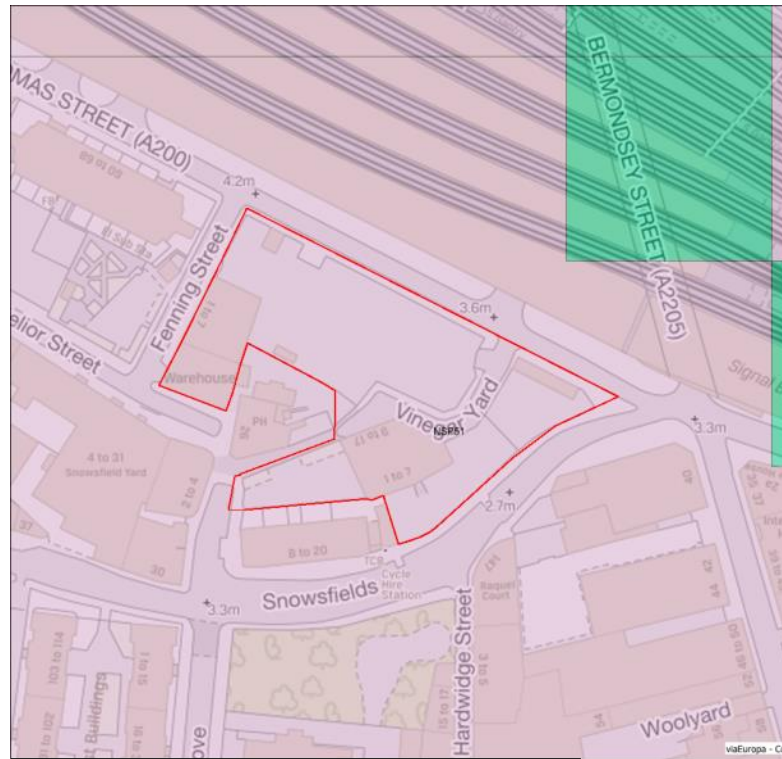
Risk of flooding from groundwater



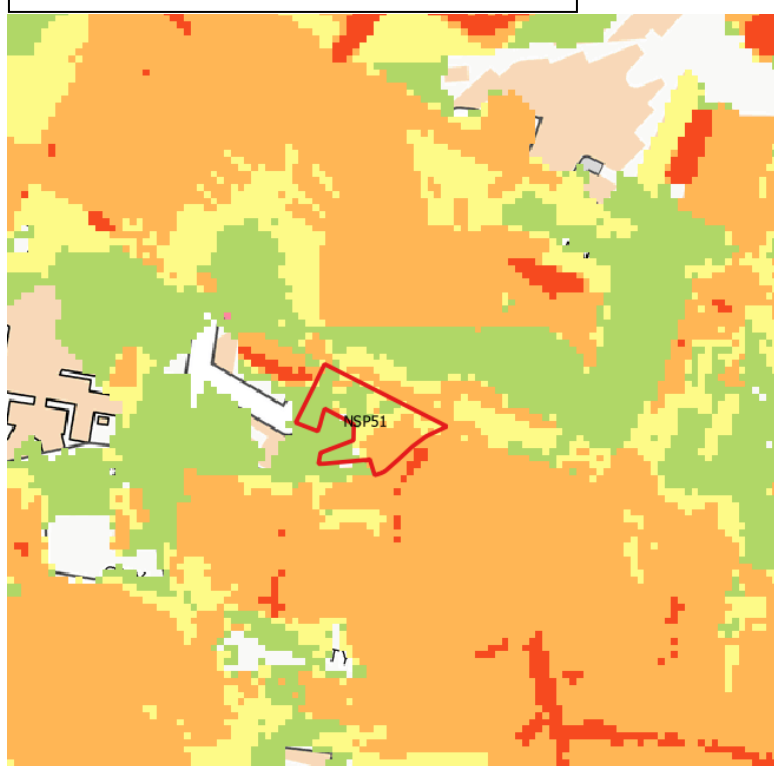
Risk of flooding from reservoirs



Records of flooding



Infiltration SuDS suitability



Max hazard – breach mapping

Legend

Borough Boundary	Suitability for Infiltration SuDS
Allocated Sites	Highly compatible for infiltration SuDS
Main River	Opportunities for bespoke infiltration SuDS
Ordinary Watercourses	Probably compatible for infiltration SuDS
Risk of flooding from Rivers	Very significant constraints are indicated
Flood Zone 3B	Flood Risk from Reservoirs
Flood Zone 3	Reservoir flood extents
Flood Zone 2	Max Hazard : Breach Mapping
Areas benefiting from flood defences	Less than 0.75 (Low Hazard)
Risk of Flooding from Surface Water	Between 0.75 and 1.25 (Danger for Some)
High risk of flooding (3.3% AEP)	Between 1.25 and 2.00 (Danger for Most)
Medium Risk of flooding (1% AEP)	Greater than 2.00 (Danger for All)
Low risk of flooding (0.1% AEP)	Records of Flooding
Critical Drainage Area	Localised Flood Incident
Risk of Flooding from Groundwater	Historic Flood Outline
Limited potential for groundwater flooding to occur	Recorded Sewer Flooding Incidents Per Postcode Area
Potential for groundwater flooding of property situated below ground level	1 - 2
Potential for groundwater flooding to occur at surface	3 - 6
	7 - 11
	12 - 37

Recommendations:

- A site specific Flood Risk Assessment (FRA) will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at lower relative risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement thresholds must be raised above the 2100 maximum likely water level, anticipated through breach of the River Thames flood defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impacts on local hydrogeology.
- Finished Floor Levels should be raised a minimum of 300 mm above the modelled 2100 year maximum likely water level anticipated through a breach of the River Thames flood defences. Further guidance can be found in Southwark's Strategic Flood Risk Assessment (e.g. 5.2.6 and 5.2.7), available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames flood defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should flooding events occur.
- The site is located within a Critical Drainage Area and therefore special consideration should be given to managing surface water at the site.
- Due to constraints on sewer capacity in Southwark, Sustainable Drainage Systems (SuDS) should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates, in line with Southwark's SFRA and Policy 5.31 of the London Plan. SuDS selection and

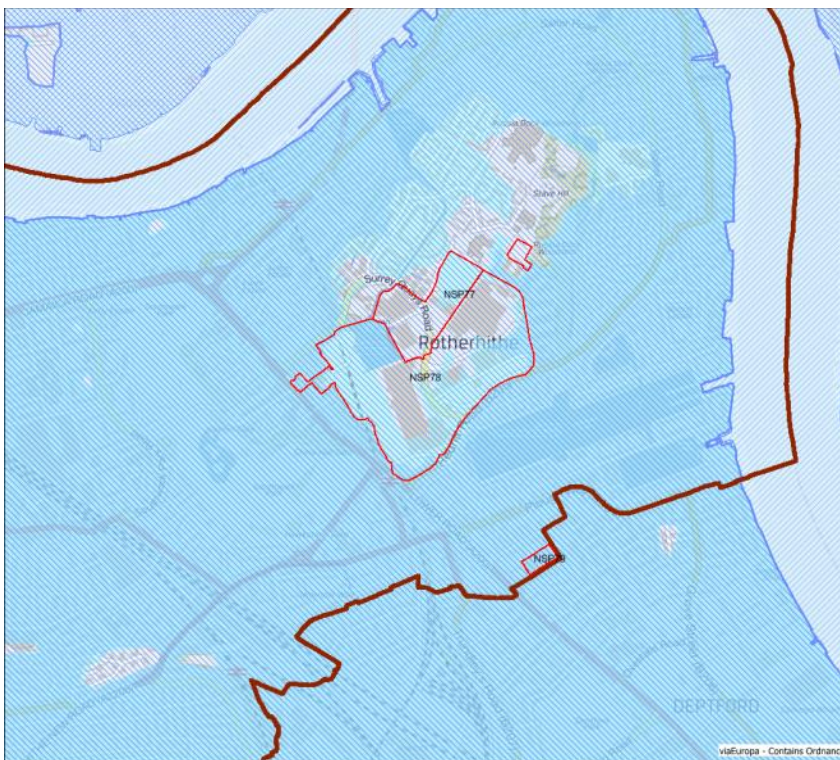
design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change. Southwark has prepared a Developers Guide for Surface Water Management (SFRA, Appendix H), outlining our requirements for surface water drainage strategies, available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra

- Geological data suggests that a section of the site may be suitable for bespoke infiltration SuDS. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing should be incorporated in the Basement Impact Assessment if a basement is proposed.

Site area – Rotherhithe (NSP77 – 79)

Site ref	NSP77	NSP78	NSP79
Site name	Decathlon Site and Mulberry Business Park	Harmsworth Quays, Surrey Quays Leisure Park, Surrey Quays Shopping Centre and Robert's Close	Croft Street Depot
Site area (sqm)	48,520	207,000	207,000
Proposed use	Mixed uses (residential, community uses, town centre uses, employment)	Mixed uses (residential, education, health and leisure uses, town centre uses, employment)	Mixed uses (residential, employment)
Flood zone classification	Flood zone 3 - Defended	Flood zone 3 - Defended	Flood zone 3 - Defended
Breach Hazard Category	Danger for all	Danger for all	Danger for most
Surface water flood risk	High risk of flooding	High risk of flooding	Medium to high risk of flooding
Groundwater flood risk	Potential for groundwater flooding to occur at surface	Potential for groundwater flooding to occur at surface	Limited potential for groundwater flooding to occur
Reservoir flood risk	No residual risk of flooding	No residual risk of flooding	No residual risk of flooding
Within a Critical Drainage Area	No	No	No
Sewer flooding incidents within postcode area	No recorded incidents of sewer flooding	One recorded incident of sewer flooding	No recorded incidents of sewer flooding
Local flooding incidents within 250m	No recorded incidents	No recorded incidents	No recorded incidents
Infiltration SuDS suitability	Very significant constraints are indicated	Very significant constraints are indicated	Very significant constraints are indicated
Flood risk vulnerability	More vulnerable	More vulnerable	More vulnerable
Flood zone compatibility	Exception test required	Exception test required	Exception test required

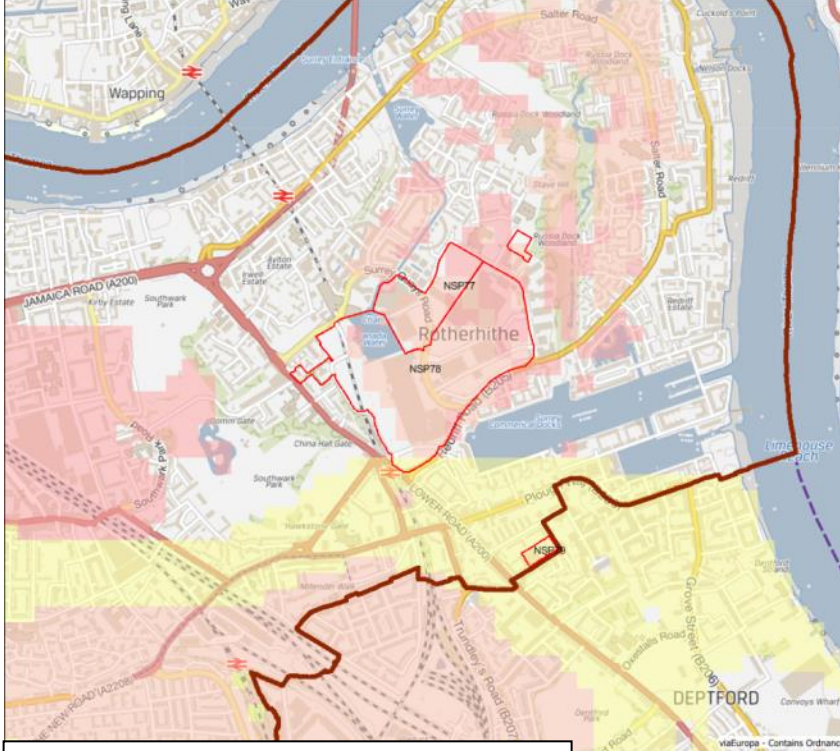
Maps of different sources of flood risk to the allocated sites:



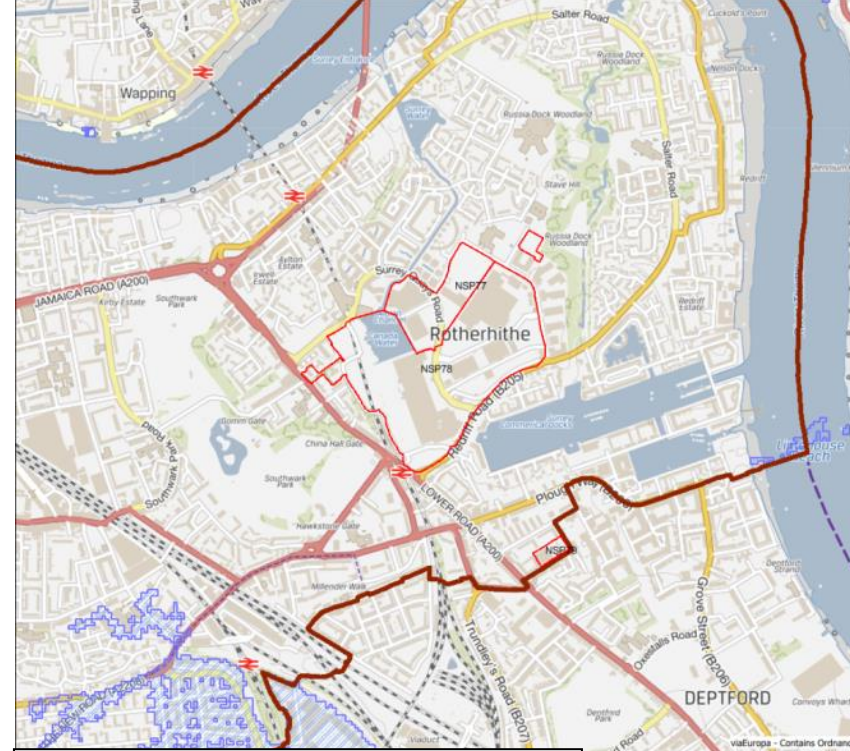
Risk of flooding from rivers and the sea



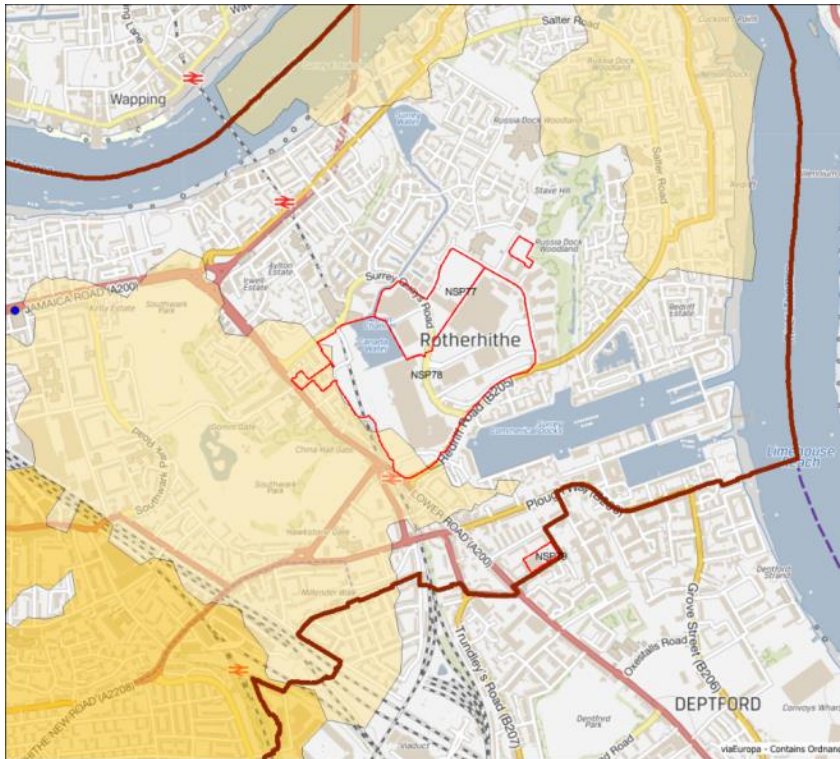
Risk of flooding from surface water



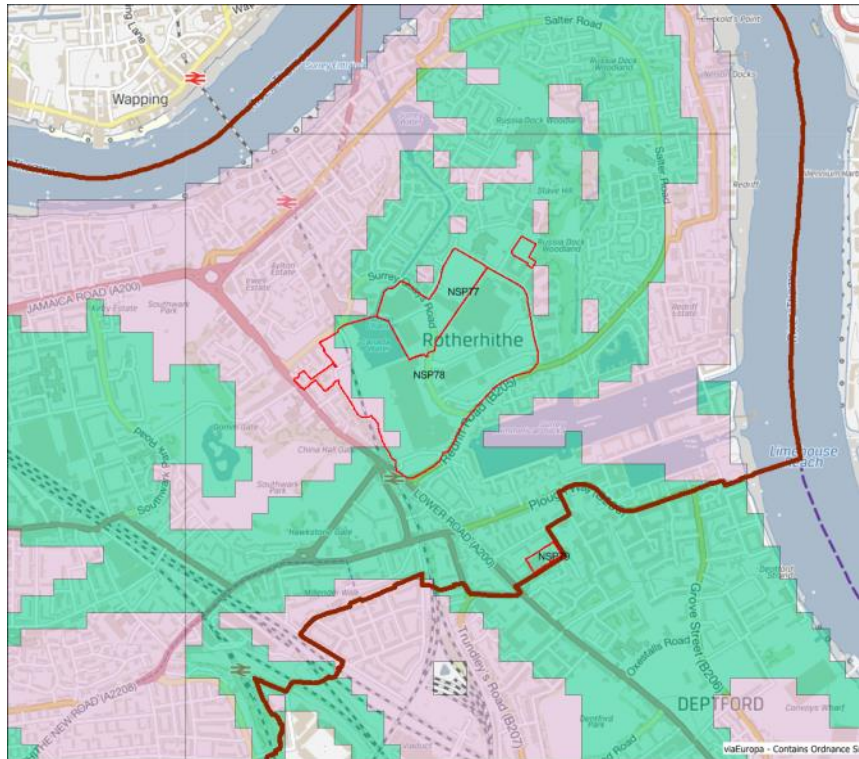
Risk of flooding from groundwater



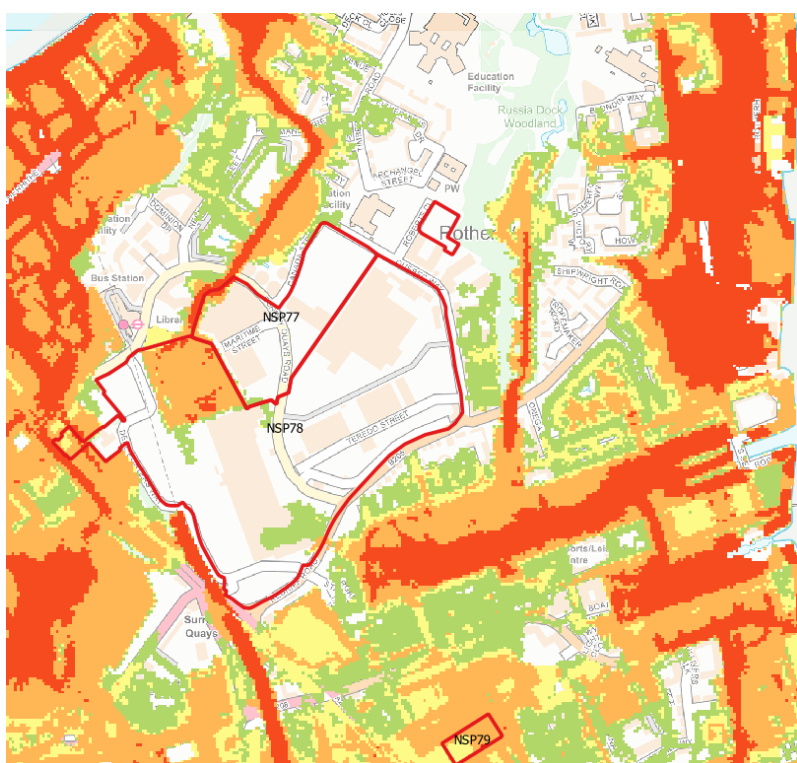
Risk of flooding from reservoirs



Records of flooding



Infiltration SuDS suitability



Max hazard – breach mapping

Legend

	Borough Boundary		Highly compatible for infiltration SuDS
	Allocated Sites		Opportunities for bespoke infiltration SuDS
	Main River		Probably compatible for infiltration SuDS
	Ordinary Watercourses		Very significant constraints are indicated
Risk of flooding from Rivers		Flood Risk from Reservoirs	
	Flood Zone 3B		Reservoir flood extents
	Flood Zone 3	Max Hazard : Breach Mapping	
	Flood Zone 2		Less than 0.75 (Low Hazard)
	Areas benefiting from flood defences		Between 0.75 and 1.25 (Danger for Some)
Risk of Flooding from Surface Water			Between 1.25 and 2.00 (Danger for Most)
	High risk of flooding (3.3% AEP)		Greater than 2.00 (Danger for All)
	Medium Risk of flooding (1% AEP)	Records of Flooding	
	Low risk of flooding (0.1% AEP)		Localised Flood Incident
	Critical Drainage Area		Historic Flood Outline
Risk of Flooding from Groundwater		Recorded Sewer Flooding Incidents Per Postcode Area	
	Limited potential for groundwater flooding to occur		1 - 2
	Potential for groundwater flooding of property situated below ground level		3 - 6
	Potential for groundwater flooding to occur at surface		7 - 11
			12 - 37

Recommendations:

- A site specific Flood Risk Assessment (FRA) will be required. All more vulnerable development should be located away from areas of Flood Zone 2 and 3 where possible.
- Within Flood Zone 3, more vulnerable development should be sequentially allocated to areas of the sites at relatively lower risk of flooding (considering the flood hazard distribution across the site), with more flood compatible development (such as parking or open space) located in areas at the highest risk.
- No basement dwellings should be permitted within Flood Zone 3. Basement dwellings should only be permitted within Flood Zone 2 portions of the site subject to the proposals passing the Exception Test. Basement thresholds must be raised above the 2100 maximum likely water level, anticipated through breach of the River Thames flood defences. Internal access to upper floors must be provided and flood resilient design and construction techniques employed. Any development proposals incorporating new or extended basement areas must be accompanied by a Basement Impact Assessment, demonstrating that the development will be safe from a flood risk perspective and will not have any adverse impact on the local hydrogeology.
- Finished Floor Levels should be raised a minimum of 300 mm above the modelled 2100 year maximum likely water level anticipated through a breach of the River Thames flood defences. Further guidance can be found in Southwark's Strategic Flood Risk Assessment (e.g. 5.2.6 and 5.2.7), available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra
- Within Flood Zone 3, site specific emergency evacuation procedures should be established to ensure that the risk to life is minimised should a breach of the River Thames flood defences occur. Safe access and egress routes should be provided above the 2100 breach flood level and lead to higher ground within Flood Zone 1. For residential developments where this is not feasible, a dedicated 'safe haven' can be provided above the flood level to enable rapid escape should defence failure occur. This may be provided in the form of a sheltered communal space within the building, accessed via internal stairs and sufficient in size to safely house all residents.
- Flood resilient construction techniques should be employed to reduce damage and increase the speed of recovery should flooding events occur.
- Due to constraints on sewer capacity in Southwark, Sustainable Drainage Systems (SuDS) should be implemented to manage surface water flood risk and restrict post-development runoff to greenfield rates. Selection and design should be in accordance with the sustainable drainage hierarchy and provide sufficient capacity to cater for up to the 1 in 100 year storm event, incorporating the latest guidance regarding climate change, in line with Southwark's SFRA and Policy 5.31 of the London Plan. Southwark has prepared a Developers Guide for Surface Water Management (SFRA,

Appendix H), outlining our requirements for surface water drainage strategies, available online: www.southwark.gov.uk/environment/flood-risk-management/strategic-flood-risk-assessment-sfra

- Geological data suggests that significant constraints are present for infiltration SuDS, whilst potential for bespoke infiltration SuDS may exist at some locations. Proposals for infiltration SuDS should be supported by site-specific permeability testing.
- Ground conditions should be confirmed through site investigation and dewatering of excavations and basement waterproofing should be incorporated in the Basement Impact Assessment if a basement is proposed.
- For development sites located adjacent to the River Thames a 16 m buffer strip must be maintained along the river corridor. Demonstration will be required that the associated flood defences will be safe over the lifetime of the development, including any required maintenance and improvements. Consideration should be given to the recommendations of the TE2100 plan and advice sought from the EA at an early stage.