ENVIRONMENT

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253 Portobello Road
London

FLOOD RISK ASSESSMENT

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Limitations

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(i) The date on which this assessment was undertaken, and
(ii) The date on which the final report is delivered

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All Environment Agency mapping data used under special license. Data is current as of February 2017 and is subject to change.

The information presented and conclusions drawn are based on statistical data and are for guidance purposes only. The study provides no guarantee against flooding of the study site or elsewhere, nor of the absolute accuracy of water levels, flow rates and associated probabilities.

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EXECUTIVE SUMMARY

This Flood Risk Assessment (FRA) has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. It has been produced on behalf of JMWB Barnard Management Limited in respect of a planning application for the proposed reconfiguration of 253 Portobello Road to provide three Class A1 retail units and a Class A3 restaurant, to include a rear extension, shopfront alterations and lowering of the existing basement level (approximate grid reference: 524514, 181386).

This report demonstrates that the proposed development is not at significant flood risk, subject to the recommended flood mitigation strategies being implemented.

The site is indicated to lie within Flood Zone 1, at low probability of fluvial and tidal flooding. The significant distance and topographical barriers lying between the site and the River Thames & minor drainage link to the south east indicate that any fluvial flood risk posed can be considered to be low.

The site lies within North Kensington Critical Drainage Area which is identified in the Surface Water Management Plan 2014 due to the high risk of surface and sewer flooding in the area.

In terms of pluvial flood risk, Environment Agency mapping indicates that the site is within an area surrounded by high risk of surface water flooding to the north, east and west. Within the site boundary there is shown to be moderate to high risk of surface water flooding to the frontage along both Portobello and Lancaster Road. Surface Water modelling and historic records of flooding within the SWMP also reflect this showing localised flood risk within the Royal Borough of Kensington and Chelsea.

There are no recorded incidents of sewer flooding in the Portobello Road area, however the nearby sewer network is substantial in size therefore the residual risk posed can be considered to be moderate in the event that a blockage or sewer exceedance were to occur. In compliance with the recommendations of this FRA it can be considered that sewer and pluvial flood risk posed has been adequately addressed.

There will be no increase in impermeable surfacing from the proposed development and consequently no increase in surface water runoff or volumes to existing.

Other sources of flood risk such as reservoir, canal and groundwater have also been reviewed and are not considered to pose a risk to the site.

In compliance with the requirements of National Planning Policy Framework, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.
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1.0 INTRODUCTION

1.1 This Flood Risk Assessment (FRA) has been prepared in accordance with the requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of JMWB Barnard Management Limited in respect of a planning application for the proposed reconfiguration of the property to provide three Class A1 retail units and a Class A3 restaurant, including a rear extension at first floor level. Key site details are presented in Table 1.1.

1.2 This FRA is intended to support a planning application and as such the level of detail included is commensurate and subject to the nature of the proposals.

Table 1.1 - Site Summary

<table>
<thead>
<tr>
<th>Site Name</th>
<th>253 Portobello Road</th>
</tr>
</thead>
<tbody>
<tr>
<td>Location</td>
<td>London</td>
</tr>
<tr>
<td>NGR (approx.)</td>
<td>524514, 181386</td>
</tr>
<tr>
<td>Application Site Area (ha)</td>
<td>0.03</td>
</tr>
<tr>
<td>Development Type</td>
<td>Reconfiguration of 253 Portobello Road to provide three Class A1 retail units and a Class A3 restaurant, to include a rear extension, shopfront alterations and lowering of the existing basement level.</td>
</tr>
<tr>
<td>Flood Zone Classification</td>
<td>Flood Zone 1</td>
</tr>
<tr>
<td>NPPF Vulnerability</td>
<td>Less Vulnerable</td>
</tr>
<tr>
<td>Environment Agency Office</td>
<td>Hertfordshire and North London</td>
</tr>
<tr>
<td>Lead Local Flood Authority</td>
<td>The Royal Borough of Kensington and Chelsea</td>
</tr>
<tr>
<td>Local Planning Authority</td>
<td>The Royal Borough of Kensington and Chelsea</td>
</tr>
</tbody>
</table>

Sources of Data

1.3 The report is based on the following information:

(i) Proposed Plans by Archio, reference [Dwg No. PR_100_Rev C & PR_101_Rev D]
(ii) Site Levels by Archio, reference [Dwg No. EX_101_Rev B]
(iii) OS Explorer Series mapping
(iv) Environment Agency mapping
(v) The Royal Borough of Kensington & Chelsea PFRA
(vi) The Royal Borough of Kensington & Chelsea SFRA
(vii) The Royal Borough of Kensington LFRMS
(viii) The Royal Borough of Kensington SWMS
(ix) Web Based Soil Mapping
(x) Thames Water Sewer Records
(xi) British Geological Survey Drift & Geology Maps
Existing Site

1.4 253 Portobello Road is a 19th century three storey corner property with basement located at the junction between Lancaster Road and Portobello Road. The property itself is not listed however lies within the Ladbroke Conservation Area and is considered to make a positive contribution to the conservation of the area.

1.5 The existing building is laid out as three Class A1 retail units across the ground and basement floor levels. There is a Class A3 restaurant accessed from the ground floor which occupies the first floor level with associated roof terrace for outdoor seating.

1.6 Site levels, are included for reference as Appendix 1, indicate basement levels to be 13.14m AOD in the west and 13.92m AOD in the east. At street level, there is a slight rise along Portobello Road from northeast at 16.49m to southeast at 16.51m AOD and along Lancaster Road from east at 16.51m AOD to west at 15.63m AOD. Internal ground floor levels range from 15.88m AOD in the west to 16.66m AOD in the east.

Figure 1.1 - Site Location
Proposed Development

1.7 The development proposals are included for reference as Appendix 2, are for a reconfiguration of the property to provide three Class A1 retail units at ground and basement floor levels and a Class A3 restaurant on the first and second floor levels of the building. The proposals include a rear extension at first floor level, shopfront alterations, and lowering of the existing basement floor level.
2.0 FLOOD RISK PLANNING POLICY

National Planning Policy Framework

2.1 The NPPF sets out the Government’s national policies on different aspects of land use planning in England in relation to flood risk. Planning Practice Guidance is also available online.

2.2 The Planning Practice Guidance sets out the vulnerability to flooding of different land uses. It encourages development to be located in areas of lower flood risk where possible, and stresses the importance of preventing increases in flood risk off site to the wider catchment area.

2.3 The Planning Practice Guidance also states that alternative sources of flooding, other than fluvial (river flooding), should also be considered when preparing a Flood Risk Assessment.

2.4 The Planning Practice Guidance also includes a series of tables that define Flood Zones (Table 1), the flood risk vulnerability classification of development land uses (Table 2) and ‘compatibility’ of development within the defined Flood Zones (Table 3).

2.5 This Flood Risk Assessment is written in accordance with the NPPF and the Planning Practice Guidance.

Flood Map for Planning

2.6 With particular reference to planning and development, the Flood Map for Planning produced by the Environment Agency identifies Flood Zones in accordance with Table 1 of the Planning Practice Guidance.

2.7 Flood Zone 1 (Low Probability) is defined as land having less than a 1 in 1000 annual probability of river or sea flooding (<0.1%).

2.8 Flood Zone 2 (Medium Probability) is defined as land having between a 1 in 100 and 1 in 1000 annual probability of river flooding (1% - 0.1%); or between a 1 in 200 and 1 in 1000 annual probability of sea flooding (0.5% - 0.1%).

2.9 Flood Zone 3a (High Probability) is defined as land having a 1 in 100 or greater annual probability of river flooding (>1%); or land having a 1 in 200 or greater annual probability of flooding from the sea (>0.5%). This is represented by “Flood Zone 3” on the Flood Map for Planning.

2.10 Flood Zone 3b (The Functional Floodplain) is defined as land where water has to flow or be stored in times of flood. This is not identified or separately distinguished from Zone 3a on the Flood Map for Planning.

2.11 The study site is shown to be located entirely within Flood Zone 1 (Low Probability) as shown on Figure 2.1.

1 National Planning Policy Framework, CLG, March 2012
Figure 2.1 - Environment Agency Flood Map for Planning (Rivers and Sea)

The Design Flood

2.12 The Planning Practice Guidance identifies that new developments should be designed to provide adequate flood risk management, mitigation, and resilience against the ‘design flood’ for their lifetime.

2.13 This is a flood event of a given annual flood probability, which is generally taken as fluvial (river) flooding likely to occur with a 1% annual probability (a 1 in 100 chance each year), or tidal flooding with a 0.5% annual probability (1 in 200 chance each year), against which the suitability of a proposed development is assessed and mitigation measures, if any, are designed.
2.14 Table 2 of the Planning Practice Guidance classifies land use. Under the classifications for the proposed development use and taking a conservative approach from the greatest vulnerability classification for proposed use; retail and restaurant the site can be considered to be ‘More Vulnerable’.

2.15 Table 3 of the Planning Practice Guidance identifies that a ‘More Vulnerable’ development within Flood Zone 1 is considered to be ‘appropriate’.

**Preliminary Flood Risk Assessment**

2.16 A Preliminary Flood Risk Assessment (PFRA) is an assessment of floods that have taken place in the past and floods that could take place in the future. It generally considers flooding from surface water runoff, groundwater and ordinary watercourses, and is prepared by the Lead Local Flood Authorities.

2.17 The Royal Borough of Kensington PFRA\(^3\) considers flooding from surface water runoff, groundwater, ordinary watercourses and canals. It also references the historical river flooding which occurred in the local area. However, no historical instances of flooding at the site are referenced. Information from the PFRA will be referenced within this report where applicable.

**Strategic Flood Risk Assessment**

2.18 A Strategic Flood Risk Assessment (SFRA) is a study carried out by one or more local planning authorities to assess the risk to an area from flooding from all sources, now and in the future.

2.19 The Royal Borough of Kensington and Chelsea SFRA\(^4\) was produced to facilitate the application of Sequential and Exception Tests to screen allocated development sites. The proposed application site is not referenced within the SFRA, however this document provides information on the wider borough and planning guidance which is still relevant to the following proposals.

**Local Flood Risk Management Strategy**

2.20 A Local Flood Risk Management Strategy (LFRMS) is prepared by a Lead Local Flood Authority to help understand and manage flood risk at a local level. The LFRMS aims to ensure that the knowledge of local flood risk issues is communicated effectively so that they can be better managed. The LFRMS also aims to promote sustainable development and environmental protection.

2.21 The Royal Borough of Kensington LFRMS\(^5\) has been reviewed and will be referenced within this report where applicable.

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\(^3\) The Royal Borough of Kensington and Chelsea Preliminary Flood Risk Assessment (Halcrow, June 2011)
\(^4\) The Royal Borough of Kensington and Chelsea Strategic Flood Risk Assessment (Capita/URS, 20/03/2014)
\(^5\) Local Flood Risk Management Strategy (The Royal Borough of Kensington, July 2015)
Surface Water Management Strategy

2.22 The Royal Borough of Kensington SWMS\(^4\) outlines a surface water management strategy and long term action plan for the management of local surface water flood risk. The SWMP study has been undertaken as part of the Drain London Project in consultation with key local partners who are responsible for surface water management and drainage in the London area – including Thames Water, the Environment Agency and Transport for London.

2.23 The SWMP indicates that the site itself is located within a critical drainage area (CDA) which is described as a discrete geographic area and usually a hydrological catchment, where multiple and interlinked sources of flood risk cause flooding in one or more Local Flood Risk Zones. Local Flood Risk Zones (LFRZs) are known as discrete areas/extents of predicted surface water flooding. The Critical Drainage Areas (CDAs) and Local Flood Risk Zones (LFRZs) identified for the Borough are shown within Figure 2.2.

![Figure 2.2 - Critical Drainage Areas and Key Local Flood Risk Zones (Figure Obtained from The Royal Borough of Kensington and Chelsea SWMP, 2011\(^7\))](image)

\(^4\) Surface Water Management Strategy [Halcrow, February 2014]
3.0 POTENTIAL SOURCES OF FLOOD RISK

3.1 Flooding can occur from a variety of sources, or combination of sources, which may be natural or artificial. Table 3.1 below identifies the potential sources of flood risk to the site in its current condition, and the impacts which the development could have in the wider catchment, prior to mitigation. These are discussed in greater detail in the forthcoming section. The mitigation measures proposed to address flood risk issues and ensure the development is appropriate for its location are discussed within Section 4.0.

Table 3.1 - Pre-Mitigation Sources of Flood Risk

<table>
<thead>
<tr>
<th>Flood Source</th>
<th>Potential Risk</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>High</td>
<td>Medium</td>
</tr>
<tr>
<td>Fluvial</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Coastal/Tidal</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Canals</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Groundwater</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Reservoirs and waterbodies</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Pluvial runoff</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Sewers</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Effect of Development on Wider Catchment</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

Fluvial Flood Risk

3.2 Flooding from watercourses occurs when flows exceed the capacity of the channel, or where a restrictive structure is encountered, which leads to water overtopping the banks into the floodplain. This process can be exacerbated when debris is mobilised by high flows and accumulates at structures.
Main Rivers

3.3 The site lies within Flood Zone 1 (low probability) and so considered at low risk of fluvial flooding. The River Thames lies approximately 4.6km southeast of the site. The significant distance of the site from the River Thames combined with its heavily urbanised location and the significant topographical barriers posed by local infrastructure in the unlikely event of flooding, it can be determined that risk posed from this flood source can be considered to be low.

Minor Watercourses

3.4 An unnamed minor drainage link lies approximately 2.3km to the southeast of the site. This drainage link originates further to the northeast at Hampstead Ponds heading in a southerly direction to pass the Grand Union Canal then continues through Kensington gardens and the minor water bodies of The Longwater and The Serpentine to head in a south-easterly direction through Buckingham Palace and St James’s Park Lake before final outfall further to the east into the River Thames.

3.5 Due to the fact that the site lies at a significant distance from this drainage link and the passage of flow is in a south-easterly direction away from site, combined with the topographical barriers of the A406 & A407 in the unlikely event of flooding, it can be considered that flood risk posed from this flood source is nominal.

3.6 In conclusion flood risk posed from fluvial sources is considered to be low.

Tidal Flood Risk

3.7 Inundation of low lying coastal areas by the sea may be caused by seasonal high tides, storm surges and storm driven wave action. Tidal flooding is most commonly a result of a combination of two or more of these mechanism, which can result in the overtopping or breaching of sea defences. River systems may also be subject to tidal influences. The site is shown to be located in Flood Zone 1 and so considered at low risk of flooding from tidal sources.

3.8 Due to the site being significantly removed from the River Thames and the protection of the Thames tidal defences combined with the sites heavily urbanised inland location it is unlikely to be affected by tidal flood risk. Therefore flood risk posed from this source can be considered to be low.

Flood Risk from Canals

3.9 The Canal and River Trust (CRT) generally maintains canal levels using reservoirs, feeders and boreholes and manages water levels by transferring it within the canal system.

3.10 Water in a canal is typically maintained at predetermined levels by control weirs. When rainfall or other water enters the canal, the water level rises and flows out over the weir. If the level continues rising it will reach the level of the storm weirs. The control weirs and storm weirs are normally designed to take the water that legally enters the canal under normal conditions. However, it is possible for unexpected water to enter the canal or for the weirs to become obstructed. In such instances the increased water levels could result in water overtopping the towpath and flowing onto the surrounding land.
Flooding can also occur where a canal is impounded above surrounding ground levels and the retaining structure fails.

The Grand Union Canal is located 660m northeast of the site, a review of open source OS mapping contours indicated that the canal generally lies in an elevated position to the site. However, the canal’s distance and the substantial topographical barriers of the nearby railway and A40 would halt any flood flow passing in the direction of the site. Therefore flood risk from this source can be considered to be low.

Groundwater Flood Risk

Groundwater flooding occurs when the water table rises above ground elevations. It is most likely to happen in low lying areas underlain by permeable geology. This may be regional scale chalk or sandstone aquifers, or localised deposits of sands and gravels underlain by less permeable strata such as that in a river valley.

Online British Geological Survey (BGS) 1:50,000 scale geological mapping (Figure 3.1) indicates that the surrounding bedrock comprises of London Clay Formation – clay, silt and sand with no superficial deposits. As indicated by nearby borehole log sample taken at Isaac Newton School grid reference 524378, 181339.
Figure 3.1 - BGS Mapping – Bedrock Geology

Approximate Site Location

Contains British Geological Survey materials © copyright NERC (2017)
Contains OS data © Crown copyright (2017)
Figure 3.2 - Environment Agency Areas Susceptible to Groundwater Flooding

Extract taken from The Royal Borough of Kensington and Chelsea Strategic Flood Risk Assessment (Capita/URS, 20/03/2014)

3.16 SFRA mapping shown in Figure 3.2, indicates that the site is in an area at very low or negligible susceptibility of groundwater flooding. There is also no recorded history of groundwater flooding near to the site.

3.17 Therefore flood risk posed from this source can be considered to be low.

Flood Risk from Reservoirs & Large Waterbodies

3.18 Flooding can occur from large waterbodies or reservoirs if they are impounded above the surrounding ground levels or are used to retain water in times of flood. Although unlikely, reservoirs and large waterbodies could overtop or breach leading to rapid inundation of the downstream floodplain.

3.19 The site is shown to fall outside of the area at risk of reservoir failure. Therefore there is no flood risk posed from this flood source.
Pluvial Flood Risk

3.20 Pluvial flooding can occur during prolonged or intense storm events when the infiltration potential of soils, or the capacity of drainage infrastructure is overwhelmed leading to the accumulation of surface water and the generation of overland flow routes.

3.21 Risk of flooding from surface water mapping has been prepared, this shows the potential flooding which could occur when rainwater does not drain away through the normal drainage systems or soak into the ground, but lies on or flows over the ground instead. An extract from the mapping is included as Figure 3.3.
3.22 The site is indicated within The Royal Borough of Kensington Surface Water Management Plan\textsuperscript{7} to lie within North Kensington Critical Drainage Area, as shown in Figure 2.2.

3.23 The Royal Borough of Kensington and Chelsea SWMP also depicts that the site lies within the Counter’s Creek Catchment which is a large sewer drainage system that spans the London boroughs of Brent, Ealing, Hounslow, Camden, Hammersmith and Fulham, Kensington and Chelsea and the City of Westminster.

3.24 The site is indicated by Environment Agency mapping to lie within an area surrounded by high risk of surface water flooding to the north, east and west. Within the site boundary there is shown to be medium to high risk of surface water flooding to the frontage along both Portobello and Lancaster Road. However depths are indicated to be nominal between 0 - 0.3m within the 1 in 30yr event and 0.15 – 0.3 within the 1 in 100 and 1 in 1000yr events. Surrounding the site depths are between 0 - 0.6m within a 1 in 30yr event however this is believed to be an indication of pluvial flooding within the external areas of the nearby properties and would largely be contained in small localised areas and not affect the site in an extreme event.

3.25 Surface Water modelling and historic records of flooding within the SWMP also reflect this showing localised flood risk within the Royal Borough of Kensington and Chelsea, which reflects the vulnerability of nearby basement properties in the Borough.

3.26 The site itself is shown to lie within an area indicated to be at very low to low risk of surface water flooding, with nominal flood depths of 0 – 0.15m within the 1 in 30yr event and minimal flood depths of 0 – 0.3m within the 1 in 100 and 1 in 1000yr events.

3.27 In conclusion pluvial risk can be considered to be low, however due to the fact that the site lies within a critical drainage area mitigation measures will be put in-place to ensure that any residual risk is managed and ultimately reduced. Please see Section 4.0 for further information.

**Flood Risk from Sewers**

3.28 Sewer flooding can occur when the capacity of the infrastructure is exceeded by excessive flows, or as a result of a reduction in capacity due to collapse or blockage, or if the downstream system becomes surcharged. This can lead to the sewers flooding onto the surrounding ground via manholes and gullies, which can generate overland flows.

3.29 Thames Water Sewer Records included for reference as Appendix 3, indicate that there is a 1000mm x 750mm Trunk combined sewer running south along Portobello Road and a second 900mm x 600mm x 600mm trunk sewer running from west to east along Lancaster Road. These sewers are significant in size at a depth of ~2.9m therefore it is considered relatively unlikely that capacity would be exceeded and flood flows would be conveyed above ground as overland flood flows. However, in the event that sewer flooding were to occur in particular on Portobello Road to the north (which is elevated above property threshold levels) overland flood flows could inundate the property potentially causing damage to the ground floor and basement levels.

\textsuperscript{7} Surface Water Management Strategy [Halcrow, February 2014]
In this instance, we would recommend in-line with LLFA guidance as a result of a previous submission: PRE/PP/15/00724, that a positively pumped device is incorporated within the basement to reduce the residual risk posed by sewer flooding.

In conclusion it can therefore be considered that the risk posed from sewer flooding can be adequately addressed, subject to the relevant mitigation measures (see Section 4.0).

**Effect of Development on Wider Catchment**

*Development Drainage*

The development will not increase the volume of impermeable surfacing or increase foul flows into the existing sewer network, therefore it will not impact upon surface water runoff flows and volumes or increase the risk of sewer flooding in the local or wider catchment.
4.0 FLOOD RISK MITIGATION

4.1 **Section 3.0** has identified the sources of flooding which could potentially pose a risk to the site and the proposed development. This section of the FRA sets out the mitigation measures which are to be incorporated within the proposed development to address and reduce the risk of flooding to within acceptable levels.

**Development Levels**

*Finished Levels*

4.2 There are no specific requirements with regard to minimum floor levels as flood risk to the site can be considered to be low.

4.3 In order to mitigate any residual risk from overland sources it is recommended that where possible finished floor levels are raised/maintained at least 150mm above external levels. It is also recommended that external levels are arranged so as to divert flow away from the building entrance and reduce the risk posed to the lower basement level.

4.4 In the event of sewer exceedance or pluvial flooding, there is the potential threat posed from overland flood flows to inundate the property and potentially causing damage to the ground floor and basement levels. In-line with local planning policy CL7(n) it is recommended that a positively pumped device is incorporated within the basement which will help to reduce any residual risk posed to the ground floor and lower basement areas from sewer/pluvial flooding. This is also in-keeping with recommendations by The Royal Borough of Kensington and Chelsea local council as stipulated within the advice report for Level 3 follow up to PRE/PP/15/00724 for mixed use development.

**Safe Access & Egress**

4.5 In the event pluvial or overland flooding, safe access and egress can be sort to the south along Portobello Road or to the west along Lancaster Road areas shown to be outside or at lower risk of pluvial flooding.
5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 This Flood Risk Assessment (FRA) has been prepared in accordance with requirements set out in the National Planning Policy Framework (NPPF) and the associated Planning Practice Guidance. The FRA has been produced on behalf of JMW Barnard Management Limited in respect of a planning application for the proposed reconfiguration of 253 Portobello Road to provide three Class A1 retail units and a Class A3 restaurant, to include a rear extension, shopfront alterations and lowering of the existing basement level.

5.2 This FRA is intended to support a planning application for the following site and as such the level of detail included is commensurate and subject to the nature of the proposals.

5.3 This report demonstrates that the proposed development is not at significant flood risk, subject to the recommended flood mitigation strategies being implemented. The identified risks and mitigation measures are summarised within Table 5.1:

Table 5.1 - Summary of Flood Risk Assessment

<table>
<thead>
<tr>
<th>Flood Source</th>
<th>Risk &amp; Proposed Mitigation Measures</th>
</tr>
</thead>
</table>
| Pluvial runoff/Sewers | It is recommended that finished floor levels should be set/maintained a minimum of 150mm above immediate surrounding ground levels.  
                        | Finished ground levels should be designed to direct overland flows away from built development.  
                        | It is recommended in-line LLFA guidance as a result of a previous submission for planning ref: PRE/PP/15/00724, that a positively pumped device is  
                        | incorporated within the basement to reduce the residual risk posed by sewer and/or pluvial flooding.  
                        | These arrangements are also considered to address any residual risk posed from sewer and/or pluvial flooding.                                                                 |
| Impact of the Development | The development proposals concern the reconfiguration of the site to retain three A1 units and A3 restaurant, therefore there will be no significant  
                          | increase in wastewater flows or detriment to the nearby sewer network posed from wastewater flows from the development. There will not be an increase  
                          | in impermeable surfacing.                                                                                                                                              |

This summary should be read in conjunction with BWB’s full report. It reflects an assessment of the Site based on information received by BWB at the time of production.

5.4 In compliance with the requirements of National Planning Policy Framework, and subject to the mitigation measures proposed, the development could proceed without being subject to significant flood risk. Moreover, the development will not increase flood risk to the wider catchment area as a result of suitable management of surface water runoff discharging from the site.
APPENDIX 1

Site Levels
APPENDIX 2
Proposed Plans
APPENDIX 3

Thames Water Sewer Records
Notification of Price Changes...
From 1 September 2016 Thames Water Property Searches will be increasing the prices of its Asset Location Searches. This will be the first price rise in three years and is in line with the RPI at 1.84%. The increase follows significant capital investment in improving our systems and infrastructure.

Enquiries received with a higher payment prior to 1 September 2016 will be non-refundable. For further details on the price increase please visit our website at www.thameswater-propertysearches.co.uk
Search address supplied:  Koci Koci, Unit 1, 253, Portobello Road, London, W11 1LR

Dear Sir / Madam

An Asset Location Search is recommended when undertaking a site development. It is essential to obtain information on the size and location of clean water and sewerage assets to safeguard against expensive damage and allow cost-effective service design.

The following records were searched in compiling this report: - the map of public sewers & the map of waterworks. Thames Water Utilities Ltd (TWUL) holds all of these.

This search provides maps showing the position, size of Thames Water assets close to the proposed development and also manhole cover and invert levels, where available.

Please note that none of the charges made for this report relate to the provision of Ordnance Survey mapping information. The replies contained in this letter are given following inspection of the public service records available to this company. No responsibility can be accepted for any error or omission in the replies.

You should be aware that the information contained on these plans is current only on the day that the plans are issued. The plans should only be used for the duration of the work that is being carried out at the present time. Under no circumstances should this data be copied or transmitted to parties other than those for whom the current work is being carried out.

Thames Water do update these service plans on a regular basis and failure to observe the above conditions could lead to damage arising to new or diverted services at a later date.

Contact Us

If you have any further queries regarding this enquiry please feel free to contact a member of the team on 0845 070 9148, or use the address below:

Thames Water Utilities Ltd
Property Searches
PO Box 3189
Slough
SL1 4WW

Email: searches@thameswater.co.uk
Web: www.thameswater-propertysearches.co.uk
Waste Water Services

Please provide a copy extract from the public sewer map.

Enclosed is a map showing the approximate lines of our sewers. Our plans do not show sewer connections from individual properties or any sewers not owned by Thames Water unless specifically annotated otherwise. Records such as "private" pipework are in some cases available from the Building Control Department of the relevant Local Authority.

Where the Local Authority does not hold such plans it might be advisable to consult the property deeds for the site or contact neighbouring landowners.

This report relates only to sewerage apparatus of Thames Water Utilities Ltd, it does not disclose details of cables and or communications equipment that may be running through or around such apparatus.

The sewer level information contained in this response represents all of the level data available in our existing records. Should you require any further Information, please refer to the relevant section within the 'Further Contacts' page found later in this document.

For your guidance:

- The Company is not generally responsible for rivers, watercourses, ponds, culverts or highway drains. If any of these are shown on the copy extract they are shown for information only.
- Any private sewers or lateral drains which are indicated on the extract of the public sewer map as being subject to an agreement under Section 104 of the Water Industry Act 1991 are not an ‘as constructed’ record. It is recommended these details be checked with the developer.

Clean Water Services

Please provide a copy extract from the public water main map.

Enclosed is a map showing the approximate positions of our water mains and associated apparatus. Please note that records are not kept of the positions of individual domestic supplies.

For your information, there will be a pressure of at least 10m head at the outside stop valve. If you would like to know the static pressure, please contact our Customer Centre on 0800 316 9800. The Customer Centre can also arrange for a full flow and
Asset Location Search

pressure test to be carried out for a fee.

For your guidance:
- Assets other than vested water mains may be shown on the plan, for information only.
- If an extract of the public water main record is enclosed, this will show known public water mains in the vicinity of the property. It should be possible to estimate the likely length and route of any private water supply pipe connecting the property to the public water network.

Payment for this Search

A charge will be added to your suppliers account.
Further contacts:

**Waste Water queries**

Should you require verification of the invert levels of public sewers, by site measurement, you will need to approach the relevant Thames Water Area Network Office for permission to lift the appropriate covers. This permission will usually involve you completing a TWOSA form. For further information please contact our Customer Centre on Tel: 0845 920 0800. Alternatively, a survey can be arranged, for a fee, through our Customer Centre on the above number.

If you have any questions regarding sewer connections, budget estimates, diversions, building over issues or any other questions regarding operational issues please direct them to our service desk. Which can be contacted by writing to:

Developer Services (Waste Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk

**Clean Water queries**

Should you require any advice concerning clean water operational issues or clean water connections, please contact:

Developer Services (Clean Water)
Thames Water
Clearwater Court
Vastern Road
Reading
RG1 8DB

Tel: 0845 850 2777
Email: developer.services@thameswater.co.uk
The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 524528,181371

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

Based on the Ordnance Survey Map with the Sanction of the controller of H.M. Stationery Office, License no. 100019345 Crown Copyright Reserved.
NB. Levels quoted in metres Ordnance Newlyn Datum. The value -9999.00 indicates that no survey information is available.

<table>
<thead>
<tr>
<th>Manhole Reference</th>
<th>Manhole Cover Level</th>
<th>Manhole Invert Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>6302A</td>
<td>17.11</td>
<td>15.33</td>
</tr>
<tr>
<td>6301B</td>
<td>18.96</td>
<td>14.28</td>
</tr>
<tr>
<td>6202</td>
<td>18.01</td>
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<td>16.26</td>
<td>n/a</td>
</tr>
<tr>
<td>5305</td>
<td>n/a</td>
<td>n/a</td>
</tr>
<tr>
<td>541D</td>
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<td>n/a</td>
</tr>
<tr>
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<td>12.43</td>
</tr>
<tr>
<td>6303A</td>
<td>18.3</td>
<td>13.98</td>
</tr>
</tbody>
</table>

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.
Public Sewer Types (Operated & Maintained by Thames Water)

- **Foul**: A sewer designed to convey waste water from domestic and industrial sources to a treatment works.
- **Surface Water**: A sewer designed to convey surface water (e.g., rain water from roofs, yards, and car parks) to rivers or watercourses.
- **Combined**: A sewer designed to convey both waste water and surface water from domestic and industrial sources to a treatment works.
- **Trunk Surface Water**
- **Trunk Combined**
- **Storm Relief**
- **Trunk Foul**
- **Vent Pipe**
- **Bio-solids (Sludge)**
- **Proposed Thames Surface Water Sewer**
- **Proposed Thames Water Foul Sewer**
- **Gallery**
- **Foul Rising Main**
- **Surface Water Rising Main**
- **Combined Rising Main**
- **Sludge Rising Main**
- **Proposed Thames Water Rising Main**
- **Vacuum**

Sewer Fittings

A feature in a sewer that does not affect the flow in the pipe. Example: a vent is a fitting as the function of a vent is to release excess gas.

- **Air Valve**
- **Dam Valve**
- **Fitting**
- **Meter**
- **Vent Column**

Operational Controls

A feature in a sewer that changes or diverts the flow in the sewer. Example: A hydrobrake limits the flow passing downstream.

- **Control Valve**
- **Drop Pipe**
- **Ancillary**
- **Weir**

End Items

End symbols appear at the start or end of a sewer pipe. Examples: an Undefined End at the start of a sewer indicates that Thames Water has no knowledge of the position of the sewer upstream of that symbol. Outfall on a surface water sewer indicates that the pipe discharges into a stream or river.

- **Outfall**
- **Undefined End**
- **Inlet**

Notes:

1) All levels associated with the plans are to Ordnance Datum Newlyn.
2) All measurements on the plans are metric.
3) Arrows (on gravity fed sewers) or flecks (on rising mains) indicate direction of flow.
4) Most private pipes are not shown on our plans, as in the past, this information has not been recorded.
5) 'na' or '0' on a manhole level indicates that data is unavailable.
6) The text appearing alongside a sewer line indicates the internal diameter of the pipe in millimetres. Text next to a manhole indicates the manhole reference number and should not be taken as a measurement. If you are unsure about any text or symbology present on the plan, please contact a member of Property Insight on 0845 070 9148.
The width of the displayed area is 200 m and the centre of the map is located at OS coordinates 524528, 181371.

The position of the apparatus shown on this plan is given without obligation and warranty, and the accuracy cannot be guaranteed. Service pipes are not shown but their presence should be anticipated. No liability of any kind whatsoever is accepted by Thames Water for any error or omission. The actual position of mains and services must be verified and established on site before any works are undertaken.

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**ALS Water Map Key**

**Water Pipes (Operated & Maintained by Thames Water)**

- **Distribution Main:** The most common pipe shown on water maps. With few exceptions, domestic connections are only made to distribution mains.

- **Trunk Main:** A main carrying water from a source of supply to a treatment plant or reservoir, or from one treatment plant or reservoir to another. Also a main transferring water in bulk to smaller water mains used for supplying individual customers.

- **Supply Main:** A supply main indicates that the water main is used as a supply for a single property or group of properties.

- **Fire Main:** Where a pipe is used as a fire supply, the word FIRE will be displayed along the pipe.

- **Metered Pipe:** A metered main indicates that the pipe in question supplies water for a single property or group of properties and that quantity of water passing through the pipe is metered even though there may be no meter symbol shown.

- **Transmission Tunnel:** A very large diameter water pipe. Most tunnels are buried very deep underground. These pipes are not expected to affect the structural integrity of buildings shown on the map provided.

- **Proposed Main:** A main that is still in the planning stages or in the process of being laid. More details of the proposed main and its reference number are generally included near the main.

**Valves**
- General Purpose Valve
- Air Valve
- Pressure Control Valve
- Customer Valve

**Operational Sites**
- Booster Station
- Other
- Other (Proposed)
- Pumping Station
- Service Reservoir
- Shaft Inspection
- Treatment Works
- Unknown
- Water Tower

**Hydrants**
- Single Hydrant

**Meters**
- Meter

**End Items**
- Blank Flange
- Capped End
- Emptying Pit
- Undefined End
- Manifold
- Customer Supply
- Fire Supply

**Other Symbols**
- Data Logger

**Other Water Pipes (Not Operated or Maintained by Thames Water)**

- **Other Water Company Main:** Occasionally other water company water pipes may overlap the border of our clean water coverage area. These mains are denoted in purple and in most cases have the owner of the pipe displayed along them.

- **Private Main:** Indicates that the water main in question is not owned by Thames Water. These mains normally have text associated with them indicating the diameter and owner of the pipe.
Terms and Conditions

All sales are made in accordance with Thames Water Utilities Limited (TWUL) standard terms and conditions unless previously agreed in writing.

1. All goods remain in the property of Thames Water Utilities Ltd until full payment is received.
2. Provision of service will be in accordance with all legal requirements and published TWUL policies.
3. All invoices are strictly due for payment 14 days from due date of the invoice. Any other terms must be accepted/agreed in writing prior to provision of goods or service, or will be held to be invalid.
4. Thames Water does not accept post-dated cheques-any cheques received will be processed for payment on date of receipt.
5. In case of dispute TWUL’s terms and conditions shall apply.
6. Penalty interest may be invoked by TWUL in the event of unjustifiable payment delay. Interest charges will be in line with UK Statute Law ‘The Late Payment of Commercial Debts (Interest) Act 1998’.
7. Interest will be charged in line with current Court Interest Charges, if legal action is taken.
8. A charge may be made at the discretion of the company for increased administration costs.

A copy of Thames Water’s standard terms and conditions are available from the Commercial Billing Team (cashoperations@thameswater.co.uk).

We publish several Codes of Practice including a guaranteed standards scheme. You can obtain copies of these leaflets by calling us on 0800 316 9800

If you are unhappy with our service you can speak to your original goods or customer service provider. If you are not satisfied with the response, your complaint will be reviewed by the Customer Services Director. You can write to him at: Thames Water Utilities Ltd. PO Box 492, Swindon, SN38 8TU.

If the Goods or Services covered by this invoice falls under the regulation of the 1991 Water Industry Act, and you remain dissatisfied you can refer your complaint to Consumer Council for Water on 0121 345 1000 or write to them at Consumer Council for Water, 1st Floor, Victoria Square House, Victoria Square, Birmingham, B2 4AJ.

Ways to pay your bill

<table>
<thead>
<tr>
<th>Credit Card</th>
<th>BACS Payment</th>
<th>Telephone Banking</th>
<th>Cheque</th>
</tr>
</thead>
<tbody>
<tr>
<td>Call <strong>0845 070 9148</strong> quoting your invoice number starting CBA or ADS.</td>
<td><strong>Account number 90478703</strong> Sort code <strong>60-00-01</strong> A remittance advice must be sent to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW. or email <a href="mailto:ps.billing@thameswater.co.uk">ps.billing@thameswater.co.uk</a></td>
<td>By calling your bank and quoting: <strong>Account number 90478703</strong> Sort code <strong>60-00-01</strong> and your invoice number</td>
<td>Made payable to ‘Thames Water Utilities Ltd’ Write your Thames Water account number on the back. Send to: Thames Water Utilities Ltd., PO Box 3189, Slough SL1 4WW or by DX to 151280 Slough 13</td>
</tr>
</tbody>
</table>

Thames Water Utilities Ltd Registered in England & Wales No. 2366661 Registered Office Clearwater Court, Vastern Rd, Reading, Berks, RG1 8DB.
Search Code

IMPORTANT CONSUMER PROTECTION INFORMATION

This search has been produced by Thames Water Property Searches, Clearwater Court, Vastern Road, Reading RG1 8DB, which is registered with the Property Codes Compliance Board (PCCB) as a subscriber to the Search Code. The PCCB independently monitors how registered search firms maintain compliance with the Code.

The Search Code:

- provides protection for homebuyers, sellers, estate agents, conveyancers and mortgage lenders who rely on the information included in property search reports undertaken by subscribers on residential and commercial property within the United Kingdom
- sets out minimum standards which firms compiling and selling search reports have to meet
- promotes the best practise and quality standards within the industry for the benefit of consumers and property professionals
- enables consumers and property professionals to have confidence in firms which subscribe to the code, their products and services.

By giving you this information, the search firm is confirming that they keep to the principles of the Code. This provides important protection for you.

The Code’s core principles

Firms which subscribe to the Search Code will:

- display the Search Code logo prominently on their search reports
- act with integrity and carry out work with due skill, care and diligence
- at all times maintain adequate and appropriate insurance to protect consumers
- conduct business in an honest, fair and professional manner
- handle complaints speedily and fairly
- ensure that products and services comply with industry registration rules and standards and relevant laws
- monitor their compliance with the Code

Complaints

If you have a query or complaint about your search, you should raise it directly with the search firm, and if appropriate ask for any complaint to be considered under their formal internal complaints procedure. If you remain dissatisfied with the firm’s final response, after your complaint has been formally considered, or if the firm has exceeded the response timescales, you may refer your complaint for consideration under The Property Ombudsman scheme (TPOs). The Ombudsman can award compensation of up to £5,000 to you if he finds that you have suffered actual loss as a result of your search provider failing to keep to the Code.

Please note that all queries or complaints regarding your search should be directed to your search provider in the first instance, not to TPOs or to the PCCB.

TPOs Contact Details

The Property Ombudsman scheme
Milford House
43-55 Milford Street
Salisbury
Wiltshire SP1 2BP
Tel: 01722 333306
Fax: 01722 332296
Email: admin@tpos.co.uk

You can get more information about the PCCB from www.propertycodes.org.uk

PLEASE ASK YOUR SEARCH PROVIDER IF YOU WOULD LIKE A COPY OF THE SEARCH CODE