11.0 Mile End Hospital

Site Number:	10
Site Location:	Bancroft Road
Grid Reference:	535913, 182499

Figure 11-1 Mile End Hospital Site

11.1 Site Description

The site occupies 3.91Ha of land and is currently the location of the Mile End Hospital. The topography of the site is flat with elevations generally around 10mAOD. The proposed use of the site is a leisure facility and a district heating facility.

In accordance with Table D2 of PPS 25, the classifications of the proposed uses are as follows:

Proposed Land Use	Vulnerability Classification
Health facility	More vulnerable
District heating facility	Less vulnerable

11.2 Summary of Flood Risk

11.2.1 Flood Zone Maps

The entirety of the site is shown to be located within Flood Zone 1. All of the proposed land uses for this site are compatible with this flood zone.

11.3 SOURCES OF FLOODING

11.3.1 TIDAL

Actual Risk

The site is defended from tidal inundation during the 0.5% AEP tidal event by the existing Thames Tidal Flood Defences (including the Thames Barrier) for the lifetime of the development. The site is considered to be at low risk of tidal flooding.

Residual Risk

There is a residual risk of tidal flooding from an extreme surge event. The site is defended against inundation from the River Thames during a 0.1% AEP tidal event and is considered as having a low probability of the defences overtopping.

A breach of the tidal defences is unlikely to result in flooding of the site as it is located on sufficiently higher ground.

11.3.2 FLUVIAL

Actual Risk

The site is located outside of the 1% AEP event with inclusion of climate change flood extent of the River Lee. The site is located on ground approximately 7m higher than the floodplain of the River Lee and is located over 2km away to the west. The site is concluded as being at a low risk of actual fluvial flooding.

Residual Risk

The site is located outside of the 0.1% AEP event flood extent of the River Lee.

The risk of a breach in the fluvial defences is unlikely to result in inundation of the site due to its distance from the watercourse and its location on much higher ground. The site is concluded as being at a low risk of residual fluvial flooding.

11.3.3 SURFACE WATER/SEWER

The site is shown to be at low risk of surface water flooding in a 1% AEP rainfall event. Some isolated areas of ponding water are observed however these are shallow (less than 0.2m) and likely to be a result of the current building layout.

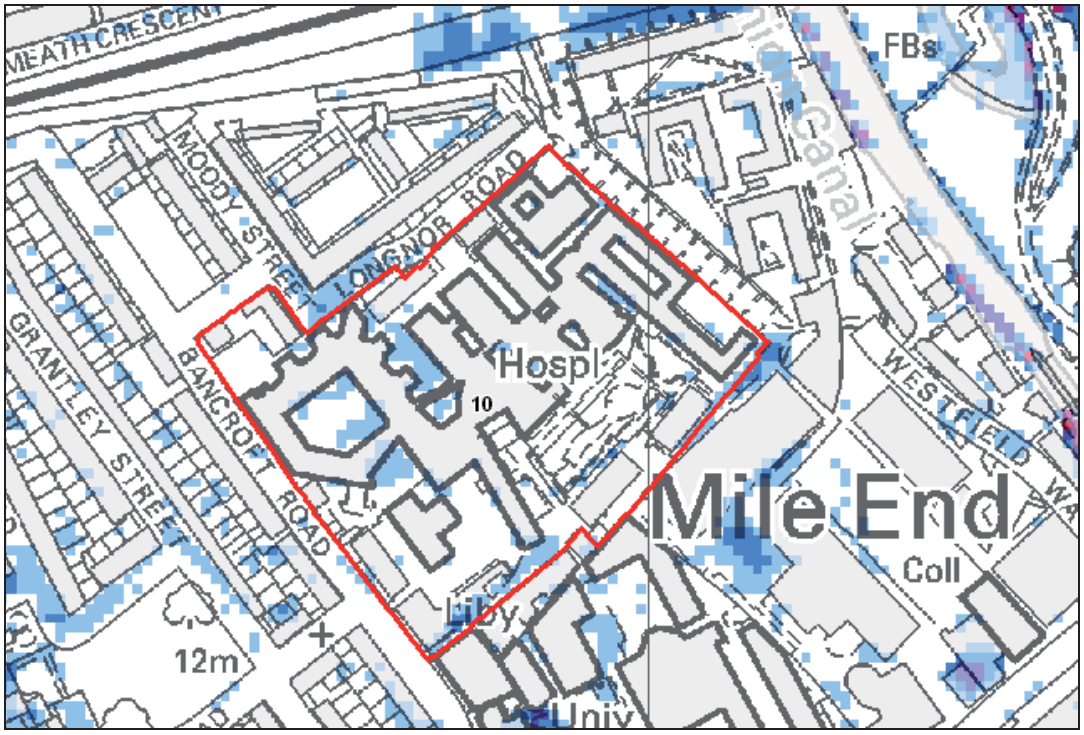

Figure 11-2 Maximum Depth of Surface Water in a 1% AEP Rainfall Event at the Mile End Hospital Site

11.3.4 GROUNDWATER

The site is not shown to be at risk of groundwater flooding however, the area to the south of the site is shown to have an increased potential of elevated groundwater.

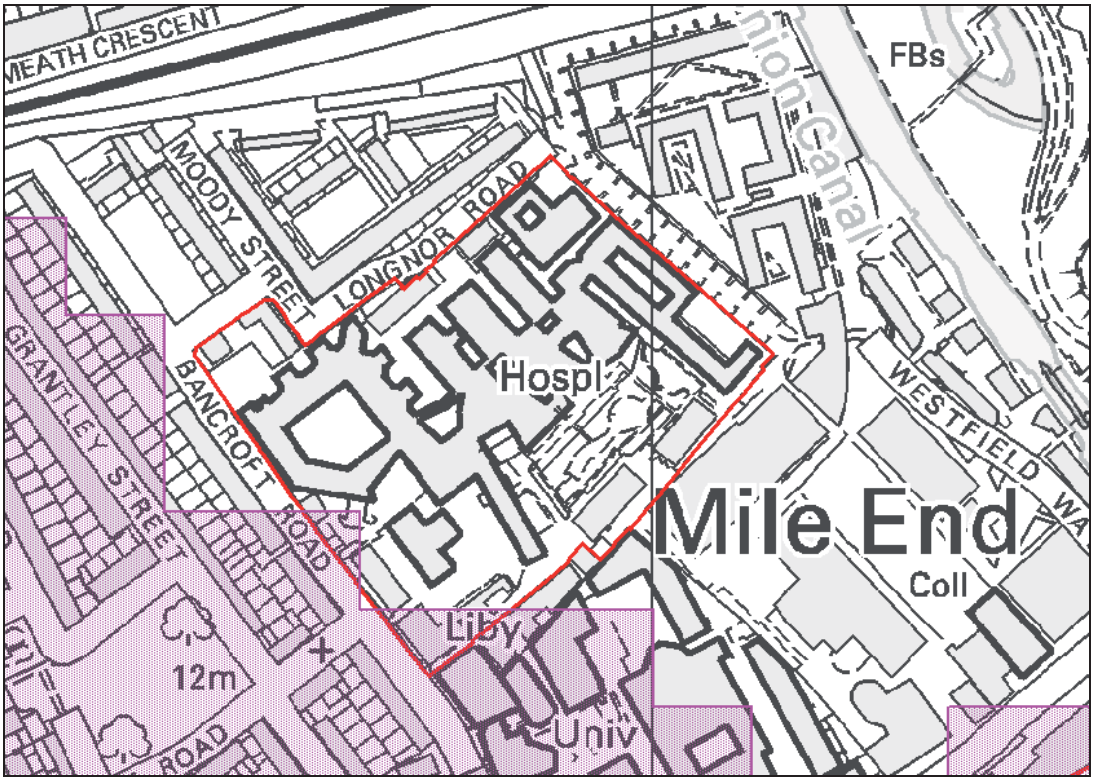

Figure 11-3 Increased Potential of Elevated Groundwater at the Mile End Hospital Site

11.3.5 ARTIFICIAL SOURCES

The Grand Union Canal lies to the east of the site. The canal is not raised above natural ground level and therefore breaching of the canal embankments is not considered to be a risk of flooding. Information obtained as part of the Level 1 SFRA determined that British Waterways have confirmed there are no flooding issues directly related to this canal.

11.4 GENERAL FLOOD RISK MANAGEMENT

The site is located within Flood Zone 1. All proposed land uses for the site are appropriate.

It is recommended that further detailed analysis of the surface water flood risk to the site is undertaken to verify the results of the Tower Hamlets SWMP modelling.

Development layout should consider surface water flow routes. 'At source' control measures such as green roofs, rainwater harvesting and water butts should be included in the design. Permeable paving should be incorporated within car parking and hard landscape areas.

The site is located within close proximity to areas identified as having an increased potential to elevated groundwater. It is recommended that the susceptibility of groundwater flooding is investigated.

Will development increase flood risk elsewhere?
• Unlikely. Development layout must consider surface water flow routes and manage runoff on site sustainably with a target to achieve Greenfield runoff rates.
How can development reduce flood risk overall?
• Include 'at source' SUDS control measures to reduce existing site runoff in accordance with London Plan and local policy.
How can the development be made safe?
N/A
Is there a reasonable prospect of compliance with part c of the Exception Test?
N/A

12.0 Southern Grove Lodge

Site Number:	11
Site Location:	40 – 60 Southern Grove
Grid Reference:	536710, 182480

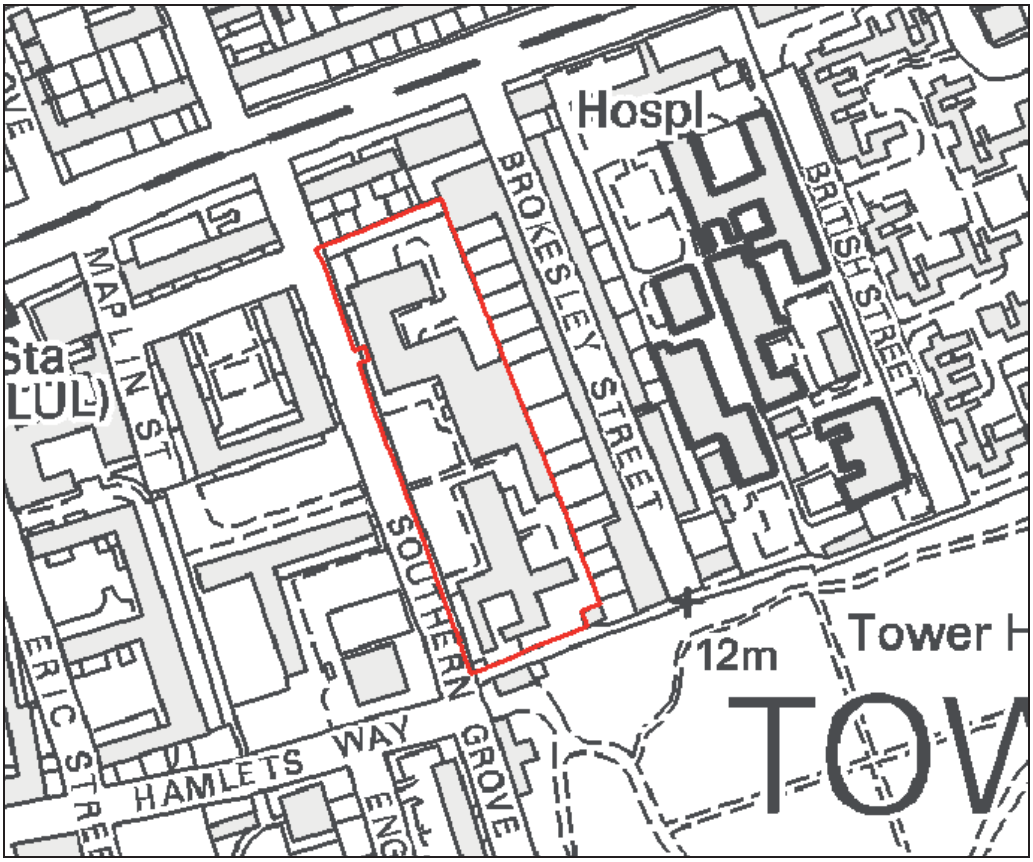

Figure 12-1 Southern Grove Lodge Site

12.1 Site Description

The site is 1.05Ha in area and is currently occupied by vacant buildings and land. The topography of the site varies between 12.2mAOD and 10.7mAOD with lower ground levels located in the southern portion of the site. The proposed use of the site is as a primary school and a district heating facility.

In accordance with Table D2 of PPS 25, the classifications of the proposed uses are as follows:

Proposed Land Use	Vulnerability Classification
Primary School	More vulnerable
District heating facility	Less vulnerable

12.2 SUMMARY OF FLOOD RISK

12.2.1 FLOOD ZONE MAPS

The entirety of the site is shown to be located within Flood Zone 1. All of the proposed land uses for this site are compatible with this flood zone.

12.3 SOURCES OF FLOODING

12.3.1 TIDAL

Actual Risk

The site is defended from tidal inundation during the 0.5% AEP tidal event by the existing Thames Tidal Flood Defences (including the Thames Barrier) for the lifetime of the development. The site is considered to be at low risk of tidal flooding.

Residual Risk

There is a residual risk of tidal flooding from an extreme surge event. The site is defended against inundation from the River Thames during a 0.1% AEP tidal event and is considered as having a low probability of the defences overtopping.

A breach of the tidal defences is unlikely to result in flooding of the site as it is located on sufficiently higher ground.

12.3.2 FLUVIAL

Actual Risk

The site is located outside of the 1% AEP event with inclusion of climate change flood extent of the River Lee. The site is located on ground approximately 6m higher than the floodplain of the River Lee and is located approximately 1.5km away to the west. The site is concluded as being at a low risk of actual fluvial flooding.

Residual Risk

The site is located outside of the 0.1% AEP event flood extent of the River Lee.

The risk of a breach in the fluvial defences is unlikely to result in inundation of the site due to its distance from the watercourse and its location on higher ground. The site is concluded as being at a low risk of residual fluvial flooding.

12.3.3 SURFACE WATER/SEWER

The site is shown to be at low risk of surface water flooding in a 1% AEP rainfall event. Some isolated areas of ponding water are observed however these are shallow (less than 0.3m) and likely to be a result of the current building layout.

Figure 12-2 Maximum Depth of Surface Water in a 1% AEP Rainfall Event at the Southern Grove Lodge Site

12.3.4 GROUNDWATER

The site is not shown to be at risk of groundwater flooding.

12.3.5 ARTIFICIAL SOURCES

The Grand Union Canal lies approximately 0.4km to the west of the site. The canal is not raised above natural ground level and therefore breaching of the canal embankments is not considered to be a risk of flooding. Information obtained as part of the Level 1 SFRA determined that British Waterways have confirmed there are no flooding issues directly related to this canal. The Limehouse Cut is located approximately 1km to the south of the site. Ground elevations at the site are approximately 5m to 6m higher than the Limehouse Cut, therefore a breach is unlikely to result in flooding of the site.

12.4 GENERAL FLOOD RISK MANAGEMENT

The site is located within Flood Zone 1. All proposed land uses for the site are appropriate. The site is at low risk of flooding from all assessed sources flooding.

It is recommended that further detailed analysis of the surface water flood risk to the site is undertaken to verify the results of the Tower Hamlets SWMP modelling.

Development layout should consider surface water flow routes. ‘At source’ control measures such as green roofs, rainwater harvesting and water butts should be included in the design. Permeable paving should be incorporated within car parking and hard landscape areas.

Will development increase flood risk elsewhere?
• Unlikely. Development layout must consider surface water flow routes and manage runoff on site sustainably with a target to achieve Greenfield runoff rates.
How can development reduce flood risk overall?
• Include 'at source' SUDS control measures to reduce existing site runoff in accordance with London Plan and local policy.
How can the development be made safe?
N/A
Is there a reasonable prospect of compliance with part c of the Exception Test?
N/A

13.0 Toby Lane Depot and 11-13 Solebay Street

Site Number:	12
Site Location:	Toby Lane Depot and 11-13 Solebay Street
Grid Reference:	536710, 182480

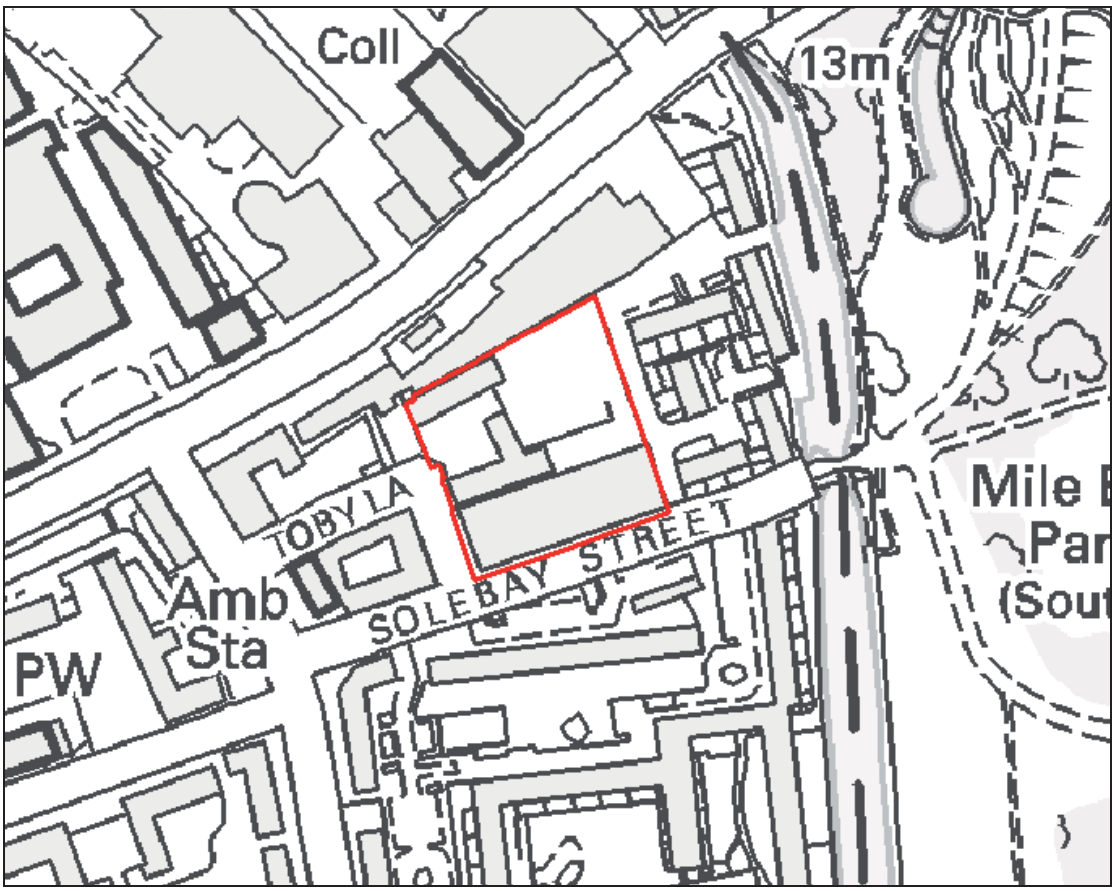

Figure 13-1 Toby Lane Depot Site

13.1 Site Description

The site is 0.56Ha in area and is currently occupied by council transport depot and warehousing. The topography varies between 12mAOD and 10.8mAOD with lower ground levels located in the south east corner of the site. The proposed use of the site is as a primary school.

In accordance with Table D2 of PPS 25, the classification of the proposed use is as follows:

Proposed Land Use	Vulnerability Classification
Primary School	More vulnerable

13.2 Summary of Flood Risk

13.2.1 Flood Zone Maps

The entirety of the site is shown to be located within Flood Zone 1. The proposed land use for this site is compatible with this flood zone.

13.3 Sources of Flooding

13.3.1 Tidal

Actual Risk

The site is defended from tidal inundation during the 0.5% AEP tidal event by the existing Thames Tidal Flood Defences (including the Thames Barrier) for the lifetime of the development. The site is considered to be at low risk of tidal flooding.

Residual Risk

There is a residual risk of tidal flooding from an extreme surge event. The site is defended against inundation from the River Thames during a 0.1% AEP tidal event and is considered as having a low probability of the defences overtopping.

13.3.2 Fluvial

Actual Risk

The site is located outside of the 1% AEP event with inclusion of climate change flood extent of the River Lee. The site is located on ground approximately 5m higher than the floodplain of the River Lee and is approximately 2km away to the west. he site is concluded as being at a low risk of actual fluvial flooding.

Residual Risk

The risk of a breach in the fluvial defences is unlikely to result in inundation of the site due to its distance from the watercourse and its location on higher ground. The site is concluded as being at a low risk of residual fluvial flooding.

13.3.3 Surface Water/Sewer

Some shallow, isolated areas of ponding water are predicted in the vicinity of the site. The site is not shown to be at risk of surface water flooding in a 1% AEP rainfall event.

Figure 13-2 Maximum Depth of Surface Water in a 1% AEP Rainfall Event at the Toby Lane Depot Site

13.3.4 GROUNDWATER

The site is shown to be at an increased potential of elevated groundwater. The underlying bedrock geology at the site is London Clay with superficial deposits of sand and gravel. Development proposals will need to consider site ground conditions and groundwater levels in this location over the lifetime of the development. In particular the design of any underground structures or services and foundations.

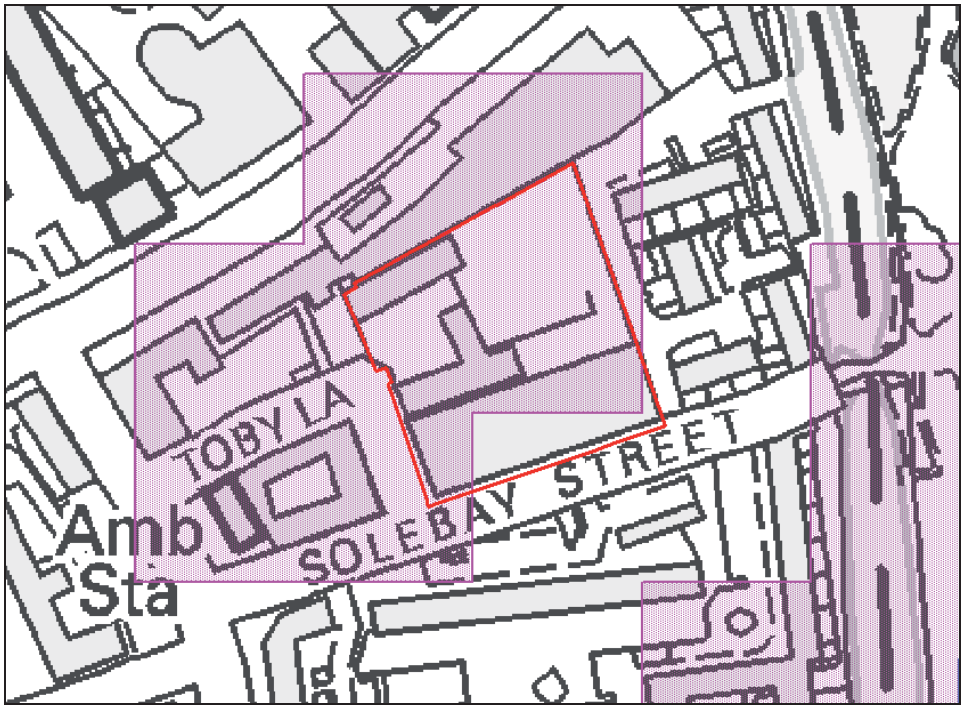

Figure 13-3 Increased Potential of Elevated Groundwater at the Toby Lane Site

13.3.5 ARTIFICIAL SOURCES

The Grand Union Canal lies to the east of the site. The canal is not raised above natural ground level and therefore breaching of the canal embankments is not considered to be a risk of flooding. Information obtained as part of the Level 1 SFRA determined that British Waterways have confirmed there are no flooding issues directly related to this canal.

13.4 GENERAL FLOOD RISK MANAGEMENT

The site is located within Flood Zone 1. The proposed land uses for this site are appropriate.

The site is potentially at risk from elevated groundwater levels. It is recommended that groundwater levels are monitored as part of a geo-environmental site investigation to determine the depth to groundwater. Depending on the results of the groundwater monitoring, any underground structures in the development may require mitigation using impermeable materials.

Will development increase flood risk elsewhere?
• Unlikely. Development layout must consider surface water flow routes and manage runoff on site sustainably with a target to achieve Greenfield runoff rates.
How can development reduce flood risk overall?
• Include 'at source' SUDS control measures to reduce existing site runoff in accordance with London Plan and local policy.
How can the development be made safe?
• Design of development to consider mitigating the risk of groundwater flooding with use of impermeable materials
Is there a reasonable prospect of compliance with part c of the Exception Test?
N/A

14.0 Bow Locks

Site Number:	13
Site Location:	Twelvetrees Crescent
Grid Reference:	538190, 182335

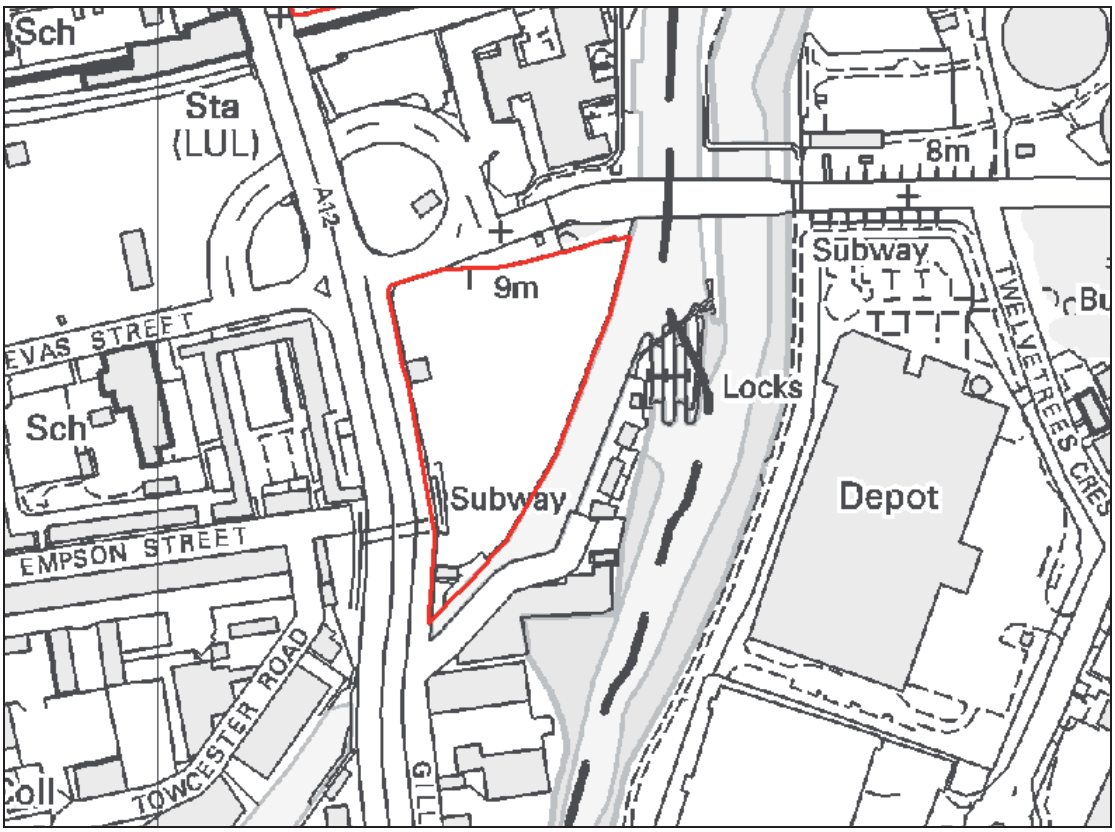

Figure 14-1 Bow Locks Site

14.1 Site Description

The site is 1.52Ha in area and is currently unoccupied. The site topography varies from 5mAOD to 9mAOD the site slopes downwards in a south-easterly direction towards the boundary with the Limehouse Cut and the River Lee. The proposed use of the site is as a secondary school and a district heating facility, forming a part of a wider mixed use development.

In accordance with Table D2 of PPS 25, the classifications of the proposed uses are as follows:

Proposed Land Use	Vulnerability Classification
Primary School	More vulnerable
District heating facility	Less vulnerable

14.2 SUMMARY OF FLOOD RISK

14.2.1 FLOOD ZONE MAPS

The western portion of the site is located within Flood Zone 1. The remainder of the site is located within Flood Zone 2 and 3. All of the proposed uses of the site are compatible with all flood zones. The proposed 'less vulnerable' uses of the site are permitted within Flood Zone 3 however, 'more vulnerable' land uses (located outside of Flood Zone 1) will be subject to the Sequential and Exception Tests.

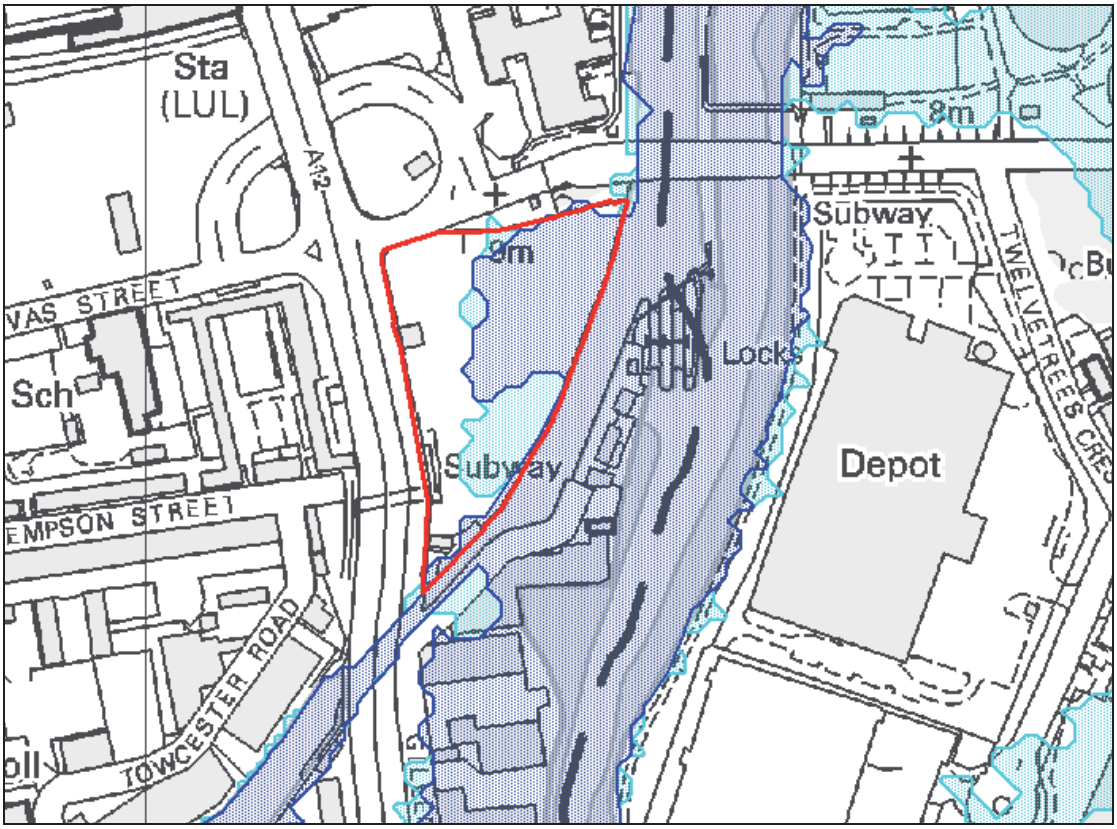

Figure 14-2 PPS25 Flood Zones at the Bow Locks Site

14.3 SOURCES OF FLOODING

14.3.1 TIDAL

Actual Risk

The site is defended from tidal inundation during the 0.5% AEP tidal event by the existing Thames Tidal Flood Defences (including the Thames Barrier) for the lifetime of the development. The site is considered to be at a low risk of 'actual' tidal flooding.

Residual Risk

There is a residual risk of tidal flooding from an extreme surge event. The site is defended against inundation from the River Thames during a 0.1% AEP tidal event and overtopping of the defences is considered low.

Due to the current topography, there is a low risk of flooding on site as a result of a breach of the River Thames Tidal Flood Defences. Ground levels on site are found to be higher than 5mAOD, higher than the peak level of a 0.5% AEP tidal event (4.8mAOD in the year 2107). The site is also located sufficiently inland

approximately 2km from the River Thames. The results of a breach in the tidal defences at Blackwall (Breach 2) reported in the Level 1 SFRA indicate that the site is located outside of the modelled flood extent. The flood extent for the 0.5% AEP tidal surge Blackwall breach event does not encroach into the site and only extends as far as Langdon Park (located 500m south of the site).

14.3.2 FLUVIAL

Actual Risk

A small area in the south east of the site is shown to fall within the extent of the 1% AEP flood event with climate change for the River Lee . This could be a result of inaccuracies in the LiDAR or the method in which the model results were processed. It is recommended that this area of flooding is verified by comparing defence crest heights and site ground levels against the peak water levels for the design flood event.

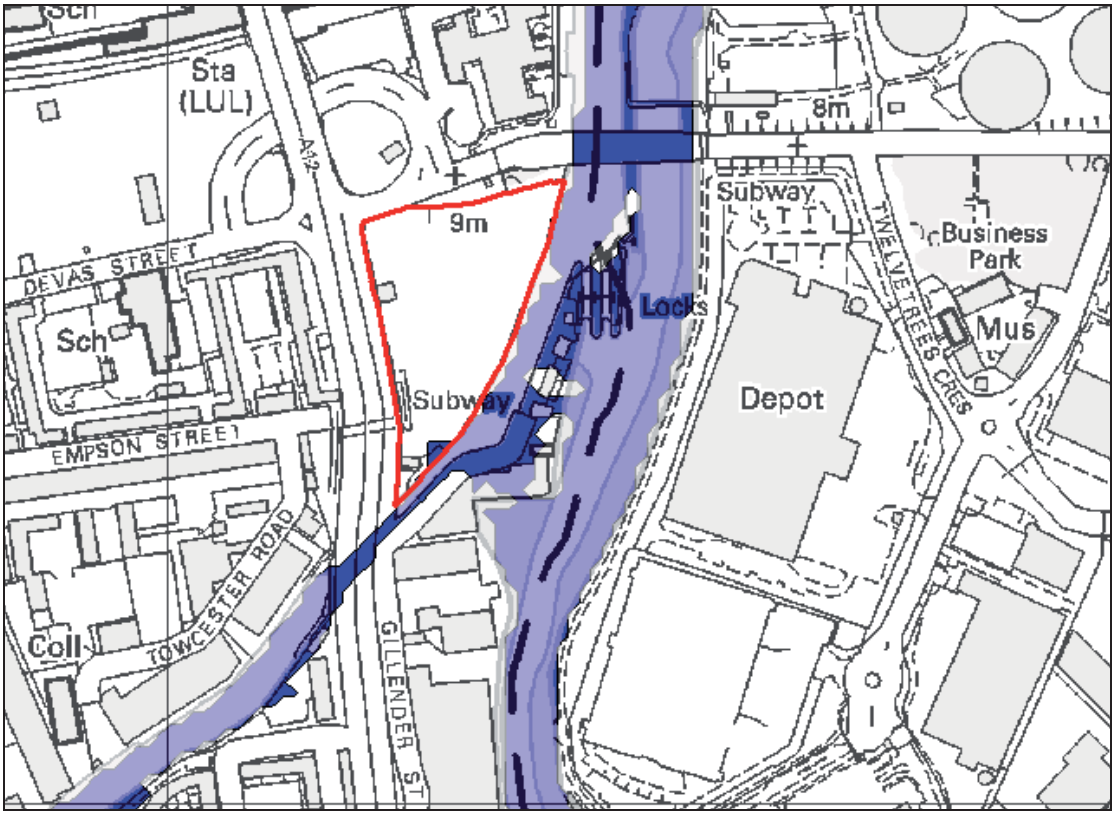

Figure 14-3 Flood Extent of 1% AEP Fluvial Event with Climate Change at the Bow Locks Site

Residual Risk

The extent of the 0.1% AEP event remains unchanged from the 1% AEP event with the inclusion of climate change.

There is a residual risk that the fluvial defences could be breached during a fluvial flood event. The proximity of the site to the defences indicates that there is the potential for the site to be inundated with fast and deep flowing water with little to no warning. An examination of the ground levels on site, behind the defences, compared to the peak water level in the watercourse in a 1% AEP event with inclusion of climate change, shows that the ground levels are higher – therefore indicating a low risk of flooding from a breach. It is recommended that ground levels on site are verified through topographic survey against the predicted 1% AEP climate change event levels. This will then determine whether a detailed site specific breach assessment will be required.

14.3.3 Surface Water/Sewer

The site is shown to be at a low risk of surface water flooding during a 1% and AEP event. Some shallow ponding is observed to occur within the centre of the site where ground levels are lowest. Depths of water are predicted to be less than 0.2m. Along the western boundary of the site, at the subway entrance, depths of water are predicted to reach 0.8m.

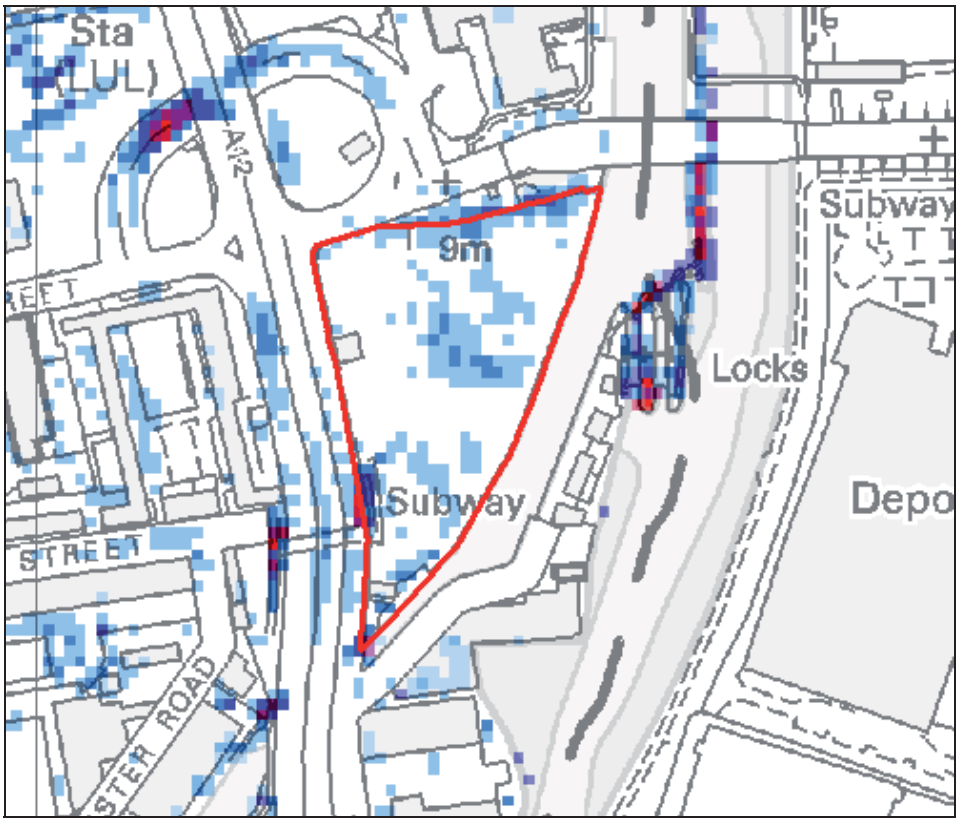

Figure 14-4 Maximum Depth of Surface Water in a 1% AEP Rainfall Event at the Bow Locks Site

14.3.4 Groundwater

The site is not shown to be at risk of groundwater flooding.

14.3.5 Artificial Sources

The Limehouse Cut borders the Bow Locks site along the eastern perimeter. There remains a residual risk of either overtopping or a breach of the defences along the watercourse. This has been discussed in the previous fluvial flood risk section.

The Bow Locks site is shown to be at risk of flooding from reservoir breach. A breach in either of the William Girling or King George V reservoirs located in the LB of Enfield, or the Lockwood Reservoir in the LB of Waltham Forest, is predicted to result in flooding of the site. No information was provided from the Environment Agency on the rate of onset of flooding, nor the hazard associated with the event. However, a breach of either of these reservoirs is likely to result in catastrophic consequences due to fast, deep flowing water. The site is located approximately 9km away from the closest reservoir, and It is likely that adequate warning could be provided to site users. Development should consider the impacts for a reservoir breach and consult the Environment Agency to determine the most appropriate response.

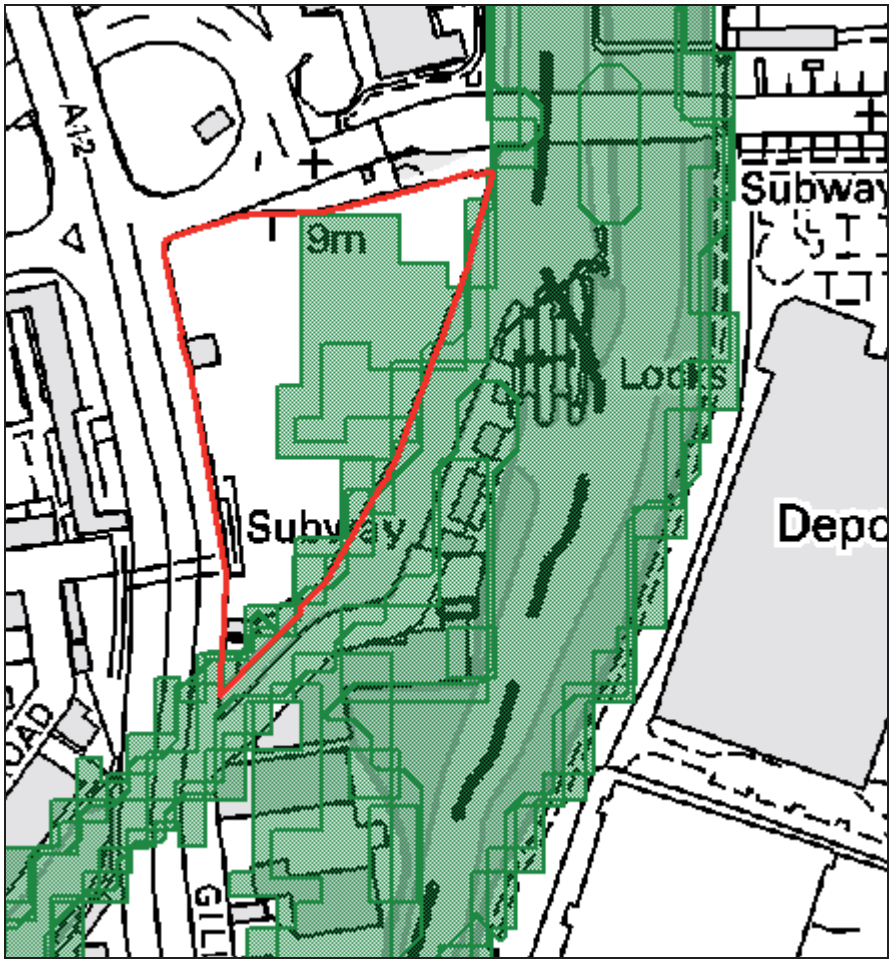

Figure 14-5 Reservoir Inundation Map at the Bow Locks Site

14.4 General Flood Risk Management

The site is located within Flood Zones 1, 2 and 3. All land uses are permitted within Flood Zones 1 and 2. The location of 'more vulnerable' land uses within Flood Zone 3 will be subject to the Sequential and Exception Test. The Sequential Approach should be adopted in the development layout, locating 'more vulnerable' land uses within Flood Zones 1 and 2 where possible.

The site is located adjacent to the Limehouse Cut and may be at risk of a breach in the defences. The proximity of the site to the watercourse means that a breach in the defences could have catastrophic consequences on site. It is recommended that the likelihood of an onsite breach is investigated further and the results used to inform site specific flood risk management measures. Where possible, the finished floor levels in these areas should be above the 1% AEP plus climate change fluvial event or the 0.5% AEP breach level, whichever is higher.

The site is shown to potentially be a risk of a breach in the William Girling, King George V, and Lockwood reservoirs. Development should consider the impacts for a reservoir breach and consult the Environment Agency to determine the most appropriate response. It may be necessary to consider safe access / egress to and from the site for site users as well as safe refuge.

Development adjacent to the River Lee may require a buffer of 16m whilst a buffer of 8m may be required for the Limehouse Cut.

The Environment Agency has commented that the defences will require significant remedial works or replacement to ensure that they continue to provide the required standard of protection for the lifetime of any proposed development. Any future development on this site should investigate the condition of the defences and confirm remedial work with the Environment Agency.

Will development increase flood risk elsewhere?
• Unlikely. Development layout must consider surface water flow routes and manage runoff on site sustainably with a target to achieve Greenfield runoff rates.
How can development reduce flood risk overall?
• Include a SUDS management train with 'at source' SUDS control measures to reduce the existing site runoff in accordance with London Plan and local policy.
How can the development be made safe?
• Application of the sequential approach at site level. • Floor levels of all sleeping accommodation to be raised 300mm above the 0.5% AEP breach level • Consideration of safe access / egress from development and safe refuge subject to guidance from the Environment Agency.
Is there a reasonable prospect of compliance with part c of the Exception Test?
• Yes, subject to appropriate site layout adopting a sequential approach and raised finished floor levels.

15.0 Bromley-by-Bow Redevelopment

Site Number:	14
Site Location:	Three Mills Lane / Hancock Road
Grid Reference:	538120, 182830

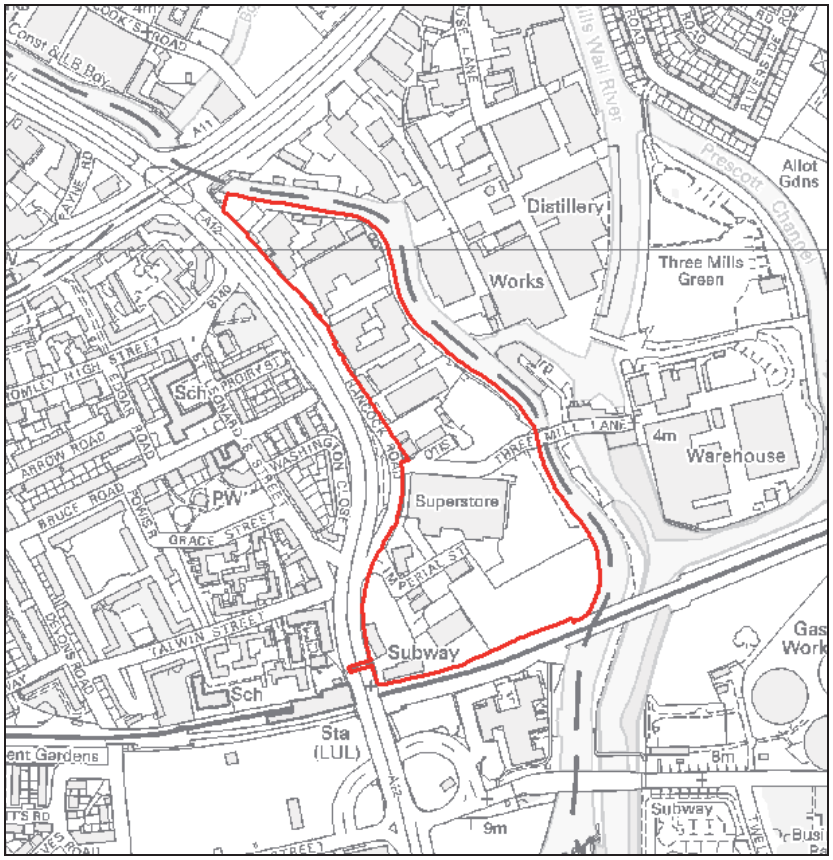

Figure 15-1 Bromley-by-Bow Redevelopment Site

15.1 Site Description

The site occupies an area of 7.35Ha. The current site uses include a supermarket, warehousing, industrial activities and car parking. The site is bound by the River Lee to the east, the A12 to the west, and the London Underground District Line railway track to the south. The site slopes towards the River Lee from elevations of 10mAOD in the west to 4.5mAOD in the east.

The proposed uses of the site are to include the following. These uses are to form part of a wider mixed used town centre development:

- Large-scale housing development;
- Idea Store;
- Strategic open space;
- Primary school; and
- District heating facility.

In accordance with Table D2 of PPS 25, the classifications of the proposed uses are as follows:

Proposed Land Use	Vulnerability Classification
Large-scale housing development	More vulnerable
Idea Store	More vulnerable
Strategic Open Space	Water compatible development
Primary School	More vulnerable
District heating facility	Less vulnerable

15.2 SUMMARY OF FLOOD RISK

15.2.1 FLOOD ZONE MAPS

The majority of the site is located within Flood Zone 1. The northern and eastern extremities of the site are shown to fall within Flood Zones 2 and 3. All proposed uses of the site are permitted within Flood Zones 1 and 2. Within Flood Zone 3, 'more vulnerable' uses are permitted however will be subject to the Sequential and Exception Tests.

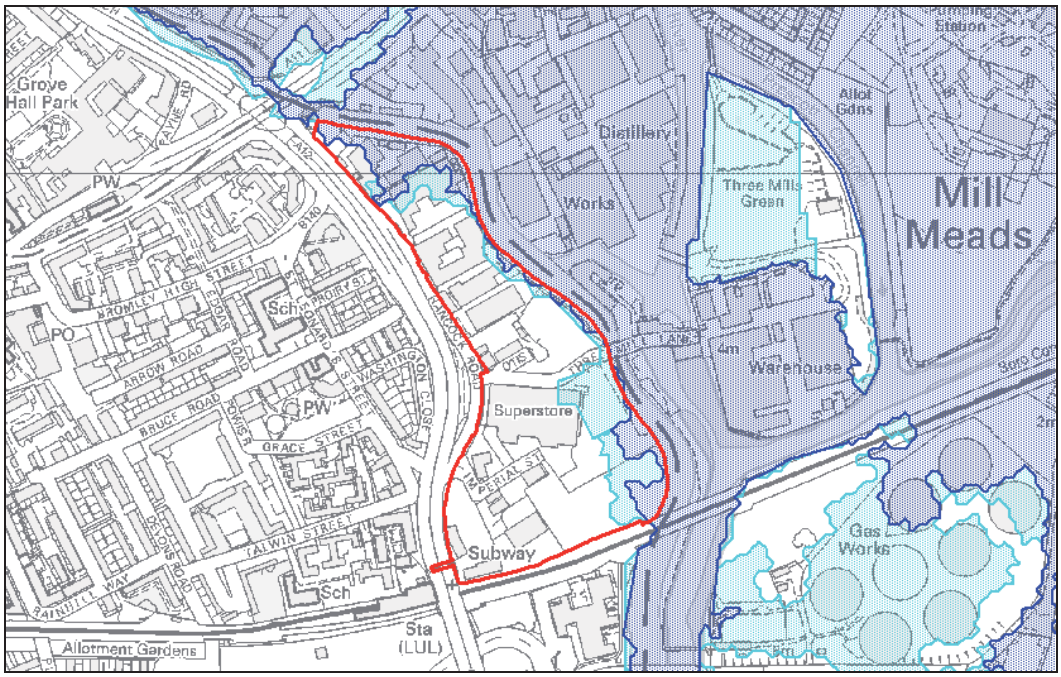

Figure 15-2 PPS25 Flood Zones at the Bromley-by-Bow Redevelopment Site

15.3 SOURCES OF FLOODING

15.3.1 TIDAL

Actual Risk

The site is defended from tidal inundation during the 0.5% AEP tidal event by the existing Thames Tidal Flood Defences (including the Thames Barrier) for the lifetime of the development. The site is considered to be at low risk of tidal flooding.

Residual Risk

There is a residual risk of tidal flooding from an extreme surge event. The site is defended against inundation

from the River Thames during a 0.1% AEP tidal event and is considered as having a low probability of the defences overtopping.

A (Breach 2) of the tidal defences is unlikely to result in flooding of the site as it is located sufficiently inland, approximately 2km from the River Thames. The results of a breach in the tidal defences at Blackwall, reported in the Level 1 SFRA corroborate these findings. The flood extent for the 0.5% AEP tidal surge breach event does not encroach into the site extending only as far as Langdon Park (800m south of the site)

15.3.2 FLUVIAL

Actual Risk

A small area in the north of the site is shown to fall within the defended 1% AEP flood event extent for the River Lee (with inclusion of climate change). Depths of water range between 0.2m to 1m correlating with a 'significant' hazard.

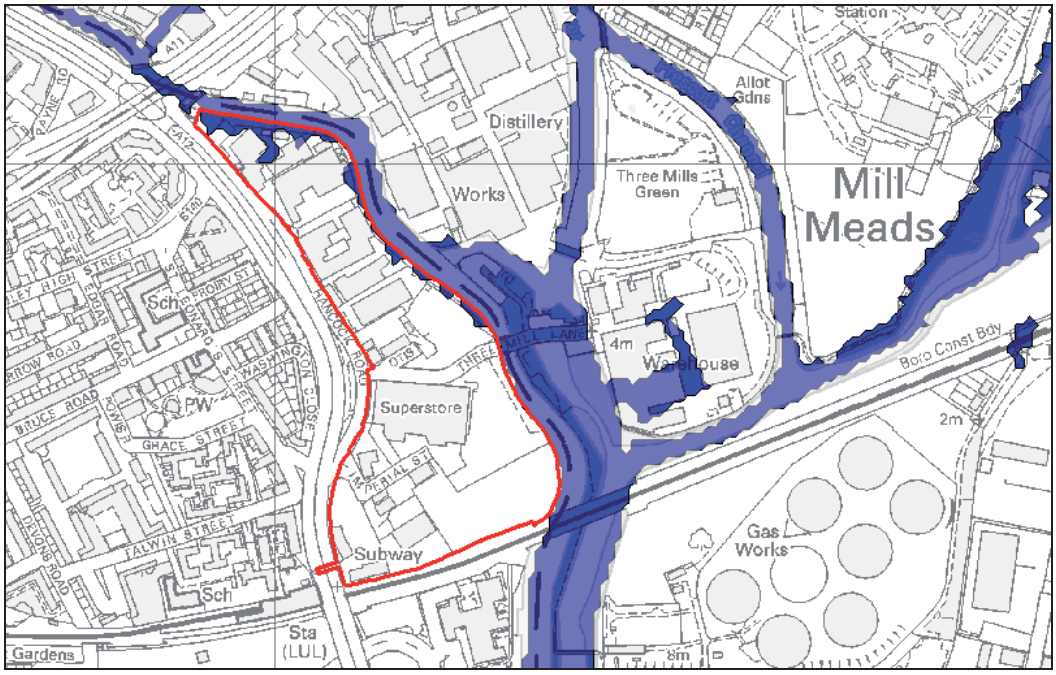

Figure 15-3 Flood Extent of 1% AEP Fluvial Event with Climate Change at the Bromley-by-Bow Redevelopment Site

Residual Risk

The extent and depths of water on site in the 0.1% AEP event is similar to the 1% AEP event with inclusion of climate change. The same small area in the north of the site is shown to be at risk of flooding.

There is a residual risk that the fluvial defences along the River Lee could be breached during a fluvial flood event. The proximity of the site to the defences means there is the potential for the site to be inundated with fast and deep flowing water with little to no warning.

Off-site breach assessments within the borough were carried out as part of the LB of Tower Hamlets Level 1 SFRA, however the flood extents for each of these assessments are not shown to encroach on the site. The Flood Zone maps provide an indication as to the areas that will potentially flood as a result of a breach in the defences on site. It is recommended that a site specific breach assessment be carried out to aid in the development of site specific flood risk management measures.

15.3.3 SURFACE WATER/SEWER

Surface water is observed to cumulate in localised low-lying areas within the site. Depths of up to 0.5m are shown in the south east of the site near the existing superstore and in the north of the site. Overall, the site is shown to have a low risk of surface water flooding.

The Tower Hamlets SWMP has identified a Critical Drainage Area (CDA) that partially falls within the site, 'Group4_022'. CDAs are areas within the borough where the impact of surface water flooding is expected to be greatest. Runoff from the Bromley by Bow site is shown to potentially contribute to the flooding at the A12 underpass. The SWMP recommends that runoff rates be reduced to that of predevelopment Greenfield runoff rates for developments located within CDAs. The SWMP also contains high level options assessments for each CDA, detailing measures designed to mitigate and manage the impacts of surface water flooding. For more information, refer to the LB of Tower Hamlets SWMP (2011).

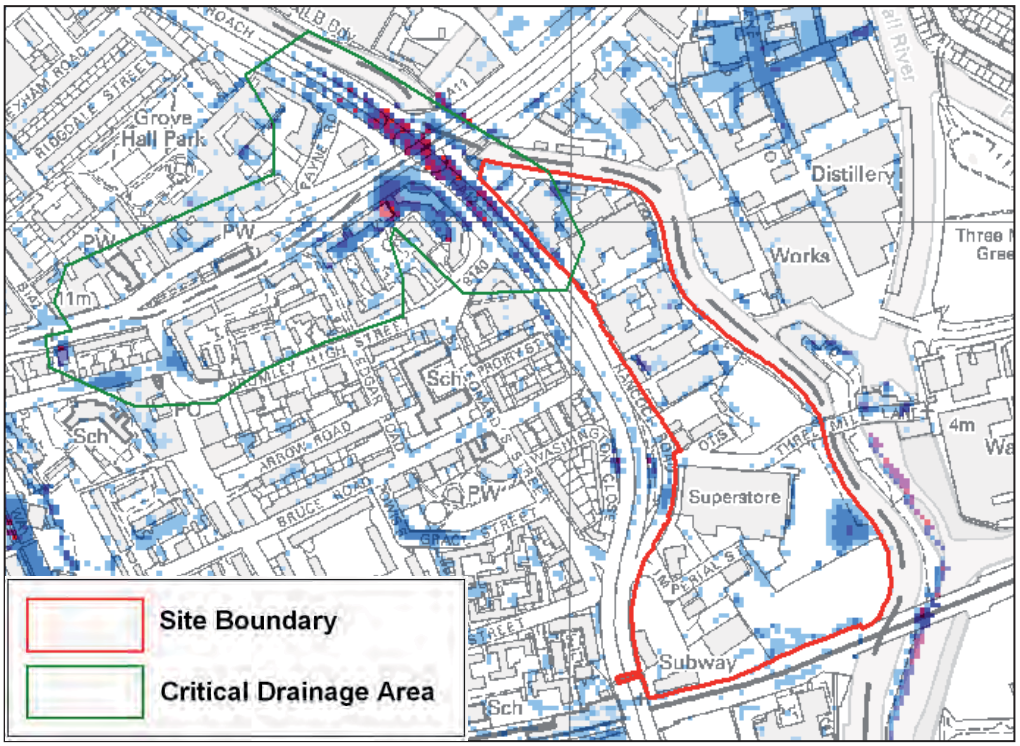

Figure 15-4 Maximum Depth of Surface Water in a 1% AEP Rainfall Event at the Bromley-by-Bow Redevelopment Site

15.3.4 GROUNDWATER

The north of the site is shown to have an increased potential of elevated groundwater. As the area is small and isolated, this may be due to inaccuracies or assumptions in the mapping process, and may not necessarily indicate a high potential of groundwater flooding. It is recommended that the susceptibility of groundwater flooding is investigated. If the site is found to be susceptible to groundwater flooding, development proposals will need to consider site ground conditions and groundwater levels over the lifetime of the development. In particular the design of any underground structures or services and foundations.

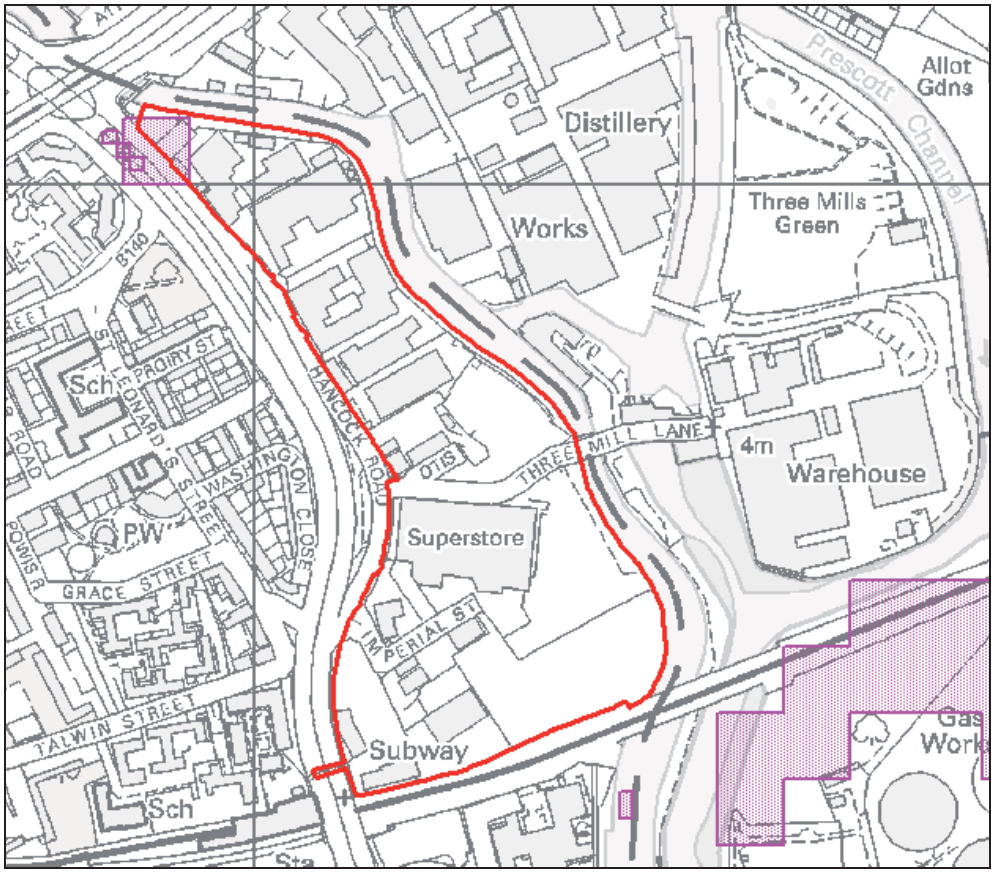

Figure 15-5 Increased Potential of Elevated Groundwater at the Bromley-by-Bow Redevelopment Site

15.3.5 ARTIFICIAL SOURCES

The Bromley by Bow site is shown to be at risk of flooding from reservoir breach. A breach in either of the William Girling or King George V reservoirs located in the LB of Enfield or the Lockwood reservoir in the LB of Waltham Forest, is predicted to affect the northern portion of the site. No information was provided from the Environment Agency on the rate of onset of flooding nor the hazard associated with the event, however a breach of either of these large reservoirs is likely to result in catastrophic consequences due to fast, deep flowing water. The site is located 8km away from the closest reservoir, hence it is likely that adequate warning could be provided to site users in the event of a breach. Development should consider the impacts for a reservoir breach and consult the Environment Agency to determine the most appropriate response.

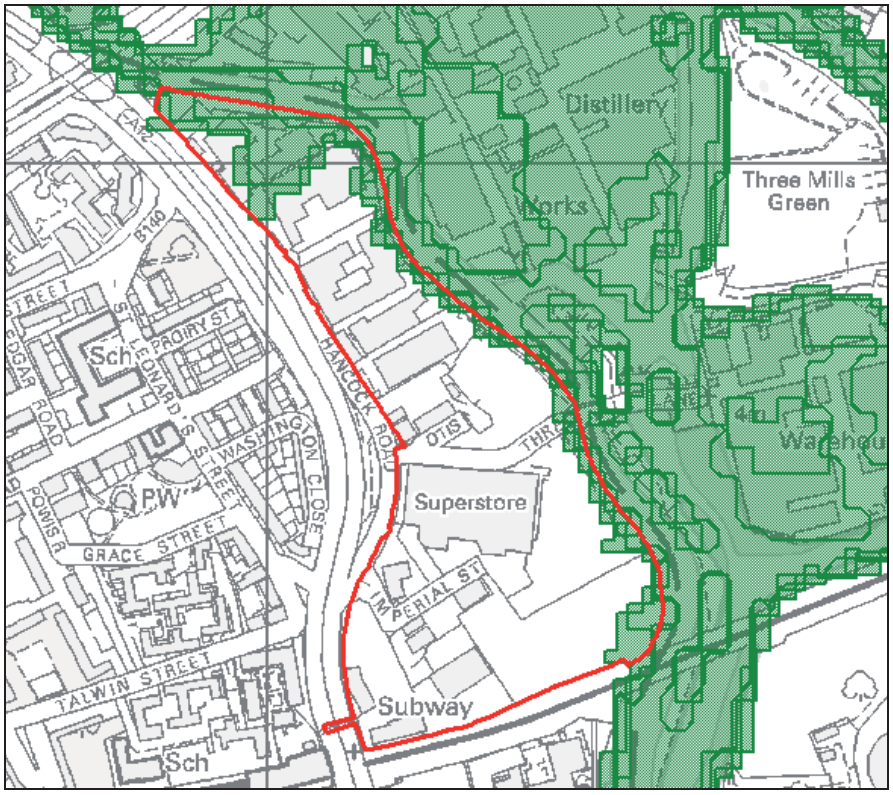

Figure 15-6 Reservoir Inundation Map at the Bromley-by-Bow Redevelopment Site

15.4 General Flood Risk Management

The majority of the site is in Flood Zone 1 with the northern and eastern extremities of the site located within Flood zone 2 and 3. All proposed uses of the site are permitted within Flood Zones 1 and 2. Within Flood Zone 3, 'more vulnerable' uses are permitted however will be subject to the Sequential and Exception Tests.

The Sequential Approach should be adopted in the development layout, locating higher vulnerability land uses within Flood Zone 1 and 2, and lower vulnerability uses within Flood Zone 3.

A small area in the north of the site is shown to be at risk of 'actual' fluvial flooding. 'More vulnerable' uses proposed in this location should raise finished floor levels of all residential uses 300mm above the peak 1% AEP with climate change fluvial flood level. Alternatively, 'less vulnerable' uses to be situated on the ground floor with 'more vulnerable' uses situated on the first or upper floors, above the peak 1% AEP with climate change fluvial flood level.

The site may be at risk of a breach in the fluvial defences. Development may require a site specific breach assessment to inform site specific flood risk management measures. 'More vulnerable' uses proposed in this location should raise finished floor levels of all residential uses 300mm above the peak 0.5% AEP breach flood level (or the peak 1% AEP with climate change fluvial flood level as state above – whichever is higher). In addition, it is recommended that flood resilience measures are incorporated into buildings to withstand the hydrostatic forces associated with breach. Where possible, electrical fittings and appliances should be raised above the flood level.

Development layout should consider safe access / egress and safe refuge. The Flood Zone 1 areas of the site may be suitable as locations of refuge. Hancock Road/A12 may be a suitable route for safe access / egress for emergency services.

Development within the CDA on site, should consider the recommendations outlined in the LB of Tower

Hamlet SWMP. In particular, the target of reducing runoff rates to that of predevelopment Greenfield runoff rates. In addition, 'at source' control measures such as green roofs, rainwater harvesting and water butts should be included in the design. Permeable paving should be incorporated within carparking and hard landscape areas. Public gardens and open space should consider benefits of including swales, wetlands, ponds and 'rain gardens' for both surface water management and biodiversity.

The Environment Agency has commented that the defences will require significant remedial works or replacement to ensure that they continue to provide the required standard of protection for the lifetime of any proposed development. Any future development on this site should investigate the condition of the defences and confirm remedial work with the Environment Agency.

The EA have also stated that Three Mills and Hunts Lane Hydrometry Point located on the site may need to be retained as part of any redevelopment.

Will development increase flood risk elsewhere?
• Development layout must consider surface water flow routes and manage runoff on site sustainably with a target to achieve Greenfield runoff rates. • Development within the 1% AEP flood extent with inclusion of climate change may require compensatory storage.Development within the CDA to follow guidance set out in the Tower Hamlets SWMP, namely achieving a target of reducing runoff rates to that of predevelopment Greenfield runoff rates.
How can development reduce flood risk overall?
• Include 'at source' SUDS control measures to reduce existing site runoff in accordance with London Plan and local policy.
How can the development be made safe?
• Application of the sequential approach at site level to be carried out to ensure 'more vulnerable' land uses are located within flood zones 1 and 2. • Floor levels of all residential uses to be raised 300mm above flood level. • Consideration of safe access/egress for site uses and emergency services.
Is there a reasonable prospect of compliance with part c of the Exception Test?
• Yes, subject to detailed breach analysis and consideration of the above recommendations.